THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EDITED BY

NORMAN GERALD HORNER, M.A., M.D.

VOLUME I. 1931.

JANUARY TO JUNE.

London:
PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,
TAVISTOCK SQUARE, LONDON, W.C.1.

KEY TO DATES AND PAGES.

THE following table, giving a key to the dates of issue and the page numbers of the BRITISH MEDICAL JOURNAL and SUPPLEMENT in the first volume for 1931, may prove convenient to readers in search of a reference.

Serial No.	Date of Issue.	Journal Pages.	Supplement Pages.
3652	Jan. 3rd	1 – 42	1 – 8
3653	,, 10th	43 – 80	9 – 12
3654	,, 17th	81 – 124	13 – 16
3655	,, 24th	125 – 164	17 – 24
3656	,, 31st	165 – 206	25 – 32
3657	Feb. 7th	207 – 252	33 – 44
3658	,, 14th	253 – 294	45 – 52
3659	,, 21st	295 – 336	53 – 60
3660	,, 28th	337 – 382	61 – 68
3661	March 7th	383 – 432	69 – 76
3662	,, 14th	433 – 480	77 – 84
3663	,, 21st	481 – 524	85 – 96
3664	,, 28th	525 – 568	97 – 104
3665	April 4th	569 – 610	105 – 108
3666	,, 11th	611 – 652	109 – 116
3667	,, 18th	653 – 692	117 – 128
3668	,, 25th	693 – 734	129 – 160
3669	May 2nd	735 – 780	161 – 188
3670	,, 9th	781 – 832	—
3671	,, 16th	833 – 878	189 – 196
3672	,, 23rd	879 – 920	197 – 208
3673	,, 30th	921 – 962	209 – 216
3674	June 6th	963 – 1008	217 – 232
3675	,, 13th	1009 – 1056	233 – 244
3676	,, 20th	1057 – 1100	245 – 260
3677	,, 27th	1101 – 1146	261 – 276

INDEX TO VOLUME I FOR 1931

READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Carcinoma, Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria, and Sugar; Light, Roentgen, Radium, *X* Rays; Status Lymphaticus and Thymus; Eye, Ophthalmia, and Vision; Pyelography and Urography; Lunacy and Mental Diseases; Sunlight and Ultra-violet; Bicycle and Cycle; Motor and Automobile; Association, Institution, and Society, etc. Subjects dealt with under various main headings in the JOURNAL have been set out in alphabetical order under their respective headings—for example, "Correspondence," "Leading Articles," "The Week," "Reviews," etc. Original Articles are indicated by the letter (O).

A.

Abdomen, lower, pain in (W. Fletcher Shaw), 269
Abdominal diagnosis. *See* Diagnosis
Abdominal emergencies, earlier diagnosis of, (C. H. Fagge), 50 (O)
Abdominal injury, an unusual (D. M. Sutherland), 264
Abdominal symptoms, acute, Meckel's diverticulum as the cause of (A. Harvard Baker), 252 (O). *See also* Diverticulum
Aberdeen. *See* Scotland
ABERNETHY, Christine: Two cases of syphilitic spondylitis, 1112 (O)
Abernethy, John (1764-1831), 718, 719
ABRAHAMSON, Leonard: Treatment of psychoneuroses, 17
Abrodil for intravenous pyelography, 20, 625
Abscess, brain. *See* Abscess, cerebellar
Abscess of breast, 480, 524
Abscess, cerebellar (Courtenay Yorke), 891 (O)—Correspondence on, 1001, 1043, 1139
Abscess, subphrenic (W. D. Doherty and R. P. Rowlands), 163 (O)—Correspondence on, 241, 770
Abscess, subphrenic, simulated by hydatid cyst of liver (E. H. R. Altounyan), 15
Académie de Médecine: Expresses the opinion that public exhibitions of hypnotism are undesirable, 163—The B.C.G. controversy, 861—Antitetanic serum, obligatory use of, 861—Etiology of disseminated sclerosis, 943

ACADEMY, ROYAL, OF MEDICINE IN IRELAND:
Section of Laryngology and Otology.—Bilateral abductor paralysis, 270 — Laryngofissure for epithelioma of the vocal cord, 270—Splint for use in operation for septal resection, 270—Retrosternal goitre, 270—"A retrospect of laryngology," 270—Intracranial complications of ear disease, 937—Papilloma of the right vocal cord, 937—Vallecular dysphagia, 937—Abscess of temporal lobe, 937—Epithelioma of fauces treated by diathermy, 937—Operation for lateral sinus thrombosis, 937—Temporal lobe abscess, 937
Section of Medicine.—Treatment of psychoneuroses, 17—Oedema and nephrosis, 586
Section of Obstetrics.—President's address: Puerperal sepsis, 99—Analgesia in labour, 669
Section of Pathology.—Unusual tumours, 401—Myelomatosis, 401—Tumour of neck—malignant endothelioma (?), 402—Unusual renal tumour, 402
Section of Surgery.—Treatment of fractures, 31—The role of plastic surgery, in the treatment of lupus vulgaris, 403—Spontaneous perforation of jejunal ulcers, 541—Spinocain anaesthesia, 541—Popliteal aneurysm, 708—Spontaneous rupture of the spleen, 708

Accident prevention (Eric Farmer), 716
Accidents, aircraft, number of (parliamentary notes), 959, 1143
Accidents [illegible] L.C.C. reply to a [illegible] shock following, [illegible] tate), 512
[illegible] *ema of Bright's* [illegible] ppointed a com- [illegible] our, 567
[illegible] from the clinician's point of view (Leonard Findlay), 433 (O)
Acidosis and seborrhoea (John T. Ingram and F. S. Fowweather), 839 (O)—Correspondence on, 914
ACLAND, Theodore Dyke, obituary notice of, 729
Acriflavine in midwifery. *See* Midwifery, prophylaxis in
Acrocyanosis (Fernand Layani), 364
Acta Medica Scandinavica:—*Supplementum* [illegible]: *Diätetische Behandlung des runden Geschwürs des Magens und des Duodenums* (Alexander Jarotzky), 1075
Actinotherapy, equipment for, 103
Actinotherapy [illegible] 42 [illegible] rtificial; Sun- [illegible] : C.I.E. conferred on, 73—Pathology and treatment of sprue, 222
Actuaries, Faculty of: The selection of lives, 189
ADAM, Hargrave L. (editor): *Trial of George Chapman*, rev., 273
ADAM, James: Bath treatment for deafness, 621 (O)—Liver therapy in asthma, 686
ADAMS, A. Wilfrid:—Spinal anaesthesia: a study of 250 consecutive cases, 785 (O), 869, 955
ADAMS, James A., obituary notice of, 160
ADAMS, S. F.: The diabetic child, 105
ADAMSON, H. G.: Treatment of varicose ulceration, 284—Indolent ulcers of the leg, 399
ADAMSON, J. W. W., appointed a commissioner of the Board of Control, 282
ADAMSON, Rt. Hon. William: The new Falkirk Infirmary, 153—Paying patients in hospitals, 724
Addison's disease, extract of suprarenal cortex in, 480
Adenoids, removal of, a simplified method (O. Popper), 92 (O), 164—A correction, 164—Correspondence on, 164
Adenoids: Report of committee, 232
Adenoids and tonsils, removal of in the outpatient department (J. Arnold Jones), 217 (O)
Adenoids. *See also* Tonsils
Adenoma of cervix, perforating (Miles Phillips), 541
ADIE, W. J.: Early symptoms of common organic nervous diseases, 403—Pseudo-Argyll Robertson pupils with absent tendon reflexes, 923 (O), 1091
ADLER, Alfred: The practice of individual psychology, 139, 148—The structure of neurosis, 148
ADLER, Laurence D.: Acute puerperal inversion, 96
Adrenal cortex and sex characters (L. R. Broster), 743 (O)
ADRIAN, E. D.: Messages in sensory nerve fibres and their interpretation, 979
Advertisements of medicated wines (parliamentary note), 40
Africa, child welfare in, conference on, 778—Parliamentary notes on, 1143
Africa, South:—Silicosis in: Report of the Miners' Phthisis Bureau, 28—Reports of the Transvaal Mine Officers' Association, 1033. *See also* Silicosis
African tick fever. *See* Fever, tick
AGNEW, Harvey: A medical survey of Canada, 461
AHMAD, Captain Hadji Dabiruddin, O.B.E. conferred on, 70
AICKIN, J.: Erythromelalgia, 961
AINGER, William Bradshaw, obituary notice of, 249
Air Force, Royal:—Annual Bill, 607—Cerebrospinal meningitis, deaths from (parliamentary note), 565—Cerebro-spinal fever in, in 1931 (Wing Commander H. E. Whittingham, Flight Lieutenant J. M. Kilpatrick, and Flying Officer E. W. B. Griffiths), 1101 (O)—Health report, 409—Invalidity rates (parliamentary note), 291—Medical service of: Promotions, 71—Numbers of medical officers (parliamentary notes), 522, 603, 689, 960, 1143—Accidents, number of, 960, 1143—Shortage of medical officers, 1052
Air travel, medical problems of, 947
Air, "unipolar," 367—Experimental work at Frankfort, 357
AITKEN, Janet: Mary Scharlieb memorial, 475
ALAJOUANINE, Th. (and Georges GUILLAIN): *Études Neurologiques*, rev., 499 [illegible] note), 959. [illegible] ie applica- [illegible] Vincent, C. James), 539
Alcoholism, 610, 652
ALEXANDER, A. J. P.: Foreign body in the neck, 96
ALEXANDER, Frederick W., O.B.E. conferred on, 1004 [illegible] roll), 223 [illegible] pregnancy [illegible] 1137 [illegible] *iseases of*
ALLEN, F. V.: Acute arsenical poisoning, 35 [illegible] *Analysis*, vol. viii.
ALLMAN, Dora, appointed resident medical superintendent of the Armagh Mental Hospital, 910
ALLPORT, N. L.: New method for detecting decomposition products in anaesthetic chloroform, 849
Almoner, the hospital (leading article), 715
ALSTON, J. M.: Concentrated antipneumococcal serum in the treatment of lobar pneumonia, 817
ALTOUNYAN, E. H. R.: Hydatid cyst of liver simulating subphrenic abscess, 15
Ambulance movement, history of, review of book on, 901
Ambulance Service, Home: New *x*-ray unit for, 321—Annual report, 722—Quarterly report, 1134
Ambulance service of the London County Council, circular *re*, 41
Ambulance service, motor, in Wales, 681
Ambulance work, new *x*-ray unit for, 321
American Journal of Clinical Pathology, first issue, 876
Amidopyrin in measles, 33, 734
Amoebiasis, intestinal, treatment of (P. H. Manson-Bahr), 846
Amoebic hepatitis with haematemesis (R. E. Drake-Brockman), 444 (O)
Amputation stump, cutaneous horn on an (F. E. Mayne and Laurence O'Shaughnessy), 624
Anaemia, aplastic, 1048
Anaemia, pernicious, hog's stomach in treatment of: report of 108 cases (John F. Wilkinson), 85 (O), 585—Correspondence on, 158—Gaster siccata (B.D.H.) in, 359
Anaemia, pernicious, liver treatment of (Janet Vaughan), 584—Discussion, 585
Anaemia, pernicious, and mental disorder (Norman R. Phillips), 980
"Anaemia, pernicious, of pregnancy," and "tropical anaemia," treatment of (Lucy Wills), 1059 (O)
Anaemia, pernicious, with scleroderma, 1007, 1100, 1145 [illegible] h glycerin [illegible] and nux [illegible] anaemia of pregnancy," treatment of (Lucy Wills), 1059 (O)
Anaesthesia, avertin, 35, 330, 1095
Anaesthesia in childbirth (J. St. George Wilson), 497
Anaesthesia, ether-oxygen, fatality from explosion during, 915
Anaesthesia, Gwathmey, in labour (O'Donel Browne), 669 [illegible] 27 [illegible] 74 [illegible] 785 (O), [illegible]
Anaesthesia, surgical, convulsions during (J. Ross Mackenzie), 224, 440 (O), 685—Correspondence on, 562, 685, 1092, 1095
Anaesthetic choice of (I. W. Magill), 265—Discussion, 265
Anaesthetic screen. *See* Screen [illegible] pour [illegible] R. E. Jackson), 220—Correspondence, 424, 516, 559, 1095
Anatomy, review of books on, 312, 672, 934, 1073
ANDERSON, Ian Ross: Kaisar-i-Hind medal conferred on, 1004
ANDERSON, John, obituary notice of, 647
ANDERSON, J. Barcroft: Antidiabetic diets, 376—Scleroderma with pernicious anaemia, 1100
ANDERSON, J. C.: Chronic appendicitis, 185
ANDRESEN, K. A.: Insanity among the Scandinavians, 410
ANDREW, R. L.: Goitre in school children, 361
ANDREWES, C. H., awarded the Julius Mickle Fellowship, 250
Aneurysm of the brain, congenital (Hugh Reid and Humphrey H. Gleave), 445 (O)
Aneurysm of coronary artery in a woman of 42: [illegible] 7 [illegible]
Angina pectoris, review of book on, 18
Anginal pain. *See* Pain

See Insurance,

ANIGSTEIN, L.: Typhus research in Malaya, 505
Aniline workers and cancer (parliamentary note), 566
Animal diseases, research on (parliamentary note), 650
Animal mind, review of book on, 226
Animal pathology research (parliamentary note), 772. *See also* Research
Animals, experiments on (parliamentary note), 822, 874, 916, 1143. *See also* Vivisection
Animals, gestation period in, 1007
Aniridia, the problem of, 284
Annales Médico-psychologiques, the official organ of the three psychiatric societies of Paris now merged into one, 523
Annali di Clinica Medica e di Medicina Sperimentale, rev., 456
A[illegible]
[illegible]
1144
Anotal, 757
Ante-natal care, the London County Council and, 809
Ante-natal problems (Sir Ewen Maclean), 1057 (O)
Ante-natal work, role of the general practitioner in (W. H. F. Oxley), 5 (O)—Correspondence on, 118, 159
Antidiabetic diets. *See* Diets
Anti-gas. *See* Gas, poison
Antipneumococcal serum in pneumonia (R. R. Armstrong and R. S. Johnson), 701 (O), 931 (O)—Correspondence, 817
Antipneumococcic serum (Felton), 935
Antiseptic, urinary (neotropin), 569
Antiseptics used in midwifery, efficiency of (Lawrence P. Garrod), 572 (O)
Antitetanic serum, decision as to obligatory use of, 861
Antitryptic index and haemorrhagic diathesis, 177. *See also* Haemorrhagic
Apes and early men (G. Elliot Smith), 908. *See also* Man, antiquity of
Apical infection, biological studies of (Arthur Bulleid), 933
Aplastic anaemia. *See* Anaemia
Apothecaries' Society of London: Livery dinner, 232, 762—Honorary diploma presented, 232, 762—Honorary Freedom, 232—Degrees and pass lists, 250, 429, 565, 821, 1004, 1052, 1142—Roll of bio-physical assistants, 810—Biophysical assistants the guests of, 1134
Appendicectomy, the incision in (A. H. Southam), 258 (O)—Correspondence on, 328, 424, 472, 559
Appendiceo-caecal intussusception (E. N. MacDermott), 793 (O)
Appendicitis, acute, mortality of, 328
Appendicitis, chronic (J. C. Anderson), 185
Appendicular disease, acute, mortality in (D. P. D. Wilkie), 253 (O)—Correspondence on, 374, 423, 471, 516
Appendix epiploica, large, volvulus of (C. E. Taylor), 795
Appendix, fishbones in the (Matthew Clayton-Mitchell), 309
Appendix, foreign bodies in, lying in a right inguinal hernia (W. Gifford Nash), 139
APPERLY, Frank L. (and Joan H. NORRIS): The A[illegible]
[illegible]
[illegible]AINES): [illegible]
[illegible]nour-
ARMITAGE, George (and Arthur HAWKYARD): Peritonitis due to perforation of bowel by foreign bodies), 577 (O)
ARMSTRONG, A. Leslie: Cave-dwellers of Derbyshire, 998
ARMSTRONG, Hubert: Immunization against diphtheria and scarlet fever, 497
ARMSTRONG, J.: Hospital policy, 242
ARMSTRONG, J. Scaife: Acute arsenical poisoning, 34
ARMSTRONG, Richard R.: A swift and simple method for deciding pneumococcal "type," 214 (O)—Treatment of pneumonia, 448—(And R. S. JOHNSON): Concentrated antipneumococcal serum in the treatment of lobar pneumonia, 701 (O), 931 (O)—Awarded the Nichols prize, 1085
ARMSTRONG-JONES, Sir Robert: The psychiatric out-patient clinic, 453
Army, Australian, Medical Services, Official History of, 1914–18, 420

ARMY, BRITISH:
Auxiliary R.A.M.C. funds, 606
Estimates, 521
Health report (1929), 323, 409, 505—An error, 505
Medical Services of, 869
Parliamentary notes, 243, 334, 521, 607, 772, 875, 950
Promotions examination in the R.A.M.C., 77
Recruits, physical condition of, 772—Rejection of, 875
R.A.M. College, reception at, 1053
R.A.M.C. Aids to Dispensing, rev., 985
R.A.M.C., future of, 330
R.A.M.C. officers, shortage of, 243, 334, 960, 1052
Territorial Decoration, 1004

ARNOTT, Rev. Canon, obituary notice of, 688
Arsenic poisoning, acute, 34
Arterio-sclerosis, pulmonary (C. G. Paine and Robert Platt), 698 (O)—Correspondence on, 819
Arterio-sclerosis, pulmonary, and Ayerza's disease, 819
Artery, coronary, aneurysm of, in a woman of 42: rupture (Harold C. Pretty), 667
Artery, coronary, rupture of the (C. B. Bamford), 842 (O)
Arthritis, chronic, the medicinal treatment of (N. Mutch), 393 (O)—Correspondence on, 562
Arthritis, review of book on, 831
ARTHUR, Richard, to retain the title of "Honourable," 381
Artificial pneumothorax. *See* Pneumothorax
Artificial respiration. *See* Respiration
[illegible]etc.
[illegible]and
[illegible]inal lymphadenoma (Thomas A. Pratt and H. W. O. Frow), 622 (O)
ASCOLI, Vittorio, death of, 872
ASHBY, H. T.: Sanocrysin for phthisis in children, 668
ASHFORD, M.: Cerebral metabolism, 1021
ASHHURST, Astley Paston Cooper: *Surgery, its Principles and Practice*, fourth edition, rev., 1075
[illegible]
[illegible]
gesamten Tuberkuloseforschung, Band II, rev., 850
Association, American, for the Study of Goiter offers a prize for the best essay on original research work on goitre, 381
Association of American Physicians: Annual dinner, 150—The prescription of literature, 150
Association, British: Centenary meeting, London (1931), 322, 810—Preliminary programme, 810
Association, British Hospitals: Records of insured hospital patients, 321
Association, British Medical: Annual Meeting, Dublin (1933), 463
Association, British Medical:—Annual Meeting, Eastbourne (1931), 67, 164, 464, 637, 918, 991, 1033, 1126—Pathological Museum, 67, 164, 1083—Eastbourne in history and to-day, 464—Hospitals of Eastbourne, 637—Programme of the Meeting, 991—Surroundings of Eastbourne, 918—Annual dinner, 1126
Association, British Medical: Annual Meeting, Winnipeg (1930), 41—Reprint of articles on Canada, Manitoba, and Winnipeg, 41

ASSOCIATION, BRITISH MEDICAL:
Bath and Bristol Branch.—Indications for the induction of premature labour, 1018
Calcutta Branch.—Clinical meeting, 222—Pathology and treatment of sprue, 222—Hydatidiform mole, 222
Cardiff Division.—Treatment of mitral disease in children, 481
Chesterfield Division.—Rheumatism in childhood, 624
Croydon Division.—A plea for the earlier [illegible] acute [illegible]ure of [illegible] of the [illegible]so, 883
Edinburgh Branch.—Hospital services in Scotland, 554
Hampstead Division.—The interpretation of pain in infancy, 530
Harrogate Division.—Empyema thoracis, 569
Kent Branch.—Treatment of recent simple fractures of the long bones, 735
Leicester and Rutland Division.—Some ante-[illegible]
[illegible]
[illegible]
Swansea Division: The clinical value of a new reflex in chorea, 303
Ulster Branch.—Hospital policy of the Association, 199
Victorian Branch.—Victorian Council for Mental Hygiene, 420
Warrington Division.—Cave-dwellers of Derbyshire, 998
Winchester Division.—The role of the general practitioner in ante-natal work, 5

Association, British Medical: History of and the centenary, 1035

ASSOCIATION, BRITISH MEDICAL: THE SECTIONS AT THE WINNIPEG MEETING:
History of Medicine.—Report of proceedings, 110
Laryngology and Otology.—Report of proceedings, 56, 484
Medicine.—Report of proceedings, 171
Mental Diseases and Neurology.—Report of proceedings, 337
Surgery.—Report of proceedings, 129, 389
Tuberculosis.—Report of proceedings, 129, 342, 389
Association, British Orthopaedic: Annual meeting, 300—Manipulative reduction of crush fractures of the spine, 300—Robert Jones medal and Association prize awarded, 778
Association, Canadian Medical: A medical survey of Canada, 451—Annual meeting, Vancouver (1931), 591, 651
Association, Child Welfare, West Govan Annual meeting, 421
Association of Clinical Pathologists: Annual meeting, 355—Vaccine therapy, 355
Association, Edinburgh and Leith Parents' and Parent-Teachers': Care of the child in Scotland, 152
Association, Glasgow Post-Graduate Medical Summer courses, 953
Association, Grenfell, of Great Britain and Ireland: Annual report, 80—Tuberculosis in Labrador, 80
Association, Invalid Children's Aid, the work of, 856
Association, Irish Medical Schools' and Graduates': St. Patrick's Day dinner, 567
Association, London, of the Medical Women's Federation: The uses and limitations of operations on the ear, 270—Caesarean section, 452—Bullous dermatoses, 667—The voluntary mental patient, 931
Association, London Teachers', issues its *Annual Register of Recommended Hotels, Boarding Houses, and Apartments*, 699
Association of the Medical Women's Federation, South-Eastern: Annual dinner, 554
Association, Mental After-Care: Annual meeting for [illegible]
Assoc[illegible]
of [illegible]
Assoc[illegible]
fer [illegible]
Association of Physicians of Australasia (including New Zealand): Formation of, 1035—Election of officers, 1035—Elections to Council, 1035—Honorary members, 1035
Association, Royal Medico-Psychological: The psychiatric out-patient clinic, 452—Mental disorder and pernicious anaemia, 930—Annual meeting, Dublin (1931), 1133
Association, Socialist Medical: First annual meeting, 895
Association, Tuberculosis: Management of pregnancy, parturition, and the puerperium in tuberculous women, 149
Asthma, liver therapy in, 685
Asthma Research Council, applications for grants from, 733
Asthma, review of book on, 355
Asthma treated by minute doses of tuberculin, 1140
Astigmatism, high, contact glasses or crossed cylinders for (J. H. Beaumont), 1068 (O)
Asylum, Bangour: Medical superintendent appointed, 554
Asylum, Glasgow Royal: Annual report, 853
Asylum officers' superannuation (parliamentary note), 522, 875
Ataxia, Marie's [?] (C. J. Fuller), 849
Athletics, review of book on, 314
Atmospheric pollution: And pulmonary diseases, 277—And fogs (J. S. Haldane), 366—Report by the Department of Scientific and Industrial Research, 419
[illegible]
[illegible]eruptions of the [illegible]so Meatus
AULD, A. G.: Haemolytic icterus, 1048
Aural. *See* Ear

AUSTRALIA:
Association of Physicians of Australasia (including New Zealand), 1086
Australian Army. *See* Army
Australian medicine in the war, 420
Economic depression, 24
Melbourne University, 420
Migration and health: descendants of the [illegible]
[illegible]
[illegible]in Sydney, 419
[illegible]the teaching
[illegible]lene, 420

Australian and New Zealand Journal of Surgery, 1086
Avertin, action of on the liver (F. P. Parsons), 1023
Avertin anaesthesia. *See* Anaesthesia
Avoleum, 757, 852
AXENFELD, Theodor, death of, 688
Axis-traction forceps. *See* Forceps
Ayerza's disease and pulmonary arterio-sclerosis, 819
Azygos vein. *See* Vein

B.

B[illegible]
B. [illegible] Annual meeting,

BACH, Francis: *Rheumatism: Its Significance in Youth and Middle Age*, rev., 227
Bacilluria in children J. N. Cumings), 305 (O)

B ... The Lübeck tragedy 986, 994—A general 985—*Note on*, 994—ine to practitioners (parliamentary note), 522—Review of book on, 756—Discussion on at the Académie de Médecine, 861—Immunization of infants by (A. Cal- ... Royal Society icle, 1080
I infection with
a (J. F. D. Shrewsbury), 538
Bacillus dysenteriae γ of Hiss, epidemic of dysentery due to (A. H. Rintoul), 138
Bacillus, tubercle, fractional products of the (Florence R. Sabin, C. A. Doan, and C. E. Forkner), 411
Backache, review of book on, 754
Backache in women: its significance and treatment (Charles L. Kark), 348 (O)—Correspondence on, 472
BACON, W. B.: Ear syringe, 61
Bacteria, national collection of type cultures of, 1081
Bacteriology and the clinician (J. D. Allan Gray), 184
Bacteriology in Relation to Medicine, System of: Vol. vii, Filterable viruses, rev., 103; vol. vi, Immunity, rev., 899
Bacteriology, review of books on, 60, 100, 102, 404, 712
Bacteriophage, theories of the (Julian Bordet), 66
...
...
BAILEY, L. D.: Treatment of eczema, 184
BAKER, A. Harvard: Meckel's diverticulum as the cause of acute symptoms, 262 (O)
BAKER, Stephen Leonard: Malignant disease of the large intestine, 142—Appointed Proctor Professor of Pathology and Pathological Anatomy at the Victoria University of Manchester, 1097
BALDWIN, Aslett: Injection treatment of piles, 893
BALDWIN, Sir Harry: The common moustache brush, 382
BALFOUR, Sir Andrew: Death of, 233—Obituary notice of, 245
BALLANTYNE, A. J.: Cataract operation in extreme old age, 241
BALLENGER, William Lincoln:—*Diseases of the Nose, Throat, and Ear: Medical and Sur-* ... 456
... dosage: a plan for
... tism (leading article),
...
BAMFORD, C. B.: Rupture of the coronary artery, 842 (O)
BAND, David: Cervical carcinoma, 627
Bangkok, Medical Congress of the Far Eastern Association of Tropical Medicine at, 206
BANKS, J. Noël: Melaena neonatorum, 396
Banting Research Foundation. *See* Research
Bar, calls to the, 251, 876
BARBER, H. W.: Eczema of internal origin, 540—Elected a corresponding member of the Vienna Dermatological Society, 691—Eruptions of the external auditory meatus, 795
BARBER, T. Henry Treves: Treatment of varicose ulcers, 515
Barber-surgeon's instrument case of the Tudor period (C. J. S. Thompson), 811—Correspondence on, 914
BARCLAY, A. E.: Radiological problems in veterinary medicine, 16—Silvanus Thompson Memorial Lecture on specialization in the medical curriculum, 674
BARCROFT, Joseph, Hon. D.Sc. Belfast conferred on, 873
BARGEN, Dr. J. A.: Chronic ulcerative colitis, 504—Etiology of chronic ulcerative colitis, 1051
BARKAS, Mary: The psychological factor in delinquency, 233—The voluntary mental patient, 981
BARNARD, J. E.: Etiology of disseminated sclerosis, 93—Disseminated sclerosis research, 560
...
I il
... ...
... ...
... ...

Bodlon, unidentified, statistics of (parliamentary note), 1098
Bowman, C. Osmond: Instruments for examining and treating the tonsils, 188
"Bog butter," 1145
Boiler, Lorenz: Treatment of fractures, 31
Boiler "scale," prevention of, 381
Bolam, Sir Robert: Hospital services in Scotland, 551—Contributory scheme for voluntary hospitals, 1012
Bolton, Elizabeth, appointed Dean of the London (Royal Free Hospital) School of Medicine for Women, 250—Mary Scharlieb memorial, 475
Bombay, cholera outbreak in, 1089
Bond, Sir C. Hubert, appointed a senior commissioner of the Board of Control, 67—The psychiatric out-patient clinic, 455—Mental disorder and pernicious anaemia, 989
Bond, C. J.: Genetic relationship between cretinism and hypothyroidism, 423—The genetic and racial aspects of hormonic deficiency, 601
Bond, Surgeon Rear-Admiral Reginald St.G.S.: Appointed Medical Director-General of the
Bones, long, treatment of recent simple fractures of the (G. H. Fagge), 735 (O)—Corre-
Bordeaux, post graduate courses at, 733
Boudet, Jules:—Croonian Lecture: Les Théories
Zoology, second
Bonthwick, G. A.: Encephalitis lethargica, 714
Boswell, Dudley W.: Puerperal inversion of the uterus, 582
Bottles, medicine, a wrapping for, 1056
Boulland, Jean Baptiste, 761
ppointed honorary
advances in the
1116
ourke, Major Ulick Joseph, obituary notice of, 1097
Bourne, Aleck: Management of pregnancy in tuberculous women, 141 — The obstetrical problem of the contracted pelvis, 896
Bourne, Geoffrey: *An Introduction to Medical History and Case Taking*, rev., 272
Bourne, Margherita C. (and Freda K. Hebbert): The choice of a blood sugar method for clinical work, 91 (O)
Bousfield, G.: Meinicke clarification reaction, 242
Bowden, Ruth (W. D. Sansum and Percival Allen Gray): *The Treatment of Diabetes Mellitus with Higher Carbohydrate Diets*, rev., 226
Bowdler, W. A.: Primary treatment of carbolic acid poisoning, 686
Bowel perforated by foreign bodies, followed by peritonitis (Arthur Hawkyard and George Armitage), 5, 7 (O)
Bowel. *See also* Intestine
Boxwell, W.: Unusual renal tumour, 402
Boyd, Mark F.: *An Introduction to Malariology*, rev., 900
Boyd, Reginald H.: *Diet and Care of the Surgical Case*, rev., 757
Boyd, William: *The Pathology of Internal Diseases*, rev., 1 27
Bradfield, Lieut.-Col. E. W. G.: Report of the Government General Hospital, Madras, 235
Bradford, Sir John Rose, baronetcy conferred on, 25, 70—Appreciation of Cyril Ogle, 427—Medicine as a science and an art, 815—
429
d-liver oil
and irradiated ergosterol in rickets, 853
Bradycardia with torsion of ovarian cyst (R. Francis Mattes), 1022 (O)
Brauning, H. (and others): *Ergebnisse der Gesamten Tuberkuloseforschung*, Band II, rev., 850
Bragg, Sir William Henry, Order of Merit conferred on, 1004
Brailsford, James F.: Radiological problems in veterinary medicine, 16—Hydatid disease in England, 133 (O)
Brain, R. T.: A radon seed introducer, 273
Brain, W. Russell: Zoster, varicella, and encephalitis, 81 (O)—Mental symptoms associated with brain tumours, 311
Brain abscess. *See* Abscess, cerebellar
Brain, congenital aneurysm of. *See* Aneurysm
Brain tumours. *See* Tumours
Braithwaite, L. R.: Cholecyst-gastrostomy, 766
Bramwell, Sir Byrom: Death of, 762—Obituary notice of, 823
Bramwell, J. Crighton: Treatment of toxic goitre, 460
Brandt, Sir
cial Member of
incent, 876
735
Brander, J.: Mental symptoms associated with brain tumours, 311
Brash, James Couper, appointed to the chair
University, 643
B
and treatment of
ulins in, 678
rnardo: *Physician*,
Breast, artificial, 252
Breast diseases, review of book on, 1075
Breast inflation in puerperal coma followed by rapid recovery (J. G. Kininmonth), 335 (O)
Breast-fed infants. *See* Infants
Breasts, accessory, lactation in (Arnold Hindhaugh), 416
Brechin, Forrest, obituary notice of, 209
Brenchley, Algernon D.: Appreciation of Seymour Taylor, 953
Brereton, Surgeon Captain William Kenneth, obituary notice of, 1053
Brewn, R. Alan: The obstetrical problem of the contracted pelvis, 835
Bridge, review of book on, 61
Brighton: Plans for sea-water swimming bath for treatment of rheumatism, 778
Brindle, W. B. (and R. E. Jackson):—Serum anaphylaxis, 220, 516—Tetanus: Unusual channel of infection, 396
Brierow, W. Rowley: London Clinic and Nursing Home, 937
British Association. *See* Association
British College of Obstetricians. *See* College
British Hospitals Association. *See* Association
British Industries Fair, London (1931), 193, 336
British Institute of Radiologists. *See* Radiologists
British Journal of Actinotherapy and Physiotherapy to be published under the title of *The British Journal of Physical Medicine*, 735
British Journal of Psychology: Monograph supplement on the growth of visual perception in children, 580
British Legion Village at Preston Hall: Annual report, 632
British Medical Association. *See* Association
British Orthopaedic Association. *See* Association
British Pharmacopoeia. See Pharmacopoeia
British Science Guild: Technical officers in Government departments, 632—Annual meeting, 906—Programme, 906
British Spas Federation: Half-yearly meeting, 645. *See also* Spas
Brittain, Sir Harry: Climate of Majorca, 452
Broadbent, Walter: Treatment of pneumonia, 448—Interlobar empyema, 1069
Brockbank, E. M.: *The Diagnosis and Treatment of Heart Disease*, sixth edition, rev., 141—*The Conduct of Life Assurance Examinations*, rev., 1028
Brockbank, William: The value of liver in treatment, 586—Poison gas and pulmonary cancer, 725
Broderick, F. W.: Sugar in the diet of the school child, 223—Awarded the Cartwright prize, 689
Brodie, Richard, obituary notice of, 120
Brodum, F. A.: Glycerin as a surgical dressing, 159
Bromide poisoning in a monkey, 121
Bronchiolectasis, acute (H. Hilton Stewart and J. H. Bigart), 1115 (O)
Bronson, Barnard S.: *Nutrition and Food Chemistry*, rev., 456
Brontës, the eyesight of the (C. Mabel Edgerley), 235
Brooks, Harlow: *Angina Pectoris*, rev., 18
Broster, L. R.: A review of sex characters, with special reference to the adrenal cortex, 715 (O)
Brotherus, Elmer D.: *Medical Jurisprudence*, third edition, rev., 938
Broughton-Alcock, W.: Treatment of intestinal auto-intoxication, 847
Broughton-Head, Leslie Charles, appointed honorary surgeon dentist to the King in Scotland, 431
Brouha, Maurice: The progress of obstetrics, 596
Brown, Alan: Incorporation of vitamins in bread, 678
Brown, Herbert H.: Mortality in acute appendicular disease, 516
Brown, James (the Lord High Commissioner), visits the Edinburgh hospitals, 955
Brown, Lawrason (and Homer L. Sampson): *Intestinal Tuberculosis*, second edition, rev., 276
Brown, L. Graham:—Fractured base of skull: effects on hearing, 449
Brown, W. Langdon: Treatment of glandular deficiency, 400
Brown, William: Prevention and treatment of drug addiction, 495—An unusual mental abnormality, 615
Browne, Denis: Method of blood transfusion with special reference to children, 259 (O)
Browne, George Buckston: Gift to the Royal College of Surgeons for an Institute of Surgical Research, 320, 332—Awarded the honorary gold medal of the Royal College of Surgeons of England, 918, 1097
Browne, Deputy Surgeon-General Horace Ximenes: obituary notice of, 162
Browne, O'Donel: Analgesia in labour, 669
Browne-Mason, Colonel Hubert Oliver Browne, obituary notice of, 244
Browning, C. H.: Appreciation of Archibald Leitch 248
Brownlie, W. Barrie: Treatment of othmoid-
cataract, 1092
book on, 902
, 807. *See also* Fever,
undulant
Brückner, Max, death of, 1112
Brush, moustache, the common, 342
Bruxelles Médical: Special number on the proceedings of the Congress Journées Médicales (1930), 431
Bryce, Professor: Report of the Glasgow Royal Maternity and Women's Hospital, 421
Buchan, G. P.: Health and cleanliness, 651
Buchanan, R. E. (and Ellis I. Fulmer): *Physiology and Biochemistry of Bacteria*, vols. I and II, rev., 491
Buckley, C. W.: Physiological effects of baths, 552—Spondylitis deformans, 1054 (O)
Budapest, Institute of dietetics opened at, 581
Budget, the (leading article), 778. *See also* Finance Act
Bullard, Arthur: *Bacteriological Studies of Apical Infection*, 943
Bullard, W. A.: Sugar in the diet of the school child, 223
Bulletin of Hygiene, 231
Burdon, Leo: Historical survey of the development of modern urological instruments, 293
Burgess, John A.: Frontal sinusitis with intracranial suppuration and invasion of blood and cerebro-spinal fluid by different organisms, 956
Burke, E. Tyler: Treatment of syphilis, 276—Therapeutic exclusion in the treatment of syphilis, 505 (O)—Coronary thrombosis and myocardial infarction with glycosuria, 778
Burke, Noel H. M. *Micrococcidæ*, 1093
Burma: Report on the medical institutions in, 856
Burn, A.: Painless natural labour, 295
Burnett, Sir Robert William, obituary notice of, 377
Burnford, Julius: The intravenous use of germicides, 265
Burgess, Norman: Kerato-iritis blennorrhagica, 1092
Burns, John W.: "Stocktaking," 169
Burns, review of book on, 628
Burnett, L. B. T. (and W. J. Preston): *Diseases of the Chest*, rev., 542—Pleural effusion, 615 (O)—Significance of haemoptysis, 1155
Burnows, A.: Radium and x ray service in Australia, 423
Bursitis at the elbow (I. H. Lloyd-Williams), 28
Burt, Cyril: Report on the primary school child, 317
Burt, J. R.: Physiological effects of baths, 553
Burt White, H., awarded the Nichols prize 1033
Busquet, Paul, death of, 351
Butcher, Mary J., called to the Bar, 876
Butcher, W. J., called to the Bar, 875
Butler, H. B.: The choice of an anaesthetic, 266
Butler, William: Recent methods of sewage treatment, 315
Butter, "bog," 1145
Butter, sale of (parliamentary note), 1054
Buzzard, Sir E. Farquhar: Treatment of nervous exhaustion, 753
Byrott, Albert Henry, obituary notice of, 427
Byrne oxygastrol (hog's stomach), 583
Byrne, J.: Varicose ulceration, 124

C.

Cabot, Richard C.: *Physical Diagnosis*, tenth edition, rev., 102
Cadbury Bros., Ltd., centenary of, 1146
Cade, Stanford (and Walter G. Spencer): *Diseases of the Tongue*, third edition of Butlin's *Diseases of the Tongue*, rev., 709
Cadenhead, Edouard, death of, 688
Caesarean section (Frances Ivens-Knowles), 452
Caesarean section and the contracted pelvis, discussion on, 895. *See also* Pelvis
Caesarean section followed by natural labour, 33, 80, 294
Caesarean section, lower segment (St. George Wilson), 798
Calcium metabolism, 605
Calcium therapy (Donald Hunter), 898—Discussion, 898
Calculus of the ureter (J. B. Macalpine), 669
Calculus. *See also* Stone
Calculus, tuberculosis mortality in, 865
Calmette, Professor: The B.C.G. controversy, 861—Receives the diploma of honorary membership of the Section for the Study of Disease in Children of the Royal Society of Medicine, 1070—B.C.G. immunization of infants, 1070
Calverley, W., called to the Bar, 876
Cambridge diploma in medical radiology. *See also* Radiology and University of Cambridge
Pro-
Cammidge, P. J.: High carbohydrate diet in diabetes, 310
Camond, Gaston de, death of, 428
Campbell, J. Menzies: Food combinations, 829
Campbell, R. H.: Report on Larbert Mental Hospital, 116
Camphor and the Budget (parliamentary note), 875
Camphorated oil, poisoning by (J. Cotterill), 95

CANADA:
Annual Meeting of the British Medical Association at Winnipeg, 1930: reprint of articles on Canada, etc., 41
[illegible] nnual meeting
Medical examination of immigrants to, 1040
Medical survey of, 461
Cancer and aniline workers (parliamentary note), 556
Cancer of the bladder, treatment of (leading article), 459—Correspondence on, 524
Cancer Campaign, British Empire: Quarterly meeting of Grand Council, 121, 689—Garton prize, 251—Annual report of the Yorkshire Council, 1043
Cancer of the cervix (Henry Wade and David Band), 627
Cancer, coal, and smoke (Elizabeth C. Mudie), 863
Cancer, deaths from (parliamentary note), 916
"Cancer," definition of, 1146
Cancer, familial incidence of, 157, 199, 241, 255, 375
Cancer, activated (irradiated), fluorescein treatment of (S. Mockton Copeman), 658 (O)—Correspondence on, 767
Cancer, incidence of, and its history after treatment, inquiry into, 505
Cancer of the large intestine (Gordon Taylor), 141
Cancer of lip, Ministry of Health memorandum on, 804
Cancer of the lung (leading article), 21
Cancer of the lung (A. Tudor Edwards), 129 (O)—Correspondence on, 283
Cancer of lung and poison gas, 667, 725
Cancer of the lung, x-ray therapy in, 283, 327, 373, 473
Cancer and nerves (R. J. Ludford), 68
Cancer problem, aspects of the (leading article), 1123
Cancer prophylaxis, possible effect of radium in, 1045
Cancer of pylorus, remission of symptoms in, 124
Cancer and race, 914
Cancer, radium therapy in (Roy Ward), 402
Cancer of rectum (W. B. Gabriel), 52 (O)
Cancer Research Fund, Imperial: Scientific Report No. 9, 63—Filterable fowl tumours, 68—Experimental carcinogenesis, 68—Nerves and cancer, 68—Nuclear origin of malignancy, 68
Cancer research, funds for (parliamentary note) 874
Cancer research: In Manchester, report of committee on, 765—In Harvard University, 856—In Yorkshire, report of council, 1043
Cancer, review of books on, 224, 358, 800
Cancer of skin, Ministry of Health memorandum on, 804
[illegible] memorandum on, 804
Cancer, treatment of (R. H. Jocelyn Swan), 864
Cancer treatment, results of, 75
Cancer, treatment of by a new (Coolidge) x-ray tube, 919
Cancer. See also Malignant disease, Tumours, etc.
CANDLER, Mr.: Glandular lipoma, 849
Canfield operation [illegible] on, 63.
Cap [illegible] 29
CAP [illegible]
CAPPELL, Daniel Fowler, appointed professor of pathology in the University of St. Andrews, 281
Carbohydrate diet. See Diet
Carbolic acid poisoning, treatment of (O. S. [illegible]), 581 (O)—Correspondence on, 686, 770
Carcinogenesis, experimental (W. Cramer), 68
[illegible] See Syphilis
[illegible] choice of an anaesthetic, 265
CARLYON, Lieut.-Col Arthur Farrington, obituary notice of, 565
CARMICHAEL, E. Arnold: Etiology of disseminated sclerosis, 93, 943
CARR, J. G.: Cardio-vascular syphilis, 105
CARREL, Alexis, awarded the Sophia A. Nordhoff-Jung Cancer prize, 25
CARRERA, Juan Alba, death of, 291
CARRUTHERS, N. S.:—Fractured base of skull: effect on hearing, 450
CARSWELL, John, death of, 1126
CARSWELL, Robert: The outlook on tuberculosis, 155
CARTER, Barbara Barclay: Memorial to Joan of Arc, 780
Case taking, review of book on, 272
Casement, Roger a problem in psychology (Denis Gwynn), 802
CASSIDY, Maurice A.: The electrocardiogram, 646
CASTELLANI, Sir Aldo: European women and children in the tropics, 258—Treatment of intestinal amoebiasis, 847
CASTIGLONI, A.: Histoire de la Médecine, rev., 757
Cataract and medical practice, 877
Cataract, operation for, 1031, 1045, 1092, 1136
Cataract operation in extreme old age (Lieut.-Col. R. H. Elliot), 132 (O)—Correspondence on, 241, 285
Catarrh of upper respiratory tract, 1056
CATHCART, Charles W.: The procedure of the hypodermic injection, 336
CATHCART, E. P.: Report on nutrition, 274
CATHCART, George C.: The Treatment of Chronic Deafness by the Electrophonoïde Method of Zünd-Burguet, second edition, rev., 544—Modified Löwenberg forceps, 852
Cats and human disease, 907
CATTELL, Henry W. (editor): International Clinics, vol. iii. fortieth series, rev., 406; vol. iv, fortieth series, 801
Cattle, immunization of against tuberculosis (parliamentary note), 477. See also Tuberculosis
Cave-dwellers of Derbyshire (A. Leslie Armstrong), 998—Correspondence on, 1100
CAWADIAS, A. P.: The dynamic and the modern procedure of diagnosis, 312
CAYLOR, Harold D.: Treatment of cancer of the bladder, 459
CECIL, Russell L. (editor): A Text-Book of Medicine, by American authors, second edition, rev., 939
Cell, living, nature of (Robert Chambers), 411
Census of 1931, 278, 451—And the common health, 461
Census Order (parliamentary note), 39
Central Midwives Board. See Board
Central Provinces, India, infantile mortality in, 421
Cerebellar abscess. See Abscess
Cerebral cortical structure and its relations to mental disease (R. J. A. Berry), 837 (O)
Cerebral metabolism (Eric Holmes and Mr. Ashford), 1024
Cerebro-spinal fever, prevalence of: Ministry of Health memorandum, 368
Cerebro-spinal fever outbreak in the Royal Air Force in 1931 (Wing Commander H. E. Whittingham, Flight Lieutenant J. M. Kilpatrick, and Flying Officer E. W. B. Griffiths), 1101 (O)
Cerebro-spinal fever (parliamentary note), 379, 429, 565, 727—And vaccination, 566
[illegible] of book on, 356
See Meningitis
[illegible] ension. See Pension
CHABANIER, H. (and C. LOBO-ONELL): Exploration Fonctionnelle des Reins, rev., 545
Chadwick Lectures. See Lectures
CHAGAS, Dr., elected a foreign member of the Académie de Médecine, 567
CHAJEN, B.: Kompendium der Sozialen Hygiene, rev., 359
CHALMERS, R.: Diet and health, 605
CHAMBERS, F. J.: Avertin anaesthesia, 35
CHAMBERS, E. R.: Keratitis punctata superficialis, 750
CHAMBERS, Robert: The nature of the living cell, 411
CHANDLER, F. G.: X-ray therapy in malignant disease of the lung, 373
Change of doctor. See Insurance
CHAPLIN, Arnold: Some great figures in history, 205
Chapman, George, Trial of, rev., 273
Charaka Club, Proceedings of, vol. vii, rev., 672
CHARCOT, Dr.: Scurvy, 852
CHAUSSINAND, Roland: La Vaccination contra la Tuberculose par le B.C.G., rev., 756
[illegible] -MMIERN): Diagnostic [illegible] o Radiologiques des [illegible] veux, rev., 19
Loudon Clinic and Nursing Home, 287—Awarded the Walker prize, 689
Cheese wrappers, poisoning from (parliamentary note), 39
CHEESMAN, J. E.: Baillière's Synthetic Anatomy, Part VII, The Thorax; Part VIII, The Abdomen, rev., 672
Chemicals and drugs, British, 193 See also British Industries Fair
Chemical Industry, Acts of Parliament relating to: Index to now published, 778
Chemistry, review of books on, 20, 187, 500, 628, 672, 757, 801
Chest diseases, review of books on, 542, 670
Chesterfield, Lord, a medical, 635
Chesterfield medal, examination for, 523
CHEVASSUT, Miss: Etiology of disseminated sclerosis, 93—Refuses the Medical Research Council's offer to demonstrate a spherule of disseminated sclerosis, 425 — Disseminated sclerosis research, 513
CHIA, S. C. (and J. B. G. MUIR): Perforated typhoid ulcer, 976 (O)
Chilblain, enigma of the (Rupert Hallam), 215 (O)—Correspondence on, 285, 329, 374, 516, 568
Child [illegible] nard
[illegible] idon
[illegible] Nest
[illegible] y
Child welfare in Africa: Conference on, 773—Parliamentary note, 1143
Childbirth, anaesthesia in. See Anaesthesia and Labour
Children, growth in. See Growth
Children's Clinic for Study of Nervous Diseases, 1044, 1146
Children's diseases, review of book on, 850, 902, 985, 1029, 1074
Chill, review of book on, 588
Chinese mining hospital (Kailem Mining Company): Report on, 192
CHINN, Mr.: The psychological factor in delinquency, 234
CHIRAY, M. (and F. THIÉBAUT): Les Fonctions Hépato-Biliaires, rev., 984
CHODOUNSKA, Karel, death of, 1142
Chloroform, anaesthetic, new method for detecting decomposition in (N. L. Allport), 843
Cholecyst-gastrostomy, 766, 869
Cholera outbreak in Bombay, 1089
CHOPRA, Bodh Raj: The Expectant Mother and Her Baby, rev., 272
Chorea, new reflex in (G. Arbour Stephens), 303 (O)
CHRISTIE, H. Kenrick: Technique and Results of Grafting Skin, rev., 313
CHRISTIE, John Farquhar, obituary notice of, 776
CHRISTIE, J. Fulton: Paroxysmal rhinorrhoea, 524
CHRISTOPHERS, Colonel Samuel Rickard, knighthood conferred on, 1004
CHRISTOPHERSON, J. B.: European women and children in the tropics, 269
Chromium plating, health of the worker in (Hubert B. Trumper), 705 (O)—Correspondence on, 829, 1100
Chylous ascites complicating abdominal lymphadenoma (Thomas A. Pratt and H. W. O. Frew), 622 (O)
Cicely Northcote. See Hospital, St. Thomas's and Northcote
Cigarettes, filter-tipped, 692
Cinchona tercentenary celebrations, 23, 594—Quinine therapy in malaria, 23—Quinine production in India, 594
Cinchona and quinine, 201. See also Quinine
Circulatory failure, treatment of (W. T. Ritchie), 195—Correspondence on, 240
CLARE, T. C.: The keloid ovary, 527 (O)
CLARK, Alfred Joseph, recommended for election to the Royal Society, 507
CLARKE, Astley V., appointed vice-chairman of University College, Leicester, 335
CLARKE, J. Jackson: Cancer and Scientific Research, 726
CLARKE, J. Pertius: "Streptococci in scarlet fever," a tropical view-point, 10 4
CLARKSON, R. D.: Report of the Royal Scottish National Institution for Mentally Defective Children, Larbert, 602—Mental deficiency in Scotland, 996
CLAYTON-MITCHELL, Matthew: Fishbones in the appendix, 309
Cleansing, public, in London (parliamentary note), 204. See also Refuse
Cleft palate. See Palate
CLENDENING, Logan: Modern Methods of Treatment, fourth edition, rev., 630
CLERY, A. B.: Spinocain anaesthesia, 541
Climate and air travel, medical problems of, 907. See also Air
Climate of Majorca, 335, 381, 432
Clio Medica—New volumes added: Anatomy (George W. Corner), 463—Physiology (John F. Fulton), 463
CLOSE, Harold G.: Alkalis in renal complications of pregnancy, 539—(And A. Arnold OSMAN): The diagnosis of uraemia, 1064 (O)
CLOW, Alice E. Sanderson: Treatment of dysmenorrhoea, 1135
Club, Charaka, Proceedings of, vol. vii, rev., 672
Club, Osler: The dynamic and the modern procedure of diagnosis, 312
Club, Oxford Clinical: Treatment of advanced cases of intestinal obstruction or strangulation, 219
Club, Royal Navy Medical, 606
CLUTTERBUCK, H. J.: Sodium nucleinate in pneumonia, 830
Coal miners. See Miners
COBB, N. A.: The teaching of helminthology, 506
COCHRANE, Robert G.: The international conference on leprosy at Manila, 680
COCK, F. William: Quinine and malaria in England, 42
COCKSHUT, R. W.: Treatment of varicose ulceration, 652
Cocoa and chocolate centenary, 1146
Cod-liver oils and irradiated substances (leading article), 853
Coeliac disease (leading article), 758
Coeliac disease simulated by tuberculous peritonitis (E. C. Warren), 977 (O)
COHEN, H.: Miscarriage of one twin, 524
COKE, Harry: Two cases of purpura, 535 (O)
Cold, common, etiology of (G. S. Shibley, A. R. [illegible] 192. See also Skin
COLEBROOKE: Source of infection in puerperal fever, 806
Colitis, ulcerative, chronic (leading article), 504—(Arthur F. Hurst), 693 (O)—Correspondence
[illegible] ectrode for treat-
Collapse of lung. See Lung

College, Anderson, Glasgow: Annual prize-giving, 511
College, Epsom: School sanatorium, 282—Foundationers, correspondence on, 474—Election to a St. Anne's scholarship, 1083
Collège de France, centenary of, 479
College, Gordon Memorial, Khartum: Annual report, 432
College, King's: Fellows appointed, 250—Lectures, 121, 688—New anatomy department, 998. *See also* Hospital and University of London
College, Livingstone, Leyton: Commemoration Day, 1055
College, London Hospital Medical. *See* Hospital, London
College of Obstetricians and Gynæcologists, British: Annual meeting, 821—Annual report, 821—Election of officers, 821—Election of committees, 821—Quarterly meeting of Council, 292, 821—Seal of the College, 292—Report of Examination Committee, 292—Subcommittees appointed, 292
College, Royal Army Medical, reception at, 1053
College, Royal Australasian, of Surgeons: Annual meeting, 1036—Journal of to be known in future as *The Australian and New Zealand Journal of Surgery*, 1086
College Royal, of Physicians of Edinburgh: Appointments, 873—Centenary (250th anniversary) celebrations, 360, 370—Fellows elected, 292, 873—Freeland Barbour Fellowship, 873—Lecturers, 292—Quarterly meeting, 292, 873
College, Royal, of Physicians of Ireland: Appointments, 292—Degrees and pass lists, 292, 651, 1097—Fellows elected, 689—Invitation to Cleveland, U.S.A., 1097—Licentiates admitted, 1097—Members admitted, 292, 1097—Professorship of preventive medicine and medical jurisprudence, 292—Report of representative on the Irish Medical Council, 1097

COLLEGE, ROYAL, OF PHYSICIANS OF LONDON
Appointments, 250, 651, 820
Degrees and pass lists, 250, 651, 820, 873, 918
Diplomas, 250, 651, 873, 918
Fellowship, 820
Lectures, 108, 250, 918
Licences, 250, 820
Membership, 250, 820
[illegible] ople Bill, 250

College, Royal, of Surgeons of Edinburgh: Bathgate memorial prize, 918—Degrees and pass lists, 918—*Fellowship Examination Papers for the Diplomas of, 1927-1930*, 672

COLLEGE, ROYAL, OF SURGEONS OF ENGLAND:
Appointments, 121, 519, 689
Catalogue of Portraits and Busts in the Royal College of Surgeons of England, 463
Court of Examiners, vacancy on, 918
Council election, 332, 429, 564
Council meeting, 121, 332, 519, 688, 918, 1097
Degrees and pass lists, 121, 332, 688, 873, 918, 1097
Diplomas, 121, 332, 519, 688, 873, 918
[illegible]
[illegible]
Honorary gold medal awarded, 918, 1097
Jacksonian prize, 777
Lectures, 121, 689, 777
Licences, 519
[illegible] 8, 1097
[illegible] representation of,
Membership, 1097
Museum demonstrations, 378
Orthopædic Congress, International, 519
Prizes awarded, 689
Surgical biological research institute, proposed, 332, 1097
Waterhouse, the late Sir Herbert, 1097

College, Royal, of Surgeons in Ireland: Degrees and pass lists, 41
College of Surgeons, American: John B. Murphy Oration, 806
College, Royal Veterinary (parliamentary note), 380, 430, 772, 822. *See also* Veterinary
College, Trinity, Dublin:—Degrees and pass lists, 204, 564, 777—Abraham Colles: his life and work, 863. *See also* University of Dublin
College, [illegible] ients, 121
College, [illegible] s and pass lists, 4 [illegible] Dublin
college, University, London: Annual dinner of Fellows, 688—Annual report, 429—Bayliss-Starling memorial scholarship, 777—Lectures, 78, 204—The Peking man, 151—Scholarships and exhibitions, 650, 777. *See also* Hospital and University of London
College, West London Post-graduate: Opening of session, 721
[illegible] patrick), 863
[illegible] ace mask for [illegible] f the lung, 666
[illegible] climbing the
[illegible] ermission to [illegible] of the Nile, 777
COLLINS, Leon: Diabetes in coal miners, 42
COLLINSON, H.: Some aspects of present-day surgery, 107
COLLIS, E. L.: The coal miner, his health and occupational diseases, 955
Colon, diverticula of, and their sequelæ (J. P. Lockhart-Mummery and H. Graham Hodgson), 525 (O)—Correspondence on, 646
Colon, perforative diverticulitis of (J. M. Black), 180
Colour vision and the Navy (parliamentary note), 566
COLT, G. H.: Injection treatment of varicose veins, 312—Treatment of varicose ulceration, 329
COLVILLE, O: Prolonged obstruction of the large bowel, 707
Coma, puerperal: rapid recovery following inflation of breasts (J. G. Kinimmouth), 335 (O)
Comb forceps. *See* Forceps
COMBY, Jules: *Quatre Cent Consultations Médicales pour les Maladies des Enfants*, ninth edition, rev., 685
Comedo, unusual distribution of (J. Goodwin Tomkinson), 666 (O)
Commonwealth Fund Fellowships, appointments to, 919
Complement-fixation test, gonococcal (I. N. Orpwood Price), 578 (O)
COMRIE, John D.: Egyptian clinical surgery, 691
Confinement, pyrexia after, 1099
Confinement, solitary (parliamentary note), 1038
Congo, medical finance in the, 556
Congress against Alcoholism, International, Antwerp (1928): *Proceedings*, rev., 892
Congress, Australasian Medical: *Transactions* of the Third Session, rev., 61
Congress of the Berlin Society of Balneology, Bad Ems (1931), 431
Congress, Bolivian Medical, Sucre (1931), 651
Congress of the Collegium Oto-rhino-laryngologicum, International, Bordeaux (1931), 1145
Congress of Comparative Pathology, International, Paris (1931), 1141
Congress of Digestive Pathology, Spanish, Valencia (1931), 733
Congress, Dutch, of Natural Science and Medicine, Delft (1931), 251
Congress of the Far Eastern Association of Tropical Medicine, Bangkok (1930), 206. *See also* Tropical
Congress of the French Societies of Oto-neuro-ophthalmology, Paris (1931), 778
Congress, French, of Tuberculosis, Bordeaux (1931), 567
Congress of the French Society of Ophthalmology, Paris (1931), 651
Congress of French-speaking Alienists and Neurologists, Bordeaux (1931), 205
Congress of French-speaking Medical Jurists (1931), 413
Congress of the German Association for the Investigation of Diseases of the Circulation, Breslau (1931), 125, 381
Congress of the German Association for Internal Medicine, Wiesbaden (1931), 567, 609
Congress of the German Balneological Society, Ems (1931), 567
Congress of the German Dermatological Society, Vienna (1931), 651
Congress of the German General Medical Society for Psychotherapy, Dresden (1931), 651
Congress of the German Oto-rhino-laryngological Society, Leipzig (1931), 651
Congress of the German Psychiatric Society, Breslau (1931), 567
Congress of the German Surgical Society, Berlin (1931), 567, 919
Congress, German Tuberculosis, Kissingen (1931), 651
Congress of the History of Science and Technology, International, London (1931), 193, 828, 1083
Congress, Hospital, International, Vienna (1931), 733
Congress of Industrial Accidents and Diseases, International, Geneva (1931), 961
Congress for Internal Medicine, Helsingfors (1929): *Proceedings*, rev., 272
Congress of the International Society of Surgery, Madrid (1932), 995, 1126
Congress, Italian, of Colonial Studies, Florence (1931), 567
Congress of the Italian Society of Microbiology, Milan (1931), 567
Congress, Journées Médicales (1930): Proceedings, 431
Congress: Journées Médicales de Bruxelles (1930), 556, 752—The progress of obstetrics, 556
Congress, Journées Médicales de Lille, Lille (1930), 479
Congress of the Jugoslavian Dermatological Society, Belgrade (1931), 479
Congress of Light Therapy, International, Copenhagen (1931), 961, 1055
Congress, Ling, International, Stockholm (1930), 41—Swedish gold medal for physical education awarded, 41
Congress of Malariology, Algiers (1930), 273
Congress of the Medical Association of South Africa, Johannesburg (1931), 1126
Congress of Military Medicine and Pharmacy, International, The Hague (1931), 41, 691
Congress, Milk, International: Copenhagen (1931), 778
[illegible] Vittel (1931), 778
[illegible] nternational, Berne
Congress of Obstetrics and Gynæcology, British, Glasgow (1931), 79, 601
Congress of Obstetrics and Gynæcology, Hispano-Portuguese, Madrid (1931), 205, 1055
Congress of Oto-rhino-Laryngology, International, Madrid (1932), 163
Congress, Oxford Ophthalmological, 463
Congress of Paediatrics, International, Stockholm (1930), 547—The thymus puzzle, 547
Congress of Photography, International, Dresden (1931), 778
Congress for Psychotherapy, Medical, Dresden (1931), 609
Congress of Radiology, International, Paris (1931), 919, 951
Congress of International League against Rheumatism, Rome (1931), 567
Congress of the Royal Institute of Public Health, Frankfort (1931), 857, 959—Inaugural meeting, 959—Medals presented, 959—Medal of honour of the city of Frankfort presented to, 959
Congress of the Royal Sanitary Institute, Glasgow (1931), 838, 1099
Congress of Sanitary Technique and Communal Hygiene, Milan (1931), 41, 479
Congress of Sexual Reform, World League (1930): Proceedings, rev., 630
Congress on Social Work, London (1931), 718
Congress of the Stomatological Association, International, Budapest (1931), 431
Congress, South African Medical. *See* Congres of the Medical Association of South Africa
Congress of Thalassotherapy, International, Berck-sur-Mer (1931), 479
Congress of Tropical Medicine, International, Amsterdam (1930), 1115
Congress of Tropical Medicine and Hygien Paris (1931) 673
Congress of Thalassotherapy, Italian, Trieste (1931), 79
Congress, Tuberculosis Prevention, Nation Association for, Margate (1931), 103. *See al* Tuberculosis
Conjoint Board in England: Degrees and pass lists, 292
Conjoint Board in Ireland: Degrees and pass lists, 41
Conjoint Board in Scotland: Degrees and pass lists, 250, 873
CONNELL, Ernest, gold medal of epidemics conferred posthumously on, 163
Consolidated Fund Bill, 565
Constipation, linseed for, 206
Consumers' Council Bill, 607
Consumption. *See* Tuberculosis
Contact glasses. *See* Glasses
Contraceptive literature (parliamentary note), 650. *See also* Birth Control
Contraction for "lowest level" co-ordination. *See* Co-ordination
Convalescent serum. *See* Serum
Conventions: International (parliamentary note), 430—On the amelioration of the sick and wounded in armies in the field, 597—On the treatment of prisoners of war, 597
Conviction for falsely pretending to be a medical man, 1053
Convulsions during surgical anæsthesia (J. Ross Mackenzie), 224, 440, 685 (O)—Correspondence on, 562, 685, 1022, 1095
CONWELL, H. Earle: *Acute Fractures of the Shaft of the Femur in Children*, 230—(And Lloyd NOLAND):—*Acute Fractures of the Pelvis: Treatment and Results of 135 Cases*, 230
COOK, B. F.: "Bad risk" operation cases, 432
COOK, James: Obstetrical education of the undergraduate, 117
COOKE, E. C. Whitehall: Case of glandular fever, 446
COOKE, Sir Marriott, dinner to, 236
COOKE, R. G.: Hodgkin's disease with unusual onset, 708
COOKE, W. E.: Miners' nystagmus, 615 (O
Cookery, review of book on, 985
COOLIDGE, W. D., discovers a new *x*-ray tube, for the treatment of cancer, 919
COOMBS, F. Carey (and A. Rendle SHORT, editors): *The Medical Annual*, rev., 982
COOPER, G.: *X*-ray therapy in cancer of the lung, 473
COOPER, G. G.: The umbilicus as a source of infection, 252
Co-ordination, "lowest-level," quantitative management of contraction for (Sir Charles Sherrington), 207 (O)—Leading article on, 228. *See also* Reflexes, spinal
CORP, V. Zachary: The choice of an anæsthetic, 266—The intravenous use of germicides, 267
[illegible] erin as a germicide, [illegible] fluorescein in the
[illegible] bath, 158
[illegible] J., O.B.E. conferred on, 1004
CORRAN, C. A.: Sour milk, 779
CORNET, R. M.: Puerperal sepsis, 100
CORNET, W. M.: Treatment of cancer of the bladder, 524
Cord, sub [illegible] of the, and vita
CORRER, [illegible] Medical Services, 869
CORNER, George W.: *Anatomy*, 463
Cornu cutaneum, 610, 734
Coronary artery, aneurysm of: rupture (Harold C. Pretty), 667

Coronary artery, rupture of (C. B. Bamford), 842 (O)
Coronary thrombosis and myocardial infarction with glycosuria (Norman Cruickshank), 618 (O)—Correspondence on, 768, 867, 913
Coroners' inquests, 993—In London, 815. *See also* Inquests
CORREA, Simocs, death of, 688
Corrections, 102, 164, 432, 480, 524, 830, 878, 1100

Correspondence:
Abscess of brain, treatment of, 1001, 1049, 1139
Abscess, subphrenic, 241
Acidosis and seborrhoea, 914
African tick fever, 1095, 1140
Alkaline therapy in scarlet fever, 1002
Amidopyrin in measles, 33
Anaemia, aplastic, 1048
[illegible] stomach in, 158
[illegible] ne, 474
[illegible]
Anaesthesia, surgical, convulsions during, 562, 685, 1002, 1095
Anaphylaxis, serum, 424, 516, 559
Aniridia, problem of, 284
Antipneumococcal serum, concentrated, in treatment of lobar pneumonia, 817
Appendicectomy, the incision for, 328, 424, 472, 559
Appendicitis, acute, mortality of, 328, 374, 423, 471, 516
Army Medical Services, 869
Arsenical poisoning, acute, 34
Arterio-sclerosis, pulmonary, and Ayerza's disease, 819
Arthritis, chronic, medicinal treatment of, 562
Asthma treated by minute doses of tuberculin, 1140
Azygos vein, accessory lobe of the, 119
Backache in women, 472
Barber-surgeon's instrument case, 914
Bath, the "deep pool," 158, 212
Blood pressure and life assurance, 726, 766, 816
Blood transfusion and damaged kidneys, 1046
Calcium metabolism, 605
Cancer, familial incidence of, 157, 199, 241, 375
Cancer and race, 914
Cancer, results of treatment of, 75
Cancer and scientific research, 725
Canfield operation. *See* Paranasal
Carbolic acid poisoning, primary treatment of, 686, 770
Cataract, operation for, 1001, 1045, 1092, 1136
Cataract operation in extreme old age, 241, 286
Chilblain, enigma of the, 285, 329, 374, 516
Cholecyst-gastrostomy, 766
Cinchona and quinine, 201
Circulatory failure, treatment of, 240
Colitis, ulcerative, etiology of, 1051
Convulsions during surgical anaesthesia. *See* Anaesthesia
Coronary thrombosis and myocardial infarction, with glycosuria, 768, 867, 913
Cough, post-influenzal, 685, 725, 769, 818
Cretinism and hypothyroidism, genetic relationship between, 423, 514, 604
"Deep pool" bath. *See* Bath
Diet and disease, 1138
Diet and health, 605
Diet and the teeth, 914
Diets, antidiabetic, 376
Diverticula of the colon, 646
Diverticula of the duodenum, 474
[illegible]
Empyema, closed drainage in the treatment of, 516, 562, 1047
Empyema thoracis, 683
Empyema thoracis: oleothorax and gelatino thorax in treatment, 683
Enteric intussuscep ion, 200
Enuresis, treatment of, 117
Epsom College, 474
Ethmoiditis, treatment of, 158, 200, 285, 376
Ethyl chloride by the closed method, 330
European women and children in the Tropics, 1091
Exostoses, multiple, obstructing parturition, 766
Fevers, specific, diagnosis of, 200
Fluorescein, activated, in the treatment of cancer, 767
Foreign body in the neck, 158
Fracastorius, Hieronymus, 77
Fractures of the long bones, 816, 867, 912
Fractures of the neck of the femur, 913, 1001, 1093
Gas, poison, and pulmonary cancer, 725
Gastric ulcer. *See* Ulcer
General practitioners and ante-natal work, 118, 159
General practitioner and poisoning cases, 35
Glycerin as a germicide, 513
Glycerin as a surgical dressing, 75, 118, 159, 285, 424
Gonococcal infection, 1140
Gonococcal rhinitis, 375, 561, 647, 1093
Haemolytic icterus, 1048
Haemoptysis, significance of, 1135
Haemorrhagic diathesis, 33—And the antitryptic index, 117
Haemorrhoids, injection treatment of, 1049
Hallux valgus, operation for, 560, 645, 684, 771
Harvey Tower, 1030
Correspondence (*continued*):
Heart, infarction of, with pericardial effusion in a phthisical subject, 954
Hormonic deficiency, genetic and racial aspects of, 604. *See also* Cretinism
Hospital policy, 242
Icterus haemolytic, 1048
Keloid ovary, 645
Keratodermia blennorrhagica, 1092
Kondoléon's operation, 955
Labour, natural, following Caesarean section, 33
Leprosy in the British Empire, 72
Liver therapy in asthma, 686
London Clinic and Nursing Home, 287, 331, 376, 425
Lung, acute massive collapse of, following lipiodol injection, 1047
McMillan, *Margaret, biography of*, 727
Malignant growths treated with extracts of parathyroid glands, 818
Mammary secretion, aberrant, 870
Marriage, preparation for, 687
Maternal mortality: a disclaimer, 1048
Measles, incubation period of, 73, 157
Medical charities, 32, 119
Medical radiology. Cambridge diploma in, 160
Medical reciprocity with France, 36, 377, 475
Meinicke clarification reaction, 242
Members of the Royal College of Surgeons, 159, 201
Mental abnormality, an unusual, 513, 561
Mental deficiency, causation of, 74
Mental Treatment Act (1930), 36
Microcephaly, 1003, 1045
Midwifery, prophylaxis in, 36, 118
Migration and health, 36
Milk, nutritional value of, 1048, 1137
Motorists charged with drunkenness, examination of, 956, 1003
Myiasis, intestinal, 76
New Zealand earthquake, 912
Obstetric shock, 912
Obstetrical education of the undergraduate, 32, 117, 326, 423
Osteopathy at home and abroad, 1000
Paranasal suppuration, Canfield operation for, 603, 685, 727, 820, 869
Pentapharmacum or pentapermatum? 562
Phthisis. *See* Tuberculosis
Pituitrin and obstetric shock, 955, 1003
Pneumonia, lobar, in adults, specific serum treatment of, 557
Poison gas. *See* Gas
Post-encephalitis, 768
Pregnancy following irradiation, 286
Prostate in general practice, 603
Puerperal pyrexia, 425
Puerperal sepsis, 870
Puerperium in tuberculous women, management of, 200
Pupils, non-luetic Argyll Robertson, 817
Pupils, pseudo-Argyll Robertson, with absent tendon reflexes, 1001, 1091, 1135
Pyloric obstruction, treatment of, 515
Radium, possible effect in prophylaxis of cancer, 1045
Renal complications in scarlet fever, prevention of, 1094
Retina, detachment of, treatment of, 647, 912
Rheumatism, International League against, 1090
Royal Army Medical Corps, the future of the, 330
Scharlieb [Mary] memorial, 475
Schistosome worms and Schistosome monsters, 817, 914, 1140
Sclerosis, disseminated, research on, 425, 474, 513, 560
Security of tenure in public posts, 604
Septicaemia from minor wounds, 242, 283
Serum anaphylaxis. *See* Anaphylaxis
Ship surgeons, refresher courses for, 1139
Shock, obstetric, 912, 1046—Pituitrin and, 955, 1003
Shock following street accidents, treatment of, 868
[illegible] years with a, 771
[illegible] gression, 34
[illegible]": a tropical
Subphrenic abscess, diagnosis and treatment of, 770
Surgery, minor, in infancy, 1094
Swedish medical curriculum, 116
Taboparesis treated by hyperpyrexia induced by hot baths, 1093
Tendon ruptures, some, 866, 1002, 1047
Tetanus, treatment of, 74
Thallium and its risks, 373, 473
Thymus, the, 603
Tick fever, African, 1095
Towels, hand, a substitute for, 1050
Tuberculin and the tuberculosis problem, 156
Tuberculosis, early, the modern conception of, 729, 818, 1003
Tuberculo-is and orthopaedic clinics, combined, 243
Tuberculosis, outlook on, 155, 238
Tumours, metabolism of, 74
Ulcerative colitis. *See* Colitis
Ulcers, gastric and duodenal, treatment of, 558, 647
Ulcers, varicose, treatment of, 34, 201, 240, 284, 329, 515
University franchise, 286
Correspondence (*continued*):
Urethritis, acute, in mumps, 816, 868
Vaccination and encephalitis, 155
Vaccine dosage: a plea for uniformity, 604, 685, 726, 767
Vaccinia, immunization against, 871, 914
Varicose ulcers. *See* Ulcers
Veins, varicose, treatment of, 240. *See also* Ulcers
Venereal diseases, epidemiology of, 820
X-ray therapy in malignant disease of the lung, 283, 327, 373, 473
Yellow fever, recent work on, 73

CORRY, D. C.: Treatment of advanced cases of intestinal obstruction or strangulation, 219 (O)
Cortical structure, cerebral, and its relations to mental disease (R. J. A. Berry), 837 (O)
Cotton operatives, health of: Report to Medical Research Council, 148
COTTON, Thomas F.: Treatment of mitral disease in children, 481 (O)
COTTRELL, J.: Poisoning by camphorated oil, 96
Cough, post-influenzal, 685, 725, 769, 818, 878
Council, All-Indian Medical (parliamentary note), 380. *See also* India

COUNCIL, LONDON COUNTY:
Ambulance service, circular *re*, 41
Anaesthe-ia in midwifery, routine, 364
Ante-natal care, 809
Coroners' inquests, 815
District medical officers, remuneration of, 31
District Nursing in the Administrative County of London, Survey of, 590
First aid in street accidents: reply to a jury rider, 292
Hospital services: Report on the first year's administration, 418—The Council's programme, 599
Hospitals, arrangements at, 30
[illegible] rt of
Mental deficiency in London, 911
Mental Hospitals Committee makes a grant for research work, 237
Mental Treatment Act, Maudsley Hospital and 113
Midwives, standard of: Report of the Midwives Acts Committee, 855
Minutes and General Index to Minutes from 1903 to 1930, relating to volumes xl and lxvii. rev., 314
[illegible] ,952
[illegible] 191
COWAN, John: Angina pectoris, 879 (O)
COWAN, Ruth (and Katharine BLUNT): *Ultra-violet Light and Vitamin D in Nutrition*, rev., 312
COX, Alfred: Medical aspects of State insurance published in French in the *Bruxelles-Médical* of January 11th, 163
COX, G. Lissant: *The outlook on tuberculosis*, 239
CRABTREE, H. V.: Hystero-epilepsy, 163
CRAIB, W. H.: Report on the electrocardiogram, 407
CRAIG, J. D.: Comparative value of viosterol and cod-liver oil, 853
CRAIG, R. N.: Case of myasthenia gravis, 356
CRAIG, William, death of, 202
CRAMER, W.: Filterable fowl tumours, 68—Experimental carcinogenesis, 68
CRAWFORD, M. A. Dobbin: Dystocia and enlarged bladder, 753
CRAWFURD, Raymond: The place of medical societies in the progress of medicine, 1036
CREAK, Mildred: The voluntary mental patient 982
Creative mind, review of book on the, 101
[illegible] c
[illegible] deficiency
CRICHTON, George Clowe, obituary notice of, 290
CRICHTON-MILLER, H.: Psychological types, 23
Crichton Royal Institution, Dumfries: Annual report, 325
CRIDLAND, A. Bernard: The International Asso[illegible] Blindness, 457
[illegible] ition and treat-
[illegible] ted Vice-Consul at Seistan, 335
CROCKET, James:—Empyema thoracis: oleo[illegible] atment, 683—*Examination* 1073
CROFTON, W. M.: Treatment of psychoneuroses, 17—Post-encephalitis, 763—Aplastic anaemia, 1048
CROLL, W. F.: Alkali treatment of nephritis, 223
CRONYN, F., death of, 331
CRONE, H. Leslie: General practitioners and ante-natal work, 118
CROOK, Eric A.: Appreciation of Sir Herbert Waterhouse, 1005

CROOKSHANK, F. G.: *Individual Psychology and General Medicine*, third edition, rev., 62—Obstetric shock, 912—Treatment of impotence, 1118
Croonian Lecture. *See* Lecture
Cross (Dorothy Temple) Research Fellowships in Tuberculosis, 810. *See also* Tuberculosis
CROSSE, *Captain Spencer Stawell*, obituary notice of, 429, 648
CROUDACE, W. H. Hugh: Case of double gall-bladder, 707
CROWE, H. Warren: Vaccine dosage, 767
CROWLY, Daniel, obituary notice of, 1051
CROZIER, T. H.: Cornu cutaneum, 734
CRUICKSHANK, Norman: Coronary thrombosis and myocardial infarction, with glycosuria, 618 (O), 867, 913
CRUMP, Lieut. Col. Stanley Trefusis, obituary notice of, 1144
Crush fractures. *See* Fractures of spine
CULLIS, Winifred C.: Mary Scharlieb memorial, 475
CULPIN, Millais, appointed to the university chair of medical industrial psychology at the London School of Hygiene and Tropical Medicine, 1142
Culture media, review of book on, 186
CUMBERBATCH, E. P.: Medical and surgical uses of diathermy, 181
CUMINGS, J. N.: Pyuria and bacilluria in children, 305 (O)
CUMMINS, Lyle: Management of pregnancy in tuberculous women, 141
CUNNING, J.: Surgical treatment of gastric ulcer, 848
CUNY, Louis: [illegible] *es dans la Bile et le*
CURNOCK, J. E [illegible] volving the whole of the mandible, 222
Cutaneous horn on an amputation stump (F. E Mayne and Laurence O'Shaughnessy), 624
Cutaneous infection with a diphtheroid bacillus (J. F. D. Shrewsbury), 538
CUTNER, Morris: Urticaria, 1145
Cyst, hydatid, of liver, simulating subphrenic abscess (E. H. R. Altounyan), 15
Cyst of ovary, torsion of, with bradycardia (R. Francis Matters), 1022 (O)
Cyst of unusual size involving the whole of the mandible (J. E. Curnock), 222
Czechoslovakian spas, medical tour to, 961. *See also* Spas—Socialist Medical Conference at Carlsbad, 1035

D.

D. 34, etc. *See* Urography
DACHERT, Alfred: Positive eugenics in practice, 808
Dacryocystostomy, intranasal, for relief of lacrymal obstruction (F. Holt Diggle), 391 (O), 524—A correction, 524
DAGGETT, H. I., presentation to, 1055
Dairy Research Institute, the Hannah, opening of, 813. *See also* Research
DALE, C. B.: Ethyl chloride by the closed method, 330
DALE, H. H.: Stephen Paget Memorial Lecture on the effect of research on curative medicine, 1076
D'ALLAINES, F. (and Jean ARMINGEAT): *L'Invagination intestinale aiguë du nourrisson*, rev., 587
Dalrymple's sign, 163
DALY, Dr.: Epidemiology of venereal diseases, 752
Dance of death, 994
DANGERFIELD, A.: Paroxysmal rhinorrhoea, 568
Dangerous drugs. *See* Drugs
DANIEL, Augustus Moore, honorary doctorate, Cambridge, to be conferred on, 518
DANIELOPOLU, D.: *Die viscerographische Methode*, rev., 939
Darkest Liberia 635
DARLEY, W. Ward Twelve-year-old ectopic pregnancy, 582
Darwin Erasmus (Healeth Pearson), rev., 500
DARWIN, R., appointed a part-time commissioner of the Board of Control, 282
Darwin's House (parliamentary note), 772. *See also* Down House
DATNOW, M: Early diagnosis of pregnancy, 353—Anaesthesia in childbirth, 497—Transplantable tumours, 542
DAVID, J. C.: Drug control in India, 316, 321
DAVIDSON, A. *H.*: Treatment of puerperal sepsis, 93—Analgesia in labour, 669
DAVIDSON, James: Histological changes in the liver in a series of cases of eclampsia, 98
DAVIDSON, Maurice: *Cancer of the Lung and* [illegible] —X-ray
D [illegible] ng, 327
[illegible] *Hand-* [illegible] *ge Con-*
DAVIES, C. O [illegible] Riedel's disease, 752
DAVIES, H. Morriston Empyema thoracis, 569 (O
DAVIES, J. H. [illegible] ose
ulce 473
DAVIE [illegible] *the*
Mentally Deficient, rev., 59
DAVIES, Thomas Anwyl: *Primary Syphilis in the Female*, rev., 933
DAVIS, A. H.: A simple method of measuring noise, 1146
DAVIS, A. Hobson (and George T. PACK): *Burns: Types, Pathology, and Management*, rev., 628
DAVIS, E. D. D.: Fractured base of skull: effects on hearing, 449
DAVIS, Katherine Bement: *Factors in the Sex Life of Twenty-two Hundred Women*, rev., 1121
DAWSON, Bernard: *The History of Medicine: A Short Synopsis*, rev., 984
DAWSON, H. P.: Haematocolpos in a woman of forty-three, 734
DAWSON, J. Bernard, appointed to the chair of midwifery and gynaecology in the University of Otago, New Zealand, 1144
DAWSON OF PENN, *Lord*: *Medicine and statesmanship*, 407—The treatment of pneumonia, 446—Elected President of the Royal College of Physicians of London, 594—Hunne Lectures on haemolytic icterus, 921, 963 (O)—Honorary D.C.L. Durham conferred on, 959
DAWSON, W. S.: Mental hygiene, 410 — The psychiatric out-patient clinic, 453
Dax-les-Bains, cases suitable for treatment at, 80—*Dinner at the Savoy Hotel*, 205
Deaf, education of, in Scotland, 115
Deafness, bath treatment for (James Adam), 621 (O)
Deafness, extreme, a disability for motor drivers, 478
Deafness, review of book on, 544
DEAN, Henry Percy, obituary notice of, 750, 776
DEAR, Cyril B., nominated official member of *the Legislative Council of St. Lucia*. 876
Death Sentence Bill. *See* Sentence of death
"Deep pool" bath. *See* Bath
DE FRENELLE, Dupuy: *Ostéosynthèse*, rev., 143
DE GRUYTHER, Lieutenant A. N., M.B.E. conferred on, 1004
DE LAET, Maurice, appointed president of the new body to deal with industrial physiology in the University of Brussels, 556
DE LAVIS TRAFFORD, Marcus Antonius Johnston, M.V.O. conferred on, 70
Delinquency, the psychological factor in, joint discussion on, 233
DEMOOR, Dr., elected president of the Royal Academy of Medicine of Belgium, 251
DEMPSEY, Patrick: Laryngo-fissure for epithelioma of vocal cord, 270—Epithelioma of fauces successfully treated by diathermy, 637
Denmark, medical examination of drunken motor drivers in, 760
DENNYS, Joyce: *Mrs. Dose the Doctor's Wife*, rev., 19
Dental benefit. *See* Insurance
Dental Board arranges a portable exhibit of models of teeth, 609
Dental Board of the United Kingdom and its Various Committees for 1930, rev. 273—*General Index to Minutes, 1921-1930*, rev., 273
Dental caries (Lilian Lindsay), 555
Dental disease, modern methods of treatment in (W. M. M'Alister), 997
Dental pathology, biological studies of apical infection, 993
Dental pulp, reaction of to peripheral injury of the dentine (E. W. Fish), 453
D [illegible] ok on, 405
[illegible] (France), 662
[illegible] 456
DENYER, Stanley Edward, obituary notice of, 476, 563
Deptford, midwifery centre of the Nursing Sisters of St. John the Divine opened at, 691, 815
Derbyshire, cave-dwellers of (A. Leslie Armstrong), 998—Correspondence on, 1100
Dermatitis, exfoliative, 205
Dermatitis consequent on the application of iodine (O. Thomas Jones), 14
Dermatology, review of books on, 547, 939
D
D
D [illegible] of vio-
D [illegible] *See* Stomach
[illegible] Willoughby LYLE): [illegible] ird edition, rev., 3 8 of, 683
DESSAUER, Dr.: *Zehn Jahre Forschung auf dem physikalisch-medizinischen Grenzgebiet*, 367
DEVAS, Surgeon-Captain H. C., appointed a commissioner of the Board of Control, 282
"Developing system," 543. *See also* Osteopathy, registration of
Development in relation to heredity (Julian Huxley), 1044
D'EWART, J.: The problem of aniridia, 284
Diabetes, high carbohydrate diet in treatment of (E. P. Poulton), 309—Discussion, 309
Diabetes in coal miners, 42
[illegible] 55
[illegible] in the long
[illegible] (O)
Diabetic diet on holiday, 1100
Diacetylmorphine, new Home Office Regulations *re*, 561
Diagnosis, the dynamic and the modern pro-
D [illegible] 1120
D [illegible] alf of
(Trevor Hosey), 265
D [illegible] of (E. P.
[illegible]
[illegible]—D
[illegible]
Diathermy, surgical, technique of, describing a new electrode (Albert Eidinow), 892 (O)
DIAZ, Pacifico, death of, 872
DIBLE, J. H. [illegible]
DICKINSON,
DIEPGEN, Pa
der Mediz
Berlin, 365
Diet and disease, 1138
Diet and disease in native races in the Tropics (R. McCarrison), 1139
[illegible]
[illegible]
spondence on, 605
Diet, review of books on, 226, 902, 1121
Diet of the school child, sugar in (A. A. Osman), 223
Diet and surgery (leading article), 1031—A correction, 1100
Diet and the teeth (leading article), 502—Correspondence on, 914
Diets, antidiabetic, 376
DIGBY, J. L.: Pregnancy records, 652
Digestive disorders in breast-fed infants (Charles McNeil), 451
Digestive disorders, review of book on, 587
DIGGLE, F. Holt: Intranasal dacryocystostomy for relief of lacrymal obstruction, 391 (O) 524—A correction, 524
Digitalis in toxaemia (G. N. Myers), 1024
Diphtheria carrier, an unusual type of (A. Victor Neale), 351
Diphtheria, immunization against (C. O. Stallybrass), 497
D [illegible] ford, 199
D [illegible] (T.A.F.), 757
Diphtheroid bacillus, cutaneous infection with a (J. F. D. Shrewsbury), 538
Disclaimers, 1048, 1100
Discs, intervertebral, 230
Disease, mental factor in (F. K. Kerr), 29
Disease, relation of nutrition to (J. B. Orr), 883 (O)
Disease, special factors causing, 966
Disputes, International, Act for the Pacific Settlement of, 477
Disputing the bill. *See* Bill
Disseminated sclerosis. *See* Sclerosis
District medical officers. *See* Medical
District nursing. *See* Nursing
Diverticula of the colon and their sequelae (J. P. Lockhart-Mummery and H. Graham Hodgson), 525 (O)—*Correspondence on*, 646
Diverticula of the duodenum (S. Gilbert Scott), 346 (O)—Correspondence on, 474, 524
Diverticulitis of colon, perforative (J. M. Black), 180
Diverticulum, Meckel's, as a cause of acute intestinal obstruction (W. D. Jenkins), 795
Diverticulum, Meckel's, as the cause of acute symptoms (A. Harvard Baker), 262 (O)
Diverticulum, Meckel's, as a cause of strangulation of intestine (J. Alfred Gaynor), 351
DIXON, G. B.: Pulmonary tuberculosis in childhood, 694 (O)
DIXON, W. E.: Digitalis in toxaemia, 1024—Ocatrin and pituitrin, 1025—Action of histamine, 1025
DOAN, C. A.: The fractional products of the tubercle bacillus, 411
DOBBIE, J. N.: Rickets and oral sepsis, 232
DOBBS, Arthur, memorial to, 910
DOCHEZ, A. R.: Etiology of the common cold, 149
Doctors' bills (N. F. Ticehurst), 1085
Doctor, change of. See Insurance
Doctor's cars. *See* Motors
Doctors, traffic privileges for (parliamentary note), 874
DODD, Harold: Mortality in acute appendicular disease, 423
Dodekamethylendiguanidin. *See* Synthalin B
Dogs, experiments on (parliamentary note), 477
Dogs Protection Bill, 477
DOHERTY, W. D. (and *R. P.* ROWLANDS): Subphrenic abscess, 168 (O)
DON, C. S. D.: Hog's stomach in pernicious anaemia, 158
DONALD, Archibald: "Then and now," a retrospect of gynaecology and obstetrics, 354
DONALDSON, Malcolm: The Mount Vernon Hospital butterfly radium container, 145—Aspects of radium therapy, 403—Radium, possible effect of in prophylaxis of cancer, 1045
DONALDSON, William Ireland, obituary notice of, 606
DONELAN, J. O'C.: Treatment of psychoneuroses, 17
DOUBLEDAY, F. N.: Nomenclature of prorrhoea, 945
DOUGAL, D.: Obstructive inflammatory lesions of the uterus, 16—Chorion epithelioma of uterus, 16—Carcinoma in one horn of a bicornuate uterus, 16—Pseudo-myxoma of the ovaries and peritoneum, 542
DOULL, J. A.: Etiology of the common cold, 149
DOW, D. J.: *Tuberculosis Mortality in Children*, 1081
DOWLING, G. B.: Eczema of internal origin, 540

Down House and experiments on animals (parliamentary note), 772
Doyle, Major Eric Edward, C.I.E. conferred on, 70
Drake, J. A.: Transmission of scabies and ringworm, 352
Drake, T. H. G.: Incorporation of vitamins in bread, 678
Drake Brockman, R. E.: Amoebic hepatitis with haematemesis, 444 (O)
Drennan, A. Murray: Appreciation of James Lorrain Smith, 775
Dreyer, Dr.: Child psychology, 422
Drew, Douglas: Death of, 411—Obituary notice of, 475
[illegible] nt of [illegible] ticle), 190—International conference on, 549—Limitation of the traffic in, 41, 905—International Conference on, 935—New Home Office Regulations re diacetyl-morphine, 381—Report by the Central Opium Board of the League of Nations, 717
Drugs, narcotic, in Egypt (Major-General T. W. Russell Pasha), 636
Drugs, prices of (parliamentary note), 649
Drugs, proprietary, an index of, 124
Drummond, Sir David: Appreciation of Sir Byrom Bramwell, 824
Drummond, J. C.: Relative value of cod-liver oils from various sources, 853
Drunken motor drivers, medical examination of, 760, 956, 1003. *See also* Motor
Dublin. *See* Ireland
Dublin, Louis I. (and Bernard Langdon Wyatt): *Chronic Arthritis and Rheumatoid Affections*, rev., 801
Dubost, Jean (and Paul Duhem): *L'Ionisation et ses Applications Médicales*, rev., 630
Duct forceps. *See* Forceps
Duhem, Paul (and Jean Dubost): *L'Ionisation et ses Applications Médicales*, rev., 630
Duke, Winifred (editor): *Trial of Harold Greenwood*, rev., 545
Duke-Elder, W. Stewart: *The Nature of the Vitreous Body*, 191
Dukes, Cuthbert: Injection treatment of piles, 897
Dumas, M. A.: *Les Hypotensions aiguës et subaiguës*, rev., 544
Dumont, Jean, death of, 1051
Duncan, I. M. C., appointed a commissioner of the Board of Control, 232
Dundas-Grant, Sir James:—Medical and surgical uses of diathermy, 182—The choice of an anaesthetic, 266—Fractured base of skull: effect on hearing, 450—Canfield operation for paranasal suppuration, 603, 727, 869—Eruptions of the external auditory meatus, 797
Dundee. *See* Scotland
Dunfermline. *See* Scotland
Dunlop, B.: Sterilization of mental defectives, 432
Dunkin, Major G. W., to visit the United States [illegible]
D [illegible]
D [illegible] 911 (O)
Dyer, John Shaw [illegible] go
D [illegible] 18, 56)
Dunne, J.: Annual report on the Sligo and Leitrim Mental Hospital, 1089
Duodenal ulcer. *See* Ulcer
Duodenum, diverticula of the (S. Gilbert Scott), 346 (O)—Correspondence on, 471, 524
Duvernay, L.: *L'Arthrite Chronique de la Hanche*, rev., 588
Dyke, S. C.: Vaccine therapy, 355—The value of liver in treatment, 585
Dysentery epidemic due to *B. dysenteriae* y of Hiss A. H. Rintoul), 138
Dysmenorrhoea, treatment of (B. Venn Dunn), 971 (O)—Correspondence on, 1047, 1092, 1135
Dyspepsias, surgical, review of book on, 18
Dyspnoea, case of, 431
Dystocia and enlarged bladder (M. A. Dobbin Crawford and T. N. Jeffcoate), 753

E.

Ear disease, intracranial complications of (Horace Law), 937
Ear, nose, and throat clinics, foreign, 779, 877
Ear operations, uses and limitations of (Mildred Warde), 270
Ear: piercing the lobule, 829, 877
Ear syringe, 61
Ear. *See also* Nose, Throat, *and* Otology
Eason, John: Treatment of circulatory failure, 230
East, Dr.: Treatment of pneumonia, 448
East, W. Norwood, appointed a member of the committee to inquire into methods of dealing with persistent offenders, 778
[illegible] Associa- [illegible] Institution, Dumfries, 325 [illegible] on Royal
Eclampsia, liver changes in (James Davidson), 98
Eclampsia with unusual symptoms, 119
Economy, public, and medicine. *See* Medicine
Ectopic pregnancy. *See* Pregnancy
Ecuador, plague in, 946
Eczema of internal origin (G. H. Oriel), 540
Eczema, treatment of (Henry MacCormac), 184—Discussion, 184
Edgar, Clifford B., bequests of, 873
Edgerley, C. Mabel: The eyesight of the Brontës, 235
Edinburgh. *See* Scotland
Edington, G. H.: The incision in appendicectomy, 559
Edmonds, Florence: Treatment of pituitary disorders, 498
Edmunds, Arthur, appointed a Fellow of King's College, 250—The choice of an anaesthetic, 266
Edmundson, K.: European women and children in the Tropics, 269
Education (School Attendance) Bill, 163, 333
Edwards, A. Tudor: Malignant disease of the lung, 129 (O)
Edwards, Harold Clifford, awarded the Robert Jones medal and Association prize of the British Orthopaedic Association, 778
Edwards, N. L.: Ectopic gestation in a hydrosalpinx, 17—Uterus with a sarcomatous polypus, 542—Uterus and appendages with fimbrial cyst with twisted pedicle and early papilliferous carcinoma of ovary, 542—Torsion of a hydrosalpinx, 798
Edwards, P. W.: Artificial pneumothorax stopcock and needles, 188
Egypt: Narcotic drugs in (Major-General T. W. Russell Pasha), 636—Ophthalmology in: Report of the Giza Memorial Ophthalmic Laboratory, 1034
[illegible] Comrie), 601 [illegible] ems in veter- [illegible] of surgical [illegible] trode, 892 (O) [illegible] al advice to [illegible] ships, 1033
Elbow, bursitis at the (I. H. Lloyd-Williams), 58
Electoral Reform Bill, 318
Electrocardiogram, the (leading article), 407—Correspondence on, 473, 561, 646
Electrode, flushing, for treatment of ulcerative colitis, 406
Electrode for surgical diathermy, a new (Albert Eldinow), 892 (O)
Elephantiasis, non-filarial (J. Ewart Schofield), 755
Elliot, Lieut.-Col. R. H.: Cataract operation in extreme old age, 132 (O)—Operation for cataract, 1136
Elliott, C. C. (and David P. Marais): Case of pituitary tumour, 297 (O)
Ellman, Philip: Treatment of glandular deficiency, 401
Elphinstone, Bishop, five hundredth anniversary celebrations of the birth of, 1043
Embleton, Dr.: Vaccine therapy, 355
Emergency surgery, review of book on, 357, 710
Emerson, Lieut.-Col. Isaac Bomford, obituary notice of, 204
Empyema, closed drainage in the treatment of (J. D. McEachern), 389 (O)—Correspondence on, 516, 562, 1047
Empyema, interlobar (Walter Broadbent), 1069
Empyema thoracis (H. Morriston Davies), 569 (O), —Correspondence on, 683
Empyema thoracis: oleothorax and gelatinothorax *in treatment*, 633
Encephalitis, epidemic (Arthur J. Hall), 849
Encephalitis, herpes zoster, and varicella (W. Russell Brain), 81 (O)
Encephalitis lethargica (parliamentary note), 39
Encephalitis: Post-encephalitis and its problems (leading article), 714—Correspondence on, 768
Encephalitis, post-vaccinal (parliamentary notes), 565, 1098
Encephalitis, review of book on 499
Encephalitis and septicaemia in relation to vaccination (Major Robert Priest), 349 (O)
Encephalitis and vaccination: Report of Rolleston Committee, 64, 109—Leading article on, 104—Correspondence on, 155
England, Frank (and J. Hope Reford): *The Play of the Cards*, rev., 61
England, seventeenth century, map of, 280
English, S.: Glass, 906
Engle-Bey, Franz, death of, 827
Enniskillen, the sanitation of, 602
Enteric fever. *See* Fever
Enteric intussusception. *See* Intussusception
Enuresis, treatment of, 117
Epidemics, forecasting of (Sir Leonard Rogers), 1090
Epidemics, milk-borne, 591. *See also* Milk-borne
Epidemiological report of the League of Nations. [illegible] on, 629
[illegible] Struthers), 218 (O) [illegible] rliamentary note), 950
[illegible] rd, laryngo-fissure for (Patrick Dempsey), 270
Epithelioma of vulva (W. Fletcher Shaw), 541
Epsom College. *See* College
Ergodex, 501
Ergosterol, irradiated, in rickets, 853
Erysipelas treated by *x* rays (R. Hillhouse Jamieson and F. Hernaman-Johnson), 57 (O)
"Erythrocyanosis crurum," 192. *See also* Cold *and* Skin diseases
Erythroedema (Frank J. Lees), 844 (O)
Erythromelalgia, 961
Eskey, C. R.: *Chief Etiological Factors of Plague in Ecuador and the Anti-Plague Campaign*, 946
Essen-Möller, Elis: The obstetrical education [illegible] 430, 477
Middle-Eastern Services, 333—Supplementary, 379—Army, 477, 521—Navy, 477, 519—Air, 519—Scottish, 1004, 1142
Ether-oxygen anaesthesia. *See* Anaesthesia
Ethmoiditis, safe method of dealing with (E. A. Peters), 56 (O)—Correspondence on, 158, 200, 285, 376
Ethnos, or the Problem of Race considered from a New Point of View (Sir Arthur Keith), 506
Ethyl chloride by the closed method, 330
Eugenic experiment (Alfred Dachert), 838
Euler, H. von: Recent advances in the chemistry of vitamins, 1117
European women and children in the Tropics (A. R. Neligan), 268—Discussion, 268—Correspondence on, 1091. *See also* Tropics
Evans, A. E., appointed a commissioner of the Board of Control, 282
Evans, Frankis T.: The choice of an anaesthetic, 266
Evans, Griffith: Familial incidence of cancer, 157, 241—Freedom of the city of Bangor conferred on, 282—Coronary thrombosis and myocardial infarction with glycosuria, 913
Evans, William, awarded the Liddle triennial prize, 332, 378
Eve, Frank C.: The haemorrhagic diathesis and the antitryptic index, 117
Everett, R.: Traumatic rupture of uterus, 99
Everidge, John: The radiological renal outline, 183
Ewing, A. Cameron (and Alec B. Walker): Labour and mitral stenosis with incompetence, 221
[illegible] 442 (O)
Exostoses, multiple, obstructing parturition, 766 *See also* Osteochondromata
Expectant mothers and sentence of death. *See* Sentence of Death Bill
"Extomak" (hog's stomach) in pernicious anaemia. *See* Anaemia *and* Stomach
Eye movements and reading (M. D. Vernon), 24
Eye, review of book on, 454
Eye. *See also* Ocular, Ophthalmic, etc.
Eyesight of the Brontës. *See* Brontës
Eyre, J. W. H.: *Bacteriological Technique*, rev., 60

F.

Face mask. *See* Mask
Factories Bill, 959
Factory Act: Medical service (parliamentary note), 772—Inspectorates (parliamentary note), 1098
Factory Acts, amendment of, 203
Fagge, C. H.: A plea for the earlier diagnosis of abdominal emergencies, 50 (O)—Treatment of recent simple fractures of the long bones, 735 (O), 867
Fair, British Industries. *See* British
Fairbairn, J. S.: The obstetrical problem of the contracted pelvis, 896
Fairbairn, W. R. D., elected a Fellow of the Royal Society of Edinburgh, 479
Fairbank, H. A. T.: Some tendon ruptures, 866
Fairfield, Letitia: The voluntary mental patient, 982
Fairley, N. Hamilton (and G. Carmichael Low): Laboratory and hospital infections with yellow fever in England, 175 (O)—Serological and intradermal tests for filariasis, 995
Falkiner, Ninian: Puerperal sepsis, 100
Fall, N. Myles Fitzgerald, obituary notice of, 872
False pretension, conviction for, 1053
Far Eastern Association of Tropical Medicine. *See* Tropical
Farmer, Eric: *How to Organize Accident Prevention*, 716
Fat from sewage (parliamentary note), 875
Fawcus, Lieut.-General Harold B., K.B.E. conferred on, 25, 70
Federation, Medical Women's: Reception, 864
Federation of University Women, International [illegible] Association. *See* Post-Graduate
Fellowships for research. *See* Research
Felton, an antipneumococcic serum, 985
Femur, fractures of the, 210—Treated by injection of blood (E. W. Riches), 308. *See also* Fracture
Femoral thrombosis. *See* Thrombosis
Femur, fractures of the neck of the (Sir Robert Jones), 781 (O)—Correspondence on, 913, 1001, 1093
Fenton, W. J. (and L. S. T. Burrell): *Diseases of the Chest*, rev., 542
Ferguson, Albert B.: Operative treatment of scoliosis, 550
Ferguson, Charles D.: "Warbles" in man, 79

FERGUSON, Colonel Nicholas Charles, obituary notice of, 77
FERNANDEZ, P. Ubaldo, death of, 331, 959
Fever, cerebro-spinal, prevalence of: Ministry of Health memorandum, 368
Fever, cerebro-spinal (parliamentary notes), 379, 429, 566, 727—And vaccination, 566
Fever, cerebro-spinal, outbreak in the Royal Air Force in 1231 (Wing Commander H. E. Whittingham, Flight Lieutenant J. M. Kilpatrick, and Flying Officer E. W. B. Griffiths), 1101 (O)
Fever, enteric, in 1929-30: Report of the League of Nations, 808
Fever, glandular, case of (E. C. Whitehall Cooke), 446
Fever, paratyphoid, in Essex, 322 — Parliamentary notes on, 430, 477
Fever, paratyphoid, haemorrhagic, two cases of (R. M. Williams), 1067 (O)
Fever, relapsing, a survey of, 593
Fever, scarlet, alkaline therapy in, 1002
Fever, scarlet, immunization against (C. O. Stallybrass), 497
Fever, scarlet, renal complications in, prevention of, 1094
Fever, scarlet, review of book on, 938
Fever, scarlet "streptococci" in, 938, 1094. *See also* Streptococci
Fever, tick, African, 1095, 1140
Fever, typhus, research on in Malaya, 505
Fever, undulant, in infancy (Bruce Williamson and A. J. Gibson), 748 (O)
Fever, undulant, in the United States, report on, 807
Fever, yellow, laboratory and hospital infections with in England (G. Carmichael Low and N. Hamilton Fairley), 125 (O)—Note on, 147
Fever, yellow, recent work on, 73
Fevers, specific, diagnosis of, 200
Fife: Front line defence, 198—Co-operation between the public health staff and general practitioners, 198—Honour for Fifeshire doctor (A. L. S. Tuke), 814
FIGDOR, Philip: Treatment of intestinal amoebiasis, 847
Fight against Disease: Contents of current issue, 479
Filariasis, bacterial complications of (A. W. Grace), 717
Filariasis, serological and intradermal tests for (N. Hamilton Fairley), 993
Film library, a medical, 678
Film, the sound, in medical education, 939
Filter papers, new development in (E. J. Guild), 849
Finance Act, 758, 771, 912, 1004, 1053, 1098, 1142—Petrol tax, 1053
FINDLAY, Alexander: *The Spirit of Chemistry*, rev., 187
FINDLAY, G. M.:—The intravenous use of germicides, 268—(And E. HINDLE): Combined use of living virus and immune serum for immunization against virus infections, 740 (O), 914
FINDLAY, Leonard: Acidosis from the clinician's point of view, 433 (O)—Care of the child from birth to school age, 797
FINLAY, D. E.: Keratodermia blennorrhagica, 979
FINNY, Major C. M.: Rupture of tendons, 1002
FINZI, N. S.: Aspects of radium therapy, 403
FIRKET, Professor: The deaths from fog in the Meuse Valley, 277
First aid in street accidents: L C.C. reply to a jury rider, 292
First-aid outfits for motorists, 830
FISH, Colonel Sir Robert Raumill: Death of, 1035—Obituary notice of, 1095
FISCHER, I.: *Die Eigennamen in der Krankheitsterminologie*, rev., 902
FISH, E. W.: Sugar in the diet of the school child, 223—The reaction of the dental pulp to peripheral injury of the denture, 453—Nomenclature of pyorrhoea, 945
Fishbones in the appendix (Matthew Mitchell), 309
FISHER, H. R. (R. J. HELSBY, Dorothy S. RUSSELL, and S. P. BIDSON): Three cases of psittacosis, with two deaths, 887 (O)
FISHER, J. H.: Industrial lighting, 709
Fissure, injection treatment of (W. J. Lytle), 498
FITZGIBBON, Gibbon: Puerperal sepsis, 93
FITZMAURICE-KELLY, Maurice, obituary notice of, 129, 161
FLACK, I.: Iridocyclitis after actinotherapy, 42
FLACE, Group Captain Martin: Sea-sickness, 176 (O)
Flavine in midwifery. *See* Midwifery, prophylaxis in
FLEMING, Alan: *St. George and the Dragon: Poems*, rev., 1029
FLEMING, Alexander: The intravenous use of germicides, 267
FLETCHER, N. Corbet: *The St John Ambulance Association, its History, and its Part in the Ambulance Movement*, rev., 901
FLETCHER, Sir Walter Morley: Biology and Statecraft, 407 — Honorary LL.D.Edin. conferred on, 518
FLEXNER, Simon, elected a corresponding member of the Academie des Sciences, 961
FLINT, F. R.: Treatment of gastric and duodenal ulcer, 559
Flour purity (parliamentary note), 875
Fluorescein activated (irradiated), in the treatment of cancer (S. Monkton Copeman), 658 (O)—Correspondence on, 767
Fly, warble. *See* "Warbles" in man
FOG, J.: Medical examination of drunken motor drivers, 760
Fogs and atmospheric pollution (J. S. Haldane), 366. *See also* Atmospheric
Food combinations, 829
Food and drugs, sale of, review of book on, 1029
Food preservatives (parliamentary note), 522
Food standardization (parliamentary note), 728—Committee on, 1054
Foodstuffs and drugs, supervision of, 71
Foodstuffs, fumigation of with hydrogen cyanide (G. W. Monier-Williams), 65
Foot Clinic, Edinburgh: Annual meeting, 471
Foot-and-mouth disease (parliamentary note), 204, 478, 1142
Forceps, axis-traction, 1008
Forceps, comb dissecting, 61
Forceps, common duct, 902
Forceps, Löwenberg, modified, 852
Forceps, phrenic evulsion, 940
Forceps, tonsil artery, 314
Forceps, Wagstaff's obstetrical, 692, 733, 829, 1008
FORD, R. Kelson: The obstetrical problem of the contracted pelvis, 897
FONDYCE, A. Dingwall: Some forms of spasm in childhood, their cause and treatment, 165 (O)—Care of the child, 797
Forearm, reconstruction of after amputation of the hand (Arnold K. Henry), 393 (O)
Foreign bodies in an appendix lying in a right inguinal hernia (W. Gifford Nash), 139
Foreign bodies [fishbones] in appendix (Matthew Clayton Mitchell), 309
Foreign bodies perforating bowel, followed by peritonitis (Arthur Hawkyard and George Armitage), 577 (O)
Foreign body in neck [a feather] (A. J. P. Alexander), 96—(George Morgan), 158
Forensic medicine, review of books on, 499, 670, 938. *See also* Medical Jurisprudence and Toxicology
FORESTIER, J.: Protein content of the plasma, 400
FORKNER, C. E.: The fractional products of the tubercle bacillus, 411
FORLANINI, Carlo, monument to 567
FORSDIKE, Sidney: Appreciation of John Jenkins, 119
FORSTER, H. V.: Tonsillectomy and rheumatism, 627—Treatment of brain abscess, 1001, 1139
FORTESCUE-BRICKDALE, J. M. (and E. W. HEY GROVES): *Text-Book for Nurses*, fourth edition, rev., 757
FORWARD, Francis Edward, O.B.E. conferred on, 70
FOSTER, Arthur, obituary notice of, 38
FOTHERGILL, E. Rowland: Mental Treatment Act (1930), 36
FOULERTON, Alexander Grant Russell, obituary notice of, 289
FOURNIER, Alfred, centenary of the birth of, 41
FOWLER, Sir James Kingston: Recent work on yellow fever, 73
FOWWEATHER, F. S. (and John T. INGRAM): Acidosis and seborrhoea, 839 (O)
FOX, H. P.: Transmission of scabies and ringworm, 352
Fox, R. Fortescue: *An Annual Guide to the Spas and Marine Health Resorts of Great Britain and Ireland and New Zealand*, rev., 273—Treatment of rheumatic disease by heat, 397—Balneotherapy in rheumatism, 590—International League against Rheumatism, 1090
Fracastorius, Hieronymus, 77
Fracture practice, primer of (leading article), 147
Fracture of the skull in childhood (John T. Morrison and Miriam Roskin), 212 (O)
Fractured base of skull: effects on hearing (E. D. D. Davis), 449
Fractured neck of femur treated by injection of blood (E. W. Riches), 308
Fractured spine, thirty-eight years with a, 771
Fractures of the long bones, treatment of (C. H. Fagge), 735 (O)—Correspondence on, 816, 867, 912
Fractures of the femur, 230
Fractures of the neck of the femur (Sir Robert Jones), 781 (O)—Correspondence on, 913, 1001, 1093
Fractures, Illustrated Primer on, 147
Fractures of the pelvis, 230
Fractures, review of book on, 143, 1027
Fractures of the spine, crush, manipulative reduction of (R. Watson Jones), 300 (O)
Fractures, treatment of (Lorenz Bohler), 31
FRANCE:
Antitetanic serum, 861
B.C.G. controversy, 861
Collège de France, centenary of, 479
French language courses at La Sorbonne, 609
Hôpital Beaujon, rebuilding of, 862
Malpraxis, action for dentists, 862
Medical degrees for dentists, 862
Medical reciprocity with, 35, 377, 475
Oto-rhino-laryngology society established at Lyons, 876
Physico chemical biology institute founded in, 523
Post-graduate courses in Paris, 335, 609, 651, 828, 1007
Psychiatric societies of Paris (three) merged into one, 523
Salon des Médecins, 1144
Scurvy, 862
FRANCE (*continued*):
Tuberculosis statistics, 828
Watering places of to be visited by Voyage d'Etudes Médicales, 1055
See also Paris
FRANGENHEIM, Paul, death of, 648
Frankfort, experiments on "unipolar air" at, 367
FRANKLIN, Philip: Treatment of glandular deficiency, 401—Hay fever treated by intranasal zinc ionization, 1115
FRASER, Ian: Septicaemia from minor wounds, 242
FRASER, J. Hosack, obituary notice of, 38
FRASER, J. S.: Frontal sinusitis, 275
FRASER, Louise: Convulsions during surgical anaesthesia, 562
FRAZER, A. D. (and J. MENTON): Gonococcal stomatitis, 1020 (O)
FRAZER, E. Haslett: Refresher courses for ship surgeons, 1139
FRAZER, E. M. R.: A simple thermo-saline apparatus, 20
FREEMAN, E. T.: Oedema and nephrosis, 586
Free State. *See* Ireland
French language courses at La Sorbonne, 609
FREW, H. W. D. (and Thomas A. PYATT): Chylous ascites complicating abdominal lymphadenoma, 622 (O)
FREWIN, O. Westcott: Measles in a man of seventy-one, 58
FRIEND, G. E.: Amidopyrin in measles, 33
FROMME, A., (and others): *Medizinische Praxis*, Band xi, rev., 940
Front line defence, 198. *See also* Fife
Frontal sinusitis (leading article), 275. *See also* Sinusitis
FRYER, J. C. F.: Cultivation of pyrethrum in England, 718
FULLER, C. J.: Marie's ataxia, 849
FULMER, Ellis I. (and R. E. BUCHANAN): *Physiology and Biochemistry of Bacteria*, vol. ii and iii. rev., 404
FULTON, John F.: *Physiology*, 463—*Selected Readings in the History of Physiology*, rev., 940
Fumigation of foodstuffs. *See* Foodstuffs
FUNAOKA, Seigo (editor):—The work of the Institute of Anatomy of the Imperial Institute of Kyoto: *Untersuchungen über die Physiologie der Lymphbewegung*. Part I., *Die Röntgenographie des Lymphgefässes*, rev., 757
Fund, Hastings (Sir Charles) Memorial, 1127
Fund, King Edward's Hospital: Conducted tours in aid of, 1055—Resolution of condolence, 79—Lectures, 163—Gift from the Nizam of Hyderabad, 380—Applications for grants, 479—Voluntary hospital progress, 998—Annual meeting, 1130—Annual report, 1130
Fund, Naval Medical Compassionate, 244
Fund, Royal Medical Benevolent: Annual meeting, 553—Grants, 631, 763, 1041—Guild of, 326, 631—In Ireland, gift to from Northern Ireland medical practitioners, 764
Fund, Save the Children: New chairman, 876
Funds, Auxiliary R.A.M.C., 606
Fungoid infections, review of book on, 671
FURBER, E. P.: Treatment of nervous exhaustion, 754
FÜRBRINGER, Paul, death of, 688

G.

GABRIEL, W. B.: Removal of portions of malignant tumours of the rectum for confirmatory section, 52 (O)—Malignant disease of the large intestine, 142—Injection treatment of piles, 897
Gag, self-retaining, 273
GAGER, Leslie T.: *Hypertension*, rev., 544
GALBRAITH, W., presentation to, 609
GALE, Assistant Surgeon Richard C., M.B.E. conferred on, 1004
Gall-bladder, double (W. H. Hugh Croudace), 707
Galton, Francis, Life of (Karl Pearson), rev., 225
GARDEN, E.: Treatment of varicose ulceration, 652
Garden sanitation, 1008
GARDINER, Frederick: Thallium and its risks, 373
GARDNER, Bellamy: Nitrous oxide mixtures, 962—Convulsions during general anaesthesia, 1095
GARDNER, F. G.: Chronic rhinitis, 733
GAREL, Jean, death of, 1142
GARROD, Sir Archibald E.: *The Inborn Factors in Disease*, 713
GARROD, L. P.: The intravenous use of germicides, 268—The efficiency of antiseptics used in midwifery, 572 (O)—Sources of infection in puerperal fever, 806
GARROW, R. P.: Sugar in the diet of the school child, 223
GARRY, T. Gerald: Ulcerative colitis, 920
Garton prize. *See* Prize
Gas and oxygen apparatus, a simple, 673
Gas Casualties, Manual of Treatment of (1930), 144
Gas, poison: Experiments (parliamentary note), 39—Review of book on treatment of casualties by, 144—Anti gas establishments for research and experimental work (parliamentary note), 608—And pulmonary cancer, 725

Gas Protocol, Geneva, not yet ratified by eleven European states, 380
Gaster siccata (B.D.H.), 359
Gastric function, the familial incidence in (Frank L. Apperly and Joan H. Norris), 255 (O). *See also* Cancer, familial incidence in
Gastric ulcer. *See* Ulcer
GATES, R. Ruggles: The work of the Royal Microscopical Society in the development of biology, 224
GAYNOR, J. Alfred: Strangulation of intestine caused by Meckel's diverticulum, 351
GEIGEL, Richard, death of, 428
Gelatinothorax and oleothorax in treatment of empyema thoracis, 683
GEMMELL, Arthur A.: Early diagnosis of pregnancy, 353—Treatment of dysmenorrhœa, 1047
GEMMELL, John Edward: Death of, 193—Obituary notice of, 248
General Medical Council. *See* Council
General paralysis. *See* Paralysis
General practitioner in ante-natal work (W. H. F. Oxley), 5 (O)—Correspondence on, 118, 159
General practitioner and poisoning cases, 35
Geneva Convention: International Convention for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field, 597—International Convention relative to the Treatment of Prisoners of War, 597
Genius, genetics of, 1032
GENTRY, Maurice, appointed librarian of the Académie de Médecine, 381
GEORGE V, KING, health of, 636
GÉRAUDEL, Emile: *The Mechanism of the Heart and its Anomalies*, rev., 103
Germany: Leprosy in, 951—Number of medical women in,
Small-pox
Rheumatic
335—Wirel
ise of (V. Zachary
007
Gestation. *See also* Pregnancy
GIBB, J. Aldington: The Canfield operation for paranasal suppuration, 685, 820
GIBBENS, John: The outlook on tuberculosis, 156
GIBBERD, G. F.: Alkalis in renal complications of pregnancy, 540—The obstetrical problem of the contracted pelvis, 895
GIBBS, O. S.: Treatment of carbolic acid poisoning, 581 (O), 770
GIBSON, A. J. (and Bruce WILLIAMSON): Undulant fever in infancy, 748 (O)
GIBSON, C. R. (and R. G. GORDON): Case of taboparesis treated by hyperpyrexia induced by hot baths, 1015 (O)
GIBSON, Charles Stanley, recommended for election to the Royal Society, 507
GIDNEY, Lieut.-Col. Henry Albert John, knighthood conferred on, 1004
Gifford Edmonds prize. *See* Prize
GILCHRIST, A. Rae: Pregnancy and heart disease, 1026
GILES, J. L. (and J. B. ORR): *Report on the Physique and Health of Two African Tribes*, 1130
GILL, Lieut.-Col. C. A.: Report on public health in the Punjab, 865
GILL, S. E., appointed a commissioner of the Board of Control, 282
GILLBARD, W. L.: Blushing, 163
GILLESPIE, John R.: Management of the puerperium in tuberculous women, 200
GILMOUR, Mary D. (and H. E. SEILER): A case of pulmonary asbestosis, 1112 (O)
GIMINGHAM, C. T.: Cultivation of pyrethrum in England, 718
"Ginger paralysis." *See* Paralysis
GIUFFRÈ, Liborio, nineteenth volume of *Annali di Clinica Medica e di Medicina Sperimentale* dedicated to, 456
Giza Memorial Ophthalmic Laboratory, report of, 1034
GLAISTER, John (and John GLAISTER, jun.): *A Text-Book of Medical Jurisprudence and*
Gl ITH):
rev.,
(and John GLAISTER): *A Text-Book of Medical Jurisprudence and Toxicology*, fifth edition, rev., 670
Gland grafting in veterinary practice (parliamentary note), 960
Gland, mammary, tuberculosis of the (George Jessel), 1023
Gland, parathyroid, treatment of malignant growths with extracts of, 819
Gland, the thymus, 547, 603
Glandular deficiency, treatment of (W. Langdon Brown), 400
Glandular fever. *See* Fever
Glasgow. *See* Scotland
Glass, 906
Glasses, contact, or crossed cylinders for high astigmatism (J. H. Beaumont), 1068 (O). *See also* Astigmatism
Glauramine and glycerin in midwifery, 36, 118, 294. *See also* Midwifery, prophylaxis in
GLEAVE, Humphrey H. (and Hugh REID): Congenital aneurysm of the brain, 445 (O)—(And Samuel HALLAM): Black hairy tongue, 663 (O)
GLEGG, W.: Linseed for constipation, 206
GLEY, Emile, death of, 331
Glossopharyngeal neuralgia. *See* Neuralgia
GLOVER, Edward: Prevention and treatment of drug addiction, 496
GLOVER, Robert M.: Enteric intussusception, 58
Glue, surgical, 630
Glycerin as a germicide, 513
Glycerin and glauramine in midwifery, 36, 118, 294. *See also* Midwifery, prophylaxis in
Glycerin of pepsin in pernicious anaemia (Lieut.-Col. H. C. Keates), 894. *See also* Anaemia
Glycerin as a surgical dressing, 75, 118, 159, 206, 285, 336, 424
Glycosuria with coronary thrombosis and myocardial infarction (Norman Cruickshank), 618 (O)—Correspondence on, 768, 867, 913
GLYNN, Thomas Robinson: Death of, 857—Obituary notice of, 917
GODWIN, W. H. Fenn, obituary notice of, 872
Goitre, endemic, in Great Britain, and iodine supply (J. B. Orr), 460
Goitre, iodine in relation to (leading article), 361
Goitre in Northern Ireland (R. Olesen and P. A. Neal), 683
Goitre, prize for best essay on research on, 381
Goitre, retrosternal (T. O. Graham), 270
Goitre, toxic, treatment of (J. Crighton Bramwell), 450—Discussion, 450
Gold Coast, medical officers on the (parliamentary note), 477
Gold treatment of tuberculosis. *See* Tuberculosis
GOLDSMITH, Perry G.: Treatment of paranasal suppuration persisting after operation, 484 (O)
GOLDSTEIN, Hyman I.: Osler's disease and eponyms, 355
Golf medical: Annual general meeting of the Sheffield Medical Golfing Society, 164—Annual competition of the Manchester and District Medical Golfers' Association, 876 — West Suffolk Division annual competition, 920—Dumbartonshire Division, divisional stage in the *Treasurer's Cup Golf Competition*, 972—Medical Golfing Society's summer meeting, 1008 — Summer meeting of the Shropshire Medical Golf Association, 1100—Spring meeting of the Sussex Medical (B.M.A.) Golfing Society, 1100—Carnarvon and Anglesey Division's summer meeting, 1146
GOLLA, F.: Mental symptoms associated with brain tumours, 311—Encephalitis lethargica, 714
Gonin's operation for detached retina, 912. *See also* Retina, detached
Gonococcal infection, 1140
Gonococcal rhinitis. *See* Rhinitis
Gonococcal stomatitis. *See* Stomatitis
Gonorrhœa, gonococcal complement-fixation test for (I. N. Orpwood Price), 578 (O)
GOOD, T. Saxby: The psychiatric out patient clinic, 453—Mental disorder and pernicious anaemia, 981
GOODALL, Alexander (and James K. Slater): Treatment of disseminated sclerosis by liver, 789 (O)
GOODALL, E. W.: Incubation period of measles, 73—Serum anaphylaxis, 559
GOODHART, G. W.: The value of liver in treatment, 586
Gordon College. *See* College
GORDON, G.: Treatment of impotence, 1118
GORDON, M. H.: Vaccination and encephalitis, 155—Septicaemia from minor wounds, 283
GORDON, R. G. (and C. R. GIBSON): Case of taboparesis treated by hyperpyrexia induced by hot baths, 1015 (O)
GORDON-TAYLOR, G.: Surgical treatment of gastric ulcer, 818
GORDON-WATSON, Sir Charles: Injection treatment of piles, 857
GOSTLING, William Ayton, obituary notice of, 564
GOULD, Eric Pearce: The London Clinic and and Nursing Home, 331, 425
GOULDESBROUGH, Claude: Activated fluorescein in the treatment of cancer, 767
Government departments, technical officers in (leading article), 632
GRACE, A. W.: Bacterial complications of filariasis, 717
GRAHAM, Evarts A. (editor): *General Surgery*, rev., 1029
GRAHAM, George: High carbohydrate diet in diabetes, 310
GRAHAM, Major-General J. D.: Appointed honorary surgeon to the King, 77—C.B. conferred on, 1004
GRAHAM, T. O.: Retrosternal goitre, 270—Operation for lateral sinus thrombosis, 937
GRAHAM-LITTLE, Sir Ernest Gordon: Knighthood conferred on, 25, 70—Medicine and public economy, 164—The University franchise, 286—Indolent ulcers of the leg, 399—Osteopathy at home and abroad, 1000
GRAUPNER, Karl, death of, 872
Graves's disease: intercurrent pyrexia, 480, 563
Graves's disease. *See also* Hyperthyroidism
GRAY, A. M. H.: Transmission of scabies and ringworm, 352—Elected a corresponding member of the Vienna Dermatological Society 691
GRAY, E. O.: Treatment of toxic goitre, 450
GRAY, James D. (and John C. HODGSON): Rupture of the pancreas, 264 (O)
GRAY, J. D. Allan: Recent bacteriological research which is of value to the clinician, 184
GRAY, Percival Allen (W. D. SANSUM and Ruth HOWDEN): *The Treatment of Diabetes Mellitus with Higher Carbohydrate Diets*, rev., 236
GRAY, William: The Glasgow Victoria Infirmary, 370
GRAY, William, obituary notice of, 730
GREEN, A. A. Russell: Results of treatment of cancer, 75
GREEN, Douglas: Thirty-eight years with a fractured spine, 771
GREEN-ARMYTAGE, Colonel: Hydatidiform mole, 222
GREENFIELD, J. G.: Etiology of disseminated sclerosis, 98
Greenwood, Harold, Trial of, rev., 545
GREENWOOD, Major: Chadwick Lecture on nerves and the public health, 600—The thymus, 603 — Epidemiology of venereal diseases, 752
GREGORY, Sir Richard, baronetcy conferred on, 25
GREIG, J. Russell: The establishment and development of veterinary education, 738
GREY, F. T., appointed assistant deputy coroner for the western district of London, 971
GREY, Temple:
GRIBBLE, Rev. ith the *Aborigines*, rev., 145
GRIFFITH, Augustine, presentation to, 1134
GRIFFITHS, Major Alfred Philip Henry, obituary notice of, 77
GRIFFITHS, Evan J., obituary notice of, 1096
GRIFFITHS, Flying Officer E. W. B. (and others): Observations on a cerebro-spinal fever outbreak in the Royal Air Force in 1931, 1101 (O)
GRIMAUD, René (and Michel MOSINGER): *La*
GRODDECK, Georg: *The Unknown Self*, rev., 1118
GROVES, E. W. Hey (and J. M. FORTESCUE-BRICKDALE): *Text-Book for Nurses*, fourth edition, rev., 757
Growth in children (H. A. Harris), 583
GUBB, Alfred S.: Medical reciprocity with France, 377
GUÉNIOT, A.: *Pour vivre cent ans, ou l'art de prolonger ses jours*, rev., 455
GUILD, E. J.: A new development in filter papers, 849
GUILLAIN, Georges (and Th. ALAJOUANINE): *Études Neurologiques*, rev., 499
GUISE-MOORES, Major-General Sir S., K.C.V.O. conferred on, 1004
GUNN, J. A.: Mental hygiene, 420
GUNN, L. G.: Case of myelomatosis, 401
Indolent ulcers of the leg, 399
GÜNTHER, Hans: *Di lagen der Hunger*
GUTHRIE, T.: Two arch, 353
GUTMANN, Carl, death of, 291
GUY, John: Care of the child in Scotland, 152
Gwathmey anaesthesia in labour (O'Donel Browne), 669. *See also* Anaesthesia
GWYNN, Denis: *The Life and Death of Robert Casement*, rev., 102
GWYTHER, Lieut.-Col. Arthur, obituary notice of, 122
Gynaecological and Obstetrical Monographs, second edition, rev., 711
Gynaecological surgery, conservative (W. Blair Bell), 653 (O)
Gynaecology and obstetrics, education in (Dame Louise McIlroy), 679
Gynaecology, a retrospect of (Archibald Donald), 354
Gynaecology, review of book on, 455, 711
Gynaecology. *See also* Obstetrics

H.

HABISON, J. A.: Health of Kildare school children, 1133
HADDAD, Zahi, M.B.E. conferred on, 1004
HADFIELD, C. F.: Choice of an anaesthetic, 265—*Practical Anaesthetics*, second edition, rev., 850
Hadow Report, 317
Haemorrhoids, injection treatment of (W. S. Perrin), 897—Discussion, 897—Correspondence on, 1049
Haematocolpos in a woman of forty-three, 734
Haematoma, subdural, chronic (J. Purdon Martin), 97
Haematometra and haematosalpinx in one horn of a bicornuate uterus (S. Subba Rao), 180
Haemolytic icterus. *See* Icterus
Haemoptysis, significance of, 1135
Haemorrhagic diathesis, 33, 117—And the antitryptic index, 117. *See also* Purpura
Haemorrhage, subarachnoid, in a child (Mabel L. Ramsay), 1070
Haemorrhagic paratyphoid fever. *See* Fever
Haemorrhoids, injection treatment of (W. J. Lytle), 498
Hair, fixative for the, 293
HAIRE, Norman: Treatment of impotence, 1118
Hairy tongue. *See* Tongue
HALDANE, J. S.: Silicosis and coal mining, 154—Atmospheric pollution and fogs, 366—Honorary Doctorate, Cambridge, to be conferred on, 498
HALDIN-DAVIS, H.: Treatment of varicose ulceration, 329

HALE-WHITE, Sir William: *Materia Medica, Pharmacy, Pharmacology, and Therapeutics*, twentieth edition rev., 1075
HALFORD, A. C. F.: Closed drainage in the treatment of empyema, 1047
HALL, Arthur: Silicosis, 355
HALL, Arthur J.: The enigma of the chilblain, 374—Epidemic encephalitis, 849
HALL, James Campbell, obituary notice of, 777
HALL, Surgeon Rear-Admiral J. F., appointed a commissioner of the Board of Control, 282
HALLAM, Rupert: The enigma of the chilblain, 215 (O)
HALLAM, Samuel (and Humphrey H. GLEAVE): Black hairy tongue, 663 (O)
HALLIBURTON, William Dobinson, obituary notice of, 957, 1016
HALLIDAY, James L., appointed a regional medical officer for Scotland, 238
Hallux valgus: a note on operative treatment (Paul Bernard Roth), 413 (O)—Correspondence on, 560, 615, 684, 771
Halstead, William Stewart (W J. MacCallum), 1032
HALTON, John: Inhalation anaesthesia, 627
Hamburg: Work on medical problems of climate and air travel, 947
HAMILL, P.: Digitalis in toxaemia, 1021
Hand: Left-handedness, 779, 877
Hand, left, writing with, 163. *See also* Writing
Hand towels. *See* Towels
HANDLEY, W. Sampson: Medical and surgical uses of diathermy, 182
HANKEY, G. T.: Replantation of upper central incisors in a schoolboy, 222
Hannah Dairy Research Institute at Auchincruive, Ayr, opening of, 813
HANNAN, John H.: Ovarian transplantation, 137 (O)
HAPPEL, Dr.: "Unipolar air," 367
HARCOURT, H.: Snake-bite in India, 252
HARDEN, Arthur, presentation to, 115
HARDIE, David: Operation for cataract, 1046
HARDY: Report on undulant fever in the United States, 807
HARDY, E. W: Unofficial aunts, 336
HARDY, L. I: Inflammation at site of old vaccination scars, 1007
HARE, Tom: Hieronymus Fracastorius, 77—Calcium therapy, 899
HARGREAVES, George, nominated a member of the Legislative Council of Jamaica, 961
HARINGTON, Charles Robert, recommended for election to the Royal Society, 507
HARRINGTON, Lieut.-Col Hastings Norman Victor, obituary notice of, 827
HARKNESS, A. H.: "Preparation for marriage," 687
HARLEY, David: Revision of the *British Pharmacopoeia*, 196
HARMAN, N Bishop, elected an honorary member of the International Association for Prevention of Blindness, 1035
HARMER, Douglas: Frontal sinusitis, 275
HARRIS, Major-General George Francis Angelo, obituary notice of, 827
HARRIS, H A: Report on the primary school child, 317—Growth in children, 583—Arrested growth in the long bones of diabetic children, 703 (O)
HARRIS, I. (and I. J. LIPKIN): Cardiac output and oxygen utilization in heart disease, 353, 480—Tonsillectomy and rheumatism, 627
HARRIS, J. A. (C. M. JACKSON, D. G. PATERSON, and R E. SCAMMON): *The Measurement of Man*, rev., 102
HARRIS, I. Borrie: Coincident zoster and varicella, 692
HARRIS, N. G.: Mental symptoms associated with brain tumours, 311
HARRIS, R W.: National Health Insurance Medical Service in Great Britain, 634
HARRISON, Colonel L. W.: Epidemiology of venereal diseases, 753
HARRISON, W. J.: Tonsil artery forceps, 314
HARTLEY, Percival: State control of therapeutic substances, 1072
HARTRIDGE, H (and F. HAYNES): *Histology for Medical Students*, rev., 629
Harveian Oration: The pituitary gland (Sir Percy Sargent), 551
HARVEY, Frank: Pads for suprapubic box, 227—A sigmoidoscope, 545
Harvey Tower, 1030 *See also* Society, Harveian.
Hastings Lecture. *See* Lecture
Hastings Memorial Fund, 1127
HASTINGS, Somerville: The trend of medical practice, 470
HAUDEN, Martin, death of, 872
HAUGHTON, Lieut.-Col Samuel George Steele, O.B.E., conferred on, 70
HAWEL, M.: Spontaneous prolapse of umbilical cord during early months of pregnancy, 935
HAWKER, George: *A Biographical Sketch of Francis James Blight F.R.S.E.*, rev., 1029
HAWKER, G. P. Case of albuminuric retinitis, 355
HAWKESLEY, L. M: Report on a case of mycosis fungoides following laparotomy, 538
HAWKHEAD, Arthur (and George ARMITAGE): Peritonitis due to perforation of bowel by foreign bodies, 577 (O)
HAXTHAUSEN, H.: *Cold in Relation to Skin Diseases*, 192
Hay fever treated by intranasal zinc ionization (Philip Franklin), 1115
Haygarth, John, of Chester (George H. Weaver), 1086
HAYNES, F (and H. HARTRIDGE): *Histology for Medical Students*, rev., 629
HAYNES, H. G. L.: Epsom College, 474
Headache powder, 524
HEALD, C. B.: Treatment of pneumonia, 448
Health centre, review of book on, 357
Health and Cleanliness Council: Annual luncheon, 601
Health and diet. *See* Diet
HEALTH MINISTRY:
Birth control clinics, memorandum on, 600
Blind, welfare of: report of advisory committee, 1122
Bovine tuberculosis in man, pamphlet on, 913
Cancer of the lip, tongue, and skin, memorandum on, 894
Cerebro-spinal fever, memorandum on the prevalence of, 368
Food other than milk, composition and description of: Committee of inquiry appointed, 907
Foodstuffs and drugs, supervision of, 71
Foodstuffs, fumigation of (report by G. W. Monier-Williams), 65
Housing, circulars re, 876
Nervous disease, post-vaccinal (report by Rolleston Committee), 64, 109
Parliamentary notes, 201, 690
Small pox prevention and the Vaccination Acts, memorandum on, 995
Social services, 201
Vote for expenses, 690, 727
Health in schools. *See* Schools
Health services in Lanark: Proposed co-ordination, 369
Health services, local (parliamentary note), 291
Health services in Northern Ireland, 1088
Health services, parsimony in (L. Kidd), 512
Health, struggle for (leading article), 713
HEALY, T. M.: Puerperal sepsis, 99
Hearing, effects of fractured base of skull on (E. D. D. Davis), 449
Heart after artificial respiration, 392
Heart disease, cardiac output and oxygen utilization in (I. Harris), 353, 480—A correction, 480
Heart disease and pregnancy (A. Rae Gilchrist), 1026
Heart disease, rheumatic, and tonsillectomy (F. W. Leathart), 626. *See also* Rheumatism
Heart, infarction of, with pericardial effusion (T. A. Hughes and Mohammad Yusuf), 794 (O)—Correspondence on, 954
Heart, review of books on, 103, 144
Heat in the treatment of rheumatic disease (R. Fortescue Fox), 397
HECHT, Charles E.: *Vegetables, Their Use, Abuse, and Neglect*, 123
HEFFERNAN, P.: A transatlantic tuberculosis tour in 1930, 1055
HELLER, J. (and P. HOLTZ): Oestrin and pituitrin, 1024
Helminthology, the teaching of (N. A. Cobb), 506
HELSBY, R. J. (H. R. FISHER, Dorothy S. RUSSELL, and S. P. BEDSON): Three cases of psittacosis, with two deaths, 887 (O)
Hemicrania, 692
HEMMETER, Conrad, death of, 827
HENDERSON, B. A. M.: Treatment of obesity, 252
HENDERSON, D. K.: Morison Lectures on social psychiatry, 370—Report on Glasgow Royal Asylum, 863
HENDERSON, Melvin S.: Recurrent dislocation of the shoulder, 275
HENRY, Arnold K.: Reconstruction of the forearm after amputation of the hand, 393 (O)
HENSCHEN, Salomon, death of, 428
HENTSCHEL, Herbert, death of, 428
Hepatitis, amoebic, with haematemesis (R. E. Drake-Brockman), 444 (O)
HEPBURN, David: Death of, 463—Obituary notice of, 517
HERBERT, Freda K. (and Margherita C. BOURNE): The choice of a blood sugar method for clinical work, 94 (O)
HERBST, Emil (and Max APFFELSTAEDT): *Malformations of the Jaws and Teeth*, rev., 313
HERD, Henry: *The Diagnosis of Mental Deficiency*, rev., 271
HERD, S. B.: Vaginal hysterectomy, 451
Heredity and development (Julian Huxley), 1044
HERNAMAN-JOHNSON, F. (and R Hillhouse JAMIESON): Treatment of erysipelas by *x* rays, 57 (O)
Herpes zoster and varicella, concurrent, 610, 692, 1056
Herpes zoster, varicella, and encephalitis (W. Russell Brain), 81 (O)
HERRINGHAM, Sir Wilmot, elected an honorary Fellow of Keble College, Oxford, 1096
HERRON, Robert T., obituary notice of, 234
HERZFELD, Gertrude (and Margaret O. TOD): Uterine prolapse), 1025
HERZOG, Wilhelm, death of, 688
HETHERINGTON, H. W.: Diagnosis of latent tuberculosis, 64
HEWER, C. Langton: Avertin anaesthesia, 35
HEWITT, Sir Stanley, presented with the diploma of the Society of Apothecaries *honoris causa*, 762
HEWITT, Surgeon Rear-Admiral Alfred J., C.B. conferred on, 1004
Hexyl-resorcinol solution, 501
HIBBS, Russell A.: Operative treatment of scoliosis, 550
HICKMAN, Lieut-Colonel James, obituary notice of, 379
HICKS, John A. Braxton: Research on disseminated sclerosis, 425
Highlands and Islands, medical services in (H. Shearer), 642
HIGOUMENAKIS, Georges: *Le Bouton d'Orient (Leishmaniose Cutanée) et son Traitement Moderne*, rev., 405
HILDITCH, T. P.: Relative value of cod-liver oils from various sources, 853
HILEY, Melville: Management of pregnancy in tuberculous women, 140
HILL, A. Bradford: Sickness amongst operatives in Lancashire cotton spinning mills, with special reference to the card-room, 148—Shortage of nurses, 410
HILL, Gardiner: Growth in children, 584
HILL, Gladys: The obstetrical problem of the contracted pelvis, 896
HILL, Sir Leonard: Treatment of varicose veins, 240—The enigma of the chilblain, 329—Hon. LL.D. Aberdeen conferred on, 613
HILTON, John: *Rest and Pain*, new edition, rev., 852
HINDHAUGH, Arnold: Lactation in accessory breasts, 446
HINDLE, E. (and G. M. FINDLAY): Combined use of living virus and immune serum for immunization against virus infections, 740 (O), 914—African tick fever, 1140
HINSIE, Leland E.: *The Treatment of Schizophrenia*, rev., 710
HINSCH, Carl, death of, 428
HINSCH, Nathaniel D. M.: *Twins: Heredity and Environment*, rev., 103
HINSCH-KAUFFMANN, Herbert: *Synthalin B (Dodekamethylendiguanidin) im Spiegel tierexperimenteller und klinischer Forschung*, rev., 589
Hiss, *Bacillus dysenteriae* of. *See* Bacillus
Histamine, action of (J. C. Hovle), 1025
Histology, review of book on, 629
History of medicine. *See* Medical and medicine
HOCKING, F. D. M.: Research on disseminated sclerosis, 425
HODGES, G. M.: Pregnancy with intact hymen, 920
Hodgkin's disease with unusual onset (R. G. Cooke), 308
HODGSON, A. E.: Immunization against diphtheria and scarlet fever, 498
HODGSON, Amy, obituary notice of, 120
HODGSON, H. Graham (and J. P. LOCKHART-MUMMERY): Diverticula of the colon and their sequelae, 525 (O)—Radiography of the accessory nasal sinuses, 551
HODGSON, John C. (and James D GRAY): Rupture of the pancreas, 264 (O)
HODGSON, E. F.: Epidemiology of venereal diseases, 752
HOEY, Trevor: Congenital absence of left half of diaphragm, 265
HOFFMANN, Erich: *Vorträge und Urkunden zur 25 jährigen Wiederkehr der Entdeckung des Syphiliserregers (Spirochaeta pallida)*, 676
Hofgastein thermal baths to be free to medical men and dentists, 778
HOGARTH, Margaret: *Survey of District Nursing in the Administrative County of London*, 590
HOGBEN, Lancelot T.: *Principles of Animal Biology*, rev., 18—*The Nature of Living Matter*, rev., 404
Hog's stomach. *See* Stomach
HOLDEN, Charles, appointed architect of the new buildings of the University of London, 1043
Holland, post-graduate courses in tuberculosis in, 907
HOLLAND, Henry T., bar to Kaisar-i-Hind medal conferred on, 1004
HOLLINGSWORTH, R. A.: Hemicrania, 692
HOLMAN, C. C.: Perforation of gastric ulcer three and a half years after gastro-enterostomy for perforating duodenal ulcer, 978
HOLMES, Barbara: *Cancer and Scientific Research*, rev., 358
HOLMES, Eric: Cerebral metabolism, 1024
HOLMES, Geoffrey: Physiological effects of baths, 353
HOLMES, Gordon: Mental symptoms associated with brain tumours, 310—Intracranial tumours, 793
HOLMES, J. W.: Transmission of scabies and ringworm, 352
HOLST, Axel, death of, 1051
HOLTEN, C.: Pathological function of the kidneys in renal disease, 944
HOLTZ, P. (and J. HELLER): Oestrin and pituitrin, 1024
Home Office: New regulations *re* diacetylmorphine, 381—Report on the International Conference on Silicosis (E. L. Middleton), 548
Hong-Kong: Dead infants in the streets of (parliamentary note), 772—Maternity work in (Annie Sydenham), 640
HONIGMANN, Georg, death of, 202
Honours: New Year, 25, 70—Birthday, 1004, 1054
HOOPS, Albert L., C.B.E. conferred on, 1004
HOPEWELL-ASH, E. L.: Hypnosis with spinal anaesthesia, 962
HOPEWELL-SMITH, Arthur, obituary notice of, 605
Hôpital Beaujon, rebuilding of, 862

HOPKINS, Sir Frederick: Appreciation of William Dobinson Halliburton, 1006—Recent advances in the chemistry of the vitamins, 1117—Honorary LL.D.Glasgow conferred on, 1142
HORA, Julian, obituary notice of, 476
HORGAN, J. B.: Treatment of ethmoiditis, 202, 376
Hormone, ovarian, 940
Hormonic deficiency, genetic and racial aspects of, 604. *See also* Cretinism
1144
HOSKIN, Jenner: The choice of an anaesthetic, 265—The electrocardiogram, 561
Hospital, Aberdeen City: new nurses' home opened, 1133
Hospital almoner (leading article), 715
Hospital, Armagh Mental: Appointment of a woman resident medical superintendent, 910
Hospital, Belfast Royal Victoria: result of Hospital Saturday collection, 1133
Hospital, Bellahouston: Central corridor system at, 197—Closing and dismantling of, 197
Hospital, Bethlem Royal (parliamentary notes), 650, 1098
Hospital, Birmingham General: Annual report, 600
Hospital, Birmingham, Queen's: Annual meeting, 682
Hospital, Bombay, King Edward VII Memorial: Report, 236
Hospital, Cancer, Fulham Road: Annual meeting, 854
Hospital, Cassel: Report of director, 1081
Hospital, Central London Ophthalmic: new wing opened, 510
Hospital, Charing Cross: Vacation course at the Medical School, 332
Hospital, Chinese mining (Kailan Mining Company): Report on, 192
Hospital, Church of Scotland Deaconess: Annual meeting, 643
Hospital, City of London, for Diseases of the Heart and Lungs: Report of pathological laboratories for 1930 now issued as a booklet, 961
Hospital contributory scheme: At North Walsham (*Norfolk*), 372
Hospital, Down County Mental: Report, 373
Hospital, Drumcondra, Dublin: Annual meeting, 1088
Hospital, Dunfermline and West Fife: Annual
extension, 764
H Inglis Maternity:
Hospital, Edinburgh Royal, for Sick Children: Annual meeting, 1132
Dispensary for
l meeting 602
ternity: Annual
Report, 422
ort, 373
Medical and
Medi-
roat:
lren:
and
nual
Hospital, Glasgow Royal Samaritan: Annual meeting, 643
Hospital, Glengall, Ayr: Annual report, 325—
pension, 325
0 (vol. x, fourth
l (vol. ii, fourth
ial at Hawick,
233
Hospital, Hampstead General, post-graduate clinic at, 154
Hospital, Harrow, extensions at, 614
Hospital, Kong-Kong, Alice Memorial Maternity, the work of, 640
Hospital, King Edward VII, Windsor, new operating theatre at, 293
Hospital, Larbert Mental: Annual report, 115
Hospital, London: Liddle triennial prize of the Medical College awarded, 332, 378—Scholarship awarded, 777
Hospital, London Lock, extension of, 555
Hospital, Lurgan, reconstruction of, 1133
Hospital, Madras Government Ophthalmic: Annual reports, 866
Hospital, Maudsley, and the Mental Treatment Act, 113
Hospital, Middlesex: Annual report, 911—Cancer wing, 911
Hospital, Millman Street, Chelsea (parliamentary note), 1143
Hospital, Nairobi, condition of (parliamentary note), 1143
Hospital, National Dental: Luncheon to Drs. C. J. Ogle and James Maughan, 644
Hospital, New York Post-Graduate Medical School and, note on, 363
Hospital, North Middlesex, Edmonton: Annual report, 555
Hospital, Nottingham General: Extensions opened, 599
Hospital patients, insured, records of, 324
Hospital, Perth, Gilgal, for voluntary patients, 1088
Hospital policy, 199, 242—(Sir Richard Luce', 199
Hospital, Punjab Mental, Lahore, improvements at, 421
Hospital, Queen Charlotte's: Investigation of maternal morbidity, 631—Research laboratories, 631
Hospital Review, Quarterly (*Nosokameion*), Nos. 1–4, rev., 650—No. 2, rev., 1121
Hospital, Royal Edinburgh, for Mental and Nervous Diseases: Annual report, 422
Hospital, Royal Free (London School of Medicine for Women): Appointment of Dean, 250—Conversazione and cinema exhibition, 198—Education in obstetrics and gynæcology, system of teaching in, 679—Matinée in aid of, 1039
Hospital, Royal London Ophthalmic, Moorfields: Annual dinner, 326
Hospital, Royal National, for Consumption, Ireland: Annual meeting, 602—Milk and tuberculosis, 602
Hospital, Royal Prince Alfred: Re-union, 419
Hospital, Royal Sussex County: New operating block opened, 723
Hospital, St. Bartholomew's: *Reports*, vol. lxiii, rev., 60
Hospital, St. John's, for Diseases of the Skin: Out-patient department open daily, 380
Hospital, St. Mark's, City Road: Annual general meeting, 567
Hospital, St. Thomas's: Cicely Northcote Trust, report, 115—*Pharmacopœia of*, rev., 902
ual meeting, 999—
History of (Arnold
eeting, 1088
L.C.C.), 418 · Recep-
at the Wellcome
teryism, 599.
Council
Sir Robert
99
al: Annual
Hospital, University College: Lectures at the medical school, 78—Radium treatment at (R. S. Pilcher), 814. *See also*, College *and* University of London
Hospital, West London: Extension scheme, 936—Festival dinner, 911 — And the "Class Between," 911
Hospital, Yarmouth Naval, Bill, 477, 565, 607, 649, 727, 822
m), 592
a (parliamentary note', 1054
Hospitals, Dublin: a commission of inquiry
of the Lord High
law, teaching in, 371
Council: Arrangements at, 30—Hours of sleep in, 30—Infectious diseases at, the problem of cross-infection, 644—Medical staff, 416—Report on the first
utine anaes-
maintained by
estates, 123
Hospitals, mental, accommodation in, Board of Control circular *re*, 596
Hospitals, mental, in India, improvements in, 421
Hospitals, mental, in the Irish Free State, report on, 954
Hospitals, mental, laboratories of (parliamentary
s in
See Sweepstakes
ributory system for
future of, 599, 1042
Gillman Moorhead),
512
Hospitals, voluntary, of London: Report of committee, 720
Hospitals, voluntary, and approved societies (parliamentary note), 771. *See also* Insurance
Hospitals, voluntary, progress of, 998
Hospitals, waking hour in, 30, 992. *See also* Sleep
HOTTINGER, Major E. F., Imperial Service Order conferred on, 1004
688
Christopher Wood-
Hours of Industrial Employment Bill, 203
HOUSE, A. G.: *Bacteriological Control of Milk*, rev., 985
House of Commons, atmosphere of (parliamentary note), 650
Houses: New houses for old in St. Pancras, 556
Housing (parliamentary notes), 204, 241, 369, 477, 608, 727, 728,
608—(Rural
959, 1053—Mit
876—In Scotland, 950
Housing estate and health centre at Woolwich, 236
Housing estates of the London County Council, facilities for medical practice on, 71
ank, elected a
and nursing
home, 287
HOWE, G. Graham: Mechanisms of the mind, 23
HOWITT, F. D.: Medical and surgical uses of diathermy, 182
n
e
young pulmonical subject, 194 (O)
HUGHES, William Leonard (and Jesse Feiring WILLIAMS): *Athletics in Education*, rev., 314
Hughlings Jackson Lecture. *See* Lecture
Human factor variously considered, discussion on, 1030
HUME, Sir George: London hospital services, 599
Hume Lectures. *See* Lectures
HUMPHRIS F. Howard (and Ralph E. STUART-WEBB): *Physiotherapy, its Principles and Practice*, rev., 60
HUMPHRY, Major-General Lawrence, C.B. conferred on, 25, 70
Hungary offers an international trachoma prize, 411
HUNT, Elizabeth: Bullous dermatoses, 667
HUNT, T. C.: High carbohydrate diet in diabetes, 309
HUNTEMÜLLER, Otto, death of, 953
HUNTER, Donald: Calcium therapy, 898
HUNTER, J. W. A.: The obstetrical problem of the contracted pelvis, 895
HUNTER, S. A.: Coincident herpes zoster and varicella, 610
HUNTER, T. C.: Artificial pneumothorax, 270
HUNTER, William: Appreciation of Sir Andrew Balfour, 246
HURRELL, George: Accessory lobe of azygos vein, 119
HURST, Arthur: Chronic ulcerative colitis, 504, 693 (O)
HURST, C. Herbert (and A. Milnes MARSHALL): *A Junior Course of Practical Zoology*, eleventh edition, rev., 545
HUNTER, H. R.: Care of the child, 797
HUTCHINS, Marjorie: Schistosome worms and schistosome monsters, 1 40
H
rev., 850—A warning, 1056
HUXLEY, Julian: Cavendish Lecture on development in relation to heredity, 1044
Hydatid cyst of liver simulating subphrenic abscess (E. H. R. Altounyan) 15
Hydatid disease in England (James F. Brailsford), 133 (O)—Leading article on, 146
Hydatidiform mole (Colonel Green-Armytage), 222
Hydrogen cyanide in the pigmentation of food-
al, Dresden
Hygiene and Public Health, All-India Institute of, 546
Hygiene, rural, international conference on, 123, 431
School
ropical
medicine: the life and work of Sir Patrick Manson, 282—Pass lists, 478, 800—Wandsworth memorial for tropical research, 555—Report on bacterial complications of filariasis, 717—Clifford B. Edgar bequest to for research, 873—New dean appointed, 1126. *See also* University of London
Hymen, intact. *See* Pregnancy
Hyperpyrexia induced by hot baths in a case of taboparesis (C. R. Gibson and R. G. Gordon), 1015 (O)—Correspondence on, 1093. *See also* Taboparesis
Hypertension, review of book on, 544
Hyperthyroidism, treatment of, 582. *See also* GRAVES's disease
Hypno-is, medical, 733
Hypnosis
Hypnotism and the
Académ
edure of, 336, 652
uate for injection of
varicose veins, 1029
deficiency
Hysterectomy, vaginal (S. B. Herd), 451
Hystero-epilepsy, 163, 252

I.

IBBOTSON, W.: Medical and surgical uses of diathermy, 182
Icterus, haemolytic (Lord Dawson of Penn), 921, 963 (O)—Leading article, 989—Correspondence on, 1048
Idozan, 501
IMMS, A. D.: *Recent Advances in Entomology*, rev., 314
Impotence, treatment of (J. Young), 1117—Discussion, 1118
Incapacity, insurance against. *See* Insurance
Incisors, upper central, replantation of (G. T. Hankey), 222

INCOME TAX: 42, 80, 124, 164, 206, 252, 278, 294, 382, 432, 480, 568, 610, 692, 733, 779, 812, 849, 874, 878, 920, 962, 1008, 1056, 1100, 1145
Accident insurance benefit, 829
Allowable expenses, 920
Appointment: Travelling expenses, 734—Motor expenses, 878—Qualification expenses, 1056
Assessment of army officer's pay, etc., 42
Assessment on partnership, 252
Assessment of previous year, alteration of, 962
Assessment of stipend from appointment, 206
Cash basis, 829, 1008—Change in proprietorship, 779
Change in share of partnership profits, 692
Changes in partnership: cash basis, 1056
Colonial appointment: Remittances, 480
Commencement of partnership, 432
Cost of arranging new partnership, 780
Cost of books and subscriptions, 610
Discount on prepayment of income tax, 734
Earnings abroad during short period, 697
First year of practice, 558
Holidays: Domestic expenses, 829
Interest paid to a bank, 80
Motor car: Allowance, 382, 830—Expenses, 164—Expenses of assistant, 733—Obsolescence allowance, cash basis of, 206, 779—Private use of, 920—Replacement, 480—Transactions, 962, 1146
New partner: cash basis, 962
New practice: basis of assessment, 1100
Overseas officer home on leave, 124
Parliamentary notes on, 874
Partnership, first year of, 480
Payment of interest on loan, 610
Post graduate course, 734
Professional account: Balance sheet, 878
Professional residence, subletting, 779, 1008
Proportion of house expenses chargeable, 80, 1100
Purchase of share of practice, 294
Reassessment of properties (1931–32), 812
Remittances from abroad, 1146
Remuneration of daughter as locumtenent, 829
"Rent" of surgeries, charge for, 432
Repairs to premises, 878
Request for excessive payment, 294
Sale of property, 1145
Sickness insurance premiums, 1008
Societies, learned, taxation of, 278
Subscriptions, allowance of cost of, 962
Temporary lecture-ship: expenses, 382
Incontinence, nocturnal, in children, 42
Incurables, Glasgow Home for at Broomhill: Opening of new annexe, 1043
[illegible] ogress (*Journal of*

INDIA:
All-India Institute of Hygiene and Public Health, 546
All-India Medical Council (parliamentary note), 380
Burmese medical institutions: Report, 865
Calcutta: Health of, 865—Tuberculosis deaths in, 866
[illegible]
Hospitals and dispensaries in, 1054
Infant mortality in, 1004
Infant mortality in the Central Provinces, 421
King Edward VII Memorial Hospital, Bombay, 236
Labour in: Report of Royal Commission (parliamentary note), 960
[illegible]
Medical research in (parliamentary note), 430
Mental hospitals, improvements in, 421
Opium consumption in (parliamentary note), 1143
Opium exports (parliamentary note), 478
Parliamentary notes on, 873, 960, 1004, 1054, 1143
Punjab, public health in: Report, 865
Quinine production in, 594
Rabies, treatment of, 420
Snake-bite in India, 252
Stillbirth and neo-natal death, 1039
Stone in, causation of (Robert McCarrison), 1009—Leading article, 1031—Correspondence on, 1138
Urban sanitation, 865

Indian Medical Department (parliamentary note), 555
Indian Medical Service, 276—Parliamentary notes, 380, 430—Proposals of Round Table Conference, 276—Annual dinner, 1143
Indian Round Table Conference, 203, 276
Indolent ulcers of leg. *See* Ulcers
Industrial psychology. *See* Psychology
Industrial research. *See* Research
Industrial Welfare and Personnel Management, 716
Infancy, minor surgery of (David Levi), 973 (O)—Correspondence on, 1098. *See also* Surgery
Infant feeding table, 712
Infant welfare centre, the first (at Marylebone), 807
Infantile mortality. *See* Mortality
Infantile paralysis. *See* Paralysis
Infants, breast-fed, digestive disorders in (Charles McNeil), 451
Infants, dead, in the streets of Hong-Kong, 772
Infarction of heart. *See* Heart
Infections and insulin action (R. D. Lawrence and R. A. McCance), 749 (O)
Infectious diseases at London Council hospitals, 644
Infirmary, Armagh County: Meeting of committee, 999—Hospital services in County Armagh, 999
Infirmary, Armagh Union, improvements at, 154
Infirmary, David Elder. *See* Infirmary, Govan
Infirmary, Dundee Royal: Annual meeting, 1088
Infirmary, Edinburgh Royal: Annual report of managers, 237—Teaching in Edinburgh Poor Law Hospitals, 371
Infirmary, Falkirk: Opening of the new buildings, 153
Infirmary, Glasgow Royal: Annual meeting, 324—Annual report, 324
Infirmary, Glasgow Victoria: Annual meeting, 370—New buildings opened for paying patients, 724
Infirmary, Glasgow Western: Annual meeting, 30, 281
Infirmary, Govan, David Elder: An experiment *re* paying patients, 30, 282
Infirmary, Leicester Royal: Annual report, 953
Infirmary, Londonderry City and County: Annual report, 603
[illegible]
Annual meeting, 643—Pay-bed section, 910
Infirmary, Sunderland Royal: New pathological block opened, 470
Influenza mortality from in American cities, 279—Prevention of (Irish Free State), 323—Parliamentary note on, 430
INGELRANS, Pierre: *La Sacro-Coxalgie et son Traitement*, rev., 543
INGRAM, John T. (and F. S. FOWWEATHER): Acidosis and seborrhoea, 839 (O)
[illegible] ia
[illegible] *See also* Coroners'
Insane persons, numbers of (parliamentary note), 960
Insanity among the Scandinavians (K. A. [illegible] idie), 142
[illegible] Ray *See* Research
[illegible] eport, 325
[illegible] Recent bacterio-logical research which is of use to the clinician,
[illegible] theria and scarlet fever, 497—Transplantable tumours, 542—Tonsillectomy and rheumatism, 626—Inhalation anaesthesia, 627—Black hairy tongue, 663—[illegible] —Sanocrysin [illegible] Calculus of th [illegible] 752—Dystocia [illegible] of the child from birth to school age, [illegible]
Institution of Mining Engineers: Annual meeting, 154—Silicosis and coal-mining, 154
Ir [illegible]
[illegible]
Instrument case of a barber-surgeon of the Tudor period (C. J. S. Thompson), 811—Correspondence on, 914
[illegible] secution
[illegible] rvey of, 293
Insulin action and infections (R. D. Lawrence and R. A. McCance), 749 (O)
Insulin, effect of prolonged injections of on subcutaneous tissue, 1145
Insulin, a personal experience of the value of (R. D. Lawrence), 1077
Insurance against incapacity, 124

Insurance, National Health:
Administration accounts of approved societies, deficiencies in, 960
All-in insurance scheme, 1098
Appeals by insured persons, 822
[illegible] n to
[illegible] omen, 1038

Insurance, National Health (*continued*):
Finance of, 380
Funds, 477, 772
Funds of Approved Societies, 822
Hospitals and supply of drugs and appliances, 291
Hospitals, voluntary, and Approved Societies, 771
Insurance period extended, 430
Insured hospital patients, records of 324. *See also* Hospital patients
In the Irish Free State, 910
Leading article, 22, 1078
Medical Benefit Amendment Regulations, 22, 522
Medical benefit in Northern Ireland, 683
Ophthalmic benefit, 291, 875, 1098
Optical appliances for insured persons, 723
Opticians and Health Commission (Irish Free State), 72
Parliamentary notes on, 40, 291, 333, 379, 380, 430, 477, 522, 566, 728, 771, 772, 822, 875, 960, 1098
[illegible]
Prolongation of Insurance Act (1930), 430
Sickness benefit claims, 380, 1078
Sickness and disablement benefits: Number of days paid, 40
Transfer of insured persons, 522
Unemployment Insurance Fund 333, 379, 1142
Women contributors, number of, 875

Insurance, national health, in Great Britain (R. W. HARRIS), 634
Insurance, State, medical aspects of (Alfred Cox), published in French in the *Bruxelles-Médical* of January 11th, 163
International Clinics, vol. iii, fortieth series, rev., 405; vol. iv., fortieth series, rev., 801
International conventions. *See* Conventions
International disputes. *See* Disputes
Inter-State Post-Graduate Assembly of North America: visit to London, 876. *See also* Post-graduate
[illegible] *See* Amoebiasis
[illegible] of book on, 851
[illegible] route (J. R. H. Turton), [illegible]
[illegible] el's
[illegible] treat-
[illegible] of
[illegible] (O)
[illegible] the
Gordon Taylor), 141
Intestine, large, prolonged obstruction in the (O. Colville), 707
Intestine, strangulation of caused by Meckel's diverticulum (J. Alfred Gaynor), 351
Intracranial tumours. *See* Tumours
Intranasal dacryocystostomy. *See* Dacryocystostomy
Intravenous pyelography. *See* Pyelography
Intussusception, appendicco-caecal (E. N. MacDermott), 793 (O)
Intussusception, enteric (Robert M. Glover), 58—
[illegible]
[illegible] s
(O) Thomas Jones), 14
[illegible] ticle), 361
[illegible]
[illegible] in Great
[illegible]
[illegible] treatment of
[illegible]

Ireland:
Armagh: Union Infirmary, 154—Mental Hospital, 910—Hospital services in, 999
Belfast: Health of, in 1929, 153—Royal Victoria Hospital, 1133
Colles, Abraham, 863
Diphtheria immunization in County Wexford, 199
Dobbs, Arthur, memorial to, 910
Down County Mental Hospital, 373
DUBLIN:
British Medical Association: Annual meeting (1933), 763
[illegible] of inquiry
[illegible]
[illegible] county, 323
E [illegible] neral Index
E Society:
[illegible] of, 602
[illegible]
72
Health services: In Northern Ireland, 1038—
[illegible]
[illegible] of, 1133
Londonderry Infirmary, 603

Ireland (*continued*):
's report on, 954
State), 683
72
Public health in the Free State, 153, 862
Roscommon county, medical appointment in, 764
Royal Medical Benevolent Fund in Ireland, gift from Northern Ireland medical practitioners to, 764
Royal Medico-Psychological Association, 1133
St. Ultain's Hospital, 999
School inspection, medical, in Northern Ireland, 324
999—For the Irish Free State, 683
Associa-
Pregnancy
Africa, 28, 1034
ISAAC, Donald (E. W. M. Hubert PHILLIPS and James MACDONALD):—Four biliary anomalies: a plea for cholecyst-gastrostomy, 665 (O), 869
Ischaemia of muscle as a cause of anginal pain (Sir Thomas Lewis), 941—Note on, 1035. *See also* Muscle
Italian graduates on the *Medical Register*, 523
Italy: Reduction in hotel tariffs, 123—Anti- tours in, in low
the obstetrical problem of the contracted pelvis, 897
IYENGAR, Major K. R. K.: Report on the use of Sir David Semple's antirabic serum, 421

J.

JACCOUD, François Sigismond, centenary of the birth of, 251
JACQUELIN, Charles (and Félix RAMOND): *Radiologie de l'estomac et du duodénum*, second edition, rev., 355
JACKSON, C. M. (J. A. HARRIS, D. G. PATERSON, and R. E. SCAMMON): *The Measurement of Man*, rev., 102
Jackson, Hughlings (leading article), 901—Permanent memorial to, 908
JACKSON, Mark: Familial incidence of cancer, 375
JACKSON, R. E. (and W. S. BRINDLE): Serum anaphylaxis, 220
JACOB, F. H.: The haemorrhagic diathesis, 53
James *v.* Dunlop, 730
JAMES, E. M.: Comparative value of cod-liver
J.
J.
legs, 539
JAMIESON, W. W., appointed dean of the London School of Hygiene and Tropical Medicine, 1126
JAMIESON, R. Hillhouse (and F. HERNAMAN- x rays, 57 (O)
advances in the chemistry of vitamins, 1117
Japan, average duration of life in, 1055
JAQUES, H. M.: Femoral thrombosis in pneumonia, 1146
JAROTZKY, Alexander: *Diätetische Behandlung des runden Geschwürs des Magens und des*
595
3
utline,
JEFFCOATE, T. N. A.: Early diagnosis of pregnancy, 353—Dystocia and enlarged bladder, 753
JEFFERSON, Geoffrey: Surgery of the pituitary body, 668
Jejunal ulcers. *See* Ulcers
JELL
A
rev.,
JENKINS, C. E.: Hog's stomach in pernicious anaemia,
JENK
JENK W.
car
JESS
glans,

JEUDWINE, W. W.: Effect of prolonged injections of insulin on subcutaneous tissue, 1145
Joan of Arc, memorial to 780
JOHANNESSOHN, Fritz: *Chinin in der Allgemeinpraxis*, rev., 1074
JOHNSON, Lieut.-Col. Edward Reginald, obituary notice of, 1097
JOHNSON, R. S.: Treatment of pneumonia, 448—
Jc
culosis, 155
JOHNSTON, T. B. (and Lewis BEESLY): *A Manual of Surgical Anatomy*, third edition, rev., 314
JOHNSTON, Lieut.-Col. Thomas Reginald St., K.C.M.G. conferred on, 1054
JOHNSTONE, R. J.: Health services in Northern Ireland, 1088
JOLL, C. A.: Surgical treatment of gastric ulcer, 848
JOLTRAIN, Edouard: *Les Urticaires*, rev., 271
JONES, A. ROGYN: Operation for hallux valgus, 560
JONES, D. W. Carmalt (editor): *Proceedings of the University of Otago Medical School*, No. 8, rev., 1075
JONES, Hugh E.: Treatment of brain abscess, 1049
JONES, J. Arnold: Removal of tonsils and
Jc
Jc
JONES, Sir Robert: The domain of orthopaedic surgery, 295 (O)—Appreciation of Stanley Alwyn Smith, 426—Fractures of the neck of the femur, 781 (O), 1091—Dutch tribute to, 994
JONES, R. Watson: Manipulative reduction of crush fractures of the spine, 300 (O)
JONES, William Llewelyn, obituary notice of, 1096
JONES, W. Tudor: *Contemporary Thought of Germany*, vol. i, rev., 501
JORDAN, Alfred C.: The modern conception of early phthisis, 769
JOSLIN, E. P.: The diabetic child, 105
JOURDAN, Etienne, death of, 428
Journal de Médecine de Paris, jubilee issue and history of, 1055
the first
Congress
JOY, Norman H.: Natural healing of ulcers, 80
JOYCE, J. L.: The choice of an anaesthetic, 266
Jugoslavia: Quarterly review of medicine, pharmacy, and veterinary medicine to be published at Belgrade, 41
JUMON, H.: *L'asthme infantile*, rev., 358

K.

KAFKA, V.: *Die Zerebrospinalflüssigkeit*, rev., 356
KAPPERS, C. A., Honorary D.Sc.Dublin conferred on, 429—Honorary LL.D.Glasg. conferred on, 1142
KARE, Charles L.:—Backache in women: its significance and treatment, 348 (O)
KEANE, Hilda, Kaisar-i-Hind medal conferred on, 1004
KEATES, Lieut.-Col. H. C.: Treatment of per-
K
Problem of
int of View,
Dean, 776—
Antiquity of
Man, rev., 908
KEITH, W. Brooks: Examination of motorists charged with drunkenness, 956
KELLY, D. L.: Report of Enniscorthy Mental Hospital, 373
Keloid ovary (T. C. Clare), 527 (O)—Correspondence on, 645
KENNAWAY, E. L., appointed to the University Chair of Experimental Pathology at the Cancer Hospital (Free), 959
KENNEDY, Brigadier-General James Madison, death of, 202
KEOGH, P. J.: Papilloma of right vocal cord, 937
Keratitis punctata superficialis (E. R. Chambers), 50
Keratodermia blennorrhagica (D. E. Finlay), 979—Correspondence on, 1092
KERLEY, Peter: *Recent Advances in Radiology*, rev., 983
KERR, F. K.: The mental factor in disease, 29
KERR, J. M. Munro: Obstetrical education of the undergraduate, 32
KERRIDGE, A. R.: Etiology of disseminated sclerosis, 98
KERNAT, Richard: Neoplasm following war service, 1008
Ketosis in sea-sickness (J. R. Marrack), 178 (O)
KIDD, Frank: *Acute urethritis in mumps*, 816
KIDD, L.: Parsimony in health services, 512
Kidneys,
Kidneys:
of (C. H
Kidneys. *See also* Renal
KILNER, T. Pomfret:
in the treatment of
KILPATRICK, Flight nd
others): Observations on an outbreak of cerebro-spinal fever in the Royal Air Force in 1931, 1101 (O)
KINDERSLEY, Charles: Common duct forceps, 902
King Edward's Hospital Fund. *See* Fund
KING, E. S. J., awarded the Jacksonian prize of the Royal College of Surgeons of England, 689
problems in veterinary
KININMONTH, J. G.:—Puerperal coma: rapid recovery following inflation of breasts, 395 (O)
KINLOCH, J. Parlane: Report of Glasgow Royal Infirmary, 321—The West Govan Child Welfare Association, 421—Mental defect in Scotland, 996—The future training and organization of nursing, 997
KINNEAR, John: Wood's glass in the diagnosis of ringworm, 791 (O)
KINNELL, Gertrude: Mary Scharlieb memorial, 475
KIRK, J. Balfour: *Public Health Practice in the Tropics*, rev., 756—*Hints on Equipment and Health for Intending Residents in the Tropics*, second edition, rev., 756
KIRKPATRICK, T. Percy C.: Abraham Colles, 863
KIRSCHMANN, Kurt: *Das Röntgenverfahren*, rev., 852
KISCH, Harold:—Fractured base of skull: effects on hearing, 449
KITISATO, Baron Shibasaburo, death of, 1033—Obituary notice of, 1141—Note on, 1123
KLEINSCHMIDT, Otto: *The Formenkreis Theory and the Progress of the Organic World*, rev., 20
KLEMPERER, Felix (and Georg KLEMPERER): *Neue Deutsche Klinik*, vol. vi, rev., 145
Knee-jerk and its variation (N. D. Royle), 11 (O)
KOBER, George, death of, 1142
Kodak Limited: Catalogue of their medical film library, 678
KOHN, L. Winfield: *Practical Treatise on Diseases of the Digestive System*, vols. i and ii, rev., 587
KOLB, Lawrence: Treatment of psychoneuroses, 17
KOLLE, W. (and A. v. WASSERMANN): *Handbuch der pathogenen Mikroorganismen*, third edition, rev., 143
Kondoléon's operation, 955
KOVÁCS, Friedrich, death of, 688
KREHL, Ludolf: *Entstehung, Erkennung und Behandlung innerer Krankheiten*, vol. iv, *Die Erkennung innerer Krankheiten*, rev., 11
KRETSCHMER, Herman L.: Treatment of cancer of the bladder, 459
KUDO, Richard R.: *Handbook of Protozoology*, rev., 939
KÜSTNER, Otto, death of, 1142
KYLE, David: Glycerin as a surgical dressing, 75, 424

L.

Laboratories of the City of London Hospital. *See* Hospital
Laboratories, mental hospitals (parliamentary note), 380 *See also* Hospitals, mental
Laboratories, pharmacological, of the Pharmaceutical Society, 362
Laboratory, National Physical: Report, 1124
Laboratory, Pickett-Thomson Research, Annals of the, vol. vi. The Pathogenic Streptococci. the Role of the Streptococci in Scarlet Fever, rev., 938
on of, 480
ler the London County
Labour: Anaesthesia in, 497 (*see also* Anaesthesia)—Analgesia in childbirth, 524, 669—Gwathmey anaesthesia in (O'Donel Browne), 669—Induction of premature, indications for (H. J. Drew Smythe), 1018 (O)—And mitral stenosis with incompetence (Alec B. Walker and A. Cameron Ewing), 221—Natural, following Caesarean section, 33, 80, 294—Natural, painless, 206, 294, 610—Obstructed, with multiple osteochondromata (E. J. Blackaby), 704 (O)—(*Percy Stocks*), 766
Labour in India: Report of Royal Commission (parliamentary note) 960
Labour Office, International, issues brochures on solvents; tea and coffee, and tellurette hydrogen; tin; typefounders; ventilation; industrial hygiene, and workshops; and iodine, 876
Labrador, tuberculosis in, 80
Labyrinthine theory and sea-sickness. *See* Sea-sickness
LACEY, F. H.: Prophylaxis in midwifery, 35
LACK, Victor: The obstetrical problem of the contracted pelvis, 896
Lacquin: a quinine milk powder, 589
Lacrymal obstruction, intranasal dacryocystostomy for relief of (F. Holt Diggle), 301 (O), 524—A correction, 524

Lactation in accessory breasts (Arnold Hindhaugh), 446
Lactogen, 737
LADELL, R. Macdonald: Hystero-epilepsy? 252
LAEMMER, Marcel: *La Diathermie dans les Affections du Tube Digestif*, rev., 227
LAIT, J.: Unusual tumours, 401
LAKE, Lieut.-Col. L. A. Hodgkinson: Cinchona and quinine, 201
LAKE, Norman C.: Treatment of gastric and duodenal ulcer, 558
LAKIN, C. E.: Malignant disease of the large intestine, 142
LAMB, F. W.: *An Introduction to Human* [illegible]
[illegible] 928
LAMBERT, G. E. V. (and H. F. MEACOCK): *The Efficiency of Light Wells*, 106
LAMBIE, C. G.: The teaching of medicine in the University of Sydney, 1036
Lamp and rectal speculum, 103
Lanark, health services in: Proposed co-ordination, 369
Lanarkshire, medical referees in (parliamentary note), 650
LANDIS, H. R. M.: Diagnosis of latent tuberculosis, 64
Lane Lectures. *See* Lectures
LANE, John, presentation to, 959, 1052
LANE, T. J.: Perforation of jejunal ulcer, 541
[illegible]
LANGE, Johannes: *Crime as Destiny: a Study of Criminal Twins*, rev., 314
LANGRISHE, J. du P., elected a Fellow of the Royal Society of Edinburgh, 479
LANSBURY, John: Case of thallium poisoning, 320
Larbert, Royal Scottish National Institution for Mentally Defective Children: Annual meeting, 602
LAROCHE, Guy (Charles RICHET and François SAINT-GERONS): *Alimentary Anaphylaxis*, rev., 146
Laryngology, retrospect of (Sir Robert Woods), 270
Latin Medical Press Federation: Election of officers, 567
LAURIÉ, James, obituary notice of, 563
LAURIE, W. Spalding: Convulsions during surgical anaesthesia, 1032
LAVOISIER: The discovery of oxygen, 462
LAW, Horace: Intracranial complications of ear disease, 937
[illegible] notice of, 564
[illegible] drate diet in [illegible]E): Infections case, 749 (O)—[illegible]he value of insulin, 1077
LAWSON, Colonel G. L. Leathes, Territorial Decoration conferred on, 1004
LAWSON, James, obituary notice of, 249
LAYANI, Fernand. *Les Aerocyanoses*, 364
LAYTON, Thomas Bramley, awarded the John Hunter medal and triennial prize of the Royal College of Surgeons of England, 689—Eruptions of the external auditory meatus, 797

Leading Articles:
Bacillus Calmette-Guérin vaccination, the value of, 1080
Balneotherapy in rheumatism, 590
Blind, welfare of the, 1122
Blindness, International Association for the Prevention of, 459
Budget, the, 758
Cancer of the bladder, treatment of, 459
Cancer of the lung, 21
Cancer problem, aspects of the, 1123
Cod-liver oils and irradiated preparations, 853
[illegible]
[illegible]
District nursing in London, 590
Drugs, dangerous, traffic in, 190
Eastbourne programme, 991
Electrocardiogram, the, 407
Fracture practice, a primer of, 147
Government departments, technical officers in, 632
Haemolytic jaundice, 919
Health, the struggle for, 713
Hospital almoner, 715
[illegible]
[illegible]
[illegible] 1078
Iodine in relation to goitre, 361
Jackson, Hughlings, 904
League of Nations' international work for health, 62
Medical benefit amendment regulations, 22. *See also* Insurance
Medical education in Wales, 362
Medical officers of health, the position of, 229
Medical practice, international comparisons of, 854
Medical selection for life assurance, 189
[illegible]
[illegible]
Out-patients, 505

Leading Articles (*continued*):
Promise of youth, 1032
Post-encephalitis and its problems, 714
Proprietary Medicines Bill, 903
Puerperal sepsis, tracking the source of infection in, 806
Rheumatism centres, 675
School child, the primary, 317
[illegible]
[illegible]
Specialization in the medical curriculum, 674
Spinal reflexes, analysis of, 228
Surgery and diet, 1031
Tendon ruptures, 633
Thymus puzzle, 547
Tuberculosis, bovine, in man, 943
Tuberculosis of the ear: frontal sinusitis, 275
[illegible]
[illegible]

LEAGUE OF NATIONS:
Cerebro-spinal meningitis, number of cases of, 41
Drugs, dangerous, traffic in, 190, 549, 717, 905, 1125—International Conference on, 905, 1125
Enteric fever in 1929-30, report on, 808
Epidemiological report (monthly), 107, 205
Health, international work for (leading article), 62
Hygiene, rural, conference on, 123
Measles statistics, 107
[illegible] 'world manu-
[illegible] dangerous
[illegible]
Schools of hygiene, report on, 905
Snake-bite in India, 252
Tuberculosis mortality: Report by the Health Section, 1127
Whooping-cough statistics, 107

LEATHART, P. W.: The value of the removal of tonsils and adenoids in subacute rheumatic heart disease, 826
Leber's disease. *See* Optic atrophy
Lecène, Paul, Les Diagnostics Anatomo-Cliniques de, rev., 1073
Lecture, Cavendish: Development in relation to heredity (Julian Huxley), 1044
Lecture, Chadwick: Maternal mortality (Dame Louise McIlroy), 510—Nerves and the public
Le[illegible] o-
[illegible]y
nerve fibres and their interpretation (E. D. Adrian), 979
Le[illegible]les]: Diet and
Le[illegible]em of rejuvena-
Lecture, Jackson [Hughlings]: Quantitative management of contraction for "lowest level" co-ordination (Sir Charles Sherrington), 207 (O)
Lecture, Maudsley: Truth (Mr. Justice McCardie), full text of now obtainable, 525
Lecture, Morris [Malcolm] Memorial:—The outlook on tuberculosis: changing orientation (Sir Robert Philip), 43
Lecture, Paget [Stephen] Memorial: The effect of research on curative medicine (H. H. Dale), 1076
Lecture, Pedler [Alexander]: Science discipline (Sir David Prain), 79
Lecture, Purser [John Mallet], 910
Lecture St Cyres: Ischaemia of muscle as a cause of anginal pain (Sir Thomas Lewis), 941, 1035
Lecture, S[illegible]lium in the service o'
Lecture Memorial:
Specializ curriculum
(A. E. Barclay), 674
[illegible]
[illegible]
Lectures, Lane: *On Experimental Pharmacology and Medicine* (Rudolf Magnus), rev., 19
Lectures, Lettsomian:—The spleen: its structure, functions, and diseases (J. W. McNee), 413
[illegible] William
[illegible]ry (D. K.
[illegible] ammation at
[illegible] of Medicine,
[illegible]
[illegible]nosis and Treatment of Venereal Diseases, second edition, rev., 1118
LEES, Frank J.: A case of erythroedema, 844 (O)
LEESON, H. S.: *Anopheline Mosquito in Southern Rhodesia, 1926–29*, rev., 1121
Left hand. *See* Hand
LEGGE, Sir Thomas: Health of Scottish workers, 29
Leicester Public Medical Service: Report, 723
LEIGHTON, Gerald: Milk and the school child, 114

LEIPER, R. T.: Schistosome worms and schistosome monsters, 817
Leishmaniasis, review of book on, 405
LEITCH, Archibald: Death of, 193—Obituary notice of, 247
LEJARS Félix: *Clinical Examination and Surgical Diagnosis*, rev., 545
LE MÉE, Dr., appointed a Commander of the Legion of Honour, 567
LEMOINE, G., elected president of the professional association of French medical journalists, 523
LEMPRIERE, L. R.: Measles in a public school, 14 (O)
LENNOX, David, obituary notice of, 476
[illegible] 'the French
[illegible] (J. Playfair
[illegible]
LÉPINE, Pierre: Etiology of disseminated sclerosis, 943
Leprosy in the British Empire, 72
Leprosy: Campaign against, 680—International Conference in Manila, 680
Leprosy in Germany, 961
Leprosy in Manchuria (J. L. Maxwell), 79
Leprosy Review: Contents of the January issue, 79, 381
LESCHKE, Erich: *Stoffwechselkrankheiten*, rev. 940
Lettsomian Lectures. *See* Lectures
LÉRI, André, death of, 331
Leucoplakia, 1007
LEVI, David: Minor surgery in infancy, 973 (O)
LEVICK, C. Blaxland: The electrocardiogram, 473
LEVINE, Max (and H. W. SCHONFELDEIN): *A Compilation of Culture Media for the Cultivation of Micro-organisms*, rev., 186
LEVITT, Walter M.: *Deep X-ray Therapy in Malignant Disease*, rev., 224—Aspects of radium therapy, 403
LÉVY, Joanne: *Essais et Images Biologiques*
[illegible]
[illegible]
LEWIS, E. O., appointed a Commissioner of the Board of Control, 282
LEWIS, J.: Unusual renal tumour, 402
LEWIS, Richard, obituary notice of, 293
LEWIS, Sir Thomas: St. Cyres Lecture on ischaemia of muscle as a cause of anginal pain, 941, 1035
Leyden, post-graduate courses at, 733
LEYS, D. G.: Rickets and oral sepsis, 232
LEYTON, O.: High carbohydrate diet in
[illegible] *See also* Film
LICHTENBERG, A. von: Excretion urography, 625
Liddle prize. *See* Prize
LIEN-TEH, Wu (editor): *Publications of the National Quarantine Service, Republic of China*, series i, 809
Life assurance: Medical selection for (leading article), 189—And blood pressure, 726, 766, 816—Review of book on, 1028
Life, review of books on, 358, 404, 455, 630
Light, artificial. *See also* Actinotherapy; Sunlight; Ultra-violet, etc.
Light wells, efficiency of, 106. *See also* Wells
Lighting, industrial (D. R. Wilson), 709
LIGNIÈRES, Professor: The B.C.G. controversy, 861
LINDSAY, James Alexander:—*Among the Thinkers: Leaves from My Note-Books*, rev. 1121
[illegible] 3, 555
[illegible]ial perception in
[illegible]
[illegible] notice of, 564
[illegible] Mrs. Fred Wood),
652
Linseed for constipation, 206
Lipiodol injection followed by acute massive collapse of lung (A. J. Scott Pinchin and H. V. Morlock), 930 (O)—Correspondence on, 1047
LIPKIN, I. J. (and I. HARRIS): Cardiac output and oxygen utilization in heart disease, 353, 480
Lipoid nephrosis (Squadron Leader E. A. Lumley), 494 (O)
[illegible]
[illegible]
[illegible] xtreme
[illegible] of the
retina, 647
Lister Institute of Preventive Medicine: Retirement of and presentation to Sir Charles Martin and Professor Arthur Harden, 115—Annual meeting, 1129—Annual report, 1129
Literature, prescription of (Gerald B. Webb), 150
[illegible]
[illegible]
[illegible] *Parsons*),
1023
Liver, acute yellow atrophy of, 277
Liver, "necrosis" of, 277
Liver therapy in asthma, 686
Liver in treatment, the value of (Janet Vaughan), 584—Discussion, 585
Liver treatment of disseminated sclerosis (Alexander Goodall and James K. Slater), 789 (O)
Liverpool: Administrative developments of, history of, 41—Post-graduate course, 691
Liverpool Medical Institution. *See* Institution

LIVESEY, G. H.: The transmission of scabies
college
orial tablet to, 1055
obituary notice of, 427
LOBO-ONELL, C. (and H. CHABANIER): *Exploration Fonctionnelle des Reins*, rev., 545
LLOYD, F. E. (and G. W. SCARTH):—*An Elementary Course in General Physiology*: Part I, Principle and Theory; Part II, Laboratory Exercises, rev., 1075
LLOYD, W. E.: *Tuberculosis Mortality in Children*, 1081
LLOYD-WILLIAMS, I. H.: Bursitis at the elbow, 58
Lobule. *See* Ear

LONDON:
Association of the Medical Women's Federation. *See* Association
Clinic and Nursing Home, 287, 321, 376, 425
Hospital services: Report, 418—Reception of representatives of London hospitals at the Wellcome Museum, 599—The future of voluntaryism, 599. *See also* Hospitals, London County Council
Housing estates, facilities for medical practice on, 71
Medical and dental treatment of school children, 71
Mental deficiency in, 911
Midwives in, standard attained by, 855
Parking places in, 830
Passenger Transport Bill, 565
Public cleansing in (parliamentary notes), 204, 291
Refuse, disposal of (parliamentary notes), 204, 231, 566
School of Hygiene and Tropical Medicine. *See* Hygiene
School of Medicine for Women. *See* Hospital, Royal Free
Small-pox in (parliamentary notes), 40, 244
Teachers Association. *See* Association
Venereal disease in, incidence of, 815
Voluntary hospitals of. *See* Hospitals

London Inter-Collegiate Scholarships Board, 821
—Medical scholarships, 821
Lond
LONG
LONI
LORA
pro
du
Lord Chesterfield. *See* Chesterfield
LORD, J. R.: Mental disorder and pernicious anaemia, 980
I
ision for appendic-
Surgery, second

LOW, G. Carmichael (and N. Hamilton FAIRLEY): Laboratory and hospital infections with yellow fever in England, 125 (O)—Treatment
Lo
and the clinician,

Löwenberg forceps. *See* Forceps
"Lowest-level" co-ordination. *See* Co-ordination
LOWRY, Eleanor:
Lübeck tragedy:
334—A general re
Calmette-Guérin
LUCAS, C. E. L.
First Lines in Dispen
LUCE, Sir Richa
the Association, 193
LUDFORD, R. J.: Nerves and cancer, 68—Nuclear origin of malignancy, 68—Familial incidence

LUM, M. Y.: A twin monster, 480
LUMLEY, Squadron Leader E. A.: Case of lipoid nephrosis, 494 (O)
Lung, acute massive collapse of, following lipiodol injection (A. J. Scott Pinchin and H. V. Morlock), 930 (O)—Correspondence on, 1047
Lung diseases, review of book on, 1073
Lung, malignant disease of the (A. Tudor Edwards), 129 (O)—Correspondence on, 283, 327, 373
Lung, sarcoma of (Howard E. Collier), 666
Lupus vulgaris treated by plastic surgery, (T. Pomfret Kilner), 403
LYLE, H.
Manual o
Lymphader
chylous a
Erew)
71
403
THOMAS, Sir John, diploma of the Society of Apothecaries (*honoris causa*) conferred on, 232
LYON, Gaston: *Les Thérapeutiques Nouvelles*, rev., 188
LYSTER, R. A.: Appreciation of Albert Henry Bygott, 427
LYTLE, W. J.: Injection treatment of haemorrhoids, pruritus ani, and fissure, 493

M.

MACALISTER, Charles: Appreciation of Thomas Robinson Glynn, 917
MCALISTER, William Malcolm, appointed medical superintendent of the Bangour Asylum, 554
M'ALISTER, W. M.: Modern methods of treatment in dental disease, 997
M
he ureter, 669
nary of Dental
405
MCBRIDE, Earl D.: *Crippled Children*, rev., 1074
MACCALLAN, A. F.: European women and children in the Tropics, 269—Operation for cataract, 1045
MACCALLUM, W. G.: *William Stewart Halstead, Surgeon*, 1082
MCJANCE, R. A. (and R. D LAWRENCE):—Infections and insulin action: an unusual case, 749 (O)
MCCANN, F. J.: Treatment of eczema, 184—Treatment of nervous exhaustion, 754
MCCARDIE, Mr. Justice: Full text of his Maudsley Lecture on "Truth" now available, 523
MCCARRISON, Colonel Robert: Some surgical aspects of faulty nutrition, 966 (O)—The causation of stone in India, 1009 (O)—Diet and disease in tropical races, 1130
MCCARTHY, H. J.: Dislocation of tonsil, 780
MACCARTHY, T.: Ovarian pregnancy, 1070
MCCARTHY, W. H. L., appointed deputy coroner for the western district of London, 251
MCCARTNEY, J. E. (and T. J. MACKIE): *An Introduction to Practical Bacteriology*, third edition, rev., 712
MCCLURE, Campbell: Treatment of glandular deficiency, 401—Treatment of nervous exhaustion, 754
MCCOLLUM, E. V.: Recent advances in chemistry of vitamins, 1117
MACCONKEY, Alfred T.: Death of, 947—Obituary notice of, 1051
MCCONNELL, A. A.: Intracranial complications of ear disease, 937
MACCORMAC, Henry: Treatment of eczema, 184
MCCOY, Lieut.-Col. John William, O.B.E. conferred on, 70
MCCREA, H. Moreland: London Clinic and Nursing Home, 287
MCCRIE, J. G.: Concentrated antipneumococcal serum in the treatment of lobar pneumonia, 817
M
less labour, 610
problems in

MACDERMOTT, E. M.: Treatment of sciatica, 432
MACDERMOTT, E. N.: Appendiceo-caecal intussusception, 793 (O)
MACDONALD, James (E. W. M. PHILLIPS and Donald ISAAC):—F
a plea for cholecyst-
MACDONALD, S. G.:
ut-line, 183
M'DONALD, T. P. (and George DAVIE): *Handbook of Widows', Orphans', and Old Age Contributory Pensions*, rev., 902
MCDOUGALL, J. B.: Elected a Fellow of the Royal Society of Edinburgh, 479—Annual report of the British Legion Village at Preston Hall, 682
MACDOWALL, Margaret: *Simple Beginnings in the Training of Mentally Defective Children*, third (memorial), edition, rev., 501
MCDOWALL, R. J. S.: Appreciation of William Dobinson Halliburton, 957
MCEACHERN, J. D.: Closed drainage in the
M
684—Pituitrin

the operating theatre,
M'GONIGLE, G. C. M.: Rickets and oral sepsis, 232
MCGRATH, J.: Tumour of neck, 402
MACGREGOR, A. S. M.: Public health and the school, 237—Maternity services, 997
MCILROY, Dame A. Louise:—Mary Scharlieb memorial, 475—Chadwick Lecture on maternal mortality, 510—Education in obstetrics and gynaecology: system of teaching in the Royal Free Hospital Unit, 679—Hon. D.Sc. Belfast conferred on, 873
MCINDOE, A. H.: Treatment of gastric and duodenal ulcer, 558
MACINNES, Right Rev. Rennie: A hospital
of, 636
ool child,
114
MACKAY, J. B.: Eclampsia with unusual symptoms, 119
MACKENZIE, Colin: Enteric intussusception, 200
MACKENZIE, Colonel: The Red Cross Society, 422
MCKENZIE, Dan:—Fractured base of skull: effects on hearing, 449
M
M
M
of drug addiction, 496
MACKIE, T. J. (and J. E. MCCARTNEY): *An Introduction to Practical Bacteriology*, third edition, rev., 712
MCKINLAY, Peter L.: Milk and the school child, 114
MACKINTOSH, Ashley W., K.C.V.O. conferred on, 25, 70
MCKITTRICK, Leland S. (and Howard F. ROOT): *Diabetic Surgery*, rev., 755
MACLEAN, Sir Ewen: The obstetrical problem of the contracted pelvis, 896—Some ante natal problems, 1057 (O)
MACLENNAN, Alex.: The incision for appendicectomy, 424
MACLEOD, Major Douglas Noel, obituary notice of, 1053
MCLEOD, J. M. H.: Transmission of scabies and ringworm, 352
MCMANUS, H. C.: Security of tenure in public posts, 604
MACMILLAN, Lord: The future of voluntary hospitals, 599
MCMILLAN, Margaret: Death of, 594—Biography of, request for material for, 727
MCMURRAY, T. P.: Fractures of the long bones. 816, 912
nardo da Vinci.
Future of the
R.A.M.C., 330
MCNEE, J. W.:—Lettsomian Lectures on the spleen: its structure, functions, and diseases, 413
MCNEIL, Charles: Digestive disorders in breast-fed infants, 451
MACPHAIL, J. M.: The outlook on tuberculosis, 239
MACPHAIL, R. M.: A large occipital meningocele, 179
MCPHEDRAN, F. Maurice: Diagnosis of latent tuberculosis, 64—Some aspects of prevention
M
Honorary

MACPHERSON, R. C.: A modification of Mayo's needle holder, 902
MCRAE, Douglas: Report of Glengall Hospital, Ayr, 325—The certified patient's old age pension, 325—The psychiatric out-patient clinic, 453—Mental disorder and pernicious anaemia, 980
MACRAE, Lieut.-Col. Ian McPherson, C.I.E. conferred on, 70
MACRAE, Olive: *Coeliac disease*, 758
MCRAE, V.: Mental hygiene, 420
MCROBERT, George R.: Blood pressure and life assurance, 726
MCSHINE, Arthur Hutton, O.B.E. conferred on, 71
MCVICKER, Captain Hugh, obituary notice of, 429
MACWATT, Major-General Sir Charles: Quinine therapy in malaria, 23—Quinine production in India, 594
MADILL, D. G.: Puerperal sepsis, 99
Madras hospitals, progress of, 235
Madrid, death rate in, 335
MAGEE, Crozier, obituary notice of, 428
MAGILL, I. W.: The choice of an anaesthetic, 265
MAGNUS, Rudolf: *Lane Lectures on Experi-*
M
M
32
factors causing
tuberculosis in
MAKINS, Sir George: Appreciation of Walter Tyrrell, 826
Malaria as a cause of infantile mortality (J. S. Nerurker), 236
Malaria: Quinine therapy in, 23—In England, 42
Malaria, review of book on, 900
Malariology, lectures on, 828
Malay States, Federated, number of hospitals maintained by estates in, 123
Malaya, typhus research in, 505
Malignancy, nuclear origin of (R. J. Ludford), 68
Malignant disease of the [large] intestine (Gordon Taylor), 141
Malignant disease of the lung (A. Tudor Edwards), 129 (O)—Correspondence on, 283, 327, 373
Malignant disease of the lung, *x*-ray therapy in, 283, 327. *See also X*-ray
Malignant disease. *See also* Cancer; Tumour, etc.
Malignant growths treated with extracts of parathyroid glands, 819
MALPAS, P.: Large cervical fibroid, 17
Malnutrition with ammoniacal urine, 951
Malpraxis, actions for (in France), 661
Mammary abscess. *See* Abscess of breast
on, 903

Man, the Peking (G. Elliot Smith), 151, 282, 551, 652. *See also* Peking *and* Skull
Manchester: Post-graduate courses, 335—Cancer research in, report of committee, 765
Manchuria, leprosy in (J. L. Maxwell), 79
Manila, International Conference against Leprosy in, 680
Manipulative reduction of fractures. *See* Fractures of spine
MANN, EGERTON AND CO., Ltd.: Chromium plating, 829
MANN, S. A. (and F. PARTNER): *Wassermann Reaction in Mental Hospital Practice*, 1124
MANNING, Leah: Health and cleanliness, 601
MANSBRIDGE, Albert: Biography of Margaret McMillan, request for material for, 727
Manson House, opening of, 1126
MANSON, J. S.: Genetic relationship between cretinism and hypothyroidism, 514—Cave-dwellers of Derbyshire, 1100
Manson, Sir Patrick, the life and work of (Philip Manson-Bahr), 282
MANSON BAHR, Philip: Quinine therapy in malaria, 23—The dawn of tropical medicine, 282—Treatment of intestinal amoebiasis, 846
Map of seventeenth-century England, 280
MAPOTHER, Edward: Mental symptoms associated with brain tumours, 311—Prevention and treatment of drug addiction, 495
MARAIS, David P. (and C. C. ELLIOTT): Case of pituitary tumour, 297 (O)
Marie's ataxia. *See* Ataxia
MARNOCH, John: Traumatic aneurysm of the plantar artery, 224
MARR, D. M.: Medicinal treatment of chronic arthritis, 562
MARR, Hamilton: Mental disorder and pernicious anaemia, 981
MARRACK, J. R.: Etiology of disseminated sclerosis, 98—Ketosis in sea-sickness, 178 (O)
Marriage, preparation for, 687
Marriage (Prohibited Degrees of Relationship) Bill, 821
MARRIS, W. A.: The post-influenzal cough, 769
MARSH, Charles J.: Combined tuberculosis and orthopaedic clinics, 243
MARSH, F. Douglas: Post-influenzal cough, 818
MARSHALL, A. Milnes and C. Herbert HURST): *A Junior Course of Practical Zoology*, eleventh edition, rev., 545
MARSHALL, C. Jennings: Subphrenic abscess, 241
MARSHALL, Charles Robertshaw, Hon. LL.D. Aberdeen conferred on, 643
MARSHALL, Geoffrey: Management of pregnancy,
MARSHALL, J. Cole: Detached retina, 912
MARSHALL, John D.: obituary notice of, 290
MARSHALL, R. M.: The ascertainment of mental defect, 995
MARTIN, Sir Charles, presentation to, 115
MARTIN, J. P.: Case of glossopharyngeal neuralgia, 533 (O)
MARTIN, J. Purdon: Chronic subdural haematoma, 97
MARTINDALE, Louisa, C.B.E. conferred on, 25, 70
MARTLAND, H. S.: Cardio-vascular syphilis, 106
MARTYN, Henry L., honour of knighthood conferred on, 810
Marylebone Infant Welfare Centre, twenty-fifth anniversary of, 807
Mask, face, for midwifery work, a simple, 359
MASON, Frank: Chromium plating, 1100
book on, 1075
Mortality
elfare (parliamentary note), 204—In Africa, 1143
Maternity and Child Welfare Association, West Govan: Annual meeting, 421
Maternity and Child Welfare Bill, 203
Maternity homes: Staffing of, 66—In Birmingham, 66
Maternity Service, National (parliamentary note), 39
Maternity services (A. S. M. Macgregor), 937
Maternity work in Hong Kong (Annie Sydenham), 640
MATHEWS, Albert P.: *Physiological Chemistry*, fifth edition, rev., 500
MATTERS, R. Francis: Torsion of ovarian cyst with bradycardia, 1022 (O)
MATTHEW, A. W.: The choice of an anaesthetic, 266
MATTHEWS, E. W.: Metal water-taps and fittings, 878
MAUNSELL, Colonel Charles Albert, obituary notice of, 827
MAUZ, Friedrich: *Die Prognostik der Endogenen Psychosen*, rev., 188
MAXWELL, James: Bronchial carcinoma, 21—X-ray therapy in malignant disease of the lung, 327
MAXWELL, J. L.: Leprosy in Manchuria, 79
MAY, Geoffrey: *Social Control of Sex Expression*, rev., 1075
MAYENDORF, Niessl von, elected a corresponding member of the Société de Neurologie of Paris, 951
MAYNE, F. E. (and Laurence O'Shaughnessy): Cutaneous horn on an amputation stump, 624
Mayo's needle holder. *See* Needle
MEACOCK, H. F. (and G. E. V. LAMBERT): *The Efficiency of Light Wells*, rev., 106
M
M
Measles: Amidopyrin in, 33, 734—Convalescent serum in prophylaxis of (D. N. Nabarro and A. G. Signy), 12 (O)—Incubation period of, 73, 157, 734—In a man of 71 (O. Westcott Frewin), 58—In a public school (L. R. Lempriere), 14 (O)—Statistics, 107
Measurement, review of book on, 102
Meatus, auditory, external, eruptions of the (H. W. Barber), 796
Meckel's diverticulum as a cause of acute intestinal obstruction (W. D. Jenkins), 795
Meckel's diverticulum as the cause of acute symptoms (A. Harvard Baker), 262 (O)
Meckel's diverticulum as a cause of strangulation of intestine (J. Alfred Gaynor), 351. *See also* Diverticulum
Medical advice for ships by wireless, German coastal station established for, 1099
Medical Annual, rev., 982
Medical Benefit Amendment Regulations (leading article), 22. *See also* Insurance, National Health
Medical charities, 32, 119
Medical Council, All-India (parliamentary note), 380
Medical curriculum, specialization in (leading article), 674
Medical curriculum, Swedish, 116
Medical degrees for dentists (France), 862
Medical and Dental Students Register, 1931, rev., 456
Medical education, methods and problems of, Rockefeller Foundation's eighteenth account of, 67
Medical education, the sound film in, 999. *See also* Film
Medical education in Wales (leading article), 362
Medical examination of immigrants to Canada, 1040. *See also* Canada
Medical golf. *See* Golf
Medical History, Annals of (edited by Francis R. Packard), new series, vol. ii, No. 6, rev., 102; vol. iii, No. 1, rev., 501; vol. iii, No. 2, rev., 672; vol. iii, No. 3, rev., 1121
Medical history, new Institute of, at Berlin, 365
sis
of books on, 499,
ic medicine *and* Toxicology
Medical Lord Chesterfield, 635
Medical officer of health for County Dublin, 323
Medical officers, district, remuneration of, 31
Medical officers on the Gold Coast (parliamentary note), 477
Medical officers of health, the position of (leading article), 229
Medical officers in the services, shortage of: committee of investigation appointed, 1052. *See also* Navy, Army, Air Force
Medical practice in China, difficulties of, 677
Medical practice on housing estates, facilities for, 71
Medical practice, international comparisons of (leading article), 854
Medical practice, the trend of (Somerville Hastings), 470
Medical practitioners in the United States connected with hospitals, numbers of, 691
Medical Press, Latin, Federation of: Election of officers, 567
Medical problems of climate and air travel, 947. *See also* Air
Medical reciprocity with France, 36, 377, 475
Medical referees: Workmen's Compensation Act (parliamentary note), 1098
Medical Register, 1931, rev., 456—Number of Italian graduates on, 523
Medical Registration Council (Irish Free State), 862
Med
Med
Med
Med
article), 189. *See also* Life
Medical societies. *See* Society
Medical staff of London county hospitals, 416. *See also* County *and* Hospitals
Medical statistics. *See* Statistics
Medical and surgical preparations and appliances. See Preparations
Medical tours, foreign, 293, 380, 733, 961
Medical treatment of School children. *See* School
of, 335
tion, 864
Medicinal treatment of arthritis. *See* Arthritis
Medicine bottles, a wrapping for, 1056
Medicine, curative, effect of research on (H. H. Dale), 1076
Medicine, forensic, review of book on, 499, 670. *See also* Medical jurisprudence *and* Toxicology
of books on, 757, 984.
veterinary medicine, quarterly review of, to be published in Belgrade, 41
Medicine, progress of, and medical societies (Raymond Crawford), 1036. *See also* Societies, medical
lest
Medicine and science, 828
Medicine as a science and an art (Sir John Rose Bradford), 845
Medicine and statecraft (leading article), 407

MEDICO-LEGAL:
Allegation of with-
drawn (Moc
Alleged frat by
medical adviser (Oliver v. Snowden), 915
Conviction for falsely pretending to be a medical man (D. Tindall), 1053
Deafness, extreme, a disability for motor drivers, 478
Ether-oxygen anaesthetic fatality, 915
First aid in street accidents, 292—L.C.C. reply to a jury rider, 292
Injury to patient in nursing home: Allegations of negligence (Collins v. Froggatt), 203
"Nature cure" practitioner and woman's death (Mrs. P. G. Pickett), 518
Pack left in abdomen after operation (James v. Dunlop): appeal against verdict of "negligence," 730
Surgical instruments, markings of, prosecution under the Merchandise Marks Acts (Van Lier Brothers), 122

MEEK, Alexander: *The Progress of Life*, rev., 358
MEGAW, Major-General J. W. D.: Method of testing quinine solutions at dispensaries, 235—Hon. D.Sc. Belfast conferred on, 873
MEHTA, Chamanlal M.: Natural labour after Caesarean section, 294
Meinicke clarification reaction (David Prentice), 136 (O)—Correspondence on, 242. *See also* Syphilis
Melaena neonatorum (J. Noël Banks), 396
MELDON, G.: Analgesia in labour, 669
MELDRUM, A. N.: *The Eighteenth Century Revolution in Science: The First Phase*, 462—The discovery of oxygen, 462
MELLANBY, Edward: Vitamins and subacute
M
MELLOR, J. W.: *A Comprehensive Treatise on Inorganic and Theoretical Chemistry*, vol. x, rev., 20
MELVILLE, Colonel C. W. E., appointed honorary physician to the King, 728
Members of the Royal College of Surgeons. *See* College
Men, early, and apes (G. Elliot Smith), 908
MENDELSOHN, Professor, death of, 827
MENDENHALL, Walter L.: *Tobacco*, rev., 406
f cases in
the Royal
(W. R. Bett), 494
Meningocele, occipital, large (R. M. Macphail), 179
MENNELL, James: *Backache*, rev., 754
Mental abnormality, unusual, 513, 561, 610
Mental After-Care Association: Annual meeting, 593—Election of chairman of council, 593
Mental defect: Notification of in Scotland, 281—In Scotland, conference on, 996—Numbers of juvenile defectives in Scotland (parliamentary note), 1038
Mental defectives, numbers of (parliamentary note), 560
Mental defectives, sterilization of, 432—Parliamentary note, 40. *See also* Sterilization
Mental deficiency, causation of, 74
Mental deficiency in London, 911
Mental deficiency, review of books on, 59, 271
Mental deficiency in Scotland, 602
Mental deficiency statistics (parliamentary note), 875
Mental disease, cerebral cortical structure and (R. J. A. Berry), 837 (O)
Mental disease, research in (parliamentary note), 244
Mental disease, scholarship in, 79
Mental disorder and pernicious anaemia
: Annual report, 321—Biennial conference, 1030—The human
Men
Men
477
Mental patients, voluntary (Mary Barkas), 981
Mental symptoms associated with brain tumours (Gordon Holmes), 310—Discussion, 311
Mental Treatment Act, Maudsley Hospital and, 113
Mental Treatment Act (1930), 36, 519, 565—Rules under, 565
Mental Welfare, Central Association for: Proceedings of London conference now published, 567
MENTON, J. (and A. D. FRAZER): Gonococcal stomatitis, 1020 (O)
MENZIES, W. F.: Mental disorder and pernicious anaemia, 980
MERCER, Walter: Phrenic evulsion forceps, 940
Merchandise Marks Act, prosecution under, 122
Merchant seamen. *See* Seamen
Merchant Shipping (Safety and Load Line) Bill, 1053

MERCK, E.: *Annual Report*, Part II (1930), rev., 61—Part III, rev., 359

Holmes and Mr.

Metal taps. *See* Taps
Methylated spirits regulations: Explanatory memorandum, 152
Meuse Valley. *See* Belgium
MEYERSTEIN, Alb. (and J. v. LUKÁCS): *Säuglings-Ernährungs-Tafel*, rev., 712
Microcephaly, 1003, 1045
Micrococcus catarrhalis meningitis. *See* Meningitis
Micro-organisms, review of books on, 143, 186
MIDDLETON, E. L.: Report on the International Conference on Silicosis, 548
Midwifery centre opened at Deptford, 691, 815
Midwifery, routine anaesthesia in, 364, 474. *See also* Anaesthesia
Midwifery, antiseptics used in, efficiency of (Lawrence P. Garrod), 572 (O)
Midwifery, prophylaxis in, 36, 118, 294
Midwifery work, face mask for, 259
Midwives Bill (Irish Free State), 862
Midwives Board. *See* Board
Midwives in London, the standard attained by, 855
Migration and health, 36, 830. *See also* Australia
MILES, W. Ernest: Appreciation of Archibald Leitch, 248
MILIAN, G.: *Technique Thérapeutique Médicale*, rev., 20
Military hospitals. *See* Hospitals
Milk-borne streptococcus epidemics (W. G. Savage), 591
Milk, clean, legislation for in the Irish Free State, 633, 954
Milk, dried and imported (parliamentary note), 916
Milk, free, for children (parliamentary note), 822
Milk, nutritional value of, 1048, 1137
Milk powder, quinine (Jacquin), 589
Milk products, bacterial standard for (parliamentary note), 244
Milk purification (parliamentary note), 430
Milk, sale of (parliamentary notes), 772, 916
Milk and the school child: Report on researches in Scotland, 111—In Edinburgh, 238
Milk for schools (parliamentary note), 874
Milk, skimmed and sweetened condensed, imports of (parliamentary note), 960, 1143
Milk, sour, 779, 877
Milk supply (parliamentary note), 333, 522
Milk and tuberculosis, 602, 916—And bovine tuberculosis, 916
Milk, unclean, peril of (Joseph Bigger), 72
Milk used by different families in New York, statistics of, 609
MILLER, Emanuel: *Modern Psychotherapy*, rev., 313
MILLER, Ralph Smith, obituary notice of, 476
MILLER, S.: Vaccine therapy, 355
MILLIGAN, E. T. C.: Injection treatment of piles, 897—(And George SIMON): Routine radiograms for investigation of intestinal obstruction, 1114 (O)
Milman Street Hospital. *See* Hospital
MILLS, H. H.: Malignant disease of the large intestine, 142
MILLS, Katherine C.: Etiology of the common cold, 149
MILNE, James A.: Thallium and its risks, 473
MILTON, W. T.: Self-retaining gag and tongue tractor, 203
Miners, coal: Diabetes in, 42—And silicosis (J. S. Haldane), 154—And occupational diseases (E. L. Collis), 953
Miners' nystagmus. *See* Nystagmus
Miners' phthisis. *See* Silicosis
Miners' Welfare Fund (parliamentary note), 333, 380, 727, 1142
Mines, coal, report on absenteeism in (H. M. Vernon, T. Bedford and C. G. Warner), 1026
MINNITT, R. J.: Anaesthesia in childbirth, 497—

ize for his work on
rnicious anaemia, 431
Miscarriage of one twin, 479, 524. *See also* Twin
MISSIROLI, A.: The antimalarial campaign in Italy, 273
MITCHELL, C. Ainsworth:—*Recent Advances in Analytical Chemistry*. Vol. i: *Organic Chemistry*, rev., 757—Editor: *Allen's Commercial Organic Analysis*, vol. viii, fifth edition, rev., 940
MITCHELL, William: Closed drainage in the treatment of empyema, 516
MITCHINER, Philip H. (and W. H. C. ROMANIS): *The Science and Practice of Surgery*, third edition, rev., 20—The intravenous use of

Mitral stenosis with incompetence, and labour (Alec B. Walker and A. Cameron Ewing), 221.

ie bei organischen

aidwifery, 118
Green-Armytage),

MOLLARET, P.: Etiology of disseminated sclerosis, 243
MONAKOW, Constantin von, death of, 331
MONDOR, H.: *Diagnostics Urgents: Abdomen*, rev., 186
MONIER-WILLIAMS, G. W.: Report on the fumigation of foodstuffs with hydrogen cyanide, 65
MONKHOUSE, Parry: Malignant disease of the large intestine, 142
MONOD, Gustave: Treatment of enuresis, 117—Notes from France, 861
Monster, a twin, 480
MOODIE, William: The psychological factor in delinquency, 234
MOORE, H. F.: Oedema and nephrosis, 586
MOORE, R. Foster: Non-luetic Argyll Robertson pupils, 817
Moore and wife *v.* Ligat, 956
MOORHEAD, T. G.: Treatment of psychoneuroses, 17—Unilateral exophthalmos following administration of thyroid extract, 442 (O)—Voluntary hospitals and the sick poor, 512—Oedema and nephrosis, 586—Milk and tuberculosis, 602
MORGAN, C. I. N.: Injection treatment of piles, 897
MORGAN, C. Lloyd: *The Animal Mind*, rev., 226
MORGAN, George: Foreign body in the neck, 158
Morison Lectures. *See* Lectures
MORISON, Lieut.-Colonel J.: Report on the treatment of rabies with Sir David Semp'e's antirabic serum at the King Edward VII Memorial Pasteur Institute, Shillong, 420
MORLAND, Andrew: Infarction of heart with pericardial effusion in a phthisical subject, 954
MORLEY, Arthur S.: Rectal speculum and lamp, 103—Injection treatment of piles, 898
MORLEY, John: Treatment of toxic goitre, 450—Surgical treatment of gastric ulcer, 848
MORLOCK, H. V.: The modern conception of early phthisis, 702 (O)—(And A. J. Scott PINCHIN): Acute massive collapse of lung following lipiodol injection, 930 (O)
MORO, E.: The thymus puzzle, 547
Morphine for analysis of opium, contaminations in (J. N. Rakshit), 849
MORRIN, F. J.: Spontaneous perforation of jejunal ulcers, 541—Spinocain anaesthesia, 541
MORRIS, D. V.: Analgesia in labour, 669
MORRIS, J. E.: A map of seventeenth-century England, 280
MORRIS, Noah: Coeliac disease, 758
MORRIS, Warren: Fatal case of poisoning by phenyl-cinchoninic acid 221
MORRIS-JONES, A.: The obstetrical problem of the contracted pelvis, 836
MORRISON, John T. (and Miriam ROSKIN): Fracture of the skull in childhood, 212 (O)—Empyema thoracis, 683
MORSON, Clifford: The radiological renal outline, 183
Mortality, infantile: In the Central Provinces, India, 421—In England and Wales (parliamentary note), 566—In the metropolitan boroughs (parliamentary note), 916 - In Scotland (parliamentary note), 650, 960
Mortality, infantile, malaria as a cause of (J. S. Nerurker), 236
Mortality, maternal (parliamentary note), 429, 522, 608—(Dame Louise McIlroy), 510—In India, 608 - Investigations at the Queen Charlotte's Hospital Research Laboratories, 631—Report of Departmental Committee of the London County Council, 809—Prevention of (James Young), 997—A disclaimer, 1048
MOSINGER, Michel (and René GRIMAUD): *La Sédimentation Globulaire: Son Application à l'Hydrologie*, rev., 589
Mosquitos, review of book on, 712, 1121
Mothercraft, review of book on, 272
Motor ambulance service. *See* Ambulance
Motor Boat Manual, rev., 589
Motor Car Parts and Technical Terms, Illustrated Encyclopaedia of, rev., 1075
Motor cars of

Motor cars,
Motor drive:

478—Drunken, medical examination of, 760, 956, 1003 (*see also* Drunkenness)—Routes for, 780—" B.P. Plus " petrol, 780
Motor Electrical Manual, rev., 902
Motor regulations, the new, 151
Motorists and alcohol (parliamentary note), 959
Motorists, sight tests for, 1100—Automobile Association to appeal against a recent decision re, 1100
Motorists: Routes for, 780—First-aid outfits for, 830—Parking places in London, 830
MOULDEN, G. A.: Varicose ulceration, 124
MOULLIN, C. W. Mansell: Appreciation of Arthur Perigal, 563

MOWBRAY, J.: Oedema and nephrosis, 586
MUDIE, Elizabeth C.: Coal, smoke, and cancer, 863
MUIR, J. B. G.: Report of the Kailan Mining Company's Chinese Hospital, 192—(And S. C. CHIA): Perforated typhoid ulcer, 976 (O)
MUIR, John: *Diverticulitis of the colon*, 646
MUIR, Professor: Appreciation of James Lorrain Smith, 775
MUIR, Richard, obituary notice of, 331
MUIR, Robert, presentation to, 152, 197
MUIR, William, collection for the family of, 1088
MULDER, Denis: *Het Kruis der Leprozen*, rev., 456
Mumps, acute urethritis in (Arthur Spence), 751 — Correspondence on, 816, 868
MURDOCH, J. R.: Treatment of pyloric obstruction, 515
MURISON, Colonel C. C.: Treatment of tetanus 382
MURPHY, Douglas P.: Pregnancy following irradiation, 286
Murphy, John B., Oration (leading article), 806
MURPHY, P. Kennedy: Injection treatment of haemorrhoids, 1049
MURPHY, Major-General W. R. E.: Traffic accidents, 512
MURRAY, A. M. T.: Report on nutrition, 274
MURRAY, George R.:—Graves's disease: intercurrent pyrexia, 568
MURRAY, H. Leith, appointed to the chair of midwifery and gynaecology at Liverpool, 1142
MURRAY, J. A.: Report of the Imperial Cancer Research Fund, 68—Filterable fowl tumours, 68 - Appreciation of Archibald Leitch, 248
Muscle extract treatment of vascular diseases (M. S. Schwartzman), 492 (O)
Muscle, ischaemia of as a cause of anginal pain (Sir Thomas Lewis), 941 — Note on, 1035. *See also* Ischaemia
Muscles, weakened and paralysed, method of exciting incipient movement in (Arthur E. Porritt and O. F. Guthrie Smith), 54 (O)—Correspondence on, 158, 242 *See also* Bath, the " Deep-pool "
Museum, Wellcome, of Medical Science closed for rebuilding, 205
Music in the operating theatre (J. A. McGlinn), 103
MUTCH, N.: The medicinal treatment of chronic arthritis, 383 (O)
Mycosis fungoides following laparotomy (R. Owen-Jones), 537 (O)
Myelomatosis (L. G. Gunn), 401
MYERS, Garry Cleveland: *The Modern Parent*, rev., 756
MYERS, G. N.: Digitalis in toxaemia, 1024
MYERS, C. S.: Psychology and the worker, 1082
MYERS, J. Arthur. *Tuberculosis among Children*, rev., 143
Myiasis, intestinal, 76
Myocardial infarction and coronary thrombosis with glycosuria (Norman Cruickshank), 618 (O) —Correspondence on, 768, 867, 913
Myopic child (W. G. Sym), 1087

N.

NABARRO, David: African tick fever, 1095
NABARRO, D. N. (and A. G. SIGNY): Convalescent serum in prophylaxis of measles, 12 (O)

ce of, 77
und Blut-

NAGEOTTE-WILBOUCHEWITZ, Madame, elected president of the Société de Pédiatrie de Paris, 431
Nail biting, 42, 79, 164
Nairobi hospital and gaol, conditions in (parliamentary note), 1143
Narcotic drugs in Egypt (Major-General T. W. Russell Pasha), 636
Narcotics, limitation of the world manufacture of, 41, 905. *See also* Drugs, dangerous
Nasal sinuses, accessory, radiography of (H. K. *Graham Hodgson*), 551. *See also* Sinus
NASH, W. Gifford: Foreign bodies in an appendix lying in a right inguinal hernia, 139

518
"Naturkultur," 1056

NAVY, ROYAL:
Colour vision and, 566
Health of, report for the year 1929, 368, 409
Invaliding ont of, 875
Naval Medical Compassionate Fund, 244
Medical Director-General, the new, 728
Medical officers, shortage of, 1052
Parliamentary notes on, 566, 875
Royal Naval Volunteer Service, promotions, 71
Royal Navy Medical Club, 606
Venereal disease in, 566, 650

NEAL, James: Appreciation of Sir Herbert Waterhouse), 1005
NEAL, P. A.: Goitre in Northern Ireland, 683
NEALE, A. Victor: An unusual type of diphtheria carrier, 351
Neck, foreign body in [a feather] (A. J. P. Alexander), 95—(George Morgan), 158
Necrosis of liver. *See* Liver
Needle holder, Mayo's, a modification of, 902
Needle, radium, for surface application, simple holder for, 145
Needle as " surgical aid " (Sir W. I. de Courcy Wheeler), 975
Needles, radium: method of anchoring in the pharynx (J. E. G. McGibbon), 843 (O)
Needles and stopcock for artificial pneumothorax, 188

Negligence, allegation of withdrawn (Moore and wife v. Ligat), 956
NELIGAN, A. R.: European women and children in the Tropics, 268—Physiological effects of baths, 353
NELSON, H. P. (and George SIMON): The accessory lobe of the azygos vein, 9 (O)
Nembutal "844," 359
Neo-infundin, 496
Neo-natal deaths and stillbirth in India, report on (Christine J. Thomson), 1089
Neoplasm following war service, 1008
Neotropin: a new urinary antiseptic, 589
Nephritis, alkali treatment of (W. F. Croll), 223
Nephrosis, lipoid, case of (Squadron Leader E. A. Lumley), 494 (O)
Nephrosis and oedema (A. G. Thompson), 586
Neron vitalux, 456
NERURKER, J. S.: Malaria as a cause of infantile mortality, 236
Nerve fibres, sensory, messages in (E. D. Adrian), 979
Nerves and cancer (R. J. Ludford), 68
Nerves and the public health (Major Greenwood), 600
Nervous and Delicate Children, Clinic for Study and Treatment of: Annual report, 1044—Change of address, 1146
Nervous diseases, organic, early symptoms of common (W. J. Adie), 403
Nervous disease, post-vaccinal, 64, 104, 109
Nervous Disorders, Functional, Tavistock Clinic for: A course in psychological medicine, 23—Annual luncheon, 855—Proposed change of name, 855
Nervous exhaustion, treatment of (Sir E. Farquhar Buzzard), 753
Neuralgia, glossopharyngeal (J. P. Martin), 533 (O)
Neuralgia: introduction of fluid to the nerve (Francis Rynd), 652
Neuro his ology, review of book on, 187
Neurology review of book on, 19
Neurosis, obsessional (M. C. Luff), 936
Neurosis, structure of (Alfred Adler), 148
NEVILLE, W. S. Thacker: Foreign ear, nose, and throat clinics, 877
NEWMAN, Sir George:—Annual report as chief medical officer of the Board of Education, 69, 112—Health of the school child, 69, 112—Appointed a Fellow of King's College, 253—Halley Stewart Lectures, 1930: *Health and Social Evolution*, rev., 930—Maternal mortality, a disclaimer, 1048
NEWSHOLME, Sir Arthur: *International Studies on the Relation between Private and Official Practice of Medicine, with Special Reference to the Prevention of Disease*, 854
NEWTON, A.: Appearance of the ovum during pregnancy, 451
New Year honours, 25, 70
New York:—Milk used by different families in, statistics of, 609—Post-Graduate Medical School and Hospital: Note on, 365—Registration of blood donors, 559
New Zealand: Earthquake in, 279, 509, 858, 912—The emergency medical service, 853—Investigations and report on goitre in school children, 351
NICHOLSON, Ruth: Double pyosalpinx in a girl, 15 years of age, 542
NICHOLSON, W. A.: Bronchial carcinoma, 21
NICOLE, J. Ernest:—*Psychopathology: A Survey of Modern Approaches*, rev., 1118
NIESSL VON MAYENDORF. *See* Mayendorf
NIGHTINGALE, Florence, anniversary of the birthday of, to be a general Red Cross Day, 651, 778
Nightingale medal awarded, 1097
NITCH, Cyril: The radiological renal outline, 183
Nitrous oxide gas cylinders, adjustment valves for, 712
Nitrous oxide mixtures, 962
NIXON, J. A.: High carbohydrate diet in diabetes, 309
NORÉCOURT, P.:—*Clinique Médicale des Enfants: Affections de l'Appareil Respiratoire*, second edition, rev., 711
Noise, a simple method of measuring, 1146
NOLAN, M. J.: Mental disorders and pernicious anaemia, 980
NOLAND, Lloyd (and H. Earle CONWELL):—*Acute Fractures of the Pelvis: Treatment and Results of 125 Cases*, 230
NOLF, Professor: The deaths from fog in the Meuse Valley, 277
NONNE, Max: Seventieth birthday of, 391—117th to 119th volumes of the *Deutsche Zeitschrift für Nervenheilkunde* dedicated to, 381
NORBURY, Lionel E. C.: Chronic ulcerative colitis, 591—Injection treatment of piles, 838
Nordhoff jung cancer prize. *See* Prize
NORMAN, Alfred C., O.B.E. conferred on, 1034
NORRIS, Arthur H., C.B.E. conferred on, 1034
NORRIS, Joan H. (and Frank L. APPERLY): The familial influence in gastric function, 255 (O)
North Walsham. *See* Walsham
Northcote [Cicely] Trust: Annual report, 115
Norway: Report of Norwegian Red Cross Society on the welfare of merchant seamen, 66—State Vitamin Research Institute and the actions of cod-liver oils and irradiated ergosterol in rickets, 853
Nose diseases, review of book on, 456
Nose and throat clinics, foreign, 779, 877
Nose. *See also* Ear *and* Throat
Nosokomeion (Quarterly Hospital Review), No. 1–4, rev., 630: No. 2, rev., 1121
Nosological terminology, review of book on, 932

Notes, Letters, Answers, etc.:
Abscess, mammary, 480, 524
Addison's disease, treatment of, 480
Adenoids, removal of, 164
Alcoholism, 610, 652
Analgesia in childbirth, 524
Annual Meeting, Eastbourne (1931): Pathological museum, 164
"Bad risk" operation cases, 431
Bill, disputing the, 164
Blushing, 163
Boiler "scale," prevention of, 381
Bradshaw's Continental Handbook, 294
Breast, artificial, 252
British Industries Fair, 336
Bromide poisoning in a monkey, 124
Cancer of bladder, treatment of, 524
"Cancer," definition of, 1146
Cancer of pylorus, remission of symptoms in, 124
Cataract and medical practice, 877
Catarrh of upper respiratory tract, 1056
Cave-dwellers of Derbyshire, 1100
Certified patient's pension, 432
Chilblains, sea-water for, 568
Children's Clinic for Treatment and Study of Nervous and Delicate Children, new address of, 1146
Chromium plating, 829, 1100
Cigarettes, filter-tipped, 692
Cocoa and chocolate centenary (Cadburys), 1146
Cold, the common, 294
Colitis, ulcerative, 920
Cornu cutaneum, 610, 734
Corrections, 432, 480, 524, 830, 878, 1100
Cough, post-influenzal, 878
Dalrymple's sign, 163
Dax-les-Bains, 80
Dermatitis, exfoliative, 205
Diabetes in coal miners, 42
Diabetic diet on holiday, 1100
Disclaimers, 1100
Disputing the bill, 164
Diverticula of the duodenum, 524
Dyspnoea, case of, 431, 568
Ear, nose, and throat clinics, foreign, 779, 877
Ear, piercing the, 829, 877
Erythromelalgia, 961
Femoral thrombosis in pneumonia, 1146
First-aid outfit for motorists, 830
Food combinations, 829
Foreign, 206, 336—In
Golf, medical: Sheffield Medical Golfing Society's annual meeting, 164—Manchester and District Medical Golfers' Association annual competition, 878—West Suffolk Division annual competition, 920—Treasurer's Cup golf competition, 952—Medical Golfing Society's annual summer meeting, 1008—Shropshire Medical Golf Association, summer meeting of the, 1100—Sussex Medical (B.M.A.) Golfing Society's spring meeting, 1100—Carnarvon and Anglesey Division's summer meeting, 1146
Gordon Memorial College, Khartum, 432
ia, 480, 568
of age, 734
Herpes zoster and varicella, coincident, 610, 692, 1056
Hyperthyroidism, treatment of, 382
Hypnosis, medical, 733
Hypnosis with spinal anaesthesia, 952
Hypodermic injection, procedure of, 336
Hypodermic medication, 652
Hystero-epilepsy? 163, 252
INCOME TAX: 42, 80, 124, 164, 206, 252, 294, 382, 432, 480, 568, 610, 692, 733, 779, 829, 878, 920, 962, 1008, 1056, 1100, 1145
Accident insurance benefit, 829
Allowable expenses, 920
Appointment: Travelling expenses, 734—Motor expenses, 878—Qualification expenses, 1056
Assessment, alteration of previous year's, 962
Assessment of Army officer's pay, etc., 42
Assessment on partnership, 252
Assessment of stipend from appointment, 206
Cash basis, 829, 1008; change in proprietorship, 779
Change in share of partnership profits, 692
Changes in partnership: cash basis, 1056
Colonial appointment: Remittances, 480
Commencement of partnership, 432
Cost of arranging new partnership, 780
Cost of books and subscriptions, 610
Discount on prepayment of income tax, 734
iod, 692
-Expenses, 164—Expenses of assistant, 733—Obsolescence; cash basis, 206—Private use of car, 920—Replacement, 480—Transactions, 952, 1145
New partner: cash basis, 952
New practice: basis of assessment, 1100
Obsolescence allowance, 779

Notes, Letters, Answers, etc. (*continued*):
Overseas officer on leave, 124
Partnership, first year of, 480
Payment of interest on loan, 610
Post-graduate course, 734
Professional account: balance sheet, 878
Professional residence: subletting, 779, 1008
Proportion of house expenses chargeable, 80, 1100
Purchase of share of practice, 294
Remittances from abroad, 1146
Remuneration of daughter as locumtenent 829
"Rent" of surgeries, charge for, 432
Repairs to premises, 878
Request for excessive payment, 294
Sale of property, 1145
ns, 1008
cost of, 952
penses, 382
ildren, 42
Index of proprietary drugs, 124
Inorganic salts. *See* Salts
Insulin injections, prolonged, effect of on subcutaneous tissue, 1145
Insurance against incapacity, 124
Iridocyclitis after actinotherapy, 42
Joan of Arc, memorial to, 780
Laboratory, pronunciation of, 480
Labour, natural, after Caesarean section, 80, 294
Labour, natural, painless, 205, 294, 610
Left handedness in a child, 779, 877
Leucoplakia, 1037
Link with the past (death of Mrs. Fred Wood), 652
Linseed for constipation, 206
Lobule. *See* Ear
Majorca, climate of, 335, 381, 432
Malnutrition with ammoniacal urine, 951
Measles: Amidopyrin in, 734—Incubation period of, 734
Medical Congress at Bangkok, 206
Medical golf. *See* Golf
Medicine bottles, wrapping for, 1056
Medicine and economy, 164
Mental abnormality, an unusual, 610
Migration and health, 830
Milk, sour, 779, 877
Miscarriage of one twin, 479, 524
Motor cars: "Service week" for, 734—Rebates for motorists, 780—"B.P. Plus" petrol, 780—First-aid outfits for motorists, 830—Parking places in London, 830—Sight tests for motorists, 1100
Moustache brush, the common, 382
Nail biting, 42, 79, 164
"Naturkultur," 1056
Neoplasm
Nitrous ox
Noise, sim
Nord-Sud t
Obesity, treatment of, 205, 252, 293, 524
Operation cases, "bad risk," 432
Quinine and malaria in England, 42
Palestine, hospital vacancy in, 780
Peking man, 652
Petrol, "B.P. Plus," 780
Pregnancy with
Psoriasis,
Psychiatric out-patient clinic, 610
Pyrexia after confinement, 1039
Rhinitis, chronic, 610, 733
Rhinorrhoea, paroxysmal, 432, 524, 568
Russia, visit of scientists to, 692
Salts, inorganic, assimilation of, 382
Sciatica, treatment of, 293, 336, 432
Scientists' visit to Russia, 920
Scleroderma with pernicious anaemia, 1007, 1100, 1145
Syphilis, treatment of, 123, 206, 336
Teeth at birth, 336
Tendons, rupture of the, 1100
Ulcers, duodenal, medical treatment of, 1145
Ulcers, natural healing of, 80
Ulcers, varicose, treatment of, 124
Umbilicus as a source of infection, 252
Unofficial aunts, 336
Ureter, accidental compression of, 80
Urticaria, 1099, 1145
Uterus, puerperal inversion of the, 780
Vaccination scars, inflammation at site of, 919, 1007
Varicose ulceration. *See* Ulceration
Vasectomy, late effects of, 163
Vitamin deficiency, 164
Wagstaff's forceps, 692, 733, 829
"Warbles" in man, 79
Warnings, 1008, 1056
Water-taps and fittings, metal, 779, 878
Woodhouse, Dr. Christopher, 779, 877
Writing with left hand, 163

NOVA ET VETERA:
Abernethy, John (1764-1831), 719
[illegible] one of the Trustees
[illegible]
Doctor [illegible] (N.
Eye [illegible]
235
Haygarth, John, of Chester (George H. Weaver), 1086
Leonardo da Vinci as anatomist (J. Playfair McMurrich), 953
Map of seventeenth-century England, 280
Pasteur, a link with (A. L. S.), 765
Richardson, Sir John: surgeon, physician, sailor, explorer, naturalist, scholar (D. A. Stewart), 110

NUNNERLEY, Captain Phillip Jebb, obituary notice of, 429
Nurseries, day, and child gardens in Scotland
, Dublin: Annual
Hospitals and the sick poor, etc.
Nurses, shortage of: *Lancet* commission, 410
Nursing conference in Scotland, 765, 997—The future training and organization of nursing, 937—The prevention of maternal mortality and disability, 937—Modern methods of treatment in mental disease, 997—Maternity services, 937
Nursing, District, Central Council for: Annual meeting, 470—Annual report, 470
Nursing, future training and organization of (J. Parlane Kinloch), 997
legations
: London
mentary
Nursing Profession (Hours and Wages) Bill, 379, 477, 959
Nursing schemes, Scottish, 512
Nutrition: Advisory committee appointed, 108, 334
Nutrition: Annales Cliniques, Biologiques, Thérapeutiques, first issue of, 828
Nutrition faulty, some surgical aspects of (Colonel Robert Macgregor), 677 (O). *See also*
(J. C. Orr), 883 (O)
Nutrition, review of books on, 312, 455
N
N
N

O.

Obesity, treatment of, 235, 252, 293, 524—In a multipara, 524
O'BRIEN, R. A.: Treatment of pneumonia, 448, 557—Specific serum treatment of lobar pneumonia in adults, 557—State control of therapeutic substances, 1072
eurosis
undergraduate, 32, 117, 326, 423
Obstetrical and Gynaecological Monographs, second edition, rev., 711
Obstetrics and gynaecology, education in (Dame Louise McIlroy), 679
Obstetrics, progress of (Maurice Brouha), 556
Obstetrics, a retrospect of (Archibald Donald), 354
Obstetrics, review of book on, 711
Obstetrics. *See also* Gynaecology
Obstruction, acute intestinal (J. R. H. Turton), 708
Obstruction, acute intestinal, caused by Meckel's diverticulum (W. D. Jenkins), 795
Obstruction, intestinal, advanced cases of, treatment of (I. G. Gross), 910
[illegible]
Obstruction, pyloric, treatment of, 515
O'CARROLL, T.: Treatment of tetanus, 74
Occupational diseases in coal miners (E. L. Collis), 953
ODDIE, S. Ingleby: Appreciation of Henry Bright Weir, 871
O'DONOVAN, W. J.: Transmission of scabies and ringworm, 352
Oedema and nephrosis (A. G. Thompson), 586
Oestrin and pituitrin (J. Heller and P. Holtz), 1024
OGLE, Cyril: Death of, 365—Obituary notice of, 425
O'HIGGINS, T. F.: Report on public health in County Meath, 954
(J. Cottrell), 95
ted preparations
New Domicon
Oleothorax and gelatinothorax in treatment of empyema thoracis, 683
OLESEN, R.: Goitre in Northern Ireland, 683
OLIVER, C. P., appointed a deputy lieutenant of the county of Kent, 919
Oliver *v.* Snowden, 915
O'MALLEY, C. Conor: Removal of adenoids, 164
O'MALLEY, John F.:—Treatment of ethmoiditis, 158—Fractured base of skull: effect on hearing, 450
O'MEARA, R. A. Q.: Oedema and nephrosis, 586
OONVALA, Major Jehangir Hormusji, obituary notice of, 728
Operating theatre. *See* Theatre
Operation cases, "bad risk," 432
Operative surgery, review of book on, 587. *See also* Surgery
Giza
osis, 64
Opium consumption in India (parliamentary note), 1143
Opium, distribution of (parliamentary note), 650
Opium exports in India (parliamentary note), 478
Opium supplies from Russia (parliamentary note), 650
Optic atrophy, review of book on, 1119
Opticians and Free State Health Commission, 72. *See also* Insurance
Oral sepsis. *See* Sepsis
ORIEL, G. H.: Eczema of internal origin, 540
ORMEROD, F. C.: Tuberculosis of the ear, 275
ORR, J. B.: *Iodine Supply and the Incidence of Endemic Goitre*, 460—The development of the science of nutrition in relation to disease, 883 (O)—(And J. L. GILKS): *Report on the Physique and Health of Two African Tribes*, 1130
ORR, Lewis P.: The selection of lives, 189
ORRICO, Juan, death of, 688
Orthopaedic Association. *See* Association
[illegible]
243
O'SHAUGHNESSY, Laurence (and F. E. MAYNE): Cutaneous horn on an amputation stump, 624
Osler Club. *See* Club
Osler's disease and eponyms, 365. *See also* Telangiectasis
OSMAN, A. Arnold: Sugar in the diet of the school child, 223—Acidosis and seborrhoea, 914—(And Harold G. CLOSE): The diagnosis of uraemia, 1064 (O)
Osteo-arthritis, review of book on, 588
Osteochondromata, multiple, with obstructed labour (E. J. Blackaby), 704 (O)—Correspondence on, 765. *See also* Exostoses
Osteopaths Registration Bill, 291, 333, 379, 548, 916
Osteopathy at home and abroad, 1000
Out-patient clinic, the psychiatric (Ian Skottowe), 452—Correspondence on, 610. *See also* Psychiatric
Out-patients (leading article), 503
Ovarian cyst, torsion of, with bradycardia (R. Francis Matters), 1022 (O). *See also* Cyst
Ovarian hormone, 940
Ovarian pregnancy (T. MacCarthy), 1070
Ovarian transplantation (John H. Hannan), 137 (O)
Ovary, keloid (T. C. Clare), 527 (O)—Correspondence on, 645
Ovum during pregnancy, appearance of (R. Newton), 451
OWENS, J. S.: Report on atmospheric pollution, 419
OWENS, Lieut.-Col. T. F.: Report on Burmese medical institutions, 865
OWEN-JONES, R.: Mycosis fungoides following laparotomy, 537 (O)
OXFORD, Arnold Whitaker: *The History of the Samaritan Free Hospital*, rev., 630—*A Concise Anatomy of the Foot*, rev., 984
Oxford Clinical Club. *See* Club
OXLEY, Dr.: Alkalis in renal complications of pregnancy, 540
OXLEY, W. H. F.: The role of the general practitioner in ante-natal work, 5 (O), 159—The obstetrical problem of the contracted pelvis, 897
Oxygen, the discovery of (A. N. Meldrum), 462

P.

Pack left in abdomen after operation (James *v.* Dunlop), 750
[illegible]
F
vol. iii, No. 3, rev., 1121
Pads for suprapubic box, 227
Paediatrics, review of book on, 454, 587
PAGE, J. D.: Medical examination of immigrants to Canada, 1040
Paget Lecture. *See* Lecture
Pain in the lower abdomen (W. Fletcher Shaw), 269
Pain, anginal, caused by ischaemia of muscle (Sir Thomas Lewis), 941—Note on, 1035
Pain in infancy, interpretation of (Wilfrid Sheldon), 530 (O)
PAINE, G. G. (and Robert PLATT): Pulmonary arterio-sclerosis, 698 (O)
Palate, cleft, traum[illegible]
alis meningitis:
Palestine, a hospit
Pancreas, rupture
John C. Hodgson),
PANNETT, C. A.: Surgical treatment of gastric ulcer, 818
Paralysis, general, surface tension of serum in, an aid
Paralysi
induce
Gordo
See also Taboparesis
Paralysis, "ginger," 322
malignant growths, 819
Paratyphoid fever. *See* Fever
Paris: Institute of Physico-Chemical Biology
, and
one,
the
P
tric
shock, 1003
Parking places in London, 830. *See also* Motor

Parliament, Medical Notes in:
Advertisements of medicated wine, 40
Air Force, Royal: Cerebro-spinal meningitis, number of cases, 565—Invalidity rates, 291—Number of medical officers, 522, 608—Number killed in aircraft accidents, 960, 1143
Alcohol and motorists, 959
All-India. *See* India
Animal pathology research, 772
Anti-gas. *See* Gas
Architects Registration Bill, 959
Army and Air Force Annual Bill, 607
Army, British: R.A.M.C. officers, shortage of, 243, 331, 970—Recruits, physical condition of, 772—Rejection of recruits, 875
Asbestosis, 379
Asylum officers' superannuation, 522, 875
Bacillus Calmette-Guérin: Lübeck tragedy, 334—Distribution of in this country, 522
Bethlem Royal Hospital, 650, 1098
Birth control literature, 650
Blind Persons Act, amendment of, *re* increase of pensions, 960
Butter, sale of, 1054
Camphor and the Budget, 875
Cancer and aniline workers, 566
Cancer deaths from, 916
Cancer research, funds for, 874
Cancer statistics, 522, 916
Capital punishment: Report of Select Committee, 244. *See also* Sentence of death
Cattle and tuberculosis. *See* Tuberculosis
Census Order, 39
Cerebro-spinal fever, 379, 429, 566, 727—And vaccination, 566
Change of doctor. *See* Insurance
Cleansing, public, in London, 204. *See also* Refuse
Coal miners. *See* Miners
Confinement, solitary, 1098
Consolidated Fund Bill, 565
Disputes, International, pacific settlement of, 477
Doctors' cars. *See* Motor
Dogs, experiments on, 477
Dogs' Protection Bill, 477
Drugs, prices of, 519
, 333
Estimates: Supplementary, 333, 379—Army, 477, 521—Navy, 477, 519—Air, 519—Scottish, 1004, 1142
Expectant mothers. *See* Sentence of death
Factories Bill, 959
Factory Acts, 203—Medical service, 772—Inspectorate, 1098
Food preservatives, 522
Food standardization, 728, 1054—Committee on, 1054
178, 1142
608—Anti-gas
Gland grafting in veterinary practice, 960
Gold Coast, medical officers on the, 477
Health, Ministry of: Vote for expenses, 690, 727—Reports of regional planning committees 875

Parliament. Medical Notes in (*contd.*):
Health and nutrition advisory committee appointed, 334
Health services, local, 291
Hong-Kong streets, dead infants in, 772
Hospitals (Relief from Rating) Bill, 291, 379, 477
Hospitals, voluntary, and approved societies, 771
Hours of Industrial Employment Bill, 203
House of Commons, atmosphere of, 650
Housing, 201, 244, 380 477, 727, 728, 959—In Scotland, 960—Rural Workers (Amendment) Bill, 727, 959, 1053
Income tax, 874
India: All-India Medical Council, 380—Medical research in, 430—Labour in, report of Royal Commission on, 960—Infant mortality in,
Infantile mortality numbers, 565, 916—In Scotland, 650, 960—In India, 1004
Influenza, 430
Insane persons, numbers of, 960
Insurance *National Health*: *Administration* accounts of approved societies, deficiencies in, 960—All-in scheme, 1098—Appeals by insured persons, 822—Arrears in contributions, distribution to approved societies, 960—Benefits, 1142—Change of doctor, 430, 728, 822—Co-operative dividends and chemists, 291—Dental benefit, 772, 1098—Dental benefit schemes for women, 1098—Finance of, 380—Funds, 477, 772—Funds of approved societies, 822, 1142—Hospitals and supply of drugs and appliances, 291—Insurance extended (numbers benefiting), 430—Medical Benefit Regulations, changes in to prevent abuse, 522—Ophthalmic benefit, 291, 875, 1098—Optical appliances for insured persons, 728—Pharmacists, insurance, 822, 1098—Practitioners, numbers of, 566—Prolongation of Insurance Act (1930), 430—Sickness benefit claims, 380—Sickness and disablement benefit, 40—Sickness and disablement claims, supervision of, 522—Transfer of patients, 522—*Unemployment Insurance Bill*, 379, 1142—Women contributors, statistics, 875—Unemployment Insurance Fund, 333—Voluntary hospitals and approved *societies*, 771
International conventions, 430
Kirkcudbright County Council's housing programme, 608
Labour in India. *See* India
ill, 334
Bill, 821
Bill, 565
, 204. *See also* Refuse
London Squares Preservation Bill, 916
Lotteries *See* Sweepstakes
Lübeck tragedy: B.C.G., 334
Marriage (Prohibited Degrees of Relationship) Bill, 821
Maternal mortality, 429, 522, 608—In India, 608
Maternity and child welfare, 204—In Africa, 1143
Maternity and Child Welfare Bill, 203
Maternity service, national, 39
Meat, imported, 1098
Meat inspection, 204, 244
Medical referees: Workmen's Compensation Act, 1098
Mental defectives, juvenile, in Scotland, 1098
Mental defectives, sterilization of, 40. *See also* sterilization
Mental Treatment Act, 519, 565—Rules under, 555
Merchant seamen. *See* Seamen
Merchant Shipping (Safety and Load Line) Bill, 1053
, 960,
143
727, 1142
Colour vision and, 565—Invaliding out of the, 575
ill,
0—
of
379, 916
477
See also Proprietary medicines

Parliament, Medical Notes in (*contd.*):
Patients in military hospitals, regulations for, 1098
Pensioners, tuberculous, mortality of, 875
Pensions: Applications under the over seven-years' limit arrangement, 1098—Assessment of, 39—Commutation of, 728, 960—Hospitals, 822—In mental institutions, numbers, 39—Neurasthenia, numbers, 39—Treatment, 244—Widows', Orphans, and Old Age Contributory Pensions Bill, 727, 1053
Pharmacy and Poisons Bill, 203, 379, 477, 519, 565, 607, 727, 771, 772, 821, 916, 1098—Debate in the Lords, 519—Provisions of the Bill, 519—Committee stage in the Lords, 607—Report stage in the Lords, 772
Poison gas. *See* Gas
Pregnant women in prison, 204
Probation of Offenders (Scotland) Bill, 429, 1004
Prohibition. *See* Liquor
Proprietary Medicines Bill, 243, 477, 565, 771, 873, 916, 1098, 1142—Text of, 916
Psittacosis, 1143
Radium supply, 522, 772
Recruits. *See* Army
Refuse, London, disposal of, 204, 291, 566, 650
Regional planning committees, interim report, 875
Representation of the People Bill, 39, 243, 429, 519, 727, 873, 916, 959, 1004, 1098
Rheumatism Advisory Committee, 772
Rheumatism Clinic, Red Cross, 291
Rivers pollution prevention, 477—*Report of* Scottish Advisory Committee, 380
Royal Army Medical Corps. *See* Army, British
Royal Commissions and health, 822
School children: Medical examination of, 566—Medical inspection of, 608
Seamen, sickness rates among, 39, 291, 608
Sentence of Death (Expectant Mothers) Bill, 291, 916. *See also* Capital punishment
Shipboard, health on, 608
Silicosis, 379, 874—Claims made in Scotland, 874—International classification of the stages of, 874
Silicosis and Asbestosis (Medical Fees) Regulations, 959
Slum clearance schemes, 960
Small-pox: In London, 40 244—Number of deaths from in England and Wales, 291, 477, 874, 1054—Deaths of seven children from, 334—And vaccination, 477—Charge for lymph, 477—Certificate of successful primary vaccination, 822—In Northern Rhodesia, 822
Smoke abatement, 821
Social services, 204
Solitary confinement, 1098
Spahlinger treatment of tuberculosis, 203
Spiritualism and Psychical Research (Exemption) Bill, 204
State scholarships, 822
ll, 727
Thyroid extract, 39
Tin poisoning from cheese wrappers, 39
Town and Country Planning Bill, 649
Trade Disputes and Trade Unions (Amendment) Bill, 39, 203, 429
Traffic privileges for doctors, 874
Tuberculin, 727
Tuberculosis, bovine, serum treatment of, 566—*And milk*, 916
Tuberculosis, cattle immunization against, 477
728
Tuberculous pensioners. *See* Pensioners
Death of two children at South Wigston, 1054—Rolleston Report, recommendations, 728—Sight of eye lost, 1054—Statistics, 772, 875
Pensions Bill, 727
Wine, medicated, advertisements of, 40
Workmen's compensation: complaints from Lanarkshire, 650
Workmen's Compensation Act and nurses and other persons employed at isolation hospitals, 565—Medical referees, 1098
Workmen's Compensation Bill, 771, 822, 916
Yarmouth Naval Hospital Bill, 477, 565, 649, 727, 822

Parliament, university representatives in (leading article), 318. *See also* University *and* Electoral Reform Bill
PARRY, Leonard A.: Appreciation of Maurice Fitzmaurice-Kelly, 120—The New Zealand earthquake, 912—*Trial of Dr. Smethurst*, rev., 1119
PARRY, T. Wilson: Members of the Royal College of Surgeons, 201
PARSONS, A. R.: Oedema and nephrosis, 586
PARSONS, C. Thackray: *Appreciation of* John Jenkins, 119
PARSONS, F. B.: Action of avertin on the liver, 1023
PARSONS, Sir John H.: Industrial lighting, 709
PARSONS, T. R.: *The Materials of Life*, rev., 630
PARTNER, F. (and S. A. MANS): *The Wassermann Reaction in Mental Hospital Practice*, 1124
PARTRIDGE, William: *Aids to Bacteriology*, fifth edition, rev., 102
Parturition. *See* Labour
Pasteur Institute, Shillong: Annual report, 420—The use of Sir David Semple's antirabic serum, 420
Pasteur Institute of Southern India at Coonoor: The use of Sir David Semple's antirabic serum, 420
Pasteur, a link with (A. L. S.), 753
Patent medicines (parliamentary notes), 650, 916. *See also* Proprietary medicines
Patents and designs: Report of Departmental Committee, 641
PATERSON, Donald G. (A. J. HARRIS, C. M. JACKSON, and R. E. SCAMMON): *The Measurement of Man*, rev., 102
PATERSON, William Dallas, obituary notice of, 959
PATEY, D. H.: Indolent ulcers of the leg, 399
Association, British
See also Insurance
ciation
800, 1027
See Pension
gulations for (parliamentary note), 1098. *See also* Hospitals, military
PATIL, Shivram Wamanji, M.B.E. conferred on, 1004
PATRICK, Dr.: Report on County Down Mental Hospital, 373
PATTON, Alex.: Scleroderma with pernicious anaemia, 1007, 1145
PAUL, Milroy: Syringe case, 456
PAVIE, P. (and P. MOCLOUGUET): *Les Diagnostics Anatomo-Cliniques de Paul Leclne*, rev., 1073
Paying patients in hospitals, 724. *See also* Hospitals
PAYNE, W.: Protein content of the plasma, 400
PEARCE, Alexander H. B., nominated member of the Legislative Council of the Colony of Fiji, 961
PEARL, Raymond: *Introduction to Medical Biometry and Statistics*, second edition, rev., 544
PEARSE, Innes H. (and G. Scott WILLIAMSON): *The Case for Action*, rev., 357
225—(Editor), *The Treasury of Human Inheritance*: Vol. ii. *Anomalies and Diseases of the Eye* [Nettleship Memorial volume]; Part IV, Hereditary Optic Atrophy (Julia Bell), rev., 1119
PEARSON, Vere: Management of pregnancy in tuberculous women, 141
PEARSO
Peking r
Pellagra
Pelvis, of the (R. Alan Brews), 895—Discussion, 895
PENDRED, Vaughan: Diet and disease, 1138
PENFIELD, Wilder brain tumours (O)
Pensioners arliamentary note), 875
Pensions: Applications made under the over-seven-years' limit arrangement, 1098—Assessment of, 39—Commutation of, 728, 960—l institutions, 39—age, the certified lamentary notes, 39, tment, 244 ans', and Old Age —Review of book on, 902
Pentapharmacum or pentapermatum? 562
PENTON, C. F., appointed a commissioner of the Board of Control, 282
People's League of Health: Announcement *re* the Sims Woodhead health lectures, 335
Pepsin, glycerin of, in pernicious anaemia Lieut.-Col. H. C. Keates', 894. *See also* Anaemia 2
Peptalac, 2:7
PERCIVAL, G. H.: Thallium and its risks, 373—Thallium acetate in the treatment of ringwor
PERI *oro-Dis-*
ctpi
PERI
Perin
Peritonitis due to perforation of bowel by foreign bodies (Arthur Hawkyard and George Armitage), 517 (O)
Peritonitis, tuberculous, simulating coelia disease (E. C. Warner), 977 (O)
Pernicious anaemia. *See* Anaemia
PERRIN, W. S.: Injection treatment of piles, 897
PERRY, Lieut.-Col. Middleton: Radiological problems in veterinary medicine, 15
Pertussis. *See* Whooping-cough
PESCARDO, Bellom, death of, 202

PETERS, B. A.: Prevention of renal complications in scarlet fever, 1094
PETERS, E. A.: Safe method of dealing with ethmoiditis, 56, O), 286
PETERS, R. A.: Recent advances in chemistry of vitamins, 1117
PETRIE, G. F.: Specific serum treatment of lobar pneumonia in adults, 557
Petrol, "B.P. Plus," 780
Petrol tax (parliamentary note), 1053
PETTINGER, C. Firth: Natural labour after Caesarean section, 294
Pharmacists, insurance (parliamentary note), 822. *See also* Insurance
Pharmacological laboratories. *See* Laboratories
Pharmacology, review of books on, 984, 1075
Pharmacopoeia, British, revision of (David Harley), 196—Discussion, 195—Reports on, 1033
Pharmacopoeia commission, reports of, 1033
Pharmacopoeia of St. Thomas's Hospital, rev., 932
Pharmacy and Poisons Bill, 203, 280, 373, 477, 519, 565, 697, 727, [illegible] the Pharma the House of 519—Committ Report stage in the Lords, 772
Pharmacists and National Insurance. *See* Insurance
[illegible] needles [illegible] cremation, 636
Phenyl-cinchoninic acid, fatal case of poisoning by (Warren Morris), 221
PHILIP, Sir Robert:—Malcolm Morris Memorial Lecture on the outlook on tuberculosis: changing orientation, 43 (O), 238—Appreciation of James Lorrain Smith, 774
PHILLIPS, E. W. M. Hubert (Donald ISAAC and [illegible]
PHILLIPS, James: Thirty years of stomach surgery, 489 (O)—Operation for hallux valgus, 560
PHILLIPS, Miles H.: Obstetrical education of the undergraduate, 423—Perforating adenoma of the cervix, 541—Obstetric shock, 833 (O)
PHILLIPS, Norman R.: Mental disorder and pernicious anaemia, 980
PHILLIPS, Rees: Examination of motorists charged with drunkenness, 1003
[illegible] See Chemistry [illegible] ndex to, 363 industrial: work in
Physiology, review of books on, 59, 358, 940, 1028, 1075
Physiotherapy, review of book on, 60
[illegible] of whilst under the [illegible] ractitioner, 518
[illegible] *Laboratory, Annals* [illegible] of the, Vol. VI. The Pathogenic Streptococci: the Role of the Streptococci in Scarlet Fever, 938
Piersol's Human Anatomy, ninth edition, rev., 1073
[illegible] of, 331 [illegible] ment at Univer-
PILLAI, M. K.: Extrauterine pregnancy of fourteen months' duration, 97
PILLERS, A. W. Noel: Transmission of scabies [illegible] injection, 930 (O)
PINES, N.: Cancer and race, 914
PINEY, A.: *Recent Advances in Haematology*, third edition, rev., 20
PINSON, K. B.: Adjustment valves for N_2O cylinders, 712
PIRES, T.: Amidopyrin in measles, 734
PIRQUET, Clemens, bronze bust of unveiled, 1055
PIRRIE, A. L.: Treatment of syphilis, 123
Pisa, National Opotherapeutic Institute of, founds a prize in honour of Achille Sclavo, 251
PISSAVY, Alexis, death of, 688
Pithead baths. *See* Baths
PITTS, A. T.: Sugar in the diet of the school child, 223
Pituitary. *See also* Neo-infundin
Pituitary body, surgery of the (Geoffrey Jefferson), 668
Pituitary disorders, treatment of (Florence Edmonds), 493
Pituitary gland, the (Sir Percy Sargent), 551
Pituitary tumour. *See* Tumour
Pituitrin and obstetric shock, 955, 1033
Pituitrin and oestrin (J. Heller and P. Holtz), 1024
Plague in Ecuador, 946
Plasma, protein content of the (I. Snapper), 399
Plastic surgery. *See* Surgery
PLATT, Harry: Some tendon ruptures, 611 (O), 1047, 1100
PLATT, Robert (and C. G. PAINE): Pulmonary arterio-sclerosis, 698 (O)
Pleural effusion (L. S. T. Burrell), 619 (O)
Plotz, Ella Sachs, Foundation: Report, 293
"Pneumatic rooms," 947
Pneumococcal "type," swift and simple method for deciding (Richard R. Armstrong), 214 (O)
Pneumococci, types of, in relation to disease (J. T. Smeall), 661 (O)
Pneumonia, femoral thrombosis in, 1146
Pneumonia, lobar: Specific serum treatment of, 557—Concentrated antipneumococcal serum in the treatment of (R. R. Armstrong and R. S. Johnson), 701 (O), 931 (O)—Correspondence on, 817
Pneumonia, mortality from in American cities, 279
Pneumonia, sodium nucleinate in, 830
Pneumonia, treatment of (Lord Dawson of Penn), 446—Discussion, 447—Correspondence on, 557, 830
Pneumothorax, artificial (T. C. Hunter and W. H. Dickinson), 270
Pneumothorax, artificial, stopcock and needles for, 188
Poison gas. *See* Gas
P[illegible] due to the applica- the legs (Vincent C. [illegible]
Poisoning, arsenic, acute, 34
Poisoning, bromide, in a monkey, 124
Poisoning by carbolic acid: Treatment of (O. S. Gibbs), 581 (O)—Correspondence on, 686, 770—Primary treatment of, 686
Poisoning cases and the general practitioner, 35
Poisoning by camphorated oil (J. Cottrell), 96
Poisoning from cheese wrappers (parliamentary note), 39
Poisoning by phenyl-cinchoninic acid, fatal case of (Warren Morris), 221
Poisoning, thallium, case of (John Lansbury), 320. *See also* Thallium
Poisons Bill. *See* Pharmacy and Poisons Bill
Poliomyelitis, acute, epidemiology of (Pierre Sée), 634
POLLOCK, W. B. Inglis: Cataract operation in extreme old age, 241
Popliteal aneurysm. *See* Aneurysm
POPPER, O.:—Removal of adenoids: a simplified technique, 92 (O)—A correction, 164
PORRITT, Arthur E. (and O. F. Guthrie SMITH): Method of exciting incipient movement in weakened and
Portraits of surg
Post-encephaliti [illegible] eading article), 714—Correspondence on, 768. *See also* Encephalitis
Post-Graduate Assembly, Inter-State, of North America: Visit to London, 876
Post Graduate College, West London: Opening of session, 721. *See also* College
Post-graduate courses: In Aberdeen, 523—In [illegible] 292, 335, 380, 431, 473, 523, 567, 609, 651, 691, 732, 778, 828, 876, 919, 1037, 1055, 1099, 1144—In Manchester, 335—In Paris, 335, 609, 651, 828, 1037—In Sheffield, 335—For ship surgeons, 675—In tuberculosis, 907—In Vienna, 609, 778—In Wales, 1144
Post-vaccinal septicaemia. *See* Septicaemia
POULSSON, Professor: The relative actions of cod-liver oil and irradiated ergosterol in rickets, 853
POULTON, E. P.: High carbohydrate diet in diabetes, 309—
POUSSINEAU, F
POWELL, Colon [illegible] notice of, 122
POWER, Sir D'Arcy: Presentation to, 150, 194—Ceremony at St. Bartholomew's Hospital, 194—*Selected Writings, 1877–1930*, 195—John Abernethy, 1764–1831, 719—A barber-surgeon's instrument case, 914
[illegible] and Bernard SCHLES- *in the Study of* [illegible] er Pedler Lecture on science discipline, published in pamphlet form, 79
PRATT, Thomas A. (and W. H. O. FREW): Chylous ascites complicating abdominal lymphadenoma, 622 (O)
Pregnancy Diagnosis Station: Report on the second year's working, 860
Pregnancy, early diagnosis of (M. Datnow), 353
Pregnancy, ectopic, twelve-year-old (W. Ward Darley), 582
Pregnancy and epilepsy (J. A. Struthers), 218 (O)
Pregnancy, extrauterine, of fourteen months' duration (M. K. Pillai), 97
Pregnancy and heart disease (A. Rae Gilchrist), 1026
Pregnancy with hymen intact, 780, 920
Pregnancy following irradiation, 286
Pregnancy, ovarian (T. MacCarthy), 1070
Pregnancy, appearance of the ovum during (R. Newton), 451
Pregnancy, parturition, and the puerperium in [illegible] (Geoffrey [illegible] 220
Pr [illegible] treatment [illegible]
Pregnancy records, 692, 830
Pregnancy, renal complications of, alkalis in (Harold G. Close), 533
Pregnancy, tropical diseases associated with (Annie Sydenham), 640
Pregnancy. *See also* Gestation
Pregnant women in prison (parliamentary note), 204
PRENTICE, David: The Meinicke clarification reaction, 136 (O)

PREPARATIONS AND APPLIANCES:
Abrodil for intravenous pyelography, 20
Actinotherapy, equipment for, 103
Anatol, 757
Antipneumococcic serum (Felton), 985
Artificial sunlight generator (Neron vitalux), 455
Bacteriophages, therapeutic, 545
"Barolac": barium sulphate in suspension, 940
Diphtheria prophylactic, "Wellcome," 757
"Dispert" products, 406
Ear syringe, 61
Electrode, flushing, for treatment of ulcerative colitis, 406
Ergodex, 501
Forceps, comb dissecting, 61
Forceps, common duct, 902
Forceps, Löwenberg, modified, 852
[illegible]
[illegible]
Hog's stomach, extract of (Eyno eugastrol) 589
Iron, colloidal (Idozan), 501
Lactogen, 757
Lithotomy support, 673
Mask, face, for midwifery work, a simple, 359
Needle holder, Mayo's, modification of, 902
Nembutal "844," 359
Neo-infundin, 406
Neotropin, 589
Nitrous oxide gas cylinders, adjustment valves for, 712
Ovarian hormone, 940
Peptalac, 227
Pneumothorax, artificial, stopcock and needles for, 188
Quinine milk powder, 589
Radium container, Mount Vernon Hospital butterfly, 145
Radium needle for surface application, simple holder for, 145
Radon seed introducer, 273
Radon seed pistol, 985
[illegible] "for injection
Stomach, desiccated: Gaster siccata (B.D.H.), 359
"Sunshine" lamps, 1029
Suprapubic box, pads for, 227
Syringe case, 456
Thermo-saline apparatus, a simple, 20
Tongue depressor, 188
Tongue tractor, 273
Tonsil exploring hook, 188
Tonsils, instruments for examining and treating the, 188
Viodar, a new preparation of iodine, 589
Vitamin A "Avoleum," 757, 852

Prescriber's List, third edition, 124
Prescription of literature. *See* Literature
Presentations, 115, 150, 152, 194, 197, 471, 609, 959, 1052, 1055, 1134
PRESTON, P. G.: Glycerin in midwifery, 294
PRETTY, Harold C.:—Dissecting aneurysm of coronary artery in a woman aged 42: rupture, 667
PRICE, I. N. Orpwood: Gonococcal rhinitis, 375, 647—The gonococcal complement-fixation test, 578 (O)—Gonococcal infection, 1140
PRICE, Parry: The choice of an anaesthetic, 266
PRICE, Lieut.-Col. Raymond Herbert, obituary notice of, 122
PRICE, Thomas Slater, appointed to the chair of chemistry at Edinburgh, 863
PRIDIE, Eric Denholm, O.B.E. conferred on, 1004
PRIEST, Major Robert: Septicaemia and encephalitis in relation to vaccination, 349 (O)
Priestly: The discovery of oxygen, 462
PRIESTMAN, Austin: *Gabriel*, rev., 20
PRINGLE, Harold: Treatment of psychoneuroses, 17
PRINGLE, Seton: Popliteal aneurysm, 703—Spontaneous rupture of spleen, 708
PRINS, Lorens Arthur, Imperial Service Order conferred on, 1004
Prisoners of war, new International Convention on the treatment of, 597
PRITCHARD, Eric: The post-influenzal cough, 725
PRITCHARD, Harold: Treatment of glandular deficiency, 401
Prize, Bathgate, 918
Prize, Cartwright, 560
[illegible]
Prize, [illegible] Society, 1
Prize, [illegible]

Prize for best essay on goitre research, 381
Prize, Hallett, 122
Prize, Hutchison [Harry Stewart], 121
Prize, Jacksonian, 689, 777
Prize, Liddle, 332, 378
Prize, Nichols, 1033
Prize, Nordhoff-Jung [Sophia A.] cancer, 25
Prize for work on pernicious anaemia, 431
Prize, Radcliffe, 564
Prize, Sclavo [Achille], 251
Prize, Skerritt [Markham] Memorial, 121
Prize, trachoma, international, 411
Prize, Walker, 689
Probation of Offenders (Scotland) Bill, 429, 1004
Prohibition Bill. *See* Liquor Traffic Prohibition Bill
Promise of youth. *See* Youth
Pronunciation of "laboratory," 480
PROPPING, Professor, death of, 428
Proprietary drugs. *See* Drugs
Proprietary Medicines Bill, 242, 477, 565, 771, 854, 873, 903, 916, 1038, 1184—Leading article on, 903 *See also* Patent medicines
Prostate in general practice (Kenneth Walker), 482 (O)—*Correspondence on*, 603
Protein content of the plasma (I. Snapper), 399
Protozoology, review of book on, 939
Pruritus ani, injection treatment of (W. J. Lytle), 498
Pruritus with jaundice, 42
PRYER, Major A. A.: Radiological problems in veterinary medicine, 15
Pseudo-myxoma of ovaries and peritoneum (D. Dougal), 542
Psittacosis three cases of, with two deaths (H. R. Fisher, R. J. Helsby, Dorothy S. Russell and S. P. Bedson), 887 (O)—Parliamentary note on, 1143
Psoriasis, 779, 877
Psychiatric out-patient clinic (Ian Skottowe), 452—Correspondence on, 610. *See also* Out-patient
Psychiatry, social (D. K. Henderson), 370
Psychological medicine, a course in, 23
Psychology, child, Edinburgh clinic for, 422
Psychology, individual, practice of (Alfred Adler), 139, 148
Psychology, Industrial, National Institute of: Annual report, 716—The work of, 1082
Psychology and rationalization, 716
Psychology, review of book on, 60
Psychology and the worker, 1082
Psychoneuroses, treatment of (Armstrong Bennett), 17—Discussion, 17
Psychoses, review of book on, 188
Psychopathology, review of books on, 1118
Psychotherapy, review of books on, 188, 313
Public health in the Irish Free State, 187, 969
[illegible]
States
Public pos[illegible]
Publicati[illegible]
Puerperal [illegible] lowing inflation of breasts (J. [illegible] ()
Puerperal fever, source [illegible] on (John Smith), 191—Leading article, 805—Correspondence on, 252 *See also* Umbilicus
Puerperal inversion, acute (Laurence D. Adler), 96—(Dudley [illegible] Boswell), 582. *See also* Uterus
Puerperal inversion of the uterus, 720
Puerperal pyrexia, prevention of (Samuel J. Cameron and Henry Thomson), 350—Correspondence on, 425
Puerperal sepsis, 870
Puerperal sepsis, tracking the source of infection in (leading article), 805
Puerperal sepsis, treatment of (A. H. Davidson), 99
Puerperium in tuberculous women. *See* Pregnancy and Tuberculous
PUIG, Dr, death of, 291
PULLEINE, Eleanor: Urticaria, 1145
Pulmonary asbestosis. *See* Asbestosis
Pulmonary diseases and atmospheric pollution, 277
Punjab public health in Report [illegible]
[illegible] absent
[illegible] nulating
[illegible] 1091—
PURDY, J. S.: Migration and health, 36, 830
Purpura, two interesting cases of (Harry Coke), 535 (O)
Purpura. *See also* Haemorrhagic diathesis
PURSER, F. C.: Treatment of psychoneuroses, 17
PURVES-STEWART, Sir James: Etiology of disseminated sclerosis, 98
[illegible] for, 20, 625,
Pyorrhoea, nomenclature of, 945
Pyosalpinx, double, in a girl of 16 (Ruth Nicholson), 542
Pyramidon [illegible]
P[illegible]
P[illegible]
P[illegible] muel J.
[illegible] -Corre-
[illegible] 1099
Pyuria in children (J. N. Cumings), 305 (O)

Q.

Quarantine service of China, 809
QUEIROLO, Dr., death of, 428
Quinine and cinchona, 201
Quinine and malaria in England, 42
Quinine milk powder (lacquin), 589
Quinine solutions at dispensaries, method of testing, 230
Quinine production in India (Sir Charles MacWatt), 594
Quinine, review of book on the use of, 1074
Quinine therapy in malaria, 23
Quinine and urea hydrochloride in sciatica, 293, 336. *See also* Cinchona
Quinoline derivatives, 595

R.

Rabies, treatment of: Reports from the King Edward VII Memorial Pasteur Institute, Shillong, and the Pasteur Institute of Southern India at Coonoor, 420
RABINOWITCH, I. M.: The diabetic child, 105
Race, the problem of (Sir Arthur Keith), 506
RACKEMANN, Francis M.: *Clinical Allergy, particularly Asthma and Hay Fever*, rev., 671
RACKHAM, Mrs.: The psychological factor in delinquency, 233
RADCLIFFE, Walter: Closed drainage in treatment of empyema, 562
Radiography of the accessory nasal sinuses (H. K. Graham Hodgson), 551
Radiological problems in veterinary medicine: Discussion at the Royal Society of Medicine, 15
Radiological renal outline (S. Gilbert Scott), 183
Radiologists, British Institute of: Aspects of radiation therapy, 402 — Radium and *x*-ray [illegible]
[illegible]
See also University of Cambridge
Radiology, review of books on, 19, 358, 670, 852, 983
Radiology. *See also* Ultra-violet; X rays, etc.
Radium container, Mount Vernon Hospital butterfly, 145
[illegible] of in the pharynx
Radium needles for surface application, simple holder for, 145
Radium: possible effects in prophylaxis of cancer, 1045
[illegible] 522, 772 (O)
[illegible] Ward), 402—Discussion, 403
Radium therapy, review of book on, 271
Radium treatment at *University College Hospital* (R. S. Pilcher), 814
Radium and *x*-ray service in Australia (A. Burrows), 403
Radium Trust, National, and National Radium Commission: Combined annual report, 67
Radon seed introducer, 273
Radon seed pistol, 985
RAKSHIT, J. N.: Contaminations in morphine for analysis of opium, 849
Ramon y Cayal, Professor, unveiling of a statue of, 1099
RAMOND, Félix (and Charles JACQUELIN): *Radiologie de l'estomac et du duodénum*, second edition, rev., 356
RAMOND, Louis: *Petites Cliniques*, rev., 712
RAMSAY, Graham Colville, Kaisar-i-Hind medal conferred on, 71
RAMSAY, Mabel L.: Subarachnoid haemorrhage in a child, 1070
RAMSDEN, Walter, title of *Professor Emeritus* conferred on, 478
RANKIN, W.: Mortality in acute appendicular disease, 516
RAO, S. Subba: Haematometra and haematosalpinx in one horn of a bicornuate uterus, 180
RAPER, H. S., *appointed Pro Vice-Chancellor* of the University of Manchester, 204
Rationalization and psychology, 716
RAW, Nathan: Treatment of pneumonia, 448
RAWLING, L. Bathe: *Stepping Stones to Surgery*, rev., 312
RAY, K. S.: *Quinine* production in India, 594
RAY, M. B.: Physiological effects of baths, 353—The psychological factor in the rheumatic syndrome, 937—Taboparesis treated by hyperpyrexia induced by hot baths, 1093
Ray Therapy, Institute of: *Annual report*, 691
RAYNER, H. H.: Mortality of acute appendicitis, 328
RAZI, Abou Bekir el, millenary of, 293. *See also* Rhazes
REA, Marguerite Requa: *The Diet Book*, rev., 940
Reading and eye movements (M. D. Vernon), 24
Recruits. *See* Army, British
Rectal speculum and lamp, 103
Rectum, tumours of. *See* Tumours
Red Cross Committee, International: Florence Nightingale medal awarded, 1097
Red Cross, Japanese: *Average duration of life in Japan*, 1055
Red Cross Society: Annual meeting of the City of Edinburgh Branch, 422—*Cookery and Catering Manual*, second edition, rev., 935. *See also* Society
REDMAYNE, Thomas, obituary notice of, 777
REED, Alfred C.: *Tropical Medicine in the United States*, rev., 272
REEKIE, C. Barclay: *Reports on the health of* Dunfermline, 953
Reflex in chorea, a new. *See* Chorea
Reflexes, spinal, analysis of (leading article), 228. *See also* Co-ordination
REFORD, J. Hope (and Frank ENGLAND): *The Play of the Cards*, rev., 61
Refresher courses for ship surgeons. *See* Ship surgeons
Refuse, London, disposal of (parliamentary notes), 204, 291, 566, 650
Regional medical officer for Scotland, appointment of, 238
Regional planning committees (parliamentary note), 875
Registrar-General's reports. *See* Vital Statistics
REGNOLI, Alessandro, death of, 1142
REHBERG, P. B.: Pathological function of the kidneys in renal disease, 944
REID, Hugh (and Humphrey H. GLEAVE): Congenital aneurysm of the brain, 445 (O)
Rejuvenation and senility (Arnold Lorand), 185
Relapsing fever. *See* Fever
RENY, Félix, death of, 428
Renal complications of pregnancy, alkalis in (Harold G. Close), 539
Renal complications in scarlet fever, prevention of, 1094. *See also* Fever
Renal disease, pathological function of the kidneys in (C. Holten and P. B. Rehberg), 944
Renal outline, the radiological (S. Gilbert Scott), 183
Renal. *See also* Kidney
RENSHAW, A.: Vaccine therapy, 355
Representation of the People Bill, 39, 243, 286, 429, 519, 727, 873, 916, 959, 1004, 1093. *See also University* franchise
Research on animal diseases (parliamentary note), 650, 772
Research Council, Medical:—Annual *report* (1929-30), 412, 466—*Bacteriology in Relation to Medicine, a System of*: vol. vii., 100—Vol. vi, 899—Cotton spinning mills, Lancashire, sickness among operatives in (A. Bradford Hill), 148—Electrocardiogram, report on (W. H. *Craib*), 407—*Iodine supply and the* incidence of endemic goitre, report on (J. B. Orr), 460—Nutrition, a study in, report on (E. P. Cathcart and A. M. T. Murray), 274—Pithead baths, report on (Dr. Vernon and Dr. Bedford), 25—*Physiology of* vision, report on the movements of the eyes in reading (M. D. Vernon), 24—Research Fellowship [Dorothy Temple Cross] in Tuberculosis, 810—Status lymphaticus: Investigation Committee's report, 468—Report on *Two Studies of Absenteeism in Coal Mines* (H. M. Vernon, T. Bedford, and C. G. Warner), 1026—Report on physique and health of two African tribes (J. B. Orr and J. L. Gilks), 1130
Research, effect of on curative medicine (H. H. Dale), 1076
[illegible]
149
Research, scientific and industrial:—Illumination Research, Technical Paper No. 11: The Efficiency of Light Wells (H. F. Meacock and G. E. V. Lambert), 106—Report on atmospheric pollution, 419—Report of the Water Pollution *Research Board* for year ending June 30th (1930), 462—Report of the department of, 651
Research, surgical biological, an institute for, 320, 332
Research, veterinary *medical* (parliamentary note), 1054
[illegible] eart after, 382
[illegible] of book on, 711
catarrh of, 1056.
[illegible] ment of, 647, 912

Reviews of Books:
Abdominal Diagnosis. *See* Diagnosis
Aborigines, Forty Years with the (Rev. E. R. Gribble), 145
Acta Medica Scandinavica: Proceedings of the Fourteenth Northern Congress of Internal Medicine, Helsingfors (1929), 272—Diätetische Behandlung des runden Geschwürs des Magens und des Duodenums (Alexander Jarotzky), 1075
Allen's Commercial Organic Analysis. *See Analysis*
Allergy, Clinical, particularly Asthma and Hay Fever (Francis M. Rackemann), 671
Among the Thinkers: Leaves from My Note-Books (James Alexander *Lindsay*), 1121
Anaesthetics, Practical (Charles F. Hadfield), second edition, 850
Analysis, Allen's Commercial Organic, vol. viii (edited by C. Ainsworth Mitchell), fifth edition, 940
Analytical Chemistry. *See* Chemistry
Anaphylaxis, Alimentary (Guy Laroche, Charles Richet fils, and François Saint-Girons), 145

Reviews of Books (*continued*):
Anatomy, Baillière's Synthetic (J. E. Cheesman), Part VII, The Thorax; Part VIII, The Abdomen, 672
Anatomy of the Foot, a Concise (Arnold Whitaker Oxford), 984
Anatomy Institute of the Imperial University of Kyoto, the Work of, 757
Anatomy, Piersol's Human, ninth edition, 1073
Anatomy: Stepping Stones to Surgery (L. Bathe Rawling), 312
Beesly
Annali di Clinica, Medica e di Medicina Sperimentale, 456
Annals of Medical History. *See* Medical *and* Medicine
Anopheline Mosquitos in Southern Rhodesia (1925–1928) (H. S. Leeson), 1121
Arthritis, Chronic, and Rheumatoid Affections (Bernard Langdon Wyatt and Louis I. Dublin), 801
Transactions of, 61
Bacillus Calmette Guérin Vaccination against Tuberculosis (Roland Chaussinand), 756
Backache (James Mennell), 754
Bacteria, Physiology and Biochemistry of (R. E. Buchanan and Ellis I. Fulmer), vols. ii and iii, 404
Bacteriological Technique (J. W. H. Eyre), third edition, 60
Bacteriology, Aids to (William Partridge), fifth edition, 102
Bacteriology, Practical, an Introduction to (T. J. Mackie and J. E. McCartney), third edition, 712
Bacteriology in Relation to Medicine, a System of, vol. vii, 103; vol. vi, 899
Biliary Function: Les Fonctions Hépato-Biliaires (M. Chiray and F. Thiébaut), 984
Biological Assay: Essais et Dosages Biologiques des Substances Médicamenteuses (Jeanne Lévy), 144
Biology, Animal, Principles of (Lancelot T. Hogben), 18
Biology: The Progress of Life (Alexander Meek), 358
Biometric Technique. *See* Measurement
Blight, Francis James, F.R.S.E., a Bio- 129
Blut-
omo-
Cliniques de Paul Lecène (P. Pavie and P. Moulonguet), 1073
Bridge: The Play of the Cards (Frank England and *J. Hops Reford*), 61
Bright's Disease, the Oedema of (Professor *Achard*): a correction, 102
British Journal of Psychology issues a Monograph on the growth of Visual Perception in Children, 559
British Red Cross Society: Cookery and Catering Manual (edited by Ch. Herman Senn, second edition, 985
Brown-Séquard et Son Œuvre (F. A. Rouget), 902
Burns: Types, Pathology, and Management (George T. Pack and A. Hobson Davis), 628
Cancer and Race (Maurice Sorsby), 800
Cancer and Scientific Research (Barbara Hopkins), 358
Case for Action, The (Innes H. Pearse and G. Scott Williamson), 357
Casement, Roger, Life and Death of (Denis Gwynn), 802
Die Zerebrospinal-
of (edited by Hargrave L. Adam), 273
Charaka Club, Proceedings of the, vol. vii, 672
lysis
nt Advances in, (C. Ainsworth
Chemistry (Catechism Series), Part II, fourth edition, 672
Chemistry, Clinical, in Practical Medicine (C. P. Stewart and D. M. Dunlop), 628
Chemistry, Inorganic and Theoretical, a Comprehensive Treatise on, vol. x (J. W. Mellor), 20
Chemistry, Organic (C. Ainsworth Mitchell), 757
Chemistry, Physical and Inorganic, Recent Advances in (Alfred W. Stewart), sixth edition), 801
Chest in Children, Roentgenologically Considered (E. Gordon Stoloff), 670
Reviews of Books (*continued*):
Chest Diseases (W. J. Fenton and L. S. T. Burrell), 512
Childhood, Diseases of, Lectures on (Robert ion, 850
D. McBride), 1074
Handbook of (Bruce Williamson), 902
Children's Diseases: Quatre Cent Consultations Médicales pour les Maladies des Enfants (Jules Comby), ninth edition, 985
Children's and Infants' Diseases, Handbook of (F. M. B. Allen), 1029
Chill, its Dangers and Prevention (Marian Thornett), 588
Circulation: Verhandlung der Deutschen Gesellschaft für Kreislaufforschung, iii Tagung, 802
Clinical Examination and Surgical Diagnosis (Félix Lejars), 545
Clinical Teaching: Petites Cliniques (Louis Ramond), 712
Congress against alcoholism: Compte-Rendu du XIXe Congrès international contre l'Alcoolisme, Anvers, 20 25 Août (1928), 802
Congress of Internal Medicine: Verhandlungen des vier
innere
Congress
malaria
273
Congress of Sexual Reform (1930): Proceedings, 630
Cookery and Catering Manual (edited by Ch. Herman Senn), second edition, 985
Corpuscular Sedimentation. *See* Sedimentation
Creative Mind (C. Spearman), 101
Crime as Destiny: A Study of Criminal Twins (Johannes Lange), 314
Crippled
Culture f Micro-organis Levine and H.
Darwin, Doctor Erasmus (Hesketh Pearson), 500
Deafness, Chronic, Treatment of by the Electrophonoïde Method of Zünd-Burguet (George C. Cathcart), second edition, 544
Dental Board of the United Kingdom and its Various Committees, the Minutes of, 273—General Index to the Minutes, 1921 to 1930, relating to volumes i to ix, 273
Dental Surgery, Dictionary of (J. Fleming McAsh), 405
Dentists Register (1931), 455
Diabetes Mellitus, Treatment of with Higher Carbohydrate Diets (W. D. Sansum, Percival Allen Gray, and Ruth Bowden), 226
Diabetic Surgery (Leland S. McKittrick and Howard F. Root), 755
Diagnosis, Abdominal:—Diagnostics Urgents: Abdomen (H. Mondor), 186
Diagnosis, Medical:—Entstehung, Erkennung und Behandlung innerer Krankheiten (Ludolf Krehl) Vol. ii: Die Erkennung innerer Krankheiten, 1120
Diagnosis, Physical (Richard C. Cabot), tenth edition, 102
Diagnosis, Surgical, and Clinical Examination (Félix Lejars, translated from the French by Helen C. Scott), 545
Diathermy: La Diathermie dans des Affections du Tube Digestif (Marcel Laemmer), 227
Dictionary of Dental Diseases and Treatment (J. Fleming McAsh), 405
Diet Book (Marguerite Requa Rea), 940
Diet and Care of the Surgical Case (Reynold H. Boyd), 757
Diets, Handbook of (Rose M Simmonds), 902
Digestive System, Practical Treatise on Diseases of the (L. Winfield Kohn), vols. i and ii, 587
Diseases Internal, Pathology of (William Boyd), 1027
Dispensing, First Lines in (H. B. Stevens and C. E. L. Lucas), third edition, 61
Dispensing Royal Army Medical Corps Aids to
of (A. J.
Ear Diseases. *See* Nose
Emergency Surgery. *See* Surgery
Entomology, Recent Advances in (A. D. Imms), 314
Epidemiology, the Principles of (C. O. Stallybrass), 629
Episcopal Hospital, Philadelphia: Medical and Surgical Reports, vol. vi, 589
Expectant Mother. *See* Mother
Eye, Diseases and Anomalies of, 1119
Eye, Diseases and Injuries of the (William George Sym), third edition, 454
Feeding, Infant. *See* Infant
Fellowship Examination Papers for the Diplomas of the Royal College of Surgeons, Edinburgh (1927-1930), 672
Food and Drugs, Bell's Sale of (R. A. Robinson), eighth edition, 1029
Foot, Anatomy of. *See* Anatomy
Forensic Medicine, Recent Advances in (Sydney Smith and John Glaister, jun.), 499
Reviews of Books (*continued*):
Formenkreis Theory and the Progress of the Organic
Four Years
Fractures
Ewart Wilson), 1027
Fractures, Plating of: Ostéosynthèse (Dupuy de Frenelle), 143
Fungoid Infections of Man: Die Fadenpilzerkrankungen des Menschen (Robert Otto Stein), 671
"Gabriel" (Austin Priestman), 20
Galton, Francis, Life, Letters and Labours of (Karl Pearson), vols. iii (a) and iii (b), 225
Gas Casualties, Manual of Treatment of (1930), 144
General Medical Council and its Various Committees: Minutes of, 314; General Index to the Minutes 1903 to 1930, relating to volumes xl to lxvii, 314
German Society for the Study of the Circula- third meeting, 802
Thought of, vol. i
Greenwood, Harold, Trial of (edited by Winifred Duke), 545
Guy's Hospital Reports, vol. lxxx (vol. x, fourth series), No. 4, 101
Gynaecology, a Short Practice of (Henry Jellett and Richard E. Tottenham), sixth edition, 465
Haematology, Recent Advances in (A. Piney), third edition, 20
Health Centre: The Case for Action (Innes H. Pearse and G. Scott Williamson), 357
Health and Physick, Sixty Centuries of (S G Blaxland Stubbs and E. W. Bligh), 851
Health and Social Evolution (Sir George Newman), 900
Heart Disease, the Diagnosis and Treatment of (E. M. Brockbank), sixth edition, 144
Heart, Mechanism of, and its Anomalies (Emile Géraudel, translated by Louis Faugères), 103
Histology for Medical Students (H. Hartridge and F. *Haynes*), 629
Hospital Review: Nosokomeion, No. 1–4, 630; No. 2, 1121
Hospital, Samaritan Free, History of (Arnold Whitaker Oxford), 630
Human Inheritance, the Treasury of (edited by Karl Pearson). Vol. ii, Anomalies and Diseases of the Eye [Nettleship Memorial volume]; Part IV, Hereditary Optic Atrophy (Julia Bell), 1119
Hygiene, Social: Kompendium der Sozialen Hygiene (B. Chajes), 359
Hypertension (Leslie T. Gager), 544
Hypotension: Les Hypotensions aigues et subaiguës (M. A. Dumas), 544
Industrial Medicine. See Medicine
Infant Diseases. *See* Children
Infant Feeding: Säuglings-Ernährungs-Tafel 712
Internal Diseases. *See* Diseases
International Clinics (edited by Henry W. Cattell), vol. iii, fortieth series, 405; vol. iv, fortieth series, 801
Intestinal Diseases: Maladies de l'Intestin, série i (R. Bensaude), 851
Intussusception: L'Invagination intestinale aiguë du nourrisson (F. d'Allaines and Jean
et ses Applications and Jean Dubosq), 630
Jaws and Teeth, Malformation of (Emi Herbst and Max Apffelstaedt), 313
Kidney. *See* Renal
Legal Medicine. *See* Medicine
Leishmaniasis: Le Bouton d'Orient (Leishmaniose Cutanée), et son Traitement Moderne (Georges Higoumenakis), 405
Leper's Cross: Het Kruis der Leprozen (Denis Mulder), 456
Life Assurance Examinations, the Conduct of (E. M. Brockbank), 1028
Life, The Materials of (T. R. Parsons), 630
Life, The Progress of (Alexander Meek), 3 8
L prolonger
L (Lancelot Hogben), 404
Lungs, the Physical and Radiological Examination of the (James Crocket), second edition, 1073
Malariology, An Introduction to (Mark F Boyd), 900
Malignant Disease, Deep X-ray Therapy in (Walter M. Levitt), 224
Malignant Disease. *See also* Cancer
M Pharmacology, Hale-White),
Measurement of Man (J. A. Harris, C. M. Jackson, D. G. Paterson, and R. E. Scammon), 102
Medical Annual (edited by F. Carey Coombs and A. Rendle Short), forty-ninth year, 932
Medical Biometry and Statistics, Introduction to (Raymond Pearl), second edition, 544
Medical and Dental Students Register, 456
Medical Diseases in Tropical and Sub-tropical Areas, 1930: War Office Memorandum, fifth edition, 589

Reviews of Books (*continued*):
Medical History, Annals of: new series, vol. ii, No. 6 (edited by Francis R. Packard), 102; vol. iii, No. 1, 501; vol. iii, No. 2, 672: vol. iii, No. 3, 1121
Medical History and Case Taking, an Introduction to (Geoffrey Bourne), 272
Medical Jurisprudence (Elmer D. Brothers), third edition, 938
Medical Jurisprudence and Toxicology, a Text-Book of (John Glaister and John Glaister, Jun.), fifth edition, 670
Medical Jurisprudence. *See also* Forensic Medicine *and* Medicine, Legal
Medical Practice: Medizinische Praxis, Band xi, Stoffwechselkrankheiten (Erich Leschke), 940
Medical Register (1931), 456
Medicine (Catechism Series), Part II, third edition, 672
Medicine: Annali di Clinica Medica e di Medicina Sperimentale, 456
Medicine, Forensic. *See* Forensic
Medicine, General (Practical Medicine Series), 630
Medicine: Histoire de la Médecine (A. Castiglioni, translated by J. Bertrand and F. Gidon), 757
Medicine, History of: A Short Synopsis (Bernard Dawson), 984
Medicine, Industrial: Medicina del Lavoro-Disciplina Italica (Alessandro Peri), 188
Medicine, Legal, and Toxicology (Ralph W. Webster), 938
Medicine, Practical: Neue Deutsche Klinik (Georg and Felix Klemperer), vol vi, 145
Medicine, Text-Book of, by American authors (edited by Russell L. Cecil), 939
Mental Deficiency, the Diagnosis of (G. E. Birkett), 271
Mentally Defective Children, Simple Beginnings in the Training of (Margaret Macdowall), third (memorial) edition, 501
Mentally Deficient, Social Control of the (Stanley Powell Davies), 59
Merck's Annual Report, Part II (1930), English edition (E. Merck), 61: Part III (1930), 359
Metabolic Diseases: Stoffwechselkrankheiten (Erich Leschke), 940
Micro-organisms, Culture Media for the Cultivation of, a Compilation of (Max Levine and H. W. Schoenlein), 186
Micro-organisms: Handbuch der pathogenen Mikroorganismen (W. Kolle and A. v. Wassermann), third edition, 143
Milk, Bacteriological Control of (A. G. House), 985
Minor Surgery. *See* Surgery
Monsters, the Mystery and Lore of (O. J. S. Thompson), 227
Mosquitos, Anopheline, in Southern Rhodesia, 1926–1928 (H. S. Leeson), 1121
Mother, the Expectant, and Her Baby (Bodh Raj Chopra), 272
Motor [illegible]
Motor [illegible]
Motorc [illegible]
trate[illegible]
Mrs. Dose the Doctor's Wife (Joyce Dennys), 19
[illegible]
Surgical (William Lincoln Ballenger), sixth edition, 456
Nosokomeion (Quarterly Hospital Review) No. 1–4, 630; No. 2, 1121
Nosological Terminology: Die Eigennamen in der Krankheitsterminologie (I. Fischer), 902
Nurses, Text-Book for (E. W. Hey Groves and J. M. Fortescue-Brickdale), 757
Nutrition and Food Chemistry (Barnard S. Bronson), 455
Obstetrical and Gynaecological Monographs (second edition), 711
Operations, Surgical. *See* Surgical
Ophthalmological Society of the United Kingdom, Transactions of the, vol. l, 852
Optic Atrophy, Hereditary (Julia Bell), 1119
Organic World, the Formenkreis Theory and Progress of the (Otto Kleinschmidt), 20
Osteo-arthritis: L'Arthrite Chronique de la Hanche (L. Duvernay), 588
Osteosynthesis: Osteosynthèse (Dupuy de Frenelle), 143
Paediatrics, The History of (George Frederic Still), 454
[illegible]
[illegible]
Pathology (Catechism Series), Part V, third edition, 672
Pathology of Internal Diseases (William Boyd), 1027
Pathology, a Text-Book of (edited by E. T. Bell), 803
Pensions, Widows', Orphans', and Old Age Contributory, Handbook of (T. P. M'Donald and George Davie), 902
Perimetry, Clinical, an Introduction to (H. M. Traquair), second edition, 499
Pharmacology, Experimental, and Medicine, Lane Lectures on (Rudolf Magnus), 19
Reviews of Books (*continued*):
Pharmacology and Therapeutics, An Introduction to (J. A. Gunn), second edition, 981
Pharmacopoeia of St. Thomas's Hospital, new edition, 902
Physical Diagnosis. *See* Diagnosis
Physics, a Survey of (Frederick A. Saunders), 1075
Physiological Chemistry. *See* Chemistry
Physiology, General, an Elementary Course in, Part I, Principle and Theory (G. W. Scarth): Part II, Laboratory Exercises (F. E. Lloyd and G. W. Scarth), 1075
Physiology, Human (F. R. Winton and L. E. Bayliss), 59
Physiology, Human Experimental, an Introduction to (F. W. Lamb), 1023
Physiology, Manual of (H. Willoughby Lyle and David de Soura), third edition, 358
Physiology, Selected Readings in the History of (edited by John Farquhar Fulton), 940
Physiotherapy, its Principles and Practice (F. Howard Humphris and Ralph E. Stuart-Webb), 60
Pickett-Thomson Research Laboratory, Annals of the:—Vol. vi, The Pathogenic Streptococci: The Role of the Streptococci in Scarlet Fever, 938
Piersol's Human Anatomy, ninth edition, 1073
Play of the Cards (Frank England and J. Hope Reford), 61
Post-encephalitis, 499
Protozoology, Handbook of (Richard R. Kudo), 939
Psychoanalysis: Fortschritte der Sexualwissenschaft und Psychoanalyse (Wilhelm Stekel), Band iv, 852
Psychology, Individual, and General Medicine (F. G. Crookshank), 60
Psychopathology: A Survey of Modern Approaches (J. Ernest Nicole), 1118
Psychopathology: The Unknown Self (Georg Groddeck), 1118
Psychoses: Die Prognostik der Endogenen Psychosen (Friedrich Mauz), 188
Psychotherapy, Modern (Emanuel Miller), 313
Psychotherapy: Psychotherapie bei organischen Erkrankungen (Fritz Mohr), 188
Public Health Practice in the Tropics (J. Balfour Kirk), 756. *See also* Tropics
Quinine: Chinin in der Allgemeinpraxis (Fritz Johannessohn), 1074
Radiography. Radiologie de l'estomac et du duodénum (Felix Ramond and Charles Jacquelin), second edition, 356
Radiology of the Chest in Children (E. Gordon Stoloff), 670
Radiology: Diagnostic et Thérapeutique Electro Radiologiques des Maladies du Système Nerveux (A. Zimmern and J.-A. Chavany), 19
Radiology, Recent Advances in (Peter Kerley), 983
Radium Therapy: Principles and Practice (Henry Herd), 271
Rejuvenation: Verjüngung durch Anregung der Blutbildung (Arnold Lorand), 545
Renal Disease: Exploration Fonctionnelle des Reins (H. Chabanier and C. Lobo-Onell, with the collaboration of M. Lebert and E. Lélu), 545
Respiratory Disease:—Clinique Médicale des Enfants: Affections de l'Appareil Respira[illegible], 711
[illegible]tion, 852
Arthritis (Bernard Langdon Wyatt and Louis I. Dublin), 801
Rheumatism, Its Significance in Youth and [illegible]
[illegible] in the Study and Bernard
[illegible]tgenverfahren (Kurt Kirschmann), 852
Royal Army Medical Corps Aids to Dispensing (Staff Sergeant G. Ashton), 985
St. Bartholomew's Hospital Reports, vol. lxiii, 60
St. George and the Dragon: Poems (Alan Fleming), 1029
St. John Ambulance Association, its History, and its Part in the Ambulance Movement (N. Corbet Fletcher), 901
Sacro-Coxalgia: La Sacro-Coxalgie et son Traitement (Pierre Ingelrans), 543
Samaritan Free Hospital, History of (Arnold Whitaker Oxford), 630
Scapel, Sword, and Stretcher (Colonel Robert J. Blackham), 801
Schizophrenia, Treatment of (Leland E. Hinsie), 710
Sedimentation: La Sédimentation Globulaire: Son Application à l'Hydrologie (Michel Mosinger and René Grimaud), 589
Sex Expression, Social Control of (Geoffrey May), 1075
Sex Life of Twenty-two Hundred Women, Factors in the (Katherine Bement Davis), 1121
Sexual Reform[illegible]
S[illegible]
S[illegible] the Treatment of (Noxon Toomey), 800
Skin Grafting, Technique and Results of (H. Kenrick Christie), 313
Reviews of Books (*continued*):
Sleep: La Fisio-Patologia del Sonno (Alberto Salmon), 405
Slum Problem, the (B. S. Townroe), 103
Smethurst, Dr., Trial of (Leonard A. Parry), 1119
Social Hygiene. *See* Hygiene
Spas and Marine Health Resorts of Great Britain and Ireland and New Zealand, an Annual Guide to the (H. Fortescue Fox), 275
Spirit of Chemistry. *See* Chemistry
Starvation Treatment: Die wissenschaftlichen Grundlagen der Hunger- und Durstkuren (Hans Günther), 588
Surgery, Emergency (Hamilton Bailey), vol. i, Abdomen and Pelvis, 327
Surgery, General (edited by Evarts A. Graham), 1029
Surgery for the General Practitioner: Die Chirurgie des Praktischen Arztes (Erich Sonntag), 901
Surgery, Minor, and Bandaging (Gwynne Williams), twentieth edition, 757
Surgery, Its Principles and Practice (Astley Paston Cooper Ashhurst), fourth edition, 1075
Surgery, the Science and Practice of (W. H. C. Romanis and Philip H. Mitchiner), third edition, 30
Surgery, a Shorter (R. J. McNeill Love), second edition, 405
Surgery, Stepping Stones to (L. Bathe Rawling), 512
Surgical Anatomy. *See* Anatomy
Surgical Diagnosis. *See* Diagnosis
Surgical Emergencies in Practice (W. H. C. Romanis and Philip H. Mitchiner), 710
Surgical Operations, The Student's Handbook of (Sir Frederick Treves), fifth edition (edited by Cecil P. G. Wakeley), 537
Synthalin B (Decamethylendiguanidin) im Spiegel tierexperimenteller und klinischer Forschung (Herbert Hirsch-Kauffmann), 589
Synthetic Anatomy. *See* Anatomy
Syphilis: Le Traitement de la Syphilis (A. Sézary), 225
Syphilis, Primary, in the Female (Thomas Anwyl Davies), 983
Teeth and Jaws, Malformations of the (Emil Herbst and Max Apfelstaedt), 313
Terminology: Die Eigennamen in der Krankheitsterminologie (I. Fischer), 902
Therapeutic Novelties: Les Thérapeutiques Nouvelles (Gaston Lyon), 188
Thérapeutique Médicale, II, Ailments Médicaments, 1171
Throat Diseases. *See* Nose
Tobacco (Walter L. Mendenhall), 405
Tongue, Diseases of the (Walter G. Spencer and Stanford Cade), 709
Toxicology and Medical Jurisprudence, a Text-Book of (John Glaister and John Glaister, jun.), fifth edition, 670
Toxicology. *See also* Medical Jurisprudence, and Medicine Legal
Treatment, Modern Methods of (Logan Clendening), fourth edition, 630
Treatment: Technique Thérapeutique Médicale (G. Milian), 20
Trials, Notable British: George Chapman (edited by Hargrave L. Adam), 273—Harold Greenwood (edited by Winifred Duke), 545—Dr. Smethurst (Leonard A. Parry), 1119
Tropical Medicine in the United States (Alfred C. Reed), 272
Tropical and Sub-tropical Areas, Medical Diseases in, War Office Memoranda on, [illegible]
ment and Health for the (J. Balfour Kirk),
Practice in the (J.
Tuberculosis in Children (J. Arthur Myers), 143
Tuberculosis: Ergebnisse der gesamten Tuberkuloseforschung (H. Assmann, H. Beitzke, H. Braeuning, and St. Engel), Band ii, 850
Tuberculosis, Intestinal (Lawrason Brown and Homer
Tuberculosis
Tuberculos[illegible]
sinand), 756
Twins: Heredity and Environment (Nathaniel D. M. Hirsch), 103
Ulcer, gastric and duodenal: Diätetische Behandlung des runden Geschwürs des Magens und des Duodenums (Alexander
1075
Unknown Self (Georg Groddeck), 1118
Urticaria: Les Urticaires (Edouard Joltrain), 271
V.A.D. in the War: Four Years out of Life (Lesley Smith), 1074
Venereal Disease: Diagnose, Differentialdiagnose und Behandlung der Haut- und Geschlechtskrankheiten (Walther Scholtz), 543
Venereal Disease, Practical Methods in the Diagnosis and Treatment of (David Lees), second edition, 1118

Reviews of Books (*continued*):
Veterinary Literature and its British Development, the Early History of (Major-General Sir Frederick Smith), vol. iii, 672
(Walter M. Levitt), 224
Year-Book of the Scientific and Learned Societies of Great Britain and Ireland, forty-seventh issue, 852
Zoology, Elementary (L. A. Borradaile), second edition, 712
Zoology, Practical, a Junior Course of (A. Milnes Marshall and C. Herbert Hurst), eleventh edition, 545

REY, Jules: *Diverticula of the duodenum*, 524
Rhazes, millenary of, 293
Rheumatic disease treated by heat (R. Fortescue Fox), 337
Rheumatic diseases, special course of study in, in Germany, 335
Rheumatic syndrome, psychological factors in the (M. B. Ray), 937
Rheumatism, advisory committee on (parliamentary note), 772
Rheumatism, balneotherapy in (leading article), 590
Rheumatism in childhood (Robert Hutchison), 624
Rheumatism Clinic: Red Cross parliamentary *note*), 231—Leading article, 675—At *Brighton*, 778
Rheumatism, International League against, 1090
Rheumatism, review of books on, 186, 227, 801
Rheumatism and tonsillectomy (P. W. Leathart), 626
Rhinitis, chronic, 610, 733
Rhinitis, gonococcal, in an infant (Hamilton Kirkland and Robert V. Storer), 263 (O), 1035—Correspondence on, 375, 561, 647, 1093
Rhineland spas. *See* Spas
Rhinorrhoea, paroxysmal? 432, 524, 568
RICHARDSON, G.: Post influenzal cough, 685
Richardson, Sir John: surgeon, physician, sailor, explorer, naturalist, scholar (D. A. Stewart), 110
RICHES, E. W.: The radiological renal outline, 183—Fractured neck of the femur treated by injection of blood, 308
RICHET, Charles (Guy LAROCHE and François SAINT-GIRONS): *Alimentary Anaphylaxis*, rev., 145
Rickets, cod-liver oil and irradiated ergosterol in, relative actions of, 853
Rickets, and oral sepsis, 232—Report of Committee, 232
Riedel's disease (C. O. Davies), 752
Ringworm of the scalp, thallium acetate treatment of (G. H. Percival), 575 (O)
Ringworm transmission of (Arthur Whitfield), 351—Discussion, 351
Ringworm, Wood's glass in diagnosis of (John Kinnear), 791 (O)
RINTOUL, A. H.: An epidemic of dysentery due to *B. dysenteriae* γ of Hiss, 138
RISSER, Joseph C.: Operative treatment of scoliosis, 550
RITCHIE, W. T.: The treatment of circulatory failure, 195—Appreciation of Sir Byrom Bramwell, 825
Rivers pollution prevention: Report of Scottish Advisory Committee, 380—Report of Director of Water Pollution Research, 462—Parliamentary note on, 477
RIVETT, L. Carnac: Management of pregnancy in tuberculous women, 141—The obstetrical problem of the contracted pelvis, 897
RIX, R. C.: Sugar in the diet of the school child, 223
ROBB, John J.: Mortality in acute appendicular disease, 374
ROBERTS, A. Boyd: Miscarriage of one twin, 479
ROBERTS AND Co.: Index of proprietary drugs, 124
ROBERTS, Eva Louise, called to the Bar, 251
ROBERTS, Ff.: X-ray therapy in malignant disease of the lung, 283
ROBERTS, J. E. H.: Indolent ulcers of the leg, 399
ROBERTSON, A. Stewart: Clinical thermometers, 830
ROBERTSON, Sir Charles Grant: Birmingham hospitals centre, 31
ROBERTSON, G. M.: Annual report of the Royal Edinburgh Hospital for Mental and Nervous Disorders, 422—The psychiatric out-patient clinic, 453—Mental disorders and pernicious anaemia, 980
ROBERTSON, William N., C.M.G. conferred on, 1094
ROBINSON, Arthur, retirement of, 237
ROBINSON, Henry: Medical charities, 119
ROBINSON, Leyland: Fibromyomatous uteri simulating pregnancy, 738
ROBINSON, R. A.: *Bell's Sale of Food and Drugs*, eighth edition, rev., 1027
ROCHE, Alex. E.: Pruritus with jaundice, 42
ROCHE, Redmond: Members of the Royal [illegible] *l Problems* series, 67—ygiene and into the Capital value of expenditure in American hospitals, 592
Rockefeller Institute: Report on the fractional products of the tubercle bacillus (Florence R. Sabin, C. A. Doan, and C. E. Forkner), 411
Rockefeller Medical Fellowships, 828
ROE, Alfred John Septimus, obituary notice of, 1006
Roentgen, Professor, museum memorial to at Lennep, 609
ROGERS, Sir Leonard: Leprosy in the British Empire, 72—Forecasting epidemics, 1030
ROLLESTON, Sir Humphry: Digitalis in toxaemia, 1024
ROLLESTON, J. D.: Epidemiology of venereal diseases, 752, 820—Jean Baptiste Bouillaud, 761
ROLLIER, Dr., elected a foreign member of the Académie de Médecine, 567
ROLSTON, Cecil M., appointed an official member of the Legislative Council of the Presidency of Dominica, 876
ROMANIS, W. H. C (and Philip H. MITCHINER): *The Science and Practice of Surgery*, third edition, rev., 29—(And Philip H. MITCHINER): *Surgical Emergencies in Practice*, rev., 710
ROOT, Howard F. (and Leland S. MCKITTRICK): *Diabetic Surgery*, rev., 755
ROPER, Dr.: Case of polycythaemia, 356
ROREM, C. Rufus: *The Public's Investment in Hospitals*, 592
Roscommon County, medical appointment in, 754
ROSENHEIM, Otto: Recent advances in chemistry of vitamins, 1117
ROSKIN, Miriam (and John T. MORRISON): Fracture of the skull in childhood, 212 (O)
Ross Institute: Annual report, 1035
[illegible]
1099
ROTH, E. J. H.: The radiological renal outline, 183
ROTH, Paul Bernard:—Appreciation of Maurice Fitzmaurice-Kelly, 161—Hallux valgus: a note on operative treatment, 443 (O)
ROTHERHAM, Arthur, appointed a senior commissioner of the Board of Control, 67
ROTHWELL, T. W.: Nocturnal incontinence in *children*, 42
ROUGET, F. A.: *Brown-Séquard et Son Œuvre*, rev., 902
ROUVIÈRE, Dr., elected a member of the Académie de Médecine, 479
ROWLANDS, R. P. (and W. D. DOHERTY): Subphrenic abscess, 168 (O)
ROWLETTE, R. J.: Puerperal sepsis, 100
ROWNTREE, Cecil: Surgical treatment of gastric ulcer, 848
ROXBURGH, Colonel J. A.: Report of Glasgow Western Infirmary, 30
ROY, D. W.: The obstetrical problem of the contracted pelvis, 897
Royal Army Medical Corps. *See* Army, British
Royal Commissions and health (parliamentary note), 822
Royal Faculty of Physicians and Surgeons of Glasgow: Admission of Fellows, 519
Royal Institute of Public Health: Congress. *See* Congress
Royal Institution: Friday evening discourses at, 778—Reconstruction of the, 857
Royal Medical Benevolent Fund. *See* Fund
Royal Medical Benevolent Fund Guild, 326. *See also* Fund
Royal Sanitary Institute: Recent methods of sewage treatment, 315—Next congress, 828, 1039. *See also* Congress
Royal Victoria Tuberculosis Trust. *See* Tuberculosis
ROYLE, N. D.:—The knee-jerk and its variation: an indication for sympathetic ramisection or trunk section, 11 (O)
RUNDLE, C.: Immunization against diphtheria and scarlet fever, 498
RUSS, Sidney, C.B.E. conferred on, 25
RUSSELL, Dorothy S. (H. R. FISHER, R. J. HELSBY, and S. P. BEDSON): Three cases of psittacosis with two deaths; summary of necropsy, 888 (O)
RUSSELL, M. J.: Meals for school children, 512
RUSSELL PASHA, Major-General T. W.: Narcotic drugs in Egypt, 636, 920
Russia, visit of scientists to, 692, 920
RUTHERFORD, Sir Ernest, peerage conferred on, 25
RYLE, J. A.: Streptococcal infections, 677
RYND, Francis:—Neuralgia: introduction of fluid to the nerve, 652

S.

ST. ENGEL (and others): *Ergebnisse der gesamten Tuberkuloseforschung*, Band II, rev., 850
St. John Ambulance Association, its History, and its Part in the Ambulance Movement, rev., 901
St. John the Divine Nursing Sisters open a midwifery centre at Deptford, 691, 815
St. John of Jerusalem, Order of: Home ambulance service report, 722, 1134
St. Pancras, new houses for old in, 556
SABIN, Florence R: The fractional products of the tubercle bacillus, 411
Sacro-coxalgia, review of book on, 543
"Safety Week," 150
SAINSBURY, John: The "deep pool" baths, 242
SAINT-GIRONS, François (Guy LAROCHE and Charles RICHET): *Alimentary Anaphylaxis*, rev., 145
SALA, Luigi, death of, 688
SALISBURY, Walter: Comb dissecting forceps, 61
SALMON, Alberto: *La Fisio-Patologia del Sonno*, rev., 405
SALMOND, James R.: Bromide poisoning in a monkey, 124
SALMOND, Margaret: Management of pregnancy in tuberculous women, 141
SALMOND, R. W. A.: Radiological problems in veterinary medicine, 15
Salon des Médecins, Paris (1931), 1144
SALTER, Alfred: *Welfare of merchant seamen* 66
Salts, inorganic, assimilation of, 382
SALVIOLI, Ignazio, death of, 688
Samarkand (Turkestan), medical faculty opened at, 381
SAMPSON, Homer L. (and Lawrason BROWN): *Intestinal Tuberculosis*, second edition, rev., 226
SAMSON, James B.: Alkaline therapy in scarlet fever, 1002
SAMWAYS, D. W.: Medical reciprocity with France, 36, 475
Sanatorium, King Edward VII, Midhurst, 723
SANGUINETTI, Harold: Malignant disease of the *large intestine*, 142
Sanitation, garden, 1008
Sanitation, urban, in India, 865
Sanocrysin for phthisis in children (H. T. Ashby), 668
SANSUM, W. D. (Percival Allen GRAY and Ruth BOWDEN): *The Treatment of Diabetes Mellitus with Higher Carbohydrate Diets*, rev., 226
SANTOLIQUIDO, Rocco, death of, 202
Sarcoma of lung (Howard E. Collier), 666
SARGENT, Sir Percy: Harveian Oration on the pituitary gland, 551
SAUNDERS, Frederick A.: *A Survey of Physics*, rev., 1075
SAVAGE, W. G: Milk-borne streptococcus epidemics, 591
Save the Children Fund. *See* Fund
SAVINI, E., death of, 202
SAWDAY, A. Ernest: The incision for appendicectomy, 472
Saxony, trichinosis made a notifiable disease in, 381
Scabies, transmission of (Arthur Whitfield), 351—Discussion, 351
SCAMMON, R. E (J. A. HARRIS, C. M. JACKSON, and D. G. PATERSON): *The Measurement of Man*, rev., 103
Scandinavians, insanity among the (K. A. Andresen), 410
SCANTLEBURY, Vera: Mental hygiene, 420
SCARTH, G. W. (and F. E. LLOYD): *An Elementary Course in General Physiology*: Part I, Principle and Theory; Part II, Laboratory Exercises, rev., 1075
Sch. 122. *See* Urography
SCHAEFFER, Karl L., death of, 959
SCHARFF, R. J.: "Warbles" in man, 80
SCHARLIEB, Dame Mary: Estate and bequests of, 79—Memorial to, 475
SCHERBER, G.: *Beiträge zur Lösung des Krebsproblems*, 1123
SCHILLER, Max, death of, 428
Schistosome worms and schistosome monsters, 8, 7, 914, 1140
Schizophrenia, review of book on, 710
SCHLESINGER, Bernard (and Frederic John POYNTON): *Recent Advances in the Study of Rheumatism*, rev., 186
SCHOENLEIN, H. W. (and Max LEVINE): *A Compilation of Culture Media for the Cultivation of Micro organisms*, rev., 186
SCHOFIELD, J. Ewart: Non-filarial elephantiasis, 795
[illegible] note), 822
[illegible] *Differential-* [illegible] *Haut- und*
School attendance. *See* Education (School Attendance) Bill
School child, health of: Report of the Chief Medical Officer of the Board of Education, 69, 112
School child and milk. *See* Milk
School child, the primary (leading article), 317
School child and sugar. *See* Sugar
School children, meals for (Irish Free State), 512
School children, medical and dental treatment of, in London, 71
School children, medical examination of (parliamentary note), 566
School children, medical inspection of (parliamentary note), 608
School inspection, medical, in Northern Ireland, 324
Schools for epileptics (parliamentary note), 950
Schools, health in (A. S. M. Macgregor), 237
Schools of hygiene, report on, 995. *See also* Hygiene
Schools, special, revised list of certified, 876
SCHWARTZMAN, M. S: Muscle extract treatment of some grave vascular diseases, 492 (O)

...lications for

...omia, 1027, 1103,

Sc... ...y of (E. Arnold C... ... 98 — Leading ...

Sclerosis, disseminated, Hailey Stewart Trust provides freehold premises at Hampstead for the study of, 335

Sclerosis, disseminated, liver treatment of (Alexander Goodall and James K. Slater), 789 (O)

Sclerosis, disseminated, research on, 425, 471, 513, 550—Miss K. Chevassut's refusal to accept the offer of the Medical Research Council to demonstrate a spherule, 425

Scoliosis, operative treatment of (Russell A. Hibbs, Joseph C. Risser, and Albert B. Ferguson), 550

Scotland:
Aberdeen ...—
Nurses
Barrie, ... to, 471
Bellahouston Hospital central corridor system, 197
Blind, care of the, 1087
Child, care of the, 152
Crichton Royal Institution, Dumfries, 325
Dairy Research Institute, a new, 813
Deaf, education of, 115
Dundee Royal Infirmary, 1088
Dunfermline Hospital, 371, 761—Health of, 953
Edinburgh:
Chemistry, new professor of (Thomas Slater Price), 863
Child psychology, clinic for, 422
Church of Scotland Deaconness Hospital, 643
Deaf, education of, 115
Foot clinic, 471
Hospital for Sick Children, 1132
Maternity hospital, 724
Milk for school children, 238
Nursing hospital and Health Week, 928
...sh), 643
7
...ntal and
Royal Infirmary, 237, 371
Royal Medical Society, 371
Social Union, 471
University. *See* University in General Index
Fife: Co-operation between public health staffs and the general practitioners of the county, 198
Front line defence, 198
Gilgal Hospital, Perth, 1088
Glasgow:
Anderson College, 511
Bellahouston Hospital central corridor system, 197
Congress of Obstetrics and Gynaecology, British, 601
Ear, Nose, and Throat Hospital, 814
Egypt Society, 601
Home for incurables, 1043
Maternity hospital, 421
Post-graduate courses in, 955
Royal Asylum, 863
Royal Hospital for Sick Children, 724
Royal Infirmary, 324, 724
Royal Samaritan Hospital, 643
University report, 764
University Union, the new, 29
Govan, David Elder Infirmary, 282
, Hawick, 238
partment of
Health in schools, 237
Health services: In Lanark: proposed co-ordination, 369—In Scotland, 554
1042
Housing in (parliamentary note), 960
Infantile mortality (parliamentary note), 650, 960
note), 1038
Mental deficiency in, 602
Mental hospital appointment, 554
Mental factor in disease, 29
Midwives Board, Central, for Scotland, 864
Milk and the school child, 114, 238
Mines, varying rates of sickness in, 1026
Morison Lectures, 370

Scotland (*continued*):
Muir, Robert, presentation of his portrait to, 152, 197
Muir, William, sum collected for, 1093
Nurseries, day, and child gardens in, 244
Nursing conference, 765, 937
Nursing schemes, Scottish 512
Paying patients in hospitals, 724
Pekin skull, 282
Pension, old age, for the certified patient, 325
Pharmacopoeia, British, revision of, 196
Probation of Offenders (Scotland) Bill, 429, 1004
Puerperal fever, source of infection in, 191
Red Cross Society, 422
St Andrews, new professor at, 281
Schools, health in, 237
Scottish Orthopaedic Chirurgical Society, 555
Scottish Scientific Advisory Committee, 471
Scottish workers, health of, 29
Selkirk Hospital, 1038
Smellie, Dr. William, renovation of tombstone of, 813
Soot and smoke, dangers to health from, 863
Tuke, A. L. ..., made an honorary freeman of the city of Dunfermline, 814
Veterinary art, development of, 238
Vital statistics, 642
West Govan Child Welfare Association, 421

Scotland, Department of Health for: Annual report, 1041, 1131—Milk consumption and the growth of school children, 111—Puerperal fever, sources of infection in, report on (John Smith), 191, 805—Regional medical officer appointed, 238

Scott, A.: Gonococcal rhinitis, 561

Scott, Agnes Catherine, C.B.E. conferred on, 25, 70

Scott, F. Gilbert: Climate of Majorca, 453

Scott, F. G. Laughton: Prevention and treatment of drug addiction, 495—An unusual mental abnormality, 561

Scott, S. Gilbert: The radiological renal outline, 183—Diverticula of the duodenum, 316 (O)—Diverticula of the colon, 645

Scottish Education Department: Notification of mental defect, 281

Scottish Scientific Advisory Committee, 471

Scottish workers, health of (Sir Thomas Legge), 29

Screen, anaesthetic, as "surgical aid" (Sir W. I. *de Courcy Wheeler*), 975

Scripture, Edward, elected a member of the International Society of Experimental Phonetics, 293

Scurvy (Dr. Charcot), 862

Security of tenure in public posts. *See* Public posts

Seamen, merchant: Welfare of, 66—Report of Norwegian Red Cross Society, 66—Sickness among (parliamentary note), 39—Health of (*parliamentary note*), 291, 608

Sea-sickness (Group Captain Martin Flack), 176 (O)

Sea-sickness and ketosis (J. R. Marrack), 178 (O)

Seborrhoea and acidosis (John T. Ingram and F. S. Fowweather, 839 (O)—Correspondence on, 914
k on, 589
of acute polio-

Sefton, J.: Pregnancy with intact hymen, 780

Segerdal, A.: Teeth at birth, 336

Seidel, Dr.: Recent advances in chemistry of vitamins, 1117

Seiler, H. E. (and Mary D. Gilmour): A case of pulmonary asbestosis, 1112 (O)

Semon, H. C. G.: Treatment of eczema, 181—Eczema of internal origin, 540—The post-influenzal cough, 769

Semple, Sir David: Reports on his antirabic serum, 420

Senility and rejuvenation (Arnold Lorang), 185

Senn, Ch. Herman: *British Red Cross Society: Cookery and Catering Manual*, second edition, rev., 985

Sensory nerve fibres, messages in, and their interpretation (E. D. Adrian), 979

Sentence of Death (Expectant Mothers) Bill, 291, 916—*See also* Capital punishment

Sepsis, oral, and rickets, 232—Report of committee, 232

Sepsis, puerperal. *See* Puerperal

Septicaemia and encephalitis in relation to vaccination (Major Robert Priest), 349 (O)
, 283
and R. E. 424, 516, 559
reatment of
lobar pneumonia (R. R. Armstrong and R. S. Johnson), 701 (O), 931 (O)—Correspondence on, 817

Serum, antipneumococcic (Felton), 985

Serum, antitetanic, decision as to obligatory use of, 861

Serum, convalescent, in prophylaxis of measles
), 12 (O)
on of in general
(B. H. Shaw), 623 (O)

Serum treatment (specific) of lobar pneumonia in adults, 557. *See also* Pneumonia

Serum treatment of bovine tuberculosis (parliamentary note), 556

Service reports, 409, 555—An error, 565. *See also* Air Force, Army, Navy

Sewage, fat from (parliamentary note), 875

Sewage treatment, recent methods of (William Butler), 315

Sewell, S. V.: Mental hygiene, 420

Sex characters, review of, with special reference to the adrenal cortex (F. R. Bruce), 713 (O)

Sex, review of book on, 1121

Sexual impotence, treatment of (J. Young), 1117—Discussion, 1118

Sexual Reform Congress. *See* Congress

Seyer, Raymond, death of, 502

Seymour Price, F.: Treatment of nervous exhaustion, 754

Sézary, A.: *Le Traitement de la Syphilis*, rev., 226

Shakespear, Dame Ethel: Birmingham women medical officers and the "resignation on marriage" clause, 193

Shanghai Institute for encouragement of co-operation between Chinese and Western thought, gift towards rebuilding of, 472

Shantung School of Medicine, 876

Shaw, B. H.: Surface tension of serum in cerebral paralysis: an aid to diagnosis, 623 (O)

Shaw, J. J. McIntosh, elected a Fellow of the Royal Society of Edinburgh, 473

Shaw, Maurice E.: Blood pressure and life assurance, 766

Shaw, R. W.: Splanchnic anaesthesia, 541

Shaw, W. Fletcher: Pain in the lower abdomen, 269—Epithelioma of the vulva, 541

Shaw, Wilfrid: The keloid ovary, 645

Shaw-Mackenzie, J. A.: *Cancer and Scientific Research*, 725

Shearen, A.: Medical services in the Highlands and Islands, 642

Sheffield, post-graduate courses at, 335

Sheldon, Wilfrid: The interpretation of pain in infancy, 553 (O)

Shepherd, R. L.: Schistosome worms and schistosome monsters, 914

Sierra, A. G.: Vaccine therapy, 355—Vaccine dosage, 695—Mental disorder and pernicious anaemia, 931

Sherman, H. C. (and S. L. Smith): *The Vitamins*, second edition, rev., 991

Sherrington, Sir Charles: Hughlings Jackson Lecture on quantitative management of contraction for "lowest-level" co-ordination, 297 (O)

Shipley, G. S.: Etiology of the common cold, 149

Shipboard, health on (parliamentary note), 608

Ship surgeons' refresher courses for, 676, 1139

Ships, wireless station for medical advice for, 1099
oice of an anaes-
sia, 330, 1095
of the neck of the

Shirlaw, J. Thomson: The metabolism of tumours, 74

Shock, obstetric (Miles H. Phillips), 833 (O)—*Correspondence on*, 912, 955, 1003, *1016*

Shock, obstetric, and pituitrin, 955, 1003

Shock following street accidents, treatment of, 868

Shore, R. A.: Goitre in school children, 351

Short, A. Rendle: Treatment of gastric and duodenal ulcer, 435 (O)—(And F. Carey Coombs, editors): *The Medical Annual*, rev., 982

Shorten, Wing Commander William W. C.B.E. *conferred on*, 1004

Shortt, C. J. De Vere: Painless labour, 294

Shoulder, recurrent dislocation of (leading article), 275

Shrewsbury, J. F. D.: Cutaneous infection with a diphtheroid bacillus, 538

Sick and wounded in war, new International Convention for the care of, 597

Sickness, sea. *See* Sea-sickness

Sierra Leone: Change of title from Deputy Director, Health Service, to Assistant Director, Health Service, 431—Survey of disease in (D. B. Blacklock), 1125
Motor
Convalescent serum in prophylaxis of measles, 12 (O)

Silcock, F. A. E.: Treatment of varicose ulcers, 34

Silicosis:—In Africa, South: Report of Miners' Phthisis Bureau, 28, 355—*Report of the International Conference at Johannesburg* (E. L. Middleton), 548—Report of papers presented at a meeting of the Transvaal Mine Medical Officers' ining
(J. S. iners
(Arthur s on,
399, 874 874—
Interna os of,
874

Silicosis and Asbestosis (Medical Fees) Regulations, 959
(leading article), 548
(F. W. Simson), 1033
tomy of (A. Suther-
and symptom-
of Diets, rev., 902

SIMON, Clément: *Lettres à un Médecin Praticien sur la Dermatologie et la Vénéréologie*, 635
SIMON, George (and H. P. NELSON): The accessory lobe of the azygos vein, 9 (O)—(And E. T. C. MILLIGAN): Routine radiograms for investigation of intestinal obstruction, 1114 (O)
SIMON, Paul, death of, 202, 959
SIMPSON, G. A. Garey: The post-influenzal cough, 878
SIMSON, Captain Alexander Macdonald, mentioned in dispatches (Nuer country), 77
SIMSON, F. W.: The histo-pathology of silicosis, 1033
SIMSON, Sir Henry: Post-graduate opportunities, 721
SINCLAIR, Major Maurice: Surgical glue, 630—Fracture of the neck of the femur, 1093
SINTON, Dr.: Foreign body in bowel, 578
Sinuses, accessory nasal, radiography of (H. K. Graham Hodgson), 551
Sinusitis, frontal (leading article), 275
Sinusitus, frontal, with intracranial suppuration and invasion of blood and cerebro-spinal fluid by different organisms (John A. Burgess), 936
SKEELS, P. B., appointed assistant deputy coroner for the central district of London, 251
Skin diseases, cold in relation to (H. Haxthausen), 192. *See also* Cold
[illegible]k on, 313
[illegible] chiatric out-patient clinic, 452
Skull, fracture of, in childhood (John T. Morrison and Miriam Roskin), 212 (O)
Skull, fractured base of: effects on hearing (E. D. D. Davis), 419
Skull, Peking (G. Elliot Smith), 151, 282 551, 652. *See also* Peking
SLATER, James K. (and Alexander GOODALL): Treatment of disseminated sclerosis by liver, 789 (O)
SLATER, Robert Henry, awarded the Freeland Barbour Fellowship, 873
Sleep in hospitals, 30, 992. *See also* Hospitals
Sleep, review of book on, 405
SLOSSE, Auguste, death of, 648
SLOT, Gerald: Malignant disease of the large intestine, 142
Slum clearance schemes (parliamentary note), 960
Small-pox: Deaths from, 291, 334, 477, 874, 1054—Deaths of seven children from, 334—Detection of, London County Council regulations, 952—In Germany, 951—In London, 40, 244—Lymph, charge for, 477 — In Northern and Southern Rhodesia, 822—Parliamentary notes, 40, 244, 291, 334, 477, 822, 874, 1054—Prevention of (leading article), 993—Ministry of Health Memorandum on Vaccination Acts and small-pox prevention, 995—Successful primary vaccinations, 822. *See also* Vaccination
SMEALL, J. T.: Types of pneumococci in relation to disease, 661 (O)
SMELLIE, William, unveiling of the renovated memorial stone on the grave of, 813
Smethurst, Thomas, Trial of (Leonard A. Parry), rev., 1119
SMITH, Dame Anne Beadsmore, awarded the Florence Nightingale medal, 1097
SMITH, A. Hayes: Glyceria as a surgical dressing, 333—Concentrated antipneumococcal serum in the treatment of lobar pneumonia, 818
SMITH, A. Tennyson: Treatment of asthma by minute doses of tuberculin, 1140
SMITH, Sir Frank Edward, LL.D. Aberdeen conferred on, 643
SMITH, Major-General Sir Frederick: *The Early History of Veterinary Literature and its British Development*, rev., 672
SMITH, G. Elliot: The Peking man, 151, 282, 551, 652—Early men and apes, 908
SMITH, G. F. Rawdon: Appreciation of John Edward Gemmell, 249
SMITH, George Gilbert: Treatment of cancer of the bladder, 459
SMITH, Lieut.-Col. Henry: The general practitioner and poisoning cases, 35
SMITH, James Lorrain: Death of, 718—Obituary notice of, 773
SMITH, John: *Causation and Source of Infection in Puerperal Fever*, 191, 805—Awarded the Nichols prize, 1083
SMITH, Kenneth [illegible]
SMITH, Leslie: F[illegible]
SMITH, N. Ross:
SMITH, O. F. Gut
Method of exciting incipient movement in weakened and paralysed muscles, 54 (O)
SMITH, Percy: The psychiatric out-patient clinic, 453
SMITH, [illegible]
SMITH, [illegible]
SMITH, [illegible]
SMITH, [illegible]
Recen[illegible]
493—A[illegible]
Medic[illegible]
SMITH, [illegible] and H. C. BIERMAN): *The Vitamins*, second edition, rev., 991
SMITH, Travers: Treatment of nervous exhaustion, 754
SMITH, Sir William R., Ehrlich-Weigert medal of the University of Frankfort presented to, 960
Smoke abatement (parliamentary note), 821
Smoke Abatement Society. *See* Society
Smoke and soot, dangers to health from, 863
SMYLY, Sir William: Puerperal sepsis, 93
SMYTH, Lieut.-Col. Frederick Augustus, obituary notice of, 429
SMYTHE, H. J. Drew: Indications of the induction of premature labour, 1018 (O)
Snake-bite in India, 252
SNAPPER, I.: Protein content of the plasma, 399
SNOW, E. C.: "Warbles" in man, 79
Social hygiene. *See* Hygiene
Social psychiatry. *See* Psychiatry
Social services (parliamentary note), 204
Social Union, Edinburgh: Annual report, 471
Social work, Congress on. *See* Congress
[illegible] f
[illegible] e
Society, Aberdeen Medico-Chirurgical: Alkali treatment of nephritis, 223—Convulsions occurring during surgical anaesthesia, 224, 440—Traumatic aneurysm of the plantar artery, 224—Injection treatment of varicose veins, 312
Society, Abernethian: Centenary of the death of John Abernethy, 718, 719
Society, American, of Clinical Pathologists: First issue of the official organ of, 876
Society of Apothecaries. *See* Apothecaries
Society, Birmingham Dental Students: Annual dinner, 41
Society, Bradford Medico-Chirurgical: Thirty years of stomach surgery, 483
Society, Brighton and Sussex Medico-Chirurgical: Insomnia, 142—Organic nervous disease, 405—Treatment of pituitary disorders, 498—
Sc[illegible] Spinal
Society, Chelsea Clinical: Treatment of eczema, 184—Treatment of glandular deficiencies, 400—Treatment of nervous exhaustion, 753
Society, Cremation: Annual meeting, 636
Sc[illegible]
[illegible]
356—Polycythaemia, 356—Marie's ataxia, 849—Glandular lipoma, 849
Society, Edinburgh Obstetrical: Histological changes in the liver in a series of cases of eclampsia, 98—Traumatic rupture of uterus at fourth month, 99—A retrospect of gynaecology and obstetrics, 354—Digestive disorders in breast-fed infants, 451—Cystoscopic appearances in carcinoma of the cervix uteri, 627—Uterine prolapse, 1025—Pregnancy and heart disease 1026
Society, Edinburgh Royal: Election of Fellows, 479
Society, Edinburgh Royal Medical: Annual dinner, 371
Society, Edinburgh University Agricultural: The establishment and development of veterinary education, 238
Society, Enniskillen District Nursing: Annual meeting, 512—Parsimony in health services, 512
Society, Eugenics: Sterilization of mental defectives, 432
Society, French National Antituberculosis, issues a statistical report on tuberculosis, 828
Society, German, for the Study of the Circulation: *Proceedings*, rev., 802
Society, German, for Internal Medicine: Annual meeting (1931), Wiesbaden, 205
Society, German, for Internal Medicine and Neurology in the Czechoslovakian Republic:
Sc[illegible]
eases, 335
Society, Glasgow Egypt: Clinical surgery in ancient Egypt, 601
[illegible]
[illegible] ion of uitary image
[illegible] The place of medical societies in the progress of medicine, 1036—Celebration at St. Bartholomew's Hospital, 1034—Centenary dinner, 1084
Society, Hunterian: Hunter an Lecture and the problem of rejuvenation, 185—Annual dinner, 372—Next award of the Hunterian medal to be in 1932, 1007
Society, Illuminating Engineering: Glass, 906
Society, Industrial Health Education: Annual report, 651
Society, Industrial Welfare: *Industrial Welfare and Personnel Management*, 716—Rationalization and psychology, 716
Society, Irish Clean Milk: Report, 954
Society, King's College Medical: The sound film in medical education, 999
Society, Leeds Students' Medical: Some tendon ruptures, 611
Society, Leeds and West Riding Medico-Chirurgical: Acidosis from the clinician's point of view, 433—Peritonitis due to perforation of the bowel by foreign bodies, 577
Society, London and Counties Medical Protection: Annual meeting, 812—Election of officers, 813
Society, London Jewish Hospital Medical: The trend of medical practice, 470—Intracranial tumours, 798
Society, Manchester Medical: Pain in the lower abdomen, 269—Treatment of toxic goitre, 450—Surgery of the pituitary body, 668—Sanocrysin for phthisis in children, 668—Calculus of the ureter, 669—Epidemic encephalitis, 849
Society, Manchester Pathological: Epidemic encephalitis, 849
Society, Medical, of Individual Psychology: The practice of individual psychology, 139—Obsessional neurosis, 936—The psychological factor in the rheumatic syndrome, 937—Treatment of impotence, 1117
Society, Medical, of London:—Medical and surgical rises of diathermy, 181—The choice of an anaesthetic, 265—Indolent ulcers of the leg, 398—Lettsomian Lectures: The spleen: its structure, functions, and diseases, 413—The treatment of pneumonia, 446—158th anniversary dinner, 459—Growth in children, 583—Annual oration: Medicine as a science and an art, 845
Society, Medical, of the Mediterranean Coast, arranges a tour, 380
Society of Medical History, Chicago: John Baygarth of Chester, 1086
Society of Medical Officers of Health (Infant Welfare Subgroup of the Midland Branch): Pulmonary tuberculosis in childhood, 694—Fever Hospitals Medical Service Group: Annual meeting, 1072—State control of therapeutic substances, 1072
Society of Medical Superintendents: Annual dinner, 651
Society, Midland Gynaecological and Obstetrical: The keloid ovary, 527
Society, Newcastle upon-Tyne and Northern Counties Medical: Artificial pneumothorax, 270—Hume Lectures on haemolytic icterus, 921, 963
Society, North of England Obstetrical and Gynaecological:—Obstructive inflammatory lesions of the uterus, 16 — Pathological exhibits, 16—Chorion epithelioma of uterus, 16—Specimen of a twin pregnancy, 16—Carcinoma in one horn of a bicornuate uterus, 16—
[illegible] inx, 17—Large
[illegible]t's address
[illegible] of cases and specimens, 100—Vaginal hysterectomy, 451—Appearance of ovum during pregnancy, 451—Gynaecological tumours, 541—Perforating adenoma of cervix, 541—Epithelioma of the vulva, 541—Uterus containing a sarcomatous polypus, 542—Uterus and appendages with a fimbrial cyst with twisted pedicle and early papilliferous carcinoma of ovary, 542—Pseudomyxoma of the ovaries and peritoneum, 542—Double prosalpinx in a girl of sixteen, 542—Lower segment Caesarean section, 798—Uterus with attached portion of colon, 798—Fibromyomatous uteri simulating pregnancy, 798—Torsion of a hydrosalpinx, 798—Uterus spontaneously ruptured during unassisted delivery, 798
Society, North of England Ophthalmological: Intranasal dacryocystostomy for relief of lacrymal obstruction, 391
Society, Nottingham Medical: Fractures of the neck of the femur, 781
Society, Ophthalmological, of the United Kingdom: *Transactions*, Vol. I, rev., 852
Society, Optical: Annual exhibition of instruments, etc., 105
Society of Orthopaedic Surgery, International—Presidential address: The domain of orthopaedic surgery, 295
Society of oto-rhino-laryngology established at Lyons, 876
Society, Paddington Medical: The work of the tuberculosis dispensary, 732
ociety, Pharmaceutical, of Great Britain: Revision of the *British Pharmacopoeia*, 196—The Pharmacy and Poisons Bill, 280—Five years' work of its pharmacological laboratories, 36
Society, Physical: Annual exhibition of instruments, etc., 105—"Audition," 1146—A simple method of measuring noise, 1146
Society, Physiological, issues a subject index to the first sixty volumes of the *Journal of Physiology*, 363
Society, Polish, of Oto-Laryngology: Honorary member elected, 251
Society for Prostitution Regulation and State Supervision, International: Annual meeting, 431
Society of Public Analysts: New development in filter papers, 849—New method for detecting decomposition of medicinal chloroform,
[illegible]
Society of Radiographers: Annual dinner, 326
Society, Red Cross, British: Annual meeting of the City of Edinburgh Branch, 422—Rheumatism centres, 675—Home ambulance service, annual report, 722—Quarterly report, 1131—*Cookery and Catering Manual*, second edition, rev., 985
Society, Red Cross, Norwegian: Report on the welfare of merchant seamen, 66
Society for Relief of Widows and Orphans of Medical Men: Annual meeting, 909

Society, Research Defence:—*The Fight against Disease*, 479—Stephen Paget Memorial Lecture: Effect of research on curative medicine, 1076
Society, R
investig
pulp to
Electior
autograph letter of Louis Pasteur, 763—Conversazione, 945, 1145—Exhibits, 945, 1145—Messages in sensory nerve fibres and their *interpretation*, 979 — *Recent advances in* chemistry of the vitamins, 1116
Society, Royal, of Arts: Industrial lighting, 709
Society, Royal Asiatic, gift to towards rebuilding the Shanghai Institute for co-operation between Chinese and Western thought, 479
Society, Royal, of Edinburgh. *See* Society, Edinburgh, Royal

SOCIETY, ROYAL, OF MEDICINE:
Reception, 205
Some great figures in history, 205
us
tions of
Electro-

Section of Balneology and Climatology.—Physiological effects of baths, 352
Section of Children's Diseases.—European women and children in the Tropics, 268—Bacillus Calmette-Guérin immunization of infants, 1070
Section of Comparative Medicine.—Radiological problems in veterinary medicine 15—Scabies and ringworm, 351
Section of Dermatology.—Scabies and ringworm, 351—Eczema of internal origin, 540
Section of Electro-Therapeutics.—Radiological problems in veterinary medicine, 15
Section of Epidemiology and State Medicine.—Epidemiology of venereal diseases, 751
Section of the History of Medicine.—Jean Baptiste Bouillaud, 761
Section of Laryngology.—Tuberculosis of the ear, 275—Frontal sinusitis, 275
Section of Medicine.—Protein content of the plasma, 393—The value of liver in treatment, 584—Treatment by hog's stomach, 585
Section of Neurology.—Chronic subdural haematoma, 97—Etiology of disseminated sclerosis, 97—Mental symptoms associated with brain tumours, 310
Section of Obstetrics and Gynaecology.—Joint meeting with the Tuberculosis Association, 140—Management of pregnancy, parturition, and the puerperium in tuberculous women, 140—Alkalis in renal complications of pregnancy, 539—The obstretrical problem of contracted pelvis, 895
Section of Odontology.—Cyst involving the whole of the mandible, 222—Replantation of upper central incisors of a schoolboy, 222—Sugar in the diet of the school child, 223—Nomenclature of pyorrhoea, 945
Section of Otology.—Tuberculosis of the ear, 275—Frontal sinusitis, 275—Fractured base of the skull and its effects on hearing, 449—Eruptions of the external auditory meatus, 796
Section of Pathology —The intravenous use of germicides 267
Section of Pharmacology.—Avertin and the liver, 1025—Cerebral metabolism, 1021—Digitalis in toxaemia 1024—Oestrin and pituitrin, 1024—Action of histamine, 1025
Section of Physical Medicine.—Establishment of, 1155
Sub-Section of Proctology. — Ulcerative colitis, 693—The injection treatment of piles, 897
Section of Psychiatry.—The structure of neurosis, 148 — Mental symptoms associated with brain tumours, 310—Prevention and treatment of drug addiction, 495
Section of Surgery.—The intravenous use of germicides, 267—Surgical treatment of gastric ulcer, 847
Section of Therapeutics.—The use of high carbohydrate diet in the treatment of diabetes, 319
Section of Tropical Diseases.—European women and children in the Tropics, 268—*Treatment*
Section renal
outline, 192

Society Royal Microscopical:—Annual general meeting, 221—President's address: The work of the society in the development of biology, 224—The nature of the living cell, 411
Society, Royal, of Tropical Medicine and Hygiene: Opening of Manson House, 1126
Society, St. Pancras House Improvement, work of, 556
Annual
Chronic
Injection treatment of haemorrhoids, pruritus ani, and fissure, 493—Obstetric shock, 833
Society, Smoke Abatement: Annual meeting of the Scottish Branch, 853—Dangers to health from soot and smoke, 853—*Coal, smoke, and cancer*, 863
Society, Southport Medical: Conservative gynaecological surgery, 653
Society of Surgery, International: German, Austrian, and Hungarian members reinstated, 995—Congress of, 995. *See also* Congress
Society of Surgery, Swiss: Annual meeting, 1144
Society, Torquay Medical: Treatment of dysmenorrhoea, 971
Society, University of London Medical
ier, 864
ins of
treatment, 165
Society, West London Medico-Chirurgical: Malignant disease of the large intestine, 141—Cavendish Lecture on development in relation to heredity, 1044
Sodium morrhuate for injection of varicose veins, 1029
Sodium nucleinate in pneumonia, 830
Solitary confinement. *See* Confinement
SOLOMONS, Bethel: Puerperal sepsis, 99—Analgesia and labour, 669
SOMMERFELD, *Paul, death of*, 872
SORSBY, Maurice: *Cancer and Race*, rev., 800
SOUTAR, J. G.: The psychiatric out-patient clinic, 453
South Africa. *See* Africa
SOUTHAM, A. H: The incision for appendicectomy, 258 (O)
SONNTAG Erich: *Die Chirurgie des Praktischen Arztes*, rev., 991
SOUTTAR, H. S.: Schorstein Lecture on radium in the service of surgery, 1 (O)—London Clinic and Nursing Home, 237—Intracranial tumours, 799
Spahlinger treatment of tuberculosis (parliamentary note), 203. *See also* Tuberculosis
Spain: Death rate in Madrid, 335—Tour to spas and climatic resorts of, 733
SPARKS, J. V.: The modern conception of early phthisis, 1003
Spas of Czecho-Slovakia, *medical tour of*, 961
Spas Federation, British: Half-yearly meeting, 645
Spas and health resorts, review of book on, 273
Spas in the Rhineland, tour to, 567, 761
Spas of North Spain, tours for medical men to, 733
Spasm
and
101
SPEAR
SPEARS, J.: Concurrent herpes and varicella, 1056
Specialization in the medical curriculum (leading article), 671
Specific fevers. *See* Fevers
Speculum, rectal, and lamp, 103
SPENCE, Arthur: Acute urethritis in mumps, 751
SPENCER, Herbert: Pentapharmacum or pentapermatum? 562—Harvey Tower, 1093
SPENCER, Walter G. (and Stanford CADE): *Diseases of the Tongue*, third edition of Butlin's *Diseases of the Tongue*, rev., 709
Spinal anaesthesia. *See* Anaesthesia
Spinal reflexes. *See* Reflexes *and* Co-ordination
Spine, fractured, thirty-eight years with a, 771
Spine fractures. *See* Fractures
Spinocain anaesthesia. *See* Anaesthesia
Spirit, surgical. *See* Surgical
Spiritualism and Psychical Research (Exemption) Bill, 201
Spirochaete, discovery of the (Erich Hoffmann), 676
Spleen, spontaneous rupture of (Seton Pringle), 708
Spleen: its structure, functions, and diseases (J. W. McNee), 413
Splint for use in operation for septal resection (Sir Robert Woods), 270
Spondylitis deformans (Charles W. Buckley), 1108 (O)
Spondylitis, syphilitic (Christine Abernethy), 1112 (O)
SPRAWSON, Major-General C. A.: Report on Madras hospitals, 235
SPRINGTHORPE, J. W.: Incubation period of measles, 734
Sprue, pathology and treatment of (Lieut.-Col. H. W. Acton), 222
STACEY, Eric: Specimen of a twin pregnancy, 16
STACEY-CLEMINSON, Florence: The psychological factor in delinquency, 234
STALLYBRASS
clinician,
theria and
of Epidemiology, rev., 629
STAMFORDHAM, Lord, the late, 723
STANLEY, Arthur, obituary notice of, 687
STANNUS, H. S.: European women and children in the Tropics, 268—Epidemiology of venereal diseases, 752 — Treatment of intestinal amoebiasis, 845
STARK, Michael: Wagstaff's forceps, 829, 1008
Starvation treatment, review of book on, 583
n, 544
committee's

STEAD, G.: Cambridge diploma in medical radiology, 160
STEEL, William Dyne, obituary notice of, 38
: notice of, 648
advances in chemistry
STEIN, Robert Otto: *Die Fadenpilzerkrankungen des Menschen*, rev., 671
STEKEL, Wilhelm: *Fortschritte der Sexualwissenschaft und Psychanalyse*, rev., 852
St
St
(Alec B. Walker and A. Cameron
STEPHENS, G. Arbour: The clinical value of a new reflex in chorea, 393 (O)—Calcium metabolism, 665—Blood pressure and life assurance, 816
STEPHENS, John Richard Cook, O.B.E. conferred on, 71
Sterilization of mental defectives (parliamentary note), 40—Correspondence on, 432. *See also* Mental defectives
Stethoscope as an aid to percussion, 34
STEVEN, W.: "A difficulty in a panel practitioner's life," 107
STEVENS, H. B. (and C. F. L. LUCAS): *First Lines in Dispensing*, third edition, rev., 61
STEVENSON, T. H. C., awarded the Jenner medal of the Royal Society of Medicine, 1083
STEVENS, R. H.: Treatment of eczema, 184
STEVENSON, Walter Cleaz, obituary notice of, 378
STEWART, Alfred W.: *Recent Advances in Physical and Inorganic Chemistry*, sixth edition, rev., 891
STEWART, R. Halley: Disseminated sclerosis research, 474
STEWART C. P. (and D. M. DUNLOP): *Clinical Chemistry in Practical Medicine*, rev., 628
STEWART, D. A.:—Sir John Richardson: surgeon, physician, sailor, explorer, naturalist, scholar, 110
STEWART, R. Hilton (and J. H. BIGGART): Case of acute bronchiolectasis, 1115 (O)
STEWART, J.: Hallux valgus, 771
STEWART, J. P.: Frontal sinusitis, 275
STIRSON, Charles Algernon, obituary notice of, 37
STILL, George Frederic: *The History of Paediatrics*, rev., 451
Stillbirth and neo-natal deaths in India, report on (Christine J. Thomson), 1039
STOCKDALE, E. Malcolm: Tonsillectomy and rheumatism, 627
STOCKS, Percy: Incubation period of measles, 157—Multiple exostoses obstructing parturition, 766
STOECKEL, Walter, issue of the *Zentralblatt für Gynäkologie* dedicated to, 778
Stoke Park Colony, Stapleton, Bristol, recognized by the University of London for the Diploma in Psychological Medicine, 961
STOKES, Lieut.-Col. Alexander Haldane, obituary notice of, 241
STOKES, H.: Perforation of jejunal ulcer, 541
STOLOFF, E. Gordon: *The Chest in Children, Roentgenologically Considered*, rev., 670
STOLPER, Lucius, death of, 1142
Stomach of hog in the treatment of pernicious anaemia: report of 103 cases (John F. Wilkinson), 85 (O), 585—Correspondence on, 158—Gaster siccata (B.D.H), 359—"Bynogastrol," 589
Stomach surgery, thirty years of (James Phillips), 489 (O)
Stomatitis, gonococcal (A. D. Frazer and J. Monton), 1020 (O)
Stone in India causation of (Colonel Robert McCarrison), 1009 (O)—Leading article, 1031—Correspondence on, 1138
Stone. *See also* Calculus *and* Surgery *and* Diet
STONE, William: The welfare of the blind under the Local Government Act (1929), 1087
STONEY, R. Atkinson: Perforation of jejunal ulcer, 541—Popliteal aneurysm, 708
Stopcock and needles for artificial pneumothorax, 188
STOPES, Marie C.: Pregnancy with intact hymen, 920
STORER, Robert V. (and Hamilton KIRKLAND): Gonococcal rhinitis in an infant, 263 (O), 1093
STORMONT, J. Henry: Nord-Sud tours in Italy 568
STORMONT, Mrs.: The psychological factor in delinquency, 234
STRACHAN, A. Sutherland: The pathological anatomy of silicosis, 1034
Strait-jacket, dangers of the (parliamentary note), 875
Strasbourg médical celebrates its ninetieth anniversary, 778
STRATHAIRN, G. C., nominated member of the Council of the Colony of Cyprus, 335
Street accidents. *See* Accidents
Streptococcal infections (J. A. Ryle and R. E. Smith), 677
Streptococci and scarlet fever, review of book on, 938—Correspondence on, 1094. *See also* Fever
Streptococcus epidemics, milk-borne (W. G. Savage), 591
STRONG, Richard P. (editor): *The African Republic of Liberia and the Belgian Congo*, 635
STRUTHERS, J. A.: Epilepsy and pregnancy, 218 (O)

STUART-WEBB, Dr.: Malignant disease of the large intestine, 142
STUART-WEBB, Ralph E. (and F. Howard HUMPHRIS):—*Physiotherapy: its Principles and Treatment*, rev., 60
STUBBS, S. G. Blaxland (and E. W. BLIGH): *Sixty Centuries of Health and Physick*, rev., 851
STURM, F. P., elected an honorary member of "Le Carrefour de Cos," 335
Subarachnoid haemorrhage in a child (Mabel L. Ramsay), 1070. *See also* Haemorrhage
Subphrenic abscess. *See* Abscess
Sugar, blood, choice of method of determination for clinical work (Freda K. Herbert and Margherita C. Bourne), 94 (O)
Sugar blood. *See also* Blood
Sugar in the diet of the school child (A. A. Osman), 223
Sunday Performances (Regulation) Bill, 727
SUNDELL, C. E.: Treatment of nervous exhaustion, 754
Sunlight, artificial, generator (Neron vitalux), 456
Sunlight, artificial. *See also* Actinotherapy; Light; Ultra-violet, etc.
Sunshine Home, Stillorgan, Co. Dublin: Annual report, 1088—Extension of, 1088
"Sunshine" lamps, 1029
Sunshine, sensitiveness to, 523, 568, 610
Supplement, contents of the issue of June 27th, 1126
uppuration, paranasal. *See* Paranasal
Suprapubic box, pads for, 227
Suprarenal cortex extract in Addison's disease, 480
Surgeons, portraits of, 463
Surgery, clinical, in ancient Egypt (John D. Comrie), 601
Surgery and diet (leading article), 1031—A correction, 1800
Surgery, gynaecological, conservative (W. Blair Bell), 653 (O)
Surgery, minor, of infancy (David Levi), 973 (O). —Correspondence on, 1094. *See also* Infancy
Surgery, orthopaedic, the domain of (Sir Robert Jones), 295 (O)—Leading article on, 319
Surgery, plastic, role of in the treatment of lupus vulgaris (T. Pomfret Kilner), 403
Surgery, present-day, glances at, 167
Surgery, review of books on, 20, 319, 357, 405, 406, 587, 710, 755, 901, 1029, 1075
Surgery of the stomach, thirty years of (James Phillips), 489 (O)
"Surgical aids," an anaesthetic screen, needle, and thimble as (Sir W. I. de Courcy Wheeler), 975 (O)
Surgical anaesthesia. *See* Anaesthesia
Surgical diathermy. *See* Diathermy
Surgical instruments, marking of: Prosecution under the Merchandise Marks Act, 122
Surgical research. *See* Research
Surgical spirit causing acute alcoholic poisoning (Vincent C. James), 539
SUTHERLAND, D. M.: An unusual abdominal injury, 234
SWAN, Jocelyn: The radiological renal outline, 183—Treatment of cancer, 834
Sweden, medical curriculum in, 116
Sweepstakes for hospitals (parliamentary note), 650, 727, 916
SWORN, H. G.: Puerperal inversion of the uterus, 780
SYDENHAM, Annie: Maternity work in Hong-Kong with special reference to tropical diseases associated with pregnancy, 640
Sydney, public health and tropical medicine schools in, 419. *See also* Australia *and* University
SYM, William George: *Diseases and Injuries of the Eye*, third edition, rev., 454—The myopic child, 1087
SYMONDS, Sir Charters J.: Hallux valgus, 645
SYMONDS, C. P.: Chronic subdural haematoma, 93—Mental symptoms associated with brain tumours, 311
SYMONDS, Major H. J. H., appointed Vice-Consul at Bushire, 353
Synthalin B, review of book on, 589
Syphilis, cardio-vascular, pathology of, 106
Syphilis: Meinicke clarification reaction (David Prentice), 136 (O)—Correspondence on, 242.
[illegible] the treatment, 305, 336—By mercurosol, 346
Syphilis in various countries, certain phases of, 381
Syphilitic spondylitis. *See* Spondylitis
Syringe case, 456
Syringe, ear, 61

T.

T.A.F. *See* [illegible]
T[illegible] do-Argyll *See also* [illegible]
Taboparesis treated by hyperpyrexia induced by hot baths (C. R. Gibson and R. G. Gordon), 1015 (O)—Correspondence on, 1093. *See also* Paralysis, general
Tanganyika Protectorate, recognition of medical diplomas in, 163
Taps and metal fittings, plated, 779, 829, 878
TATE, Frank: Mental hygiene, 420
TATHAM, Colonel C. J. Willmer: Appreciation of Stanley Edward Denyer, 563
TAVERNIER, Dr.: Recurrent dislocation of the shoulder, 275
Tavistock Clinic for Functional Nervous Disorders. *See* Nervous
Taxation of learned societies, 278. *See also* Income tax
TAYLOR, C. E.: Volvulus of a large appendix epiploica, 795
TAYLOR, Charles Joseph Gordon: Natural labour following Caesarean section, 33
TAYLOR, F. R. P.: The psychiatric out-patient clinic, 453
TAYLOR, Gordon: Malignant disease of the large intestine, 141
TAYLOR, Julian: Intracranial tumours, 799
TAYLOR, Seymour, obituary notice of, 938
Technical officers in Government departments (leading article), 632
Teeth at birth, 336
Teeth and diet (leading article), 502—Correspondence on, 914. *See also* Diet
Teeth, portable exhibit of, 609
Teeth, review of book on, 313
TEH, Wu Lien: Gift to the Royal Asiatic Society, China, 479
Telangiectasis, hereditary multiple (Osler's disease), 365
Telephone charges (parliamentary note), 291
Tendon ruptures (Harry Platt), 611 (O), 1047, 1100—Leading article, 633—Correspondence on, 866, 1002, 1047, 1100
TERMAN, Professor: *Genetic Studies of Genius*, 1032
Terminology, review of book on, 902
Tetanus, treatment of, 74, 382
Tetanus, unusual channel of infection (W. S. *Brindle*), 396
Thallium acetate in the treatment of ringworm of the scalp (G. H. Percival), 575 (O)
Thallium poisoning, case of (John Lansbury), 329
[illegible] *See also* Gynaecology, a retrospect of
THEOBALD, G. W.: The obstetrical problem of the contracted pelvis, 897
THEOBALD, S. T.: European women and children in the Tropics, 269
Therapeutic substances, State control of (Percival Hartley), 1072
Therapeutics, review of books on, 20, 188, 984, 1075, 1121. *See also* Treatment
Thérapeutique Médicale: II, *Ailments Médicaments*, rev., 1121
Thermometers, clinical: a warning, 830, 920
Thermo-saline apparatus, a simple, 20
T[illegible]: *Les Fonctions*
T[illegible] W. I. de Courcy Wheeler), 975
THOMAS, Sir A. Garrod, death of, 233—Obituary notice of, 288
THOMAS, C. Hamblen:—Medical and surgical uses of diathermy, 182—The choice of an anaesthetic, 265—Treatment of glandular deficiency, 401—Fractured base of skull: effect on hearing, 450
THOMAS, John Edward, obituary notice of, 648
THOMAS, Margaret Wylie: Serum anaphylaxis, 424
THOMPSON, C. J. S.: *The Mystery and Lore of Monsters*, rev., 227—A barber-surgeon's instrument case of the Tudor period, 811
THOMPSON, J. H.: Treatment of malignant growths with extracts of parathyroid glands, 819
THOMPSON, Ralph: Treatment of impotence, 1118
THOMPSON, Sidney: Transmission of scabies and ringworm, 353
THOMSON, A. P.: High-carbohydrate diet in diabetes, 340
THOMSON, Christine J.: Report on stillbirth and neo-natal death in India, 1089
THOMSON, C. S.: Report on the health of Belfast in 1929, 153
THOMSON, F. G.: Physiological effects of baths, 352
THOMSON, Lieut.-Col. Henry, obituary notice of, 332
THOMSON, Henry (and Samuel J. CAMERON): Prevention of puerperal pyrexia, 350
THOMSON, Sir J. Arthur: Appointed Riddell Memorial Lecturer for 1931, 429—Hon. LL.D. Aberdeen conferred on, 643
THOMSON, Sir StClair: Elected an honorary member of the Polish Society of Oto-Laryngology, 251—Tuberculosis of the ear, 275
THORNETT, Marian:—*Chill: its Dangers and Prevention*, rev., 588
THORNHILL, Lieut.-Col. William Henry, obituary notice of, 566
Throat clinics, foreign, 779, 877
Throat, cut, suicidal: recovery (Marjory W. Warren), 894
Throat. *See also* Ear *and* Nose
Thrombosis, coronary, and myocardial infarction, with glycosuria (Norman Cruickshank), 618 (O), 867—Correspondence on, 768, 867, 913
Thrombosis, femoral, in pneumonia, 1146
THROWER, W. R.: Diverticula of the duodenum, 474
THURSFIELD, Hugh: European women and children in the Tropics, 269
Thymus puzzle, the (leading article), 547—Correspondence on, 603
Thyroid extract (parliamentary note), 39
Thyroid extract administration followed by unilateral exophthalmos (T. Gillman Moorhead), 442 (O)
TICEHURST, N. F.: Doctors' bills, 1085
Tick fever. *See* Fever
TIDY, H. Letheby: The Swedish medical curriculum, 116—Chronic ulcerative colitis, 504
TIERNEY, G.: Puerperal sepsis, 100
TILLEY, Herbert:—Fractured base of skull: effect on hearing, 450
TIMOTHY, J. Hadyn, obituary notice of, 1096
TINDALL, D., convicted for falsely pretending to be a medical man, 1053
TISDALL, Frederick: Incorporation of vitamins in bread, 678
TISSIÉ, Philippe, awarded the Swedish gold medal for physical education, 41
TOD, Margaret C. (and Gertrude HERZFELD): Uterine prolapse, 1025
TOMKINSON, J. Goodwin: Unusual distribution and morphological modification of comedo, 666 (O)
TOMS, H. W.: European women and children in the Tropics, 1091
Tongue, "black," case of (H. Mortimer Wharry), 664 (O)
Tongue, black hairy (Humphrey H. Gleave and Samuel Hallam), 663 (O)
Tongue depressor, 188
Tongue diseases, review of book on, 709
Tongue tractor, 273
TONKS, J. W., obituary notice of, 871
Tonsil, dislocation of, 780
Tonsil artery forceps, 314
Tonsil exploratory hook, 188
Tonsillectomy and rheumatism (P. W. Leathart), 626
Tonsils and adenoids, removal of in the out-patient department (J. Arnold Jones), 217 (O)
Tonsils, enlarged: Second interim report of committee, 232
Tonsils, instruments for examining and treating, 188
Tonsils. *See also* Adenoids
TOOMEY, Noxon: *Principles and Practice of Dermatology*, Vol iii, *The Treatment of Skin Diseases in Detail*, rev., 800
TOTTENHAM, Richard E. (and Henry JELLETT): *A Short Practice of Gynaecology*, sixth edition, rev., 455
Toulouse Medical Faculty, institute of serology and venereal prophylaxis created at, 381
Tours, foreign medical, 293, 380. *See also* Medical tours
Towels, hand, a substitute for, 1050, 1146
Town and Country Planning Bill, 649
TOWNROE, B. S.: *The Slum Problem*, rev., 103
[illegible] *See* [illegible] prudence
Toxoid-antitoxin floccules (a diphtheria prophylactic, 757
Trachoma prize. *See* Prize
Trade Disputes and Trade Unions (Amendment Bill, 39, 203, 429
Traffic accidents. *See* Accidents
Traffic privileges for doctors. *See* Doctors
TRAQUAIR, H. M.: *Introduction to Clinical Perimetry*, second edition, rev., 499—Operation for cataract, 1001, 1137
Treatment, review of book on, 20, 630, 1121. *See also* Therapeutics
TREE, M.: Pulmonary arterio-sclerosis and Ayerza's disease, 819
TRENDELENBURG, Paul, death of, 291
TREVELYAN, G. M.: Map of seventeenth-century England, 280
TREVES, Sir Frederick: *The Students' Handbook of Surgical Operations*, fifth edition, rev., 587
Trials, notable British: *Trial of George Chapman* (edited by Hargrave L. Adam), rev., 273—*Trial of Harold Greenwood* (edited by Winifred Duke), rev., 545—*Trial of Dr.* [illegible], 381
Tri-ortho-cresyl phosphate as a cause of "ginger paralysis," 322
Tropical and Sub-Tropical Diseases, War Office T[illegible] pregnancy
Tropical medicine, the dawn of (Philip Manson-Bahr), 282
Tropical Medicine, Far Eastern Association of: Annual Congress at Bangkok (1930), 206
Tropical Medicine, London School of. *See* Hygiene and tropical medicine
Tropical medicine, review of books on, 272, 589
[illegible] aces in Gilks), 1130
Tropics, European women and children in the (A. R. Neligan), 268—Correspondence on, 1091
Tropics, review of books on residence in the, 756
TROTTER, Wilfred, recommended for election to the Royal Society, 507

TROUP, James: Persistence of the complete Wolffian duct, 707
TROUP, W. Annandale: A disclaimer, 1103
TRUMPER, Hubert B.: Health of the worker in chromium plating, 705 (O)
Tubercle bacillus, fractional products of the (Florence R. Sabin, C. A. Doan, and C. E. Forkner), 411
Tuberculin [illegible], 206
Tuberculin [illegible], 727
Tuberculin [illegible] minute doses, 1140
[illegible] 156
[illegible] preg- [illegible] in [illegible]
Tuberculosis, bovine, in man (leading article), 943
Tuberculosis, bovine, serum treatment of (parliamentary note), 566
Tuberculosis in cattle, immunization against (parliamentary note), 477
Tuberculosis in children, prevention of [illegible]

R. S.

Tuberculosis of the ear (leading article), 275
Tuberculosis, early, the modern conception of (H. V. Morlock), 702 (O)—Correspondence on, 769, 818, 1033
Tuberculosis in H.M.S. *Warspite* (parliamentary note), 1054
Tuberculosis, human and bovine (parliamentary note), 291
Tuberculosis, institutional provision for (parliamentary note), 728
Tuberculosis instruction in Belgium, 556
Tuberculosis in Labrador, 80
Tuberculosis, latent, diagnosis of (leading article), 63
Tuberculosis of the mammary gland (George Jessel), 1023
Tuberculosis and milk, 602, 916
Tuberculosis mortality, statistical report, 828—Report by the Health Section of the League of Nations, 1127
Tuberculosis and orthopaedic clinics, combined, 213
Tuberculosis, outlook on (Sir Robert Philip), 43 (O)—Correspondence on, 155, 238
Tuberculosis, post-graduate courses in, 907
Tuberculosis Prevention, National Association for: Annual conference, Margate (1931), 108
Tuberculosis, pulmonary, in childhood (G. B. Dixon), 694 (O)
Tuberculosis, Research Fellowships in, 810
Tuberculosis, review of books on, 143, 226, 850
Tuberculosis, sanocrysin for treatment of in children (H. T. Ashby), 668
Tuberculosis, Spahlinger treatment of (parliamentary note), 203. *See also* Spahlinger
Tuberculosis statistics (parliamentary note), 203
Tuberculosis tour, transatlantic (P. Heffernan), 1055
Tuberculosis Trust, Royal Victoria: Annual meeting, 511
Tuberculosis in the Ukraine, 567
Tuberculous patients, after-history of, 191
Tuberculous pensioners, mortality of (parliamentary note), 875
Tuberculous peritonitis simulating coeliac disease (E. C. Warner), 977 (O)
Tuberculous women, *management of* pregnancy, parturition, and the puerperium in (Geoffrey Marshall), 140—Correspondence on, 200
TUCKER, D. L.: Nutritional value of milk, 1137
TUKE, A. L. S., made an honorary freeman of the city of Dunfermline, 814
Tumour of neck: diagnosis difficult (Sir William I. de Courcy Wheeler), 402
Tumour, pituitary, *case of* (C. C. Elliott and David P. Marais), 297 (O)
Tumour, renal, unusual (Sir William I. de Courcy Wheeler), 402
Tumours of brain associated with mental sym- [illegible]
Tumours, fowl, filterable (J. A. Murray and A. M. Begg), 68
Tumours, gynaecological, 541
Tumours, intracranial (Gordon M. Holmes), 793
Tumours, metabolism of, 74
Tumours of rectum, malignant (W. B. Gabriel), 52 (O)
Tumours, transplantable (M. Datnow), 542
Tumours, unusual, exhibition of cases of, 401
Tuno, Giallo, death of, 648
TURNBULL, H. M.: Report on status lymphaticus, 468
TURNBULL, J. C., obituary notice of, 872
TURNER, Aldren: Appreciation of Arthur Perigal, 563
TURNER, F. Douglas: Causation of mental deficiency, 74
TURNER, Frederick Meadows, obituary notice of, 202
TURNER, G. Grey: Delivers the John B. Murphy Oration at Philadelphia, 805—H. J. Bigelow medal conferred on, 934
TURNER, J. G.: Sugar in the diet of the school child, 223
TURNER, Philip: Medical and surgical uses of diathermy, 182
TURNEY, H. G.: Appreciation of Theodore Dyke Acland, 729
TURTON, J. R. H.: Acute intestinal obstruction, 703
TWEEDIE, Alexander:—Fractured base of skull: effect on hearing, 449
Twin, miscarriage of one, 479, 524. *See also* Miscarriage
Twin monster, 480
Twins, review of book on, 314
TYLECOTE, Frank E.: Pain in the lower abdomen, 269
Type cultures, national collection of, 1081. *See also* Bacteria
Typhoid fever. *See* Fever, enteric
Typhoid ulcer. *See* Ulcer
Typhus fever. *See* Fever
TYRRELL, Lieut.-Col. Jasper Robert Joly, C.I.E. conferred on, 79
TYRRELL, Walter, obituary notice of, 825

U.

Ukraine, tuberculosis in the, 567
Ulcer, duodenal, treatment of (A. Rendle Short), 435 (O)—Correspondence on, 558, 617—Medical treatment of, 1145
Ulcer, gastric *perforating*, three and a half years after gastro-enterostomy for perforating duodenal ulcer (C. C. Holman), 978
Ulcer, gastric, surgical treatment of (A. J. Walton), 847
Ulcer, gastric, treatment of (A. Rendle Short), [illegible] on, 558, 617
[illegible] of (F. J. Morrin), 511
[illegible] (J. B. G. Muir and [illegible]
[illegible] ,393
[illegible] ,240,
[illegible] of,
[illegible] spy;
[illegible] ring
early months of pregnancy (M. Hawke), 936
Umbilicus as a source of infection, 252. *See also* Puerperal fever
Under-graduate, obstetrical education of the. *See* Obstetrical
Undulant fever. *See* Fever
"*Unipolar air.*" *See* Air

UNITED STATES:
Bats, research on, 933
Blood donors, registration of, 559
Cancer research in Harvard University, 856
Commonwealth Fund Fellowships: Appointments, 919
Ella Sachs Plotz Foundation: Report, 293
"Ginger paralysis" in, 322
Goitre research, prize for original essay on, 381
Hospitals, capital value of, 592
Influenza, mortality from, 279
Inter State Post-graduate Assembly of North America: Visit to London, 876
Medical practitioners connected with hos- [illegible] New York:
New York Post Graduate Medical School and Hospital, 363
Pellagra in, 961
[illegible]

University of Aberdeen: Bishop Elphinstone quincentenary celebrations, 1043—Graduation ceremony, 643—Honorary degrees, 643
University of Belfast, Queen's: Honorary degrees, 873
Un[illegible] [illegible]intments, 478
[illegible] the hospitals-
c [illegible] Post-graduate course, 728
University of Bristol: Degrees and pass lists, 1037—*Dissertation for M.D. degree*, 378—Skerritt (Markham) Memorial prize, 121
University of Brussels, industrial physiology and pathology *department of*, 556

UNIVERSITY OF CAMBRIDGE:
Appointments, 162, 777, 1052
Degrees and pass lists, 40, 292, 378, 478, 518, 728, 777, 873, 959, 1052, 1096, 1142
Diploma in medical radiology, 160, 332
Diplomas in public health, hygiene, and tropical medicine and hygiene to be discontinued, 332
Downing Professorship of Medicine, 428
Fearnsides (E. G.) Scholarship, 250
Honorary degrees, 518
Lane, John, presentation, 959, 1052
Medical courses and examinations, syndicate [illegible] lectureship to be
Psychology, department of experimental, university *demonstratorship* to be established in 872
University constituences, proposed abolition of, 519
University of Dublin: Degrees and pass lists, 291, 429, 564, 777—*Honorary degrees*, 429—Post-Graduate courses, 910—Purser (John Mallet) Lecture, 910—Summer term, 777. *See also* College, Trinity
University of Durham: Appointments, 429—*Honorary degrees*, 959—Post graduate courses, 162—Riddell Memorial Lecturer, 429
University of Edinburgh: Appointments, 993—Chair of anatomy, new professor, 643—Chair of chemistry, new professor, 853—Degrees and pass lists, 40, 518—Ellis prize, 40—Honorary degrees, 518
University franchise, 296. *See also* Representation of the People Bill
University of Glasgow: [illegible]
Chair of pathology, St [illegible]
Degrees and pass lis[illegible]
degrees, 1142—Hutchison (Harry Stewart) prize, 121—Prizes and medals awarded, 332—Report, 764—Students' Union, the new, 29
University, Harvard, cancer research in, 856
University of Ireland, National: Appointments, 121, 478—*Degrees and pass lists*, 40, 121, 478. *See also* College, University, Dublin
University of Kyoto, Imperial: Work of the Institute of Anatomy of, 757
University of Lausanne: Degrees and pass lists, 79
University of Leeds: Appointments, 378—Degrees and pass lists, 696—Scholarships and prizes awarded, 696—School of medicine, centenary of, 722
University of Leyden: Post graduate courses, 733
University of Liverpool: Appointments, 1142—Degrees and pass lists, 121, 554—Title of Professor Emeritus, 478

UNIVERSITY OF LONDON:
Appointments and *elections*, 250, 332, 428, 518, 698, 959, 1142
Architect appointed, 1043
Bequests to, 182, 875
Buildings, the new, 1033, 1043
Chair of Experimental Pathology at the Cancer Hospital, 606
Charing Cross Hospital Medical School, 332
Degrees and pass lists, 40, 73, 478, 822, 1052
Diploma in Psychological Medicine, 332
Diploma in Public Health, regulations for, 518, 698
Dunn Exhibitions in Anatomy and Physiology 959
Examination regulations, 1052
Grants, applications for, 332
King's College, 121, 698
Lectures, 121, 291, 698, 723, 782
Library of, Goldsmiths' Company gift of a new, 918
London County Council's block maintenance grant, 332
London Hospital Medical College, 332, 578, 777, 873
London School of Hygiene and Tropical Medicine, 121, 428, 820, 875, 1095
London school of Medicine for Women, 250
M.B., B.S. examination regulations amended, 332
Matriculation results, 428
Medical Graduates' dinner, 864
Meeting of Senate, 1142
Mickle (Julius) Fellowship, 250, 1052
[illegible] [illegible] [illegible] [

University of Sheffield: Appointments, 873—Degrees and pass lists, 40
University of Sydney:—Schools of public health and tropical medicine, 419—Opening of activities: a new era in the teaching of medicine, 1086
University Women's Federation, International: International Fellowship of Research, 506
Unofficial aunts, 336. *See also* Society of Voluntary Unofficial Aunts
UNWIN, F. A.: Cornu cutaneum, 610
Uraemia, diagnosis of (A. Arnold Osman and Harold G. Close), 1064 (O)
Ureter, accidental compression of, 80
Ureter, calculus of (J. B. Macalpine), 669
Urethritis, acute, in mumps (Arthur Spence), 751—Correspondence on, 816, 868
Urinary antiseptic, a new (neotropin), 589
Urine, ammoniacal, malnutrition with, 961
Urography, excretion: The principles of, and new advances in its technique (A. von Lichtenberg), 625—New substances: D. 34, D. 50, B. 1015, D. 40, and Sch. 122, 625—Discussion, 626—Note on, 633
Urography. *See also* Pyelography
Urologic and Cutaneous Review: Contents of February issue, 381
Urological instruments, historical development of, 293
Urology, practical course on, 828
Uroselectan, 625
Urticaria, 1099, 1145—Review of book on, 271
Uterus and appendages with fimbrial cyst with twisted pedicle and early papilliferous carcinoma of ovary (N. L. Edwards), 542
Uterus, bicornuate, haematometra and haematosalpinx in one horn of a (S. Subba Rao), 183
Uterus, inversion of, acute (Laurence D. Adler), 96—(Dudley W. Boswell), 582. *See also* Puerperal
Uterus, inversion of, puerperal, 780
Uterus, obstructive inflammatory lesions of the (D. Dougal), 16
Uterus, prolapse of (Gertrude Herzfeld and Margaret C. Tod), 1025
Uterus, rupture of, traumatic (R. Everett), 99
Uterus with sarcomatous polypus (N. L. Edwards), 542

V.

Vaccination: Parliamentary notes, 334, 430, 477, 565, 566, 650, 728, 772, 822, 874, 1054—The office of public vaccinators and vaccination officers, 430—Charge for lymph, 477—Compulsory, 565, 650—And cerebro-spinal fever, 566—Deaths at South Wigston, 1054—Deaths registered, 874—Recommendations of Rolleston Committee, 728—Sight of eye lost, 1054—Statistics, 772, 874—Successful primary vaccinations, 822
Vaccination Acts and small-pox prevention: Ministry of Health Memorandum, 995
Vaccination Committee, the Rolleston: Report, 64, 109—Post vaccinal nervous disease, 64, 109—Leading article, 104—Correspondence on, 155
Vaccination and encephalitis, 64, 109, 155, 349
Vaccination scars, old, inflammation at site of, 919, 1007
Vaccination. *See also* Small-pox
Vaccine dosage: a plea for uniformity, 604, 635, 725, 767
Vaccine therapy (C. E. Jenkins), 355—Discussion, 355
Vaccinia, immunization against, 871, 914. *See also* Virus infections
Vaginal hysterectomy. *See* Hysterectomy
VAN LEEUWEN, Storm: The deaths from fog in the Meuse Valley, 277
VAN LIER Brothers, prosecution of under the Merchandise Marks Act 122
VAQUEZ, Professor: The B.C.G. controversy, 861
Varicella and herpes zoster. *See* Herpes
Varicose ulcers. *See* Ulcers
VARRIER-JONES, Pendrill Charles, knighthood conferred on, 1004
VAS, Bernhard, death of, 688
Vascular diseases treated by muscle extract (M. S. Schwartzman), 492 (O)
Vasectomy, late effects of, 163
VAUGHAN, Janet: The value of liver in treatment, 584
Vegetables, their Use, Abuse, and Neglect (Charles E. Hecht), 123
Vein, azygos, accessory lobe of the (H. P. Nelson and George Simon), 9 (O)—Correspondence on, 119
Veins, varicose, injection treatment of (G. H. Colt), 312
Veins, varicose, treatment of, 240, 1029—By sodium morrhuate, 1029. *See also* Ulcers, varicose
Venereal disease (parliamentary notes), 244, 566
Venereal disease in London, incidence of, 815
Venereal disease in the Navy (parliamentary note), 566, 650
Venereal diseases, epidemiology of (Colonel L. W. Harrison), 751—Correspondence on, 520
Venereal diseases, review of books on, 543, 1118
Ventilation of the House of Commons, 1053
VERNON, Arthur Heygate, obituary notice of, 517
VERNON, Dr.: Report on pithead baths, 25
VERNON, H. M.: Report on absenteeism in coal
VERNON, M. D.: Report on the movements of the eyes in reading, 24
Veterinary Bulletin, first issue, 762
Veterinary College, Royal (parliamentary notes), 380, 430, 772, 822. *See also* College
Veterinary education, development of (J. Russell Greig), 238
Veterinary literature, review of book on, 672
Veterinary medical research (parliamentary note), 1054. *See also* Research
Veterinary medicine, radiological problems in: Discussion at the Royal Society of Medicine, 15
Veterinary operations, 677
Veterinary practice, gland grafting in (parliamentary note), 960
Victorian Council for Mental Hygiene, 420
Vienna, post-graduate courses in, 609, 778
VILVANDRE, G.: Aspects of radium therapy, 403
VINCENT, George Alves, M.B.E. conferred on, 71
Viodar, a new preparation of iodine, 589
Virus infections, immunization against, by living virus and immune serum (G. M. Findlay and E. Hindle), 740 (O)—Correspondence on, 871, 914. *See also* Vaccinia
Viruses, filterable, review of book on, 100
Viscerographic method, review of book on, 939
Visual perception in children, monograph on, 589
Vital statistics: For Northern Ireland, 31, 373, 939—For England and Wales (1930), 162—*The Registrar-General's Statistical Review of England and Wales for the Year 1929*, 325—For Scotland, 642—For the Irish Free State, 683
Vitamin A, "Avoleum," 757, 852
Vitamin deficiency: *The A and B Avitaminosis Disease of Sierra Leone*, 164
Vitamins in bread, incorporation of, 678
Vitamins, chemistry of, recent advances in: Discussion at the Royal Society, 1116
Vitamins, recent research on, 991
Vitamins, review of book on, 312, 991
Vitamins and subacute combined degeneration of the cord (Edward Mellanby), 409
Vitreous body, nature of the (W. Stewart Duke-Elder), 191
VIVIAN, S. P.: The Census of 1931, 278
Vivisection. *See also* Animals, experiments on
Vocal cords, bilateral abductor paralysis of the (T. G. Wilson), 270
VOGT, Professor, death of, 618
Voluntary hospitals. *See* Hospitals
Voluntary mental patient. *See* Mental
Volvulus of a large appendix epiploica (C. E. Taylor), 795
Voyage d'Etudes Médicales to visit the watering places of France, 1055
V.U.A. *See* Unofficial aunts

W.

WADE, Henry: Cervical carcinoma, 627
WAGENHAUSER, J., death of, 1051
WAGGETT, Ernest Blechynden, C.B.E. conferred on, 25, 70
Wagstaff's obstetrical forceps, 692, 733, 829
WAILLING, Donald P., appointed an official member of the Executive Council of the Presidency of the Virgin Islands, 381
Waking hour in hospitals. *See* Hospitals
WALDO, Dr.: Coroners' inquests, 599
Wales: Medical education in (leading article), 362—Motor ambulance service in, 681—Welsh Board of Health, functions transferred to, 765
WALKER, Alec B. (and A. Cameron EWING): Labour and mitral stenosis with incompetence, 221
WALKER, Cranston: Simple holder for radium needles for surface application, 145
WALKER, E. R. C.: The stethoscope as an aid to percussion, 34
WALKER, Jane Harriet, created a Companion of Honour, 25, 70—Management of pregnancy in tuberculous women, 141
WALKER, Kenneth: The prostate in general practice, 482 (O)—Treatment of impotence, 1118
WALKER, R. S.: The work of the tuberculosis dispensary, 732
WALLIS, T. E.: A study of cinchona, 23
Walsham, North (Norfolk), hospital contributory scheme at, 372
WALSHE, F. M. R.: Disseminated sclerosis research, 514
WALTERS, F. R.: The outlook on tuberculosis, 239
WALTON, A. J.: *A Text Book of the Surgical Dyspepsias*, second edition, rev., 18—London Clinic and Nursing Home, 287—Surgical treatment of gastric ulcer, 847—Calcium therapy, 898
Wandsworth, Lord, memorial to, 555
"Warbles" in man, 79—Life-history of the warble fly, 80
WARD, A. Ogier: Glycerin as a surgical dressing, 118
WARD, Ernest: The diagnosis of specific fevers, 200
WARD, J. H.: Puerperal sepsis, 870
WARD, K. L. S.: Treatment of hyperthyroidism, 382
WARD, Roy: Present position in the use of radium in the treatment of benign and malignant conditions, 402—Radon seed pistol, 985
WARDE, Mildred: Uses and limitations of operations on the ear, 270
WARE, Ernest E.: Members of the Royal College of Surgeons, 159
WARNE, William Elsworth, obituary notice of, 202
WARNEKROS, K. (and others): *Medizinische Praxis*, Band xi, rev., 940
WARNER, C. G.: Report on absenteeism in coal mines, 1026
WARNER, E. C.: Tuberculous peritonitis simulating coeliac disease, 977 (O)
Warnings, 1008, 1056
WARREN, Marjory W.:—Suicidal cut throat: recovery, 894
Warspite, H.M.S., tuberculosis in (parliamentary note), 1054
WARTHIN, Aldred Scott: *The Physician of the Dance of Death*, 994
WARWICK, W. Turner: Malignant disease of the large intestine, 142—Indolent ulcers of the leg, 399—Injection treatment of piles, 898
WASSERMANN, A. v. (and W. KOLLE): *Handbuch der pathogenen Mikroorganismen*, third edition, rev., 143
Wassermann reaction in mental hospital practice (S. A. Mann and F. Partner, 1124
WATERHOUSE, Sir Herbert—Death of, 947—Obituary notice of, 1005
Water-taps and fittings, metal, 779, 829, 878
WATKYN-THOMAS, F. W.:—Fractured base of skull: effect on hearing, 449
WATSON, Chalmers: Radiological problems in veterinary medicine, 16
WATSON, F. H.: Pregnancy records, 830
WATSON, Olive Robertson, appointed a member of the Board of Trustees for the National Galleries of Scotland, 41
WATSON, Robert: Obstetric shock, 1046
WATSON-WILLIAMS, E.: Eruptions of the external auditory meatus, 797
WATSON-WILLIAMS Patrick: The prostrate in general practice, 603
WEAVER, George John: *John Haygarth, Clinician, Investigator, Apostle of Sanitation*, 1086
WEBB, Gerald B.: The prescription of literature, 150
WEBB, J. Curtis: Treatment of dysmenorrhoea, 1092
WEBBER, H. W.: Glycerine as a surgical dressing, 296
WEBER, F. Parkes: Cases suitable for treatment at Dax-les-Bains, 80—Hereditary multiple telangiectasis (Osler's disease), 365—Pseudo-Argyll Robertson pupils with absent tendon reflexes, 1001, 1135
WEBSTER, Ralph W.: *Legal Medicine and Toxicology*, rev., 938
WEBSTER, Ralph Waldo, death of, 688

The Week:

Abernethy, John, 718
Acrocyanosis, 364
Air Force, health of, 409
Anaesthesia, routine, in midwifery, 364
Annual Meeting, Eastbourne (1931): Pathological museum, 67, 1083
Apical infection, biological studies in, 993
Army, health of, 409
Association, history of, and the centenary, 1035
Atmospheric pollution and pulmonary diseases, 277
Australian economic depression, 24
Baby Week Council, National, 594
Bacillus Calmette-Guérin, 994
Balfour, Sir Andrew, 233
Banting Research Foundation, 322
Barnardo Dr, 947
Bats, 993
Blind, National Institute for the, 65
Blind, welfare of the, 907
Blood donors, registration of, 550
Bouillaud, Jean Baptiste, 761
British Association centenary, 810
British Industries Fair, 193
British Science Guild's programme, 506
Bulletin of Hygiene, 231
Canada, medical survey of, 461
Cancer, incidence of and its history at
Cancer research in Harvard University, 856
Cancer, inquiry into, 505
treatment, inquiry into, 505
Cardio-vascular syphilis, pathology of, 106
Cassel Hospital, 1081
Cats and human disease, 907
Census (1931), 278, 461—And the common hea
461
Chemicals and drugs, British, 193
Chinese mining hospital, 192
Chinese quarantine service, 809
Climate and air travel, medical problem
947
Clio Medica, 463
Cold, common, etiology of, 149
Congress of the History of Science and
nology, International, 193, 1083
Congress of tropical medicine and hy
678
Cotton operatives, health of, 148
Cremation, progress of, 635
Dance of Death, 994
Darkest Liberia, 635
"Developing system," a, 548
Drug control in India, 321
Drugs, dangerous, the traffic in, 549,
1125
Drunken motor drivers. *See* Motor
Enteric fever in 1929–30, 808

The Week (*continued*):
" 192
lvance In. 633
Filariasis, bacterial complications of, 715
Filariasis, serological and intradermal tests for, 933
35
pelvis, 230

Halsted, William Stewart, 1032
Harveian Society centenary, 279
Hastings [Sir Charles] Lecture, 365
Health Insurance Service, the National, 634
Helminthology, the teaching of, 506
Hospitals, capital value of, 592
Hospitals, waking hour in, 992
Index to physiological progress, 363
Indian Medical Service, 276
Infant welfare centre, the first, 807
Insanity among the Scandinavians, 410
Intervertebral discs, 230
Invalid Children's Aid Association, 856
Iodine supply and endemic goitre in Great Britain, 450
Jones, Sir Robert, Dutch tribute to, 994
Journées Médicales de Bruxelles, Congress of, 762
Kidneys in renal disease, pathological function of, 944
Kitasato, 1123
Liberia and the Belgian Congo, 636
Light wells, efficiency of, 105
ion of, 150
e, 411
and ante-natal care, 809
London University. *See* University
Mackenzie [James] Institute, 149
Manson House, 1125
Maternity homes, municipal, staffing of, 66
Measles statistics, 107
Medical education, methods and problems of, 67
Medical film library, 678
Medical history, a new institute of, 365
Medical Lord Chesterfield, a, 635
Medical practice in China, difficulties of, 677
Medical problems of climate and air travel, 947
Mental After-Care Association, 593
Mental Hygiene, National Council for, 321
Merchant seamen. *See* Seamen
Midwives in London, the standard attained by, 855
Milk-borne streptococcus epidemics, 591
Mortality from influenza and pneumonia in American cities, 279
Motor drivers, drunken, medical examination of, 760
Music in the operating theatre, 108
Narcotic drugs in Egypt, 636
Narcotic drugs, traffic in, international conference on, 905, 1125. *See also* Drugs, dangerous
National Physical Laboratory, 1124
Navy, health of, 409
Nervous disease, post-vaccinal, 64
New Year honours, 25
New York Post-Graduate Medical School and Hospital, 363
Nurses, shortage of, 410
Nutrition, Advisory Committee on, 108
Ophthalmology in Egypt, 1034
and Regula-
Oxford Ophthalmological Congress, 463
Oxygen, discovery of, 462
Paget [Stephen] Lecture, 994
Paratyphoid fever in Essex, 322
Pathological museum at the Eastbourne meeting, 67, 1083
Pathological services, 760
Peking man, 551
Pharmacological laboratories of the Pharmaceutical Society, 362
Pharmacopœia Commission, reports of, 1033
Pithead baths, 25
Pituitary, the, 551
Plague in Ecuador, 916
Poliomyelitis, acute, epidemiology of, 634
Prescription of literature, 150
Proprietary Medicines Bill, 854
Psychological medicine, a course in, 23
Psychology, individual, 148
Psychology and the worker, 1082
Public Health Congress at Frankfort, 857
Puerperal fever, source of infection in, 191
Pyorrhœa, nomenclature of, 945
Pyrethrum, cultivation of in England, 718
Quinine production in India, 594
Quinine therapy in malaria, 23
Race, problem of, 506
Radiography of the accessory nasal sinuses, 551
Radium distribution, 67
Rationalization and psychology, 716
Reading and eye movements, 24

The Week (*continued*):
Royal Institution, reconstruction of the, 857
Royal Society conversazione, 945
Royal Society of Medicine, 1033
St. Cyres Lecture, 1035
"Safety week," 159
Schools of hygiene, 905
Science and its instruments, 105
Scoliosis, operative treatment of, 560
Seamen, merchant, welfare of, 66
Service reports, 403, 505
Ship surgeons, refresher courses for, 676
Sierra Leone, a survey of disease in, 1125
Silicosis in South Africa, 1053
Socialist medical conference, 1035
Society of Apothecaries, 232, 762—Its roll of
Surgery, present-day, glances at, 107
Surgical Research Institute, 320
Tavistock Square Clinic, 855
Taxation of learned societies, 278
Thallium and its risks, 320
Trachoma prize, International, 411
Tubercle bacillus, fractional products of the, 411
Tuberculosis, post-graduate courses in, 907
Tuberculous patients, after-history of, 191
Type cultures, national collection of, 1031
Typhus research in Malaya, 505
Undulant fever in the United States, 807
University of London's new buildings, 1033
Veterinary Bulletin, 762
Veterinary operations, 677
Vitamins in bread, incorporation of, 678
Vitamins, recent research on, 591
Vitamins and subacute combined degeneration of the cord, 409
Vitreous, the nature of the, 191
Wassermann reaction, 1124
Whooping-cough statistics, 107
X-ray unit for ambulance work, a new, 321
Yellow atrophy of the liver, acute, 277
Yellow fever, direct transmission of, 117

Weir, Henry Bricht, obituary notice of, 871
Weiss, Paul: High carbohydrate diet in diabetes, 310
Welch, William Henry, Hatben gold medal presented to, 960
Wellcome Foundations Ltd. to erect a new medical and chemical research building in London, 295
Wellcome, Henry, Honorary Freedom of the Society of Apothecaries conferred on, 232
Wellcome Museum of Medical Science closed for rebuilding, 205
Wells, Dr.: Rickets and oral sepsis, 232
Wells, light, efficiency of, 105. *See also* Light
Welsh Board of Health, functions transferred to, 765
Welsh. *See also* Wales
Wenckebach, K. F., to investigate the pathology of the heart in beri-beri at Batavia, Java, 523
Werner-Kümmell, Professor, death of, 428
West Riding Panel Record, 107—Glances at present-day surgery, 107
Wexford County, diphtheria immunization in, 199
Wharry, H. Mortimer: Case of "black" tongue, 664 (O)
Wharton, Denis R. A.:—*The Cat in Relation to Disease Transmission: A Review*, 907
Wheeler, Sir William I. de Courcy:—Tumour of neck: diagnosis a difficulty, 402—Unusual renal tumour, 402—Dublin Hospitals: a suggested commission of inquiry, 862—An anæsthetic screen, needle, and thimble as "surgical aids," 975 (O)
Whipple, G. H., awarded a prize for his work on the liver treatment of pernicious anæmia, 431
Whitaker, James Smith, knighthood conferred on, 25, 70
Whitby, H. A. Morton: Glycerin as a surgical dressing, 205—Acute urethritis in mumps, 868
Whitchurch, Arnold: Appreciation of Stephen John Ross, 517
White, P.: The diabetic child, 105
White, R. Presser, elected an honorary member of the Vienna Dermatological Society, 691
White, Winsbury: The radiological renal outline, 183
Whitfield, Arthur: The transmission of scabies and ringworm, 351—Sensitiveness to sunshine, 568
Whittingham, Wing Commander H. E. (and others): Observations on an outbreak of cerebro-spinal fever in the Royal Air Force in 1931, 1101 (O)
Whooping-cough: Statistics, 107—With inspiratory stridor (I. M. Benjamin), 180
Widdows, Sibyl T.: Aberrant mammary secretion, 870
Widows' pensions. *See* Pensions
Wiesner, B. P.:—Pregnancy Diagnosis Station: Report on second years' working, 860
Wigham, J. T.: Myelomatosis, 401
Wigley, J. Gardiner: The obstetrical problem of the contracted pelvis, 836

Wilkie, D. P. D.: Mortality in acute appendicular disease, 253 (O), 471—Appointed a member of the Scottish Scientific Advisory Committee, 471—*To act as Director of the Surgical Professorial Unit at St. Bartholomew's Hospital*, 991
Wilkinson, John F.:—Treatment of pernicious anæmia with hog's stomach: report of 103 cases, 85 (O), 595
Wilkinson, W. Camac: Tuberculin and the tuberculosis problem, 155—*Tuberculin clinic*, 206—The modern conception of early phthisis, 818—Acute massive collapse following lipiodol injection, 1047
Willcox, Sir William: *The choice of an anæsthetic*, 255—Lumleian Lectures on toxic jaundice, 557, 595—Action of avertin on the liver, 1021—*Diathalin in toxæmia*, 1021
Williams, E. Roland: A simple gas and oxygen apparatus, 675
Williams, Very Rev. Garfield Hedder, appointed to the Deanery of Manchester, 991
Williams, Gwynne: *Minor Surgery and Bandaging*, twentieth edition, rev., 757
Williams, J. E.: Routine anæsthesia in midwifery, 474
Williams, Jesse Feiring (and William Leonard Hughes): *Athletics in Education*, rev., 314
Williams, Leonard: The enigma of the chilblain, 320
Williams, R. M.: Two cases of haemorrhagic paratyphoid fever, 1057 (O)
Williams, R. Stenhouse: Nutritional value of milk, 1048
Williamson, Bruce (and A. J. Gibson): Undulant fever in infancy, 745 (O)—*A Handbook on Diseases of Children*, rev., 992
Williamson, G. Scott (and James H. Pratsel): *The Case for Action*, rev., 357
Willmore, J. G.: Treatment of intestinal amœbiasis, 847
Willis, Lucy: Treatment of "pernicious anæmia of pregnancy" and "tropical anæmia," 1059 (O)
Wilson, Claude: Medical charities, 32
Wilson, D. R.: Industrial lighting, 703
Wilson, George Ewart: *Fractures and their Complications*, rev., 1027
Wilson, Hector McLean, obituary notice of, 33
Wilson, I. G. H., appointed a commissioner of the Board of Control, 232
Wilson, J. St. George: Anæsthesia in childbirth, 437—Lower segment Cæsarean section, 733—Uterus spontaneously ruptured during unassisted delivery, 733
Wilson, S. A. Kinnier: Mental symptoms associated with brain tumours, 311—Prevention and treatment of drug addiction, 497—Appreciation of Sir Byrom Bramwell, 825
Wilson, T. G.: Bilateral abductor paralysis of the vocal cords, 270—Intracranial complications of ear disease, 937—Case of temporal lobe abscess, 937
Wilson, T. Stacey: Backache in women, 472—Blood pressure and life assurance, 816
Winnacs, A.: Recent advances in the chemistry of the vitamins, 1116
Wine, medicated, advertisements of (parliamentary note), 49
Winton, F. R. (and L. E. Bayliss): *Human Physiology*, rev., 59
Wireless coastal station "Lübe Weser-Radio" established in Germany by which any ship can obtain medical advice, 1039
Wise, Kendrick Stanton, appointed a member of the Executive Council of the Colony of Trinidad and Tobago, 335
Wolbach, S. B.: A correction *re* spelling of his name, 1100
Woldian duct, complete, persistence of (James Troup), 707
Wood, Alexander: The procedure of the hypodermic injection, 336
Wood, Mrs. Fred, death of, 652
Woodall, Ambrose Edgar, knighthood conferred on, 25, 70
Woodhard, Adelaide, Kaisar-i-Hind medal conferred on, 1034
Woodhouse, Christopher, coat of arms of, 779, 877
Woodhouse, Major-General Sir Tom Percy, obituary notice of, 699
Wood's glass in the diagnosis of ringworm (John Kinnear), 791 (O). *See also* Ringworm
Woods, Sir Robert: Splint for use in the operation of sental resection, 270—A retrospect of laryngology, 270
Woods, R. R.:—Tumour of neck: diagnosis difficult, 402—Vallecular dysphagia, 937—Abscess of temporal lobe, 937
Woodside, C. J. A.: Perforations of jejunum, 667
Woolbridge, G. H.: Radiological problems in veterinary medicine, 16—The transmission of
uses of
Woolwich, new housing estate and health centre at, 236
Workmen's compensation: Medical referees in Lanarkshire (parliamentary note), 650
Workmen's Compensation Act, nurses and other employees at isolation hospitals and (parliamentary note), 556—Medical referees (parliamentary note), 1098
Workmen's Compensation Bill, 771, 822, 916
Worms, schistosome, and schistosome monsters, 817, 914. *See also* Schistosome

WORSTER-DROUGHT, Dr.: Mental symptoms associated with brain tumours, 311
Wounded and sick in warfare, new international convention for the care of, 597
Wrapping for medicine bottles, 1056
WRIGHT, A. Dickson: Treatment of varicose ulceration, 330—Indolent ulcers of the leg, 398
WRIGHT, A. F.: Vaccine therapy, 355
WRIGHT, Sir Almroth: Indolent ulcers of the leg, 398
WRIGHT, E. Jenner: *The A and B Avitaminosis*
Madras
notice
WRIGLEY, A. J.: The obstetrical problem of the contracted pelvis, 896
WRIGLEY, Philip R.: Pain in the lower abdomen, 269
Writing with left hand, 163. *See also* Hand
WYATT, Bernard Langdon (and Louis I. DUBLIN): *Chronic Arthritis and Rheumatoid Affections*, rev., 801
WYATT, J. M.: The obstetrical problem of the contracted pelvis, 896
WYLIE, John R.: Treatment of gastric and duodenal ulcers, 647—Diagnosis and treatment of subphrenic abscess, 770
WYNN, W. H.: Treatment of pneumonia, 447

X.

X-ray investigation of intestinal obstruction (E. T. C. Milligan and George Simon), 1114 (O)
X-ray service in Australia (A. Burrows), 405
X-ray treatment: Of [illegible] (T. Hillhouse
on), 57 (O)—
83, 327, 373,
X-ray tube, a new and more powerful (W. D. Coolidge), 919
X-ray unit for ambulance work, a new, 321
X rays, review of book on, 224
X rays. *See also* Radiology; Ultra-violet, etc.

Y.

Yarmouth Hospital. *See* Hospital
Year-Book of the Scientific and Learned Societies of Great Britain and Ireland, forty-seventh issue, rev., 852
Yellow fever. *See* Fever
YELLOWLEES, D.: Mental defect in Scotland, 997
YOKOTE, C., death of, 827
YORKE, Courtenay: Tonsillectomy and rheumatism, 625—Case of cerebellar abscess, 891 (O)
Yorkshire, cancer research in, 1043
YOUNG, E. C.: Treatment of nervous exhaustion, 754
YOUNG, F. H.: Management o pregnancy in tuberculous women, 141
YOUNG, H. Hampton, Hon. D.Sc. Belfast conferred on, 873
YOUNG, James: The prevention of maternal mortality and disability, 997—Treatment of impotence, 1117
YOUNG, Matthew: Report on status lymphaticus, 468
YOUNG, R. A.: Protein content of the plasma, 400—Growth in children, 584
Youth, the promise of (leading article), 1032
YUSUF, Mohammad (and T. A. HUGHES): Infarction of the heart with pericardial effusion in a young phthisical subject, 794 (O)

Z.

ZEAL, G. H. Ltd.: Clinical thermometers, 980
ZIMMERN, A. (and J.-A. CHAVANY): *Diagnostic et Thérapeutique Electro-Radiologiques des Maladies du Système Nerveux*, rev., 19
Zinc ionization, intranasal, in the treatment of hay fever (Philip Franklin), 1115
Zoology, review of books on, 545, 712
Zoster. *See* Herpes zoster
ZUM BUSCH, T. P.: Natural labour after Caesarean section, 80

LIST OF ILLUSTRATIONS

SPECIAL PLATES

	PAGE
Arterio-sclerosis, Pulmonary (C. G. Paine and Robert Platt)	inset between 714, 715
Asbestosis, Pulmonary (H. E. Seiler and Mary D. Gilmour)	inset between 1126, 1127
Bones, Long, of Diabetic Children, Lines of Arrested Growth in (H. A. Harris)	inset between 714, 715
Brain Tumours, Classification of (Wilder Penfield)	inset between 362, 363
Bronchiolectasis, Acute (H. Hilton Stewart and J. H. Biggart)	facing 1127
Diverticula of the Colon and their Sequelae (J. P. Lockhart-Mummery and H. Graham Hodgson)	inset between 548, 549
Diverticula of the Duodenum (S. Gilbert Scott)	facing 362
Haemolytic Icterus (Lord Dawson of Penn)	facing 964
Hydatid Disease in England (James F. Brailsford)	inset and facing 147
Intestinal Obstruction, Routine Radiograms for Investigation of (E. T. C. Milligan and George Simon)	inset between 1125, 1127
Malignant Disease of the Lung (A. Tudor Edwards)	facing 146
Mycosis Fungoides (R. Owen-Jones)	facing 549
Osteochondromata, Multiple, with Obstructed Labour (E. J. Blackaby)	facing 715
Pneumonia Treated by Concentrated Antipneumococcal Serum (R. S. Johnson and R. R. Armstrong)	inset between 714, 715
Purpura (Harry Coke)	facing 549
Spondylitis Deformans (Charles W. Buckley)	facing 1126
Tuberculosis in Children, Prevention of (F. Maurice McPhedran)	facing 363
Tuberculosis, Early, Diagnosis of (H. V. Morlock)	facing 715
Tuberculosis, Pulmonary, in Childhood (G. B. Dixon)	facing 714

ILLUSTRATIONS IN THE TEXT

	PAGE
Abernethy, John	719
Abscess, Subphrenic (W. D. Doherty and R. P. Rowlands)	169
Acland, Theodore Dyke	729
Adenoid Removal, a Simplified Technique (O. Popper)	92
All-India Institute of Hygiene and Public Health	546
Angina Pectoris (John Cowan)	881
Appendiceo-Caecal Intussusception (E. N. MacDermott)	793
Appendicular Disease, Acute, Mortality in (D. P. D. Wilkie)	253
Artery, Coronary, Rupture of (C. B. Bamford)	842
Azygos Vein, Accessory Lobe of the (H. P. Nelson and George Simon)	9
Balfour, Sir Andrew	245
Barber-Surgeon's Instrument Case of the Tudor Period (C. J. S. Thompson)	811
Bellahouston Hospital Central Corridor System	197
Blood Transfusion in Children (Denis Browne)	260
Brain Tumours, Classification of (Wilder Penfield)	337
Bramwell, Sir Byrom	823
Cerebral Cortical Structure and Mental Disease (R. J. A. Berry)	837
Chorea, New Reflex in (G. Arbour Stephens)	303
Comedo, Unusual Distribution of (J. Goodwin Tomkinson)	666
Contact Glass or Crossed Cylinders for High Astigmatism (J. H. Beaumont)	1069
Crush Fractures of the Spine, Manipulative Reduction of (R. Watson Jones)	301
Cutaneous Horn on an Amputation Stump (F. E. Mayne and Laurence O'Shaughnessy)	624
Diathermy Knife (Albert Eidinow)	893
Diverticula of the Colon and their Sequelae (J. P. Lockhart-Mummery and H. Graham Hodgson)	526
Eastbourne and District, Views of	461, 657, 913
Ectopic Pregnancy, Twelve-year Old (W. Ward Darley)	582
Electrode, a Flushing, for Treatment of Ulcerative Colitis	406
Empyema, Closed Drainage in Treatment of (J. D. McEachern)	389
Endothelioma, Malignant (?) of Neck. Clinically Non-Malignant	402
Forceps, Common Duct	902
Forceps, Comb Dissecting	61
Forceps, Löwenberg, Modified	852
Forceps, Phrenic Evulsion	910
Forceps, Tonsil Artery	314
Forearm after Amputation of Hand, Reconstruction of (A. K. Henry)	330
Foreign Bodies in Bowel causing Peritonitis (Arthur Hawkyard and George Armitage)	577
Foreign Body in Neck (A. J. P. Alexander)	95
Fractures of Neck of Femur (Sir Robert Jones)	734
Fractures, Simple, of Long Bones (C. H. Fagge)	737
Gag, Self retaining	273
Gas and Oxygen Apparatus, a Simple	675
Glynn, Thomas Robinson	917
Haemolytic Icterus (Lord Dawson of Penn)	921, 965
Halliburton, William Dobinson	957
Harvey, William	1031
Hay Fever Treated by Intranasal Zinc Ionization (Philip Franklin)	1115
Keratodermia Blennorrhagica (D. E. Finlay)	973
Kitasato, Shibasaburo	1141
Knee-jerk and its Variation (N. D. Royle)	12
Leitch, Archibald	247
Mask, Face, for Midwifery Work	359
Miners' Nystagmus (W. E. Cooke)	617
Muscles, Weakened, Method of Exciting Movement in (Arthur E. Porritt and O. F. Guthrie Smith)	54
Needle-holder, Mayo's, Modification of	902
N_2O Cylinders, Adjustment Valves for	712
Nutrition, Faulty, Surgical Aspects of (Robert McCarrison)	909
Pituitary Tumour (C. C. Elliott and David P. Marais)	297
Radium Container, Mount Vernon Hospital Butterfly	145
Radium Needles in the Pharynx, Method of Anchoring (J. E. G. McGibbon)	843
Radon Seed Introducer	273
Radon Seed Pistol	935
Rectal Speculum and Lamp	103
Royal College of Physicians, Edinburgh, Hall of	360
Sigmoidoscope	515
Smith, James Lorrain	773
Spinal Anaesthesia (A. Wilfrid Adams)	785
Stone in India (Robert McCarrison)	1009
Suprapubic Box, Pads for	227
Surgery, Minor, in Infancy (David Levi)	973
"Surgical Aids" (Sir W. I. de C. Wheeler)	975
Syringe Case	456
Syringe, Ear	61
Tendon Ruptures (Harry Platt)	611
Thermo-saline Apparatus, a Simple	20
Tongue Depressor	188
Tongue Tractor	273
Tonsil Examination and Treatment, Instruments for	188
Tuberculous Peritonitis Simulating Coeliac Disease (E. C. Warner)	978
Tumours of the Rectum, Malignant (W. B. Gabriel)	53
Twin Monster	480
Waterhouse, Sir Herbert	1003

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EPITOME

OF

Current Medical Literature.

JANUARY TO JUNE, 1931

London:

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION, TAVISTOCK SQUARE, LONDON, W.C.1.

INDEX TO THE EPITOME FOR VOLUME I, 1931

READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Carcinoma; Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria, and Sugar; Eye, Ophthalmia, and Vision, etc.

The Figures in this Index refer to the Number of the Paragraph, NOT the Page.

A.

ABADIE, J.: Hydatid cysts of lung, 316
Abdomen, actinomycosis of, 348
Abdominal symptoms in acute rheumatism, 142
ABESHOUSE, B. S.: Post-operative urinary incontinence, 32
Abortion, treatment of, 256
Abscess, peritonsillar, treatment of, 501
ABT, A. F.: Percutaneous diphtheria immunization, 355
ABUREL, E.: Anaesthetization of the lumbo-aortic plexus, 580
Accouchement, rapid, by method of Delmas, 23. *See also* Labour
Achlorhydria with hypochromic anaemia, 438
Acid-base balance and allergy, 160
Acid production by Brucella strains, 488
Acne, an endocrine factor in, 403
Acoustic nerve. *See* Nerve
Acriflavine: In psoriasis vulgaris, 62—In undulant fever, 59
Actinomycosis of the abdomen, 348
Actino-sensitivity of oestrin, 542
ADDESSI, G.: Histamine and utero-placental apoplexy, 642
Addison's disease: The cortical hormone in, 15—Etiology of, 295—*Treatment of* with a hormone from the cortex of the suprarenal gland, 352
Adenitis, cervical, acute, tonsillectomy in, 195
Adenitis, inguinal, special form of, 94. *See also Lymphogranulomatosis*
Adenoacanthoma of the uterus, 210
Adenocarcinomatous growths of the bladder, 147
Adenoids in adults, frequency of, 275
Adenomatous goitres, 246
ADLERSBERG, D.: Local treatment of ulcers *with insulin*, 13
Adnexal inflammation, conservative operation for, 254
Agranulocytosis, 564
Alcoholic delirium, strychnine in, 375
Alcoholism, bactericidal power of the blood in, 262
ALDRIDGE, F. C.: An outbreak of trichinosis in Pennsylvania, 413
ALEMI, M.: Laryngeal complication of quinsy, 379
ALEXANDER, J.: Treatment of non-tuberculous pulmonary conditions, 72
Alkalis in malaria, the haemic effects of quinine and, 43
ALLEN, I. M.: *Tumours involving the cauda equina*, 174
ALLEN, P. K.: Acriflavine in psoriasis vulgaris, 62
Allergic syphilis. *See* Syphilis
Allergy and the acid-base balance, 160
Allergy conditions, skin tests in diagnosis of, 218
Amato's test for syphilis, 25
Ambulant therapy in proctology, 418
AMES, C. R.: Plasmoquine in malaria, 454
Amniotic bands, foetal injury by, 21
Amoebic colitis. *See* Colitis
[illegible] clerosis
[illegible]
Anaemia, hypochromic, with achlorhydria, 438
Anaemia, iron treatment of, 250
Anaemia, malarial, *splenic extract in*, 199
Anaemia, pernicious, 221—Liver diet in, histological effects of, 213—Resistant to liver treatment, 412
Anaemia, pernicious, the erythrocyte in, 335
Anaemia, pernicious, essential, pathogenic factors in, 315
Anaemia, pernicious, gastric juice of dogs in treatment of, 377—Gastric tissue of swine in, 424
Anaemia, splenic, local vascular changes in, 119
Anaemias, haemolytic, 137
Anaerobic blood culture. *See* Blood
Anaesthesia, combination, 154
Anaesthesia, effect of on paroxysmal conditions, 466
Anaesthesia, general, ethyl chloride, for children, 357
Anaesthesia, general, pulmonary complications of, 39
Anaesthesia, infiltration, in fractures, 153
Anaesthesia, intravenous, barbitone derivatives in, 37
Anaesthesia, local, percaine as a, 152
Anaesthesia, regional, 480
Anaesthesia, spinal: Indications for, 356—*Amytal in*, 482
Anaesthesia. *See also* Narcosis *and* Analgesia
Anaesthetic, general, for children, ethyl chloride as an, 357
Anaesthetic, pernocton as an, 353
Anaesthetic, spinal, neocaine as a, 603
Anaesthetization of the lumbo-aortic plexus, 580
Anal chancre, 555
[illegible]n, 505
[illegible]
Aneurysm of aorta, dissecting, simulating pulmonary neoplasm, 584
Aneurysm of the heart, diagnosis of, 93
Aneurysms, miliary, of cerebral arteries, 24
ANGELERI, C.: The titre of isoagglutinating serums, 386
ANGELINI, V.: Measles complicated by diabetes insipidus, 92
Angina pectoris, 511—*Surgical treatment of*, 302
ANGYAL, A.: The bactericidal power of the blood in alcoholism, 252
Anhydraemia in extensive superficial burns, 10
Ankle fractures, with backward dislocation, 395
Ankylosis of the temporo-maxillary joint, 592
Antigangrene serum in scarlet fever, 571
Antigens in *B. anthracis*, multiplicity of, 138
Antimony in therapeutics, 104
Antimony, organic, in kala-azar, 328
Antiseptics, influence of soap on, 487
Antral (Highmore) diseases, radiography in, 556
Aortic aneurysm. *See* Aneurysm
Apoplexy, utero-placental, and histamine, 642
Appendicectomy, the latero-posterior incision *for*, 549
Appendicitis, chronic, 274
Appendicitis in the middle-aged, 8
Appendicitis and trauma, 126
Arborescent lipoma. *See* Lipoma
Argyrosis of the cornea, 575
ARNHEIM, E. E.: Neocaine as a spinal anaesthetic, 603
ARONSTAM, N. E. Cutis marmorata (livedo reticularis), 252
Arsphenamine: Precautions during administration of, 497—In the treatment of syphilis, 526, *601*
Arterial hypertension: Rational treatment of, 73—Bismuth subnitrate in, 201—Treatment of *idiopathic*, 325
Arteries, cerebral, miliary aneurysms of, 24
Arthritis, chronic, treatment of, 524
Arthritis, infectious (atrophic), streptococci in, *89*
Arthritis, purulent, of the knee, treatment of, 419
Arthritis, syphilitic, 545
Artificial feeding. *See* Feeding
Artificial pneumothorax. *See* Pneumothorax
ARVANITAKIS, G.: Radiography of discrete pulmonary lesions, 427
Asbestosis bodies in the sputum, 161
Aschheim-Zondek test for pregnancy, 639
Ascites, a confirmatory physical sign in, 587
Ascites, foetal, 610
ASLETT, E.: Treatment of malaria, 598
Aspergillosis, cerebral, 367
Asphyxiation, neo-natal, 429
Asthma, bronchial, effect of anaesthesia on, 466
Asthma intensified by liver therapy, 295
Asthma, sex and age incidence in, 265
Astrocytomas, cerebellar, 345
AUDEBERT: Fibroma praevia and forceps delivery, 207
Auditory meatus, acute inflammation of the, 502
Auricular fibrillation in heart disease, 183
Auscultatory sign of defective conduction in mitral stenosis, 622
AVERILL, L. C. L.: Induction of labour, 156
Avertin causing fatal colitis, 602
AXELROD, M. L.: The barbiturates in obstetrical analgesia, 505
Axillary vein. *See* Vein
Azotaemia and renal insufficiency, 211

B.

BAAGÖE, K. H.: Sex and age incidence in asthma, 265
BAAR, H.: Percutaneous immunization in diphtheria, 95
BAASTAD, W. F.: Stieda's lesion, 192
Bacillus anthracis, multiplicity of antigens in, 138
Bacillus Calmette-Guérin, increase in virulence of the strain, 117
Bacillus Calmette-Guérin strain, dissociation of the, 434
Bacillus coli pyuria, the causal organisms of, 582
Bacillus coli in water, the search for, 562
Bacillus, Ducrey's, cultivation of from soft chancres, 336
Bacillus, paratyphoid, aberrant, infection due to, 364
Bacillus, tubercle (bovine) as a cause of phthisis, 486
Bacillus, tubercle, quantitative estimation of living and dead, in sputum, 614
Backache, low, 167, 168
Bacteria, infective power of, enhancement of, 181
Bactericidal power of the blood in alcoholism, 262
Bacteriophage in the diagnosis of dysentery, 503
Bacteriophage therapy in chancroid, 171
BADINAND, A.: Nephritis caused by trypaflavine, 182
BAILEY, W.: Bulbar paralysis after teeth extraction, 318
BAILLIART, P.: Ocular hypertensive conditions, 576
BALARD, P.: Uterine hypertony in successive labours, 608
BALDRIDGE, C. W.: Auricular fibrillation in heart disease, 183
BALLANCE, C.: Dual innervation of striated muscle, 433
BALTHAZARD: Epilepsy due to compression of the frontal lobe, 3
BAQUERO, G.: The blood platelets in pulmonary tuberculosis, 507
BARBERA, G.: Volvulus of the stomach, 223
Barbitone derivatives in intravenous anaesthesia, 37
Barbiturates in obstetrical analgesia, 505
BARGEN, J. A.: Serum treatment of chronic ulcerative colitis, 200—Prevention of peritonitis in colon surgery, 224
Barium chloride in typhoid fever, 498
BARNES, A. R.: Calcareous aortic valvular disease, 491
BARRAQUER Y CERERO, T.: Pathogenesis of sympathetic ophthalmia, 282
Basal metabolism in pulmonary tuberculosis, 617
BASSET, J. J. A.: Bacteriophage therapy in chancroid, 171
BASSLER, A.: Treatment of chorea, 170
Baths, hot, for relief of intermittent claudication, 276
BAUER, R.: Primary tumours of the heart, 125—Thyroidectomy immediately before parturition, 323
BAUM, H. L.: Tonsillectomy in acute cervical adenitis, 195
BAUX Haemorrhage in delivery of hydatidiform mole, 178—Fibroma praevia and forceps delivery, 207

BAZGAN, J.: Antigangrene serum in scarlet fever, 571
Bean, soya, as a milk substitute, 477
BECHER, E.: Skin coloration in renal insufficiency, 30—Renal insufficiency and azotaemia, 211
BECK, A. C.: Eclampsia, 405
BECKER, J.: The haemostatic action of Congo red, 80
BECKER, S. W.: Yeast factors in superficial dermatitis, 251
BECKMAN, H.: Allergy and the acid-base balance, 160
BEEBE, R. T.: Lobar pneumonia treated unsuccessfully with convalescent serum, 34
BEERMAN, H.: Bismuth arsphenamine in early syphilis, 601
BEGBIE, R. S.: Dissociation of the B.C.G. strain, 434
BEGG, R. C.: Adenocarcinomatous growths of [illegible] carci-
[illegible] noma, 710
BELOT, J.: Treatment of parotid epithelioma, 444
BELSON, M. O.: A rubella epidemic, 122
BELT, T. H.: Silicosis and tuberculosis, 139
BENEDICT, H.: Percutaneous immunization in diphtheria, 95
[illegible] oedema
[illegible] inflammatory conditions, 12
BÉRARD, F.: Rupture of the spleen and left kidney, 52
BERGSOW, E: Total resection of the stomach 245
BERKMAN, J. M.: The cortical hormone in Addison's disease, 15
BERNARD, J.: Subacute inguinal lymphogranulomatosis, 94
BETTS, L. O.: Obliteration of the common bile duct, 519
BERNARD [illegible]
BEYER, C [illegible] oration by
BHAGEERUTTY, R.: Recovery from pneumococcal meningitis, 97
BICHARA, F. E.: Streptococcal myositis, 590
BIJL, J. P.: Incidence of Weil's disease in Holland, 5
Bile duct, common, obliteration of the, 519
BINET: Pelvic sympathectomy, 65
Birth, circulatory changes at, 205
BISHOP, E. L.: Epidermoid carcinoma in sebaceous cysts, 270
Bismuth arsphenamine in early syphilis, 601
Bismuth, radio-active, in treatment of malignant tumours, 193
Bismuth subnitrate in arterial hypertension, 201
Bismuth therapy, renal complications of, 398
BLACKMAN, S. S.: Acute nephritis produced by a pneumococcal autolysate, 362
Bladder, adenocarcinomatous growths of the, 147
Bladder, urinary, diverticula of the, 371
BLECKWENN, W. J.: Sodium amytal in neuropsychiatric conditions, 106
BLOCH, B.: An endocrine factor in acne, 403
Blood, bactericidal power of in alcoholism, 262
Blood changes during pregnancy and parturition, 462
Blood culture, anaerobic, by the Boëz method, 118
Blood in delirium tremens, 509
[illegible] 115
Blood platelets in pulmonary tuberculosis, 507
Blood pressure, high, treated with pancreatic extract, 63
Blood regeneration, the action of liver extract on, 237
Blood sedimentation rate in gynaecological conditions, 337
[illegible] 464
BOEGNER, E.: Uraemic meningitis, 123
[illegible] 18
BOMPIANI, R.: Histamine and utero-placental apoplexy, 642
[illegible] odules, 258
BONTS, I. H.: Monilial vulvo-vaginitis, 503
BORY, L.: Renal complications of bismuth therapy, 398
BORDLEY, J.: Etiology of blood transfusion reactions, 385
BOSCH, H.: Deafness in trichinosis, 441
BOUCOMONT, R.: Pulmonary embolisms in developing myocardial infarct, 510
BOULIN, R.: Pernicious anaemia resistant to liver treatment, 412
BOURN, Janet M.: Experimental transmission of the common cold, 611
BOWER, A. G.: Treatment of meningococcal meningitis, 525
BOYER, C. E.: Peritoneal bleeding from perforation by uterine chorion-epithelioma, 430
BRAAK, J. W. G. Ter: Epidemic polyneuritis, 624
Brachial plexus and its roots, trauma of, 456
BRANDY, M. B.: Pancreatitis complicating mumps, 343
Brain lesions, fixed, encephalography in, 122
BRATKOWSKI, E.: Colonic stasis of hepatic causation, 269
BRÉMOND, P.: Rapid accouchement by method of Delmas, 23
BRENNAN, J.: Post operative ileus, 273
Broad ligament, early endometrial invasion of the, 643
BROCHIER, A.: Puerperal infection and influenza, 333
BROCKBANK, W.: Pernicious anaemia, 221
Bromide poisoning, chronic, 185
Bromide and iodide therapy, 528
Bromides in the persistent vomiting of pregnancy, 536
Bronchial glands, latent and occult tuberculous infection of, 411
Bronchiectasis in childhood, treatment of, 203
Bronchiectasis, surgical treatment of, 417
BROUHA: Trial labour in contracted pelvis, 158
BROWN, A.: A cereal mixture for children, 16
BROWN, J. H.: Acute nephritis produced by a pneumococcal autolysate, 362
BROWN, R. G.: Radiography in antral (Highmore) disease, 596
Brucella strains, acid production by, 488
BRÜGSCH, T.: Jaundice and iron metabolism, 613
BUCCIANTI, L.: Plasma volume and acute infections, 465
BUCKINGHAM, W. W.: Treatment of non-tuberculous pulmonary lesions, 72
Bulbar paralysis. *See* Paralysis
BUNBURY, D. Elizabeth: Chronic bromide poisoning, 185
BÜRGERS: Incidence of diphtheria, 242
Burn scars, cancer developing in, 124
Burns in children, 51
Burns, superficial, extensive, anhydraemia in, 10
Burns, tannic acid in treatment of, 51
BURTON, J. A. G.: Generalized myositis fibrosa, 618
BUTSCHOWITZ, E.: Quantitative estimation of living and dead tubercle bacilli *in sputum*, 614

C.

CABOT, H.: Ethylene gas explosions, 481
Caesarean section, cervical, dangers of, 176
Caesarean section, lower, 577, 578
Caesarean section, rupture of uterus following, 42
Calcareous aortic valvular disease, 491, 492
[illegible] onic ulcerative colitis, 354
Calculus in the solitary kidney and ureter, treatment of, 169. *See also* Stone
Cancer, bismuth radio-active in treatment of, 193
[illegible] adium [illegible] ibiota hysterectomy, 609
Cancer, epidermoid, in sebaceous cysts, 270
Cancer of the larynx, intrinsic, 381
Cancer of lung, primary, 11
Cancer of the ovary, 579
Cancer of the prostate, treatment of, 446
Cancer, scirrhous gastric, radiological diagnosis of, 131
Cancer, serum reactions in, 260
Cancer simulated by gastric syphilis, 440
Cancer of skin: Treatment of, 76, 271—In sebaceous cysts, 270
Cancer of tongue, early signs of, 393
Cancer of the trachea, primary, 110
Cancer of uterus, early diagnosis of, 134
Cancer of the vagina, 606, 637
Cancer of vagina and pessaries, 504
Cancer. *See also* Malignant disease: Tumours, etc.
CANTALAMESSA, V.: Meningococcal meningitis in infants, 415, 516, 531
CANTAROW, A.: Calcium and parathyroid in chronic ulcerative colitis, 354—Ether hyperglycaemia, 604
CANUYT, G.: Treatment of peritonsillar abscess, 501
Carbohydrate dyspepsia, treatment of, 303
Carbohydrate metabolism: Gall-bladder disease and, 615—Of the skin, 561
[illegible] tumours
[illegible] retention, 435
[illegible] eatment of, 35
CARROT, E.: Injection treatment of varicose veins, 443
CARTER, L. F.: Ocular manifestations of trichinosis, 283
Caruncle, urethral, treatment of, 247
CASANO, C.: Haemolytic anaemias, 137
CASSALET: Massive doses of sodium salicylate in acute rheumatism, 353
CASTANEDA, M. R.: Immunization against typhus fever, 540
CASTAÑO, C.-A.: Treatment of the fibrocystic ovary, 87
Catarrh, nasal, sodium iodide in, 350
Catarrhal jaundice. *See* Jaundice
Cauda equina, tumours involving the, 171
CAULK, J. R.: Litholapaxy, 568
CAUSSADE, G.: Treatment of tuberculous haemoptysis, 632
CECCARELLI, D.: Insulin in wasting following cholelithiasis, 196
CEDERCREUTZ, A.: Erythema nodosum and tuberculosis, 341
Cereal mixture for children, 16
Cerebellar astrocytomas, 345
Cerebral arteries. *See* Arteries
Cerebral aspergillosis, 267
Cervical lacerations, 255
CHABANIER, H.: Oily solutions of insulin in diabetes, 552
CHALIER, J.: Milk injections in erysipelas, 127
Chancre of anus, 585
Chancre, gonococcal, 621
Chancre of the tongue, 49
Chancres, soft, cultivation of Ducrey's bacillus from, 326
Chancroid, bacteriophage therapy in, 171
Chandler, L. R.: Chronic appendicitis, 274
CHARPY: Gold pigmentation of the skin, 493
CHATON, M.: Hir-chaprung's disease, 420
CHATON, P.: *Strychnine in alcoholic delirium* 375
Chaulmoogra oil in the local treatment of leprosy, 400
CHAVIGNY, M.: Pericarditis with effusion, 414
Chemistry, clinical, of the skin, 263
CHEVALIER, P.: Subacute inguinal lymphogranulomatosis, 94—Diet in catarrhal jaundice, 150—Essential or familial haemophilia, 437
CHIARELLO, A. G.: Experimental uraemia, 140
Chicken-pox. *See* Varicella
CHIEVITZ, O.: Radium treatment of cancer of the cervix, 458
Children, fasting, insulin and epinephrine in 68
China, eclampsia in, 257
Chlorotic anaemia. *See* Anaemia
Cholecystectomy without drainage, 392
Cholelithiasis followed by wasting, insulin in 196
Choleriform syndrome in infantile diarrhoea, 665
Cholesteatoma, aural, pathogenesis of, 500
Cholesterinaemia in diphtheria, 90
Chondromas of the hand, 447
Chorea, etiology of, 338, 439
Chorea, treatment of: By phenyl-ethyl-hydantoin, 151—By nirvanol, 172
Chorion-epithelioma without external haemorrhage, 136
Chorion-epithelioma, hydatidiform mole, and the Zondek-Aschheim reaction, 534
[illegible] rus, perforating, [illegible] multiplex with hypothyroidism, 63
Cinchophen administration, toxic symptoms during, 327
Circulatory changes at birth, 205
CITRON, R.: Sporadic encephalitis, 163
Claudication, intermittent, relieved by hot baths, 276
CLERC, A.: Dissecting aortic aneurysm simulating pulmonary neoplasm, 584
CLEVELAND, D. E. H.: Mercurialism following the application of mercurochrome, 376
Clostridium welchii, haemorrhagic lesions caused by, 215
CODVELLE: Serotherapy in meningococcal septicaemia, 58
[illegible] 466
COHN, B.: Staphylococcal septicaemia, 374
Colds, experimental transmission of, 611—By a filterable agent, 69
Colic, post-operative due to flatus, treatment of, 166
Colic, renal, diathermy in, 280
Colitis, amoebic, administration of emetine in, 551
Colitis, fatal, caused by avertin, 602
[illegible] veins, 191
Collapse, post-operative pulmonary, etiology of, 432
COLLIS, W. R. F.: Immunology of scarlet fever, 159
Colon surgery, prevention of peritonitis in, 224
Colonic stasis of hepatic causation ("hepatic tiflostasis"), 269
COLUMBA, D.: Insulinaemia in the fat and thin, 410
COMBIESCO, N.: Haemorrhagic lesions caused by *Clostridium welchii*, 215
[illegible] ioea, 70
[illegible] pernicious anaemia, 424
Convalescent serum. *See* Serum
Convulsions in disseminated sclerosis, 121

COOKE, H. H.: Carcinoid tumours of the small intestine, 595
Copper and blood formation, 422
CORBIA, A.: Estimation of glycaemia, 541
Cornea, argyrosis of the, 575
[illegible]
[illegible] rdial infarction by the electrocardiogram, 241
COSTE, F.: Lipiodol injections in neuralgia and rheumatic pains, 218
COTTE, G.: Intrauterine lipiodol injections in sterility, 234—Cholecystectomy without drainage, 392—Resection of the pelvic sympathetic, 611
COUCH, J. K.: The diagnosis of pregnancy, 382
COUNSELLER, V. S.: Uterine prolapse, 22
COURTOIS, A.: The blood in delirium tremens, 509
COWAN, J.: Generalized myositis fibrosa, 618
CRANE, M. P.: The action of liver extract on blood regeneration, 237
Cranial nerves. *See* Nerves
CRAVEN, E. B., jun.: Precautions during arsphenamine administration, 497
CRAVER, Ll. F.: Radiation treatment of polycythaemia vera, 133
CRAWFORD, L. P.: Treatment of spasmodic croup, 476
CREYSSEL, J.: Peritoneal bleeding from perforation by uterine chorion-epithelioma, 430
[illegible]
[illegible] of the brain, 132
CROUCH, J. H.: Vaccine therapy in enteric fever, 60
Croup, spasmodic, treatment of, 476
CUILLERET, P.: Gold pigmentation of the skin, 404
CUMMING, [illegible] infection
CUNNINGHA[illegible] 625
Curetting in chronic gonorrhoea, 431
[illegible]

D.

DALSACE, J.: Treatment of inflammatory conditions with benzyl cinnamic ether, 12
DAMADE, R.: Intestinal perforation in paratyphoid B fever, 293
DAMESHEK, W.: Agranulocytosis, 554
Danglade, J. H.: Treatment of cardio-vascular syphilis, 35
DANIELOPOLU, D.: Surgical treatment of angina pectoris, 302—The effect of anaesthesia on paroxysmal conditions, 466
DAS, P. Chandra: Foetal ascites, 610
DAUDIN-CLAVAUD: Treatment of infected tonsils by diathermy, 109
DAUNA, V.: Benign lymphocytic meningitis, 75
DAVIDSON, E. C.: Burns in children, 51
DAVIS, M.: The use of glandular extracts in labour, 41
DAVISON, T. C.: Intrathoracic tumours, 190
DAWSON, B.: Early endometrial invasion of the broad ligament, 643
DAWSON, M. H.: Structure of rheumatic nodules 238
Deafness in trichinosis, 441
DE BLASIO, R.: Diagnostic tests for syphilis, 25
DEBRAY, M.: Treatment of peptic ulcer, 129—Treatment of gastric ulcers by pepsin, 197
DE BÖBEN, I.: Carcinoma of the vagina, 607
DE COURCY, J. L.: Surgical treatment of goitre, 243
DE COURT, J.: Yagéine or harmine, 198
DEFAIX, L. F.: Retention of urine in typhoid fever, 4
DEGOS, R.: Vaccinotherapy in acute articular rheumatism, 14
DE GRÓSZ, E.: The operative treatment of glaucoma, 574
DEIBERT, I. E.: Osteomyelitis treated by the "Orr" method, 98
D[illegible] aneurysm
Delirium, acute, in mental cases, 18
Delirium, alcoholic, strychnine in, 375
Delirium tremens, the blood in, 509
Delivery. *See* Accouchement *and* Labour
DELMAS, P.: Rapid accouchement by method of Delmas, 23
DELMAS-MARSALET, P.: Injection treatment of Paget's disease, 107
Dementia paralytica: Malaria therapy in, 36—Juvenile, 175—Hyperpyrexial treatment of, 226
Dengue fever, 339
Dental infection and respiratory disorders, 239
Dental operations, percaine in, 152
Dermatitis, superficial, yeast factors in, 251
DE SCHLANGER, F. W. [illegible] of primary
DE SCHIVE [illegible] by medi[illegible] ved
DESJACQUES, R.: Rupture of the spleen and left kidney, 52
DESPLAS, B.: Exophthalmic goitre, 590
DEULOFEU, V.: Multiplicity of antigens in *B. anthracis*, 138
[illegible]
[illegible]
Diabetic patients, operations on, 78
Diaphragmatic hernia. *See* Hernia
Diaphragmatic paralysis by phrenic evulsion, 53
[illegible] 483
[illegible] in nephritis, 184
Diathermy treatment: Of infected tonsils, 109—Of dementia paralytica, 226—Of renal colic, 280
DIBOLD, H.: Heart failure and metabolism, 537
DIECKMANN: Dextrose solutions in eclampsia, 535
DIEM, E.: The relation of mild to typical smallpox, 214
DIENERT, F.: The search for *Bacillus coli* in water, 562
Diet and anaemia, 294
Diet in catarrhal jaundice, 130
Diet in pulmonary tuberculosis, 150
[illegible]
DIMITRY, T. J.: Local treatment of leprosy with [illegible], 292
Diphtheria, cholesterinaemia in, 90
Diphtheria, control of in institutions, 390
Diphtheria, immunity to, the negative phase in, 436
Diphtheria, incidence of, 242
Diphtheria, infantile, choleriform syndrome in, 565
Diphtheria, percutaneous immunization in, 95, 355
Diphtheria, toxic, 189
Diphtheral infection of the umbilicus, 48
Disease, resistance to, seasonal variations in, 387
Disease and the tonsils, 625
Disseminated sclerosis. *See* Sclerosis
DITTLER, E. L.: Benign acute pulmonary tuberculosis, 543
Diuresis in nephritis, induction of, 184
Diuretic, salyrgan as a, 326
Diverticula of the urinary bladder, 371
DOCHEZ, A. R.: Experimental transmission of colds by a filterable agent, 69
DOGLIOTTI, A. M.: Renal innervation, 116
Dogs, gastric juice of in treatment of pernicious anaemia, 377
DONATO, J.: Cholesterinaemia in diphtheria, 90
DOUGLAS, R. G.: Induction of labour by membrane rupture, 640
DOULL, J. A.: Experimental transmission of the common cold, 611
DRAKE, T. G. H.: A cereal mixture for children, 16—Sugar tolerance in infants, 612
DRENKHAHN: Fourth disease, 368
DU BOIS, Ch.: Lingual tuberculosis, 593
DUBOIS, E. F.: Digitalis in pneumonia, 304
DUBREUILH, W.: Treatment of cutaneous cancer, 271
Ducrey's bacillus, cultivation of from soft chancres, 316
DUJARDIN: Intradermal reactions in early and late allergic syphilis, 88
D[illegible] pneu[illegible]iplegia
D[illegible] rterial
Duodenal fistula, 301
Dysentery, the bacteriophage in the diagnosis of, 508
Dyspepsia, amylaceous, 416
Dyspepsia, carbohydrate, treatment of, 303

E.

ECKMAN, P. F. Calcareous aortic valvular disease, 492
ECKSTEIN, A.: Production of encephalitis with vaccinia virus, 293
ECKSTEIN, E.: Epidemic serous meningitis, 162
Eclampsia, 406
Eclampsia in China, 257
Eclampsia in a diabetic, 40
[illegible]
EGGERTH, A. H.: Germicidal properties in soaps, 212
[illegible] a, 449
[illegible] pelas,
Electrocardiogram for the localization of myocardial infarction, 241
Electro-surgical scalpel in renal surgery, 548
ELEY, R. C.: Encephalography in fixed lesions of the brain, 132
ELLER, J. J.: Treatment of skin cancer, 76
ELLIS, L. B.: Rational treatment of arterial hypertension, 79
Embolism, pulmonary, and typhoid phlebitis, 33
Embolisms, pulmonary, in developing myocardial infarct, 510
Embolus, obstetric, post-operative, 86
Emetine administration in amoebic colitis, 551
EMRICH, W. H.: Cervical lacerations, treatment of, 255
Encephalitis in childhood, etiology of, 583
Encephalitis, epidemic, acoustic nerve involvement in, 380
Encephalitis, epidemic, amyotrophic lateral sclerosis in, 17
[illegible] ollowed by spastic [illegible]iralized vaccinia, 342
[illegible] fever, 546
[illegible]h vaccinia virus, 293
Encephalitis, vaccinal, 513
Encephalography in fixed lesions of the brain, 132
Endocarditis with meningococcaemia, 370
Endocrine factors: In migraine, 74—In acne, 403
Endocrine treatment of gastric and duodenal ulcers, 279
Endometrial haemorrhage. *See* Haemorrhage
Endometrial invasion, early, of the broad ligament, 643
ENGELSGAARD, H. d'U. A.: Erythema nodosum and pulmonary tuberculosis, 141
Enteric fever. *See* Fever
Enuresis, types of, 530
Epilepsy, etiology of, 173
Epilepsy due to compression of the frontal lobe, 3
Epilepsy, ketogenic treatment of, 56
Epilepsy and menstruation, 311
Epinephrine and insulin in fasting children, 68
Epithelioma, parotid, treatment of, 444
Ergosterol, irradiated, relation of vitamin D to, 313
[illegible]
[illegible] 141, 341
Erythrocyte in pernicious anaemia, 335
[illegible] treatment of gastric
[illegible] praevia and forceps delivery, 207
Ether, benzyl cinnamic, in treatment of inflammatory conditions, 12
Ether hyperglycaemia, 604
Ethyl chloride as a general anaesthetic for children, 357
[illegible] 463
[illegible] *or Bacillus coli* in water, 562
ETTINGER, G. H.: The Aschheim-Zondek test for [illegible]
EVAN[illegible]
EWEL[illegible] phthalmic goitre, 305
EWIG, W.: Induction of diuresis in nephritis, 184
[illegible] acoplasty

F.

[illegible] diet, 213
[illegible] salpingo[illegible]n of the,
[illegible] rhoea in children, 105
FARRAR, Lilian K. P.: Radium treatment of cancer of the cervix, 459
Fascia, perivaginal, in nulliparae, 177
FASTING, G. F. C.: Serum treatment of chronic ulcerative colitis, 200
[illegible] cysts, 135
[illegible] diagnosis of
[illegible] diphtheria immunization, 355
Femur, pseudarthroses of the neck of the, 373
[illegible] in meningococcal

Fever, scarlet: Antigangrene serum in, 571—Immunology of, 159—Relapses in, 544—Streptococcus of, non-specificity of, 290—In Sweden, 468
Fever, typhus, immunization against, 510
[illegible] Encephal- [illegible] Germany,
Fibroma praevia and forceps delivery, 207
Fibula, primary osteomyelitis of the, 628
FIGI, F. A.: Primary carcinoma of the trachea, 110
FILDES, P.: The germination of tetanus spores, 45
Fingers, parakeratoses of the ends of the, 401
FINLAND, M.: Vascular lesions of the hind-brain, 19
FINLEY, R. K.: Pre-adolescent ovarian tumours, 533
Fistula, duodenal, 301
Flatus causing post operative colic, treatment of, 166
FLEISCHMAN, A. G.: Treatment of urethral caruncle, 247
[illegible] c
FLOTHOW, P. G.: Ganglionectomy, 9
FLUHMANN, C. F.: Etiology of uterine haemorrhage, 558
Foetal ascites, 610
Foetal injury by amniotic bands, 21
FOGELSON, S. J.: Treatment of peptic ulcer with *mucin*, 635
FONTAINE, R.: Thyroidectomy immediately before parturition, 323
FONTÈS, G: Pathogenic factors in essential pernicious anaemia, 315
Foot-and-mouth virus, experiments with, 217
FORBUS, W. D.: Miliary aneurysms of cerebral arteries, 24
Forceps delivery and fibroma praevia, 207
FORNI, G.: Osteoma of the humerus, 522
FÖRSTER, R.: The complement-fixation test in gonorrhoea, 70
FOSTER, B.: Acute inflammation of the auditory meatus, 562
FOSTRÖM, A.: The Pirquet reaction in *adolescence*, 329
FOULON, P.: Lymphogranulomatosis in children, 164
FOUND N.: Soya bean as a milk substitute, 477
FOUQUET, C.: Local treatment of varicose ulcers, 227
Fourth disease, case of, 368
FOWLER, W. M.: Auricular fibrillation in heart disease, 183
FOX, E. C.: Treatment of skin cancer, 76
Fractures of ankle with backward dislocation, 395
Fractures, infiltration anaesthesia in, 153
Fractures, open operation in, 7
Fractures at the upper end of the radius, 320
FRANCK, A.: Ureteral pyelography, 554
FRANK, Helen: The general therapeutic value of ergotamine, 573
FRANK, M.: The causal organisms in *B. coli* pyuria, 582
FRIED, J.: Sulphur in tabetic optic atrophy, 634
FRIEDLAENDER, B.: Pernocton as an anaesthetic, 358
[illegible] sy, 3
[illegible] by
[illegible] abil ried, 291
FUTAGI, Y.: Non specificity of the scarlet fever streptococcus, 290

G.

Gall-bladder disease and carbohydrate metabolism, 615
Gall-stone ileus, varieties of, 54
Ganglionectomy, 9
GANDÈRE, C.: Tetany complicating enteric fever, 222
GARIPUY: Fibroma praevia and forceps delivery, 207
Gastric evacuation, 101
Gastric function, estimation of, 27
Gastric juice of dogs in treatment of pernicious anaemia, 377
Gastric syphilis. *See* Syphilis
Gastric tissue of swine in pernicious anaemia, 424
Gastric ulcers. *See* Ulcer
Gastric. *See also* Stomach
GASUL, B. M.: Percutaneous diphtheria immunization, 355
GATÉ: Gold pigmentation of the skin, 404
GAWLER, M. L.: *Trypaflavine* in typhoid fever, 553
GEBELE: Iodine therapy in exophthalmic goitre, 305
GEDDES, A. K.: [illegible]
GEHRET, A. M.: [illegible]
GEISINGER, J. [illegible] ureter, 321
General paralysis. *See* Paralysis
GERGELY, [illegible]
Germany, [illegible]
Germicida [illegible]
GERSTENBERGER, H. J.: Treatment of chorea, 151
GERVAIS, A.: Injection treatment of varicose veins, 443
Gestation, ectopic, 206, 232, 238—Radiological diagnosis of, 288
[illegible]
[illegible] serums, 386
GIRALDI, J. J. J.: Abdominal symptoms in acute rheumatism, 142
Glands, bronchial, latent and occult tuberculous infection of, 411
Glandular extracts in labour, 41
GLASER, M. A.: Trichlorethylene in trigeminal neuralgia, 597
GLASS, J.: Etiology of sero-fibrinous pleurisy, 366
[illegible]
GOETSCH, A.: Undescended testis, 623
GORT, B. H.: The perivaginal fascia in nulliparae, 177
Goitre, exophthalmic: The thymus in, 272—Iodine therapy in, 305, 306—Operation for, 520
Goitre, surgical treatment of, 243
Goitre. *See also* Graves's disease *and* Hyper- [illegible] 401
Gold treatment. *See* Sanocrysin
GOLDBERG, R.: Essential or familial haemophilia, 437
GOLDMAN, D.: Varicella with blood picture [illegible] of meningococcal
GOLDSTEIN, A. E.: Post-operative urinary incontinence, 32
Gonococcal chancre, 621
Gonorrhoea, chronic, curettine in, 431
Gonorrhoea, complement-fixation test in, 70
Gonorrhoea of the rectum, 258
Gonorrhoea, treatment of, 644
GOOD, L. P.: Retinomycosis of the abdomen, 348
GOODALL, J. R.: Toxaemias of pregnancy, 235
GORDON, A.: Intraspinal magnesium sulphate *for intolerable pain*, 599
GOTTLIEB, E.: Late effects of the specific treatment of syphilis, 47
Gouin's test for syphilis, 25
GOURELLE, H.: The influence of intense effort upon the leucocyte count, 236
GRANDSTAFF, F. L.: Combination anaesthesia, 154
GRANT, R. L. T.: Obliteration of the common bile duct, 519
GRANZOW, J.: Foetal injury by amniotic bands, 21
Graves's disease: Results of *x*-ray treatment in, 708 [illegible] *also* [illegible] in [illegible] old crisis [illegible], 591 [illegible] patients, 10
GREEN-ARMYTAGE, V. B.: Lower Caesarean section, 577
GRULEE, C. G.: Intraperitoneal administration of iron, 278
GUGGENHEIMER, H.: Treatment of the vomiting [illegible] nervar nephritis [illegible] ular neuritis, 626
GUTIÉRREZ, R.: Renal tuberculosis, 474
GUTTMACHER, A. F.: Induction of labour by [illegible]

H.

Haemic effects of quinine and alkalis in malaria, 43
Haemoglobinuria [illegible]
[illegible] mole, 118
Haemorrhage, post-partum, 284
Haemorrhage, uterine, etiology of, 558
Haemorrhagic lesions caused by *Clostridium welchii*, 215
Haemorrhagic nephritis, acute, in childhood, 330
Haemostatic action of Congo red, 80
Hallux valgus, radical cure of, 473
HAMPIL, B.: Influence of soap on antiseptics, 487
Hand, chondromas of the, 417
HANNS, A.: Enteric fever during the war, 46
HARDING, W. G.: Toxic symptoms during cinchophen administration, 327
Harmine or Yagéine, 193
HARRIS, E. H. R.: Sublingual mumps with oedema of tongue, 267
HARRIS, K. L.: Etiology of urticaria, 645
HARRIS, L. J.: The mode of action of vitamin D, 581
HARRIS, R. G. S.: Renal sympathicotonus and sympathectomy, 347
HARRIS, S. H.: Renal sympathicotonus and sympathectomy, 347
HARTFALL, S. J.: Latent and occult tuberculous infection of bronchial glands, 411
HARTUNG, E. F.: Endocrine factors in migraine, 74
HARTUNG, H.: *Examination of the fifth lumbar* vertebra, 425
HASKELL, B.: Calcium and parathyroid in chronic ulcerative colitis, 354
HEALY, T. M.: Rupture of the uterus during *labour*, 259
Heart, aneurysm of, diagnosis of, 95. *See also* Aneurysm
Heart disease, auricular fibrillation in, 183
Heart disease, specific hormone treatment of, 423
Heart disease in pregnancy, 111
Heart failure and metabolism, 537
Heart, primary, tumours of, 125
Heart. *See also* Cardiac
HEDBLOM, C. A.: Surgical treatment of bronchiectasis, 417
HEDERER, C.: Splenic extract in malarial anaemia, 199
HEIMANN, H. [illegible]
Heliotherapy [illegible]
HELMHOLTZ, H [illegible] ent of epilepsy, 56
Hemiplegia, spastic, following post-vaccinal encephalitis, 187
HENDERSON, V. E.: Bromide and iodide therapy, 528—The administration of salicylates, 529
HENDERSON, Y.: Neo-natal asphyxiation, 429
Hepatic insufficiency, 459
"Hepatic tiffostasis," 269
Heredity in psoriasis, 253
Hernia, diaphragmatic, congenital, 448
Hernia, inguinal, injection treatment of, 472
Herpes labialis, direct transmission of, 585
Herpes zoster, sodium iodide in, 453
Herpes zoster and varicella, 565—The relationship of, 180
HERRMANN, J.: Gastric juice of dogs in the *treatment of pernicious anaemia*, 377
HESS, P.: Results of *x*-ray treatment in Graves's disease, 308
HESSELTINE, H. C.: Monilial vulvo-vaginitis, 503
HEYNEMANN, T.: Early diagnosis of uterine carcinoma, 154
HIBBS, W. G.: Mixed renal tumours in infancy and childhood, 146
Hind-brain, vascular lesions of the, 19. *See also* Medulla
Hirschsprung's disease, 420
Histamine and utero-placental apoplexy, 642
HJÄRNE, U.: Prognosis in spasmophilia, 493
Holland, Weil's disease in, 5
HOLMES, A. D.: *The relation of vitamin D to* irradiated ergosterol, 313
HOOKEY, J. A.: Keratoma senile and verruca senilis, 61
HOPKINS, H. H.: Asymptomatic neurosyphilis, 264
[illegible] Idison's disease, 15 [illegible] pregnancy, 426 [illegible] ment of heart disease, 423
Hormone of the suprarenal gland in treatment [illegible] menstrual conditions, 460
Hormones of gestation, 61
HORTOPAN, D.: Antigangrene serum in scarlet fever, 571
HOSHIZAKI, S.: Non-specificity of the scarlet fever streptococcus, 290
HOSOYA, S.: The preparation of tetanus anatoxin, 539
HOTTINGER, A.: Toxic diphtheria, 189
HOWARD, Isabel: The action of liver extract on blood [illegible]
H [illegible] cancer of the
H [illegible] ots of quinine and alkalis in malaria, 43
HUBNER, M. [illegible] *priapism*, 120
Hy [illegible]
Hy [illegible] of carbohydrate dyspepsia, 505
Hydatid cysts of lung, 346
Hydatidiform mole, clinical [illegible] Zondek-[illegible]
Hydatidific [illegible] 178
Hyperglycaemia, ether, 601
Hyperpyrexial *treatment* of dementia paralytica 226
Hypertension, arterial: Rational treatment of, 79—Bismuth subnitrate in, 201—Treatment of idiopathic, 325

Hyperthyroidism, results of treatment by *x* rays in, 308. *See also* Goitre *and* Graves's disease
Hypertonic saline solution, rectal injections of, 351
Hypoglycaemia, mental symptoms of, 515
Hypothyroidism with xanthoma multiplex, 63
Hysterectomy, subtotal, cancer of the cervix after, 609

Iceland, epidemics of acute myalgia in, 220
Ileus, gall-stone, varieties of, 54
Ileus, post-operative, 273
IMANITOFF, F.: Therapeutic use of the reflex action of the round ligament, 114
Incontinence of urine, post-operative, 32
Infants, artificial feeding in, 83
Infarction, pulmonary, and typhoid phlebitis, 33
Infections, acute, and plasma volume, 465
Infectious diseases, tonsillar predisposition to, 638
Inflammatory conditions treated with benzyl cinnamic ether, 12
Influenza and puerperal infection, 333
INGALL, M.: Agranulocytosis, 564
Inguinal hernia. *See* Hernia
Innervation, dual, of striated muscle, 433
INNES, J. R. M.: The mode of action of vitamin D, 581
Insulin in diabetes, oily solutions of, 552
Insulin and epinephrine in fasting children, 68
Insulin oedema, 369
Insulin, ulcers treated locally with, 13
Insulin in wasting following cholelithiasis, 196
Insulinaemia in the fat and thin, 410
Intelligence in infants, measurement of, 204
Intestinal perforation in paratyphoid B fever, 298
Intestinal tumours. *See* Tumours
Intestine, small: *Traumatic perforation of* without external injury, 77—Carcinoid tumours of the, 595
Intradermal reactions *in early and late allergic* syphilis, 88
Intrathoracic tumours. *See* Tumours
INTROZZI, A. S.: Treatment of the fibrocystic ovary, 87
Iodide and bromide therapy, 528
Iodine, nascent, in pulmonary tuberculosis, 450
Iodine therapy in exophthalmic goitre, 305, 306
Iron: Administration of, 250—Intraperitoneal administration of, 278
[illegible] tonei, 322

J.

JACKSON, A. S.: Iodine therapy in exophthalmic goitre, 305
JACOBSON, J.: Treatment of inflammatory conditions with benzyl cinnamic ether, 12
JAENSCH, P. A.: Etiology of encephalitis in childhood, 583
JARSY, J.: Renal function *tests in hypertrophy* of the prostate, 563
JAMESON, J. P. S.: Preventability of *eclampsia*, 451
Jaundice, catarrhal, diet in, 130
Jaundice and iron metabolism, 613
JAUSION, H.: Injection treatment of varicose veins, 443
JEANNENEY, G.: Treatment of post-operative colic due to flatus, 166
JEFFERSON, R A.: Malaria therapy in neurosyphilis, 496
JENNER, T.: Estimation of gastric *function*, 27
JENSEN, C.: Control of diphtheria in institutions, 390
JOHNS, F. S.: Appendicitis in the middle-aged, 8
JOHNSON, G. S.: Malaria therapy in neurosyphilis, 496
JOHNSON, W. O.: Intrinsic carcinoma of the larynx, 381
JOHNSTON, F. D.: *Ethylene* gas explosions, 481
Joint disease from frost-bite, 300
JORDAN, A.: Combined treatment of general *paralysis*, 451
JOSSERAND: Gold pigmentation of the skin, 404

K.

KAHN, H.: Treatment of malignant tumours with radio-active bismuth, 193
Kahn and Wassermann tests compared, 505
KAISER, A. D.: Tonsillar *predisposition* to infectious diseases, 638
Kala-azar, organic antimony in, 328
KAPPIS, M.: Treatment of purulent arthritis of the knee, 419
KARTOON, L. B.: Treatment of peptic ulcer, 128
KASMAN, L. P.: Amytal in spinal anaesthesia, 482
KEGEL, A. H.: Percutaneous diphtheria immunization, 355
KEHOE, R. A.: Absorption of tetra-ethyl lead, 538
KEITH, H. M.: The ketogenic treatment of epilepsy, 56
KELLER, R.: Operability in carcinoma of the cervix, 20
KELLY, G. L.: The female sex hormone in pregnancy, 428
Keratoma senile and verruca senilis, 61
Ketogenic treatment of epilepsy, 56
KEY, J. A.: *Fractures of the upper end of the* radius, 320
Kidney, excretion of water and salts from the, 408
Kidney, the solitary, treatment of stone in, 169
Kidney and spleen, rupture of, 52
Kidney. *See also* Renal
KING, G.: [illegible]
KITTINGER [illegible]
KLEINBERG [illegible]
KLINGER, I [illegible] icute
scarlatinal nephritis, 499
KNAUER, H.: Etiology of encephalitis in childhood, 583
Knee, purulent arthritis of, treatment of, 419
KNIGHT, B. C. J. G.: The germination of tetanus spores, 45
KNIGHT, R. T.: Pulmonary complications in general anaesthesia, 39
KNOTT, F. A.: Treatment of carbohydrate dyspepsia, 303
KÖHLER, R.: Hormone treatment of morbid *menstrual conditions*, 460
KOHN, J. L.: The lungs after measles, 591
KOIRANSKY, H.: The lungs after measles, 591
KÖNIG, W.: Causes of thrombosis, 225
KORTHOF, G.: Incidence of Weil's disease in Holland, 5
KOSTER, H.: Amytal in spinal anaesthesia, 482
KRAUSS, F. L.: Linitis plastica, 627
KRETSCHMER, H. L.: Mixed renal tumours in infancy and childhood, 146
KROGH-LUND, G.: Pasteurellosis of rabbits, 26

L.

LABBÉ, M.: Pernicious anaemia resistant to liver treatment, 412—Hepatic insufficiency, 489
Labour: Accouchement, rapid, by method of Delmas, 23—In elderly primipara, 407—Fibroma praevia and forceps delivery, 207—Glandular extracts in, 41—Induction of, 156—*Induction of by membrane rupture*, 640—*And pregnancy in the elderly primipara*, 361—Rupture of the uterus during, 289—Trial, in contracted pelvis, 158—Uterine hypertony in successive, 608
LAFFONT: Rapid accouchement by method of Delmas, 23
LANDAU, A.: Etiology of sero-fibrinous pleurisy, 366
LANDSMAN, A. A.: Anal chancre, 585
LANGE, B.: Bovine tubercle *bacilli* as a cause of phthisis, 486
LANGE, M.: Ankle *fractures with* backward dislocation, 395
LANSBURY, J.: The cortical hormone in *Addison's disease*, 15
Laparotomy, minimal exploratory, 372
LARREGLE, P.: Pregnancy and tuberculous laryngitis, 485
Laryngeal complication of quinsy, 379
Laryngitis, tuberculous, and pregnancy, 485
Larynx, cancer of. *See* Cancer
LASSERRE, C.: Spina bifida treated by operation, 596
LATHURAZ-VIOLLET, H.: Rupture of the spleen and left kidney, 52
LAURENT, M.: *Vaccine treatment of typhoid* osteo-arthritis, 81
Lead poisoning, effects of on vision, 165
Lead, tetra-ethyl, absorption of, 538
LÉCHELLE, P.: Pulmonary embolisms in
L [illegible]
L [illegible]
LEES, J. M.: Rectal narcosis in ophthalmic surgery, 38
LEIKVAM, J.: Estimation of the Pirquet reaction, 389
LEJWA, A.: Anaemia and diet, 294
LÉLU, E.: Oily solutions of insulin in diabetes, 552
LEMAIRE, A.: Yaséine or harmine, 198
LENZ, R: Etiology of chorea, 338
LÉONARD, P.: Spina bifida treated by operation, 596
LÉPINE, P.: Etiology of disseminated sclerosis, 569
Leprosy, treatment of, 277—With chaulmoogra oil, 400
LEREBOULLET, P.: Vaccinal splenomegaly in infants, 6
LERICHE, R.: Primary tumours of the heart, 126
Leucocyte count, the influence of *intense effort* upon, 236
Leukaemia simulated by varicella, 144
LEVEUF, J.: *Pseudarthroses of the neck of the* femur, 373
LEVIN, L.: Prognostic significance of precordial *pain*, 317
LEVIN, S. J.: Calcium gluconate in oedema, 527
LEVRAT, M.: Nephritis caused by trypaflavine, 182
LÉVY, J.: Massive doses of sodium salicylate in acute rheumatism, 353
LÉVY-SOLAL: Treatment of inflammatory conditions with benzyl cinnamic ether, 12
LEWY, A.: Sodium iodide in nasal infections, 350
LICHTENSTEIN, A.: Scarlet fever in Sweden, 468—Relapses in scarlet fever, 544
LIÈGE, R.: *Lymphogranulomatosis* in children, 164
Ligament, broad, early endometrial invasion of the, 643
Ligament, round, therapeutic use of the reflex action of the, 114
Lingual tuberculosis. *See* Tuberculosis
Linitis plastica, 627
LINTZ, W.: Respiratory disorders and dental infection, 239
LIORET, M.: Measles meningitis, 391
Lipiodol injections in neuralgia and rheumatic pains, 248
Lipiodol injections, intrauterine, in sterility, 234
Lipoma, arborescent, of the tendon sheaths, 475
LIPSHUTZ, B.: Renal carbuncle, 493
Litholapaxy, 568
LITTLEJOHN, C. W. B.: Low backache, 167
Livedo reticularis, 252
Liver diet, histological effects of, 213
Liver extract, action of on blood regeneration, 237
Liver therapy intensifying asthma, 295
Liver treatment, pernicious anaemia resistant to, 412
LIVEZEY, Mary M.: Angina pectoris, 511
LLOYD-WILLIAMS, I. H.: Syphilitic arthritis, 545
LOBO-ONEL, C.: Oily solutions of insulin in diabetes, 552
LOEPER, M.: Vaccinotherapy in acute articular rheumatism, 14—Treatment of peptic ulcer, 129—Treatment of gastric ulcers by pepsin, 197
LOFF, R.: Cerebral aspergillosis, 367
LONG, P. H.: Experimental transmission of the *common cold*, 611
LOPEZ, C. P.: Injection treatment of varicose veins, 442
LÖVEGREN, E: Carcinoma of the vagina, 606
LOWENSTEIN, P. S.: Staphylococcal septicaemia, 421
LOWER, W. E.: Diverticula of the urinary bladder, 371
LUCAS, G. H. W.: Bromide and iodide therapy, 528—The administration of salicylates, 600
LUDWIG, F.: *Actino-sensitivity* of oestrin, 542
Lumbar vertebra. *See* Vertebra
Lumbo-aortic plexus, anaesthetization of the, 580
Lumen of the Fallopian tube, occlusions of the, 209
LUNDE, S.: The source of infection in tuberculosis, 316
LUNDY, J. S.: Barbitone derivatives in intravenous anaesthesia, 37
Lung. *See* Pulmonary
Lung cancer. *See* Cancer
Lungs after measles, 591
LUTEMBACHER, R.: An auscultatory sign of defective conduction in mitral stenosis, 622
LUTTEROTTI, O.: Varieties of gall-stone ileus, 54
LUTZ, J. R.: Treatment of sprue, 170
LYALL, A.: Xanthoma multiplex with hypothyroidism, 63
Lymphadenoma, primary malignant, *x*-ray treatment of, 555
Lymphocytic meningitis. *See* Meningitis
Lymphocytosis *associated with ovarian new* growths, 383
Lymphogranulomatosis in children, 164
Lymphogranulomatosis, inguinal, subacute, 94

M.

MCCOMB, Emily: Experimental transmission of the common cold, 611
MCCORMICK, R: Herpes zoster with varicella, 566
MACFEE, W. F.: Early signs of cancer of the tongue, 393
MCHENRY, E. W.: The Aschheim-Zondek test *for pregnancy*, 639
MCHUGH, J. P.: Gastric and duodenal ulcer, 569
MCKENZIE, Dan: Pathogenesis of aural cholesteatoma, 500
MACKERETH, J. G.: Nascent iodine in pulmonary tuberculosis, 450
MCKIM, L. H.: Treatment of phalangeal bone lesions, 31
MCLEOD, P. A.: Treatment of placenta praevia, 605
MCMICHAEL, J.: Local vascular changes in splenic anaemia, 119
MCNUTT, S H.: Acid production by Brucella strains, 488
MAGE, S.: *Neocaine as a spinal anaesthesia*, 603
Magnesium sulphate, intraspinal injections of *from intolerable pain*, 599
MAIGNON, F.: Seasonal variations in resistance to disease, 387
MAIRANO, M.: Renal innervation, 116
Malaria, haemic effects of quinine and alkalis in, 43
Malaria, pernicious, the plasmodium of, 231

Malaria, plasmoquine in, 454
Malaria, quinine treatment of, 397
Malaria in therapy in dementia paralytica, 36
Malaria therapy in neurosyphilis, 496
Malaria, treatment of, 397, 598
Malaria and stovarsol in the treatment of general paralysis, 451
Malarial anaemia. *See* Anaemia
MALCOVATI, P.: Conservative operation for adnexal inflammation, 254
Malignant tumours. *See* Tumours
Malignant. *See also* Cancer
MALLET, L.: Ovarian cancer, 579
MALONEY, E. R.: Cutaneous calcinosis, 402
MANCHINI, F.: Abolition of drainage in purulent peritonitis, 630
MANDEL, L.: Types of enuresis, 530
MANSOUR, M.: Syphilis without chancre, 512
Marble skin. *See* Cutis marmorata
MARCHIAFAVA, E.: The plasmodium of pernicious malaria, 291
MARCUS, I. H.: Insulin oedema, 369
MARGOLIS, H. M.: Calcareous aortic valvular disease, 491
MARIO, T.: Surgical treatment of Raynaud's disease, 491
MARKSON, M.: Etiology of sero-fibrinous pleurisy, 366
Marriage and tuberculosis, 28
MARSH, H. T.: Undulant fever in New South Wales, 619
MARSHALL, F. W.: The blood sugar content in later life, 365
MARTENS, M.: Acute necrosis of the pancreas, 349
MARTIN, R.: Lymphogranulomatosis in children, 164
MARTUSCELLI, G.: Laryngeal complication of quinsy, 379
MASSON, J. C.: Extrauterine pregnancy, 67
MASTIN, A. M.: Meningococcaemia with endocarditis, 370
Mastitis, cystic, chronic, 359
MASUCCI, U.: Senile pulmonary tuberculosis, 1
MATHÉ, C. P.: Treatment of stone in the solitary kidney and ureter, 169
MATHEWS, R. F.: Vesical tumours, 415
MATHIEU, A. (and others): The blood sedimentation rate in gynaecological conditions, 337
MATWEJEWA, W. T.: Salpingostomy for sterility, 384
MATZGER, E.: Asthma intensified by liver therapy, 295
MAXWELL, J. P.: Labour in elderly primiparæ, 407
MAZAL, V.: Treatment of pituitary tumours, 309
MAZZOLA, V.: Post-operative obstetric embolus, 86
MEAKER, S. R.: Causative factors in sterility, 208—Early diagnosis of extrauterine pregnancy, 334
Measles complicated by diabetes insipidus, 92
Measles encephalitis, 589
Measles, the lungs after, 591
Measles meningitis, 391
Measles, meningo-encephalitis following, 620
Measles pneumonia, pseudo-tuberculous, 266
Medulla, vascular lesions of the, 19. *See also* Hind-brain
MEHRTENS, H. G.: Intermittent claudication relieved by hot baths, 276
MELCHIOR, M.: Percaine in dental operations, 152
Membrane rupture for the induction of labour, 640
MENDES, J. Souza: Minimal exploratory laparotomy, 372
MÉNÉGAUX, G.: Treatment of parotid epithelioma, 444
Meningitis, lymphocytic, benign, 75
Meningitis, measles, 391
Meningitis, meningococcal, 516—In infants, 415, 531—Treatment of, 255
Meningitis, pneumococcal, recovery from, 97
Meningitis, serous: Epidemic, 162—Acute epidemic, 467
Meningitis, serous, syphilitic, ocular manifestations of, 588
Meningitis, uraemic, 123
Meningococcaemia with endocarditis, 370
Meningococcal meningitis. *See* Meningitis
Meningococcal septicaemia, serotherapy in, 58
Meningo-encephalitis following measles, 620
MENNE, F. R.: Occlusions of the lumen of the Fallopian tubes 209
MENNINGER, W. C.: Juvenile dementia paralytica, 175
Menstrual conditions, morbid, hormone treatment of, 460
Menstruation: Epilepsy and, 311—And the ureters, 557
Mental cases, acute delirium in, 18
Mental symptoms of hypoglycaemia, 515
Mental symptoms, post-traumatic, 188
Mercurialism following the application of mercurochrome, 376
Mercurochrome administration followed by mercurialism, 376
MERRITT, H.: Vascular lesions of the hind-brain, 19
MESSERLI, Fr. M.: Cutaneous pigmentation and health, 514
Metabolism, basal, in pulmonary tuberculosis, 617
Metabolism, carbohydrate: Gall-bladder disease and, 615—Of the skin, 561
Metabolism and heart failure, 537
Metabolism, iron, and jaundice, 613
METTIER, S. R.: Administration of iron, 250
MEYER, J.: Treatment of peptic ulcer, 128
MEYER, P.: Uraemia without kidney disease, 240
METTERDING, H. W.: Low backache, 168
MICHAEL, N. A.: The Kahn and Wassermann tests, 506
MICHAUX, L.: Treatment of gastric ulcers by pepsin, 197
MICKS, R. H.: Eclampsia in a diabetic, 40
Migraine, endocrine factors in, 74
MIKULOWSKI, W.: Pseudo-tuberculous measles pneumonia, 266
Milk injections in erysipelas, 127
Milk substitute, soya bean as a, 477
Milkers' whitlow. *See* Whitlow
MILLER, T. H.: Bismuth arsphenamine in early syphilis, 601
MILLS, Katherine C.: Experimental transmission of colds by a filterable agent, 69
MINOT, G. R.: Administration of iron, 250
Mitral stenosis, an auscultatory sign of defective conduction in, 622
MOELLER, F.: Dietetic treatment of obesity, 479
Mole, hydatidiform, chorion-epithelioma, and the Zondek-Aschheim reaction, 531
Mole, hydatidiform, haemorrhage in delivery of, 178
MOLLARET, P.: Etiology of disseminated sclerosis, 560
MOMBAERTS, J.: Radiology in urinary diseases, 307
MONALDI, V.: Bilateral simultaneous artificial pneumothorax, 191
MONCHEFF, A.: The intradermal tuberculin reaction, 311
Monilial vulvo-vaginitis, 503
MONIZ, E.: Cerebral aspergillosis, 367
MONNERET-DUMAINE, M.: Infection due to aberrant paratyphoid bacilli, 364
MONOD, R.: Cancer of the cervix after subtotal hysterectomy, 609
MONRAD, S.: The tuberculin reaction in the first three years of life, 91
MONTGOMERY, J. C.: Diphtheria infection of the umbilicus, 48
MOORE, J. E.: Treatment of cardio-vascular syphilis, 35—Asymptomatic neurosyphilis, 264
MORCH, J. R.: Pasteurellosis of rabbits, 26
MOREIRA, M. V.: Gestation in generalized neurofibromatosis, 66
MORGAN, L.: Curability of congenital syphilis, 96
MORGAN, I.: Cyclic vomiting, 331
MORGAN, O. Gayer: Rectal narcosis in ophthalmic surgery, 38
MORIWAKI, J.: Non-specificity of the scarlet fever streptococcus, 290
MORO, E.: Prophylaxis of epidemic poliomyelitis, 186
Morphine, intravenous administration of, 57
MORQUIO, L.: Meningo-encephalitis following measles, 620
MORRISON, W. A.: Torsion and volvulus of the stomach, 517
MORROW, J.: Acute dilatation of the stomach, 517
MORSE, Dorothy L.: Etiology of uterine haemorrhage, 558
MOSCICOWITZ, E.: Post-arterio-sclerotic pulmonary lesions, 216
MOULONGUET, P.: Ovarian cancer, 579
Mucin in the treatment of peptic ulcer, 635
MÜLLER, A. H.: Treatment of uraemia by x rays and thyroxine, 249
MÜLLER, M. P.: Recklinghausen's disease of bone, 299
Mumps complicated by pancreatitis, 313
Mumps, sublingual, with oedema of tongue, 267
MUNARD, J.: Duodenal fistula, 301
MURPHY, W. P.: The action of liver extract on blood regeneration, 237
Muscle, striated, dual innervation of, 433
Myalgia, acute, epidemics of in Iceland, 220
Myelitis, acute benign infectious, 219
MYERS, C. N.: Antimony in therapeutics, 104
Myocardial diseases, 263
Myocardial infarct, developing, pulmonary embolisms in, 510
Myocardial infarction localized by the electrocardiogram, 241
Myopathia infraspinata, 388
Myositis fibrosa, generalized, 618
Myositis, streptococcal, 590

N.

NABARRO, D.: Diagnosis of congenital syphilis, 340
Narcosis, rectal, in ophthalmic surgery, 38
Narcosis. *See also* Anaesthesia
Nasal infections, sodium iodide in, 350
Necrosis of pancreas, acute, 349
Neoarsphenamine in treatment of cardiovascular syphilis, 35
Neocaine as a spinal anaesthetic, 603
Neoplasm, pulmonary, simulated by dissecting aortic aneurysm, 584
Nephritis, acute, produced by a pneumococcal autolysate, 362
Nephritis, induction of diuresis in, 184
Nephritis, glomerular, acute, in childhood, 636
Nephritis, haemorrhagic, acute, in childhood, 330
Nephritis in pregnancy, 233
Nephritis, scarlatinal, acute, the glucosides in, 459
Nephritis caused by trypaflavine, 182
Nerve, acoustic, involvement of in epidemic encephalitis, 592
Nerve, pelvic sympathetic, resection of, 611
Nerves, cranial, paralysis of, 457
Nervous control, central, of the ocular mechanisms, 231
Nervous tissue lesions, bacterially produced, 71
NETTER, A.: The relationship of herpes zoster and varicella, 150
Neuralgia treated by Hplodol injections, 219
Neuralgia, trigeminal, trichloroethylene in, 537
Neurofibromatosis, generalized, sensation in, 66
Neuro-psychiatric conditions, sodium amytal in, 105
Neurosyphilis, asymptomatic, 264
Neurosyphilis, malaria therapy in, 496
Neurosyphilis, tryparsamide in, 378
New South Wales, undulant fever in, 619
NEYMANN, C. A.: Hyperpyrexial treatment of dementia paralytica, 225
Nicolas-Favre's disease. *See* Lymphogranulomatosis
NIELSEN, O. J.: Specific hormone treatment of heart disease, 423
NILES, H. D.: Heredity in psoriasis, 253
Nirvanol in treatment of chorea, 172
NISSEN, N. I.: Late effects of the specific treatment of syphilis, 47
NISSEN, R.: Treatment of bronchiectasis in childhood, 203
NOBECOURT, P.: Lymphogranulomatosis in children, 161
Norway, tularaemia in, 268
NOVAK, J.: Tubal inflation and salpingography, 85
Novi-Jodbrand, L.: Gold pigmentation of the skin, 401
NYE, R. N.: Streptococci in infectious (atrophic) arthritis and rheumatic fever, 89

O.

Obesity, dietetic treatment of, 479
Obstetric embolus, post-operative, 86
Obstetrical analgesia. *See* Analgesia
Obstruction of pylorus relieved by medical treatment, 225
Ocular hypertensive conditions, 575
Ocular manifestations: Of trichinosis, 235—Of syphilitic serous meningitis, 588
Ocular mechanisms, central nervous control of the, 231
Ocular. *See also* Eye and Ophthalmic
O'DONNELL, W. S.: Calcium gluconate in oedema, 527
Oedema, calcium gluconate in, 527
Oedema, insulin, 369
Oedema of tongue with sublingual mumps, 267
Oesophagus, Idiopathic dilatation of the, 103
Oestrin, actino-sensitivity of, 542
Oil, chaulmoogra, in the local treatment of lepromata, 400
OISEAU, H.: Influenzal polyneuritis, 319
OLEF, I.: Enumeration of blood platelets, 115
OLSON, D. M.: Etiology of epilepsy, 173
OLSEN, J.: The diet in pulmonary tuberculosis, 150
Ophthalmia, sympathetic, pathogenesis of, 282
Ophthalmic surgery, rectal narcosis in, 38
Optic atrophy, tabetic, sulphur in, 634
ORNSTEIN, A. M.: Amyotrophic lateral sclerosis in epidemic encephalitis, 17
ORNSTEIN, G. G.: Benign acute pulmonary tuberculosis, 513
Orr, D.: Bacterially produced nervous tissue lesions, 71
"Orr" method of treating osteomyelitis, 93
ORSÓS, E. J.: Curetting in chronic gonorrhoea, 421
OSBORNE, S. L.: Hyperpyrexial treatment of dementia paralytica, 226
Osteitis, fibro-cystic, generalized, and parathyroid tumour, 495
Osteo-arthritis, typhoid, vaccine treatment of, 81
Osteoma of the humerus, 522
Osteomyelitis of the fibula, primary, 628
Osteomyelitis treated by the "Orr" method, 93
Otitis media, chronic, 229
Ouabain in pulmonary embolism in developing myocardial infarction, 510
Ovarian cancer, 579
Ovarian cysts, suppuration in, 135
Ovarian new growth associated with lymphocytosis, 383
Ovarian tumours. *See* Tumours
Ovary and the anterior lobe of the pituitary, 112
Ovary, fibrocystic, treatment of, 87
Oxycephaly with other malformations, 567

P.

PACK, G. T.: Cancer developing in burn scars, 124—Radiation treatment of polycythaemia vera, 133
PADILLA, T.: Localization of myocardial infarction by the electrocardiogram, 241

Paget's disease, injection treatment of, 107
Pain, intolerable, intraspinal magnesium sulphate for, 599
Pain, precordial, prognostic significance in, 317
PANCOAST, H. K.: Examination of the upper respiratory tract, 230
Pancreas, acute necrosis of, 349
Pancreatic extract in the treatment of high blood pressure, 633
Pancreatitis complicating mumps, 343
PAPIN, F.: Intestinal perforation in paratyphoid B fever, 298
[illegible] of the ends of the fingers, 401
[illegible] xtraction, 318
[illegible] 457
[illegible] renic evulsion, 53
Paralysis, general, combined (stovarsol and malaria) treatment of, 451
Paralysis of the high adductors, tenodesis in, 570
PARAMORE, R. H.: Etiology of eclampsia, 532
Paraspasm, bilateral facial, 455
Parathyroid and calcium in chronic ulcerative colitis, 354
Paratyphoid bacilli, aberrant, infection due to, 364
Paratyphoid B fever: Intestinal perforation in, 298—With lung complications, 469
Parathyroid tumour and generalized fibro-cystic osteitis 495
PARIENTÉ, M.: Treatment of inflammatory conditions with benzyl cinnamic ether, 12
Parotid epithelioma. *See* Epithelioma
PAROUNAGIAN, M. B.: Treatment of syphilis, 526
Paroxysmal conditions, the effect of anaesthesia on, 466
PARRY, J.: Indications for spinal anaesthesia, 355
PARSONS, L.: Toxic symptoms during cinchophen administration, 327
Parturition, thyroidectomy immediately before, 323
Pasteurellosis of rabbits, 26
PATTEN, B. M.: Circulatory changes at birth, 205
PAUFIQUE: Ocular manifestations of syphilitic serous meningitis, 588
PEARCE, T. V.: Treatment of abortion, 256
PECKHAM, C. H.: Treatment of placenta praevia, 312
PEDLEY, F. G.: Effects of lead poisoning on vision, 165
Pelvic sympathectomy, 65
Pelvic sympathetic, resection of the, 641
Pelvis, contracted, trial labour in, 158
Pepsin in treatment of gastric ulcers, 197
Peptic ulcer. *See* Ulcer
Percaine in dental operations, 152
Pericarditis with effusion, 414
Peritoneal bleeding from perforation by uterine chorion-epithelioma, 430
Peritonei, pseudomyxoma, 322
Peritonitis in colon surgery, prevention of, 224
Peritonitis, purulent, abolition of drainage in, 630
Peritonsillar abscess. *See* Abscess
Perivaginal fascia in nulliparae, 177
Perlèche in adults, 50
Pernicious anaemia. *See* Anaemia
Pernocton as an anaesthetic, 358
PERUTZ, A.: Local treatment of ulcers with insulin, 13
Pessaries and cancer of the vagina, 504
PETRESCO: Pernicious anaemia resistant to liver treatment, 412
PETRINA, E.: Barium chloride in typhoid fever, 498
Phalangeal bone lesions, treatment of, 31
PHANEUF, L. E.: Lower Caesarean section, 578
Phenylcinchoninic acid compounds in treatment of chronic arthritis, 524
Phenyl-ethyl-hydantoin in the treatment of chorea, 151
PHILIPP, E.: Hormones of gestation, 64—The anterior lobe of the pituitary and the ovary, 112
Phlebitis, typhoid, and pulmonary infarction, 33
Phrenic evulsion, diaphragmatic paralysis by, 53
Phthisis. *See* Tuberculosis
Pigmentation, cutaneous, and health, 514
PICTON, L. J.: Amylaceous dyspepsia, 416
PIJOAN, M.: Enhancement of infective power of bacteria, 181
PILCHER, J. D.: Treatment of chorea, 151
PILLSBURY, D. M.: The intrinsic carbohydrate metabolism of the skin, 561
PINELLI, Anna: Urticaria in early infancy, 82
PINELLI, L.: Estimation of glycaemia, 541
PINI, G.: Urethral syphilis, 471
Pirquet reaction: In adolescence, 329—Estimation of the, 389
PITTS, H. C.: Radium treatment of carcinoma of the cervix, 237
Pituitary, anterior lobe of, and the ovary, 112
Pituitary tumours, treatment of, 309
Placenta, diseases of the, 286
Placenta praevia: Prophylactic treatment of, 625—Surgical treatment of, 113, 312
Plasma volume and acute infections, 465
Plasmodium of pernicious malaria, 291
Plasmoquine in malaria, 454
PLASS, E. D.: Monilial vulvo-vaginitis, 503
Pleurisy, sero-fibrinous, etiology of, 366
Pneumococcal autolysate producing acute nephritis, 362
Pneumococcal meningitis, recovery from, 97
Pneumonia, *digitalis in*, 304
Pneumonia in infancy, artificial pneumothorax in, 102
Pneumonia, lobar, treated unsuccessfully with convalescent serum, 34
Pneumonia, pseudo-tuberculous measles, 267
Pneumothorax, artificial, in pneumonia in infancy, 102
Pneumothorax, artificial, bilateral, simultaneous, 194
PODOLSKY: Treatment of chronic arthritis, 524
Poisoning, bromide, chronic, 185
Poisoning, lead, effects of, on vision, 165
POLAK, J. O.: Post-operative obstetric embolus, 86
[illegible] of, 186
[illegible] the small
[illegible] ient of, 133
[illegible] Haemorrhage
[illegible] Encephalitis
[illegible] of pulmonary
POUPPIRT, P. S.: Intermittent claudication relieved by hot baths, 276
PRATTEN, F. H.: Pulmonary complications of pregnancy, 484
Precordial pain. *See* Pain
Pregnancy, Aschheim-Zondek test for, 639
Pregnancy, chlorotic anaemia of, 179
Pregnancy, diagnosis of by the blue staining of the vulva, 382
Pregnancy, ectopic, full-term, 232
Pregnancy, extrauterine, 67—Early diagnosis of, 334
Pregnancy, heart disease in, 111
Pregnancy: Hormone test for, 155—The female sex hormone in, 428
Pregnancy and labour in the elderly primipara, 361
Pregnancy, nephritis in, 233
Pregnancy and parturition, blood changes during, 462
Pregnancy, pulmonary complications of, 484
Pregnancy, pyelonephritis in, 360
Pregnancy, tabes complicating, 235
Pregnancy, toxaemias of, 285
Pregnancy and tuberculous laryngitis, 485
Pregnancy, ureter changes in, 157
Pregnancy. *See also* Gestation
Priapism, unusual cases of, 120
PRIBRAM, H.: Sugar in therapeutics, 478
PRIGGE, R.: The negative phase in immunity to diphtheria, 436
Proctology, ambulant therapy in, 418
Prostatic hypertrophy, renal function tests in, 563
Protein therapy in salpingitis, 483
Pseudarthroses of the neck of the femur, 373
Pseudomyxoma peritonei, 322
Psittacosis, etiology of, 261
Psoriasis, heredity in, 253
Psoriasis vulgaris, acriflavine in, 62
PUENTE, J. J.: Syphilis of the cervix, 310
Puerperal infection and influenza, 333
Pulmonary collapse, post-operative, etiology of, 432
Pulmonary complications: Of general anaesthesia, 39—Of pregnancy, 484
Pulmonary embolisms in developing myocardial infarction, 510
Pulmonary infarction. *See* Infarction
Pulmonary lesions, discrete, radiography of, 427
Pulmonary lesions, non-tuberculous, treatment of, 72
Pulmonary lesions, post-arterio-sclerotic, 216
Pulmonary tuberculosis. *See* Tuberculosis
Pulmonary. *See also* Lung
PURWIN, P.: Acid production by Brucella strains, 488
Pyelography, ureteral, 554
Pyelonephritis in pregnancy, 360
Pyloric obstruction relieved by medical treatment, 228
Pyrexias, idiopathic, 73
Pyuria, *B. coli* the causal organisms of, 582

Q.

QUÉNU, J.: Congenital diaphragmatic hernia, 448
QUIGLEY, J. K.: Pregnancy and labour in the elderly primipara, 361
QUIN, J. S.: Eclampsia in a diabetic, 40
Quinine and alkalis in malaria, haemic effects of, 43
Quinsy, laryngeal complication of, 379

R.

Radiation treatment of polycythaemia vera, 133
RADICE, L.: Primary osteomyelitis of the fibula, 628
Radiography of discrete pulmonary lesions, 427—In antral (Highmore) disease, 556
Radiological diagnosis: Of scirrhous gastric cancer, 131—Of ectopic gestation, 288
Radiology in urinary diseases, 307
Radiotherapy of ovarian tumour followed by accelerated growth, 559
Radium treatment: Of carcinoma of the cervix, 287, 458, 459—Of cancer of the prostate and bladder, 446
[illegible] end of the, 320
[illegible] of tumours of the
RAISZ, D. v.: Chorion-epithelioma without external haemorrhage, 136
RAKE, G.: Acute nephritis produced by a [illegible]
RANKIN, F. W.: Prevention of peritonitis in colon surgery, 224
RAPPAPORT, D.: Heart failure and metabolism, 537
RASMUSSEN, R. K.: Epidemics of acute myalgia in Iceland, 220
Raynaud's disease, surgical treatment of, 491
Recklinghausen's disease of bone, 299
Rectal narcosis in ophthalmic surgery, 38
Rectum, gonorrhoea of the, 258
Red, Congo. *See* Congo
REDING, R.: Blood changes during pregnancy and parturition, 462
REEB, M.: Hydatidiform mole, chorion-epithelioma, and the Zondek-Aschheim reaction, 534
REED, A. C.: Administration of emetine in amoebic colitis, 551
Regional anaesthesia. *See* Anaesthesia
REID, W. D.: Heart disease in pregnancy, 111
REINWEIN: Mental symptoms of hypoglycaemia, 515
Renal carbuncle, 493
Renal colic, diathermy in, 280
Renal complications of bismuth therapy, 398
Renal function tests in hypertrophy of the prostate, 563
Renal innervation, 116
Renal insufficiency: Skin coloration in, 30—And azotaemia, 211
Renal surgery, electro-surgical scalpel in, 548
Renal sympatheticotonus and sympathectomy, 347
Renal tuberculosis, 474
Renal tumours, mixed, in infancy and childhood, 146
Renal. *See also* Kidney
Resistance to disease. *See* Disease
Respiratory disorders and dental infection, 239
Respiratory tract, upper, examination of the, 230
REYNOLDS, F. H. K.: Dengue fever, 339
Rheumatic disorders, the prophylactic value of salicylates in, 149
Rheumatic fever: Streptococci in, 89—Vaccine treatment of, 452. *See also* Fever
Rheumatic nodules, structure of, 238
Rheumatic pains treated by lipiodol injections, 248
Rheumatism: Acute abdominal symptoms in, 142—Massive doses of sodium salicylate in, 353
Rheumatism, articular, acute, vaccinotherapy in, 14
Rhinitis, hypertrophic, sodium iodide in, 350
Rhinitis, vasomotor, treated by sclerosing fluid, 108
RHOADS, C. P.: Immunization against vaccinia by virus-serum mixtures, 259
RICE, C. O.: Infiltration anaesthesia in fractures, 153
RICH, C. B.: Convulsions in disseminated sclerosis, 121
RICHE, V.: Suppuration in ovarian cysts, 135
RICHIER: Treatment of vasomotor rhinitis by sclerosing fluid, 108
RIDLER, H. A.: Rupture of uterus following Caesarean section, 42
RIES, J. V.: Actino-sensitivity of oestrin, 542
RILEY, H. A.: Central nervous control of the ocular mechanisms, 281
RIST, E.: Primary cancer of the lung, 11
RITCHIE, E. B.: Yeast factors in superficial dermatitis, 251
RIVIÈRE, M.: Diseases of the placenta, 286
ROBIOLIS, E. H.: Rapid accouchement by method of Delmas, 23
ROGOFF, J. M.: Etiology of Addison's disease, 296
ROLAND, H.: Cholecystectomy without drainage, 392
ROLLAND, J.: Primary cancer of the lung, 11
ROLLET, J.: Ocular manifestations of syphilitic serous meningitis, 588
ROLLINS, P. R.: Pyelonephritis in pregnancy, 360
ROSE, D. K.: Pyelonephritis in pregnancy, 360
ROSENOW, E. C.: Serum treatment of chronic ulcerative colitis, 200
ROSSI, A. Dei: Etiology of post-operative pulmonary collapse, 432
RÖTH, A.: Argyrosis of the cornea, 575
ROTTHAUS, E.: Dangers of cervical Caesarean section, 176
Round ligament. *See* Ligament
ROWNTREE, *L. G.: Treatment of Addison's disease*, 352
Rubella, epidemic of, 122
RUELLE, G.: Diagnosis of pulmonary tuberculosis in the infant, 84
RUGGIERI, E.: Glutathione in ether narcosis, 463
RUGGLES, E. W.: Sodium iodide in herpes zoster, 453
RUSSELL: The blood in delirium tremens, 509

S.

ST. JOHN, J. H.: Dengue fever, 339
SABOURAUD, R.: Parakeratoses of the ends of the fingers, 401
Sachs-Georgi test for syphilis, 25
SACKS, G.: Ambulant therapy in proctology, 418
SAETHRE, H.: Oxycephaly with other malformations, 567
SAINTON, Mdlle: Treatment of gastric ulcers by pepsin, 197
SAITZ, O.: The ureters and menstruation, 557
Salicylates, the administration of, 600
Salicylates in rheumatic manifestations the

Saline solution, hypertonic, rectal injections of, 351
SALOMONSEN, L.: Insulin and epinephrine in fasting children, 68
Salpingitis, protein therapy in, 483
Salpingography and tubal inflation, 85
Salpingostomy for sterility, 384
Salts and water, excretion of from the kidney, 408
SALVESEN, H. A.: Spontaneous tetany in adults, 29—Tularaemia in Norway, 268
Salygran as a diuretic, 326
SALZER, M.: Intravenous administration of morphine, 57
SANCHIZ, A.: Treatment of cancer of the prostate and bladder, 446
SANDS, I. J.: Acute benign infectious myelitis, 219
SANFORD, H. N.: Intraperitoneal administration of iron, 278
Sanocrysin in pulmonary tuberculosis, 572
SAVOIE, J.: Tetany complicating enteric fever, 222
Scalpel, electro-surgical, in renal surgery, 548
Scarlatinal nephritis. *See* Nephritis
Scarlet fever. *See* Fever
Scars of burns, cancer developing in, 124
SCHAFFER, H.: Ethyl chloride as a general anaesthetic for children, 357
SCHARPFF, W.: Treatment of high blood pressure with pancreatic extract, 633
SCHEDTLER, O.: Results of extrapleural thoracoplasty, 521
SCHEER, K.: Direct transmission of herpes labialis, 586
SCHEFFER, I. H.: Pancreatitis complicating mumps, 343
SCHIFF, E.: Copper and blood formation, 422
SCHLANGER, P.: X-ray treatment of primary malignant lymphadenoma, 555
SCHLECHT, H.: The results of x-ray treatment in Graves's disease, 308
SCHLESSING, H.: The thymus in exophthalmic goitre, 272
SCHMIDT, K. H.: Gastric evacuation, 101
SCHMORELL, H.: Treatment of eclampsia, 535
SCHNABBELE, R.: Vaccine treatment of rheumatic fever, 452
SCHNEIDER, H.: Acute epidemic serous meningitis, 467
SCHNEIDER, P. F.: A hormone test for pregnancy, 155
SCHTEINGART, M.: Adenomatous goitres, 245
SCHÜFFNER: Bacteriology of yellow fever, 292
SCHUMACHER, P.: Changes in the ureter during pregnancy, 157
SCHWARZ, H.: Heart failure and metabolism, 537
SCHWOB, R.: Dissecting aortic aneurysm simulating pulmonary neoplasm, 583
SCIALOM, A.: Gonococcal chancre, 621
SCIMONE, I.: Excretion of water and salts from the kidney, 408
Scirrhous gastric cancer. *See* Cancer
Sclerosing fluid in the treatment of vasomotor rhinitis, 108
Sclerosis, amyotrophic lateral, in epidemic encephalitis, 17
Sclerosis, disseminated: Convulsions in, 121—Etiology of, 560
SCOTT, W. W.: Electro-surgical scalpel in renal surgery, 548
SCRIMGER, F. A. C.: Idiopathic dilatation of the oesophagus, 103
SEASTONE, C. V.: Immunization against typhus fever, 540
Sebaceous cysts. *See* Cysts
Sedimentation rate in gynaecological conditions, 337
SEGRE, S.: The bactericidal power of the blood in alcoholism, 262
SEIDMANN, R.: Sporadic encephalitis, 163
SEIFFERT, W.: Increase in virulence of the B.C.G. strain, 117
SEMB, C.: Chronic cystic mastitis, 359
Septicaemia, meningococcal, serotherapy in, 58
Septicaemia, staphylococcal, 374, 421
Sero-fibrinous pleurisy, etiology of, 366
Serotherapy in meningococcal septicaemia, 58
Serous meningitis. *See* Meningitis
Serum, antigangrene, in scarlet fever, 571
Serum, blood, cholesterin titre of, 44
Serum, convalescent, unsuccessful in lobar pneumonia, 34
Serum reactions in carcinoma, 260
Serum treatment of chronic ulcerative colitis, 200
Serums, isoagglutinating, the titre of, 386
SESINI: Rapid accouchement by method of Delmas, 23
SEVER, J. W.: Traumatic separation of the symphysis pubis, 395
Sex hormones. *See* Hormones
SHAMBAUGH, G. F.: Chronic otitis media, 229
SHIBLEY, G. S.: Experimental transmission of colds by a filterable agent, 69
SHRIVASTAVA, D. L.: The haemic effects of quinine and alkalis in malaria, 43
SICHERT-MODROW, I.: Experiments with foot-and-mouth virus, 217
SIEBERT, P.: Etiology of gastric ulcer, 409
SIEVERS, O.: Serum reactions in carcinoma, 260
Silicosis and tuberculosis, 139
SIMMONS, J. S.: Dengue fever, 339
SIMON, T.: The measurement of intelligence in infants, 224
SIMSON, F. W.: Asbestosis bodies in the sputum, 251
SINTON, J. A.: Treatment of malaria, 397
Sinusitis in children, sequels of, 637
Skin cancer. *See* Cancer
Skin carbohydrate metabolism of the, 561
Skin, clinical chemistry of the, 363
Skin coloration in renal insufficiency, 30
Skin, cold pigmentation of the, 404
Skin tests in diagnosis of allergy conditions, 218
SKOLNIK, L. A.: Perlèche in adults, 50
SLOSSE, A.: Blood changes during pregnancy and parturition, 462
Small-pox, mild, 2—Relation of to typical small-pox, 214
SMITH, G. H. K.: The Kahn and Wassermann tests, 566
SMITH, G. L. M.: The Aschheim-Zondek test for pregnancy, 639
SMITH, W. S.: Post-partum haemorrhage, 281
SNAPPER, I.: Parathyroid tumour and generalized fibro-cystic osteitis, 455
SNELLING, C. F.: Sugar tolerance in infants, 612
SNIJDERS: Bacteriology of yellow fever, 292
Soap, influence of on antiseptics, 487
Soaps, germicidal properties in, 212
Sodium amytal: In neuro-psychiatric conditions, 105—In surgical cases, 151
Sodium iodide: In nasal infections, 350—In herpes zoster, 453
Sodium salicylate in massive doses in acute rheumatism, 353
SOMERELL, H.: Multiplicity of antigens in *B. anthracis*, 138
SONNESI, A. L.: Radical cure of hallux valgus, 473—The latero-posterior incision for appendicectomy, 549
SOSA, H.: Cultivation of Ducrey's bacillus from soft chancres, 335
SOULIÉ: Pernicious anaemia resistant to liver treatment, 412
SOUPAULT, R.: Rectal injections of hypertonic saline solution, 351
SOUQUES, A.: Menstruation and epilepsy, 311
Soya bean as a milk substitute, 477
Spasmophilia, prognosis in, 490
Spastic hemiplegia. *See* Hemiplegia
Spina bifida treated by operation, 595
Spinal anaesthesia. *See* Anaesthesia
Spinal cord tumours. *See* Tumours
SPITZ, J.: Trypararamide in neurosyphilis, 378
Spleen, extract of in malarial anaemia, 199
Spleen and left kidney, rupture of, 52
Splenic anaemia. *See* Anaemia
Splenomegaly, vaccinal, in infants, 6
SPRAGUE, H. B.: Salyrgan as a diuretic, 326
Spondylitis deformans, 518
Sprue, treatment of, 170
Sputum: Asbestosis bodies in the, 161—Quantitative estimation of living and dead tubercle bacilli in, 614
Squill, glucosides of, in acute scarlatinal nephritis, 499
STACY, L. J.: Uterine prolapse, 22
Staphylococcal septicaemia, 374, 421
STAVROPOULOS, J.: Lymphogranulomatosis in children, 164
STEIN, A.: Adeno-acanthoma of the uterus, 210
Stenosis, mitral, an auscultatory sign of defective conduction in, 622
Sterility: Causative factors in, 203—Intrauterine lipiodol injections in, 234—Salpingostomy for, 384
STEWART, S. G.: Cardiac disease and urinary retention, 435
Stieda's lesion, 192
STIEGLITZ, E. J.: Bismuth subnitrate in arterial hypertension, 201—Nephritis in pregnancy, 233
STIENON, L.: Bilateral facial paraspasm, 455
Still's disease, 202
STIRPE, G.: Cholesterin titre of blood serum, 44
STOKES, J. H.: Bismuth arsphenamine in early syphilis, 601
STOLZOVÁ-SUTORISOVÁ, M.: Anaerobic blood culture by the Boëz method, 118
Stomach dilatation, acute, 517
Stomach, emptying of, 101
Stomach of hogs in treatment of pernicious anaemia, 424
Stomach, total resection of, 245
Stomach, torsion and volvulus of the, 547
Stomach, volvulus of, 223, 547
Stomach. *See also* Gastric
Stone in the solitary kidney and ureter, treatment of, 169. *See also* Calculus
STOUTE, D. G.: Treatment of leprosy, 277
Stovarsol and malaria treatment of general paralysis, 451
STRACHAN, A. S.: Asbestosis bodies in the sputum, 161
STRANDELL, B.: Diagnosis of aneurysm of the heart, 93
STRAUSS, H.: Gall-bladder disease and carbohydrate metabolism, 615
STRAUSS, M. B.: Chlorotic anaemia of pregnancy, 179
Streptococcal myositis, 550
Streptococci, apparent specificity among, 616
Streptococci in infectious (atrophic) arthritis and rheumatic fever, 89
Streptococcus of scarlet fever, non-specificity of, 290
Striated muscle. *See* Muscle
Stricture of urethra, treatment of, 244
STROE, A.: The glucosides of squill in acute scarlatinal nephritis, 499—Antigangrene serum in scarlet fever, 571
STRUTHERS, E. B.: Organic antimony in kala-azar, 328
Strychnine in alcoholic delirium, 375
STUB-CHRISTENSEN: Sanocrysin in pulmonary tuberculosis, 572
SUÁREZ, G.: Encephalitis in undulant fever, 546
Sugar, blood, content in later life, 365
Sugar in therapeutics, 478
Sugar tolerance in infants, 612
Sulphur in tabetic optic atrophy, 634
SUNDAL, A.: Acute haemorrhagic nephritis in childhood, 320
SUNDT, H.: The diagnosis and frequency of tuberculosis of the knee, 145
SUTCLIFF, W. D.: Lobar pneumonia treated unsuccessfully with equine serum, 31
SUTTON, Lucy P.: Digitalis therapy in children, 631
SUTTON, M. G.: Endometrial haemorrhage, 405
Sweden, scarlet fever in, 468
SWEITZER, S. D.: Acriflavine in psoriasis vulgaris, 62
SYE, I.: Tonsillectomy, 231
Sympathetic ophthalmia. *See* Ophthalmia
Sympathetic, pelvic, resection of, 641
Sympathectomy, pelvic, 65—And renal sympathectomy, 317
Symphysis pubis, traumatic separation of the, 395
Syndrome, choleriform, in infantile diphtheria, 65
Syphilis, allergic, early and late, intradermal reactions in, 88
Syphilis, cardio-vascular, treatment of by neo-arsphenamine 35
Syphilis of the cervix, 310
Syphilis, congenital: Curability of, 56—Diagnosis of, 340
Syphilis, diagnostic tests for, 25
Syphilis, early, bismuth arsphenamine in, 601
Syphilis, gastric, simulating carcinoma, 442
Syphilis in morbus cordis, 143
Syphilis, specific treatment of, late effects of, 47
Syphilis, treatment of, 221, 556
Syphilis, trepanome therapy in, 559
Syphilis, urethral, 471
Syphilis without chancre, 512
Syphilitic arthritis, 515
SZELLO, F.: Radiological diagnosis of ectopic gestation, 255
SZUMLANSKI: Epilepsy due to compression of the frontal lobe, 3

T.

Tabes complicating pregnancy, 235
Tabetic optic atrophy, sulphur in, 634
TAKADA, M.: The preparation of tetanus anatoxin, 539
Tannic acid in treatment of burns, 51
TANNIER, A.: Treatment of tuberculous haemoptysis, 632
TAVERNIER: Tenodesis in paralysis of the high adductors, 570
TEBBUTT, A. H.: Gastric syphilis simulating carcinoma, 440—Undulant fever in New South Wales, 619
Teeth extraction followed by bulbar paralysis, 318
Temporo-maxillary joint, ankylosis of the, 258
Tendon sheaths, arborescent lipoma of, 475
Tenodesis in paralysis of the high adductors, 570
TERAO, S.: The preparation of tetanus anatoxin, 539
TER BRAAK, J. W. G.: Epidemic polyneuritis, 624
Testis, undescended, 629
Tetanus anatoxin, the preparation of, 539
Tetanus spores, the germination of, 45
Tetany complicating enteric fever, 222
Tetany, spontaneous, in adults, 29
Tetra-ethyl lead, absorption of, 538
THAMANN, F.: Absorption of tetra-ethyl lead, 538
THIVOLLE, L.: Pathogenic factors in essential pernicious anaemia, 315
THOMAS, B. A.: Tuberculosis of the urinary tract, 100
THOMSON, J. G.: Latent and occult tuberculous infection of bronchial glands, 411
Thoracoplasty, extrapleural, results of, 521
Thrombosis of axillary vein, 148
Thrombosis, causes of, 225
THURNER, D. S.: Antimony in therapeutics, 104
THURNER, D. S.: Acriflavine in undulant fever, 59
Thymus in exophthalmic goitre, 272
Thyroid crisis, fatal, following injection of a varicose vein, 594
Thyroidectomy immediately before parturition, 323
Thyroxine and *x* rays in the treatment of uraemia, 249
TIJÖTTA, T.: Tularaemia in Norway, 268
TISDALL, F. F.: A cereal mixture for children, 16
TISDALL, O. R.: Nirvanol in chorea 172
TOCANTINS, L. M.: Trauma of the brachial plexus and its roots, 456
Tongue, chancre of the, 49
Tongue, oedema of, with sublingual mumps, 267
Tongue, tuberculosis of the, 593
Tonsillar predisposition to infectious diseases, 638
Tonsillectomy, 231—In acute cervical adenitis, 951
Tonsils and disease, 625
Tonsils, infected, diathermy treatment of, 109
TORRE, F.: Adeno-acanthoma of the uterus, 210
TOULOUSE, E.: The blood in delirium tremens, 509
Toxaemias of pregnancy. *See* Pregnancy
TOYODA, M.: The bacteriophage in the diagnosis of dysentery, 508

TOYODA, T.: Non-specificity of the scarlet fever streptococcus, 290
Trachea, cancer of. *See* Cancer

of ergotamine, 573
TROELL, A.: Surgical treatment of Graves's disease, 394
TROISIER, J.: Idiopathic pyrexias, 73
TROMBETTI, M.: Still's disease, 202

phthisis, 485
Tubercle bacilli in sputum, quantitative estimation of, 614
Tuberculin reaction in the first three years of life, 91
Tuberculin reaction, the intradermal, 344
Tuberculosis and erythema nodosum, 341
Tuberculosis of the knee, diagnosis and frequency of, 145
Tuberculosis, lingual, 593
Tuberculosis and marriage, 28
Tuberculosis, pulmonary, basal metabolism in, 617
Tuberculosis, pulmonary, benign acute, 543
Tuberculosis, pulmonary, the blood platelets in, 507
Tuberculosis, pulmonary, diagnosis of, in childhood, 84, 529
Tuberculosis, pulmonary, diet in, 150
Tuberculosis, pulmonary, and erythema nodosum, 141
Tuberculosis, pulmonary, nascent iodine in, 450
Tuberculosis, pulmonary, sanocrysin in, 572
Tuberculosis, pulmonary, senile, 1
Tuberculosis, renal, 474
Tuberculosis and silicosis, 139
Tuberculosis, source of infection in, 316
Tuberculosis, tubercle bacilli (bovine) as a cause of, 486
Tuberculosis of the urinary tract, 100
Tuberculous haemoptysis, treatment of, 632
Tuberculous infection of bronchial glands, latent and occult, 411
Tuberculous laryngitis and pregnancy, 485
Tubes, Fallopian. *See* Fallopian
Tularaemia in Norway, 268
Tumour, parathyroid, and generalized fibrocystic osteitis, 495
Tumours, carcinoid, of the small intestine, 595
Tumours involving the cauda equina, 174
Tumours of the heart, primary, 125
Tumours of the small intestine, diagnosis of, 426
Tumours, intrathoracic, 190
Tumours, malignant, treated by radio-active bismuth, 193
Tumours, ovarian, pre-adolescent, 533
Tumours, ovarian, accelerated growth of after radiotherapy, 559
Tumours, pituitary, treatment of, 309
Tumours, renal, mixed, in infancy and childhood, 146
Tumours involving the spinal cord, diagnosis of, 93
Tumours, vesical, 445
Tumours. *See also* Cancer
TUOHY, E. L.: Calcareous aortic vulvular disease, 492
TURANO, L.: Radiological diagnosis of scirrhous gastric cancer, 131
TURENNE: Surgical treatment of placenta praevia, 113
Typhoid fever. *See* Fever, enteric
Typhoid osteo-arthritis. *See* Osteo-arthritis
Typhoid phlebitis. *See* Phlebitis
Typhus fever. *See* Fever

U.

UHLENHUTH, P.: Increase in virulence of the B.C.G. strain, 117
Ulcer, duodenal, 569—Endocrine treatment of, 279
Ulcer, gastric, 569—Endocrine treatment of, 279—Etiology of, 409
Ulcer, peptic: Treatment of, 123, 129—Treated with mucin, 635
Ulcerative colitis
U
U
U 7
losis, 543 acute pulmonary tubercu-
Ulnar
Umbilic the, 48
UNDERI in extensive
supert
Undulant fever. *See* Fever
UNSWORTH, H. R.: Malaria therapy in dementia paralytica, 36
Uraemia following blood transfusion, 470
Uraemia, experimental, 140
Uraemia without kidney disease 240
Uraemia treated by *x* rays and thyroxine, 249
the skin, 363
herpes zoster
and varicella, 180
atment of
stone in the, 169
Ureteral pyelography, 554
Ureters and menstruation, 557
Urethral caruncle, treatment of, 247
Urethral stricture, treatment of, 244
Urethral syphilis, 471
Urinary diseases, radiology in, 307
Urinary incontinence, post-operative, 32
Urinary tract, tuberculosis of the, 100
Urine retention: In typhoid fever, 4—And cardiac disease, 435
Uterine haemorrhage, etiology of, 558
Uterine hypertony in successive labours, 608
Utero-placental apoplexy and histamine, 642
Uterus, adeno-acanthoma of the, 210
Uterus and adnexa, vaginal extirpation of, 332
Uterus, cancer of. *See* Cancer
Uterus, prolapse of, 22
Uterus, rupture of, following Caesarean section, 42
Uterus, rupture of, during labour, 289

V.

Vaccinal encephalitis, 513
Vaccine therapy: In enteric fever, 60—In typhoid osteo-arthritis, 81—In rheumatic fever, 452
Vaccinia, generalized, and post-vaccinal encephalitis, 342
Vaccinia, immunization against by virus-serum mixtures, 259
Vaccinia virus for the production of encephalitis, 293
Vaccinotherapy in acute articular rheumatism, 14
Vagina, cancer of, 606, 607
Vaginal extirpation of uterus and adnexa, 332
VALDONI, P.: Arborescent lipoma of the tendon sheaths, 475
Valvular disease, calcareous aortic, 491. *See also* Heart
Varicella with blood picture simulating leukaemia, 144
Varicella and herpes zoster, 565—The relationship of, 180
Varicose ulcers. *See* Ulcers
Varicose veins. *See* Veins
Vascular changes, local, in splenic anaemia, 119
Vascular lesions of the hind-brain, 19
Vasomotor rhinitis. *See* Rhinitis
VECKI, V. G.: Treatment of syphilis, 324
Vein, axillary, thrombosis of the, 148
Veins, varicose: Injection treatment of, 191, 442, 443—Fatal thyroid crisis following, 594
VELOSO, S. P.: The basal metabolism in pulmonary tuberculosis, 617
VERROTTI, G.: Treponeme therapy in syphilis, 550
Verruca senilis and keratoma senile, 61
Vertebra, fifth lumbar, examination of the, 425
Vesical tumours. *See* Tumours
VIDAL, F. J.: Chondromas of the hand, 447
VIETS, H. R.: Vaccinal encephalitis, 513
VILENSKY, J.: Chancre of the tongue, 49
VILLANUEVA, C. G.: The frequency of adenoids in adults, 275
Virus-serum mixtures for immunization against vaccinia, 259
VISHER, J. W.: Treatment of urethral stricture, 244
on, 165
liated ergosterol,
VOGT, E. C.: Encephalography in fixed lesions of the brain, 132
VOIGNIER, P.: Typhoid phlebitis and pulmonary infarction, 33
Volvulus of the stomach, 223, 547
Vomiting, cyclic, 331
Vomiting of pregnancy, treatment of by bromides, 536
VORON, J.: Puerperal infection and influenza, 333
VOYADZOPOULOS, G.: Accelerated growth of ovarian tumours after radiotherapy, 559
Vulva, blue staining of as a diagnosis of pregnancy, 382
Vulvo-vaginitis, monolial, 503

W.

WAGNER, C. P.: Chronic bromide poisoning, 185
WAHL, R.: Treatment of diphtheria carriers, 399
WALKER, J. C.: Apparent specificity among streptococci, 616
WAN, V. E.: Regional anaesthesia, 480
WARD, G. G.: Radium treatment of cancer of the cervix, 459
WARREN, S.: Vaccinal encephalitis, 513
WARTER, J.: The influence of intense effort upon the leucocyte count, 236
WARTHIN, A. S.: Syphilis in morbus cordis, 143
Wasserm
Wasserm
Wasting reatment of, 196
Water and salts, excretion of from the kidney, 408
WATERMAN, G. W.: Radium treatment of cancer of the cervix, 287
WATKINS, A. G.: Immunology of scarlet fever, 159
WATKINS, R. E.: Occlusions of the lumen of the Fallopian tube, 209
WAUGH, T. R.: Hypochromic anaemia with achlorhydria, 438
WAXELBAUM, E. A.: Streptococci in infectious (atrophic) arthritis and rheumatic fever, 89
WEDEKIND, T.: The haemostatic action of Congo red, 80
WEICHSEL, M.: Post-vaccinal encephalitis and generalized vaccinia, 342
WEIGMANN, F.: Undulant fever investigations in Germany, 314
Weil's disease in Holland, 5
WEINBERG, M.: Haemorrhagic lesions caused by *Clostridium welchii*, 215
WEINSTEIN, M.: Gastric and duodenal ulcer, 569
WEISS, P.: Uraemia following blood transfusion, 470
WEISS, S.: Rational treatment of arterial hypertension, 79
WERNER, P.: Vaginal extirpation of uterus and adnexa, 332
Whitlow, milkers', 55
WIENERT, B.: The haemostatic action of Congo red, 80
WILDISH, G. H.: Treatment of leprosy, 277
WILKINSON, J. F.: Pernicious anaemia, 221
WILLENS, C.: Treatment of purulent arthritis of the knee, 419
WILLIAMS, J. T.: Pregnancy complicated by tabes, 235
WILLOUGHBY, H.: Treatment of malaria, 598
WILSON, A. S.: Full-term ectopic pregnancy, 232
WILTRUP, G.: Myopathia infraspinata, 388
WIMMER, S. D.: Sequels of sinusitis in children, 637
WINANS, H. M.: Lymphocytosis associated with ovarian new growth, 383
WINTROBE, M. M.: The erythrocyte in pernicious anaemia, 335
WISER: Intradermal reactions in early and late allergic syphilis, 88
WITHERSPOON, J. T.: A confirmatory physical sign in ascites, 587
WODAK, E.: Involvement of the acoustic nerve in epidemic encephalitis, 380
WOLFE, R.: Injection treatment of inguinal hernia, 472
WOLFERTH, C. C.: Angina pectoris, 511
WOLFF, G. v.: Pessaries and cancer of the vagina, 504
WOLTMAN, H. W.: Diagnosis of tumours involving the spinal cord, 99
WONG, A. I. H.: Labour in elderly primipara, 407
WOOD, F. C.: Angina pectoris, 511
WOODRUFF, I. O.: Digitalis in pneumonia, 304—Digitalis therapy in children, 631
WORMS, R.: V 6
WRIGHT, H.
WULSTEN, J.: 148
WYCKOFF, J.: Digitalis in pneumonia, 304—Digitalis therapy in children, 631
WYMER, I.: Fatal colitis caused by avertin, 602

X.

Xanthoma multiplex with hypothyroidism, 63
X-ray treatment: In Graves's disease, results of, 308—Of primary malignant lymphadenoma, 575
X rays and thyroxine in the treatment of uraemia, 249

Y.

Yagéine or harmine, 198
Yeast factors in superficial dermatitis, 251
YOUMANS, J. B.: The general therapeutic value of ergotamine, 573
YOUNG, A.: Open operation in fractures, 7

Z.

ZAPPERT, J.: Sporadic encephalitis, 163
ZEBROWSKI, E.: Colonic stasis of hepatic causation, 269
ZIEGLER, LI. H.: Paralysis of the cranial nerves, 457
ZIELLESSEN, F. O.: Calcareous aortic valvular disease, 491, 492
ZIMMERN, A.: Radiography of discrete pulmonary lesions, 427
ZINSSER, H.: Immunization against typhus fever, 540
Zondek-Aschheim reaction, hydatidiform mole, and chorion-epithelioma, 534

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature.

WITH SUPPLEMENT.

No. 3652. SATURDAY, JANUARY 3, 1931. Price 1/3

ERYTHGEN
LIVER EXTRACT

A highly potent derivative of fresh liver containing the hematopoietic principles recently introduced in the treatment of anaemias.

Erythgen Liver Extract

permits the treatment of anaemias with the active principles in place of large quantities of liver.

Bottles of 8 oz. solution. Bottles of 100 capsules.

Dose: 1 to 4 teaspoonfuls three times daily.
1 to 4 capsules three times daily.

G. W. CARNRICK CO.

Dependable Gland Products.

2-24 MT. PLEASANT AVENUE, NEWARK, NEW JERSEY.

London Agents: BROOKS & WARBURTON, LTD., 232/240, Vauxhall Bridge Road, S.W.1.

D & G Sutures

are always sterile

...under the most rigid bacteriologic methods ever devised for testing catgut.

C. F. THACKRAY - PARK ST., LEEDS - 252 REGENT ST., LONDON, W.1.

D & G SUTURES ARE ISSUED FOR USAGE UNDER MINISTRY OF HEALTH LICENCE 032 C

The Therapeutic value of BRANDY—

its lifting and sustaining powers—as compared with other spirits depends on the presence or absence of the higher Alcohols or Ethers. These in turn depend on Grape, Soil, Stills employed, Climate, Storage, Selection and Experience.

It is quite easy to make a spirit from grape wine—It is neither easy nor cheap to make a Brandy containing the qualities you want.

Cognac Brandy alone provides them.

Take no risks; ensure the results you expect

Prescribe Brandy distilled in Pot Stills from Wines grown in the best Cognac districts; Matured in warehouses which have been filled with Cognac Brandy for centuries; Made by Men with the inherited Experience of Seven Generations.

In short—Prescribe MARTELL'S BRANDY

and know that you are doing the best possible for your patients.

British Medical Journal

CONTENTS

JANUARY 3, 1931

ORIGINAL ARTICLES.

Schorstein Memorial Lecture on Radium in the Service of Surgery. By H. S. SOUTTAR, D.M., F.R.C.S. ... 1

Role of the General Practitioner in Ante-natal Work. By W. H. F. OAKLEY, M.R.C.S., L.R.C.P. ... 5

The Accessory Lobe of the Azygos Vein. By H. P. NELSON, M.B., F.R.C.S., and GEORGE SIMON, M.B., D.M.R.E. (Illustrated) ... 9

The Knee-jerk and its Variation. By N. D. ROYLE, M.D. (Illustrated) 11

Convalescent Serum in Prophylaxis of Measles. By D. N. NABARRO, M.D., F.R.C.P., and A. G. SIGNY, M.R.C.S. ... 12

Measles in a Public School. By L. R. LEMPRIERE, M.B., Ch.B. ... 14

MEMORANDA.

Dermatitis consequent on the Application of Iodine. By O. THOMAS JONES, L.R.C.P., L.R.C.S.Ed. ... 14

Hydatid Cyst of Liver Simulating Subphrenic Abscess. By E. H. R. ALTOUNYAN, M.D. ... 15

REPORTS OF SOCIETIES.

ROYAL SOCIETY OF MEDICINE:
Radiological Problems in Veterinary Medicine ... 15

OBSTETRICAL AND GYNAECOLOGICAL SOCIETY:
Obstructive Inflammatory Lesions of the Uterus ... 16

ROYAL ACADEMY OF MEDICINE IN IRELAND:
Treatment of Psychoneuroses ... 17

REVIEWS.

Principles of Biology ... 18
Surgical Dyspepsias ... 18
Angina Pectoris ... 18
Last Lectures by Rudolf Magnus ... 19
Radiology in Neurology ... 19
Mrs. Dose the Doctor's Wife ... 19
Notes on Books ... 20

LEADING ARTICLES.

CANCER OF THE LUNG ... 21
MEDICAL BENEFIT AMENDMENT REGULATIONS ... 22

THE WEEK.

Quinine Therapy in Malaria ... 23
A Course in Psychological Medicine ... 23
Reading and Eye Movements ... 24
Australian Economic Depression ... 24
Pithead Baths ... 25

New Year Honours ... 25

GENERAL ARTICLES AND NEWS.

Theories of the Bacteriophage.
Professor BORDET's Croonian Lecture 26
Silicosis in South Africa ... 28
PREPARATIONS AND APPLIANCES ... 20
MEDICAL NOTES IN PARLIAMENT:
The Census Order ... 39
A National Maternity Service ... 39
Encephalitis Lethargica ... 39
MEDICAL NEWS ... 41

LOCAL NEWS.

SCOTLAND—
Health of Scottish Workers ... 29
New Glasgow University Union ... 29
The Mental Factor in Disease ... 29
Glasgow Western Infirmary ... 30
ENGLAND AND WALES—
Arrangements at London Council Hospitals ... 30
Birmingham Hospitals Centre ... 31
Remuneration of District M.O.'s ... 31
IRELAND—
Treatment of Fractures ... 31
Northern Ireland Vital Statistics ... 31

OBITUARY.

Charles Algernon Stidston, M.D. ... 37
Frederick W. Bennett, M.D. ... 37
J. Hosack Fraser, M.B., F.R.C.P.Ed. ... 38
William Dyne Steel, M.D. ... 38
Arthur Foster, M.D. ... 38
Hector McLean Wilson, M.D. ... 38

UNIVERSITIES AND COLLEGES.

University of Cambridge ... 40
University of London ... 40
University of Sheffield ... 40
University of Birmingham ... 40
University of Edinburgh ... 40
[illegible]land ... 40
[illegible] in Ireland ... 41
[illegible] ... 41

CORRESPONDENCE.

The Medical Charities. By Claude Wilson, M.D. ... 32
Obstetrical Education of the Undergraduate. By J. M. Munro Kerr, M.D. 32
The Haemorrhagic Diathesis. By F. H. Jacob, M.D., F.R.C.P. ... 33
Amidopyrin in Measles. By G. E. Friend, M.R.C.S. ... 33
Natural Labour Following Caesarean Section. By C. J. Gordon Taylor, M.D. 33
Treatment of Varicose Ulcers. By F. A. E. Silcock, M.D. ... 34
The Stethoscope as an Aid to Percussion. By E. R. C. Walker, M.B. ... 34
Acute Arsenical Poisoning. By J. Scaife Armstrong, M.B.; and F. V. Allen, M.B. ... 34
The General Practitioner and Poisoning Cases. By Henry Smith, M.D. ... 35
Avertin Anaesthesia. By C. Langton Hewer, M.B.; and E. J. Chambers, M.R.C.S. ... 35
Prophylaxis in Midwifery. By F. H. Lacey, M.D. ... 35
Mental Treatment Act, 1930. By E. Rowland Fothergill, M.B. ... 36
Migration and Health. By J. S. Purdy, M.D. ... 36
Medical Reciprocity with France. By D. W. Samways, M.D. ... 36

LETTERS AND ANSWERS.

Pruritus with Jaundice ... 42
Income Tax ... 42
Quinine and Malaria in England ... 42
Nocturnal Incontinence in Children ... 42

VACANCIES ... 42
(See also page 7 of SUPPLEMENT.)

The SUPPLEMENT contains:

Hospital Policy: Address by Dr. G. C. Anderson.
ESSEX MEDICAL SERVICE: Scheme for Middle-class Families.
NATIONAL INSURANCE NOTES.
Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., P.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners: to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of the Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-. Telephone: REGENT 0611.

Those who join within one year of Registration are exempt from Entrance Fee.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Bale Sons & Danielsson, Ltd.
Medical Year Book . . . 6

British Medical Association.
Archives of Disease in Childhood 4
The Journal of Neurology & Psychopathology . 4

Cambridge University Press.
Myers & Bartlett—Exp. Psychology 6

Churchill, J. & A.
Books on Children 7
Books on Pathology & Bacteriology 7
Books for Surgeons 7
Medical Directory, 1931 7
The Recent Advances Series 7

Lewis, H. K. & Co. Ltd.
Rebuilding of Premises . . . 7

John Murray.
Levitt W. M. X-Ray Therapy . 6

Saunders, W. B. Co., Ltd.
Andrews' Diseases of the Skin 3
Arey's Developmental Anatomy 3
Babcock's Surgery 3
Maximow's Histology 3
Ranson's Anat. of Nervous System. 3

Wright & Sons, Ltd.
Braithwaite, J. V. C.—
Infant Feeding, etc. . . . 7
Pye's Surgical Handicraft . 7
Watson-Williams, P.—Sinusitis, &c. 6

The Practitioner 5

ASSURANCE COMPANIES—
London & Counties Med. Pro. Soc. 1
Medical Insurance Agency . . . 57

BANKS—
Barclays Bank Ltd. . . . 41
Westminster Bank . . 38

BRASS NAME PLATES, &c.—
Cooke's Name Plates . . . 6
Ford's Name Plates . . 42
Heid, S. J. & A.—Name Plates 38
Lewis & Co. Ltd.—Name Plates 6
Osborne, F. & Co.—Name Plates . 42

FOOD PREPARATIONS—
Ariston Yaghourt Co.—Yaghourt 38
Battle Creek Food Co.—
Lacto-Dextrin . . 15
[illegible] 14
[illegible] 22
[illegible] 55
[illegible] 9
[illegible] 15
[illegible] 6
Valentine's Meat-Juice . 18

HOSPITAL, &c., FURNITURE—
[illegible] 40
[illegible] 41
[illegible] 34
[illegible] 40

HOUSE AGENTS—
Bedford & Co. 54
Elliott, Son & Boyton 54

SURGICAL APPLIANCES—
[illegible] 32
[illegible] 34
Dent's 'Ardente' Stethoscope 54
Hawksley & Sons Ltd.—
[illegible] 40
[illegible] 42
[illegible] 54
[illegible] 54
Salt's Surgical Service . . 33
Short & Mason—
Tycos Sphygmomanometers 6
Spencer Corsets, Ltd.—Corsets 35

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
Castor Oil . . 42
Insulin 'A.B.' . . 10
Medicated Pastilles . . 27
Vapo-Cresolene . 39
Alliance Drug & Chemical Co.—
Price List . 40
Angier Chemical Co., Ltd.—
Angier's Emulsion . . 26
Bayer Products Ltd.—'Novalgin' . 9
Bell & Croydon—Fructoles 12
Boots Products . . 11, 13
British Drug Houses Ltd.—
Caprokol 15
Ephedrine B.D.H. . . 12
Insulin 'A.B.' . . 10
Burroughs Wellcome & Co.—
'Menthoflax' & 'Lubaflax' . 28
'Todicin' & 'Tibilol' . . 29
Carnrick, G. W. Co.—
Erythrogen . Cover i
Clayton Aniline Co. Ltd.—
Preparations . Cover iii
Dinneford & Co. Ltd.—Magnesia . 10
Evans Sons Lescher & Webb Ltd.—
Fellows' Compound Syrup of Hypophosphites 'Fellows' . . 31
Glaxo Laboratories—
Ostomalt & Colloidal Calcium . 30
Hewlett & Son, Ltd.—
Mist. Damianæ Co. . . 17
Kaylene Ltd.—Kaylene-ol 30
Kerol Ltd.—Capsules . 17
Lobles Laboratories—Taxol . . 25
Martindale, W.—
'Sterules' . . . 39
Preparations . 24
May & Baker, Ltd.—'Planeerine' 13
Newbery & Sons, Ltd.—
Agarol . Cover iv
Nujol Laboratories—Mistol . . 16
[illegible] 11
[illegible] 37
[illegible] ibel 12
Sharpe & Dohme Ltd.—Caprokol . 15
[illegible] 39
[illegible] 55
[illegible] 39
[illegible] 18
Wyleys Ltd.—
Elixir Iodo Creosoti Co. . . . 39

MOTOR CARS, TYRES, &c.—
Second-hand Motors for Sale . . . 54

PRINTING & STATIONERY—
Hamiltons' Medical Stationery . . 6
Taylor's Typewriters 6

TAILORING & UNDERCLOTHING—
Hall, H.—Medical Service Dress . 54
Regent Dress Co.—Tailors . 42

TOBACCO & CIGARETTES—
Player's Navy Cut . . . 41

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. . 53

VACCINES & CULTURE MEDIA—
Duncan, Flockhart & Co.—Vaccines 14
Genatosan Ltd.—Vaccines, etc., 21
Heuneman, W.—Vaccine Lymph 6
Laboratories of Path. & Pub. Hlth. 34
Roberts & Co.—Vaccine Lymph 42

WINES & SPIRITS—
Gaymer's Cyder 37
Martell's Brandy Cover ii

X-RAY & ELECTRO-MEDICAL APPARATUS—
Gen. Radio & Surg. Appar. Co.—
Sunlight Generator . 8
Medical Supply Association, Ltd.—
Portable Tract on Apparatus 32
Newton & Wright Ltd.—Radiology 8

BATHS, SPAS, &c.—
Belle Vue Spa 51
Bridge of Allan Spa 44

HOSPITAL, &c., VACANCIES—
Aberdeen Royal Infirmary 50
All Saints' Hospital etc., S.W.1 50
Ashford Hospital, Kent . 51
Bolingbroke Hosp., Wandsworth 49
Bolton, County Borough of . 55
Booth Hall, Manchester . . 55
Brighton Sanatorium, etc. 49
Bristol Homœopathic Hospital 55
Central London Ophthalmic Hosp. 48
Central London Throat, Hosp. 44
Carmarthenshire & Anglesey Infirm 56
Crumpsall Hospital, Manchester 55
David Lewis Hospital, Liverpool . 51
Dumfries & Galloway Royal Infirm. 54
Eccles & Patricroft Hospital . 51
Finsbury, Metropolitan Borough of 48
Finsbury Treatment Centre, E.C.1 43
Hampstead Gen. & N.W. Lon. Hosp. 53
Harlow Wood Orthopædic Hosp. 21
Harrogate Infirmary . . 48
Harrow Hospital . . . 55
Hartlepools Hospital . . 55
Hospital for Consump., Brompton 44
Hospital for Epilepsy, W.9. 54
Hosp. for Nervous Diseases, N.W.1 43
Huddersfield Royal Infirmary . 48
Hull Royal Infirmary . . 51
[illegible] 51
[illegible] E.1 54
[illegible] spital 50
[illegible] 43
[illegible] 43
Leigh Infirmary, Lancashire 44
Leicester Isolation Hospital . . 48
Leicester Mental Hospital . . 55
Lewisham, Met. Borough of . . 55
Lincoln County Hospital . . . 44
Liverpool, City of . . . 49
London County Council . . 55
London Hospital, E.1 . . 50
[illegible] 51
[illegible] 42
[illegible] 50, 47
[illegible] 43
[illegible] 54
[illegible] 49
[illegible] 42, 55
[illegible] 39
[illegible] 55
[illegible] and 49
[illegible] 55
[illegible] 1 50
[illegible] 50
[illegible] 50
[illegible] 53
[illegible] 50
[illegible] 55
[illegible] 50
[illegible] 50
[illegible] 50
[illegible] 49
[illegible] 50
[illegible] 50
[illegible] 50

Just Issued

Arey's Developmental Anatomy

New (2nd) Edition

A revision so extensive, so thorough, so radical that the book is really brand new. Each chapter was replanned and rewritten; 435 additional new illustrations were added; a much fuller treatment of general development was given; a more complete discussion of specific malformation was included; and a number of new charts and tables.

Wherever at all possible—and this has been found much more so than formerly—the human embryo has replaced, in the study, that of the lower animals. This edition stands to-day as an outstanding accomplishment in its field. It is a book of 560 pages, with 1,037 illustrations on 532 figures.

Dr. Arey gives the student not only a complete descriptive text of embryology, but also a very practical laboratory manual. The first section treats of the early stages of development and outlines clearly the course of prenatal and postnatal development. The second section traces the origin and differentiation of the human organ systems, grouping them according to germ-layer development. The third section consists of a laboratory manual for the study of the pig and chick embryos.

Large octavo of 560 pages, with 1,037 illustrations on 532 figures. By LESLIE BRAINERD AREY, Robert Laughlin Rea Professor of Anatomy, Northwestern University Medical School. Cloth 27s. 6d. net.

Andrews' Diseases of the Skin

NEW

"The whole volume is excellently got up, and, considering the amount of matter contained in it, remains moderate in size and easy to handle. We commend it with confidence both to general practitioners and specialists."—BRIT. MED. JOUR.

By GEORGE C. ANDREWS, A.B., M.D., Associate Professor of Dermatology, College of Physicians and Surgeons, Columbia University, etc. Octavo of 1,091 pages, with 958 illustrations. Cloth, 55s. net.

Babcock's Text-Book of Surgery

A STANDARD

"Takes a distinguished place among the many general text-books that are available. It is designed both for the student and the practitioner, as the author believes that, with the increase of clinical teaching and the declining importance of systematic lectures, the student must turn more to his reading for his theoretic background."—BRIT. MED. JOUR.

By W. WAYNE BABCOCK, M.D., Professor of Surgery, Temple University, Philadelphia. Octavo of 1,367 pages, with 1,050 illustrations, 9 in colours. Cloth 45s. net.

Maximow's Text-Book of Histology

NEW

"The book is one which can be recommended with confidence as a general work of reference for the more advanced student of this branch of study."—BRIT. MED. JOUR.

By ALEXANDER A. MAXIMOW, late Professor of Anatomy, University of Chicago. Completed and edited by WILLIAM BLOOM, Assistant Professor of Anatomy, University of Chicago. Large octavo of 833 pages, with 604 illustrations, some in colours. Cloth, 40s. net.

Ranson's Anatomy of Nervous System

3rd EDITION

"The book provides a useful foundation in macroscopical and microscopical anatomy, considered always with an eye to the physiological correlates of given structures, thus supplying a dynamic as opposed to a static presentation. It is wonderfully complete, and for the novice in neurology it should prove highly serviceable."—LANCET.

By STEPHEN W. RANSON, M.D., Professor of Neurology, Northwestern University Medical School, Chicago. Octavo of 425 pages, with 284 illustrations, some in colours. Third, Revised, Edition. Cloth 32s. 6d. net.

W. B. SAUNDERS COMPANY Ltd., 9, Henrietta St., London, W.C.2.

NOW READY

ARCHIVES OF DISEASE IN CHILDHOOD

EDITED BY

HUGH THURSFIELD, D.M., F.R.C.P., and REGINALD MILLER, M.D., F.R.C.P.,

WITH THE HELP OF

H. C. CAMERON, M.D., F.R.C.P.
H. A. T. FAIRBANK, D.S.O., M.S., F.R.C.S.
LEONARD FINDLAY, D.SC., M.D.
A. DINGWALL FORDYCE, M.D., F.R.C.P.ED.
C. MAX PAGE, D.S.O., M.S., F.R.C.S.
LEONARD G. PARSONS, M.D., F.R.C.P.
G. F. STILL, M.D., F.R.C.P.
EDITOR OF THE *British Medical Journal*.

Vol. 5. **DECEMBER, 1930.** **No. 30.**

PUBLISHED BY THE BRITISH MEDICAL ASSOCIATION.

London: British Medical Association House,
Tavistock Square, W.C.1.

Yearly Subscription (6 numbers), 25/-. Single Number, 4/6.

IN PREPARATION

The Journal of Neurology and Psychopathology

EDITED BY

S. A. KINNIER WILSON.

WITH THE ASSISTANCE OF THE FOLLOWING EDITORIAL COMMITTEE:

EDWIN BRAMWELL.
T. GRAHAM BROWN.
A. FEILING.
R. G. GORDON.
J. G. GREENFIELD.
C. C. WORSTER-DROUGHT.
R. FOSTER KENNEDY.
H. G. BAYNES.
WILLIAM BROWN.
HENRY DEVINE.
R. D. GILLESPIE.
BERNARD HART.
C. STANFORD READ.
R. M. STEWART.
C. MACFIE CAMPBELL.

Volume XI. **January, 1931.** **No. 42.**

Published Quarterly by the British Medical Association.

London: British Medical Association House,
Tavistock Square, W.C.1.

Subscription 30/ per annum. Single Numbers 8/6 net. Post Free.

SPECIAL NUMBER OF
THE PRACTITIONER

The Special Number of THE PRACTITIONER on Common Ailments is included with all annual subscriptions beginning in the month of January.

CONTENTS

INTRODUCTION: By SIR HUMPHRY ROLLESTON, Bart., G.C.V.O., K.C.B., M.D., D.Sc., *Regius Professor of Physic, Cambridge University.*

FUNCTIONAL DISEASES OF THE HEART: By R. O. MOON, M.D., F.R.C.P., *Physician to the Hospital for Diseases of the Heart.*

HEART FAILURE AND ITS TREATMENT: By MAURICE CAMPBELL, O.B.E., D.M., F.R.C.P., *Assistant Physician, Guy's Hospital.*

VARIATIONS IN ARTERIAL PRESSURE AND THEIR CONTROL: By J. F. HALLS DALLY, M.A., M.D., M.R.C.P., *Physician, Mount Vernon Hospital.*

THE EARLY DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS: By L. S. T. BURRELL, M.D., F.R.C.P., *Physician, Royal Free Hospital*

CHRONIC BRONCHITIS: By GEOFFREY MARSHALL, M.D., F.R.C.P., *Assistant Physician, Guy's Hospital.*

THE MODERN TREATMENT OF INFLUENZA: By C. BLAXLAND LEVICK, M.B., Ch.M., M.R.C.P., *Assistant Physician, St. George's Hospital.*

NASAL CATARRH AND COMMON COLDS: By W. J. HARRISON, M.B., *Surgeon, Ear, Nose and Throat Hospital, Newcastle-on-Tyne.*

THE TREATMENT OF FIBROSITIS: By WILFRID EDGECOMBE, M.D., F.R.C.P., F.R.C.S., *Honorary Physician, Harrogate General Hospital.*

THE USES OF PHYSIOTHERAPY IN RHEUMATISM: By F. HOWARD HUMPHRIS, M.D., F.R.C.P.E.

ON THE RECOGNITION OF SOME ACUTE ABDOMINAL DISEASES: By LORD MOYNIHAN OF LEEDS, G.C.M.G., C.B., *President of the Royal College of Surgeons.*

CHRONIC DYSPEPSIA: By A. F. HURST, M.A., D.M., F.R.C.P., *Senior Physician, Guy's Hospital.*

CONSTIPATION: By S. W. PATTERSON, M D., D.Sc., M.R.C.P., *Physician, Ruthin Castle.*

PYORRHŒA ALVEOLARIS: By A. T. PITTS, D.S.O., M.R.C.S., L.D.S., *Dental Surgeon, Royal Dental Hospital and the Middlesex Hospital.*

HÆMORRHOIDS: By W. B. GABRIEL, M.S., F.R.C.S., *Senior Assistant Surgeon, St. Mark's Hospital.*

EYESTRAIN: By ERNEST CLARKE, C.V.O., M.D., F.R.C.S., *Consulting Surgeon, Central London Ophthalmic Hospital.*

DEPRESSION: By H. CRICHTON-MILLER, M.A., M.D., *Honorary Physician, Tavistock Square Clinic.*

SPRAINS AND STRAINS: By NORMAN HALLOWS, D.M., *Resident Medical Officer, Marlborough College.*

ECZEMA: By H. D. HALDIN-DAVIS, M.A., M.D., M.R.C.P., F.R.C.S., *Dermatologist, Royal Free Hospital.*

ACNE VULGARIS: By H. C. SEMON, D.M., M.R.C.P., *Physician, Skin Department, Royal Northern Hospital.*

PRACTICAL NOTES:

VARICOSE VEINS	INFLUENZA IN CHILDREN	CARBUNCLES
VARICOSE ULCERS	COMMON COLDS	ETC., ETC.

192 Pages of Text. Price 7s. 6d post free.

SUBSCRIPTION FORM

TO THE PUBLISHER, THE PRACTITIONER, 6-8 BOUVERIE STREET, LONDON, E.C.4

I enclose remittance value £2 : 2 : 0. Please send to me THE PRACTITIONER, *post free for twelve months, to include the January Special Number without extra charge.*

Name.....
[BLOCK LETTERS]

Address.....

.....

CHRONIC NASAL *JUST PUBLISHED.* *Large 8vo.* *Pp. viii. 220.* *107 Illus.* *15s. net; post. 6d.*

SINUSITIS AND ITS RELATION TO GENERAL MEDICINE

By PATRICK WATSON-WILLIAMS, *Cons. Surg., Ear, Nose, and Throat Dept., Bristol Royal Infirmary.*

"All the possible systematic manifestations of focal sepsis are fully described."—*Brit. Med. Journ.*
"Regional complications include psychoses, neuritis, headaches, respiratory, gastro-intestinal, cardiac, arthritic, and ocular affections. . . . An epoch-making work beautifully produced . . . profusely illustrated . . . filled with sound teachings."—MEDICAL WORLD.
"It will be of interest to the General Physician as well as to laryngologists."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. London: SIMPKIN MARSHALL Ltd.

Third Edition.

A TEXTBOOK OF
EXPERIMENTAL PSYCHOLOGY
By CHARLES S. MYERS, M.A., M.D., Sc.D., F.R.S., and F. C. BARTLETT, M.A.

Demy 8vo. In 2 parts, complete. 16s. net.

The two parts are also sold separately Part I, Textbook, 10s. 6d. net; Part II, Laboratory Exercises, 7s. net.

"No worker in psychology can afford to dispense with this excellent textbook, while the physician opening it at random will find material to engross him on almost every page."—*Lancet*, on the Second Ed.

CAMBRIDGE UNIVERSITY PRESS, Fetter Lane, London, E.C.4.

DEEP X-RAY THERAPY IN MALIGNANT DISEASE

By WALTER M. LEVITT, M.B., D.M.R.E.,
Medical Officer in Charge of the Radiotherapeutic Research Dept., St. Bartholomew's Hospital.

SIR THOMAS HORDER introduces this important account of the treatment and results of 327 cases, dealing in detail with the after-effects of treatment, and with sections on mortality and accidents and X-rays as a means of palliation.

With Diagrams. 10s. 6d. net.

LONDON JOHN MURRAY

SIMPLE MEDICAL YEAR BOOK
14/6 post free.
NOW IS THE TIME to commence this Accurate Record-keeping Account Book and Save Income Tax.
JOHN BALE SONS & DANIELSSON, LTD., 83-91, Gt. Titchfield Street, London, W.1.

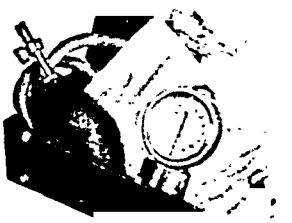
NAME PLATES
FOR THE PROFESSION.
Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks. | Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.
With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE.
COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

As necessary as a Stethoscope

The present-day physician can ill afford to dispense with a sphygmomanometer as part of his visiting equipment. Many of the greatest medical minds of to-day advocate blood pressure tests as a guide to the eventual diagnosis.

The question of portability is easily solved by the S. & M. Portable type of Sphyg. as illustrated. This instrument—including Patent Arm Sleeve and Inflating Bulb with Control Valve—is contained in a leather carrying case 7 in. long, 4 in. wide by 3 in. deep.

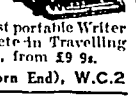
Write for full details and prices.



Every genuine instrument bears the trade-mark "Tycos" engraved on the dial.

Obtainable from all reputable Instrument Dealers.

Tycos **SHORT & MASON** LTD
ANEROID WORKS, WALTHAMSTOW, E.17.
Showrooms: 45/50, HOLBORN VIADUCT, E.C.1.
Publishers of *"Blood Pressure Simplified,"* 4s. 6d. net.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 32.*
Desks, Tables & Chairs, Est. 1884.

THE BIJOU
'Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.
The best portable Writer Complete in Travelling Case, from £9 9s.
74, CHANCERY LANE (Holborn End), W.C.2

SEND for our NEW **SAMPLES** of the very BEST **STATIONERY**, Etc.
HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

NAME PLATES
IN BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

VACCINE LYMPH
(REBMAN'S PURE ASEPTIC CALF LYMPH)
for reliability and normal reaction.
Prepared under Swiss Government control in accordance with the requirements of the Therapeutic Substances Regulations, 1927. As Supplied to the Bacteriological Department, Guy's Hospital, London.
Price: 9d. per small tube (6 for 3/9).
Sole Agents:
WILLIAM HEINEMANN (Medical Books), Ltd.,
99, Gt. Russell St., London, W.C.1.
Telephone: MUSEUM 0878. *Telegrams:* SUNLOCKS, LONDON.

KOND'S
EUONYMISED COCOA.
Euonymin, the most valuable [illegible] yielded by the [illegible]. Its action, when [illegible] most delicious beverage), increases the action of the liver, and is invaluable in stomach disorders, slow digestion, gout, rheumatism, and biliousness. Numberless testimonials over 35 years.
Free sample to Doctors on application.
SOLD IN TINS, 1s. 6d. & 2s. 6d.
From Grocers or Chemists, or from the Wholesale Depôts.
MAY ROBERTS & CO., LTD.,
13, Clerkenwell Road, LONDON, E.C.1.

J. & A. CHURCHILL

87th Annual Issue. 2,400 Pages. 55,000 Names. With 14 Pictures of Spas, etc. 36s. Postage 1s.

The MEDICAL DIRECTORY, 1931

Including Guide to British Spas and Marine Health Resorts.

Edited by R. FORTESCUE FOX, M.D.

"Once again we congratulate the publishers on the vigilance and enterprise which has produced something unique among the directories of the world."—LANCET, Dec. 6th, 1930.

BOOKS FOR SURGEONS

BOWLBY, ANDREWES, AND KEYNES' SURGICAL PATHOLOGY. 8th Ed. 224 Illus. 21s.
SIR F. CONNOR'S SURGERY IN THE TROPICS. 99 Illus. 12s. 6d.
CADE'S RADIUM TREATMENT OF CANCER. 62 Illus. 15s.
8s. 6d.
15s.
RY. 7th Ed.
ROMANIS & MITCHINER'S SCIENCE AND PRACTICE OF SURGERY. 3rd Ed. 2 Vols. 28s.
ROMANIS & MITCHINER'S SURGICAL EMERGENCIES IN PRACTICE. 158 Illustrations. 18s.
WILLIAMS' MINOR SURGERY. 20th Ed. 10s. 6d.
WOOLLARD'S RECENT ADVANCES IN ANATOMY. 12s. 6d.
DARLING'S SURGICAL NURSING. 3rd Ed. 8s 6d.
OGILVIE'S RECENT ADV. IN SURGERY. 2nd Ed. 115 Illus. 15s.

BOOKS ON CHILDREN

PEARSON & WYLLIE'S RECENT ADVANCES IN DISEASES OF CHILDREN. 2nd Edition. 53 Illus. 15s.
GOODHART & STILL'S DISEASES OF CHILDREN. 12th Edition. 68 Illus. 28s.
HESS' PREMATURE AND CONGENITALLY DISEASED INFANTS. 189 Illus. 18s.
JACKSON'S EFFECTS OF INANITION AND MALNUTRITION
IUCTURE. 117 Illus. 30s.
MANUAL. 7th Ed. 36 Illus. 3s 6d.
OF PEDIATRICS. 126 Illus. 30s.

BOOKS ON PATHOLOGY AND BACTERIOLOGY

BEAUMONT & DODDS' RECENT ADVANCES IN MEDICINE. Fifth Edition. 49 Illus. 12s. 6d.
DIBLE'S RECENT ADVANCES IN BACTERIOLOGY. 24 Illus. 12s. 6d.
PINEY'S RECENT ADVANCES IN HAEMATOLOGY. Third Edition. 4 Col Plates. 12s. 6d.
PINEY'S DISEASES OF THE BLOOD. 26 Illus. 12s. 6d.
POWWEATHER'S CLINICAL CHEMICAL PATHOLOGY. 18 Illus. 8s. 6d.
PANTON & MARRACK'S CLINICAL PATHOLOGY. Second Ed. 15s.
HEWLETT'S BACTERIOLOGY. 101 Illus. Eighth Edition. 18s.
HEWLETT'S PATHOLOGY. 60 Illus. Fifth Edition. 18s.
JOHNSTON & SIMPSON'S PRINCIPLES OF PRACTICAL BACTERIOLOGY. 5s.
GILTNER'S ELEMENTARY TEXTBOOK OF MICROBOLOGY. 99 Illus. 15s.
WHITBY'S BACTERIOLOGY FOR MEDICAL STUDENTS. 75 Illus. 10s. 6d.
BOWLBY, ANDREWES, AND KEYNES' SURGICAL PATHOLOGY. 8th Ed. 224 Illus. 21s.
GOULD'S SYNOPSIS OF SURGICAL PATHOLOGY. 6s.

THE RECENT ADVANCES SERIES

22 VOLUMES IN CIRCULATION. *Please send for List.*

LONDON: 40, Gloucester Place, Portman Square, W.1.

JUST PUBLISHED. Tenth Edition. Fully Revised. With 343 Illustrations and 22 Plates. 21s. net. Postage 9d.

Pye's Surgical Handicraft

A Manual of Surgical Manipulations, Minor Surgery, and other matters connected with the work of House Surgeons and Surgical Dressers.

Edited by H. W. CARSON, F.R.C.S.(Eng.)

Late Senr. Surg., Prince of Wales's General Hosp., Tottenham.

With Special Chapters by well-known contributors.

LANCET.—"Full of information invaluable to the student, the house surgeon, and general practitioner."

JUST PUBLISHED. Crown 8vo. 156 pp. 4s. 6d. net. Post. 4d.

Infant Feeding in General Practice

By J. V. C. BRAITHWAITE, M.D., M.R.C.P.(Lond.)

Physician and Physician in Charge of Children's Out-patients, Leicester Royal Infirmary and Children's Hospital.

With a Foreword by H. C. CAMERON, M.A., M.D.(Cantab.), F.R.C.P.

Presents the subject of Infant Feeding from the point of view of the general practitioner, who is called upon every day in his practice to deal with the difficulties under consideration.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

H. K. LEWIS & CO. LTD., Publishers and Booksellers.

REBUILDING AND EXTENSION OF PREMISES.

During the Rebuilding of the Corner Premises, 136, Gower Street, and 24, Gower Place,

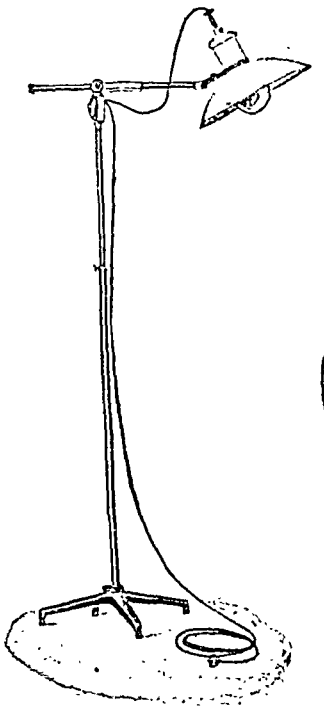
The BOOKSELLING and STATIONERY Departments are accommodated in the completed portion of the new building (entrance in Gower Street).

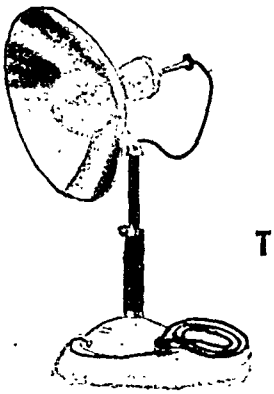
The CIRCULATING LIBRARY is permanently housed in this portion, greatly increased accommodation being provided both for the Exchange Department (ground floor) and the Reading Room (first floor).

The Address, 136, GOWER STREET, London, W.C.1 ('phone: Museum 7756) remains unaltered.

THE DEPARTMENT FOR SECOND-HAND BOOKS remains at 140, Gower Street. 'Phone: Museum 4031.
THE PUBLISHING AND WHOLESALE OFFICE is unaltered, 28, Gower Place. 'Phone: Museum 2853.

GRSA





Price £8 10s. Price £6 10s.
Complete with bulb.

NERON VITALUX

The Sunlight Generator

HEAT, LIGHT, ULTRA-VIOLET

An indication as to some of its uses:

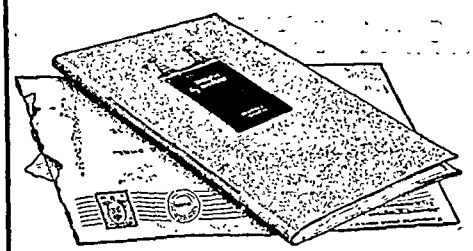
Rachitis prophylaxis, tubercular cervical glands, surgical and cutaneous tuberculosis, neuralgia, rheumatism (neuritis, myalgia), catarrhal diseases (colds), inflammation of the lungs (pleurisy), treatment of wounds, abscesses, furuncles, fungoid diseases of the skin, barber's rash, frontal sinus catarrh, inflammation of the middle ear, dental diseases.

Literature free

THE GENERAL RADIOLOGICAL & SURGICAL APPARATUS CO. LTD.,

204 & 206, Great Portland Street, London, W.1

Telephones: Museum 1719, Museum 8326 — *Showrooms:* FIRST FLOOR — Telegrams: Equispital Wesdo London



N. AND W.

SPECIALITIES

APPARATUS for RADIOLOGY and PHYSIOTHERAPY

Just Published.

New List of Accessories for Radiology.

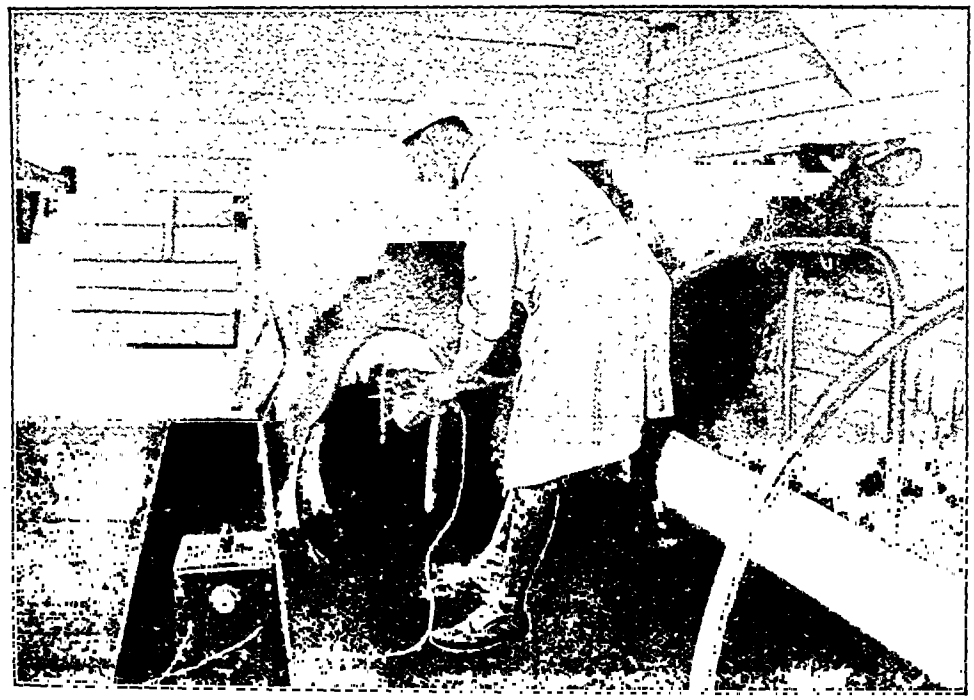
Post free on request.

Newton & Wright Ltd

471-3, HORNSEY ROAD, LONDON, N.19

Telephone: Archway 2621 (3 lines)

MICKLEFIELD IRRADIATED MILK



TREATING THE COW

By this Process—

(1) VITAMIN A AND NATURAL FLAVOUR ARE PRESERVED.
(2) VITAMIN D CONTENT IS INCREASED 1,800 PER CENT., OR TEN TIMES THAT OF ANY OTHER IRRADIATED MILK.

One pint equivalent in Vitamin D to 600 drops or 12 grammes of average Cod-Liver Oil.

A ten weeks' test recently conducted at the Infants' School, Rickmansworth, under the supervision of the Medical Officer of Health, gave the following results:—

(1) 18 children (controls) had their usual ordinary milk.
(2) 29 " 1/3-pint of Grade A (T.T.) milk five days a week.
(3) 30 " " Micklefield " " "

(1) Average increase in height .605-in. (2) Average increase in weight 9.72 ozs. more than (1).
(2) " " " .610-in. (3) " " " 10.9 ozs. more than (1).
(3) " " " .744-in.

Full particulars appeared in an article in the LANCET, January 18, 1930, p. 127, et seq., a reprint of which will be sent post free on request.

The milk is delivered every week-day in London; elsewhere by arrangement.

Write to J. O. HICKMAN, MICKLEFIELD GREEN, RICKMANSWORTH.

A safe and simple antacid which is also a gentle laxative must necessarily be of great value to medical practitioners when administering to ladies and children and all who are constitutionally delicate.
May we, therefore, venture to remind you of

DINNEFORD'S
PURE FLUID MAGNESIA

which has been extensively prescribed and used by the Medical Profession for a Century, and is still the best and safest means of administering Magnesia.

When prescribed for the nursery, too, Dinneford's Magnesia has always proved immensely useful as a corrective, and when mixed with infant's food it prevents many of the troubles which are due to acidity, flatulence, etc.

We are confident that you will find in Dinneford's Fluid Magnesia a reliable and safe solution which may be freely used for many ailments, and we would request your kind consideration of its use as occasion offers.

Dinneford's Pure Fluid Magnesia possesses antacid and laxative qualities which are incomparably better than those of any of the various preparations of Magnesia, in powder, now being introduced.
It cannot harm the most delicate constitution and is at all times a safe and effective laxative.
Manufactured in London for the past 100 years.

DINNEFORD & Co. LTD.

INSULIN 'A.B.'

TRADE A B MARK

80 Units per c.c.

Insulin 'A.B.' is now available in a concentration of 80 units per c.c., or four times the normal strength, for the convenience of large dose administration.

Supplied in three strengths:

20 units per c.c. Packed in bottles containing:
5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 " 20 ") 4/- "
25 c.c. (500 " 50 ") 10/- "

40 units per c.c. Packed in bottles containing:
5 c.c. (200 units or 20 doses) 4/- each

80 units per c.c. Packed in bottles containing:
5 c.c. (400 units) 8/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession.

Joint Licencees and Manufacturers:

The British Drug Houses Ltd.
Graham Street, London, N.1

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

REGETHERM WOOL

THE use of an impregnated wool as an effective dressing in cases of Rheumatism, Gout, Lumbago, Sciatica, Bronchitis, Colds on the Chest, Sore Throat, etc., is well known to the medical profession. Regetherm Wool is ideal where this kind of treatment is necessary.

Per 1/- Carton

Obtainable from all branches of

The Boots Chemists

Full-size trial package free to Medical Practitioners in the British Isles on application to Boots the Chemists, Station Street, Nottingham

900 BRANCHES THROUGHOUT GREAT BRITAIN

BOOTS PURE DRUG CO. LTD., NOTTINGHAM.

IMPROVED DAY AND NIGHT SERVICE TO THE MEDICAL PROFESSION FOR OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPÔT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1
(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE, or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, **CLAPHAM ROAD, S.W.9**

EPHEDRINE B.D.H.

For Cold in the Head

B.D.H. Ephedrine preparations provide a ready means of giving prompt relief and comfort to patients suffering from nasal congestion and other unpleasant symptoms of the common cold.

To suit the convenience and idiosyncrasy of individual patients, Ephedrine may be prescribed in any of four forms.

Ephedrine B.D.H.
Elixir

A palatable preparation containing ¼ grain of the hydrochloride of Ephedrine B.D.H. per fluid drachm.

Ephedrine B.D.H.
Inhalant Compound

A solution of Ephedrine B.D.H. with camphor, menthol and oil of thyme in liquid paraffin.

Ephedrine B.D.H.
Nasal Jelly

Containing Ephedrine B.D.H. in pure petroleum jelly.

Ephedrine B.D.H.
Throat Spray

An aqueous solution of the hydrochloride of Ephedrine B.D.H.

Clinical sample of any of the above can be obtained on request from the makers

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Eph/14

Fructole Calcium Lactate c Parathyroid

(Savory & Moore)

One of the recent additions to the well-known range of Savory & Moore's Fructoles.

The combination of Calcium Lactate with Parathyroid is recognised as desirable by the Profession in the various disorders dependent on deficiency of calcium.

Fructole Calcium Lactate c Parathyroid will be found of value where such impoverishment is diagnosed.

Supplied in 1 and 8 oz. bottles.

FRUCTOLES (Savory & Moore)

Fructoles made by Savory & Moore, Ltd., have for many years been regularly prescribed by the Medical Profession. These preparations covet a wide range of medicament in perfect solution, are palatable, and keep perfectly. They represent the highest standard of Pharmaceutical excellence.

Strict Analytical Control ensures purity of constituents, uniformity of product, supported by the guarantee of the makers.

Constant research and close contact with modern developments of medical science lead to new Fructoles designed to meet the demand of the modern practitioner.

Every Fructole may be prescribed with the greatest of confidence.

Samples and Literature of those more popularly prescribed are available for clinical test.

SAVORY & MOORE, Ltd.,
Chemists to The King,
143, NEW BOND STREET,
LONDON, W.1.

JOHN BELL & CROYDEN,
Pharmaceutical Chemists,
50/52, WIGMORE STREET,

A Highly Efficient Local Anæsthetic for Sub-cutaneous Regional & Spinal use

"PLANOCAINE" Trade Mark

BRAND ETHOCAINE

Replacing with advantage cocaine and its substitutes, Planocaine is the ideal agent for use in all cases where a local anæsthetic is indicated.

Supplied in the form of powder, tablets or solution.

Descriptive literature and clinical trial sample on request.

Prepared in the Laboratories of

MAY & BAKER, LTD.

BATTERSEA LONDON, S.W.11

Telegrams: Bismuth, London.

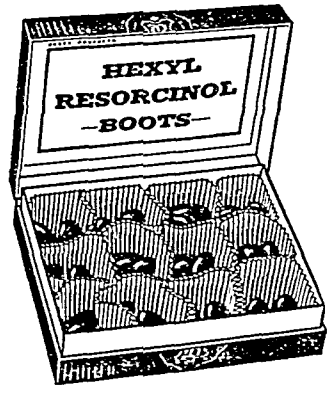
Telephone: Batter[illegible] 1813 (6 lines)

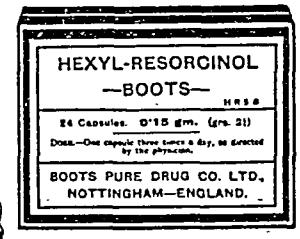
BOOTS PRODUCTS OBTAINABLE THROUGH ALL BRANCHES OF The Boots Chemists

Hexyl-Resorcinol (BOOTS)

Tested by the usual Rideal-Walker method, HEXYL-RESORCINOL (BOOTS) is shown to possess extraordinary bactericidal potency numerically very many times greater than that of the ordinary organic disinfectants in general use. At the same time, the prescribed dose has no toxic action towards man or animals.

HEXYL-RESORCINOL (BOOTS) is supplied in Enteric-coated Tablets—in bottles of 25 and 100 tablets. Special Gelatin Capsules—in boxes of 24 and 100 capsules—are also available.





WHOLESALE AND EXPORT DEPARTMENT.

BOOTS PURE DRUG Co. Ltd.,

NOTTINGHAM, ENGLAND.

Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

Direct Treatment of

INFLUENZA WITH VACCINES

FOR PROPHYLACTIC AND THERAPEUTIC USE.

ANTI-CATARRH
VACCINE
Prophylactic
3 doses.

THE VACCINE
FOR COLDS
Curative
3 doses.

INFLUENZA VACCINE
2 doses.

Prepared by the Research Laboratory of the Royal College of Physicians, Edinburgh.

Issued by and full particulars from

DUNCAN, FLOCKHART & CO.
EDINBURGH and LONDON

104, Holyrood Road. 155, Farringdon Road, E.C.1.

Vitamin Deficiency?

Put them on BEMAX

THE NATURAL VITAMIN TONIC FOOD

Bemax was prepared to provide a food rich in natural vitamins, which, added to the normal diet, would restore a balanced metabolism, and so create a condition in which remedial measures by the physician would be assured of the fullest success in all ailments due to deficiency of Vitamins A, B and E.

Laboratory reports on Bemax and clinical sample for personal trial will be sent to any medical man on receipt of his professional card.

THE BEMAX LABORATORIES, 23, UPPER MALL, LONDON, W.6.

In Capsules and in Solution

The Treatment of Urinary Tract Infections

For the prompt relief of pain, pyrexia, frequency of micturition and other unpleasant symptoms associated with diseases of the urinary system, 'Caprokol' therapy has proved remarkably effective.

'Caprokol' exerts a soothing effect upon the mucosa during the process of disinfection of the urinary tract.

Persistent treatment results, in the majority of instances, in complete sterilisation of the urinary system.

CAPROKOL

Literature on request

Sole Selling Agents:
THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

C-p/31

A pure carbohydrate food

that combats constipation, auto-intoxication & colitis

Lactose 73%, dextrin 25%—that is the proportion in which these carbohydrates are combined in this new food for changing the intestinal flora. Both are more slowly absorbed than other carbohydrates, and both are able to reach the colon in sufficient quantity to cause a luxuriant growth of protective flora. An acid reaction of the intestinal contents unfavourable to toxic organisms is thus produced—Lacto-Dextrin being highly efficient in promoting the growth and development of both B. acidophilus and B. bifidus in the colon. In this pure carbohydrate food both lactose and dextrin are presented in a palatable and agreeable combination.

PSYLLA

. . . an accessory for use in conjunction with Lacto-Dextrin

Where bulk and lubrication of the intestinal tract is also required, the use of BATTLE CREEK Psylla (Plantago Psyllium) is invaluable as an accessory. The small brown seed when in contact with water swells into a soft gelatinous mass and acts most effectively both as an emollient and intestinal evacuant.

Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, 41, Gt. Tower St., London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

LACTO-DEXTRIN

Manufactured by the BATTLE CREEK FOOD CO., Mich., U.S.A.

HORLICK'S MALTED MILK, a modified milk food, is full cream cows' milk combined with the nutritive extracts of malted barley and wheat, evaporated to dryness at a low temperature in vacuo by the special HORLICK process. *HORLICK'S MALTED MILK has proved of value in infant feeding, disease of the alimentary canal, myocardial disease, fevers, during pregnancy and lactation, and in all conditions where it is essential that the patient should be given a

palatable and agreeable diet, and one affording a maximum of nourishment with a minimum of digestive effort. *The characteristics of easy digestibility and absorption, and a high degree of assimilation, which have enabled HORLICK'S MALTED MILK to be confidently recommended by the Medical Profession for nearly fifty years, cannot be obtained from a blend of cereals and dried milk. *HORLICK'S MALTED MILK contains no free starch or cane sugar.

Reaching Laryngeal and Bronchial Inflammations

MANY laryngologists are advising the treatment of laryngeal, tracheal and bronchial inflammations by the direct route, nebulized spray solutions—in addition to the use of oral medication.

Mistol is ideally suited to this form of administration. When used in a nebulizer, it forms an exceedingly fine, almost invisible, vapour. This spray is unirritating to the upper respiratory passages and is drawn into the larynx and bronchi with each inspiration. In this way it reaches and exerts its therapeutic action upon the upper respiratory passages.

The ingredients of Mistol—menthol, camphor, eucalyptol, and chlorbutanol in high-grade liquid petrolatum—are endorsed by all leading rhino-laryngologists.

They relieve congestion and hyperemia in inflamed mucous membranes, diminish abnormal secretions, and aid in the return to normal conditions.

More and more physicians are finding in Mistol administered by means of a nebulizer a valuable ally to oral medication for laryngeal, tracheal, and bronchial inflammations.

Mistol

REG. TRADE MARK

MADE BY THE MAKERS OF NUJOL

Nujol Laboratories:

128 Albert Street, Camden Town, N.W.1.

HYPERPIESIS

HYPERPIESIS is described as "a malady in which blood pressure rises excessively, a malady having a course of its own and deserving the name of a disease."

A writer in *The Lancet* described cases of this condition, and ascribes its causation to toxic substances of the nature of which he is uncertain, but which he believes to be extrarenal in origin and to be distributed by the bloodstream.

It seems highly probable that these substances are the "pressor" substances, such as epinephrine, which are developed by putrefactive bacteria in the intestine. Assuming the truth of this likely hypothesis, the treatment in part should obviously consist in adequate intestinal disinfection

Certain compounds of the coal-tar series, having high germicidal value and little solubility in the alimentary tract, pre-eminently possess this disinfecting power and form the active constituents of Kerol, which may be given in a palatable form by means of keratin-coated capsules which ensure disinfection of the alimentary tract without deleterious effect.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.

Intestinal Disinfection

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD.
Ravens Lane
Berkhamsted
England.

Kerol Capsules

This preparation is now obtainable in 5-oz. bottles.

MIST. DAMIANÆ CO. (HEWLETT'S).

MIST. DAMIANÆ CO. (Hewlett's) will be found to possess all the properties of Damiana, viz.:—Its alternative effects on the alimentary canal and tonic action upon the brain and nervous system generally.

In all the various forms of loss of nerve power Mist. Damianæ Co. (Hewlett's) is a powerful remedy, relieving the exhaustion and conferring renewed capacity for mental and physical endurance.

As a nerve tonic and brain stimulant it is unequalled, and its invigorating properties will be found invaluable in many diseases where there is great depression and exhaustion. In paraplegia, hemiplegia, and partial paralysis it is particularly indicated, and may be suitably and satisfactorily employed wherever a powerful nerve stimulant and restorative are required.

Dose: One or Two Drachms in Water.

Packed in 5-oz., 10-oz., 22-oz., 40-oz., and 90-oz. Bottles. Price in England 12/6 per pound.

Introduced and Prepared only by

C. J. HEWLETT & SON, Ltd., 35 to 42, Charlotte St., London, E.C.2.

Valentine's Meat-Juice

In **Debility, Nervous Exhaustion** and **Anaemia,** where **Digestion** is **Impaired** and it is **Essential** to **Conserve** the **Weakened Vital Forces, Valentine's Meat-Juice** demonstrates its **Ease** of **Assimilation** and **Power** to **Restore** and **Strengthen.**

Employed in many Hospitals and Sanitariums and recommended by many leading Physicians and Surgeons throughout the world.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 91

The Medical Profession when prescribing "Liquor Carbonis Detergens"

SHOULD ADD THE WORD

Wright's

On receipt of your professional card, a package will be sent containing a sample of each of the following—

Wright's Coal Tar Soap.
Wright's Coal Tar Ointment.
Wright's Lysol.
Wright's Liquor Carbonis Detergens.

Although there is no secrecy as to the composition of Liquor Carbonis Detergens (it is described as "an alcoholic solution of coal tar"), the method of manufacture is unique. Imitations will be found to be produced by simple digestion, usually accompanied by some primitive, perfunctory, and inadequate stirring; whereas, in the case of the genuine product, the intimate contact required, for the complete extraction of all the soluble antiseptic constituents, is attained by a series of complicated processes, involving the use of highly specialized machinery.

WRIGHT, LAYMAN & UMNEY LTD., 66, Park Street, Southwark, S.E.1

THE NEW
ANTI-
RHEUMATIC

'NOVALGIN'
TRADE MARK

WHEN SALICYLATES FAIL TRY
'NOVALGIN'

For the Treatment of RHEUMATIC CONDITIONS
Better tolerated and less toxic antirheumatic, antipyretic and analgesic. Not contra-indicated in nephritis and heart diseases.
Supplied in tablets of gr. 7½ (0.5 g.), in tubes of 10 and bottles of 50 and 250. Powder in bottles of ½ and 1 oz.
Dose: 1-2 tablets (gr. 7½-15), 3-4 times daily.
Samples and Literature on Request.

BAYER PRODUCTS LTD.
19, ST. DUNSTAN'S HILL, LONDON, E.C.3
SOUTH AFRICA: Taeuber & Corssen (Pty.) Ltd., P.O. Box 2953, Cape Town.
AUSTRALASIA: Fassett & Johnson Ltd., 36/40 Chalmers Street, Sydney, N.S.W., and P.O. Box 33, Wellington, N.Z.

ALOCOL

Colloidal Hydroxide of Aluminium

THE increasing prevalence of gastric ulcer and hyperchlorhydria has produced an advance in the treatment of these diseases.

"Alocol" (Colloidal Hydroxide of Aluminium) provides an antacid medicament far superior to subnitrate of bismuth, bicarbonate of soda and other alkalis. These merely afford a certain degree of ease, without bringing about a permanent relief of the condition.

"Alocol" absorbs the excess of hydrochloric acid without interfering with the normal antiputrefactive function of the gastric juice or harmfully affecting the processes of nutrition.

"Alocol" has been subject to extensive clinical trial, and literature giving full particulars of the results will be gladly sent to medical men on request.

For Acute or Chronic Cases of Hyperacidity

For Gastric Duodenal or Pyloric Ulcers

A. WANDER, Ltd., Manufacturing Chemists
184, Queen's Gate, London, S.W.7.

Works: KING'S LANGLEY HERTFORDSHIRE.

M.232.

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative. "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

WHOOPING COUGH

Whooping Cough is a condition in which treatment with a suitable vaccine has proved remarkably successful. Some Practitioners, however, are deterred from using Vaccines, owing to fear of reactions, but this objection may be overcome by employing Detoxicated Whooping Cough Vaccine (Genatosan). In the preparation of this vaccine all the toxic elements of the germ are removed; as a result it is given to young children and infants without any harmful reaction and produces a high degree of immunity.

The following extract from a Practitioner's letter may prove of interest:—

"..... Some time ago, I resolved to try for the first time a vaccine in whooping cough and the results were so excellent, that I thought you would be interested to hear from me.

(*a*) Three children aged 3 years, 2 years and 8 months, were treated when the disease was about 10 days established; all were completely cured after the third injection—the mother described the effect to me as simply miraculous.

(*b*) Two aged 6 years and 3¼ years, who had relapses, were well after they had got the 2nd injection.

(*c*) An infant aged 8 months—the whoop disappeared after 1st injection. The cough was gone after 2nd injection, and the mother, who had tried everything and despaired of the child's life, was exceedingly grateful and assured me it was simply wonderful to see how the child had slept for the first time for days and was able to retain its food and rapidly put on weight. The Vaccine used was your Detoxicated Whooping Cough Vaccine. Speaking for myself, I can only describe the effects as magical, as the children were worn out and emaciated from coughing, vomiting, and loss of sleep."

Additional information regarding the above Vaccine will gladly be supplied to any Practitioner who writes to The Vaccine Department, Genatosan Ltd., Loughborough, Leicestershire.

Peptonised Beef Jelly (BENGER)

and

Peptonised Chicken Jelly (BENGER)

These can be served either in their jelly state with a few biscuits, or dissolved in hot water in "beef-tea" form, making a valuable restorative readily assimilated by weak digestions.

Containing much of the flesh-forming elements of the meat in soluble form, these peptonised preparations are superior in effect to ordinary essences or extracts. Added to soups they considerably increase the nutrient value.

In hermetically sealed glass jars, 2/- and 3/- each.

NOTE.—Benger's Peptonised Beef Jelly and Chicken Jelly are entirely free from preservatives.

BENGER'S FOOD, LTD., Otter Works, MANCHESTER.
Branch Offices:—NEW YORK: 90 Beekman St.
SYDNEY (N.S.W.): 350 George Street
CAPE TOWN (S.A.): P.O. Box 573

BENGER'S Food

PHYSIOLOGICAL TREATMENT OF CONSTIPATION

COMPOSED OF

EXTRACT OF THE INTESTINAL GLANDS

which strengthens the glandular secretions of the organs.

BILIARY EXTRACT

which regulates the secretion of the bile.

AGAR-AGAR

which rehydrates the contents of the intestines.

LACTIC FERMENTS

which reduce bacterial action in the intestines.

IN TABLET FORM.

ITS USE DOES NOT LEAD TO HABIT

LABORATOIRES LOBICA,

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd., 30, Marsham St., London, S.W.1

Taxolabs, Sowest, London. Victoria 2041.

ASPIRIN DERIVATIVES

IN

RHEUMATISM, NEURALGIA, AND INFLUENZA

"ASPRIODINE"

A compound of Aspirin and Iodine

FOR RHEUMATIC AFFECTIONS AND ARTERIO-SCLEROSIS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"SEDASPRIN"

A compound of Aspirin and Bromine

FOR INSOMNIA AND NERVE AFFECTIONS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"METHYL-ASPRIODINE"

THE NEW ANTI-RHEUMATIC FOR INUNCTION. BALM or LINIMENT 3/-

"PHENYL-ASPRIODINE"

AN INTESTINAL AND URINARY ANTI-SEPTIC. EMBODIES THE ACTIVITIES OF IODINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"PHENYL-SEDASPRIN"

A NEW COMPOUND OF THE SALOL TYPE EMBODYING THE EFFECTS OF BROMINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"MAGISAL," "TYLCALSIN," and "TYLLITHIN"

ARE VALUABLE SOLUBLE SALTS OF ASPIRIN, WHICH ARE PROMPT IN ACTION AS ANTI-NEURALGICS AND ANTI-RHEUMATICS.

Original Bots. of Tablets 2/- and 7/6.

Write also for particulars of Peptone, Mercurome, and other Martindale preparations

W. MARTINDALE

12 NEW CAVENDISH ST., LONDON, W.1

Telephone: Langham 2440. *Telegrams: "Martindale, Chemist, London"*

SCIENTIFIC ENZYME DIGESTION

RICH SELECTED ENGLISH MILK
Pancreatised

SELECTED ENGLISH WHEAT
Dextrinised and Pancreatised

PREDIGESTED MILK
(25% Protein Conversion)

PREDIGESTED WHEAT
(25% Starch Conversion)

Powdered by the
COW & GATE
Improved
Roller Process

Peptalac REGD.

THE NEW INSTANT PREDIGESTED FOOD

Predigestion of starch *and* milk is guaranteed and is effected under the most exact scientific conditions in our laboratories before powdering. This means that when required for use it can be immediately and simply prepared by the *mere* addition of hot water. The C. & G. Improved Roller Process is used ensuring retention of the full mineral and vitamin content with freedom from pathogenic organisms.

PEPTALAC is indicated in all those cases where the powers of the digestive tract are insufficient to deal with that amount of food necessary for maintaining health—for nursing mothers with weak digestions, in ante- and post-operative surgical cases, in achlorhydria, peptic ulceration, cancer of the alimentary tract, in all forms of convalescence and in old age.

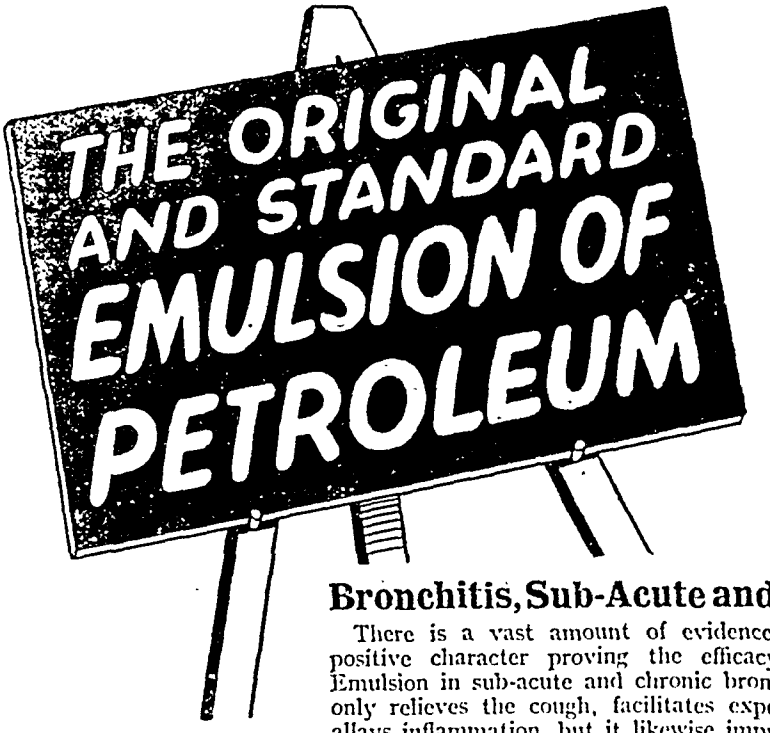
SEND THE COUPON FOR

FREE CLINICAL SAMPLE

Name.....

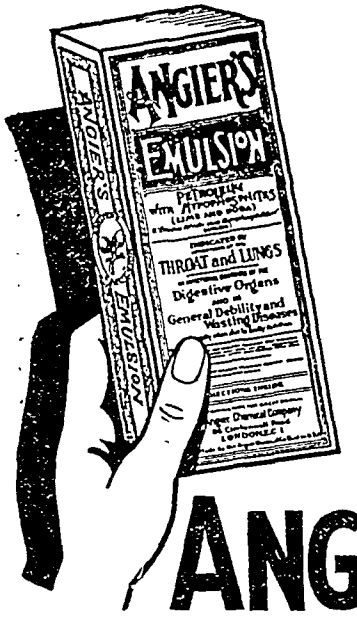
Address.....

COW & GATE LTD. GUILDFORD, SURREY



Bronchitis, Sub-Acute and Chronic.

There is a vast amount of evidence of the most positive character proving the efficacy of Angier's Emulsion in sub-acute and chronic bronchitis. It not only relieves the cough, facilitates expectoration and allays inflammation, but it likewise improves nutrition and effectually overcomes the constitutional debility so frequently associated with these cases. Bronchial patients are nearly always pleased with Angier's Emulsion, and often comment upon its soothing "comforting" effects.



Pneumonia and Pleurisy.

The administration of Angier's Emulsion during and after Pneumonia and Pleurisy is strongly recommended by the best authorities for relieving the cough, pulmonary distress, and difficult expectoration. After the attack, when the patient's nutrition and vitality are at the lowest ebb, Angier's Emulsion is specially indicated because of its reinforcing influence upon the normal processes of digestion, assimilation and nutrition.

In Gastro-Intestinal Disorders

of a catarrhal, ulcerative, or tubercular nature, Angier's Emulsion is particularly useful. The minutely divided globules of petroleum reach the intestines unchanged, and mingle freely with intestinal contents. Fermentation is inhibited, irritation and inflammation of the intestinal mucosa rapidly reduced, and elimination of toxic material greatly facilitated.

ANGIER'S Emulsion

Free Samples to the Medical Profession

THE ANGIER CHEMICAL COMPANY, LTD., 86 CLERKENWELL RD., LONDON, E.C.1

Over 70 Varieties of the

'Allenburys'

Medicated

Pastilles

from which to prescribe

The 'Allenburys' Medicated Pastilles may be relied upon to present the accurate amounts of the active ingredients and to be thoroughly effective in use. They dissolve slowly and uniformly ensuring a thorough suffusion of the medicament over the mucous membrane

Packed in original tin boxes at 1/6, 3/9 and 7/-.

Descriptive Booklet and Price List sent on request to members of the Medical Profession.

A few examples

No. 71—Antiseptic Liquorice

Menthol, Benzoic Acid,
Oil of Eucalyptus, aa. $\frac{1}{60}$ gr.
Thymol, $\frac{1}{120}$ gr.
Bromide of Ammon., $\frac{1}{4}$ gr.
Ext. of Liquorice, $3\frac{1}{2}$ grs.

No. 9—Menthol, Cocaine and Red Gum

Menthol, $\frac{1}{60}$ gr.
Cocaine Hydrochlor., $\frac{1}{60}$ gr.
Red Gum, $1\frac{1}{2}$ grs.

No. 29—Rhatany and Cocaine

Ext. of Rhatany, $1\frac{1}{2}$ grs.
Cocaine Hydrochlor., $\frac{1}{60}$ gr.

No. 67a—Compound Codeine

Codeine Pur., $\frac{1}{12}$ gr.
Ipecac., $\frac{1}{12}$ gr.
Squill, $\frac{1}{12}$ gr.
Bals. of Tolu, $\frac{1}{4}$ gr.

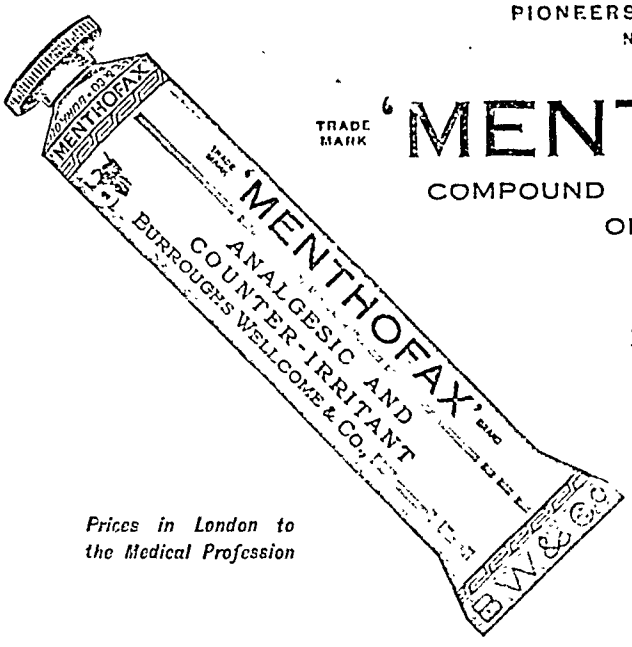
ALLEN & HANBURYS LTD., LONDON

Telephone: Bishopsgate 3201 (10 lines)

Telegrams: "Greenburys Edo London"

CANADA—Lindsay, Ont.

UNITED STATES—41 Maiden Lane, New York City



TRADE MARK 'MENTHOFAX' BRAND

COMPOUND METHYL SALICYLATE OINTMENT

Contains Methyl Salicylate, 50%; Menthol, 10%; Eucalyptol, 2·5%; Oil of Cajuput, 2·5%; White Beeswax, 17·5%; Hydrous Wool Fat, 17·5%

Prices in London to the Medical Profession

A Powerful Analgesic conveniently packed

Preferred to liniments because of its greater penetration and more rapid and effective action

1/2 per tube

Another convenient tube packing

TRADE 'LUBAFAX' MARK

SURGICAL LUBRICANT

For use in lubricating surgical instruments or the Surgeon's hands. Does not injure instruments or rubber attachments. Neither sticky nor greasy. Soluble in water.

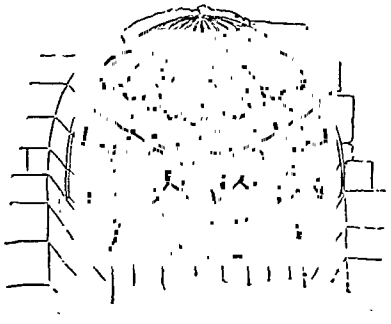
1/3 per tube

BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES



STALACTITE VAULTING, A FORM OF ARCHITECTURAL DECORATION PIONEERED AND ERCUGHT TO PERFECTION BY THE ISLAMIC ARABIANS.—This form of decoration was used widely—in Sicily and Spain as well as in the East—by the Arabs, and so far as is known at present, by no others. It is employed to fill the vaults of mosques, to find spherical vaults to square surfaces and the outside galleries of minarets to their shaft, upon pendentives, corbelled masonry, heads of niches—wherever indeed it might serve to avoid plain angles and surfaces. Arab love of geometry seems to express itself everywhere in this form of decoration, which consists in intricate combinations of projections upon polygons, arcs, lines and curves, dropping, as it were, row beneath row, in a sort of honeycomb ending in "stalactites." The accompanying example is in stone.

DATE: A.D. c. 1200–1300

COPYRIGHT

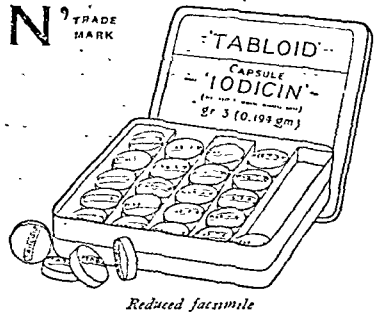
PIONEERS AND EMPIRE BUILDERS: No. 585
NINTH PERIOD—circa A.D. 300 to c. 1300

Iodine Therapy

TRADE MARK 'TABLOID' BRAND 'IODICIN' TRADE MARK

Gr. 3 (0·194 gm.) (Capsule)

'IODICIN' is a calcium salt of iodo-ricinoleic acid. Each 'TABLOID' product secures the administration of one grain of Iodine in organic combination. Produces no digestive disturbance. May replace potassium iodide on all occasions.



Reduced facsimile

Boxes of 50, *at* 4/- *per box*

Reduced facsimile

TRADE MARK 'ETHIDOL' BRAND

ETHYL IODO-RICINOLEATE

For Inunction and Intraglandular Injection

Contains 20 per cent. of Iodine in organic combination. Stainless and non-irritating.

Bottles of 1 *fl. oz. and* 4 *fl. oz. at* 3/- *and* 10/5 *per bottle*

For Children

TRADE MARK 'TABLOID' BRAND
TRADE MARK 'IODICIN' MARK

0·03 gramme (gr. ½ approx.)
(Chocolate Base)

Bottles of 25 *and* 100 *at* 1/1 *and* 3/3 *per bottle*

Prices in London to the Medical Profession

BURROUGHS WELLCOME & CO., LONDON

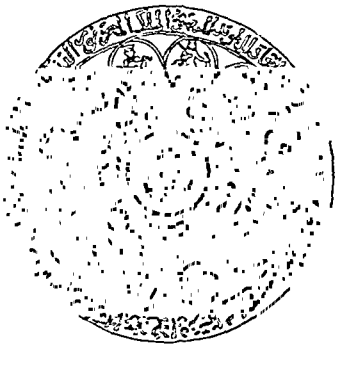
Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

BACK OF AN ASTROLOGICAL OR ASTRONOMICAL MIRROR OF THE THIRTEENTH CENTURY.—The scientific works of the Greeks were recovered and passed on to the Western world during the twelfth and thirteenth centuries, chiefly by Arabic-speaking scholars working in various Islamic centres of learning—though it was principally by way of Spain that the transmission of these, with Arabian additions and modifications, was made. Thus, Aristotle's works passed the Pyrenees and found their way to Paris and London. The Arabic translations were in their turn translated into Latin for the use of the West by scholars of many countries—among them the Englishmen, Adelard of Bath, the most renowned Arabic scholar of the twelfth century, and Michael Scot, who worked in Spain in the thirteenth. Roger Bacon, too, was steeped in Greek and Arabic learning. The polished metal mirror, the back of which, decorated with the Signs of the Zodiac, is here reproduced, may be called an astrological mirror.

DATE: A.D.c. 1250



COPYRIGHT

OSTOMALT

is proving most useful as a tonic for adults convalescing from gastric or intestinal disorders—cases in which the routine type of tonic would not be tolerated.

OSTOMALT—consisting of pure malt extract of high diastatic value in combination with Ostelin vitamin D, vitamin A obtained by direct extraction from the cod's liver, and orange juice—contains vitamins A, B, C & D, in physiologically standardised amounts. Each dose can be relied upon for absolute uniformity.

In ½-lb. and 1-lb. jars, 2/6 and 4/-

Free Trials will be willingly sent on request to Glaxo Laboratories, 56, Osnaburgh Street, London, N.W.1.

Calcium is not absorbed in the absence of vitamin D

Injection of Colloidal Calcium is a recognised procedure, but it is found that much better effects are observed if vitamin D (Ostelin) is given simultaneously, since absorption of calcium is thus promoted.

Colloidal Calcium with Ostelin is thus an ideal combination. The therapeutic effect is rapid, and injections can be given daily if desired and continued for a week or more.

Colloidal Calcium with Ostelin is *indicated in tuberculosis*, especially in incipient cases, when it is a most valuable adjunct to routine treatment: in fracture cases, when it promotes callus formation: in *chilblains*, in which it is almost specific: and in urticaria, eczema, and other skin diseases associated with hypocalcæmia.

Colloidal Calcium

with Ostelin vitamin D

For subcutaneous injection. In bottles of six 1c.c. ampoules, 5/- per box: or in 1-oz. bottles, 10/- per bottle. (Subject to usual professional discount.)

GLAXO LABORATORIES, 56, OSNABURGH STREET, LONDON, N.W.1

THE
British Medical Journal
THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

LONDON: SATURDAY, JANUARY 3rd, 1931

Schorstein Memorial Lecture
ON
RADIUM IN THE SERVICE OF SURGERY

DELIVERED AT THE LONDON HOSPITAL, OCTOBER, 1930

BY
H. S. SOUTTAR, D.M., M.Ch., F.R.C.S.
SURGEON TO THE HOSPITAL

When in 1898 Becquerel and Curie discovered radium they opened up a field of research which has revolutionized physical science, changed our conception of the structure of the universe, and brought nearer to realization the hope of finding a cure for cancer. These are great achievements, yet the more the subject is studied the more does it appear that we have as yet only glimpsed a new world of discovery, and that no one can tell what treasures may lie beyond.

THE PHYSICS OF RADIUM

It was the study of radium which led Rutherford to conceive of the atom, not as an inert and indivisible particle, but as a minute solar system with a nucleus around which electrons move, each in its own special orbit, with inconceivable velocity. Each electron carries the same minute negative charge of electricity, and under certain conditions it may actually be driven from its orbit and fly away into space, in which event the atom develops the peculiar property known as ionization, which serves as the basis of chemical action. The change may be only temporary, for the electron may be replaced from some other source, and the atom so return to its normal neutrality; or the ionized atom may combine with other atoms to form the molecule of some new substance.

But it is the nucleus rather than its satellites which interests us at the moment. The nucleus is built up compactly of electrons and of protons, each of the latter carrying a positive charge equal to the negative charge of an electron. Of the structure of the nucleus little is known except that within it four protons and two electrons are often combined together as a unit of peculiar stability, which is known as an alpha particle. In the simplest atom of all, the hydrogen atom, the nucleus is a single proton round which one electron circulates with a speed comparable to that of light. Next in order comes the helium atom, whose nucleus is an alpha particle around which circulate two electrons. Beyond these we have the atoms of all the other elements, with nuclei of increasing complexity, until at last we reach the atom of uranium, whose nucleus contains 238 protons and 146 electrons, while around it circulate 92 electrons. Most of these atoms are entirely stable, and remain unchanged through all time; but certain of them present the curious property of decay, and slowly change into less complex forms. The change is nuclear and, in contrast to the transitory phenomenon of ionization, it is permanent. It is effected by the violent ejection from the nucleus of either an alpha particle or an electron, which is then known as a beta particle. The ejection is so violent that the alpha particle may start with a velocity of 10,000 miles a second, and the beta particle with a velocity which may approach that of light; but in addition the ejection is accompanied by a terrific output of energy in the form of a stream of waves of very high frequency, known as gamma rays. So high is the frequency that of even the longest of these waves 5,000 would be required to span a single wave of light, while the hardest rays may be one hundred times as short at this.

These elements decay from one to the other in certain definite series, of which by far the most important is the uranium series, of which radium is a member. Radium is a metal, but each ejected alpha particle becomes the atom of a gas, radon, which again, by a similar process, decays into radium A, B, and C, finally reaching stability as lead. Radium itself decays so slowly that 1,750 years have elapsed before one-half of it is gone, but radon has a half-value period of only 3.85 days, while radium A, B, and C last for only a few minutes each. You will see, then, that in radium we have a source of prodigious energy, giving out a constant stream of alpha, beta, and gamma rays. For our purposes we require only the last, and we are fortunate in possessing in the heavy metals screens by means of which the alpha and beta rays can be cut off. If we surround a small quantity of radium with a screen of platinum 0.6 mm. in thickness, practically the whole of the alpha and beta radiation will be cut off, but only 25 per cent. of the gamma rays. A platinum tube with a wall 0.6 mm. in thickness and filled with radium thus furnishes us with a source of almost pure gamma rays, and resembles a minute *x*-ray tube. There is, however, the difference that the gamma rays are far harder than any *x* rays, and have a far higher penetrating power, while their enormous energy is well shown by the fact that for their production by ordinary physical means we should require a potential of over three million volts.

Radon

In some ways radon is even more remarkable than the radium from which it emanates. It is a heavy, inert gas with no known chemical affinities; it decays with such rapidity that at the end of nine days only one-fifth remains. It may be pumped off from a solution of radium and packed in containers, carrying with it what is for all practical purposes the entire radio-active power of radium itself. Its vast energy is contained in so minute a volume that the emanation of one gram of radium for a whole month constitutes only 0.6 c.mm. of evanescent gas; yet this minute bubble contains within it 1,000 millicuries of radiant energy, and for the moment the whole potency of a gram of radium element. The effect of the two substances must be different, because their rates of decay are so different, but, so far as the production of energy is concerned, compensation is easy. The total decay of

100 millicuries of radon, a process which takes a month to complete, is accompanied by the discharge of almost exactly as much energy as that given off by 100 mg. of radium in 5.5 days.

RADIUM AND THE CELL

Unfortunately our knowledge of the weapon we are using contrasts in a striking manner with our ignorance of the tumours we are attacking. Our knowledge of the life-history of the cancer cell is very meagre, and almost the only known fact which is useful for our present purpose is that it is constantly dividing. It would appear, however, that this constant division renders malignant tumours susceptible to the action of radium and enables us to use it for their destruction.

Gamma rays have little or no effect upon the normal life of a cell; the movements of protoplasm remain unaltered and ciliary movement is unaffected. The contractility of muscle fibres, the conductivity of nerves, and cellular metabolism in general, are not perceptibly affected by an excess of gamma rays; there is even evidence that their presence is necessary for normal metabolism. On the other hand, gamma rays markedly affect the reproduction of the cell, and cells are especially vulnerable at the moment of karyokinesis when cellular division is about to take place; even if the cell is not destroyed mitosis is affected and abnormal forms are produced. It appears that the chromatin is especially fragile at this moment, being rapidly absorbed, with the resulting death of the cell. This is best seen in the lymphoid cells of lymphatic glands, where fragmentation and absorption of the chromatin may be completed in a few hours; in the genital cells of the ovary the same process may occupy three or four days.

Irradiation of Gonads and Skin

A brilliant light was thrown on the action of radium upon dividing cells by Regaud, who studied the effect of irradiation on the testicle. Working on rats he showed that properly controlled irradiation has a strictly selective action on the different cells, and thereby produces a remarkable series of results. In the seminiferous tubules the cells are arranged in a peculiar manner. Deep in the wall, in contact with the basement membrane, are situated the spermatogones; internal to these are at least four generations of descendant spermatocytes; and lining the lumen of the tube are the spermatozoa themselves, descended from the spermatogones after six or more generations. All these cells are supported in a jelly-like syncytium, from which they derive their nourishment; and this syncytium is itself maintained by the cells of Sertoli lying between the spermatogones close to the basement membrane.

Of all these cells the spermatogones are by far the most sensitive to irradiation, and it is easy to destroy them completely without apparent injury to any other structures. If this is accomplished a curious train of events follows. Spermatozoa are produced in a normal manner for about four weeks, but at the end of that time they disappear and the animal is completely and permanently sterile. The source of supply has been cut off, and the apparent latent period is simply the period of development of the accumulated stock of embryonic spermatozoa which have remained unaffected by the radiation. If, however, some of the spermatogones have escaped, they may be able to resume their function completely. The sterility is only temporary, and after a time the animal can reproduce in a normal manner. In spite of their proximity, the cells of Sertoli and the syncytium which they control are entirely unaffected by an irradiation which can annihilate all the spermatogones.

A similar selective action is seen in irradiation of the skin. The deep, constantly dividing cells of the stratum germinativum, from which the whole skin is derived, are more sensitive than the superficial cells, and it is upon them that the brunt of the injury falls. But several days will elapse before any change appears on the surface, and it may be a fortnight before sloughing of the skin shows the extent of the destruction.

The selective action of gamma rays upon dividing cells, and the apparent latent period of their effect, are so important and characteristic that I have thought it well to refer to them in some detail. They are fundamental in all that concerns the clinical applications of radium, and whatever their ultimate meaning may be they furnish us with a practical basis for our work.

Irradiation of Other Tissues

It seems highly probable that the gamma rays destroy the cancer cell at the moment of its division; that the constant division of the cells is what renders them vulnerable; and that the escape of the normal tissue cells is due to their comparative quiescence. The minute mechanism of the process is obscure. The chromatin condenses and then fragments, to be absorbed by the cytoplasm, which then itself dissolves, but this is the furthest limit to which we can follow the process. The primary histological effect is upon the chromatin, and the action must be a chemical one induced by ionization of the protoplasmic molecule or of some part of it by the gamma rays. So far as we know the action is strictly intracellular, and no indication has ever been discovered of any toxic substance which can pass from cell to cell.

It would appear, then, that sensitivity to irradiation is a specific property of the individual cell, and this is borne out by the very great variations shown by the cells of different tissues. In general, the epithelial tissues, the generative cells, and lymphoid tissue are radio-sensitive, whilst the connective tissues, muscle, and nerve are highly insensitive. Tumours of any sort in which rapid division of the cells occurs tend to be sensitive, while those of slow growth, such as fibromas and lipomas, show no reaction at all to therapeutic doses. When a sensitive tumour has been exposed to a therapeutic dose of gamma rays, destruction of its constitutent cells starts within a few hours, and is probably almost complete in a very few days. The sole object of continued radiation is to ensure that no cells escape through their period of division having been missed. Some days elapse, however, before the effect becomes clinically apparent, though softening of the tumour may perhaps be detected within twenty-four hours. The actual disappearance of the tumour depends on its absorption by the connective tissues, which, as we have indicated, are only affected in a very minor degree. To this gradual absorption is due the apparent latent period, and not to any actual delay in the action of the radium.

It would, however, be entirely incorrect to imagine that the connective tissues are unaffected by irradiation. They are very definitely affected, but in a manner entirely different from that of a tumour and of epithelial structures. Following the application of a single large dose, or of repeated doses, changes occur, perhaps not apparent at the time, but permanent in their effect. The resistance of the tissues to injury is greatly reduced, and this fragility may come to light only after a very long period. This is most strikingly seen in the bones, which show no immediate change, but may, years later, fail to respond normally to injury or infection. Thus the removal of a tooth years after irradiation of the tongue may lead to extensive necrosis of the jaw, a matter of great importance in treatment.

It will be seen that the clinical removal of a tumour by irradiation is a highly complex process in which destruction of the tumour cell and its absorption by the connective tissues both play a part. The possibility of cure rests on the hypothesis that the difference in sensitivity of the two tissues is so great that we can destroy the one without unduly injuring the other.

DOSAGE

It will be seen at once that the problem of dosage is of vital importance, for on the one hand too small a dose will fail to destroy the cancer cells, while too large a dose will probably injure our allies, the cells of the connective tissue. As a rough guide it is generally taken that the energy irradiated during the decay of 1 millicurie of radon, or, what is physically the same thing, the energy irradiated from 1 mg. of radium in 5.5 days, is capable of destroying all cancer cells within a sphere having a radius of 5 mm. As, however, the energy absorbed by a given cell is inversely proportional to the square of its distance from the source of radiation, it is obvious that though the cells at the surface of this little sphere receive just a lethal dose, the irradiation near the centre is altogether excessive. We are at once faced with the difficult problem of obtaining a uniform radiation.

One method is to concentrate a large quantity of radium, at least four grams, in a bomb, and to keep this at such a distance that the effect of the law of the inverse square is reduced. A still more uniform effect is obtained if the bomb is kept in constant progressive movement, or if it is moved at intervals so that the radiation enters the tumour from different directions. But the method is wasteful in the extreme, as only a minute percentage of the energy of the radium is absorbed. The effective treatment of a single case might easily monopolize for a fortnight a bomb costing £50,000.

More effective, though less dramatic, is the use of radium needles on a moulded support. The needles which we use are platinum tubes with walls 0.6 mm. in thickness, containing radium sulphate, so packed that each centimetre of the tube contains 1 mg. of radium element. These are supported on a sheet of spongy rubber or of wax moulded to fit the region, and from 1 to 2 cm. thick. The needles are so arranged that a nearly uniform dose is delivered throughout the underlying region, and if the tumour is not too large or too deeply situated a sufficient degree of uniformity can be obtained. The method gives very good results in cutaneous tumours of the face and eyelids, and it has been largely used in carcinomas of the glands of the neck, though to be effective here it demands a large quantity of radium.

Far more efficient and economical is the introduction of platinum needles or seeds containing radium or radon into the tissues, for here radiation is absorbed in every direction and not only on one side. The arrangement of the needles or seeds so as to get the best result demands considerable experience and a high degree of skill; but here I can refer to only one of the factors that must be taken into consideration—namely, the effect of crossfire.

Crossfire

How considerable this effect may be can be shown by a simple example. I have stated that 1 millicurie of radon can destroy all the carcinoma cells in a sphere of growth 1 cm. in diameter, and it might appear at first sight that a tumour 8 cm. in diameter would require 512 millicuries, since its volume is 512 times that of the small sphere. As a matter of fact if the radon is uniformly distributed throughout the sphere the total amount required to produce a lethal dose at its centre is only 21.3 millicuries, while if double this amount—namely, 42.6 millicuries—is uniformly distributed throughout the sphere every particle of growth in this large volume will be destroyed. In actual practice one would probably insert in the case of such a large tumour something like 100 millicuries, a considerable portion of which would be distributed around the tumour and not in the tumour itself. By such means an enormous volume of tissue can be subjected to radiation of a uniformity limited only by anatomical landmarks and the dexterity of the surgeon, a volume so large as to include not only the tumour itself, but the whole surrounding lymphatic area as far as it can be reasonably followed. One has in fact introduced into the tissues a kind of diffuse bomb, and uniformity has been gained economically by a wide distribution of foci so small as to be individually weak, and yet so many as to be collectively powerful, owing to the great effect of crossfire.

Introduction of such large numbers of seeds and their accurate placing can only be accomplished conveniently by some special appliance, and I have therefore devised an instrument for the purpose. It consists of a fine cannula 15 cm. in length, with a revolving magazine at the proximal end which carries ten seeds. The introducer is held in the left hand and the magazine is rotated by the thumb, the seed being pushed down through the cannula and delivered into the tissues by means of a plunger held in the right hand. The magazine is detachable, and a spare one is provided for an assistant to fill while the instrument is in use. The seeds are by this means introduced with great rapidity, with a high degree of accuracy, and with practically no trauma.

THE USE OF RADIUM IN SURGERY

For many years the surgical use of radium was almost limited to the cervix uteri and the skin, but it is now becoming evident that our previous failures in dealing with cancer in other regions were largely due to defects in technique. Cancer of the cervix and rodent ulcers of the skin respond to radium with extreme readiness, and methods which are entirely successful in these cases are useless to the general surgeon. The introduction of needles and of seeds is a great advance, and personally I feel that the local cure of cancer of almost every form is only a matter of time. This is far from saying that we shall be able to cure cancers that have spread widely from their site of origin, though in some cases even wide lymphatic spread has been overcome.

Causes of Failure

As Regaud has pointed out, failure may be due to one of several causes: (1) The area involved may be too large for uniform irradiation. (2) The tumour may not be radio-sensitive, so that though it at first diminishes in size enough cells survive to reproduce the tumour. (3) The surrounding normal tissue may be as sensitive as the tumour, as commonly happens in the intestinal tract. (4) Secondary deposits may be present.

Cancers of the skin and of the mucous linings of the cutaneous orifices are all very sensitive to radium, and in cases of limited extent 90 per cent. are capable of cure. Even in extensive and inoperable cases local cure may be expected in 40 per cent.; but in these cases secondary deposits may appear in the glands, and here from their extent they are less easily treated; indeed, it is possible that it is best to treat the glands by direct surgery. The histological type of the tumour is closely related to its radio-sensitivity. Thus, of epitheliomas of the skin, the baso-cellular type (rodent ulcer) responds most readily, and the squamous type is more resistant, while intermediate forms show a variable reaction.

The enormous importance of secondary spread is well seen in a comparison between early cases of cancer in

the lip and in the tongue. In both regions the local cure of the disease by the introduction of radium is almost a foregone conclusion, whereas, however, in cancer of the lip, from which secondaries only arise at a late stage, a permanent cure of an early case is so certain that the glands may be ignored; in cancer of the tongue, invasion of the glands is the rule, and their treatment presents a problem of the greatest difficulty. Glandular organs such as the breast respond as a rule satisfactorily to the insertion of radium in the form of seeds or needles, but in this region diffusion is rapid, so that one can never be certain that a local cure will not be followed by secondary deposits at a distance.

Sarcomas react in a very variable manner. Lympho-sarcomas and sarcomas of a myeloid type disappear rapidly, but both are liable to produce secondary deposits. Myelomas react well and do not produce secondaries, but spindle-celled sarcomas show an indifferent reaction. Other malignant tumours of mixed structure are on the whole resistant, but in a variable degree.

APPLICATION IN SPECIAL REGIONS

The principles of radium therapy can be more readily understood in their application to special regions, and I therefore propose to describe briefly the methods by which seeds can be applied in three characteristic regions—namely, in the breast, the tongue, and the rectum.

The Breast

The situation of the breast renders it specially convenient for the introduction of seeds, and enables one readily to observe the results. The introduction of the seeds can be carried out through half a dozen small punctures; with the instrument I have described the process can be carried out with great rapidity and precision. As the punctures heal immediately there is no possibility of sepsis, and the patient is saved from the discomfort caused by the threads and the removal of needles.

The distribution of the seeds will, of course, depend on the situation and dimensions of the tumour and on the existence of secondary deposits in the axillary glands. In all cases, however, the region just beyond the growing edge of the tumour is infiltrated with long columns of seeds radiating from one puncture, perhaps five rows with five seeds in each row.

Above these, further columns of seeds are introduced through another puncture, the columns transverse to those of the first group, so as to obtain as uniform a distribution as possible. The first layer of seeds lies in the pectoral fascia, and the second in the substance of the tumour or in the adjacent breast. It appears to be unnecessary to introduce seeds on a more superficial plane, and it is inadvisable to do so in view of the danger of destroying the overlying skin. The cannula is now introduced through a puncture in the axilla and passed up beneath the pectoral muscles parallel to the axillary vein, but at a distance of 1 inch below it in order to avoid any risk to the brachial plexus. A long line of seven or eight seeds is here deposited, and then another at a lower level and in the substance of the pectoralis major through the same puncture. Rows of seeds are thereafter planted along the axillary border of the pectoralis minor and upon the surface of the serratus magnus just behind it, and finally separate seeds are introduced one into each of the intercostal spaces and two into the sheath of the rectus.

This general arrangement may have to be modified in dealing with very large tumours or where there are large masses of secondary glands, but in any case an endeavour must be made to subject the tumour and the whole lymphatic system of the breast to as uniform an irradiation as possible.

At the end of a week quite a definite change can be noted in the consistency of the tumour. Its outlines become indefinite and it becomes softer, while a slight diffuse oedema can be felt in the whole region. At the end of three weeks shrinkage of the tumour will be obvious, but if it is of some size even three months may elapse before it disappears or is replaced by a soft mass of fibrous tissue with none of the characteristics of a carcinoma. It is, of course, of the utmost importance that these cases should be closely followed, and that one should not assume from the normal appearance of the breast that all danger has disappeared, but I must say that so far the results I have obtained have far exceeded my hopes. A small but important point of practice is that the skin should be covered every night with cold cream. This will greatly diminish the skin reaction and obviate any serious dermatitis, except in cases in which the skin is actually involved by the tumour.

The Tongue

There can be no question that in the tongue radium is the method of choice for the cure of a carcinoma, and in this region the convenience of seeds cannot be questioned. Here, again, the object is to infiltrate the growing edge of the tumour with a uniform barrier of seeds, and the only difficulty lies in the precise definition of the extent of the tumour. The number of seeds introduced will, of course, vary with the nature of the case, but as a rule from ten to sixteen 1.5 millicurie seeds will be required. These should be screened with platinum, since it is important that the mucous membrane of the tongue and palate, and the bone of the jaw, should be protected from the action of beta rays.

The introduction of the seeds is a very simple matter, though an anaesthetic is almost essential. Usually the cannula is introduced through the normal mucous membrane and the seeds are deposited in short but regular rows. If the growth is situated far back, the cannula is guided by a finger placed upon the ulcerated surface, when it is quite easy to judge of its depth in the soft substance of the tongue. In some cases, and especially in growths extending on to the floor of the mouth, the cannula may be introduced with advantage from the neck beneath the jaw. The whole object is to secure a uniform irradiation of the growing edge of the tumour, and one should avoid the temptation to concentrate seeds in the tumour itself.

Here, again, the course of events is very characteristic. In forty-eight hours it will be noted that the induration is less, while in a week it will have almost disappeared and the growth will be definitely smaller. At the end of two weeks the growth is replaced by a flat ulcer, covered by a smooth white layer of creamy lymph with a curiously sharp margin where it meets normal mucous membrane. Rapid shrinkage now occurs and the epithelium grows in from the margins, so that at the end of three or four weeks the surface is healed and only a puckered scar remains. The total deformity is trivial, and contrasts remarkably with anything that can be obtained by operation.

Unfortunately dramatic success in curing the local growth in the tongue is only too often accompanied by disheartening failure to check recurrences in the cervical glands. It still remains an open question whether they should be removed by block dissection or whether they should be treated by irradiation. The method I am myself adopting is to infiltrate the whole region with seeds, and there is no doubt that in almost every case the enlarged glands have rapidly diminished in size. It is, however, far too soon to speak of results, but at the moment I feel more inclined to attribute failures to defects in technique than to unsoundness in the method.

The Rectum

The rectum is a region peculiarly adapted to the use of seeds, whether the growth is within reach of the anus or can only be reached from the abdomen. In the former case the growth itself and the whole of the pelvic tissues round it can be easily infiltrated with seeds from two punctures in the perineum on either side of the midline. With the patient in the lithotomy position the needle of the introducer is inserted to one side of the tip of the coccyx and fifteen platinum seeds of 2 millicuries each are introduced in long columns so as to be deposited as uniformly as possible on that side, and the procedure is then repeated on the opposite side. In this way, with a posterior growth, a substantial barrier of seeds can be constructed in the hollow of the sacrum behind the rectum in order to irradiate both the base of the growth and the rectal glands. The infiltration of a growth on the anterior wall is a little more difficult on account of its greater mobility. If the growth is situated on a higher level it must be exposed by laparotomy and the seeds introduced across the peritoneal cavity. The introduction of the seeds is perfectly simple, and as asepsis can be strictly observed it is not accompanied by any special risk; but as in this region the growth has usually encircled the bowel and produced obstruction, a permanent colostomy is almost essential.

Carcinoma of the rectum is very sensitive to radium, and a localized tumour may disappear with great rapidity, while even in advanced cases the insertion of radium may make it possible to remove a growth previously inoperable. The only difficulty is that the rectal mucosa is itself highly sensitive to radiation, and great caution in dosage is therefore necessary, since an excessive dose may produce a severe proctitis. Even where a successful result has been obtained it is probably safer, if the patient will consent, to excise the rectum from the perineum three months later wherever this is possible, for in the present state of our knowledge it is impossible to be certain that some portion of the growth has not escaped destruction.

CONCLUSION

There can be no doubt that in radium we have a weapon of extraordinary power in the treatment of cancer, but we are still far from knowing all its possibilities or from being able to direct its energies to the best advantage. May I suggest tentatively a few directions in which progress may be made?

On the physical side we must aim at obtaining perfect uniformity of radiation so that the whole area involved will receive equal treatment. The obvious method would be to store a vast amount of radium in a single bomb, but to my mind such a method is too wasteful to be practicable. It seems to me that the method I have suggested of uniform infiltration is more likely to lead to practical results, since here the whole of the energy of the radium is utilized instead of a minute fraction. I am endeavouring to devise methods by which still smaller seeds can be produced, so that the whole volume may be literally peppered with minute foci. But here one is limited by the fact that a certain thickness of metal must be retained to form a screen, however small the content of the seed.

A tumour is affected solely by the portion of radiation it absorbs. One of the uses of rays of high penetrating power is to reach tumours at a depth without injury to the overlying tissues. If by some means we could increase the opacity of the tumour we should proportionately increase the efficacy of our radiation, and if at the same time we could render the skin transparent, we should have solved one of the most difficult problems in radiology. On the biochemical side it does not seem impossible that some method might be devised for sensitizing the tissue of a tumour, and I would point out that this is more likely to be effected by stimulating its growth than by reducing its vitality. There is something fascinating in the idea of stimulating the cells of a growth to more rapid division in order that they may meet with more certain destruction.

How subtle is the problem you will see from an experiment originated by Zwaardemaker, but repeated by Professor Dixon of Cambridge, who described it to me. You are aware that a frog's heart perfused with Ringer's solution can be kept alive and beating normally for several days. The solution contains a minute trace of potassium, an element with a small but definite radioactivity. If this trace of potassium is removed, the heart at once flags and soon ceases to beat. If, however, before it has stopped, a few milligrams of radium are brought into its neighbourhood it immediately resumes its normal pulsation. It would seem, indeed, that gamma rays are essential to our very existence, facilitating in some subtle way the chemical changes upon which our life depends.

On the clinical side I feel certain that much might be done to protect the normal tissues upon which, as I have shown you, we largely depend for success. A very short experience of radium will show, for example, the immense importance of protecting the skin, and I do not think that it is sufficiently recognized how great a protection it is to keep the skin soaking in ointment. Subjected to this treatment the skin will hardly react, even if enormous doses are introduced into the tissues.

Far more difficult is the problem of dissemination. Irradiation of the whole body would probably lead to the death of the patient, so that perhaps it is fortunate that it is at present impracticable. I am told that irradiation sufficiently general for our purpose may be found in unlimited quantity in even the closest nebulae, but so far no means of access to this source has been provided.

But there is one line of progress open to us all. There is no doubt whatever that the cure of cancer would be vastly simplified by early diagnosis and early treatment. Surely it is not too much to hope that as people realize that cancer can be cured in its early stages by radium, they will no longer hesitate from the dread of an operation to consult their doctor. Much will be done by investigators in their laboratories and by surgeons in hospitals, but it is the general practitioner, in the ordinary course of his work, who must teach the public that the cure of cancer is waiting if only they will ask for it in good time.

THE ROLE OF THE GENERAL PRACTITIONER IN ANTE-NATAL WORK*

BY

W. H. F. OXLEY, M.R.C.S., L.R.C.P.

MEMBER OF THE BRITISH COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

The Departmental Committee on Maternal Mortality and Morbidity, after careful consideration of the subject for nearly two years, reported that a large number of maternal deaths could be prevented if all women had efficient ante-natal care, and it considered that it should, wherever practicable, be undertaken by the person who would be called in for any abnormality of labour—namely, in most cases, the general practitioner.[1] This recommendation is bearing early fruit, for the scheme adopted by the Cumberland County Council, which was published in the *British Medical Journal* of October 18th, 1930 (p. 649), provides that a general practitioner shall

* A British Medical Association Lecture delivered to the Winchester Division.

examine ante-natally every case attended by a midwife, either at a clinic or at his own surgery. I understand that in Hampshire the clinics are now to be staffed by general practitioners, although I believe that provision is not yet made for the examination to take place in the doctor's own surgery. This is rather a pity, as one of the most important parts of ante-natal care is the establishing of perfect confidence between doctor and patient; and where can this be done better than in the consulting room? Publicly provided ante-natal clinics have so far failed to produce any manifest effect upon maternal mortality, largely owing to want of co-operation with the general practitioner, and the latter must now prove what he can do in bringing about the desired effect.

THE PRACTICAL WORKING OF A CLINIC

Very important factors conducing to the success of ante-natal care are: (*a*) the patient must be made to realize early that a deep interest is being taken in her welfare; (*b*) she must obey in every detail the instructions given to her; (*c*) these instructions must be reduced to their utmost simplicity. Without the full co-operation of the patient success will be impossible. A special leaflet of instructions is given to every mother at the hospital with which I am connected, and acts as a reminder of the advice given to her by the midwife in charge. It would be improved by the provision of a space on the back on which to enter the next appointment. If the patient receives the impression of protection, there will be no difficulty in getting her to attend, but if she misses an appointment she should be visited and the reason discovered for her absence.

The clinics are to be staffed by general practitioners and midwives, and it should be realized from the first that their duties are not antagonistic but complementary. There must be no divided responsibility; there must be a definite understanding of the work of each. It should be remembered that practically all midwives have gone through a training and passed an examination in their work, and have paid what is for most of them a fairly considerable fee. They are rightly jealous of the right to practise midwifery conferred upon them thirty years ago, and they are sensitive lest, now that a doctor is to be associated with them in the ante-natal care of all their booked cases, there may be a tendency to reduce them to the lower position of maternity nurse, without any separate responsibility at all. I am sure that none of us want that; the midwife is more fitted by nature to exercise the patience and the gentle care which are so essential to the well-being of every case, and has proved her value as a necessary member of the obstetric team. The well-trained midwife knows that she has to do with normal cases only, and she is able to do this and also to recognize the early signs of abnormality. The better she is trained the oftener will she call the doctor, and she should be encouraged to take over as much of the routine work as possible. It is the half-trained woman who exceeds her duties. It will tend to the smooth working of the clinic if the midwife who has booked the case is given the duty of examining and taking full particulars of her cases before bringing them before the doctor. She should fill up a record card. She should present her case to the doctor, who will find out whether she considers it a normal case or not, and will go over it with her, explaining any abnormality found, pointing out things she may have missed, and giving her definite instructions as to any treatment required. In most cases it will be her duty to carry this out, and the more responsibility is left to her the greater will her skill and interest in the work become. She should be able to test the urine, to recognize malpresentations, and, as pregnancy approaches its term, to determine the size of the foetal head in relation to the pelvis, and even to forecast the probable course of labour with some degree of accuracy. There is a danger of giving the midwife a false sense of security by telling her that there is "nothing wrong" with a case. Such statements should be always qualified with the words "at present," letting her clearly understand that the responsibility is still upon her to look out for abnormalities. The doctor will soon get to know those midwives he can trust, and will get a good deal of interest out of the work of training those whose knowledge is insufficient.

Record cards should be filled up in duplicate for every case—one for the clinic and one for the midwife. Entries should be made on both at every visit of the patient, and the midwife *must* take her card to the confinement. Nothing is so annoying to the doctor when he is called for in an abnormality than ignorance of the ante-natal findings. The card we have used for many years measures 5 by 8 inches, small enough to go into the midwifery bag or pocket, and yet large enough for all necessary entries. The midwife fills up the front, and the doctor puts any observations he wishes to make on the back in red ink. A separate chart and record combined is kept for the confinement, and a brief note of the result of the confinement is made on the record card for permanent reference.

THE PRINCIPLES OF ANTE-NATAL CARE

So much has been written lately upon ante-natal care that there is no need for me to go over the ground, but I would like to draw attention to the chapter on it in the interim report of the Departmental Committee on Maternal Mortality and Morbidity, and to the appendix on "Ante-natal clinics: their conduct and scope." Each doctor working on the staff should get a copy. Before discussing the common abnormalities met with during ante-natal care, I should like to stress the necessity of looking after the general health of the mother. In an analysis I recently made of the work of the East End Maternity Hospital in the last five years, it was found that six out of the seven mothers who died were seriously ill with some intercurrent affection before labour commenced, and the deduction was fairly drawn that any material reduction in the already low maternal death rate of the hospital was largely dependent upon an improvement in the general health of the mother. This is again an argument for the employment of the general practitioner in this work, for the most vigilant ante-natal clinic is bound to lose sight of some patients who fall ill during pregnancy; the expectant mother goes to her family doctor, who, if connected with the clinic, will have to consider the influence of the disease upon her pregnancy, and will be in a better position to obtain the help required.

Heart disease is very frequently met with in association with pregnancy. Ninety-six cases were picked out by the midwife in charge of our ante-natal department out of the 10,376 cases attended during the last five years. In the majority the disease was suspected by the midwife on account of the history of scarlet or rheumatic fever. No symptoms were complained of, compensation was good, and, provided the obstetric conditions were normal, these women passed through pregnancy and labour without requiring special care. A note of the condition was always made on the record card which accompanies the patient, so that she should not be allowed a long or difficult second stage. In others the extra strain of pregnancy had made manifest some latent heart trouble, the symptoms complained of being chiefly breathlessness, anxiety, and sleeplessness. They required rest for a certain time each day; but as most of our patients are working-class women with home duties, such an order could not be obeyed at home, and they were persuaded

to come into hospital. The moderate cases respond remarkably well to treatment; only six were so ill as to require induction of labour before term. Irregularity of the heart is a sign which the midwife is told to report to the doctor at once. A practical point to be remembered is that in those mothers who are too ill to feed their babies belladonna plasters must not be applied by the midwife to the breasts, on account of the paralysing action of atropine upon the vagus, with consequent quickening of the heart's action.[2]

Influenza, pneumonia, and other acute diseases are not seen in the ordinary ante-natal clinic, but under the new regime the general practitioner will be expected to do his best to guide the patients through such illnesses, with an eye to the future labour. One woman we had lately did not let us know she was ill. She went to her own doctor, who prescribed but did not visit her, and in some way she was not missed when she failed to appear at the ante-natal department. She died after an easy labour, and post-mortem examination revealed malignant endocarditis, a disease which is frequently mistaken for influenza. This death was probably due to the divided responsibility, which we hope to avoid in future.

Purulent vaginitis and cervicitis is frequently met with (74 cases out of 10,000) and may be gonorrhoeal, although in nearly every one it is an exacerbation of a simple cervicitis due to the hyperaemia of the parts during pregnancy. In any case it should be treated, and we have found douches useless for the purpose. The cervical canal should be thoroughly swabbed with a saturated solution of picric acid in spirit. If a great deal of softened tissue is present a Volkmann's spoon may be used to scrape it away; provided the internal os is not entered there is no danger of bringing on premature labour. This little operation can be done in a private house if a suitable light can be provided, and in many cases an anaesthetic is not required. The best speculum to use is a fairly long Sims, the Auvard as usually made not being long enough to reach into the posterior fornix in pregnancy, together with the very useful anterior speculum designed by Remington Hobbs. The cervix should be drawn down with tissue forceps, as varicose veins, which bleed if wounded with a vulsellum forceps, are often present on the cervix during pregnancy, and so obscure the view of the external os. Pain is not caused if the cervix is not pulled sideways, and if the well-lubricated specula are not pressed upon the sensitive vestibule. Having treated the cervix, slowly withdraw the specula, swabbing the vagina as the rugae are smoothed out in front of them. The patient should lie down for an hour afterwards. One of the midwives attached to the service can be taught to hold the specula while the doctor does the swabbing, and during the following week she should give a daily simple douche.

Pyelonephritis is another common condition requiring treatment during pregnancy, and should always be suspected when a patient from the sixth month onwards has a rise of temperature with a pain in the right side. Pus and *B. coli communis* are found in the urine, and this condition is frequently missed by the midwife. The patient needs rest in bed, copious barley water, and aperients. The treatment we have found most successful is the changing of the reaction of the urine. It is usually acid, and a mixture containing a large dose of sodium citrate is given; at the end of a week or so the urine is again turned acid by the exhibition of hexamine with sodium acid phosphate.

Syphilis should be suspected if there is a history of previous premature labours or stillbirths, and a Wassermann reaction test taken. Ten years ago this disease was extremely [illegible]

about the twenty-fourth or twenty-sixth week of pregnancy it will be successful in nearly every case in procuring a healthy full-time child. This is one of the few conditions occurring in the course of ante-natal care where the help of an expert is necessary.

Dental treatment should be arranged for. There is no evidence that this is likely to bring about miscarriage.

There is hardly need to mention constipation except to say that while it may be merely a discomfort in ordinary life, in pregnancy it may be a real danger; it is present in all severe cases of toxaemia. We find the most satisfactory treatment is by phenolphthalein and medical paraffin.

Special Abnormalities of Pregnancy

Cases of toxaemia with hyperemesis are not very common, but are extremely serious. If they do not soon clear up under treatment, and in any case if the liver becomes affected, immediate emptying of the uterus is indicated. It is not worth while running risks, as the chances of a live baby are remote.

Albuminuria.—The possibility of the almost complete eradication of eclampsia by means of systematic examination of the urine during pregnancy, and drastic eliminative treatment, is now well recognized, but the treatment of it in the patient's home is most unsatisfactory, and so the case will be removed from the care of the general practitioner unless the authorities can be persuaded to allow him to take his part in the staffing of maternity hospitals. In hospital the treatment by starvation, purgation, and washing out the body by fluid is almost always successful in avoiding eclampsia. The patients drink freely of barley water, made palatable by a little lemon flavouring. They are given barley sugar in order to avoid acidosis, and after a day or two, as the amount of urine increases, and the albumin gets less, are put on to vegetable soups, fruit, spaghetti and tomatoes, and a variety of milk puddings. Too much milk does not appear to be good for them. On account of the danger of permanent damage to the kidneys, or death of the foetus, cases which do not clear up with two weeks of this treatment are induced, even though it may mean the birth of a non-viable child. The chance of the patient having a live child if she has had a serious condition of toxaemia before the twenty-eighth week is too remote to make it worth the risk, quite apart from the possibility of eclampsia. The number of cases admitted to hospital were 104 out of 10,000.

Posterior positions of the vertex should be diagnosed by the midwife and brought to the attention of the doctor. These positions are the most troublesome cases with which the midwife or doctor has to deal.

The sequence of early rupture of membranes, slow dilatation of the cervix, exhaustion of the mother, death of the foetus, extraction by forceps, trauma, and death from sepsis, is all too common. Efforts should therefore be made to do rotation. Buist's binder has been used for this purpose at the hospital, but it is difficult to be dogmatic as to its effect, as a large number of cases diagnosed as posterior before the head is engaged rotate spontaneously, and when the head has engaged it has no effect. One is inclined to think, however, that if the head is late in engaging, either through disproportion or want of flexion, it does influence rotation. That is to say, it is effective in just those cases which are likely to be difficult, and should therefore be tried in all. We have certainly had fewer dangerous cases since it has been used systematically. It requires careful fixing by the doctor and daily adjusting by the midwife.

Breech presentations should also be diagnosed by the

maternity hospitals and found that 30 per cent. were still-born and 9 per cent. died before the fourteenth day. On account of these dangers, external cephalic version has been practised at the hospital for many years, and is usually performed at or about the thirty-fourth week of pregnancy. Later than this it is difficult and frequently impossible in primigravidae. In twin pregnancy it is usually impossible, and extension of the legs is another common cause of failure. In a few cases where repeated efforts have been made, there has been slight haemorrhage on the following day, and in others the umbilical cord has been much twisted. If an experienced doctor and midwife were to be present at every breech delivery the foetal death rate could, of course, be very much reduced, and the necessity for turning be avoided, but under present circumstances there is no doubt that the lives of many children will be saved thereby. Although the Central Midwives Board rules permit a midwife to attend breech cases in primiparae, we always direct her to call a doctor on these occasions.

CONTRACTED PELVIS

The diagnosis of contracted pelvis is simple, and can be made at any period during pregnancy, but there is no need to do so until about the thirty-fourth week, as treatment, whether by induction or Caesarean section, would not be taken until after then. The midwife should be instructed to suspect contracted pelvis if the mother is less than five feet in height. She should also take the external measurements of the pelvis—interspinous, intercristal, posterior interspinous, and external conjugate—and should call the doctor's attention to any deviation from the normal, and especially to all cases in which the external conjugate diameter measures 7 inches or less. It is as well for the doctor to check the midwife's results from time to time. In the early days of ante-natal care treatment was frequently based upon the result of these findings, but now the pendulum is swinging the other way, and the measurements are frequently said to be of no value. Both views are wrong. As a matter of fact, careful measurements do give some idea both as to the type of contraction and as to its degree. The mere anatomical fact of contraction being present is, however, not sufficient; we want to know much more than that. First, is the contraction of such a degree as to preclude absolutely the passage through the pelvis of a living child? Secondly, will the contraction interfere with the birth of a normal full-term child? Thirdly, will it interfere with the birth of the particular child which has to come through that individual pelvis? The third question is the important one. We have found that in at least 80 per cent. of cases in which there is a definite contraction, the normal course of labour is unaffected thereby. To diagnose and treat correctly the other 20 per cent. is where the difficulty comes in. What signs, other than the measurements, can be used as a guide; in other words, what influence has contraction of the pelvis to an obstetric degree upon the signs of pregnancy? In most cases nothing unusual will be found until the thirty-sixth week. At that time the upper pole of the foetus reaches the costal margin, and, after that, growth can take place only forwards, downwards, or sideways. If there is resistance to the usual downward growth a prominent abdomen or obliquity of the uterus will result. The former sign is the more common in multiparae, the latter in primiparae. Owing to the looseness of the abdominal muscles in a multipara, the head frequently does not engage in the pelvis until labour begins. In them the best guide to the probable course of labour is the previous history, although this is not infallible, owing to the increasing size of the child and weakness of the uterus with the increasing number of pregnancies. In a primipara, however, a head floating free above the brim at the end of the thirty-sixth week is an almost certain sign of contraction of the pelvis to an obstetric degree. The midwife should be taught to recognize these signs and to bring them to the notice of the doctor. In some cases, especially in flat pelves, the difficulty of engagement will cause the foetus to rotate on its long axis and become a breech, and in all breech presentations discovered during pregnancy this should be borne in mind. In many cases in which the head is found above the brim, it can be made to enter by pushing it downwards and backwards. In some cases, however, it is impossible to do this, the child's head bulging the lower part of the abdomen, and "overriding" the symphysis, and in these it is clear that a sufficient degree of disproportion already exists to interfere with the normal course of labour. Midwives will often inform the doctor that the head "pushes in," but it is well to beware of this statement, as in many cases in which they say it has done so the largest diameter of the head is still above the brim. Disregarding the few cases in which non-engagement is due to the presence of a tumour or of placenta praevia, it will be caused by occipito-posterior position or disproportion in size between head and pelvis, and a vaginal examination will be necessary. At this examination the diagonal conjugate will be measured, and, by sweeping the tip of the forefinger round the brim an idea as to the roominess at the sides can be obtained. If in a relaxed patient the promontory cannot be felt, it may be taken that the pelvis is normal. If the diagonal diameter measures 4 inches, induction at the thirty-sixth week will be necessary if the child is of normal size, and if less than 4 inches, Caesarean section will probably be the correct treatment.

In cases of slight contraction, with a diagonal conjugate of four and a quarter to four and a half inches, the question as to whether induction will be necessary at all, and, if it is, the decision as to the right time for performing it, is of the greatest difficulty. The answer depends upon so many factors, such as degree of overlapping, amount of room at the sides, condition of the mother, etc., that we are frequently finding that "experience is fallacious and judgement difficult." In these doubtful cases the best course is to prepare for induction, and to decide finally with the patient under deep anaesthesia. With the patient in the lithotomy position two fingers may be placed in the vagina, and the head pushed down upon them by the external hand, and a more accurate estimation of the relative size of head and pelvis thus be made. In a pelvis of the small round variety, the slightest degree of overlapping indicates immediate induction, but in a large flat pelvis with plenty of room at the sides slight overlapping will not prove an insuperable obstacle to the birth of a live child.

The operation of induction can be performed in a private house provided the two great difficulties—namely, (*a*) the obtaining of aseptic conditions, and (*b*) a good light—can be overcome. Krause's method has proved most successful with us. Large-sized bougies, about No. 13, are used; they are soaked for twenty-four hours in 1 in 1,000 perchloride of mercury and boiled for a minute immediately before use. The midwife can show the cervix in the way before described, and there is usually no difficulty in inserting the bougies at or after the thirty-sixth week, provided they are allowed time in stretching the internal os. In multiparae, and even in primiparae, who are not nervous, an anaesthetic is not necessary, if the help of a second midwife can be obtained.

It is a remarkable fact that in the last five years, during which 10,376 cases have been attended at the hospital, only one Caesarean section has been done, every other case of contracted pelvis having been treated by induction at or about the thirty-sixth week, or by the applica-

tion of forceps. It seems, however, that many obstetric surgeons, imbued with what may be called the "furor operativus," make the mere diagnosis of contracted pelvis a reason for the performance of this operation, apart altogether from other considerations. If cases were carefully considered on the lines given above, there is very little doubt that many unnecessary Caesarean sections would be avoided.

If I have gone rather minutely into detail, my excuse is that the more I think over the problem of maternal mortality the more convinced I become that it is only by close attention to every detail, and by co-operation between all the members of the obstetric team, and especially between general practitioners and midwives, that we shall make any real impression upon the number of women who are every year dying preventable deaths.

REFERENCES
[1] Interim Report of Departmental Committee, para. 117.
[2] Dixon: *Pharmacology*, 1923, p. 175.

THE ACCESSORY LOBE OF THE AZYGOS VEIN

BY
H. P. NELSON, M.B., F.R.C.S.
DEMONSTRATOR OF ANATOMY, ST. BARTHOLOMEW'S HOSPITAL
AND
GEORGE SIMON, M.B., D.M.R.E.
CHIEF ASSISTANT, X-RAY DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL

The accessory pulmonary lobe which occurs at the apex of the right lung was first observed by the anatomist in 1778, but its radiographic appearances were not identified until 1923. Since radiographic examination has become the most fruitful method of investigation of the lungs it seems desirable to present a detailed account of the appearances of this infrequent pulmonary variation.

Anatomy

The accessory lobe of the azygos vein is an additional pulmonary lobe occurring at the right apex, and separated from the remainder of the apex by a fissure containing the vena azygos major. The vena azygos major pursues its usual course behind the oesophagus just to the right of the midline until it reaches the level of the sixth thoracic vertebra, when, instead of arching forwards over the root of the lung, it turns in a lateral direction, dipping into the upper lobe. There, after passing forwards and inclining medially, it terminates in the superior vena cava. The vein, contained in a complete pleural septum, separates the dome of the pleura into two compartments, with the result that an accessory lobe is split off from the medial side of the right upper lobe. This septum consists of both visceral and parietal layers of the pleura, and is so disposed that its outer surface is convex and the lower free margin, which contains between its layers the vena azygos, is arched. It thus forms a kind of meso-azygos (Fig. 1).

The anatomical descriptions of this abnormality are fairly unanimous, and the following account is based on the papers by Geddes, Holtby, and Stibbe; the last reviews all the cases that have appeared in the literature up to 1918. The position of the fissure, and in consequence the size of the accessory lobe, depend on the degree of lateral deviation of the vein. The fissure may split the outer surface of the upper lobe at a point 2 inches below the apex, and the fold will then lie more or less horizontal, the accessory lobe forming the greater part of the apex of the lung. On the other hand, the fissure may merely split off a small tongue-shaped lobe from the mediastinal surface of the lung. The average lies between these two extremes, the fissure usually descending from the apex of the lung. The level of termination of the azygos vein with the vena cava superior is higher than normal, usually at the junction of the two innominate veins, and meets the lateral instead of the posterior surface of the vena cava. The depth of the fissure varies, but usually approximates to that of a primary lung fissure. In some of the described cases the vena azygos was resting on the eparterial bronchus, while in others there was as much as an inch of lung tissue between the deepest part of the fissure and the bronchus. The bronchus supplying the lobe comes from the eparterial: in three cases it has been described as having an N-shape, first ascending into the lung on the outer side of the fissure and then down under the azygos vein to ascend into the accessory lobe.

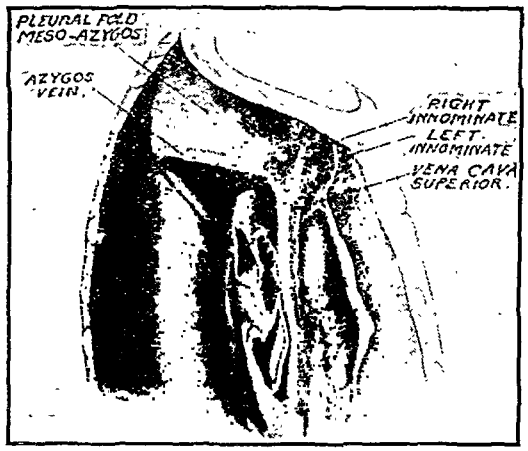


FIG. 1 (after Stibbe).—A case that has been dissected to show the mediastinal surface of the right pleural cavity after removal of the lung and accessory lobe. The pleural fold is shown with the vena azygos major running in its free margin.

In the *development* of this condition there are two variable factors: the growing lung buds and the growing cardinal veins. The posterior cardinal vein arches forwards across the coelom to join the duct of Cuvier, and it brings with it a fold of primitive pleural membrane, which divides the apex of the pleural-coelomic cavity into a medial and lateral compartment. The lung bud grows upwards and outwards, passing usually lateral to the vein, and with the descent of the heart the vein is drawn downwards and inwards and the medial apex obliterated. Now if there is a slight alteration in the position of either of these factors—a lung bud not lateral enough or the vein too lateral—the pleural fold would impinge against the lung and split off a medial process, which will expand upwards as the accessory lobe. Other accessory lobes, less common than the one here described, have occurred above and below the root of the lung. These other lobes have unfortunately been called "azygos lobes," and it is to distinguish it from these that the lobe we are concerned with has been called "the accessory lobe of the azygos vein." The fissure which separates these "azygos lobes" is lined only with visceral pleura, and is thus similar to a primary lung fissure, but the fissure which separates off the lobe of the azygos vein is lined by both visceral and parietal pleura.

Radiography

In 1923 Wessler and Jackes first drew attention to a falciform shadow near the right apex occasionally seen in antero-posterior radiograms of the chest. In 1928 Wessler and Bentick observed this shadow in two patients in whom later the opportunity occurred at post-mortem to compare the anatomy of the lungs with the radiographic appearance. Both of these cases had an accessory lobe of the azygos vein, and they were thus able to prove beyond all doubt the cause of this shadow.

CASE I

E. B., a woman aged 35, was sent for an *x*-ray examination of the chest in order to exclude active tuberculous disease. She had a slight cough, but no abnormal physical signs. The *x*-ray film shows no evidence of disease of the lungs. In the antero-posterior film there is a fine white line which descends from the medial side of the right apex, with a convexity to the right, to end at the level of the second costal cartilage. The distance from the line to the side of the vertebral column

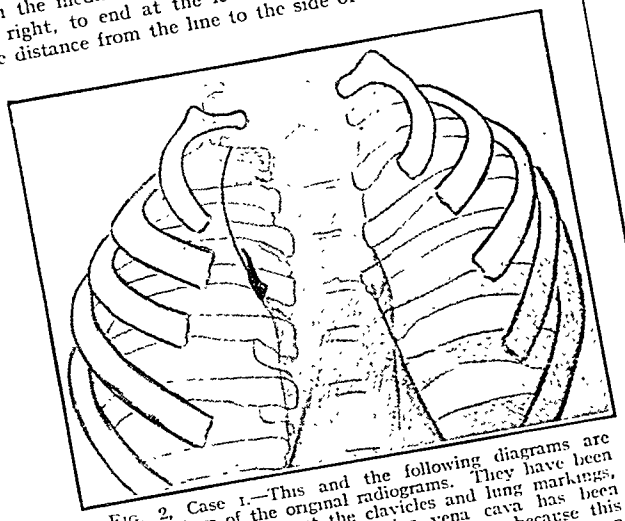


FIG. 2, Case I.—This and the following diagrams are exact tracings of the original radiograms. They have been simplified by leaving out the clavicles and lung markings, while the shadow of the superior vena cava has been accentuated. The radiograms are not shown because this abnormal shadow is not sufficiently noticeable to be seen in the radiograms after reduction in size and reproduction in print

is 25 mm. at its widest part. The line terminates by running into the side of a horn-shaped shadow, which has an opacity equal to that of the aortic arch. The broad, lower end of this shadow merges into that of the superior vena cava at the level of the upper part of the second intercostal space, while the thin upper end turns medially to lie 1 mm. to the inner side of the line at its lower end. The apex of the lung medial to the line is slightly opaque (Fig. 2).

CASE II

P. B., a boy aged 15, was admitted to hospital with acute rheumatic pericarditis. An *x*-ray examination of the

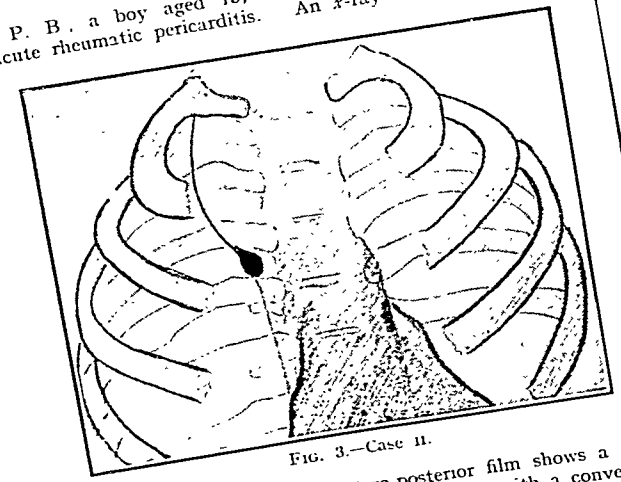


FIG. 3.—Case II.

chest was made, and the antero-posterior film shows a fine white line descending from the right apex, with a convexity to the right, to end at the level of the second intercostal space. The distance of the hair line to the vertebral column is 33 mm. The line terminates by running into the apex of a pear-shaped shadow, the broad end of which is continuous with the shadow of the superior vena cava. The great density of this pear-shaped shadow makes it stand out very clearly. The apex medial to the line is clear.

CASE III

D. P., a girl, aged 9, suffering from tuberculous glands in the neck, was sent for *x*-ray examination for the presence of enlarged mediastinal glands. The *x*-ray film shows no evidence of enlarged glands. The antero-posterior film shows a fine white line which descends from the medial side of the right apex, with a convexity to the right, to end at the upper border of the first costal cartilage. The distance of the line from the vertebral column was 15 mm. The line terminates at

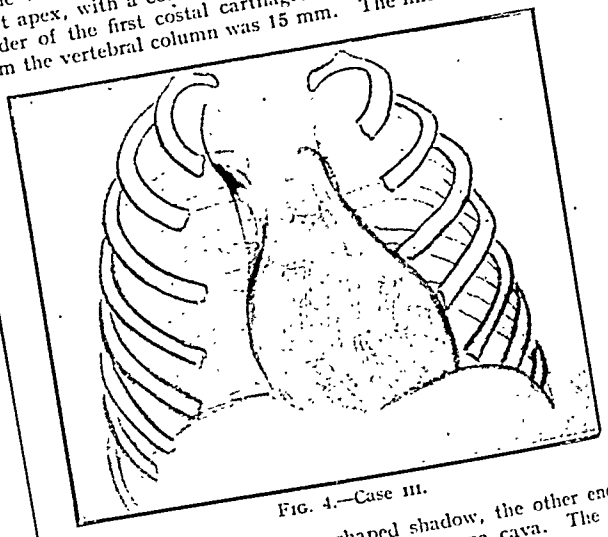


FIG. 4.—Case III.

the upper end of an oblong-shaped shadow, the other end of which is continuous with the superior vena cava. The lung medial to the line is slightly opaque.

The lateral film shows a white line (considerably wider than that seen in the antero-posterior film) running upwards and forwards from the back of the fourth thoracic vertebra and ending in the first intercostal space on the same plane as the posterior surface of the trachea. This line is 2 inches long.

CASE IV

F. S., a boy aged 8, suffering from recurrent attacks of bronchitis, was seen at a tuberculosis clinic and sent for *x*-ray examination. The antero-posterior film shows a fine white line which descends from a point at the lateral side of the right apex, with a large convexity to the right, to end at the level of the second intercostal space. The line is 40 mm. from the vertebral column at its widest part. The shadow at the lower end of the line is quite different from that of the three

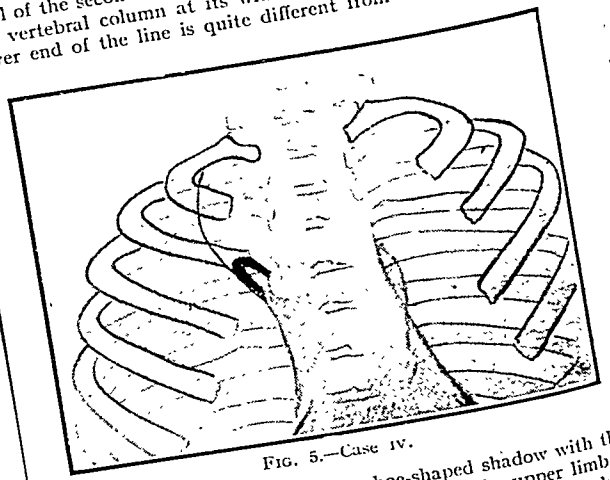


FIG. 5.—Case IV.

preceding cases. There is a horseshoe-shaped shadow with the concavity pointing downwards and inwards, the upper limb is on the level of the second costal cartilage, and the lower limb in the second intercostal space. The line can be seen to run into the outer side of the lower limb of the horseshoe-shadow. This shadow is only slightly denser than that of the superior vena cava.

The normal lung fissures can only be seen in radiograms of the chest if the incidence of the rays is in line with the

plane of the fissure. Thus the septum which separates the accessory lobe only casts a shadow for that part of its course which is in line with the rays, when it appears as a linear shadow. The position of the line will vary with the width of the accessory lobe. The topography of the vena azygos, which can be seen at the lower end on the medial side of the linear shadow, exhibits considerable variation. This variation depends on the depth of the fissure. In Case IV the whole of the arch can be seen projecting well out into the lung field; in Case II the vein is lying close against the side of the mediastinum, and the arch is coming almost directly forwards, which accounts for its great density as compared with Case IV. In the other two cases the vein is intermediate in position and density of shadow between that of Cases II and IV. Rawling states that the normal vena azygos opens into the superior vena cava at the level of the lower part of the second right intercostal space: the level of termination is seen in these cases to be higher than in the normal, Cases II and III being opposite the first interspace and Cases I and IV opposite the second costal cartilage.

Pathology

The only pathological condition that has been found in this lobe is due to obstruction of its bronchus by the vena azygos. Müller described the case of a boy, aged 18, who had myeloid leukaemia. The radiogram of the chest showed an abnormal shadow projecting laterally from the mediastinum above the hilum of the right lung, which was thought to be due to enlarged lymphatic glands. The boy died of the leukaemia, and the post-mortem revealed that the shadow seen in the radiogram was due to an accessory lobe of the azygos vein, which showed important pathological changes. The bronchus leading to the lobe was narrowed to a slit at its point of contact with the vein, while beyond this the bronchus opened up into a series of bronchiectatic sacculi filled with mucus. Muller's case suggests that the opacity observed in the lobe in two of our cases might be due to a partial obstruction of the bronchus. Bentick and Wessler observed the shadow of an accessory lobe in a patient who had a carcinoma of the right lower lobe. A pleural effusion developed, and at the same time the hair line became progressively wider, probably owing to an interlobar effusion.

Apart from these two cases there is no record of any pathological state associated with this congenital abnormality.

Frequency

In 1916 Stibbe reviewed the twenty-three cases that had been reported in the literature since 1778, when Wrisberg first described the condition. Nineteen of these cases were reported in anatomical journals between 1866 and 1899.

More accurate statistics can now be obtained from the radiological departments of large chest hospitals. Mather, from the Royal Chest Hospital, Liverpool, reports four cases in 3,000 consecutive radiograms of the chest; while Sparks (personal communication), at the City of London Hospital, Victoria Park, has had six cases in 6,000 consecutive radiograms of the chest. Thus the incidence of this abnormality is approximately 1 per 1,000 of the population. The condition is also much more frequent in males than females.

BIBLIOGRAPHY

Anatomy

Wrisberg, H. A.: Göttingen, 1777, viii, 14.
Dévé, M.: *Bull. de la Soc. Anat. de Paris*, 1899, lxxiv, 489.
Geddes, A.: *Journ. Anat. and Phys.*, 1910, xiv.
Holtby: Ibid., 1915, xlix
Stibbe, E. P.: *Journal of Anatomy*, 1918, iii, 305.

Radiology

Wessler and Jackes: *Clinical Roentgenology of Diseases of the Chest*, p. 17. 1923. The Southworth Company, Troy, N.Y.
Velde, G.: *Fortschr. a. d. Geb. de Roentgenstrahlen*, 1927, xxxvi, 315.
Hjelm and Hulten: *Acta Radiol.*, April, 1928, ix, 126.
Bentick and Wessler: *Amer. Journ. Roent.*, 1928, xx, 1.
Mather and Coope: *Brit. Journ Radiol.*, 1928, 481.
Stoloff: *Amer. Journ. Roent.*, 1929, xx, 5.

THE KNEE-JERK AND ITS VARIATION

AN INDICATION FOR SYMPATHETIC RAMISECTION OR TRUNK SECTION

BY

N. D. ROYLE, M.D., CH.M., F.C.S.A.

SYDNEY

There are a number of diseases in which the deep reflexes, such as the knee-jerk, are increased in excitability and have a prolonged relaxation time, with few or no oscillations when coming to rest after elicitation. This occurs in Raynaud's disease, some cases of Buerger's disease, Hirschsprung's disease, and in certain other vasospastic conditions. Dr. Harry Harris has found similar phenomena exhibited by patients suffering from certain types of renal pain. These diseases are due to abnormal activity of the sympathetic nervous system, as is distinctly indicated by the manner in which each condition responds to operations on this system. The presence of these abnormal reflex phenomena may be used as an indication for operation, because they disappear, or are modified, after the interruption of sympathetic influence.

How to Test the Knee-jerk

The knee-jerk is a myotatic reflex, and depends on the stretching of the quadriceps for its elicitation. This is usually accomplished by flexing the knee when the patient is reclining, or sitting upright in a chair. The first position does not adequately stretch the quadriceps to induce tone. The second position allows the effect described by Magnus and de Kleijn to come into play—that is, an increase in tone in all extensor groups of muscles caused by contraction of the extensor muscles of the head, thus exaggerating the amount of tone present in the tested muscles.

Reinforcements of the Knee-jerk

Various methods of reinforcing the knee-jerk are used, such as pressing the hands together and making the patient look at the ceiling, but these reinforcements interfere with the exact state of the knee-jerk, in that they call into action a cortical contribution to tone.

The Ideal Position for Testing a Knee-jerk

To test a knee-jerk the patient should be in a reclining position. The head and back should be supported, so that the contraction of extending muscles of the neck is not evoked. The knee should be bent and allowed to swing freely over the edge of the bed or couch. In this position the quadriceps muscle is stretched, and this stretching induces whatever tone the quadriceps is capable of exhibiting.

Phases in the Knee-jerk

When the patellar tendon is tapped there is a phasic response in which the knee extends, and a subsequent variable phase. If tone is exaggerated the leg will stay

in the extended position momentarily and return relatively slowly to the position of flexion. If the position of flexion is assumed without oscillations of the leg, tone is hypernormal. If oscillations are of wide amplitude and continue for a time, the quadriceps muscle is hypertonic. In spastic paraplegia, for example, if the failure of the hamstrings to relax does not prevent a definite extension, the reflex is delayed; the return to the starting position of flexion is slow, and the oscillations are absent. Finally, the leg hangs in a partially extended position, maintained by the tone of the quadriceps muscle (Fig. 1).

Even in locomotor ataxia the leg does not hang perpendicularly, but in slight extension, though not as extended as in the normal leg. After ramisection the leg hangs perpendicularly (Fig. 2) unless there is contracture of the quadriceps muscle. If contracture is present, the leg will take up an extended posture, and the reduction of tone after operation will then be indicated by the short period of relaxation.

FIG. 1 FIG. 2

FIG. 1.—Showing extension of normal leg on stretching the quadriceps muscle.

FIG. 2.—Showing position of left leg after sympathetic ramisection contrasted with the normal right leg.

Tone as an Indication for Operation

In Raynaud's disease, Hirschsprung's disease, and Buerger's disease the character of reflex activity, as shown in the knee-jerks, may be used as an indication for operation. In every case of Raynaud's disease and of Hirschsprung's disease that I have personally examined hypertonus has been present. It may be present in Buerger's disease; it is almost invariably present in epilepsy.

In the normal person hypertonia is rarely present. To ascertain this I examined the knee-jerks of fifty medical students. In every instance except three the knee-jerk was normal in relaxation time and in oscillation. Of these three, two students, both mile runners, exhibited hypertonus, and in the other, a victim of poliomyelitis, the phasic response was absent, and the leg hung perpendicularly from the knee.

CONVALESCENT SERUM IN PROPHYLAXIS OF MEASLES*

BY

D. N. NABARRO, M.D., F.R.C.P.

DIRECTOR, PATHOLOGICAL DEPARTMENT, THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET, LONDON

AND

A. G. SIGNY, M.R.C.S.

ASSISTANT PATHOLOGIST TO THE HOSPITAL

Serum or whole blood taken from patients recovering from a disease has often been used in treatment empirically, and with varying results. Thus it has been employed in poliomyelitis, encephalitis lethargica, measles, and scarlet fever.

Historical

Nicolle and Conseil in 1916 were the first to succeed in protecting with convalescent serum a child who had been exposed to measles. Since then many observers have published their results, and all agree that the value of the serum, if properly used, is very great. Degkwitz in Munich and Debré in Paris control clinics where the serum is collected, prepared, and issued to all who require it, and they have thus treated many thousands of children with very striking results. Debré was the first to point out that the results are even more satisfactory if the serum is used to produce a mild attack rather than complete protection. It is obvious that as soon as a causal organism is definitely established and an animal serum prepared, the human serum will fall into disuse owing to the difficulties inherent in the procuring of sufficient supplies. At present the animal serums available are those of Tunnicliff, Degkwitz, and Ferry and Fisher. All these are prepared from a green streptococcus which, it is held though not generally accepted, is the causal agent of the disease. In a comparative survey of these serums with convalescent serum, Gunn of the Metropolitan Asylums Board showed that:

Ferry and Fisher's serum protected	0 per cent.
Degkwitz serum protected	40 ,,
Tunnicliff's serum protected	43 ,,
Convalescent human serum protected	95.7 ,,

These figures are similar to those obtained by several workers, and show conclusively that, at present, the human serum is by far the most reliable.

Collection and Preparation of Serum

Since measles occurs mainly in children, it is with the greatest difficulty that we are able to obtain a sufficiency of blood from a donor. We have been fortunate in the co-operation of Dr. Massingham of the London Fever Hospital, where many adult cases of measles are treated, and he has kindly bled these cases for us. Each patient should be carefully examined before bleeding, and the greatest care taken to exclude anyone with the possibility of another infection. Particular notice is taken of any syphilitic or tuberculous taint, and no patient is bled except after a normal uncomplicated measles. Between the seventh and fourteenth days after defervescence 200 to 300 c.cm. of blood is collected aseptically into sterile oxalate solution, this allowing a yield of 50 per cent. of serum after precipitating the oxalate with calcium chloride. Sterility tests and a Wassermann reaction are done on every serum and, if these are satisfactory, 0.5 per cent. phenol is added and the serum is then pooled with several other serums so as to obtain as far as possible a final product of uniform potency. Before use the serum is filtered through a Seitz bacterial filter and a final sterility test done.

Effects of Administration

No ill effects have ever followed the use of a carefully prepared serum, and any unsatisfactory results can nearly always be traced to insufficient care in the preparation. It is sometimes said that the above technique does not preclude the administration of a tuberculous serum; in

* Read in the Section of Medicine at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

fact it has been pointed out that since children after measles are particularly susceptible to tuberculous infections, which would not be obvious when they are bled in early convalescence, it must be an unwise and even dangerous practice to bleed measles patients. These assertions are readily countered by the following facts. Tuberculosis in children after measles is common probably only because of their debilitated condition, and is not due to any specific predisposition. Nevertheless, we have taken our bloods almost entirely from adults, who do not develop tuberculosis as do children. Further, the precautions taken in phenolizing and passing through a bacterial filter render the serum sterile, and these should satisfy even the most sceptical. Professor Kraus of Vienna has examined by animal inoculation many specimens of convalescent measles serum which had not been treated with the double precautions mentioned above, and he has never yet thereby produced a tuberculous lesion in a guinea-pig. As the serum is of human origin anaphylaxis or serum reactions do not occur. The serum can be used so as to give different results, and these depend on the stage of incubation at which the injection is made. Copeman's ideas upon the inoculation period of measles are as follows:

In order to achieve complete protection the serum should be injected before the fifth or sixth day of incubation. This is called "sero-prevention," and results in a passive immunity which lasts roughly a month. From the sixth to the ninth day the serum does not protect fully, but allows only a very mild attack of measles to ensue. To this the term "sero-attenuation" is applied. There is a moderate attack, with the establishment of active immunity. After the ninth day we cannot hope for any benefit from serum. Injection on the tenth day produces Debré's phenomenon, a local blanching at the site of injection. Epidemiologically the attenuated attack is the best result that can be obtained, as it confers on the individual a permanent active immunity, whereas in the case of a patient who has been completely protected he has only a temporary passive immunity lasting two to four weeks. From the practical point of view it is clear that in institutional work one must always aim at complete protection, whereas in private practice, where it is only the individual who has to be considered, the best result is a mild or aborted attack. Of course, where a desperately ill child has been exposed to measles we must at all costs prevent the attack, and it is advisable to use a slightly larger dose, and to administer it as early as possible in the incubation period. The attenuated attack is indeed an extremely mild affair. Some cases exhibit a small bout of pyrexia to 100° F. for a day or two about the fourteenth day of incubation; others vary from a few measly spots over the trunk (apyrexial) to a typical attack of measles with coryza and bronchitis, which has all subsided in from twenty-four to forty-eight hours. We have never seen Koplik's spots in any of these measles cases after convalescent serum has been given. A very common feature is a prolonged incubation period—in some cases even as long as twenty-six days—followed by a mild measles. There is no doubt that from a hospital administrative point of view this can be rather disturbing, as it holds a ward in quarantine for over three weeks. If, however, all new admissions to the ward are given serum, this in no way hinders the work of the ward, which may continue its normal routine.

Dosage

Originally we used 3 c.cm. for children up to 3 years and 5 c.cm. for children over 3. This has never been strictly adhered to, as we increase the dose for big children and for adults, and also if the incubation is well advanced. We have now increased our doses to 5 and 7 c.cm., and believe that this is a more adequate and satisfactory dosage. All the injections are made intramuscularly into the buttock. Serum has been tried in treatment of severe measles without success, because the antibody content is not sufficiently high and enormous doses would be required to have any effect. For the same reason the serum is of no value for the blanching of a rash, although it is sufficiently strong to prevent the appearance of the rash in an area if injected before the rash appears generally (Debré's phenomenon). Whole blood may be used instead of serum, and in this case the blood of a convalescent is injected intramuscularly into the recipient, the dose being double the serum dose.

Results

At the Paris Clinic, where an enormous number of children have been treated, Debré reports 80 per cent. protection. Gunn reports 95.7 per cent. complete protection, and of his 5 failures 3 were injected on the first day and two on the eighth day. The two latter doses were, of course, given too late for complete protection, and the other three cases were so mild as to be hardly recognizable as measles. Our own series now amounts to 586 cases, of which 461 were injected by us at the Children's Hospital following ward infections, and 125 were cases from practitioners in various parts of the country following home or hospital infections. In the hospital series there were 14 failures, or 3 per cent., and the outside cases 7 failures, or 5.6 per cent. As we have already noted, the "failures" in both series include several injected after the fifth day, and are almost all extremely mild cases.

Analysis of Twenty-one "Failures"

Serum Injected	Aborted	Mild	Normal	Severe	Total
Before fifth day of incubation	3	3	4	0	10
Sixth to tenth day	1	9	1	0	11*
Totals	4	12	5	0	21

* It should be noted that these 11 cases should really be omitted, as they are examples of late inoculations where a mild measles is to be expected. Of the 10 before the fifth day 6 were so mild as hardly to be recognized as measles.

Controls

It is a matter of some difficulty at the moment to obtain satisfactory controls. It is almost impossible to say how many children in an infected ward would develop measles if not inoculated, but it is very common for several patients to contract measles within a fortnight. We can show several such wards, quite typical and representative of many, in which within fifteen to sixteen days four or five children of varying ages have contracted measles, and in some the infection has then recurred so often as to necessitate closing the ward. Furthermore, we should really know how many patients have previously had measles, but this again we think can be assumed to be, in the same hospital over a prolonged period, a constant figure. Even a previous attack, of course, does not necessarily confer an immunity, and one of our cases, in spite of an undoubted history of measles plus a dose of convalescent serum, developed a mild measles fourteen days after exposure.

Gunn, working at a fever hospital, particularly with cross-infections, had ample opportunities for controls. His series included wards which were uninoculated, wards inoculated with various animal serums, and wards protected with convalescent serum. His 95.7 per cent. protection, together with our final figures of 98.3 per cent., afford very striking and sufficient proof that until an efficient animal serum is prepared convalescent measles serum is the only weapon we have for preventing measles, and it should be more widely used than it is at present.

MEASLES IN A PUBLIC SCHOOL

BY

L. R. LEMPRIERE, M.B., CH.B.

MEDICAL OFFICER, HAILEYBURY COLLEGE

Epidemics of measles and reports concerning them are not, as a rule, of interest, except to those immediately concerned, but the small epidemic recorded here presents some unusual features. The following is the case incidence:

Case	House	Form	First Symptom	Admitted	Incubation (days)	Source of Infection
Ya.	M.	Vb	May 3	May 3	?	?
Fl.	M	LVl	,, 18	,, 18	15	Ya.
Th.	M.	LMla	,, 18	,, 20	15	Ya.
Me.	B.	LMla	June 3	June 3	13	Th.
Fi.	T.	MVa	,, 6	,, 9	18	Th.
Wi.	B.	LMla	,, 7	,, 9	19	Th.
Ca.	L.	LMlb	,, 7	,, 8	19	Th.
T-D.	B.	LMla	,, 8	,, 9	20	Th.
De-R.	Bat.	UMb	,, 8	,, 10	20	Th.
We.	Tr.	LMla	,, 16	,, 16	10	Ca.
Po.	Law.	UMb	,, 20	,, 20	10	De-R.
Cn.	Bat.	LMlb	,, 23	,, 25	13	De-R.
Met.	Ed.	UIV	,, 27	,, 27	17	De-R.
Da.	B.	UMb	,, 26	,, 28	3 or 17 or 18	Po or De-R or Wi.

The points of interest are the smallness of the epidemic, and the very long incubation period.

In a school of 530 pupils 115 were not protected by a previous attack; normally between 90 and 100 might have been expected to develop the disease, compared with 14 who actually did.

The long incubation period is unique in my experience. The average period of incubation, leaving out that of the first case, which is unknown, and that of the last, which is doubtful, was very nearly sixteen days; in six cases the period was between seventeen and twenty days.

Clinical Symptoms

The cases were definite measles of a mild character, not rubella. Prodromal symptoms appeared in four cases in less than twenty-four hours, in three one day, in six in two days, and in one in three days. Fever lasted for two days in six cases, for three days in five, for four days in one, and for six days in two, the maximum recorded being 104° and the minimum 101°. Conjunctivitis was marked in all cases. Catarrh was present in five cases, absent in nine. Complications included two cases of vomiting, one of epistaxis, and one of adenitis. Rash was very well marked in all cases, but in my opinion no stress can be laid on this, as the rashes of measles and rubella can be, and often are, exactly alike. Koplik's spots were present in all cases, profuse in four, well marked in five, and slight but definite in five. The prodromal symptoms were so slight that all patients, except Fl., when first seen, had a commencing rash and definite Koplik's spots.

Infection Described

The first patient (Ya.) was admitted early on the morning of May 3rd, 1930, the pupils having returned the night before. This boy had been seen by me the previous evening, on account of tinea cruris, and appeared to be perfectly well. Twelve hours later he returned with a well-marked rash and profuse Koplik's spots and fever.

As there seemed to be an unusually favourable chance of preventing the spread of measles, I sent away all the boys with whom Ya. had been in contact and who had not had measles previously, for ten days, from the sixth to the sixteenth day after exposure, and took the temperature of all the boys in his house who had not had measles. As far as he knew, he had not seen them during the twelve hours, between 8 p.m. and 8 a.m., but on the evening of the sixteenth day, both Fl. and Th. felt unwell. Fl. did no damage, but Th., who stayed in school for another thirty-six hours, infected others, as indicated in the table.

I did not regret that my efforts to prevent the spread had failed, because I consider from a strictly medical point of view that measles in the summer term is to be welcomed. The general mildness of the cases is attributable to the character of the disease, the excellent weather, and the small amount of infection, which enabled each patient to be nursed in a large separate room.

Five weeks later, on the last day of the term, a boy developed measles on arriving home, though he had been inspected by me that morning for mumps, which was epidemic at the end of the term. Through him, thirty-two other cases were recorded during the holidays, but it is impossible to relate this outbreak with its predecessor.

Observation

The only observation I have to make is that either Koplik's spots are *not* the absolute diagnostic sign of measles, as is generally held, or that under certain conditions the incubation period of measles may exceed a maximum of sixteen days.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

DERMATITIS CONSEQUENT ON THE APPLICATION OF IODINE

The case of fatal dermatitis following the use of iodine spirit solution, reported by Mr. R. Charles Alexander in the *Journal* of July 19th, 1930 (p. 100), prompts me to relate a somewhat similar case which came under my care.

A fruit merchant, aged 60, had occasion to empty and clean a blocked drain, which took him several hours to accomplish. Both his arms were immersed in the contents of the drain pipe, with the result that they were swollen, the skin having become sodden with the prolonged immersion. He took care to wash his arms thoroughly and often with plenty of warm water and soap, which gave him a sensation similar to that of a shampoo, a very cooling and pleasant effect. Later he thought it would be an excellent thing to paint his arms with iodine tincture; the effect of this a few hours later was of a warm tingling nature. The following night he suffered from intense itching, and came to see me next morning.

Both his arms were acutely inflamed and swollen; they were covered with vesicles turning into pustules, and were extremely painful. His temperature was 103° F., and owing to the swollen condition of his wrists I counted his pulse from the facial artery. He appeared ill, restless, very weak, and toxic. I applied starch poultices to both arms, and ordered a stimulating diet. Four hours later, as he was still in great pain, I removed the poultices, and washed the starch off with a solution of sodium bicarbonate, which gave him much relief, to the extent that he implored me to continue the treatment; later on linimentum calcis with calamine was applied on lint, and this was repeated every four hours, alternating with the bicarbonate washing. His general condition was by next day much improved, the temperature having fallen to normal, and the swelling in the arms having diminished, but the area of pyoderma was still very marked; the bullae were cut away as

they appeared, and the application of the liniment and the soda washing were continued until the whole skin cleared. The condition of the skin later became pigmented and somewhat shiny, with no uncomfortable sequels.

I believe in this case that the acute infection arose, not from what he might have contracted from the contents of the drain, but possibly from the bacteria in the skin becoming pathogenic when the soil was rendered favourable. The skin was soaked in water for hours, and later was washed excessively with hot water and soap, no doubt removing gross dirt and superficial layers of the skin, hence the feeling of shampoo effect. Had it been left at that all would have been well, but the application of tincture of iodine to this tender surface caused an acute irritation, calling the cutaneous staphylococci and streptococci from their dormant state into pathological activity.

I was given to understand years ago that iodine solution applied to washed surfaces was futile, and that its virtue depended on its being applied to unwashed skin lesions. In this case the effect of the starch poultice was to remove or absorb the iodine from the skin, judging by the starch turning purple; this probably arrested its pungent effect. I did not inflict vaccine therapy on the patient, and fortunately the condition improved before an autogenous vaccine could have been prepared, otherwise the credit would have gone to this doubtful remedy. It should be remembered that alcoholic iodine solutions are in their nature irritants; their application to areas already denuded of surface protection, by cleansing the skin, as a preliminary, for example, to surgical incisions, and especially in very tender skins, is open to a risk which is real though remote.

O. THOMAS JONES, L.R.C.P., L.R.C.S.Ed.,
Colwyn Bay. L.R.F.P.S.Glas.

HYDATID CYST OF LIVER SIMULATING SUBPHRENIC ABSCESS

The following case seems worthy of record, as the *x*-ray findings were most misleading, and a diagnosis could not be made until after the second operation.

A woman, aged 30, came to the hospital with one and a half years' history of a swelling in the epigastrium. During the last two months pain had been very severe, and accompanied by high fever and rigors. The patient was obviously very ill; her temperature was 39° C., and her pulse rate 104, and she had much dyspnoea and a tendency to faint. The whole of the upper abdomen was tender on palpation, and a swelling could be seen in the right upper quadrant, with rigidity extending to just below the umbilicus. A tentative diagnosis was made of acute suppurative cholecystitis. On screening the patient in the upright position I was surprised to find a large air bubble, apparently between the upper surface of the right lobe of the liver and the diaphragm. The liver itself appeared to be obscured by a layer of fluid. It was natural, I think, in the circumstances, to make a confident diagnosis of subphrenic abscess due to a long-standing leaking gastric ulcer.

First Operation.—Under novocain infiltration an incision was made just below and parallel with the right costal margin. On opening the peritoneum I was amazed to find that the upper surface of the right lobe of the liver was in contact with the diaphragm, and entirely free of adhesions; the hand could be passed freely between the liver and the diaphragm, and the liver, though somewhat soft and boggy, did not appear particularly abnormal. Accordingly there was nothing to be done but to pack iodoform gauze firmly on to the liver surface, and review the situation.

Second Operation.—Two days later, without anaesthesia, the packing was removed and a large-bore needle was cautiously introduced into the liver substance. There was an immediate escape of foul-smelling gas under high tension. The needle track was enlarged with a scalpel, and a drainage tube inserted into a large and apparently empty cavity. This was followed by the escape of a small quantity of glairy pus.

During the next fortnight an enormous quantity of small hydatid cysts and pus was evacuated. After a few days the pus became deeply bile-stained, and the patient's temperature rose to 40° C., with a pulse rate of 120 and a respiration rate of 28. By the seventh day the patient was convalescent, and she left the hospital at the end of a fortnight. The subsequent course of recovery was uneventful.

It is, I think, remarkable that although the abscess was separated from the general peritoneal cavity by less than 1/2 cm. of liver tissue, no adhesions or visible inflammatory reaction had been formed.

E. H. R. ALTOUNYAN, *M.C.*, M.D.Cantab.
Aleppo, Syria.

Reports of Societies

RADIOLOGICAL PROBLEMS IN VETERINARY MEDICINE

The Sections of Electro-Therapeutics and of Comparative Medicine of the Royal Society of Medicine combined for a discussion, on December 19th, 1930, on radiological problems in men and animals. Professor J. WOODBURN MORISON, president of the Section of Electro-Therapeutics, was in the chair.

Major A. A. PRYER opened by giving some account of the radiology of the horse; he had examined seventy living horses and many cadavers. The difficulties were the bulk and indisposability of the equine patient, the thickness and irregularity of outline of most parts of the horse's skeleton, and the design of suitable apparatus. In some cases he had administered a narcotic—chloral hydrate—before taking the radiographs, and a useful precaution was to plug the ears of the animal with cotton-wool so that it was not startled by the noise of the tube. The shoes must be removed when radiographing the hoof. Almost every part of the horse's body was closed to the radiologist except the limbs, but radiographs of these were very useful. No method had been devised for satisfactorily viewing the pelvis, shoulder, or hip.

Dr. R. W. A. SALMOND mentioned that he once had occasion to examine radiographically the hind limb of a pygmy elephant, and had been impressed by the great density of the hide and soft parts as compared with the human. Smaller animals presented few or no technical difficulties, but the larger ones, such as the racehorse, required special apparatus. Whatever apparatus was used, it should be powerful enough to permit of an exposure in a fraction of a second or less, should be as noiseless as possible, and should not have to be brought nearer than 12 inches on account of the electrification of the hairs of the animal. The most common conditions for which *x*-ray pictures were required were fractures and dislocations, and foreign bodies swallowed or embedded in soft parts. Since greyhound racing had become popular, much work had been done in diagnosing fractured toes and dislocated joints in these animals. It was interesting that the chemical composition of stone in dogs was very similar to that in the human being. In radiotherapy much work had been undertaken experimentally on rats and mice, and the treatment of carcinoma and sarcoma in dogs and cats might be carried out radiologically. The domestic animals were susceptible to practically every variety of malignant neoplasm known to pathology. Radiological sterilization of bitches and female cats by *x* rays might by some people be considered a preferable alternative to spaying.

Lieut.-Colonel MIDDLETON PERRY gave some account of the daily work of the veterinary surgeon in which *x* rays were used. The scope of radiology in veterinary science was small and necessarily superficial. The administration

of a bismuth meal, for example, was a difficult problem. For the present, the use of the rays must be considered as confined to the more obscure fractures, callosities, and foreign bodies. He had always found it useful to have a set of normal negatives for comparison. Ultra-violet radiation and radiant heat treatment were well borne by animal patients, and gave good results. He had not found it necessary to remove the hair in order to get effective ultra-violet application.

Dr. J. B. KING described some research work done in recent years on ovarian function, especially on mice. Various people had tried to influence the oestrous cycle in mice by injections of pituitary extract, and the conclusion had been reached that this gland was the source of the internal secretion which, by influencing the ovary, produced the oestrous cycle in animals. The whole subject was of more than theoretical interest, because there were commercial preparations of ovarian hormones, at the moment not very potent, but likely to be of increased potency in the future, and in both medical and veterinary practice they would have an enormous sphere of utility. This work had been made possible by experiment on a large number of mice sterilized by x rays. The work in this sphere was most likely to be advanced by some means of irradiating the pituitary, preferably in mice; he thought it might be done by a small parallel beam of gamma rays of radium.

Professor J. MCCUNN said that x rays had been used successfully in the localization of odontomas in horses. The sinuses in the horse's head could very well be seen, and it was possible to tell whether the teeth were normal or not. As for methods of sterilization by x rays, on the contrary, some attempts had been made to make sterile animals fertile by this means, and one worker had succeeded beyond doubt in this respect by applying ultra-violet rays. Dr. A. E. BARCLAY showed some radiographs illustrating an observation on the mechanism of swallowing in fowls. The act of swallowing took place, not by propulsion as stated in the textbooks, but by suction. He added that just as radiology had completely changed the face of clinical medicine, so it would change the face of zoology, comparative medicine, and physiology. Dr. J. F. BRAILSFORD showed x-ray slides illustrating the type of cases which were dealt with in conjunction with a veterinary surgeon, and included various conditions found in animals in the Birmingham abattoirs while he was doing research there under Sir John Robertson. Dr. A. EIDINOW spoke on the lethal action of rays. In the laboratory it was definitely possible to kill small animals by visible light alone, also to kill shaved animals by intensive doses of ultra-violet radiation. Research had shown that ultra-violet rays could act only on the surface layers of living tissue, and if there was a mass of hair he could not conceive the rays acting. Any beneficial results obtained by a lamp were not really due to the ultra-violet, but to the light and heat, rays. It was also possible to kill animals with intensive doses of x rays and radium.

Professor G. H. WOOLDRIDGE agreed that x rays should not take the place of manipulation or clinical examination, but should be regarded merely as an auxiliary. In many instances he had been unable to get assistance from, or had even been misled by, the consideration of a well-taken radiogram. The extreme ease with which sterilization could be carried out in animals by ordinary methods made x rays in most cases out of the question. In the field of experiment he was glad that they were likely to reduce or perhaps entirely replace vivisection. Dr. CHALMERS WATSON raised the question of radiation in relation to nutrition in animal life, and urged that the two Sections, together with the Section concerned with public health, should co-operate in the study of this problem.

OBSTRUCTIVE INFLAMMATORY LESIONS OF THE UTERUS

At a meeting of the North of England Obstetrical and Gynaecological Society, held at Sheffield on November 28th, 1930, with the president, Dr. J. W. BURNS, in the chair, Professor D. DOUGAL (Manchester) read a paper on obstructive inflammatory lesions of the uterus.

Professor Dougal opened with a brief historical review to indicate the paucity of the literature dealing with this subject. His subsequent remarks were based on a study of ten cases. He considered that two factors were always present: (1) an infection of the uterus and appendages, and (2) atresia of some part of the genital canal. Since the menses never made their appearance one or both factors must have been present at puberty, and the presumption was that both were acquired during childhood, or that one, the atresia, was congenital, and the other, the inflammatory lesion, acquired at a later date. He defined three classes of his cases: (1) three cases in which the uterine cavity was obliterated; (2) two in which the uterine cavity contained mucus or caseous material—hydrometra or pyometra; and (3) five cases in which the uterine cavity contained menstrual blood—haematometra. An analytical review of the cases described led him to conclude that tuberculosis or some other acute infection of childhood might produce atresia of some part of the genital canal, the result as regards disturbance of function depending upon the situation of the obstruction. In tuberculosis the tubes and uterine cornua were the commonest parts affected, and their canals either became completely obliterated or were distended with pus or blood. If the cavity of the uterus was obliterated, retained secretions or blood might be found in the tubes or cornua; but if the atresia was at the level of the internal os there would usually be haematometra or pyometra. When the obstruction was below the level of the cervix hydrometra was an additional possibility. Professor Dougal remarked that it would be of interest to know something about the frequency of vaginal discharge in these diseases and, more important still, to see the patients about the age of puberty, when it might be possible to find out the extent of the damage to the uterus and appendages. A working arrangement was needed between the hospitals for children's and infectious diseases and the gynaecological hospitals, to ensure that these cases were kept under observation until the effects, if any, on reproductive life had been determined. It would then be possible to trace the origin, not only of the serious lesions which he had described, but also of those less severe cases in which the tubes were sealed up or the ovaries were adherent.

The PRESIDENT and Dr. A. A. GEMMELL each described a case which, in the light of Professor Dougal's remarks, appeared to have been not simple atresia, but the results of chronic inflammatory diseases.

Pathological Exhibits

Professor DOUGAL showed a specimen of chorion epithelioma of the uterus. The history had suggested the presence of retained products of conception, but histological examination revealed the typical features of chorion epithelioma. He considered chorion epithelioma a very rare tumour, worthy of record; he had only come across four cases during the previous twelve years. The specimen was discussed by the PRESIDENT and by Mr. ERIC STACEY (Sheffield), who also showed a specimen of a twin pregnancy, in which a child was born alive, and was followed by the expulsion of a large hydatidiform mole, weighing 10 lb. 4 oz.

A further specimen shown by Professor DOUGAL was a carcinoma in one horn of a bicornuate uterus with a

double cervix. In the right horn there was an advanced growth which had infiltrated the muscle wall and broken through into the lower part of the left horn and both halves of the cervix.

Mr. N. L. EDWARDS (Derby) showed a specimen of an ectopic gestation in a hydrosalpinx. This consisted of the left tube and ovary, with a mole in the isthmic portion of the tube and a small tear in the wall through which intraperitoneal bleeding had occurred. The tube distal to the mole was thickened and in a state of hydrosalpinx. He suggested that the case might be one of direct internal migration of ovum.

Mr. P. MALPAS (Liverpool) showed a large cervical fibroid weighing 10½ lb., with extensive cystic changes, and also a specimen of a cervical fibroid removed subsequent to radium treatment of a coexistent carcinoma cervicis. The sections in this case were of interest in that there was no definite change in the cells of the fibroid.

TREATMENT OF PSYCHONEUROSES

At a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, held on December 12th, 1930, with Dr. W. G. HARVEY in the chair, Dr. E. ARMSTRONG BENNET read a paper on treatment of the psychoneuroses. Dealing first with the difficulties in recognizing psychoneurotic illness, he said that early diagnosis was important, as instanced by the vast numbers of persons in mental hospitals, many of whom might have been cured if treated at the beginning. Some of the difficulties involved in the acceptance of a psychological causation were considered; the physician untrained in psychopathology was unlikely to diagnose neurotic illness. The inclusion in the medical curriculum of some instruction in the minor mental disorders, in addition to that now given in gross mental disease, was advocated. Some of the problems which arose in dealing with psychoneurotic out-patients were discussed, and the appointment of a psychotherapist to the hospital staff was advocated. Finally, certain therapeutic methods were discussed, including mental analysis, suggestion, and occupational therapy.

Dr. T. G. MOORHEAD felt that the curriculum was already more than full, and suggested that the lectures on mental diseases could include two or three lectures on psychotherapeutics without increasing the actual number of lectures. He was of opinion, however, that facilities should be available for post-graduate study, and pointed out that a diploma in psychological medicine had recently been established in the University of Dublin, and that courses of instruction for the diploma were now provided. Dr. J. O'C. DONELAN said that in most mental cases the removal of physical disorders were followed by mental improvement.

Dr. LAWRENCE KOLB remarked that one of the outstanding practical merits of modern psychotherapy was the emphasis it placed on the subjective or intrinsic factors in human motives and conduct. It had shown that man's adaptive difficulties and maladjustments could not be explained in terms of external causes alone acting upon a passive non-participating organism. The external factors were important, but their effect depended upon our ability to react to them normally, and this in turn depended upon our constitutional heritage or tendencies as they had been modified by various environmental factors. The Freudian school of psychology has focused attention on these subjective factors, and had improved other methods of psychotherapy, such as persuasion, suggestion, simple explanation, etc., by throwing more light on the mode of operation of these forms of treatment. Psycho-analysis at best was applicable only to a selected group of patients. An intelligent subject was essential, and its use in people past middle-age was, as a rule, not advisable. The obsessional neuroses, conversion hysterias, certain sexual abnormalities, and anxiety states, offered the most favourable material, but the magnitude alone of the problem of the neuroses made it imperative that the majority of cases should be treated by the simpler and less time-consuming methods mentioned by Dr. Bennet. Dr. W. M. CROFTON was of opinion that many cases were due to microbic infection, and that immunization by a suitable antigen was often followed by recovery.

Dr. LEONARD ABRAHAMSON said that the confusion in the mind of the general physician in regard to psychotherapy was due to the attitude of the psychotherapeutists, who adopted an obscure terminology, which moreover varied from one exponent to the other. He deplored the lack of unity of approach in regard to the psychoneuroses, and felt that, until this was attained, no widespread use of psychotherapy would be possible. He suggested that in many of the cases labelled psychoneuroses physical causes were present, though these might elude available methods of investigation. It would be useful to have an outline of the treatment adopted in the group of cases in which hypotension was a constant feature and responsible for many of the characteristic symptoms. Professor HAROLD PRINGLE said that he naturally viewed psychoneuroses from a physical standpoint, and felt that recent work on the conditioned reflexes was the clue to the explanation of these affections. He thought that in a psychoneurosis wrong reflex channels had been established, though what exactly caused such establishment he could not say. He felt that the whole aim of treatment should be to reopen the normal channels. If this was done, abnormal reactions and maladjustment would disappear and the patient would be well. Dr. R. R. LEEPER said that the value of the work of the late Sir Frederick Mott could not be exaggerated. Referring to the large number of insane people in Ireland, he said that this was due to the persistent neglect in Ireland of feeble-minded children. Several attempts had been made to get the Mental Deficiency Act extended to Ireland, but they had all failed. Dr. H. T. BEWLEY thought that psychotherapeutists were still groping in the dark because they did not know the changes which occurred in the cells when will and other functions of the mind were exercised. He referred to the folly of telling a nervous patient to "pull himself together"; a depressed, nervous patient was quite unable to do this, and injurious consequences often followed the giving of such advice. Dr. F. C. PURSER said that what impressed him about psychotherapeutic methods was that Freud, Adler, and Jung all had different theories concerning the etiology of the psychoneuroses. They all worked on different principles, and yet they all got much the same results. He recognized that these results were good, but until more uniformity in theory and in practice had been obtained he could not feel that one was standing on firm ground. At present he felt that treatment was quite empirical.

Dr. BENNET, in reply, said that many psychoneurotic conditions tended to become psychotic. At the Tavistock Square Clinic the majority of patients were men, and three out of four patients that he saw in his private practice were men. The Freudian system was at present undergoing considerable changes. There was no unity of approach, and therefore the whole subject was rather confusing, but it appeared to be a sign of life that psychotherapeutists were still searching for a cure. He thought that Sir Frederick Mott had explained the pathological basis of dementia praecox, but he had not given any explanation of the mental state, and had approached the disease from a purely pathological basis.

Reviews

PRINCIPLES OF BIOLOGY

Professor LANCELOT T. HOGBEN's recently published book on the *Principles of Animal Biology* has the merit of living up to its title. It is, in the first place, concerned strictly with the general principles of which the phenomena of living matter are manifestations, presenting no more of the anatomical and physiological facts than are necessary to illustrate these principles; secondly, it deals exclusively with biology—the science of *living* things—and not, as do many works bearing a similar title, with the architecture of corpses. The author has made a complete break with the traditional "type system" which, introduced by Thomas Henry Huxley, still forms the basis of most English textbooks for first-year students. In this way he not only spares the student the irksomeness of meeting again facts with which his laboratory manual has made him sufficiently familiar, but leaves himself free to *develop in a logical manner the principles of scientific* method in general and their application to biological science in particular. Wherever necessary he has adopted an historical approach, "in the belief that the student will not attain to a sense of the challenging quality of scientific thought, unless he realizes the steps by which our present knowledge has been reached." It is this sense of the profound value of precise and disciplined observation and thinking, of the worthlessness of metaphysical speculations not rooted in scientific knowledge, that Professor Hogben succeeds in conveying to the reader throughout this book.

The work falls logically into two parts: the first, in which the elementary facts of comparative anatomy, with strict reference to their physiological significance, are set out in their proper order; the second, in which these facts are used as a basis for the interpretation of the phenomena of living matter. Of special value are the chapters on the machinery of inheritance and on the evolutionary problem, the former presenting a lucid account of the fundamental facts of genetics, the latter a scholarly and philosophical statement of the controversies that have raged about the problem of the origin of species. Professor Hogben, not unmindful of the possibility that "many . . . will shake their heads at the introduction of so much new and controversial material into a book of so elementary a character," is ready with his defence. "I have found in teaching," he says, "that young people are not interested in a dead subject, but are attracted to what is —like themselves—in a stage of rapid growth; and in my experience the surest way in which to make dull facts palatable is to make them topical." To the intelligent student, above all to the student who can take pleasure in science in the making, who would rather have his mind stimulated than crammed with sterile facts, this book may be unreservedly recommended.

SURGICAL DYSPEPSIAS

Mr. A. J. WALTON's well-known monograph on *The Surgical Dyspepsias*[2] now appears in its second edition. There can be no two opinions about whether he has succeeded in his endeavour to give a fair and just account of what is sometimes called "upper abdominal surgery." The book is unique, for it combines a most exhaustive review of the literature of the various lesions with a careful analysis based on the author's great and varied experience. As to that experience, he is now able to refer to his 1,186 cases of gastric and duodenal ulcers, 271 cases of carcinoma of the stomach, and 546 gall-stone patients operated upon. His own careful records and follow-up ensure that his judgements are based on mature consideration, not only of the immediate, but of the late, results.

The labour of producing an intensive study of this magnitude must have been immense. It is true that the reader may still hanker after a shorter and more concise account, possibly limited entirely to what Mr. Walton himself thinks. But it is a fact that great clinical and operative experience do not in themselves qualify an individual for omniscient and dogmatic statement on the whole range of etiology, pathogenesis, and morbid physiology, though it is not everybody who recognizes this. The great number of authorities quoted and the alternatives given have been inserted, we feel sure, for the purpose of the fullest possible discussion, and the reader may judge the issues for himself. The careful reader will find that the author does declare himself for one view when several are possible, but the declaration is very modestly made. Mr. Walton is no believer in the virtues of medical treatment for peptic ulcer, and the surgeon whose morale has been shaken by the recent advocacy of conservatism will find new encouragement in these pages. But he will find it on all the subjects treated of in this masterly volume.

ANGINA PECTORIS

Angina Pectoris,[3] the title of Dr. BROOKS's pleasing little monograph, inevitably recalls to the mind what Professor Ernst Edens, in his book on diseases of the heart and the arteries, wrote on the subject: "The diagnosis of angina pectoris cannot always be as certainly established as the patient and his doctor would like. Huchard says 'there are not several anginas but only one, coronary angina, the others being false. And if one cannot distinguish between them, I wonder what is the use of Medicine.' Osler is less confident, 'A cocksure diagnosis may express the assurance of ignorance.'" Where such men as Huchard and Osler have not seen eye to eye we may be allowed to note with interest the announcement of any new methods of diagnosing and treating this disease, and Dr. Brooks's book is therefore not unwelcome.

The difficulty about angina is that it is entirely subjective, for even the electrocardiogram during an attack is normal. It is a symptom relieved by certain drugs which dilate the coronary arteries and improve the blood supply to the heart; upon this supposed effect of amyl nitrite and its congeners is based the more widely accepted view of the pathology of the condition, that it is caused by disease of the coronary vessels, which are indeed in a large proportion of cases (but not in all) found at necropsy to be abnormal. It is not quite so simple as that, for the condition is rather a symptom-complex, and therein lies the source of the confusion which prevails, as the symptom-complex is in turn ill defined. Yet we condemn some of our cases to inactivity and early extinction, but others we invite to lead lives of normal usefulness and to reach a good old age. Mistakes are made, but diagnostic errors are not unknown in the case of other diseases. In all forms of cardiac disease optimism is desirable and, as we know now, well justified; in angina we are in the happy position of being at times sufficiently uncertain of the diagnosis to be able to give the patient the benefit of our doubt. In the prognosis of cases diagnosed with certainty we may base our estimate on the response to effort, and we shall fall short of accuracy less often than those who utilize other criteria.

[1] *Principles of Animal Biology*. By Lancelot T. Hogben, D.Sc.Lond. London: Christophers. 1930. (Pp. xxiv + 332; 125 figures. 8s. 6d. net.)

[2] *A Text-Book of the Surgical Dyspepsias*. By A. J. Walton, M.S., M.B., B.Sc., F.R.C.S. Second edition. London: E. Arnold and Co. 1930. (Pp. viii + 726; 286 figures. 42s. net.)

[3] *Angina Pectoris*. By Harlow Brooks, M.D. Medical Monographs. London: A. and C. Black, Ltd. 1930. (Pp. viii + 164. 6s. net.)

Dr. Brooks sets out in a very readable form what is generally accepted about this disease, and is very optimistic in tone. It is difficult to find any strikingly new observation or original method of treatment in his book. The chapter on surgical treatment is a very good summary of a complicated subject, and the author wisely refrains from expressing an opinion on the results, few of which have fallen under his notice.

LAST LECTURES BY RUDOLF MAGNUS

The late Professor Rudolf Magnus was invited in 1927 to give the Lane Medical Lectures in Stanford University School of Medicine. Their delivery was prevented by his tragically sudden death in that year, but he had already prepared the lectures, and these have now been published.[1] Dr. H. H. Dale has written an introductory note recounting Magnus's great services to pharmacology and experimental medicine, and a list of his published works is appended. Two lectures deal respectively with the experimental pathology of the lungs, and the action of choline as an intestinal hormone, while the third and last lecture is entitled "The physiological *a priori*." The second lecture is of particular interest because all the fundamental work on the action of choline upon the intestine was done in Magnus's laboratory. Weiland and Le Heux showed that the choline diffused out from the isolated gut into surrounding fluid, and that the gut only functioned in a normal manner in the presence of choline. Further investigation showed that intravenous injections of choline produced powerful stimulation of the intestinal movements in the intact animal, and that they could overcome gastro-intestinal paralysis produced by a variety of causes, such as laparotomy and peritonitis. These results were applied clinically in Germany for the relief of post-operative gastro-intestinal paralysis. Magnus summed up this interesting series of researches as follows:

"This development of the incidental observation of Weiland has led us into very different fields of medicine. It has brought us into contact with physiology, pharmacology, experimental pathology, internal medicine, and surgery, and has unveiled a number of interesting facts of theoretical and practical significance. This is a characteristic feature of pharmacological work. Pharmacology is connected with almost every part of medical art and science, and by the elaboration of her problems the pharmacologist has the pleasure of close and fruitful contact with his colleagues in many different branches of our noble profession."

RADIOLOGY IN NEUROLOGY

A new book on the use of electricity and radiation in the diagnosis and treatment of nervous diseases[2] has been prepared by two Paris physicians, Drs. ZIMMERN and CHAVANY. It is comprehensive, and covers the whole subject as far as is possible in a moderate-sized volume. There are 654 pages and 254 figures. The work is divided into four parts, dealing respectively with electro-diagnosis, radio-diagnosis, methods of treatment, and affections of the nervous system. Each part is very thoroughly treated; the material is concisely put together, and is clearly expressed. The authors are to be congratulated on the way in which they have handled the subject.

Part I opens with the electrical reactions of the motor nerves and muscles in normal and pathological conditions, and a description is given of the methods adopted and the results obtained; it is well illustrated with diagrams of the apparatus employed. A list of lesions is given in which reaction of degeneration occurs in different parts of the body, and the significance of these reactions is discussed. Space is also devoted to electricity in the diagnosis of sensory nerve lesions. A chapter is included on electromyographic methods, and Siemen's electrocardiograph is described. Part II deals with the radiological examination of the nervous system, with a detailed description of methods for examining the skull and spine by ventriculography and encephalography. This part of the book is very well illustrated with diagrams of the distribution of air in the skull and ventricles of the brain. Examination of the central nervous system by means of lipiodol is given at length. Part III records methods of treatment. Faradization, galvanization, ionization, and diathermy are described, and a short chapter is devoted to the radiosensitivity of nerve tissues and the biological effects of radiation. Another chapter deals with actinotherapeutics, and with infra-red and ultra-violet rays.

The concluding part, on affections of the nervous system, deals systematically with these affections in different parts of the body. The chapter on cerebral tumours is exceedingly well written. Radio-diagnostic methods and craniography are described, and are illustrated with various skiagraphic representations of cerebral tumours. Part of this chapter is also devoted to hypophyseal lesions, hemiphlegia, epidemic encephalitis, and myasthenia. Affections of the spinal cord with their diagnosis and treatment are next dealt with. An important chapter is that which deals with compression and tumours of the spinal cord. Traumatic affections of the nerves—facial, brachial, sciatic, and of the lower limbs generally—are treated on similar lines. There are chapters also on muscular affections, myopathies, and congenital muscular atrophy. Under the general heading "Para-neurological syndromes," chapters are devoted to the following affections: exophthalmic goitre, tetany, hysteria, occupational nerve affections, and neurasthenia.

This book is a valuable addition to literature on nerve affections, and should find a place in every medical library. It is particularly helpful to the electrotherapeutist and the radiologist.

MRS. DOSE THE DOCTOR'S WIFE

Dr. Dose and his happy family must be familiar to most medical men with happy families of their own, and in *Mrs. Dose the Doctor's Wife*[3] Miss JOYCE DENNYS with pen and pencil discloses some of the secrets of this lady's family life. We seem to remember a feeling of doubt raised by the distinctly unflattering portraits of Dr. and Mrs. Dose as to the possible loss thereby of parental dignity in the eyes of the young, a doubt which appears to have been only too well founded in the case of Miss Dennys. The six sketches of Mrs. Dose are introduced with the explanation that all doctors' wives wear false noses to conceal their little insincerities from the public gaze, and they are illustrated in the happy and amusing style with which we are so familiar. One need say no more than that the text is thoroughly in keeping with the illustrations. Should Mrs. Dose be tempted to feel a little hurt at the somewhat ruthless exposure of her disguise we would bid her remember that there are very few individuals in this world who can afford to face the public eye without a false nose, and that most people require more than one.

An amusing trifle for all doctors and their wives who can enjoy a good laugh against themselves, even if the mirror in which they are reflected produces an unflattering distortion.

[1] *Lane Lectures on Experimental Pharmacology and Medicine.* By Rudolf Magnus. Stanford University Publications; University Series: Medical Sciences, vol. ii, No. 3. Stanford University, California: Stanford University Press. 1930. (Pp. 108; 20 figures.)

[2] *Diagnostic et Thérapeutique Electro-Radiologiques des Maladies du Système Nerveux.* Par A. Zimmern et J.-A. Chavany. Paris: Masson et Cie. 1930. (Pp. 654; 254 figures. 100 fr.)

[3] *Mrs. Dose the Doctor's Wife.* Written and illustrated by Joyce Dennys. London: J. Lane, The Bodley Head, Ltd. 1930. (Pp. 140. 5s.)

NOTES ON BOOKS

Within two years of the publication of a second edition of ROMANIS AND MITCHINER'S *Science and Practice of Surgery*,[7] a third edition has been called for, which proves beyond all doubt that the book fulfils the object for which it was written. There is no need to enter into a detailed review of a work which has so evidently come to stay. For the purpose of the latest edition a general revision of the text has been carried out, while the section on whitlows has been rewritten and enlarged, and that on varicose veins revised and amplified with regard to the details of treatment by injection. Certain portions of the chapters dealing with cranial lesions and fractures have been largely rewritten, and much new material has been added to the treatment of burns and empyema, and to radium therapy and anaesthesia. Some new and additional illustrations and plates appear. This third edition should prove as acceptable to students and practitioners as the preceding editions have been.

Fortunately for the reader of *The Formenkreis Theory and the Progress of the Organic World*[8] the author reproduces his central idea in the form of a diagram towards the end of the book. The diagram has in its centre a sun—the sun of life—from which emerge rays, each ray representing a particular form of life. Thus the human and anthropoid rays are distinct from their point of emergence from the central disc. "Formenkreis" is another name for a "real" species, which the author alleges was first defined by Immanuel Kant in 1775. The author is evidently a student of birds, and many of his illustrations are drawn from the bird world. The problem of man's origin is discussed, but no fresh light is thrown upon it.

How, unless he is a child himself, is the reviewer of children's books to know if the books that give him pleasure are likely to give pleasure to children also? Mr. AUSTIN PRIESTMAN'S "*Gabriel*,"[9] for example, cannot fail to delight the adult reader. The author has a delicate perception of the mind of the child; he can suggest unobtrusively the animism of the child's world, and the continuity of reality and fantasy in the child's life; he writes as an accomplished literary craftsman; above all, he can tell a story. But all these, except the last, are an adult's criteria of excellence, though it is probable that a work that fulfils them is more likely to give pleasure to children than one that does not. The chance is worth taking; Gabriel, if he is the child we take him for, would be glad to see his nursery bookshelf enriched by this beautiful book.

The character and scope of the gigantic treatise on Chemistry[10] now being prepared by MELLOR has already been described in these columns in individual references to the nine volumes already through the press. Volume x, which is now ready, comprises the chemistry of sulphur and selenium, and so exhaustive is the treatment of the subject that there is room in it for no more than the chemistry of these elements. The question, "Where can I find out?" becomes ever more frequent in modern chemistry. The answer is now growing to be a commonplace. "If it is anywhere, you will find it in Mellor." The finished series is to consist of thirteen volumes, and will be without question the most comprehensive work of its kind that has yet been produced.

[7] *The Science and Practice of Surgery*. By W. H. C. Romanis, M.B., F.R.C.S.Eng., and Philip H. Mitchiner, M.D., F.R.C.S.Eng. Vols. i and ii. Third edition. London: J. and A. Churchill. 1930. (Vol. i, pp. x + 772 + 73; 351 figures, 11 plates; vol. ii, pp. ix + 950 + 73; 316 figures, 3 plates. 14s. each volume.)

[8] *The Formenkreis Theory and the Progress of the Organic World*. By Dr. Otto Kleinschmidt. Translated by the Rev. F. C. R. Jourdain. London: H. F. and G. Witherby. 1930. (Pp. 192; 16 plates, 53 figures. 16s. 6d. net.)

[9] "*Gabriel*." By Austin Priestman. London: Alston Rivers, Ltd. 1930. (Pp. 80; illustrated. 3s. 6d. net.)

[10] *A Comprehensive Treatise on Inorganic and Theoretical Chemistry*. By J. W. Mellor, D.Sc., F.R.S. Vol. x. London and New York: Longmans, Green and Co. 1930. (Pp. viii + 958; 66 figures. 63s. net.)

The third edition of PINEY'S *Recent Advances in Haematology*[11] maintains the standard of the previous editions. In the new chapter on "Anaemias with low colour index" there is no mention of the volume of the blood, or reference to the important work of Rowntree and Brown on the application of blood volume estimation as a routine clinical procedure. There is also a new chapter on "Sickle cell anaemia." It seems a pity that Dr. Piney is so limited in the scope of his subject by the boundaries of other books of this excellent series.

The Technique of Medical Treatment,[12] by Dr. G. MILIAN of Paris, is something rather different from what one would expect from its title. It is a compact and attractive volume containing clear and sound instructions for the performance of the minor diagnostic and therapeutic measures on the borderlines of medicine and surgery. Accordingly, there are full and clear accounts of the technique of lumbar puncture, blood transfusion, local anaesthesia, and the uses of trocar and cannula in the various serous cavities, and so forth. Similarly, there are useful chapters on topics such as the common and less serious maladies of the urinary tracts, artificial respiration, and the mechanics of the digestive tract. The authors hope that the volume will be consulted by practical physicians, and we think that the book will be very useful as a handy work of reference for anyone, senior or junior, who wants to be sure of "exactly how to do it." In addition to technical instructions there are very valuable discussions of the various methods and their utilities along orthodox lines.

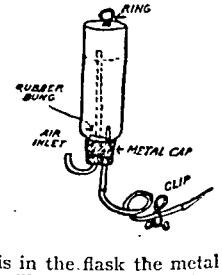
[11] *Recent Advances in Haematology*. By A. Piney, M.D., Ch.B.Birm., M.R.C.P.Lond. Third edition. London: J. and A. Churchill. 1930. (Pp. x + 348; 18 figures, 4 plates. 12s. 6d.)

[12] *Technique Thérapeutique Médicale*. Par le Dr. G. Milian. Bibliothèque de Thérapeutique. Paris: J. B. Baillière et Fils. (Pp. xii + 435; 162 figures. 50 fr.)

PREPARATIONS AND APPLIANCES

A SIMPLE THERMO-SALINE APPARATUS

Dr. E. M. R. FRAZER (Newhall) writes: Practitioners who are called upon occasion to perform saline infusion into the breast or rectum will at once appreciate the difficulty of keeping the saline solution at the correct temperature; the infusing into the tissues takes some time, and the temperature rapidly falls. This difficulty may be easily circumvented as follows. A cheap vacuum flask of a quart capacity is fitted with a rubber bung. Two pieces of plated tubing, similar in bore to stethoscope headpiece tubing, are obtained, one being about 14 inches long and the other about 6 inches long. These are pushed through the rubber bung fairly close to its centre, the shorter piece just piercing the bung; the other piece is bent through 180 degrees about five inches from the bung. A hole 1 inch in diameter is cut in the metal cap of the flask, and the tubes are passed through this. When the rubber bung is in the flask the metal cap may be screwed on as usual, and will prevent the rubber bung from coming out of the neck. The rubber tubing with the spring clip tap may be connected to the short tube; the long curved tube allows air to enter the flask. A ring for hanging the flask may be fixed to the bottom of the case. The whole apparatus takes up little room, and is easily sterilized. The illustration should make the idea clear.



ABRODIL FOR INTRAVENOUS PYELOGRAPHY

Abrodil (Messrs. Bayer Products Ltd.) is a complex organic iodine compound evolved for the purpose of pyelography after its intravenous administration. It has the chemical formula of mono-iodo-methane sulphonic acid. The iodine content is 52 per cent. It is freely soluble and heat-stable, and solutions can be sterilized by boiling. The dosage recommended is 20 grams dissolved in 100 c.cm. of distilled water. The optimum time for pyelography is fifteen to twenty minutes after the injection. The makers claim that the compound is tolerated almost as well as sodium chloride, and that it is rapidly and completely excreted in the urine without undergoing any decomposition in the body.

British Medical Journal

SATURDAY, JANUARY 3rd, 1931

CANCER OF THE LUNG

In his preface to Dr. Maurice Davidson's book on *Cancer of the Lung*,[1] Professor Arthur Hall lays stress on the importance of knowing the varied and insidious disguises which early pulmonary cancer may assume, so that, acting upon such knowledge, the practitioner may help more than anyone else in forwarding advance in the treatment of this grave disorder. Dr. Davidson, like many other observers, has been impressed by the alleged increase in the incidence of primary cancer of the lung. Walshe in 1878 remarked that cancer of the lung, though very much less rare than had been until recently supposed, was, absolutely speaking, an uncommon affection. Davidson, in his survey of the statistical aspects of the disease, quotes many authorities who refer to the post-war increase in the occurrence of cancer of the lung, one of the most impressive being Hoffmann, who shows that in the United States deaths from cancer of the lung occurred at the rate of 0.6 per 100,000 of the population in 1914, and that in 1929 the rate had risen to 1.9 per 100,000. In the Paris mortuary registers, quoted by Wilson Fox in 1891, cancer of the lung accounted for only 0.09 per cent. of all cases of malignant disease; Lubarsch, analysing cases from all over Germany in 1920–21, found that carcinoma of the lung composed 5.4 per cent. of all carcinomata. All the most reliable figures are based on post-mortem evidence, and they point to a post-war increase so remarkable that it can hardly be explained as being due to improvement in diagnosis or to selection of cases for admission or for necropsy such as might occur in teaching hospitals. Maxwell and Nicholson[2] agree with these conclusions, and add the astonishing statement that in the last five-year period no less than one-seventh of the malignant tumours in the post-mortem room at St. Bartholomew's Hospital took their origin within the thoracic cavity; so that Walshe's remark that cancer of the lung is, absolutely speaking, an uncommon affection, would appear to be no longer valid.

Primary cancer of the lung originates, in the majority of instances, as bronchial carcinoma, although in rare cases it may arise from the alveolar epithelium. In discussing the suggested explanations of the increased incidence of cancer of the lung, Davidson remarks that the intrinsic difficulty is our ignorance of the etiology of cancer generally. The facts as to sex and age incidence are not in dispute; lung cancer affects men more than women, and the average age incidence is round about 50, but Davidson believes that it affects a larger proportion of comparatively young people than formerly. Maxwell and Nicholson show that the increase affects both sexes equally, quoting West, who in 1897 found a sex ratio of three males to one female, and giving their own series as eighty-three males to seventeen females, a ratio of nearly 5 to 1, while Davidson gives almost identical figures from the series at Brompton—eighty-nine males to eighteen females. There is something in occupational environment, as shown by the frequency with which it occurs among workers whose occupation exposes them to constant pulmonary irritation. But the chief evidence of an occupational factor is drawn from the high incidence of cancer of the lung among the miners of the Schneeberg district in Saxony. Davidson, as well as Maxwell and Nicholson, refers to the possibility that petrol fumes, dust, and tar from the roads, furnish etiological factors from which few can escape, but he does not consider that definite conclusions on this point are justified.

The clinical recognition of cancer of the lung is beset with the same difficulties as that of cancer elsewhere. The onset of symptoms is so insidious that the condition is usually far advanced before the patient has need of medical advice. Davidson, however, points out that in a fair number of cases there is a sudden development of some serious manifestation, which may bring the patient to the doctor, and he describes how the cases fall into certain broad groups, as follows: (1) cases with haemoptysis; (2) pleurisy with or without effusion; (3) cases whose history and physical examination suggest some localized infection within the chest; (4) cases with respiratory symptoms other than the foregoing, especially chronic bronchitis, whose condition and physical signs do not suggest any serious organic chest lesion; (5) cases in which the diagnosis is fairly obvious, owing to pressure signs and symptoms. These hints as to the class of case in which cancer of the lung or some other intrathoracic tumour is to be suspected are of more practical value than a detailed analysis of signs and symptoms. The clinical picture presents a good deal of variation; pathological examinations of the sputum, of the blood, and of pleural exudates may only too often yield little or no information, and even the most expert radiological assistance may not give conclusive evidence.

Davidson's detailed case reports serve to illustrate the inherent difficulties of diagnosis, even with every known adjunct to physical examination. Radiological examination, while not infallible, offers the greatest help in the discovery of intrathoracic neoplasms, and Davidson's illustrations of *x*-ray appearances, with and without the addition of lipiodol injections, serve to emphasize the importance of this method of investigation. He insists, and rightly, that the clinician and the radiologist must co-operate. He says: "The use of *x* rays in the diagnosis of non-tuberculous diseases of the lungs has not received such general recognition in this country as it has on the Continent, and especially in the United

[1] *Cancer of the Lung, and Other Intrathoracic Tumours.* By Maurice Davidson, M.D., F.R.C.P. With a foreword by Arthur J. Hall, M.D., D.Sc., F.R.C.P. Bristol: J. Wright and Sons, Ltd.; London: Simpkin Marshall, Ltd. 1930. (17s. 6d. net.)

[2] Maxwell, J., and Nicholson, W. A.: A Clinical Study of Bronchial Carcinoma, *Quart. Journ. of Med.*, October, 1930, xxiii, 29.

States." To those who watched the growth of radiological examinations in connexion with war wounds of the lungs this is a startling indictment. One would have supposed that a lesson the war had taught for good and all was that *x* rays were at least of equal importance with the stethoscope for intrathoracic diagnosis. Davidson would have the clinician spend much of his time and study in the *x*-ray department. He might have gone further, and said that the patient nowadays may justly complain if a physician ventures to pronounce an opinion upon diseases of the chest of almost any sort without *x*-ray examination. Bronchoscopy, too, has come to be regarded as an integral part of the examination of the chest, and Davidson emphasizes its value in cases of intrathoracic new growths, not only because it may reveal the presence of bronchostenosis, but because the actual growth may in some cases be recognized by direct vision and portions removed for microscopical examination. Finally, he advocates surgical exploration of the chest as a proper step in the scheme of examination now that, as he writes, the technique of intrathoracic surgery has reached a stage in which it presents difficulties no greater than those of opening the peritoneal cavity. He advocates surgical operation, not only as a means of diagnosis, but on the grounds, first, that an intrathoracic tumour may prove at operation to be benign and operable; secondly, that even in regard to proven malignant growths of the lung, unless we are prepared to explore these with the object of exploiting to the full every possibility of surgery, either alone or in combination with radium, we cannot hope to make any real advance.

Dr. Davidson's conclusions will command general approval; his book is full of informing facts, his judgement is reasoned, and his illustrations are both ample and artistic. This monograph is a valuable contribution to medical literature.

MEDICAL BENEFIT AMENDMENT REGULATIONS

During the past year three major matters in connexion with Medical Benefit under the National Health Insurance Acts have been the subject of discussion between the Ministry of Health and the Insurance Acts Committee as representing insurance practitioners. They have related to the procedure to be adopted in reference to: (1) questions of slack certification, (2) questions whether a substance or article supplied to an insured person is a drug or appliance forming part of medical benefit, and (3) questions as to the method by which an insured person may change his doctor. The first two of these matters are the subject of amending Regulations recently made by the Minister of Health (Statutory Rules and Orders, 1930, No. 781), and the procedures laid down in the new Regulations are of considerable importance.

Failure to exercise reasonable care in the issue of certificates of incapacity must be distinguished both from false certification and from breaches of the certification rules which are part of an insurance practitioner's terms of service. The putting of his signature to a statement he knows to be untrue is one of the gravest faults with which any medical practitioner can be charged, and may deserve the utmost penalty imposable either under the national health insurance scheme or by the General Medical Council. Breaches of the certification rules may be of very varied degrees of culpability, and by the existing Regulations may be referred by an approved society for investigation by the Medical Service Subcommittee of the area. Repeated breach of these rules may, in itself, constitute laxity of certification; but laxity usually results from a want of proper care in forming an opinion as to incapacity, or from the practitioner directing his mind to questions other than those that arise strictly from the narrowly defined "sickness benefit" for which the patient is insured. There is no reason to suppose that practitioners have suddenly become more lax in this matter than they were during the earlier years of national health insurance; and the Insurance Acts Committee is of opinion, confirmed by independent inquiries by the Ministry of Health, that slackness in certification cannot be one of the main causes of the increased claims for sickness benefit which have been so serious a feature of approved society experience for the past few years, at least up to the end of 1929. Nevertheless, so far as it exists, it is in everybody's interest to check it, and the Insurance Acts Committee itself initiated the proposals now embodied in the amending Regulations. These have been agreed upon between the Minister and the Committee, and maintain the principle for which the Committee has contended, that questions of this kind are mainly, and in the first instance at least, matters of professional opinion or conduct, which should be judged by a purely professional tribunal. The Minister may refer any case in which the question of slackness of certification arises to a Panel Committee or a committee representative of several Panel Committees, and they, after following a prescribed procedure, are to be the judges as to the facts of the case and its gravity, and are to recommend to the Minister the action he should take. There are provisions for appeal from the findings of the Panel Committee to a special tribunal, and also for the setting up of a composite advisory committee whom the Minister will consult before any penalty is actually inflicted on a practitioner. It is much to be regretted that in this matter the Scottish Department of Health has shown itself less far-seeing and broad-minded and reasonable than the Ministry of Health: the result in Scotland is that the proposals have been withdrawn altogether.

The Regulations that prescribe the procedure to determine whether a substance supplied to an insured person is or is not a drug within the scope of medical benefit are not part of the disciplinary machinery. In this case it is clearly proper that the Insurance Committee and the Pharmaceutical Committee of the area should have a more prominent place in the machinery.

The former committee here has the right of referring a case to the Panel Committee, and both these committees have the right of being heard by the Panel Committee. The practitioner who orders the substances has his interests fully safeguarded, but it is clearly important to protect the Drug Fund from being misused for the supply of foods or toilet articles.

New Regulations dealing with the method by which an insured person may change his doctor have not yet been issued. The proposal is that an insured person on a doctor's list, who has not removed out of that doctor's area of practice, shall only be allowed to change his doctor at the end of a quarter, and then after having given a month's notice of his desire to change. In this matter, unlike the other two discussed above, the Insurance Acts Committee is not in agreement with the Ministry, so that here the will of the approved society officials is to be imposed by the Minister on insurance practitioners in spite of their appeal for postponement at least, and of their strong expression of opinion that the alteration would not be for the good of the service or to the advantage of insured persons. Further comment may become necessary if the Minister takes the action indicated, but it may be said at once that this is not the first time that the officials of approved societies (with the exception, perhaps, of some of the older friendly societies) have shown that insurance practitioners know more about insured persons and feel more concern for their interests than do those officials.

QUININE THERAPY IN MALARIA

The cinchona tercentenary celebrations at the Wellcome Historical Medical Museum were continued on December 15th and 17th, 1930, when further addresses by leading authorities in pharmacy and medicine were delivered. Mr. T. E. Wallis spoke on certain aspects of the study of cinchona, describing work as a result of which the pharmacognosist was able to define the bark most suitable to the physician, to control the identity of the whole and the powdered drug, to analyse materials containing the drug, and to suggest new directions in which the bark may possibly be still further utilized. Major-General Sir Charles MacWatt, who was Director-General I.M.S. from 1922 to 1926, gave an account of his experience of epidemics of malaria in British India, mentioning that for twenty-five years in India he had taken a daily ration of quinine as the only means of keeping himself free from recurring attacks of chronic malaria. He also spoke of cinchona cultivation in India. There were Government cinchona plantations in the Nilghiris in South India, in the Darjeeling district in Bengal, and a quinine factory in the Madras and Bengal provinces. A crop of cinchona rendered the soil, at least for some time, incapable of producing a satisfactory second crop; so that an unrestricted area of suitable forest land was required to enable the earth rendered sterile by the first crop to be abandoned and another crop to be planted on virgin soil. In his opinion the time had come for further efforts to increase the production of cinchona and quinine within the British Empire. In India the production of cinchona could be greatly increased by extending the area under cultivation and by more intensive cultivation. The final address was given by Dr. P. Manson-Bahr, on quinine therapy in malaria from the aspect of the practical physician. He said that of the three species of malaria parasites causing three clinically distinct diseases the benign tertian and the subtertian were the most generally distributed, and the quartan the most infrequent. Subtertian fevers were most amenable to quinine therapy, the other two much more refractory. The primary attack was more susceptible to treatment than were relapses. The resistance of the body to infection was often overlooked; in addition to specific therapy, every other aid must be enlisted to augment the *vis medicatrix*. Lowering of body resistance in a debilitating tropical climate was the underlying cause of the apparent failure of quinine therapy. Quinine exerted its maximum effect if given when the acute paroxysm was declining and the patient was beginning to sweat, for at that moment the parasites had sporulated and the merozoites were free in the blood plasma and most susceptible to the action of quinine. A good method for removing the bitter taste was to prescribe it in a mixture with 10 grains of citric acid, to which were added 4 grains of ammonium carbonate, and 20 grains of potassium bicarbonate. Even by continuous quinine therapy the non-occurrence of relapse could not be guaranteed; and in order to avoid relapse the resistance should be built up by good food, fresh air, and moderate exercise. There were grounds for thinking that in the quiescent stage salvarsan had some action on the parasite, or at least exerted a definite tonic action on the body, so that he was in the habit of combining one or more injections of 0.3 grain of neosalvarsan as adjuvant to quinine therapy. He was sure that quinine did not exert its maximum effect unless the intestinal tract was in a receptive state for its absorption; therefore a saline aperient should be given at the commencement of quinine treatment and thereafter once or twice weekly. In subtertian infections such large doses were not needed as in benign tertian. One could commence with 15 grains of the alkaloid in solution, generally given by the mouth (except in the more severe clinical forms, with bilious vomiting, when a smaller amount should be given intramuscularly), and the dose by the mouth could be gradually increased to 30 grains daily. In very severe toxic cases of subtertian infection the pushing of quinine must be avoided on account of the liability to blackwater fever. Finally, Dr. Manson-Bahr mentioned plasmoquine. He believed this compound a useful adjuvant to quinine treatment, and in many circumstances an efficient substitute. It had certainly opened up vistas the exploration of which might yield less toxic and even more specific antimalarial drugs.

A COURSE IN PSYCHOLOGICAL MEDICINE

During the past three months a series of twenty-four post-graduate lectures on psychological medicine has been given by two prominent members of the staff of the Tavistock Square Clinic for Functional Nervous Disorders. Dr. G. Graham Howe dealt with mechanisms of the mind at 3 p.m. on Wednesdays, while at 4.30 p.m., after an interval for tea, Dr. H. Crichton-Miller discussed psychological types. The success of the enterprise can be gauged from the fact that the

clinic held no room large enough to accommodate the class, and the hospitality of Friends House, in Euston Road, had to be enlisted. The lecturers between them provided a bill of fare which was long but not indigestible. Its courses were skilfully blended. Many of the ingredients used would have been little relished unless presented with discretion and garnished with common sense. Only connoisseurs could guess how arduous must have been the service which prepared them. Dr. Howe, in indicating psychological mechanisms so far as they are at present understood, followed no one school of thought, but drew impartially—from Freud, Jung, Adler, and others—contributions which exposed the direction of paths still unexplored. While some of these are likely to remain blind alleys, others may prove to be thoroughfares to a realm of more complete understanding of human minds and motives than any of us can conceive at present. On the whole, Dr. Crichton-Miller had set himself an easier task in outlining "type psychology." The reaction of the individual to influences whose genesis might extend back far beyond his own life was, he said, modified by his type, and examples wittily drawn from clinical practice confirmed the value of this method of approach. The lecturer was careful to point out the rarity of pure, uncompensated types; but the temptation to label the pronounced "feeling" and "thinking" types among their friends and patients was not likely to be resisted by his audience. The tact with which both lecturers handled their subjects would merit praise, were it not impertinent to offer praise on this ground to professional psychologists. They recognized that medical practitioners attending a post-graduate course on any subject are prepared as a rule to listen attentively, but not to work between lectures; for their escape from practice, even for a brief couple of hours, is costly enough. If further effort in the way of home reading is required in order to follow the argument, the attendance at the later part of a series of twelve sessions tends to flag. That no such tapering marred the good relations between these lecturers and their eager class is a tribute to the consistent level of the instruction offered.

READING AND EYE MOVEMENTS

A series of delicate experiments have been carried out at the psychological laboratory in the University of Cambridge on the movements of the eyes in reading. The results appear in one of the monographs published by the Medical Research Council.[1] Most people have some appreciation that the fixation of the eyes is not completely steady, for the after-images of a bright light, looked at for one moment, are several and not one. In this piece of work Miss Vernon has investigated the effects of different factors, such as meaning, interest, and trains of thought, on the effector mechanisms of reading, these effects being judged by observation of the ocular movements and of the rate of reading. The observations were made with the help of a most ingenious apparatus, which recorded the ocular movements by photographing a beam of light reflected from the cornea of the eye upon a continuously moving film. It was found that the eye did not remain steady during voluntary fixation. With a fixation period of twenty seconds, long drifts, shorter waves, and rapid jerks away from the fixation point were shown by most subjects, and similar drifts occurred during the shorter fixation periods. Voluntary movements were performed accurately in only 20 per cent. of cases on the average. There was a tendency for the eye to stop short of the correct point, but it occasionally went too far. The subject had no sensation of these defects of fixation. The average rates of reading of all types of matter were fairly constant for all subjects. They varied with the attitude of the subject towards the matter. When the subject was not attending to, or was completely uninterested in, the meaning of the content, reading was rapid and regular, with few regressions, and often increased in rate towards the end of the passage. When the subject was interested, and had some difficulty in comprehending the meaning, reading was slower, with large irregularities and numerous regressions. The greater the personal interest the slower the reading and the more irregular the regressions. Individual variations were thought to depend partly upon muscle balance of the ocular muscles, and partly upon acuity of vision and accuracy of refraction. Some of the subjects of the experiments suffered from ocular defects, but these were not investigated before experimentation. There would appear to be some value in correlating ocular defects and rate of reading and variations in fixation. It is evident that any defect that will affect these reactions will influence the onset of fatigue.

[1] Medical Research Council. Special Report Series, No. 148. Reports of the Committee upon the Physiology of Vision. VIII. The Movements of the Eyes in Reading. By M. D. Vernon. London: H.M. Stationery Office. 1930. (9d. net.)

AUSTRALIAN ECONOMIC DEPRESSION

Owing to the world-wide downward movement in the prices of primary commodities (writes a correspondent) the value of Australian exports for the year 1929–30 was £40,000,000 less than for 1928–29. The cessation, moreover, of overseas loan flotations (by means of which Australian Governments for the preceding ten years had borrowed an average annual amount of almost £20,000,000) has been an additional factor in producing a drastic and relatively sudden reduction in the Australian national income. This reduction, falling, as it must, directly or indirectly, upon every member of the community, is affecting to an appreciable degree the position of the medical profession. Specialists, especially those treating chronic and less urgent conditions, have experienced a noticeable, and in some cases a considerable, reduction in the numbers of their private patients. For younger practitioners in such branches, moreover, the falling-off in well-established practices has been a source of some discouragement, at least as regards their immediate futures. The general practitioner, however, now that the first widespread family economies (consequent upon exaggerated fears of the "depression") have subsided, has not suffered to the same degree. The reduced earning power of the community is reflected rather mournfully, nevertheless, in an increase in bad debts, delayed payments, and temporary defaults. Economic depression, while producing no obvious diminution in the incidence of disease, has demonstrated very prettily how requests for a consultant, calls for a general practitioner, and, above all, visits to a specialist, are dependent to a considerable degree upon the income of the average individual and its

purchasing power, as regulated by price levels within the nation. The response of Australia to her changed circumstances has been general and complete. Rigid economy in expenditure, public and private, is everywhere the rule. Costs of production and distribution are falling. The cost of living has been reduced by 8 per cent. at least. Not only has Australia wrested from England the Ashes, but the more doubtful honour of paying the highest taxation per capita of any nation upon earth is now hers by right as well.

PITHEAD BATHS

In 1920 the Mining Industry Act was passed, and one of its provisions was the establishment of the Miners' Welfare Fund, from which grants were permitted for the erection of suitable baths and clothes-drying accommodation at the pithead. Six years later thirty-one schemes were in existence, accommodating 23,600 men. By the provisions of the Coal Mines Act of 1926, a 5 per cent. levy was imposed upon coal royalties, and as a result £200,000 was raised, which, added to £150,000 per annum contributed by the Miners' Welfare Committee, made a total of £350,000 available for the purpose. As a preliminary to the main programme of construction the Miners' Welfare Committee decided to make some experiments with four installations. Dr. Vernon and Dr. Bedford of the Industrial Health Research Board undertook the necessary research, and were engaged during the years 1927–29 in investigating the various problems encountered.[1] A summary of the findings discloses many interesting facts of physiological importance. In order to find the rate of drying of a bundle of wet clothes discarded by a miner coming up from the pit, damp towels were spread over small bundles of suspended clothes, and observations were made by means of the wet and dry bulb thermometer. It was found that the time required to dry the towels to a given extent varied inversely as the vapour tension difference. In certain circumstances it was inevitable that the overhead suspension system for clothes should be adopted in the baths, and here the best arrangement was that of gilled steam pipes 7 to 8 feet above the floor. This maintained a temperature of 13° F. above that of the room below, where the men were changing, and was infinitely superior to the method of smooth overhead steam pipes or of hot-water pipes. The latest type of bath has separate sections for clean clothes and for pit clothes, and all the garments are kept in lockers. This inevitably leads to a slower rate of drying than if the clothes are hung in the gangway outside, chiefly because the ventilation is poor, and the clothes may also press against the sides of the locker, causing a delay in drying. The best type of locker is that which has a central hook from which the clothes are hung. The ventilation of the new locker baths is carried on by extraction fans and roof ventilators; the air is admitted by gratings in the wall at a height of 2½ feet above the floor, and is slowly warmed as it passes in, but its rate of entry cannot be controlled. The roofing is of corrugated steel, covered with a thin layer of asbestos felt. Owing to the free transmission of heat the inside temperature of the building varies from 110° F. in summer to 40° F. in winter.

[1] Medical Research Council. Report No. 60. Industrial Health Research Board. H.M. Stationery Office. 1930. (9d. net.)

NEW YEAR HONOURS

The list of New Year honours, published in a special supplement to the *London Gazette*, includes the names of twenty or thirty members of the medical profession. A baronetcy is most fittingly conferred on Sir John Rose Bradford, K.C.M.G., F.R.S., consulting physician to University College Hospital, who has held with great distinction the office of President of the Royal College of Physicians of London since 1926. Lieut.-General Harold B. Fawcus, Director-General, Army Medical Services, is promoted K.C.B.; and Professor Ashley W. Mackintosh of Aberdeen, honorary physician to His Majesty's Household in Scotland, is appointed K.C.V.O. Dr. Jane Walker, pioneer in the open-air treatment of consumption in England, and founder of the East Anglian Sanatorium, of which she has been medical superintendent for the past thirty years, is created a Companion of Honour. Three medical men receive the honour of knighthood: Dr. Ernest Graham Little, physician in charge of the skin department of St. Mary's Hospital, and M.P. for the University of London; Dr. James Smith Whitaker, who was Medical Secretary of the British Medical Association from 1902 to 1911, when he became deputy chairman of the National Health Insurance Commission, and since 1919 has been a senior medical officer in the Ministry of Health; and Mr. Ambrose Edgar Woodall, surgical specialist to the Ministry of Pensions and surgeon to the Manor House Hospital. The C.B. is awarded to Major-General Lawrence Humphry, D.D.M.S., Western Command, India; and the C.B.E. to Dr. Agnes Catherine Scott, chief medical officer and secretary of the Dufferin Funds, Miss Louisa Martindale, surgeon to the New Sussex Hospital, Brighton, Mr. Ernest B. Waggett, D.S.O., consulting surgeon to the throat and ear department, Charing Cross Hospital, and Professor Sidney Russ, who has been in close touch with medicine as physicist to the Middlesex Hospital and as scientific secretary of the National Radium Commission. The peerage conferred on Sir Ernest Rutherford, immediate Past-President of the Royal Society, recognizes the work of an epoch maker in physics, and Sir Richard Gregory's baronetcy will be welcomed by all who are aware of what he has done to promote the physical and biological sciences during the past thirty-seven years as assistant editor and editor of *Nature*. A full list of the New Year medical honours will be published in our next issue.

Professor Ernst von Romberg of Munich informs us that the commission entrusted with the grant of the Dr. Sophie A. Nordhoff-Jung Cancer Prize for the best work of recent years in the field of cancer research has unanimously awarded this prize to Dr. Alexis Carrel of the Rockefeller Institute for Medical Research in New York, for his development of the method of tissue cultivation and his application of it in the solution of the basic problems of pathological growths, especially the growth of malignant tumours. The commission was composed of Professors Borst, Döderlein, von Romberg, and Sauerbruch.

The King has appointed Major-General H. P. W. Barrow, C.B., C.M.G., D.S.O. (Health Officer), to be an official member of the Executive Council of the Presidency of Antigua.

THEORIES OF THE BACTERIOPHAGE

PROFESSOR BORDET'S CROONIAN LECTURE

Professor Jules Bordet, foreign member of the Royal Society, delivered the Croonian Lecture at Burlington House on December 11th, 1930. The title of his lecture was "Les Théories des Bactériophages," but it was given in English. It will appear in full in the *Proceedings* of the Royal Society; the following is an abstract.

The phenomenon of the destruction of microbes known under the name of bacteriophagy, or transmissible autolysis, quickly aroused the liveliest interest. Is it not surprising that a bacterial culture grown on the surface of an agar medium becomes sprinkled with holes, in the neighbourhood of which the culture becomes deeply corroded? Is it not further remarkable to find that a broth to which has been added the active principle responsible for this effect is rendered unsuitable as a culture medium; or that under the action of the same principle a turbid microbial suspension obtained by emulsifying the culture from a solid medium becomes clear? Is it not even more remarkable that the active principle regenerates itself in producing its effect and can accordingly be reproduced indefinitely?

The active principle is frequently found in water, soil, and faecal materials, and vaccine lymph often contains a principle of this kind acting on the staphylococcus. It was soon recognized that there exists a number of these principles, distinguished from each other by the species of microbe which each has the power of attacking. One often finds, however, that the same active principle can attack several microbic species if these are sufficiently related. In particular, there exist principles acting on *Bacillus coli* which are also capable of affecting the dysentery bacillus. When a principle specific for one species of microbe is brought into contact with another species its lytic effect on the second species is usually increased with successive transmissions, but powers of adaptation are very variable. These principles are destroyed by heating to a temperature usually in the neighbourhood of 70° C.

If a tube of bouillon is inoculated with *Bacillus coli*, and a small dose of the lytic principle for this organism is added, agar tubes being subsequently inoculated with the mixture at given intervals of one or two hours, the first tube, inoculated immediately after the principle has been added, becomes covered with a normal layer of bacterial growth; the tube inoculated an hour later shows clear spots characteristic of lysis, and those inoculated after two, four, and six hours show greater numbers of clear spots. The lytic principle, therefore, multiplies itself in a culture of *Bacillus coli*. Moreover, cultures made from suspensions of *Bacillus coli* to which varying amounts of the principle have been added show a sprinkling of lytic spots, which are more numerous in proportion to the increasing amounts of lytic principle added to the suspensions. It was on these experiments that d'Herelle based his theory that the lysis produced by bacteriophage was due to a filter-passing virus which penetrated and destroyed the bacterium. The fact that when dilution of the principle is adequate the spots of lysis are isolated, is taken by him as an indication that the principle is present in corpuscular form and not in a state of solution. But the principle loses its activity at 70° C., and is probably a colloid, and therefore, in a sense, composed of particles, though this does not involve its being a virus. Whether it is a virus or not, it is certain that contact with bacteria sensitive to its action is necessary for its reproduction. Objections have been raised to the virus theory on the grounds of the resistance of the principle to storage and to the antiseptic effect of an equal volume of chloroform over long periods of time. If a weak dose of principle is added to bouillon which is then inoculated with a sensitive organism, growth is at first active, but lysis occurs four or five hours later with extraordinary suddenness. It is difficult to suppose that an intrabacterial virus, originally present in a small amount, at a given time attacks all the bacteria simultaneously. It has been shown by Doerr and Gruninger that under such conditions the quantity of principle increases while the bacteria are multiplying, and one cannot help thinking that this is favourable to the theory which I put forward ten years ago with Cinca—namely, that the bacterium secretes the lytic principle, and that bacteriophagy is autolysis. In order that the principle may be regenerated the bacteria must be both living and nourished, so that they are able to multiply.

In 1921 I observed with Cinca that a rabbit injected with a lysed bacterial suspension produces an antilytic serum which retains its activity when heated to 60° C., a temperature which spares antibodies and antitoxins, but which abolishes or reduces the bactericidal properties of serums. Moreover, for certain principles, the elimination of calcium suppresses lysis in bouillon and hinders regeneration of the principle, although the bacteria continue to develop; other principles are not adversely affected by calcium privation. It is permissible to suppose that all principles require some calcium for their action and reproduction, but that they do not all require the same dose of it. The impression which emerges from these considerations is not at all favourable to the hypothesis of an intrabacterial virus. I formulated a theory with Cinca in 1920 which is frankly opposed to that of d'Herelle, and which may be summarized as follows:

1. The invisible virus of d'Herelle does not exist. It is the bacteria themselves, subjected to the lysis, which produce the lytic principle. The case is one of autolysis.

2. Bacteriophagy represents the pathological exaggeration of a process which is physiological to bacteria, and is the result of a vitiation which has occurred in the accomplishment of a normal process.

3. This normal process may have some relation to the phenomena of mutation. A single bacterial strain may include several distinct types; an equilibrium is maintained between them by some regulator mechanism which evokes the idea of an antagonism between the different types. One may imagine that in certain circumstances their mutual reactions become considerably exaggerated and represent a cause of destruction among the bacteria.

There are difficulties to be surmounted before such a conception can rank with positive ideas based on facts. If one believes that the lytic principle is reproduced by the very bacteria which undergo lysis, one is forced to admit that the principle possesses the power of compelling the bacteria to fabricate a principle identical with itself. The theory implies further that the bacteria already contain the materials necessary for the formation of this principle. Though disconcerting at first, this idea appears to be quite plausible, and is comparable with the sequence of events found in the production of thrombin. Serozyme, one of the constituents of thrombin, exists in the plasma in the form of an inactive mother substance which I have called proserozyme. Thrombin has the power of transforming proserozyme into serozyme, ready to unite. At the beginning of the process, contact with some foreign body determines this transformation, but as soon as a certain dose of thrombin has been formed the contact is unnecessary, the thrombin itself producing an identical effect.

If one imagines that the physiological mechanism which presides over mutations is the primary cause leading to the appearance of lytic principles, it is to be presumed: (*a*) that the effects produced by the bacteriophagic

principles will have some relation to the phenomena of mutation, and that (*b*) in studying the behaviour to one another of different types occurring in normal cultures one will be able to determine that these types manifest antagonism to one another, revealing itself by lytic phenomena analogous to bacteriophagy.

Let us take the case of the bacteriophage which is active towards *Bacillus coli*. I had early observed that if one adds to an extremely weak dose of this principle an enormous quantity of *Bacillus coli* the principle disappears. This result is not favourable to the virus theory; it would be difficult to suppose that a parasite would disappear when presented to too great a quantity of the bacteria which it is in the habit of attacking. If a slightly larger dose of principle is added to the same quantity of bacteria it reproduces itself, but is no longer identical with the original principle; it may be described as "weak principle" in the sense that it produces incomplete lysis of cultures of *Bacillus coli*. This weak principle may also be obtained by introducing into a tube of bouillon, to which has been given a large inoculation of *Bacillus coli*, a moderately large dose of the initial principle, and by not allowing it to act on the organisms for more than a very short time. If the experiment is so planned, the principle acts exclusively on the most sensitive of the organisms, and these regenerate a lytic agent which is so exclusively adapted to them that it will no longer produce any effect except on microbes of an identical character; so that when mixed with a complete culture it only produces a partial lysis. Thus the individuality of a given type of organism is reflected in the qualities of the principle which it is capable of elaborating.

Thanks to Dr. Arkwright, it has been established that cultures of *Bacillus coli* tend to split into two well-defined types. Certain colonies are convex and smooth ("smooth" type) and others are flat and wrinkled ("rough" type). In bouillon the smooth type produces uniform turbidity, the rough type floccules in a clear fluid. The smooth type, especially in bouillon, tends soon to give rise to the rough type; and the rough type, though more stable, tends eventually to produce a few individuals of the smooth type. The weak principle attacks the smooth type by preference, while the rough type resists it; if a drop of the weak principle is added to a culture of the smooth type, lysis occurs, but after a few hours a luxuriant growth of the rough type appears, arising from the few individuals of the rough type which the smooth culture had a tendency to produce. Is it not plausible to think that the weak principle might represent a more active form of a substance which the smooth type would normally produce, and which would have the power of making the rough type appear at its expense?

By transferring large doses of weak principle and organisms in the process of lysis from one tube of fresh bouillon to another the principle gradually acquires the power of attacking the rough strain. The principle thus adapted attacks both the smooth and the rough type, and deserves the name of "strong principle." Both principles would appear to exist in the bacteriophage which normally attacks *Bacillus coli*. If it has been demonstrated that the weak principle can become the strong principle, may not the weak principle be derived from a principle still weaker, which might be precisely the normal and physiological substance responsible for the appearance of the rough at the expense of the smooth strain?

If a small droplet of weak principle is allowed to run down the middle of an agar slope which has previously been spread with a culture of the smooth strain over its whole surface, a clear strip of lysis appears down the centre, while the culture develops normally on either side. In the strip where lysis has occurred some colonies of the rough type soon appear, but, in addition, the layer of microbes contiguous to the clear strip takes on a special appearance. It becomes slightly transparent, so that the strip is surrounded by a visible halo. Sertik, a partisan of the virus theory, supposes that, while multiplying, the virus liberates an enzyme, which diffuses into the neighbouring zone and produces a partial lysis. So far as concerns the haloes I have observed, I think that they reveal, not a dissolution of the microbes, but an influence which tends to confer on those of the smooth type the characters of the rough type. Examined by transillumination with artificial light the unaffected part of the culture is iridescent, after the usual manner of the smooth type, while the halo is dull and greyish after the manner of the rough type. Commonly, the halo disappears at the end of two days, the organisms which compose it not having been impressed with the energy required for their definitive modification. For this reason, when one inoculates them into a new medium one often obtains a culture of the normal strain. The power of producing a halo belongs only to the weak principle, the principle characterized by a tendency to transform the smooth strain into the rough; moreover, one finds that the halo owes its visibility to the fact that in this region the smooth culture takes on the aspect of the rough, as though this metamorphosis were beginning to be accomplished. The strong principle does not produce a halo.

The result of my most recent experiments, carried out with Renaux, emphasizes these details. It is generally admitted that lytic principles do not produce any perceptible effect on dead organisms. But we have observed that the weak principle introduced into a suspension of *Bacillus coli* of the smooth strain, whether dead or alive, causes a strong agglutination even in minimal doses. The strong principle does not produce this effect. If one takes account of the fact that the smooth type clouds bouillon uniformly, while the rough undergoes spontaneous agglutination, it is interesting to find that the weak principle, which brings about the metamorphosis of smooth to rough, is the one which is endowed with the power of agglutinating organisms of the smooth type, even when they have been killed. It is probable that the weak principle, to which the rough type is resistant, does not agglutinate the killed organisms of this strain, but it is difficult to determine, in view of the fact that these organisms undergo spontaneous agglutination. The foregoing facts entitle us to consider that the effects of the lytic principles have a connexion with the phenomena of mutations.

The other question raised was as follows: Do the different types of microbes belonging to a single species manifest an antagonism to one another which can be revealed by the phenomena of lysis? Lisbonne and Carrère in 1922 showed that different strains of *Bacillus coli* bring about lysis of dysentery bacilli when cultivated with them in bouillon; moreover, the filtrate of such a culture causes a lysis of dysentery bacilli which can be transmitted in series. In 1923 I was able to transfer this conception of antagonism into the framework of one and the same species, showing that bacteriophagy really enters the domain of normal physiology. By submitting to the process of isolation an initial culture, of which the behaviour in other respects seems perfectly normal, one can extract from it strains which are clearly antagonistic. Certain of them exercise on certain others a lytic action, which is thenceforward transmissible, and one can say that some behave as aggressors and others as recipients. Further, a particular germ whose secretions are aggressive, or lytic, for certain members of its family, may be receptive to the lytic secretions of

different members. One is brought to believe that the total population of a culture of a microbe is the seat of perpetual inter-reactions between the individuals which compose it. One may suppose that the lytic power represents a regulative influence. To summarize, in *Bacillus coli* and staphylococcus, which are the species I have had under consideration, one can detect the existence of a spontaneous lysogenic power, provided that, having separated the different strains, one brings the most aggressive into contact with the most receptive in such a way as to allow lysis to be sufficiently intense to show itself clearly. There are some species—for example, the *Bacillus pyocyaneus*—in which the antagonism of different strains may be so pronounced that clear spots of spontaneous lysis readily appear in their cultures. One can demonstrate that at the site of these clear spots a conflict is in progress between distinct types; repeated reinoculation from such spots can furnish a new race of the organism, easily distinguished from the original strain.

Partisans of the virus theory assume that the virus may frequently live in symbiosis with the bacteria without causing visible lysis. But in spite of repeated isolations one does not succeed in depriving lysogenic colon bacilli of their aptitude for starting lysis of the dysentery bacillus. It would be necessary to assume that each individual organism, which at the time of its isolation gave rise to a colony otherwise normal, was infected by the virus. Since the principles which these colonies furnish are not identical, it would be necessary to admit, further, that the virus can diversify itself into many unequally active races. Finally, considering the metamorphosis of the smooth into the rough type caused by the weak principle, would it not be strange that a virus should favour a mutation which can be accomplished without it, and which is, in reality, a physiological process? Is it not more rational to think that the virus does not exist, that the action of the bacteriophage represents the pathological exaggeration of a normal function connected with mutations, and that this lysis is, in fact, a transmissible autolysis?

SILICOSIS IN SOUTH AFRICA

REPORT OF THE MINERS' PHTHISIS BUREAU

The report on the year's work of the Miners' Phthisis Bureau[1] by the chairman, Dr. Louis G. Irvine, contains a mass of information, and is a record of which any organization might well be proud. The numbers and extent of the routine examinations carried out by the members of the bureau and the pathologists of the South African Institute for Medical Research are evidence of the thoroughness with which the responsible authorities deal with the medical problems associated with the Rand gold mining industry. Upwards of 46,000 clinical and 24,000 pathological examinations were made during the year on some 30,000 individuals, while 42,000 portrait negatives of miners were produced for purposes of identification, and 35,000 radiographs were taken. The enormous number of radiographs in the possession of the bureau has become a serious embarrassment, not only because the films have to be stored in such a way as to permit of easy access for reference, but also because of their inflammable nature. It is hoped that in the near future it will be possible to make such arrangements that the risk from fire will be reduced to a minimum, while the usefulness of the collection will be unimpaired. The bureau lays great stress on radiography in the diagnosis of pulmonary lesions, but it is fully alive to the danger that the interpretation of very large numbers of *x*-ray pictures may become a matter of convention unless they are controlled from time to time by careful post-mortem observations. There is very close co-operation between the clinicians, the radiographers, and the pathologists. Whenever possible the clinical and *x*-ray findings are compared with the actual lesions revealed at necropsy, and a considerable series of cases has already been collected illustrating the value of this correlation.

The chief importance of these annual reports lies in the fact that they record year by year the progress of the fight against silicosis, and indicate how far the preventive measures against dust in the mines are successful. On July 31st, 1929, the bureau possessed medical and radiographic records of 76,281 European miners, but the statistical analysis of these data is extremely difficult, for there are so many complicating factors. It would, for example, be manifestly unfair to regard every case of miners' phthisis arising on the Rand as due to the industrial conditions obtaining there unless it was certain that the miner had not been employed in dusty occupations elsewhere. Again, tuberculosis is the chief danger to be feared in dusty occupations, but dust is not the only factor which determines the onset of phthisis; the physical condition of the individual is also important, and should be ascertained before he becomes a miner. Previous to 1916 intending miners were not examined medically, and no note was taken of their previous industrial history; since that date every man who desires to take up work in the mines has to pass a rigorous "initial examination" as to his general fitness for underground work. In 1928–29 7,737 Europeans, including those of South African birth, were examined in this way, and 15.54 per cent. were permanently rejected; 45.51 per cent. were temporarily rejected, which means that they were found to have defects of health and physique which the examiners considered remediable. Many of such candidates eventually succeed in obtaining an initial certificate. These "new Rand miners" who have only worked in scheduled mines since August 1st, 1916, now form rather more than half of the total number of working miners, and it is from the analysis of the data derived from these men that the most reliable information may be expected. It would seem, however, that it is too early yet to come to very definite conclusions as to the incidence of silicosis among the new Rand miners, for comparatively few of them have worked for long periods underground, and time is an important factor in the incidence of the disease. Some 25 per cent. of those who enter underground work appear to relinquish it after a year's trial; in the fifth year only about 50 per cent. remain, and in 1929 only 473 had worked for over ten years.

The total number of cases of simple silicosis among all the new miners employed since 1916 is only fifty-two, but there appears to be some evidence that the incidence rate is increasing with the length of service; thus eleven cases were discovered in the periodical examination of 7,231 new miners in 1927–28, while twenty-two cases were discovered in 8,360 men in 1928–29. But whereas the average duration of underground service of the new silicotics in 1919–20 was 114 months, in 1928–29 it had increased to 151 months, which suggests that the preventive measures adopted against underground dust are bearing fruit.

An interesting section of the report deals with the subsequent history of new cases of simple silicosis. It appears to be quite clear that uncomplicated silicosis may undergo prolonged, sometimes apparently indefinite, arrest for long periods of time, but many of the cases tend to progress from the earliest detectable stage, the anteprimary stage, to a much more advanced fibrosis. Thus out of 219 new cases detected in 1920–21 156 were

[1] Report of the Miners' Phthisis Medical Bureau for the Year ended July 31st, 1929. The Government Printer, Pretoria. 1930. (3s. 6d.)

living at the end of the eighth year—52 had remained stationary, but 104 had advanced to the primary or the secondary stage. In the classification adopted on the Rand secondary silicosis includes tuberculosis, and it is pointed out that 75 per cent. of the deaths which occur in silicotic miners are due directly to active tuberculosis.

Dr. Irvine suggests that there exists in many, if not most, of the cases of clinically "simple silicosis" from the earliest stages a latent element of low-grade tuberculous infection, and he regards the presence of such latent foci as a partial explanation of the tendency manifest in so many cases of simple silicosis to the ultimate development of active tuberculosis. Whatever the explanation may be, it is undoubtedly true that in recent years there has been a change in the prevalent type of silicosis in the direction of an increase in the relative importance of the infective factor in the course of the cases which have arisen. There are, of course, other possibilities, and these are clearly indicated and critically discussed. Dr. Irvine is to be congratulated on the lucidity with which he has set forth a wealth of very complicated and difficult statistical material. The bureau reports deal with conditions which exist nowhere else, and no student of tuberculosis or industrial medicine can afford to neglect them.

Scotland

Health of Scottish Workers

Sir Thomas Legge, M.D., formerly senior medical inspector of factories, delivered a lecture on December 10th, 1930, to the Edinburgh Women Citizens' Association in which he dealt with the safeguarding of workers, with special reference to women. In describing the struggle that had been waged in his department against lead poisoning and other diseases found among workers in such industries as pottery making and house painting, he pointed out that great improvements had been effected by legislation and by the introduction of automatic machinery. Poisoning, for example, from motor car painting had been reduced by a new process of cellulose spraying, and exhaust ventilation had counteracted to some extent the danger to young women working in potteries and aeroplane factories. The ventilating fan, in his opinion, was the principal means for protecting the worker. Factory conditions to-day, he said, compared very favourably with those prevailing in the first half of the nineteenth century. At that time child workers of seven years of age laboured fourteen and a half hours daily for half a crown a week, while an overlooker superintended them with a strap.

At a conference on industrial maladies held in Glasgow on the following day, under the auspices of the Scottish Trades Union Congress, Sir Thomas Legge delivered an address on the past and future work of the trade unions in the prevention of these diseases. Trade unions, he said, had succeeded the mediaeval trade guilds and had originated as a protest against a number of abuses incident to the industrial revolution, including long hours, exploitation of child labour, and occupational diseases. Injury from noxious substances was still widespread, but their effects could be greatly alleviated and even abolished. Phossy jaw, for instance, which used to be a terrible disease among match workers, was now of historic interest only, owing to the substitution of a harmless phosphorus compound for the old fuming yellow phosphorus. Prevention of disease depended largely upon methods over which the workman had no control, such as disinfection of wool and horsehair carrying anthrax; installation of machinery for blowing and moulding glass, and exhaust ventilation for protection in dusty processes. Everything, however, depended upon the efficiency with which these methods were carried out. Silicosis was an incapacitating disease among stone masons, grinders of cutlery, pottery workers, and among miners drilling through stone, but a safeguard had been found in utilizing compressed air to trap the dust and prevent its inhalation. Trade union officials had been the first to call attention to the skin irritation, sometimes followed by cancer, caused by tar among briquette makers in tar distilleries and in gasworks. Much had been done to keep this in check by effective medical supervision. Skin troubles were still excessively common, such as bakers' eczema, chrome ulceration in the manufacture of bichromates and in the new process of chromium plating for motor car and bath fittings. It was the duty of employers to take the necessary steps to minimize these troubles.

New Glasgow University Union

The new Students' Union for Glasgow University, which has cost about £60,000, was opened on December 12th, 1930, by Mr. Stanley Baldwin, Rector of the University. The old Union building is to be handed over to the University authorities for use as administrative offices Mr. R. M. Minto, president of the Union, presided, and Mr. Baldwin was accompanied by Sir Donald MacAlister, Chancellor of the University, and by Principal Rait. In welcoming Mr. Baldwin, Sir Donald said that £122,000 had been received as the result of an appeal that had been issued by him in the name of the Students' Welfare Committee about nine years ago. Part of this sum had been expended on the new buildings. The Rector said that he was very keen about university life all over the country, because he thought that the universities held the key to our civilization. He regarded such a Students' Union as an absolute necessity in Scottish universities, as it was the only means the students had of completing their university education. There were two kinds of education, he said—namely, the process of acquiring knowledge, and, equally important, the education that was obtained by social intercourse. It was the latter kind of education that enabled students to take their part in the life of the community. The number of university men who devoted their subsequent lives to study and tuition was comparatively small, and even they would be twice as long in finding their feet in the world without some form of social discipline. He hoped that the new Union would become a wider centre than the old, and that debates would be carried on with the customary vigour. He had no fear for the future of Glasgow men, and he would watch their careers all over the world as long as he was privileged to do so.

The Mental Factor in Disease

In a recent address on the mental cure of disease, delivered in Edinburgh, under the auspices of the Combe Trust, Dr. F. K. Kerr suggested that the enormous amount of public interest taken in health matters since the war could be accounted for largely by the fact that only three out of every nine recruits under the Derby scheme had been found to be fit for front line duties. About 33 per cent. were in category C 3, and these were still with us. In the lower animals the body was everything, but in man the body was an annexe to the mind. Complicated actions of everyday occurrence, like walking, opening a door, shaving, and so forth, could be performed while the mind was otherwise occupied. As soon as disease appeared, the imagination was aroused; a cut finger, for example, conjured up lockjaw, a headache meningitis, a bad cold pneumonia, a vague pain cancer, and so forth. This was a great natural provision for the preservation of health, which, however, was adversely affected by fear stimulated by ignorance. There was far too much talk about disease and not enough about health.

Suggestion by talk about disease might predispose the mind to illness and aggravate the illness when it occurred. The proper attitude towards disease should be built up beforehand by inculcating a disease philosophy; disease should be accepted like the weather. The mental cure of disease was most successful when carried out unconsciously. Assurance that inspired confidence, and simple explanation, were the main forces in effecting a cure. The people of this country were suffering from an inferiority complex, a bad reaction from jingling jingoism. The old ideal must be reached again by building up a healthy nervous system in the individual, but good housing, good food, an interest in work, and a prospect beyond the material standards were essential. The ordinary working man of about 40 years of age had bad teeth and an unhealthy throat. He lived in an insanitary house, and worked monotonously in a draughty shop every day. For his breakfast he had a foreign egg out of cold storage, bacon from America, bread from American flour devitalized by chemicals, and he washed all this down with a small bucket of stewed tea. His other meals were no better. The handicaps to health were bad housing, bad dieting, bad cooking, too much clothing, lack of exercise and games, and lack of intellectual interest among the artisan class.

Glasgow Western Infirmary

At the annual meeting of the Western Infirmary, Glasgow, held on December 23rd, 1930, Colonel J. A. Roxburgh, LL.D., chairman of the board of governors, intimated that during the past year the number of patients had been larger than in any year since the institution was opened in 1874. Patients treated for motor accidents alone numbered 659; of these, 281 were in-patients, with an average stay of nineteen days. It was interesting to note that 191 of these in-patients were pedestrians. In this connexion some relief might be expected from the Road Traffic Act, 1930, which provided that in the case of a person meeting with a motor accident and receiving treatment in a hospital there should be paid by the authorized insurer or owner the expenses reasonably incurred by the hospital to an amount not exceeding £25 for each person treated. During the year the beds in the David Elder Infirmary at Govan, under the management of the Western Infirmary, had been fully occupied, 655 cases having been treated. An experiment was about to be made for a year in that institution with a ward, containing seven cubicles, for the use of those patients who, while unable to pay for treatment in a nursing home, were willing to contribute towards their maintenance in the hospital. In referring to the new radiology department, described in the *British Medical Journal* of November 1st, 1930 (p. 753), the chairman said that in the course of the year the Western Infirmary had been selected by the Radium Commission as the radium centre for Glasgow. An ample supply of radium was available, and arrangements had been made to take the fullest advantage of the opportunity. The school of nursing and the school of massage continued to maintain their high standard of efficiency, and the appointment of nurses to prominent posts at home and abroad testified to the success of the training they received at the Infirmary. More than 7,000 nurses participated in the federated superannuation scheme, which had been adopted by 380 institutions with over 40,000 beds. These figures represented 56 per cent. of the total voluntary bed complement in Great Britain, and 75 per cent. of all the institutions having 200 beds and over. A review of the financial position for the year seemed to indicate that the ordinary income would be similar to that of the previous year. Extraordinary receipts, however, including legacies, were larger than usual

England and Wales

Arrangements at London Council Hospitals

The first nine months' working of the Local Government Act by the Central Public Health Committee of London can be said to have been smooth and successful. A very large number of rearrangements have been made at the various transferred hospitals. One step recently taken is to " appropriate " for the purpose of the reception of the sick, under the powers given by Section 14 of the Local Government Act, the twenty-eight general hospitals and certain children's hospitals and convalescent homes under the control of the London County Council. The advantages of appropriation are that these hospitals will be removed from the Poor Law, and consequently from the operation of the Public Assistance Order, 1930; that patients other than those ordinarily described as destitute can be admitted for treatment, though the Council's duty to provide relief for the poor still remains a statutory obligation; and that the Council itself will be able to prescribe the duties of the medical superintendents and principal officers. At certain of the Council's general hospitals laboratories have been established to serve the purpose of a group of adjacent institutions. The group laboratory at Lambeth Hospital is expected to be ready in April next, that at the Holborn and Finsbury Hospital (now called Archway Hospital) in the summer, and those at St. Mary Abbots and Hackney Hospitals before the end of the year. Out of the twenty-eight general hospitals under the Council's control, pathological work is undertaken already at ten to a varying extent, and four of these will serve as group laboratories. At the other eighteen there is little or no laboratory work, but laboratory facilities in adapted premises are to be provided at nine of them as soon as possible. When all the laboratories at present contemplated are in operation very little pathological work will need to be sent outside, since hospitals without laboratories will avail themselves of the facilities at other council hospitals. The expenditure proposed for 1931–32 on laboratory provision is £18,750. This includes the adaptation and equipment of buildings, provision of staff, and maintenance. It is estimated that the average for subsequent years will be £13,750, apart from the provision of certain further laboratory staff, which will be necessary at a later date.

Hours of Sleep in Hospitals.

One question which has been exercising the Central Public Health Committee is the hours for sleep of patients in its hospitals. Under the boards of guardians the times of wakening of patients in Poor Law hospitals ranged from 5 to 7.30 a.m. The practice in the voluntary hospitals has been inquired into, and it appears from statistics gathered from sixty-three provincial general hospitals that in forty-five of these work begins before 6 a.m., and in the remaining eighteen at that hour or later. The authorities who favour retention of the present system of early wakening justify their preference by saying that there is no hardship in the present arrangement, that a later hour would not allow of a sufficient interval between the time at which the work starts and the hour fixed for the visits of the medical staff, and that in any case most of the patients are accustomed to early rising. It is held that there must be conformity of other arrangements to the hour at which the medical staff commence their rounds, usually about 10 a.m., and the time necessary to prepare patients and wards for the medical officers' visit must be governed by the staff available. In turn, the hour of wakening regulates the hour for closing down in order to ensure that the patients have sufficient rest. In the Council's hospitals the patients are rarely disturbed after

8 p.m., and nine or ten hours are therefore available for rest. At the Middlesex Hospital, which has recently instituted the practice of allowing its patients to sleep until 7 a.m., it is pointed out that there are fourteen nurses to forty beds, and an overlapping of day and night nurses of more than half an hour. In none of the Council's hospitals does the nursing staff approach the proportions of that of the Middlesex Hospital; at present there is a shortage of nursing staff, though the position is being gradually improved. It is proposed that, as far as practicable, no patient shall be wakened, except in special circumstances, before 6 a.m. The process of rising to this standard must necessarily be gradual, and preferably should take place in one hospital and one ward at a time. It is intended to consider the matter further after twelve months in the light of information then available.

Birmingham Hospitals Centre

A memorandum on the Birmingham Hospitals Centre by Sir Charles Grant Robertson, chairman of the executive board, reviews the work accomplished in 1930, and explains various features of the scheme about which there appears to have been some misunderstanding. The first practical step, after three years' preparation, was undertaken in the summer of 1929, by arranging a public competition of leading hospital architects. The award was approved at the beginning of last year, the winning design being that of Messrs. Lanchester and Lodge of London. Meanwhile an appeal committee had been set up, and a public appeal for funds was launched at a meeting held in April. Since that date, the committee has succeeded in raising £584,000 of the £1,250,000, which is approximately the estimated cost of the scheme. The result to date is considered to be very satisfactory. The Birmingham Hospitals Centre, which was incorporated by licence on June 13th, 1930, is now a legally constituted body, of which the executive board is the central organ. The object of incorporation was to ensure that every penny placed at the disposal of the board would be available only for the defined purposes of the centre, which is governed by the law applying to companies not working for profit. In referring to the voluntary basis of the scheme and to the fact that it originated from the necessity of extending the General Hospital and the Queen's Hospital, the memorandum points out that since the executive board came into existence it was considered that the centre, as contemplated, would affect other voluntary hospitals in Birmingham—mainly concerned with specialized branches of medical science and treatment—and that any final scheme should take into account future as well as immediate requirements. Hence the board, before incorporation, included among its members representatives of these special hospitals, who will be able to take part in deciding the principal questions of policy and those in which they have a particular interest. Birmingham now possesses in the executive board a central body linking up the common interests of all the voluntary hospitals, through which, with due regard to the needs of special institutions, a common policy can be framed and gradually carried out. Besides appointing a consulting engineer to work with the architect in the preparation of the scheme, the board has set up three subcommittees to deal with the planning of (*a*) the nurses' home and services, (*b*) the surgical blocks, and (*c*) the medical blocks. Good progress is reported to have been made in each department, and other subcommittees will shortly be appointed to deal with other parts of the hospital design. In regard to the University section three professors of the medical faculty are visiting the United States, as guests of the Rockefeller Foundation, to study the arrangements of the newest and most important medical schools. While the capital for the medical school will be provided out of the public appeal fund to the extent of one-sixth, it will remain an integral part of the University, which will continue to be financially responsible for the staffing and upkeep of the medical school as planned, and will provide all the technical and scientific services on a larger scale and in a more efficient manner. The memorandum discusses at some length the essential relation between a teaching hospital and a medical school, and concludes by expressing the hope that the progress of this pioneer enterprise will not be hampered by lack of support during 1931.

Remuneration of District Medical Officers

The remuneration of district medical officers in London was fixed before the war, and has been subject to certain temporary increases authorized from year to year since 1918. The London County Council now proposes to consolidate the fees on a permanent basis. The new fees will be as follows:

For attendance, including all requisite medicines and simple surgical dressings, together with such certificates as may be required, 11s. 6d. a year for each employee; for certificates for persons not allowed medical attendance by the council, 3s. for each certificate, or, if a visit to the home of the employee is involved, 6s. for each certificate; for each certificate given under the regulation relating to suspected infectious disease in common lodging houses, 8s.; for each certificate given under the Children's Act, 1908, relating to nurse infants, 12s.; for each attendance when called on emergency to a fireman on duty in, but resident outside, the medical officer's district, 5s., if the fireman resides outside the administrative county of London, but no payment if the fireman is resident within the county.

These fees represent the merging of the additions authorized since the war with the amounts previously prescribed. It is laid down that the minimum amount payable to each district medical officer shall be at the rate of £25 a year.

Ireland

Treatment of Fractures

At the December meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland, with the president, Mr. R. Atkinson Stoney, in the chair, Dr. Lorenz Bohler of Vienna gave an address on the treatment of fractures. He showed four cinematograph films, illustrating the methods of reduction and fixation employed in fractures of the shaft of the femur, fractures of the leg, and fractures of the forearm and fingers, demonstrating the use of local anaesthesia, of the unpadded plaster case, and of zinc gelatin paste. He also showed numerous lantern slides and radiograms, illustrating end-results. A vote of thanks to Dr. Bohler was proposed by the president, and was carried with great enthusiasm.

Vital Statistics for Northern Ireland

The Registrar-General for Northern Ireland has just published his eighth annual report on the marriages, births, and deaths registered during the year 1929.[1] This volume contains much useful information for those interested in problems relating to public health. As in 1928, the marriage rate in Northern Ireland increased slightly, but the birth rate continued to fall steadily, and was the lowest recorded for Northern Ireland in recent history. The death rate showed a sharp rise, due largely to deaths from influenza, bronchitis, and pneumonia in the first quarter of the year. The deaths from influenza increased from 388 in 1928 to 1,335 in 1929. The number of deaths

[1] H.M. Stationery Office, 15, Donegall Square West, Belfast, or through any bookseller. (2s. 6d. net.)

from tuberculosis has declined more or less steadily from over 3,000 per annum in 1917 and 1918 to 1,611 in 1929, which is the smallest number yet recorded for Northern Ireland. A salient feature of the deaths from tuberculosis is the high rate at certain ages; of the deaths between the ages of 15 and 25 from all causes more than half are due to tuberculous disease. The deaths from cancer numbered 1,469, a slight increase on the figure for 1928. The recorded rate from this cause has increased gradually over the past ten years in Northern Ireland. Of the total deaths, numbering 19,822, over 50 per cent. were attributed to the following diseases:

Heart disease	2,782
Tuberculosis	1,611
Pneumonia	1,486
Cancer	1,439
Bronchitis	1,248
Influenza	1,335
Cerebral haemorrhage	1,055

Deaths of infants under 1 year of age numbered 2,174 in 1929, of which 903 were due to congenital malformation, debility, and premature birth. The deaths ascribed to encephalitis lethargica numbered 37. Tables are included in the report showing deaths at different age periods under 205 separate causes, and the deaths under the principal causes for every rural and urban district in Northern Ireland. The number of deaths registered as uncertified, due to the fact that no medical attendant was present during the last illness, was 1,903 in 1929, an increase of over 100 on the number in 1928.

Correspondence

THE MEDICAL CHARITIES

SIR,—Members will shortly receive the Association's form of application for their annual subscription. Below the printed figure there appears a formidable list of objects for which subscriptions are invited; but so perplexing is the problem often found that the harassed practitioner seems generally to ignore it completely. But if he realizes that his donation, placed in Column 5, will be allocated by a careful committee, he need take no further trouble; £1 from each member would raise the medical charities from penury to affluence.

It has recently been brought home to me that the bulk of the profession fail to realize the need and the needs of our two splendid charities—the Royal Medical Benevolent Fund and Epsom College. That only 4,000 out of our 40,000 feel constrained to give either encouragement or aid can hardly be from any other cause. Ninety per cent. of us give nothing whatever, while the support of the 10 per cent. who do give (in subscriptions varying from 2s. 6d. to £100) quite fails to meet the needs.

One hears it said: "Why don't these people insure?" Many, perhaps most, do. But what is, say, £2,000 to a widow suddenly left with a family to feed, clothe, educate? And what is the financial result of an "accident" or "sickness" policy to a man suddenly and permanently struck down by trauma, encephalitis, or cerebral lesion? And what, again, is the proportion of our members who can contemplate with equanimity disasters such as these? And yet there is an annual average toll from which none of us are immune.

A moderate but universal support of these charities would constitute an insurance fund which, while helping those who have fallen by the way, would also relieve anxiety in many minds.—I am, etc.,

Tunbridge Wells, Dec. 29th, 1930. CLAUDE WILSON.

OBSTETRICAL EDUCATION OF THE UNDERGRADUATE

SIR,—In the report of the meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, published in the *Journal* of December 20th, 1930 (p. 1046), mention is made of the fact that I have discussed elsewhere the question of the education of the undergraduate. Unfortunately I was prevented from attending this meeting, but the scheme of clinical training outlined in the Departmental Committee's report corresponds very closely with that introduced in Glasgow University two years ago, except that we carry through the training in three months. We are satisfied that the undergraduate gains in these months a wide clinical experience; but we very much doubt if we could keep up his interest if this training were extended to six months. It must be remembered that obstetrics and gynaecology is a limited subject until taken up as a specialty. I am inclined to think that some obstetric teachers are losing a sense of proportion in insisting on a six months' whole-time training, and they are influenced in this by the fact that many of the smaller maternity units of the general hospitals in London have not adequate clinical material. But why should the student be penalized? Asking for six months to be devoted exclusively to obstetrics and gynaecology means a demand for 13 per cent. of the whole curriculum. Now Sweden, which has the longest curriculum of any country—namely, eight to nine years—only demands four months, or 5 per cent. of the curriculum. I maintain that if we have three months' whole-time training, this is all that is necessary for the undergraduate. We should in this three months' teaching of the undergraduate concentrate on ante-natal work. Three or four cases "personally conducted" in hospital and ten in the district, if the student is most carefully supervised, are quite sufficient.

All will admit that with the extended training which the Departmental Committee suggests, the young graduate will be a safer accoucheur than were his predecessors when they obtained a degree to practise medicine; but even with this or an infinitely more extended training he would not be competent to deal with the ordinary but serious problems in practical obstetrics, because he cannot be given opportunities during his training to perform operations or to deal with even ordinary complications of parturition (persistent occipito-posterior positions, post-partum haemorrhage, placenta praevia, prolapse of the cord, incomplete abortion, etc.). The public is aware of this, and trusts the staffs of all teaching hospitals that this principle will be respected. Of what profit is it to insist on medical students "personally conducting" thirty normal cases, as the Departmental Committee recommends, or even a hundred cases? It is not the number of cases personally conducted, it is the degree and quality of the supervision, that is the essential factor. Fifteen conducted under special supervision would be infinitely better than a hundred under little supervision.

Furthermore, as regards industrial areas, the midwives attend the normal cases. The doctors of the locality are called upon to treat the complications of parturition. A young graduate, in the capacity of partner, assistant, or locumtenent, may be faced with an ordinary but serious condition which he has never treated, and even with the extended training proposed he may not have seen treated, for in the smaller schools, where the clinical material is scanty in amount or widely distributed, only a few complications may have actually occurred during his period of training. The public is deeply interested in the subject of maternal and infantile mortality and morbidity. It has been told that matters are far from satisfactory, and it trusts the medical profession to correct existing conditions. It is unfair, therefore, to let it believe that an

extended undergraduate training is the method of solving that part of the problem concerned more especially with providing women in labour with medical practitioners adequately trained and able to deal with the serious but quite ordinary complications of obstetric practice. A term of "internship," with instruction and practice under obstetric surgeons, is the only method by which a safe accoucheur can be trained. The objection to establishing the full period of "internship" prior to graduation is that such pupils could not be given the responsibility enjoyed by qualified house-surgeons. I would make the suggestion that a year's "internship" for surgery, medicine, and obstetrics should be made compulsory after graduation. The suggested arrangement is as follows: the undergraduate, when he passes the final examination as at present constituted, or modified, should receive his degree or qualification, but his name would not be put on the *Register* until he has done a year's "internship." These qualified "interns" would take the place of the present house-surgeons and house-physicians, have residence and board in hospitals, but receive no salary. They would be distributed over the important hospitals of the country. The taking over of the Poor Law hospitals by the health authorities, and the additional hospitals which almost of necessity will have to be erected, would accommodate them. Many hospitals are experiencing great difficulty in securing house-surgeons, even when relatively high salaries are offered. A considerable economy could be effected if qualified "interns" took the place of salaried house-surgeons in large general and maternity hospitals throughout the country.—I am, etc.,

Glasgow, Dec. 20th, 1930. J. M. MUNRO KERR.

THE HAEMORRHAGIC DIATHESIS

SIR,—The object of this letter is to draw the attention of your readers to the possible value of liver feeding in cases of thrombopenic purpura, which Dr. Tidy does not mention in his address, published in the *Journal* of December 27th, 1930.

Some eighteen months ago Dr. Clapperton of Oakham had under his care a case of this variety of purpura of moderately severe grade, with considerable oozing from the gums, as well as ecchymoses. We discussed the advisability of splenectomy, but decided to give a trial to liver feeding. This was followed by a rapid improvement and a satisfactory cure, so that the patient, a young farmer, has been at work ever since.

I have tried the treatment in several cases of leukaemic purpura, but, as one would expect, with no effect whatever. I have not had an opportunity of trying it in Henoch's purpura. Its value in haemophilia has been demonstrated by Dr. Pickering.—I am, etc.,

Nottingham, Dec. 27th, 1930. F. H. JACOB.

AMIDOPYRIN IN MEASLES

SIR,—In common with others, having seen Loewenthal's article in 1924, I decided that amidopyrin should be tried in the next epidemic of measles under my care. The opportunity occurred in January, 1930, during an epidemic of 122 cases at this school. The results appeared inconclusive so far as the claim for its specific action, and for this reason did not appear worth recording. As, however, further evidence for and against has appeared since, this record may be of some interest.

The epidemic began in January with two cases, both boys being holiday infections. The second batch began on February 9th, and the epidemic continued until March 5th, 122 boys out of a total of 185 non-immunes being infected; the ages of the patients were from 9 to 16 years. The type of disease was only moderately severe, and the number of cases with complications was five. There was one of pneumonia with double otitis, two of broncho-pneumonia, and one of otitis. Both cases of otitis had immediate paracentesis. One (no amidopyrin) healed in two days without otorrhoea, the other boy (amidopyrin) had a double otitis, which developed into a profuse otorrhoea and took two weeks to heal, clearing up without any impairment of function. This boy also had a severe treble lobar pneumonia. Eventually he made a good recovery and has remained well since.

Without going into details, the only improvement noted either by the nursing staff or myself was that the boys having amidopyrin were more comfortable, seemed less ill, and wanted books. The only further treatment (routine for all boys) other than occasional was purgen in appropriate doses as required, and the usual mixture containing vin. ipecac., sp. aeth. nit., liq. ammon. acet. co., and tinct. camph. co. in amounts proportionate to age, during the febrile stage.

The amidopyrin was given in aqueous solution in doses of 1½ to 3 grains four-hourly until the temperature remained normal for twenty-four hours, dosage being varied proportionately to age. The cases were not selected. The use of amidopyrin was begun with the third batch of cases—namely, the ninth case—and was thereafter given to every alternate case. Careful notes and charts were kept of all cases. It may be objected that the dosage was too small to allow of a definite conclusion being drawn, but if the drug has a definitely specific action one might, I think, fairly expect some indication, having regard to the number and age of those treated, and the possibility of controls. I append a summary of results.

	Cases Treated	Days of Temperature	Total Days Ill	Complications
Amidopyrin ...	56	4.75	23.7	Mild broncho-pneumonia (2 cases). Treble lobar pneumonia with double otitis followed by otorrhoea (1 case).
No amidopyrin	66	5.0	22.4	Mild broncho pneumonia (1 case). Single otitis (1 case).

—I am, etc., G. E. FRIEND,
Medical Officer, Christ's Hospital; President, Medical Officers' Association.

Horsham, Dec. 18th, 1930.

NATURAL LABOUR FOLLOWING CAESAREAN SECTION

SIR,—In view of the reports from leading obstetrical clinics of natural labour following Caesarean section which have already been published I should have hesitated to make any reference to the following case, but on second thoughts it occurred to me that there are points about it which might be of interest to your readers.

In the middle of the night of May 2nd, 1925, a married woman, aged about 30, whose abdomen was fat and pendulous, and who had previously given birth to six children, was admitted to the Lloyd Hospital, Bridlington, from the depths of the hinterland, in a state of tonic contraction; the uterus was tightly moulded about the foetus, which was lying in the transverse position with one arm presenting. She had been in labour for twenty-four hours, and was crying out from the continuous pain; her pulse rate was 120 per minute. I did not dare to attempt version and delivery *per vias naturales*, and decided that the only alternative was to risk Caesarean section, embryotomy promising to be just as dangerous as version. I operated at once, and delivered a living child. The mother was pyrexial during the first two weeks of convalescence, but the abdominal wound healed soundly. The baby was a fine specimen, but later the news reached me

that the mother had mistaken him for a pillow one night with disastrous results.

I next heard of this woman in September, 1927, when she reported to me that she was again pregnant. Obsessed with the fear that the uterine scar would give way, I took her into hospital, and in March, 1928, I successfully delivered her. Forceps were applied simply because, after reading in the *Transactions* of the Royal Society of Medicine about the woeful effects of weak Caesarean scars, I trembled to submit my work to any extra strain. I suggested to her this time that she had done her duty to the State, and might now rest on her laurels, but, nothing daunted, she appeared again in November, 1929, was again admitted to hospital, and this time delivered herself unaided, after an hour's concentrated effort, of a boy weighing 10 lb.

At the time of writing, a message has reached me that the patient is once more pregnant.

It may be that this case might be cited as a strong argument in favour of sterilization being effected whenever a Caesarean section is performed; it might equally well be used in favour of the opposite point of view. —I am, etc.,

Bridlington, Dec. 22nd, 1930. C. J. GORDON TAYLOR.

TREATMENT OF VARICOSE ULCERS

SIR,—I have read with interest the method of treating varicose ulcers employed by Mr. Dickson Wright, in the *Journal* of December 13th, 1930. I have also seen the cases so treated and demonstrated by Mr. Wright at the Royal Society of Medicine (Dermatological Section) meeting last February, and note that he advocates intravenous injections by sclerosing solutions where possible, plus application of supporting bandages to the leg. To me it seems difficult to assess in what proportions credit must be assigned to these two methods when used simultaneously, both of which aim at preventing venous stagnation. There is no doubt whatever that one can get very good results from either method alone or conjointly, but it would appear to me that by means of supporting bandages alone this would only have a temporary effect, because as soon as the bandages are finally removed one would get the reflux pressure in the veins, putting the hydraulics all wrong once more in the affected parts, and then it is only a matter of time till the former trouble returns. With intravenous sclerosing treatment one breaks the downward and backward hydraulic pressure of the column of blood in the affected vein more permanently, and from a purely mechanical point more effectively.

I think that undoubtedly we get our best results by this latter method in cases where there is only one single long varicose vein, or where the vein can be treated before it has ramified very much—for example, when the internal saphenous vein can be injected in the middle third of the thigh or soon after it leaves the saphenous opening. If the veins have branched very much, then I think one gets results in direct proportion to the number of ramifications that one can effectively deal with and sclerose permanently.—I am, etc.,

Leicester, Dec. 26th, 1930. F. A. E. SILCOCK, M.D.

THE STETHOSCOPE AS AN AID TO PERCUSSION

SIR,—I was very much interested in Dr. Hawthorne's letter in the *British Medical Journal* of December 20th, 1930, on the above subject. I have been practising percussion exactly as described by him for the last three or four years, and can testify to the assistance afforded by the method in detecting slight alterations in the percussion note. I rather imagine that a good many people must have discovered this trick for themselves, although Dr. Hawthorne's communication is the first in which I have seen it described. A much travelled colleague of mine, to whom I mentioned what I imagined to be my "discovery," told me that he had seen it practised by French paediatricians. Incidentally, the method is particularly valuable with the light percussion required in examining the chests of small infants. Indeed, so difficult is it sometimes to detect small differences in the note in the very young that some American paediatricians claim to rely more on the sense of resistance conveyed to their fingers than on differences of note conveyed to their ears. I think that if they would practise Dr. Hawthorne's method they would find themselves again placing reliance on their auditory sense.—I am, etc.,

Aberdeen, Dec. 24th, 1930. E. R. C. WALKER.

SIR,—Whatever appears from the pen of Dr. Hawthorne is always interesting, often suggestive, and sometimes instructive; but when he goes the length of asserting that deafness is an aid to percussion this is more than our credulity is at first sight willing to accept. He does not actually make this assertion, but that is what it amounts to when he says that "the percussion note appears to him to gain in distinctness" when he has limited his hearing power by wearing a binaural stethoscope with "the bell allowed to dangle." He must explain the increase in distinctness, if it is real, in some way other than aural. There is, however, a method of combining the use of the binaural stethoscope with percussion which is obviously of so great value that one is surprised it is not more commonly taught. As many of your readers must be well aware, the ease and certainty in defining a solid organ is greatly aided by the binaural stethoscope if the bell is placed over the organ and its margin percussed. The change from the low-pitched clear to the dull high-pitched note of the solid organ is accentuated. The liver and the heart of a fat subject can be defined by this method with a degree of accuracy not possible by ordinary percussion.—I am, etc.,

London, Dec. 26th, 1930. ARISTOTLE.

ACUTE ARSENICAL POISONING

SIR,—The report of Dr. A. Wotherspoon under the heading of "Arsenic in sweets," in the *Journal* of September 20th, 1930 (p. 492), prompts me to record another case of accidental poisoning with arsenic, in which ten people took large doses, with only three deaths.

A family of seven half-castes, two Samoans, and a Solomon Islander partook of pancakes for breakfast at 7.30 a.m. The Solomon Islander, who cooked for them, having run out of baking powder that morning, went across to the Chinese quarters close by, and there found a tin labelled "baking powder," and practically full (about 3 oz.) of a white powder. He took this, and emptied it all into a frying-pan with flour, etc., to make the pancakes. All the family ate the pancakes, some more some less, one Samoan saying that he himself ate two and a half; all vomited shortly after eating, but only two thought that the pancakes had an unusual flavour. They were brought to the hospital at 10 a.m. On arrival none seemed at all ill; in fact, the adults walked to their quarters. None complained of diarrhoea or of abdominal pain on admission.

It took a good while to elicit from the Solomon Islander what had occurred in the making of the pancakes, and as it was thought that potassium oxalate might be the cause of the poisoning it was decided not to wash their stomachs out, more especially as most of them had vomited again on admission. At 11 a.m. they were all given magnesium sulphate, which in most instances made them vomit again. One child had a bowel action shortly after this. Nothing abnormal was noted, excepting nausea, until 12 noon, when four of the younger ones showed signs of heart failure, stimulants and saline enemata being given. At 2 p.m. a girl, aged 6, collapsed, and died ten minutes later, the face becoming livid, the lips cyanosed, and the heart and respiration failing together. A boy, aged 4, became very drowsy

at the same time, though pulse and respiration remained normal; his drowsiness increased, and at 8 p.m. he had violent convulsions, followed by death at 9 p.m. In the meantime the baby, aged 2 (the child whose bowels had acted after the magnesium sulphate), also became drowsy, and at 5 p.m. had a series of convulsions, which terminated in death at 5.15 p.m.; one girl of 5 years was ill for a week, and then recovered. The father (30), mother (24), and a boy (3) had very few symptoms, chiefly nausea and headache, and all three were convalescent in three days. The Solomon Islander (30) and two Samoans (20 and 10 years) only suffered from vomiting and drowsiness, and soon recovered.

Several portions of pancakes were tested by the Government analyst in Auckland, whose report stated that "the pancakes contain arsenic equivalent to approximately 55 grains of arsenious oxide in one pancake; the traces of white powder in the tin are highly arsenical, and appear to consist principally of arsenious oxide."

Dr. E. Hunt, who was in charge of the cases, has supplied the clinical notes, and Mr. K. M. Griffin, M.Sc., A.I.C., the analytical report.

The arsenious oxide appears to have been in regular use for the curing of skins in this district, but how it came to masquerade as "baking powder" is a mystery. These cases are of interest because of the huge doses of arsenic taken, for even the baby was said to have had half a pancake, and the others much larger amounts. The recovery of so many of the patients must have been due to the rapidity and relatively complete ejection by vomiting of the arsenic still retained in the pancakes.—I am, etc.,

J. SCAIFE ARMSTRONG, M.B., Ch.B.
Late Medical Officer in Charge, Apia Hospital, Samoa.

Taupo, New Zealand, Nov. 15th, 1930.

SIR,—As the symptoms and progress in a case of acute arsenical poisoning are variable, such cases are worthy of record. The following occurred in a girl, aged 18, who took one teaspoonful of arsenious acid mixed with treacle, and soon afterwards retired to rest at about 9 p.m. An hour later she was seized with vomiting and diarrhoea, which lasted through the night.

She was first seen by me at 7 a.m. on October 22nd, 1930, and was then in a state of collapse, the pulse being feeble and the skin cold. She was slightly cyanosed. She complained of pain in the stomach, thirst, dryness of the throat, and profuse vomiting and diarrhoea, which occurred simultaneously every fifteen minutes or so. She drank large quantities of fluid and immediately vomited them. She was mentally normal, and answered all questions intelligently. The vomiting and diarrhoea continued throughout the day, but she became considerably more cyanosed, and complained of violent attacks of intestinal colic. She died about 5 p.m. the same day. At the post-mortem examination the stomach was large and distended, showing great venous engorgement externally. On opening there was much gas and 1½ pints of bile-stained fluid containing yellow necrotic debris. The mucous membrane lining the stomach was very inflamed, being most marked in red streaks corresponding to the rugae. This was especially noticeable in the most dependent part of the stomach, towards the pylorus. There were several large yellow necrotic areas in this region. The stomach was lined with a tenacious mucus. The duodenum and small intestine were inflamed and distended in their whole length, having a dusky cyanosed colour externally. The intestine contained a bile-stained fluid similar to that in the stomach, and its mucous membrane was inflamed in its whole length. The large intestine was completely empty and firmly contracted in its entire length. The kidneys and peritoneum were injected.

The interesting point about the case seems to be the absence of nervous symptoms and the clearness of the mental condition up to the end.—I am, etc.,

F. V. ALLEN.

Saainton, Yorks.

THE GENERAL PRACTITIONER AND POISONING CASES

SIR,—Having had a good deal to do with poisoning cases in India I sympathize with the general practitioner who seldom sees one. On reading the poisoning cases which come before the coroner we often see how many of them were signed up in the first instance as death from natural causes, and that it is only when the criminal goes once too often that suspicion arises, and then follows the exhumation of other victims of the same criminal. Arsenic is the agent used in nearly all cases. The symptoms in the slow poisoning case may be merely intense depression, and the more acute cases may show nothing more. The real acute cases imply vomiting and diarrhoea. Peach-blossom-coloured patches over the bony prominence of the knuckles, elbow, malleoli, etc., are not infrequent, and in themselves should at once arouse suspicion. The classical symptoms are, of course, described in any book on toxicology.

I would suggest that every general practitioner coming across cases not clearly intelligible should take a sample of the urine and himself do a provisional Marsh test, and if arsenic is present seal up the rest of the sample. I have frequently had detected arsenic and datura in urine from patients, some of whom died and some lived. If this precaution be taken it will prove satisfactory both to the practitioner and to the Crown.—I am, etc.,

HENRY SMITH, C.I.E.
Lieut.-Colonel I.M.S. (ret.).

Sidcup, Dec. 18th, 1930.

AVERTIN ANAESTHESIA

SIR,—In reply to Mr. Basil Hughes's question in your issue of December 20th, 1930, the patient who developed broncho-pneumonia following partial gastrectomy under avertin and local anaesthesia was given no morphine or morphine derivative before, during, or after operation.—I am, etc.,

C. LANGTON HEWER.

London, N.W.1, Dec. 27th, 1930.

SIR,—Mr. Basil Hughes is a very enthusiastic user of avertin and gets wonderful results; I have seen some of them. At the same time I feel that on the question of anoxaemia he turns a somewhat blind eye to what is undoubtedly a drawback to the use of avertin. The patients whom I saw were all breathing with a considerably diminished respiratory excursion, and were mostly somewhat cyanosed. The recovery period being so long (said to be delayed in some cases for over twenty-four hours) diminished respiratory exchange must result in suboxygenation, and this cannot be a good thing. This may be more than counterbalanced by good points, but it is no use ignoring it. As gas and oxygen is recommended to supplement the basal anaesthesia of avertin, and is no doubt ideal, as Mr. Hughes says, I think the same result can be obtained with less risk and trouble by using omnopon and scopolamine in suitable doses, and then following with gas and oxygen. In children luminal by the mouth answers admirably.

There are quite a lot of contraindications given in the makers' literature for avertin. I know of none for gas and oxygen with suitable premedication. In my opinion there is nothing so good as a light gas and oxygen combined with local anaesthesia with novocain in a strength of 1/2 per cent. to 1 per cent. It gives all the relaxation that can possibly be required, and a swift recovery with a minimum of after-effects.—I am, etc.,

E. J. CHAMBERS.

Doncaster, Dec. 20th, 1930.

PROPHYLAXIS IN MIDWIFERY

SIR,—In answer to the letter by Dr. Moir in the *British Medical Journal* of December 20th, 1930 (p. 1066), I would suggest the use of glauramine and glycerin in midwifery. I have used this preparation for some years, not so much in normal labour, but more particularly in those cases where frequent vaginal examinations have been made, and in prolonged or difficult labour. I have been very pleased with the results.

The vagina is filled before and after delivery with glauramine in glycerin, 1 in 60; following any intra-uterine manipulation, such as manual removal of the placenta, the uterus is swabbed out with 1 in 20, and then a wick of gauze, soaked in 1 in 60, is inserted into the uterus and the vagina filled with 1 in 60. In cases of Caesarean section following a long labour or vaginal examinations, prior to operation the vagina is swabbed out with glauramine in spirit, 1 in 10, the abdomen is prepared with the same strength, and if possible a swab soaked in this is pushed through to the vagina. No irritation has occurred after the use of this preparation, such as may occur after picric acid or iodine. A full report on the bactericidal properties of auramine (the active principle of glauramine) was published in the *Journal of the Royal Society of Arts*, March 16th, 1923.

For several years calcium salts have been given daily to all pregnant women at Crumpsall Infirmary, and in many cases artificial sunlight has also been used. It has been noticed that the calcium not only checks the tooth-ache which so often occurs in pregnancy, but also seems to save the teeth from further rapid decay.—I am, etc.,

Manchester, Dec 29th, 1930. F. H. LACEY, M.D.

MENTAL TREATMENT ACT, 1930

SIR,—The draft Rules and Orders coming into effect on January 1st have been published. Possibly these are open to subsequent amendment in the light of experience and criticism The hope is that mental illness treatment should be conducted as nearly as possible on the lines of physical illness treatment; that the private specialist and general practitioner should be encouraged to take an active part in the service; and that all suggestions of mental hospital treatment and its administration should be kept as far out of the picture as possible.

The use of the private doctor's house for voluntary and temporary patients is a part of the scheme much to be advocated, and therefore the Rules and Orders should not prove either irksome or a deterrent. These rules contain no definition of a "nursing home," and, in consequence, we must accept it that the definition given in Section 10 of the Nursing Homes Registration Act, 1927, holds the field. Under this definition the private practitioner who receives a patient, *and provides an attendant*, will find that his house has become a "nursing home." For such there are certain Rules and Orders of the Board of Control that differ from those for "a single patient." Which has he to be guided by? Then, certain of the rules do appear to be in part objectionable. Possibly they can be modified. For instance, Nos. 38, 103, 107, and 121 appear to be inquisitorial; Nos. 55 and 59, 101 and 116 appear contradictory; No. 34 destroys, by requirement of notices to be displayed, the atmosphere of a private house; Nos. 93 to 95, 102, 106, 108, and 122 would prove onerous. In the past there has been no obligation on the doctor or person relinquishing charge of "a single patient" to provide his successor with any particulars of progress more recent than those included in the original certification documents. In consequence, the patient has not been placed in the best position for continuance of treatment; this hiatus has not been safeguarded in the rules as it should be, especially in the case of voluntary and temporary patients.—I am, etc.,

Hove, Dec. 10th, 1930. E. ROWLAND FOTHERGILL.

MIGRATION AND HEALTH

SIR,—Permit me to substitute "sixth" for "fourth" in the statement "there is no one living in Australia (other than the Aborigines) who is a descendant of the fourth generation of Australians" in my paper published in your issue of September 27th, 1930.

My friend Dr. Antill Pockley, president of the Australasian Medical Congress held in Sydney in 1911, is of the third generation, his grandmother being Australian born, while his grandchildren are of the fifth generation. Mrs. E. I. Ross of Pymble, Sydney, writes: "In my family there are more than 200 fourth-generation Australians, and more than 100 of the fifth generation. The original pair were born in Windsor, New South Wales." Mrs. Ada Brennan of Darlington writes: "I beg to state that there are sixth-generation Australians to my knowledge—my grandmother, born in Liverpool, N.S.W.; my mother, born in Liverpool, N.S.W.; my sister, born in Picton, N.S.W.; her daughter, born in Sydney; her granddaughter, born in Sydney; her great-grandson, born in Sydney. On my father's side there are five generations, all Australian born."

As it is only 142 years since the arrival of the First Fleet and the founding of the Settlement by Governor Phillip, it will be safe to say: "There is no one living in Australia (other than the Aborigines) who is a descendant of the sixth generation of Australians." With regard to the fourth generation, as they say in the Army, "The error is regretted."—I am, etc.,

J. S. PURDY, M.D.
Metropolitan Medical Officer of Health.

Sydney, Nov. 5th, 1930.

MEDICAL RECIPROCITY WITH FRANCE

SIR,—Mr. E. Gerald Stanley, writing from Paris, disagrees with my conclusion that the time is ripe for the question of equitable medical reciprocity with France to be taken up. His objections are based on (1) the medical congestion already in France, (2) the doubtful success of any attempt to reopen the question, and (3) that "an Englishman would be ill advised to avail himself of it if ever it were granted." Overcrowding in France does not, however, affect the question. The crowds of Poles and Italians in France, to which Mr. Stanley refers, are workmen, not medical men. Were they the latter, it would argue that Englishmen should be included, not excluded. Moreover, Englishmen do not practise in France directly in competition with others. Their interest is with their own countrymen, whom they largely attract; and who, but for them, might not be there. They very rarely see a French patient. Naturally the French are pleased to secure English patients and their fees, but our claim to both is greater than theirs, and deserves consideration.

That an application for reciprocity would be turned down, as Mr. Stanley asserts, is unlikely, if properly presented. France has now a free hand, and is friendly. The inequality of the present arrangement is palpable, and a demand for reciprocity, limited to, say, a maximum of 100 medical men, would not be alarming, while it would meet the situation. Mr. Stanley's third objection, that a practice in France is better avoided by an Englishman, is a strange one. Many English medical men desire to practise in France largely for the sake of their health, and do not wholly depend on professional success for an income. Four English doctors are allowed in the Princi-

pality of Monaco, and four are always found there, in spite of Mr. Stanley's jeremiads. A similar number could practise with equal advantage in Mentone, Nice, and Cannes, and though Mr. Stanley says "English practitioners are not wanting in Paris," they soon will be as scarce as on the Riviera, unless a more generous reciprocity is arranged.

The statement that there is no prospect of hospital practice for the foreigner is not convincing. The Queen Victoria Memorial Hospital at Mont Boron, near Nice, was staffed by Englishmen while they could be secured, and I have known Englishmen on the staff of the British Hospital in Paris. It is not for hospital practice, however, that reciprocity is asked, but for admission into France on conditions more or less on a par with those allowed to French medical men here, limiting the number so allowed, to prevent arousing general professional jealousy. Reciprocity could surely be arranged with France as it has been with Italy. Cannes and Mentone were practically launched by Englishmen, and the Riviera has developed largely through their support, and that of the British medical men who have practised there. The latter can now only be replaced if medical reciprocity be put on a fairer and more reasonable basis.—I am, etc.,

Topsham, Devon, Dec. 15th, 1930. D. W. SAMWAYS.

Obituary

CHARLES ALGERNON STIDSTON, D.S.O. M.D., B.S.

Honorary Surgeon, Royal Hospital, Wolverhampton

Mr. C. A. Stidston, who died on December 15th, after an illness of five months, in his fiftieth year, was the son of the late Charles Stidston of Plymouth. He was a student of St. Bartholomew's Hospital, where he gained the Foster Prize and the Wix Prize, and after graduating M.B., B.S.Lond. in 1906 was appointed a house-physician. He went to Wolverhampton in 1907 as resident medical officer of the General, now the Royal, Hospital. He was elected honorary assistant surgeon two years later, and full surgeon in 1920. On the outbreak of war in 1914 Mr. Stidston, who was a Territorial officer in the R.A.M.C., was called up with his field ambulance, the 2/3rd North Midland. He served for the whole duration of the war, and was for eighteen months at the front in France. He was in command of his field ambulance during the difficult and anxious fighting which followed the battle of Cambrai. For his services in the field on this and other occasions he was awarded the D.S.O. At the end of the war he retired with the rank of lieutenant-colonel, and resumed his practice at Wolverhampton. His inventive turn of mind was shown in a portable operating table described by him in the *Lancet*, and in the portable sterilizer, the outfit for immediate treatment of cases of poisoning, and the anaesthetist's screen, of which descriptions were published in the *British Medical Journal*. He leaves a widow and one daughter. The following appreciation of his character and career is sent by one of his hospital colleagues.

Charles Algernon Stidston, whose loss is deplored not only by his colleagues and friends, but by the inhabitants of Wolverhampton and South Staffordshire, among whom he lived and practised for twenty-one years, was a man of original and striking personality and of brilliant and varied gifts. His abounding vitality, his charm of manner and breadth of human sympathy, earned him the devotion of his patients, rich and poor alike. He had a lively and spontaneous wit and a gift of expression, both in speech and in writing, which were the delight of his friends. He could be pungent on occasion, but even his victims were ready to forgive him for his wit, and enjoy a laugh against themselves. He was the warmest, the most faithful, the most generous of friends. He had his fierce hatreds too, for there was nothing half-hearted about him. To serve a friend no effort and no sacrifice were too great. With equal prodigality he spent himself in serving many who had no claim but their needs and his own generosity.

For twenty-one years he was a member of the honorary surgical staff of the General, now the Royal, Hospital, Wolverhampton, and he threw himself into his work with the zest and devotion which he displayed in all his pursuits. Although he had a large and very successful general practice, it was his ambition and intention to devote himself entirely to surgery as soon as circumstances permitted. It was a tragic disappointment to find himself disabled by the illness to which he finally succumbed, at the very moment when he saw the prospect of realizing his ambition. For five months he lay ill and almost helpless. He never murmured or complained, and bore himself throughout with characteristic dignity and fortitude. Even his wit and humour did not forsake him, for he jested lightly with his nurse a few minutes before his end; which came suddenly.

His record as a soldier is fine and characteristic. He served with distinction for eighteen months in the front line, careful of those under his command, careless of his own welfare. Though only once slightly wounded he suffered from gas, and there is no doubt that this and the normal hardships of active service at the front undermined his naturally robust constitution and contributed to the illness from which he died. Though he had a right to be proud of his military record, like many other gallant soldiers he rarely spoke of it. Courage, generosity, and modesty were parts of his nature, and they displayed themselves equally in war and in peace. He will live long in the memories of all who loved him. And those who knew him best loved him most.

FREDERICK W. BENNETT, M.D.

Consulting Aural Surgeon, Leicester Royal Infirmary

Leicester has lost a many-sided citizen by the death of Dr. F. W. Bennett. After studying at Owens College, he became M.R.C.S. in 1883, and a year later graduated M.B.Lond. with honours in medicine; in 1885 he proceeded to the degree of M.D. After holding resident posts at several Manchester hospitals he started practice in Leicester, and was soon appointed to the staff of the Infirmary as honorary assistant physician. But he was attracted to what was then a new specialty, that of laryngology. Several of the larger hospitals were creating departments for diseases of the ear, nose, and throat, and as there was very little teaching in this country Bennett went to Vienna. On his return he was appointed the first aural surgeon to the Leicester Infirmary; he remained faithful to his choice, and continued to hold this post for nearly thirty years. The way of a pioneer is always difficult, and Dr. Bennett found that he was hampered at the beginning of his work by lack of accommodation and of assistants. His beds were scattered in various medical and surgical wards of the hospital, and he was only allowed to do minor operations, such as the removal of tonsils and adenoids. It was typical of the man that, in order to improve working conditions, he engaged a nurse from outside the hospital at his own expense. By his energy, his skill, his personal charm, and his friendly relations with colleagues, he succeeded in overcoming all his difficulties, and when he retired from the active staff he left a department well equipped, greatly enlarged, and fully recognized as an important branch of the hospital. He was at one time a prominent member of the Section

of Laryngology of the Royal Society of Medicine, but retired immediately after the war as a protest against the exclusion of foreign members.

Dr. Bennett will be remembered with the kindliest feelings by his professional brethren in Leicester, and by the general public, because he was a man of many and varied interests, fond of music and enthusiastic in several branches of science, including geology. He took the degree of B.Sc. twenty years after he qualified in medicine. Until his death he was president of the Section of Geology in the Leicester Literary and Philosophical Society. He spent many holidays in Switzerland studying glacial action, and he was regarded as the authority on that perpetual puzzle to geologists, the rocks of Charnwood Forest. For several years he was a member of the old School Board, and in 1891 he drew up a scheme for the training of teachers in elementary science. He was a co-opted member of the City Museum and Library Committee, an early supporter of the local University College, and a member of its council. Such public work was real pleasure to him, and he carried on his duties manfully, although latterly he had suffered from a failing circulation. His end came suddenly, as he had often expressed a wish that it might. On the last evening of his life he was at a committee meeting; although he went to bed well, he had an anginal attack during the early hours of December 3rd, and passed away in it. He leaves two daughters.

A. L. McL.
A. V. C.

The death took place at Bridge of Allan, on December 14th, 1930, of Dr. J. HOSACK FRASER, F.R.C.P.Ed. Dr. Fraser had been in poor health for several months, but had been engaged in professional work up till a few days before he died. Dr. Fraser was born in 1857, and after graduating M.B. at Edinburgh in 1881, he became resident physician with the late Sir Thomas Fraser. He afterwards engaged in hospital work at Lancaster Royal Infirmary, and went for a trip round the world as a surgeon. On returning to Scotland he settled down some forty years ago in Bridge of Allan, where he was for many years one of the best-known physicians. He joined the Royal College of Physicians of Edinburgh as a member in 1895, and proceeded to the Fellowship in 1897. He was the author of various communications to medical journals, including one on syphilitic tumour of the cerebellum, contributed to the *Lancet* in 1883, and one on hysteria and metallotherapy, contributed to the *Birmingham Medical Review* in 1884. During the war he acted as medical officer at the Keir House Auxiliary Hospital, and was presented with the Belgian King Albert medal in recognition of his services. He is survived by a family of sons and daughters.

Dr. WILLIAM DYNE STEEL died on November 21st, 1930, at Abergavenny, where he was born seventy-five years ago, and of which borough he was an honorary freeman. He received his medical education at Aberdeen, King's College Hospital, and the London Hospital. He graduated M.B., C.M Aberd. in 1881, and proceeded M.D. two years later. After graduating, he joined his father in the practice in Abergavenny which had been founded by his grandfather. He held the appointment of senior physician to the Victoria Cottage Hospital, the establishment of which was largely due to the activities of his father and himself. He was medical officer of health for the borough from 1883 until 1926. Dr. Steel joined the Volunteers in 1879, and was awarded the Volunteer Decoration in 1900; five years later he became colonel in command of the 4th Volunteer Battalion of the South Wales Borderers. When the Territorial Force came into being he raised and commanded the 3rd Battalion of the Monmouthshire Regiment. He retired in March, 1914, after two extensions, but rejoined early in the war, raising and commanding the 3rd Battalion of his old regiment until illness compelled him to retire in 1916. He was appointed deputy lieutenant for the county of Monmouth in 1914. He was an Honorary Associate of the Order of St. John of Jerusalem, and for many years lectured and examined for that Order. He was the first chairman of the Monmouthshire Panel Committee, and retained that office until his retirement from practice in 1928.

Dr. ARTHUR FOSTER, who died at Worcester on December 13th, 1930, was born in 1872, and received his medical education at Edinburgh University where he graduated M.B., Ch.B. in 1893, proceeding M.D. in 1897. He commenced to practise in Blackburn, his native town, but after a few years moved to Inkberrow, Worcestershire, and thence to Leicester, where he built up a large practice, and was appointed assistant physician to the Leicester Royal Infirmary. He studied law, became a member of Gray's Inn, and was called to the Bar in 1912. In 1920 he found the strain of practice too great and went to Worcester. While in Leicester he had held the post of honorary secretary to the Panel Committee from 1916 to 1920, represented the Committee at the annual conference, and had been a member of the Insurance Committee and of the Medical Benefit and Allocation Subcommitees. He was a member of the board of management of the Leicester Public Medical Service from its inception in 1913 until 1920, during which latter year he was vice-chairman. In the war he held the commission of Captain R.A.M.C.(T.), and was attached to the 5th Northern General Hospital. Of his life in Worcester a colleague writes: Dr. Arthur Foster was a man who always gave of his best, not only to his patients, but also to his professional colleagues, by every one of whom he was trusted and respected as a straight man and a sound counsellor. He was for many years the honorary secretary of the Local Panel and Medical Committees for the City of Worcester, and was medical representative on both the City and the County Insurance Committees. He always had the work at his finger-tips, and was unsparing of himself in carrying out the duties. He was also for many years the local representative at the Panel Conferences. He was an active member of the British Medical Association, and for a short time acted as representative. In spite of a busy practice he found time to devote to civic life, and in 1924 was elected city councillor, a position he held at the time of his death. He was an active member of the Elementary Education Subcommittee, and was for a short time its chairman. He was also a very active and regular member of the Health Committee, on which his professional knowledge was invaluable. His son, Dr. Kenneth Foster, has been associated with him for about three and a half years in the practice. The Medical Secretary adds: "Dr. Foster will be greatly missed centrally as well as locally. He was a man who could always be relied upon for work for his profession, whatever the other claims upon him, and his judgement and cheerful co-operation were always at the disposal of the Association."

Dr. HECTOR MCLEAN WILSON, who died at Leeds on December 22nd, 1930, was a well-known authority on public health, especially with reference to river conservancy and the purification of sewage. He graduated M.B., C.M. at Edinburgh in 1882, and proceeded M.D. in 1890. Sir Alexander Houston writes: On the eve of Christmas, just when one's thoughts were turned to gladness, the sad news reached me of the death of Dr. Hector McLean Wilson, a friend of forty years' standing. He was several years my senior, and was building up a good practice at Penrith when the lure of preventive medicine proved too strong for him. He went back to Edinburgh and we studied science together, taking our B.Sc. at the same time. Thus began a lifelong friendship, now unhappily terminated by death. Wilson had great intellectual gifts and the highest sense of honour, combined with a personal charm which was almost irresistible. These gifts, aided by a keen sense of humour and great tactfulness, carried him most successfully along the long road he had set out to travel. For twenty-five years he served as chief inspector of the West Riding

Rivers Board. That Board is now known all over the world, and there is no doubt that Wilson's work did most to place it on its present pinnacle of greatness. His patience, sagacity, imagination, and foresight were acknowledged by all those who came into contact with him; he had no enemies, but a host of friends, amongst which the writer counted himself one of the oldest and most admiring. He has passed away, but his life was not lived in vain; he not only did splendid work himself, but he was a positive inspiration to all those who laboured in the same vineyard. None of us in the service of preventive medicine and the conservancy of our rivers can hope to leave behind us a finer, cleaner, friendlier, or more enduring record than did my dear friend Wilson.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The Trade Disputes and Trade Unions (Amendment) Bill and the Representation of the People Bill have been presented in the House of Commons. One of the provisions of the latter Bill proposes to abolish university constituencies.

The House of Commons will reassemble on January 20th and the House of Lords on January 28th.

The Census Order

In the House of Commons on December 15th, 1930, Sir DENNIS HERBERT asked what the Government intended by Section 13 of Part II of the Second Schedule to the draft of the Census Order, 1930. Mr. CRAIGIE AITCHISON (Lord Advocate) said that this item inquired whether the person enumerated was "entitled to medical benefit under the National Health Insurance Acts." Under the Census Act, 1920, such an inquiry needed to be sanctioned by a resolution of the House of Commons. The information was desired to provide a check on the index registers of Insurance Committees. A precisely similar question had been issued in Scotland for the 1921 census. In Scotland to-day inquiries were being carried out to ascertain the incidence of disease among insured persons, and the answers to Question 13 in the draft Census Order would facilitate that inquiry.

The House then passed the necessary resolution authorizing the question.

A National Maternity Service

In reply to Dr. Fremantle on December 18th, Mr. GREENWOOD said that he would consider the suggestion that, before any scheme for a national maternity service is formulated, he would confer with the midwives through the Incorporated Midwives Institute and the Queen's Institute of District Nursing, as the respective bodies mainly representing and employing them, as well as with bodies representing the medical, professional, and other interests concerned. Asked by Dr. Fremantle whether it was not essential that the midwives' profession should be considered and included in the circular, Mr. GREENWOOD pointed out that the circular was addressed to local authorities, and not to other bodies. Dr. FREMANTLE asked whether the circular said that Mr. Greenwood had consulted other professions, when he had not consulted the profession of midwives. Mr. Greenwood did not reply.

Replying to Viscountess Astor on December 18th, Mr GREENWOOD said that, as stated in a circular recently issued to local authorities on the subject of maternal mortality, the Government had decided to undertake negotiations with authorities concerned to formulate a scheme on a national basis for the care of maternity. Such negotiations were a necessary preliminary to the introduction of legislation for the purpose.

Pensions

Replying to Dr. Morris-Jones on December 15th, Mr. ROBERTS said assessment of pensions was based on the degree of physical loss or incapacity sustained by an officer or man in consequence of a particular injury or disease, not merely on the clinical signs present in the case. Dr. Morris-Jones asserted that in certain cases of pulmonary tuberculosis, although there might be extensive physical signs in the chest, a decision had been given that this did not necessarily indicate a high degree of disablement, and that the presence of tubercle bacilli in the sputum did not mean that the man was totally disabled. Mr. ROBERTS said this assertion far from adequately represented the principles on which medical officers of the Ministry worked. It was never the case that an assessment was reduced simply because a man was at work, though the extent, if any, to which the man had shown himself capable of regular work was necessarily some evidence of capacity.

Mr. F. O. ROBERTS, on December 15th, told Mr. Price that the total number of officers and men at present in receipt of pension on account of neurasthenia was about 32,600. It was the policy of the Ministry to make final awards in all suitable cases, and in 78,000 of the total number of cases referred to the awards had been made permanent.

Mr. F. O. ROBERTS stated that the number of in-patients (apart from those in mental institutions) at the end of November, 1930, was about 4,100, and the number in mental institutions on the same date about 6,400.

Encephalitis Lethargica

On December 19th Mr. FREEMAN asked Mr. Greenwood whether, in view of the figures given in the annual report of the Chief Medical Officer for 1929, which showed that, while 1,036 cases of encephalitis lethargica were notified during the year 1929, the actual number of deaths for that year as recorded by the Registrar-General was 1,037, he could say what proportion of the deaths in question had been previously notified as cases of the disease.

Mr. GREENWOOD replied that he could not say. Deaths from this disease in any year included a number of cases notified in previous years.

Mr. FREEMAN asked what steps would be taken to compel doctors to notify the disease. Mr. GREENWOOD said that encephalitis lethargica was compulsorily notifiable in England and Wales under Regulations made in 1919. He had no reason to think that medical practitioners failed to comply with their obligations under the Regulations.

Sickness Rates among Seamen

Mr. W. GRAHAM, on December 16th, told Mr. T. Lewis that an investigation was being made to determine the true death and sickness rates among seamen, compared with other occupations. The accommodation on board ship, which was frequently inspected by the surveyors of the Board of Trade and by the local health authorities, had recently been engaging the special attention of the Board of Trade, of the Joint Committee of the Board of Trade and Ministry of Health, and of the Shipping Federation. He hoped that agreed proposals improving the general standard of crew accommodation would result from these inquiries.

Thyroid Extract.—Mr. TINNE asked Mr. Clynes on December 19th whether, in view of the increasing use of preparations of thyroid extract and of its effects, he would take steps to bring this drug under the Dangerous Drugs Act. Mr. CLYNES said he was advised that thyroid extract was not a drug which would be productive of ill effects similar or analogous to those produced by morphine or cocaine, and that consequently it was not a drug to which the Dangerous Drugs Act could be applied.

Poison Gas Experiments.—Mr. SHAW told Mr. Freeman on December 18th that since January 1st, 1929, some 520 volunteers had undergone tests in poison gas experiments with the object of proving the efficacy of preventive and curative treatment for skin burns and of confirming the adequacy of the protection afforded by respirators. Many of these volunteers had undergone more than one test. Every care was taken to ensure that the test involved no risk to the health of the volunteers. If an injury were sustained, it would be dealt with as attributable to service, and compensation would be paid from Army funds.

Tin Poisoning from Cheese Wrappers.—Mr. GREENWOOD stated, in reply to Major George Davies on December 18th, that he had received a communication from the Lambeth Borough Council enclosing a report in which the medical

officer of health made a statement concerning the possibilities of tin poisoning from cheese wrapped in tinfoil. Samples of cheese prepared in this country had been found to be unduly contaminated by the tinfoil in which they were wrapped. The industry was aware of the importance of reducing the contamination to the lowest possible limit, and was making efforts to achieve this end. The matter was being kept under observation.

Sterilization of Mental Defectives.—Mr. GREENWOOD told Mr. Sorensen on December 18th that twenty-one local authorities had endorsed resolutions in favour of an investigation into sterilization in relation to the mentally unfit, but the issue was not one which could suitably be made the subject of a separate inquiry.

Small-pox in London.—Mr. GREENWOOD, replying to Mr. Cadogan, said that during the two weeks ended December 13th, 1930, seventy-five cases of small-pox were notified in the county of London. These figures were provisional, and the cases notified were all of the mild type. There had been no fresh outbreak in London, the disease having been prevalent in the metropolitan area for some considerable time.

Advertisements of Medicated Wine.—On December 15th Mr. HASTINGS asked the Postmaster-General whether his attention had been called to the fact that advertisements for Hall's wine were contained in books of stamps sold at post offices; whether, in view of the fact that this wine contained a large percentage of alcohol and could only be retailed by those holding a licence, and that it was without medicinal value because the small quantity of meat juice it contained is rendered inert by the action of the alcohol in it, he would take steps to see that such advertisements were no longer accepted Mr. LEES-SMITH said that, in accordance with the Government's general decision, no advertisement of alcoholic liquor was now accepted for inclusion in Post Office books of stamps, and this decision applied to advertisements of Hall's wine. Any such advertisements appearing in stamp books now on sale represented issues printed before the decision took effect. Replying further to Mr. Hastings, Mr. Lees-Smith said that the decision referred to was taken two or three months ago. It did not apply to contracts for advertisements which still had to run, perhaps for several months. These advertisements had now run out.

Notes in Brief

The appropriate number of days for which sickness and disablement benefits were paid under the National Health Insurance Acts in Great Britain during each of the years 1927, 1928, and 1929 was 203, 178, and 196 million days respectively.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

At a congregation held on December 19th, 1930, the following medical degrees were conferred:

M.B., B.CHIR.—D. W. Bawtree, A. T. Curnow, W. R. H. Pooler.
M.B.—S. E. F. Gooding, W. E. Mashiter.
B.CHIR.—D. G. Macdonald, F. G. Booker.

The following candidates have been approved at the examination indicated:

THIRD M.B.—(*Part I, Surgery, Midwifery, and Gynaecology*): G. L. Alcock, P. T. Ashby, C. P. Bailey, J. S. Barker, W. D. Bell, F. K. Boston, L. V. O. Brown, W. D. Brown, H. S. Buckland, D. C. Carroll, C. L. Collins, J. G. Connell, E. J. Currant, A. Cursham, J. H. Cyriax, E. M. Dimock, D. Divine, A. Eckford, W. A. Fell, F. H. Finlaison, G. H. Gange, G. H. A. Graetz, G. N. Grose, G. D. Kersley, C. R. T. Lane, T. C. Larkworthy, D. L. Lewis, J. W. S. H. Lindahl, E. H. W. Lyle, D. G. Macdonald, D. B. McGavin, F. H. Morrell, W. M. Niblock, W. R. Parkes, M. G. L. Perkins, J. Petro, W. H. Poole, J. Richardson, M. A. Robertson, M. A. Rushton, W. W. Sargant, P. G. Scott, R. P. W. Shackleton, J. Sowerbutts, J. H. Spence, T. C. Stamp, J. W. Summerhayes, C. E. Taylor, A. R. Thomas, E. D. Ward, J. N. Warren, A. M. Weston, J. C. G. Whitelaw, F. J. Wright, C. H. Wrigley. *Women:* C. A. Grove, R. M. W. Turner. (*Part II, Principles and Practice of Physic, Pathology, and Pharmacology*): C. Arthur, H. B. Bagshaw, C. O. Barnes, J. H. Beilby, J. H. Conyers, R. M. S. Cross, E. M. Dimock, D. Divine, W. S. Dyson, F. H. Finlaison, M. S. M. Fordham, E. D. Forster, J. H. Hall, C. J. K. Hamilton, J. O. Harrison, W. V. Howells, G. H. Jennings, J. J. Keevil, H. D. B. Kelly, W. A. Nicholson, G. L. Ormerod, P. H. L. Playfair, V. H. Riddell, N. H. L. Ridley, M. E. D. Roberts, M. A. Robertson, G. Rocyn-Jones, R. H. B. Snow, D. J. R. Steen, E. S. Stern, H. Taylor, B. C. Thompson, J. W. P. Thompson, W. R. Winterton, F. J. Wright. *Women:* A. B. Field, G. E. Grove, E. M. P. Smith.

The election to the Downing Professorship of Medicine has been ordered to be suspended until March 31st next.

UNIVERSITY OF LONDON

The following candidates have been approved at the examination indicated:

M.S.—(*Branch I, Surgery*): D. S. M. Barlow, R. H. Boggon (University Medal), M. A. Paul, R. F. Phillips, S. M. Power. (*Branch IV, Laryngology, Otology, and Rhinology*): R. J. Cann (University Medal), W. A. Mill.

UNIVERSITY OF SHEFFIELD

The following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—(*Part I*): Margaret F. Coveney, A. W. R. Eardley, J. E. Edson (Distinction in Public Health); T. A. Hunt. (*Part II*): C. England, A. Spencer.

UNIVERSITY OF BIRMINGHAM

At the congregation of the University of Birmingham held on December 19th, 1930, the following medical degrees were conferred:

M.D.—F. Smith.
M.B., CH.B.—R. H. Fooks, C. E. Moorhead, J. V. Walker.

UNIVERSITY OF EDINBURGH

A graduation ceremonial was held on December 19th, 1930, when the folliwing degrees and diplomas were conferred:

M.D.—‡R. D. Aitken, ‡L. J. Davis, I. B. Ewart, †W. M. Ford-Robertson, W. Goldie, ‡Laura M. Ligertwood, J. H. Loots, D. P. MacIver, †M. Sokolovitch, J. Weinstein, *J. H. Harley Williams, M. Witkin.

M.B., CH.B.—J. W. Bridgman, R. O. Cairns, J. G. Craven, W. R. de Faria, W. Finlay, K. N. Flint, M. E. Gazaverli, F. M. Gordon, ‖I. D. Grant, M. B. Griffith, J. R. Hope, J. E. Ilbery, E. Joffe, T. M. Khan, R. S. Kirk, G. Lang, E. H. Langschmidt, Amelia N. Laws, J. Levin, B. P. Lubbe, D. M. Lyon, A. P. M'Ara, D. C. MacGilchrist, D. J. MacRae, C. L. Maingay, H. C. Maingay, D. H. Malherbe, R. A. Mitchell, D. S. Napier, W. G. Pennington, W. M. Phinney, C. M. Ross, N. Shapiro, W. S. Shaw, Edith Simpson, H. Stange, D. Stern, D. W. Taylor, Gertrude J. K. Turner, R. A. Turner, I. D. C. Veitch, F. A. Viapree, C. B. Watson, E. S. Wyder.

D.P.H.—C. P. Beattie.

*Awarded gold medal for thesis.
†Highly commended for thesis.
‡Commended for thesis.
‖With honours.

The Ellis Prize in Physiology has been awarded to W. A. Bain.

NATIONAL UNIVERSITY OF IRELAND

UNIVERSITY COLLEGE, DUBLIN

The following candidates have been approved at the examinations indicated:

M.D.—M. J. Bryson, V. C. Ellis, M. J. O'Neill.
M.D. IN MENTAL DISEASES.—F. L. McLaughlin.
M.CH. IN OPHTHALMOLOGY.—F. J. Lavery.
M.B., B.CH., B.A.O.—*M. Moriarty, *F. O'K. Craven, C. P. B. Bermingham, L. Dunne, J. J. Groome, R. Dunphy, M. J. C. Lynch, N. J. McGahon, P. A. McGuinness, T. J. Martin, T. A. Moynihan, P. O'Driscoll, Johanna O'Shea, §B. de Burca, ‖Mary I. Brennan, ‖Elizabeth M. R. Clarke, ‖Kathleen E. Murphy, ¶J. O'K. Bryson, **M. O'Reilly.
D.P.H.—†P. J. Deery, ‡M. M. J. Maughan, P. Keane, J. C. A. Liddy, J. O'Gorman, Margaret M. Partridge, J. J. Ryan.

*Second class honours.
†First class honours, Part II.
‡Second class honours, Part II.
§Exempted from further examination in Pathology.
‖Exempted from further examination in Part I (Medicine and Pathology).
¶Exempted from further examination in Part II (Surgery, Ophthalmology, and Midwifery).
**Exempted from further examination in Pathology and Part II (Surgery, Ophthalmology, and Midwifery).

ROYAL COLLEGE OF SURGEONS IN IRELAND

The following candidates have been approved at the primary examination for the Fellowship: J. Conroy, F. F. Quigley.

CONJOINT BOARD IN IRELAND

The following candidates have been approved at the examinations indicated:

FINAL EXAMINATION.—P. J. Doyle, E. R. Duggan, R. J. Randall, C. J. C. Wilson.
D.P.M.—H. T. Kirkland.
D.P.H.—A. Doherty.

Medical News

The second half of the session 1930-31 of the Medical Society of London opens on January 12th with a pathological meeting. The following discussions have been arranged: January 26th, medical and surgical uses of diathermy, opener Dr. E. P. Cumberbatch; February 9th, the choice of anaesthetic, Dr. I. W. Magill; February 23rd, the treatment of indolent ulcers of the leg, Mr. A. Dickson Wright; March 9th, the treatment of pneumonia, Lord Dawson of Penn; March 23rd, growth in children, clinical, radiological, and histological, Dr. H. A. Harris and Dr. H. H. Mills. The Lettsomian Lectures, on the spleen, its structure, functions, and diseases, will be delivered by Dr. J. W. McNee on February 16th and 25th and March 4th. Sir John Rose Bradford will deliver the annual oration on May 11th. The annual dinner of the society will be held at the Trocadero Restaurant on Friday, March 6th.

Dr. Alfred Adler of Vienna will give an address at a meeting of the Medical Society of Individual Psychology, to be held on Friday, January 16th, at 8.30 p.m., in the rooms of the Medical Society of London, 11, Chandos Street, W.1. All members of the medical profession will be welcome on presentation of their card.

At a meeting of the Pharmaceutical Society of Great Britain, to be held at 17, Bloomsbury Square, W.C., on Tuesday, January 13th, at 8.30 p.m., Professor E. F. Armstrong, F.R.S., will give a lecture entitled "Thoughts from a chemist's garden," in which plant colours, their meaning, interrelationship, and synthesis, will be discussed.

The sixth International Congress of Military Medicine and Pharmacy will be held at The Hague from June 15th to 20th next, and not at Budapest, as erroneously stated in last week's *Journal* (p. 1088). The subscription is 10 Dutch florins for members of the congress, and 5 florins for those who accompany them. Specially reduced railway and steamship fares will be available. Communications from those in Great Britain who wish to attend should be addressed to Major A. D. Stirling, the War Office, Whitehall, S.W.1.

The Anti-Opium Information Bureau, Geneva, announces that "An examination of the principal methods suggested for limiting the world manufacture of narcotics," presented in its Reference Document No. 1, has been issued by the Secretariat of the League of Nations in the form of Document O.C. 1278, dated November 24th, 1930.

A circular has been issued by the London County Council describing the facilities afforded by the London Ambulance Service and giving instructions for obtaining its help. Details of the conditions and circumstances in which ambulances are supplied by the Council free of cost for conveyance to hospitals or private residences, and to the Council's hospitals for infectious and non-infectious diseases, are enumerated in the circular, which also contains particulars of the prescribed charges for the transport of private patients within and beyond the administrative county of London. Explicit directions for calling an ambulance or ambulance omnibus by telephone, telegram, or letter are clearly set out, and a convenient list is given of ambulance stations and addresses. Medical practitioners in London who desire to have a copy of the circular should apply to the medical officer of health for the metropolitan borough in which they practise.

The second International Congress of Sanitary Technique and Communal Hygiene will be held at Milan from April 20th to 26th. Further information can be obtained from the general secretary, Piazza del Duomo, 17, Milan.

We have received from Dr. Ross Mitchell, Editor of the *Manitoba Medical Bulletin*, an illustrated pamphlet, reprinting articles on Canada, Manitoba, and Winnipeg, prepared for the Ninety-eighth Annual Meeting of the British Medical Association, which appeared last year in our own columns and those of the *Canadian Medical Association Journal*. It is dedicated to Dr. A. D. Blackader, "whose enthusiasm, inspiration, and generosity made this work possible."

According to the monthly epidemiological report of the Health Section of the League of Nations, the number of cases of cerebro-spinal meningitis reported by sixty countries has declined from 17,180 during the period July 1st, 1928, to June 30th, 1929, to 16,165 during the period July 1st, 1929, to June 30th, 1930; but at the same time the number of cases increased in fourteen countries, and very markedly in some of them—namely, Lithuania, Algeria, the Sudan, Mexico, and Java. In 1929 the countries most affected by lethargic encephalitis were Denmark (3.9 cases per 100,000 inhabitants), Scotland (3.2 in the towns), England and Wales (2.6), Sweden (2.2), and Czechoslovakia. Outside Europe the morbidity was 1.7 for New Zealand and 3.2 for Japan.

Professor E. W. Hope has written—under the title *Health at the Gateway*—a history of the administrative developments affecting the public health of the city and port of Liverpool, and the questions of international hygiene associated with it. It will be published shortly by the Cambridge University Press.

A quarterly review of medicine, pharmacy, and veterinary medicine is published at Belgrade, under the editorship of Surgeon-General J. T. Staitch, director of the medical department of the Jugoslavian Army. All the original articles are summarized in French, and in English or German, and the various topics are dealt with from the practical standpoint. Interesting illustrations are numerous, and the periodical is a valuable contribution to medical literature.

The annual dinner of the Birmingham Dental Students' Society was held in the Queen's Hotel, on December 13th, 1930, the president, Mr. A. G. Clendinnen, being in the chair. The president of the Birmingham Dental Hospital proposed the toast of the society, and the dean of the hospital, in replying, expressed the hope that the Birmingham Dental School might be moved in the near future to the new hospital centre at Edgbaston. The dinner was well attended, and a large number of old students were present.

We are asked to say that a reunion dinner of the "Rough Riders" (City of London Yeomanry) will be held on January 8th. All who have ever served in the regiment are invited to attend. Tickets can be obtained from G. W. Cheesman, Markmerrow, The Ridgeway, Guildford.

Dr. Olive Robertson Watson of Edinburgh has been appointed by the Secretary of State for Scotland to be a member of the Board of Trustees for the National Galleries of Scotland, until March 31st, 1932.

The centenary of the birth of the celebrated syphilologist Alfred Fournier will be celebrated on May 12th, 1932, under the presidency of Dr. Lucien Hudelo, president of honour of the French Society of Dermatology and Syphiligraphy. Further information can be obtained from the general secretary, Dr. Sicard de Plauzoles, 44, Rue de Lisbonne, Paris, VIII^{e}.

The Swedish gold medal for physical education, awarded by the Swedish Gymnastic Federation, was presented to Dr. Philippe Tissié at the International Ling Congress, recently held at Stockholm.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (*Advertisements, etc*), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Nail Biting

"M.B." asks if any reader can indicate a satisfactory method of preventing children from biting their nails.

Iridocyclitis after Actinotherapy

DR. I. FLACK (Radcliffe, nr. Manchester) writes: I should much like to hear if any of your readers interested in actinotherapy are aware of cases where exposure of the eyes to the light from a mercury vapour lamp has resulted in an attack of acute iridocyclitis. Conjunctivitis is, I know, common enough; but I know of one case where the more serious effect followed careless exposure. At least, that was the only cause which could be suggested after a careful elimination of all other sources—infective or otherwise.

Diabetes in Coal Miners

DR. LEON COLLINS (Sunderland) writes: I have been in practice in a colliery district for seven years. In this period I have had numerous cases of diabetes mellitus in miners' wives, but not one in a miner. I should be interested to hear of other colliery practitioners' experiences, as it would appear from my experience that working among coal dust seems to give immunity from this condition.

Pruritus with Jaundice

MR. ALEX. E. ROCHE (London, W.1) writes: "W. F. T. A." asks for suggestions which would help him to alleviate an intolerable pruritus arising from a progressive jaundice due to carcinoma of the head of the pancreas in a woman, aged 60. He says that "all the usual methods have been tried, but without success." What are these methods? I know of only one—cholecysto-gastrostomy or duodenostomy—invariably successful, whatever the issue, in alleviating such pruritus, and, in the event of survival, in remedying the causative jaundice. Apart from operation, is not morphine the handmaid of euthanasia? Sometimes, of course, the "carcinoma" turns out to be a chronic pancreatitis.

Income Tax

Assessment of Army Officer's Pay, etc.

"B. L. E. D." has been serving as an officer in the Army for three or four years. In 1928-29 and 1929-30 he was serving abroad, and received a "colonial allowance" in addition to his pay. For 1930-31 he is assessable as a resident in the United Kingdom, and has been assessed on the basis of the previous year's income, to include the colonial allowance, which he no longer receives.

*** By the Finance Act of 1927, Section 45, the current year's basis, up to then applicable to earnings assessable under Schedule E, was displaced by that of "the year preceding the year of assessment." But there were three provisos; the second of which was to exclude from the change "the case of any office or employment held occasionally or intermittently in the United Kingdom by a person who is not continuously resident there." We understand that our correspondent was unmarried until his return to this country, and presume that he did not maintain a residence here during his absence. If so, it seems to us that he can fairly claim to bring his case within the proviso quoted, and therefore be charged for 1930-31 on the basis of the current year. We suggest that he puts this point to the authorities, and asks them to state on what ground he is excluded from the relief afforded by that proviso.

LETTERS, NOTES, ETC.

Quinine and Malaria in England

DR. F. WILLIAM COCK (Appledore, Kent) writes: I notice the various communications on the history of the cinchona tree. I was largely brought up in this once most malarious district of Romney Marsh. In fact, I had the benign form of tertian off and on till I was over 30. In my young days there was hardly a house where there wasn't a case to be found at some time of the year. The local practitioners attribute the absence of the disease to the use of quinine. Be that as it may, you will have to search very closely to find a case of ague nowadays. Quinine was introduced into this district about 1850. First Pelletier's, the brownish-coloured drug, and then Howard's. When first introduced the price was a guinea a drachm, or £8 an ounce, very much on the same lines as that of cocaine, of which I took a 2-grain tube into Jersey in 1884 or 1885, the price being 15s. Reverting to ague, it was well known that here and there was a person who was immune, and that also there were people for whom quinine was no good, though bark was. The method was to infuse an ounce of bark in a pint of hot old and hardish ale, and then drink the whole at a draught and lie quiet in bed between the blankets. Of course, port wine and bark in my young days was still taken in this neighbourhood by those who could afford to pay for the menstruum. A good deal of opium was also consumed by malarious people. I remember the old ladies coming into the local grocers' and asking for "fourpennyworth of *gum lodly*"—that is, gum opium, the *lodly* being the local pronunciation of laudanum. They would get a piece about as big as a hazel nut, and they kept a thumbnail the right length which, when filled from the lump, was the right dose. Liquor arsenicalis was always tried when quinine failed to cure. In my time, from about 1868 to 1880 or later, quinine cost 13s. to 15s. an ounce. Since then I have bought it at 1s. 1d. In reading old medical histories one sees that cinchona was almost looked upon as a panacea, and to "throw in the bark" in desperate cases, and in cases of slow convalescence, was the common custom. Need I say I am old enough to have been brought up in that tradition, and still have a fair amount of faith in its application?

Nocturnal Incontinence in Children

DR. T. W. ROTHWELL (Sedbergh) writes: A boy at a preparatory school was brought to my notice as suffering from nocturnal incontinence. The boy seemed otherwise healthy. With small doses of bromide the trouble improved, but not completely. Discussing the boy's appetite with the matron one day, I found that he took large quantities of mustard with his midday meal, even to putting two teaspoonfuls in his soup. We decided to stop the medicine and see what happened. The bed-wetting began again at once. Then we stopped the mustard. The nocturnal incontinence stopped immediately. After fourteen days the boy was allowed the free run of the mustard pot for one day. The same night his bed was soaked. I have since traced two other cases to similar causes, in one case excess of pepper.

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 48, 49, 50, 51, 55, and 56 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 52, 53, and 54.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 7.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

1 Senile Pulmonary Tuberculosis

U. MASUCCI (*Il Morgagni*, November 2nd, 1930, p. 2079) states that in spite of the studies of Charcot, Peter, Bertolotti, Hirtz, Etienne, Potain, and others, it is still generally supposed that tuberculosis is a disease almost entirely confined to youth. In reality, however, pulmonary tuberculosis not unfrequently develops in an insidious and protracted manner even in advanced life, as illustrated by a case seen by Masucci in a man aged 79, by Sabatini in one of 85, and by Bozzi in one of 108. According to Goglia's statistics of necropsies, senile tuberculosis escapes recognition during life in 68 per cent. As regards the general symptoms, the characteristic tachycardia and arterial hypotension are absent owing to the existence of arterio-sclerosis, which gives rise to hypertension and bradycardia. A rise of temperature at night, one of the most important symptoms of early pulmonary tuberculosis in young patients, is completely absent in a large number of cases, and slight and inconstant in others. Night sweats in old age are even rarer than fever. Physical examination does not as a rule show any definite evidence of disease, but Masucci has found in several of his cases of senile tuberculosis the following symptoms and signs which are constant in younger persons: the presence of micropolyadenopathy—small round painless glands mainly grouped at the site of the lesion; Boeri's sign—tenderness on pressure over the trapezius on the side corresponding to the lesion; dyspnoea; and recurrent slight haemoptysis. The diagnosis, however, can be established in most cases by the search for tubercle bacilli in the sputum, and a radiological examination of the chest.

2 Mild Small-pox

L. DE JONGH (*Klin. Woch.*, October 25th, 1930, p. 2021) states that during an epidemic of small-pox at Rotterdam and The Hague in 1929 he saw 32 cases of very mild small-pox, including 12 cases of non-eruptive variola in nurses. In non-epidemic times such cases are liable to be mistaken for influenza. Most of the patients had been repeatedly vaccinated, the last occasion being usually two months before they had to attend small-pox cases. The incubation period was shorter than usual, being at most 8 to 10 days, and, unlike the incubation period in ordinary small-pox, was not free from symptoms such as pain in the back, lassitude, insomnia, and sore throat. In view of the fact that these non-eruptive cases of small-pox occurred with one exception in recently vaccinated persons, it may be concluded that the immunity conferred by vaccination takes some months to be sufficiently strong to prevent the disease. There is no doubt that these non-eruptive cases are capable of spreading infection, which is specially liable to be conveyed by coughing. The prognosis of non-eruptive small-pox is usually favourable, but the author records one case in which myelitis developed in convalescence, and proved fatal in two months.

3 Epilepsy due to Compression of the Frontal Lobe

In most cases of essential epilepsy the necropsy reveals no macroscopical, and sometimes even no microscopical, cranio-encephalic lesions. BALTHAZARD and SZUMLANSKI (*Paris Méd.*, November 15th, 1930, p.451) report a case of this disease, non-traumatic in origin, and with no clinical lesion, in which the post-mortem examination revealed the principal cause of the convulsive crises. A man, aged 37, who was addicted to alcohol and suffered from mental debility, had suffered from attacks of vertigo and dizziness since the age of 17. He had been interned in an asylum six times during the previous seven years for chronic alcoholism and convulsive and psychic epilepsy. During each of these terms he had had no convulsions and only occasional attacks of vertigo. On each discharge, however, the crises recurred, due to alcoholic excesses and the cessation of treatment, which had included the administration of gardenal. He was found dead one morning, having probably fallen down during an epileptic seizure. There was a large wound on the forehead, which had bled copiously. Death was attributed to haemorrhage, with pulmonary oedema and asphyxia as contributory causes, but at the necropsy an exostosis, the size of a large almond, was found on the internal surface of the frontal bone; this had caused compression, and was sufficient to account for the epileptiform attacks. No evidence of fracture of the skull, meningeal haemorrhage, or meningitis was found. Alcoholism also played a part in increasing the frequency of the epileptic crises and the severity of the mental symptoms. The osseous tumour was possibly of syphilitic origin, though the Wassermann reaction of the blood was negative.

4 Retention of Urine in Typhoid Fever

L. F. DEFAIX (*Thèse de Paris*, 1930, No. 110), who records five illustrative cases in patients aged from 14 to 35, states that retention of urine is a relatively rare occurrence in typhoid fever, although it is mentioned in all the textbooks. It seems to be most frequent in the first week of the disease, but it may occur at any stage and in any form. Previous disease of the urethra and bladder, such as gonorrhoea, probably plays a part in its production, as does physical or moral strain. Retention of urine does not seem to indicate a particularly severe attack of typhoid fever, except when it appears at an early stage, and therefore does not affect the prognosis. As soon as the symptoms develop an attempt to prevent its continuance should at once be made by the application of hot compresses to the hypogastrium, the administration of opium by mouth or enema, or injections of pilocarpine hydrate (1 cg.) or pituitrin (1 to 2 c.cm.). If these measures fail a catheter should be passed twice a day under rigorously aseptic conditions.

5 The Incidence of Weil's Disease in Holland

J. P. BIJL and G. KORTHOF (*Arch. f. Hyg.*, October, 1930, p. 29), working in the Central Laboratory at Utrecht, have encountered sixty-two cases of Weil's disease during the years 1924 to 1930. The diagnosis was made either on the presence of leptospirae in the blood or the urine of the patient, or on the presence of agglutinins or lysins in the blood. The lowest titre of antibodies that has been considered positive was 1 in 1,000. Of the sixty-two cases, no fewer than forty-one occurred in the months of August to October. The great majority of the cases were reported from the low-lying watery provinces of Holland and Utrecht; sixteen of the patients gave a history of a fall into water or of swimming. Not all waters seem equally dangerous. The water is probably infected from the urine of rats, 20 per cent. of which were found to be carrying *Leptospira icterohaemorrhagiae*. Four epidemics of jaundice were investigated in which typical symptoms of Weil's disease were not forthcoming; in none of them was there any evidence of a leptospiral infection.

6 Vaccinal Splenomegaly in Infants

P. LEREBOULLET and R. WORMS (*Paris Méd.*, November 1st, 1930, p. 400), who record an illustrative case in a child, aged 11 days, draw attention to the occurrence of transient splenomegaly, sometimes of considerable degree, in infants during the first weeks of life, and associated with a vaccinal eruption or cutaneous suppuration which could not be attributed to congenital syphilis. In the presence of a large spleen, therefore, without any other symptoms, in an infant a few weeks old, there is no

justification for suspecting congenital syphilis unless the child has not recently been vaccinated or has not recently had some infection of the skin. It is important that repeated examinations should be made to determine whether the enlargement of the spleen is permanent or only transient, as a chronic enlargement continues to remain a valuable evidence of congenital syphilis. It is noteworthy that, though no previous description of vaccinal splenomegaly in the human subject has been given, enlargement of the spleen was recently recorded by Douglas, Wilson-Smith, and Price in twenty-four out of thirty-six cases of experimental generalized vaccinia in the rabbit.

Surgery

7 Open Operation in Fractures

A. YOUNG (*Annals of Surgery*, November, 1930, p. 838) records the result of his experience of twenty years in the treatment of fractures by open operation and direct fixation. The period particularly under review is that between 1917 and 1927, in which time 1,325 cases were treated, an open operation being employed in 539 cases. Immobilization of the fragments was secured by direct fixation in 229, or 17 per cent., of the cases so treated. In the preceding nine years only 6 per cent. of cases had been treated by direct fixation, thus proving the increasing confidence felt in this method of treatment. Of the 229 cases treated by open operation and direct fixation, 43 were wired, 61 were pinned or nailed, in 108 plating was used, and the remaining 17 were dealt with by combinations of metallic fixation or by catgut suture. The choice of method must depend on the individual case, and must aim at securing the most adequate restoration of function with the minimum risk, and the maximal accuracy in the adjustment of the fragments. The careful disinfection of the skin over a wide area, including and passing far beyond the site of fracture, is stressed; out of the whole series of cases reported, only two suffered from any serious infection. Open operation is advocated, not only for unusual fractures, or in cases of fractures with unusual displacement, but as a routine procedure for a large proportion of fractures of the long bones. In the case of fractures or fracture-separations in the elbow region where there is appreciable displacement, an open operation and direct fixation should be the treatment of choice. It has been found that there was no diminution in the activity and efficiency of the processes of repair, and union has in most cases been accelerated by this method of treatment. Only one case has been observed in which union was delayed, and one case in which it failed. The result of twenty years' experience has been to convince the author that in the treatment of many fractures of long bones an open operative procedure is safe in execution; it affords the most hopeful outlook for the early recovery of function, and the most perfect anatomical restoration.

8 Appendicitis in the Middle-aged

F. S. JOHNS (*Virginia Med. Monthly*, November, 1930, p. 509) states that though appendicitis in the middle-aged is less frequent, it is much more severe than in younger persons. The diagnosis is generally made late, because the disease is of gradual onset and there is a delay in calling in the family physician. According to Beckman, Smith, and Everingham the case mortality between 10 and 50 is only 4.7 per cent., but after 50 it is 23 per cent. At the operation the appendix is often found to be gangrenous throughout. A large proportion of the patients die between the fifth and eighth days after operation with cardio-vascular or renal complications, but the extension of gangrene and phlebitis are responsible for the high death rate. Owing to the danger of cardio-vascular changes, local anaesthesia with ethylene is advisable. When general anaesthesia is not used there is less danger of respiratory complications, and nausea and vomiting are reduced to a minimum.

9 Ganglionectomy

P. G. FLOTHOW (*Amer. Journ. Surg.*, October, 1930, p. 8) emphasizes the increasing importance of sympathetic nerve surgery, and reports a series of fourteen cases treated in this way; the patients were suffering from various diseases, such as Raynaud's disease, Buerger's disease, megacolon, and certain types of chronic arthritis. Three cases of Buerger's disease with associated vasospasm are reported; two were in the upper extremities and one in the lower, while one patient had an associated polycythaemia. Of these three cases, two were very successful, and the third would probably have given a good result had not high intestinal obstruction caused the death of the patient. Chronic polyarthritis deformans responded to sympathetic ganglionectomy in four cases, all of which had been treated unsuccessfully by other means for a minimum of eight years. In each case operation was followed by immediate relief of pain and marked improvement in the arthritis. Amputation pains and brachial neuritis have been cured or greatly relieved when the pain was of sympathetic, not psychic, origin, and three cases are quoted. One case of trifacial neuralgia and one of atypical facial pains have been treated, in the former case by a left stellate ganglionectomy, and in the latter by the removal of the right inferior cervical and first thoracic ganglia; the results were most satisfactory a year after the operation. One case of megacolon and one of spastic colon were entirely relieved by lumbar ganglionectomy. In seven of the fourteen cases a dorsal ganglionectomy was done, using the removal of the second rib and transverse process as the approach; in the other seven a transabdominal approach was used for the removal of the lumbar ganglia. It is suggested that future surgical advances may take place in the realm of the sympathetic nervous system.

10 Anhydraemia in Extensive Superficial Burns

F. P. UNDERHILL (*Journ. Amer. Med. Assoc.*, September 20th, 1930, p. 852) draws attention to the increased concentration of the blood found in cases of extensive burns, and attributes to this the so-called "toxaemia," which is, in his opinion, a misnomer. As a result of this increased concentration, the large blood vessels are not properly filled, so that tissue asphyxiation results. Underhill regards the pulmonary oedema of war gas poisoning as analogous to the outpouring of fluid at the site of a burn of the skin, both phenomena being the body's response to intense local irritation, and both resulting in increased blood concentration. Animal experiments have shown that a burn involving one-sixth of the body surface results in the loss from the burnt area of fluid equivalent to 70 per cent. of the blood fluid in twenty-four hours. If the same physiological conditions apply to man, a burn involving one-sixth of the skin area of a man of average weight, whose total blood fluid would be approximately 5,000 c.cm., might result in the loss of 3,500 c.cm. of fluid in twenty-four hours, though it is possible that the loss may be made good, up to a certain point, by substitution of "reserve interstitial fluid"—an unknown factor. Personal experience has led the author to believe that the concentration of the blood up to 125 per cent. of the normal renders life precarious. The fluid lost from burnt surfaces has been found to be almost identical with blood plasma in composition. Experimental work with animals has shown that the absorption from the burnt area of drugs and dyes is extremely small for the first five days; it is thought that the outgoing of fluid is due to increased capillary permeability, whilst reabsorption is a very slow process. The chloride content of the blood has been found inversely proportional to its concentration—the result of the increased capillary permeability, which allows chlorides to pass out with the plasma; the concentration of the blood can conveniently be measured by haemoglobin estimation. Organic damage to the kidneys is not common, but functional derangements are often found; a specific "toxin" causing damage to the kidney need not be assumed, since increased blood concentration is enough to upset the renal function. During the first

twenty-four to thirty-six hours, when the increase of capillary permeability is greatest, normal saline administration should be continuous; in severe cases, 1,000 c.cm. should be injected immediately by the veins. Acidosis may be combated by sodium bicarbonate, given orally when the patient can swallow. During the twenty-four hours 2,000 to 3,000 c.cm. should be given subcutaneously and 200 to 250 c.cm. of tap water by the rectum every three hours. In all, 4 to 8 litres of water are needed daily; the theoretical danger of "water intoxication" need not be feared, since about 35 litres would be necessary for its production. The local treatment of burns is of secondary importance where shock and anhydraemia are severe, and may safely be postponed till the foregoing general measures have been instituted.

11 Primary Cancer of the Lung

E. RIST and J. ROLLAND (*Ann. de. Méd.*, October, 1930, p. 231), who record 23 cases in patients aged from 18 to 73, in all but two of whom the diagnosis was made during life, state that primary cancer of the lung is no longer a rare condition, as was once supposed. Either it is really more frequent than formerly, or else it is becoming easier to recognize. Of the authors' cases 16 occurred in men, and only 7 in women. In five instances coexistence of tuberculous lesions was found at the necropsy, and in three there was a history or clinical manifestations of syphilis. None of the patients had been particularly exposed to the inhalation of dust. The symptoms are those of pleural effusion or of chronic pneumonia. There is nothing special to note in the dyspnoea, cough, or pain, which vary in degrees in different cases. Metastases were found in the following sites: pleurae (6 cases), glands (6 cases), liver (5 cases), brain (2 cases), skin (2 cases), suprarenals (1 case), kidneys (2 cases), spleen (1 case), bone (2 cases), opposite lung (2 cases), peritoneum and mesentery (2 cases). In twelve instances, however, necropsies could not be performed. The diagnosis was made in all cases by radiological appearances, supported by bronchoscopy in 4 cases and by biopsy of an affected gland, metastatic nodule, or portion of the tumour in 8 cases. All the cases terminated fatally. Radiotherapy was used in 10 cases, with the following results: in two it caused considerable relief of the symptoms; in one the neoplasm broke up rapidly, but symptoms of toxaemia soon developed; and in the rest there was no effect.

Therapeutics

12 Treatment of Inflammatory Conditions with Benzyl Cinnamic Ether

LÉVY-SOLAL, J. JACOBSON, J. DALSACE, and M. PARIENTÉ (*Paris Méd.*, October 25th, 1930, p. 369), as a result of previous satisfactory reports on the efficacy of benzyl cinnamic ether on tuberculous and other lesions, tried this drug in ten cases of salpingitis and report their observations. Daily intramuscular injections of 1 c.cm. were given for twelve days into the buttock region; there followed a rest of ten to fifteen days, after which a new series of twelve injections was begun. The authors state that the lesion generally abates at the end of the second series, but when this does not happen another course is given after the lapse of a fortnight. There is no local, focal, or general reaction, but, if the general condition of the patient is poor, a start should be made with half the dose. They arrange their cases in three categories: (1) bed cases where the drug was used from the very beginning; (2) bed cases where it was tried after failure with the classic treatment; and (3) ambulatory patients continuing their usual occupations, in which cases the drug was employed alone. As the result of treatment they found that pain yielded towards the fourth or fifth injection, especially when it had been continuous. In one case of pain in crises the treatment ended in failure. The lesion itself underwent steady regression. The pelvic swelling decreased; it then appeared as only a fullness, and finally there was no longer discoverable any thickening of fibrous consistence. The authors add that the results are as yet too recent to justify the formulating of any opinion as to the ultimate condition, although some of the cases have remained cured for five months. They claim, however, that the results obtained so far deserve to be noted both on functional and on physical grounds.

13 Local Treatment of Ulcers with Insulin

D. ADLERSBERG and A. PERUTZ (*Deut. med. Woch.*, November 7th, 1930, p. 1905) describe a further series of cases of ulcer treated by the local application of insulin. There are theoretical reasons (based partly on Warburg's work on tissue metabolism) for expecting insulin to aid in the growth of granulation tissue and epithelium, and animal experiments carried out by the authors gave encouraging results. The cases consisted chiefly of indolent ulcers of the leg which had failed to respond to other forms of treatment. Some cases of ulcers due to burns, and ulceration of the cervix uteri, were also treated with success. Many of the patients were ambulatory. Once daily insulin is dropped on to the ulcer surface, which is then covered either with an indifferent ointment or with dry gauze. Stimulation of granulation tissue and epithelialization is usually rapid, though occasionally cases are resistant to treatment. Since some have suggested that it is the acidity of the insulin solution which causes the beneficial results, only neutral, or nearly neutral, solutions were used in this series. Weak acids did not promote healing in the same way. No lowering of the blood sugar was noted in any of the cases, so that the effect of the insulin appears to be purely local.

14 Vaccinotherapy in Acute Articular Rheumatism

M. LOEPER and R. DEGOS (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, October 20th, 1930, p. 1463) consider that no sufficient proof of the bacterial specificity of acute rheumatism has yet been produced. They have made use, for diagnosis and treatment, of vaccines prepared by the Pasteur Institute, or, following its methods, and contrary to American observers (who use filtrates), have found that many rheumatic subjects give positive intradermal reactions to certain vaccines, or, if multiple reactions ensue, show a much stronger reaction to one or two organisms. The most commonly used organisms for preparing the vaccines were streptococci, staphylococci, pneumococci, and gonococci. It was noted that 6 out of 10 cases treated were resistant to sodium salicylate by the mouth or intravenously. The authors obtained good curative results in a majority of the cases treated, and consider that vaccinotherapy is of definite value in arresting the more serious complications of the disease. Some cases showed slight febrile reactions, with exacerbation of joint signs; this was regarded as a favourable indication. When these reactions occurred there was no general leucocytosis, but a relative polynuclear increase, and a slight and precocious eosinophilia, regarded as a sign of acceleration of the curative process. In two cases only was the vaccine alone insufficient to cause regression of the disease; in both there was no marked intradermo-reaction to any of the organisms used. The most constantly good results were obtained with mixed strepto-staphylococcal vaccines; intradermo-reactions to these organisms were the most frequently positive. The authors do not claim that vaccine treatment should supersede the use of salicylates, but they suggest that it should always be tried in salicylate-resistant cases, and as an accessory treatment whenever intradermo-reactions are positive.

15 The Cortical Hormone in Addison's Disease

J. M. BERKMAN and J. LANSBURY (*Proc. Staff Meetings, Mayo Clinic*, October 15th, 1930, p. 292) each report a case of Addison's disease, in both of which beneficial results followed treatment with the cortical hormone of Swingle and Pfiffner. The diagnosis in the first case was made owing to marked progressive weakness, loss of weight, gastro-intestinal disturbance, hypotension, and pigmentation. A subcutaneous injection of 10 c.cm. of

the hormone was given, and a modified Muirhead regimen instituted. After two days' improvement a relapse threatened. Since no more hormone was available, physiological saline solution was injected intravenously, and the regimen was continued. The patient once more improved, but loss of weight persisted. With the advent of more hormone, this was again administered. Definite improvement ensued and has continued. The second patient suffered from dyspnoea, loss of weight, and dizziness, and extreme fatigue and palpitation on the slightest exertion; the marked pigmentation characteristic of Addison's disease was present. Treatment with the hormone was commenced, and 86 c.cm. was given in five days, all but 7 c.cm. being administered intravenously. Little change was noted for two days, but then improvement was shown, the patient's colour becoming much more normal; with the exception of headache, she was feeling well and strong at the time of the report. L. G. Rowntree, also of the Mayo Clinic, states that the results in these cases are typical of those obtained in a group of 7 similarly treated. The treatment is usually effective in five days; the appetite and weight increase, and definite euphoria is experienced. Changes in blood pressure and in the amount of pigmentation follow much more slowly than the relief of gastro-intestinal disturbances. However, these results must be regarded as being temporary, immediate, and due to substitution. Patients with Addison's disease suffer from shock in even very minor operations, and it is hoped that this treatment will be an effective pre-operative measure, as is iodine in hyperthyroidism. The results of these preliminary studies seem to indicate that this hormone is a specific for Addison's disease; if so, the therapeutic response to the hormone affords a new test for this disease.

16 A Cereal Mixture for Children

F. F. TISDALL, T. G. H. DRAKE, and A. BROWN (*Amer. Journ. Dis. Child.*, October, 1930, p. 791) introduce a new cereal of the following percentage composition: wheatmeal 53, oatmeal 18, corn meal 10, wheat germ 15, bone meal 2, dried brewers' yeast 1, and alfalfa 1. The ingredients are ground, mixed, and dried at a temperature of 70° C. for thirty minutes. The mixture will keep indefinitely; it is rich in calcium, iron, and copper. Vitamins A, B_1, B_2, D—from ultra-violet irradiation of the wheat germ in yeast—and E are present in appreciable quantity. The average infant and child consume from one to two ounces of the dry cereal per day. It has been used almost exclusively for the past three months in the Hospital for Sick Children at Toronto. It is no different from the ordinary refined, finely milled cereals as regards its laxative or constipating effect, or in palatability.

Neurology and Psychology

17 Amyotrophic Lateral Sclerosis in Epidemic Encephalitis

Since little reference has been made in the literature to the occurrence of amyotrophic lateral sclerosis in chronic epidemic encephalitis, and as the cause of the former disease is unknown, A. M. ORNSTEEN (*Journ. Nerv. and Ment. Dis.*, October, 1930, p. 369) reports a case in which this post-encephalitic syndrome was observed. The onset was sudden, with all the symptoms of acute epidemic encephalitis—upper respiratory discomfort, asthenia, diplopia, and diurnal somnolence. Within a month after this attack a subacute bulbar palsy developed, the first symptom being thickening of the speech (which was attributed to swelling of the tongue) and dysphagia. The later development of universal myoclonia, affecting all the muscles from the masseters and buccinators to the calves, and of spasticity, is interesting owing to the resulting resemblance to Charcot's amyotrophic lateral sclerosis, and supports the view that infection may be the etiological factor in the latter disorder, at any rate in some cases. The atrophy in the case reported was most marked about the shoulders, arms, and chest, while the spasticity and pyramidal tract signs predominated in the lower half of the body. Lesions of the anterior horns and pyramidal tracts are inferred in order to explain the amyotrophic lateral picture, and the pathological findings by Wimmer in two similar cases are cited in evidence. Lesions of the mesencephalon are considered to be the cause of the universal myoclonia rather than ganglion cell irritation in the motor nuclei of cranial nerves and anterior spinal horns. Ornsteen suggests that amyotrophic lateral sclerosis may be related to an old infection, and reviews the opinions of several authorities as regards the nature and causation of this disease.

18 Acute Delirium in Mental Cases

TRÉNEL (*Paris Méd.*, September 27th, 1930, p. 257) describes an acute febrile delirium of extreme gravity, and often fatal, which is met with in some mental cases, and is confined almost exclusively to women. Ladame has classified the symptoms into three groups: grave disturbance of the general nutritive exchanges with intense cachexia and death in one to two weeks; profound mental confusion and rambling delirium; and generalized intense motor agitation. In the hypertoxic fulminating form the onset may be very abrupt; the patient suddenly shows bewilderment, confusion, incoherence, and violent agitation. Insomnia is absolute and intractable. Urinary symptoms are rare, but either incontinence or retention of urine may be present; constipation is the rule. The heart beats violently, and the pulse is uncountable. The temperature rises rapidly, and the patient dies of adynamia or cardiac failure. Another type also occurs which is insidious, and is ushered in by short or prolonged prodromes. The patient becomes preoccupied, indifferent, and morose, and eats irregularly; after some days or weeks the acute symptoms already mentioned supervene. There are three forms of this type: maniacal, melancholic, and a mixed form with both orders of symptoms. The motor disturbance, which is of a choreiform nature, is a very marked symptom. The most constant and almost the most important symptom is sitophobia, with which is associated a continual expectoration without much salivation. The most frequent complication is parotiditis, usually unilateral and secondary to the buccal infection; this is an almost fatal sign. Obstinate constipation is usual, and a most striking symptom is rapid loss of energy with emaciation. Various causes have been suggested for the high fever. The author believes that it is of central origin, since lesions of the ganglions of the base (the site of the thermic centres) have been noted. The etiology and pathogeny of acute delirium are obscure. Many theories have been advanced, and Trénel suggests that it is of endogenous origin. The fact that the disease is practically limited to the female sex, and the frequent coincidence of metrorrhagia, seems to indicate a direct psycho-sexual correlation. Necropsies almost invariably reveal not only a congestion of the internal genital organs, but also recent haemorrhages, which are sometimes encysted and sometimes diffuse. The pathology is discussed at some length. Treatment is purely symptomatic. For the insomnia, hyoscine or scopolamine is advocated, and for the fever cold sponging. Cardiac tonics (camphorated oil in large doses and sparteine) are usually given. Any struggling with the patient must be avoided as much as possible, and forced feeding with a sound must be resorted to in all cases of persistent refusal to eat. Five illustrative cases are recorded.

19 Vascular Lesions of the Hind-brain

Vascular lesions of the lateral portion of the medulla are generally known as the syndrome of the occlusion of the posterior inferior cerebellar artery. H. MERRITT and M. FINLAND (*Brain*, October, 1930, p. 290) believe, contrary to the general supposition, that the syndrome is fairly common; they record six cases encountered at the Boston City Hospital during the past two years, and very similar to those previously reported. The lesion generally

occurs in arterio-sclerotic subjects, and the age of onset in all but one of the present cases was in the sixth or later decades. The onset is usually fairly sudden, but without loss of consciousness, and all the symptoms can be readily explained by the neurological lesion. Vertigo and dysphagia were present in all cases. Pain in the homolateral side of the face, subjective numbness on the contralateral side, and dysarthria were noted in five cases. Diplopia was detected in four patients, and cerebellar symptoms in three. Intractable hiccough was present in only two cases. The site of the lesion is usually the lateral portion of the medulla with its contained structures—namely, the nucleus ambiguus, spinal fillet, oculo-pupillary nucleus, and the descending tract and nucleus of the trigeminal nerve. More dorso-lateral structures, such as the nuclei of the eighth nerve and the restiform body, are injured by any spread of the lesion. Points in the anatomical physiology of the hind-brain, illustrated by these cases, are discussed. The structures in the median portion of the medulla—namely, the twelfth nerve nucleus, the medial lemniscus, and the pyramidal tract—are not involved, since they receive their blood supply through the anterior spinal artery. Foix, Hillemand, and Schalit have come to the conclusion that most so-called cases of thrombosis of the postero-inferior cerebellar artery are really due to a lesion of the artery of the lateral fissure. The diagnosis is usually simple: conditions to be differentiated are tumours of the medulla, syringobulbia, and osteomyelitis of the temporal bone. The authors state, again contrary to the general opinion, that the prognosis is very good; in time most of the symptoms and signs disappear or improve, with the exception of the sensory changes, which, as a rule, persist.

Obstetrics and Gynaecology

20 Operability in Carcinoma of the Cervix

R. KELLER (*La Gynécol.*, September, 1930, p. 546), discussing the difficulties met in assessing the operability of cervical carcinoma, points out that tumours originating in the vaginal cervix frequently extend along the portio vaginalis to the vaginal wall so superficially as to remain operable for a considerable period. Endocervical neoplasms, on the other hand, are apt to extend deeply along the lymphatic routes, so that at the moment when they become obvious at the external os their operability may already be doubtful. Invasion by the tumour of the paracervical and parametrial tissue and the utero-sacral ligaments is the deciding factor in operability. Infiltration of the broad ligament may be neoplastic or inflammatory, and before operation it is impossible to predict with certainty which variety may be met with, or the extent of the technical difficulties which either will induce. Cellular infiltration, which is a tissue reaction against an invasive neoplasm, may not greatly hinder wide hysterectomy, but that following old-standing inflammation, especially puerperal, may make operation impossible. In certain cases the decision as to the possibility of doing Wertheim's operation can only be made after trial dissection in the broad ligaments. Cystoscopy may show that a tumour is inoperable, but at operation in certain cases with normal cystoscopic report it may be found that inflammatory or neoplastic infiltration of the cervico-vesical or vagino-vesical tissue renders radical hysterectomy impossible. Vesical resections are inadvisable. There is much to be said for commencing the operation in the bladder region; the impossibility of separating the tissue in this region excludes a radical operation. At the beginning of the operation, moreover, the condition of the regional lymphatic glands should be investigated. If they are much enlarged, numerous, and densely adherent to the blood vessels they are neoplastic in character, and operability is unlikely. If in spite of slight enlargement the glands are oedematous, and easily movable on their axis, and if parametrial infiltration is absent or not sufficient to prevent tissue cleavage, a radical operation is not contraindicated. Subsequent examination shows in many cases that they are inflamed and not neoplastic.

21 Foetal Injury by Amniotic Bands

J. GRANZOW (*Zentralbl. f. Gynäk.*, October 25th, 1930, p. 2699) records a case in which the mother of two healthy children gave birth spontaneously during the seventh month to a stillborn child with deformities of both lower limbs. In the left leg a deep circular furrow, the result of pressure by an amniotic band, corresponded with the level of an acute-angled tibio-fibular fracture. The ends of the bones projected through a small circular breach in the skin; callus was absent, but the edges of the wound showed signs of healing. In the right the toes were absent, and had, it is concluded, been amputated at an early date by another amniotic band. The placenta and membranes appeared normal, and there was no history of trauma during pregnancy.

22 Uterine Prolapse

V. S. COUNSELLER and L. J. STACY (*Journ. Amer. Med. Assoc.*, October 4th, 1930, p. 983) report the results obtained by various members of the surgical staff of the Mayo Clinic in the case of 980 patients surgically treated for uterine prolapse and associated conditions from 1920 to 1928 inclusive. Answers to questionaries were received from 89 of them (83.5 per cent.), and satisfactory results were reported in 95.9 per cent. of the entire series. Five types of operation were employed. The modified Gilliam operation of internal shortening of the round ligaments, with vaginal plastic procedures, a combination of operations 1 and 2, is shown to be the operation of choice for patients of the child-bearing period. Satisfactory results were obtained in 88.5 per cent. of the cases in which the Gilliam technique was used. The Kocher abdominal fixation operation is reserved for that group of patients who are past the menopause, senile, and constitute poor surgical risks, and for those who have undergone hysterectomy previously, with prolapse of the cervical stump. Satisfactory results were obtained in 94.8 per cent. of the cases. If the uterus is of normal size and there is a mild degree of prolapse, with large cystocele, and the patient has passed the menopause, the Watkins-Wertheim interposition operation is successfully employed, satisfactory results having been obtained in 96.6 per cent. of the cases. When the prolapse is of marked degree and is associated with large cystoceles, and the women are past the menopause, the Mayo vaginal type of hysterectomy is the operation of choice. It was employed in 81 per cent. of the patients who had passed the menopause, with satisfactory results in 97 per cent.

23 Rapid Accouchement by Method of Delmas

P. DELMAS (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, October, 1930, p. 571) has seen no untoward results at his clinic during four years, and in nearly a hundred cases, following rapid delivery by his method of manual dilatation of the cervix after the intraspinal injection of 10 cg. of scurocaine. He stresses the importance of following the technique originally described and of excluding cases in which the cervix and lower uterine segment are not supple. Unfavourable results, he says, are due to neglect of these points. E. H. ROBIOLIS (ibid., p. 568) has been favourably impressed by the ease and harmlessness of Delmas's procedure in five cases of labour which had commenced spontaneously in eclamptic or pre-eclamptic subjects. He emphasizes the importance of giving an adequate dose of scurocaine, but prefers digital (Bonnaire) dilatation of the cervix to that by the clenched hand. E. BRÉMOND (ibid., p. 565) thinks that the low placental insertion in placenta praevia ensures pliability of the cervix and is particularly favourable for the Delmas technique; he records four cases of placenta praevia in which cervical dilatation, version, and extraction were easy. LAFFONT and SESINI (ibid., p. 541) report trial of Delmas's method of delivery under spinal anaesthesia in cases of transverse presentation with pyrexia and cervical

oedema, placenta praevia, and impacted transverse presentation, as a preliminary to hysterectomy. In the first class of case, which is among those excluded by Delmas as unsuitable for his treatment, dilatation was not secured. In the second class manœuvres were easy, but the patient died from shock and haemorrhage. In the third class a lethal rupture of the uterus may have been present before intervention. The conclusion is drawn that states of haemorrhagic shock and cases of impacted transverse presentation contraindicate spinal anaesthesia. A. FRUHINSHOLZ (ibid., p. 585) followed Delmas's technique in the case of a patient dying near term from tuberculous meningitis. Complete but sleeve-like dilatation of the cervix was obtained within four minutes, and extraction of a living child by version was rendered easy. A tear of the lower uterine segment, however, was noted.

Pathology

24 Miliary Aneurysms of Cerebral Arteries

Since there is much doubt concerning the exact nature of *miliary aneurysms* of the small arteries, especially of the cerebral vessels, W. D. FORBUS (*Bull. Johns Hopkins Hosp.*, November, 1930, p. 239) reports a study of these conditions in several cases. The so-called congenital aneurysms were principally investigated, and only those of the superficial cerebral arteries. These observations have led Forbus to believe that miliary aneurysms of these arteries, and probably of all other arteries of medium size, occur quite independently of any inflammatory process, arterio-sclerosis, or external trauma, and that these aneurysms as such are not congenital malformations. They are acquired lesions arising from a combination of local weakness in the vessel wall, resulting from a congenital defect in the media, and degeneration of the internal elastic membrane, due to overstretching of this membrane. This defect occurs at the point of bifurcation of the vessel. The muscular coat of any vessel develops from a group of mesenchymal cells quite separate and distinct from those which form the muscularis of its branches, and the muscular sheath of the parent vessel develops earlier than does that of its branches. A failure of the two separately developing coats to fuse properly offers the possible explanation of the later observed defect. That the malformation of the artery wall at the point of bifurcation underlies the later development of aneurysms appears to be indicated by certain facts which are enumerated.

25 Diagnostic Tests for Syphilis

R. DE BLASIO (*Ann. de Derm. et de Syph.*, October, 1930, p. 1014) describes Amato's test, which depends on a definite leucopenia (not less than 1,000 per c.mm.) found thirty minutes after the intravenous injection of 2 cg. of mercury biniodide; this reaction is fugitive, and the count must be made not more than thirty minutes after the injection. It depends on the occurrence of haemoclastic shock, and is similar to that obtained in tuberculous subjects after tuberculin administration; the same reaction has been applied in other conditions. In 1929 Gouin and others devised a new specific reaction for syphilis, depending on the recognition, two hours after the injection of antisyphilitic medicaments, of a leucocytosis. By the graphic study of a number of blood counts, Blasio claims to have established that Amato's leucopenia and Gouin's leucocytosis are two phases of the same phenomenon—haemoclastic shock. In 15 cases where both reactions were positive he has searched for other signs of this shock, such as a fall in the blood pressure, and found them present. Moreover, in 5 cases he has examined the Arneth index, and found a shift to the left, and from the findings of other workers he thinks that this phenomenon is probably constant. Among 100 cases of known or suspected syphilis Blasio found that the Wassermann test gave most positives, the Sachs-Georgi the second greatest number, the haemoclastic test the third, and the leucocytosis test the fewest. In cases with clinical evidence of visceral syphilis, the haemoclastic test gave a greater percentage of positives than any of the other reactions. Both haemoclastic and leucocytosis tests were tried in 50 non-syphilitic cases (20 healthy and 30 with other diseases), and it was found that the first gave 10 per cent. of positives, and the second 18 per cent. Blasio concludes that Amato's and Gouin's tests demonstrate different phases of the same phenomenon. The first is more specific than the second, and it is well worth trying when the Wassermann test is doubtful or negative, especially in suspected cases of visceral syphilis.

26 Pasteurellosis of Rabbits

J. R. MORCH and G. KROGH-LUND (*C. R. Soc. de Biologie*, November 4th, 1930, p. 319) record the occurrence of an epidemic among the rabbits and guinea-pigs in the Danish Serological Institute during the years 1925 to 1927. The pathological findings at necropsy were extremely variable; sometimes there was a simple haemorrhagic septicaemia without macroscopic changes; sometimes there were fibrino-purulent deposits on the pulmonary and costal pleura, or on the diaphragm and abdominal viscera; in some animals these deposits had become desiccated; in some, cold abscesses were found in the subcutaneous tissue of the abdomen; and in still others destructive inflammatory changes were observable in several joints. The causative organism was a bipolar-staining Gram-negative bacillus identified as belonging to the *Pasteurellâ* group. A number of strains of *Pasteurella* isolated from rabbits, guinea-pigs, cattle, fowls, sheep, hares, mice, and opossums were subjected to a comparative study. All of them were morphologically similar, and many of them formed two distinct types of colony—one a mucoid opalescent, and the other a non-mucoid transparent, colony. No relation could be established between these different types and the species of animal from which the strain was isolated or the pathological character of the disease to which it had given rise. All strains fermented glucose, fructose, sucrose, mannite, and sorbite; some also fermented glycerin, l-dulcite, l-arabinose, d-xylose, d-galactose, d-mannose, maltose, dextrin, glycogen, and starch. According to the fermentation reactions the organisms could be classified into six groups. There appeared to be no correspondence between the fermentative group to which a given strain belonged and the species of animal it was able to attack. Strains of one type could infect more than one different species of animal, and any one species of animal might be infected by more than one type. In practice, the authors consider that for the prevention of the disease in the laboratory all animals coming in should be quarantined, and their blood tested for agglutinins before being allowed to mix with the normal stock.

27 Estimation of Gastric Function

Certain dyes when injected intramuscularly or intravenously are excreted into the stomach, and attempts have been made from time to time to use this as a test of gastric function. T. JENNER (*Münch. med. Woch.*, October 31st, 1930, p. 1883) has tried to correlate the rapidity of dye excretion with certain definite types of gastric disorder as shown by previous test meal examinations and gastroscopy. After passing a narrow gastric tube and giving a test drink, 2 c.cm. of 1 per cent. neutral red is injected intramuscularly. In normal persons the dye is usually to be found in 15 to 20 minutes, in hyperacidity its appearance is more rapid, and in cases of achlorhydria its excretion may be delayed for an hour or more. In practically all cases of catarrhal inflammation of the antrum, excretion of the dye is much delayed, even though the acidity is normal or high. Generalized gastritis has the same effect, irrespective of the type of gastritis present (hypertrophic, catarrhal, or oedematous), but the delay is always particularly pronounced if the antral region is involved. The presence or absence of an ulcer has little influence on the result of the test. It is concluded by the author that, where achlorhydria is absent, delay in neutral red excretion is evidence of the existence of gastritis.

BELLE VUE SPA

TREFRIW, NORTH WALES.

(Railway Station: Llanrwst and Trefriw.)

COMBINED TREATMENT OF ARTHRITIS

By Chalybeate Waters, Tonic Baths and Extension Appliances.

The Belle Vue Spa Hotel provides accommodation for patients for whom these tonic chalybeate waters are indicated. External treatment by tonic baths, as well as by manipulation and extension and light, is also provided.

Recent analyses of the Belle Vue Spa waters show that they are exceptionally rich in ferrous salts. Samples have been repeatedly examined by the Clinical Research Association.

A new building furnished with Baths and all modern Electrical Appliances for treatment was opened on Saturday, April 26th.

Under expert advice the drinking service of the Belle Vue Spa water is now taken from selected sources in the water-yielding rock, and served fresh at the Spa at a standard strength of 1 grain of ferrous sulphate in one ounce.

For patients who are unable to visit Trefriw and take the water on the spot, it is bottled and exported at the same standard strength for medical use in their own homes.

In suitable cases of arthritis and rheumatic disease Hoefftcke's manipulative and ambulatory extension treatment can be applied.

Mobility and freedom from pain in crippling arthritis of the hip and knee can often be obtained, even after shortening and contraction have occurred. This is effected by the extension appliances, which maintain continuous extension by day and by night. The appliance usually permits the patient to walk, and not only supports the weight but replaces the undesirable state of compression of the leg by one of active stretching.

This method secures:—

(1) Extension without muscle loss, inevitable whilst the patient is kept in bed.
(2) Extension without vascular stasis, which occurs when a joint is kept at rest.
(3) MOVEMENT WITHOUT PAIN.

The result has been a restoration of joint function in many cases which had been regarded as hopeless and incurable. The Spa is under medical supervision and close co-operation is maintained with the patient's own physician.

Further particulars may be obtained at Belle Vue Spa or 7, Harley Street, W.1.

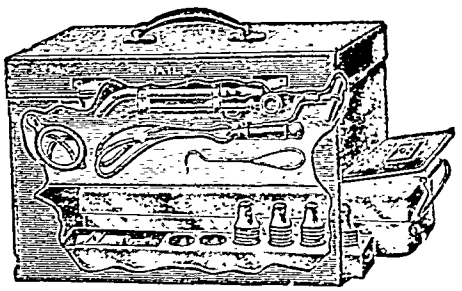
Apply: **The Secretary, Belle Vue Spa, Trefriw, North Wales.**

Telegrams: BELLEVUE, TREFRIW. Telephone: LLANRWST 60.

PROPRIETORS: **AMBULATORY TREATMENT LTD.**

C. A. HOEFFTCKE, Managing Director, 7, Harley Street, London, W.1.

W. H. BAILEY & SON LTD.



S.C. 1360

S.C. 1360.—Bailey's large size Surgeons' Midwifery Case, made in best Cowhide, fitted with Slide Tray, to take six 1-oz. bottles in metal cases, and Chloroform Drop Bottle, in separate compartment at side of Sterilizer.

Size 17 × 10 × 7 ... ... £3 15 0

Ditto, fitted with best nickel-plated stamped-out seamless 16-in. Sterilizer (with lamp and tray) ... £5 15 0

Case fitted complete—Prices on application.

BAILEY'S "BELGRAVE" SPHYGMOMANOMETER

BRITISH MADE THROUGHOUT.

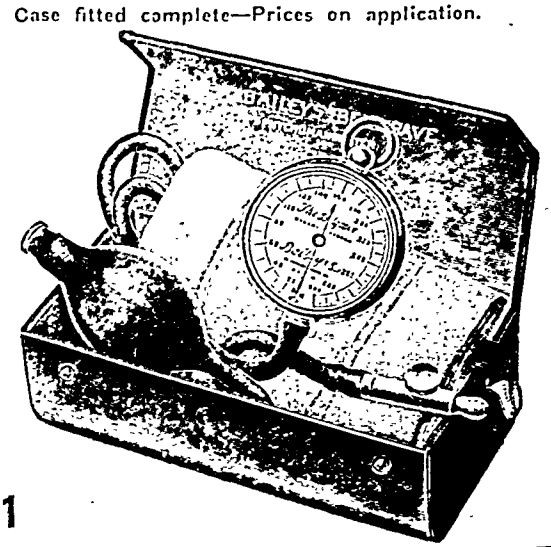
A thoroughly reliable Instrument, accuracy guaranteed. Extremely sensitive. Light and portable.

The Tubes may remain attached to the dial as the interior of the case allows sufficient room to prevent kinking.

An essential Instrument for the General Practitioner

Price - **£2 : 15 : 0**

Post free United Kingdom; India and Colonies 2/6 extra.



Tel. No.: Gerrard 2313 / 3185 — 45, OXFORD STREET / 2, RATHBONE PLACE — **LONDON, W.1**

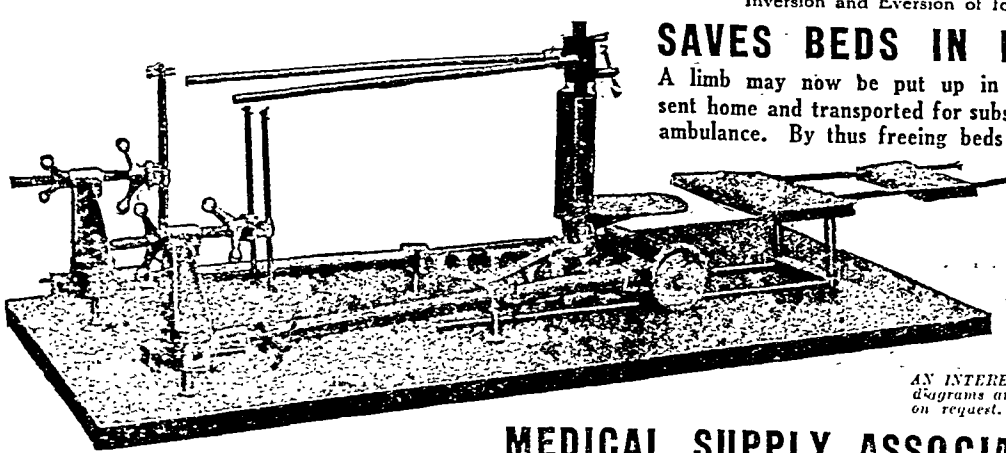
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

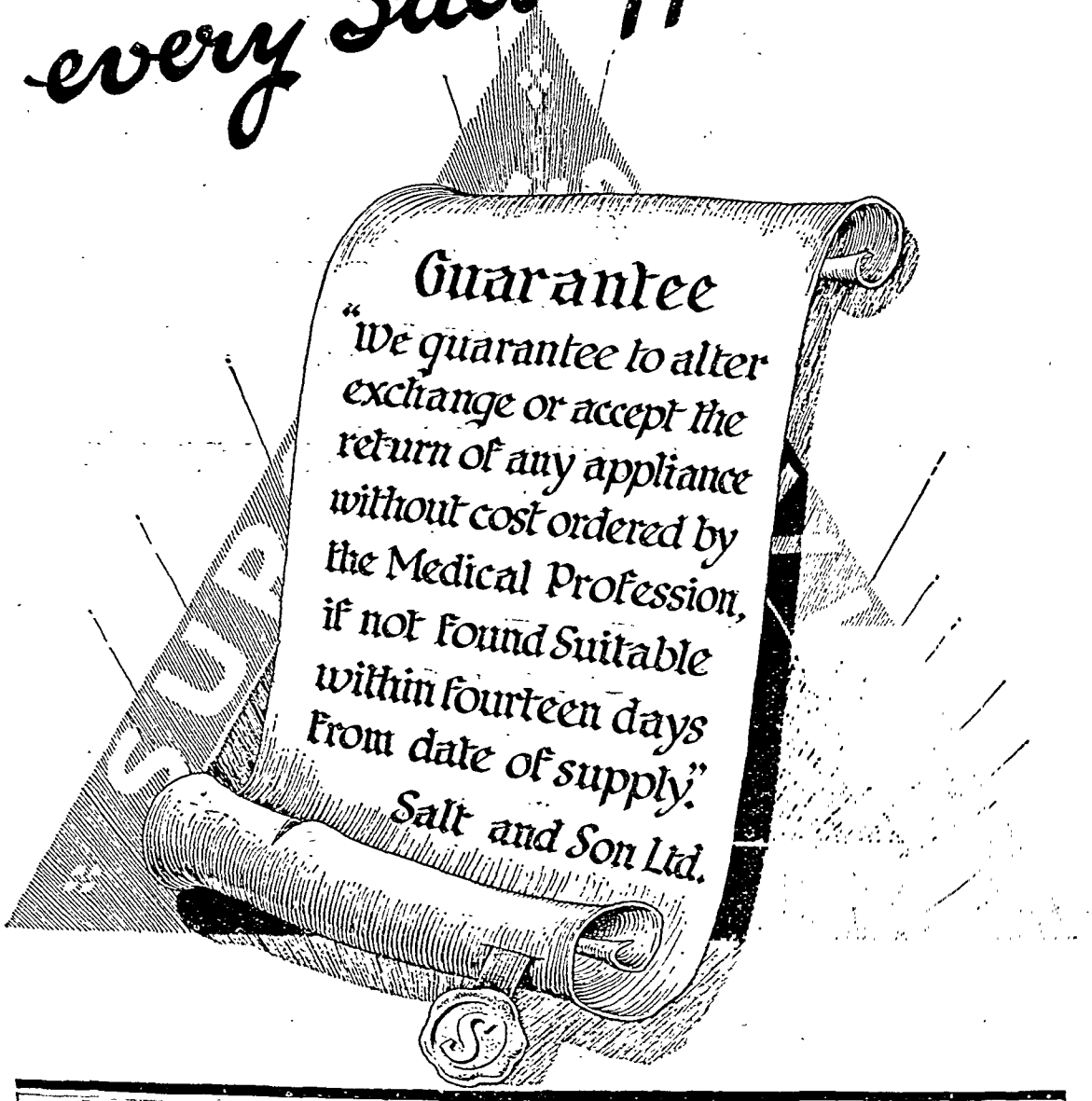
167/185, Gray's Inn Road, LONDON, W.C.1. — 12, Holly Street, SHEFFIELD. — 10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines).

SURGICAL SERVICE SALTAIR

SALTAIR SURGICAL SERVICE

The Guarantee behind every Salt appliance.



SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT.

ESTABLISHED 1793.

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.)

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

'CELLANBAND'

* DESCRIPTIVE LITERATURE is available UPON REQUEST.

SAMPLE BANDAGE 1/- post free

CUXSON, GERRARD & CO. LTD. OLDBURY, near BIRMINGHAM

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS
arranged for Doctors and Patients.
Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

M^R R.H.DENT'S

Ardente

FOR DEAF EARS

309, OXFORD ST., LONDON, W.1.

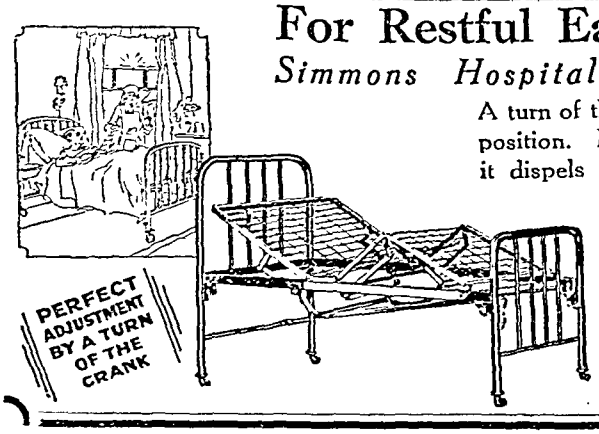
Tel.: Mayfair 1380/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.

206, Sauchiehall Street, GLASGOW.
23, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.

For Restful Ease or Surgical Positions—

Simmons Hospital Beds are instantly adaptable



A turn of the crank adjusts the Simmons Bed into any desirable position. For convalescents this means maximum repose, for it dispels the necessity of constantly rearranging pillows.

The strong construction of Simmons Beds, and their hygienic qualities, make them invaluable to all Hospitals and Institutions.

SIMMONS

Equipment for Hospitals and Institutions

Write to SIMCO Ltd. (Contract Dept.),
22/28, Shand Street, Tooley Street, Bermondsey,
London, S.E.1.

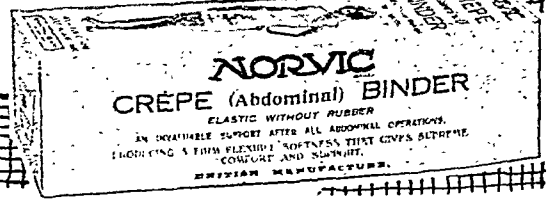
Recommend

NORVIC Reg'd.
CRÊPE BINDERS

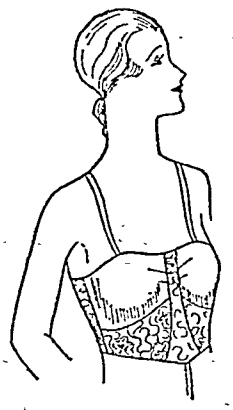
As used by the leading hospitals and highly recommended by the medical profession. Invaluable in maternity and in all cases where flexibility and support are needed.

6" wide 4/6 8" wide 6/-
11" wide 8/3

Stocked by the leading Chemists and Druggists: Boots 800 branches: Timothy White, Ltd.: Taylors Drug Stores: and Parkes Chemists, Ltd.



Concerning NODULES OF THE BREAST



"The proper support of the breast, proper instruction, insisting on lack of old constriction, which is quite a common thing among girls who desire to have a boyish figure, has resulted in the disappearance of the lumps in a number of cases."

Concerning PROLAPSE. . . . .

"Prolapse of the virginal atrophic breast is occurring with alarming frequency in this country owing to the present fashion in dress. Uplifting support of the breast will cure the condition if treatment is begun early."

Spencer Uplift Brassieres are prescribed by physicians for breasts that have sagged and lost tone from the wearing of "boyish-form" bandeaux. They are also sponsored by physicians for prolapse of the virginal atrophic breasts; non-malignant nodules of the breast; maternity wear to prevent "caking" and abscess.

Each Spencer Brassiere is designed especially for the wearer. The bust-pockets are fashioned to provide adequate support and positive uplift, even when the breasts are abnormally heavy and pendulous.

The Spencer Corsetière will call at your surgery or patient's home to take measurements under your supervision. If you do not know the address of the local Spencer Corsetière, we shall be happy to supply it on request.

SPENCER

TRADE REJUVENO MARK

FOUNDATION GARMENTS AND SURGICAL SUPPORTS

PATENTED

Booklets Listed below gladly sent on request.

SPENCER CORSETS, LTD., 94, 96 and 98, Regent Street, Piccadilly Circus, LONDON, W.1.

SPECIAL LONDON SERVICE. Expert Fitters at your immediate Service.

Telephone: Gerrard 0876.

Manufactory: SPENCER HOUSE, Britannia Road, BANBURY, Oxon.

Please send me your booklet on the use of Spencer Supports for (check the subjects in which you are interested) Hernia, Sacro-iliac Strain, Enteroptosis and Intestinal Stasis, Movable Kidney, Pregnancy, and Postpartum Support. We will gladly send you any or all of them.

Name..... *Address*.....

Associate Houses: Rock Island, Quebec, Canada; New Haven and New York, U.S.A.

Kaylene

for the treatment of acute intestinal infections, ptomaine and other forms of food poisoning, and all diarrhoeal conditions. It acts by adsorption and is the true antidote to bacterial toxins and toxalbumins in contaminated food.

The action is speedy and certain.

Kaylene-ol

An emulsoid of the toxin adsorbent Kaylene combined with Colonol Liquid Paraffin. The latter counteracts the consolidating effect of the Kaylene. This preparation may be prescribed with confidence for those conditions in which toxaemia is associated with constipation. **It actively prevents the absorption of toxins** and completely puts an end to the fouling of the lymphatics and the blood.

Samples and "adsorption" literature obtainable on request to the Manufacturers:

KAYLENE LIMITED,

Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone— WILLESDEN 7371 (2 lines). *Cables*— KAYLOIDOL, LONDON. *Telegrams*— KAYLOIDOL, CRICKLE, LONDON. *Code*— BENTLEY'S.

STANIFORM

Regd. BRAND Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is contra-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A panacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-[illegible] Department and both Nursing Staff and myself were am[illegible] Long-standing, non-healing skin wounds healed after [illegible]

"This is to certify that [illegible] ted with great success in the Emma-Klinick (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays"

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments.

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905).

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.
WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used.

ROYAL LONDON OPHTHALMIC HOSPITAL.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.
THE LONDON HOSPITAL.
WALTHAMSTOW HOSPITAL.
BRADFORD EYE AND EAR HOSPITAL.
BIRKENHEAD GENERAL HOSPITAL.
BURNLEY VICTORIA HOSPITAL.
HARTLEPOOL HOSPITAL.
HUDDERSFIELD ROYAL INFIRMARY.
HUDDERSFIELD ROYAL HOSPITAL.
KENT COUNTY OPHTHALMIC HOSPITAL, MAIDSTONE.
NEWPORT, ROYAL GWENT HOSPITAL.
NEWCASTLE-ON-TYNE, ROYAL VICTORIA INFIRMARY.
OXFORD EYE HOSPITAL.
ST. PAUL'S EYE HOSPITAL, LIVERPOOL.
SWANSEA GENERAL HOSPITAL.
WESTERN OPHTHALMIC HOSPITAL.
WOLVERHAMPTON EYE INFIRMARY.
SIR C. J. OPHTHALMIC HOSPITAL, BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:
THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.
Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

BY APPOINTMENT To H.M. The KING

Gaymer's CYDER

GAYMER'S WAS FIRST SHOWN AT THE BRITISH MEDICAL ASSOCIATION EXHIBITION OF 1898.

FREE SAMPLES WILL BE SENT ON RECEIPT OF PROFESSIONAL CARD QUOTING B.M.J.

WM. GAYMER & SON, LTD., ATTLEBOROUGH, NORFOLK.

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark

The first line of Body Defense assured through

"CHEMICAL TISSUE FOODS"

combined with the dynamic action of strychnine and quinine

Samples on request

Fellows Medical Mfg. Co., Inc.
26 Christopher Street
New York City

DEMINERALIZATION
CONVALESCENCE
MUSCULAR ATONY
NEURASTHENIA
PREGNANCY
DEBILITY

The "FOOD" TONIC

POTASSIUM
MANGANESE
PHOSPHORUS
CALCIUM
SODIUM
IRON

THE POSTAL ACCOUNT

It is often supposed that to live a long way from the nearest branch of a bank, or to be constantly unable to go to the bank in person, is a handicap to the enjoyment of the full advantages which, it is admitted, a banking account offers. Perhaps it is assumed that to conduct an account by post involves 'more letter writing', or is costly, or is not welcomed by the Bank. It is the aim of the Westminster Bank to dispel such misconceptions by a leaflet entitled *The Postal Account*, which explains the convenience of the method, and offers some clear suggestions.

The Secretary of the Bank will be pleased to send a copy on application

WESTMINSTER BANK LIMITED

HEAD OFFICE: 41 LOTHBURY, LONDON, E.C.2

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

BRASS NAME PLATES.

BRONZE PLATES (ENAMEL LETTERS). SKETCH & ESTIMATE UPON REQUEST.

S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

ARISTON YAGHOURT

IS *NOT* SOURED MILK

It is a scientifically prepared food containing all the VITAMINS and beneficent Bacteria which, by preventing putrefaction in the intestines, promote general health and defer indefinitely the onset of degenerative changes. (*See announcement Nov. 1st.*)

THE ARISTON YAGHOURT Co. Ltd., 19, Streatham Hill, London, S.W.2.

Intensely interesting booklets and prices free on application.

Beware of worthless imitations.

"VITA" GLASS

daily health through windows

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.
EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel.

SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ½-doz. SOAP TABLETS.

Samples and Literature on Request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.

"STERULES" *Regd.*

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), **12, New Cavendish Street, London, W.1**

Telegrams: "MARTINDALE, CHEMIST, LONDON." Telephone: LANGHAM 2440.

WYLEYS LIMITED WHOLESALE DRUGGISTS **COVENTRY** *Established 1750.*

ELIXIR IODO-CREOSOTI CO.

Two fluid drachms contain Beechwood Creosote 2m., Potassium Iodide 4 gr., Caffeine Sodio-Salicylate 1 gr., with Tinctures of Aspidosperma, Bryony and Cereus.
Palatable and pleasantly flavoured.

Most useful and efficient for the relief of Lobar Pneumonia, Pulmonary Tuberculosis, Broncho-pulmonary Influenza, and Influenzal Laryngitis, particularly for controlling temperature and pleuritic effusion.

Price: 3/- per 8-oz. bottle; 16-oz. 5/6.

FULL LISTS ON APPLICATION.

Vapo-Cresolene Est. 1879
Sold by Chemists
Write for descriptive Booklet No. 29.

WHOOPING COUGH

The best practice in the treatment of whooping cough recognizes the importance of keeping the patient out of doors as much as possible. The food should be easily digestible, nourishing, and given a little at frequent intervals.
There are no specifics for this disease. In very young children drugs are administered with difficulty and are of uncertain effect.
Vaporized Cresolene at night will be found a simple and effective means of preventing the paroxysms at that time, thus tending to preserve the strength of the patient, avoid complications, and hasten convalescence.

ALLEN & HANBURYS, LTD. :: :: Lombard Street, London, E.C.3.

ALLIANCE DRUG & CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C.3.

Telephone: ROYAL 5885.

Tel. Address: "NALTROT," BILGATE, LONDON.

Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulæ as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 4/- lb.
Lassar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Lin. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/1 lb.
Chloroform Pur., 8 lb. @ 3/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 5/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero-Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co., 7 lb. @ 8d. lb.
Hypophosph. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillae, B.P., 7 lb @ 8d. lb.
Sennae, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Blaud's (Sugar-coated), gr. 5	3/10
Nitroglycerin, B.P., gr. 1-50th	5/-
Perchloride of Mercury (Coloured)	15/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000.	
Thyroid Gland, gr. 5	12/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

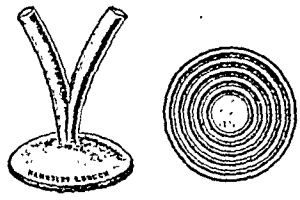
TINCTURES.
In 5-lb. Bottles.

	B.P. Aquos.		B.P. Aquos.
Belladon.	4/3	1/6	Hyoscyam. 4/3 2/4
Benzoin Co.	4/7	—	Nucis. Vom. 3/10 1/4
Camph. Co.	3/-	1/6	Opii 6/6 5/2
Card. Co.	2/6	1/6	Quin. Ammon. 3/3 —
Gentianæ Co.	2/8	1/6	Rhei Co. 2/8 1/9

Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichtamolis, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

*Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

STETHOSCOPES



NEW
'METALLIQUE' CHEST END
(Pat. app. for)

The specially constructed metal diaphragm is extremely sensitive and magnifies heart sounds without distortion.

Price, chest end only, 10s. 6d.

Obtainable from all Dealers, or from the Makers: HAWKSLEY & SONS Ltd.

Manufacturers and Importers of
APPARATUS FOR BLOOD DIAGNOSIS

Sphygmomanometers, Haemacytometers, Haemoglobinometers, etc.

Psychological, Anthropometrical, & Experimental Apparatus

Lists post free.

HAWKSLEY & SONS Ltd.
83, Wigmore Street, London, W.1

'WARDWAY'

The Chair you can wheel upstairs

John Ward, Specialist in Invalid Chairs, respectfully invites members of the Medical Profession to write for the "Wardway Booklet No. 9."

JOHN WARD Ltd
242-7 Tottenham Ct. Rd. London

ANTIQUE AND MODERN
HIGH-CLASS SECOND-HAND
FURNITURE
FOR IMMEDIATE DISPOSAL.

THE ENTIRE VALUABLE CONTENTS OF SEVERAL NOTABLE MANSIONS, Town and Country Residences, Flats, etc., removed for convenience of sale, including many important items from the following collections.

LANSDOWN HOUSE.
THE PRINCESS PALEY (Paley Palace).
SIR FREDERICK CHARLES HOLIDAY (Decd.).
MARY ANNA DUCHESS OF ABERCORN (Decd.).
THE THIRD EARL OF DURHAM (Decd.).

THE MAGNIFICENT BEDROOM APPOINTMENTS of 500 Complete Suites, Finely Figured and Black Lacquer, Painted and Figured Satinwood, Fine Oak, ranging in price from £4 10s. to 250 Guineas per suite, many of which originally cost over double, including a special offer of 36 only Club Bedroom Suites in Solid Oak, with Bedsteads complete, £4 10s. set.

GENUINE ANTIQUE FOUR-POST BEDSTEADS, Tallboy and shaped front Chests, Sofa Tables, Corner and other Washstands, Toilet Mirrors, and numerous Dressing Tables, Bow-front Wardrobes, etc. Several Fitted Gentlemen's Wardrobes offered at £4 each.

5,000 CARPETS AND RUGS, including fine Persian, Turkey, Wilton, Axminster, Chinese, and Aubusson, including a large salvage stock now being offered at remarkable bargain prices. A quantity of fine Pile Carpet at 2s. 9d. per yard, together with a large number of Seamless Squares in various designs and colourings from 21s. each.

750 SETTEES AND LOUNGE EASY CHAIRS, some covered Morocco Leather, Tapestry, rich Silk, Hide, etc., removed from a large West End Club and Hotel. A large quantity covered Plain Art Repp, all being of excellent quality and in all cases equal to new. Small Lounge Easy Chairs offered at 21s. each, several in Real Hide, £3 3s. each. Large Club Lounge Chairs, £4 17s. 6d. to 12 gns. Well-made softly-sprung Chesterfield Settees, 3 gns.; and a large quantity of Chesterfield Settees with Loose Pillow Backs and Seats, ranging from £7 15s. to 25 gns.

THE MAGNIFICENT DINING ROOMS, LOUNGES, LIBRARIES, and HALLS comprise a wonderful collection of all periods, Early Tudor, Queen Anne, Chippendale, Hepplewhite, Adams, and Sheraton, in Oak, Mahogany, and Walnut. Complete Dining Room Suites, comprising Sideboard, Set of Chairs, and Dining Tables, being offered for 10 Guineas set, whilst the more elaborate suites range from 25 Guineas to 300 Guineas. Many of these exquisite sets having cost over treble the price now asked to clear. Special attention is called to a quantity of Cottage Wheelback Chairs offered at 6s. 9d. each.

A LARGE NUMBER OF PIANOFORTES by eminent makers, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, important collection of Statuary, Pictures, Silver and Sheffield Plate, quantity of fine old Cut Glass, Bed and Table Linen, a large quantity of Office Furniture, including Iron Safes, Roll-top Desks, Pedestal Desks, Bookcases, etc., etc.

PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F.) POST FREE.

ON SALE DAILY, 9 till 7. Any item may be purchased separately, and can remain warehoused free for 12 months or delivered to any part.

SETTLEMENT ... E ARRANGE

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.
(By Royal Appointment to H.M. the King of Spain.)

PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1.
(Within Ten minutes of West End.)
'Phone: North 3580.

BARCLAYS BANK

LIMITED

Head Office: 54, LOMBARD STREET, LONDON, E.C.3.

Chairman—FREDERICK CRAUFURD GOODENOUGH.

Deputy-Chairman—SIR HERBERT HAMBLING, Bart. *Vice-Chairman*—WILLIAM FAVILL TUKE.

AUTHORISED CAPITAL - - - -	£20,000,000
ISSUED AND PAID-UP CAPITAL - -	£15,858,217
RESERVE FUND - - - - -	£10,250,000
DEPOSITS, etc., (30th June, 1930) - -	£338,796,470

The Bank has over 2,050 Branches in England and Wales.

EXECUTORSHIPS AND TRUSTEESHIPS UNDERTAKEN.

PERFECT

TOBACCO

NATURALLY

MATURED

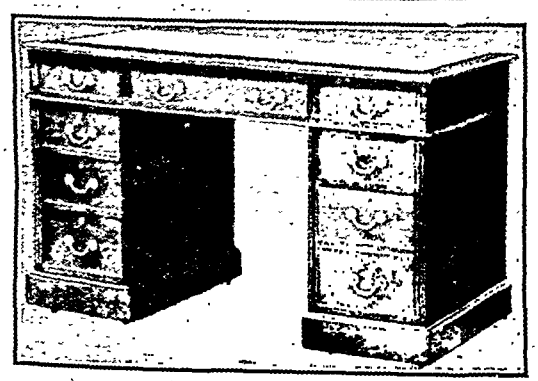
MAKES

Player's Please

10 FOR 6D.

20 FOR 11½D.

Issued by The Imperial Tobacco Co. (of Great Britain and Ire'and), Ltd. 3P4B



New and Secondhand Office and Consulting Room Furniture - - of all descriptions. - -

Lowest prices in London.

4 ft. Mahogany or Oak

PEDESTAL DESK £8:15:0

Larger sizes at proportionate prices.

OXFORD CABINET CO.,

146, CHARING CROSS ROAD, W.C.2

Tem. Bar 4801/4159.

FOR SUCCESSFUL VACCINATION USE
CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens to H.M. the King* 76, NEW BOND STREET, LONDON, W.1
Telephone: Mayfair 4173—4.

THE 'ALLENBURYS' CASTOR OIL
Is Tasteless and is the Standard of Quality
Supplied in bottles at 8d., 1/3, 2/3 and 4/- each

A Gentleman Always Looks Well Dressed in *SAVILE ROW* **Clothes**

NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.:—
DAVIES & SON, LESLEY & ROBERTS, SCHOLTE, JOHNS & PEGG, SULLIVAN WILLIAMS, &c.
OVERCOATS, LOUNGE, DRESS, SPORTS SUITS, &c., 4 to 8 Gns.

ALTERATIONS ON PREMISES.
REGENT DRESS CO.,
Piccadilly Mansions, 17, Shaftesbury Avenue, Piccadilly Circus, W.1.
(Next door to Cafe Monico.) Gerrard 7611.
(Ladies' Department on First Floor.)

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
27, EASTCASTLE ST., LONDON, W.1.

The Stanboroughs
WATFORD HERTS
Specially equipped for treating cases of functional nervous disorders, alcoholism, and drug addiction. Fees moderate. Extensive park. Inspection invited.
S. McCLEMENTS, M.R.C.S., L.R.C.P., Medical Superintendent.
'Phone - - - WATFORD 1751.

KINGSDOWN HOUSE
BOX, near BATH.
For the CARE and TREATMENT of NERVOUS and MENTAL DISORDERS in BOTH SEXES.
Separate accommodation for Voluntary Boarders of the Female Sex. Applications received at the above or at 17, Belmont, Bath, by—
Dr. H. C. MACBRYAN or
Medical Superintendents.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 3417)
For Mental Disorders, with or without certificates
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms, Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

Tel. & Telegrams: "Haynes, Brentwood, 45."
Littleton Hall, Brentwood, Essex.
Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 25 min.—Apply, Dr. HAYNES.

FREQUENT MICTURITION.
"YBWET"
NEW ABSORBENT BAGS.
Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our
"NEW SANITUBE"
keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request:
HILLIARD, 123, Douglas Street, Glasgow, C.2.

BRONZE NAME PLATES
No cleaning required.
Also Brass Name Plates.
Send for list.
CHAS. S. FORD, 37, Palace Rd., Bromley, Kent.

ST. ALBANS, HERTS.
(20 miles from London.)
Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as
"HIGHFIELD HALL,"
situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

THE GRANGE,
near ROTHERHAM.
A HOUSE Licensed for the reception of a limited number of ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

Bishopstone House, Bedford.
PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

MAJORCA: Dr. GILBERT SCOTT'S CONVALESCENT HOME
PALMA DE MALLORCA, SPAIN

Grove House, All Stretton,
Church Stretton, Shropshire.
A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. McCLINTOCK.

Home for Invalids requiring REST, CARE, or SUPERVISION. Large house and beautiful garden of nearly 8 acres; own produce; gravel soil. Car, etc. Special care to Chronic Patients.—"Duncroft," Staines, Middlesex.

The Devon Mental Hospital,
Exminster, near Exeter.
The Committee of the above Hospital have accommodation for the reception of PRIVATE PATIENTS of both sexes, in special wards, which are healthily situated, with extensive views of the Exe Valley and surrounding scenery. The Hospital is fully equipped with Operating Theatre and X-ray departments, and has facilities for Ultra-violet Light treatment and modern Hydrotherapy.
Charges: £3 3s. per week, including all necessaries except clothing. Apply to the Medical Superintendent.
Tel.: Deepway, Exeter. 'Phone: 3580: Exeter.

STRETTON HOUSE,
Church Stretton, Shropshire.
A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

BROOKE HOUSE,
CLAPTON, LONDON, E.5.
Telephone: Clissold 1648.
PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

BOREATTON PARK,
BASCHURCH, SALOP.
A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.
Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.
Voluntary Boarders accepted.
Apply for particulars to Dr. SANKEY.

THE MOAT HOUSE,
TAMWORTH, STAFFS.
Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.; 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D Nat. Tel. 130.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.
PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are recieved for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle, Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.
Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FACKEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure and farm grounds, and is ready to receive patients. Application can now be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates and in certain cases will be prepared to admit patients free of charge.
Every facility for specialised investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Patients or Boarders may visit by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4751—4752.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy of access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Voluntary Boarders received without certificates. Private suites. Convalescent Home, Kearsney Court, Dover.
For further particulars, apply to the MEDICAL SUPERINTENDENT.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 66, Northampton), who can be seen in London by appointment.

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
Formerly Belvoir Nursing Home, Aston-on-Trent.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-therapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport Pagnell 121.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

Phone: 11 Ashton-in-Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary Boarders received without Certificates.

Tel. 64117. *For terms, etc., apply to the Medical Superintendent.*

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful secluded grounds.

Fees are from 10 guineas per week.

Voluntary Patients received for treatment.

DOUGLAS MACAULAY, M.D., D.P.M.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 481 GATLEY.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME.

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. *Tel.*: Hindhead 27.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STILES. Tel.: 1599.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:

A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No.: Batheaston 8189.

CLARENCE LODGE,
CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone*: Brixton 0494. Apply, Miss THWAITES.

BRIDGE of ALLAN SPA
Stirlingshire

"THE outstanding features of these waters are the high calcium, bromine and iodine contents. Few waters are so rich in these elements; hence the water gives Bridge of Allan a distinguished place among British Spas.

The waters should command the attention of the medical profession and inspire their confidence wherever a water of such character is required."

—Analytical report by S. Judd Lewis, D.Sc.

For tariff and full particulars apply SPA DIRECTOR

The Allan Water and Spa Hotel adjoins the Spa.

ALCOHOLISM, OTHER DRUG HABITS, AND TROPICAL AILMENTS

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders, TROPICAL Ailments, etc.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Terms moderate. Quiet and pleasant situation. *Ladies and gentlemen admitted for treatment.* For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

BARNWOOD HOUSE, GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 230 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—ARTHUR TOWNSEND, M.D., Resident Supt. Telephone: No. 7 Barnwood.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 241.

PEEBLES HYDRO.

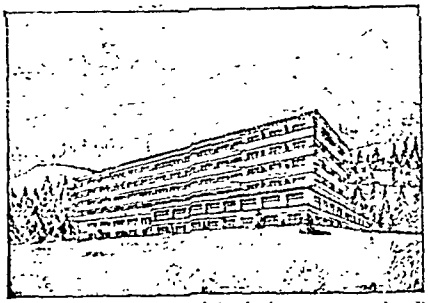
Beautifully situated 600 feet above sea-level. Facing south, completely *sheltered from* north and east. 21 miles from Edinburgh. All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance. IDEAL HEALTH RESORT. Electric Light. Central Heating. Electric Lift. three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Consulting Physician: A. M. GOSSAGE, C.B.E., M.D (Oxon.), F.R.C.P., Consulting Physician to the Westminster Hospital and to the East London Hosp. Children; late D.M.S., Min. of Pens.

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARRINSON, M.B., B.Ch., B.A.O. (R.U.I.). R. MACLELLAND, M.D., C.M.(Edin.).

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

MATLOCK

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA, nr. LIVERPOOL.

For the care and treatment of a limited number of Ladies and Gentlemen suffering from NERVOUS or MENTAL breakdown. Voluntary Boarders received. Psycho-therapy in suitable cases if desired. Terms moderate. Apply, RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

TOR-NA-DEE SANATORIUM

MURTLE DEESIDE ABERDEENSHIRE.

Medical Director: **David Lawson, M.D., F.R.S.E.**

FULLY EQUIPPED WITH **EVERY MODERN APPLIANCE** FOR THE DIAGNOSIS AND **TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.**

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1901. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 6s. 8d. to £6 6s per week inclusive, no extras.

MEDICAL SUPT.: FELIX SAVY, M.D. *For particulars apply to the Secretary.*

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., **H. Morriston Davies**, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. **Special Treatment by artificial Pneumothorax** (X-ray controlled), **Tuberculins**, and **Ultra-Violet Rays** is available, when necessary, without extra charge. **X-ray** plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physician: ARTHUR H. HOFFMAN, M.D. St. Andrews, GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

HOTEL ANNONCIATA, MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.

Dry, bracing mountain air, semi-tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods.

Easy access to Town. Up-to-date comfortable Hotel, moderate charges.

Under French and English Management.

Telegs.: Annonciata, Menton. *Teleph.*: 1.06.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.

The Prince of Wales's General Hospital, Tottenham, N.15, North Middlesex Hospital, Edmonton, and Associated Hospitals.

An INTENSIVE REFRESHER COURSE will be held from January 26th—February 7th. Lectures, demonstrations, and cliniques in the various general and special departments.

The number is limited to 25.

Enquiries and applications should be sent to the Dean at the Hospital, or to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £2 2s. for 10 lessons.—Address, No. 125, B.M.A. House, Tavistock Square, W.C.1.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.

Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSON SMYTH, M.D., L. T. ROSE-HUTCHINSON, M.D.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BENIANS, F.R.C.S., Dean.

F.R.C.S.(Edin.)

CLASSES, with Museum and Anatomical [illegible] Exam., will commence work at any time. HITTAKER, F.R.C.S.,

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

MIDDLESEX HOSPITAL, LONDON, W.1.

(University of London)

PRIMARY F.R.C.S. EXAMINATION.

ANATOMY.

Personal instruction is given daily by Professor T. YEATES.

PHYSIOLOGY.

This Section of the Course is under the joint direction of:
Professor SAMSON WRIGHT,
Professor E. C. DODDS,
Mr. J. H. WOODGER, D.Sc.,
and includes General Physiology, Biochemistry, and Histology.

Instruction is given daily except on Saturdays.

The Course will start on February 2nd, at 9.15 a.m.

FEE: 20 guineas. Single Subject: 12 guineas.

For further information apply to the Dean or to the School Secretary.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

POST-GRADUATE SPECIAL COURSES.

CARDIOLOGY
National Heart Hospital,
January 12th to January 24th.

MEDICINE AND SURGERY
Prince of Wales's Hospital,
January 26th to February 7th.

Nine Lectures on "Early Diagnosis," Mondays, at 4 p.m., beginning January 19th. No fee.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, London, W.1. Telephone: Mayfair 2236.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.).
POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-29 (9 Gold Medallists during 1913-29)	319
M.S.(Lond.), 1901-29 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.), *Final* 1906-29 (Completed Exam.)	257
F.R.C.S.(Eng.), *Primary*	154
1906-29) *Final*	149
M.R.C.P.(Lond.), 1914-29	168
D.P.H. (Various) 1906-29 (Completed Exam.)	286
F.R.C.S.(Edin.), 1918-29	43
M.R.C.S.,L.R.C.P. *Final* 1910-29 (Completed Exam.)	433
M.D.(Dur.) (Practitioners) 1906 29	37
M.D. Various. By Thesis. Numerous successes.	

bove and also for
for all examinations
L.R.C.P., or M.B. of
for D.P.M., D.O.M.S.,
., D.M.R.E., M.M.S.A.,
successes.

ORAL CLASSES.
M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Second and Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)
CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all*
s, and Oral
ier Medical
higher Sur-
the Special
urse. Open
theses.
vith list of
Principal,

Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

STAMMERING, SPEECH DEFECTS.
BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.
"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times."
"Thoroughly physiological principles."—"Lancet."
"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."
STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

LONDON SCHOOL OF DERMATOLOGY.
St. John's Hospital for Diseases of the Skin,
Leicester Square, W.C.2.
Conducted by the Honorary Staff of the Hospital, together with the Physicians in charge of the Dermatological Departments of the London Teaching Hospitals. Lectures and Demonstrations every Tuesday and Thursday, at 5 p.m., from October to March, and four times weekly during May. Clinics daily at 2 p.m. and 6 p.m., Saturdays, 2 p.m. only. Pathological Laboratory for Instruction or Research work.
For further particulars, fees, etc., apply to J. E. M. WIGLEY, M.B., Dean.

CITY OF LONDON MATERNITY HOSPITAL,
CITY ROAD, E.C.1.
MIDWIFERY TRAINING SCHOOL.
MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.
PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.
PRIVATE WARDS for paying patients.
MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,
TAUNTON.
A PUBLIC SCHOOL FOR BOYS.
Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.
Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.
New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.
(UNIVERSITY OF LIVERPOOL.)
COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)
For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

POST-GRADUATE MIDWIFERY.
Qualified Medical Women are admitted to
The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5
for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

THE ART OF RELAXATION.
THE ARCHER NERVE TRAINING COLONY, LANGLEY RISE, Ltd., King's Langley, Herts, is opening premises for Consultations, Treatments, and Classes at 22, UPPER GLOUCESTER PLACE, N.W.1 (Tel.: Padd. 7175), on Wednesdays and Saturdays, 10—1 and 2—5.30. Enquiries on all other days to King's Langley (Tel. 19).

MEDICAL CORRESPONDENCE COLLEGE
19, WELBECK STREET, LONDON, W.1.

PROVIDES HIGHLY SUCCESSFUL ORAL, POSTAL, AND PRACTICAL COACHING FOR ALL MEDICAL EXAMINATIONS.

M.D.Lond., M.R.C.P.Lond., M.D.Thesis (all Universities), F.R.C.S.Eng. and Edinburgh, D.P.H., D.P.M., D.T.M., D.L.O., D.O.M.S., & L.D.S.

COURSES are always in progress for the above; also
1st, 2nd, and FINAL MEDICAL EXAMINATIONS of all Universities and Examining Bodies.

Special Oral and Practical Vacation Courses in Chemistry, Physics, Biology, Anatomy, Physiology, Pathology, and the Final Subjects.

MICROSCOPE AND MUSEUM WORK

CLINICAL INSTRUCTION can be arranged at any time.

VALUABLE BOOK FREE!

Write at once for our "Guide to Medical Examinations," and a copy will be sent post free by return.

MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, Cavendish Sq., LONDON, W.1.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London.)

PRIMARY F.R.C.S. COURSE.

A Course of Instruction for the JUNE EXAMINATION will begin on TUESDAY, FEBRUARY 3rd, 1931, and will be conducted as follows:

ANATOMY AND EMBRYOLOGY.—Prof J. ERNEST FRAZER, F.R.C.S. (Professor of Anatomy in the University of London).

PHYSIOLOGY AND HISTOLOGY (with Practical Classes).—Prof. B. J. COLLINGWOOD, O.B.E., M.D. (Professor of Physiology in the University of London).

Fee for the Course, 16 gns., or 9 gns. for either section separately. This fee includes membership of the Students' Club during the period covered by the Course.

For further particulars apply to the School Secretary.

UNIVERSITY OF OXFORD.

DIPLOMA IN OPHTHALMOLOGY.

The next Examination begins on June 22nd, 1931. The two months' Course of Instruction starts on April 27th, 1931.

For further information apply to—

P. H. ADAMS,
6, Holywell, Oxford. Margaret Ogilvie Reader in Ophthalmology.

University of Leeds.

POST-GRADUATE COURSES IN OBSTETRICS AND ANTE-NATAL WORK AT THE LEEDS MATERNITY HOSPITAL.

(108 Beds.)

Registered Medical Practitioners are admitted to the Hospital Practice, comprising Ante-natal, Labour and Isolation Departments, for periods of 2—4 weeks.

For particulars as to vacancies at the University Obstetrics Students' Hostel, adjoining the Hospital, apply to the DEAN, School of Medicine, Leeds.

June 21st, 1930.

University of Leeds and ST. JAMES'S HOSPITAL, LEEDS.

An appointment will shortly be made to the combined post of PATHOLOGIST to St. James's Hospital and LECTURER IN PATHOLOGY in the University of Leeds, at a salary of £750 a year, with membership of the Federated Superannuation System. Further particulars may be obtained from the Registrar, The University, Leeds, to whom applications for the appointment should be addressed, to reach him not later than first post on Wednesday, January 7th

The University of Sheffield.

FACULTY OF MEDICINE.

The Council of the University and the Board of Management of the Royal Infirmary, Sheffield, acting conjointly, are about to make an appointment to the post of ASSISTANT PATHOLOGIST to the Infirmary and DEMONSTRATOR OF PATHOLOGY in the University. The salary offered is £500 per annum. Applications, accompanied by recent testimonials and references, should be sent on or before January 14th to the undersigned, from whom further details may be obtained.

W. M. GIBBONS, Registrar.

University of London.

A Course of Ten Lectures on "*Comparative Physiology*" will be given by Mr G. P. WELLS at UNIVERSITY COLLEGE, LONDON (Gower Street, W.C.1), on FRIDAYS, JANUARY 16th, 23rd, 30th; FEBRUARY 6th, 13th, 20th, 27th; and MARCH 6th, 13th, 20th, 1931, at 5 p.m.

Admission free, without ticket.

S. J. WORSLEY,
Academic Registrar.

Central London Ophthalmic HOSPITAL.

Judd Street, St. Pancras, W.C.1.

There are vacancies for the posts of SENIOR and JUNIOR HOUSE SURGEON. Salaries at the rate of £120 and £100 per annum respectively, with board and residence in the Hospital.

Applications, with testimonials, from duly qualified candidates, must be sent to the undersigned on or before Monday, Jan. 5th, 1931.

H. R. S. DRUCE, Secretary.

Northern Rhodesia.

The GOVERNMENT of NORTHERN RHODESIA requires the services of three MEDICAL OFFICERS, two of whom will be required to undertake the duties of HEALTH OFFICERS.

Emoluments.—£600 per annum, rising by annual increments of £30 to £840 per annum, then by annual increments of £40 to £920 per annum.

Conditions of Service.—The appointments are pensionable, subject to a probationary period of two years in the first instance.

Passages.—Free first-class passages are provided both on first appointment and when proceeding on leave. An allowance is granted in the case of a married officer towards the cost of his family's passage once each way every tour of service.

Quarters.—Free quarters are provided, or an allowance in lieu is paid.

Qualifications.—Applicants must possess a complete double qualification, and must be on the *Medical Register*. Preference will be given to candidates who have held hospital or public health appointments, or who have special knowledge of anæsthetics, radiology, surgery, medicine, ophthalmology, gynæcology, midwifery, diseases of the ear, nose, and throat, venereal diseases, etc. Selected candidates may be required to take a course of study either at the Liverpool School of Tropical Medicine beginning in January, 1931, or at the London School of Hygiene and Tropical Medicine beginning in February, 1931.

Further particulars and forms of application may be obtained, on application in writing, from the Private Secretary (Appointments), Colonial Office, 2, Richmond Terrace, London, S.W.1. Completed applications must reach the Private Secretary (Appointments) by the 24th day of January, 1931.

The Otago Hospital Board, DUNEDIN, NEW ZEALAND.

Applications will be received by the undersigned until February 19th, 1931, for the position of RADIO-THERAPEUTIST, Dunedin Hospital, at a salary commencing at the rate of £1,000 per annum, rising by annual increments of £50 each to a maximum salary at the rate of £1,250 per annum, and £100 travelling allowance.

Full details of duties obtainable on application to the High Commissioner for New Zealand.

Otago Hospital Board, Dunedin, New Zealand. JOHN JACOBS, Secretary.
November 14th, 1930.

Staffordshire, Wolverhampton & DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS.

ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited from Medical Men, not more than 35 years of age, with special experience in the treatment of pulmonary tuberculosis, for the post of Assistant Resident Medical Officer at PRESTWOOD SANATORIUM FOR MEN (150 beds), situated 9 miles south of Wolverhampton.

The salary will be £400 per annum, rising by £50 to £450 at the end of 12 months' service, including quarters for a single man only, with full board and laundry.

Forms of application, together with any other information desired, may be obtained from the undersigned.

Applications, together with three recent testimonials, must be received not later than Thursday, January 8th.

Canvassing, either direct or indirect, will be a disqualification.

County Buildings, Stafford. EUSTACE JOY, Clerk to the Joint Committee.
December 22nd, 1930.

Harrogate Infirmary.

Applications are invited from British subjects (male) for the post of JUNIOR HOUSE SURGEON. Salary at the rate of £125 per annum, with board and lodging. The appointment will be made immediately and will terminate on August 1st. Applications, to be made on official form to be had from the undersigned, should be sent in as early as possible.

The Infirmary, Harrogate. GEO. BALLANTYNE.

Huddersfield Royal Infirmary. (GENERAL HOSPITAL of 200 Beds.)

Male HOUSE SURGEONS required to commence duty at an early date. Salary £150 per annum, with board, residence, and laundry. Appointment for six months, subject to renewal. Applications, with copy testimonials, to be addressed to the Secretary immediately.

County Council of Middlesex.

The County Council invites applications from duly qualified Medical Practitioners for the undermentioned appointments.

DISTRICT MEDICAL OFFICER, TOTTENHAM (High Cross).

Salary £180 per annum. The officer appointed will be required to carry out his duties in accordance with the Public Assistance Order, 1930, of the Minister of Health, to reside in the district, and to name to the Council some duly qualified Medical Practitioner who will, in the case of his absence or other hindrance to his personal attendance, act in his place.

PUBLIC VACCINATOR, TOTTENHAM (High Cross).

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination, unless such certificate was required as a condition of obtaining any diploma, licence, or degree which he possesses.

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order, 1930, of the Minister of Health. The contract will provide for the payment of the minimum fees laid down in the Order.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than January 10th, 1931.

No special application forms are provided. Envelopes must be endorsed "District Medical Officer" or "Public Vaccinator," as the case may be.

Canvassing, directly or indirectly, will be a disqualification.

Guildhall, Westminster, S.W.1. ERNEST S. W. HART, Clerk of the County Council.
December 18th, 1930.

Metropolitan Borough of FINSBURY.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Finsbury Borough Council invites applications from registered Medical Practitioners for the appointment of an Assistant Medical Officer of Health. The appointment will be a full-time one. The duties will be allocated as to two-thirds of the time to tuberculosis, while the remaining one-third will be available for general public health work.

The salary will be at the rate of £750 per annum.

The appointment will commence at an early date and will be subject to a medical examination and to the provisions of the Council's Superannuation Scheme.

Applications, endorsed "Assistant Medical Officer of Health," and accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than the first post on January 10th.

There are special forms of application which may be obtained from the Medical Officer of Health at the address given below, on application either by post or personally.

Canvassing is prohibited and will disqualify.

(Signed) HUGH GREEN,
Town Clerk.
Finsbury Town Hall, Rosebery Avenue, E.C.1.

City of Leicester.

RESIDENT MEDICAL OFFICER.

JUNIOR ASSISTANT MEDICAL OFFICER (male) required for the CITY ISOLATION HOSPITAL AND SANATORIUM, Groby Road. The appointment will be for a period of twelve months. The salary is at the rate of £300 per annum, with board, residence, and laundry. The officer appointed will be required to contribute to the Superannuation Fund of the Corporation.

Applications, stating age, experience, etc., together with copies of three testimonials, to be sent to the undersigned not later than January 10th.

Health Offices, Leicester. C. KILLICK MILLARD, Medical Officer of Health.
December 24th, 1930.

General Hospital, Nottingham.

Wanted, A HOUSE SURGEON. Appointment for six months. Salary at the rate of £150 a year, with board, residence, and laundry. Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the undersigned not later than Monday, January 5th, 1931. Duties to commence on or about January 13th, 1931.

PETER M. MACCOLL,
House Governor & Secretary.

County Borough of Southend-on-Sea.

SOUTHEND MUNICIPAL HOSPITAL.

SENIOR ASSISTANT MEDICAL OFFICER.

Applications are invited from fully qualified Medical Men for the appointment of Senior Assistant Medical Officer at the Southend Municipal Hospital, Rochford, Essex.

Candidates must have had at least two years' resident Hospital experience.

Salary £350 per annum, rising by annual increments of £25 to £450, with residential emoluments valued at £200 per annum.

The salary and value of emoluments are subject to deductions under the Local Government Officers Superannuation Act, 1922.

Further information relating to the appointment may be obtained from the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex, to whom applications, with full particulars and copies of three recent testimonials, should be sent not later than Friday, January 9th.

Town Clerk's Office, Southend-on-Sea. H. J. WORWOOD, Town Clerk.

December 29th, 1930.

City of Liverpool.

RESIDENT ASSISTANT MEDICAL OFFICER (Male).

Applications are invited for the appointment of a Resident Assistant Medical Officer (male) at the HILL ROAD INFIRMARY (800 beds) for a period of one year at a salary of £200 per annum, together with the usual residential allowances. Candidates must be single, fully qualified, and registered.

The appointment will be made in accordance with the Standing Orders of the City Council.

Canvassing, either directly or indirectly, will be deemed a disqualification.

Applications, stating age, qualifications, etc., with copies of three recent testimonials, to be received by the undersigned not later than Saturday, January 10th.

Brougham Terrace, Liverpool. WALTER MOON, Town Clerk.

December 30th, 1930.

Warrington Infirmary and DISPENSARY.

The Board of Management invite applications for the post of SENIOR HOUSE SURGEON (male, unmarried). Applicants, who must be of British nationality, must be duly qualified Medical Practitioners, with previous Hospital experience.

Salary £225 per annum, with board, apartments, and laundry. Applications, stating age and qualifications, with copies of three recent testimonials, should be sent in not later than January 13th to the undersigned.

The post will become vacant at the end of January and is due to the termination of time limit.

By Order, HENRY L. BOOT, Supt. & Secretary.

Dec. 29th, 1930.

Warrington Infirmary and DISPENSARY.

The Board of Management invite applications for the post of JUNIOR HOUSE SURGEON (male, unmarried). Applicants, whom must be of British nationality, must be duly qualified Medical Practitioners.

Salary £175 per annum, with board, apartments, and laundry. Applications, stating age, with copies of three recent testimonials, should be sent in not later than January 13th.

The post will become vacant at the end of January and is due to the termination of time limit.

By Order, HENRY L. BOOT, Supt. & Secretary.

Dec. 29th, 1930.

West End Hospital for Nervous DISEASES.

(In-Patient Dept.: Gloucester Gate, Regent's Park, N.W.1.)

The Committee of Management invites applications from British male candidates for the vacancy of JUNIOR HOUSE PHYSICIAN, to start duty February 1st. Salary £100, with board, residence, and laundry. Appointment, in first instance, for six months. Applications, with copies of three testimonials, must be received by the undersigned as soon as possible, and, in any case, not later than January 19th.

J. P. WETENHALL, Secretary.

73, Welbeck Street, W.1.

North Riding Infirmary, MIDDLESBROUGH.

(General Hospital—150 Beds.)

JUNIOR HOUSE SURGEON wanted to take up duties on February 1st.

The appointment will be for a definite period of six months, with salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three testimonials, should be sent forthwith to the undersigned.

N.B.—The successful candidate will be eligible to apply for the Senior House Surgeon's post at the expiration of the above term.

CHARLES POSTGATE, Secretary-Superintendent.

Nottingham General Dispensary (BRANCH).

Wanted, RESIDENT LADY SURGEON. Must have Medical and Surgical qualifications. Salary £250, with £25 increase per year up to £300. Apartments (not board), attendance, lights, and fuel. This Institution is a non-provident one. No beds. No midwifery. Preference given to anyone experienced in Heliotherapy.

Applications, stating age, and accompanied by recent testimonials, to be sent by January 14th, 1931.

5, Thurland St., Nottingham. R. J. WILLATT, Secretary.

Royal Northern Hospital, Holloway, N.7.

Applications are invited for the post of HOUSE PHYSICIAN (Second), vacant on February 15th.

The appointment is for nine months (six months as House Physician and three months as Out-Patient Medical Officer). Salary at the rate of £70 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be sent by January 9th to the undersigned, from whom forms of applications and rules can be obtained.

GILBERT G. PANTER, Secretary.

Stockton and Thornaby Hospital, STOCKTON-ON-TEES. (140 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about January 21st. Salary £150, with board, residence, and laundry. Candidates must be duly qualified and unmarried. Applications, stating age, nationality, and experience, together with copies of three recent testimonials, to be sent to the undersigned.

JOHN WILKINSON, Secretary.

The Hospital for Women at Leeds (For the Treatment of Diseases of Women).

Applications are invited for the post of HOUSE SURGEON, which becomes vacant on February 1st. The appointment is for six months. Salary at the rate of £50 per annum.

Applications, stating age and qualifications, together with three recent testimonials, should be sent to the undersigned immediately.

BRYAN JEAFFRESON, Secretary to Faculty.

Hospital for Consumption and DISEASES OF THE CHEST, Brompton, S.W.3.

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (for which there are three vacancies). The duties include work in the Out-patient Department as well as in the Wards. Applications, with copies of testimonials, must reach the undersigned not later than Saturday, January 17th. The appointment is for six months, commencing February 1st, with an honorarium of £50.

FREDERICK WOOD, Secretary.

Brompton. January 3rd, 1931.

Finsbury Treatment Centre, 31, Spencer Street, E.C.1.

Applications are invited from registered Practitioners for the following appointments:

Two MINOR AILMENT SURGEONS.
One ANAESTHETIST.
One SECRETARY.

The appointments are for one year, and preference will be given to local practitioners.

Applications, with copies of testimonials, to be forwarded not later than January 9th.

R. E. BATSON, Secretary.

County Borough of Brighton.

SANATORIUM & INFECTIOUS DISEASE HOSPITAL.

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER. Salary £150 per annum, with board and lodging. The appointment is for a period of six months.

Particulars and forms of application can be had from the undersigned.

Latest date for application, January 16th

JAS. H. ROTHWELL, Town Clerk, Brighton.

December 22nd, 1930.

Central London Throat, Nose, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.

FIRST ASSISTANTS in the Out-patient Dept.

There are vacancies for First Assistants in the Out-patient Dept. for attendance on Mondays at 2 p.m. and on Tuesdays at 5 p.m.

The posts are honorary, tenable for one year, subject to re-election, and the duties are to assist the Surgeons in seeing the patients.

Applications may be for attendance on one or both of the days mentioned, and should be sent to the undersigned immediately.

JOHN H. YOUNG, Secretary-Superintendent.

Lincoln County Hospital.

Wanted, a JUNIOR HOUSE SURGEON, male, unmarried. Salary at the rate of £150 per annum, rising to £200 per annum at the conclusion of six months' approved service. Board, residence, and washing will also be provided.

Candidates for the appointment must be registered under the Medical Acts.

Applications, stating age and other particulars, with copies of testimonials (not more than three), are to be sent to the undersigned, from whom further particulars may be obtained.

Lincoln. ARTHUR MOORE,
December 29th, 1930. Secretary-Supt.

Bolingbroke Hospital, Wandsworth Common, S.W.11.

(121 Beds)

HOUSE PHYSICIAN (male) required. The appointment is for six months, commencing on February 1st. Salary £120 per annum, with board, residence, and laundry.

Candidates must be fully qualified and registered.

Applications, stating age, qualifications, and experience, with copies of not more than three recent testimonials, should be sent to the undersigned on or before January 12th.

W. S. RANDOLPH BISS, Secretary-Superintendent.

West Kent General Hospital, MAIDSTONE

Applications are invited for the appointment of HOUSE SURGEON, who must be a male and of British nationality. Salary at the rate of £220 per annum, with board, apartments, and washing. Candidates must possess registered Medical and Surgical qualifications. Write in the first instance to the undersigned for form of application, which must be returned completed on or before January 16th.

EDWARD J. GREGG, House Governor & Secretary.

West Suffolk General Hospital, BURY ST. EDMUND'S. (108 Beds.)

JUNIOR RESIDENT MEDICAL OFFICER required. Salary £150 per annum, with board, residence, and laundry.

Applicants must be fully qualified and registered.

Applications, giving particulars and experience, and enclosing copies of three recent testimonials, to be sent to the undersigned.

E. E. HARDWICKE, Secretary.

December 15th, 1930.

Leigh Infirmary, Lancashire.

Wanted, a RESIDENT HOUSE SURGEON, male, single, for Hospital of 82 beds. Salary £150, with rooms, fire, attendance, and board.

The position is vacant on February 1st.

for six months, with Must be good Anaes- tar and Throat work desirable.

Applications to be addressed to Mr. J. A. SMITH, Secretary, 3, Silk Street, Leigh, Lancs.

The Royal Hospital,
WOLVERHAMPTON.
(Incorporated under Charter.)

CASUALTY OFFICER AND RESIDENT ANAESTHETIST (male or female) required, for January 15th next.

Duties will include Casualty work and administration of Anaesthetics.

The Hospital contains 240 beds and the usual special departments, and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical practice.

Candidates must be registered under the Medical Acts, and unmarried. The appointment is for six months, with eligibility for further appointment for six months as House Surgeon to In-patients.

Salary at the rate of £125 per annum. Board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded to the undersigned.

W. H. HARPER,
December 22nd, 1930. House Governor.

The Victoria Hospital for
CHILDREN, Tite Street, Chelsea, S.W.3.
(138 Beds.)

The Committee of Management invite applications for the posts of HOUSE PHYSICIAN and HOUSE SURGEON (*both vacant February 1st*) *The appointments are for six months.* Salaries at the rate of £100 per annum, with board, lodging, and washing.

Candidates must attend the Hospital for the purpose of an interview at 4.30 *p.m.* on Friday, January 16th (No travelling or other expenses will be paid) They must hold Medical and Surgical qualifications, and be registered under the Medical Act.

Applications, with copies of three recent testimonials, should be sent to the Secretary not later than the first post on Wednesday, January 14th.

By Order,
D. ST. JOHN BAMFORD,
Secretary.

King Edward Memorial Hospital,
EALING (106 Beds.)

HOUSE SURGEONS.

Applications are invited for the post of SENIOR HOUSE SURGEON. Applicants must have had good experience (at least 2 years) in House appointments. Salary will depend on experience and qualifications.

Applications are also invited for the post of JUNIOR HOUSE SURGEON, vacant on February 1st. Salary £150 per annum, with usual residential allowances.

Applications, stating age, experience, and qualifications, together with copies of two recent testimonials, to be sent to me not later than Monday, January 12th.

R. A. MICKELWRIGHT,
Secretary-Superintendent.

Wembley Hospital.
HONORARY CONSULTING SURGEON.

Applications are invited for the above post. Candidates must be London Consultants of recognized standing, preferably on the staff of a recognized Teaching Hospital. The selected candidate will be required to attend fortnightly and in case of emergencies

Applications, stating age, with three testimonials and applicant's qualifications, should reach the undersigned not later than Saturday, January 10th.

GEORGE A. PAINES, F.I.S.A.,
Wembley Hospital, Secretary.
Fairview Avenue, Wembley.

Wembley Hospital.
HONORARY ASSISTANT CONSULTING SURGEON.

Applications are invited for the above post. Candidates must be London Consultants of recognized standing. Particulars of duties will be forwarded on application. Applications, stating age, with copies of three testimonials and qualifications, should reach the undersigned not later than Saturday, January 10th.

GEORGE A. PAINES, F.I.S.A.,
Wembley Hospital, Secretary.
Fairview Avenue, Wembley.

Aberdeen Royal Infirmary.

The Board of Directors invites applications for the post of JUNIOR ASSISTANT SURGEON to be attached to the wards of the Second Surgeon.

Applications (two copies), with relative testimonials, should be lodged with the Subscriber not later than January 10th.

230 Union St., JOHN A. McCONACHIE,
Aberdeen. Acting Clerk & Treasurer.

The Royal Sea-Bathing Hospital
FOR SURGICAL TUBERCULOSIS,
MARGATE.

HOUSE SURGEON Required.

A Male House Surgeon is required to take up duty in January, 1931. The salary is at the rate of £200 per annum, with board, residence, attendance, and laundry.

Candidates for the post must be legally qualified and registered. The appointment is for six months.

There are 308 beds for adults and children, which afford special opportunities for the study of surgical tuberculosis.

Applications, stating age and previous appointments, with copies of three recent testimonials, should be sent to the Secretary, R.S.B.H. Offices, 15, York Buildings, Adelphi, London, W.C.2.

All Saints' Hospital (for Genito-
URINARY DISEASE).
In-patient Dept.: 91, Finchley Road, N.W.8.
Out-patient Dept. and Secretary's Office:
49/55, Vauxhall Bridge Road, S.W.1.

HOUSE SURGEON (male) required at once for period of three months as JUNIOR HOUSE SURGEON (non-resident), followed, subject to the approval of the Board of Management, by a period of three months as Senior House Surgeon (Resident). Salary will be at the rate of £150 per annum, with board and laundry during the resident period. The duties of the non-resident House Surgeon consist of attendance at the Out-patient Department every afternoon and three evenings weekly.

Applications, stating age, qualifications, experience, and enclosing copies of recent testimonials, should reach me as soon as possible.

D. H. EADE, Secretary.

The Royal Infirmary, Sheffield.
(500 Beds.)

The Weekly Board of Management invite applications for the undermentioned posts:
HOUSE PHYSICIAN.
HOUSE SURGEON.
ASSISTANT AURAL AND OPHTHALMIC OFFICER.
to be tenable for six t, 1931. The salary attached to each post is £80 per annum, *rising after six months'* service to £100 per annum, together with board and residence.

Applications, together with copies of testimonials, to be sent to the undersigned immediately.

JNO. W. BARNES, F.C.I.S.,
Board Room, Gen. Supt. & Secretary.
November 27th, 1930.

The Royal Infirmary, Sheffield.
(500 Beds.)

The Weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON.

The salary attached to the appointment is at the rate of £80 per annum for the first six months and £100 per annum afterwards.

There are 68 ophthalmic beds, and the post offers exceptional opportunities of gaining experience in Ophthalmology.

Applications, with copies of testimonials, to be sent to the undersigned forthwith.

JNO. W. BARNES, F.C.I.S.,
Board Room, Gen. Supt. and
November 17th, 1930. Secretary.

London Hospital, E.1.

Applications are invited for the post of SURGICAL FIRST ASSISTANT and REGISTRAR. Candidates must be Fellows of the Royal College of Surgeons. The salary is £300 per annum, which is paid by the Hospital and Medical College *jointly*. The appointment is for *one year, but is renewable annually*, on application, for two further periods of one year.

Applications should arrive at the Hospital not later than by the first post on *Saturday*, January 17th, 1931.

Further particulars may be obtained from the House Governor.

A. G. ELLIOTT,
House Governor.

Royal Mineral Water Hospital,
BATH.

A vacancy in the office of SURGEON to the Hospital will be filled at a Court of Governors to be held on Thursday, January 29th.

Candidates must be Fellows of one of the Royal Colleges of Surgeons.

Applications, with not more than three testimonials, must be sent to the Registrar before Monday, January 19th.

Personal canvassing is forbidden.

January 1st, 1931.

Royal Devon & Exeter Hospital,
EXETER. (225 Beds.)

HOUSE PHYSICIAN (Male).

Applications are invited for the post of House Physician at this Hospital, vacant on January 26th. The appointment is for six months, but candidates are eligible for re-election.

Salary at the rate of £150 per annum, with board, *apartments, and washing.*

Applications, giving particulars as to age and qualifications, together with certificate of registration and copies of three recent testimonials, *should be sent to the undersigned* as soon as possible.

By Order of the Committee,
S. S. COLE,
Secretary & Manager.
December 29th, 1930.

Hampstead General and North-
WEST LONDON HOSPITAL,
Haverstock Hill, N.W.3.

APPOINTMENT OF CASUALTY SURGICAL OFFICER.

Applications are invited from unmarried registered Medical Women for the position of Casualty Surgical Officer, vacant on Feb. 1st next, at the Out-patient Department of the Hospital, Bayham Street, Camden Town. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Applications, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on January 17th next.

Princess Louise Kensington
HOSPITAL FOR CHILDREN,
St. Quintin Avenue, North Kensington, W.10.
(50 Beds.)

HOUSE SURGEON, male or *female*, required for 5 months from February 1st. Salary for first two months at the rate of £100 a year, after which, should he or she be appointed Senior Resident (of two), salary would be at the rate of £125 a year, with board, residence, and laundry in each case. It is desirable that applicants should have held a responsible Hospital post. Applications, with copies of three testimonials, must be submitted on a form to be obtained from the Secretary, and should reach him as soon as possible, and in any case not later than first post on Monday, Jan. 19th.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited for the half-time post of GYNAECOLOGICAL REGISTRAR from fully qualified and registered Medical Women. This post is reserved for former students of the London (Royal Free Hospital) School of Medicine for Women. Salary £100 per annum.

Applications, stating age and accompanied by three recent testimonials, must be sent to the undersigned, from whom all information may be obtained, on or before January 24th. Duties to commence March 1st.

REGINALD R. GARRATT,
Secretary.

Poplar Hospital for Accidents,
East India Dock Road, Poplar, E.14.

The Committee invites applications for the appointment of SECOND RESIDENT OFFICER at a salary at the rate of £175 per annum, all found. Candidates must have held appointments as House Surgeon at a Hospital. Applications must be accompanied by a statement of the candidates' qualifications and be forwarded to the Secretary, with three recent testimonials, not later than Tuesday, January 6th. The appointment is for a period of six months.

Royal South Hants and
SOUTHAMPTON HOSPITAL.

HONORARY CLINICAL ASSISTANT ANAESTHETIST required for the above Hospital. The candidate appointed will be eligible for the post of Honorary Anaesthetist, which it is expected will be vacant shortly. Applications should be sent to the undersigned not later than January 21st.

HY. TRUSSON, Secretary.

Rotherham Hospital.

Wanted, HOUSE PHYSICIAN (male), qualified. Salary £180 p.a., with board, residence, and laundry, to have charge of Out-patients, administer Anaesthetics, and assist Honorary Physician.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH.**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	PLYMOUTH EDUCATION AUTHORITY. *(Deputy Assistant Medical Officer.)*
LOWESTOFT MEDICAL INSTITUTE. *(Male Medical Officer.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	STIRLING ROYAL BURGH. *(Medical Officer of Health.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

December 31st, 1930. By Order of the Council. ALFRED COX, Medical Secretary.

Royal Sussex County Hospital,
BRIGHTON. (238 Beds.)

HOUSE SURGEON (male) required February 1st, 1931, with charge of beds, part casualties, and anaesthetics. Salary £150 per annum, with board, residence, and laundry.

Candidates must hold Medical and Surgical qualifications of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of testimonials, should reach the undersigned not later than January 19th, 1931.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Hull Royal Infirmary.
SUTTON BRANCH.

The above Branch will be opened in February next and will be a self-contained modern General Hospital of 100 beds. There will be Two Resident posts.

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum, plus board, residence, and laundry. The appointment will be for *six months in the* first instance and will be terminable by one month's notice on either side.

Applications, stating age, qualifications, and nationality, and with copies of testimonials, should be sent to the undersigned.

R. J. CARLESS,
November 22nd, 1930. House Governor.

The Sheffield Royal Hospital.

Registrar ... ...
also ... ... E SURGEON,
duties ... ... to commence
six months at the rate of £80 per annum, for the first after which £100 per annum, with board, residence, and laundry. There are twelve Resident Medical Officers.

Applications should be forwarded at once to—

W. H. BOOTH,
Superintendent and Secretary.

Wrexham & East Denbighshire
WAR MEMORIAL HOSPITAL.
(109 Beds.)

Two RESIDENT HOUSE SURGEONS required at above Hospital, to commence on Feb. 1st. Appointments for a period of not less than six months. Salaries £150 per annum, with board and laundry.

Applications, stating age, nationality, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned not later than Monday, January 12th, 1931.

LESLIE SPENCER,
December 16th, 1930 Secretary.

The Jessop Hospital for Women,
SHEFFIELD. (145 Beds.)
Gynaecological and Maternity Departments.

The Board of Management invite applications for the appointment of Three ASSISTANT HOUSE SURGEONS (male) for six months from January 15th, 1931.

Salary £100 per annum, together with board, residence, and laundry.

Applications, stating age, together with copies of recent testimonials, should reach the undersigned *on or before January 5th, 1931.*

H. B. SHELSWELL, Secretary.

House Surgeon required, male or
female, British nationality, for ASHFORD HOSPITAL, KENT. Salary £150 per annum. Please state experience and qualifications. Candidates must be unmarried, and under 35 years of age. Duties to commence on February 1st, 1931. Applications, with three recent testimonials, to be sent to the Hon. Secretary on or before January 17th, 1931.

Eccles & Patricroft Hospital,
near MANCHESTER.
(General Hospital—60 Beds.)

Applications are invited for the positions of "RESIDENTS" (2). Salary £175, plus usual. Address Secretary as above.

Harlow Wood Orthopaedic
HOSPITAL,
near MANSFIELD, NOTTS.

Applications are invited for the post of RESIDENT SURGICAL OFFICER. The appointment will be for twelve months in the first instance, at a salary of £275, with board, residence, and laundry. The selected candidate will be eligible for re-election for a further period of a year, at the salary of £300. Applicants should have had surgical experience, and preferably some special experience of Orthopaedic Surgery. The Hospital is a central Orthopaedic Hospital, treating both children and adults and serving a large area in the East Midlands.

The duties, which include assistance at the associated Out-patient Clinics, will commence on March 1st, 1931.

Applications, stating age and qualifications, with copies of recent testimonials, should reach the Secretary on or before Monday, January 19th, 1931.

David Lewis Northern Hospital,
LIVERPOOL.

The Committee invite applications for the undermentioned posts:

(a) HONORARY MEDICAL OFFICER in Charge of Ear, Nose, and Throat Departments;

(b) HONORARY MEDICAL OFFICER in Charge of Dermatological Department.

Applications, together with copies of testimonials, should be sent to the undersigned on or before Saturday, January 31st, 1931.

THORNBURROW GIBSON, M.A.,
Secretary-Superintendent.

Lowestoft and North Suffolk
HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum, with board, residence, and laundry. Duties to commence in January. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

(Appointments continued on p. 54.)

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL
ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.

(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted.—Assistant, young, for London, South-West, mixed panel and private. Furnished flat, attendance. Salary from £325, according to experience. Essential particulars.—Address, No 183, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Young male Assistant (indoor) in a large private and panel Practice British Motorist. Salary according to experience. Interview req. Usual bond. State age and full particulars.—Add., No. 180, B.M.A. House, Tavistock Sq., W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS (male) for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted. — Assistantship or LOCUM by Indian M.B., ex H.S., aet. 29. 3 years' experience general and panel practice; used to sole charge Free now.—Address, No. 8780, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistantship, view early Partnership, in Country Practice, by Glasgow Graduate, aged 31, single. 5½ years' G.P. and Cottage Hosp. exper. Own car. Limited cap. Free one month.—No. 8784, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Assistantship, temp. or part time, by woman M.B., M.R.C.S., ex H.P. Experienced G.P., private and panel. Aged 37, English. London only.—Address, No. 8782, B.M.A. House, Tavistock Square, W.C.1

Wanted. — Assistant, with view, indoor, Protestant, in large general Practice, Midlands. Salary according to experience State particulars.—Address, No. 8765, B.M.A. House, Tavistock Square, W.C.1.

Wanted, young male or lady ASSISTANT, indoor, for Practice near Nottingham. Preferably one with a car or motor cycle. Address, No. 182, B.M.A. House, Tavistock Square, W.C.1

Wanted.—Assistant, male, indoor, British in Liverpool Salary £300, with increase later and prospects if satisfactory Address No 8783, B.M.A. House, Tavistock Square, W.C.1

Wanted. — Assistantship by M.B., Ch.B., M.R.C.S., L.R.C.P. (1928), European, aged 29, single, abstainer, Protestant. Well experienced panel and private. Excellent tests. Own car. Free Jan. 20th. Birmingham or district preferred. Interview.—No. 181, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Indoor male Assistant for industrial and panel Practice in Manchester. Middle January. Salary £300, or more to suitable man.—Address, No. 8781, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Outdoor male Assistant, young, energetic. Large panel and private Practice, Lancashire (near Manchester). Salary £400 p.a. Refs. and photo.—Address, No. 8773, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Assistant, unmarried, British, Protestant, indoor, for panel and private Practice. State qualifications and age. Salary £360.—Address, No. 8759, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, single, for Manchester Practice. Also LOCUM wanted for first week in February. Full particulars as soon as possible.—Address, No. 8787, B.M.A House, Tavistock Square, W.C.1.

Wanted. — Indoor Woman ASSISTANT in Village Practice. Must drive car. Work light. Suit newly qualified. State essential particulars.—Address, No. 8771, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant in a Market Town within 40 miles of London Young, unmarried. Salary according to experience. — Address, No. 8563, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Part-time Assistant (male), for London. Panel and private. Suit Post-graduate or elderly active Practitioner.—Address, No. 8786, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Experienced Assistant, Country Practice, North Wales. Welsh essential. Good salary.—Address, No. 8770, B.M.A. House, Tavistock Square, W.C.1.

Assistant required (any nationality), middle-class PRACTICE. Prospects for suitable man. State age, height, qualifications, etc. Enclose photo.—Address, No. 8758, B.M.A. House, Tavistock Square, W.C.1.

Assistant, man or woman, indoor, wanted, Midlands. State age, religion, height. Only letters replied to where essential particulars are given. — Address, No. 8755, B.M.A. House, Tavistock Square, W.C.1.

Assistantship.—Assistant wanted for outlying separate Practice as from February 5th. Could buy part share.—Address, No. 8778, B.M.A. House, Tavistock Sq., W.C.1.

Experienced Practitioner, 40, *married, Indian, will do outdoor ASSISTANTSHIP for £5 weekly, or less.* Town or country. Urgent need. — Address, No. 8760, B.M.A. House, Tavistock Square, W.C.1.

Male Assistant wanted, South-West London. Branch Surgery. Live in. State essential particulars.—Address, No. 8656, B.M.A. House, Tavistock Square, W.C.1.

M.B., B.S., L.R.C.P., M.R.C.S., D.P.H., etc., Indian, desires ASSISTANTSHIP or LOCUM, town or country. Experienced panel and private, young, energetic, abstainer. References Free now.—Address, No. 8779, B.M.A. House, Tavistock Sq., W.C.1.

M.B., B.S., desires Assistant-SHIP, Feb. 1st (approx.), outdoor. Married, aet 30. Hospital and G.P. experience and references. Prepared to stay in congenial Practice. — Address, No. 8757, B.M.A. House, Tavistock Square, W.C.1.

M.B., B.Ch., requires outdoor ASSISTANTSHIP. Would prefer principal interested in Nose and Throat work, but not essential Four years' experience in general practice. Good references.—Address, No. 8756, B.M.A House, Tavistock Square, W.C.1.

Part-time Assistant (woman) wanted. End of January. London. Board in return for very light duties. Prefer someone studying for higher exams.—Address, No. 8764, B.M.A. House, Tavistock Sq., W.C.1.

LOCUMS.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

For Reliable Locums and Assistants
AT SHORT NOTICE, CONSULT
British Medical Bureau
(Northern Branch),
33, CROSS ST., MANCHESTER.
Telegrams—"LOCUM, MANCHESTER."
Telephones—CENTRAL 3925; after office hours: 2549 RUSHOLME.

LOCUM TENENS
FOR A REL[illegible] CONSULT
THE M[illegible].
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1264. *(Night Calls).*
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

Locum Tenens and Assistants required. Preferably those living within 100 miles of Liverpool. — For further particulars apply Messrs. R. SUMNER & CO., LTD., Manufacturing Chemists, 40, Hanover Street, Liverpool.

MEDICAL POSTS, DISPENSERS, etc.

A Missionary Hospital in South INDIA under the direction of the LONDON MISSIONARY SOCIETY seeks the services for a period of 3 or 4 years of a qualified MEDICAL WOMAN of some experience. The appointment offers a great opportunity both for medical experience in an established Hospital and for influential Christian service.
Will Medical Women who might consider this short term post please write for details to the Home Secretary, L.M.S., Livingstone House, Westminster, S.W.1.

B.Sc.(Biochem.), M.B., Ch.B., D.P.H. (30), at present holding hosp. appt. as Assist. Bacteriologist and Clinical Pathologist, seeks APPT. with prospects; exp. of biochemistry and serology; has been engaged in research (author several publications); possesses licence and certif. A.; spec. knowledge of trop. path. (holds D.T.M.).—Address, No. 184, B.M.A. House, Tavistock Square, W.C.1.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Dispensing.—For over 30 years we have been training the daughters and other relatives of Doctors as DISPENSERS, and supplied Lady Dispensers to Doctors requiring same.—Apply Mr J. E. WALDEN, Westminster College, 112, St. George's Rd., Southwark, S.E.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and ... ire, or 'phone BUREAU FOR ... et, E.C.1.

Dispenser-Bookkeeper, male, 42, desires POST, London or near life. Experience, excellent references. Disengaged.—"DISPENSER," c/o 14, St. Jude Street, Maldmay Park, N.1.

Evening work required in London by experienced Medical Man, 45, bachelor, well received, abstainer. Has had successful own Practice. Would take charge of Practice over night.—Address, No. 8753, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser wanted for a firm of Doctors in an Industrial Town 30 miles from London. Secretary-Bookkeeper also employed.—Address, with references, note of experience, and, if possible, photograph, No. 8772, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser - Bookkeeper (Hall qual.). Secretarial work, shorthand, typewriting, med. books, care of instruments, etc. Young; careful, reliable. Exp. doctors and hosp. Exc. tests. Anywhere. Indoors or out.—No. 8785, B.M.A. House, Tavistock Sq., W.C.1.

Lady Dispenser (Apoth. Hall), young, well educated, good experience private and panel work, bookkeeping, dressings, etc., desires POST with one or more Doctors. Live in or out. Excellent testimonials.—Add., No. 8789, B.M.A. House, Tavistock Sq., W.C.1.

Lady Dispenser - Bookkeeper (Hall), etc., young, good experience in private and panel Practices, requires POST with Doctor. Free now.—F. W., "Tresco," The Uplands, Loughton, Essex.

M.B., B.S.(Lond.), aged 40, requires an opening, London preferred. Four years' resident London Hospital; 4 years' C.M.O., large Corpn. Tropics; 3 years' general practice. Experienced Surgeon, good administrator, well received, excellent refs.—Address, No. 8564, B.M.A. House, Tavistock Sq., W.C.1.

Secretary, woman, seeks Post with professional man (London preferred). Shorthand, typing, 10 years' exper. dispensing and bookkeeping. Good reference. Free now.—Address, No. 8788, B.M.A. House, Tavistock Square, W.C.1.

Secretary to Doctor. — S.R.N.; French; German; Filing; Indexing. Abstracting medical literature. Own typewriter. Highest references.—Miss TRAYNOR, 90, Abbey Road Mansions, N.W.8.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

Woman M.R.C.S., 31, British, desires any PART-TIME WORK in London district. Good experience—Hospital, private, panel. Used to sole charge.—Address, No. 8767, B.M.A. House, Tavistock Sq., W.C.1.

PARTNERSHIPS.

Wanted by M.B., F.R.C.S. (Ed.), aged 30, married, PARTNERSHIP or PRACTICE, surgical scope. Income £1,200—£1,500. Hospital appointment or early probability essential.—Address, No. 8766, B.M.A. House, Tavistock Square, W.C.1.

Lancs Town. — Partnership (half share), view to succession in 2/3 years. Approx. cash receipts £1,200 p.a. Panel 1,500. Splendid opportunity for young man. — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Manchester residential suburb.— HALF SHARE PARTNERSHIP, with view to early Succession. Receipts £1,600, with much scope for increase. House available. Price 2 years purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Cambridgeshire. — Third (later half) SHARE offered to a young, single Doctor, in a progressive Practice. Audited receipts £2,000 (about); good panel and appts. Excellent prospects for a loyal, hard-working man. Two years' purchase. Terms. Interview, preceded by photograph and references. Expenses moderate.—Address, No. 8751, B.M.A. House, Tavistock Square, W.C.1.

Midlands, near Large City.— PARTNERSHIP or ASSISTANT, with view, in a Practice of £2,200 p.a., increasing. Panel 2,400. 1/3 share at 2 years' purchase. —Address, No. 8762, B.M.A. House, Tavistock Square, W.C.1.

Partnership for Sale in old-established Practice in industrial area in Manchester. Good house. Suit energetic young married man. Quarter share £1,500, up to half pro rata if desired. Bookings approximately £4,000 (panel 2,600). Any investigation. —No 8775, B.M.A. House, Tavistock Sq., W.C.1.

Partnership in rapidly increasing better-class Practice. Panel 2,000. Receipts £3,100. Modern house, garage, and garden available on lease. Premium for 1/3 share 2 years' purchase.—Address, No. 8774, B.M.A. House, Tavistock Square, W.C.1.

Partnership in Country Practice on South-West Coast, 10 miles from large city. Share of approx. £1,200 at 1½ yrs.' purchase. House, with garden facing sea, for sale. £2,000. — Address, No. 8776, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted at once. — Unopposed Country PRACTICE, £1,100—£1,500. Panel 700 to 1,000. Ample capital. Detached house and good garden essential. — Address, "B.M.P.S.," 26, Langham Street, W.1.

Wanted. — Small private and panel PRACTICE to buy, with Highland and Island appointments, anywhere Scotland. Particulars, price, etc. — Address, No. 8754, B.M.A. House, Tavistock Square, W.C.1.

Death Vacancy.—Lancs Town.— Average cash receipts £848 p.a. Panel 1,003. Scope. Excellent house, 2 reception, 4 bedrooms. Garage and large garden. Rent £65 p.a. Premium 1 year's purchase.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Exceptional opportunity.—Young Medical Man, slight knowledge of Welsh, can acquire PRACTICE on very favourable terms. No deposit.—THE WESTERN MEDICAL AGENCY, 22, Clare Street, Bristol.

For Sale. — N. Midlands. — Rapidly growing PRACTICE in residential area with quickly incr. population. Little opposition. Large general hospital 4 miles away. Receipts 1930, £800 approx., and panel 400.—No. 8777, B.M.A. House, Tavistock Sq., W.C.1.

Lady Doctor wishes to sell her PRACTICE, after 22 years' magnificent success, to Christian Medical woman. Great opportunity for service.—Terms and full particulars on application to Mrs. ROWNTREE CLIFFORD, Wildwood, The Avenue, Wanstead, Essex.

Lancs Town. — Mixed Practice. Average cash receipts £1,150 p.a. Panel 1,260. Good house, lawn, garage. Premium—Practice—£1,700. — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Battersea District Maternity.— GOODWILL for Sale. £300. 400 cases yearly. Good opening Lady Doctor. Good house, rent £72. Next Operative Midwifery Class begins Jan. 12th. Post-Grads. received for Midwifery in Clapham Mat. Hospital.—Dr. MCCALL.

Isle of Man. — Seaside Town.— Old-estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Liverpool (near). — Old-estab. middle-class PRACTICE. Cash receipts 1929, £1,451. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden Premium 1½ years' purchase.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

M.D., M.R.C.P., exceedingly well received, with ample capital, wishes non-panel, non-dispensing PRACTICE or PARTNERSHIP. South side of Park. Strictest confidence.—Address, No. 8765, B.M.A. House, Tavistock Square, W.C.1.

Manchester.—Old-established.— Nice house, gardens, £50. Receipts (including panel £135) over £600. Great scope. Price £1,000 or near offer (to include fittings, drugs, linoleum coverings, and good debts £600), part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

PERSONAL.

Medical Man, aet. 40, 5 years' Hosp. exp., 7 years' G.P., thoroughly experienced, well received, would be grateful for SUGGESTION where to START PRACTICE with good prospects. Small premium gladly given. Strictest confidence. London preferred or big Provincial Town.—Address, No. 8769, B.M.A. House, Tavistock Square, W.C.1.

Near Leeds. — Industrial Town PRACTICE. Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Premium—Practice—1½ years' purchase.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

North Wales. — Country Town, near Sea. Cash receipts £700 p.a. Panel £300 p.a. Good detached house, garage, and garden. Rent £65 p.a. Premium for quick sale, 1 year's purchase — BRITISH MEDICAL BUREAU, 33, Cross St., Manchester.

North Wales. — Inland Town PRACTICE of £600 p.a. (guaranteed), panel £300. Splendid scope for early increase. Premium only £500 and payable by quarterly instalments. No initial deposit essential.—No. 8752, B.M.A. House, Tavistock Sq., W.C.1.

Nucleus, with excellent fittings and supply of drugs, for immediate sale in London, N. Good-class work and small increasing panel. Surgery and waiting room in main road. Accommodation available. Offers. —No. 8768, B.M.A. House, Tavistock Sq., W.C.1.

Scotland.—26 miles from Edinburgh.—Industrial PRACTICE. Cash receipts last year £1,016. Panel 1,094. House to rent at £28 p.a. Premium £1,500. — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

South Coast.—Seaside Resort.— Average cash receipts £745. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 2 years' purchase.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

Yorkshire (W.R.).—Large City. —Old-estab. mixed-class PRACTICE. Average cash receipts £1,778 p.a. Panel 800. Excellent corner house for sale, 2 reception, 4 bedrooms, garage, etc. Premium—Practice—1½ years' purchase.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS ,, ,, £7 7s
DINNER SUITS fr. £8 8s. CRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.

THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES .. from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS,
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659. Write for Tax Guide, Free.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles.
Showroom: 97, Swinderby Road, Wembley.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

Several good Second-hand Micro-SCOPES and OBJECTIVES, by Ross, Zeiss, Watson, etc., to be cleared at very low prices. Details on application.—CITY SALE & EXCHANGE (1929), LTD., 93/4, Fleet Street, E.C.4.

Covers for Binding

Vols I and II of the BRITISH MEDICAL JOURNAL for 1930 and previous years can be had, price 2s. 6d., by parcel post 2s. 10d. each.

Remittances must accompany all orders. Apply at the office, B.M.A. House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.
Telephone: 3204 MAYFAIR.

To Close the Estate of a deceased successful Medical Practitioner.

A very comfortable and particularly well-arranged PROFESSIONAL RESIDENCE, with Consulting Room and Surgery, excluding 3 reception rooms, and den, 7 bedrooms, and maid's rooms, bath (w.c.), good offices, and garden. Used as a professional residence for many years until quite recent decease. Price 2,000 guineas freehold. An exceptional chance for a Practitioner requiring an opening, and not wishing to pay for goodwill. A portion of the money can be arranged on mortgage.—Apply to the *Agents for the Executors*, WARD PRICE & CO., 48, Westborough, Scarborough.

Bexhill (outskirts). — Pre-war Freehold Detached RESIDENCE, 5 bed., 3 recep., bath., etc., secondary staircase. Good garden. Room for garage. Elec. light, gas, etc. £1,250 for quick sale.—BOUTWOOD & DAVIS, 48, Western Road, Bexhill, Sussex.

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & Co., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Doctor's widow has comfortable BED-SITTING ROOMS to LET. Electric light, gas fires, every convenience, close Tube, trams, and buses. Newly decorated throughout. —Apply, 21, Cantley Avenue, South Side, Clapham Common, S.W.4.

Mayfair, near Berkeley Square. Delightful self-contained FLAT. Three rooms, kitchen, bathroom, etc., together with use of furnished waiting room, and attendance, in Dental Surgeon's house. Or would let as separate consulting rooms.—Address, No. 186, B.M.A. House, Tavistock Square, W.C.1.

Queen Anne Street. — Medium-sized HOUSE, suitable for Medical Man, to be LET. Four recep., five bed., bath. Rent £525.—ELGOOD & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2601.

Reduced Fees for Daughters of Medical Men offered by a Headmistress, who is adding a Third Boarders' House to her School. — Address, No. 185, B.M.A. House, Tavistock Square, W.C.1.

Residence, suitable for Doctor, 1 minute Clapham North Tube Station, main road. Imposing corner house, nine rooms, etc., re-decorated, all conveniences. Unrestricted freehold £1,700.—Apply, ROSS & ROSS, 231, Brixton Road, S.W.9.

To Let at Streatham, House fitted up for Doctor and for Dentist. Separate floors. No close opposition. Large estate.—Address, No. 8761, B.M.A. House, Tavistock Square, W.C.1.

127, Harley Street.—Large well-lit ground floor CONSULTING ROOM, with excellent attendance and joint use of beautifully furnished waiting room. £300 per annum.—Apply the Secretary, Welbeck 7840.

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.).
Surveyors, Auctioneers, and Estate Agents,
10, WIGMORE STREET,
CAVENDISH SQUARE, W.1.
SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS
In Harley Street and leading Medical Positions.
Telephone: Langham 3927 and 3928.

APPOINTMENTS.—Contd.

Caernarvonshire and Anglesey INFIRMARY, BANGOR. (General Hospital.)

HOUSE SURGEON (male) wanted. Salary £200 per annum, with residence, board, and laundry. Duties to commence as early as possible in January. Hospital contains Orthopaedic, Ear, Nose, and Throat, X-ray, and V.D. Departments. Applications, stating age, nationality, and experience, with copies of three recent testimonials, to reach the Secretary not later than January 9th.

York Dispensary.

Wanted, a RESIDENT MEDICAL OFFICER (female) to commence duties as soon as possible.

The Resident staff consists of two Medical Officers, whose duties are to visit and attend the sick poor in their own homes and to assist the Honorary staff. Candidates must be duly qualified, registered, and unmarried. Some experience of the administration of anaesthetics is essential. Salary £175 per annum, with board, lodging, and attendance, and allowance for laundry. Applications, with testimonials, to be sent on or before January 10th, to JOHN C. PEIFERS, Secretary, 4, New Street, York.

Hospital for Epilepsy and PARALYSIS, Maida Vale, London, W.9.

HONORARY ASSISTANT SURGEON required. Applications are invited from Fellows of the Royal College of Surgeons, England, for the post of Assistant Surgeon.

The Hospital has 88 beds (including 6 pay beds), to be increased in the near future to 100 (including 20 pay beds).

Applications, with copies of not more than three testimonials, to be sent to the undersigned by January 10th.

H. W. BURLEIGH,
Secretary & General Superintendent.

Papworth Village Settlement, near CAMBRIDGE.
For the Treatment of all forms of Tuberculosis. (Over 300 Beds—Male and Female.)

Applications are invited for the post of HOUSE PHYSICIAN. Salary at the rate of £100 per annum, with board, lodging, and laundry. The appointment is for six months.

Applicants, who should be male and single, should send their applications, accompanied by copies of not more than three references, to the Medical Director, Papworth Village Settlement, Cambridge.

Jewish Maternity Hospital, Underwood Street, E.1.

... the post of ... sheants, who should send

their applications, together with copies of three recent testimonials, not later than the first post on January 12th, to the undersigned, from whom further particulars can be obtained.

ALICE MODEL, Secretary.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY. The Institution, which contains over 100 Beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession. Salary at the rate of £100 per annum, rising to £150 per annum.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84, Irish Street, Dumfries, at once.

Nottingham Children's Hospital.

Applications are invited for the post of RESIDENT HOUSE SURGEON (woman). The salary will be at the rate of £150 per annum, with apartments, board, and laundry. The appointment will be for six months. Duties to commence on March 1st.

... th testimonials, and and experience, to ... Honorary Secretary, 1, King John's Chambers, Bridlesmith Gate, Nottingham, by January 19th. Selected candidates will be required to attend at the Hospital for a personal interview on January 27th when the appointment will be made.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

CRUMPSALL HOSPITAL AND INSTITUTION.

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Assistant Medical Officer at the Crumpsall Hospital (1,300 beds) and Institution (1,600 beds), including 600 beds for mental patients, Crescent Road, Crumpsall, Manchester.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous hospital experience.

The Hospital is a recognised Training School for Nurses, and is equipped with all modern hospital requirements.

Salary £275 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made, in the first instance, for a period of six months, renewable at the expiration of that period.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Officer, Crumpsall Hospital and Institution," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, January 15th.

The candidate appointed will be required to commence duty on March 1st, to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

F. E. WARBRECK HOWELL,
Town Hall, Town Clerk.
Manchester. December 29th, 1930.

Administrative County of LONDON.

TEMPORARY ASSISTANT MEDICAL OFFICERS.

The LONDON COUNTY COUNCIL invites applications from registered Medical Practitioners (men and women under 45 years of age on January 26th, 1931) for inclusion in the panel for the year 1931-32 for filling vacancies for temporary Assistant Medical Officers for school medical work. The inclusive rate of pay is 30s. a session of 2½ hours, subject to periodical review. Except in special circumstances married women are ineligible.

Special experience of the medical examination of children is necessary. Employment will depend upon the needs of the work, but normally Practitioners will work 3 sessions a week during school terms.

Applications must be made on the official form, copies of which (with full particulars) may be obtained by sending a stamped addressed foolscap envelope to the Medical Officer of Health (S.D.5), The County Hall, Westminster Bridge, S.E.1. Forms must be returned by January 26th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.

Royal Infirmary, Blackburn.

(240 Beds—Five Residents.)

RESIDENT HOUSE PHYSICIAN (male) required at a salary of £175 per annum, with board, residence, laundry, etc. In addition to Medical Wards, to be attached to Eye, Ear, Nose and Throat Department. To commence duties early in February.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, NATHAN A. SMITH,
Blackburn. Gen. Supt. & Secretary.

This Institution is recognized for the Surgical practice required for the F.R.C.S. Final Examination.

General Hospital, Nottingham.

SENIOR CASUALTY OFFICER (male) required. Appointment for six months. Salary at the rate of £200 a year, with board, residence, and laundry. Candidates are desired to send applications, stating age, qualifications, and experience, together with copies of testimonials, to the undersigned, not later than Monday, January 12th. Duties to commence on or about January 15th.

PETER M. MACCOLL,
House Governor & Secretary.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

BOOTH HALL HOSPITAL FOR CHILDREN. (750 Beds.)

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Assistant Medical Officer at the Booth Hall Hospital, Charlestown Road, Blackley, Manchester.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous hospital experience.

The Hospital is a recognised Training School for Nurses, and is equipped with all modern hospital requirements.

Salary £250 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made, in the first instance, for a period of six months, renewable at the expiration of that period.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Officer, Booth Hall Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, January 15th.

The candidate appointed will be required to commence duty as soon as possible after appointment, to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

F. E. WARBRECK HOWELL,
Town Hall, Town Clerk.
Manchester. December 29th, 1930.

Rugby School.

APPOINTMENT OF MEDICAL OFFICER.

I. The Governors invite applications for the above post.

II. The salary will be not less than £750 per annum, with biennial increments of £50 to £1,200.

III. The candidate appointed will be expected to take up his duties on April 27th.

IV. Candidates should be under 45 years of age.

V. They are asked to send in their names, with a statement of their careers and the names of three referees, to the Headmaster, School House, Rugby, as soon as possible, in any case before January 21st. He will be glad to give candidates any additional information that they may require.

City Mental Hospital,

HUMBERSTONE, LEICESTER.

SECOND ASSISTANT MEDICAL OFFICER.

Applications for the above post are invited. Candidates should be single and under 30 years of age.

Salary £350 a year, rising by annual increments of £25 to £450 a year, together with board, lodging, washing, and attendance, valued for the purposes of superannuation at £100 a year.

An allowance of £50 a year will be made in the event of the successful candidate holding a diploma in Psychological Medicine.

Preference will be given to candidates with a University degree who have held a resident house appointment.

The provisions of the Asylums Officers' Superannuation Act, 1909, will be observed.

Applications, marked "A.M.O.," with full particulars of qualifications and experience, together with copies of not more than three recent testimonials, to be sent to the Medical Superintendent.

Harrow Hospital.

RADIOLOGIST.

Applications are desired for the post of Radiologist at Harrow Hospital, where a new X-Ray Unit is to be brought into use in February or March. Suggested honorarium £100 per annum, plus 50 per cent. of the fees from private patients, this being subject to review at the end of 12 months. Applicants must hold the D.M.R.E. Diploma and must be on the staff of a London Hospital. Applications should reach the Secretary on or before January 9th.

Metropolitan Borough of LEWISHAM.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH AND SENIOR MATERNITY & CHILD WELFARE OFFICER.

The Council invite applications for the appointment of an Assistant Medical Officer of Health and Senior Maternity and Child Welfare Officer from fully qualified and registered Medical Practitioners.

Candidates must have special experience in Infant Welfare Work and Post-graduate experience in Practical Obstetrics, and must possess the qualifications referred to in paragraph No. 6 of the Local Government (Qualification of Medical Officers and Health Visitors) Regulations, 1930, and must also be the holder of the Diploma of Public Health.

The salary will be £750 per annum, rising on approved service by annual increments of £50 to £900 per annum, and actual travelling expenses.

The person appointed will be required to give whole time to the duties of the office, and will be under the administrative control and supervision of the Medical Officer of Health, and will also be required to live within the Borough.

The appointment is subject to the provisions of the Local Government and Other Officers' Superannuation Act, 1922, and also subject to three months' notice on either side to terminate the same

Selected candidates will be required to undergo a medical examination.

Applications for the appointment, accompanied by copies of not more than three recent testimonials, must be made on forms to be obtained from the undersigned, and should be received here not later than 4 p.m. on Monday, January 26th.

Canvassing, directly or indirectly, is prohibited, and will disqualify.

JOHN W. SHUTER,
Lewisham Town Hall, Town Clerk.
Catford, S.E.6. December 31st, 1930.

County Borough of Bolton.

PUBLIC ASSISTANCE COMMITTEE.

TOWNLEYS HOSPITAL.

Wanted for the Townleys Hospital, Farnworth, near Bolton, an ASSISTANT MEDICAL OFFICER (male).

The salary will be at the rate of £225 per annum, and rations, furnished apartments, attendance, washing, etc.

Forms of application, together with conditions of appointment (for which a stamped addressed foolscap envelope must be enclosed), may be obtained from me.

Last day for applications January 11th.

SAMUEL KINLAY,
28, Mawdsley St., Public Assistance
Bolton. Officer.
December 30th, 1930.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.

HOUSE SURGEON in charge of Male Wards.

HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE.
General Superintendent.

Bristol Homœopathic Hospital.

(Bruce Melville Wills Memorial.)

The Board of Management invite applications for the post of HONORARY SURGEON to the Hospital (77 beds, including private and semi-private wards). The vacancy has occurred owing to the present Honorary Surgeon having recently received a London appointment. Applications, stating age, qualifications, and previous Surgical experience, should be addressed to the undersigned.

H. HUNTER (Lt.-Colonel),
Secretary.

Hartlepools Hospital.

(95 Beds)

Applications are invited for the post of HOUSE SURGEON. Salary £150 per annum. Applications to be forwarded to Secretary, Friar Street, Hartlepools Hospital, Hartlepool.

CAVENDISH NURSES (Male and Female)

Head Office: 54, BEAUMONT ST., LONDON, W.1.

Branches: *MANCHESTER*: 176, *Oxford Rd.* *GLASGOW*: 28, *Windsor Terr.* *DUBLIN*: 23, *Upper Baggot St.*

TELEPHONES:
London, 1277 Welbeck (Two Lines). Manchester, 3152 *Ardwick*.
Dub., 531 Ballsbridge. Glasg., 477 Douglas

TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES

MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

ST. LUKE'S HOSPITAL
FOR MENTAL DISORDERS.
Private Nursing Staff Department.
Trained Nurses for Mental and Nervous Cases can be had immediately.
Apply to Lady Superintendent,
19, Nottingham Place, London, W.1.
Telephone: Mayfair 5420.
Northern Branch.—Apply, Lady Superintendent, 57, Clarendon Rd., Leeds. 'Phone: Leeds 26165.

HAROLD GRIFFITHS & CO.
(Harold Griffiths, F.C.I.B.)
MEDICAL TRANSFER AGENTS,
Tredegar Chambers, Queens Square, Newport, Mon.
WANTED.—PRACTICE, town or near, with education facilities, of about £2,000 per annum. Good panel. Cash available.
RELIABLE ASSISTANTS required at £300 per annum, indoor.

St. Mary's Hospitals, Manchester
Two HOUSE SURGEONS for the Whitworth Street West Hospital (Maternity), and two for the Whitworth Park Hospital (one Children's Department and one Gynaecological Department), each for a period of six months from February 1st next.
Salaries at the rate of £50 per annum, with board and residence.
Application, with copies of three testimonials, to be sent to the undersigned on or before January 14th.
R. RATCLIFFE, Secretary.

St. Mary's Hospital for Women
AND CHILDREN, Plaistow, E. 13.
The Committee of Management invites applications for the post of SURGEON-IN-CHARGE of the X-ray Department, at an honorarium of £100 per annum. Candidates must be duly registered under the Medical Acts and hold the D.M.R.E.
For copies of duties, etc., apply to the undersigned, to whom applications, accompanied by not more than three testimonials, must be sent not later than 12 noon, January 14th.
A. ERNEST WILKES, Secretary.

Royal West Sussex Hospital,
CHICHESTER. (111 Beds.)
The Board of Management invite applications for the post of ASSISTANT HOUSE SURGEON, vacant about January 12th, 1931.
Salary £150 per annum, with board, residence, and laundry.
Applications, stating age, with three recent testimonials, should be sent to the undersigned as soon as possible.
HERBERT S. AYLMORE,
Secretary.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 3373.) (Estab. 1860.)
This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS, and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.
No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. DEVON.—Good middle-class PRACTICE of over £2,000 a year in very attractive Town on the Coast. Select panel of 1,500. Figures certified by Accountant. An efficient introd. given.
2. LONDON SUBURB, W.—PARTNERSHIP in an old-established middle-class Practice. A Share worth £800 p.a. at 2 years' purchase. Panel 1,600. Good modern residence, garden, and garage, at £100. Easily worked, but offering scope for extension.
3. HANTS.—PRACTICE of nearly £1,000 p.a. in small pleasant Town with Cottage Hosp. Small panel. Patients all classes. Capital premises, garage, and nice garden. For sale, or lease granted. Price £1,250.
4. COUNTRY PRACTICE near Salop Borders and well-known Spa.—Income over £1,000, including panel and appts. £350. House and garage on lease at £60. Prompt buyer can secure same at £1,000 cash, to include furniture and car.
5. LANCS.—For Sale at £1,500, a middle-class PRACTICE of £1,200 in a clean and well-to-do town of about 40,000. Panel 900. Fees 3/6 to 7/6. The house is well situated and very convenient, with garage. Lease can be had at £75.
6. NURSING HOME in Harrow area.—Mainly maternity. Licensed for six cases. Full up for next six months. Fees 6 gns. Excellent premises and grounds. Returns over £700, growing. Price, to include furniture (valued £400), £700.
7. REQUIRED in London or other large town (preferably Midland or South) a PRACTICE of £2,500 with a good panel and family residence. Money no object if investment is suitable.
8. REQUIRED by Two Young Medicos, PRACTICE of £1,700—£2,000, with good panel, in outer London circle, within 30 miles. Details in confidence.
9. REQUIRED by Camb. Grad., aged 30, PRACTICE or PARTNERSHIP of £1,000 to £1,200 in Country Town with hosp., anywhere S. of Birmingham. Details in confid.

THE
WESTERN MEDICAL AGENCY
(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)
PHOENIX CHAMBERS
22, CLARE STREET, BRISTOL.
Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.
NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.
PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

SOUTH MIDLANDS.—NUCLEUS about £400 per annum. Pleasant Village. Good house. Very low premium for quick sale. Scope.
WELSH BORDERS.—Unopposed Country PRACTICE, averaging £1,000 per annum. Panel 380. Three appointments, all transferable. Excellent house.
WALES.—Country PRACTICE, £800 per annum. Panel 330. Appointments £130, transferable. Good house on lease. Premium one year's purchase for quick sale.
COUNTRY TOWN.—WALES.—£800 per annum. Panel 300. Good scope in town of 9,000. Some knowledge of Welsh. Premium entirely by instalments to suitable buyer.
...ire waiting for: Two Practice suitable for Midland or Southern ...ral Country Practices in South and West required.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER." *Telephone*: 5932 CITY.
TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

Drs. Bennett and Paramore are in a position to supply PARTNERS, ASSISTANTS, and LOCUMS, and also have several inquiries for PRACTICES in the West of England and Wales.—Address, THE WESTERN MEDICAL AGENCY, Phoenix Chambers, 22, Clare Street, Bristol.

THE OLDEST AND LEADING MEDICAL AGENT.
PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.
Terms post free on application.

Herts. — Country.—Over £900 p.a. Panel about 650. Appt. £50. Fees 5/6 to 21/-. Roomy detached house, 6 bed., orchard. Rent £40 p.a.—No. 8782.

Bucks.—About £950 p.a. Panel 580, increasing. Little midwifery. Visits 4/- to 21/-, incl. extra. Small house, 1½ acres ground to rent.—No. 8781.

London Suburb, S.W. — About £1,000. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

London, W. — Half Share of £3,000 p.a. Succession later. Small panel. Appt. £400. Visits 5/- to 21/-. Good house, 6/7 bed., and garden.—No. 8777.

London Central.—About £1,800. Small panel. Visits usually 10/-. Cons. 7/6. Valuable lease. Good house, 5 bed., etc. Capital and knowledge of several languages essential.—No. 8776.

Outlying Suburb, W. — Nearly £1,300. Panel 540, increasing. 25/30 mids. £4 4s. Visits 4/- and 5/-. Small house, with surgery, garage, etc., and room to build. —No. 8772.

Cheshire.—£490 p.a. Panel 100, discouraged. Appt. £150. Not much mid. Visits 5/- to 10/6. House, 4 bed., etc. Goodwill £500, or near.—No. 8770.

London Suburb, S.W. — Half share of £2,800. Old-estab. General Practice. Panel 1,250. Detached house (7 bed.) and garden.—No. 8768.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £25. Prem. £860, incl. furn.—No. 8766.

Leics.—About £400 p.a. Scope to young man. Panel 350. Good house, 5 bed. Rent £42 p.a. Good schools and hunting.—No. 8763.

Favourite South Coast Resort.— Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Midland Town. — About £2,400 p.a. Panel 2,500. Old-estab. Opposition less than usual. Very little midwifery. Visits 3/6 up. House, 4 bed., and garage, to rent.—No. 8755.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 3/6 to £1 1s. Large house and garden. Smaller ones availa...ble.—No. 8750.

London S.E.—Over £800. Cash and panel of 1,380. Visits 2/6 to 3/6. Shop-front surgery, ...with living accommodation. —No. 8749.

Salop. — Country.—£1,030 p.a. Panel and appts. £460. Visiting fees 5/- up. Modern house, 5 bed., etc., large garden, to rent. Easy terms.—No. 8747.

South Coast. — Within 60 miles. Over £1,000, increasing rapidly. Panel 500. Clinic £50. Fees 3/6 to 12/6. Good house, 4 bed., etc.—No. 8742.

Surrey. — Rapidly increasing PRACTICE. Receipts over £830. Panel 580. Excellent house, 8 bed., with large garden to rent.—No. 8741.

Glos. — Country.—Over £1,250 p.a. Panel nearly 1,100. Fees 3/6 to 5/-. Detached house, 1/4 acre. £300 down, balance out of income.—No. 8740.

Devon.—Dispensing Practice in large village averaging £940 p.a. Fees 5/- to 2 gns. Surgery 2/6 to 7/6. Large house, with an acre and cottage, for £3,000, of which £2,500 could remain, or for sale without house.—No. 8727.

S. W. County near Coast.—Dis- pensing PRACTICE over £2,000 p.a., chiefly agricultural. Visits 5/- up. Surgery 2/6 up. 1,100 panel.—No. 8728.

SPECIAL NOTICE.
FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054. RIVERSIDE 1254. *(Night Calls.)*

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

SUSSEX.—Good-class non-panel Country Town *PRACTICE, situated in* charming locality. Large house to rent on lease (9 beds), garage, and extensive garden. Receipts approximately £1,100 p.a. (subject to confirmation). Fees 10/6 up. Suitable to experienced man used to country town life. Premium £1,550.

LONDON, N.—Middle and working-class PRACTICE, situated in well-populated locality. Medium-sized house to rent on lease. Receipts approximately £2,200. Panel 2,400 (subject to confirmation). Premium 2 years' purchase or near offer.

EASTERN COUNTIES.—Cathedral City.—PARTNERSHIP in good class non-panel PRACTICE. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase. PRELIMINARY ASSISTANTSHIP entertained.

KENT.—Within 25 miles of London, well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £1,100. Panel over 300. Suitable residence to let. Alternative accommodation available. Premium £1,500.

YORKS, N.—Well-established G.P. in busy thickly populated Town, with excellent prospects of still further development. Suitable for two friends in Partnership; preferably one should be R.C. Receipts approx. £3,000. Panel 3,200. Fees 3/6 up. Choice of houses, two available. Good Hospitals and Schools. Scope for Surgery and Gynaecology is desired. Premium £6,000 cash.

SOUTH COAST.—Favourite Holiday Resort.—PARTNERSHIP, with view to SUCCESSION in 12 months' time, in well-established middle-class Practice. Suitable flat available at reasonable rent. Receipts £1,300. Panel 800. Appointments £100. No midwifery or night work. Premium for half share, with view, 2 years' purchase. Excellent scope. Suitable for English or Scotch Practitioner. Or would sell outright.

BELGRAVIA.—Well-situated non-panel PRACTICE (with scope for panel if desired) in good thoroughfare. House for sale or would be rented. Receipts approximately £1,000 p.a. Premium 1½ years' purchase, cash.

If the Investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

LONDON, W.10.—Cash and Panel PRACTICE, situated in middle and working-class locality. Suitable accommodation available to rent at £76 p.a., inclusive. Fees 2/6 up. Midwifery 2 gns. up. Panel 300. Books audited. Receipts £385. Premium £600.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three Hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640, or near offer. Partnership considered.

LONDON, E.13.—NUCLEUS working-class PRACTICE (mostly cash), situated in thickly populated locality. House to rent at £60 p.a. (part sub-let at £26 p.a.) Receipts approximately £350. Panel 400. Fees 1/6 up. Mids. 2—3 gns. Premium £400.

MIDDLESEX (WEST).—NUCLEUS middle and working-class PRACTICE (mostly cash), situated in growing locality within 10 miles of London. Receipts for 9½ months £240. Panel 30. Fees 2/6 up. Premium £450, or near offer, to include fixtures, fittings, etc. Excellent scope.

SURREY (near Windsor). — Well-established middle-class PRACTICE. Double-fronted detached house, with charming garden, to rent on lease at £120 p.a or may be purchased freehold. Receipts over £700 p.a. Panel 220. Fees 2/6 up. Cottage Hospital. Good social life. Good schools. Premium for Practice £900.

DEVON (SOUTH).—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Hospital. Scope for surgery. Good schools. Premium for 1/3 share £2,050. Terms considered to the right man.

LONDON, E. — Well-established PRACTICE in middle-class residential locality. Corner house to rent on lease (4 bedrooms), garden, garage, etc. Receipts just over £800. Books audited. Panel 718. Fees 2/- up. Premium £1,250.

" hed PRACTICE, with excellent scope for panel
" mi-detac ons, etc
Receip Fees 3/6
worth open to
reasonable offer.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. ESSEX SUBURB.—Death Vacancy.—Old-established PRACTICE, held 30 years by late Vendor. Receipts average £1,100 p.a., small panel. Good corner residence for sale or to let. Premium 1½ years' purchase.
2. SHROPSHIRE.—Half-share of well-established PRACTICE. Total receipts average over £2,000 p.a., panel 1,100. Good house available, rent £60. Premium for share £2,000
3. NORFOLK.—Large Town.—1/4 Share of old-established non-panel PRACTICE. Total receipts £4,500 p.a. Rooms available for partner. Premium for share 2 years' pur.
4. LONDON, N.—Well-established Cash and Panel PRACTICE. Receipts £1,300 p.a., panel 1,900. House, rent £80, branch £60. Partnership introduction. Premium 2 years' purchase.
5. MIDLANDS.—Large Town.—Old-established PRACTICE. Receipts average £1,600 p.a., including panel of 1,600. Good house available. Vendor buying another Practice. Premium moderate.
6. EASTERN SUBURB. — Old-established Cash and Panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by arrangement.
7. LONDON, E.—Old-established Cash PRACTICE, with small panel. Receipts last year nearly £600. Living accommodation and surgery, rent £85. Vendor retiring. Premium £875. Suit Lady Doctor.
8. LONDON, N.W. (Near Maida Vale).—Well-established Cash and Panel PRACTICE. Receipts average £600 p.a., including panel 750. House can be rented. Premium £900.
9. MIDDLESEX.—Third Share for disposal of mixed-class PRACTICE. Total receipts £2,100 [illegible]. Panel 1,400. [illegible] Premium re-

No charge to purchasers or for enquiries.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone:* 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. SOUTH STAFFORDSHIRE. — Well-estab. Country PRACTICE. Receipts average over £1,000 p.a. Panel 700. Good house. Garage and garden.
2. MIDLANDS.—Panel and Private PRACTICE. Estab. 5 years. Receipts over £700; panel 350, both increasing. Appointments worth about £70. House to rent. Garage, etc.
3. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Established nearly 4 years. Receipts average £1,179 p.a., and unlimited scope. Good house, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both incr. Appt. £30 p.a., trans. Good house, garage, and all conveniences.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts average £1,146 p.a. Panel 550, and good scope. Appointments worth about £250. Good fees and house.
7. LANCASHIRE.—Old-estab. Panel and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
8. MIDLANDS. — COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and increasing rapidly. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT

The

Medical Insurance Agency

(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880.)

12, Stratford Place,

Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 MIDLANDS.—Partnership in easily worked good-class non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

2 S. DEVON.—Mixed Practice of £1,000 p.a. in beautiful Residential Resort. Panel 1,350. Well-situated house (5 bedrooms), garden, and garage. Scope. Premium—house and Practice—£4,000.

3 PROSPEROUS TOWN about 10 miles from London.—PRACTICE about £1,000 p.a. Panel about 1,200. Detached corner house (4 bedrooms) in good residential part to rent, on lease. Premium 1½ years' purchase.

4 E. MIDLANDS.—Partnership in Practice over £3,300 p.a. in a good town. Panel about 1,000. Modern up-to-date Hospital. Four-twelfths share at 2 years' purchase. Preliminary Assistantship if desired.

5 LONDON, S.W. — Partner required in lucrative working-class Practice, well over £5,000 p.a., in busy thoroughfare. Panel about 7,250. Nice compact house (4 bedrooms) to rent. Partner must be young and energetic (English, Irish, or Scotch). Premium—one-fifth share—1½ years' purchase.

6 S. AFRICA.—Cape Province.—Practice of over £1,450 p.a. in small town (4,000 ft. above sea-level) in wealthy pastural district. Well-built house (2 bedrooms), with wide verandahs, to rent. District specially suitable for T.B. High School and all kinds of sport. Premium £500, to include drugs.

7 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

8 DEATH VACANCY.—Staffs.—Practice of over £1,100 p.a. in manufacturing town. No panel or midwifery. Semi-detached 8-roomed house, with garage, for sale or rent. Scope for great increase.

9 EAST ANGLIA.—Partnership in unopposed country Practice, about £3,500 p.a., easy distance of important town. Panel about 2,300. Beautiful house (4 bedrooms), garage, and nearly two acres garden, to rent. Sport. One-third share at 2 years' purchase.

10 LONDON, W.—Good-class non-dispensing PRACTICE of nearly £1,600 p.a. in the West End. No panel or appointments. Rent of consulting rooms £200 p.a. on lease. Good introduction. Premium 1½ years' purchase.

11 EAST ANGLIA. — Partnership in good-class non-panel Practice averaging £4,450 p.a. in first-rate county town. Good opportunity for first-class man inclined towards medicine, who should ultimately get on the staff of Hospital. One-fourth share at first at 2 years' purchase. Preliminary Assistantship.

12 LONDON, W. — Small good-class non-dispensing PRACTICE of about £450 p.a., in West Kensington. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

13 SOUTH MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

14 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £500.

15 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

16 LIVERPOOL. — Increasing middle and working-class Practice. Receipts last year nearly £1,100. Panel 900. Well-situated house (3 bedrooms and large attic) for sale or rent. Good scope. Premium £1,000.

17 LONDON, W. — Partnership in Practice about £2,000 p.a. in suburban area. Panel about 1,650. Well-situated house (6 bedrooms), garage, and small garden, to rent. Scope. Premium two-fifth share 2 years' purchase.

18 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

19 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a in growing and pleasant residential district. Choice of residence for sale Good scope. Prem. £1,200.

20 W. OF ENGLAND.—Practice of about £270 p.a. in good residential part of first-rate town. No panel. Well-situated house (4 bed and 3 attics), garage, and garden, for sale. Plenty of scope. Premium £200.

21 EASTERN COUNTIES.—Country Practice nearly £1,200 p.a., easy reach of two good towns. Panel 759. Small house (5 bedrooms), garage, and garden, to rent. Premium 1½ years' purchase.

22 MIDLANDS.—Practice, over £1,700 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

23 CHESHIRE. — Chiefly non-dispensing PRACTICE of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

24 MIDLANDS.—Practice of about £350 p.a. in manufacturing town. Panel 350. House contains 5 bedrooms, etc. Rent £42 p.a. Scope for increase. Premium £350.

25 LONDON, E. — Cash and Panel Practice (held by Medical Woman) in densely populated area. Receipts £360 p.a. Panel 290. Small house to rent. Premium £450.

26 MIDLANDS.—Partnership in Practice of between £1,800/£2,000 p.a. in a beautiful district in a hunting centre. Panel about 1,000. Good house, with 5 bed and dressing rooms, garage and one acre garden, for sale. Smaller one might be obtained. Premium one-third share 2 years' purchase. Public School or University man preferred.

27 SCOTLAND.—Sound well-established PRACTICE of £1,800 p.a. in attractive district easy distance of Aberdeen. Panel 1,100. Well-built house (5 bedrooms), large garage, and acre of garden, for sale. Salmon fishing and other sport. Premium 1½ years' purchase.

28 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

29 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

30 S. COAST.—Partnership (after preliminary Assistantship) in well-established Practice in Seaside Resort. Share worth £700 p.a., offering good scope to a suitable man (unmarried preferred), after six months. Or a share of £1,000 to one holding the F.R.C.S., who might get on Hospital staff.

31 ISLE OF MAN.—N[illegible] ctice in small Seaside Town. Receipts £350 from panel). Nice compact house en, for sale. Sport. Premium £1,200, or offer.

32 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

33 NOTTINGHAMSHIRE.—Country Practice of nearly £1,100 p.a. Panel 700. Good house (6 bedrooms), garage, and 1½ acres garden, to rent. Great scope. Premium 1½ years' purchase.

34 HOME COUNTY. — Partnership in non-dispensing Practice £3,200 p.a. in first-rate residential town, under 30 miles from London. Panel over 4,000. Detached house (6 bedrooms), with large garden, to rent. Partner should be aged 30—40 and experienced in anæsthetics. Two-fifths share at 2 years' purchase.

35 SURREY. — Partnership in good mixed-class Practice about £3,000 p.a. in Town within 10 miles South of London. Small panel. Suitable house obtainable. Excellent scope. Premium one-third or one-half share 2 years' purchase.

36 S. DEVON. — Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage, in acre of garden, for sale. All kinds of sport. Premium £1,500.

37 LONDON, S.E.—Partnership in Practice £6,500 p.a. in outlying suburban district. Panel 2,000. Premium one-sixth share, 2 years' purchase.

38 NURSING HOME in fashionable Inland Health Resort. Receipts over £5,000 (net profit between £600—£700). Premises rented on lease. Premium £1,000 or near offer. Furniture, etc., at valuation.

39 LONDON W.C. [illegible] (with Succession) in steadily i[illegible] £1,200 p.a. in the City. Majority [illegible] Excellent consulting rooms. Premium [illegible] purchase.

40 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,600 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

41 EAST COAST.—Partnership in non-panel Practice in favourite watering-place. Partner should be young and with Hospital experience. Share of about £1,000 p.a. at 2 years' purchase. Preliminary Assistantship.

42 KENT.—Practice of £1,260 p.a. in residential outlying suburban district. Fair panel. Corner house (7 bed and dressing rooms), with large garage and garden, for sale. Scope. Premium 1½ years' purchase.

43 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a., at 1½ years' pur.

44 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

45 LONDON, S.E.—Practice averaging over £1,700 p.a. in outlying residential suburb. Small panel. Good and well-situated house (6 bedrooms), with small garden, for sale. Premium—Practice—1½ years' purchase.

46 KENT.—Country Practice about £650 p.a. in beautiful district. Panel about 700. No house, but surgery and waiting room to rent. Capable of much increase. Moderate premium.

47 W. OF ENGLAND.—Partnership in Practice over £3,000 p.a., in pleasant Country Town, under 230 miles from London. Young keen Partner, preferably with the F.R.C.S., who has held Hospital appointments. Premium for a two-fifths or one-half share 2 years' purchase.

48 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase with ultimate succession.

49 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

50 WITHIN 50 MILES OF LONDON.—PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate county town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P. appointments. Preliminary assistantship.

51 CHESHIRE.—Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

52 S. DEVON. — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House, containing 5/6 bedrooms, for sale. Premium one-half share £1,520, to include drugs, etc. Work very light

53 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

54 SURREY. — Steadily increasing Practice, averaging £1,355 p.a., in a first-rate Country Town. Panel nearly 1,300. Large attractive old-fashioned house (7 bedrooms) for sale or rent. Cottage Hospital. Premium 1½ years' purchase.

55 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. WITHIN 100 MILES OF LONDON (NORTH).—PARTNERSHIP.—The two-sevenths share (with option to third and eventually half) producing about £1,000 p.a. is offered in very old-established Practice, averaging about £5,500 p.a., including panel of 2,500. Situated in pleasant town, with pop of 2,000. Ingoing partner should be unmarried (about 25 to 30) until suitable house available. Premium 2 years' purchase. Short preliminary assistantship.
2. WEST MIDLANDS.—Within seven miles of County Town.—Old-estab. unopposed Country PRACTICE, in pretty district, averaging nearly £2,400 p.a., including appt. over £100 and panel upwards of 1,000. Railway station. Very nice house and garden, with tennis court. Price (copyhold) £1,000, £500 on mortgage. Premium 1½ years' purchase, payable as arranged. Sport of all kinds and exceptionally good educational facilities.
3. WITHIN FIFTY MILES OF LONDON.—Old-established chiefly better-class PRACTICE, situated in very good residential district. Gross cash receipts for past 12 months approximately £2,000, with panel producing about £340 p.a. Fees 5/- to 21/-. Exceptionally nice house, in own grounds, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
4. PARTNERSHIP.—SURREY.—Attractive residential district within 40 miles. A one-half share, with ultimate succession, is offered in a good mixed Practice, averaging about £1,500 p.a., but capable of large increase. Panel of over 1,000. Fees 3/6 to 21/-. Suitable house, with 3 reception, 3 bedrooms, etc. Good garden. Price for freehold £1,500, £1,000 on mortgage. Premium 1½ years' purchase.
5. NEAR FOREST OF DEAN.—Old-established Country PRACTICE, in picturesque surroundings, averaging about £1,250 p.a. Panel of 1,100. Visits from 3/6. Suitable house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £1,500, £1,000 on mortgage. Premium £350 cash, and £1,500 by instalments over five years.
6. NORTH WALES.—Very old-established chiefly middle-class PRACTICE, producing over £800 p.a. Panel of 600. Visits from 2/6, with medicine extra. Very low expenses. House contains 2 reception, 6 bedrooms, etc., and has all modern conveniences. Garden. Garage. Rent on lease £60 p.a. Sport of all kinds and schools. Ample scope for increase. Premium 1 year's purchase.
7. SOUTH COAST TOWN.—Rapidly increasing PRACTICE producing for last 12 months over £400. No panel. Visits 5/- up. Suitable house, with 2 reception, 3 bedrooms, etc. Rent on lease £130. Prem. £600.
8. MIDLANDS.—COUNTY TOWN.—Old-established better-class PRACTICE, averaging £793 p.a. and offering good scope. Panel of 500. Fees 5/- upwards. Well situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.
9. GLOS.—Unopposed very old-established PRACTICE, in beautiful agricultural district, worth over £600 p.a., including appts. of £90 and panel of 480. Very nice house (5 bedrooms, etc.), water laid on, electric light, one acre of ground. Price freehold £2,000, or would be rented. Another smaller house is also available. Premium £750. Good social amenities and scope for increase.
10. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope. Panel of over 1,400. Fees from 3/6. Suitable house can be secured. Premium 2 years' purchase.
11. CHESHIRE.—Coast Town, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down.
12. SOUTH-WEST LONDON.—Old-established non-panel PRACTICE, having good Ophthalmic connection, and also scope for Ear, Nose, and Throat work. Gross cash receipts for last 12 months over £1,400. Fees 5/- to 2 gns. Midwifery from 5 gns. Good corner house in excellent condition, with ample accommodation. Price for leasehold (with 62 years to run) £1,500. Premium 1½ years' purchase.
13. SOUTH COAST.—FAVOURITE HEALTH RESORT.—Well-established mixed-class PRACTICE, offering good scope. Average gross cash receipts over £700 p.a., including panel of 720. Very good house, with 2 reception, 5 bedrooms, etc. Nice garden. To be sold, or might be let for a time. Premium 1½ years' purchase.
14. YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one-half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle-class Practice. Income for the past twelve months approximately £4,000. Small select panel of 430. One appointment worth nearly £650 p.a. Fees 3/6 upwards. Opposition not strong. Suitable house can be bought or leased. Very good educational and sporting facilities. Premium 2 years' purchase.
15. YORKS.—LARGE TOWN.—Old-established middle and working-class PRACTICE averaging £1,778 p.a. Panel of 791. Fees 3/6 to 21/-. Mid. 2 to 10 gns. (about 12 cases yearly). Suitable house, with 2 reception, 4 bedrooms, etc. Separate entrance to professional rooms. Good schools and sporting facilities. Prem. 1½ years' pur.
16. MANCHESTER.—Chiefly working-class PRACTICE. Average income £1,000, including panel of 1,000. Moderate expenses. Corner house, with 3 reception, 3 bedrooms, etc. Garage. Rent on lease £65 p.a. Premium £1,500 or near offer.
17. LANCS.—PARTNERSHIP.—A one-fourth share to commence (with increase up to one-half later) is offered in a very old-established good middle-class Practice producing for the last twelve months over £4,700 p.a. Panel of 2,730. Appts. worth nearly £200 p.a. Visits 2/6 to 12/6. Not much midwifery from 2 to 3 gns. Suitable house obtainable, but, if single, purchaser can reside with Vendor, who is a bachelor. Premium 2 years' purchase.
18. CAMBS.—PARTNERSHIP.—A one-half share is offered in a sound mixed-class Practice, producing last year nearly £2,000. Panel of 765. Situated in pleasant agricultural district, with good sporting facilities. Fees 5/- to 21/-. Suitable house can be rented at £75 p.a. Premium 2 years' purchase.
19. SOUTH-WESTERN COUNTY.—Near the Sea.—Old-estab. easily worked Country PRACTICE, in beautiful district, within reach of Market Town, and averaging £1,100 p.a., including appts. and panel producing £450. Exceptionally attractive modernized house in over 3 acres of ground, with ample accommodation, productive fruit and vegetable garden, with tennis lawn, etc. Water laid on and electric light available shortly. Price, freehold, £3,000, part on mortgage. Premium £1,650. Sport of all kinds and schools within reach.
20. LONDON, S.E.—Outlying Residential Suburb.—Very old-established PRACTICE (hitherto carried on by two men in partnership) is for disposal, or half share would be sold with succession to the whole in 12 months' time. Receipts average about £3,000 p.a., including appts. worth £330 and panel over 1,500. Two houses available. Premium 1½ years' purchase. Eminently suitable for two friends.
21. BORDERS OF NORFOLK AND SUFFOLK.—PARTNERSHIP.—A half-share (with succession in 2 to 3 years' time) in a good mixed unopposed Practice, in pleasant village, near two good towns. Income for last 12 months £1,992, including panel of 1,000, and appts. worth about £150. Fees 2/6 to 10/6. House contains 3 reception, 6 bedrooms, etc. Sport of all kinds. Premium 2 years' purchase.
22. ITALIAN RIVIERA.—SEASON PRACTICE.—Old-established and held by Vendor for the past six years. Average income about £400 p.a. Fees 10/- to 20/- approximately. Suitable furnished flat, with one large reception room, consulting room, 4 bedrooms, etc. Rent on lease £140 p.a. Premium £500.
23. MANCHESTER DISTRICT.—Old-established middle and working-class PRACTICE, worth last year about £700 p.a., including panel of 614 and capable of increase. Expenses small. Well-situated house, with six rooms in addition to professional accommodation. Large garden. Price for freehold £850. Moderate premium accepted.
24. LINCOLNSHIRE COAST.—Well-established mixed-class PRACTICE averaging £2,749 p.a. (last year £2,868) including panel of over 1,700. Fees 3/6 to 21/-. Mid. from 2 gns. (about 70 cases yearly). Newly built modern house, with special professional accom., central heating, etc. Garden. Garage. Price, freehold, £2,300, part on mortgage. Good sport and schools within reach. Prem. 1½ years' pur.
25. PARTNERSHIP. — LONDON, SOUTH-EAST. — Outlying Residential Suburb.—Owing to the retirement of one of three partners the fifth share of an old-estab. Practice is for disposal. Cash receipts average over £5,300 p.a. (last year £5,540), including panel of upwards of 2,000. Visits 3/6 to 10/6. Good house can be rented at £80 p.a. Premium 2 years' purchase.
26. MIDDLESEX.—Rapidly developing district, within 20 miles.—PARTNERSHIP.—A one-half share in an old-estab. good middle-class Practice, averaging for the past two years over £3,500 p.a. Panel of 1,100 and appts. bring in £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
27. KENT.—Country PRACTICE near Coast.—Old-established mixed-class Practice, averaging about £1,100 p.a. Panel of nearly 400. Fees 3/6 upwards. Convenient house, with 3 reception, 6 bedrooms, etc. Good garden. Price £1,650, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
28. PLEASANT CATHEDRAL CITY, within 200 miles North of London.—Old-established mixed-class PRACTICE, averaging £1,600 p.a., including £800 from panel and over £100 from clubs. Visits 5/- upwards (occasionally 2 gns.) Very little midwifery, from 2 to 5 gns. Large attractive house, with garden. Rent £80. Prem. 1½ yrs.' pur.
29. NEAR HUDDERSFIELD.—PARTNERSHIP.—A half share in an old-established mixed-class Practice. Income for immediate past year over £4,250. Panel of 3,500. Fees 3/6 to 7/6. Very good house, with 4 reception, 6 bedrooms, etc. 1½ acres of garden. Price for freehold £2,500. Premium 1½ years' purchase.
30. PARTNERSHIP.—COUNTRY TOWN, within 130 miles North of London.—A one-fifth share is offered in an exceptionally sound good mixed-class Practice, averaging for past 3 years over £6,000 p.a. Panel of 3,400. Fees from 4/-. Not much midwifery. House can be rented at £50 p.a. Premium 2 years' purchase.

ASSISTANTS REQUIRED.—(1) LONDON, outlying Eastern Suburb. Indoor, £300 p.a. Good prospects. Should be experienced in minor surgery. (2) LONDON, N. Indoor, £300 p.a. (3) LONDON, S.E. Indoor, £300 p.a. Comfortable home. (4) LONDON, S.W. Indoor, £300 p.a. (5) LINCS. Country Practice. Indoor, £300 p.a. With view to Partnership.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The **SPECIFIC OVARIAN HORMONE**

which normally controls and activates the menstrual cycle

SISTOMENSIN

standardised physiologically

dysmenorrhœa, menorrhagia, hæmorrhages of puberty and menopause, hypoplasia of the uterus, disturbances subsequent to menopause or oöphorectomy.

Tablets Ampoules

PROKLIMAN

(Sistomensin Compound)

Association of ovarian hormone with therapeutic agents for the prompt relief of the most pronounced troubles of menopause: cardiovascular and nervous troubles, hot flushes, headache, etc.

Tablets

Hydrosoluble Ovarian Substance

AGOMENSIN

Clinical Reports on request

causes hyperæmia of the female genital organs. Stimulates the function of the genital glands and menstruation.

Functional amenorrhœa, oligomenorrhœa, sterility, vomiting during pregnancy, etc.

Tablets Ampoules

Samples on request

THE CLAYTON ANILINE Co Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1

Telephones: Hop. 6954, 6955 Pharmaceutical Department Telegrams: Cibadyes Boroh London

PERCAINE "CIBA"

Trade Mark Registered

The New Local Anæsthetic for Regional, Infiltration, Surface and Spinal Anæsthesia

Acts in extreme dilution (0·5—2 : 1000).

Produces anæsthesia of unattained intensity and duration.

Not a narcotic. Economical in use.

Belongs chemically to a class entirely different from cocaine and its derivatives.

Vide *British Medical Journal*, March 15, 1930, pp. 488-9, and 495-6, and April 5, 1930, pp. 669-70. *The Lancet*, March 15, 1930, pp. 573-4 and 587. *British Journal of Anæsthesia*, April & July, 1930. *Proceedings of the Royal Society of Medicine*, May, 1930, pp. 919-928. *British Journal of Urology*, June, 1930, pp. 129, 130 and 179.

Packages available :

Percaine Crystals. 1 grm. and 5 grm.

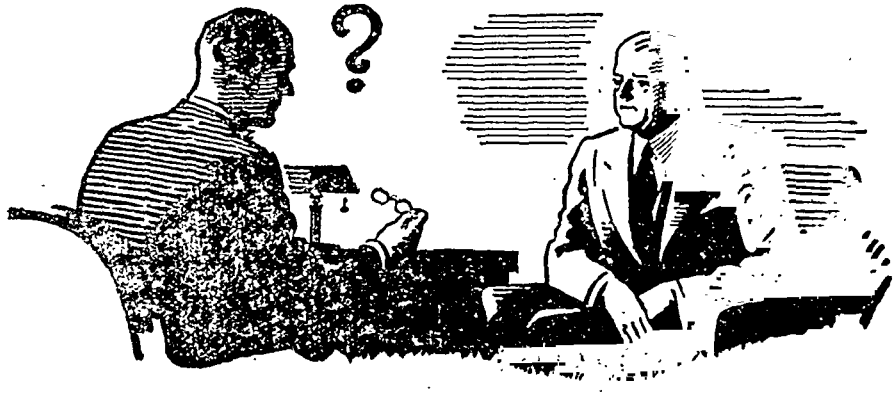
Percaine Tablets (for the preparation of solutions). Tubes of 20 × 0·05 grm. Tubes of 10 × 0·1 grm.

Percaine Ampoules.

Boxes of 5 × 5 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 2 : 1000 (with Adrenalin).
Boxes of 12 × 2·0 c.c. Solution 1 : 1500, for Spinal Anæsthesia.

THE CLAYTON ANILINE Co. Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1

Telephones: Hop 6954, 6955. Pharmaceutical Department. Telegrams: Cibadyes Boroh London



The Answer to the "first Question"

INVARIABLY before prescribing for any ailment, the first question the physician asks the patient concerns the function of the bowels.

He then naturally asks himself what corrective, if any, to prescribe to suit the condition, without interfering with the treatment.

Agarol provides a safe answer to this.

Agarol Brand Compound the original mineral oil and agar-agar emulsion with phenolphthalein, is free from any artificial flavouring, sugar, alkali or alcohol. It is safe in diabetes, in gastric diseases, for children as well as adults. No excess of mineral oil to interfere with digestion or to cause leakage.

In addition, *gentle stimulation* of peristalsis, makes the result certain and the re-establishment of regular habits possible.

One tablespoonful at bedtime —is the adult dose.

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

AGAROL BRAND COMPOUND *for Constipation*

FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC., *Manufacturing Pharmacists Since 1856.*

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature.

WITH SUPPLEMENT.

No. 3653. SATURDAY, JANUARY 10, 1931. Price 1/3

Sales and Service

For the convenience of Medical Men we have organised a Series of SALES and SERVICE WEEKS and will gladly send particulars on request.

WE OFFER MEDICAL MEN THE FOLLOWING SPECIAL FACILITIES:

SALES:

1. A complete range of the latest Models for inspection and trial.
2. The highest allowance for your present Car in part exchange.
3. Special, and strictly private Hire Purchase Terms.
4. Some specially selected Used Cars, guaranteed for Three Months.
5. Our Unique and comprehensive after Sales Service.

SERVICE:

1. We undertake, entirely free of charge, to inspect and test a Doctor's Car, reporting condition in detail.
2. If inconvenient to spare Car between 8 a.m. and 5.30 p.m., we will test and report at any time more convenient; or arrange to loan a Car at a purely nominal charge.

The advantage of having a Car "vetted" before the new season is obvious; and a careful inspection now may lead to the detection and correction of unsuspected faults, obviating serious trouble later.

Consulting Engineers to Medical Insurance Agency of British Medical Association:

MANN EGERTON & Co LTD

Consult us freely and without obligation on any question concerning your Car.

WEST END SHOWROOMS:
156, NEW BOND STREET, W.1
Telephone: Gerrard 9060. Telegrams: "Manegecar, Wesdo."

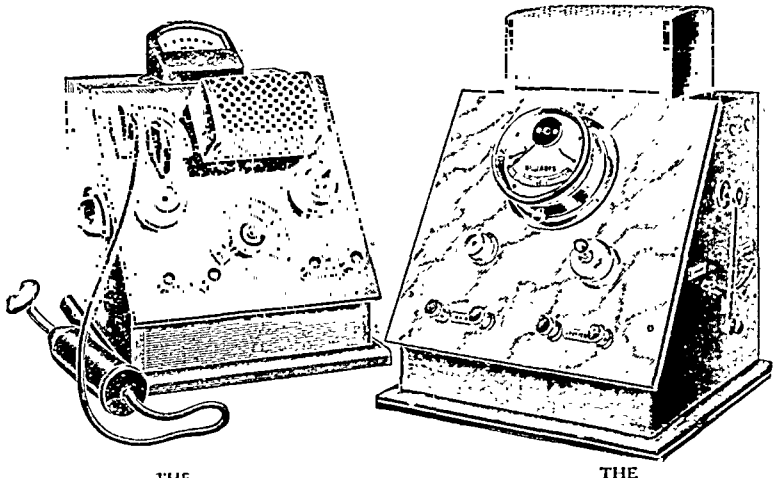
SUPER SERVICE WORKS:
CHURCH ST., EDGWARE RD., N.W.8
Telephone: Paddington 9011

Also at NORWICH - IPSWICH - BURY ST. EDMUNDS - LOWESTOFT

DIATHERMY APPARATUS

Please write for Catalogue No. 40, post free

Thermo-penetration or Diathermy Treatment is receiving extraordinary attention on the part of the medical profession owing to its manifold uses and the unquestionably satisfactory results obtained in treatment.



Full details and prices of our "AMAZON" and "EQUATOR" Diathermy Machines, also the new "MEDITHERM" for Surgical and Medical Diathermy (6 amps. output), will be found in above list.

THE "Amazon" Portable Type
3 amps. Tungsten Gap.
£30 for A.C. £47 10s. for D.C.

THE "Equator" Type
3 amps. Multiple Tungsten Gap.
£45 for A.C. £75 for D.C.

NEARLY 3,000 "AMAZON" AND "EQUATOR" MACHINES IN USE!

THE COX-CAVENDISH ELECTRICAL CO. (1924) LTD.
105, GREAT PORTLAND STREET, LONDON, W.1
'Phone: LANGHAM 1145-6

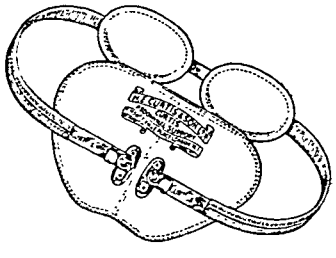
THE CURTIS ABDOMINAL SUPPORT

(Model 1 for average cases. Special designs to meet individual requirements.)

A scientific support exerting a positive pressure which can be measured accurately. Its range, up to 50 lbs., is far more than adequate for all therapeutic purposes.

Unlike other belts which merely limit distension, the Curtis Support supplies a definite thrust in a backward and upward direction which lifts the fallen viscera into place.

The ideal support for *Visceroptosis* of every degree and variety.



Model No. 1

Sole Manufacturers
H. E. CURTIS & SON LTD., 7, Mandeville Place, Wigmore Street, W.1
Telephone: WELBECK 2921 Telegrams: CURTIS WELBECK 2921

British Medical Journal

JANUARY 10, 1931

CONTENTS

ORIGINAL ARTICLES.

The Outlook on Tuberculosis: Changing Orientation. Malcolm Morris Memorial Lecture. By Sir Robert Philip, M.D., LL.D. (With Charts) 43

A Plea for the Earlier Diagnosis of Abdominal Emergencies. By C. H. Fagge, M.S., F.R.C.S. 50

Removal of Portions of Malignant Tumours of the Rectum for Confirmatory Section. By W. B. Gabriel, M.S., F.R.C.S. (Illustrated) 52

Exciting Incipient Movement in Weakened and Paralysed Muscles. By Arthur Porritt, F.R.C.S., and O. F. Guthrie Smith. (Illustrated) 54

A Safe Method of Dealing with Ethmoiditis. By E. A. Peters, M.D., F.R.C.S. 56

Treatment of Erysipelas by X Rays. By R. Hillhouse Jamieson, M.D., F.R.C.S.Ed., and F. Hernaman-Johnson, M.D., D.M.R.E. 57

MEMORANDA.

Uteric Intussusception. By Robert W. Glover, M.B., F.R.C.S.Ed. 58

Measles in a Man of 71. By O. Westcott Frewin, M.B., B.S. 58

Bursitis at the Elbow. By I. H. Lloyd-Williams, M.B., B.S. 58

REVIEWS.

Mental Deficiency 59

Human Physiology 59

St. Bartholomew's Hospital Reports ... 60

Physiotherapy 60

Bacteriological Technique 60

Notes on Books 60

OBITUARY.

John Bassett Naden, M.R.C.S. 77

LEADING ARTICLES.

The League's International Work for Health 62

Diagnosis of Latent Tuberculosis ... 63

THE WEEK.

Post-vaccinal Nervous Disease 64

Fumigation of Foodstuffs 64

National Institute for the Blind 65

Staffing of Municipal Maternity Homes 65

Welfare of Merchant Seamen 66

Methods of Medical Education 66

Pathological Museum at the Eastbourne Meeting 67

Radium Distribution 67

GENERAL ARTICLES AND NEWS.

Imperial Cancer Research Fund. Scientific Report 68

Health of the School Child. Sir George Newman's Report for 1929. First Notice 68

The New Year Honours 69

Preparations and Appliances. (Illustrated) 70

Medical News 61

LOCAL NEWS.

England and Wales—

Supervision of Foodstuffs and Drugs 71

Facilities for Medical Practice on Housing Estates 71

Medical and Dental Treatment of London School Children 71

Ireland—

The Unclean Milk Peril 72

Free State Health Commission and Opticians 72

THE SERVICES.

Honorary Surgeons to the King 77

Operations in the Nuer Country 77

R.A.M.C. Promotion Examination 77

Deaths in the Services 77

(For Naval, Military, and Air Force Appointments see Supplement.)

CORRESPONDENCE.

Leprosy in the British Empire. By Sir Leonard Rogers, M.D., F.R.S. ... 72

Recent Work on Yellow Fever. By Sir James K. Fowler, M.D., F.R.C.P. ... 73

Incubation Period of Measles. By E. W. Goodall, M.D. 73

Causation of Mental Deficiency. By F. Douglas Turner, M.B. 74

The Metabolism of Tumours. By J. Thomson Shirlaw, M.D. 74

Treatment of Tetanus. By T. O'Carroll, M.B.; and Douglas Bell, M.B. ... 74

Results of Treatment of Cancer. By A. A. Russell Green, M.B. 75

Glycerin as a Surgical Dressing. By David Kyle, M.B. 75

Intestinal Myiasis. By Thomas C. Lonie, M.B. 75

Hieronymus Fracastorius. By Tom Hare, M.D. 76

UNIVERSITIES AND COLLEGES.

University of London 78

LETTERS AND ANSWERS.

Nail Biting 79

"Warbles" in Man 79

Dax-les-Bains 79

Income Tax 80

Natural Healing of Ulcers 80

Tuberculosis in Labrador 80

Natural Labour after Caesarean Section 80

Vacancies 80

(See also page 11 of Supplement.)

The SUPPLEMENT contains:

Association Notices: Branch and Division Meetings to be held. Table of Dates.

Meetings of Branches and Divisions.

Naval and Military Appointments.

Vacancies and Appointments; Association Intelligence and Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE MEDICAL DEFENCE UNION

President: Sir HERBERT WATERHOUSE, F.R.C.S.

Annual Subscription, £1. Entrance Fee, 10/-.

No entrance fee to those joining within 12 months of registration. Assets exceed £50,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Bailliere, Tindall & Cox.
Allen, F. M. B.—
Diseases of Infants & Children 5
[illegible] 5
[illegible] 5
[illegible] 5
[illegible] 5
May & Worth's Diseases of [illegible] 5
Nicole, J. E.—Psychopathology 5
Wakeley & Hunter—
Rose & Carless' Surgery 5

Bale Sons & Danielsson, Ltd.
Medical Year Book 4

Churchill, J. & A.
Berkeley & Bonney's Diff. Obstetrics 3
Bertwistle, A. P.—Surgical Radiol 3
Bousfield G.—Guide to Schick Test 3
Burns, D.—An Intro. to Biophysics 3
Cade, S.—Radium Treatment, etc... 3
Clayton, W.—Theory of Emulsions 3
Kirk, B. J.—Health in the Tropics.. 3
Medical Directory, 1931 3
[illegible] Pract... 3
[illegible] Surgery 3
Warren [illegible]
Manual for Detection of Poison 3
Williams, G.—Minor Surgery, etc 3

Harrison & Sons, Ltd.
Miles, E. W.—
Cancer of Rectum. 4

Lewis, H. K. & Co. Ltd.
Elliott, R. H.—
Glaucoma 4
Couching for Cataract 4
Martindale, H. W.—Pharmacopœia 4

Oxford Medical Publications
Elliott, R. H.—
A Treatise on Glaucoma 4
The Care of Eye Cases 4
Tropical Ophthalmology 4

ASSURANCE COMPANIES—
Century Insurance Company 49

BATHS, SPAS, &c.—
Trefriw Chalybeate Wells 33

BRASS NAME PLATES, &c.—
Cooke's Name Plates 4
Herd, S. J. & A.—Name Plates 4
Lewis & Co. Ltd.—Name Plates 34
Osborne, F. & Co.—Name Plates 34

FOOD PREPARATIONS—
Beefex Ltd.—Beefex 11
Borril 10
Cow & Gate Ltd.—Peptalac 19
Fortnum & Mason—Grape Fruit, &c. 30
Mellin's Food 13
Valentine's Meat-Juice Cover iii
Wander Ltd.—Ovaltine 15

HOSPITAL, &c., FURNITURE—
Lawson Tait—Bedsteads 32

MINERAL WATERS—
Rubinat Llorach 30

MOTOR CARS, TYRES, &c.—
Garages—Chauffeurs' Overcoats 31
Lodge Sparking Plugs 33
Mann, Egerton & Co., Ltd.—
Motors Cover i
Second-hand Motors for Sale 43

PRINTING & STATIONERY—
Anderson & Son—Account Forms 34
Taylor's Typewriters 4

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 47

TOBACCO & CIGARETTES—
Player's No. 3 33

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Azoule' Solution A.B.A. 23
Bynol 28
'Pitibulin' 18
American Apothecaries Co.—
'Salvitae' 11
Armour & Co.—Glanoid Products 23
Bencard, Ltd.—Leo Insulin 29
Boots Products 12, 18
British Drug Houses Ltd.—
Radiostoleum 15
Burroughs Wellcome & Co.—
'Hypoloid' 27
'Kepler' Cod Liver Oil Cover vi
Christy & Co.—Magnesia Oil 16
Crookes Laboratories—Iodine 24
Cuxson, Gerrard & Co., Ltd.—
Regnlol 22
Dimol Laboratories—Dimol 30
Evans Sons Lescher & Webb Ltd.—
[illegible] 25
[illegible] Ltd.—Sanatogen 17
29
[illegible] Co.— 10
[illegible] Cover iii
[illegible] 11
[illegible] 34
[illegible] 20
[illegible] 10
Preparations 26
May & Baker, Ltd.—'Arthrytin' 29
Midgley, Ltd.—Mediosap Therapy 14
Mond Staffordshire Refining Co.—
Monsol 13
Newbery & Sons, Ltd.—Amusol 14
[illegible]—Mistol 12
17
10
11
22
Sandoz [illegible]
Calcium-Sandoz 21
Schering Ltd.—Medinal. 33
Thomson, R.—Cod-Liver Oil Cream 16

SURGICAL APPLIANCES—
Coles & Co.—Spinal Spring Truss 32
Curtis & Son—Supports Cover ii
Dent's 'Ardente' Stethoscope 4
[illegible] Co. Ltd.—Notice 2
14
4
31
[illegible] 48
[illegible] etc. 4
[illegible] 4
Salmon Ody—Surgical Appliances 33
Salt's Surgical Service 8
Short & Mason—
Tycos Sphygmomanometers 34

TAILORING & UNDERCLOTHING—
Burberry's Sale 32
Hall, H.—Medical Service Dress 48
Hamilton & Co., Ltd.—Tailors 34
Jaeger Pure Wool Underwear 32
Two Steeples Ltd.—Woollens 32

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub Hlth. 4

X-RAY & ELECTRO-MEDICAL APPARATUS—
[illegible] Co.—
Cover ii
[illegible] 6
[illegible]td.—
[illegible]tus. 6
[illegible] Film 7
9

HOTELS & HEALTH RESORTS—
Hotel Annonciata 39

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 39
Peebles Hydro 38
Ruthin Castle, North Wales 37
Smedley's Hydro, Matlock 38

HOSPITAL, &c., VACANCIES—
Administrative County of London 41
[illegible] Hospital etc., S.W.1 41
[illegible] 48
[illegible] 41
[illegible] 43
[illegible] 42
[illegible] 42
Bolton Infirmary [illegible] 43
Booth Hall, Manchester 43
Bridge of Weir Sanatorium 44
[illegible] 45
[illegible] 45
[illegible] 41
[illegible] 43
[illegible] 41
Derby City Hospital 41
Dudley Road Hospital 41
Dumfries & Galloway Royal Infirm. 49
Durham County Council 43
E. London Hospital for Children 45
Great Yarmouth General Hospital. 41
Greenock Royal Infirmary 44
Grosvenor Hosp. for Women, S.W. 43
[illegible] & N.W. Lon. Hos. 41
[illegible] 45
[illegible] 42
[illegible] 42
[illegible] 49
Hull Royal Infirmary 45
Jewish Maternity Hospital, E.1 41
King Edward Memorial Hospital 42
King Edward VII Hos., Windsor 44
King George Hospital, Ilford 42
Leeds Hospital for Women 45
Leeds Public Dispensary 48
Leigh Infirmary, Lancashire 45
Lincoln County Hospital 42
Liverpool Eye & Ear Infirmary 43
Lowestoft & N. Suffolk Hospital 41
Manchester Royal Infirmary 41
[illegible] 41
[illegible] 41
[illegible] 44
Nottingham City [illegible] 44
Nottingham General Dispensary 44
Nottingham General Hospital 49
Oldham Royal Infirmary 45
Otago Hospital Board, New Zealand 44
Papworth Village Settlement 43
Queen's Hospital, Birmingham 42
Rotherham Hospital 42
Royal Dental Hospital, W.C.2 48
[illegible] & Exeter Hospital 41
[illegible] 42
[illegible] 43
[illegible] 45
[illegible] 48
[illegible] 46
Royal Infirmary, Sheffield 44
Royal Nat. Hosp. Cons., Ireland 43
Royal Northern Infirm., Inverness 48
Royal Sea-Bathing Hosp., Margate 41
Royal Sussex Co. Hosp., Brighton 42
Royal Westminster Opth. Hosp. 41
Royal Victoria Hosp., Folkestone. 44
Sheffield Royal Hospital 48
Sheffield University 40
St. George's Hospital, S.W.1. 43
St. Mark's Hospital for Cancer, E.C. 45
St. Mary's Hosp. for Women, E.13 42
St. Mary's Hospitals, Manchester 42
Stepney Metropolitan Borough 43
Stockton and Thornaby Hospital. 42
Tiverton Hospital, Devon. 43
Victoria Hosp. for Children, S.W.3 41
Warrington Infirmary & Dispensary 42
West End Hosp. for Nervous Dis. 44
West Kent General Hospital 42
Willesden General Hospital 43
Worcester County Mental Hospital 42
Wrexham & E. Denbighshire Hosp. 44

INEBRIETY—
Albion House, Beverley, E. Yorks. 35
Bay Mount, Paignton 35
Calderecte Hall, Nuneaton 35, 36
Dalrymple House, Rickmansworth 35
Ecclesfield, Ashford, Middlesex 35
'Old Hill House,' Chislehurst 35
Rendlesham Hall, Woodbridge 35
The Mansion, Beckenham 35

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital 40
[illegible] Medicine 40
39
39
39
40
40

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 45

HOMES & ASYLUMS—
Ballbrook House, Bath
Burnwood House, Gloucester
Bishopstone House, Bedford
Boreatton Park, Salop
Brooke House, Clapton, E.
Camberwell House, S.E.5
Cheadle Royal, Cheshire
City of London Mental Hospital
Clarence Lodge, Clapham Park
Court Hall, Kenton, Exeter
'Dunley Hill' Nursing Home
Fenstanton, Streatham Hill
Garth Hill House, near Edinburgh
[illegible] near Rotherham
[illegible]
[illegible] sex
[illegible] Spain
[illegible]
Moat House, Tamworth
Northumberland House, N.8.
Old Manor, Salisbury
Peckham House, S.E.15.
Resident Patients
St. Andrew's Hosp. Northampton
Springfield House, near Bedford.
Stonycrest Nursing Home
Stretton House, Shropshire
Tykeford Abbey, Newport Pagnell
Upton Lodge Nursing Home
West Haven, Bournemouth
Wye House, Buxton

SANATORIA—
Cotswold Sanatorium
Grampian Sanatorium
Linford Sanatorium, Ringwood
Montana Hall, Switzerland
Nordrach-upon-Mendip Sanatorium
Tor-na-Dee Sanatorium
Victoria Sanatorium, Davos

SCHOOLS, &c.—
Paton—Schools for Girls & Boys
Rossall School, Fleetwood
Taunton School, Taunton

TUTORS & LECTURERS—
College of Preceptors
Exams.—Med. Corres. College
F.R.C.S. Edin. Classes—H. C. Orm
F.R.C.S. Classes—
C. Whittaker
London University
Manchester Tutorial College
Middlesex Hospital, London
N.-E. London Post-Grad College
Society of Apothecaries
Stammering—Miss E. Belmke
Stammering—Mr. E. J. Miall
University Exam. Postal Institutio

ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant.
Dispensers, Medical Posts, &c.
Locums Wanted and Vacant
Partnerships Wanted and Vacant
Practices Wanted and Vacant

TRANSFER AGENTS—
Borril Medical Agency, Ltd
British Medical Bureau 50, 51
Lee & Martin, Ltd.
Manchester Medical & School Asso
Needes, H.
Peacock & Hadley, Ltd.
Sumner & Co., Ltd.
The Medical Agency
Turner, P., Ltd

NURSING INSTITUTES—
Cavendish Nurses
New Mental Nurses Co-operation
Nurses' Association
St Luke's Hospital

MISCELLANEOUS—
Archer Nerve Training Colony
Consulting Rooms, &c., to Let
Income Tax Consultant—Hardy
Medical Defence Union
Miscellaneous Sales, &c.
Union-Castle Line—South Afric

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, a that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,500 copies.

J. & A. CHURCHILL

Purchase now and secure full year's use.

87th Annual Issue. 2,400 pages. 55,000 names. 36s., postage 1s.

The MEDICAL DIRECTORY, 1931

Including Guide to British Spas and Marine Health Resorts, with 14 Pictures of Spas, etc. Edited by R. FORTESCUE FOX, M.D.

"This year, its eighty-seventh annual issue, the Medical Directory contains 2,263 pages, and the names of 55,055 practitioners. It is a volume for which one somehow feels affection, as well as admiration, because of its freedom from mistakes and misprints. The Medical Directory is indispensable and inimitable—an "unofficial" publication to which official publications must give pride of place."
—PRACTITIONER, Jan., 1931.

6 Illustrations. 3s. 6d. Postage 3d.

CHILL: ITS DANGERS AND PREVENTION

By MARIAN THORNETT, F.R.C.S.I.
With a Foreword by Dr. JANE WALKER, C.H., Medical Supt., East Anglian Sanatorium.

80 Illustrations. 15s. Postage 9d.

PUBLIC HEALTH PRACTICE IN THE TROPICS

By J. BALFOUR KIRK, M.B., Ch.B., D.P.H., D.T.M. & H., Director, Medical and Health Dept., Mauritius.

158 Illustrations. 18s. Postage 9d.

SURGICAL EMERGENCIES IN PRACTICE

By W. H. C. ROMANIS and PHILIP H. MITCHINER,
Surgeons, St. Thomas's Hospital.
Authors of the well-known "Science and Practice of Surgery."

TWENTIETH EDITION. 262 Illustrations. 10s. 6d. Postage 5d.

MINOR SURGERY AND BANDAGING

By GWYNNE WILLIAMS, M.S., F.R.C.S., Surgeon, University College Hospital.

SIXTH EDITION. 60 Illustrations. 30s. Postage 1s.

AUTENRIETH'S LABORATORY MANUAL FOR THE DETECTION OF POISONS AND POWERFUL DRUGS

Translated from the 5th German Edition by WILLIAM H. WARREN, Ph.D., Professor of Organic Chemistry in Clark University, Worcester, Massachusetts.

24 Illustrations. 8s. 6d. Postage 6d.

SURGICAL RADIOLOGY

By A. P. BERTWISTLE, M.B., Ch.B., F.R.C.S.Ed., late Resident Surgical Officer, General Infirmary, Leeds.
With Introduction by D. P. D. WILKIE, O.B.E., F.R.C.S., Professor of Surgery, University of Edinburgh.

THIRD EDITION. 309 Illustrations. 36s. Postage 9d.

BERKELEY & BONNEY'S DIFFICULT OBSTETRICS

4 Plates. 5s. Postage 3d.

A PRACTICAL GUIDE TO THE SCHICK TEST

AND DIPHTHERIA AND SCARLET FEVER IMMUNISATION

By GUY BOUSFIELD, M.B., B.S., Medical Officer, Diphtheria Immunisation Clinics of Metropolitan Boroughs of Camberwell and Lambeth.

SECOND EDITION. 116 Illustrations. 25s. Postage 9d.

AN INTRODUCTION TO BIOPHYSICS

By DAVID BURNS, D.Sc., Professor of Physiology, University of Durham.

13 Coloured Plates and 49 Text-figures. 15s. Postage 9d.

RADIUM TREATMENT OF CANCER

By STANFORD CADE, F.R.C.S.,
Assistant Surgeon, Joint Lecturer on Surgery and Teacher of Practical Surgery, Westminster Hospital.

SECOND EDITION. 42 Illustrations. 15s. Postage 6d.

THE THEORY OF EMULSIONS & THEIR TECHNICAL TREATMENT

By W. CLAYTON, D.Sc., F.I.C. With Foreword by Prof. F. G. DONNAN, C.B.E., F.R.S.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1.

THE

EXTRA PHARMACOPOEIA

By W. HARRISON MARTINDALE, Ph.D.

Nineteenth Edition.

Vol. I, 27/6 net; postage 6d.
Vol. II, 22/6 net; postage 4d.
Complete Work (2 Volumes) 50/- net, post free.

In Two Volumes.

Vol I (1928) deals chiefly with Treatment, giving the important issues as to CLINICAL USE of all modern CHEMICALS and DRUGS, characters, dosage, methods of prescribing, etc.

Vol. II (1929) COMPLETES THE SET. It is concerned with INVESTIGATIONS, EXPERIMENTAL RESEARCH, DIAGNOSIS, and a large amount of new matter in medicine and allied sciences.

BRIT. MED. JOURN., Nov. 2nd, 1929, says: "*Has a well-established reputation as a most useful and convenient work of reference.*"
LANCET, Nov. 2nd, 1929, says: "*A clear and authoritative publication of the highest value.*"

An up-to-date Book for everything on the Therapeutic Use of Drugs. It embodies the Latest and Most Varied Information on Chemistry, Pharmacy, Therapy, and numerous other subjects.

LONDON: H. K. LEWIS & CO. LTD., 136, Gower Street, W.C.1

By Lt.-Col. ROBERT HENRY ELLIOT, M.D., B.S.Lond., F.R.C.S.Eng., I.M.S.(rtd.).

A TREATISE ON GLAUCOMA.

Second Edition. Revised and Enlarged, 1922. With 215 Illustrations, 30s. net.

TROPICAL OPHTHALMOLOGY

7 Plates and 117 Illus. 31s. 6d. net. Spanish and French Eds., 1922. Full German Abstract.

THE CARE OF EYE CASES

FOR NURSES, PRACTITIONERS & STUDENTS. With 135 Illustrations. 12s. 6d. net. Chinese Edition.
THE OXFORD MEDICAL PUBLICATIONS.

GLAUCOMA:

FOR THE GENERAL PRACTITIONER. With 23 Illustrations. 4s. net.

COUCHING FOR CATARACT.

With 45 Illustrations. 7s. 6d. net.
H. K. LEWIS & CO., LTD.

CANCER OF THE RECTUM

ITS PATHOLOGY, SYMPTOMATOLOGY, AND TREATMENT.

BY

W. ERNEST MILES, F.R.C.S.,

Surgeon Emeritus (with beds) to the Cancer Hospital; Surgeon to the Gordon Hospital for Diseases of the Rectum, etc.

80 pp. and 33 plates. Bound cloth.
Price 7s. 6d. net, post free 7s. 10d.

"It is the best exposition of the subject with which we are acquainted."
—*British Journal of Surgery.*

"Deserves to rank as a classic in the literature dealing with cancer of the rectum."
—*Bulletin of the Johns Hopkins Hospital.*

"Perhaps no surgeon of to-day has had a greater experience in treating cancer of the rectum."—*Surgery, Gynecology, and Obstetrics.*

HARRISON & SONS, LTD.,
44, ST. MARTIN'S LANE, LONDON, W.C.2.

SIMPLE MEDICAL YEAR BOOK

14/6 post free.

NOW IS THE TIME to commence this Accurate Record-keeping Account Book and Save Income Tax.

JOHN BALE SONS & DANIELSSON, LTD., 83-91, Gt. Titchfield Street, London, W.1.

NAME PLATES

FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.

Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.

With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE.

COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

Greater Comfort for your Patients.

"The Rose Corset-Belt"

which has set a new standard and proved so effectual in all abdominal cases where support is required. The X-rays have shown the actual uplift.

Each Corset-Belt is cut and fitted to individual requirements, and the patient is kept under observation until every satisfaction is given to both patient and doctor.

I have also invented an improved Colotomy Belt for both male and female patients.

My work is recommended by eminent members of the medical profession, and the following hospitals: St. Bartholomew's Hospital, Metropolitan, Charing Cross, Middlesex, London Temperance.

MADAME ROSE, 97, Mortimer St., Regent St., W.1. LANGHAM 1575.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE.

Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

FREQUENT MICTURITION.

"YBWET"

NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request:
HILLIARD, 123, Douglas Street, Glasgow, C.2.

POCKET MONEY ADDING MACHINES 15/- post free

TAYLOR'S TYPEWRITERS

SELL, HIRE, HIRE PUR- Desks, Tables & Chairs, CHASE PYCHANG' BUY Est. 1884.

Write for Bargain List 32. THE BIJOU
'Phone—Holborn 3793. The best portable Writer Complete in Travelling Case, from £9 9s.
BUY A BIJOU FOR 5/- per week.
74, CHANCERY LANE (Holborn End), W.C.2

BRASS NAME PLATES.

BRONZE PLATES (ENAMEL LETTERS), SKETCH & ESTIMATE UPON REQUEST.

S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

BAILLIÈRE, TINDALL & COX'S

RECENT PUBLICATIONS

¶ "This work supplies the needs of the student and practitioner more closely than any other."—*British Medical Journal.*

13TH ED. ROSE & CARLESS' SURGERY 13TH ED.

By CECIL P. G. WAKELEY, F.R.C.S., and JOHN B. HUNTER, F.R.C.S.

Special Contributors:—W. E. CARNEGIE DICKSON; V. E. NEGUS; N. BISHOP HARMAN; EARDLEY HOLLAND; C. F. HADFIELD; Sir FRANK POWELL CONNOR; H. GRAHAM HODGSON.

Size 9½ × 6½. Pp. xiii + 1,592, with 664 Illustrations, 19 Coloured Plates, and a Radiographic Supplement of 43 Radiograms. Price 30s.

MAY & WORTH'S DISEASES OF THE EYE

¶ "One of the best of the text-books upon diseases of the eye intended for the use of students or practitioners."—*Edinburgh Medical Journal.*

SIXTH EDITION. Demy 8vo. Pp. viii + 460, with 337 Illustrations, including 23 Coloured Plates. Price 15s. Postage 9d.

¶ In this volume the newer methods and newer media have been incorporated.

EYRE'S BACTERIOLOGICAL TECHNIQUE

By J. W. H. EYRE, M.D., M.S., F.R.S.Edin., Professor of Bacteriology, University of London.

"The revision has been well and carefully done, and complete reliance may be placed upon it."—*Public Health.*

THIRD EDITION. Size 5½ × 8½. Pp xii + 619, with 238 Illustrations. Price 21s. Postage 9d.; abroad 1s.

DISEASES OF INFANTS AND CHILDREN

By F. M. B. ALLEN, M.D., M.R.C.P.Lond., Assistant Physician to the Belfast Hospital for Sick Children.

"A concise and well illustrated volume in which material of the utmost importance to the student and practitioner is clearly set out and admirably indexed."—*British Medical Journal.*

Size 5½ × 8. Pp. viii + 596. Price 15s. Postage 6d.; abroad 9d.

PSYCHOPATHOLOGY. A survey of Modern Approaches

By J. ERNEST NICOLE, L.M.S.S.A., D.P.M.R.C.P.&S. With Foreword by W. H. B. STODDART, M.D., B.S., F.R.C.P.Lond.

The *Lancet* says:—"Dr. J. Ernest Nicole has provided an excellent survey."

Size 5½ × 8½. Pp. xii + 203. Price 10s. 6d. Postage 6d.; abroad 9d.

HINTS ON EQUIPMENT AND HEALTH FOR INTENDING RESIDENTS IN THE TROPICS

By J. BALFOUR KIRK, M.B., Ch.B.Ed., D.P.H.Oxon., D.T.M.&H. Eng., M.O.H. Port Louis, Mauritius.

SECOND EDITION. Pp. xii + 128. Price 3/6. Postage 4d.

THE THEORY OF OBSTETRICS

A FUNCTIONAL STUDY OF CHILD-BEARING

By M. C. De GARIS, M.D., B.S.Melb., Surgeon to the Muttaburra Hospital, Queensland; formerly O.C. Scottish Women's Hospital, Ostrovo, Macedonia, etc.

Pp. xii + 272. Price 12/6. Postage 6d.

BAILLIÈRE'S SYNTHETIC ANATOMY

By J. E. CHEESMAN.

Parts VII (THORAX) and VIII (ABDOMEN) Now Ready

Price **3s. each**

Postage 2d.

"The best and most convenient substitute for the body."—*British Journal of Surgery.*

ALREADY PUBLISHED. Part I.—Upper Arm; Part II.—The Forearm; art III.—The Hand; Part IV.—Thigh and Hip; Part V.—The Leg; Part VI.—The Foot; Part IX.—Head and Neck; Part IXa.—Pterygo-Maxillary Region.

BAILLIÈRE, TINDALL & COX, 7 & 8, Henrietta Street, London, W.C.2

FIRST-CLASS RADIOLOGY

CALLS FOR

FIRST-CLASS APPARATUS

Why not benefit by our knowledge and experience by consulting

A. E. DEAN & CO.

Manufacturers of all types of X-Ray and Electro-Medical Apparatus of the Highest Grade

LEIGH PLACE, BROOKE STREET, HOLBORN, LONDON, ENGLAND

Showrooms: 14, BALDWIN'S GARDENS—adjoining.

Northern Agent: SEFTON WILSON, Woodlands, Bawtry Road, Doncaster.
Agents for Midlands: WATSON & GLOVER, 2, Easy Row, Birmingham.
New Zealand Agents: H. COONEY & SON, The Esplanade, Kohimarama, Auckland.

BUY BRITISH AND SAVE 33⅓% IMPORTATION TAX

The field for Diathermy Current applications is rapidly increasing

DIATHERMY

MEDICAL AND SURGICAL

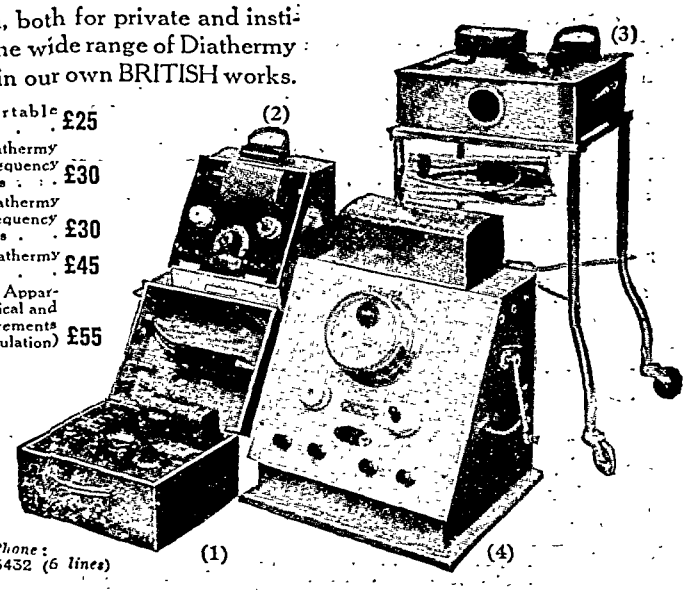
EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available:—

FOR SURGERY
e.g.: Surgical cutting by High Frequency indulations or coagulation.

FOR THE PHYSICIAN
for treatment purposes only.
also
FOR BOTH SURGICAL and MEDICAL.

No. 1. "EMESAY" Portable Diathermy £25
No. 2. "AMAZON" Diathermy and High Frequency Current Apparatus . . . £30
No. 3. "MERIDIAN" Diathermy and High Frequency Current Apparatus . . £30
No. 4. "EQUATOR" Diathermy Apparatus £45
No. 5. "MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation) £55



Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

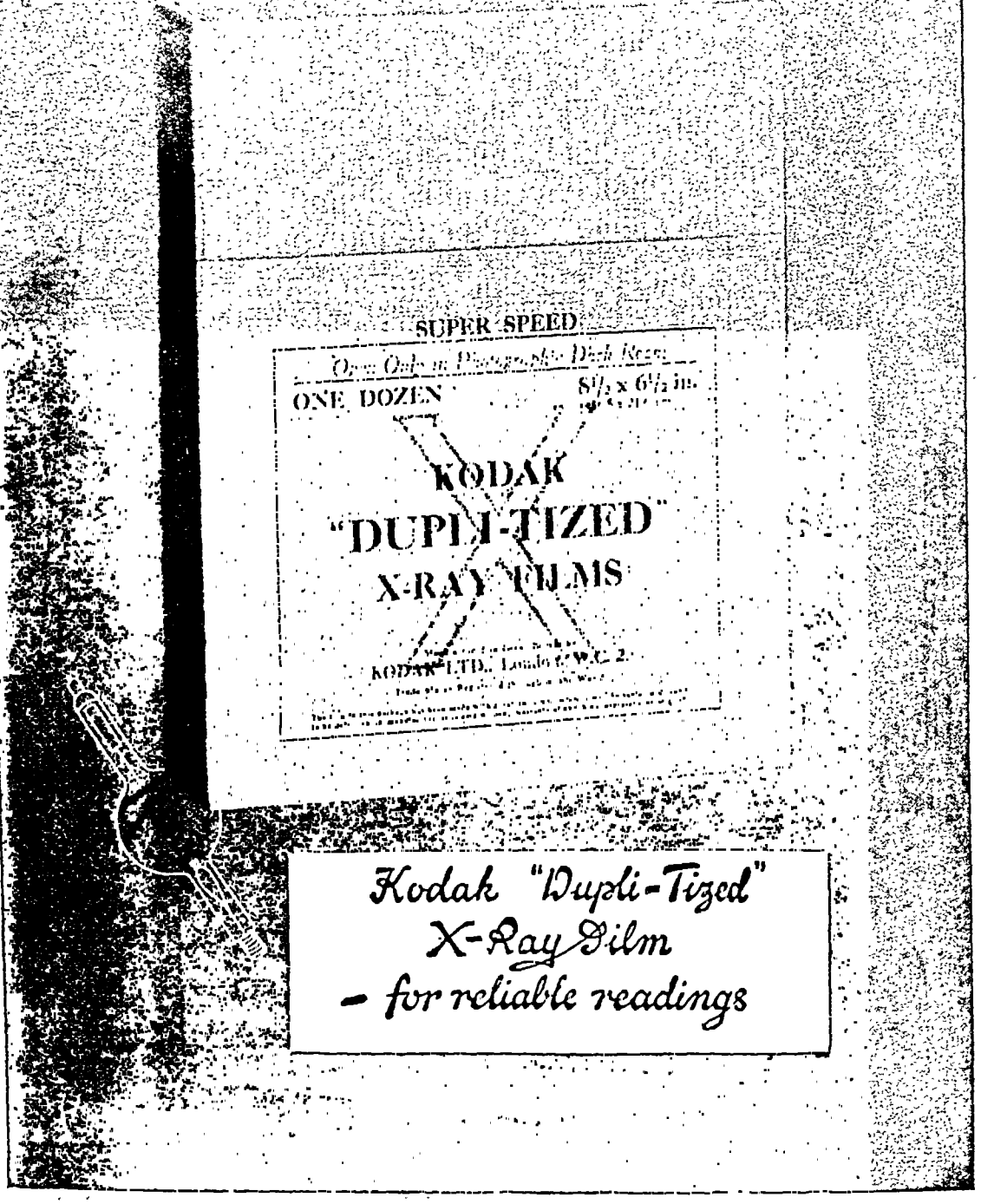
MEDICAL SUPPLY ASSOCIATION, LTD.

167-185, Gray's Inn Road, London, W.C.1.

ACTUAL BRITISH MAKERS.

Phone: 5432 (6 lines)

Kodak "Dupli-Tized" X-Ray Film

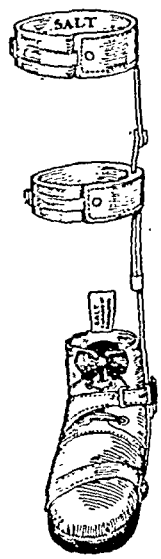


Kodak "Dupli-Tized"
X-Ray Film
– for reliable readings

Saltair Surgical Service

SURGICAL SERVICE SALTAIR

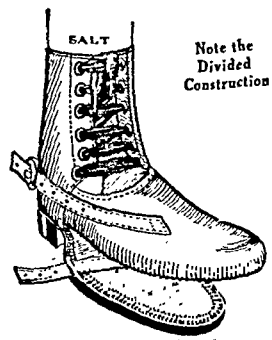
Proved Success in over 2,000 cases of Talipes Varus



Over 2,000 Patent Varus Boots have been supplied by us since invented (all ordered through the Medical Profession), and in every case our claim that it is a thorough corrective has been amply justified.

By use of this Appliance, Atrophy of the foot and shortening of the leg is avoided. In severe cases it is recommended that the Appliance be worn by night as well as day.

Medical Men are invited to write for our descriptive measurement forms, fill in the required particulars and return to us, when a Boot will be made to their individual requirements.



Note the Divided Construction

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

SALT AND SON Ltd.

7, CHERRY ST., BIRMINGHAM

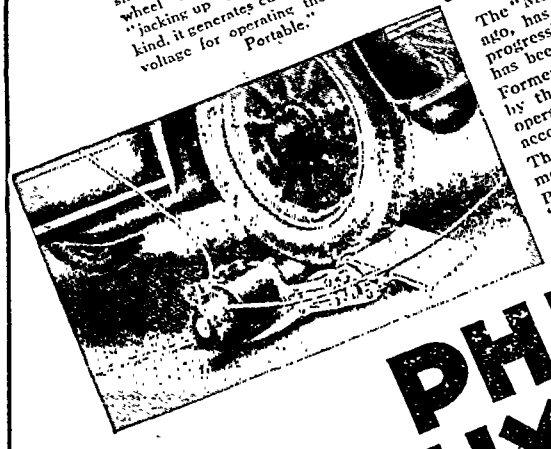
'Phone (B'ham): Mid. 5455. *'Phone (London): Museum 3845.*

London Consulting Rooms:
"OAKLEY HOUSE"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Saturday midday.
Orthopeadic Mechanician Wednesdays only.
By Appointment.

—AND NOW THE "METALIX-PORTABLE" CAN BE OPERATED ANYWHERE

Right—The "Metalix-Portable" in use in a patient's home. There is an entire absence of danger and the outfit can be assembled ready for use in a few minutes.

Below—Philips Auto-Generator shown in position under the rear wheel of a motor-car. Without "jacking up" or complications of any kind, it generates current at the exact voltage for operating the "Metalix-Portable."



The "Metalix-Portable" X-ray outfit, since its introduction over two years ago, has proved an unqualified success. The enthusiasm with which progressive medical men have adopted this additional aid to diagnosis has been little short of amazing.

Formerly confined to districts served by electricity supply companies, by the use of an auto-generator the "Metalix-Portable" can now be operated in the remotest districts—the complete apparatus is easily accommodated in a small motor car.

The "Metalix-Portable" is of *definite interest* to the majority of medical men—a demonstration invariably turns scepticism into enthusiasm.

Please ask your secretary to send a postcard for a copy of the 36-page "Metalix-Portable" brochure.

Price of the "Metalix-Portable" complete for operation on standard A.C. voltages, £138 . 0 . 0; D.C. voltages, £25 . 0 . 0 extra.

PHILIPS METALIX-PORTABLE

PHILIPS LAMPS LTD. (X-Ray Dept.), PHILIPS HOUSE, 145, CHARING CROSS ROAD, LONDON, W.C.2.

PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic œdema, cyclic vomiting, periodic diarrhœa, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 6/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6. Leaflet on application.

W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON." Telephone Nos.: LANGHAM 2440 and 2441.

"HOMMEL'S HAEMATOGEN"

A natural organic TONIC associated with nourishing albuminous proteids.

AN EFFICACIOUS REMEDY IN ALL FORMS OF ANAEMIA

associated with constitutional diseases.

Obtainable in Syrup *and* Tablets.

"SEDIN"

Nervinum-Sedativum

Consisting of

Pot. Brom.	0.4	gramme	(grains 6½ approx.)
Sod. „	0.4	„	(grains 6½ approx.)
Ammon. „	0.2	„	(grains 3 approx.)
Salt „	0.1	„	

combined with Vegetable Extract in form of soup tablets. (A disguised dietetic form.)

Samples free and carriage paid on application to—

HOMMEL'S HAEMATOGEN & DRUG CO., 121, Norwood Road, Herne Hill, London, S.E.2

"I HAVE FOUND your products to be excellent, especially the ointment, which I proved invaluable in a case of obstinate eczema."

"THE EFFECTS of Sphagnol on chronic psoriasis, senile eczema and piles is beyond belief."

"FOR TENDER SKIN your shaving soap is above praise. I cannot speak too highly of your preparations."

"I USE Sphagnol largely, especially for Dermatitis and Prurigo—with great results."

NOTHING BUT PRAISE FOR SPHAGNOL

PEAT PRODUCTS (SPHAGNOL) LIMITED (DEPT. B 42), 21 BUSH LANE, LONDON, E.C.4

SEND FOR FREE SAMPLE

The Biological Significance of BOVRIL

BOVRIL combines the nutritive proteins of beef with its stimulant and body-building extractives. The beneficial effect of Bovril upon a weakened constitution is therefore of a permanent nature. It helps the patient not only to gain strength but also to consolidate it.

DISMENOL for instantaneous relief of pain in DYSMENORRHOEA

In spasmodic Dysmenorrhoea the primary call is for the elimination of pain, and the physician has a valuable weapon in Dismenol Tablets, which are entirely *free from narcotics.* This product is a sure and safe sedative in all cases of Dysmenorrhoea, possessing anti-spasmodic properties of a remarkable kind. A feeling of general well-being is substituted for the state of lassitude in the patient.

Please write for samples and literature (also formula) to—

ROBERTS & Co., 76, NEW BOND STREET, LONDON, W.1.

Pharmaciens to H.M. the King.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to

COATES & COOPER,
41, Gt. Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.

Two sizes, 4/6 and 7/-.

Salvitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co., New York.

Beefex

The SUPERIOR STIMULANT

May we send you a sample bottle of this superior and valuable Beef concentrate? Medical Men should apply to:

HIGH Medical Authority, after an independent test, reports that Beefex is a genuine Beef Extract of high quality and purity and is superior to others. It is invaluable in cases of weakness, exhaustion, or malnutrition, and appeals to invalids of all ages by reason of its delicate flavour.

BEEFEX LIMITED, BEEFEX HOUSE, LONDON, E.C.1.

Kaylene

FOR TOXÆMIAS OF INTESTINAL ORIGIN.
KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.

Symptomatic relief in 5 minutes

THE symptoms of common cold—congestion, discharge and obstructed breathing—are frequently distressing. From the patient's point of view, they constitute the essence of the annoyance from which he is seeking immediate relief.

Rapidity of action is characteristic of Mistol. Consisting of menthol, camphor, eucalyptol, and chlorbutol in a light oily solution that spreads promptly to all parts of the nasal mucosa, it relieves congestion, reduces discharge and clears the nasal passages within five minutes.

This symptomatic improvement also benefits the pathological state and tends to shorten the duration of the cold. Venous stasis in the mucous membrane is corrected, hyperemia diminished, and over-activity of the secreting glands checked. Repeated instillations of Mistol promote a more rapid return to normal conditions within the nares.

The formula of Mistol is the result of long and careful research, suggested primarily by prescriptions used for many years by leading rhinologists.

Mistol
Reg. Trade Mark
MADE BY THE MAKERS OF NUJOL
Nujol Laboratories:
128 Albert St., Camden Town, N.W.1.

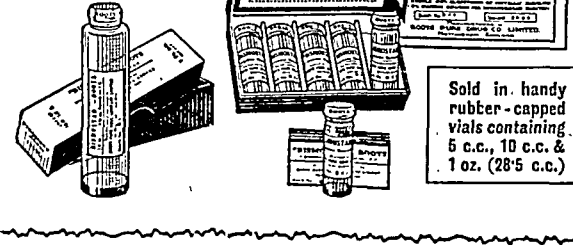
BOOTS PRODUCTS
OBTAINABLE THROUGH ALL BRANCHES OF
The Boots Chemists

WHOLESALE AND EXPORT DEPARTMENT.
BOOTS PURE DRUG Co. Ltd.,
NOTTINGHAM, ENGLAND.
Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

Bismostab (BOOTS)

METALLIC BISMUTH SUSPENSION

THE Standard Bismuth Preparation for the treatment of **Syphilis** and other **spirochætal diseases** (Bismuth having largely replaced Mercury as an adjunct to Arsenobenzol Therapy). Bismostab (Boots), a suspension of specially prepared, finely divided, pure Bismuth metal in 5% Glucose solution, is **non-irritant, highly concentrated, sterile and ready for use**



Sold in handy rubber-capped vials containing 5 c.c., 10 c.c. & 1 oz. (28·5 c.c.)

Mellin's Food

A MILK MODIFIER

MELLIN'S FOOD is specially prepared for modifying and adjusting cow's milk to meet the nutritive needs of infants deprived of human milk.

No matter whether certified, pasteurised, dried, or condensed milk is employed, its digestibility and its value as nourishment for the baby is enhanced by the addition of Mellin's Food. In other words, milk in any form is better borne, more completely utilised, and its nutritive constituents more appropriately balanced if properly modified with Mellin's Food.

There is no milk modifier exactly like Mellin's Food, and its continued recommendation by a large number of members of the Medical Profession is ample evidence of its outstanding advantages.

Further particulars and samples will be supplied on request.

"MODIFIED MILK IN INFANT FEEDING."

The above-named booklet of 64 pages will be gladly sent to members of the Medical Profession.

MELLIN'S FOOD LTD., LONDON, S.E.15

SELECTIVE GERMICIDAL POWER

STREPTOCOCCUS HAEMOLYTICUS

IT is not generally recognized that antiseptics exhibit wide variations in their power of killing different bacteria. Phenol, the first antiseptic ever used, affords an example of this. It differentiates so markedly between the typhoid-coli group and the Gram-positive cocci that, if added in the proportion of 1 in 200 to a medium inoculated with a mixture of B. coli and streptococci, the former are killed and the latter multiply.

Monsol, which is derived from a by-product of the Mond power-gas process, differs radically from other coal-tar antiseptics in its selective action, which is the opposite of ordinary coal-tar preparations. Its power of killing the STREPTOCOCCUS PYOGENES, and notably the strain HAEMOLYTICUS, is more than 10 times greater than that pure phenol or of lysol.

Monsol is non-irritant, and can be applied in effective dilution even to mucous membrane. In view of these facts it is not surprising that Monsol has been found to have unprecedented qualities in the treatment of Streptococcal infections.

Monsol can be applied to the treatment of septic conditions of the SKIN, the MOUTH and THROAT, and the MUCOSA, and is especially indicated in Obstetrics.

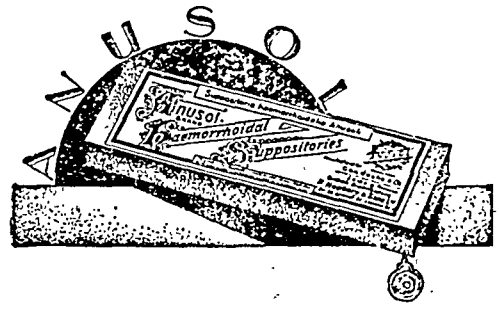
Monsol Liquid Germicide 1/-&2/-
Monsol Internal Capsules 5/-
Monsol Pessaries 4/-
Monsol Dental Cream 1/-
Monsol Ointment 1/3&2/-
Monsol Medicated Soap 8d.
Monsol Throat Pastilles 1/3&2/3

MONSOL BRAND

THE SAFE GERMICIDE.

Manufacturers:
The Mond Staffordshire Refining Co., Ltd.,
Abbey House, London, S.W.1.

Trade enquiries to:
The Monsol Distributing Agency,
168/172, Drummond Street, London, N.W.1.



Before the operation-and after.

When operation is inevitable for haemorrhoids, before the operation

Anusol BRAND Haemorrhoidal Suppositories

will serve to keep the inflammation down, relieve pain, control haemorrhage.

After the operation, besides their anodyne effect, Anusol Brand Suppositories exert an antiseptic action and protect the field of operation by their astringent and emollient properties. They promote healing.

A trial of Anusol Brand Suppositories will prove a satisfying experience. May we send you a liberal trial package?

British Distributors:—
FRANCIS NEWBERY & SONS, Ltd., 31-33, Banner Street, London, E.C.1
Manufactured by GOEDECKE & CO. LEIPZIG (Germany)

Medisoap Therapy

DISEASES OF THE SCALP.

The use of Medisoaps ensures the proper application of curative agents to the Scalp and at the same time attains its adequate cleansing.

The standard range of Medisoap formulae contains several which are suitable for this purpose.

Those containing Resorcinol in various combinations (Nos. 40, 41, 57 and 71) are almost specific in cases of dandruff and are usually successful in the more serious scalp diseases.

A useful "Prescribers' Index to Medisoaps" will be sent, post free, on request.

Sole Makers:—
CHARLES MIDGLEY, LTD. Medicated Soap Specialists **MANCHESTER**
Associated with EVANS SONS LESCHER & WEBB, LTD., LIVERPOOL, LONDON, & DUBLIN.

For Raising the Resistance to Bacterial Infection

The necessity for an adequate supply of Vitamin A *"to raise the resistance either local or general or both to bacterial infection"* has been demonstrated by exhaustive experimentation *(B.M.J.,* Jan. 1st, 1929, p. 984), and this necessity is now generally recognised and appreciated.

The difficulty lies in the choice of a reliable medium through which to administer the vitamin.

Hence the value to the physician of

RADIOSTOLEUM

with its standardised content of Vitamin A, harmonised with a measured quantity of Vitamin D.

Issued as a highly active liquid and in capsules

Literature on request

THE BRITISH DRUG HOUSES LTD. **LONDON N-1** Rstm/105

OVALTINE

IN GALACTOSIS

Diet in lactation is a matter of no less importance than diet during pregnancy.

"Ovaltine" completely meets the requirements of the diet of the nursing mother by providing adequate and appropriate nourishment.

It is easily digested, wholly nourishing, and does not convey any noxious or unpalatable substances to the breast milk. For these reasons "Ovaltine" will be found a most dependable prescription for establishing galactosis.

"Ovaltine" is recommended to be given about the sixth month of gestation and should be continued throughout the nursing period. A rich milk secretion is thus encouraged and the health of the patient safeguarded against overstrain.

As an example of the nutritive power of "Ovaltine" it may be stated that one cupful yields more nourishment than 3 eggs or twelve cups of beef-tea.

A liberal supply for clinical trial sent free on request.

A. WANDER, LTD., 184, Queen's Gate, S.W.7. *Works:* King's Langley, Herts.

NEHEBKAU.—*A Serpent Goddess who performed many offices for the dead.*

M 244

The LOGICAL COMPLEMENT to the PHYSIOLOGY of EVACUATION

WHAT MAGNESIA-OIL IS (Musterole Brand) —AND WHAT IT DOES!

An intimate association of Pure Liquid Paraffin with Magnesia in a state of ultra-superfine division, which ensures an unusual therapeutic activity.

M-O is certain but bland in action. It is both laxative and adsorbent, *and promotes cleanliness* throughout the whole intestinal tract.

There are no secondary effects whatever.

CHIEF INDICATIONS

CONSTIPATION — Pregnancy, Infancy and Age
FLATULENCE..ACID ERUCTATIONS
NAUSEA ..... VOMITING
HYPEREMESIS ..... TOXÆMIAS
HYPERACIDITY..... DYSPEPSIA
COLITIS, ETC.

THE Physiology of Evacuation is a very complex affair. A gastro-colic reflex causes transference from the cæcum to the transverse and descending colons; the mass remains at the sigmoid flexure whence portions are passed into the rectum — giving rise to evacuative desire: there follows relaxation of sphincter ani plus contraction of sigmoid and rectal walls, assisted by voluntary contraction of abdominal wall and pelvic floor and the control of the higher centres.

Yet how often there is difficult, or no, evacuation!

The reason usually is that the fæces are of such dense consistency that the whole machinery of evacuation cannot expel them:

The Corrective Complement is:— Prevent the fæces from becoming hard — not by mucosa-irritating purgatives — but by the certain admixture with them of Magnesia-Oil (Musterole Brand). This product ensures a consistent soft stool by its even diffusion throughout the bowel contents. It does not irritate, and it promotes the recovery of intestinal tone so necessary to physiological function.

Send your professional card for clinical sample.

M-O
MAGNESIA-OIL
(Musterole Brand)

Thos. Christy & Co., 4-12 Old Swan Lane, London, E.C.4

COD-LIVER OIL CREAM

Whenever there is occasion to prescribe Cod-Liver Oil this preparation will be found to fulfil all requirements as to palatability, ease of assimilation, and freedom from causing digestive disturbance.

It is specially indicated in cases of—

Delicate Children,

Bronchial conditions,

Enlarged Cervical Glands,

Persistent Coughs, etc.,

and as an ideal nutrient and strengthening agent after illness.

Supplied freshly prepared in bottles, 4/-, 7/-, and 10/-, by return, post free.

R. THOMSON, Chemist, 21, Abbey Street, ELGIN.

London Agents:

Messrs. SQUIRE & SONS, Chemists to H.M. the King, 413, OXFORD STREET.

On the Absorption of Sanatogen

Why it is that Sanatogen is absorbed with ease even by the weakest stomach.

The tonic influence of the glycero-phosphoric-acid in the chemical combination casein-sodium glycerophosphate (Sanatogen) makes the use of casein possible in cases where the patient has to a great extent lost his capacity of absorption (Tunnicliffe, Tischer-Beddies, Chajes, a.o.).

French authorities (Robin and others) ascribe to the glycero-phosphates a great influence on the utilization of the albumin in the body. The manufacture of Sanatogen is conducted under the strictest scientific control ensuring absolute purity, sterility and uniformly high dietetic value.

Samples and Literature will gladly be sent on request to:

GENATOSAN LTD., LOUGHBOROUGH, LEICESTERSHIRE.

IMPROVED DAY AND NIGHT SERVICE TO THE MEDICAL PROFESSION FOR OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPÔT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1

(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE, or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, **CLAPHAM ROAD, S.W.9**

"Pitibulin"
Trade Mark

Denotes Unvarying Pituitary Extract

Conforming to the requirements of the Therapeutic Substances Regulations, 1927, "Pitibulin" is prepared according to the official standards, its activity being expressed in terms of the accepted unit.

"Pitibulin" maintains the stringently high criteria of therapeutic efficiency, safety in use and stability, self-imposed by its manufacturers—qualities which have given it its high place in the esteem of physicians.

It has made a reputation among the Profession as the Pituitary Extract which can be relied on in emergency.

"Pitibulin" is supplied in boxes of 6 and 12 ampoules containing 2·5, 5 and 10 units per ampoule.

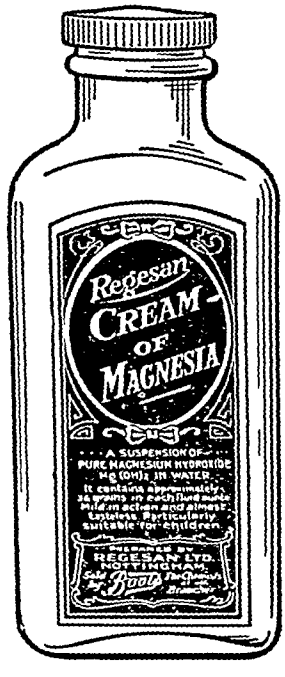
Literature giving fuller particulars of the therapeutic applications of "Pitibulin" will be sent on request.

Allen & Hanburys Ltd.,

Telephone: Bishopsgate 3201 (10 lines)

London, E.2.

Telegrams: "Greenburys Edo London"



Regesan

CREAM OF MAGNESIA

A pure, finely divided Magnesium Hydroxide ($Mg(OH)_2$) suspended in water. A simple antacid and valuable laxative. Digestive troubles and gastric conditions indicating the necessity of a corrective of this type quickly respond to treatment with Regesan Cream of Magnesia.
It does not gripe nor cause discomfort, and is mild in action.

Price 1/3 per bottle.

Full size trial package free to Medical Practitioners in the British Isles on application to Boots The Chemists, Station Street, Nottingham.

The Boots Chemists

OVER 900 BRANCHES IN GREAT BRITAIN

Boots Pure Drug Co. Ltd., Nottingham.

SCIENTIFIC ENZYME DIGESTION

RICH SELECTED ENGLISH MILK
Pancreatised

PREDIGESTED MILK
(25% Protein Conversion)

SELECTED ENGLISH WHEAT
Dextrinised and Pancreatised

PREDIGESTED WHEAT
(25% Starch Conversion)

Powdered by the
COW & GATE
Improved
Roller Process

Peptalac REGD.

THE NEW INSTANT PREDIGESTED FOOD

Predigestion of starch *and* milk is guaranteed and is effected under the most exact scientific conditions in our laboratories before powdering. This means that when required for use it can be immediately and simply prepared by the *mere* addition of hot water. The C. & G. Improved Roller Process is used ensuring retention of the full mineral and vitamin content with freedom from pathogenic organisms.

PEPTALAC is indicated in all those cases where the powers of the digestive tract are insufficient to deal with that amount of food necessary for maintaining health—for nursing mothers with weak digestions, in ante- and post-operative surgical cases, in achlorhydria, peptic ulceration, cancer of the alimentary tract, in all forms of convalescence and in old age.

SEND THE COUPON FOR FREE CLINICAL SAMPLE

Cow & Gate Milk Food

*Name*_____

*Address*_____

B.M.J.1.

COW & GATE LTD. GUILDFORD, SURREY

Proverbs up-to-date No. 1

FAMILIARITY BREEDS CONTEMPT

Are we not, at times, inclined to allow practical activities to cloud our perception of the familiar fact, that Dental Caries is an *incurable* disease?

As every doctor knows, this is one of those pathological conditions that show little, if any, tendency towards spontaneous cure, or even arrest, of its ravages.

The only scientific method of combating this affection is through preventive measures. And it is this truth that is the keynote of all Gibbs Advertising propaganda. Care of the teeth, cleanliness of the mouth, are urged as first principles.

In the great national and provincial newspapers; in the most widely read magazines, many millions of Gibbs messages are carried from end to end of the kingdom. And every message can be crystallised in that oft'-repeated phrase: "Visit your Dentist twice a year, and use Gibbs Dentifrice twice a day."

It is in such practical ways as these that Gibbs work hand in glove with Doctors and Dentists — never failing to depict them as the highest and final authorities on all matters connected with the teeth.

GIBBS DENTURE TABLET

Gibbs new Denture Tablet is for cleaning Dental Plates (both gold and vulcanite), Bridgework and artificial teeth. It gives a high polish, removes stains, makes plate or teeth sterile and antiseptic without in any way injuring the softest gold or the finest vulcanite or platinum. The formula has been submitted to and approved by important members of the Medical Profession.

Gibbs Dentifrice

BRITISH MADE

Literature, propaganda material, kinematograph films, leaflets, etc., as well as samples, are always freely at your disposal. Address: Dental Dept, 1WX, D. & W. Gibbs Ltd., London, E.1.

GD/Dr/1a

TREATMENT OF THE

RHEUMATIC DIATHESIS

WITH

URALYSOL

TABLETS

GRANULES

Thyminic Acid — Hexamethylene-Tetramine — Lysidin

Prepared by:

LABORATOIRES LOBICA

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd.

30 MARSHAM St., LONDON, S.W.1.

CALCIUM-SANDOZ

$(C_6H_{11}O_7)_2$ Ca.

Unique Advantages:

1.—It is effective. It supplies the physiologically active calcium ion.

2.—It shows distinct superiority in all modes of administration.

ORALLY: It is well absorbed. It is easily administered and does not upset the digestive tract.

INTRAVENOUSLY: It is better tolerated than calcium chloride. The acid-base factor is eliminated.

INTRAMUSCULARLY: It is painless and non-irritating. It is the only calcium salt which can be so administered in adequate doses.

3.—It enables physicians to adequately meet the requirements of any given case.

BY VEIN, for acute need.
BY MUSCLE, to secure intense and prolonged action.
BY MOUTH, for prolonged administration, to meet an increased demand by the organism.

4.—It is completely sufficient in itself as a therapeutic agent.

CALCIUM-SANDOZ is supplied in

Ampoules containing a 10% sterile solution for intravenous or intramuscular injection.
5 c.c. size: Boxes of 2 and 10 ampoules.
10 c.c. size: Boxes of 1, 5, and 20 ampoules.

Powder for oral administration.—Cartons of 2, 4, and 16 ounces.

Tablets for oral administration.—Each tablet contains 25 grains of calcium gluconate and is especially adapted for division into three parts. Boxes of 30 and 150 tablets. Cartons containing 12 boxes of 30 tablets.

AGENCY:—
THE SANDOZ CHEMICAL WORKS
PHARMACEUTICAL DEPT.
5, WIGMORE STREET, LONDON, W.1.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

CERVICAL ADENITIS.

Typical Case.

The following case will illustrate the application of Local Anaesthesia in Children, in whom the establishment of General Anaesthesia would seem especially harzardous.

B. D., aged 9 months.

Diagnosis: Suppurative cervical adenitis.

Operation: Incision and drainage.

Anaesthesia: Local infiltration, 20 c.c. of a 0.5 per cent. Novocain-Adrenaline solution.

Operation: A direct infiltration was made over the swelling, using 20 c.c. of a 0.5 of 1 per cent. Novocain-Adrenaline solution. The skin was picked up with towel pins to avoid pressure, and a transverse incision was made down to the cervical fascia. At this point the operation was delayed while the cervical fascia was infiltrated. This layer was then picked up with towel pins and a sharp-pointed haemostat was forced through and spread widely, opening the abscess.—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

The Ideal Laxative

REGULOL

REGD.

"REGULOL" IS AVAILABLE IN TWO FORMS: "PLAIN" or "COMPOUND." The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient.

CUXSON, GERRARD & Co., Ltd.

Oldbury, *Birmingham.*

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

SAMPLE 1-lb. JAR FREE ON REQUEST.

Please indicate whether Plain or Compound is required.

(This offer is limited to the British Isles.)

A List of

GLANOID MEDICINAL PRODUCTS ANIMAL ORIGIN

Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
*Catgut**
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meluphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
Pituitary, W. G.
*" Ant. Lobe**
*" Post. Lobe**
*" Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
" Co
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

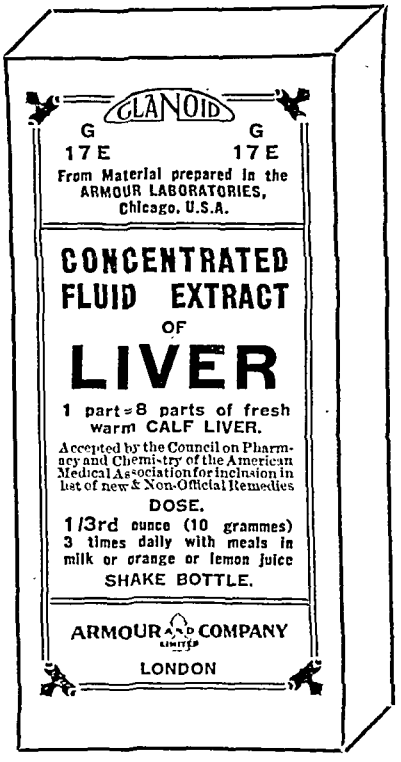
*Literature available on request.

GLANOID

Concentrated Fluid Extract of LIVER

PALATABLE AND READY TO TAKE.

ALSO IN POWDER AND TABLETS.



ONE OUNCE EQUALS HALF A POUND FRESH CALF LIVER.

4-oz. bottle	7/-
8-oz. "	12/6
16-oz. "	24/-
W.Q. "	100/-

We prepare a Sterile Solution for Intramuscular INJECTION.

A brochure on "Glanoid" Concentrated Fluid Extract of Liver in the treatment of Pernicious Anaemia, Sprue and allied diseases, will be sent to members of the Medical Profession on request.

LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

THE
COLLOSOL
SERIES

COLLOSOL
Iodine
(CROOKES)

For injection, internal administration and topical application in all those conditions demanding the exhibition of iodine or the iodides Collosol iodine is free from the inherent disadvantages of the ordinary pharmaceutical preparations.

The CROOKES
LABORATORIES
(BRITISH COLLOIDS LTD.)
22, CHENIES STREET, LONDON
W.C.1.
Telegrams: Collosols, Westcent, London.
Telephone: MUSEUM 3663, 3697, 5757.

(*Æsculapius*).

WHOOPING COUGH

Reports on the use of Ephedrine in Whooping Cough are extremely encouraging. Relief from spasm and vomiting occurs in the majority of cases, and in those cases where the cough remains it is of the mild type associated with upper respiratory infection and not characteristic of Whooping Cough.

EPHRETUSS

This is an effective combination containing Ephedrine Hydrochlor. gr. 1/8 in one drachm. Not only do children find it acceptable, but it is particularly useful in controlling the spasmodic coughing and vomiting, especially during the second stage.

Issued in 4-oz., 8-oz., and 16-oz. bottles.

Particulars will gladly be sent on application to:

EVANS SONS LESCHER & WEBB Ltd.

LIVERPOOL 56 Hanover St. DUBLIN LONDON 50 Bartholomew Close

ASPIRIN DERIVATIVES

IN

RHEUMATISM, NEURALGIA, AND INFLUENZA

"ASPRIODINE"

A compound of Aspirin and Iodine

FOR RHEUMATIC AFFECTIONS AND ARTERIO-SCLEROSIS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"SEDASPRIN"

A compound of Aspirin and Bromine

FOR INSOMNIA AND NERVE AFFECTIONS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"METHYL-ASPRIODINE"

THE NEW ANTI-RHEUMATIC FOR INUNCTION. BALM or LINIMENT 3/-

"PHENYL-ASPRIODINE"

AN INTESTINAL AND URINARY ANTI-SEPTIC. EMBODIES THE ACTIVITIES OF IODINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"PHENYL-SEDASPRIN"

A NEW COMPOUND OF THE SALOL TYPE EMBODYING THE EFFECTS OF BROMINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"MAGISAL," "TYLCALSIN," and "TYLLITHIN"

ARE VALUABLE SOLUBLE SALTS OF ASPIRIN, WHICH ARE PROMPT IN ACTION AS ANTI-NEURALGICS AND ANTI-RHEUMATICS.

Original Bots. of Tablets 2/- and 7/6.

Write also for particulars of Peptone, Mercurome, and other Martindale preparations

W. MARTINDALE

12 NEW CAVENDISH ST., LONDON, W.1

Telephone: Langham 2440. *Telegrams: "Martindale, Chemist, London"*

PIONEERS AND EMPIRE BUILDERS: No. 586
NINTH PERIOD—circa A.D. 300 to c. 1300

Ready for immediate use

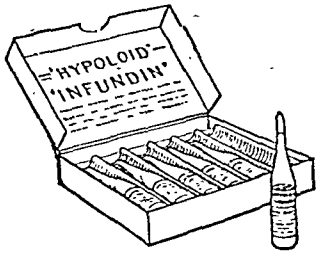
TRADE MARK 'HYPOLOID' BRAND

HYPODERMIC PRODUCTS

Present sterile fluid medicaments for hypodermic, intramuscular or intravenous injection

Each hermetically-sealed container provides, unless otherwise specified, one c.c. of sterilised solution or suspension

The 'Hypoloid' containers are made from specially-tested neutral hard glass, which has no deleterious action on the contents



Reduced facsimile

ABRIDGED LIST OF 'HYPOLOID' PRODUCTS

'HYPOLOID' Brand	*'HYPOLOID' Brand*
„ Bismuth Metal	*„ Iron and Arsenic*
„ Cocaine Hydrochloride	*„ Morphine Hydrochloride*
„ Ephedrine Hydrochloride	*„ Quinine Bihydrochloride*
„ 'Ernutin'	*„ Quinine and Urethane*
„ 'Infundin'	*„ Strychnine Sulphate*

For complete list and prices, see Wellcome's Medical Diary, 1931, *pages* 354/6

BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

ANCIENT TALISMAN SEAL INSCRIBED IN ARABIC WITH THE WORDS "MAHOMET GIVER OF HEALTH."

Mahomet himself taught that the best medicine was a sober and temperate life, and he enjoined upon his followers the practice of personal hygiene especially in such matters as cleanliness and diet.

It is very arresting to read the following account of the inauguration of a hospital by the thirteenth century Arabians in their Egyptian dominions: "When the building was finished, Al-Mansur had brought to him a bowl of wine and, drinking, said: 'I have founded this institution for my equals and those beneath me; it is intended for rulers and subjects, for soldiers and for the Emir, for great and small, freemen and slaves, men and women.' He ordered medicaments, physicians and everything else that could be required by anyone in any form of sickness; placed male and female attendants at the disposal of patients, determined their pay, provided beds for patients and supplied them with every kind of covering that could be required in any complaint."

The hospital buildings included a mosque, an orphanage, an academy and a library in which students might read medical works. The date of the seal here reproduced is uncertain.

DATE: A.D. 632 (Death of Mahomet)
—1283 (Foundation of Hospital)

COPYRIGHT

"Azoule" Solution A.B.A

TRADE MARK

IN PRURITUS ANI

Accumulating experience confirms the remarkable effect of the new local anæsthetic **'Azoule' Solution A.B.A. in Pruritus Ani and Anal Fissure** (see B.M.J., Aug. 30, 1930). Outstanding features of this product are its prolonged local anæsthetic effect which lasts as long as ten days and its non-toxicity.

Wherever prolonged local anæsthesia is required 'Azoule' Solution A.B.A. is the agent of choice.

Other references: B.M.J., June 15, 1929, p. 1070. B.M.J., June 28, 1930

'Azoule' Solution A.B.A. is supplied in 2 c.c. ampoules. Boxes of 6 and 12 at 5/6 and 10/-

Descriptive literature on request.

Allen & Hanburys Ltd., London, E. 2.

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

"BYNOL"

'A perfect combination of Malt Extract with Cod-Liver Oil'—B.M.J.

'Bynol' contains 30% of the 'Allenburys' 'Perfected' Cod-Liver Oil

The 'Allenburys' 'Perfected' Cod-Liver Oil is examined biologically and certified as fully active with regard to Vitamins *A* and *D*.

The 'Allenburys' Malt Extract renders 'Bynol' a rich, easily digestible and palatable product.

Issued in wide-mouthed jars at 2/-, 3/6 and 6/6

Descriptive literature and a clinical sample will be sent post free on application.

Allen & Hanburys Ltd., London

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

CANADA—Lindsay, Ont. UNITED STATES—41 Maiden Lane, New York City.

Malcolm Morris Memorial Lecture

ON

THE OUTLOOK ON TUBERCULOSIS: CHANGING ORIENTATION

BY

SIR ROBERT PHILIP, M.D., LL.D.

PROFESSOR OF TUBERCULOSIS, UNIVERSITY OF EDINBURGH; PHYSICIAN CONSULTANT, EDINBURGH ROYAL INFIRMARY

We are met to-day to commemorate the life and work of one who was "honoured in his generation—a leader of the people by his counsels, and by his knowledge of learning meet for the people, wise and eloquent in instruction."

The setting of this memorial gathering is remarkable—scenically appropriate. The Chadwick Trust—under whose auspices the meeting is convened—serves as a perennial monument to one whose inspiration "lay in the conception that the life of man is so entirely influenced and affected by its surroundings, that by a perfected sanitary code the death rates may be made, practically, whatever we like to make them, until we arrive at that natural duration of human existence which is bounded by anatomical or physiological law."

Edwin Chadwick stepped into the open as champion for man's heritage of health about the commencement of the Victorian era, at a time when Great Britain was apparently spending little more than £2,000 a year on everything that concerned public health. What a contrast to 1928, when the national expenditure for health measures exceeded £10,000,000, not including national health insurance and medical services to sick poor and school children!

Chadwick's contribution to the renaissance of thought and effort is incalculable. There is no need to dwell, in the presence of the Chadwick trustees, on his incomparable achievements. The chaplet of laurel with which towards the close of his life he was enwreathed by France bore the legend, "*Une des gloires de l'Angleterre.*"

It is likewise fitting—and no less gratifying to many of us—that this gathering in commemoration of one of Chadwick's ardent followers is presided over by the honoured Nestor of the trustees, whose long life of distinguished service has run parallel with the beneficent revolution in the domain of health inspired by the labours of Edwin Chadwick, and who himself has been a foremost exponent and no less striking illustration of the virtues of healthy living. There is fitness, too, let me add, in the fact that the invitations to the meeting have been issued by the daughter-in-law of another valiant warrior in the great campaign.

AN APOSTLE OF PREVENTIVE MEDICINE

Could the central figure in our recollections be with us this afternoon, I believe this *mise en scène* would not be displeasing to him. For Edwin Chadwick and Malcolm Morris were cast in a like mould. They had much in common. They scanned the causes of health and disease with the scrutiny of the statesman. They were not content with the expediencies of the politician. Both observed, pondered, drew their conclusions, and acted firmly and fearlessly.

The town of Goole, where Malcolm Morris practised medicine for nine years, lacked horizon for his vision and scope for his superabounding energy. He needed for his workshop the world of his fellows. There was a supreme purpose in what he said and did. So he came to London, where "nature willed him to wear himself and never rest" until the end.

For our present purpose his life presents two main aspects. In the first place, he made himself master in the department of medicine which he especially professed. He did much to raise dermatology to the position it now occupies in the realm of scientific medicine. His name holds an honoured place in the records of the subject as a learned exponent and trusted physician whose happiness lay in taking infinite pains.

Beyond this, however, he delved deeply among the twisted roots of communal disease. The health of the nation became for him the burden of thought and song. A citizen of the world, he accepted collective responsibility, and showed a keen flair for the abolition of disease by the removal of preventable causes.

It is not my province to dwell on the narrower side of his professional life. His powerful impress, and the impulse he imparted to the study of the skin in health and disease, are reflected on other occasions. We are concerned to-day with his larger objective. Here, his personality had ample scope. He was pre-eminently an apostle of preventive medicine.

MORRIS'S INTEREST IN TUBERCULOSIS

In particular, it is fitting to recall his great interest in the problems of tuberculosis and the effective part he played in attempting their solution.

My first lengthy conversation with him—so far as I can recollect—was in 1897 or 1898. He had heard something of the work at Edinburgh and was attracted by the application of the concerted scheme, which by that date had assumed definite shape. Thus began a friendship which it was my happiness to enjoy until it passed into affectionate regard for his memory. When there came the chance of a long talk with Malcolm Morris there was naturally little reference to dermatology. Whether in Harley Street or at the Reform Club, it was the larger issue. He always had time for that. I recall a delightful meeting with him in Paris in 1905 during the session of the International Congress on Tuberculosis. As we paced its squares and gardens, if his sensitive, well-trained eye was not engaged with some architectural feature on which he dwelt with informed affection, he talked with emphasis and discrimination on what had been achieved, or might yet be achieved, in the campaign against tuberculosis.

In 1898, as editor of the *Practitioner*, he wrote:

"No pestilence which visits mankind makes anything like the havoc that is wrought by tuberculosis; typhoid fever, diphtheria, scarlet fever, measles, small-pox, cholera, and all other infectious diseases together do not claim half so many victims as are killed by tuberculosis. And when, in addition to this enormous destruction of life, there is taken into account the amount of suffering which it causes to the patient, and the expense, trouble, and danger which it entails on those about him, it will be recognized that tuberculosis is one of the worst scourges which afflict the human race. . . . The question is not one of merely philanthropic interest; it is of national importance, as it closely concerns the maintenance of the vigour of the race. On this ground the co-operation of the State might well be asked. In this country it is notoriously difficult to get even enlightened statesmen to attend to anything out of which party capital cannot be made. But even here the day is surely, if somewhat slowly, coming when ordinary legislators will be brought to recognize that the public health is the first and greatest of political questions. Let us, in short, have a national crusade against a national disease."

FOUNDATION OF NATIONAL ASSOCIATION

That same year he was a member of the group which, under the presidency of Sir William Broadbent, focused opinion and effort by the establishment of the National Association for the Prevention of Consumption (afterwards termed tuberculosis). It will be recalled that the

movement gained the sympathy of King Edward VII, then Prince of Wales, who convened a meeting at Marlborough House on December 20th, 1898.

In speaking of the purpose of the association, Sir William Broadbent, as chairman of the organizing committee, said:

"The mission of the association is to carry into every dwelling in the land an elementary knowledge of the mode in which consumption is propagated, and of the means by which its spread may be prevented, and thus to strengthen the hands of medical men throughout the country who are dealing with individual cases of this disease. To this end the public attention must be captured, the public imagination must be impressed, the defensive instincts of the general public must be aroused, and we do not hesitate to express our belief that your Royal Highness will, by the single gracious act of calling together and presiding over this meeting, save thousands of lives."

The resolution put to the meeting by His Royal Highness was as follows:

"This meeting desires to express its approval of the effort which is being made by the National Association for the Prevention of Consumption and other forms of Tuberculosis to check the spread of the disease due to tubercle, and to promote the recovery of those suffering from consumption and tuberculous disease generally. It also commends the method adopted by the association, of instructing public opinion and stimulating public interest, rather than the advocacy of measures of compulsion."

The council of the National Association was then formed, with Sir William Broadbent as chairman and Sir Malcolm Morris as treasurer. Speaking as one of the early members of that council, I desire to testify to the immense impetus given to the association by Sir Malcolm's clear vision and indefatigable energy. It was chiefly owing to him that the great British Congress on Tuberculosis was held in London in July, 1901—a congress attended by medical men from all parts of the world. The discussions covered a very wide field. One of the memorable events was the general address by Professor Koch, in which he made light of the intercommunicability of human and bovine tuberculosis. The criticism which followed at the close of the address led to the institution of the Royal Commission, whose conclusions showed that Koch's view was not justified by the facts.

In the annual report of the National Association (March, 1903) special emphasis was laid upon the splendid services rendered by the honorary treasurer, Mr. Morris.

"He had acted as honorary treasurer-general to the International Congress and had borne the brunt of the great labour entailed. The success of the Congress and the admirable character of all the arrangements connected with it, afford an abiding testimony to his ability, energy, and public spirit."

VALUE OF CONCERTED EFFORT

I have vivid recollections of his timely and gallant aid when he spoke in Edinburgh in 1904 as medical president of the Fourth International Home Relief Conference. It was a time when there was still a good deal of cold-shouldering, a time of cross purposes and cross currents, when proposals were followed only by counter proposals. The opportunity was afforded by the international conference of restating the purposes and methods of the co-ordinated scheme against tuberculosis which, begun in 1887, was gradually becoming known as the Edinburgh scheme. As president, he formally seconded the following motion, which had been submitted by me to the congress:

"That, in the opinion of this Section, organized effort against tuberculosis is required. The Section believes that this would be effected by the establishment of properly equipped dispensaries under the direction of the municipalities or local authorities."

He added that, in his opinion, tuberculosis stood absolutely by itself; it was one of the diseases of which they knew the cause, and it ran a peculiar course.

"They desired to carry out an organized scheme against it and wanted the officials of the country to assist them. By passing this resolution the Section would strengthen the hands of the authorities. No Act of Parliament would ever come into force unless the authorities felt that public opinion demanded it. No President of a Board would initiate anything unless it should come from the public themselves. He put the resolution before them in order that, by passing it, they might strengthen the municipal authorities, not oppose them, in order that they might in this way express to the authorities their opinion that the time was ripe for action. He did not believe it would have been right to pass such a resolution five or six years ago; it was only the result of the experience of the work . . . that had advanced the movement in spite of checks."

His very practical appreciation of the possibilities of the concerted tuberculosis scheme was conspicuously illustrated by remarks which he made on the occasion of the semi-jubilee of the tuberculosis dispensary at Edinburgh in 1912. In conversation he led me to understand that, behind the scenes, he had pulled all his weight for the appointment of the Departmental Committee on Tuberculosis which, it will be remembered, led finally to the adoption of the national pattern of co-ordinated tuberculosis schemes.

NATIONAL TUBERCULOSIS SCHEME

It is not my purpose to dwell on the developments which have followed since the adoption of a uniform tuberculosis scheme for this country. It is sufficient to recall that, while thirty years ago there were not more than two or three sanatoriums in Great Britain, and only one tuberculosis dispensary, there now exist in England and Scotland, approved by the central health authorities, more than three hundred sanatoriums and hospitals, and some five hundred tuberculosis dispensaries. This means that, under the direction of every local authority in the kingdom, machinery is in operation for the detection of tuberculosis at an early date, for the improvement of environmental conditions in the widest sense, for the treatment of the various forms of tuberculosis with a view to cure, and for the segregation and hospital care of more advanced cases.

This very remarkable fact illustrates the extraordinary change of outlook which has occurred with regard to the whole subject. It is the more remarkable when we consider that the formal recognition of the nation's responsibility was achieved only eighteen years ago, and that initial efforts to erect appropriate machinery all over the country were abruptly interrupted by the outbreak of the war, the immediate and later effects of which have proved disastrous in this as in other fields. Accordingly, as was inevitable, the machinery is not all it might be in various ways, and its quality is far from being uniform throughout the kingdom. Both the machinery and the personnel in charge stand to be improved. None the less, we have already attained, as in no other country in the world, a uniform, concerted scheme, functioning more or less adequately in every part of the land. The fact registers effectively the amazing alteration of national outlook.

RETROSPECT

What need of further illustration of the change in thought and action? And yet—because the immensity of the change in methods and results is still hardly realized—I am tempted to cite a witness whose testimony regarding the outlook in the past is no less true than picturesque. Sir Clifford Allbutt, whose birth coincided with Chadwick's

emergence into public life, when giving in 1907 a retrospect of his experience regarding tuberculosis, wrote:

"My retrospect begins in a shaded parlour at Ventnor, a room in which we were taught the art of embalming the air by stuffing cotton about the doors and pasting paper about the window frames. There I had been sent as a little boy for whom it would be very nice to have such a change from the sterner and gloomier climate of a fifteenth century house in the North. . . . So for a time I was to be the child companion of my father's cousin—a pretty lady, sweet and fragile, who had gone to Ventnor for a consumption. . . . Even still I seem to hear the hack-hack of her hollow cough—too hard and hollow to come from that slender body; and again, the quick, stealthy coming and going of the physician; and the mysterious hours in the bedroom—once very long—when I heard whispers of a blood-spitting. Then, when the sun shone—it was winter, and the sun no constant visitor—my delicate lady ventured to pace—how slowly she paced!—up and down the south of the terrace. Such a poor short walk it seemed, after so much waiting and preparation, so much cloaking and muffling, and the eclipse of the hot cheek under the close black respirator, over which the fine Highland woollen veiling was folded again and again. . . .

"At length I went home again, and gladly. The experience was indeed new, and the lady sweet; but it was all weird, still and stuffy, and rather sinister. Happily, I was none the worse; of her or of the respirator I did not even get a scrofula. I was told afterwards that she went with her husband very far away—to Madeira—which I supposed, for her good, to be even stiller and stuffier. But she had died, they said, and we wore black clothes for a few weeks. . . .

"Thus was my little life spared to pry into the affairs of the medical uncles, where I saw more and more of these hothouse plants like my cousin, and wondered whether the gardeners were stupid, or the houses not hot enough—for all of them died! Indeed, no one ever seemed to suppose they would get well! . . .

"Then as a student I began to prowl in the hospitals, where I saw these consumptives in flocks. 'Only phthisis!' was the monotonous diagnosis. They used to sit on a side-bench along with infantile palsies and the rest, not as infectors, but as incurables. Meanwhile they were comforted with large beer-bottlefuls of balsams and liniments—a sort of liturgy, as it seemed to us; for every week one or two came no more, and others took their places."

General Apathy

Yet another witness may be cited as to the limitation of medical thought in relation to tuberculosis fifty years ago. I remember well the disappointment felt by me, on returning to Edinburgh after laboratory work elsewhere on the lines of Koch, by the remark of Sir Thomas Grainger Stewart, one of the kindest of my former teachers. When, in reply to a question regarding future work, I told him I proposed devoting much of my time to the subject of tuberculosis, his remark was: "Don't think of such a thing. Phthisis is worn to a very thin thread. The subject is exhausted." The reply reflected the medical apathy which then prevailed. How curiously in contrast seem the interminable piles of literature devoted to the subject in more recent times!

Again, in 1887, when convinced by laboratory and clinical work that in concerted activity on the part of communities lay the road towards successful handling of the problem, I proposed to civic and medical authorities in Edinburgh that Queen Victoria's jubilee might be fitly commemorated by the inauguration of a movement towards that end, a wet blanket was thrown on the project by the adoption of a city scheme for sending consumptive patients to cottages in the country. It was the apathy of the city fathers and their advisers which led to the establishment of the first tuberculosis dispensary and the development of the Edinburgh scheme on a voluntary basis.

A few years later, when pleading for the establishment of the first sanatorium in Scotland, I was pulled up in fatherly fashion by the learned Principal of the University of Edinburgh for the folly of proposing to treat pulmonary tuberculosis in such a climate.

"When you tell me you have discovered how to get rid of the east wind and Scottish haar, I shall believe you may be trusted to do something to remove consumption, which is the special curse of our climate."

Indications of Changing Outlook

Not many years later one was able to write (1898), as the result of extended observations in the said sanatorium, which—peace to the Principal's ashes!—came into being notwithstanding his good-natured opposition:

"The one essential factor in treatment is the free exposure of the patient to open air. He must be bathed in fresh air day and night, and this irrespective of whether the weather be good or bad, as popularly understood. The more sunshine, or at least bright sunlight, he can have, the better for the patient. . . . Every aspect of climate having been considered, I have been led to the conclusion, which I have now for long taught to the members of my chest clinic, that the best climate for the treatment of pulmonary tuberculosis is that which woos the patient most into the open air. . . . The experience of the past dozen years has convinced me that if the patient can only be persuaded to be out of doors, lying, sitting, or walking, as the case may be, a large part of each day, and, when indoors, to allow the freest access of fresh air day and night, results may be obtained in almost any district which will compare satisfactorily with those obtainable at most favoured resorts."

About the same time, Sir William Broadbent, having visited the sanatorium, in citing the views just expressed, was impelled to write:

"This is not a mere pious aspiration, but a verified experience. [Results] at Edinburgh, on the Norfolk coast, in Ireland, and elsewhere have shown that consumption can be treated successfully in practically all parts of our islands. This has revolutionized our ideas and it has created new duties."

In the same year Sir Samuel Wilks, president of the Royal College of Physicians, wrote from his own experience as follows:

"*The remedy for consumption, therefore, is not medicine but fresh air.* In various parts of the globe this may be obtained. Seeing that all the places best fitted for consumptives are blessed with sunshine, it is quite possible that the latter may be one of the conditions favouring recovery. . . . *Air and sunshine are the needs of the consumptive; without them no other remedies will succeed.* When reading at school of Diogenes in his tub, and the visit of Alexander the Great to him, I thought he was a man of very bad manners in telling the monarch to get out of his sunshine, and it was not until late years that I took a different estimate of the philosopher."

Notification

One other illustration. A day or two after venturing at a public meeting (1890) to urge the desirability of the notification of tuberculosis, I was stopped in the street and reproved by that veteran exponent of notification, Sir Henry Littlejohn, for the foolish notion that a principle applicable to acute infections should be extended to so chronic a condition as consumption. He advised me not to run my head against a stone wall. Yet notification of tuberculosis in all its forms has for some eighteen years been the law of the land. In the year 1929 the cases of tuberculosis notified in England and Wales and in Scotland numbered 86,296. Alongside of notification there has developed throughout the country a uniform system of centres for diagnosis and residential institutions for all the varying manifestations of tuberculous disease. By the adoption of this uniform tuberculosis scheme throughout the kingdom an immense

amount has been effected, notwithstanding the inseparable disadvantages of the years we have lived through since 1914. In spite of imperfections of machinery and inequality of personnel, most convincing results have followed the incessant efforts of understanding officers attached to the tuberculosis service in the country.

MORTALITY FROM TUBERCULOSIS

What are the facts regarding the mortality of tuberculosis at the present time, compared with those past years which we have been considering? They are significant, and deserve to be broadcast repeatedly in view of the ill-informed and foolish statements one hears on many sides. Let me cite a few. If the figures relate to Scotland for the most part, the fact must not be attributed to perfervid patriotism, but rather to the great convenience I have experienced in tapping, on the spot, the resources of the Registrar-General for Scotland, to whom my thanks are gratefully accorded. The returns from England and Scotland are remarkably parallel.

Decline in Mortality

1. During the past fifty years the decline in mortality from tuberculosis has been very remarkable. In Scotland the death rate from all forms of tuberculosis has fallen from 336 per 100,000 in 1879 to 97 in 1928, and the death rate from pulmonary tuberculosis has fallen from 231 per 100,000 to 68. The continuity of the drop is noteworthy.

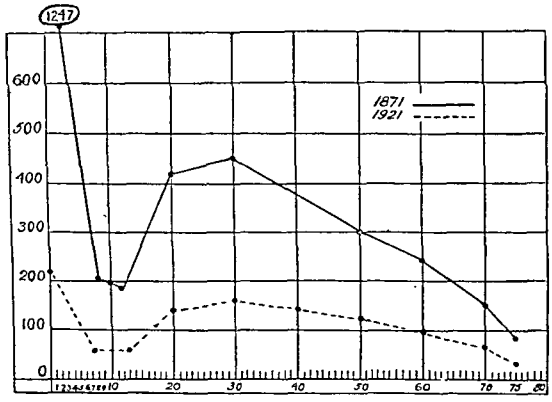


FIG. 1.—Graph showing age death rates for tuberculosis in Scotland.

The graph is of special interest, contrasting as it does the *age* death rates of 1871 and 1921 (last census). While the general form of the curves is similar, the following points are noteworthy: (*a*) the general difference of levels; (*b*) the striking difference at the early age periods; and (*c*) the gradual levelling of the peak in early adult life.

2. The decline in mortality from tuberculosis has been much *more rapid* than the decline in mortality from all causes. Stated broadly, while the mortality from all causes has decreased by approximately one-half, the mortality from tuberculosis and from pulmonary tuberculosis has declined by more than two-thirds. Stated otherwise, while in 1871 the deaths from tuberculosis formed 16.8 per cent. of deaths from all causes, in 1921 they formed only 9 per cent.

Accelerating Decline

3. The rate of decline in mortality from tuberculosis has *accelerated* within recent years. While the percentage decline of rate of mortality from tuberculosis during the decade 1901-11 was 21, the percentage decrease during the decade 1911-21 was 31. This remarkable acceleration of rate is indicated in Table I, where, taking a series of 5-year periods, the mean death rate of each 5-year period is compared with that of the previous 5-year period. The *percentage decrease* in each instance is shown in the last column of the table.

TABLE I.—*Death rate per 100,000 from tuberculosis (all forms) in Scotland, illustrating accelerating fall within recent years; as prepared by the Registrar-General for Scotland.*

Year	Death Rate	Mean Death Rate (5-yearly)	Percentage Decrease since previous 5 year Period
1893	240		
1894	235		
1895	256	239	15.55
1896	229		
1897	237		
1903	216		
1904	224		
1905	211	217	9.21
1906	218		
1907	218		
1913	170		
1914	162		
1915	164	163	24.88
1916	160		
1917	159		
1923	118		
1924	116		
1925	110	109	33.13
1926	99		
1927	100		

The point is illustrated likewise in respect of individual cities—for example, Birmingham, during a period of forty years, 1883-1922. The percentage decrease as between five years (1883-87) and five years (1898-1902) was 4.15, while the percentage decrease as between five years (1903-7) and five years (1918-22) was 24.24.

Unequal Decline in Different Countries

4. The decline in mortality from tuberculosis has been unequal in different countries and different cities, as Tables II and III reveal.

TABLE II.—*Death rate per 100,000 population from tuberculosis: larger cities of Great Britain and Ireland in 1925.*

	Estimated Population	Death Rate per 100,000 from			
		All Tuberculosis	Pulmonary Tuberculosis	Tuberculous Meningitis	Abdominal and other Tuberculosis
London ...	4,612,000	112	95	8	10
Glasgow ...	1,033,999	137	97	14	25
Birmingham .	945,900	114	95	8	11
Liverpool ...	856,000	151	121	11	19
Manchester ...	755,800	158	133	9	16
Sheffield ...	527,100	99	79	9	11
Leeds	472,900	129	107	9	14
Edinburgh ...	421,968	134	95	14	26
Bristol	386,000	120	95	9	16
Bradford ...	290,200	101	81	8	12
Newcastle-on-Tyne	287,100	156	121	16	19
Dundee ...	169,361	122	87	11	24
Aberdeen ...	157,192	124	97	11	16
Belfast County Borough	413,000	187	138	20	29
Dublin Area...	438,000	186	144	42	

TABLE III.—*Death rate per 100,000 population from tuberculosis in American and European cities (outside Great Britain) during 1920.*

American Cities	Estimated Population	All Tuberculosis	European Cities	Estimated Population	All Tuberculosis
Philadelphia..	1,837,924	137	Vienna ...	1,842,005	405
Indianapolis ..	314,194	132	Budapest ...	—	376
Newark ..	414,216	130	Warsaw ...	—	338
San Francisco	520,546	128	Prague ..	487,000	324
Boston	751,251	127	Florence ...	248,587	293
New York ...	5,663,980	126	Paris	2,905,218	279
Pittsburgh ..	591,033	119	Köln	656,617	189
Cleveland ..	808,253	108	Leipzig ...	621,351	179
Buffalo... ..	519,503	102	Berlin ...	1,931,339	177
Chicago ...	2,728,022	97	Düsseldorf...	414,900	172
St. Paul ...	290,000	89	Amsterdam	650,758	156
Washington ...	437,571	85	Hamburg ...	1,011,000	152

The discrepancies between cities in Great Britain and Ireland are most noteworthy. Similar discrepancies are found in the towns of the United States, and become still more arresting when we review cities in other European countries. Note the inequality among cities in our own country. For example, in 1925, the death rate from tuberculosis per 100,000 of the population was in Sheffield 99, London 112, Manchester 158, Belfast 187. In cities outside Great Britain the inequality was even more striking. Comparable statistics for the year 1920 indicated that the death rate from tuberculosis per 100,000 of the population was in Washington, D.C., 85, Chicago 97, New York 126, Philadelphia 137, Berlin 177, Paris 279, Warsaw 338, Vienna 405. The comparison throws doubt on the explanation frequently cited on the authority of Metchnikoff that diminution in mortality from tuberculosis is the expression of an advancing immunization of civilized populations against the disease.

While the significance of progressive immunization in certain directions is admitted, the examples just cited indicate that tuberculosis continues to be unequally distributed throughout the civilized world, and that the distribution does not appear to bear close relationship to the influence of immunization. Were progressive immunization the chief factor, we might rightly expect to find evidence of the influence conspicuous among the populations of the older civilizations. The figures in the above tables cannot be said to bear that out.

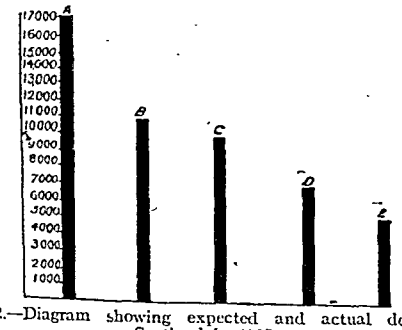


FIG. 2.—Diagram showing expected and actual deaths in Scotland in 1925.
(Note.—All numbers are based on five-yearly returns.)

Without attempting to analyse all the factors, we may conclude generally that in some countries and some cities causes making for tuberculous disease remain prevalent, and that influences making for diminution have, for one reason or another, had less effective play.

Returning to the facts of our own country, the main propositions regarding the decline and acceleration of the decline are strikingly illustrated in the accompanying diagram (Fig. 2).

The columns indicate that the number of deaths that might have been expected in Scotland in the year 1925, (A) if the death rate had remained the same as in 1875; (B) if the death rate of 1900 had continued; (C) if the tuberculosis death rate had declined during the whole period in the same ratio as the death rate from all causes; and (D) if the death rate during the second half of the period had declined in the same ratio as during the first half of the period—that is to say, if there had been no acceleration of decline. The last column (E) shows the actual number of deaths.

Results Follow Intelligent Action

Such facts are inspiring. From whatever angle the evidence is considered, it seems fair to conclude that the decline in mortality has been hastened by the fuller understanding of the natural history of tuberculosis, which has been rendered possible by the discovery of the tubercle bacillus and by the more correct outlook on the field and the better adaptation of measures of attack and defence.

A comparison of the epidemiological records of different countries points to the conclusion that by the adoption of a certain procedure it is possible to influence the morbidity of, and the mortality from, tuberculosis. In other words, the tuberculosis index of a given area is dependent on, and governable by, the degree of intelligent action on the part of health authorities and of co-operation on the part of the inhabitants. The scoffer who tells us that the decline in mortality so evident in Great Britain to-day is referable to causes acting uniformly throughout the world does not know, or is unwilling to face, the facts.

In view of the evidence, it is clearly up to every progressive community to understand the *why* and the *how* of each factor in the tuberculosis scheme of the country, and to insist on its adequate application.

Have we Reached Finality?

If we assume that this is realized, the question arises: Have we then reached finality? May we rest content with the results attained and the accelerating rate of decline in tuberculosis mortality presently apparent, in the belief that we are within sight of the date when the descending curve of mortality will reach the vanishing point? Shall we be content to wait and see?

To such a question the answer can be only an emphatic negative. With the constantly increasing knowledge of the natural history of the disease there is a recurrent call for fresh orientation. Action under the tuberculosis scheme is not stereotyped, but can be adjusted to meet the indications afforded by every new fact and fresh conception based thereon. Unfortunately the influence of habit and tradition tends still to dominate the situation. Even now the bearing of some well-ascertained facts remains inadequately realized in the preventive programme.

The chief weakness of the present-day attitude is the disproportionate concentration of attention on pronounced lesions, more especially pulmonary tuberculosis. This is a natural result of the earlier outlook and of the gravity of the condition itself. Fifty years ago little attention was paid to anything save advanced disease of the lung. And it is most fitting, from the individual and communal point of view, that tuberculosis of the lung should have special consideration. The advance made during the past forty years in connexion with the diagnosis and treatment of pulmonary tuberculosis ranks as one of the most encouraging facts in the history of practical medicine. On the other hand, it should be kept well in mind that, for the most part, pulmonary tuberculosis—"phthisis" as, unfortunately, it is still sometimes termed—is in reality

a late visceral manifestation of an infection contracted much earlier.

From the larger preventive point of view it is necessary to probe more deeply. Attention must be shifted more and more towards the earliest *indications of tuberculous infection*—not to the neglect of late manifestations, but to their better interpretation and progressive elimination.

CHANGING ORIENTATION

Continued observation of the natural history of the infection, the lessons of experiment, and the facts of comparative pathology—for example, tuberculosis as it occurs in cattle—together with the introduction of tuberculin tests, have made possible a truer perspective.

The gradual dissemination of tuberculous infection and the resultant disturbance have been followed from the point of infection through the lymphatic system to involvement of the various viscera. The march of events may be readily studied in animals, when inoculated either naturally or artificially. In the human subject, it is one of the privileges of age to have had the opportunity time after time of watching the procession of events in the same individual *from the date of initial infection and trifling manifestations, through the varying phases of the infected individual's life.* It has been possible for me in numerous instances to trace the development of tuberculosis in the same subject in ever-changing form, from the seed stage up to full fruition, in some instances for thirty years and more.

BIOLOGICAL METHOD

How slight and apparently simple the first indications may be! How gradually those may become pronounced and fixed—it may be in glands—receding here and advancing there! And the same ebb and flow may be observed in visceral involvements—periods of activity alternating with quiescence. The latency may be so complete as to simulate arrest. Yet this in turn may be followed by a fresh outburst.

The march of events throughout the long or short life of the infected individual, passing panorama-wise before the observer, is a fascinating study. That ebb and flow—that arrest and advance, occurring irregularly throughout many years—are but the expression of the continuing contest between the invading organism and the resistance of the tissues of its host.

The variety of expression is infinite. While the invading organism is presumably little changed, save in respect of numbers, the resistance offered varies endlessly in different individuals and in the same individual at different times. This results from many causes—intercurrent illness, accident, strain (at different stages of life), and a host of environmental influences.

The tuberculosis scheme, as usually developed, tends to be lopsided, heavily weighted in respect of pronounced lesions and but little occupied with the possibilities and consequences of early infection. In the absence of so-called clinical disease, too little attention is paid to the fact that tuberculous infection has been established. And yet this is the crossing of the frontier—the beginning of what is often a lifelong contest.

CARDINAL FACTS

In its everyday operations the tuberculosis scheme frequently lacks grip on certain facts of primary importance.

1. That infection is widespread, indeed more or less universal, throughout a community.

2. That infection is contracted for the most part in childhood.

3. That tuberculous infection, once established, continues to exert its influence throughout the life of the individual, either by securing protection—immunity—from the consequences of further exposure, as happily occurs in the majority of individuals, or by producing recurrent disturbances which are precipitated by many different causes—personal and environmental—and which vary endlessly in kind and in degree.

4. That in proportion as the resistance of the infected individual is kept high, these disturbances are likely to be few and relatively slight. In proportion as the resistance is lowered by any cause, the infection is apt to spread, and existing lesions tend to be activated and extended.

To no other disease is the classical maxim so applicable: *Venienti occurrite morbo.* Anticipation, that is, prevention, of the endless possibilities of subsequent mischief following infection was the *motif* behind my insistence on the systematic examination of contacts as an essential function of the tuberculosis dispensary. If our efforts towards the eradication of tuberculosis from a community are to be effective, it is necessary that we should hunt for the earliest traces of tuberculous *infection.* The advanced case of disease is but the late efflorescence of the full-grown weed, which might have been scotched at the seedling stage. To neglect the methods of early detection with a view to arrest is medically and economically unsound.

FUNDAMENTAL VALUE OF TUBERCULIN

Having regard to the likelihood of infection in the course of childhood, and the difficulty of assessing the ultimate consequences of such infection, I am firmly convinced that the general use of tuberculin as a diagnostic agent in childhood is most desirable. Because of the likelihood of infection, the tuberculin test should become routine practice at stated intervals from early infancy onwards. The procedure is painless and harmless; yet the knowledge obtained by it is priceless.

So long as the reaction remains negative, nothing further is necessary. Whenever a positive reaction is obtained for the first time, the fact and the date should be recorded. The fact of tuberculization, and the date of its first detection, are of immense significance in the life-history of the child, having regard to the possible implications.

If, after positive determination, the health of the child continues thoroughly good, we have the knowledge that the child's resistance is sufficient, and there is no call for treatment. On the other hand, the positive determination may illuminate many after-events. Vague conditions of "delicacy" in the child may find their explanation—for example, malnutrition, obscure feverish attacks, ill-defined lack of energy, so-called "disturbed action of the heart," which may interfere with the claims of education and sport. Such conditions, I am satisfied, are very frequently the expression of tuberculous infection. Further, the occurrence of incidental illnesses, such as measles and whooping-cough, will call for watchfulness, and care will be taken to secure complete convalescence after such attacks. The doctor will insist on the maintenance of a high level of resistance, more particularly in relation to school life, the period of adolescence, and the time of entrance into more responsible life.

Preventive medicine may wisely take a lesson from the sphere of agriculture. The practical farmer who seeks to raise a tubercle-free herd has learned the value of the tuberculin test. A method for the early detection of tubercle which is worth the farmer's while on economic grounds has still greater significance and wider efficacy—both medically and economically—in dealing with the human race.

Through the knowledge gained by the tuberculin test, the intelligent farmer is able to direct separate attention

to two groups in his herd: (*a*) to those animals which react to tuberculin, and (*b*) to those which do not react. If his purpose is solely to secure and maintain a tubercle-free herd, naturally he removes the reactors entirely. On the other hand, he may prefer to retain the reactors, as a group by themselves, in which case he will take special precautions for their individual care and their communal relationships.

These things are a parable. In view of the frequency of infection in the human family, I am satisfied that, while insisting on the undesirability of any formal distinction between reactors and non-reactors, it would constitute an advance of first importance could it be made routine practice to determine the *fact* and *date* of the initial infection (tuberculization) in every child. This important subject has been elaborated by me elsewhere.

Such determination is the first essential step towards effective detuberculization of the individual and, ultimately, of the community. The procedure is harmless and costs little. Yet its general adoption would result in the anticipation and limitation of countless consequences in the shape of invalidism and crippling. It is the lack of such scientific anticipation which has created, and meantime maintains, the need for sanatoriums and hospitals all over the country. As I put it in 1912: "It is to the nursery and schoolroom that observation and effort should be directed if measures for the eradication of tuberculosis are to be fundamentally sound and practically effective."

ADMINISTRATIVE DEFECTS

It is one of the disadvantages of our public health system that divisions made for administrative convenience do not always coincide with the grouping of individuals from the standpoint of the physician. The departmental system which has developed in relation to the public health service leads sometimes to embarrassment and incomplete results.

Especially is this true of the line of separation between the department of maternity and child welfare and that of tuberculosis. In actual practice that artificial barrier should cease to exist. The liaison between these two departments ought to be of the closest kind. Falling administratively within the province of the maternity department is to be found the tuberculous mother—expectant, or after the event—with the variety of difficult problems which her presence brings. Then there is the problem of the newborn child and of other infants from tuberculous mothers. There is also the question: How are infants generally to be safeguarded from the ubiquitous infection?

The department of child welfare, as such, is of limited value unless the likelihood of tuberculization during the early years of life is kept steadily in mind and the advent of *infection*—as opposed to the appearance of definite *disease*—watched for with scrupulous attention. It should be regarded as a responsible duty of the department—as it should be of the family doctor—to instruct the ordinary mother regarding the likelihood of the occurrence, the ready means for determining this, and the simple measures to be taken to avoid serious consequences.

ANTICIPATORY MEASURES: VACCINES

With the knowledge we now have of the genesis and distribution of tuberculous disease, it is high time that the medical adviser of the household, whether the family doctor or the health officer (to whichever department he is attached), should see that the parent or responsible guardian understands the available methods for excluding the risks of tuberculous disease. The meaning and value of anticipatory (preventive) procedure should be inculcated on parents from the birth of the child onwards, and procedure on the lines indicated should be commenced at an early date. I have the conviction that extended knowledge of the facts, and the application of anticipatory measures which will be consequently demanded, will lead to better results than attempts along the line of enforced vaccination.

Attempts at vaccination have been numerous. It is foreign to the purpose of this address to refer to those in detail. One after another they have been proposed on scientific grounds. In some cases they have been boomed less desirably. They have been tested and, so far, all have been found wanting. The latest proposal is at present valiantly championed. The vaccine B.C.G. awaits the final verdict, but I think it only right to say that in my opinion there remain loopholes in the evidence which call for further examination before it would be proper to sanction the adoption of the B.C.G. method generally. Owing to the continuing lack of certainty on several issues, and the difficulty of determining the limits, on the one hand, of the risk, and on the other hand, of the protection following B.C.G. vaccination, it has seemed to me remarkable that what may be described as an experiment on the human subject should have been permitted on so large a scale.

Looking to all sides of the question in the light of present knowledge, I am convinced that the proper line meantime is to concentrate attention on the detection at the first possible moment of the occurrence of tuberculous infection (tuberculization) in the child. This event, which can be determined exactly by means of the tuberculin test, gives the key to much that may be otherwise obscure in the life-history of the individual, and opens the way to the rational and timely employment of preventive and curative measures. Were this line of approach adopted universally, I am satisfied that the after-consequences of the infection would be correspondingly reduced and that not only would the decline of mortality from tuberculosis be further accelerated but that—assuming thoroughness of procedure—we might expect to reduce the mortality from tuberculosis to a negligible amount within a generation or so.

Neither child nor calf is born tuberculous—even if born of a tuberculous mother. Exception to the rule is a very rare occurrence. Tuberculosis was unknown to the wild man of the prairie, the forest, and the hills. Like cattle, living and breeding in the open, he was exempt. The blight of tuberculosis has followed incessantly the aggregation of men in groups—one of the vicious by-products of incomplete and ill-informed civilization. Begotten among these conditions, and fostered by ignorance and dread, it has shadowed man from the cradle to the grave. Tradition and fear have engendered hopelessness and helplessness. Mankind, stricken and crippled—mankind in all its ranks, for tuberculosis knows no class distinction—was in a sorry way. Medicine, blindfold, stumbled in the dark.

The past half-century has changed all this. There is light at every point on a sure road. What we require now is wide extension of the lighting system. Better training of our doctors will bring precision of effort towards the prevention or limitation of tuberculosis. Popular education regarding the causation and natural history of tuberculosis will arouse the health conscience of the community to demand that nothing be left undone to ensure that this "great disease of life" shall cease.

It has been given to few to realize so clearly as did Sir Malcolm Morris how true it is that the final conquest of tuberculosis depends on the provision of better lenses for the doctor and more active insistence on the part of the people. He looked confidently for the dawn of "that great to-morrow when mankind shall mend."

A PLEA FOR THE EARLIER DIAGNOSIS OF ABDOMINAL EMERGENCIES*

BY

C. H. FAGGE, M.S., F.R.C.S.

SURGEON TO GUY'S HOSPITAL

In the treatment of an acute abdominal emergency which has passed beyond a certain stage in a patient whose condition is such that the natural powers of recovery have been put out of action by toxins elaborated within the paralysed bowel, we are, broadly speaking, as powerless as were those who were faced with the same problem forty years ago. It is true that prognosis in a majority of the conditions which are generally recognized as abdominal emergencies has much improved, but it is my thesis that this is due to earlier diagnosis—to the recognition of a morbid process in a stage which was not in those days regarded as a pathological state requiring surgical treatment, and not to any new epoch-making measures, either of manipulation or of therapy. That there is still room for improvement in prompt diagnosis must be admitted, even though some of us have had the fortunate experience to see cases of advanced peritonitis recover, and have perhaps attributed this to the use of the Fowler position, morphine, and rectal saline; and probably many will agree with me that the use of anti-gas-gangrene serum for such a patient, or for one suffering from acute obstruction of some days' duration, is of the greatest value at times.

This line of treatment, which we owe to one of the best pieces of surgical research of recent years, is entirely British, having been evolved by Williams of the Surgical Unit of St. Thomas's Hospital. In spite of some degree of success in conditions just spoken of, we must in our inmost hearts admit that the large number and the diversity of aim of the measures recommended for lesions such as paralytic ileus conclusively prove that we have no sure remedy for it, and must own that resections of gangrenous gut still show so high a mortality as to make any surgeon thoroughly dissatisfied with present-day methods.

For progress a contented mind is a drug of evil influence; the first step in the discovery of a new line of treatment is the appreciation that methods hitherto employed have not produced results which may be regarded with complacency. It is clear that the calls on our time debar, and that opportunities are lacking for most of us to embark on, research, quite apart from the fact that the research spirit, the critical mind, is given to very few, and, for this latter reason only, much that passes as research has very little practical value in our warfare against disease. But if this method is not at our disposal, we have abundant opportunities for clinical observation, and I submit it is by the use of this and a finer perception of the meanings of signs and symptoms of morbid conditions, that we shall be enabled to arrive at an earlier diagnosis of abdominal emergencies which up to the present have proved so obstinate to operative treatment. By this means the present heavy mortality will be appreciably diminished.

Visceral Pain

The first, and most important and also most informative, of the signs and symptoms which suggest an acute abdominal emergency is pain. Any severe abdominal pain lasting for a period which is expressed in terms of hours rather than minutes, and for which a definite and adequate cause cannot be found and demonstrated, should, in my judgement, be regarded as probably due to a surgical emergency, and the patient placed at once under such conditions that, when confirmatory evidence is forthcoming, operation may be undertaken without further delay.

In my Bradshaw Lecture (given in November, 1928) I made an attempt to formulate a mechanical theory for the production of the various axial rotations which take place in the abdomen. Many of these are pathological, and when investigating the subject I could not but come to the conclusion that such rotation of a mild degree must often take place without causing any grave result, in fact that a preliminary minor degree of torsion usually occurs several times before the process goes so far as to interfere with the vitality of the organ concerned. Such a minor rotation, which it is assumed may be corrected by a reversing of the same factors which caused it, must undoubtedly produce pain as its first symptom; this may be of short duration—for example, a few minutes. One naturally speculates as to whether some transitory severe pains may be of this nature. Many theories have been put forth to explain the nature of abdominal pain. This is of two types: local and referred. At present Hurst's† hypothesis that visceral pain is due to tension has more in its favour than any other theory. It is clear, too, that pain is only a superlative degree of the sense of fullness or discomfort which follows for a brief time the temporary distension, perhaps scarcely more than physiological, of any hollow organ such as the stomach. Pain is a manifestation of the degree and rapidity of production of visceral tension, and while it is produced only when there is increased motor activity, we are told by writers on the subject that it cannot be regarded as an exaggerated form of colic, which is attributed by Meltzer (1903) to a disturbance of the normal relaxation of the bowel below, which usually accompanies the contraction of the intestine when stimulated at any spot. To me it appears that the difference is only one of degree. Further, if we accept this association of visceral pain with increased motor activity we can understand why various forms of intestinal ulceration are usually painless. The conclusion that true visceral pain exists is inevitable, in spite of the contention of Lennander and others that the viscera are insensitive to mechanical stimuli, and that therefore pain must be a manifestation of inflammation or of traction on the parietal peritoneum and extraperitoneal connective tissue.

Referred Pain

In addition to local visceral pain as a manifestation of disease, we recognize the phenomenon of referred pain. Ross termed visceral pain "splanchnic," and referred pain "somatic"; the latter, first described by John Hilton as "sympathetic pain," is now generally explained as being referred to a cutaneous area which is innervated by the same spinal segment as the viscus affected. The intensity of such pain varies with many factors, and unfortunately we can never lose sight of the fact that "the threshold of stimulation" may be lowered by many conditions, not necessarily functional, so that the estimation of such pain is by no means a correct index of the severity of the patient's condition. Visceral pain is located to the position of the organ concerned—for example, pain resulting from an inflamed gall-bladder may vary in position with that of the gall-bladder itself. This is denied by Hurst. It is true, as we shall see later, that there are exceptions to this plan, but when we are told of pain over a certain organ we usually conclude that disease of the subjacent organ is the cause of the pain, and in general this is correct. Associated with visceral pain is deep tenderness; this is found over the same area as the pain: possibly of the same causation as referred pain are hyperaesthesia (or superficial tenderness) and rigidity. The two latter are presumably manifestations of spread to the somatic fibres of the spinal segment involved with lowered resistance to such stimuli, and naturally are found affecting the two

* Substance of a paper read before the Croydon Division of the British Medical Association.

† Goulstonian Lectures on the Sensibility of the Alimentary Canal, London, 1911.

layers of the abdominal wall sensitive to pain: (1) the skin, and (2) the muscle layers.

I have purposely discussed the phenomenon of pain at some length because I feel that unless we have some knowledge of the method of its production and of its significance we can form no reliable estimate of its diagnostic worth.

Vomiting: Shock

Vomiting is usually an early sequel of acute abdominal pain: it follows so shortly the first symptoms that it cannot be due either to the spread of inflammation to the visceral peritoneum or to mechanical causes such as ileus. Its origin must be reflex, and it can probably be explained as a reflex excitation of the motor segments controlling the stomach. In nature this vomit is merely gastric contents, is often small in amount unless medicine has just been taken, and cannot be expected to occur more than once or twice.

As a general rule symptoms and signs of shock are absent at this stage of an abdominal emergency (apart from internal haemorrhage—for example, ruptured ectopic gestation). I would not go so far as to accept Moynihan's view that in the early hours of an acute abdominal emergency shock does not occur, but would remind you that it is usually absent; in fact, every one of us must have seen such a severe condition disclosed at an early abdominal operation as to evoke the spontaneous remark, "Why was there no shock?" To this I have always given the second-best answer to any question, "I do not know."

Distension: Visible Peristalsis

Distension cannot be expected at the stage in which a diagnosis should be made—and I wish particularly to emphasize this point because textbooks, in an endeavour to omit nothing which may possibly occur, tend to convey erroneous ideas and an inaccurate clinical picture. When distension is present in an acute case, usually after forty-eight hours, and never in the first twenty-four, it is commonly due to paralytic small gut obstruction (ileus) and indicates peritonitis. Far less frequently it may be seen in acute small intestine obstruction, but again only at a stage when the diagnosis has or should have been made on other evidence.

Visible peristalsis indicates hypertrophy of the muscular coats, and therefore occurs only in chronic obstruction: we should not be misled by seeing the normal peristalsis of bowel through a thinned abdominal wall.

Indications for Operation

What is the evidence?—a patient with a few hours' acute abdominal pain followed by vomiting; but if confirmatory proof is still considered wanting the patient is kept in bed and a half-hourly pulse chart ordered. This practice is not universal, as it should be, for, apart from the pain, the most valuable sign is a rising pulse. If after two to three hours the pulse is rising, the abdomen *must* be opened at once. A rise within half an hour of admission may be ignored, as this is often accounted for by such washing as is necessary, the giving of a plain soap enema, or purifying the abdomen; the last is not done, nor is morphine given, in wards under my control, until a provisional diagnosis has been made. I have so far been intentionally vague, and have purposely mentioned no sign or symptom which would concentrate attention on any particular organ. Shall we say that one-third of abdominal emergencies are obvious, one-third doubtful, and one-third impossible of diagnosis? If we are going to save the impossibles certainly, and a fair percentage of the doubtfuls, operation, assuming that it is necessary, must be done in this stage before vomiting has become frequent, before there is any distension, before abdominal movements have ceased, or the abdominal facies indicates unhesitatingly the patient's grave state. All these signs mean peritonitis, which in most cases is preventable.

In urging immediate exploration under such circumstances I would state at once that I do not regard acute cholecystitis as an emergency; as a rule the pulse, if it has risen before admission, falls when rest is assured, but if in doubt I would prefer to operate on a mistaken diagnosis, being glad to find only a swollen thick adherent gall-bladder, when perhaps an acute gangrenous appendix was expected. Abdominal examination on the patient's admission may disclose the scar of a previous laparotomy, and the presence of this with a history of acute pain would compel me in every case to investigate at once; for acute obstruction due to kinks, angulations, etc., can be easily relieved, provided the bowel above the obstruction has not become paralysed beyond hope of recovery. In the more serious condition, where a band or other structure threatens the vitality of an intestinal loop, we must realize that once circulation in the veins has ceased, recovery of the intestine is impossible; thus resection with all its horrible sequels and its extremely grave prognosis is inevitable.

In spite of the fact that in a sense it weakens my present thesis, I feel bound to admit the relative rarity of acute small intestine obstruction as compared with acute inflammatory conditions which spread to the peritoneum and so induce ileus or small gut paralysis. As a result of this the bowels cease acting and enemata produce no effect, so that an erroneous diagnosis is often made of acute intestinal obstruction when the condition is really one of peritonitis, following acute appendicitis, diverticulitis, etc.; the converse mistake is, in my experience, never made. Of all abdominal emergencies at least 50 per cent. result from acute appendicitis. It has always been my habit, when summoned by my house-surgeon to an emergency, to endeavour at once to disprove his diagnosis; but he who persistently diagnoses acute appendicitis is rarely wrong, and when he is, it is probably better for the patient, and certainly better for the house-surgeon's mental training, to have made the mistake than to have been right.

Beyond the evidence that has already been referred to, I place in the diagnosis of acute appendicitis the greatest reliance upon localized rigidity; when present, this involves the right lower rectus and obliques, and may be absent when the appendix lies in the pelvis. It is also absent or much diminished for the first few hours after the appendix has perforated, but as a rule is present before the initial abdominal pain has migrated to the right iliac fossa, which it usually does in from six to twelve hours after its onet. Even although in acute salpingitis there may be much more pain on one side or the left side alone may be affected, there are in this condition a rigidity of the lower abdomen on both sides and often a similarly placed sense of fullness, and the patient as a rule has no aspect of severe illness. Much can be learnt from a description of the pain—its constancy, its severity, and, if it ceases, the manner of its passing off. The pain of acute obstruction is variable—spasmodic—as is that of colic. No pain equals in severity that of perforation of a hollow viscus. The pain due to colic subsides quickly and is suddenly gone, quite unlike that of acute inflammation—for example, appendicitis.

Finally, if these evidences are accepted which lead, as I have said, in one-third of acute abdominal emergencies to a correct diagnosis, and in perhaps another third to an inkling of the morbid condition present, there still remains one-third in which, I submit, only by prompt intervention can a favourable result be assured. If the doubtful cases are included—and many of them must be—my plea becomes of greater import.

REMOVAL OF PORTIONS OF MALIGNANT TUMOURS OF THE RECTUM FOR CONFIRMATORY SECTION

BY

W. B. GABRIEL, M.S., F.R.C.S.

SENIOR ASSISTANT SURGEON TO ST. MARK'S HOSPITAL, LONDON

The removal of portions of malignant tumours for confirmatory section is often desirable, but fraught with danger in many situations. It may be dangerous for anatomical reasons, as in the case of the pancreas, or owing to difficulty of access, or there may be danger of spreading the disease into healthy tissues—for instance, an incision into a cancer of the breast or a sarcoma of bone to obtain tissue for section is generally condemned. The rectum and lower pelvic colon, however, present a very favourable part of the body for this purpose: it can be easily reached by a sigmoidoscope without pain or the use of an anaesthetic, and malignant tumours here grow in such a way that portions may be removed from the lumen of the bowel without danger of perforation or serious haemorrhage. The danger of disseminating the disease by removing a small piece of tissue from the surface of the growth must be almost negligible—very little greater than the danger involved in the passage of faeces over the growth.

INDICATIONS

The indications for this procedure in my opinion are as follows.

1. In operable tumours for which radical operation is proposed, if a piece is taken for section when the patient is first seen, the report should be available in a few days, before any extensive surgical operation is undertaken. This confirmation of the clinical diagnosis is welcome, and the rare errors in diagnosis may be disclosed. Occasionally, if a very highly malignant form of growth, such as a colloid carcinoma, is clearly revealed, the intention of performing a radical operation may reasonably be abandoned, since it is the almost universal experience that in this type of growth the results of radical operation are so bad as to render the hope of cure quite remote.

2. In all cases of carcinoma of the rectum for which radium treatment is proposed representative pieces of the growth should be taken for section. From a scientific point of view the necessity of establishing the diagnosis of malignancy by a section is evident: from a practical point of view there is the possibility that the histology of the growth may be of great assistance in deciding whether radium treatment should be undertaken or not. From a study of cases graded by Broders's index of malignancy, Rankin[1] considers that the highly malignant Grades 3 and 4 often react favourably to radium treatment, but constitute a class with a very bad prognosis after radical excision. He recommends removal of a piece of tissue by means of a cautery knife, with a view to grading the carcinoma before deciding on treatment. This method of attempting to assess the malignancy of rectal tumours is one which may prove of great value, although very often ulceration and infection of the growth at the point where tissue is removed may render the histological appearances difficult to estimate.

3. In ulcers of a doubtful nature a portion of the growing edge removed in this way may clear up the diagnosis.

4. In inoperable cases of cancer of the rectum the diagnosis of malignancy should, if possible, be confirmed by section Patients sometimes survive for unexpectedly long periods with palliative treatment alone, or after colostomy has been performed, occasionally living so long that the accuracy of the original diagnosis may be doubted. The following case may be quoted.

CASE REPORT

A woman, aged 47, attended the out-patient department of St. Mark's Hospital in October, 1920, complaining of pain in the lower abdomen and rectum, diarrhoea, discharge, and difficulty in getting her bowels to open. She was examined by my colleague, Mr. Norbury, who found an extensive growth in the rectum, with considerable fixation posteriorly: the clinical diagnosis was carcinoma of the rectum. She was admitted into the wards soon afterwards, under the care of Sir Charles Gordon-Watson, who confirmed these findings.

On October 28th, 1920, he opened the abdomen through a left rectus incision: the growth was felt from above and was found to be fixed posteriorly: there were palpably enlarged glands, but the liver was apparently free from secondary deposits. A left rectus colostomy was established. On November 8th, 3 c.cm. of cuprase were injected intramuscularly; followed a few days later by collosol selenium—5 c.cm. intravenously. These injections were repeated alternately at intervals of a few days, and on her discharge to the out-patient department Mr. Norbury continued them intramuscularly at intervals of a week at first, gradually extending to three weeks.

The improvement in the patient's general condition appears to have been progressive. A year after operation she was recorded as being very well and putting on weight. In February, 1923, Mr. Norbury described the case before the Subsection of Proctology of the Royal Society of Medicine.[2] The patient's general health was then excellent. She had had practically no discharge from the rectum for two years: no growth or ulceration could be seen or felt in the rectum. There was much narrowing of the pelvic colon just beyond the recto-sigmoidal junction. Nothing abnormal could be felt per vaginam.

She was kept under observation, and in July, 1924, a hard swelling was noted in the posterior rectal wall. The injections of cuprase were begun again, and in October, 1925—when I took her over—she had received the large total of 156 c.cm. of copper preparations (cuprase and Crookes's collosol cuprum) and 140 c.cm. of collosol selenium. She was then in very good health; there was no sign of any active growth in the rectum, and all that remained of the former mass was some induration posteriorly, possibly extrarectal. She remained under my observation, and finally, in October, 1928, a barium enema was found to pass freely from the lower colostomy opening to the anus, so I recommended her for readmission for closure of the colostomy. This was done by Mr. Milligan. She was discharged on April 2nd, 1929, and remains in good health, ten years after first coming under operation.

The history is a long one, and the result is very remarkable. Unfortunately, however, there is no microscopical diagnosis of the original condition. Clinically, there is no doubt whatever that the condition was a carcinoma, the splendid result being obtained by the colostomy and by Mr. Norbury's intensive treatment with cuprase and selenium. The sceptic, however, may consider that the condition was a granuloma, which time, aided by the colostomy, has healed. A piece of the tumour taken for section in the early days would have enabled a complete and incontrovertible report of the case to be published.

METHOD.

The instrument recommended is Brüning's forceps fitted with hollowed cutting ends 0.5 cm. in diameter. The example illustrated (Figs. 1 and 2) was obtained from D. Simal, 26, Rue des Écoles, Paris, and can be recommended as a very efficient and smooth-working pattern. The shaft is adjustable in size and is fixed in practice at such a length that the working end will project about two inches through the selected sigmoidoscope. Care must be taken that the milled screw governing the wire cable is tight, otherwise, when dealing with a scirrhous type of growth, the jaws may be found not to close with sufficient strength to be effective. I have

recently had a slightly larger cutting end made with a diameter of 0.8 cm., which I consider to be an improvement, since it enables larger pieces of growth to be removed.

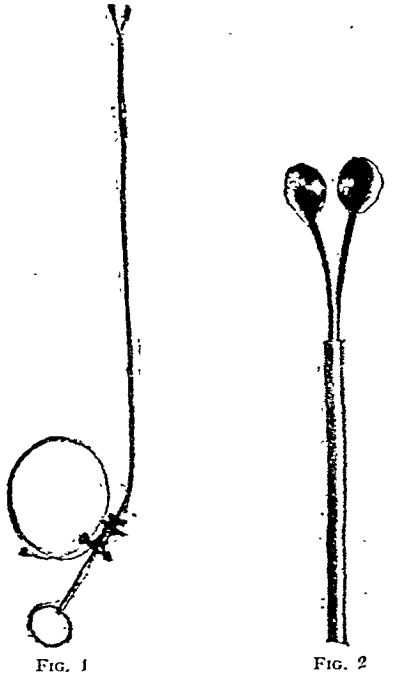


FIG. 1 FIG. 2

FIG. 1.—Photograph of Brüning's forceps.
FIG. 2.—A near view of the working end of the instrument.

When a clear view of the growth has been obtained through a sigmoidoscope, the Brüning's forceps is passed down, and representative portions of the surface or edge of the tumour are nibbled off. I have obtained good specimens from tumours at varying distances from the anus,

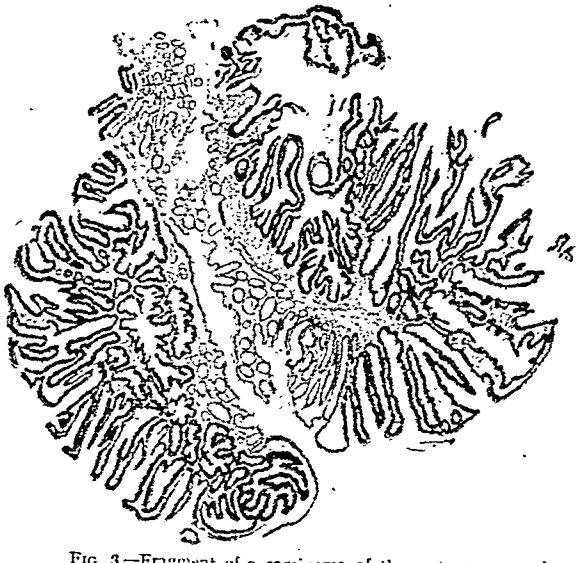


FIG. 3.—Fragment of a carcinoma of the rectum removed with Brüning's forceps: distance 20 cm. from the anus. Laparotomy revealed an inoperable growth with extension to a loop of adherent small intestine.

the highest being at 24 cm. There is no difficulty in taking portions from these distant tumours, apart from the occasional one of passing a sigmoidoscope to these lengths. The pieces of growth come away uncrushed, and are transferred at once with a needle to the formalin-fixing solution. It is generally advisable to remove three to six pieces, which can later be embedded together, cut, and mounted. Thus on each slide several sections of the tumour will be available for study. The sections are compact and generally give an extremely good idea of the histology of the growth.

RESULTS

By means of this forceps forty cases, diagnosed clinically as carcinoma of the rectum, have been investigated. The tissue removed at the first trial has been sufficient to establish the microscopical diagnosis of malignancy in

FIG. 4.—Fragment of a carcinoma of the rectum at 10 cm. from the anus. Diagnosis confirmed later after perineal excision.

thirty-nine cases. Figures 3, 4, and 5 show representative sections of this series as seen through the low power of the microscope. Only one case caused some difficulty: this was that of a young girl, aged 15, who had a massive growth of a scirrhous type filling the pelvis and obstructing the rectum. At the first attempt to remove tissue for section I found the growth so hard that only small pieces of tissue could be removed, and these on section were found to be normal mucous membrane. At a second trial I passed a smaller sigmoidoscope to a higher level and

FIG. 5.—Fragment of a carcinoma of the rectum 15 cm. from the anus. Diagnosis confirmed after perineal excision.

succeeded in obtaining some larger pieces of growth, which clearly proved the condition to be a columnar-celled carcinoma. Thus the diagnosis of malignancy has been established microscopically for the entire series of forty cases.

Spastic Paralysis

In these cases the slinging method, by removing some extraneous sources from which stimuli productive of spasm may be derived, allows a development of power and movement in the over-stretched opponents of the contracted muscles; it reduces the tension in the latter (contracted) muscular group to a minimum; in this particular connexion, perhaps the most important of all, it induces a condition of mental repose and the development of a "plastic mind," both highly beneficial to the patient's general condition and also conducive to the production of a regular and rhythmic type of movement. Figure D illustrates the general relaxation position.

CONCLUSIONS

1. The relaxation treatment encourages a mental and a local physical condition conducive to the restoration of normal function in the affected part by instilling into the patient the necessity and ability to rest the central cerebral processes and to develop a "plastic mind."

2. The possibility of producing a maximal movement with a minimal muscle effort lessens the risk of fatigue in a weakened muscle group.

3. The removal of extraneous forces, in particular, gravity, the weight of the limb, and friction, leads to the abolition of fear, with its concomitant involuntary spasm, and to the growth of confidence, with consequent ability to assist voluntarily the restoration processes.

A SAFE METHOD OF DEALING WITH ETHMOIDITIS*

BY

E. A. PETERS, M.D., F.R.C.S.

SURGEON, ROYAL EAR HOSPITAL, UNIVERSITY COLLEGE HOSPITAL, AND BOLINGBROKE HOSPITAL

The dangers of ethmoidal operations are considerable, and are often due to extension of the infection along the perineural sheath of the olfactory nerves or damage to the cribriform plate. There are also the dangers due to an accompanying sinus suppuration. Infection of the frontal sinus, however, gives an indication of its existence by the locality of the pain, and sphenoidal empyema may also be present, a disease dangerous in its closed form and characterized by most indefinite symptoms. Bacteria in the sphenoidal cavity have the power of passing through bone or infecting the meningeal network by some inconstant route.

I would urge that in all cases of ethmoiditis, except simple polypus, radiograms should be taken to obtain information as to the infection of the sinuses, and, if the radiogram is doubtful, that the particular sinus should be drained by the intranasal method. Radiographic pictures of the frontal sinus are usually definite; the evidence of infection of the maxillary antrum is less clear, and that of empyema of the sphenoidal sinus is extremely indefinite. I suggest that primary ethmoiditis operations should, except for simple polypus, consist in removal of the middle turbinal bone with intranasal drainage of the sphenoidal and the maxillary antra. The frontal sinus should be dealt with at the same time by intranasal or external operation if the radiograms and symptoms indicate infection. I am in touch with a patient in whom all six sinuses were opened for early ethmoiditis ten years ago; pus was present in one sphenoidal sinus and in the frontal sinus of the other side. The ethmoiditis has completely subsided.

* Read in the Section of Laryngology and Otology at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

The middle turbinal varies very much in structure. In some cases it consists of a lamina, but in others it contains a small or expanded middle ethmoidal cell causing pressure symptoms on the septum when the cell is expanded. It is possible that this pressure when combined with rhinitis may be a factor, for it is this cell type of middle turbinal which undergoes polypoid change; and though the supporters of the "from within theory" may be assisted by some special character of the bone itself, it would appear that it is only in the case of thin laminae of bone, in which periosteum and mucous membrane are closely combined, that inflammation of the mucous membrane leads to osteitis, constituting ethmoiditis. The degree varies from the local change resulting in simple polypus to the common condition of rarefying osteitis with polypi and a varying amount of pus to the extensive form occasionally seen in fevers of acute infection with disintegration of the ethmoid into granulation and pus. Under these conditions the inferior turbinal, consisting of spongy bone, develops hypertrophic rhinitis, and I have seen a middle turbinal of structure similar to an inferior turbinal which merely developed a hypertrophic rhinitis like that of the inferior turbinal.

Removal of Turbinal Bones

Removal of the middle turbinal by Luc's forceps should be carried out either in its entirety by gripping the body of the bone, or by "nibbling" from the anterior end and removing the opened cell. In this way the landmark of attachment of the turbinal is preserved with a view to the opening of cells in the fronto-nasal and agger nasi regions situated at the anterior attachment of the middle turbinal; these are easily opened by the gouge and mallet. It is, as a rule, necessary only to carry out occasional trimmings of polypi under a local anaesthetic from time to time, and to open cells only if the symptoms of discomfort due to closed empyemata appear. Extensive opening of these cells is rarely indicated. Sir StClair Thomson mentions that the opening of the higher cells is fraught with danger. Even removal of the middle turbinal may be a danger.

A man, aged 38, suffered from nasal obstruction. Both the radiogram and the symptoms showed frontal sinus infection. The nasal cavities were filled with oedematous polypi, a small amount of muco-pus being present. A softened middle turbinal was removed from either side and the antrum was opened. On the second day he complained of a severe headache, and died of meningitis. On one side the cribriform plate showed a small erosion from which the softened mucous membrane came away, probably with the turbinal.

This condition would possibly have been fatal in any case, and certainly in any extensive ethmoid removal.

Frontal Sinus

It is rarely necessary to drain this without radiographic or symptomatic indications; if such exist, an intranasal operation should preferably be carried out, special attention being directed to the fronto-nasal and agger nasi cells (anterior ethmoidal group) by applying gouge and mallet to the part immediately anterior to the attachment of the middle turbinal. (This should be done before removal of the middle turbinal.) Infection of these cells is closely interwoven with latent frontal sinusitis, and even with that variety in which the pain is removed by the application of a pledget of wool soaked in 10 per cent. cocaine solution. The maxillary antrum should be drained intranasally in most cases of extensive polypi, an opening being made by Tilley's frontal sinus burr; the aperture can then be enlarged by Luc's forceps. It is usually advisable to remove the anterior end of the inferior

turbinal. The mucous membrane of the sinus is commonly in the same condition as that of the nose; latent or maxillary empyema is excluded by drainage; the consequent effect on the ethmoiditis is good.

Closed sphenoidal empyema gives rise to a series of indefinite symptoms of malaise and pain at the back of the head.

A woman was admitted to hospital for relief of nasal obstruction and removal of septic tonsils. For some years she had had malaise, debility, and catarrhal laryngitis. A radiogram of the chest indicated absence of phthisis, and that of the head showed opacity in the right ethmoid region. No pus was observed on nasal and post-nasal examination. At the operation both middle turbinals were removed. The middle ethmoidal cells were well developed, but did not contain fluid. The septic tonsils were also removed. Three days later the patient developed fever, and a haemolytic streptococcus was isolated from the inflamed pharynx. Anti-scarlet fever serum, collosol manganese, and hypertonic saline were given, and apparently complete recovery took place. Two weeks later a similar attack of fever recurred. Meningitis supervened, and she died four days after this relapse.

In this case neither maxillary sinus nor sphenoidal sinus was opened at the time of operation, as no pus was seen, and it seemed advisable not to expose a feeble individual to further manipulation. The presence of haemolytic streptococci seemed to contraindicate any further intervention in the absence of definite symptoms in the second phase. Yet if the sinus had been opened, her life would have been saved.

Opening the Sphenoidal Sinus

In opening the sphenoidal sinus I usually employ the method introduced by P. Watson-Williams; it is applicable whether the field is obscured by blood or not.

The anaesthetized patient lies on the left side, or sits up. The left forefinger is introduced through the mouth into the post-nasal space, defining the top of the septum nasi. A steel probe introduced through the nostrils touches the forefinger, and is advanced about 1/4 inch anterior and about 1/4 inch from the middle bone. Careful and controlled pressure on the thin bone in front of the dense vomerine ridge perforates the bone or osteum and admits the steel probe into the cavity of the sphenoid. This opening is further enlarged by a narrow gouge, and finally by punch forceps or raspatory. The posterior ethmoid is cautiously opened if necessary. If the middle turbinal has been removed, the enlarged opening of the sphenoid can be observed with a nasal speculum. I have found that Rouge's method gives a better view than lateral rhinotomy when direct manipulation is advisable.

I would suggest that sinus radiography should be carried out in all cases of ethmoiditis, and that the basis of operation should be removal of the middle turbinal, drainage of the sphenoidal sinuses and maxillary antrum; and of the frontal sinuses, if the radiographic examination indicates such a course. This treatment, followed later by removal of polypi under local anaesthesia, and possibly the opening of cells from below the attachment of the middle turbinal, is advised.

A NOTE ON THE TREATMENT OF ERYSIPELAS BY X RAYS

WITH AN ACCOUNT OF THREE CASES

BY

R. HILLHOUSE JAMIESON, M.D., F.R.C.S.ED.

SUTTON, SURREY

AND

F. HERNAMAN-JOHNSON, M.D., D.M.R.E.

RADIOLOGIST, FRENCH HOSPITAL, LONDON; PHYSICIAN IN CHARGE, X-RAY DEPARTMENT, CROYDON GENERAL HOSPITAL

The value of *x*-ray therapy as an agent capable of cutting short the acute stage of erysipelas does not appear to be well known in this country, although it was advocated in America some years ago by Platau, Schlitz, and Collins.[1] An account of the following three cases which recently occurred consecutively in the private practice of one of us (R. H. J.) may therefore prove of interest. The first is quoted as exemplifying the use of local applications and serum, but no *x* rays.

CASE I

A man, aged 63, received a gnat bite on the ear. On May 28th the ear swelled to about three times its usual size; the inflammatory swelling spread slowly over the face, scalp, and forehead. Nothing stopped it, but continuous application of a saturated solution of Epsom salts gave most relief. Ichthyol was disappointing, and once, after its application, the temperature ran up, and the patient had a rigor. Anti-streptococcus serum gave no definite result. Ultimately the temperature dropped after fifteen days of a trying illness—trying to both doctor and patient.

Distressing though the attack was, the temperature did not rise at any time above 101.6° F.; whereas in the two cases next described the temperature reached 103° before *x* rays were applied. Note that the temperature in the first case shows a fall by lysis; in the other two a fall by crisis, immediately following the first application of the *x* rays.

[1] *Journ. Amer. Med. Assoc.*, 1927, lxxxix, 1135.

CASE II

The patient was a man, aged 40. The attack in this instance started sharply, without apparent cause, such as insect bite or an irritated pimple. It soon involved the whole face and scalp, and began to spread down the neck on the right side. The application of Epsom salts solution locally made the patient feel more comfortable. Serum was administered on the morning of the third day, and repeated the two following days. Twelve hours after the last injection of serum the temperature rose to 103°. On the evening of the seventh day of the attack it was still 102.6°. The patient felt very ill, and was very despondent. It was at this point that it was decided to try *x* rays. A portable set was employed, working on the electric light mains. The temperature showed a drop in less than twelve hours to 99.4°, rose to 99.6° the same evening, but the following morning (ninth day) it was normal. *X* rays were omitted on the twelfth day, as the temperature remained normal; but a rise to 99.2° on the thirteenth day seemed to call for a further *x*-ray exposure. After this there was no more fever.

The improvement in this patient's general and local condition after the *x*-ray application was most dramatic. The third case need not be gone into in detail, as it was of very short duration.

CASE III

A married woman, aged 62, suffered from an acute attack of facial erysipelas, following on tonsillitis. The patient was very debilitated, and could not be induced to take nourishment. On the fourth day her whole face and parts of the scalp were red and swollen, and some blisters were present. The disease was spreading. The first dose of *x* rays was administered at 9 p.m. Next morning the temperature was normal, and did not again rise above 98.8°. *X*-ray treatment was given on three successive days.

Comment

We feel that in *x* rays there is to hand a powerful weapon against the disease under discussion. The contrast between the first case, taking its slow and painful course despite all the usual remedies, and the other two, is very remarkable. The two latter were more severe

in type, and in the case of the debilitated elderly patient last described there was considerable risk of the issue terminating fatally if the spread of the infection had not been promptly checked. The remedy is easily applied, as the dosage is very small, and can be obtained from a light portable set, working on the house mains, or even from an accumulator outfit. The small quantity of *x* rays required makes it possible to expose the hair and eyes without risk, as the total dosage, even over several days, need not, on any one area, come near the epilation point, much less that of erythema production. Where an acute inflammation has lasted many days hair may subsequently fall out, and there may be paraesthesia or anaesthesia of portions of the skin. Unless the patient has been warned of this (and possibly even if he has) he will be apt to blame the *x* rays.

How these very small *x*-ray doses accomplish their purpose cannot be stated with any certainty. It can, however, be said that it is not by any direct destruction of the germs. What seems to happen is that local and general resistance is stimulated, so that antibodies are formed where they are most needed. It has been known for a long time that a small dose of *x* rays will often avert a boil, if applied before pus has actually formed. Radiotherapy has been used—again in America—in the acute stages of anterior poliomyelitis. There would appear to be a field for its experimental use in various acute infections. As regards erysipelas, it has passed the experimental stage, and can be confidently recommended in any case which causes anxiety to doctor and patient.

Consideration of space prevents the publication of charts accompanying this article.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

ENTERIC INTUSSUSCEPTION

Enteric intussusception appears to be very uncommon, and some writers say that it only occurs occasionally as an ante-mortem phenomenon in some other diseased state.

A ploughman, aged 47, was admitted to my wards in the Dumfries and Galloway Royal Infirmary on June 8th, 1929, about midnight. Dr. MacMyn of Kirkcudbright reported that on the afternoon of the same day he had found the patient suffering from severe abdominal pain and in a state of collapse. The pain had come on suddenly about two hours previously. There was no history of any such previous attack. Dr. MacMyn expressed the opinion that there was an acute abdominal condition present, and that an immediate laparotomy was indicated.

I saw the patient shortly after admission; he did not then complain of pain, but rather of discomfort "in his inside." He looked tired, and his appearance, pulse, etc., indicated a degree of shock. The bowels had moved normally the same morning. He gave no history of sickness or vomiting, and there was no distension of the abdomen, no evident tumour, no tenderness on firm palpation, and nothing remarkable in the pulse rate and temperature. The heart, lungs, and urine were normal. I did not operate at once, but left word that I should be called if definite symptoms supervened. The patient was fairly comfortable till late the following morning, when he complained of intermittent griping pain, and when I saw him again it was evident that intestinal obstruction was present. There was now some slight distension of the abdomen; the abdominal wall was thin, and the outlines of distended coils of bowel could be seen. There had been no vomiting, and nothing passed from the bowels.

I operated at once, opening the abdomen internal to the outer border of the right rectus, displacing the muscle inwards. There was slight peritoneal effusion, which was unstained. Exploration with the hand revealed a tumour in the pelvis, which on delivery I found to be an intussusception of the small intestine, apparently about the middle of the ileum. About twelve inches of gut were involved. The intussusception was fairly easily reduced, but there were several gangrenous areas towards the apex, which did not recover under copious lavage with warm saline solution. I therefore resected fully eighteen inches of the gut, and restored continuity by end-to-end suture. The patient made an uneventful recovery, except that, notwithstanding the exhibition of morphine, the bowels had to be moved with enemata the day following the operation on account of griping pains. Large scybalous masses were then passed, and doubtless these travelling along the bowel had excited irregular strong peristalsis and intussusception.

There was no indication of a cause of the intussusception in the resected piece of gut, which showed marked swelling of the mucosa.

Dumfries. ROBERT M. GLOVER, M.B., F.R.C.S.Ed.

MEASLES IN A MAN OF 71

In view of the fact that Dr. Arthur J. Hall recorded in the *British Medical Journal* of March 29th, 1930 (p. 586), a case of measles in a man in his sixth decade, the following summary of the notes of a case of measles in the eighth decade may be of general interest.

On November 17th, 1928, a man, aged 71, was admitted to the Broken Hill Hospital complaining of feverishness, running nose, and running eyes for two days. He vomited two days before admission, and had had a cough for a week or two. He had been in contact with a case of measles two weeks before, and on the morning of admission a rash had been discovered on the chest and back. On examination mild conjunctivitis was found, with a heavily furred tongue, scattered crepitations throughout both lungs, and typical measles rash all over the body. The temperature was 101° F., the pulse 104, and the respirations 32 per minute.

As in Dr. Hall's case the prognosis was difficult, the patient not being robust, and being in every respect an "old" man. In addition, his lungs gave every indication of a developing broncho-pneumonia. However, in two days his temperature had subsided, his cough decreased, and the signs in the lungs were less. Several days later the rash had quite faded, and the lungs cleared.

Convalescence was complicated by the conjunctivitis becoming hyperacute, and proving most intractable to treatment. It was four months from the time of admission before the patient could be discharged from hospital, and then it was with a left eye almost blind as a result of the scarring. The right eye showed no permanent damage.

I wish to thank Dr. Ross, surgeon-superintendent of the Broken Hill Hospital, for permission to place this case on record.

O. WESTCOTT FREWIN, M.B., B.S.

Adelaide, South Australia.

BURSITIS AT THE ELBOW

The following notes on a case of bursitis appear worthy of record.

A girl, aged 17, had been employed at a steam laundry, where she worked on a machine, a lever of which she had to move frequently with the left forearm partially flexed and pronated. A cystic swelling developed between the origin of the flexors of the forearm and the bicipital tendon. The swelling was tense, somewhat movable, and when the elbow was flexed or extended gave a rather crepitant feel to the examining thumb. Treatment took the form of several manipulations by the thumb and the application of Scott's dressings. When last seen the swelling was very considerably reduced in size, and was lying between the flexor origin on the internal condyle and the brachial artery. It could easily be displaced internally over the muscle.

I. H. LLOYD-WILLIAMS, *M.C.*, M.B., B.S.

Burgess Hill, Sussex.

Reviews

MENTAL DEFICIENCY

One of the most important, as well as one of the most hopeful, books that have yet been published on mental deficiency is *Social Control of the Mentally Deficient*,[1] by Dr. STANLEY POWELL DAVIES of New York. Dr. Davies is primarily a sociologist, and this is well; for though mental deficiency in some of its technical aspects—especially as regards its diagnosis and causation—presents obscure and difficult problems to the anatomist, the geneticist, the psychologist, and the physician, the actual methods of dealing with mentally defective persons are in the main the province of the teacher and of the sociologist. In this book the pedagogic problems presented by the mentally deficient child are not considered, except on the very broad lines in which they must necessarily be related to the sociological picture; but as a well-balanced, judicial, and authoritative summary of existing knowledge on the social aspects of mental deficiency it will not easily be surpassed. The most practical physician must also of necessity be a social worker, and therefore cannot be excluded from this field: correspondingly, Dr. Davies by no means ignores the clinical and the purely scientific aspects of his subject; but, as he says:

"the volume endeavours to present mental deficiency in its social rather than its clinical aspects. It aims to show how the various phases of public opinion and action with reference to the social control of this problem have followed the evolution of scientific thought and knowledge concerning mental deficiency. The more recent trends of thought and measures of control are particularly dealt with as indicating what a modern mental deficiency programme might comprise."

The special point of view of the author, and the peculiar value of his work, may perhaps best be indicated by some quotations from the "Foreword" of Dr. FRANKWOOD E. WILLIAMS, medical director of the National Committee for Mental Hygiene:

"We have come a long way from the period of 'the menace of the feeble-minded' and the Kallikak family, . . . and yet this period was an important one. The data available at that time were correct, but too limited; the hypotheses and social programmes developed as a result of those data were inaccurate theoretically and inadequate socially. . . . Hypotheses, theories, and social procedure have been changed. . . . We have come by a zigzag course to our present views. . . . It is just as easy to-day to be deceived by too little knowledge and to find an easy and obvious solution for a problem too little understood as it was in 1909 or 1912 or 1916; witness the earnest citizens who appear every year before legislatures with programmes that might have looked well in 1909, but that do not incorporate the knowledge accumulated during the past twenty years; the programmes look well, and often impress legislators, if one disregards these twenty years. . . . Davies did not set out to write an account of the development of thought in the field of mental deficiency, but the method he has chosen in presenting his material fortunately accomplishes this without detracting from—in fact, it enriches—the thing he did set out to do; that is, the giving of a clear account of the status of thought and investigation in the field of mental deficiency at the present time. The result is a book from which the new student may learn how not to make the same mistakes that have already been made."

By this admirable method and with this effective purpose Dr. Davies reviews the questions of intelligence tests, of social criteria, of eugenic alarms, of the relation of mental defect to crime and immorality and pauperism. In chapters on the changing concepts of heredity and the newer aspects of behaviour he shows how, as the result of recent experiment and experience, earlier views have to be completely reconsidered and former conclusions profoundly modified. His consideration of the three remedies of sterilization, segregation, and socialization, and their relationship to each other, emerges from this review. He demonstrates the extremely limited sphere of usefulness of the first of these, and some of the administrative difficulties attaching thereto. He shows that segregation by itself produces results that are in many cases disappointing; and a large part of his book is devoted to an exposition of the proper use of the institution and colony as a socializing force, and to the experience acquired by utilizing the school, vocational adjustment, selective environment, and community supervision in securing for mentally deficient persons their safe and proper place in the social order. His conclusions, both as to the success of these methods and generally as to the social and sexual conduct of the feeble-minded in the community when compared with that of other classes of persons, are very hopeful, and appear to be well founded.

[1] *Social Control of the Mentally Deficient*. By Stanley Powell Davies, Ph.D. With foreword by Frankwood E. Williams, M.D. London: Constable and Co., Ltd. 1930. (Pp. xix + 389. 13s. net.)

HUMAN PHYSIOLOGY

The student of physiology has had a new volume by Drs. WINTON and BAYLISS, entitled *Human Physiology*,[2] added to the relatively wide list from which he may choose a textbook. A good book for the medical student dealing with human physiology in a way which will bring conviction to the dullest intellect that physiology is the foundation on which real clinical medicine rests has long been needed. The textbook under review, good though it is in parts, cannot be held to fill the niche. The authors in their preface state that the medical student of to-day is expected to know too much and to think too little. It is true that too much is expected of him in the way of detailed information, but the curriculum as arranged is to blame for allowing him no time for reflection. The authors then go on to suggest that better results would be obtained if the medical student confined his attention to human physiology, "eliminating from his curriculum those parts of physiology which have no immediate bearing on the happenings in the body of man." We have the utmost respect for their ideal, and believe that some genius will eventually achieve (a most difficult task) a volume on the principles of physiology as applied to medicine. The present authors—and we sympathize with them—have fallen frequently from their own high ideal. Admittedly the personal equation plays a large part in determining what has or has not an "immediate bearing on the happenings in the body of man," but it seems to us that much of the long opening chapter on muscle might have been eliminated without loss, as might the long, rather technical, account of the isolated heart-lung preparation. The same criticism may also be directed to the chapter on reproduction. As a chapter it is interesting, but out of proportion. Why devote a full-page illustration of the vaginal smears of the mouse, and several pages of print to the reproductive cycle in the lower mammals, when, for example, spermatogenesis and oögenesis are barely referred to, and the effects of castration on the human male and female are to all intents ignored? Why devote eleven pages to the conditioned reflexes of the dog, when the sensations of taste and smell are not considered, when the electrocardiogram is dismissed in a few words, and when temperature regulation is scantily treated?, All these subjects are of human interest and importance.

We have deliberately stressed some of the weak points so that in a subsequent edition they may be improved. The reader must not presume that *Human Physiology*, as a whole, is poor or second-rate. It is not. The groundwork of the book is excellent; it is well written and nearly always clearly written; it is a promising production.

[2] *Human Physiology*. By F. R. Winton, M.D., and L. E. Bayliss, Ph.D. London: J. and A. Churchill. 1930. (Pp. xiv + 583; 227 figures. 15s.)

ST. BARTHOLOMEW'S HOSPITAL REPORTS

In his "In Memoriam" notice of Sir Anthony Bowlby, with which the sixty-third volume of *St. Bartholomew's Hospital Reports*[3] opens, Mr. Girling Ball shows that the medical school and students never had a more devoted friend, and that Sir Anthony did much in popularizing the study of pathology in the school; for, in addition to his own demonstrations and book on *Surgical Pathology*, he was largely responsible, in the face of much opposition, for the appointment of the late A. A. Kanthack as a whole-time lecturer on pathology at a time when no other medical school in London had taken this step. An account of the new surgical and operation blocks of the hospital, by Mr. T. A. Lodge, F.R.I.B.A., rightly finds a place in the volume. Of the twelve more professional articles, none of which appear to have been published previously, some record single interesting cases, such as Dr. Langdon Brown and Mr. Girling Ball's report on suprarenal carcinoma and virilism in women, Mr. R. Foster Moore and Dr. Geoffrey Evans's case of metastatic carcinoma of the choroid, and Sir Thomas Horder's unusual case of tuberculous meningitis. Other contributors deal with treatment; in cardiac oedema Professor F. R. Fraser recommends digitalis and rest, and then in order diuretin, theophylline, urea, and novasurol, which, however, is more toxic than the others. Drs. R. Armstrong and Johnson make out a good case for the use of Felton's concentrated antipneumococcal serum (Types I and II) in pneumonia, and Mr. R. W. Raven analyses cases of perforated gastric and duodenal ulcers with the object of comparing the results of suture alone and of suture combined with gastro-jejunostomy. Dr. H. V. Dicks deals with the diagnostic and therapeutic value of transduodenal drainage. The diagnosis of bronchial carcinoma is dealt with by Drs. James Maxwell and Nicholson, and Mr. R. Corbett writes on the period of disability in ambulatory fractures. Two articles of special interest are Dr. Mervyn Gordon's philosophical discussion of the problem of the etiology of Hodgkin's disease, and Dr. Wilfred Shaw's essay on the application of ovarian physiology to clinical gynaecology.

PHYSIOTHERAPY

In the preface to their book on physiotherapy,[4] Drs. HOWARD HUMPHRIS and STUART-WEBB point out that comparatively few books exist that attempt to deal with the subject of physiotherapeutics in its entirety, on account of the extent of the ground. They state quite correctly: "To do so, or to attempt to do so, is no easy matter." When a science grows with the development of knowledge there are only two ways of tackling it fully—namely, by a large volume or a series of volumes, to which acknowledged leaders in the subdivisions of the subject contribute full sections; or by a somewhat expanded précis. The authors have chosen the second of these methods, and have been assisted by Mr. Hayward Pinch on radium, Mr. Frank Romer on massage and manipulation, and Dr. Gordon Watson on hydrotherapy and spa treatment. They frankly state that all they attempt to do is to "condense the subject in a simple manner and present it so that it may be readily understood. In doing so, much detail has had perforce to be omitted; but it is hoped that enough has been retained to enable the general practitioner, or consultant, to realize the class of case suitable for physiotherapeutic treatment, and enable the practitioner who has made physiotherapy his specialty to realize the measure appropriate to the malady and to use it with skill and success." It is in the light, therefore, of this position that this book must be read, and consequently the index is of prime importance. Making haphazard selection among conditions about which the general practitioner might want to know whether physiotherapeutic measures were of value, or the specialist whether added information with regard to technique could be secured, the index was consulted as to fractures, gout, hypertrichosis, tennis elbow, radium and keloid, and telangiectasis. To the first and last of these the index gave no reference; for the remainder, one or more page references could be found where interesting accounts were obtainable. The paragraphs on hypertrichosis were particularly practical in the instructions given, including the authors' specific warning against the use of *x* rays in this condition. If the book suffers somewhat from the very restrictions the authors have placed upon themselves, they should be given full credit for their attempt on an extremely difficult task. The pages on the static current make interesting reading, as it is clear that they are "spoken from the heart" of an expert technician.

[3] *St. Bartholomew's Hospital Reports*, vol. lxiii. London: J. Murray. 1930 (Pp. xxv + 277; 19 illustrations. Price to subscribers 15s., to non-subscribers 21s.)

[4] *Physiotherapy, its Principles and Practice*. By F. Howard Humphris, M.D., F.R.C.P.Ed., and Ralph E. Stuart-Webb, M.B., B.S. London: J. Cape. 1930. (Pp. 384; 74 figures. 15s. net.)

BACTERIOLOGICAL TECHNIQUE

The third edition of Professor J. W. H. EYRE'S *Bacteriological Technique*[5] is very similar to the last edition published seventeen years ago. A certain number of new methods are described, and since the majority of the old ones have been retained, there is a slight increase in the size of the book. One chapter has been added, entitled "Methods of testing pathogenesis and establishing active immunity." Technique is so essentially a personal acquisition that it must be very difficult for an author to decide what to include in a book dealing with this subject. He cannot hope to please everybody, and he is liable to sin as much by omission as commission. In the present volume we can find no description of the various methods of performing a microscopical count of bacteria, of preparing vaccines, or of examining faeces, urine, or cerebro-spinal fluid. Comparatively little space is provided for describing the agglutination of bacteria; Dreyer's method, which in its original or slightly modified form is used in most large laboratories in this country, is not mentioned; and nothing is said of the mode of preparation of the various partial antigens which are so valuable in the diagnosis of enteric fever and food poisoning. Similarly the recent methods of estimating the amount of precipitin and precipitinogen in a mixture receive no notice. The bacteriophage is considered briefly, but there is nothing to help the unskilled in the management of the filterable viruses; a chapter on this subject would have been of value. The book contains a considerable amount of useful technical information, and will doubtless prove helpful to certain workers.

NOTES ON BOOKS

In four lectures collected under the title *Individual Psychology and General Medicine*,[6] Dr. F. G. CROOKSHANK seeks to present the essential features of the psychological teaching associated with the name of Adler, and to show how this teaching may be applied effectively in the arts of medical diagnosis and medical treatment. While his space is limited he makes successful use of it, and he presents his argument in an emphatic fashion and illustrates it by individual experiences. He has some words of scorn for the medical outlook which finds a full explanation of disease in the post-mortem room, or of symptoms in the laboratory, yet his real purpose is not to throw aside either one or the other, but to add to

[5] *Bacteriological Technique*. By J. W. H. Eyre, M.D., M.S., F.R.S.Ed. Third edition. London: Baillière, Tindall and Cox. 1930. (Pp. xii + 619; 238 figures. 21s. net.)

[6] Cambridge: *Psyche*. 1930. (1s. post free.)

them in each case a study of the patient's psychology. The patient, that is, is not mere pathological anatomy, nor mere disturbed function; on the contrary, he is the victim also of abnormal mental or emotional activities or defects. Moreover, the three departments overlap, so that events which appear in one may quite possibly find their explanation in another. Hence the need for a complete survey. Altogether the story is a very engaging one, and Dr. Crookshank relates it in lucid and attractive terms. For readers who have no time for large volumes, or who desire a helpful introduction to a subject of increasing importance, these four lectures may be commended.

Some therapeutic novelties of special interest are dealt with in the second part of *E. Merck's Annual Report*[7] for 1930. The need of modern civilization for sedatives is reflected by notices of a large number of new synthetic hypnotics; all are commended by enthusiastic clinical reports, but their very number makes it difficult, if not impossible, to judge their respective merits. Gravitol is a new synthetic compound (dimethylamine of methoxyallylphenol), which is reported to have as powerful an oxytocic action as ergotamine. This compound should attain considerable importance if the claims advanced are substantiated by further clinical trial. Although sanocrysin has had only a moderate clinical success, yet its appearance has led to the introduction of a large variety of organic gold compounds, of which the report contains short accounts. References are given to the extensive literature relating to the more recent biological remedies. Much has been written about liver extract, but no new facts of outstanding importance are reported. Haberlandt's cardiac hormone has also attracted considerable attention, and opinions about its value are evidently very diverse. The ovarian oestrus-producing hormone is being submitted to intensive clinical trials; recent workers report that it is absorbed fairly readily by the mouth, and that the effective oral dose is only about twice the effective hypodermic dose. Positive results in amenorrhoea are said to have followed the continued daily oral administration of about 100 mouse units. Among the original articles in the report is an account of the effects of lack of vitamins A and B, and some excellent illustrations show the effect of vitamin A in producing epithelial metaplasia.

A new edition has lately been prepared of *First Lines in Dispensing*,[8] by H. B. STEVENS and C. E. L. LUCAS. The text bears evidence of revision throughout, and notes on the Dangerous Drugs Regulations have been added.

The full *Transactions* of the Third Session of the Australasian Medical Congress (British Medical Association),[9] held in Sydney from September 2nd to September 7th, 1929, have now been published in a single volume. An account of the opening of the congress and brief notes of the meetings of Sections were given in two of our November issues for that year.

Most of the books written on the problems of auction or contract bridge deal almost exclusively with the subject of bidding, and it is somewhat of a relief to come across a book which confines itself to the actual play of the cards. Once the bidding has ceased, either in auction or contract bridge, the play is the same whatever the game in progress, and in *The Play of the Cards*,[10] by Mr. FRANK ENGLAND and Dr. HOPE REFORD, devotees of the game, whether elementary or advanced, will find sound and reasoned advice as to the technique of play. Even though some of the conventions advocated (such as the lead of the lowest card of three headed by a knave or higher honour, when leading a partner's suit against a "no-trump" call) may not find universal favour, the arguments for and against are fully set out. All the fundamental rules and principles of play have been emphasized concisely in the fifty-three example hands given.

[7] *E. Merck's Annual Report.* Part II, 1930. English edition. Darmstadt: E. Merck. 1930. (Pp. 172—336; illustrated. Forwarded, free of charge, on application, to any member of the medical profession.)

[8] *First Lines in Dispensing.* By H. B. Stevens, O.B.E., and C. E. L. Lucas, A.I.C. Third edition. London: J. and A. Churchill. 1930. (Pp. viii + 190; 95 figures. 7s. 6d. net.)

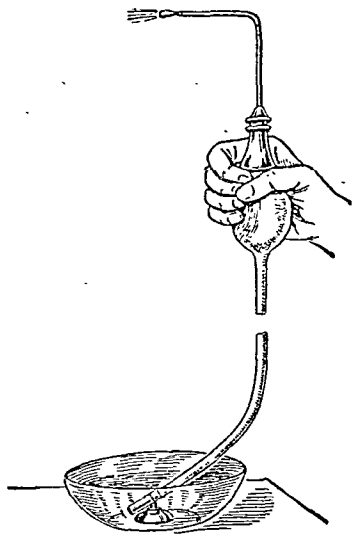
[9] *Transactions* of the Third Session of the Australasian Medical Congress (British Medical Association), 1929. Editor: Mervyn Archdall, M.D., Ch.M., F.C.S.A. Sydney: A. J. Kent, I.S.O., Government Printer. 1930.

[10] *The Play of the Cards.* By Frank England and J. Hope Reford, C.M.G., M.D. London: T. De La Rue and Co., Ltd. 1930. (Pp. vi + 163 + 48. 5s. net.)

PREPARATIONS AND APPLIANCES

EAR SYRINGE

Dr. W. B. BACON (Withington, Manchester) writes: The accompanying figure shows a new ear syringe that I have had made for me. It consists of a plated ear nozzle with a right-angled bend, and is rigidly attached to a Wingrave's

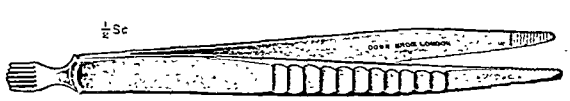


rubber syringe. The whole tube and nozzle is easily detached for sterilization. The force of fluid expelled is equal to that of the piston type of syringe, and, on account of the rigidity of the nozzle attachment, requires only one hand to manipulate; this is the advantage over the ordinary Wingrave's syringe with rubber ear-piece.

This type of syringe has been made for me by Messrs. James Woolley Sons and Co., Ltd., of Manchester.

COMB DISSECTING FORCEPS

Mr. WALTER SALISBURY, M.D., M.S., F.R.C.S. (Northampton) writes: The comb dissecting forceps shown in the accompanying illustration has been made to my design. The comb end is rigid and the blades are flexible. It embodies the principle of the well-known "Kelly's comb," and is most useful in performing the radical operation for cancer of the breast. After the fascia has been divided along the front of the axillary vein with a light touch of the scalpel, the forceps is held in the reverse position, and the comb sweeps the axillary contents away from the posterior aspect of the vein, commencing at the apex of the axilla. Branches of



vessels and nerves are displayed at their origin and clamped or preserved as desired. The proximity of the comb to the handle enables this to be accomplished with ease and precision. I have found the forceps useful for similar types of blunt dissection elsewhere, especially for stripping fascial or omental structures away from vessels, pedicles, ducts, and the necks of hernial sacs. The blades meet at the point only. The instrument serves the double purpose of dissecting forceps and Kelly's comb, so that one instrument less need be taken to a breast operation

It is made in stainless steel by Messrs. Down Bros., Ltd., St. Thomas's Street, S.E.

British Medical Journal

SATURDAY, JANUARY 10th, 1931

THE LEAGUE'S INTERNATIONAL WORK FOR HEALTH

On the completion of its tenth year it is being asked in many quarters whether the League of Nations has sufficiently fulfilled, or by common consent can be said to have surpassed, the expectations of the multiplicity of parents, godparents, and well-wishers who acclaimed its birth in 1920. The mere admission that the League is a growing concern, with individuality of its own, however, makes these inquiries somewhat profitless. Evidence accumulates that those who framed the Covenant, and incorporated it in the peace treaties, were by no means in precise agreement about the structure they were founding, the shape it was to assume, the purposes it was to serve, or the material which should be put into it. And if there ever had been rigidly allotted lines by which the League was intended to be restricted, they have been of little account, since that body has seldom hesitated to take the shaping of its future into its own hands. There is justification for the statement, made by the Secretary-General in his foreword to the official compendium recently prepared at Geneva,[1] that the League has shown itself to be dynamic and not static. Different opinions may be held, and different values may be allotted, when the various movements for which the League is responsible come up for assessment. On arbitration, disarmament, international tariff reductions, the system of mandates, and even on the less controversial matters which come before the technical organizations, optimist and pessimist alike can be happy; each will readily find material congenial to the hopefulness or the dubiety with which he approaches the scales. But at least, when Sir Eric Drummond makes us look at the ten years' period as a whole, we can all agree with him that the mere creation of the League and its continued existence during that time is an outstanding landmark in the history of the world, and that the League during these years has greatly grown in its hold on public opinion, on Governments, and on administrations through which public opinion acts.

So far as international work for health is concerned, the League has had some exceptional advantages in this process of choosing its own ground for action. Other technical sections at Geneva—for example, those which deal with economics, with communications and transport, or with labour conditions—have started with, or at least are always dependent on, formal agreements concluded between States; their work has to be thought of mainly in terms of international conventions, the drafting and innumerable conferences they entail, the give and take of negotiations between the representatives of national interests, the uncertainty whether the ratifications of the individual nations will be forthcoming, and the overshadowing doubt whether, after all formalities have been accomplished, the international agreement will work equitably in practice. Formal agreements between Governments are sometimes necessary on health matters, as witnessed by the long series of international sanitary conventions regulating official intercommunication regarding epidemic diseases and the prevention of ship-borne infection; and, in 1921, when it was expected that the International Health Office, already existing in Paris under the Agreement of 1907, would be bodily transferred to the League, much time and thought were given to this aspect of the future health work at Geneva. But when this transfer failed to materialize, convention making, and all that it implies, became quite a subsidiary matter for the League's Health Organization. The system was adopted under which formal agreements between Governments on health matters have continued to be made independently of the League, although its assistance has often been secured by the constitutional liaison which was concluded in 1924 between it and the older organization. It resulted also from this system that while an important section of the Health Committee at Geneva must necessarily consist of medical officers in Government service, that body also comprises numerous medical authorities chosen as experts, who serve either as members of the committee itself or on its various commissions or "expert groups." The Health Committee is called together twice a year, when it advises on work proposed, or approves that which has been done, by the permanent medical branch of the Secretariat, which, under the leadership of the Medical Director of the League, Dr. L. Rajchman, may be regarded as the motor of the present mechanism. Escape from the restrictions of formal conventions, and the possession of a sympathetic committee, are not the only factors that have aided the relative independence of the Health Organization. The primary authorities of the League, the Council and the Assembly, overweighted with controversial and political matters, can always be expected to welcome any public health proposal from which they have expert assurance that international benefit will flow; any such proposals, being pre-eminently world-wide in their scope, make an immediate League appeal. No unreasonable objection has been, or is likely to be, taken on the side of finance, especially when the handsome contributions of the Rockefeller Foundation are taken into account. The appeal is the more effective on account of the simplicity and comprehensiveness of the governing article in the Covenant, by which the League undertakes "to take steps in matters of international concern for the prevention and control of disease."

These considerations may help the reader of this volume to realize how it is that the chapter epitomizing

[1] League of Nations: Ten Years of World Co-operation. With a foreword by Sir Eric Drummond. Geneva: Secretariat of the League of Nations. London: G. Allen and Unwin, Ltd. 1930. (10s.)

the activities of the Health Organization reveals such an astonishing variety of effort for international medical co-operation, in relation both to particular subjects and to the different parts of the world in which they have been dealt with. From the beginning, the Health Organization has devoted much of its energy to necessary standardizing and defining, and the standards for serums, vaccines, and particular therapeutic substances which its Permanent Standards Commission has formulated one by one during the last few years have secured general acceptance. Another regular task has been the supply of world information regarding epidemic diseases. This was begun by the establishment of an intelligence system at Geneva, and at its branch office for the Far East at Singapore; the activities of these information sections have now extended to many other subjects—statistical, administrative, and medical. To these activities must be added the system of "interchange"—a word which has become rather a misnomer, but which denotes that the Health Section of the Secretariat facilitates the visits of medical officers to foreign countries, and has funds on which to draw for missions of inquiry.

The number of expert studies which have been made of individual questions is also very large, a fact testifying to the great willingness with which medical officers and specialists all over the world have responded to suggestions for combined study. Special commissions and conferences have been convened, and notable reports have been issued, on such subjects as the employment of B.C.G., the local incidence of infantile mortality, the occurrence of cancer in different populations, and the effect of radiological treatment, trachoma, trypanosomiasis, and malaria. The question of the choice of appropriate measures to deal with the last-named disease, according to local circumstances and economic conditions, has been under continued investigation by the League's Malaria Commission since 1923, and the report of that body on antimalaria measures in Europe has been one of the most notable, as well as one of the most fruitful, of all the League's undertakings.

The Health Organization appears also to be entering into another and newer stage of its development, by constituting itself an active agent in the promotion of the kind of international spirit which is at the present time particularly in the interests of the League itself. The plea has often been made, and was emphasized at the last Assembly, that the League should in all countries actively support any social, legislative, and administrative action which, to adopt the common formula, "raises the standard of living." This is something more than waiting for difficulties or disputes which require international settlement. It is rather part of the dynamic action to which the Secretary-General refers, and in health matters it takes the form, certainly in the countries more remote from Europe, of giving expert advice, and laying down administrative objectives, in countries which are rapidly changing their social and political structure, and are turning to hygiene as a pivot for modernization and progress. The beginnings already made in this direction include the mission dispatched two years ago to Greece to advise its Government on the creation of a new public health and medical organization, and also other missions which, particularly in connexion with child-welfare, have been sent to Latin American countries. The most considerable example, perhaps, is the attention now being given at Geneva to the creation of a modernized health service in China, under the direction of the Chinese National Government. And, realizing that all these activities sooner or later come round to the question of effective selection and training of personnel, educated to understand what is truth in preventive medicine and to combat the false pretensions which are so often given currency under that name, the Health Organization is at the same time making a considerable effort to provide a clearing-house at Geneva for all the principal national schools of hygiene. On the medical side the League will continue to meet with all good will in connexion with these multifarious initiatives and activities.

THE DIAGNOSIS OF LATENT TUBERCULOSIS

The mortality from tuberculosis in this country has been falling progressively during the past century, and it is pleasant to think that the accelerated rate of decline during the last thirty years may be to some extent attributable to the active measures that have been taken against the disease. But though the mortality is undoubtedly falling, there is no evidence that the frequency of infection is diminishing *pari passu*. The present methods of dealing with tuberculosis consist largely in treating the tuberculous patient, not in combating the spread of tuberculous infection; as a result, though a good many patients are granted a few more years of life, there is no obvious diminution of infection within the community.

From analogy with other droplet-borne infections, such as meningitis, poliomyelitis, and diphtheria, it is not improbable that pulmonary tuberculosis is spread as much by apparently healthy carriers as by patients suffering from the clinical disease. Moreover, only a small proportion of those who become infected ever develop manifest tuberculosis. In the remainder, infection is followed by a focal lesion which ultimately heals. Further infections may lead to a local infiltration, which may or may not undergo retrogression. From the fact that about 90 per cent. of children up to 18 years of age in the large towns of Europe and America react to the tuberculin test, it is clear that at any one time there must always be in the community a considerable number of persons suffering from latent tuberculosis. Such persons are of twofold interest: in the first place they must be regarded as potentially infective, and in the second place they are at any time liable to develop clinical manifestations of disease. Their detection would seem to be the next most important step in the campaign against tuberculosis. This,

we take it, is the main purpose of Sir Robert Philip's Malcolm Morris Memorial Lecture, which appears in to-day's issue. To quote from him: "The chief weakness of the present-day attitude is the disproportionate concentration of attention on pronounced lesions, more especially pulmonary tuberculosis. . . . Attention must be shifted more and more towards the earliest indications of tuberculous infection—not to the neglect of late manifestations, but to their better interpretation and progressive elimination." And again, "If our efforts towards the eradication of tuberculosis from a community are to be effective, it is necessary that we should hunt for the earliest traces of tuberculous infection." To this end Sir Robert Philip advocates the greater use of the tuberculin test and the systematic examination of contacts.

It is a matter for surprise that tuberculosis workers in this country have so largely failed to realize the value of the tuberculin test in controlling the spread of the disease. While the Schick and Dick tests are widely used in the control of diphtheria and scarlet fever, the tuberculin test, which gives information of a different type, it is true, yet none the less of importance, is signally neglected. From the epidemiological point of view, we can think of few things that would be of greater interest at the moment than a systematic survey of school children in different parts of the country to determine the frequency of infection at different ages under different environmental conditions. For such an investigation the graded intracutaneous test should be used, since the information yielded by it is considerably greater than by the von Pirquet test. The tuberculin reaction provides a measure of the incidence of tuberculous infection, and affords some information on the probable activity of the lesion. The actual site and extent of the lesion, however, in latent tuberculosis can be ascertained only by roentgenological examination. If this method were applied to tuberculin-positive school children, it should reveal a certain proportion who were suffering from latent lesions, and who were in danger of developing the clinical disease. Careful watching of these children, with preventive treatment where necessary, should result in a considerable diminution in the cases of active tuberculosis amongst young adolescents. If a further watch could be kept on them after they had left school and were engaged in the serious occupation of earning their living, they might be tided over a period of unusual danger with the minimum number of casualties. That work along these lines is possible is evident from the investigations of Opie and his colleagues in America.[1] Tuberculin tests of school children in Philadelphia showed that 37.7 per cent. were infected with tuberculosis at the age of 5 years, and 90.2 per cent. at the age of 18 years. These figures suggest very strongly that, in spite of the intensive antituberculosis campaign which is being conducted in the United States, there has been no diminution in the incidence of infection during childhood in any way corresponding to the diminution in mortality that has taken place. *X*-ray examination revealed the presence of latent tuberculous foci in the lungs and tracheo-bronchial lymphatic glands of more than 10 per cent. of school children. These lesions varied from massive caseous areas of serious import to firmly calcified foci which had evidently healed. The significance to be attached to them was determined by their size, the activity of the tuberculin reaction, the age of the child, and certain other factors.

Though pulmonary tuberculosis is a relatively incurable disease, it is a strange anomaly that the greater part of the energy and money at present available is spent in attempting to cure patients affected with it. The time has surely come when efforts should be transferred more and more from the therapeutic to the prophylactic field, and when the endeavour should be made, by the careful observation of children and young adults, to prevent the transition of the relatively harmless latent lesions into the infinitely more dangerous lesions of clinical tuberculosis.

[1] Opie, E. L., Landis, H. R. M., McPhedran, F. M., and Hetherington, H. W., *Amer. Rev. Tuberculosis*, 1929, xx, 413; Idem, ibid., p. 421.

POST-VACCINAL NERVOUS DISEASE

The Committee on Vaccination, appointed by the Minister of Health and the Medical Research Council, with Sir Humphry Rolleston as chairman, has now issued a further report embracing observations on the epidemiology and the clinical and pathological character of post-vaccinal nervous disease, together with certain collateral papers.[1] The other members of the committee are Dr. G. F. Buchan, Dr. A. E. Cope, Dr. Mervyn Gordon, Professor J. C. G. Ledingham, and Dr. J. R. Perdrau. Since its first appointment five years ago one member, Dr. F. R. Blaxall, has died; the secretary throughout has been Dr. J. R. Hutchinson. The committee's terms of reference were to inquire and report from time to time (1) on matters relating to the preparation, testing, and standardization of vaccine lymph; (2) on the practical methods which are available in the light of modern knowledge to diminish or remove any risks which may result from vaccination; (3) on the methods of vaccination which are most appropriate to give protection against risk of small-pox infection in epidemic and non-epidemic periods; and to co-ordinate the work of investigation on these questions in this country and abroad. In 1928 the committee presented a report, with recommendations, of which an account was given in our issue of August 11th, 1928 (p. 266). The report now submitted is supplementary to Part II of its predecessor, in which the nature and occurrence of cases of acute disease of the central nervous system after vaccination were studied. It consists, in the main, of a record of the circumstances of ninety such cases subsequently brought to notice, and in respect of the twenty-five fatal authenticated cases it correlates the available clinical information with the post-mortem findings. In addition, four cases presenting a similar symptomatology and pathology, but following variola or measles or influenza, are described, and the report ends with a commentary summarizing the present

[1] Cmd. 3738. Ministry of Health. London: H.M. Stationery Office. 1930. (2s. 6d. net.)

position, from which the opening and closing passages may be quoted:

"An acute nervous disease with a mortality rate of nearly 50 per cent. continues intermittently to appear now here and now there with manifest disregard to the incidence of any known factor other than vaccinia by whatever vaccine produced. It is associated with characteristic changes in the brain and cord similar to those found in the acute nervous conditions occasionally following influenza, measles, and variola. Like them, it is dependent on a precedent infection, but differs in that it follows the infection with great regularity within a definite limit of time. There is nothing in the circumstances of the cases described in this report which has not its parallel in the committee's previous experience."

"Although no particular lymph can be incriminated it is clearly the vaccinia virus, whatever its past history and in whatever medium incorporated, which initiates the nervous disturbance; but why this disturbance should be almost limited to a few individuals only of a particular age group is not known. The grouping of cases in place and time and the tendency to familial incidence are very striking features of the epidemiology, and point, in our opinion, very strongly to the existence of some local individual predisposition in the widest sense of that term."

Further and more detailed reference to the matters discussed in this report and in its valuable appendices will be made in later issues.

FUMIGATION OF FOODSTUFFS

Hydrogen cyanide is at the present time increasingly employed for the disinfestation of rat-infested ships, which may or may not have cargoes of food on board, and for the direct fumigation, either on shipboard or on land, of foods containing moths, maggots, and similar intruders. As the gas is strongly destructive alike of rodent and of insect life, the immediate purposes of its application are, as a rule, satisfactorily attained. The question of its effect upon the foods themselves, whether by spoilage of their quality or by rendering them harmful to consumers owing to the presence of cyanide residues, is discussed in a report[1] by Dr. G. W. Monier-Williams, recently published by the Ministry of Health. The odour of the gas, though characteristic, is neither strong nor irritating, so that the absence of any pronounced taste or smell of HCN cannot be taken as evidence that the fumigated food is fit for consumption. A difficulty arises in relating the cyanide residues in the food to the effective concentration of hydrogen cyanide in the air of the apartment in which the process is carried on, owing to the tendency of the gas to condense on the surfaces of floors, walls, and ceilings. Moist foods in general take up more hydrogen cyanide than dry foods like cereals. The fatal dose of HCN is put by Lehmann at 60 mg., and Jitta states that the maximum quantity permissible in a food is, for an adult, 40 to 50 mg. per 100 grams. Wille records that dates, figs, bacon, and sausages containing, after twenty-four hours' exposure to air, from 278 to 890 parts of HCN per million were able, after further ventilation for a week, to be consumed without ill effects. In a series of examples of various fumigated foods quoted, the residual HCN, after ventilation, was usually less than 20 parts per million, which is well within Jitta's standard above. Experiments described in the report indicate that in foods containing levulose, HCN forms a cyanhydrin, which is stable in air and of questionable toxicity. In foods containing dextrose cyanhydrin is produced only in the presence of alkali. If potassium cyanide is employed in lieu of HCN a cyanhydrin is formed by both the sugars. With regard to the spoilage of foods by hydrogen cyanide, wheat flour appears to suffer no deterioration, but tea, coffee, and tobacco are reported to lose in flavour. Peaches and dessert pears may be shrivelled and discoloured; cooking pears and blue plums are in most cases unaffected. Oranges, with their thick, impervious skins, are usually immune, but cabbages, celery, and lettuce may show severe wilting and become unmarketable. The effect of hydrogen cyanide on living plants depends in part on the concentration of the gas, but more upon the duration of exposure. Since HCN diffuses slowly into the plant tissues, high concentrations for short periods are to be recommended for the destruction of insects. It is noted that in the case of retarded lily of the valley roots and certain bulbs kept in cold storage hydrogen cyanide stimulates growth. As the oxidases are so sensitive to HCN that a trace suffices to arrest their action, the view is expressed that the spoilage by fumigation of fresh fruits and vegetables is to be ascribed to the inhibition by hydrogen cyanide of the enzymes connected with plant respiration. Even without visible deterioration there may be a degree of loss of freshness, possibly involving chemical changes which diminish the nutritive value of the food. As distinguished from the higher plants, bacteria and moulds are relatively resistant to the action of hydrogen cyanide, so that fumigation is of no practical value for their control. The general conclusions of this informative report may be summarized by saying that, if adequate precautions are taken, no serious risk to health is likely to be entailed by the consumption of foods which have been exposed to the action of gaseous hydrogen cyanide. Dosage, however, must be controlled by experienced operators, and high concentrations where possible avoided. As spoilage of fresh fruit and vegetables may result, indiscriminate fumigation of such foodstuffs is to be deprecated, and special care should be taken with those which are known to be most liable to injury.

[1] Reports on Public Health and Medical Subjects. No. 60. The Effect on Foods of Fumigation with Hydrogen Cyanide. By G. W. Monier-Williams. H.M. Stationery Office. 1930. (6d. net.)

NATIONAL INSTITUTE FOR THE BLIND

The admirable work done for blind persons through the agency of the National Institute for the Blind is well set out in the report for the year ending March, 1930.[1] The work is so many-sided that in the space at our disposal little can be said that will give a fair indication of what is being done. One of the activities of the Institute makes a particular appeal to medical practitioners—the training of masseurs. The school of massage was founded in 1915; it is now the one training centre for the blind of this country. It is recognized by the Chartered Society of Massage and Medical Gymnastics, and approved by the Board of Education. One of the reasons for the success that has attended the school is the care with which candidates for training have been selected. Candidates must possess good health and strength, intelligence and tact above the average, and that subtle quality which inspires the patient's confidence. The blind of the right type have

[1] Sixty-first Annual Report of the National Institute for the Blind. 224, Great Portland Street, W.1.

shown themselves excellent practitioners of massage. Arrangements are made with the Hampstead General Hospital for the men students, and with St. George's Hospital for the women students. Holders of the Chartered Society's certificate are eligible for inclusion in the Society of Apothecaries' *Register of Bio-Physical Assistants,* for the initiation of which the British Medical Association was largely responsible. The topographical part of the register was published in the *Supplement* to our issue of November 15th, 1930. This work of training blind masseurs would justify the existence of the National Institute for the Blind. But it is only one branch of its work. The Institute employs many blind persons in the production of articles needed for the blind, and in this way it expends some £20,000 yearly. It is a large publishing firm of Braille and Moon's type books for the blind, and this costs £25,000 a year. It maintains homes and hostels for the blind, special homes for blind infants whose own homes are unsuitable, and, above all, a first-rate public school for blind girls in the college at Chorley Wood; and these institutions cost another £25,000 yearly. It maintains a system of home industries, through which many blind persons are able to earn a living, or some part of a living, and the assistance it gives in this direction costs another £25,000 a year. Those who have interested themselves in the work of the Institute and taken the trouble to investigate its activities are convinced of the efficiency of the management and the economy of its administration.

STAFFING OF MUNICIPAL MATERNITY HOMES

A decision by the maternity and child welfare committee of the Birmingham City Council to exclude private practitioners from attending their cases in its maternity homes at Moseley and Handsworth has led to a strong protest on the part of the local medical profession. At a meeting on December 28th, 1930, attended by more than 150 practitioners in the Birmingham area, the council was asked to reconsider this action. When the intention of the authorities was first made known, a deputation of practitioners, accompanied by the Medical Secretary of the British Medical Association, waited upon the Maternity and Child Welfare Committee, with the result that a definite decision was deferred for fourteen days, but at the end of that time the committee, unmoved by the arguments which had been addressed to it, proceeded with its plans to staff the homes in question with members of the whole-time staff of the health department to the exclusion of the medical attendants of the patients. In making their protest the practitioners are on very strong ground. In the interim report of the Departmental Committee on Maternal Mortality and Morbidity it is pointed out that "the advantages to the general practitioner of facilities for continuing the care of his patient in an institution are undeniable." It is admitted that difficulty would arise from the management and administration of an institution where a large number of practitioners of varying standards of experience and knowledge are in medical charge of the patients, but the report of the Departmental Committee goes on: "The solution of this problem is not easy, and the committee suggest that a method should, if possible, be devised whereby in maternity homes and hospitals unified medical control could be arranged either by the appointment of one practitioner to be responsible for the standard of work of the hospital in co-operation with the practitioner actually in attendance on the case, or by some other means." Moreover, a recent memorandum and circular which the Ministry of Health has issued to all maternity and child welfare authorities states that "local authorities should consider wherever practicable the desirability of affording facilities to private practitioners to attend their own patients in maternity institutions." Many authorities are already acting upon this suggestion, and it can surely be urged that what has been found practicable in other areas is not out of the question in progressive Birmingham. The British Medical Association expressed the same view in the outline, published eighteen months ago, of a national maternity service scheme for England and Wales. One of the principles there laid down was ". . . treatment in the institution being as far as possible continued by the same practitioner"; and, again, "an important and essential part of this scheme is that the doctor should be able to secure the admission of his patients to an institution, and should, where possible, be allowed to treat those of them so admitted." According to the policy of exclusion intended by the Birmingham authority the practitioner who has had ante-natal supervision of the patient, and who has possibly attended her in previous confinements, is denied access to the patient at a time when his knowledge of her case would be of most value. It is, of course, acknowledged that as a corollary to the admission of the general practitioner to the maternity home a certain standard of service must be set up for the home and accepted by him. The scheme which the Birmingham practitioners' deputation proposed, when interviewing the authority, was that the patient should be able to choose her own doctor, that in an emergency any one on a roster of practitioners should be available, and that the service in the homes should be supervised by an expert obstetrician. This plan, which apparently did not meet with favour, would have furnished an excellent opportunity for good team work in which the city health department would have had the supervisory role. The meeting of protest, held under the chairmanship of Dr. O. B. Trumper of Aston, was one of the most representative gatherings of Birmingham practitioners held in recent years. The reasoned resolution which was its outcome is being sent to all members of the city council with a covering letter.

WELFARE OF MERCHANT SEAMEN

In a speech made at a meeting of the Mersey Mission to Seamen at Liverpool, the Poet Laureate said that forty years ago the forecastle of a merchant ship was "a dingy, frowsy, horrible den, disgusting as a pigsty, unspeakable as a dog-kennel." For years voices have been crying in the wilderness against the conditions which Mr. Masefield so succinctly described, but now it would seem that the nations of the world are alive to the fact that the question of seamen's health and welfare demands urgent attention. The second conference at Geneva, called by the Norwegian Red Cross Society, has lately issued its report. According to Dr. Alfred Salter, M.P., chairman of the conference, the first need for the sailor is the establishment of port welfare associations, these to be set up by municipalities, with voluntary assistants from the Red Cross and other

societies. The scope of the work would include the provision of hostels, and the establishment of information bureaux regarding police regulations, licensing rules, and other matters intimately affecting the life of the sailor in port. A suggestion was made that by slightly increasing the contributions to seamen's insurance, hostels could be provided for the men, and this might be within the scope of the National Health Insurance Act, although it is in the category of prevention, and not cure, of disease. Tuberculosis and venereal disease were fully discussed, and Colonel L. W. Harrison made an impressive appeal for the standardized treatment of syphilis. From the statistics provided by the United States of America it was evident that this disease is much neglected by seamen, and a system of regulations and standardized treatment is an urgent necessity. The question of drinking-water on ships came under review, and it was agreed that as a rule water was not sufficiently safeguarded or stored in a sanitary condition. Dr. J. Bohec of the *Ile-de-France* described the recreational opportunities on a large liner whilst in port, and he also spoke of the new seamen's club in New York. The recommendations of the conference include a study of tuberculosis, the establishment of local port committees, universal insurance for seamen, the institution of hospital cabins in ships which do not carry a doctor, instruction in first aid for officers, recreational facilities, and the provision of libraries. It is hoped that the work of the conference will be the starting point of national activities in order that the seamen's lot may be a much happier one than hitherto.

METHODS AND PROBLEMS OF MEDICAL EDUCATION

The eighteenth series of the generously illustrated accounts of leading departments, brought out at intervals since 1924 by the Rockefeller Foundation under the name of *Methods and Problems of Medical Education*,[1] contains thirty articles, eleven of which deal with physiological or biochemical departments in centres so far apart as Oxford and Capetown, Patna and Buenos Aires, Alberta and Belgrade. Six articles are devoted to descriptions of various departments of the University of Michigan at Ann Arbor, including those of physiology, physiological chemistry, out-patient departments of medicine, surgery, and ophthalmology, and the heart station, which occupies a suite of eleven rooms. Two institutes of pathology are described, that at Würzburg by Professor M. B. Schmidt, and that at Belgrade; further, Professor W. G. MacCallum of the Johns Hopkins University gives an account of his method of taking photographs of gross pathological specimens. Professor A. Gosset supplements the account he previously gave, in the twelfth series of these papers, of his surgical clinic at the Salpêtrière, and expresses his conviction that a surgical clinic should consist of at least two hundred beds. The Ferens Institute at the Middlesex Hospital, exclusively devoted to research in oto-laryngology, is fortunate in having Dr. A. A. Gray, formerly of Glasgow, as a whole-time research worker; the account of this institute is appropriately accompanied by a description of Dr. Chevalier Jackson's bronchoscopic clinic at Temple University Hospital, Philadelphia. Drs. D. L. Edsall and J. C. Aub give an account of a recently introduced method of teaching third-year students preventive medicine in the clinic at the Harvard Medical School. Professor J. K. Robertson of Queen's University, Kingston, considers the problem of teaching physics to medical students, and recommends more instruction directed to the understanding of radiology.

[1] *Methods and Problems of Medical Education* (Eighteenth Series). New York: The Rockefeller Foundation. 1930. (Pp. 329; illustrated.)

PATHOLOGICAL MUSEUM AT THE EASTBOURNE MEETING

In connexion with the Ninety-ninth Annual Meeting of the British Medical Association at Eastbourne next July, a museum of scientific exhibits and pathological specimens is being organized by a special committee. It is proposed to arrange the material under the following heads: (1) exhibits bearing on discussions and papers to the various Sections; (2) specimens and illustrations relating to any recent research work; (3) instruments relating to clinical diagnosis and pathological investigation; (4) individual specimens of special interest, or a series illustrating some special subject. It is also proposed to make an effort to gather together a series of exhibits—*x*-ray and other photographs—relating to milk-borne human diseases. Photomicrographs will be preferred to microscopic slides. The committee wishes it to be understood that the above are only suggestions, and if there is any subject in which members are specially interested and can supply appropriate specimens, these will be welcomed. The museum will occupy a central position and will be easy of access. The committee desires to enlist the hearty co-operation of all members, and will be glad to hear from those who are able to contribute. Every care will be taken of specimens, and the contents of the museum will be insured. So far as possible arrangements will be made whereby exhibitors may have an opportunity of demonstrating their specimens. Communications should be addressed to Dr. E. A. Fiddian, honorary secretary, 5, The Goffs, Eastbourne.

RADIUM DISTRIBUTION

The first annual reports of the National Radium Trust and the National Radium Commission, issued together as a Blue Book in October last, were reviewed in the *Journal* of October 18th (p. 656). The report of the Trust dealt with purchases of radium up to March 31st, 1930, whereas the Commission's report extended over a period ending August 31st, 1930. By the end of March 9.215 grams of radium were in hand, 5 grams had been ordered, and the purchase of 3 grams was under negotiation for the preparation of radon. Through the courtesy of the Radium Commission we are now able to give more recent figures. The amount of radium delivered up to January 5th, 1931, by the supplying company was approximately 20 grams. The amount of radium delivered by the Commission to centres, and in full clinical use, was approximately 15 grams.

The King, on the recommendation of the Minister of Health, has appointed Sir C. Hubert Bond, M.D., and Dr. Arthur Rotherham to be senior commissioners of the Board of Control, under the provisions of Section II of the Mental Treatment Act, 1930.

IMPERIAL CANCER RESEARCH FUND

SCIENTIFIC REPORT

The ninth scientific report of the Imperial Cancer Research Fund, which has lately been issued,[1] is separated by seven years from its predecessor, which appeared in December, 1923. The director of the Fund, Dr. J. A. Murray, F.R.S., has brought together in it twelve original contributions, two reprints from the *British Journal of Experimental Pathology*, and two from the *Biochemical Journal*; he has rendered available the most recent information about filterable tumours of the fowl in their relation to malignancy, and certain other aspects of the etiology of cancer. Considerable value is added to the report by the fact that the method of illustration employed is that known as "pseudoscopic," the figures being so prepared and arranged in couples as to be capable of being viewed through a stereoscope of the ordinary prismatic type, or, even without this instrument, by diminished or increased convergence of the eyes, resulting in combination of the pairs of pictures.

Filterable Fowl Tumours

The first article, by Drs. J. A. Murray and A. M. Begg, contains a description of the histology and histogenesis of a filterable endothelioma of the fowl. Careful study of the early stages in its development revealed the gradual transformation of the endothelial cells of the capillaries into malignant cells. It has been shown that these filterable tumours can be produced specifically by the inoculation of material from which cells were absent. Lymphocytes were seen emigrating from the capillaries and accumulating in the inoculated area; they quickly increased in size, and presented all the appearances of macrophages. Mitotic proliferation followed, and a definite parenchymatous stage appeared to have ensued. Further experiment is being conducted to test the validity of the hypothesis submitted consequently, which emphasizes the conception of cancer as a disease of reacting tissues. In Dr. Begg's work on a filterable fibrosarcoma of the fowl, which had been recorded in the *British Journal of Experimental Pathology*, the primary growth and first transplanted tumours had the structure of a simple, hard fibroma. There was, however, an increase in the rate of growth during subsequent transplantation, and the tumour became softer and more cellular, a sarcomatous type of formation resulting. The tumour could ultimately be propagated by cell-free filtrates and by dry material, but it is admitted that such may originally have been the case.

Dr. W. Cramer reports on the possibility of transmitting mammalian neoplasms without the intervention of living cells. He adopted the procedure of repeatedly freezing and thawing sarcoma and carcinoma cells, and found that when this process was repeated four times, subsequent attempts at the transmission with it of carcinoma uniformly failed, although positive results were frequently obtained in the case of sarcomata. Biological differences seemed, however, to be exhibited by the cells of different sarcoma strains, and even by cells of one and the same sarcoma strain when tested at different times. It is not certain whether these differences are to be interpreted as variations in the resistance of the cells to death by freezing, or as indications of the possibility of neoplasm transmission without the intervention of living cells. Dr. Cramer points out, nevertheless, that the experimental evidence of previous workers, in so far as it has been based almost entirely on negative results with cell-free material from mammalian carcinoma cells, has not so conclusively proved the absence of an agent separable from the living tumour cell as has hitherto been supposed.

Drs. Cramer and L. Foulds, in another contribution, discuss the effect of repeated freezing on the transmission of the Rous sarcoma No. 1 of the fowl, and their experimental results tend to approximate these filterable tumours to the mammalian sarcomata. With both groups the inoculation of frozen material gives at one time positive results, while at another negative results ensue, the difference between the two groups being only one of degree. Dr. H. G. Crabtree, who investigated the effect of repeated freezing and thawing on the oxygen absorption and glycolysis of normal and of cancerous cells, reports that normal cells are more profoundly affected than malignant cells, but he could trace no significant difference in this respect between carcinoma and sarcoma cells. A paper by this author originally published in the *Biochemical Journal* (1928) is reprinted. In it an account is given of the examination of the carbohydrate metabolism in several strains of mouse tumours by Warburg's manometric technique. The general conclusion drawn is that the magnitude and relationships of the respiratory and glycolytic processes, which were thought by Warburg to be characteristic of malignant tissues, are not specific for these, but are a common feature of pathological overgrowths. The carbohydrate metabolism of tumours is, moreover, influenced to some extent by their environment.

Experimental Carcinogenesis

Dr. Cramer discusses the local resistance of the skin to the development of malignancy, in a paper which has been reprinted from the *British Journal of Experimental Pathology*. He demonstrated the existence in a tar-painted area of regions of varying resistance to the development of malignancy, and drew an analogy with occupational skin cancer in man. Evidence is adduced that the process of carcinogenesis is not continuous, but is based on two phases: a long-lasting process inducing in epithelial cells a condition of "potential malignancy," which is kept in check by the local resistance of other tissue elements; and, secondly, a local breaking down of this resistance, permitting an immediate malignant development of the potentially malignant cells. Dr. J. A. Murray reports in another article that no clear evidence of resistance to tar-cancer induction was obtained in sixty-one mice with spontaneous mammary cancer, and in two with previous tar cancer. No significant differences were noted, whether there was recurrence or not. The result is provisionally attributed to the use of a very active preparation in the testing course of tar painting, so that the differences between the series of animals were obliterated.

Nerves and Cancer

Dr. R. J. Ludford has endeavoured to discover whether anything resembling the innervation of the normal skin of the mouse was traceable in malignant tumours of epidermal origin. Using de Castro's modification of Cajal's staining method, he was able to show that there was no specific innervation of cancerous growths, and that the occasional presence of nerves in carcinomata was due either to the persistence of pre-existing nerves or, more usually, to the inclusion of nerves within the cancer in consequence of the invasive character of its growth.

Nuclear Origin of Malignancy

Dr. Ludford discusses at length the hypothesis that alteration in the nucleus is associated with the development of malignant changes. He describes the chromosome formation in cancer cells without spindle development, and reports a new type of abnormality of mitosis in

[1] London: Taylor and Francis, Red Lion Court, Fleet Street. 1930. (20s.)

certain transplantable tumours. Support is thus given to the view that two distinct processes are involved in mitosis, the formation and autonomous splitting of the chromosomes being distinct from the development of the spindle; the co-ordination of these two series of events is essential for normal mitosis. In a comprehensive and critical paper on the somatic cell mutation theory of cancer, he discusses its relation to etiology and treatment, and suggests that such a hypothesis leaves out of account what has been discovered in relation to the filterable tumours of the fowl.

HEALTH OF THE SCHOOL CHILD

SIR GEORGE NEWMAN'S REPORT

In his annual report for 1929 on the school medical service* the Chief Medical Officer of the Board of Education reiterates the statement that the foundation of this service is the systematic and routine medical inspection of all the children in attendance at public elementary schools, whether sick or well. Last year the total number of children inspected was 2,737,327, or 55.8 per cent. of the average attendance. In addition, there were re-inspections of 1,909,469.

The practice of medical inspection is being applied in a limited yet increasing degree to the pre-school and the post-school sections of the community. Attempts are being made to bridge the gap between the time when the child attends the maternity and child welfare centres and when he enters school. Sir George Newman suggests that, provided the local education authority concurs, parents should be encouraged to bring their young children for medical inspection at the school when they are requested to attend inspections of their pupil children. This, he considers, would be advantageous, especially in rural districts where health centres are few and far between. Medical inspection of the majority of the pupils in secondary schools is now a statutory obligation, and in many areas medical examination of pupils in technical and continuation schools is also carried out. The practice is extending widely to commercial firms through their welfare departments, and is a valuable supplement to the work of the certifying factory surgeon.

Besides the systematic medical inspection of school children there are inspections by the school nurses for conditions of uncleanliness. The improvement that has been brought about by this procedure has been maintained. Over 14 million inspections were made, or 2.9 per child. The number of children found unclean was 701,300, compared with 850,842 in 1926, 777,498 in 1927, and 712,721 in 1928.

Findings of Medical Inspections

The percentage of children found to be suffering from definite defects (excluding dental disease and uncleanliness) requiring treatment was 20.8, compared with 20.1 in 1926, 20.6 in 1927, and 20.7 in 1928. Defects of vision head the list with 86 per 1,000, closely followed by tonsils and adenoids with 66. Skin diseases were responsible for 12, deformities 9.7, organic heart disease 2, nervous diseases 2, pulmonary tuberculosis 1.2, and non-pulmonary tuberculosis 0.8.

Special attention had been paid to the incidence of malnutrition, particularly in areas where there has been prolonged industrial depression. The figures for routine inspections indicate little increase in the country as a whole. Reports from the individual stricken areas reveal only a slight rise in the number of definitely undernourished children, but many remark on an increase in the number of children of subnormal physique—the so-called "borderline" cases. The percentage of children with subnormal nutrition in Rhondda for the past six years is stated to be: 5.21, 6.13, 6.93, 5.02, 5.12, 3.33, while the corresponding figures from Aberdare for the same period are: 4.9, 3.7, 4.7, 3.4, 8.9, 8. There is evidence that in certain areas in South Wales the results of the prevailing hardship and privation are becoming more evident among the entrants than among the elder children. In the majority of areas not subjected to exceptional industrial distress the nutrition of school children appears to be improving.

Medical Treatment

Treatment carried out under the school medical service is mainly prophylactic, and is directed towards the removal and correction of defects which, if untreated, might lead to serious conditions in later years. Schemes for the medical treatment of the children have now been developing for twenty years. Provision for minor ailments, tonsils and adenoids, and eye defects is nearly complete, and arrangements for orthopaedic treatment are rapidly extending. The establishment of centres for the supervision of children suffering from rheumatism is a recent development. Organization is easy in populous centres, but difficult in sparsely populated rural areas. In the latter the advantage of combining the public health services under one head is becoming apparent. The same nurse may be engaged in infant welfare work, school work, and cleanliness surveys, as a visitor under a tuberculosis scheme, in duties under the mental deficiency authority, and possibly as a sick nurse. Gloucestershire is cited as an example of the close co-operation of public medical officers, private practitioners, specialists, and members of the nursing profession in forming one co-ordinated service, and reference is made to the article on this subject by Dr. Middleton Martin in our *Supplement* of February 8th, 1930.

The *x*-ray treatment of ringworm of the scalp is being adopted by an increasing number of authorities. Although the cost is greater than that of chemicals, the loss of grant through long periods of absence from school is avoided. There has also been a marked reduction in the number of cases requiring treatment in areas where *x* rays are in use. Arrangements for the treatment of defective vision are made by all local authorities except one. There are 606 clinics and 66 hospitals doing the work. Cases dealt with numbered 216,496, and 11,342 were treated through other agencies. Where spectacles were ordered 91.1 per cent. are stated to have been obtained. It is urged that the visual acuity of all children with glasses should be tested once a year; children with myopia should be re-examined every six months if the condition is progressive.

In Leicestershire the school oculist differentiated the returns of vision conditions in children attending well-lighted schools and those where the lighting was defective. In the former there were 6.7 per cent. wearing glasses and 5.6 per cent. suffering from eye-strain; in the badly lighted schools the figures were 8.7 and 10.7 respectively. Dr. Inman of Portsmouth found that 25 per cent. of the children attending the eye department required no active treatment. They were mostly "nervous" children, and he discussed the question whether their symptoms were produced by disharmony of mind rather than of body. The report urges the early ascertainment of cases of squint and appropriate treatment. Local authorities are urged to consider arrangements for dealing with cases of defect in pre-school years, since the earlier the treatment the better the chance of curing the defect and of preventing the affected eye from becoming amblyopic.

* The Health of the School Child. Annual Report of the Chief Medical Officer of the Board of Education for the year 1929. London: H.M. Stationery Office. 1930. Pp. 153. (2s. net.)

Facilities for operative treatment of tonsils and adenoids are provided by 271 authorities in 478 hospitals and 78 clinics. Operations were performed in 97,518 cases, or 54.8 per cent. of the number referred for treatment. The report states that operations should be carried out only by surgeons with special experience and holding special qualifications in this branch of surgery. Overnight retention of the patient after the operation should be the rule. In Derbyshire Dr. F. J. Burke noted the manner in which catarrhal conditions cleared up after removal of enlarged tonsils and adenoids. Mr. J. A. Keen of the Leicester Education Authority made a study of the substitutes recommended for operation—breathing exercises and nasal drill, treatment by drugs and attention to general health, treatment by vaccines, local treatment of the nose and throat, treatment by radium and *x* rays. Some of these, he concludes, have a limited value, but their general adoption would result in a high proportion of failures. Some of the methods are unsuitable for children; others cannot be applied to adenoids, while a few are by no means devoid of risk. He is definitely of the opinion that no satisfactory substitute for removal by operation has yet been discovered.

Special facilities for the examination and treatment of aural disease are provided by 88 authorities, while treatment of middle-ear disease by ionization is carried out in forty-five areas. The arrangements usually take the form of a consultation clinic, attended periodically by an aural specialist, where certain forms of treatment are given, and the provision of available hospital beds for patients needing operation. In the prevention of otitis media the importance of efficient control of epidemics, especially of scarlet fever and measles, is emphasized. Much can be done to lessen the incidence and severity of aural sequels from such disease by the appointment of aural surgeons on the staffs of isolation hospitals and by the more extensive hospital treatment of cases of measles. In the routine treatment of otitis media due consideration must be given to the condition of the nasopharynx. The removal of tonsils and adenoids may go a long way towards effecting a cure in a substantial percentage of cases.

Exceptional Children

The complete ascertainment of exceptional children, defined as those who on account of mental or physical disabilities cannot derive full benefit from education in a public elementary school, depends on the co-operation of many workers, official and voluntary, in the education field. First, there is the school teacher, who should bring before the school doctor any child who is not making normal progress. For children suffering from disabilities so severe as to prevent them attending school the school attendance officer must be relied upon. Health visitors, school nurses, and members of voluntary committees can play their part. The work of the school doctor in dealing with gross defects is straightforward. More difficult problems arise where there is only retardation of two or three years. He must determine whether this is caused by mental dullness, mere backwardness following ill-health and absence from school, or defect of the special senses. The child whose retardation is due to innate mental defect presents similar problems. Can he be instructed in an ordinary class, or is a special school needed, or must notification to the mental deficiency authority be employed as a last resource? Mention is made of the work of the child guidance clinic. Such a clinic does for mental hygiene what the school clinic does for physical hygiene. Its primary duty is the ascertainment, study, and correction of minor abnormalities, which, if left to themselves, may eventually lead up to gross aberrations of conduct, delinquency, and crime. A recent report of the clinic, established by the Jewish Health Organization of Great Britain, contains the following statement:

"We believe that material is now accumulating for the clearer definition of types of nervous children, and the possibility of marking off the class from which delinquency springs is becoming less obscure."

(To be concluded)

THE NEW YEAR HONOURS

As announced in last week's *Journal*, the list of New Year honours was issued as a special supplement to the *London Gazette* of December 30th. It includes the names of the following members of the medical profession, to all of whom we offer congratulations.

Baronet

Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., D.Sc., F.R.C.P., F.R.S., President of the Royal College of Physicians of London, consulting physician, University College Hospital.

Companion of Honour

Miss JANE HARRIET WALKER, M.D., L.R.C.P.I., L.R.C.S.Ed., founder and medical superintendent of the East Anglian Sanatorium, Nayland, Suffolk; founder and first president of the Medical Women's Federation.

K.C.B. (Military)

Lieut.-General HAROLD B. FAWCUS, C.B., C.M.G., D.S.O., D.C.L., M.B. (late R.A.M.C.), K.H.P., Director-General, Army Medical Services.

K.C.V.O.

ASHLEY WATSON MACKINTOSH, M.D., LL.D., F.R.C.P.Ed., Honorary Physician to H.M. Household in Scotland, Emeritus Professor of Medicine in the University of Aberdeen.

Knights Bachelor

ERNEST GORDON GRAHAM LITTLE, M.D., F.R.C.P., M.P., Member of Senate, University of London, since 1906.

JAMES SMITH WHITAKER, M.R.C.S., L.R.C.P., Senior Medical Officer, Ministry of Health.

AMBROSE EDGAR WOODALL, M.D., M.Sc., F.R.C.S., medical superintendent of the Manor House Hospital, Golders Green.

C.B. (Military)

Major-General LAWRENCE HUMPHRY, C.M.G. (late R.A.M.C.), V.H.S., Deputy Director of Medical Services, Western Command, India.

C.I.E.

Major ERIC EDWARD DOYLE, D.S.O., I.M.S., Inspector-General of Prisons, Bombay.

Lieut.-Colonel JASPER ROBERT JOLY TYRRELL, M.B., I.M.S., Chief Medical Officer in Central India.

Lieut.-Colonel HUGH WILLIAM ACTON, I.M.S., Director, School of Tropical Medicine and Hygiene, Calcutta.

Lieut.-Colonel IAN MCPHERSON MACRAE, O.B.E., M.B., I.M.S., Inspector-General of Prisons, Bihar and Orissa.

C.B.E. (Civil)

Miss LOUISA MARTINDALE, M.D., B.S., president of the Medical Women's Federation and vice-president of the Medical Women's International Association.

Major ERNEST BLECHYNDEN WAGGETT, D.S.O., T.D., M.A., M.B., B.Ch., honorary consultant in diseases of the throat, nose, and ear to Queen Alexandra Military Hospital.

Miss AGNES CATHERINE SCOTT, M.B., Chief Medical Officer, Women's Medical Service, India, and secretary to the Countess of Dufferin's Fund (dated December 15th, 1930).

M.V.O.

MARCUS ANTONIUS JOHNSTON DE LAVIS-TRAFFORD, O.B.E., M.D.

O.B.E. (Military)

Lieut.-Colonel SAMUEL GEORGE STEELE HAUGHTON, M.D., I.M.S., officer commanding Combined Indian Military Hospital, Kohat, India.

O.B.E. (Civil)

FRANCIS EDWARD FORWARD, F.R.C.S., Class I Prison Medical Officer, Home Office.

Captain HADJI DABIRUDDIN AHMAD, Bengal Medical Service, teacher of anatomy, Campbell Medical School, Bengal (dated December 15th, 1930).

Lieut.-Colonel JOHN WILLIAM MCCOY, I.M.S. (ret.), civil surgeon and superintendent of jail, Sylhet, Assam (dated December 15th, 1930).

ARTHUR HUTTON MCSHINE, M.D., nominated unofficial Member of the Legislative Council of Trinidad and Tobago. For public services.

JOHN RICHARD COOK STEPHENS, M.R.C.S., L.R.C.P., West African Medical Staff, Nigeria.

M.B.E.

HOMEWELL LYNGDOH, Assam Medical Service, civil surgeon, Nowgong (dated December 15th, 1930).

GEORGE ALVES VINCENT, M.B., medical superintendent, St. Ann's Lunatic Asylum, Trinidad.

Kaisar-i-Hind Medal (First Class)

Miss MARY RONALD BISSET, M.B., in charge Zenana Baptist Mission Hospital, Bhiwani, Punjab.

GRAHAM COLVILLE RAMSAY, O.B.E., M.D., employed on malarial research work by the Ross Institute, Assam.

PROMOTIONS

Royal Naval Volunteer Reserve.—Surgeon Commander JAMES B. RONALDSON, V.D., M.D., to be Surgeon Captain. Surgeon Lieut. Commander JAMES LORIMER, V.D., M.B., to be Surgeon Commander.

Royal Air Force Medical Service.—Wing Commander WILLIAM TYRRELL, D.S.O., *M.C.*, M.B., B.Ch., D.P.H., to be Group Captain. Squadron Leader KENNETH BIGGS, *M.C.*, M.R.C.S., L.R.C.P., D.P.H., to be Wing Commander.

England and Wales

Supervision of Foodstuffs and Drugs

A report on the Sale of Food and Drugs Acts, containing extracts from the annual report of the Ministry of Health for 1929-30, and an abstract of the reports of public analysts for 1929, has been published by H.M. Stationery Office (3d. net). It states that the number of samples analysed in England and Wales in 1929 was 133,584, an increase of 4,550 on the total of the previous year. Of these, 7,260 samples, or 5.4 per cent., were reported to be adulterated or not up to standard. This proportion is slightly less than in 1928, when the percentage was 5.8. Offences against the Public Health Regulations relating to preservatives, etc., in food decreased by 246; the majority of the adverse reports were concerned with sausages and other meat products. More than half the samples examined during the year were milk samples, 7.8 per cent. being found below standard or adulterated; the corresponding percentages for 1928 and 1927 were 8.2 and 6.9 respectively. Nearly 600 samples were taken immediately after milking, under conditions which precluded the possibility of adulteration, and 206, or 35.6 per cent., were found to be below standard. In commenting on this high percentage the report points out that, if such samples had been excluded, the percentage of milk samples reported as adulterated or not up to standard would have been reduced from 7.8 to 7.5. A few samples of graded milk, although satisfying the legal requirements in regard to bacterial purity, contained less than 3 per cent. of milk fat. In one report the opinion was expressed that fat deficiencies in graded milks are somewhat frequent, and appear to be caused by the methods employed in bottling. Examination of nearly 11,000 samples of butter revealed adulteration in 1.4 per cent., a vendor being fined £20 for the addition of boric acid. Several samples of cheese were reported to have been contaminated by tin-foil wrapping. It is suggested that manufacturers should realize the potential danger to health involved in this practice by providing, for example, an inner covering of grease-proof paper. Other foodstuffs inspected included cream, margarine, lard, bread, flour, jam, marmalade, vinegar, spirits, and beer. During the year 5,544 samples of 109 different varieties of drugs were examined, 254, or 4.6 per cent., being found to be adulterated, compared with 5.6 per cent. in 1928. A sample sold as distilled water proved on inspection to be water from the ordinary public supply, and the vendor was fined 10s. and 10s. 6d. costs.

Facilities for Medical Practice on Housing Estates

The London County Council has been making inquiry into the facilities afforded to medical practitioners on its housing estates. In the earlier stages of the development of the cottage estates no provision was made for the accommodation of practitioners other than the letting of houses to doctors who were prepared to take them at economic rents. This class of accommodation, however, was not quite suitable for the needs of a resident doctor, although it might suffice for a branch surgery. It was decided, therefore, to allocate a number of sites to be offered for letting on building lease to doctors prepared to erect their own residences. Ten doctors at Becontree have availed themselves of this facility, four at Watling estate, three at Downham, two at St. Helier, one at Bellingham, and one at Wormholt. In addition, more than fifty practitioners established in the vicinity of the various estates are known to attend the Council's tenants. No complaints have been received as to shortage of practitioners. The Council had already decided that there should be absolute freedom of choice of doctor by the persons living on the estates, and, further, that no restriction should be placed on the ability of a doctor to secure a site for his premises. The only difficulty experienced by applicants desiring to set up in practice appears to be that inquiries for sites are usually received at an early date in the development of the estate, and therefore a considerable time elapses before sites are available for building. It appears that eight doctors have established surgeries in or over shops erected by the Council's lessees, seven of these being branches of older-established practices; but the committee which has been inquiring into the matter sees no reason to suppose that accommodation over a shop is, in itself, inadequate or unsuitable for a doctor's surgery. On the general question, while realizing the importance of adequate medical facilities, and of freedom of choice of doctor, the committee is satisfied that there is no need at the present time for any general revision of existing provisions.

Medical and Dental Treatment of London School Children

In dealing with the arrangements for the medical and dental treatment of school children for the year commencing April 1st next, the London County Council has had in mind the accommodation at the institutions and hospitals transferred under the Local Government Act which could be utilized for the treatment of school children. It appeared that the most urgent help which some of the hospitals could give was by way of in-patient treatment for enlarged tonsils and adenoids, and arrangements to this end are being furthered. It has also been decided to establish a small centre for throat in-patient treatment at the Eastman Clinic (Royal Free Hospital). With regard to rheumatism, it is reported that the scheme, in force since 1928, for the establishment of supervisory centres to which parents of children suspected to be rheumatic or requiring observation for rheumatism might apply periodically for advice has been highly successful. There are at present six supervisory clinics at school treatment centres and five at hospitals. It has been decided to arrange for a number of acute and subacute cases to be admitted to Queen Mary's Hospital, Carshalton, and Highwood Hospital, Brentwood, and additional accommodation amounting to 350 beds will shortly be available at Carshalton. The provision of further supervisory centres at the Royal Free Hospital, St. George's Hospital, and Lewisham Centre is proposed. It is hoped that new school treatment and infant welfare

centres on the Downham estate and at Putney will be ready in 1931. The number of cases for which provision is made for the year 1931–32 includes: 41,820 eye cases, 21,380 ear, nose, and throat cases, 664 ringworm cases, 78,980 cases of minor ailment, and 147,950 dental cases, an increase on the total of 8,690 cases, and the cost of the arrangements will be £117,084.

Ireland

Unclean Milk Peril

Although there is complete Government control of milk supplied to creameries in the Irish Free State, under the Dairy Produce Act of 1924, there is no Government licensing, grading, or classification of milk, and no efficient control of the cleanliness and wholesomeness of milk sold for human consumption, whether raw or pasteurized. In a communication to the *Irish Times*, Professor Joseph Bigger, M.D., pathologist in the medical school of Dublin University, stated that there was no legal control of milk in the Free State. At present, he declared, firms advertise a special grade of milk, but that meant nothing. As regards the general condition of milk he thought there had been some improvement in Dublin, thanks to the work of Mr. Dolan and others, but it was a great drawback that no power existed to go outside the city to get at people sending unclean milk to Dublin; incidentally, this was one of the weak spots in the committee's report. The question had recently arisen in Liverpool, where the health authority objected to milk coming into that city from Cheshire, since there were no proper control and powers of inspection at the source. Such authority was urgently required in the Free State. It was absurd that milk going to the creameries to be made into butter was protected by many more precautions than milk that was to be drunk. Professor Bigger went on to point out the great danger to child life from bovine tuberculosis, which was chiefly responsible for the non-pulmonary tuberculosis in bone, gland, and abdomen. He referred to the fact that in 1929, of the cows slaughtered in the Dublin abattoir, 32.5 per cent. were affected by tuberculosis. These were old animals, but the high percentage of tuberculosis led to the inference that there was a good deal of infection among the younger animals too. In emphasizing the need for Government action, he gave some figures demonstrating what had been accomplished in New York by energetic methods. In that city pasteurization had been introduced in 1914, and the death rate from abdominal tuberculosis in infants under 1 year fell from 20 per 100,000 in 1913 to 6 in the following year. The statistics indicated that since 1923 the death rate from non-pulmonary tuberculosis among infants and children up to the age of 15 had been practically constant—a fact which proved, in his opinion, that bovine tuberculosis had become an extinct disease in New York as a result of the control of milk supplies. He considered that the problem of a clean milk supply could be tackled only in two ways. One was to secure herds of cows free from tuberculosis; the other was compulsory pasteurization and, in the grading of milk, provision for the cleanliness of animals, workers, and utensils. No producer, he thought, should be allowed to send out milk unless he had a steam sterilizer and a proper cooler. It was also important to have some legal control of terms, as in England, where there was certified graded milk. Clean milk meant safe milk, especially for infants and young children. He was of the opinion that the Royal Dublin Society, which had done so much for the improvement of cattle in other directions, might be of enormous help in securing the improvement of the milk supplies of the community.

Free State Health Commission and Opticians

The Irish Medical Secretary recently addressed a letter to the National Health Insurance Commission pointing out that an optician had stated in the press, in support of a claim for State registration of his association, that the Commission had approved the employment of opticians by approved societies for the supply of glasses to insured persons without prescriptions from ophthalmic surgeons. In answer to the statement that the Irish Committee was of the opinion that "opticians" should be allowed to supply glasses only on the prescription of ophthalmic surgeons, the Commission replies that the adoption of this suggestion would have the effect of precluding a large number of insured persons from participating in optical benefits because: (*a*) the number of ophthalmic surgeons is limited, and they are available only in the cities and larger towns of the Saorstat; (*b*) the money available for optical benefit is limited, and the provision of optical appliances on the recommendation of qualified opticians affords the widest field for the benefit of the insured persons. The Commission remarks that it is well aware of the arguments for and against the present procedure in connexion with the administration of the benefit, but that in sanctioning the schemes at present in force it has satisfied itself that in existing circumstances they afford the best method of dealing with the matter. It adds that, prior to adopting the present procedure, it made several efforts to secure a satisfactory scheme by interviewing recognized opticians, but failed on account of their somewhat indefinite position. It may be mentioned that the Department of Local Government and Public Health has constituted throughout the Irish Free State an adequate panel of ophthalmic surgeons for the school medical inspection scheme, the requirements of which are on a more extensive scale than ophthalmic benefit under the National Health Commission.

Correspondence

LEPROSY IN THE BRITISH EMPIRE

SIR,—In the annotation in your issue of December 27th, it is suggested that the British Empire Leprosy Relief Association might "consider more carefully" the introduction of *H. wightiana* and *H. anthelmintica* into leprous areas of British Africa. May I mention that the seeds of these trees, with directions for their cultivation, have been supplied since 1925 to forty British possessions in all quarters of the globe, including fourteen African areas. Fiji has about 1,000 trees, some of which have already fruited. Queensland has grown young trees and distributed them to neighbouring areas, Zanzibar has flourishing plantations, and Uganda and Swaziland have a number of trees, as have the West Indies. We are yearly distributing further supplies of the seeds, and hope before long to ensure adequate local supplies of the oils extracted from the seeds in all leprous regions of our Empire. Unlimited supplies of the *H. wightiana* oil are also obtainable from South-West India and of the *H. anthelmintica* from Siam, so no shortage is possible.

I may also point out that the old vein difficulty following intravenous injections of sodium hydnocarpate has been eliminated now that this preparation in the form of "alepol" given intramuscularly has been proved to be very effective in leprosy as the result of the use of some half a million doses supplied by our association to the African colonies alone during 1929, at a cost per dose about one-twentieth that of the ethyl esters, which we had not sufficient funds to distribute in the required quantities. Moreover, Dr. Bray's recent paper on leprosy in Nauru Island showed a 40 per cent. reduction in the leprosy cases

there within three years, through the adoption of my plan of frequent examinations of the small population to detect and clear up all new infections in the earliest stage, not one of which has gone on to the more advanced and highly infectious nodular form. This success has furnished the means rapidly to reduce leprosy wherever all contacts of cases can thus be examined repeatedly.

In conclusion, I desire to express my gratitude for the consistent support of the work of our association by the *British Medical Journal*.—I am, etc.,

LEONARD ROGERS,
Honorary Medical Adviser, British Empire Leprosy Relief Association.

London, N.W.1, Jan. 3rd.

RECENT WORK ON YELLOW FEVER

SIR,—In your leading article on December 20th, 1930, under the above heading, reference is made to the work of the Yellow Fever Commission (West Africa), of which I was chairman, and it is suggested that the fact that its reports and those of the investigators were issued during the war may account for the little appreciation which they have received. One of my objects in now writing to you is to make known, as possibly an additional reason, that all the copies not distributed at the time of publication were lost, and in spite of much search have so remained until quite recently. During the interval I have received repeated applications for copies. They have now been found, and may be obtained on application either to Dr. Stanton, the chief medical adviser to the Secretary of State, Colonial Office, Downing Street, or to the Crown Agents for the Colonies, Millbank.

The fourth and (unfortunate addition) "final" report, written in the earlier years of the war, shows that had any urgent representations, made early in 1919, that the Commission should be reappointed, been approved, it is highly probable that the great credit of having discovered that the monkey could be infected with the virus of the disease, and so be used as a test of its presence in the human subject, would have belonged to the Commission. That discovery marks an epoch in the history of yellow fever. Dr. (now Sir) Andrew Balfour, a member of the Commission, had informed us of a tradition in Trinidad that a great mortality among the red howler monkeys there had frequently been observed to precede an outbreak of yellow fever. In Appendix III. (p. 269) of the fourth report is a scheme for a research on yellow fever:

Attempted Transmission of Yellow Fever to Monkeys and Other Animals.

A. . . .
B. . . .

This scheme was drawn up by Dr. A. Connal. The first steps taken by the Commission on its reappointment would have been to follow up this clue on the lines laid down in detail in the scheme. At my suggestion Dr. E. Hindle, on appointment as Beit Fellow in tropical medicine, at once took steps to obtain some red howler monkeys, but they are very delicate animals, and since then none have arrived alive in this country. We have only just learned that Dr. Aragao in Rio has succeeded in infecting these animals with the virus of yellow fever, thus proving that we were on the right tack. I do not know whether Dr. Adrian Stokes, of lamented memory, was aware of our "scheme," but it would have been an obvious step on the part of anyone, before proceeding with such a research, to make himself acquainted with the recent literature on the subject.

The discovery by members of the Rockefeller Commission of the endemic areas, of whose existence I felt confident, is a very valuable addition to our knowledge of the disease, and it is on these areas that preventive work should now be concentrated. It would be interesting to know whether the percentage of natives in and around Dakar who are immune to yellow fever is less than 100.

The numerous laboratory infections which have recently occurred in this country and elsewhere, leading to illnesses so diverse in clinical type as to be unrecognizable except for the fact that they have conferred immunity to the disease, enable us to understand how impossible it was seventeen years ago for our investigators to identify among the natives a disease which could be the means of keeping the infection alive during the often long intervals between its appearance in epidemic form among the Syrians and Europeans. Some time ago I wrote to you in opposition to the suggestion that Dr. Young had been infected when making the post-mortem examination on Dr. Noguchi, but it is evident that the handling of a monkey recently dead from yellow fever is quite a different matter, and is fraught with grave danger, and that even to touch its blood, or that of a patient during the first three days of the illness, with the unprotected hand, may be followed by death. It is satisfactory to know that we shall hear no more of the term "West African yellow fever," against the use of which I also made a protest.—I am, etc.,

JAMES K. FOWLER.

Beaulieu Abbey, Hants, Jan. 3rd.

INCUBATION PERIOD OF MEASLES

SIR,—The interesting point which emerges from Dr. Lempriere's paper in the *Journal* of January 3rd is, in my opinion, not that the incubation period of measles may under certain conditions exceed a maximum of sixteen days, but that it should have in so many instances exceeded that maximum in so small an outbreak as he describes. In my experience a period of sixteen days is not infrequently exceeded. I have records of 116 cases in which the incubation period was noted, and the following table shows the variations:

Days (at least)	No. of Cases	Days (at least)	No. of Cases.
6	1	14	8
7	5	15	10
8	7	16	7
9	9	17	1
10	17	18	2
11	18	19	4
12	16	20	4
13	6	25	1

In the majority of cases the incubation period was probably longer than the period stated in the table, for most of the patients were known to have been exposed to infection for periods varying from one to three days. The incubation period is reckoned to be from the time of cessation to exposure to the appearance of the first symptom. It may safely be stated that in nearly one-third of the cases of measles the incubation period is *fifteen days or longer*. In twenty-five of the cases the length of exposure to infection was under twenty-four hours; the incubation periods in these cases were as follows:

Days	Cases	Days	Cases
7	1	14	1
8	1	15	3
9	2	16	1
10	3	17	1
11	3	19	2
12	5	25	1
13	1		

In one of the twelve-day cases the length of exposure was 11½ hours; in one of the fifteen-day cases, 8 hours; and in the twenty-five-day case, 2 hours only. This last is the longest incubation period I have met with; the shortest did not exceed eight days, and was not shorter than seven.

In the 1928 edition of the "Code of Rules," issued by the Medical Officers of Schools' Association, it is stated

that the incubation period is seven to fourteen days. The latter figure I think to be too short. Perhaps Dr. Lempriere will now agree with me. When I was in charge of a fever hospital I always enforced a quarantine of twenty-one days before I declared a ward to be safe for the admission of new patients.—I am, etc.,

Hemingford Abbots, Hunts, Jan. 4th. E. W. GOODALL.

CAUSATION OF MENTAL DEFICIENCY

SIR,—As the British Medical Association has just appointed a committee of inquiry into the causes of mental deficiency, it may be of interest to your readers to know that my committee, in conjunction with the Medical Research Council and the Darwin Trust, has recently appointed a whole-time research medical officer and a social investigator to inquire into the causes of mental deficiency. We have felt the need of this inquiry for some time, but could not afford to take it up till the generosity of Lady and Miss Darwin, and the considerable help of the Medical Research Council, made it possible.

The arrangement was come to with the Medical Research Council and the Darwin Trust months before we knew of the Association's intention, and the appointment of a research medical officer was made some time ago. The first piece of research is to be a minute inquiry into the physical and mental characteristics, the home environment, and the family histories of the 1,400 patients in this institution. The investigators are beginning work this month. The research medical officer is Dr. L. S. Penrose, and the social investigator is Miss Newlyn, who has been working for the Devonshire Voluntary Association on Mental Welfare for the last five or six years.—I am, etc.,

Colchester, Dec. 30th, 1930. F. DOUGLAS TURNER, Medical Superintendent, Royal Eastern Counties Institution for the Mentally Defective.

THE METABOLISM OF TUMOURS

SIR,—Your leading article in the *Journal* of December 20th, 1930, in which you discuss the importance of the researches of Professor Warburg on the metabolism of tumours, rather bumps the scale on the side of the metabolic theory of the genesis of these growths. As you state, oxygen and carbohydrate are the sources of growth energy, and glycolysis, actual or potential, appears to be closely connected with growth. But in concentrating on glycolysis one is apt to forget the part played by the fats in metabolism. Carbohydrate and fat combustion go hand in hand; fat will not oxidize without carbohydrate, and, conversely, carbohydrate will not burn without fat. It follows that any apparent error in carbohydrate metabolism may not occur *per se*, but must arise from some fault in fat metabolism.

For some time I have been struck by the fact that cancer frequently develops in people who have at some preceding period in their lives suffered from glycosuria of the non-pancreatic type. The odd feature about this glycosuria is that it does not always persist; sugar may be found in the urine sometimes occasionally, sometimes only once. I have yet to come across a patient with true pancreatic diabetes developing cancer. This to my mind is a point of great significance, for in the non-pancreatic type there is no lack of insulin to prepare the sugar for combustion, and still it is not burnt, but escapes via the renal threshold. Why is this? It can only be because the fatty acids have not been sufficiently unsaturated by the liver ferments and lipase to be set alight. It is no use trying to light a fire with dried paper and wet sticks. Combustion of fats and carbohydrate is therefore incomplete, with the result that there is present a superabundance of fatty acids, and perhaps, in consequence, formation of saponins—bodies which by their solvent action on the lecithin and cholesterin of the cell are extremely irritating. The alteration of surface tension which they induce has a profound influence on the division of cells, as proved by numerous experiments.

Dr. W. H. Martindale endeavoured to prepare for me a preparation of lipase which I could inject into cancer patients, but found it impossible to get one which was sterile and yet retained its activity. I am now injecting a solution of glycerin intravenously in a case of scirrhus of the breast in which operation has been refused. The hope is that glycerin might combine with the fatty acids and form innocuous fat. As one could not find in print anywhere the slightest information as to dosage and limits of toleration, the initial dose was a small one—namely, 10 minims in a 10 per cent. solution—but this was rapidly increased to a 50 per cent. solution—1 drachm of glycerin and 1 drachm of boiled tap water. Distilled water will cause a rigor unless perfectly fresh, owing to the presence of dead bodies of bacteria. One must be careful, too, not to miss the vein, and thereby inject the solution into the surrounding tissues, otherwise pain for some hours will ensue.

Learning from Mr. R. Thomas of Lever Bros., Ltd., that small quantities of tin, among other bodies, act as a catalyst and assist the synthesis of fatty acids and glycerin into fat, I inject at the same time intramuscularly 2 c.cm. of stannoxyl. The results so far are most encouraging. The patient states that the breast is no longer "fast," and she can move it freely, also the "bone" in it has disappeared. Local application consists of glycerin to the retracted nipple.—I am, etc.,

Upholland, Dec. 27th, 1930. J. THOMSON SHIRLAW.

TREATMENT OF TETANUS

SIR,—Dr. Grove-White's memorandum on this subject, published on November 15th, 1930 (p. 821), impels me to record a case of tetanus which I myself successfully treated about eighteen months ago in Ibadan, Nigeria. The special interest of this case lies in the fact that cure was effected by injection of serum into the cisterna magna, an expedient which I adopted, as a last resource, after several intrathecal injections by the usual lumbar route had proved ineffectual. These are the facts.

A native, aged about 30, was brought to my hospital with half his hand blown off by the explosion of a shot-gun. I treated his hand, but neglected to give him a prophylactic injection of antitetanic serum. Exactly one week later he began to complain of slight stiffness in the jaws and neck, and in a very short time the symptoms of tetanus were well established. I commenced treatment on the following lines:

(*a*) Intrathecal injections of serum. (This line of treatment was suggested to me by a colleague, who said that he knew of a case of tetanus that had been cured in Lagos by intrathecal injection of a massive dose of serum in concentrated quantity.)
(*b*) Subcutaneous injections of dilute carbolic acid.
(*c*) Chloral and bromide four-hourly.
(*d*) Chloroform inhalations as required.

I cannot now recall how long this treatment was persisted in, but several injections of serum (totalling, perhaps, 40,000 units) were given by the lumbar route. Still the condition of the patient continued to grow worse. Trismus was intensified, the spasms became more frequent and more violent, and a very marked degree of wasting was reached. My colleague and I decided that the case was hopeless. Now, one thing attracted my attention, and it was the fact that the patient's lower limbs had become relatively flaccid, whereas they had previously been nearly as rigid as the trunk; in conjunction with this sign, I recalled that on the last few occasions on which we had injected the serum we had failed to draw off cerebro-spinal fluid. Coupling these two facts together, I hazarded a guess that, for some such reason as traumatic occlusion of the subarachnoid space, the serum had been prevented from travelling upwards, and that there was

still a possibility of cure if only we injected the serum into the upper end of the theca. Accordingly, as a forlorn hope, I injected 16,000 units through the occipito-atlantoid membrane. I gave this injection at 10 p.m., and in order the better to observe its effects, I simultaneously stopped all other treatment. Well, the patient had one spasm during that night, and it was the last spasm he ever had.

The trismus and the stiffness of neck and trunk disappeared only by slow degrees over a period of about two weeks. It was interesting to observe the gradual increase from day to day in the range of movement of the jaw; or to watch the transition of the trunk and neck muscles, through varying degrees of rigidity, from iron-like hardness down to normal tone. The last muscle group to attain to normal was that at the back of the neck on the side corresponding to the injured hand.

The case clearly shows that tetanus in its very latest stages can be cured by the injection of serum (16,000 units) into the cisterna magna.—I am, etc.,

Manor Hamilton, co. Leitrim, Dec. 22nd, 1930. T. O'CARROLL, Late W.A.M.S.

SIR,—In view of the memorandum on the treatment of tetanus recently published in your columns (November 15th, 1930, p. 821), may I be permitted to describe the following case in a young boy, who had fairly severe tetanus and recovered after receiving large doses of chloretone and antitetanic serum?

H. K., a well-developed boy of 6, was admitted to hospital on July 27th, 1930, with an acute osteomyelitis of the upper end of the right tibia. He was stated to have fallen off his scooter three days previously, and to have injured his knee. An abrasion was present just below the knee.

Under chloroform anaesthesia the medullary cavity was exposed along the upper half of the tibia. Purulent matter was found welling out of the Haversian canals and in the medullary cavity. The gutter left in the bone was irrigated with peroxide and packed with flavine gauze. The anaesthesia created some difficulty owing to spasm of the respiratory muscles, the real significance of which was not then appreciated.

Next day his temperature, which was 103.4° F. before the operation, remained at the same level, his pulse rate quickened, his general condition appeared worse, and he became delirious. The state of the leg itself appeared perfectly satisfactory, and physical examination apart from the nervous system was negative. It was observed, however, that he kept the left leg flexed, and any attempts at extending it were fiercely resented. There was marked rigidity of the neck muscles, generalized hypertonicity, and moderately severe trismus, though not sufficient to prevent the taking of fluid nourishment. Kernig's sign was positive, and every few minutes a risus sardonicus passed across his face. The negative result of the examination of his cerebro-spinal fluid confirmed the diagnosis of tetanus.

He was given 15 grains of chloretone in olive oil per rectum, and 15,000 units of antitetanic serum intramuscularly the same evening. These were repeated twelve-hourly for five doses, so that he had 75,000 units of serum and 75 grains of chloretone in two and a half days. For the first twenty-four hours there appeared little change in his condition, and he nearly sprang out of his cot several times, owing to the violent contractions of his rectus abdominalis muscles. At the same time he had transient attacks of cyanosis, evidently due to the spasm of his respiratory muscles. During the subsequent thirty-six hours, however, the trismus gradually disappeared, the spasms diminished in violence and frequency, and on the morning of July 30th, when his temperature fell by crisis to 99.2°, the state of his nervous system was practically normal. He was given a final dose of antitoxin, 10,000 units intramuscularly and 5,000 units hypodermically, the following day, and the chloretone was continued in 5-grain doses by the mouth for three days subsequently. His cardiac condition gave cause for some anxiety, and he was put on brandy and digitalis four-hourly on the morning of his crisis. Apart from a pleural friction rub at the left base, which lasted only a few hours (on August 1st), convalescence from the tetanus was uninterrupted.

One swallow does not make a summer, but, all things considered, this case seems to point to the advisability of administering large doses of antitoxin, and to the apparent efficacy of the intramuscular route; the absence of any unpleasant reaction was noteworthy. Further to the value of chloretone as a depressant of reflex excitability, Cushny states that as a sedative to the irritability of the spinal cord this drug is superior even to morphine, and the absence of any untoward effects on the respiratory or cardiac centres seems to make it an ideal sedative in this disease.—I am, etc.,

Lowestoft and North Suffolk Hospital, Dec. 23rd, 1930. DOUGLAS BELL.

RESULTS OF TREATMENT OF CANCER

SIR,—My letter printed in the *British Medical Journal* of November 29th, 1930, had for its object not, as Sir Gilbert Barling asserts, "to depreciate the Birmingham surgeons," but to learn the truth. Sir Gilbert Barling objects to my statement that the Campaign report ignored the total number of cases operated on after he has just stated that "the total number of cases was 799," a figure appearing nowhere in the report. He terms my figures imaginary, but his quarrel here is with the authorities of the Queen's and Women's Hospitals, from whose records the figures are taken. I have verified these figures to-day. At the Queen's Hospital, for the five years 1910–14, 220 amputations of the breast were performed, 90 per cent. of which were for cancer—202 cases. At the Women's Hospital, for the eleven years 1910–20, 478 amputations of the breast were performed. In the Women's Hospital records no analysis of the cases is given, but it is a logical inference that, as in the Queen's Hospital records, 90 per cent. would be for cancer—430 cases. Of Sir Gilbert Barling's 799 cases, 632 are thus accounted for (or very nearly), leaving a balance of 167, which we are invited to believe represents all the cases operated on for cancer of the breast at the General Hospital during a period of eleven years, and at the Queen's Hospital during a period of six years.—I am, etc.,

Birmingham, Dec. 22nd, 1930. A. A. RUSSELL GREEN.

GLYCERIN AS A SURGICAL DRESSING

SIR,—I am much interested in Dr. Ronald Mackinnon's letter on glycerin in midwifery in your issue of December 6th, 1930, and it has induced me to state my experience of the use of glycerin as a very beneficial dressing in many of the common conditions of inflammation and suppuration which we meet in general practice.

As far back as June 19th, 1909, Dr. A. Ogier Ward recorded in the *Journal* his treatment of boils and carbuncles by carbolic glycerin on pledgets of cotton-wool. He stated that he owed this method to his old teacher, the late Dr. John Duncan of Edinburgh. It was carbolic glycerin that Dr. Ward was advocating, but in the last paragraph of his letter he says that it may be that glycerin alone would suffice. I took the hint contained in that paragraph, and for several years treated boils and carbuncles by a pad of cotton-wool soaked in pure glycerin alone, by dropping pure glycerin into all the cavities as they appeared, as well as by packing the crater or craters with small pledgets of cotton-wool soaked in pure glycerin. The external pad was covered by gutta-percha tissue and a bandage applied loosely. This treatment proved to be very effectual.

Strangely enough I continued for a long time to use this treatment for boils and carbuncles without it occurring to me that it might be equally beneficial in

other septic conditions. A very bad whitlow was responsible for suggesting the extension of the glycerin treatment, and I soon found myself treating all kinds of septic wounds and sores by pure glycerin, applied either on cotton-wool or on boric lint, and in each case covered by guttapercha tissue or oiled cambric. These septic wounds and sores healed very nicely under the glycerin treatment; a noteworthy fact was the absence of the bleaching and maceration of the skin, and a reduced tendency for pustules to form round about the sore or wound, both of which conditions are so often found when ordinary wet dressings are used over a prolonged period. The only disadvantages of the treatment appeared to be the sweet, mawkish odour of the dressing, the oozing of the glycerin into the bandage, and the somewhat pale, flabby appearance of the granulation tissue. However, I continued to use the pure glycerin method because of its undoubted efficacy, until one day, while dressing a septic finger, I damped the lint with water so that the glycerin would permeate it more rapidly, as pure glycerin is apt to run off such fabric instead of soaking into it. This modification I feared might not be so useful in preventing bleaching and maceration of the skin, but the sequel showed that the change of technique presented no disadvantage. I had applied the glycerin fairly liberally to the damp lint, but on subsequent occasions I used less and less glycerin and still found that bleaching and maceration did not occur.

During the past fifteen years my regular method has been to apply only a few drops of glycerin to the first inch or inch and a half of a strip of damp lint about 6 inches by 1 inch, in the case of a septic finger, and then apply the lint bandagewise, cover it with guttapercha tissue, and secure by a roller bandage. In other cases, as on the arm or leg, the glycerin is poured on to the damp lint in a little serpentine stream, no attempt being made to cover the lint evenly, and the dressing is by no means flooded by glycerin. More recently I have applied the method tentatively in cases of eczema, and have found it very satisfactory, but I am not yet in a position to say to what extent it can be usefully employed in such cases. On several occasions I have dressed stitched perineums in the same manner with perfect results.

I am enthusiastic in my praise of glycerin as an ideal treatment of such conditions as have been mentioned above, and the point I wish to stress is the absence of bleaching and maceration of the skin, which means that less opportunity is given to the germs to multiply. Those who have used glycerin as a dressing must have noticed this fact, but so far I have not seen it recorded. Whatever may be the explanation, I have failed to find this method to be inferior to the use of such antiseptics as 1 to 40 carbolic lotion, in so far as the clearing up of the sepsis or the healing of the wounds is concerned.

Glycerin is not classed among the antiseptics, and when used in conjunction with antiseptics is regarded only as a vehicle, and while there is no doubt that it inhibits bacterial growth, yet when one considers the very small proportion of glycerin that is present in the wet-boric-lint-cum-glycerin method it is scarcely feasible that the beneficial result is due to a definite antiseptic action. It may be merely a case of giving the tissues a good chance to avail themselves of the *vis medicatrix naturae* by keeping the wound or sores in a congenial environment without irritating or destroying the tissues, and by preventing the entrance of additional bacteria to the wound. In this connexion it is noteworthy that in a very virulent bacterial infection the application of antiseptics is most disappointing in so far as any speedy amelioration is concerned, and when improvement does occur it seems to take place without regard to the presence of the antiseptics. In other words, a method which merely nurses the tissues instead of attacking the bacteria seems to be quite as efficient—if not more efficient. There are possible exceptions, as in the value of magnesium sulphate as a wet dressing in erysipelas, and also in boils, carbuncles, and other septic conditions, but on the other hand these boils, carbuncles, etc., can be treated just as well by glycerin alone, and perhaps glycerin alone might be as effective as magnesium sulphate in erysipelas. Of course it must be admitted that magnesium sulphate also is not one of the recognized antiseptics, and it may exert, so far as I know, only an inhibitory action on bacterial growth.

Dr. Alex. MacLennan, surgeon to the Glasgow Western Infirmary, recorded in the *Journal* of December 10th, 1910, two cases of tuberculous peritonitis in which he employed pure glycerin intraperitoneally. He used about one pint of pure glycerin. He remarks that "in desperate cases of general peritonitis I think glycerin in large quantities has a most beneficial action, but it must not be forgotten that it is highly toxic." In view of my finding that a comparatively weak solution of glycerin is so beneficial in septic wounds and sores I think that much less than a pint of glycerin diluted with water would probably prove quite as effective, and at the same time avoid toxic symptoms. Glycerin is undoubtedly very hygroscopic, and so is magnesium sulphate, but in the comparatively weak solutions in which I have employed both it can scarcely be maintained that the good results are due in the main to the hygroscopic power.—I am, etc.,

Glasgow, Jan. 1st. DAVID KYLE, M.A., M.B., CH.B.

INTESTINAL MYIASIS

SIR,—I was greatly interested in the account of a case of intestinal myiasis reported by Dr. Shrewsbury in your issue of December 20th, 1930 (p. 1043). His remark that reports of cases are infrequent prompts me to put on record the following case, which I encountered in 1925 while practising in Southern Nigeria. I have no notes now available, but the facts so far as I can recall them are these.

The patient was an adult African woman; her husband was cook to a neighbouring European household, and she often helped in the preparation of food. She complained of passing small white moving bodies in her motions, and these on examination proved to be fly larvae, which were present in considerable numbers. I do not recollect that diarrhoea was a very marked feature. The larvae were larger than those described by Dr. Shrewsbury, and from their naked-eye appearance, and from the fact that the adults of the species were present in large numbers around the patient's house, they were diagnosed as the larvae of the bluebottle fly. From the information given me I came to the conclusion that infection was by contamination of the food by the flies.

I recollect that the patient was much distressed at the appearance of the larvae, but became very offended when I pointed out to her that the cause was most probably to be found in the first place in the general uncleanliness of her own habits and of her immediate surroundings. The condition quickly cleared up, but whether as a result of the purgative or the advice as to general cleanliness and sanitation, which were both given, I hesitate to say, though I doubt whether the latter was greatly heeded. Incidentally, I would remark that my experience leads me to believe that the European in the Tropics will find that the greater part of the danger to health which he encounters is to be found in his own kitchen, and careful supervision there will amply repay him.—I am, etc.,

THOS. C. LONIE, M.B., Ch.B.

London, S.W.11, Dec. 30th, 1930.

HIERONYMUS FRACASTORIUS

SIR,—The most interesting review in your issue of December 13th (p. 1015), prompted me to read Professor W. C. Wright's translation of *De Contagione*. The translator's conclusion that the term "*nervi*," used by Fracastorius (Book II, Chapter X, on rabies), cannot be interpreted as nerves is supported by the designations "*Nervus intriconatus*," "*Nervus contritus*," and "*Nervus incisus*" for certain muscles by Laurentius Rusius (early fourteenth century). Other veterinary writers of the period described diseases of the tendons ("*nervi*")—for example, "*Nervous feritus*" (literally, struck tendon), whence the fifteenth century French "*nerfferu*" (*nerf-ferure*) and the modern French "*nerf mauvais*" and "*nerf trenchiez*"—that is, laceration of the flexor tendon of a fore limb by the shoe of a hind limb, known in modern English veterinary surgery as "over-reach." (Vide L. Moulé: *Histoire de la Médecine Vétérinaire*, deuxième periode, deuxième partie, p. 97, Paris, 1900.)

It would appear probable that Fracastorius derived some inspiration on the etiology of rabies from his predecessors. Bartholomew Glanville (Bartholomoeus anglicus) about 1350, stated of rabies in his *De Proprietatibus Rerum* that "the biting of the wood hound is deadly and venomous, and *such venom is perilous* for it is long hidden and unknown, and *increaseth and multiplieth itself* . . ." (my italics, vide F. Smith: *The Early History of Veterinary Literature*, vol. i, p. 85, London, 1919).

Fracastorius provides further interest to veterinary historians in his description of the epizootic of cattle in 1514 (Book I, Chapter XII), which is the first recognizable account of foot-and-mouth disease.—I am, etc.,

Department of Pathology, Royal Veterinary College, N.W.1, Dec. 28th, 1930. TOM HARE.

Obituary

Dr. JOHN BASSETT NADEN died on December 16th, 1930, aged 71, after a long and painful illness. He had practised in Warrington and district for thirty-seven years, and was a practitioner most highly respected, both by his colleagues and by the general public. He was born at Hartington in Derbyshire in 1859 (the year, he often recalled, in which Darwin's *Origin of Species* saw the light of publication), and studied medicine at Manchester University. After some experience in practice in various parts of Lancashire, he settled in Warrington in 1893. He established and carried on a successful practice until 1920, when he retired from panel practice. Ill-health compelled him to relinquish a large part of his private practice, but he continued to attend a few old patients until the onset of his fatal illness. He was a good B.M.A. man, and was chairman and secretary of the Warrington Division, and a regular attender at the Divisional meetings. He was appointed charities secretary in 1927, and it was largely due to his zeal in this office that the Warrington Division has figured so well, for a small Division, for its regular contributions to the Association's Charities Fund. Naden had a very modest, retiring temperament, but he had his enthusiasms, and these were of a purely intellectual character. He was one of the oldest members of the Warrington Literary and Philosophical Society, and held the offices of president and secretary. He was also a member of the Warrington Field Club and Scientific Society and of the Warrington Academy, and was for a term president of the former body. He read several papers to these societies on literary and scientific subjects. He was a co-opted member of the Corporation's Museum Committee, and was made a justice of the peace in 1909. As indicated, Naden's tastes were purely intellectual. During the scanty leisure of a busy general practice he managed to read and study most of the English classical authors. Wordsworth and Thomas Hardy were his favourites, and from Hardy he imbibed something of that author's philosophic fatalism. Naden's paper on *The Dynasts* provided a memorable evening in the annals of the Warrington Academy. In his later years he was greatly attracted to the advances and discoveries in atomic physics, and to enable him to understand these better he studied the differential and integral calculus. He became fairly proficient in solving equations, and the pleasure and insight which this knowledge gave him into mathematical physics was both keen and penetrating. Few men outside academic circles understood the theory of Relativity better than he, and he did understand it; he never made any pretence to gain praise for knowledge he did not possess. For many years he attended the Annual Meetings of the British Association, and Section A (Mathematics and Physics) was his favourite Section. A colleague (J. S. M.) writes: Naden was an earnest, sincere, quiet, lovable man, with tastes very alien to a bumptious, boisterous, sport-loving world. He loved his profession, and gave it competent service, but he did not love it so much for what it would bring, rather for what it gave—a gateway to that wider knowledge of man and the universe. His funeral at Hillcliffe Graveyard, on December 19th, was largely attended by his professional brethren, friends, and representatives of the Warrington Corporation.

The Services

HONORARY SURGEONS TO THE KING

Major-General J. D. Graham, C.I.E., I.M.S., and Lieut.-Colonel J. McPherson, I.M.S. (promoted Brevet Colonel) have been appointed honorary surgeons to the King.

OPERATIONS IN THE NUER COUNTRY

The name of Captain Alexander Macdonald Simson, R.A.M.C., lately attached Sudan Defence Force, is included in the list of names brought to notice by the High Commissioner for Egypt and the Sudan for distinguished services rendered in connexion with operations in the Nuer country between December, 1927, and February, 1928.

R.A.M.C. PROMOTION EXAMINATION

The following were successful candidates at the examination of officers with a view to promotion held at home stations in October last:

Majors R. B. Price, D.S.O., A. F. C. Martyn, E. Percival, D.S.O., M.C., F. G. A. Smyth, A. C. Jebb, T. J. L. Thompson, M.C., G. H. Haines, M.C., and G. T. Garraway; Captains W. Y. Eccott and W. B. F. Orr.

DEATHS IN THE SERVICES

Colonel Nicholas Charles Ferguson, late R.A.M.C. (ret.), died at sea on September 20th, aged 68. He was born in Dublin on July 10th, 1862, and was educated at Trinity College, Dublin, graduating as M.B. and Ch.B. in 1884. Entering the Army as surgeon on May 30th, 1885, he became lieutenant-colonel after twenty years' service, and was promoted to colonel in the long war promotion list of March 6th, 1915. He served in the South African campaign of 1896, receiving the medal, and in the South African war throughout, from 1899 to 1902, when he took part in operations in the Transvaal, including the actions at Colesberg, Pretoria, Johannesburg, and Diamond Hill, in the relief of Kimberley, and in operations in the Orange River Colony, including the actions of Paardeberg, Poplar Grove, Dreifontein, Vet River, and Zand River, was mentioned in dispatches in the *London Gazette* of April 16th, 1901, and received the Queen's medal with six clasps, the King's medal with two clasps, and the C.M.G. In the war of 1914-18 he served as D.D.M.S., and was mentioned in dispatches in the *London Gazette* of February 17th and June 22nd, 1915.

Major Alfred Philip Henry Griffiths, R.A.M.C. (ret.), died at Steyning, Sussex, on October 25th, aged 71. He was born at Bideford on June 16th, 1859, was educated at Guy's, and took the M.R.C.S and L.S.A. in 1883. Entering the Army as surgeon on August 1st, 1885, he became surgeon major after twelve years' service, and retired on August 1st, 1905. He was re-employed during the war of 1914-18, from August 8th, 1914.

Universities and Colleges

UNIVERSITY OF LONDON

The following candidates have been approved at the examination indicated:

M.D.—(*Branch I, Medicine*): A. J. Amor, G. C. Babington, L. I. M Castleden, W. P. M. Davidson, C. P. Donnison, Margaret R. Dunlop, Doris L. Durie, H. Evans, H. P. Himsworth, A. B Kettle, G. O. Mitchell, M. B. Mody, M M. Posel, L H Savin, A. G. Watkins, Dorothy E. Wright, Elsie B Wright (*Branch IV, Midwifery and Diseases of Women*): Mary C. E. Constantine, Victoria M. Crosse, Helen R Goodman, Beatrice G. Smith, Edith J. L Smith, Jean S. Thomson. (*Branch V, State Medicine*): Amelia M. Ison, E. H R. Smithard.

UNIVERSITY COLLEGE

A public lecture, with lantern illustrations, on "The Peking man," will be given by Professor G. Elliot Smith on Thursday, January 15th, at 5.30 p.m. A course of six public lectures, by Dr. H. R. Ing and Dr. Winifred M. Wright, on physical properties and chemical structure of drugs in relation to pharmacological action, will be held on February 24th and 26th, March 3rd, 5th, 10th, and 12th. Two public lectures on the central nervous system will be given by Professor B. Brouwer, University of Amsterdam, on March 16th and 17th.

A course of ten lectures on comparative physiology will be given at the College, Gower Street, by Mr. G. P. Wells, on Fridays, January 16th, 23rd, 30th, February 6th, 13th, 20th, 27th, and March 6th, 13th, and 20th, at 5 p.m. The lectures are delivered to students of the University and to others interested in the subject; admission is free without ticket. A practical course for a limited number of students will commence on January 21st.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL

The following series of lectures in pathology will be given at University College Hospital Medical School on Tuesdays, at 5.15 p.m. January 20th and 27th: Dr. J. A. Murray, induction of cancer by tar and other agents. February 3rd and 10th: Dr. W. Cramer, filterable tumours. February 17th and 24th: Dr. Janet Vaughan, pathology and treatment of pernicious anaemia. March 3rd and 10th: Dr. C. H. Andrewes, immunity in virus diseases. The concluding lectures of the series will be given by Dr. E. W. Hurst, who, on March 17th, will speak on the pathology of poliomyelitis, and on March 24th on disseminated encephalomyelitis following the exanthemata (vaccination, etc.). Admission is free to medical students and graduates.

Medical News

A combined meeting of the Tuberculosis Association and the Section of Obstetrics and Gynaecology of the Royal Society of Medicine will be held at 1, Wimpole Street, W., on Friday, January 16th, at 8 p.m., when a discussion on the management of pregnancy, parturition, and the puerperium in tuberculous women will take place. The openers will be Dr. Geoffrey Marshall and Dr. Melville Hiley on behalf of the Tuberculosis Association, and Mr. Aleck Bourne and Mr. L. Carnac Rivett for the Section of Obstetrics and Gynaecology.

The Hunterian Lecture will be delivered before the Hunterian Society of London at Apothecaries' Hall, Water Lane, E.C., at 9 p.m. on Monday, January 19th, by Dr. Arnold Lorand of Carlsbad on "The problem of rejuvenation." The annual dinner of the society will be held at the May Fair Hotel on Thursday, February 19th.

The Easter course of special public health lectures arranged at the London School of Hygiene and Tropical Medicine will open next week. Dr. W. G. Savage will lecture on bovine tuberculosis on Wednesday, January 14th, at 5 p.m., and Professor J. W. H. Eyre will lecture on January 21st on shellfish and the public health. The series of lectures arranged for the Easter term will end on March 5th, and the summer term will begin on April 28th and conclude on June 26th. The lectures are free to members of the public health service and to others interested in public health work.

The next meeting of the British Institute of Radiology (incorporated with the Röntgen Society) will be held at 32, Welbeck Street, W., on Thursday January 15th, at 8.30 p.m. Papers will be read by Dr. J. F. Brailsford on hydatid disease in England, by Professor E. A. Owen and Mr. H. I. Jones on ionization chambers for *x*-ray dosage measurement, and by Professor Owen and Dr. Philip Wright on physical characteristics of the Scheidt ultra-violet ray tube.

The Galton Lecture, entitled "Warnings from Nature," will be given by Sir J. Arthur Thomson before the Eugenics Society at the Galton Anniversary Dinner on Monday, February 16th, in the Rembrandt Hotel, Thurloe Place, S.W. The offices of the society are at 20, Grosvenor Gardens, S.W.1.

By the courtesy of the Royal College of Physicians the Harvey film will be shown at a meeting of the University of Birmingham Medical Society, to be held on February 11th, at 7.45 p.m., in the New Biology Theatre at the University, Edgbaston, Birmingham. Dr. K. D. Wilkinson, professor of pharmacology in the University, will give a paper on the life and work of Harvey. The society extends a cordial invitation to all members of the Midland Medical Society, and to medical men and women in the Midlands, to attend this meeting.

The Fellowship of Medicine and Post-Graduate Medical Association announces an intensive course in cardiology at the National Hospital for Diseases of the Heart from January 12th to 24th; fee £7 7s. From January 26th to February 7th an all-day course in medicine, surgery, and the specialties will be given at the North-East London Post-Graduate College (Prince of Wales's General Hospital, Tottenham); fee for the course £5 5s., or £3 3s. for either week. Tickets and detailed syllabus of the above courses are issued by the Fellowship, 1, Wimpole Street, W.1. A series of lectures on early diagnosis has been arranged at 11, Chandos Street, W.1, at 4 p.m. The opening lecture will be given on January 19th by Mr. Zachary Cope on the acute abdomen. A programme of clinical demonstrations in medicine and in surgery has also been arranged; the first will be given by Dr. N. H. Hill at the Metropolitan Hospital on January 19th, at 2 p.m. Mr. R. Maingot will demonstrate the injection treatment of haemorrhoids at the Royal Waterloo Hospital on January 20th, at 2.30 p.m. Medical practitioners may attend these lectures and demonstrations without fee or ticket.

A post-graduate course on diseases of the nervous system will be held at the National Hospital, Queen Square, from February 2nd to March 27th. The general course will consist of thirty-two clinical lectures and demonstrations at 3.30 p.m. each week-day except Wednesday and Saturday, teaching in the out-patient department on each week-day except Saturday, and eight pathological lectures and demonstrations on Mondays at 12 noon. The fee for the course will be £6 6s. A course of twelve clinical demonstrations, chiefly on methods of examination of the nervous system, will be given on Tuesdays and Thursdays at 5 p.m.; fee £2 2s. If there are sufficient applicants a course of ten lectures on the anatomy and physiology of the nervous system will be arranged on Wednesdays and Fridays at 12 noon; fee £2 2s. Particulars can be obtained from the secretary of the Medical School, National Hospital, Queen Square, W.C.1.

The National Association for the Prevention of Infant Mortality and for the Welfare of Infancy has arranged a course of lectures on maternity and child welfare for health visitors, nurses, midwives, superintendents of infant welfare centres, etc., at Carnegie House, 117, Piccadilly, on Mondays, at 6.30 p.m., from January 19th to March 23rd. Tickets may be obtained from the secretary, Miss M. E. Richards, 117, Piccadilly, W.1. In conjunction also with the National Society of Day Nurseries a course of advanced lectures on infant care will be given at Carnegie House on Thursdays from January 22nd to March 26th, at 7.30 p.m. Tickets can be obtained from Miss Maddock, secretary, National Society of Day Nurseries, at the same address.

The General Council of King Edward's Hospital Fund for London passed a resolution on January 6th recording its sorrow at the death of the Princess Royal, and its sense of the loss of Her Royal Highness's interest in the work of the fund and the welfare of the hospitals.

A series of monthly clinical demonstrations for registered medical practitioners will be given at the Hospital for Epilepsy and Paralysis, Maida Vale, W.9, by the members of the honorary medical staff, commencing on Thursday, January 22nd, at 3 o'clock, when Dr. Wilfred Harris will demonstrate. Tea will be provided, and it will be a convenience if those intending to be present will send a card to the secretary.

A course of three public lectures on muscular work and fatigue, arranged by the National Institute of Industrial Psychology, under the Heath Clark Bequest, will be delivered by Dr. G. P. Crowden on Wednesdays, January 21st and 28th, and February 4th, at 6 p.m., at the London School of Economics and Political Science, Houghton Street, Aldwych, W.C.2. Admission to these lectures will be free and without ticket.

The eighth British Congress of Obstetrics and Gynaecology will be held in Glasgow on April 22nd, 23rd, and 24th. On the first day the principal subject for discussion is the clinical and pathological features of ovarian tumour (excluding endometrioma). The names of contributors and the titles of their contributions should be sent by February 1st to one of the honorary secretaries, Professor James Hendry, 7, Clairmont Gardens, Glasgow, C.3, or Dr. John Hewitt, 16, Whitehall Street, Glasgow, E.1.

We are informed by Dr. C. A. H. Franklin, honorary secretary of the Lausanne Medical Graduates' Association, that the following candidates have been approved for the M.D. degree by the University of Lausanne during the past year: O. H. Bellerby, J. J. MacCormick, Major C. McIver, I.M.S., T. A. W. Ogg, Miss L. M. Poynder, and E. Obermer.

As announced in our advertisement columns, the Joint Board of Research for Mental Diseases of the University of Birmingham and the City Mental Hospital Committee invite applications for a scholarship in mental diseases of the value of £250 per annum, tenable for one year, but renewable. Applications, endorsed "Research Scholarship," should reach the honorary secretary, The Council House, Birmingham, by January 24th.

The date of the fourth Italian Conference of Thalassotherapy, which was to be held at Trieste next September has been changed to April 24th to 26th.

Dame Mary Scharlieb, of whom an obituary notice appeared in our issue of November 29th, 1930, has left estate valued at £33,050, with net personalty £32,702. She bequeathed her portrait by Hugh Riviere to the London (Royal Free Hospital) School of Medicine for Women.

The second Alexander Pedler Lecture, entitled "Science discipline," which was delivered by Sir David Prain last October in the University of Liverpool, has been published in pamphlet form by the British Science Guild, price 1s. An abstract of the lecture was given in the *British Medical Journal* for November 1st, 1930.

The menace of leprosy in Manchuria is the subject of an article by Dr. J. L. Maxwell in the January issue of the *Leprosy Review*, the quarterly publication of the British Empire Leprosy Relief Association. Until recently Manchuria was almost free from this disease, but it received from China about three million immigrants between 1927 and 1929, and now leprosy has appeared in the southern part of the country to an extent never before known. Since most of the immigrants take up residence much further north it is believed that the disease is even more prevalent in Northern Manchuria. Other articles in this number of the *Leprosy Review* are a report by Dr. E. G. Cochrane on the extent of the disease in East and Central Africa, and the measures taken to cope with it; an account by Dr. E. Muir of the treatment of residual leprosy; a description of antileprosy work in India; and a note on the progress of treatment in the Tanganyika area.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediseera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Nail Biting

"A. V. C." writes, in reply to "M.B.'s" inquiry (p. 42): Far the most efficient method is to use a very fine file (not the ordinary nail file of the dressing-table, but one about 4 inches long and of thin steel). For a child this should be used for each and every nail once a day by a careful nurse. If there are no "tags" left from a previous bite there is no incentive for the child to "pull at something" in states of nervousness. After a month less frequent attention is required, as the habit is largely overcome.

"Warbles" in Man

DR. E. C. SNOW (manager of the United Tanners' Federation) writes: The letter by "F. L. M." on the subject of "warbles" in man has been brought to my attention by Dr. John Gay, the Master of the Leathersellers' Company. The subject of "warbles" in cattle is one of very great importance to the leather industry, and this federation is naturally in possession of a considerable amount of literature on the subject. There are a number of cases recorded in which the larvae of hypodermae (the "warble") have been extracted from man. Most of them have been in children, and usually the affected individuals have been more or less associated with cattle. Accounts of a number of cases on record have been published in a publication issued by the United States Department of Agriculture (Department Bulletin, No. 1369), on page 17. It has now been demonstrated that the beginning of the life-history of the hypodermae, at any rate in cattle, and probably therefore also in the human being, is through the fly laying eggs upon the hair of the legs. In a short time the egg is hatched, and the larvae penetrate the skin. Presumably the boy was infected when the flies were active last summer, and the exit of the maggot in his case has occurred earlier than would have been the case with cattle, the "warble" in cattle not appearing earlier than February, or even later. Judging from the infrequency of "warbles" in man, it is extremely unlikely that this boy would be infected again, but a certain way of avoiding it would be to dress the cattle with which the boy is likely to come into contact at suitable times in the spring and early summer. This dressing, if effectively carried out, will kill the maggots in the cattle, and prevent the development of the fly, and hence the laying of the eggs. Particulars of the dressing are contained in a leaflet (W.F.2) issued by the Leathersellers' Company's Warble Fly Committee.

DR. CHARLES D. FERGUSON (Lochmaddy, North Uist) writes: Let me describe a somewhat similar case to that reported on December 20th, 1930 (p. 1072). A boy, aged 10,

complained of a small raised swelling, itchy and a little painful, situated just below the spine of the right scapula. Examination showed that in the centre of this small ovoid swelling was a circular opening into which a good-sized probe could be passed. On gentle pressure a maggot was expressed It was about half an inch long and three-eighths of an inch broad at its thickest part. Some days later similar swellings appeared over the left mastoid region, and over the great trochanter of the right femur. The patient was healthy, but came in contact daily with cattle, and admitted having squeezed similarly shaped maggots out of the backs of cattle in the spring-time, when the warble maggot is so very common. The life-history of the warble fly is very complex; most entomologists maintain that the ova are deposited in the region of the hoof, but that the young larvae penetrate the skin, and after undergoing various transformations, which occupy about eight to nine months, make their way towards the surface of the body of the host, usually the back. Once infection has occurred, it is doubtful if any form of treatment is useful. When all the maggots escape there is a natural end to the infection.

MR. R J. SCHARFF (Co. Dublin) writes to say that one of the most competent authorities on the life-history of the warble fly is the Rev G. H. Carpenter, D.Sc., Keeper of the Manchester Museum, who has written many papers on the subject.

Accidental Compression of Ureter

"G. P." writes: A surgeon, when operating on a patient for a uterine complaint, put a Spencer Wells forceps on the ureter by mistake. Later the compressed part sloughed, and infiltration of urine into the tissues was the result. As a general practitioner I should like to know how a good surgeon would rectify his error.

Dax-les-Bains

"P. H." asks for information about the types of rheumatism usually sent to Dax-les-Bains, near Biarritz.

*** Dr. F. Parkes Weber, to whom we have referred the query, gives the following list of conditions considered suitable for treatment at this spa: chronic rheumatoid arthritis and osteo-arthritis cases, muscular rheumatism, rheumatic neuralgias, sciatica, and old traumatic joint troubles.

Income Tax

Interest Paid to a Bank

"I. E." borrowed £1,000 from a bank to purchase a share in a practice. Is he entitled to any allowance for the amount of interest paid by him to the bank?

*** Yes. He should obtain a certificate from the bank each year of the amount of interest paid by him and forward it to the inspector of taxes with any receipts, counterfoils, etc., which he may have to show he has paid tax, and he will receive an allowance in respect of the bank interest.

Proportion of House Expenses Chargeable

"Z" runs a practice from his residence, and is allowed to deduct one-half of the rateable value and cost of lighting and heating to cover use of surgery, waiting-room, and garage He has a resident patient for whom he provides the best bedroom, and a second bedroom for the resident nurse. What should be deducted for the cost of that accommodation and of the food, etc., provided?

*** So much depends on the particular circumstances of cases like this that any "rule-of-thumb" method is apt to be misleading. So far as the general expenses—for example, rent or rateable value, lighting and heating, domestic service, etc.—are concerned, probably the best line of approach in this case is to look at the other side of the question—that is, to decide what can fairly be regarded as the proportion to be attributed to the accommodation, etc., of "Z" and his family. If, for instance, it represents one-third, then, as one-half is already allocated to the general practice, the amount still available as an income tax deduction would be one-sixth. So far as food is concerned, the basis might be a proportion—for example, two-sixths if the total number of residents is six—with some subsequent modification for special diet, preferential treatment, etc.

LETTERS, NOTES, ETC.

Natural Healing of Ulcers

DR. NORMAN H. JOY (Reading) writes: I have been much interested in Mr. Dickson Wright's treatment of varicose ulcers, because it is an improvement of a method I thought of years ago. I had regarded the question from one point of view only, which Dr. Silcock, in his letter (January 3rd, p. 34), has completely missed. He wants to know whether the improvement of treatment is due to the injections or the supporting bandages. I consider the chief part of it is due to the ulcer being allowed to heal in a natural way, instead of being constantly interfered with. What chance has the newly formed skin got to spread over the ulcer when it is constantly being interfered with by fomentations, etc.? We have to remember how very delicate this newly formed skin is. I feel certain we are wasting an enormous amount of money and time by using too many fomentations, etc., as a matter of routine, and also many a wound is redressed unnecessarily. I have recently had a case where a man had had the last joint of a finger accidentally cut off. Of course, the stump was suppurating; therefore, of course, it had to be bathed twice a day. When I saw it I at once put on boric lint, and looked at it five days after. The stump was far more healthy, and the skin had started to cover it, and the man told me it was far more comfortable.

Tuberculosis in Labrador

The fourth annual report of the Grenfell Association of Great Britain and Ireland for the year ended September, 1930, refers to the need for more extensive public health work on the coast of Labrador, especially in tuberculosis. At Harrington Harbour last winter seven of the eight patients in the local hospital at one time are stated to have suffered from this disease. The proportion is evidently not abnormal, and is attributed partly to careless habits and unhygienic domestic conditions. Progress in preventive education is hampered by lack of suitable material for propaganda purposes. Other prevalent diseases were pneumonia, rickets, and beri-beri, which were aggravated by the lowered resistance and insufficiency of food and clothing during an exceptionally severe winter. In appealing for increased financial support to maintain its hospitals, nursing stations, and industrial centres, the committee (82, Victoria Street, S.W.1) draws attention to the fact that about £10,000 will be required to rebuild its hospital at Battle, which was recently destroyed by fire.

Natural Labour after Caesarean Section

DR. T. P. ZUM BUSCH (Liestal, Switzerland) writes: The following case may be of interest to your readers in relation to the letter by "H. M." (November 22nd, 1930, p. 891). A woman, over 40 years of age, was brought to the Liestal Hospital one morning at about 8 a.m. in an apparently moribund condition. Sixteen years ago, when in the last weeks of her first pregnancy, she had been stabbed in the abdomen with a large butcher's knife. The stomach and small intestine had been perforated in several places, as well as the uterus and foetus. The latter was removed dead by Caesarean section, and the injuries to the viscera were repaired. In the following years five healthy children were born naturally. She had again been pregnant for nearly nine months, and on getting up on the night before admission to pass water had suddenly been seized with violent abdominal pain. Her condition becoming worse, a medical man was called, who ordered her removal to the hospital, where she arrived about four hours after the onset of pain. I diagnosed rupture of the uterus, and at once opened the abdomen under local anaesthesia, when a nearly fully developed foetus and the placenta were found lying free in the abdominal cavity, which also contained a large quantity of blood; the tear went through the old scar. The well-contracted uterus was removed, and the patient made an uninterrupted recovery.

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 42, 43, 44, 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46, 47, and 48.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 11.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

28 Tuberculosis and Marriage

L. BERNARD (*Le Scalpel*, November 8th, 1930, p. 1290) concludes that the risk of inheritance of tuberculosis is almost negligible; if any bacillary infection occurs through the placenta, it must be very rare. The fact that separation of newborn children from tuberculous parents gives a negative cuti-reaction points in the same direction. Most of the cases of tuberculosis which occur are due to subsequent infection from relatives. Prophylactic vaccination and careful attention to the risks of such infection will do much to prevent the onset of the disease. With regard to conjugal infection, the author states that in such cases the evidence does not point to recent infection, but rather to the activation of an old lesion contracted in infancy. Recent statistics relating to 535,000 tuberculinized families gave a proportion of 10 per cent. conjugal infection. When the infected member in the family shows signs of tuberculosis, it is generally some time after the death of the infecting partner, which shows that the distress of mind or of affairs which often follows plays an important part in the etiology. Since widows are more likely to be affected in this way, secondary tuberculosis is more often met with in them than in widowers. Extrapulmonary tuberculous infections, if cured, are no bar to marriage, with the exception of genital tuberculosis. Bernard discusses different types of pulmonary tuberculosis in relation to marriage, insisting that each case must be considered on its own merits. Marriage is forbidden when the tuberculous process is active, but when it has been arrested the patient may be allowed to marry, though in the case of the woman the additional risk of pregnancy has to be remembered. Fibroid types of localized caseous types of tuberculosis do not seem to be materially affected by the risks of maternity.

29 Spontaneous Tetany in Adults

H. A. SALVESEN (*Acta Med. Scand.*, October 17th, 1930, p. 511) reports three cases of spontaneous tetany in women. In his first patient, an unmarried woman aged 46, the condition appeared to be idiopathic and due to a low blood calcium content. Tetany occurred only in winter and was probably referable to deficient sunlight. Ultra-violet irradiation restored the blood calcium content to the normal and brought about general improvement, the patient gaining 11 lb. in weight. The author's second patient, a married woman aged 25, suffered from tetany and diarrhoea, which were cured by calcium administration. Apparently this was a case of " maternity tetany " brought on by temporary thyroid deficiency. Salvesen's third patient was a married woman, aged 45, who had had several abortions. After prolonged dyspepsia and diarrhoea, she developed a severe attack of tetany, the stools containing 4.5 per cent. of fat. She improved for a time but then died, and the necropsy revealed an atrophic, cirrhotic pancreas. The author suggests that in this case the tetany was not due to hypocalcaemia, but was probably a low chloride tetany in a patient suffering from pancreatic atrophy and consequent fatty diarrhoea.

30 Skin Coloration in Renal Insufficiency

E. BECHER (*Münch. med. Woch.*, November 7th, 1930, p. 1922) has studied the pale yellow coloration of the skin which is often associated with renal insufficiency, especially when there is contracted kidney. The condition contrasts with the skin coloration found in pernicious anaemia, where the whole body is tinted and the serum and urine show abundant colouring matter, in that the appearance of the skin in renal cases is limited to the face and hands and to those parts of the body exposed to the light; the serum is not yellow, and the urine is pale or colourless. Becher finds that in this pale urine, in the serum, and in extracts of the tissues there is a series of chromogens which are transformable into colouring matter by oxidation processes. The excision of both kidneys from an animal is not followed by yellow staining of the serum or tissue extracts. After removal of the entire intestinal tract the urine secreted is pale and free from colouring substance and chromogens, but urochromogen was found in the bowel content. The urochromogen passes by the blood to the kidneys, where it is oxidized into colouring matter, and thence excreted. In the diseased condition of contracted kidney it is probable that there is an impaired oxidizing action on the chromogens which are retained in the tissues and in the blood and carried to the skin. A portion of skin from the back of a patient who had died from contracted kidney was extracted with trichloracetic acid. The extract was colourless at first, but after exposure to light it became yellow; in the same manner the pale urine, after standing in the light, assumed the yellow colour of normal urine. Sunlight converted the colourless chromogen into a coloured substance; in the same way the exposed parts of the body were influenced and became coloured.

Surgery

31 Treatment of Phalangeal Bone Lesions

L. H. MCKIM (*Canadian Med. Assoc. Journ.*, November, 1930, p. 642) considers that only rarely is it absolutely necessary to sacrifice a finger on account of an infective process involving the bone, and emphasizes the importance of treating infections of the fingers conservatively, particularly those with bony involvement. Osseous changes due to infection, and demonstrable by *x* rays, occur earlier in the terminal phalanx of the finger than elsewhere in the body. The presence of a bony lesion, revealed by *x* rays or by an operation, does not necessarily indicate that the formation of a sequestrum will follow. If and when such formation does occur, the loss of even a large portion of a phalanx does not involve amputation of the whole finger. Three cases which illustrate these points are reported. The treatment adopted with success in these patients was incision, removal of a sequestrum if present, and packing the cavity.

32 Post-operative Urinary Incontinence

A. E. GOLDSTEIN and B. S. ABESHOUSE (*Arch. of Surg.*, November, 1930, p. 729) define true or complete incontinence as the complete loss of control of urination and the existence of urinary dribbling at all times, while partial incontinence implies a faulty control of urination, with dribbling between urination on exertion or at the end of urination. It is suggested that one or other form of incontinence exists after prostatectomy more frequently than statistics would show. Incontinence of urine following prostatectomy is less frequent after the suprapubic method than the perineal method of operation, and of 220 cases under review it occurred in only one case out of 134 suprapubic prostatectomies, but in five cases out of 86 treated by the perineal method. Temporary incontinence is a frequent occurrence after either form of prostatectomy, due either to a slight cicatricial contraction in the prostatic urethra or about the vesical neck, in which case instrumental dilatation at frequent intervals will cure the condition, or else to an anaesthesia of the urethra and vesical neck as a result of trauma when the prostate was removed. In this case control is soon re-established if the nerve supply is intact. Bladder exercises after operation help to improve the tone of the vesical sphincters. Permanent incontinence is due to some anatomic or mechanical defect involving both sphincters, and is the post-operative result of manipulation. Urinary incontinence more frequently follows injury to the external than to the

internal sphincter. Injury to the vesical sphincters in perineal prostatectomy may be avoided by retracting the external sphincter and transverse perinei muscles upward; by making the urethrotomy incision for the introduction of the Young prostatic tractor below the external sphincter near the apex of the prostate; by an extra-urethral removal of the hypertrophied gland; and by exerting traction on the prostatic tractor in an upward and outward direction. Methods of treatment for post-operative urinary incontinence range from a plastic operation through the combined suprapubic and perineal routes on both vesical sphincters to the transplantation of a voluntary muscle about the neck of the bladder or urethra. A further paper is promised giving the comparative results of the various methods.

33 Typhoid Phlebitis and Pulmonary Infarction

P. VOIGNIER (*Thèse de Paris*, 1930, No. 307) states that pulmonary embolism is a rare occurrence in the course of typhoid phlebitis. The possibility of its occurrence, however, renders immobilization as necessary as in any other form of phlebitis. Embolism may give rise to sudden or rapid death, and should always be looked for at the necropsy of a typhoid patient who has died suddenly. Pulmonary embolism may also be manifested by haemoptysis. The pathogenesis of infarcts occurring during typhoid fever may be very complicated, but the coexistence of phlebitis and an infarct renders their embolic origin very probable. The prognosis of pulmonary embolism in typhoid fever should be very guarded, owing to the diminished resistance of the patient and especially the involvement of the myocardium. The thesis contains the histories of three cases in patients aged 15, 19, and 36, two of which were fatal, while the third patient only became convalescent after an illness of three months' duration.

Therapeutics

34 Lobar Pneumonia Treated Unsuccessfully with Convalescent Serum

R. T. BEEBE and W. D. SUTCLIFF (*New Eng. Journ. Med.*, October 23rd, 1930, p. 823) have investigated the value of injecting homologous convalescent serum in the treatment of lobar pneumonia. To obtain the best results treatment must be started early, using larger quantities of a serum having a high protective power for mice against the homologous organism. Blood from selected patients was collected four to seven days following the crisis, since protection has been shown to be at its maximum at that time. The donors were those in whom the disease had run a typical course, and in whom the type of organism had been definitely determined. From 300 to 500 c.cm. of blood was collected into a closed flask and allowed to clot at room temperature for six hours. The serum was then placed in an ice-box for twenty-four hours, pipetted off, passed through a Berkefeld filter, pipetted into flasks, and stored in an ice-box. The serum was shown to contain a certain amount of specific protective substance for mice. Two patients with Type II and one with Type III lobar pneumonia were given intravenously amounts varying from 310 to 440 c.cm. within forty-eight hours on the third and fourth days of the disease. One of the Type II patients made a normal recovery after running the usual eight days' course, while the other two became progressively worse and died. Although treated under favourable circumstances, the authors conclude that the results fail to show any benefit from the use of homologous convalescent serum.

35 Treatment of Cardio-vascular Syphilis

J. E. MOORE and J. H. DANGLADE (*American Heart Journal*, October, 1930, p. 148) have studied 90 patients with syphilitic aortic regurgitation, and 43 with aneurysm, in all of whom the ultimate outcome has been traced. While treatment in a few had been adequate for more than a year, in others it had been inadequate, and in some there had been little or no treatment. The nature and intensity of the therapeutic measures employed depended upon the condition in which the patient was first seen. If he was suffering on admission from congestive failure, pronounced pain, or paroxysmal dyspnoea, he was treated in bed by the usual remedies until well compensated. The dangers of therapeutic shock and too rapid resolution of syphilitic inflammatory tissue were guarded against by initial treatment for three months with iodides and bismuth or mercury. A course of twelve neoarsphenamine injections was then given, starting with doses of 0.1 gram and increasing to 0.3 gram. Such courses alternated with courses of bismuth and iodides over a period of at least two years. In patients suffering from aortic aneurysm it was found that while the duration of life in those untreated averaged nine months, this period might be prolonged to an average of nearly six years if treatment for a year or more were undertaken. It was frequently noticed that treatment quickly produced great relief from symptoms, with the result that some patients failed to return for more, thinking they were well. Among the group suffering from aortic incompetence the period of survival after the onset of symptoms in untreated patients averaged two and a half years. If a year or more of adequate treatment had been received the duration of life was extended generally to about five years.

36 Malaria Therapy in Dementia Paralytica

H. R. UNSWORTH (*Journ. Amer. Med. Assoc.*, September 13th, 1930, p. 772) considers that malaria therapy gives the best results in early cases of dementia paralytica, and that little improvement can be expected in patients in the late stages of cerebro-spinal syphilis, when the colloidal gold reduction is very heavy in the first five tubes. The earlier age incidence of dementia paralytica is remarkable. Before the introduction of intravenous arsenical treatment the average age of these patients was over 45 years, and Unsworth attributes this earlier incidence to the promiscuous and unintelligent employment of arsenobenzols. In view of the destructive pathological changes in the cerebral cortex and meninges, it appears hopeless to expect great improvement from chemical therapy, and there is actual danger of causing further destruction. In an analysis of 28 dementia cases inoculated successfully with malaria, Unsworth found that the patients who deteriorated rapidly subsequently were those who had received energetic arsenobenzol treatment. Hence, in selecting patients for malaria therapy, he prefers those who have received little or no arsenobenzol treatment, who are of vigorous physique and otherwise sound organically, and whose colloidal gold reduction is incomplete in the paretic zone. In such patients the response has been satisfactory; some, after three years, are practically normal mentally, while there has been remarkable serological improvement. Those patients who show little or no improvement after malaria treatment are chronic cases with profound colloidal gold changes in the paretic zone, of poor physique, and usually there is visceral disease, especially when energetic arsenical treatment has been given; these patients respond slightly, if at all, to malaria therapy. He has had only two patients who appeared to be immune to malaria, and considers arsenic to be definitely contraindicated in late neurosyphilis.

Anaesthetics

37 Barbitone Derivatives in Intravenous Anaesthesia

J. S. LUNDY (*Anesthesia and Analgesia*, September–October, 1930, p. 210) has employed several drugs of the barbituric acid series in over 2,000 cases at the Mayo Clinic. In 753 cases sodium iso-amyl-ethyl barbiturate (sodium amytal) was given intravenously. In 475 of these cases (63.08 per cent.) a general anaesthetic was administered subsequently. In 23.1 per cent. of these patients, to delirium, was observed oedema occurred in one case, broncho-pneumonia in four, and pulmonary embolism in one. In adult patients the author slowly injects 18 to 30 grains in solution of not over 20 per cent. strength; he has given as much as 45 grains intravenously. Doses of

from 45 to 100 grains are dangerous, although some patients have recovered after much larger doses. The drug produces a rapid drop in the blood pressure, and Lundy discontinues the injection if the systolic pressure falls below 85 mm. Hg. More recently he has used sodium ethyl-1-methyl-butyl barbiturate (sodium embutal) in 403 cases; in 52 of these the drug was injected intravenously, in 15 cases it was given per rectum, and in the remainder orally. Apparently this drug is more powerful; 9 to 15 grains suffice to ensure a similar degree of hypnosis to that obtained from 18 to 30 grains of sodium amytal. Sodium embutal produces less restlessness and delirium. An overdose may cause pulmonary oedema or broncho-pneumonia such as may follow administration of any other barbiturate. Lundy administers sodium embutal in 6.66 per cent. solution. He believes that its sedative effects (by allaying fear) reduce the risks of general anaesthesia. Lundy's conclusions are as follows. (1) The barbiturates should be given in small (hypnotic) doses, on account of their well-known dangers. Their employment for intravenous anaesthesia is unjustifiable. (2) Intravenous administration of tribromethyl-alcohol (avertin) is not so good as the rectal method. (3) Sodium amytal and sodium embutal are preferable to any of the other barbiturates. (4) Sodium amytal is definitely antispasmodic and hypnotic, and should be employed when a prolonged effect is desired. (5) Sodium embutal is antispasmodic and sedative, and is useful in preparing patients for operation, and in cases in which a shorter duration of the effect is desired. (6) Patients are enthusiastic regarding the action of barbiturates. (7) The hypnotic dose of a barbiturate should be given at night before operation, and repeated in the morning, together with a preliminary dose of morphine and atropine.

38 Rectal Narcosis in Ophthalmic Surgery

O. GAYER MORGAN and J. M. LEES (*Brit. Journ. of Ophthalmol.*, November, 1930, p. 577) remark that the choice of anaesthetics for ophthalmic surgery is important and difficult. In some cases local anaesthesia is best, while in others more complete analgesia or anaesthesia is required, with or without the retention of the patient's co-operation. Large doses of morphine associated with a local anaesthetic frequently cause post-operative nausea or vomiting. The mask usually employed in a general anaesthetic is often in the way of the operator, while in old people with chronic bronchitis and emphysema a general anaesthetic, such as is required in septic or inflamed conditions, may set up serious complications. Chloroform, though the most satisfactory anaesthetic, is shunned by anaesthetists, while ether, though safer, produces inconvenient congestion of the tissues. Rectal narcosis with avertin in minimal doses (0.06 gram per kilo) allays fear and renders a certain amount of pain bearable without destroying co-operation on the part of the patient. The administration of larger doses (0.07 to 0.08 gram per kilo), combined with local anaesthesia, takes the place of general anaesthesia, or reduces the amount required. A maximum of 0.09 gram per kilo was used for such procedures as extirpation of the lacrymal sac, plastic operation around the eye, and enucleation. In certain cases chloroform and ether, or intratracheal gas and oxygen, were required. The method of administration followed the instructions in the Bayer handbook. An early morning enema wash-out was followed one hour before operation by the injection of 0.25 grain of morphine with 0.01 grain of atropine; these drugs may be omitted. Half an hour before the operation the calculated amount of avertin was heated to not more than 40°C., and tested by Congo red; a blue colour indicates a decomposition which leads to colitis. It was then administered slowly over a period of five to ten minutes by rectal tube. A return of this dose by the patient precluded any further administration for four hours. The patient was surrounded by screens and the ears plugged by wet cotton-wool. Sleep followed in ten minutes, and full narcosis in twenty-five to thirty minutes, lasting one and a half to two hours. The jaw was kept forward to prevent asphyxia. The patient awoke in two or three hours and fell into a deep and natural sleep again, following which there was complete amnesia for the narcotized period. The authors find that avertin affects the respiratory centre, and the patient often becomes a little cyanosed; an overdose results in death almost inevitably. The blood pressure falls by 25 to 30 mm. Hg, and the amount of venous congestion that takes place may cause difficulty in extirpation of the lacrymal sac. Avertin, if pure, causes no colitis, and may be used in severe toxaemia and sepsis. This drug should not be employed for patients under the age of 16, or in those who have, or have had, nephritis or severe liver disturbances; but it has been used up to the age of 87. The authors have used avertin successfully in 50 cases, including cataract extraction, acute glaucoma, excision, evisceration, acute dacryocystitis, extirpation of the lacrymal sac, and plastic lid operations.

39 Pulmonary Complications of General Anaesthesia

R. T. KNIGHT (*Minnesota Med.*, October, 1930, p. 694) states that pulmonary complications predominate as one of the most important considerations in choosing an anaesthetic; they are the chief cause of post-operative morbidity and mortality. A review is given of 1,015 general anaesthesias at the University hospitals of Minneapolis. Pulmonary complications followed in 30 cases (3 per cent.), with 9 deaths (0.9 per cent.). Six of the complications, including 4 of the deaths, occurred either too late to be referable to the anaesthesia, or as part of a general septicaemia, due to the surgical condition rather than to the induction. Ether administered alone caused about twice as many pulmonary complications as other anaesthetics. When used as a reinforcement to other anaesthetics it gave rise to five times the pulmonary complications in upper abdominal operations, and twice as many in other types of operations. Upper abdominal, as compared with extra-abdominal, operations were followed by pulmonary complications ten times as frequently with ether reinforcement, five times as frequently with ether alone, and four times as often with other anaesthetics. Knight considers that this indicates that ether is a potent factor in pulmonary complications, but that the upper abdomen as an operative field is a still more important consideration. Ethylene causes less pulmonary irritation than any other inhalation anaesthetic; this feature is almost negligible. Knight prefaces his paper with a few remarks on the explosion hazard, with special regard to ethylene; he classes this as a pulmonary complication, since death occurs from explosion within the lungs.

Obstetrics and Gynaecology

40 Eclampsia in a Diabetic

J. S. QUIN and R. H. MICKS (*Irish Journ. Med. Sci.*, November, 1930, p. 612) record a case of eclampsia in a young diabetic primipara. The diabetes had started two years before the pregnancy, and the patient had been managing her own insulin treatment successfully. When pregnancy began she sought advice about her diet and dosage. The pregnancy ran an almost normal course with the exception of a dental abscess which formed about the sixth month. Sugar appeared in the urine, and the insulin dosage was accordingly increased from 17 to 30 units a day. About the eighth month slight oedema developed in the legs; the systolic blood pressure was 150, and the urine was free from albumin. There was no tendency to pathological obesity. One or two weeks before term the patient became toxaemic. Prophylactic treatment on the lines laid down by Tweedy did not prevent fits, which set in shortly before the induction of labour; 15 occurred in eleven hours before the patient was delivered of a dead infant weighing 12 lb. The death is attributed to the unusual difficulty encountered in delivery, and not to the toxaemia. The eclampsia ceased immediately after delivery, and the patient made a rapid and complete recovery from her toxaemic state. A full description of

the treatment adopted is described. No trouble was experienced from ketosis or hypoglycaemia. Owing to the diabetes, glucose was freely administered, and it did not appear to hinder in any way the success of the prophylactic eliminative treatment. Although the view is held that eclampsia can generally be avoided by diabetic measures early in pregnancy, it is noteworthy that this patient had for no less than two years been on a simple, very moderate, and uniform dietary. On resuming normal diet the patient appeared to have acquired an increased tolerance for carbohydrate, being able to take 75 grams a day without glycosuria and with the help of only 5 units of insulin every morning. The authors conclude that the free administration of glucose, combined with moderate insulin dosage, does not interfere with the treatment of eclampsia, and enables a diabetic to withstand a severe eclamptic puerperium without damage to her metabolic functions.

41 The Use of Glandular Extracts in Labour

M. DAVIS (*New England Journ. Med.*, October 16th, 1930, p. 771) gives a complete report in detail of 50 women on whom thymophysin was used to shorten labour. This preparation is a mixture of pituitary and thymus extracts, on the use of which Dr. Nicholas Temisvary of Budapest made a preliminary report at the German Gynaecological Society in 1925; Davis now reports favourably as the result of his own experience of its use. He found it effective and beneficial in every case, there being no untoward maternal or infantile sequels. He states that thymophysin can be given as soon as regular labour is established. The preferable dose is 0.5 c.cm., repeated after a lapse of 45 to 60 minutes. In every case labour was definitely shortened after the administration of thymophysin. Apparently there was no danger of tetanic contraction of the uterus, particularly if two doses of 0.5 c.cm. were given as recommended by Davis. Cases of secondary inertia of the uterus responded well if the patient was not too fatigued. With careful watching it was found useful to allow trial labour in borderline Caesarean cases. Thymophysin was not effective in inducing labour, and hence could be used to distinguish between true and false labour. A complete statement of the progress of labour is given in each of the 50 cases, together with an account of previous labours. After the administration of thymophysin the minimum time of delivery in primiparae with anterior presentations was 40 minutes; with posterior presentations it was 45 minutes; whereas the maximum time otherwise was 6 hours for anterior and 9 hours 45 minutes for posterior positions. The average time of delivery was 2½ hours for anterior positions and 4½ hours for posterior. In multiparae these times were considerably shortened, the average time of delivery for anterior presentations being one hour and for the posterior it was 4 hours 20 minutes.

42 Rupture of Uterus following Caesarean Section

H. A. RIDLER (*Med. Journ. of Australia*, September 27th, 1930, p. 440) records two cases of Caesarean section in which, in a later pregnancy, further sections for uterine rupture were required, resulting in the organ being saved. In the first case, a patient aged 20, a stillborn child was delivered by Caesarean section; fourteen months later a living child was obtained by the same method. Two years afterwards, about three weeks before term, the previous uterine scar ruptured and the intact membranes presented through the wound. A living child was delivered, and the edges of the old uterine wound were trimmed and sutured; recovery was uneventful, the uterus and normal menstruation being retained. The second patient, aged 26, had a Caesarean section performed in her first pregnancy; during labour three years later the uterus ruptured in its lower segment, while the former Caesarean scar remained intact, but was incised to deliver a stillborn child. Recovery followed suture of both the ruptured lower segment and the incision in the old scar, and the uterus was saved. This latter case is cited by Ridler as an example of the fact that rupture of the lower uterine segment can take place during labour while a former Caesarean scar in the upper segment remains intact.

Pathology

43 The Haemic Effects of Quinine and Alkalis in Malaria

T. A. HUGHES and D. L. SHRIVASTAVA (*Indian Journ. Med. Research*, October, 1930, p. 501) have already shown that quinine in antimalarial doses produced blood changes (leucocytosis) indicative of splenic contraction, and that the effect of oral quinine was greatly increased when alkalis were given in quantities sufficient to render the urine alkaline. The results of further experiments carried out on individuals whose spleens were enlarged from chronic malaria, but who showed no signs of active disease, are now recorded. It was found that adrenaline produces a greater splenic contraction when large doses of alkalis are given. Alkalis do not increase splenic contraction following intravenous injections of quinine in antimalarial doses. During the oral administration of quinine and alkalis the leucocyte count promptly rises, but falls to the original level after two to four days, and there is no evidence of cell proliferation. When the spleen is fibrous and indurated, the leucocytic response to both quinine and adrenaline is abolished or greatly diminished. The intravenous injection of quinine in malaria does not appear to possess any advantage over oral administration as regards its ultimate therapeutic action. Discussing the significance of the enlarged malarial spleen, the authors state that splenomegaly in chronic malaria may be due mainly to proliferation of the reticulo-endothelial cells, to fibrosis, or to both. In a further study (ibid., p. 511) on the haemic action of plasmochin in malaria, these investigators found that this drug, given by the mouth for four to six days in daily doses of 0.1 gram, caused no splenic contraction. The most constant changes in the blood were: a fall in the red and total white cells; a temporary rise in the lymphocytes; and a sharp fall in the monocytes when these cells were at or above the upper limit of the normal.

44 Cholesterin Titre of Blood Serum

G. STIRPE (*Il Policlinico*, Sez. Prat., November 10th, 1930, p. 1625) has criticized the views of Chauffard and others that increase in the cholesterin content of the blood serum may be exogenous and referable to diet. To a series of 30 persons, 10 of whom were normal, 10 had raised arterial tension, and 10 had biliary calculi (the last two groups having more or less marked hypercholesterinaemia), was given a fixed diet, to which was added daily an amount of cholesterin varying from 1.5 to 2 grams contained in 4, 6, to 10 eggs. The cholesterin content of the blood serum was determined after four, seven, and ten days of this regime, by Grigaut's method. The author was unable to establish any significant difference between the cholesterin titres of the serum before and after the experiments. The slight changes observed were probably due to errors inseparable from colorimetric determinations.

45 The Germination of Tetanus Spores

B. C. J. G. KNIGHT and P. FILDES (*Biochem. Journ.*, 1930, vol. xxiv, p. 1496) have worked out what is usually described as the "degree of anaerobiosis" necessary for the germination of tetanus spores. The method used was to poise the oxidation-reduction potential of a sample of sterile broth at a constant level by passage of a stream of very dilute oxygen in nitrogen, controlled by simultaneous electrometric observation of the potential. After the potential had remained constant for an hour or two, spores were added to the medium; samples were withdrawn at intervals to ascertain the time at which germination started. Working with a medium of *p*H 7.0 to 7.65, it was found that germination took place readily at an oxidation-reduction potential of Eh 0.00 volt, but that up to Eh + 0.11 volt a limited amount of germination occurred, though the emerging bacilli were often malformed and divided only after considerable delay. Above Eh + 0.11 volt no germination was observed. Germination occurred most rapidly when the Eh was negative to 0.05 volt, the time required being only about four hours; at Eh + 0.10 volt it was about eight to twelve hours.

LEO INSULIN

Marketed under Licence from the Ministry of Health No. 038

CONTAINS NO PRESERVATIVE

100 units per 5 c.c. (each c.c. represents 20 units) - - 1/6
200 units per 5 c.c. (each c.c. represents 40 units) - - 2/10

LEO PHYSEX

(Standardized hypophyseal anterior-lobe hormone)

INDICATIONS

Neurasthenia; Impotence of non-anatomical origin in youth; certain forms of Amenorrhoea and Dysmenorrhoea; Dystrophia adiposogenitalis; Inhibition of growth from hypophyseal disturbance; Pluriglandular Insufficiency.

PACKING—Boxes containing 10 ampoules of 1 c.c., 10 ampoules of 2 c.c.
„ 100 „ 1 c.c., 100 „ 2 c.c.

Sole Concessionaires for British Empire—
C. L. BENCARD, LTD., 184, Wardour Street, London, W.1.
Telephone: GERRARD 1828. Telegrams: SCANOFIL, WESTCENT, LONDON.

Sole Agents for the Midlands, Northern England, Wales and Ireland—
JAMES WOOLLEY SONS & CO., LTD., Victoria Bridge, Manchester.
Telephone: CENTRAL 8580. Telegrams: PHARMACY, MANCHESTER.

South African Distributors—
LENNON LIMITED, CAPE TOWN and BRANCHES.

For the Treatment of Arthritis and Neuritis

"ARTHRYTIN" Trade Mark

BRAND

Ammonium ortho-iodoxy benzoate

"ARTHRYTIN" possesses an action resembling that of the salicylates, but is much more potent in its effects. It is indicated in all forms of acute arthritis, and has given strikingly successful results in many cases of chronic arthropathy.

Supplied in capsules for oral administration, and powder for intravenous and rectal injection.

Prepared in the Laboratories of
MAY & BAKER, LTD.
BATTERSEA LONDON, S.W.11
Telegrams: Bismuth, London.
Telephone: Battersea 1813 (6 lines)

Clinical trial sample and literature on request.

THE GERMICIDAL ACTION OF DIMOL

INTESTINAL ANTISEPTIC

Extract from Report by independent Bacteriologist appointed by "The Lancet."
(Full Report can be read in "The Lancet," 22nd February, 1930, p. 414.)

1. Determination of the Rideal-Walker coefficient of Dimol using organisms isolated from the faeces. (*See* Table I.)
2. Determination of the degree of dilution of the antiseptic leading to death of organisms in 15 mins. (*See* Table II.)

TEST ORGANISM.	TABLE I.—R-W coefficient (number of times Dimol more powerful than pure phenol).	TABLE II.—Degree of dilution leading to death of organisms in 15 mins.
B typhosus	37	1:6500
B. dysenteriae (Shiga)	34	1:6250
B. dysenteriae (Flexner)	34	1:6000
Streptococcus faecalis	24	1:5500
,, pyogenes	27	1:6000
,, haemolyticus	28	1:6000
Pneumococci	32	1:7000
B. faecalis alkaligenes	30	1:6000
B coli	30	1:5000

3. *Examination for toxicity.* — Single doses up to 0.02 g. (equivalent to 1/3 gr.) per kilogramme body-weight were given to rabbits without producing toxic effects. Such a dose corresponds to grs. 20 for a man weighing 10 stone, five times the dose advocated for therapy. No evidence of absorption as shown by carboluria was obtained. Repeated doses equivalent to two and a half times those recommended in therapy also failed to produce ill-effects when given three times daily over a period of four weeks.

CONCLUSIONS

1. Dimol intestinal antiseptic is found to possess a very high Rideal-Walker coefficient against the commoner organisms infecting the intestine.
2. The antiseptic kills completely these organisms in 15 minutes in dilutions ranging to 1 in 7,000.
3. The preparation shows no evidence of producing toxic effects in animals even when given in very large doses. No carboluria was produced.

Copy of full Report will be sent on application to:—

DIMOL LABORATORIES LTD., 40, LUDGATE HILL, LONDON, E.C.4.

NATURAL APERIENT MINERAL WATER

OF

RUBINAT-LLORACH

(Hydragogue, Purgative, and Cholagogue.)

The official analysis shows in each litre about 1601.321 grains of Anhydrous Salts, of which are Sulp. Soda 1485.368 grains, and Sulp. Magnesia 50.301 grains.

Prescribed in cases of Gall-stones, Liver Disease, and threatened Appendicitis, Constipation associated with Gout, Hepatic Dyspepsia, Gastric Fever, and generally in Abdominal Obstruction.

DOSE.

Wineglassful fasting; can be increased according to temperament. Effect is more rapid if followed by a cup of hot tea.

NO GASTRIC IRRITATION. NO ALTERATION IN DIET REQUIRED.

"A moderately powerful stimulant of the liver, and a powerful stimulant of the intestine."

GRAPE FRUIT CALVES' FEET JELLY

Freshly made by our Chef 3/- a bottle, post free

Dainties for Invalids from

FORTNUM & MASON

182 Piccadilly, W.1 Regent 0040

GAMAGES GREAT SALE

Gives You Opportunity To Save When Buying Your CHAUFFEUR'S LIVERY

Chauffeurs' Overcoats

The necessity for early clearance of all Winter Stocks provides this exceptional offer. They are in fine quality Navy Melton with open or closed fronts, and sturdy tweed linings. Ready to wear in our usual wide range of sizes.

SALE PRICE **57/6**

Usually 4 Guineas.

A Pattern of the cloth sent on request.

JACKETS and BREECHES. Oddments from our 95/- range. Clearance Price 30/-

Post Orders. State height and chest measure taken loosely over waistcoat.

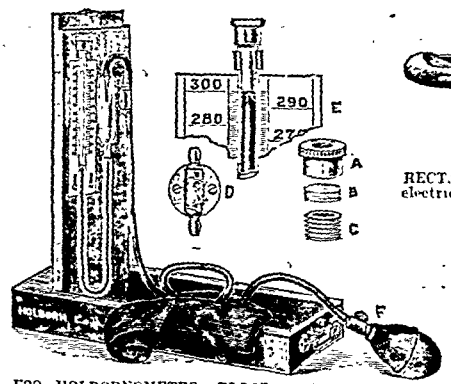
GAMAGES

HOLBORN, LONDON, E.C.1

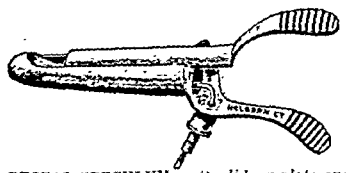
Telephone: HOLBORN 8484.

THE HOLBORN SURGICAL INSTRUMENT CO., LTD.,

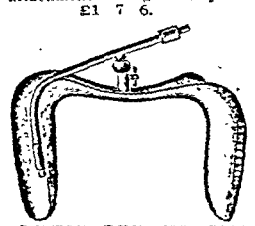
26, THAVIES INN, LONDON, E.C.1 Tel. No.: Central 5096.



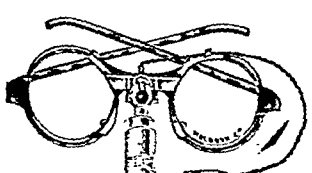
E29—HOLBORNOMETER BLOOD PRESSURE APPARATUS, with wide column and unspillable tube in polished oak case £4 10 0.
Details on application.



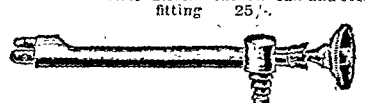
RECTAL SPECULUM, with sliding plate and electric attachment fitting battery handle. £1 7 6.



SIMS' DOUBLE DUCKBILL SPECULUM, with electric attachment on ball-and-socket fitting 25/-.

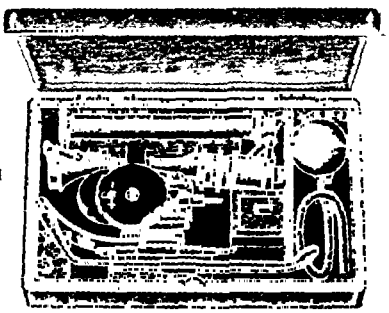


H94—"SPECLITE," with special filament bulb, Ever Ready Battery in case with screw fitting, £1 7 6. Leather case, 7/6 extra.



(foreign)

B298—BECK'S LARYNGO - PHARYNGOSCOPE, £3 15 0.
With nickel-plated battery handle and spare lamp in case £5 5 0.
The single lamp gives a brilliant illumination of the cavity and renders obsolete the double-lamp type of pharyngoscope. The telescope shows a large clear field, so that the entire side of the pharyngeal vault can be examined at one time.



H75A

H75A—DIAGNOSTIC OUTFIT consisting of Wappler Auriscope with three Specula, May Ophthalmoscope, Nasal Speculum fitting Auriscope body, Laryngeal Mirror and Tongue Depressor with light attachments all fitting battery handle, complete, in case with three spare lamps and Suction Ball, £8 0 0.

H75B—DITTO. Without Tongue Depressor, £7 5 0.

H75C—Combined Set, AURISCOPE and OPHTHALMOSCOPE, best quality, with spare lamps, complete in case, £5 5 0.

H75—MAY'S OPHTHALMOSCOPE, best quality, with handle and spare lamp, in leather case, £3 3 0.

The above are supplied with medium-size handle, black or nickel-plated.

H76—WAPPLER MODEL AURISCOPE, with 3 specula and small handle, in case, 52/6. DITTO, with medium handle and spare lamp. £2 18 0.

AURISCOPE and one speculum, with Ever Ready Torch handle, £1 7 6.

DOMEN BELTS

HEADQUARTERS

are now at ●●●

26, SLOANE ST. S.W.1.

Telephone: Sloane 3524

YOU PRESCRIBE LIGHT ABSORBENT UNDERWEAR WINTER AND SUMMER—YOUR PRESCRIPTION IS

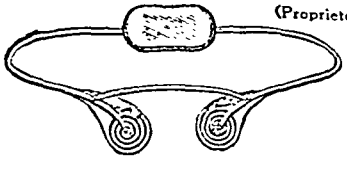
● JAEGER PURE WOOL!

No medical man would ever recommend heavy, stuffy fabrics worn next to the skin as a protection against cold. He knows that anything which fails to allow the impurities in the air round the body to escape—anything which fails to absorb perspiration—is definitely harmful. Some form of light porous texture is essential for combining warmth with health. And it is for that very reason that Jaeger underwear—made of Jaeger pure wool—is so often recommended as the healthiest underwear for all seasons. All Jaeger underwear is replaced if it shrinks. There are Jaeger Agents in every town.

K.K. (MEDIUM)		K. (LIGHT)	
Vests, short sleeves	17/6	Vests	14/6
Pants	18/6	Pants	15/6
"Unit-Suits"	31/6	"Unit-Suits"	27/6

JAEGER HOUSE, 352-54, OXFORD STREET, W.1.

WM. COLES & CO.



(Proprietor—A. E. GRAY)

TRUSS SPECIALISTS.

Inventors of

THE SPIRAL SPRING TRUSS.

22, Panton St., Haymarket, S.W.1.

(Removed from 5, Sackville Street, Piccadilly.)

Telephone—2207 Gerrard.

Two Steeples No. 83 Socks

Two Steeples No. 83 Socks look good and feel good, yet the greatest evidence of their goodness is in their wear. For only then does the material—St. Wolstan Wool, the highest grade pure botany—fully reveal its quality.

No. 83 Socks are made in a ribbed style eminently suited for men's wear and there are over thirty handsome ingrain shades to choose from—a shade for every suit.

Also No. 72, a lighter weight.

No. 30—Neat check pattern, etc. 4/6 per pair.

Write for booklet, Dept. 4,

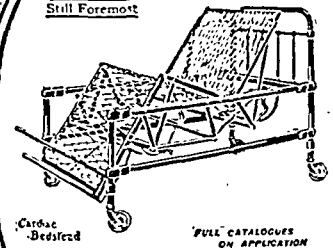
TWO STEEPLES LTD. WIGSTON LEICESTERSHIRE

A Bedstead for Every Purpose

LAWSON TAIT HOSPITAL BEDSTEAD

Permanently Guaranteed.

First in 1881 Still Foremost



Cardiac Bedstead

FULL CATALOGUES ON APPLICATION

LAWSON TAIT (WITH SPRING MAIN) SPRING BEDSTEAD

PERMANENTLY GUARANTEED AGAINST BREAKING OR BECOMING LOOSE

BURBERRYS SALE

The great annual opportunity to purchase

OVERCOATS, SUITS & WEATHERPROOFS

well-made from the best quality materials, at a little above or below

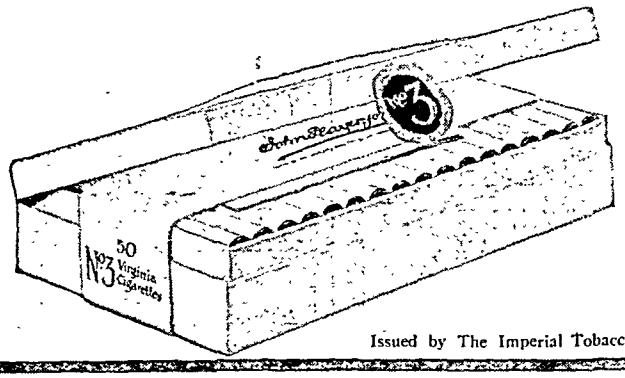
HALF-PRICE

SALE CATALOGUE detailing thousands of bargains for men, women, and children, sent on mention of "B.M.J."

BURBERRYS LTD. (Dept. 47) HAYMARKET S.W.1

PLAYER'S No. 3

Made from a delightful blend of specially selected fine Old Virginia Tobacco



10 *for* 8D
20 *for* 1/4
50 *for* 3/3
100 *for* 6/4
WITH OR WITHOUT CORK TIPS

EXTRA QUALITY VIRGINIA

Issued by The Imperial Tobacco Company (of Great Britain and Ireland), Ltd. SP38

Once you have tried

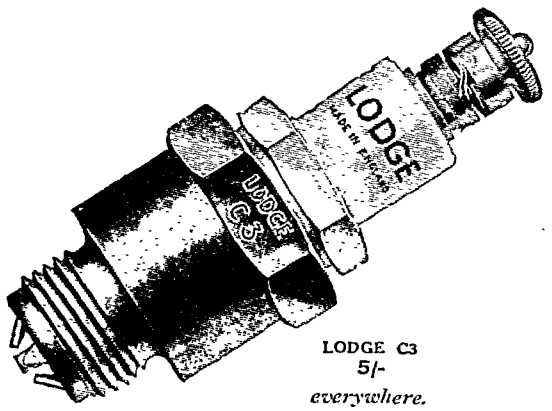
LODGE

SPARKING PLUGS

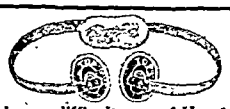
you will never choose any other make.

That is why you find them in most cars to-day.

LODGE PLUGS LTD., RUGBY.



LODGE C3
5/-
everywhere.



If you have a difficult case of Hernia send your patient to be properly fitted with a SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency. Perfect freedom of movement. *The most scientific truss ever devised.*

SALMON ODY LTD.
Highly recommended by the Medical Profession
7, NEW OXFORD STREET, LONDON, W.C.1
Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS
The best Medical authorities are agreed that rigid plates are injurious and are prescribing these supports for foot troubles—tired, aching feet, weak insteps, or rheumatic pains, 15/6 per pair. Metatarsal 18/6 per pair. State size of footwear when ordering.

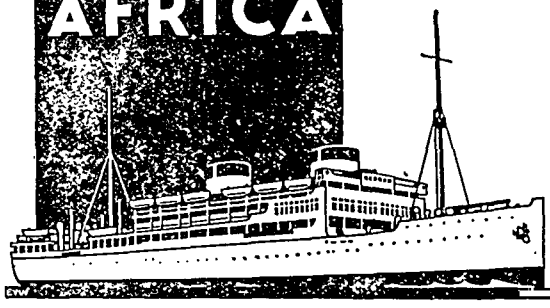
Estab. 120 years.

Medinal
TRADE MARK

"We are much impressed with the value and usefulness of 'Medinal.'"
——, M.D.

SCHERING LTD., 3, Lloyd's Avenue, London, E.C.3

SOUTH AFRICA



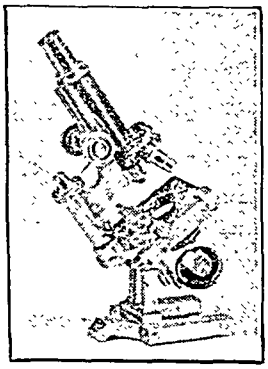
SPECIAL NEW YEAR TOUR

BY MAIL VESSEL FROM SOUTHAMPTON
30th JANUARY, 1931.
REDUCED RETURN FARES to CAPETOWN.
£90 1st Class. £60 2nd Class. £30 3rd Class.
Fares to other South African Ports on application.
WEEKLY ROYAL MAIL SERVICE.

UNION-CASTLE LINE

Write for illustrated folder to:—
Head Office: 3, Fenchurch St., London, E.C.3.
West End Agency: 125, Pall Mall, S.W.1.

BRITISH ADMIRALTY
MICROSCOPES
RECENTLY PURCHASED DIRECT FROM H.M. ADMIRALTY.
(Surplus to requirements of H.M. Naval Establishments.)
Every Instrument in Brand New Condition. Overhauled and Guaranteed Optically and Mechanically Perfect.
Each Microscope an Outstanding Bargain.
ORDER AT ONCE. STOCK LIMITED.
£35 Model by ROSS (as illustrated), complete in Polished Mahogany Lock-up Case.
OUR PRICE - - £20.



The ROSS MICROSCOPE illustrated above is a very fine model fitted with mechanical stage giving vertical movement of 30 mm. and diagonal traverse of 60 mm. Drawtube carries eyepieces of 23.2 mm. gauge. Fitted coarse and fine adjustments, Abbé condenser, and iris diaphragm. Triple nosepiece. Eyepieces Nos. 2 and 4. Objectives 1/6in., 2/3in., and 1/12in. oil immersion.

PRICE EACH - - £20.

Packed and delivered free British Isles.
Conditions of Sale.—Sent immediately on approval against cash for 3 days' trial (5 days from time of despatch. Cash refunded immediately on return, if not approved.
SATISFACTION DEFINITELY GUARANTEED.
Complete list of all other models and accessories available on application.
Complete price list of Brand New Government Surplus Surgical Instruments, Apparatus and Equipment, despatched on receipt of post-card.
Aseptic Furniture, Hospital Equipment, and Consulting Room Furniture at strictly competitive prices.

A. FLEMING & CO. (Dept. "A"),
39, VICTORIA STREET, LONDON, S.W.1.
Tel.: Victoria 4677. Teleg.: Estlonrus, London.

KEROL CAPSULES

SPECIAL 20% REDUCTION DURING JANUARY

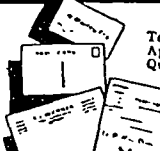
J. H. HAMILTON & CO. Ltd.
21, SAVILE ROW, LONDON, W.1
Established 1850.

LOUNGE SUITS from £8:8:0
DINNER SUITS from £12:12:0
OVERCOATS from £7:15:0

'Phone: Gerrard 2510.

Doctors' A/c Forms a Speciality

Printed In Best Style
Account Forms Letterheads, Cards, etc.,
Samples Sent
R. ANDERSON & SON



Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1, HILL PLACE EDINBURGH

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
27, EASTCASTLE ST., LONDON, W.1.

Tycos
MANUFACTURED by SHORT & MASON LTD.
WALTHAMSTOW LONDON, E. 1
SPHYGMOMANOMETERS

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.; 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

FOR DEAFNESS
Doctors use and recommend ARDENTE because it fulfils its claims.
309, Oxford Street, London, W.1.
Midway between Oxford Circus & Bond St
Mayfair 1380/1718.

NAME PLATES
IN BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

FENSTANTON,
CHRISTCHURCH ROAD,
STREATHAM HILL, S.W.2.
A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2234.) Apply J. H. EARLS, M.D., Resident Physician. Telephone: Streatham 8430.

CLARENCE LODGE,
CLAPHAM PARK, LONDON.
Situated in 3½ acres of secluded gardens.
HOME FOR TWELVE MENTAL PATIENTS (LADIES).
Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.
Station: Clapham Common Tube. *Telephone:* Brixton 0494. Apply, Miss THWAITES.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 3417)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms, Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

THE MOAT HOUSE,
TAMWORTH, STAFFS.
Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

MAJORCA: Dr. GILBERT SCOTT'S CONVALESCENT HOME
PALMA DE MALLORCA, SPAIN

Upton Lodge Nursing Home,
BIRCHINGTON, THANET.
All types of cases taken; special care for aged; shelters in garden; charming comfort. home; nr. sea Terms mod.—MISS ROBERTSON, Matron.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—WOODBRIDGE, SUFFOLK.

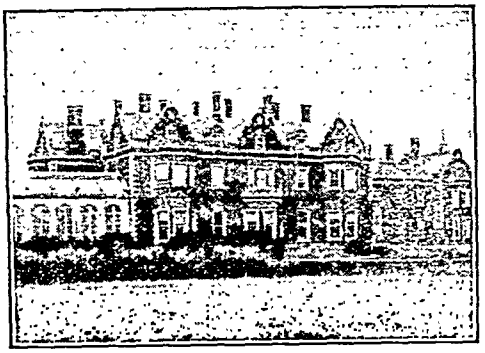
Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16.
(Toll Call from London.)



RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham, as carried on for the last twenty years, is available. Booklet and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: The Norwood Sanatorium, Limited.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone:* PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.

The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

ECCLESFIELD, ASHFORD, MIDDLESEX.

(Also private address to secure secrecy.) Telephone: 158.

Beautiful large Residential Home, with 50 acres of park land, attached to R.C. Convent, and under the care of the Sisters. Established 1899. Most successful MEDICAL and PSYCHOLOGICAL TREATMENT for LADIES. Every home comfort, and bright happy social amusements. Splendid results proved by the numbers of former patients who return to the Home for holiday visits. *Medical Superintendent*: J. YOUNG SCOTT, M.B., Ch.B., and J. KENNEDY.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr A. E. Carver, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.

Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

ALCOHOLISM, OTHER DRUG HABITS, AND TROPICAL AILMENTS

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders, TROPICAL Ailments, etc.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Terms moderate. Quiet and pleasant situation. *Ladies and gentlemen admitted for treatment.* For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams:* "Masters," Chislehurst.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE.

BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in-Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
Formerly Belvoir Nursing Home, Aston-on-Trent.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-therapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D E. M DOUGLAS-MORRIS. *Telephone*: Newport Pagnell 121.

BAILBROOK HOUSE,
BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134)

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No.: Batheaston 8189.

GARTH HILL HOUSE
NORTH QUEENSFERRY,
near EDINBURGH.

A SMALL PRIVATE HOME FOR TREATMENT OF NEURASTHENIC CASES.

Magnificent situation overlooking Firth of Forth. Stress laid on re-education of will and intelligent re-adaptation to environment.

For particulars apply ARTHUR J. BROCK, M.D., Medical Superintendent.

Telephone: *Inverkeithing* 179.

The MAUDSLEY HOSPITAL
DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: (*a*) 189 beds (both sexes) in wards or separate rooms. (*b*) 15 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS:

(*a*) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(*b*) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County [illegible] ached to the hospital.

[illegible] MAPOTHER, M.D., al Superintendent.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—ARTHUR TOWNSEND, M.D., Resident Supt. Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:

A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

BOURNEMOUTH.
West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1923.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

HINDHEAD.
850 feet above sea-level.
STONYCREST NURSING HOME.
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. *Tel.*: Hindhead 27.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwy [illegible] d care of BRIV[illegible] and MIDDLE [illegible] received. For [illegible] Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 481 GATLEY.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"

STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281. *Matron*: *Mrs. Ellen Allfrey, S.R.N.*

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle, Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Patients or Boarders may visit by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

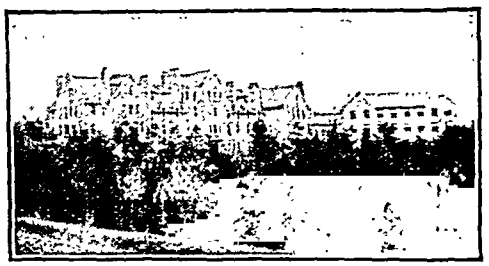
A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy of access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Voluntary Boarders received without certificates. Private suites. Convalescent Home, Kearsney Court, Dover.
For further particulars, apply to the MEDICAL SUPERINTENDENT.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams*: Nordrach, Blagdon. *Telephone*: Blagdon 23.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physician: ARTHUR H. HOFFMAN, M.D. St. Andrews, GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.). R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

GRAMPIAN SANATORIUM,
KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing 860 ft. above sea-level. ine wood. Graduated oughout building and ting. Fully equipped Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms £4 6s. 8d. to £6 6s. *inclusive p.w.* Med. Supt.—FELIX SAVY, M.D. For particulars apply to the Secretary.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh. All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance. IDEAL HEALTH RESORT. Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden and Grass Tennis Court. Bowling Green, Golf Course. Tel.: Peebles 2 & 3

VICTORIA SANATORIUM : : DAVOS
SWITZERLAND
(BRITISH SANATORIUM), 5,200 feet above sea-level.
ALTERED AND MODERNISED IN SUMMER 1930.
Terms from £5 . 12 . 0 per week.

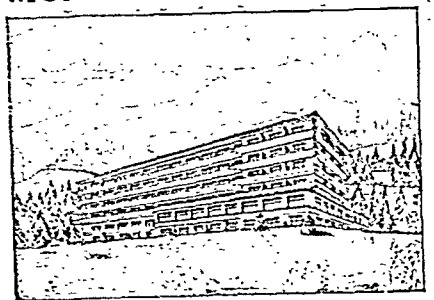
Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Consulting Physician: A. M. GOSSAGE, C.B.E., M.D.(Oxon.), F.R.C.P., Consulting Physician to the Westminster Hospital and to the East London Hosp. Children; late D.M.S., Min. of Pens.

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

HOTEL ANNONCIATA, MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.

Dry, bracing mountain air, semi-tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods.

Easy access to Town. Up-to-date comfortable Hotel, moderate charges.

Under French and English Management.

Teleg.: Annonciata, Menton. *Teleph.*: 1.06.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.

Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSON SMYTH, M.D., L. T. ROSE-HUTCHINSON, M.D.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

Grove House, All Stretton, Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

Wanted. — Home in Doctor's family as PAYING GUEST for mild mental case, woman, 30.—Particulars to Dr. MACLENNAN, 1, Matlock Terrace, Torquay.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIEDEN, the Secretary.

DIPLOMA IN PUBLIC HEALTH, &c.

THE ROYAL INSTITUTE OF PUBLIC HEALTH.

Patron:
HIS MAJESTY KING GEORGE V.

Principal: Colonel Sir WILLIAM SMITH, M.D., D.Sc., LL.D., F.R.S.Ed., Barrister-at-Law.
Director of Bacteriological Laboratories: E. GOODWIN RAWLINSON, M.D., D.P.H.Oxon. Three Assistants.
Director of Chemical Laboratories: ALAN WEST STEWART, D.Sc., A.I.C., Public Analyst for the Metropolitan Boroughs of Islington and Paddington, etc. Three Assistants.
Lecturers on Public Health, etc.: ALBERT E. THOMAS, M.A., M.D.Oxon., D.P.H.Oxon., Barrister-at-Law, Medical Officer of Health for the Borough of Finsbury; CECIL W. HUTT, M.A., M.D.Camb., D.P.H.Oxon., Medical Officer of Health for the Borough of Holborn, Examiner for the D.P.H., Conjoint Board of Physicians and Surgeons, London; GEOFFREY E. OATES, M.D.Lond. (State Medicine), D.P.H.Camb., Barrister-at-Law, Medical Officer of Health for the Borough of Paddington.

The Course of Instruction can be commenced at any time.

The Principal will be pleased to interview intending candidates for the purpose of advice.

Further particulars can be obtained from the Secretary, 37, Russell Square, W.C.1.
Telephone: MUSEUM 0766.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent [illegible]

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

MEDICAL COACHING

for STUDENTS and PRACTITIONERS.

ARE YOU PREPARING FOR ANY MEDICAL EXAMINATION?
DO YOU WANT TO PASS AT THE FIRST ATTEMPT?
DO YOU WANT TO REDUCE YOUR WORK TO A MINIMUM?

Enrol for a Course of Postal Tuition for your Examination at the.

MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, Cavendish Square, London, W.1.
Telephone:- Welbeck 8901.

Courses always in progress for the
1st, 2nd and Final M.B., B.S. London, and all other Universities.
1st, 2nd and Final Conjoint, Edinburgh. Triple, and L.M.S., S.A.
D.P.H. (Cantab., Lond., Vict., Dublin, &c.)
M.D. London, M.R.C.P. London and Edin.
M.D. Thesis (all Universities, Brit. and Colonial).
F.R.C.S. of England, Edinburgh and Ireland, M.S. Lond., M.C. Cantab., &c.
Diploma in Psychological Medicine.
Diploma in Tropical Medicine.
Diploma in Ophthalmology.
Dental Examinations.

DO NOT RISK FAILURE!

VALUABLE BOOK FREE!

Write at once for our "Guide to Medical Examinations," and a copy will be sent post free by return.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.
Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above School, commencing Monday, March 2nd, 1931.

The Course will be repeated on subsequent dates.

Copy of the syllabus and full particulars may be obtained on application.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Rossall School. — Some twelve Open SCHOLARSHIPS for boys between the ages of 12 and 14, on March 1st next, value from £90 a year downwards, will be awarded by Examination, beginning March 3rd, 1931. Boys examined at Rossall and in London.—Apply, THE BURSAR, Rossall School, Fleetwood.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.). POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary*	162
	Final 1906-30	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-29 (Completed Exam.)	286
F.R.C.S.(Edin.),	1918-29	43
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Second and Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women. Hints for writing theses. Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

Society of Apothecaries of LONDON.

MASTERY OF MIDWIFERY EXAMINATION.

The next Examination will take place on Monday, November 17th, 1930, and following days. For regulations apply to—
FRANK HAYDON, Secretary.

THE ART OF RELAXATION.

THE ARCHER NERVE TRAINING COLONY, LANGLEY RISE, Ltd., King's Langley, Herts, is opening premises for Consultations, Treatments, and Classes at 22, UPPER GLOUCESTER PLACE, N.W.1 (Tel.: Padd. 7175), on Wednesdays and Saturdays, 10—1 and 2—5.30. Enquiries on all other days to King's Langley (Tel. 19).

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London.)

PRIMARY F.R.C.S. COURSE.

A Course of Instruction for the JUNE EXAMINATION will begin on TUESDAY, FEBRUARY 3rd, 1931, and will be conducted as follows:

ANATOMY AND EMBRYOLOGY.—Prof. J. ERNEST FRAZER, F.R.C.S. (Professor of Anatomy in the University of London).

PHYSIOLOGY AND HISTOLOGY (with Practical Classes).—Prof. B. J. COLLINGWOOD, O.B.E., M.D. (Professor of Physiology in the University of London).

Fee for the Course: 16 gns., or 9 gns. for either section separately. This fee includes membership of the Students' Club during the period covered by the Course.

For further particulars apply to the School Secretary.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925.

Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees should be given.

J. & J. PATON, Educational Agents, 143, Cannon St, London, E.C.4. Tel.: Mansion House 5053.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims.

Chemistry, Physics, and Biology Labs.

MANCHESTER TUTORIAL COLLEGE, 527, Oxford Road, Manchester.

MIDDLESEX HOSPITAL,

LONDON, W.1.
(University of London)

PRIMARY F.R.C.S. EXAMINATION.

ANATOMY.

Personal instruction is given daily by Professor T. YEATES.

PHYSIOLOGY.

This Section of the Course is under the joint direction of:

Professor SAMSON WRIGHT,
Professor E. C. DODDS,
Mr. J. H. WOODGER, D.Sc.,

and includes General Physiology, Biochemistry, and Histology.

Instruction is given daily except on Saturdays.

The Course will start on February 2nd, at 9.15 a.m.

FEE: 20 guineas. Single Subject: 12 guineas.

For further information apply to the Dean or to the School Secretary.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.

The Prince of Wales's General Hospital, Tottenham, N.15, North Middlesex Hospital, Edmonton, and Associated Hospitals.

An INTENSIVE REFRESHER COURSE will be held from January 26th—February 7th. Lectures, demonstrations, and cliniques in the various general and special departments.

The number is limited to 25.

Enquiries and applications should be sent to the Dean at the Hospital, or to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

STAMMER, HESITATION, DISORDERS OF THE SPEECH.

CONSULT—
Mr. E. J. MIALL,
39, WELBECK STREET, W.1.

The University of Sheffield.

FACULTY OF MEDICINE.

The Council of the University and the Board of Management of the Royal Infirmary, Sheffield, acting conjointly, are about to make an appointment to the post of ASSISTANT PATHOLOGIST to the Infirmary and DEMONSTRATOR OF PATHOLOGY in the University. The salary offered is £500 per annum. Applications, accompanied by recent testimonials and references, should be sent on or before January 14th to the undersigned, from whom further details may be obtained.

W. M. GIBBONS, Registrar.

University of London.

A Course of Ten Lectures on "*Comparative Physiology*" will be given by Dr. G. P. WELLS at UNIVERSITY COLLEGE, LONDON (Gower Street, W.C.1), on FRIDAYS, JANUARY 16th, 23rd, 30th; FEBRUARY 6th, 13th, 20th, 27th; and MARCH 6th, 13th, 20th, 1931, at 5 p.m.

Admission free, without ticket.

S. J. WORSLEY,
Academic Registrar.

Reduced Fees for Daughters of

Medical Men offered by a Headmistress, who is adding a Third Boarders' House to her School. — Address, No. 185, B.M.A. House, Tavistock Square, W.C.1.

Dudley Road Hospital.

JUNIOR ASSISTANT MEDICAL OFFICERS (Male).

[illegible] invited from fully qualified [illegible] appointments as Junior [illegible] (male) at the Dudley Road Hospital, Birmingham.

The Hospital accommodation is fixed at 926 beds, divided into Medical, Surgical, Children's Infectious, Maternity, Gynaecological, and Obstetrical Sections. There are completely equipped Pathological and Biochemical Laboratories, Deep Therapy, X-ray, Electrical Massage, Sunlight, and Dental Departments. Approximately 5,000 operations are performed annually.

The appointments will be for a period of six months in the first instance, but may be extended at the end of that time for a further period not exceeding six months.

The persons appointed will be required to assist at operations, to administer anaesthetics, and undertake casualty work and such other duties as may be assigned to them by the Medical Superintendent.

The salaries attached to the appointments will be at the rate of £200 per annum, together with full residential emoluments (rations, apartments, laundry, and attendance).

The officer appointed will be required to pay to the Council all fees, allowances, and emoluments (other than the foregoing) received by him.

Further particulars of the appointments may be obtained from the Medical Superintendent, F. W. ELLIS, Esq., M.D., F.R.C.S., Dudley Road Hospital, Birmingham, to whom applications, stating age, experience and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Thursday, January 22nd.

F. H. C. WILTSHIRE,
Town Clerk.

The Council House,
Birmingham.

Derby City Hospital.

THIRD RESIDENT MEDICAL OFFICER.

Applications are invited for the appointment of Third Medical Officer (male) at the Derby City Hospital of 350 beds for treatment of general cases. The Hospital was opened in November, 1929, and is up-to-date equipped. The appointment is for a period of twelve months; two months' notice of resignation to be given.

Salary at the rate of £200 per annum for the first six months, then rising to £250, with usual indoor residential allowances.

Applications, with particulars of age, previous career, qualifications, diplomas, and certificates held, together with copies of three recent testimonials, must be sent in on or before Friday, January 16th.

RALPH GRANTHAM,
Secretary.

Public Assistance Committee,
County Borough of Derby.

The Victoria Hospital for CHILDREN, Tite Street, Chelsea, S.W.3.

(138 Beds.)

The Committee of Management invite applications for the posts of HOUSE PHYSICIAN and HOUSE SURGEON (both vacant February 1st). The appointments are for six months. Salaries at the rate of £100 per annum, with board, lodging, and washing.

Candidates must attend the Hospital for the purpose of an interview at 4.30 p.m. on Friday, [illegible] or other ex- [illegible] hold Medical [illegible] be registered [illegible] recent testimonials, should be sent to the Secretary not later than the first post on Wednesday, January 14th.

By Order,
D. ST. JOHN BAMFORD,
Secretary.

Chelsea Hospital for Women,

Arthur Street, S.W.3.

There is a vacancy for a REGISTRAR (Gynaecological). Candidates must be Graduates in Medicine of a recognized University or Fellows or Members of one of the Colleges of Physicians of London, Edinburgh, or Ireland, or Fellows of one of the Colleges of Surgeons of England, Edinburgh, or Ireland. They must be registered under the Medical Act and engaged in consulting practice only. There is an honorarium of £50 per annum. Applications are invited for the above post, and must be sent to the Secretary, accompanied by copies of three testimonials, not later than Wednesday, January 28th.

The Middlesex Hospital and MEDICAL SCHOOL, W.1.

Applications are invited for One MEDICAL REGISTRARSHIP. The Registrars are attached to Clinical Units of the Hospital and are responsible for the clinical notes, the carrying out of clinical and pathological examinations, the preparation of material for demonstration, and the co-ordination of the work in the Bland-Sutton Institute of Pathology with that in the wards.

The appointment will be from March 1st to December 31st, and the successful applicant will be eligible to apply for re-appointment and may retain office for two further consecutive years. He is required to attend at the Hospital daily from 10 a.m. to 6 p.m. Salary £300 per annum.

Fu[illegible] be obtained from the [illegible]lications, with not mor[illegible] must be sent by noon on Thursday, February 12th.

By Order of the Board,
S. R. C. PLIMSOLL,
Secretary-Supt.

The Royal Sea-Bathing Hospital FOR SURGICAL TUBERCULOSIS, MARGATE.

HOUSE SURGEON Required.

A Male House Surgeon is required to take up duty in January, 1931. The salary is at the rate of £200 per annum, with board, residence, attendance, and laundry.

Candidates for the post must be legally qualified and registered. The appointment is for six months.

There are 308 beds for adults and children, which afford special opportunities for the study of surgical tuberculosis.

Applications, stating age and previous appointments, with copies of three recent testimonials, should be sent to the Secretary, R.S.B.H. Offices, 15, York Buildings, Adelphi, London, W.C.2.

Royal Westminster Ophthalmic HOSPITAL.

(Incorporated by Royal Charter.)
Broad Street, Holborn, W.C.2.

REFRACTION ASSISTANTS.

The Committee of Management is prepared to receive applications for the appointment of Refraction Assistants, to commence on February 1st, for duty twice a week except that in one appointment duty will be for once a week only. The appointments are tenable for six months. Salary at the rate of £100 per annum and [illegible]0 per annum respectively.

Candidates must be duly qualified Medical Practitioners and have had experience in Refraction work.

Applications, with copies of testimonials, to be sent as soon as possible to the Secretary, from whom further particulars can be obtained.

Hampstead General and North-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.

APPOINTMENT OF CASUALTY SURGICAL OFFICER.

Applications are invited from unmarried registered Medical Women for the position of Casualty Surgical Officer, vacant on Feb. 1st next, at the Out-patient Department of the Hospital, Bayham Street, Camden Town. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Applications, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on January 17th next.

Northampton General Hospital.

HONORARY ASSISTANT PHYSICIAN.

The Board of Management invite applications for the appointment of Honorary Assistant Physician in charge of an Out-patient Clinic for the treatment of early Mental cases.

Candidates must be Graduates in Medicine of one of the Universities of the United Kingdom, or Members or Licentiates of the Royal College of Physicians, London, and shall not be connected with any dispensary nor engaged in panel practice.

Further particulars may be obtained from the undersigned, to whom formal applications, accompanied by copies of testimonials, should be sent on or before January 21st.

H. ST. JOHN WOOD,
Secretary-Supt.

December 30th, 1930.

Manchester Royal Infirmary.

CENTRAL BRANCH, ROBY STREET, MANCHESTER.

JUNIOR HOUSE SURGEON AND CASUALTY OFFICER (Lady).

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment.

Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for twelve months, commencing forthwith—four months as Junior at £100 per annum, four months as Assistant at £100 per annum, and four months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their application and testimonials to the undersigned by 9 a.m. on Thursday, January 22nd.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

All Saints' Hospital (for Genito-URINARY DISEASE).

In-patient Dept.: 91, Finchley Road, N.W.8.
Out-patient Dept. and Secretary's Office: 49/55, Vauxhall Bridge Road, S.W.1.

HOUSE SURGEON (male) required at once for period of three months as JUNIOR HOUSE SURGEON (non-resident), followed, subject to the approval of the Board of Management, by a period of three months as Senior House Surgeon (Resident). Salary will be at the rate of £150 per annum, with board and laundry during the resident period. The duties of the non-resident House Surgeon consist of attendance at the Out-patient Department every afternoon and three evenings weekly.

Applications, stating age, qualifications, experience, and enclosing copies of recent testimonials, should reach me as soon as possible.

D. H. EADE, Secretary.

Royal Devon & Exeter Hospital, EXETER. (225 Beds.)

HOUSE PHYSICIAN (Male).

Applications are invited for the post of House Physician at this Hospital, vacant on January 26th. The appointment is for six months, but candidates are eligible for re-election.

Salary at the rate of £150 per annum, with board, apartments, and washing.

Applications, giving particulars as to age and qualifications, together with certificate of registration and copies of three recent testimonials, should be sent to the undersigned as soon as possible.

By Order of the Committee,
S. S. COLE,
Secretary & Manager.

December 29th, 1930.

North Riding Infirmary, MIDDLESBROUGH.

(General Hospital—150 Beds.)

JUNIOR HOUSE SURGEON wanted to take up duties on February 1st.

The appointment will be for a definite period of six months, with salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three testimonials, should be sent forthwith to the undersigned.

N.B.—The successful candidate will be eligible to apply for the Senior House Surgeon's post at the expiration of the above term.

CHARLES POSTGATE,
Secretary-Superintendent.

Jewish Maternity Hospital,

Underwood Street, E.1.

Applications are invited for the post of HONORARY PAEDIATRICIAN. Applicants, who should be Specialists in Paediatrics, should send their applications, together with copies of three recent testimonials, not later than the first post on January 12th, to the undersigned, from whom further particulars can be obtained.

ALICE MODEL, Secretary.

Lowestoft and North Suffolk HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum, with board, residence, and laundry. Duties to commence in January. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

King Edward Memorial Hospital,
EALING (106 Beds.)

HOUSE SURGEONS.

Applications are invited for the post of SENIOR HOUSE SURGEON. Applicants must have had good experience (at least 2 years) in House appointments. Salary will depend on experience and qualifications.

Applications are also invited for the post of JUNIOR HOUSE SURGEON, vacant on February 1st. Salary £150 per annum, with usual residential allowances.

Applications, stating age, experience, and qualifications, together with copies of two recent testimonials, to be sent to me not later than Monday, January 12th.

R. A. MICKELWRIGHT,
Secretary-Superintendent.

Lincoln County Hospital.

Wanted, a JUNIOR HOUSE SURGEON, male, unmarried. Salary at the rate of £150 per annum, rising to £200 per annum at the conclusion of six months' approved service. Board, residence, and washing will also be provided.

Candidates for the appointment must be registered under the Medical Acts.

Applications, stating age and other particulars, with copies of testimonials (not more than three), are to be sent to the undersigned, from whom further particulars may be obtained.

Lincoln. ARTHUR MOORE,
December 29th, 1930. Secretary-Supt.

St. Mary's Hospital for Women
AND CHILDREN, Plaistow, E. 13.

The Committee of Management invites applications for the post of SURGEON-IN-CHARGE of the X-ray Department, at an honorarium of £100 per annum. Candidates must be duly registered under the Medical Acts and hold the D.M.R.E.

For copies of duties, etc., apply to the undersigned, to whom applications, accompanied by not more than three testimonials, must be sent not later than 12 noon, January 14th.

A. ERNEST WILKES, Secretary.

Stockton and Thornaby Hospital,
STOCKTON-ON-TEES. (140 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about January 21st. Salary £150, with board, residence, and laundry. Candidates must be duly qualified and unmarried. Applications, stating age, nationality, and experience, together with copies of three recent testimonials, to be sent to the undersigned.

JOHN WILKINSON, Secretary.

West Kent General Hospital,
MAIDSTONE.

Applications are invited for the appointment of HOUSE SURGEON, who must be a male and of British nationality. Salary at the rate of £220 per annum, with board, apartments, and washing. Candidates must possess registered Medical and Surgical qualifications. Write in the first instance to the undersigned for form of application, which must be returned completed on or before January 16th.

EDWARD J. GREGG,
House Governor & Secretary.

St. Mary's Hospitals, Manchester

Two HOUSE SURGEONS for the Whitworth Street West Hospital (Maternity), and two for the Whitworth Park Hospital (one Children's Department and one Gynæcological Department), each for a period of six months from February 1st next.

Salaries at the rate of £50 per annum, with board and residence.

Application, with copies of three testimonials, to be sent to the undersigned on or before January 14th.

R. RATCLIFFE, Secretary.

Rotherham Hospital.

Wanted, HOUSE PHYSICIAN (male), qualified. Salary £180 p.a., with board, residence, and laundry, to have charge of Out-patients, administer Anæsthetics, and assist Honorary Physician.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A SURGICAL REGISTRAR is required on March 1st.

Gentlemen are invited to send in their applications, addressed to the Secretary, with copies of not more than three testimonials given specially for the purpose, before 12 o'clock on Monday, February 2nd.

The appointment is made for one year, but may be held, subject to re-election, for a period of three years.

Salary £300 per annum and allowance for substitute for holiday £18 18s.

Candidates must be registered Medical Practitioners, and must have held a responsible Hospital appointment and be prepared to take up the duties on March 1st.

All candidates must be in attendance on Wednesday, February 4th, to appear before the Joint Committee, at 4:45 p.m. precisely, if required.

Forms of application, copy of the rules for, and details of the duties of, the appointment, will be supplied on application to the Secretary.

By Order of the Board of Management,
JAMES McKAY,
January, 1931. Secretary.

Worcester County and City
MENTAL HOSPITAL,
POWICK, near WORCESTER.

JUNIOR ASSISTANT MEDICAL OFFICER (*male*), *single, required.*

Candidates must be duly qualified in Medicine and Surgery. Salary £350 per annum, rising by four annual increments of £25 to £450 per annum, together with furnished and attendance.

[illegible] to the provisions [illegible] superannuation Act, [illegible] age and full particulars of three recent testimonials, to be forwarded to the Medical Superintendent not later than Saturday, January 24th.

Bolton Infirmary & Dispensary.
SECRETARY'S OFFICE.
(257 Beds, including Auxiliary Hospitals.)

Applications for appointment of CASUALTY OFFICER. Salary £150 per annum, with board, residence, and attendance, are invited from Ladies having a registered Medical and Surgical qualification. The appointment will be for six months. The Resident staff consists of five persons.

Applications, stating age and nationality, with copies of testimonials, should be *forwarded* to the undersigned (from whom further particulars may be obtained) not later than Monday, the 19th inst.

ALBERT E. BRISCOE,
Secretary.

Bolingbroke Hospital,
Wandsworth Common, S.W.11.
(121 Beds.)

HOUSE PHYSICIAN (male) required. The appointment is for six months, commencing on February 1st. Salary £120 per annum, with board, residence, and laundry.

Candidates must be fully qualified and registered.

Applications, stating age, qualifications, and experience, with copies of not more than three recent testimonials, should be sent to the undersigned on or before January 12th.

W. S. RANDOLPH BISS,
Secretary-Superintendent.

Hospital for Consumption and
DISEASES OF THE CHEST,
Brompton, S.W.3.

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (for which there are three vacancies). The duties include work in the Out-patient Department as well as in the Wards. Applications, with copies of testimonials, must reach the undersigned not later than Saturday, January 17th. The appointment is for six months, commencing February 1st, with an honorarium of £50.

FREDERICK WOOD, Secretary.
Brompton, January 3rd, 1931.

King George Hospital, Ilford
(8 miles from London).

Applications are invited for the appointment of HOUSE SURGEON (male). Salary £100 per annum, with board, residence, etc. Term six months, with eligibility for a further period. Applications should be sent at once to the Secretary.

Warrington Infirmary and
DISPENSARY.

The Board of Management invite applications for the post of SENIOR HOUSE SURGEON (male, unmarried). Applicants, who must be of British nationality, must be duly qualified Medical Practitioners, with previous Hospital experience.

Salary £225 per annum, with board, apartments, and laundry. Applications, stating age and qualifications, with copies of three recent testimonials, should be sent in not later than January 13th to the undersigned.

The post will become vacant at the end of January and is due to the termination of time limit.

By Order,
HENRY L. BOOT,
Dec. 29th, 1930. Supt. & Secretary.

Warrington Infirmary and
DISPENSARY.

The Board of Management invite applications for the post of JUNIOR HOUSE SURGEON (male, unmarried). Applicants, whom must be of British nationality, must be duly qualified Medical Practitioners.

Salary £175 per annum, with board, apartments, and laundry. Applications, stating age, with copies of three recent testimonials, should be sent in not later than January 13th.

The post will become vacant at the end of January and is due to the termination of time limit.

By Order,
HENRY L. BOOT,
Dec. 29th, 1930. Supt. & Secretary.

Royal Edinburgh Hospital for
SICK CHILDREN.

Wanted for this Hospital, TWO HONORARY RESIDENT HOUSE SURGEONS and THREE HONORARY RESIDENT [illegible]. One of the latter [illegible] medical ward and a [illegible] his. Informa- ned from the [illegible] at the Hos- and relative testimonials to be lodged on or before January 31st with Messrs. HENRY & SCOTT, W.S., 56, Frederick Street, Edinburgh. No applications will be received after that date.

Queen's Hospital, Birmingham.
APPOINTMENT OF ASSISTANT EAR, NOSE, AND THROAT SURGEON.

Applications are invited for the above post on the Honorary Medical and Surgical Staff of the Hospital.

Candidates must be Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland, and are required to send their applications, stating date of birth and full particulars of qualifications, with evidence of Diploma and accompanied by testimonials, by January 15th, to the undersigned, from whom all further information can be obtained.

Birmingham. G. HURFORD,
December 30th, 1930. House Governor.

Queen's Hospital, Birmingham.

Applications are invited for the post of HOUSE PHYSICIAN at the Birmingham and Midland Nerve Hospital (associated with Queen's Hospital).

Salary at the rate of £70 per annum, together with board, apartments, and laundry.

Applications, in the first instance, to be made to the undersigned at once, from whom further information can be obtained.

Birmingham. G. HURFORD,
January 5th, 1931. House Governor, Queen's Hospital.

Royal Sussex County Hospital,
BRIGHTON. (238 Beds.)

HOUSE SURGEON (male) required February 1st, with charge of beds, part casualties, and anæsthetics. Salary £150 per annum, with board, residence, and laundry.

Candidates must hold Medical and Surgical *qualifications of the British Empire*, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of testimonials, should reach the undersigned not later than January 19th.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

BOOTH HALL HOSPITAL FOR CHILDREN. (750 Beds.)

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Assistant Medical Officer at the Booth Hall Hospital, Charlestown Road, Blackley, Manchester.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous hospital experience.

The Hospital is a recognised Training School for Nurses, and is equipped with all modern hospital requirements.

Salary £250 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made, in the first instance, for a period of six months, renewable at the expiration of that period.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Officer, Booth Hall Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, January 15th.

The candidate appointed will be required to commence duty as soon as possible after appointment, to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

F. E. WARBRECK HOWELL,
Town Hall, Town Clerk.
Manchester. December 29th, 1930.

City of Birmingham.

RESEARCH SCHOLARSHIP.

The Joint Board of Research for Mental Diseases (University of Birmingham and City Mental Hospital Committee) invite applications for a Scholarship in Mental Diseases of the value of £250 p.a.

The Scholarship is for one year, but renewable for another year or more. The Scholar will be required to carry out Histological investigations under the Director in the laboratories of the Board. No previous experience is essential beyond the Bacteriology and Histology of the Medical Curriculum.

Preference will be given to a recently qualified Medical Man or Woman desirous of taking up this line of Research.

Applications, endorsed "Research Scholarship," with copies of testimonials, must be received by the undersigned not later than January 24th.

The Council House, E. EYLES,
Birmingham. Hon. Secretary.
January, 1931.

The Liverpool Eye and Ear INFIRMARY, Myrtle Street.

Applications are invited for the post of HOUSE SURGEON to the above Institution Salary £100 per annum, with board and lodging

Applications, stating age and qualifications, together with copies of not more than three recent testimonials, should be sent to CHAS. W. WRIGHT, 9, Harrington Street, Liverpool, by mid-day, January 20th.

East London Hospital for CHILDREN, Shadwell, E.1.

Applications are invited for the post of HOUSE SURGEON (male). The appointment is for six months from February 1st. Board, residence, and laundry provided. Salary at the rate of £125 per annum. Applications, with testimonials, should reach the undersigned on or before Wednesday, January 21st.

W. M. WILCOX, Secretary.

St. George's Hospital, S.W.1.

Applications are invited for the appointment of ASSISTANT OPHTHALMIC SURGEON, who will be required to attend two days a week, and must hold the F.R.C.S.Eng. Diploma.

Applications, with copies of three testimonials, should be sent to the undersigned not later than January 26th.

JAMES M. CHURCHFIELD,
January 5th, 1931. Secretary.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

CRUMPSALL HOSPITAL AND INSTITUTION.

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Assistant Medical Officer at the Crumpsall Hospital (1,300 beds) and Institution (1,600 beds), including 600 beds for mental patients, Crescent Road, Crumpsall, Manchester.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous hospital experience.

The Hospital is a recognised Training School for Nurses, and is equipped with all modern hospital requirements.

Salary £275 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made, in the first instance, for a period of six months, renewable at the expiration of that period.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Officer, Crumpsall Hospital and Institution," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, January 15th.

The candidate appointed will be required to commence duty on March 1st, to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

F. E. WARBRECK HOWELL,
Town Hall, Town Clerk.
Manchester. December 29th, 1930.

County Borough of Birkenhead.

VENEREAL DISEASES CLINIC.

MALE ORDERLY.

Applications are invited from men who have had previous experience in a Venereal Diseases Clinic for the position of Orderly at the Birkenhead Municipal Venereal Diseases Clinic.

Wages £3 10s. per week, rising by annual increments of 5/- per week to a maximum of £4 per week.

The post is a designated one, and the candidate appointed will be required to contribute 5 per cent. of his salary to the Corporation's Superannuation Fund as required by the provisions of the Local Government and Other Officers Superannuation Act, 1922. He will be required to pass a medical examination.

Applications must be made on a form which may be obtained from Dr. D. MORLEY MATHESON, Medical Officer of Health, 9, Hamilton Square, Birkenhead, and must be returned to the undersigned not later than January 16th.

(Signed) E. W. TAME.
Town Hall, Town Clerk.
Birkenhead. December 30th, 1930.

Metropolitan Borough of Stepney

Applications are invited for the engagement of PART-TIME MEDICAL OFFICER at the Council's Maternity and Child Welfare Centres.

The person to be engaged must be a registered Medical Practitioner who, prior to April 1st, 1930, has held the appointment of Medical Officer of an ante-natal clinic with the approval of the Minister of Health, or who, subsequent to qualification, has had at least three years' experience in the practice of his or her profession, and special experience of practical midwifery and ante-natal work.

The rate of remuneration will be one guinea for each attendance at centres for sessions lasting one hour or less and one and a half guineas for each attendance at sessions lasting more than one hour.

The engagement will, in the first instance, be for a period of three months.

Applications, stating age last birthday, qualifications, and experience, and accompanied by copies of not more than three recent testimonials, must be forwarded in envelopes marked "Medical Officer," so as to reach the undersigned not later than 12 noon on Saturday, January 24th.

Canvassing members or officers of the Council in any manner whatsoever is prohibited and will disqualify candidates. Moreover, the Council do not bind themselves to engage any of the candidates.

Municipal Offices, By Order,
Raine Street, WM. McCARTY,
Old Gravel Lane, E.1. Town Clerk.
December 30th, 1930.

County Council of Durham.

SEAHAM HALL SANATORIUM.

MEDICAL SUPERINTENDENT.

The County Health Committee desire to receive applications for the post of Medical Superintendent of the above Institution, which has accommodation for about 80 female patients, and further accommodation is shortly to be provided by the Council for 50 additional beds.

The salary will be at the rate of £600 per annum, with furnished quarters and board, etc., valued at £150 per annum. In the case of a married man, the emoluments will be paid in cash, as there is accommodation (a cottage) for which a charge of £55 per annum is made by the County Council to cover rent, rates, and water.

The officer appointed must be a registered Medical Practitioner, and must devote whole time to the duties required of such person by the County Council. It is essential that the person appointed shall have held house appointments in a general hospital, and have had practical experience in the administration of a tuberculosis sanatorium and in the treatment of tuberculosis in such an institution, including X-ray and ultra-violet ray treatment, and in bacteriological laboratory work. Such officer must also be specially experienced in the orthopaedic treatment of non-pulmonary tuberculous cases.

The person appointed will be attached to the County Health Department and will be required, subje ontrol of the County to take full respons manage- ment of the ic supervision of the patients.

The appointment will be terminable by three months' notice on either side. A deduction of 5 per cent. will be made from the salary in accordance with the provisions of the Local Government and Other Officers' Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to the successful candidate passing the County Council's medical examination in connection therewith.

Applications, endorsed "Medical Superintendent, Seaham Hall Sanatorium," with copies of not more than three recent testimonials, must be delivered to the County Medical Officer, Shire Hall, Durham, on or before the 22nd instant.

Shire Hall, HAROLD JEVONS,
Durham. Clerk of the County Council.
January 5th, 1931.

The Royal National Hospital for CONSUMPTION FOR IRELAND, NEWCASTLE, CO. WICKLOW.

The post of JUNIOR RESIDENT MEDICAL OFFICER at the above Hospital will be vacant on March 1st.

Salary £200 per annum, with residence and board.

Must be fully qualified.

Applications, with copies of three recent testimonials, to be sent to the Secretary, 13, South Frederick Street, Dublin, on or before Friday, January 30th.

Papworth Village Settlement, near CAMBRIDGE, for the Treatment of all forms of Tuberculosis. Over 300 Beds (male and female).

Applications are invited for the posts of SECOND ASSISTANT MEDICAL OFFICER, salary at the rate of £400 per annum, and THIRD ASSISTANT MEDICAL OFFICER, salary £200 p.a., with board, lodging, and laundry in each case.

Applicants, who should be male, and single, should send their applications, accompanied by copies of not more than three references, to the Medical Director, Papworth Village Settlement, Cambridge.

Tiverton Hospital, DEVON.

Applications are invited for the post of HOUSE SURGEON. Salary £100 per annum, with board, residence, and laundry. Six months' engagement. Duties to commence as soon as possible.

Application, with testimonials, to be sent to the undersigned.

C. H. DEEKS, Hon. Secretary.

The Royal Eye and Ear Hospital, BRADFORD.

Wanted, JUNIOR HOUSE SURGEON, male. Salary £150, with board, residence, and laundry.

Applications, stating qualifications, age, etc., with copies of recent testimonials, to be forwarded to the undersigned.

F. BRIGGS.
Secretary-Superintendent.

Administrative County of LONDON

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the undermentioned positions. The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendent, and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council. The successful candidates will be required to live in the Hospital or Institution.

BOW INSTITUTION, 2a, Bow Road, E.3.—ASSISTANT MEDICAL OFFICER. Salary £250 a year, together with board, lodging, and washing. Candidates must have held a resident appointment in a general hospital. The appointment will be for one year only in the first instance. There is no accommodation for a woman medical officer or for a married man.

BROOK FEVER HOSPITAL, Shooters Hill, Woolwich, S.E.18. — ASSISTANT MEDICAL OFFICER. Salary £350 a year, together with board, lodging, and laundry Candidates must have held a resident appointment in a general hospital and must be under 30 years of age. There is no accommodation for a married man or for a woman medical officer.

FULHAM ACUTE HOSPITAL, St. Dunstan's Road, Hammersmith, W.6.—ASSISTANT MEDICAL OFFICER (woman). Salary £350 a year, together with board, lodging, and washing. Candidates must have held a resident appointment in a general hospital.

The salary and conditions of appointment are provisional and subject to review by the Council.

ST. CHARLES' HOSPITAL, St. Charles' Sq., Ladbroke Grove, W.10.—ASSISTANT MEDICAL OFFICER. Salary £350 a year, together with board, lodging, and laundry. Candidates must have held a resident appointment in a general hospital. There is no accommodation for a married man or for a woman.

ST. OLAVE'S HOSPITAL, Lower Road, Rotherhithe, S.E.—(a) HOUSE SURGEON; (b) HOUSE PHYSICIAN Salary in each case £80 a year, together with board, lodging, and washing. Accommodation only for the persons appointed. Appointments are for six months only in the first instance, but may extended for a further period not exceeding six months. Separate forms must be submitted for each position.

ST. OLAVE'S HOSPITAL, Lower Road, Rotherhithe, S.E 16. — ASSISTANT MEDICAL OFFICER. Salary £350 a year, together with board, lodging, and washing. The duties will be partly in the hospital and partly outdoor in connection with the district medical work. Candidates must have held a resident appointment in a general hospital. There is no accommodation for a married man.

QUEEN MARY'S HOSPITAL FOR CHILDREN, Carshalton, Surrey. — JUNIOR ASSISTANT MEDICAL OFFICER. Salary £350 a year, together with board, lodging, and laundry. Candidates must be under 30 years of age, and must have held a resident appointment in a Children's Hospital. There is no accommodation for a married man.

The salaries and conditions of appointment are provisional and subject to review by the Council.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E, and must be returned by January 23rd.

Canvassing disqualifies.

Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the Hospitals, or the Medical Officer of the Bow Institution.

MONTAGU H. COX,
Clerk of the London County Council.

The Royal Victoria Hospital, FOLKESTONE

The Committee of Management invite applications for the posts of RESIDENT MEDICAL OFFICERS. Senior and Junior (female), to commence duty February 1st. The salaries attached to the post are: Senior £125, and Junior £100 per annum, with board and residence.

The appointments are for six months, subject to one month's notice on either side. The present Junior Medical Officer is a candidate for the Senior post Applications, which should state if applicants are willing to serve in the Junior position, together with copies of recent testimonials, should be sent to the Secretary-Superintendent, Royal Victoria Hospital, Folkestone, not later than January 12th.

Administrative County of LONDON.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment as ASSISTANT MEDICAL OFFICER at ST. PETER'S HOSPITAL, Vallance Road, E.1. The commencing salary is £350 a year, together with board, lodging, and laundry. Candidates must have held a resident appointment in a General Hospital. There is no accommodation for a married man or for a woman. The salary and conditions of appointment are provisional and subject to review by the Council.

The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the Council. The successful candidate will be required to live in the Hospital.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by January 23rd. Canvassing disqualifies.

Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the Hospital.

MONTAGU H. COX,
Clerk of the London County Council.

Administrative County of LONDON.

The LONDON COUNTY COUNCIL invites applications for appointment as RESIDENT MEDICAL SUPERINTENDENT in the Public Health Department, for duty at ST. OLAVE'S HOSPITAL, Lower Road, Rotherhithe, S.E. Other duties are assigned to the position in addition to the superintendence of the Hospital. Candidates must be duly qualified Medical Practitioners for at least five years, and produce evidence of having held the appointment of House Physician or House Surgeon in a public general hospital, and of having had experience in the administrative control of a public general hospital or Poor Law hospital. The provisional salary attaching to the position is £1,100 a year, rising by annual increments of £50 to £1,350 a year, with use of unfurnished house valued at £100 a year. The salary and conditions of appointment are subject to review by the Council.

Forms of application may be obtained (stamped addressed envelope necessary) from the Clerk of the Council, The County Hall, Westminster Bridge, S.E.1, and must be returned by January 23rd.

Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.
The County Hall,
Westminster Bridge, S.E.1.
January, 1931.

The Royal Infirmary, Sheffield.
(500 Beds)

The Weekly Board of Management invite applications for the post of:
ASSISTANT AURAL AND OPHTHALMIC HOUSE SURGEON.

The appointment will be tenable for six months from January 1st.

The salary attached to the post is £80 per annum, rising after six months' service to £100 per annum, together with board and residence.

Applications, together with copies of testimonials, to be sent to the undersigned immediately.

JNO. W. BARNES, F.C.I.S.,
Board Room, Gen. Supt. & Secretary.
January 6th, 1931.

Great Yarmouth General Hospital
(72 Beds.)

Applications are invited for the post of SENIOR HOUSE SURGEON. Salary at the rate of £150 per annum, with board, residence, and laundry.

The successful candidate will be expected to commence duties immediately.

Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned.

FRANK JENNINGS,
Secretary.

Greenock Royal Infirmary.

Wanted, a HOUSE PHYSICIAN (lady) for February 1st. Salary £100 p.a., including board, residence, and laundry. Other two Residents on staff. 150 beds. Good experience. Applications invited, with testimonials, to be sent to the Secretary, 2, Hamilton Street, Greenock.

JAS. A. LOVE, Secretary.

The Otago Hospital Board, DUNEDIN, NEW ZEALAND.

... received by the under-
si... h, 1931, for the posi-
ti... 'IIST, Dunedin Hos-
pital, at a salary commencing at the rate of £1,000 per annum, rising by annual increments of £50 each to a maximum salary at the rate of £1,250 per annum, and £100 travelling allowance.

Full details of duties obtainable on application to the High Commissioner for New Zealand.

Otago Hospital Board, JOHN JACOBS,
Dunedin, New Zealand. Secretary.
November 14th, 1930.

Nottingham General Dispensary (BRANCH).

Wanted, RESIDENT LADY SURGEON. Must have Medical and Surgical qualifications. Salary £250, with £25 increase per year up to £300. Apartments (not board), attendance, lights, and fuel. This Institution is a non-provident one. No beds. No midwifery. Preference given to anyone experienced in Heliotherapy.

Applications, stating age, and accompanied by recent testimonials, to be sent by January 14th, 1931.

5, Thurland St., R. J. WILLATT,
Nottingham. Secretary.

West End Hospital for Nervous DISEASES.
(In-Patient Dept.: Gloucester Gate, Regent's Park, N.W.1.)

The Committee of Management invites applications from British male candidates for the vacancy of JUNIOR HOUSE PHYSICIAN, to start duty February 1st. Salary £100, with board, residence, and laundry. Appointment, in first instance, for six months. Applications, with copies of three testimonials, must be received by the undersigned as soon as possible, and, in any case, not later than January 19th.

J. P. WETENHALL, Secretary.
73, Welbeck Street, W.1.

Wrexham and East Denbighshire War Memorial Hospital.
(109 Beds.)

TWO RESIDENT HOUSE SURGEONS required at above Hospital, to commence on February 1st. Appointments for a period of not less than six months. Salaries £150 per annum, with board and laundry.

Applications, stating age, nationality, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned immediately.

LESLIE SPENCER,
January 3rd, 1931. Secretary.

David Lewis Northern Hospital, LIVERPOOL.

Applications are invited for the undermentioned posts:
FOUR HOUSE SURGEONS.
TWO HOUSE PHYSICIANS.

The appointments will be tenable for six months from April 1st.

The salary attached to each post is £100 per annum, together with board and residence.

Applications, with copies of testimonials, to be sent to the undersigned on or before Saturday, January 17th.

THORNBURROW GIBSON, M.A.,
Secretary-Superintendent.

Bridge of Weir Sanatorium
(15 miles from Glasgow. 185 beds.)

RESIDENT MALE ASSISTANT MEDICAL OFFICER wanted.

Duties include charge of 90 beds for Epileptics as well as 75 beds for Consumptives.

The appointment will be for six months in the first instance, at the rate of £200 p.a., with board, laundry, etc.

Applications, stating age, qualifications, and previous experience, and enclosing copies of testimonials, should be addressed to E. J. PELL, Medical Superintendent, Sanatorium, Bridge of Weir, Renfrewshire.

Nottingham Children's Hospital.

Applications are invited for the post of RESIDENT HOUSE SURGEON (woman). The salary will be at the rate of £150 per annum, with apartments, board, and laundry. The appointment will be for six months. Duties to commence on March 1st.

Applications, together with testimonials, and stating age, qualifications, and experience, to be sent to F. PRAGNELL, the Honorary Secretary, 1, King John's Chambers, Bridlesmith Gate, Nottingham, by January 19th. Selected candidates will be required to attend at the Hospital for a personal interview on January 27th, when the appointment will be made.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** (contd.).	**PUBLIC HEALTH.**
EBBW VALE, MON. (*Workmen's Medical Society.*)	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. (*Workmen's Medical Scheme.*)	CORNWALL EDUCATION COMMITTEE. (*Assistant School Medical Officer—Female.*)
GILFACH GOCH, GLAMORGAN. (*Workmen's Medical Scheme.*)	NEATH AND DISTRICT. (*Medical Aid Association.*)	PLYMOUTH EDUCATION AUTHORITY. (*Deputy Assistant Medical Officer.*)
LOWESTOFT MEDICAL INSTITUTE. (*Male Medical Officer.*)	OAKDALE, MON. (*Medical Officer for Medical Aid Association.*)	STIRLING ROYAL BURGH. (*Medical Officer of Health.*)
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. (*Workmen's Medical Scheme.*)	OGMORE VALLEY, GLAMORGAN. (*Wyndham Colliery Medical Aid Society.*) (*Workmen's Medical Scheme.*)	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. (*Assistant School Medical Officer.*)
MARDY, GLAMORGAN. (*Workmen's Medical Scheme.*)		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. (*All Friendly Society Appointments.*)	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** (*Lodge Appointments.*)	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** (*Contract Practice Appointments.*)	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. (*Brisbane Associated Friendly Societies Institute.*)	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** (*All Institute or Medical Dispensaries.*)	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association; Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** (*Contract and Lodge Practices.*)	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

January 7th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.

HOUSE SURGEON in charge of Male Wards.

HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and [illegible] nable for six months. [illegible] re-apply for a further [illegible].

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Bristol Homoeopathic Hospital.

(Bruce Melville Wills Memorial.)

The Board of Management invite applications for the post of HONORARY SURGEON to the Hospital (77 beds, including private and semi-private wards). The vacancy has occurred owing to the present Honorary Surgeon having recently received a London appointment. Applications, stating age, qualifications, and previous Surgical experience, should be addressed to the undersigned.

H. HUNTER (Lt.-Colonel),
Secretary.

County Borough of Brighton.

SANATORIUM & INFECTIOUS DISEASE HOSPITAL.

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER. Salary £150 per annum, with board and lodging. The appointment is for a period of six months.

Particulars and forms of application can be had from the undersigned.

Latest date for application, January 16th.

JAS. H. ROTHWELL,
Town Clerk, Brighton.

December 22nd, 1930.

Harlow Wood Orthopaedic HOSPITAL, near MANSFIELD, NOTTS.

Applications are invited for the post of RESIDENT SURGICAL OFFICER. The appointment will be for twelve months in the first instance, at a salary of £275, with board, residence, and laundry. The selected candidate will be eligible for re-election for a further period of a year, at the salary of £300. Applicants should have had surgical experience, and preferably some special experience of Orthopaedic Surgery. The Hospital is a central Orthopaedic Hospital, treating both children and adults and serving a large area in the East Midlands.

The duties, which include assistance at the associated Out-patient Clinics, will commence on March 1st, 1931.

Applications, stating age and qualifications, with copies of recent testimonials, should reach the Secretary on or before Monday, January 19th, 1931.

St. Mark's Hospital for Cancer, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.

The Committee of Management invite applications for the posts of ANAESTHETISTS (2), to attend operations once a week, on Monday afternoons and Wednesday afternoons respectively. Honorarium £25 per annum. Candidates must be fully qualified and with Hospital experience. Applications should reach the Secretary at the Hospital not later than January 31st.

The Hospital for Women at Leeds (For the Treatment of Diseases of Women).

Applications are invited for the post of HOUSE SURGEON, which becomes vacant on February 1st. The appointment is for six months. Salary at the rate of £50 per annum.

Applications, stating age and qualifications, together with three recent testimonials, should be sent to the [illegible].

Royal Free Hospital, Gray's Inn Road, W.C.1.

[illegible] for the half-time REGISTRAR from ed Medical Women. [illegible] post is reserved for former students of the London (Royal Free Hospital) School of Medicine for Women. Salary £100 per annum.

Applications, stating age and accompanied by three recent testimonials, must be sent to the undersigned, from whom all information may be obtained, on or before January 24th. Duties to commence March 1st.

REGINALD R GARRATT,
Secretary.

Hull Royal Infirmary.

SUTTON BRANCH.

The above Branch will be opened in February next and will be a self-contained modern General Hospital of 100 beds. There will be Two Resident posts.

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum, plus board, residence, and laundry. The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, stating age, qualifications, and nationality, and with copies of testimonials, should be sent to the undersigned.

R. J. CARLESS,
November 22nd, 1930. House Governor.

Leigh Infirmary, Lancashire.

Wanted, a RESIDENT HOUSE SURGEON, male, single, for Hospital of 82 beds. Salary £150, with rooms, fire, attendance, and board.

The position is vacant on February 1st.

The appointment is for six months, with eligibility for re-election. Must be good Anaesthetist. Knowledge of Ear and Throat work desirable.

Applications to be addressed to Mr. J. A. SMITH, Secretary, 3, Silk Street, Leigh, Lancs.

(Appointments continued on p. 48.)

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.

(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted.—Assistant, Newcastle-on-Tyne, either (1) single, indoor, salary £300; or (2) married, outdoor, salary £400, plus house free of rent and rates. Prospects later for suitable man. — Address, No. 313, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship or Part-time Work by M.B., M.R.C.P., Indian (Paris), ex H.P., experienced private and panel, young, well received. Excellent testimonials. Free February 1st. — Address, No. 276, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship, with view to Partnership or Succession after 3—6 months, by M.B., B.S.(Lond.), ex R.M.O., age 28; 4 years' experience panel and private. London or South of England pref. Interview. —No. 268, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, an Assistant in a Mining Practice in Glamorgan. A Dispenser kept Salary £400 per annum, with furnished rooms, attendance, etc. Usual bond. —Address, stating age, references, etc., No. 265, B.M.A. House, Tavistock Square, W.C.1.

Wanted, end of January, indoor ASSISTANT, male, about 27 to 30. Private and panel Practice, country, Yorks. British. Salary £300, with prospects. Photograph and essential particulars.—Address, No. 260, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant with view. Salary about £300 and house. Mixed Practice, industrial area, Staffordshire. Income £1,800. Panel 2,200. Scope for increase.—Address, No. 251, B.M.A. House, Tavistock Square, W.C.1.

Wanted by Cambridge Graduate, ex H.P., Ophthalmic H.S., ASSISTANTSHIP, with view, or Partnership. Country town. Share about £1,000. Capital available. Free now.—Address, No. 266, B.M.A. House, Tavistock Square, W.C.1.

Wanted by Woman M.B., B.S. Lond., ex R.M.O., C.O., H.S., H.P., ASSISTANTSHIP with view to Partnership in Practice within 50 miles North or South-West of London. Exper. Gynaec., Obstet., and Anaes. —No. 281, B.M.A. House, Tavistock Sq., W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS (male) for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Outdoor Assistantship, view early Partnership, in panel and private Practice, by Glasgow Graduate, act. 26, single. 3½ years' Hospital and G.P. exper. Own car. Capital Free in two weeks. —No. 283, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Assistantship, temp. or part-time, by woman M.B., M.R.C.S., ex H.P. Experienced G.P., private and panel. Aged 27, English. London only.—Address, No. 8782, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, with view, indoor, Protestant, in large general Practice, Midla[illegible] o experience. State [illegible] 8763, B.M.A. House,

Wanted February, Assistant, married, Portsmouth, Branch Surgery. Hospital experience. Car provided. Salary £400 p.a., with unfurnished house.—Address, No. 278, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Indoor Woman ASSISTANT in Village Practice. Must drive car. Work light. Suit newly qualified. State essential particulars.—Address, No. 8771, B.M.A. House, Tavistock Square, W.C.1.

Wanted soon, outdoor male ASSISTANT for Country Practice, Leicestershire. Cottage Hospital.—Send photo. and particulars to No. 277, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Part-time Assistant, South London. Evenings. Chiefly dispensing. Salary £3 per week.—Address, No. 286, B.M.A. House, Tavistock Square, W.C.1.

Assistant, male, indoor, required by elderly Practitioner. Small Practice, nice place, outer London area. Motor cyclist or cyclist. £200 and commission on midwifery.—Address, No. 285, B.M.A. House, Tavistock Square W.C.1.

Assistantship with view wanted by M.B., Ch.B., married, Protestant. Seven years' experience of G.P. Permanency urgently desired. Free in one month. In or near London preferred. References.—Address, No. 257, B.M.A. House, Tavistock Sq., W.C.1.

Assistant, man or woman, indoor, wanted, Midlands. State age, religion, height. Only letters replied to where essential particulars are given. — Address, No. 8755, B.M.A. House, Tavistock Square, W.C.1.

Experienced Practitioner, 40, married, Indian, will do outdoor ASSISTANTSHIP for £5 weekly, or less. Town or country. Urgent need. — Address, No. 8760, B.M.A. House, Tavistock Square, W.C.1.

Indian, married, 32, M.B., D.T.M., L.M., P.G. Course F.R.C.S.Edin., 6 years R.M.O, India, now assisting Branch Surgery, East End London, desires ASSISTANTSHIP urgently. Acc. £200 outdoor, less indoor. —No. 269, B.M.A. House, Tavistock Sq., W.C.1.

Junior Assistant wanted by Partners in an industrial area in Western City. Indoor, £300 p.a. Cyclist. Offering an ex-resident or other an advantageous introduction to general practice.—Address, No. 274, B.M.A. House, Tavistock Square, W.C.1.

Male indoor Assistant, under 35, single. General Practice in Leeds suburb. — Apply "Theta," REYNOLDS AND BRANSON, LTD., Briggate, Leeds.

Pathological and Bacteriological LABORATION.—Pathology SKILLED ASSISTANTS at H. GOODING, Ho[illegible], [illegible], 10, Holbeck Grove, Victoria Park, Manchester. No fees.

Required for General Practice in Co. Durham, an ASSISTANT, outdoor, with view to Partnership in 12 months. Good salary to suitable man, and good house available. — Address, stating experience, No. 307, B.M.A. House, Tavistock Square, W.C.1.

Woman Doctor, M.B., Ch.B. Ed., Scotch, aged 28, desires ASSISTANTSHIP. Five years' experience in G.P. Good anaesthetist. Keen and energetic. Own car. Interview London.—Address, No. 271, B.M.A. House Tavistock Square, W.C.1.

LOCUMS.

FOR LOCUM TENENS APPLY TO PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Locum or Assistantship wanted by M.B., B.Ch. (woman), 3½ years' experience panel and private Practice. Used to sole charge. Excellent testimonials. Now free in London.—Address, No. 261, B.M.A. House, Tavistock Square, W.C.1.

Locums wanted by Lady Doctor, L.R.C.P.S., L.M., D.P.H., accustomed sole charge and dispensing. Good personality. Seven years' experience. Free January 29th. Now in town. Will go anywhere.—Address, No. 262, B.M.A. House, Tavistock Sq., W.C.1.

Locum or Assistant wanted immediately, male or lady.—Apply, giving full particulars, to Dr. CHARLES REIDY, The Laurels, Bargoed, near Cardiff.

Locum Tenens and Assistants required.—For further particulars apply to Messrs. R. SUMNER & CO., LTD., Manufacturing Chemists, 40, Hanover Street, Liverpool.

M.R.C.S., L.R.C.P., Indian, Colonial, desires LOCUM or ASSISTANTSHIP. G.P. Experienced private and panel practice. Good references.—Address, No. 272, B.M.A. House, Tavistock Square, W.C.1.

Well-qualified Graduate, 1925, experience 3 years large hospitals, general practice, free Friday evenings till Sunday evenings, requires LOCUMS within 20 miles London. Age 35, good appearance, manner. View Partnership. — Address, No. 289, B.M.A. House, Tavistock Square, W.C.1.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Dr. A. K. Thomson can highly recommend unqualified DISPENSER-BOOKKEEPER, accounts; handle car, minor repairs, gardening, etc. 17½ years' reference. Married.—Write A. MANIKON, 90, Wulfstan St., W.12.

Dispensing.—For over 30 years we have been training the daughters and other relatives of Doctors as DISPENSERS, and supplied Lady Dispensers to Doctors requiring same.—Apply Mr. J. E WALDEN, Westminster College, 112, St. George's Rd., Southwark, S.E.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Lady, well educated, reliable, B.A. degree, good secretarial training, 2 years' Hospital secretarial experience, desires similar WORK with Doctor or in Hospital.—Address, No. 258, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser-Secretary-Bookkeeper, Apothecaries' Hall certificate, desires POSITION, temporary or permanent. Excellent testimonials. Willing to take other duties if required. Experienced.—Address, No. 255, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser (Hall certificate), Bookkeeping, Bacteriology, Typing. 5 years' experience, desires POST. Aged 24.—Address, No. 273, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser - Bookkeeper (Hall), etc., young, good experience in private and panel Practices, requires POST with Doctor. Free now.—F. W., "Tresco," The Uplands, Loughton, Essex.

Male Mental Nurse requires POST. 4½ years' good experience gained in registered nursing home. Drive car. Age 26. Excellent references. Free now.—HICKS, Westfield, Ballingdon, Sudbury, Suffolk.

Qualified Dispenser - Chauffeuse, with a knowledge of Bookkeeping and First Aid (S.J.A.); can furnish excellent testimonials; is now disengaged; aged 21.—Miss M. Moss, Baggarley Lane, Chorley, Lancs.

The Charterhouse Typewriting BUREAU, 18-21, Charterhouse Square, E.C.1.—TYPEWRITING, DUPLICATING, and TRANSLATIONS of all descriptions, MEDICAL WORK a speciality. TESTIMONIALS typed and returned same day. 'Phone Clerkenwell 6672.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

Travelling Companion, Locum, Manager of Branch. Part-time worker. Doctor, with 30 yrs.' exper. of good-class private practice, seeks Work as above. Good refs. and appearance. Pub. Sch. education. Terms 3 to 8 gs. —No. 284, B.M.A. House, Tavistock Sq., W.C.1.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Midlands, near Large City.—PARTNERSHIP or ASSISTANT, with view, in a Practice of £2,200 p.a., increasing. Panel 2,400. 1/3 share at 2 years' purchase. —Address, No. 8762, B.M.A. House, Tavistock Square, W.C.1.

Partnership for Sale in old-established Practice in industrial area in Manchester. Good house. Suit energetic young married man. Quarter share £1,500, up to half pro rata if desired. Bookings approximately £4,000 (panel 2,600). Any investigation. —No 8775, B.M.A. House, Tavistock Sq., W.C.1.

Partnership wanted by M.B., Ch.B.Glas., aged 29, single, ex H.S., R.S.O., etc., 4 years' general practice experience. Keen and energetic. Capital available. Short preliminary Assistantship essential.—Address, No. 311, B.M.A. House, Tavistock Sq., W.C.1.

Urgent.—Share worth over £800 net. Industrial Practice, nice county. Good house to rent, with garden. Price £950 cash. — Address, No. 280, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted, a good General Mixed PRACTICE in the South-West, preferably near the coast and within easy access of girls' school. Income, including panel, to be about £1,000. Ample capital available.—Replies will be treated in strict confidence and should be sent to Mr. C. S. MOORES, Incorporated Accountant, 15, Bedford Circus, Exeter.

Wanted.—Old-estab. middle and better-class PRACTICE, with fair panel, in small non-indus. country town or semi-rural resid. dist. Hosp. facilities. Inc. about £1,000—£1,200. Strictest confid. observed.—No. 275, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, a Practice or Partnership in the South or South-West, in a better-class district. Income £1,500—£2,000. A good house with some grounds essential. Capital available.—Address, No. 270, B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced Practitioner, married, aged 34, mixed-class PRACTICE, PARTNERSHIP or ASSISTANTSHIP with view, near London, or within easy reach. Income required £750—£1,000.—Add., No. 287, B.M.A. House, Tavistock Sq., W.C.1.

Wanted in London and environs, Brighton, Cambridge, or Oxford, PRACTICE with very substantial panel, income £1,000—£2,000. Ample capital available. Please write full particulars. — Address, No. 279, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately.—Practice in South of England Town. Income £800—£1,500. Surrey, Sussex, or Hants preferred. Confidential.—Address, No. 302, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Practice in London. Income about £1,800 or over. Large panel preferred. Ample cash available. Replies in confidence.—Address, No. 305, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately.—Practice in town ten miles to twenty miles South of London. Ample capital. Replies in strict confidence.—Address, No. 305, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Country Practice, £1,000 up, in Devon, Dorset, or Cornwall. Good house and garden to rent.—Address, No. 264, B.M.A. House, Tavistock Sq., W.C.1.

For Sale. — North Oxfordshire. Country PRACTICE, unopposed, £1,100 p.a., panel and appts. Healthy dist., compact house, with garage, outbuildings, stables, and gardens. F'hd. £1,250. Practice 1¼ yrs.' pur.—No. 259, B.M.A. House, Tavistock Sq., W.C.1.

For Sale to Medical Woman. —Medical Woman's PRACTICE in West Ham. Established 22 years. House on lease. Premium 1½ years' purchase. — Address, No. 256, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Woman's Practice. London suburb. Panel about 400. Average takings about £1,000. 1½ years' purchase. — Address, No. 282, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Old-estab. Country PRACTICE in Bedfordshire, 6½ miles County Town. 50 miles London.—Address, No. 309, B.M.A. House, Tavistock Square, W.C.1.

Good-class non-panel Practice. Over £300 in last six months. Exceptional scope for increase. Price £800. Fine freehold house. Price £2,750. London 10 miles. — Address, No. 288, B.M.A. House, Tavistock Square, W.C.1.

Hindhead (near) or S. of England.—Country PRACTICE wanted in March. £1,500 up. Sand or gravel soil. Really good house and land, with stabling. Hunting. — Address, No. 304, B.M.A. House, Tavistock Square, W.C.1.

Lancs Town. — Mixed Practice. Average £1,170 p.a. Panel 1,500. Good house, garage, garden, for sale or may rent for a time. Near country. Premium £750.—Address, No. 267, B.M.A. House, Tavistock Square, W.C.1.

Lancs Town.—Old-established. —Nice house, rapidly growing area, gardens, garage, price £1,100, or rent with option. Receipts £1,200. Panel 900. Opposition poor. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, E. — Death Vacancy.—Well-established PRACTICE. Receipts have been over £800 p.a., but have fallen off last 12 months. Present panel about 600. House, lease granted. Premium £165; must sell at once. — Apply, PEACOCK & HADLEY, Ltd., 19, Craven Street, Strand, W.C.2.

London, N. — Well-established cash and panel PRACTICE. Receipts £1,300 p.a., panel 1,900. House, rent £80; branch £60. Partnership introduction. Premium 2 years' purchase.—Apply, PEACOCK & HADLEY, Ltd., 19, Craven St., Strand, W.C.2.

Near Brixton, S.W.—Old-established PRACTICE. Receipts average £825 p.a., panel 600. Good corner house, rent to be arranged, long lease granted. Premium moderate, income steadily increasing. —Apply, PEACOCK & HADLEY, Ltd., 19, Craven Street, Strand, W.C.2.

Near Camberwell Green.—Well-established cash and panel PRACTICE. Receipts last 12 months £1,900, panel 1,052. House rent to be arranged, lease granted. Premium £3,200. Panel steadily increasing.—Apply, PEACOCK & HADLEY, Ltd., 19, Craven Street, Strand, W.C.2.

North of Ireland. — Wanted immediately, PRACTICE £700—£1,400. In or near Belfast preferred, but not essential. Replies in confidence. Capital available.—Address, No. 301, B.M.A. House, Tavistock Square, W.C.1.

Ophthalmic Practice in West of England, £1,350. Two Hospital appointments. Little opposition. Excellent prospects. —Address, No. 308, B.M.A. House, Tavistock Square, W.C.1.

Practice required in good London suburb. Must have modern house. Income £1,500 upwards. Purchaser willing to pay 2 years' purchase. — Address, No. 306, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C 2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

West End (three miles from).—Well-established residential working-class Cash PRACTICE, doing £2,000 p.a. Panel 1,200. Cosy house, long lease, at 30/- per week. Premium £3,000 cash.—Address, No. 312, B.M.A. House, Tavistock Sq., W.C.1.

Yorks.—Old-established. — Good house, large garden, garage, rent and rates £130. Average receipts £1,510. Panel averages over £500. Much scope. Transferable appointment £100. Price 1½ years' purchase, part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

HOUSES, CONSULTING ROOMS.

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & CO., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Doctor's widow has comfortable BED-SITTING ROOMS to LET. Electric light, gas fires, every convenience, close Tube, trams and buses. Newly decorated throughout. —Apply, 21, Cantley Avenue, South Side, Clapham Common, S.W.4.

Doctor's wife has three or four nice ROOMS to LET furnished, in good district, 25 mins. Victoria and City. Close to three stations. Nice house, all conveniences. Near plenty of sport, shops, etc.—Address, No. 252, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL PRACTICE IN BRIDGE OF ALLAN FOR SALE.

Offers are invited for the Practice carried on for many years by the late John Hosack Fraser, M.B., C.M., F.R.C.P.E., at Fernfield House, Bridge of Allan. Particulars can be obtained from the Subscribers. Dr. Fraser's Business Books will be exhibited to enquirers or their Accountant. "Fernfield" is very conveniently situated, and has been occupied as a Doctor's house for over half a century—assessable rental £65. Preference will be given to an offerer prepared to purchase *Fernfield House* as well as the Practice. Offers should be lodged with the Subscribers as soon as possible. — PHILP & DOBBIE, *Solicitors*, 10, Barnton Street, Stirling.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of *fine ground floor* CONSULTING ROOM, attendance, and every convenience. — Address, No. 253, B.M.A. House, Tavistock Square, W.C.1.

To Let in Surgeon's House in *best part of Consultants'* area.—CONSULTING ROOM (ground floor) and MAISONETTE, 6 rooms, kitchen, pantry, 2 baths, 2 w.c's. Garage. Moderate rent.—Address, No. 310, B.M.A. House, Tavistock Square, W.C.1.

To Let. — Queen Anne Street, W.1.—Handsome SECOND FLOOR FLAT, furnished or unfurnished; fitted every convenience Part-time Consulting Room available if required. Very low rent.—Address, No. 254, B.M.A. House, Tavistock Square, W.C.1.

127, Harley Street.—Large well-lit ground floor CONSULTING ROOM, with excellent attendance and joint use of beautifully furnished *waiting room*. £300 per annum.—Apply the Secretary, Welbeck 7840.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE
to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
" " £2 2s.

THE Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS " £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL *Suit* for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"*I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish.*" (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume *Specialists*

181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY
TAXATION CONSULTANTS,
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659. Write for Tax Guide, Free.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Essell" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

Doctor who has given up Practice has several INSTRUMENTS in new condition for Sale, also certain Nursing Home FURNISHINGS, including bed for incontinence cases. Catalogue on application.—Address, No. 263, B.M.A. House, Tavistock Square, W.C.1.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

X-Ray Set for Sale.—Coil type with wall switchboard. Couch, with protective box beneath, etc. All in good working order. Interrupter for 200 v. D.C. Complete with tubes, £25 or near offer. Also Potter-Bucky Diaphragm, £25 or near.—Add., No. 8464, B.M.A. House, Tavistock Sq., W.C.1.

Covers for Binding

Vols I and II of the BRITISH MEDICAL JOURNAL for 1930 and previous years can be had, price 2s. 6d., by parcel post 2s. 10d. each.

Remittances must accompany all orders. Apply at the office, B.M.A. House, Tavistock Square, W.C.1.

APPOINTMENTS.—Contd.

The Royal Dental Hospital of LONDON, 32, Leicester Square, W.C.2.

There is a vacancy for the post of HONORARY ASSISTANT this Hospital. The be required to attend from 5 p.m. at the Royal Dental Hospital, and on alternate Friday afternoons from 2 p.m. at the Royal Dental Hospital In-patient Department at Charing Cross Hospital, until the work of the sessions is finished. Forty copies of applications and testimonials, stating age and experience, to be sent in not later than Monday, January 26th, to the Secretary.

The Royal Gwent Hospital, NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER, to act as House Surgeon to Out-patients and as House Physician.

Salary £135 per annum, with board, lodging, and laundry. Resident Medical Staff 5. Eligible Large
Applic ations, with cop to be sent to the undersigned.

Applications from ladies not entertained.

J. K. MILLWARD,
Secretary-Superintendent.

January 6th, 1931.

General Hospital, Nottingham.

CASUALTY OFFICER (male) required. Appointment for six months. Salary at the rate of £200 a year, with board, residence, and laundry. Candidates are desired to send applications, stating age, qualifications, and experience, together with copies of testimonials, to the undersigned not later than Monday, January 12th. Duties to commence on or about January 15th.

PETER M. McCOLL,
House Governor & Secretary.

Royal Northern Infirmary, INVERNESS. (150 Beds.)

HOUSE PHYSICIAN wanted to commence duties on February 1st. The appointment is for six months. Salary is at the rate of £100 a year, with board, residence, and washing.

Applications, stating age, qualifications, etc., with copies of recent testimonials, should be sent not later than January 16th to ROBERT GILBERT, Hon. Secretary, 20, Church Street, Inverness.

Bedfordshire County Council.

ASSISTANT MEDICAL OFFICER (Resident).

Applications are invited for the appointment of a male Assistant Medical Officer (resident) at the BEDFORDSHIRE SANATORIUM, near Bedford.

The officer appointed will also be required *to act as Assistant School Medical* and Assistant Tuberculosis Officer in the County. The officer, who will *be under the direction of the County* Medical Officer of Health, will be required to perform such other duties as the Council may direct, and will be required to devote the whole of his time to the duties assigned to him, and not to engage in private practice.

Applicants must be under 35 years of age, single, registered Medical Practitioners, and have had experience in Tuberculosis work. Experience in School Medical Inspection, and the possession of a Diploma in Public Health, are desirable.

Salary £400 per annum, together with board, residence, laundry, garage, etc., and a travelling allowance of £150 per annum, the appointment to be subject to one month's notice to be given by either side at any date.

Further particulars can be obtained from the County Medical Officer, Shire Hall, Bedford.

Applications, stating age, qualifications, and previous experience, accompanied by copies of three recent testimonials, and endorsed "Assistant Medical Officer (resident)," should be sent to the undersigned not later than Jan. 22nd.

Shire Hall, J. B. GRAHAM,
Bedford. Clerk of the County Council.
January 1st, 1931.

The Royal Hospital, WOLVERHAMPTON. (Incorporated under Charter.)

CASUALTY OFFICER AND RESIDENT ANAESTHETIST (male or female) required, for January 15th next.

Duties will include Casualty work and administration of Anaesthetics.

The Hospital contains 240 beds and the usual special departments, and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical practice.

Candidates must be registered under the Medical Acts, and unmarried. The appointment is for six months, with eligibility for further appointment for six months as House Surgeon to In-patients.

Salary at the rate of £125 per annum. Board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded to the undersigned.

W. H. HARPER,
December 22nd, 1930. House Governor.

The Willesden General Hospital (Incorporated), N.W.10. (106 Beds.)

Applications are invited from General Practitioners for appointment as REGISTRARS for a period of six months from March 1st.

A copy of the Regulations governing these appointments can be obtained from the Secretary of the Hospital, to whom detailed applications should be addressed not later than Wednesday, January 21st.

January 5th, 1931.

The Sheffield Royal Hospital. (340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum, also RESIDENT ANAESTHETIST, salary £80 per annum, rising to £100 in six months, to commence duties at once (males). Board, residence, and laundry. There are twelve Resident Medical Officers. Applications should be forwarded at once to—

W. H. BOOTH,
January 5th, 1931. Supt. & Secretary.

Leeds Public Dispensary.

Wanted, JUNIOR RESIDENT MEDICAL OFFICER. Salary £150 per annum, with board, residence, and four shillings weekly for laundry. Separate sitting-room.

Applications, with copies of three recent testimonials, to be addressed to the Secretary of the Faculty, Public Dispensary, North Street, Leeds.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY. The Institution, which contains over 100 Beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession. Salary at the rate of £100 per annum, rising to £150 per annum.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84, Irish Street, Dumfries, at once.

King Edward VII Hospital,
WINDSOR. (181 Beds.)

HOUSE SURGEON required for six months from date of appointment. Applicants must be fully qualified and registered.

Salary at the rate of £100 per annum, together with board, residence, and laundry.

Applications, stating age, qualifications, and experience, accompanied by testimonials, should be sent to the undersigned not later than January 16th.

ARTHUR E. CHURCHER,
Secretary.

The Grosvenor Hospital for
WOMEN, Vincent Square, S.W.1.

There is a vacancy for the post of CHIEF ASSISTANT at the Grosvenor Hospital for Women. Applicants must hold the degree of [illegible] had previous experience [illegible]ork. Applications, should be submitted to the Secretary by January 25th.

Huddersfield Royal Infirmary.
(General Hospital of 200 Beds.)

Male HOUSE SURGEONS required to commence duty at an early date. Salary £150 per annum, with board, residence, and laundry. Appointment for six months, subject to renewal. Applications, with copy testimonials, to be addressed to the Secretary immediately.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.

Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, *Oxford Rd.*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

ST. LUKE'S HOSPITAL
FOR MENTAL DISORDERS.
Private Nursing Staff Department.
Trained Nurses for Mental and Nervous Cases can be had immediately.
Apply to Lady Superintendent,
19, Nottingham Place, London, W.1.
Telephone: Mayfair 5420.
Northern Branch.—Apply, Lady Superintendent, 57, Clarendon Rd., Leeds. 'Phone: Leeds 26165.

THE
NEW MENTAL NURSES CO-OPERATION,
139, Edgware Road, Marble Arch, W.
Specially trained Nurses for Mental and Nerve cases. (All Nurses are insured under the Employers Liability Act, 1906.) Apply the Supt.
Telegrams: "Psyconurse, Padd., Lond." *Telephone*: No. 2105 Padd.

Drs. Bennett and Paramore are in a position to supply PARTNERS, ASSISTANTS, and LOCUMS, and also have several inquiries for PRACTICES in the West of England and Wales.—Address, THE WESTERN MEDICAL AGENCY, Phoenix Chambers, 22, Clare Street, Bristol.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

Death Vacancy.—Essex Suburb. —Average £1,000. Small panel. Visits 7/6 to 10/6. Corner house, 5 bed., surgery, etc.—No. 8785.

Home County.—Assy., with view to Partnership in 3 months. About £3,000 p.a. Ample scope. Panel 1,950, increasing. Visits 3/6 to 10/6.—No. 8784.

Outlying London Suburb.—X-Ray and Electrical. £500, with scope. House, 6 bed., on lease.—No. 8783.

Herts. — Country.—Over £900 p.a. Panel about 650. Appt. £50. Fees 3/6 to 21/-. Roomy detached house, 6 bed., orchard. Rent £40 p.a.—No. 8782.

Bucks.—About £950 p.a. Panel 580, increasing. Little midwifery. Visits 4/- to 21/-, med. extra. Small house, 1¼ acres ground to rent.—No. 8781.

London Suburb, S.W. — About £1,000. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 3/6 up. House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London, W. — Half Share of over £1,850. Succession later. Small panel. Appt. £400. Visits 5/- to 21/-. Good house, 6/7 bed., and garden.—No. 8777.

London Suburb, S.W. — Half share of £2,800. Old-estab. General Practice. Panel 1,250. Detached house (7 bed.) and garden.—No. 8768.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £25. Prem. £800, incl. furn.—No. 8766.

Favourite South Coast Resort.—Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

Midland Town. — About £2,400 p.a. Panel 2,500. Old-estab. Opposition less than usual. Very little midwifery. Visits 3/6 up. House, 4 bed., and garage, to rent.—No. 8755.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 3/6 to £1 1s. Large house and garden. Smaller ones available.—No. 8750.

South Coast. — Within 60 miles. Over £1,000, increasing rapidly. Panel 500. Clinic £50. Fees 3/6 to 12/6. Good house, 4 bed., etc.—No. 8742.

Surrey. — Rapidly increasing PRACTICE. Receipts over £830. Panel 580. Excellent house, 8 bed., with large garden, to rent.—No. 8741.

Glos. — Country.—Over £1,250 p.a. Panel nearly 1,100 Fees 3/6 to 5/-. Detached house, 1/4 acre. £300 down, balance out of income.—No. 8740.

Devon.—Dispensing Practice in large village averaging £940 p.a. Fees 5/- to 2 gns. Surgery 2/6 to 7/6. Large house, with an acre and cottage, for £3,000, of which £2,500 could remain, or for sale without house.—No. 8727.

S.W. County near Coast.—Dispensing PRACTICE over £2,000 p.a., chiefly agricultural. Visits 5/- up. Surgery 2/6 up. 1,100 panel.—No. 8728.

SPECIAL NOTICE.

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

Messrs. R. SUMNER & Co., Ltd.,
Manufacturing Chemists,
40, HANOVER ST., LIVERPOOL,

DEATH VACANCY PRACTICE in Lancashire, receipts £810 per annum, number on panel 1,000; old-established. House can be rented; year's purchase.

PRACTICE in Town near Blackburn, receipts £1,150 per annum, number on panel 1,250. House for sale; reason for disposal ill-health.

PRACTICE for sale in Chester, receipts £1,500 per annum, panel 1,500. House on rental.

PRACTICE for disposal near Blackburn, receipts £1,160 per annum, number on panel 1,500. House for sale or on rental; reason for disposal ill-health.

PRACTICE in town near Manchester, receipts £2,590 per annum, number on panel 2,600. House for sale or on rental; years' purchase for cash.

For further particulars apply to the above address.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 6932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

ESTABLISHED 1868.
PEACOCK & HADLEY, Ltd.,
MEDICAL TRANSFER AGENCY,
19, Craven Street, Strand, W.C.2.
Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

THE CENTURY INSURANCE COMPANY LTD.,
7, LEADENHALL STREET,
LONDON, E.C.3.
18, CHARLOTTE SQUARE,
EDINBURGH.

ASSISTS DOCTORS TO PURCHASE A PRACTICE OR PARTNERSHIP

NO GUARANTORS REQUIRED. REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

DERBYSHIRE.—ASSISTANT required with possible view to Partnership in well-established, large, busy Practice. Preference given to Protestant, well qualified, with Hospital experience and with a certain amount of capital. Car provided. Commencing salary £400 p.a.

MIDDLESEX.—RIVERSIDE SUBURB PARTNERSHIP in rapidly growing Practice. Receipts £1,500. Two appointments worth £660. Panel nearly 1,000. Premium for 1/3 share, with view to larger share, 1½ years. Suitable accommodation available.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for surgery. Premium 1/3-share, with view to larger share, £1,300.

ESSEX.—Middle-class General PRACTICE, situated in well-populated locality. Receipts over £1,000 p.a. Panel approximately 1,200. Suitable house available. Fees 2/6 up. Excellent scope. Premium £1,500.

SOUTH COAST.—Favourite Holiday Resort.—PARTNERSHIP, with view to Succession in 12 months' time, in well-established middle-class Practice. Suitable flat available at reasonable rent. Receipts £1,500. Panel 800. Appointments £100. No midwifery or night work. Premium for half share, with view, 2 years' purchase. Excellent scope. Suitable for English or Scotch Practitioner. Or would sell outright.

SUSSEX.—Good-class non-panel Country Town PRACTICE, situated in charming locality. Large house to rent on lease (9 beds), garage, and extensive garden. Receipts approximately £1,100 p.a. (subject to confirmation). Fees 10/6 up. Suitable to experienced man used to country town life. Premium £1,550.

EASTERN COUNTIES.—Cathedral City.—PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

KENT.—Within 25 miles of London, well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £1,100. Panel over 300. Suitable residence to let. Alternative accommodation available. Premium £1,500.

YORKS, N.—Well-established G.P. in busy thickly populated Town, with excellent prospects of still further development. Suitable for two friends in Partnership; preferably one should be R.C. Receipts approx. £3,000. Panel 3,200. Fees 3/6 up. Choice of hours, two available. Good Hospitals and Schools. Scope for Surgery and Gynaecology is desired. Premium £6,000 cash.

SOUTH COAST.—Favourite Holiday Resort.—PARTNERSHIP, with view to SUCCESSION in 12 months' time, in well-established middle-class Practice. Suitable flat available at reasonable rent. Receipts £1,300. Panel 800. Appointments £100. No midwifery or night work. Premium for half share, with view, 2 years' purchase. Excellent scope. Suitable for English or Scotch Practitioner. Or would sell outright.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three Hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640, or near offer. Partnership considered.

LONDON, E.13.—NUCLEUS working-class PRACTICE (mostly cash), situated in thickly populated locality. House to rent at £60 p.a. (part sub-let at £26 p.a.). Receipts approximately £350. Panel 400. Fees 1/6 up. Mids. 2—3 gns. Premium £400.

MIDDLESEX (WEST).—NUCLEUS middle and working-class PRACTICE (mostly cash), situated in growing locality, within 10 miles of London. Receipts for 9½ months £240. Panel 30. Fees 2/6 up. Premium £450, or near offer, to include fixtures, fittings, etc. Excellent scope.

DEVON (SOUTH).—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Hospital. Scope for surgery. Good schools. Prem. for 1/3 share £2,030. Terms considered to right man.

LONDON, E. — Well-established PRACTICE in middle-class residential locality. Corner house to rent on lease (4 bedrooms), garden, garage, etc. Receipts just over £800. Books audited. Panel 718. Fees 2/- up. Premium £1,250.

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.

(Temple Bar 3373.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS, and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. SHORT PARTNERSHIP. — Introduction to an old-established London Practice in good main road. Vendor giving up profession. Present value about £1,100, including panel of 1,100. Open to large increase by one able to devote attention. Suit active junior of some experience.
2. YORKS COAST.—Unopposed PRACTICE in pleasant locality. Average income £1,000, including panel of £470 and appts. Capital house, garden, and garage, at £55. Price for quick sale only £800.
3. PRACTICE of £1,200 a year in residential and industrial locality within an hour's run. Panel about £300. Rapidly growing. House and garden, garage, at £66. Good sport and society.
4. DEVON.—Good middle-class PRACTICE of over £2,000 a year in very attractive Town on the Coast. Select panel of 1,500. Figures certified by Accountant. An efficient introd. given.
5. LONDON SUBURB, W.—PARTNERSHIP in an old-established middle-class Practice. A Share worth £800 p.a. at 2 years' purchase. Panel 1,600. Good modern residence, garden, and garage, at £100. Easily worked, but offering scope for extension.
6. NURSING HOME in Harrow area.—Mainly maternity. Licensed for six cases. Full up for next six months. Fees 6 gns. Excellent premises and grounds. Returns over £700, growing. Price, to include furniture (valued £400), £700.
7. REQUIRED in London or other large town (preferably Midland or South) a PRACTICE of £2,500 with a good panel and family residence. Money no object if investment is suitable.
8. REQUIRED by Two Young Medicos, PRACTICE of £1,700—£2,000, with good panel, in outer London circle, within 30 miles. Details in confidence.
9. REQUIRED by Camb. Grad., aged 30, PRACTICE or PARTNERSHIP of £1,000 to £1,200 in Country Town with hosp., anywhere S. of Birmingham. Details in confid.

PROSPECTIVE PURCHASERS

OF PRACTICES

and those seeking

PARTNERSHIPS

should consult

The

BRITISH MEDICAL BUREAU

at

12, Stratford Place, Oxford St., London,

or its Northern Branch at

33, Cross Street, Manchester.

or its Newcastle Branch at

7, Windsor Place, Newcastle-on-Tyne.

Those requiring additional

CAPITAL

should apply to the

Medical Insurance Agency

(Limited by Guarantee)

B.M.A. House, Tavistock Sq., London, W.C.1.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RET

RELIABLE AND PLIED AT SHORT

FOR DISPOSAL.

1. SOUTH STAFFORDSHIRE. — Well-estab. Country PRACTICE. Receipts £1,124. Panel 700. Good house. Garage and garden.
2. MIDLANDS.—Panel and Private PRACTICE. Estab. 5 years. Receipts over £700; panel 550, both increasing. Appointments worth about £70. House to rent. Garage, etc.
3. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Established nearly 4 years. Receipts average £1,179 p.a., and unlimited scope. Good house, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transferable. Good house, garage, and all conveniences.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts average £1,146 p.a. Panel 550, and good scope. Appointments worth about £250. Good fees and house.
7. LANCASHIRE.—Old-estab. Panel and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
8. MIDLANDS. — COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and increasing rapidly. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Premium—Practice—£1,700.—No. 222.

NEAR NORTH-EAST COAST.—SEASIDE RESORT.—Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £800 for quick sale.—No. 220.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £935 p.a. Panel 1,087. Plenty of scope. Corner house, 2 reception, 3 bedrooms. Garage. Rent £70 p.a. Premium £1,325 or near offer (to include drugs, book debts, fittings, and some household furniture).—No. 221.

DEATH VACANCY.—LANCS COUNTRY TOWN.—Average cash receipts £848 p.a. Panel 1,003. Scope. Excellent house, 2 reception, 4 bedrooms. Garage and large garden. Rent £65 p.a. Premium 1 year's purchase.—No. 215.

SCOTLAND.—26 miles from Edinburgh.—Industrial PRACTICE. Cash receipts last year £1,016. Panel 1,094. House to rent at £28 p.a. Premium £1,500.—No. 217.

LANCS TOWN.—PARTNERSHIP (HALF-SHARE). View to succession in 2/3 years. Approx. cash receipts £1,200 p.a. Panel 1,500. Splendid opportunity for young man.—No. 213.

NORTH WALES.—Country Town near Sea.—PRACTICE. Cash receipts £700 p.a. Panel £300 p.a. Good detached house. Garage and garden. Rent £65 p.a. Premium for quick sale 1 year's purchase.—No. 219.

YORKSHIRE (W.R.)—LARGE CITY.—Old-estab. mixed-class PRACTICE. Average cash receipts £1,778 p.a. Panel 800. Excellent corner house for sale, 2 reception, 4 bedrooms. Garage, etc. Premium—Practice—1½ years' purchase.—No. 212.

ISLE OF MAN.—SEASIDE TOWN.—Old-estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—No. 173.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Premium—Practice—1½ years' purchase.—No. 194.

LIVERPOOL (Near).—*Old-estab. middle-class PRACTICE.* Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE.—Average cash receipts £745. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 2 years' purchase.—No. 197.

MANCHESTER.—INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

CHESHIRE TOWN, near MANCHESTER.—PRACTICE. Average cash receipts £838. Panel 800. Much scope. Good house, 2 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 159.

SHEFFIELD.—NUCLEUS in growing district. Cash receipts £490. Panel 400. Rent of Surgery £52 p.a. Tremendous scope. Premium—best cash offer.—No. 218.

NORTH-WEST COAST.—Old-established mixed PRACTICE. Cash receipts 1929, £1,129. Panel 580. Good scope. Easily worked. Good house, 3 reception, 5 bedrooms. Garage and garden. Premium—Practice—1 year's purchase.—No. 154.

LANCS TOWN, near MANCHESTER.—PRACTICE. Average cash receipts £751. Panel 430. Much scope. Excellent house to rent, 6 bedrooms, large garden, and garage. Premium for quick sale £500.—No. 216.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium—Practice—£1,600.—No. 195.

MANCHESTER SUBURB.—Old-estab. PRACTICE. Average cash receipts £600 p.a. Panel 360. Scope. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium 1½ years' purchase. Vendor retiring.—No. 191.

CHESHIRE TOWN, near MANCHESTER. Middle-class PRACTICE, established 4 years. Cash receipts 1929, £720. Much scope. Modern detached house, 2 reception, 4 bedrooms. Garage and large garden. Premium—Practice and house—£2,500, part on mortgage.—No. 153.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £700. Panel 614. Good house, 2 reception, 3 bedrooms. Garage and garden. Premium—best offer.—No. 116.

LANCS TOWN.—PRACTICE. Average cash receipts £1,200 p.a. Panel 900. Good house, 2 reception, 4 bedrooms. Premium 1½ years' purchase.—No. 178.

MANCHESTER SUBURB.—PRACTICE, established 4½ years. Cash receipts 1930, £575. Panel 270. Appointment to holder of D.P.H. value £110 p.a. Excellent house, 3 reception, 7 bedrooms. Garage and garden. Rent £50 p.a. Premium 1 year's purchase.—No. 201.

MANCHESTER.—PRACTICE, established 3 years. Cash receipts 1929, £456. Scope. Panel 410. House, 2 reception, 4 bedrooms. Rent £50 p.a. Premium—best cash offer.—No. 203.

CHESHIRE.—Coast Town near Liverpool.—Old-estab. middle-class PRACTICE. Cash receipts last year £1,134. Excellent house, 2 reception, 6 bedrooms. Garage and garden. Premium—Practice—1½ years' purchase. Vendor retiring.—No. 189.

LANCS TOWN PRACTICE.—Average cash receipts £2,500. Panel 1,850. Suitable for two friends as two houses are available. Half share, with view to succession in 6/12 months, if desired. Premium 1½ years' purchase.—No. 168.

MANCHESTER. — Residential suburb. — Old-estab. PRACTICE. Average cash receipts £1,918. Panel 1,395. Good house, 2 reception, 4 bedrooms. Garage and garden. Premium—Practice—2 years' purchase.—No. 175.

NEAR MANCHESTER.—Residential district.—PRACTICE. Cash receipts last year £540. Small panel. Excellent house, 2 reception, 5 bedrooms. Garden and garage. Premium—Practice and house—£2,250.—No. 202.

LANCS TOWN.—Old-estab. PRACTICE. Average cash receipts £2,523. Panel 1,021. Good house, 2 reception, 6 bedrooms. Garage and garden. Premium—Practice—1½ years' purchase.—No. 65.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair 1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 ISLE OF MAN.—[illegible] Practice in small Seaside Town. Receip[illegible] 350 from panel). Nice compact hou[illegible] for sale. Sport. Premium £1,200, or offer.

2 ITALY. — Partnership in easily worked, good-class Practice of £1,400 p.a. in [illegible] ranean Sea Coast Town. Established over [illegible] 21/- (permanent residents less). Vendor [illegible] general practice in the near future, and [illegible] apartment would be available if wanted [illegible] language difficulty. Premium 1½ years' purchase. Vendor well known to Bureau.

3 LANCS.-Practice averaging over £2,500 p.a. in manufacturing town close to Manchester. Panel about 2,600. Modern detached house (5 bedrooms), central heating, garage, etc., for sale or rent. Good Hospital. Premium 1½ years' purchase, part by instalments.

4 S. MIDLANDS. — Practice over £750 in first-rate County Town. Small panel. Suitable house for sale at £1,200 or offer. Good Hospital. Scope. Premium 1½ years' pur.

5 LONDON, N. — Partnership in Practice about £3,000 p.a., including about £340 from appointments and a panel of 2,000. Excellent detached corner house (5 bedrooms), garage, and nice garden, for sale or rent. Premium one-half share 2 years' purchase.

6 N.E. COAST.—Partnership in increasing Practice over £4,600 in Seaport Town. Panel 2,500. Incoming Partner should be married and have held H.S. and H.P. appointments. One-fourth share at first at 1½ years' purchase.

7 WEST END OF LONDON.—Special Practice for Treatment of Varicose Veins and Haemorrhoids, etc. Receipts last year over £1,150. Consulting rooms in best position. Premium £600.

8 SOUTH MIDLANDS.—Partnership (after preliminary Assistantship) in Practice about £3,000 p.a. in small Country Town. Panel nearly 2,000. Applicant must be English or Scotch, a good Anaesthetist and experienced in Midwifery. Share worth about £800 p.a. at 2 years' purchase.

9 LONDON, N.—Cash and Panel Practice of £1,300 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

10 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

11 MIDLANDS. — Partnership in Practice over £3,300 p.a. in a good town. Panel about 1,000. Modern up-to-date Hospital. Four-twelfths share at 2 years' purchase. Preliminary Assistantship if desired.

12 LONDON, S.W. — Partner required in lucrative working-class Practice, well over £5,000 p.a., in busy thoroughfare. Panel about 7,250. Nice compact house (4 bedrooms) to rent. Partner must be young and energetic (English, Irish, or Scotch). Premium—one-fifth share—1½ years' purchase.

13 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea-and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

14 DEATH VACANCY.—Staffs.—Practice of over £1,100 p.a. in manufacturing town. No panel or midwifery. Semi-detached 8-roomed house, with garage, for sale or rent. Scope for great increase.

15 EAST ANGLIA.—Partnership in unopposed country Practice, about £3,500 p.a., easy distance of important town. Panel about 2,500. Beautiful house (4 bedrooms), garage, and nearly two acres garden, to rent. Sport. One-third share at 2 years' purchase.

16 LONDON, W.—Good-class non-dispensing PRACTICE of nearly £1,600 p.a. in the West End. No panel or appointments. Rent of consulting rooms £200 p.a. on lease. Good introduction. Premium 1½ years' purchase.

17 LONDON, W. — Small good-class non-dispensing PRACTICE of about £450 p.a., in West Kensington. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

18 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

19 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £500.

20 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

21 LONDON, W. — Partnership in Practice about £2,000 p.a. in suburban area. Panel about 1,650. Well-situated house (6 bedrooms), garage, and small garden, to rent. Scope. Premium two-fifth share 2 years' purchase.

22 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

23 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a in growing and pleasant residential district. Choice of residence for sale Good scope. Prem. £1,200.

24 EASTERN COUNTIES.—Country Practice nearly £1,200 p.a., easy reach of two good towns. Panel 759. Small house (5 bedrooms), garage, and garden, to rent. Premium 1½ years' purchase.

25 MIDLANDS.—Practice, over £1,700 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

26 CHESHIRE. — Chiefly non-dispensing PRACTICE of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

27 MIDLANDS.—Practice of about £350 p.a. in manufacturing town. Panel 350. House contains 5 bedrooms, etc. Rent £42 p.a. Scope for increase. Premium £350.

28 LONDON, E. — Cash and Panel Practice (held by Medical Woman) in densely populated area. Receipts £360 p.a. Panel 290. Small house to rent. Premium £450.

29 MIDLANDS.—Partnership in Practice of between £1,800/£2,000 p.a. in a beautiful district in a hunting centre. Panel about 1,000. Good house, with 5 bed and dressing rooms, garage and one acre garden, for sale. Smaller one might be obtained. Premium one-third share 2 years' purchase. Public School or University man preferred.

30 SCOTLAND.—Sound well-established PRACTICE of £1,800 p.a. in attractive district easy distance of Aberdeen. Panel 1,100. Well-built house (5 bedrooms), large garage, and acre of garden, for sale. Salmon fishing and other sport. Premium 1½ years' purchase.

31 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

32 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

33 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

34 NOTTINGHAMSHIRE.—Country Practice of nearly £1,100 p.a. Panel 700. Good house (6 bedrooms), garage, and 1¼ acres garden, to rent. Great scope. Premium 1½ years' purchase.

35 HOME COUNTY. — Partnership in non-dispensing Practice £3,200 p.a. in first-rate residential town, under 30 miles from London. Panel over 4,000. Detached house (6 bedrooms), with large garden, to rent. Partner should be aged 30—40 and experienced in anaesthetics. Two-fifths share at 2 years' purchase.

36 SURREY. — Partnership in good mixed-class Practice about £3,000 p.a. in Town within 10 miles South of London. Small panel. Suitable house obtainable. Excellent scope. Premium one-third or one-half share 2 years' purchase.

37 S. DEVON. — Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage, in acre of garden, for sale. All kinds of sport. Premium £1,500.

38 LONDON, S.E.—Partnership in Practice £6,600 p.a. in outlying suburban district. Panel 2,000. Premium one-sixth share, 2 years' purchase.

39 LONDON, E.C.—Partnership (with Succession) in steadily increasing Practice of about £1,200 p.a. in the City. Majority of consultations £1 1s. Excellent consulting rooms. Premium one-half share 2 years' purchase.

40 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,600 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

41 EAST COAST.—Partnership in non-panel Practice in favourite watering-place. Partner should be young and with Hospital experience. Share of about £1,000 p.a. at 2 years' purchase. Preliminary Assistantship.

42 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a., at 1½ years' pur.

43 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

44 KENT.—Country Practice about £650 p.a. in beautiful district. Panel about 700. No house, but surgery and waiting room to rent. Capable of much increase. Moderate premium.

45 W. OF ENGLAND.—Partnership in Practice over £3,000 p.a., in pleasant Country Town, under 130 miles from London. Young keen Partner, preferably with the F.R.C.S., who has held Hospital appointments. Premium for a two-fifths or one-half share 2 years' purchase.

46 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase with ultimate succession.

47 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

48 WITHIN 50 MILES OF LONDON.— PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate county town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P. appointments. Preliminary assistantship.

49 CHESHIRE.—Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

50 S. DEVON. — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House, containing 5/6 bedrooms, for sale. Premium one-half share £1,320, to include drugs, etc. Work very light.

51 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

52 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES
who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. DEATH VACANCY.—WITHIN SIX MILES OF LIVERPOOL STREET.—Old-established good middle-class PRACTICE, averaging over £1,100 p.a. Small panel recently started, but good scope. Fees from 5/-. Good house, with 2 reception, 5 bedrooms, etc., and professional rooms. Price £1,250. Premium £750.
2. WITHIN 100 MILES OF LONDON (NORTH).—PARTNERSHIP.—The two-sevenths share (with option to third and eventually half) producing about £1,000 p.a. is offered in very old-established Practice, averaging about £3,500 p.a., including panel of 2,500. Situated in pleasant town, with pop of 2,000. Ingoing partner should be unmarried (about 25 to 30) until suitable house available. Premium 2 years' purchase. Short preliminary assistantship.
3. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
4. PARTNERSHIP.—SURREY.—Attractive residential district within 40 miles. A one-half share, with ultimate succession, is offered in a good mixed Practice, averaging about £1,500 p.a., but capable of large increase. Panel of over 1,000. Fees 3/6 to 21/-. Suitable house, with 3 reception, 3 bedrooms, etc. Good garden. Price for freehold £1,500, £1,000 on mortgage. Premium 1½ years' purchase.
5. NEAR FOREST OF DEAN.—Old-established Country PRACTICE, in picturesque surroundings, averaging about £1,250 p.a. Panel of 1,100. Visits from 3/6. Suitable house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £1,500, £1,000 on mortgage. Premium £350 cash, and £1,500 by instalments over five years.
6. NORTH WALES.—Very old-established chiefly middle-class PRACTICE, producing over £800 p.a. Panel of 600. Visits from 2/6, with medicine extra. Very low expenses. House contains 2 reception, 6 bedrooms, etc., and has all modern conveniences. Garden. Garage. Rent on lease £60 p.a. Sport of all kinds and schools. Ample scope for increase. Premium 1 year's purchase.
7. SOUTH COAST TOWN.—Rapidly increasing PRACTICE producing for last 12 months over £400. No panel. Visits 5/- up. Suitable house, with 2 reception, 3 bedrooms, etc. Rent on lease £130. Prem. £600.
8. [illegible] TOWN.—Old-established better-class PRAC[illegible]p.a. and offering good scope. Panel of 500. [illegible]situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.
9. GLOS.—Unopposed very old-established PRACTICE, in beautiful agricultural district, worth over £600 p.a., including appts. of £90 and panel of 480. Very nice house (5 bedrooms, etc.), water laid on, electric light, one acre of ground. Price freehold £2,000, or would be rented. Another smaller house is also available. Premium £750. Good social amenities and scope for increase.
10. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope. Panel of over 1,400. Fees from 3/6. Suitable house can be secured. Premium 2 years' purchase.
11. CHESHIRE.—Coast Town, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down.
12. SOUTH-WEST LONDON.—Old-established non-panel PRACTICE, having good Ophthalmic connection, and also scope for Ear, Nose, and Throat work. Gross cash receipts for last 12 months over £1,400. Fees 5/- to 2 gns. Midwifery from 5 gns. Good corner house in excellent condition, with ample accommodation. Price for leasehold (with 62 years to run) £1,500. Premium 1½ years' purchase.
13. SOUTH COAST.—FAVOURITE HEALTH RESORT.—Well-established mixed-class PRACTICE, offering good scope. Average gross cash receipts over £700 p.a., including panel of 720. Very good house, with 2 reception, 5 bedrooms, etc. Nice garden. To be sold, or might be let for a time. Premium 1½ years' purchase.
14. YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one-half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle-class Practice. Income for the past twelve months approximately £4,000. Small select panel of 430. One appointment worth nearly £650 p.a. Fees 3/6 upwards. Opposition not strong. Suitable house can be bought or leased. Very good educational and sporting facilities. Premium 2 years' purchase.
15. YORKS.—LARGE TOWN.—Old-established middle and working-class PRACTICE averaging £1,778 p.a. Panel of 791. Fees 3/6 to 21/-. Mid. 2 to 10 gns. (about 12 cases yearly). Suitable house, with 2 reception, 4 bedrooms, etc. Separate entrance to professional rooms. Good schools and sporting facilities. Prem. 1½ years' pur.
16. MANCHESTER.—Chiefly working-class PRACTICE. Average income £1,000 including panel of 1,000. Moderate expenses. Corner house, with 3 reception, 8 bedrooms, etc. Garage. Rent on lease £65 p.a. Premium £1,500 or near offer.
17. LANCS.—PARTNERSHIP.—A one-fourth share to commence (with increase up to one-half later) is offered in a very old-established good middle-class Practice producing for the last twelve months over £4,700 p.a. Panel of 2,730. Appts. worth nearly £200 p.a. Visits 2/6 to 12/6. Not much midwifery from 2 to 3 gns. Suitable house obtainable, but, if single, purchaser can reside with Vendor, who is a bachelor. Premium 2 years' purchase.
18. CAMBS.—PARTNERSHIP.—A one-half share is offered in a sound mixed-class Practice, producing last year nearly £2,000. Panel of 765. Situated in pleasant agricultural district, with good sporting facilities. Fees 5/- to 21/-. Suitable house can be rented at £75 p.a. Premium 2 years' purchase.
19. SOUTH-WESTERN COUNTY.—Near the Sea.—Old-established easily worked country PRACTICE, in beautiful district, within easy reach of Market Town, averaging £1,100 p.a., including appts. and panel producing £450. Exceptionally attractive house, in over 3 acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £3,000, part on mortgage. Premium £1,650. Sport of all kinds and schools within reach.
20. SURREY.—In a beautiful residential district within 40 miles of London (good train service) a small mixed-class PRACTICE worth about £600 p.a., and offering scope. Select panel of 200. Charming house, in very pretty grounds, with ample accommodation. Price, freehold, £3,500. Premium 1½ years' purchase.
21. ESSEX.—Unopposed PRACTICE in very pleasant agricultural district, averaging over £900 p.a., including panel of nearly 500 and appts. worth £140. Fees 3/6 to 10/6. Commodious house with 2 reception, 5 bedrooms, and good professional accommodation. Large garden. Garage. Rent on lease £60 p.a. Good sport and schools within reach. Premium 1½ years' purchase.
22. BORDERS OF NORFOLK AND SUFFOLK.—PARTNERSHIP.—A half-share (with succession in 2 to 3 years' time) in a good mixed unopposed Practice, in pleasant village, near two good towns. Income for last 12 months £1,992, including panel of 1,000, and appts. worth about £150. Fees 2/6 to 10/6. House contains 3 reception, 6 bedrooms, etc. Sport of all kinds. Premium 2 years' purchase.
23. ITALIAN RIVIERA.—SEASON PRACTICE.—Old-established and held by Vendor for the past six years. Average income about £400 p.a. Fees 10/- to 20/- approximately. Suitable furnished flat, with one large reception room, consulting room, 4 bedrooms, etc. Rent on lease £140 p.a. Premium £500.
24. MANCHESTER DISTRICT.—Old-established middle and working-class PRACTICE, worth last year about £700 p.a., including panel of 614 and capable of increase. Expenses small. Well-situated house, with six rooms in addition to professional accommodation. Large garden. Price for freehold £850. Moderate premium accepted.
25. LINCOLNSHIRE COAST.—Well-established mixed-class PRACTICE averaging £2,749 p.a. (last year £2,868) including panel of over 1,700. Fees 3/6 to 21/-. Mid. from 2 gns. (about 70 cases yearly). Newly built modern house, with special professional accom., central heating, etc. Garden. Garage. Price, freehold, £2,300, part on mortgage. Good sport and schools within reach. Prem. 1½ years' pur.
26. MIDDLESEX.—Rapidly developing district, within 20 miles.—PARTNERSHIP.—A one-half share in an old-estab. good middle-class Practice, averaging for the past two years over £3,500 p.a. Panel of 1,100 and appts. bring in £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
27. KENT.—Country PRACTICE near Coast.—Old-established mixed-class Practice, averaging about £1,100 p.a. Panel of nearly 400. Fees 3/6 upwards. Convenient house, with 3 reception, 6 bedrooms, etc. Good garden. Price £1,650, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
28. PLEASANT CATHEDRAL CITY, within 200 miles North of London.—Old-established mixed-class PRACTICE, averaging £1,600 p.a., including £800 from panel and over £100 from clubs. Visits 5/- upwards (occasionally 2 gns.) Very little midwifery, from 2 to 5 gns. Large attractive house, with garden. Rent £80. Prem. 1½ yrs.' pur.
29. NEAR HUDDERSFIELD.—PARTNERSHIP.—A half share in an old-established mixed-class Practice. Income for immediate past year over £4,250. Panel of 3,500. Fees 3/6 to 7/6. Very good house, with 4 reception, 6 bedrooms, etc. 1½ acres of garden. Price for freehold £2,500. Premium 1½ years' purchase.
30. PARTNERSHIP.—COUNTRY TOWN, within 130 miles North of London.—A one-fifth share is offered in an exceptionally sound good mixed-class Practice, averaging for past 3 years over £6,000 p.a. Panel of 3,400. Fees from 4/-. Not much midwifery. House can be rented at £50 p.a. Premium 2 years' purchase.

ASSISTANTS [illegible]
Salary [illegible]ON, S.W. Outdoor, with view.
Suburb. (2) LONDON, outlying Eastern
Indoor, [illegible]od prospects. (3) LONDON, East.
LINCS. North. Indoor, £300 p.a. (5)
BEDS. (£300. View to partnership. (6)

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

What shall I prescribe?

WHEN CONFRONTED WITH A DIFFICULT CASE OF OSTEO OR RHEUMATOID-ARTHRITIS IT IS INDEED COMFORTING TO KNOW THAT QUICK AND LASTING RELIEF CAN BE OBTAINED FROM THE ADMINISTRATION OF ELIX. FORMASAL AND TAB. ARTHRITONE.

THE POPULARITY OF THESE PREPARATIONS IN RHEUMATIC CONDITIONS IS DUE SOLELY TO THE GOOD RESULTS OBTAINED.

PRACTITIONERS HAVE TAKEN THE TROUBLE TO WRITE AND TELL US OF THE WONDERFUL EFFECTS THAT THESE PREPARATIONS HAVE IN CASES WHERE ALL OTHER FORMS OF MEDICATION HAVE BEEN OF NO AVAIL.

ELIXIR FORMASAL
1 PINT **6/3**
SMALLER AND LARGER SIZES ISSUED

TAB. ARTHRITONE
250, **8/2**
SMALLER AND LARGER SIZES ISSUED

HOUGH, HOSEASON & CO. LTD.

PHARMACEUTICAL SPECIALISTS TO THE MEDICAL PROFESSION - MANCHESTER.

Valentine's Meat-Juice

"For a Tired Stomach"

In **Dyspepsia, Catarrh** of the **Stomach** or **Intestines**, or **Gastric Irritability** from any cause, when the **Digestive Organs** reject milk and other foods, **Valentine's Meat-Juice** will be **Retained** and demonstrate its Power to **Restore** and **Strengthen.**

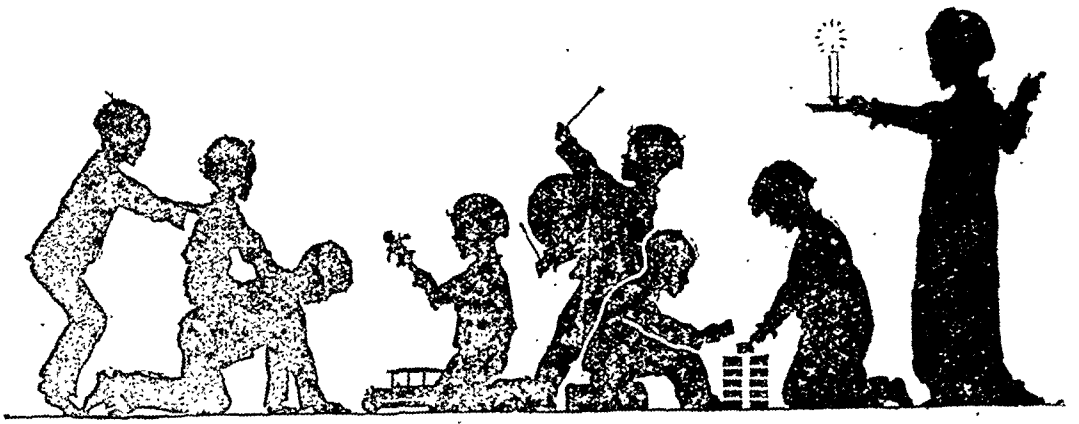
It is in constant use in Hospital and Private Practice and endorsed by eminent Medical Men.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 82



Keep the Children Well

Rapid growth is a severe strain on children and demands a generous diet, rich in vitamins. To ensure an adequate supply of vitamins the physician may with advantage prescribe a course of

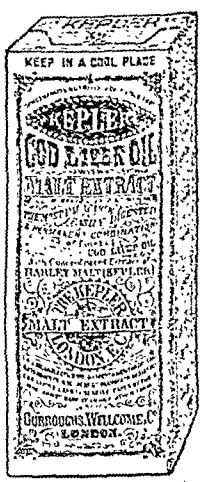
TRADE 'KEPLER' MARK

Cod Liver Oil with Malt Extract

A delicious combination of cod liver oil of exceptional quality and malt extract prepared from the finest malted English barley.

Provides Vitamins A, B and D in their natural form and association.

Prices in London to the Medical Profession—
2/6 and 4/7 per bottle



Reduced facsimile

BURROUGHS WELLCOME & CO.
LONDON

H 2827

COPYRIGHT

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3654. SATURDAY, JANUARY 17, 1931 Price 1/3

IMMUNOGENS

For the Treatment of Catarrh and Pneumonia

IMMUNOGENS are bacterial antigens separated from young cultures of micro-organisms by a process of rapid extraction and centrifugalization which prevents the formation of toxic autolysates.

The advantages of Immunogens are:—
The antigen is in readily-available form
The protein content is extremely low
They are not toxic
The reaction is usually negligible
Doses can be given at daily—or even shorter—intervals
Active immunity is rapidly built up.

CATARRHALIS IMMUNOGEN (Combined) contains ecto-antigens of carefully selected strains of micro-organisms commonly found in catarrhal infections of the respiratory tract, and is especially suitable for treatment of the "common cold".

PNEUMOCOCCUS IMMUNOGEN contains the ecto-antigens of the pneumococci (three types) and is intended for the treatment of pneumonia. Serological studies have shown that Pneumococcus Immunogen produces a high antibody response.

PNEUMOCOCCUS IMMUNOGEN (Combined) contains the ecto-antigens from pneumococci (three types) and streptococci (hæmolytic and non-hæmolytic), and is indicated for the treatment of lobar pneumonia *in which the streptococcus is associated with the pneumococcus.*

Supplied in vials of 10 c.c. with rubber-diaphragm caps. Further particulars of the and other Immunogens will be sent on request

Parke, Davis & Company, 50 Beak Street, London, W.1.

Inc. U.S.A., Liability Ltd.

D LABORATORIES: HOUNSLOW, MIDDLESEX.

ISSUED [illegible] [REGISTERED AS A NEWSPAPER

ANTIPHLOGISTINE

ANTIPHLOGISTINE

is the first thought of the clinician in the treatment of

PNEUMONIA

Because

1. It Reduces Pain
2. It Combats Toxaemia
3. It Supports Circulation

Applied as a jacket over the entire thoracic wall, Antiphlogistine will do much to promote rest and sleep, which are essential for sustaining the vitality of the patient.

Write for sample and literature

THE DENVER CHEMICAL MFG. CO.
(Inc. U.S.A. Liability Ltd.)
LONDON, E.3.

In Pneumonia

British Medical Journal

CONTENTS

JANUARY 17, 1931

ORIGINAL ARTICLES

Zoster, Varicella, and Encephalitis. Lecture by W. RUSSELL BRAIN, D.M., M.R.C.P. 81

Treatment of Pernicious Anaemia with Hog's Stomach. By JOHN F. WILKINSON, M.B., M.Sc., Ph.D. 85

Removal of Adenoids—A Simplified Technique. By O. POPPER, M.B., F.R.C.S.Ed. (Illustrated) 92

Choice of a Blood Sugar Method for Clinical Work. By FREDA HERBERT, M.B., B.S., and MARGHERITA BOURNE, M.Sc., Ph.D. 94

MEMORANDA

Foreign Body in the Neck. By A. J. P. ALEXANDER, M.B., B.Ch. (Illustrated) 96

Acute Puerperal Inversion. By LAURENCE D. ADLER, M.B., Ch.B. ... 96

Poisoning by Camphorated Oil. By J. COTTRELL, M.B., B.S.Syd. 96

Extrauterine Pregnancy of Fourteen Months' Duration. By M. K. PILLAI, M.B., C.M. 97

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE: Etiology of Disseminated Sclerosis ... 97

EDINBURGH OBSTETRICAL SOCIETY ... 98

ROYAL ACADEMY OF MEDICINE IN IRELAND: Puerperal Sepsis 99

REVIEWS

Filterable Viruses 100

An Analysis of Creative Mind 101

Guy's Hospital Reports 101

Physical Diagnosis 102

Biometric Technique 102

Notes on Books 102

OBITUARY

John Jenkins, M.R.C.S. 119

Maurice Fitzmaurice-Kelly, F.R.C.S. ... 120

Richard Brodie, L.R.C.P. & S. 120

Amy Hodgson, M.D., M.R.C.P. 120

LEADING ARTICLES

VACCINATION AND ENCEPHALITIS 104

THE DIABETIC CHILD 105

THE WEEK

Science and its Instruments 105

Pathology of Cardio-vascular Syphilis 106

Efficiency of Light Wells 105

Figures for Measles and Whooping-cough 107

Glances at Present-day Surgery 107

Music in the Operating Theatre 108

Advisory Committee on Nutrition 103

GENERAL ARTICLES AND NEWS

Nova et Vetera: Sir John Richardson. By D. A. STEWART, M.D., LL.D. 110

Health of the School Child. Sir GEORGE NEWMAN'S Report. Concluding Notice 112

Post-vaccinal Nervous Disease. The Rolleston Committee's Second Report 109

THE MAUDSLEY HOSPITAL AND THE MENTAL TREATMENT ACT 113

BRITISH EMPIRE CANCER CAMPAIGN 121

PREPARATIONS AND APPLIANCES. (Illustrated) 103

MEDICAL NEWS 123

LOCAL NEWS

SCOTLAND—

Milk and the School Child 114

Education of the Deaf 115

Larbert Mental Hospital 115

ENGLAND AND WALES—

The Lister Institute: Farewell to Sir Charles Martin and Prof. Harden ... 115

The Cicely Northcote Trust 115

UNIVERSITIES AND COLLEGES

University of London 121

University of Liverpool 121

University of Bristol 121

National University of Ireland 121

University of Glasgow 121

Royal College of Surgeons of England ... 121

MEDICO-LEGAL

Marking of Medical Instruments 122

CORRESPONDENCE

The Swedish Medical Curriculum. By H. Letheby Tidy, M.D., F.R.C.P. 116

Obstetrical Education of the Undergraduate. By James Cook, M.B. 117

The Haemorrhagic Diathesis and the Antitryptic Index. By Frank C. Eve, M.D., F.R.C.P. 117

Treatment of Enuresis. By Gustave Monod, M.D. 117

Glycerin as a Surgical Dressing. By A. Ogier Ward, M.D. 118

Prophylaxis in Midwifery. By J. L. Moir, M.B. 118

General Practitioners and Ante-natal Work. By H. Leslie Cronk, M.D. 118

Eclampsia with Unusual Symptoms. By J. B. Mackay, M.B. 119

Accessory Lobe of Azygos Vein. By George Hurrell, M.D. 119

The Medical Charities. By Henry Robinson, M.D. 119

THE SERVICES

Deaths in the Services 122

(For Naval, Military, and Air Force Appointments see SUPPLEMENT)

LETTERS AND ANSWERS

Remission of Symptoms in Pyloric Cancer 124

Income Tax 124

Varicose Ulceration 124

Bromide Poisoning in a Monkey 124

Insurance Against Incapacity 124

An Index of Proprietary Drugs 124

VACANCIES 124

(See also page 15 of SUPPLEMENT)

The SUPPLEMENT contains:

ASSOCIATION NOTICES: BRANCH AND DIVISION MEETINGS TO BE HELD.

MEETINGS OF BRANCHES AND DIVISIONS.

NAVAL AND MILITARY APPOINTMENTS.

Vacancies and Appointments; Association Intelligence and Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of the Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-. Telephone: REGENT 0611.

Those who join within one year of Registration are exempt from Entrance Fee.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Cassell & Co., Ltd.
Birkett, G. E.—Radium Therapy 7
Carson, H. W.—Operative Surgery 7
Choyce & Beattie—System of Surg. 7
Gould, A. P.—Surgical Diagnosis 7
Hutchinson & Hunter—Clinical Methods 7
Horder & Gow—Medical Diagnosis 7
Oldfield, C.—Herniæ 7
Paterson, D.—Sick Children 7
Redding, J. M.—X-Ray Diagnosis 7
Rood & Webber—Anæsthetics 7
Thomson St. C.—Diseases of Nose, Throat 7
Thomson & Ruddock—Diseases of the Nervous System 7
Treves, F.—Surg. Operations 7

Churchill, J. & A.
Culpin, M.—Psychoneuroses 5
Fildes' Endocrine Diseases 5
Findlay, G. M.—Chemotherapy 5
Fowweather, F. S.—Clinical Chemical Pathology 5
Frazer's Anat. of Human Skeleton 5
Gwathmey's Anæsthesia 5
Harrison, G. A.—Clinical Medicine 5
Hawk & Bergeim—Physiological Chemistry 5
Imms, A. D.—Entomology 5
Jameson & Parkinson—Hygiene 5
Jellett, H.—Causes of Maternal Mortality 5
Midwifery for Nurses 5
A Practice of Gynæcology 5
A Short Practice of Midwifery 5
Kerley, P.—Radiology 5
Poynton & Schlesinger—Rheumatism 5
Smith & Glaister—Forensic Medicine 5
Tottenham, R. E.—Gynæcology 5
Winton & Bayliss—Human Physiology 5
Wood Jones' Principles of Anatomy 5

Constable & Co., Ltd.
Russell & Hamilton—Heart Disease in Childhood 4

John Murray.
Levitt, W. M.—X-Ray Therapy 6

Lewis, H. K. & Co. Ltd.
Bowes, P. K.—X-Ray Apparatus 3
Cassie, E.—Maternity etc. 3
Daley & Viney—Popular Education 3
Dukes, C.—Bacteriology of Food 3
Elsberg, C. A.—Tumours of the Spinal Cord 3
Fenwick, P. C. C.—Insomnia, etc 3
Forsdike, S.—Sterility in Women 3
Fox, C.—Insects & Disease of Man 3
Ham, B. B.—Chart of Skin Diseases 3
Jellife & White—Diseases of the Nervous System 3
Lowe, J. A.—Medical Axioms 3
Love, R. J. M.—Shorter Surgery 3
Mott, F.—Memorial Volume 3
Powell & Hartley—Diseases of the Lungs, etc 3
Rawling, L. B.—Stemming Stones to Surgery 3
Saint, C. F. M.—Surg. Note taking 3
Stitt, E. R.—Practical Bacteriology, etc. 3
Tropical Diseases, etc. 3
White, R. P.—Affections of Skin 3

The Sheldon Press.
Holmes, B.—Cancer, etc. 4

Wright & Sons, Ltd.
Braithwaite, J. V. C.—Infant Feeding, etc. 4
Pyle's Surgical Handicraft 4
Watson-Williams, P.—Sinusitis 4

ASSURANCE COMPANIES—
Medical Insurance Agency 42 63
Med. Sickness, Annuity, &c. 48

BANKS—
Midland Bank 14

BATHS, SPAS, &c.—
Pistany Spa, Czecho-Slovakia 56

BOOTMAKERS, &c.—
Dowie & Marshall—Surg. Boots 51

BRASS NAME PLATES, &c.—
Cooke's Name Plates 6
Ford's Name Plates 51
Herd, S. J. & A.—Name Plates 6
Lewis & Co. Ltd.—Name Plates 51
Osborne, F. & Co.—Name Plates 51

DEBT COLLECTION—
British Medical Protection Society 15

CHEMISTS, &c.—
Allen & Hanburys Ltd.—Insulin 'A.B.' 21
Vapo-Cresolene 45
Alliance Drug & Chemical Co.—Price List 59
Anglo-French Drug Co., Ltd.—Biochelone 76
Roots Products 20, 25
Bristol-Myers Co.—'Sal Hepatica' 59
British Drug Houses Ltd.—Caprokol 15
Insulin 'A.B.' 26
Radio-Malt 20
Burroughs Wellcome & Co.—Preparations 34, 35
Carnrick, G. W., Co.—Hormotone Cover iv
Continental Labs. Ltd.—Betol 23
Cranbar Limited—Odol 21
Denver Chemical Mfg. Co.—Antiphlogistine Cover ii
Evans Sons Lescher & Webb Ltd.—Throat Pastilles 18
Fassett & Johnson—Emol-Kelcet 45
Fellows' Compound Syrup of Hypophosphites 'Fellows' 21
Fellows' Co. Ltd.—Preps. Cover iii
Ferris & Son, Ltd.—Preparations 31
Hewlett & Son, Ltd.—Preparations 23
Ingram & Royle Ltd.—Carl-bad Salt 19
Kaylene Ltd.—Kaylene-ol 44
Kerol Ltd.—Capsules 26
Laboratoires de l'Opocalcium—Opocalcium 45
Martindale, W.—'Sterules' 29
Preparations 27
May & Baker, Ltd.—'Planocaine' 17
Newbery & Sons, Ltd.—Agarol 22, 25
Alka-Zane 16
Nujol Laboratories—Mistol
Oppenheimer Products—Preparations Cover i
Parke, Davis & Co.—Immunogens 22
Reed & Carnrick—Neptritin 45
Saccharin Corporation Ltd.—Novocain & Glaucosan 17
Smith & Co.—Preparations 46
Staniforth Ltd.—Stanicrom 16
Thermogene Co. Ltd.—Medicated Wadding 22
Wander, A., Ltd.—Alasil 45
Wyleys Ltd.—Elixir Iodo-Creosoti Co.

DISPENSING BOTTLES, &c.—
United Glass Bottle Manufrs. Ltd.—Sterilized Bottles 43

SURGICAL APPLIANCES—
Allen & Hanburys Ltd.—Eyelets & Needles 38
Bayer Products Ltd.—Behring Vemule Cover iii
Cuxson, Gerrard & Co., Ltd.—Paste-Bandages 51
Dent's 'Ardente' Stethoscope 49
Hawksley & Sons, Ltd.—New Kompak Bags 12
Hilliard's New Absorbent Bags 6
Medical Surgical Sundries, Ltd.—Essoff Inhaling Apparatus 64
Norvic Crepe Binders 51
Roussel, J.—Linia Belt 13
Salt's Sanitary Service 39
Short & Mason—Tycos Sphygmomanometers 51
Wolstenholm—Doctor's Knives 12

FOOD PREPARATIONS—
Bittle Creek Food Co.—Lacto-Dextrin 21
Benger's Food 30
Brand & Essences 32
Cow & Gate Ltd.—Peptalac 28
Energen Foods Co., Ltd.—Diet Tablets 47
Hickman, J. O.—Irradiated Milk 10
Horlick's Malted Milk 24
May Roberts & Co.—Kend's Cocoa 51
Sumner's Typhoo Tea 36
Valentine's Meat-Juice 18

HOSPITAL, &c., FURNITURE—
Arnold & Sons—Operation Tables 41
Furniture, &c., Depositories, Ltd.— 6
Second-hand Furniture 6
Ward, J., Ltd.—Invalid Chairs

HOUSE AGENTS—
Bedford & Co. 63
Elliott, Son & Boyton 64

MINERAL WATERS—
Ingram & Royle, Limited.—Vichy-Celestins 17

MOTOR CARS, TYRES, &c.—
Gimmers—Chauffeurs, Overcoats 14
Rover Company Limited—Cars 9
Second-hand Motors for Sale 64

TOBACCO & CIGARETTES—
Player's Navy Cut 43

PRINTING & STATIONERY—
Anderson & Son—Account Forms 4
Hamilton Stationery 4
Taylor's Typewriters 4

TAILORING & UNDERCLOTHING—
Burberry's Sale 51
Hall, H.—Medical Service Dress 64
Miller & Co. Ltd.—Tailors 51
Regent Dress Co.—Tailors

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 63

VACCINES & CULTURE MEDIA—
Allen & Hanburys Ltd.—Vaccines and Sera 33
Duncan, Flockhart & Co.—Vaccines 47
Laboratories of Path. & Pub. Hlth. 6
Roberts & Co.—Vaccine Lymph 46

WINES & SPIRITS—
Anderson Dobson & Co. Ltd.—Ackerman-Laurance 44

X-RAY & ELECTRO-MEDICAL APPARATUS—
British Hanovia Quartz Lamp Co.— 40
Actinotherapy Equipment
Gen. Radio. & Surg. Appar. Co.— 11
Sunlight Generators, Ltd.—
Medical Supply Association, Ltd.— 43
Portable Traction Apparatus.

HOSPITAL, &c., VACANCIES—
Altrincham General Hospital 64
Bedford-Idre County Council 58
Birmingham General Hospital 61
Bolton Infirmary & Dispensary 58
Bradford Royal Infirmary 58
Bridge of Weir Sanatorium 60
Bristol Homœopathic Hospital 58
Bristol Royal Infirmary 58
Canterbury City 64
Charing Cross Hospital 63
Cornelia E. Dorset Hosp., Poole 63
Dudley Road Hospital 59
Dumfries & Galloway Royal Infirm. 60
Durham County Council 58
E. London Hospital for Children 64
East Sussex County Council 64
Golden Sq., Throat Hosp., W.1 60
Great Ormond Street Hospital, W.C. 62
Hertford County Hospital 64
Hospital for Epilepsy, W.9 60, 61
Hospital for Sick Children, W.C.1 64
Hospital for Sick Children, Ilford 60
King George Hospital, Ilford 58
Leeds Public Dispensary 61
Leicester City 58
Lincoln County Hospital 65
Liverpool County Borough 60
Liverpool County Council 62
Liverpool Eye & Ear Infirmary 64
London County 60
London Hosp. for Heart & Lungs 64
Loughborough & District Hospital 59
Manchester Royal Infirmary 60
Middlesbro' Education Committee 59
Middlesbro' Royal Hospital 59
National Dental Hospital 59
National Orthopædic Hospital 59
Northampton Hosp., Middlesboro' 61
N. Ormesby Hosp., Middlesboro' 54
N. Riding Infirmary 59
Oldham Royal Infirmary and Dispensary 59
Rochdale Infirmary and Dispensary 61
Royal Edinburgh Hospital 59
Royal Eye & Ear Hosp., Bradford 60
Royal Eye Hospital, Newport 59
Royal Gwent Hospital, Newport 60
Royal Infirmary, Sheffield 60
Royal Infirmary, Wigan 59
Royal Infirmary, Worcester 60
Royal London Ophthalmic Hosp. 63
Royal Sea-Bathing Hosp., Margate 61
Royal Sussex Co. Hosp., Brighton 59
Seaman's Hospital Society 66
Sheffield Royal Hospital, S.W.1 60
St. George's Hosp. for Cancer, E.C. 60, 64
St. Mark's Hospitals, Manchester 59
St. Mary's Hospital 61
St. Paul's Eye Hospital 60
Stockton and Thornaby Hospital 60
Swansea County Borough 63
Swansea County Council 65
Staffordshire County, Devon 58
Tiverton Hospital, Devon 65
United Services Central Hosp. 65
Wallasey Victoria Central Hosp. 59
W. Suffolk General Hospital 60
Willesden General Hospital 59
Wolverhampton, etc., Joint Comm. 61
Worcester County Mental Hospital 64
Worthing Hospital

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 61

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 56
Peebles Hydro, North Wales 54
Ruthin Castle, North Wales 55
Smedley's Hydro, Matlock 54

HOMES & ASYLUMS—
Hailbrook House, Bath 54
Harnwood House, Gloucester 53
Bethlem Royal Hospital, Kent 53
Bolingstone House, Bedford 54
Brereaton Park, Salop 53
Brooke House, Clapton, E. 53
Brunton House, Lancaster 53
Cambrwell House, S.E.5. 53
Chorlton Royal, Cheshire 53
Cheadle Royal, Cheshire 53
Chiswick House, Pinner 56
City of London Mental Hospital 53
Clarence Lodge, Clapham Park 53
Court Hall, Kenton, Exeter 53
Court Hall, Rotherham 53
Grange, near Rotherham 53
Grove House, All Stretton 53
Haydock Lodge, Lancashire 53
Highfield Hall, St. Albans 55
K. Edward VII Convalescent Home 55
Littleton Hall, Brentwood, Essex 55
Log House, Klosters 54
Majorca Convalescent Home, Spain 54
Moat House, Tamworth, Staffs 54
Moat House, Tamworth, S.A. 54
Northumberland House, Mill 54
Old Manor, Salisbury 54
Peckham House, S.E.15. 54
Resident Patients 54
St. Andrew's Hosp., Northampton 54
Shafte-bury House, Liverpool 54
Springfield House, near Belford 54
Stenyerrost Nursing Home 54
Stretton House, Shropshire 54
Sunny Malvern, Newport Pagnell 54
Tykeford Abbey, Newport Pagnell 54
West Haven, Bournemouth 54
Wye House, Buxton 55

HOTELS & HEALTH RESORTS—
Hotel Annonciata 55

IHEBRIETY—
Albion House, Beverley, E. Yorks. 54
Bay Mount, Paignton 54
Caldecote Hall, Nuneaton 54
Dalrymple House, Ruckmansworth 54
Old Hill House, Chislehurst 54

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital 57
Liverpool School of Trop. Medicine 57
London Light & Electrical Clinic 57
Nat. Post-Grad. Sch. of Radiotherapy 57
Nat. Post-Grad. Sch. Maternity, Hospital 57
Q. Charlotte's Maternity, Mother, Hospital 57
Salvation Army, Mother, Hospital 57
St. Mary's Hosp. Med. School, W.2 57
West London Hospital 57

SANATORIA—
Cotswold Sanatorium 55
Grampian Sanatorium 55
Montana Hall Sanatorium 55
Pendyffryn Sanatorium 55
Tor-na-Dee Sanatorium 55
Vale of Clwyd Sanatorium 55

SCHOOLS, &c.—
Rossall School, Fleetwood 56
Taunton School, Taunton 56

TUTORS & LECTURERS—
Exams.—Med. Corresp. College 56
F.R.C.S. Edin. Classes—H. C. Orr 58
F.R.C.S. Ed. Classes—G. Whittaker 58
Glasgow University 58
Guy's Hosp. Medical School 58
London Hospital Medical College 58
London School of Hygiene, etc. 58
London University 58
London Tutorial College 58
Manchester Tutorial College 58
Markham Skerritt Memorial Prize 58
Middlesex Hospital, London 56
N.E. London Post-Grad. College 56
Seanmerring—Miss E. Heluke 56
University College Hospital 57
University Exam. Postal Institution 57
University Extension 57

TRANSFER AGENTS—
Borril Medical Agency, Ltd. 62, 63
British Medical Bureau 63
Lee & Martin, Ltd. 65
Manchester Medical & Sch. Assoc. 65
Manchester Insurance Agency 63
Medical Insurance Agency 63
Needes, H. 63
Peacock & Hadley, Ltd. 63, 64
Summer & Co., Ltd. 62, 65
The Medical Agency 65
Turner, P., Ltd.
Western Medical Agency, Bristol

ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant 62, 63
Dispensers, Medical Posts, &c. 63
Locums Wanted and Vacant 62
Partnerships Wanted and Vacant 63
Practices Wanted and Vacant 63

NURSING INSTITUTES—
Cavendish Nurses 65
Nurses' Association 65
St. Luke's Hospital 65

MISCELLANEOUS—
Consulting Rooms, &c., to Let 64
Income Tax Consultant—Hardy 64
Miscellaneous Sales, &c. 8
'Vita' Glass

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

LEWIS'S PUBLICATIONS

SIXTH Edition. Plates from Original Drawings (6 in Colours) and other Illus. in Text. Demy 8vo. 30s. net; post. 9d.

ON DISEASES OF THE LUNGS AND PLEURAE

Including TUBERCULOSIS AND MEDIASTINAL GROWTHS.

By Sir RICHARD DOUGLAS POWELL, Bt., K.C.V.O., M.D.Lond., F.R.C.P., late Phys.-in-Ordinary to H.M. the King; Consulting Physician to the Middlesex and Brompton Hospitals; and Sir PERCIVAL H.-S. HARTLEY, C.V.O., M.D.Camb., F.R.C.P., Physician, St. Bart's Hospital; Senior Physician, Brompton Consumption Hospital, etc.

"... can be confidently recommended as a safe guide to the practitioner in search of authoritative medical opinion in this country at the present time."—BRITISH MEDICAL JOURNAL.

.ove's SHORTER SURGERY. A Practical Manual for Senior Students.

By R. J. McNEILL LOVE, M.B., M.S.Lond., F.R.C.S.Eng. Second Edition, with 74 Illustrations on 31 Plates and in the Text. Demy 8vo. 16s. net; postage 9d.

"Can be warmly recommended."—GLASGOW MEDICAL JOURNAL.

Rawling's STEPPING STONES TO SURGERY: ANATOMY APPLIED TO SURGERY.

By L. BATHE RAWLING, F.R.C.S.Eng. With 97 Illustrations. Demy 8vo. 12s. 6d. net; postage 6d.

"... will prove of immense value."—CHARING CROSS HOSP. GAZETTE.

Saint's SURGICAL NOTE-TAKING.

By C. F. M. SAINT, M.D., F.R.C.S. A Booklet for Surgical Dressers and Clerks commencing Clinical Studies. Crown 8vo. 3s. net; postage 2d.

"... *perfect for its purpose.*"—MEDICAL PRESS.

Forsdike's STERILITY IN WOMEN: Diagnosis and Treatment.

By S. FORSDIKE, M.D., B.S.Lond., F.R.C.S.Eng. and Edin. With 25 Illustrations, including 17 Plates. 9s. net; postage 5d.

"... will well repay the most careful study."—THE LANCET.

Lindsay's MEDICAL AXIOMS, APHORISMS, AND CLINICAL MEMORANDA.

By *J. A.* LINDSAY, M.A., M.D., F.R.C.P. *Second Impression.* Crown 8vo. 6s. net; postage 4d.

"... a happy hunting ground and source of reference."
—BRITISH MEDICAL JOURNAL.

Ham's SYNOPTIC CHART OF SKIN DISEASES. For Practitioners and Students.

By B. BURNETT HAM, M.D., D.P.H.(Camb.), D.C.M.S. Royal Folio. Illustrated. With 2 Coloured Plates (front and back). 12s. 6d. net.

"... should prove most helpful."—THE PRACTITIONER.

401 + xiv pages. With a Frontispiece of Sir FREDERICK MOTT, and numerous Plates and Text Illustrations. Super Royal 8vo. 21s. net; postage 9d, abroad 1s. 4d.

THE MOTT MEMORIAL VOLUME:

CONTRIBUTIONS TO PSYCHIATRY, NEUROLOGY, AND SOCIOLOGY.

Dedicated to the late Sir FREDERICK MOTT, K.B.E., Hon. LL.D., M.D., F.R.C.P., F.R.S., by his Colleagues, Friends, and Former Pupils.
Edited on behalf of THE MOTT MEMORIAL COMMITTEE by J. R. LORD, C.B.E., M.D., F.R.C.P.E.
With an appreciation by W. D. HALLIBURTON, M.D., F.R.C.P., F.R.S.

"The Editor and the Committee are to be congratulated on the result of their efforts. The memorial volume will be very much valued. It will not only enrich the mind, but will stimulate pleasant memories of an old and valued friend."—BRITISH MEDICAL JOURNAL.

THIRD Edition. Brought fully up to date and based on Modern Principles. With 52 Plates, including 58 Figures. Demy 8vo. 35s. net; postage 1s.

THE DERMATERGOSES OR

OCCUPATIONAL AFFECTIONS OF THE SKIN

Giving Descriptions of the Trade Processes, the responsible agents and their actions.

By R. PROSSER WHITE, M.D.Edin., M.R.C.S., President of the Certifying Factory Surgeons' Association; Life Vice-President, Consulting Dermatologist, Royal Albert Edward Infirmary, Wigan; Ex-President of the London Dermatological Society, etc.

"... It is an international book."—ZEIT. F. HAUT U. GESCH. "... A fine book, a very fine book."—BRIT. JNL. DERMATOLOGY AND SYPHILIS.

Jelliffe and White's DISEASES OF THE NERVOUS SYSTEM. A Text-book of Neurology and Psychiatry.

By S. E. JELLIFFE, M.D., Ph.D., and W. A. WHITE, M.D. Fifth Edition. With 475 Engravings and 13 Plates. Royal 8vo. 42s. net.

"... of great value."—BRITISH MEDICAL JOURNAL.

Stitt's DIAGNOSTICS and TREATMENT of TROPICAL DISEASES. A Compendium of Tropical and Other Exotic Diseases.

By E. R. STITT, A.B., Ph.G., Sc.D., LL.D. Fifth Edition, Revised and Enlarged. With 249 Illustrations. Med. 8vo. 31s. 6d. net, postage 1s

"... deservedly popular."—BRITISH MEDICAL JOURNAL.

BY THE SAME AUTHOR.

PRACTICAL BACTERIOLOGY, BLOOD WORK, AND ANIMAL PARASITOLOGY, including Bacteriological Keys, Zoological Tables, and Explanatory Clinical Notes.

Eighth Ed. With 1 Plate and 683 Figs. Post. 8vo. 24s. net, post. 9d.

"... thoroughly up to date."—THE LANCET.

Elsberg's TUMOURS OF THE SPINAL CORD. The Symptoms of Irritation and Compression of the Spinal Cord and Nerve Roots.

By C. A. ELSBERG, M.D. With 354 Illustrations. Royal 8vo. 50s. net.

"... an excellent work."—BRITISH JOURNAL OF SURGERY.

Fox's INSECTS AND DISEASE OF MAN.

By CARROLL FOX, M.D. With 92 Illustrations. Medium 8vo. 18s. net.

"... useful and exact information."—MEDICAL OFFICER.

Cassie's MATERNITY AND CHILD WELFARE. A Text-book for Public Health Workers.

By ETHEL CASSIE, M.D., Ch.B., D.P.H.Edin. Demy 8vo. 8s. 6d. net, postage 6d.

"... authoritative and practical."—PUBLIC HEALTH.

Daley and Viney's POPULAR EDUCATION IN PUBLIC HEALTH.

By W. A. DALEY, M.D., B.S., B.Sc.Lond., D.P.H.Camb., and H. VINEY, S.R.N. Crown 8vo. 6s. net; postage 5d.

"... well written and stimulating."—MEDICAL OFFICER.

Duke's BACTERIOLOGY OF FOOD.

By C. DUKES, M.D., M.Sc., D.P.H. With 25 Illustrations. Demy 8vo. 7s. 6d. net; postage 6d.

"... gives important information ... sets forth clear views."
—BRITISH MEDICAL JOURNAL.

Bowes' X-RAY APPARATUS: Its Arrangement and Use.

By P. K. BOWES, M.A., B.Sc. With 89 Illustrations. Crown 8vo. 7s 6d. net; postage 6d.

"... most useful little handbook."—BRITISH JOURN. OF RADIOLOGY.

Fenwick's INSOMNIA AND DRUG ADDICTION.

By P. C. COLLINGWOOD FENWICK. Crown 8vo. Stiff Paper Covers. 2s. net, postage 2d.

"... useful information and practical suggestions."
ST. BARTHOLOMEW'S HOSPITAL GAZETTE.

*** Complete CATALOGUE of publications post free on application.*

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1

Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

HEART DISEASE IN CHILDHOOD

By

H. B. RUSSELL, M.D., M.R.C.P., and C. K. J. HAMILTON, B.M., M.R.C.P.

Demy 8vo. *104 pages.* *7s. 6d. net.*

British Medical Journal:—"It is a compact volume containing much useful information."

Nursing Mirror:—"Especially would we recommend it to the attention of all the nurses in the special homes for prolonged treatment for children with cardiac conditions."

Edinburgh Medical Journal:—"The book can be recommended as a brief, reliable, and scientific account of the subject it deals with."

Prospectuses and lists of other medical books will be sent free on application to the publishers:

10 & 12 Orange Street **CONSTABLE** London W C 2

READY TO-DAY.

CANCER AND SCIENTIFIC RESEARCH

By BARBARA HOLMES, Ph.D.(Cantab.), Biochemical Laboratory, Cambridge,
WITH A PREFACE BY
Professor Sir F. G. HOPKINS, President of the Royal Society.

A book for popular study. Cloth boards, 3s. 6d. net (postage 3d.).

This is the first of the Sheldon Books of Popular Science. General Editors: JOSEPH NEEDHAM and DOROTHY NEEDHAM.

THE SHELDON PRESS, NORTHUMBERLAND AVENUE, LONDON, W.C.
and of all Booksellers.

JUST PUBLISHED. Tenth Edition. Fully Revised. With 343 Illus. and 22 Plates. Demy 8vo. 660 pp. 21s. net. Postage 9d.

Pye's Surgical Handicraft

A Manual of Surgical Manipulations, Minor Surgery, and other matters connected with the work of House Surgeons and Surgical Dressers.

Edited by H. W. CARSON, F.R.C.S.(Eng.)

Late Sen. Surg., Prince of Wales's General Hosp., Tottenham.

With Special Chapters by well-known contributors.

LANCET.—"Full of information invaluable to the student, the house surgeon, and general practitioner."

JUST PUBLISHED. Crown 8vo. 156 pp 4s. 6d. net. Post. 4d.

Infant Feeding in General Practice

By J. V. C. BRAITHWAITE, M.D., M.R.C.P.(Lond.)

Physician and Physician in Charge of Children's Out-patients, Leicester Royal Infirmary and Children's Hospital.

With a Foreword by H. C. CAMERON, M.A., M.D.(Cantab.), F.R.C.P.

Presents the subject of Infant Feeding from the point of view of the general practitioner, who is called upon every day in his practice to deal with the difficulties under consideration.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

CHRONIC NASAL *JUST PUBLISHED. Large 8vo. Pp. viii. 220. 107 Illus. 15s. net; post. 6d.*

SINUSITIS AND ITS RELATION TO GENERAL MEDICINE

By PATRICK WATSON-WILLIAMS, *Cons. Surg., Ear, Nose, and Throat Dept., Bristol Royal Infirmary.*

"All the possible systematic manifestations of focal sepsis are fully described."—*Brit. Med. Journ.*
"Regional complications include psychoses, neuritis, headaches, respiratory, gastro-intestinal, cardiac, arthritic, and ocular affections. . . . An epoch making work beautifully produced . . . profusely illustrated . . . filled with sound teachings."—MEDICAL WORLD.
"It will be of interest to the General Physician as well as to laryngologists."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. London: SIMPKIN MARSHALL Ltd.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 52*
'Phone—Holborn 3793.
BUY A BIJOU FOR 5 - per week.
74, CHANCERY LANE (Holborn End), W.C.2

Desks, Tables & Chairs, Est. 1884.
THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.

Doctors' Office Forms a Speciality
Printed in Best Style
Account Forms Letterheads. Cards., etc.
Samples Sent
R. ANDERSON & SON
Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH

SEND for our NEW SAMPLES of the very BEST STATIONERY, Etc.
HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

J. & A. CHURCHILL

SIX NEW "RECENT ADVANCES"

NOW READY

ENTOMOLOGY
By A. D. IMMS, F.R.S.
84 Illus. 12s. 6d. Post. 6d.

FORENSIC MEDICINE
By SYDNEY SMITH, M.D., and J. GLAISTER, Jnr., M.D.
66 Illus. 12s. 6d. Post. 6d.

RHEUMATISM
By F. J. POYNTON, M.D., and B. SCHLESINGER, M.D.
25 Illus. 12s. 6d. Post. 6d.

CHEMOTHERAPY
By G. M. FINDLAY, O.B.E., M.D.
15 Illus. 15s. Post. 9d.

NEARLY READY

RADIOLOGY
By PETER KERLEY, M.B., Assistant Radiologist, Westminster Hospital.
100 Illus. 12s. 6d. Post. 6d.

PSYCHONEUROSES
By MILLAIS CULPIN, M.D.
Illust. 12s. 6d. Postage 6d.

227 Illustrations. 15s. Postage 9d.

HUMAN PHYSIOLOGY
By F. R. WINTON, M.D., Lecturer, Dept. of Physiology, University College, London; and L. E. BAYLISS, Ph.D., Assistant in Physiology, University College, London.

By **HENRY JELLETT**, M.D., F.R.C.P.I.,
Consulting Obstetrician to the Department of Public Health, New Zealand; late Master, Rotunda Hosp., Dublin.

5th Ed. 432 Illus. 15s. Postage 6d. — **A PRACTICE OF GYNAECOLOGY**

25s. Postage 9d. — **THE CAUSES AND PREVENTION OF MATERNAL MORTALITY**

10th Ed. 286 Illus. 18s. Postage 9d. — **A SHORT PRACTICE OF MIDWIFERY**

8th Ed. 182 Illus. 8s. 6d. Postage 6d. — **A SHORT PRACTICE OF MIDWIFERY FOR NURSES**

SIXTH EDITION. 4 Coloured Plates, 360 Illustrations. 21s. Postage 9d.

JELLETT'S SHORT PRACTICE OF GYNAECOLOGY
Revised by R. E. TOTTENHAM, Prof. of Obstetrics and Gynaecology, University of Hong-Kong.

THIRD REVISED EDITION. 104 Illustrations. 36s. Postage 9d.

FALTA'S ENDOCRINE DISEASES: their Diagnosis and Treatment
Translated and Edited by M. K. MEYERS, M.D. Foreword by Sir A. E. GARROD, K.C.M.G., M.D., F.R.S., Oxon.

18 Illustrations. 8s. 6d. Postage 4d.

A HANDBOOK OF CLINICAL CHEMICAL PATHOLOGY
By FRANK SCOTT FOWWEATHER, M.D., M.Sc., D.P.H., F.I.C., Lecturer in Chemical Pathology, University of Leeds. Foreword by Lord MOYNIHAN, K.C.M.G., C.B.

SECOND EDITION. 219 Illustrations, many in Colour. 28s. Postage 9d.

FRAZER'S ANATOMY OF THE HUMAN SKELETON
"The underlying principle of the book is sound and commendable . . . the author has succeeded admirably in his aim."
—BRITISH MEDICAL JOURNAL.

SECOND REVISED EDITION. 273 Illustrations. 25s. Postage 9d.

GWATHMEY'S ANÆSTHESIA
WITH COLLABORATORS ON SPECIAL SUBJECTS

2 Coloured Plates. 63 Text-figures. 18s. Postage 9d.

CHEMICAL METHODS IN CLINICAL MEDICINE
By G. A. HARRISON, M.D., Lecturer in Chemical Pathology, St. Bartholomew's Hospital.

2 Plates and 123 Text-figures. 15s. Postage 6d.

WOOD JONES' PRINCIPLES OF ANATOMY AS SEEN IN THE HAND
"One of the most notable contributions ever made to the literature of British anatomy . . . places the author in the first rank of British Anatomists."—BRITISH MEDICAL JOURNAL.

THIRD EDITION. 20 Illustrations. 18s. Postage 9d.

SYNOPSIS OF HYGIENE
By W. WILSON JAMESON, M.D., D.P.H., Prof. Public Health, London University; and G. S. PARKINSON, D.S.O., M.R.C.S., L.R.C.P., D.P.H., Lt.-Col. R.A.M.C.(Ret.).

NINTH EDITION. 8 Plates, 273 Illustrations. 28s. Postage 9d.

PRACTICAL PHYSIOLOGICAL CHEMISTRY
By P. B. HAWK, M.S., Ph.D., President of the Food Research Labs. Inc., New York City; and O. BERGEIM, M.S., Ph.D., Asst. Prof. of Physiological Chemistry, University of Illinois, College of Medicine, Chicago.

London: 40, Gloucester Place, Portman Square, W.1

HORLICK'S MALTED MILK IN DIGESTIVE DISORDERS.

In diseases and disorders of the gastro-intestinal tract—gastric and duodenal ulceration, acute and chronic gastritis—it is essential that the diet should be bland and soothing. The food should be in a fine state of division, and care must be taken to avoid constituents which may irritate the mucous membrane. HORLICK'S MALTED MILK is constantly being recommended for use in these conditions. Composed of full-cream cows' milk combined with the soluble extracts of malted barley and wheat, it meets the requirements of both doctor and patient, since it contains nothing to cause mechanical irritation, or to excite a secretion of mucus. It is easily prepared and permits meals of small size at frequent intervals to be taken by the patient in an agreeable and palatable form. HORLICK'S is also an excellent vehicle for the addition of other articles such as eggs to the dietary. HORLICK'S MALTED MILK has also been used with marked success in epidemic diarrhoea and dysentery.

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark

Clinically tested and proved all over the world

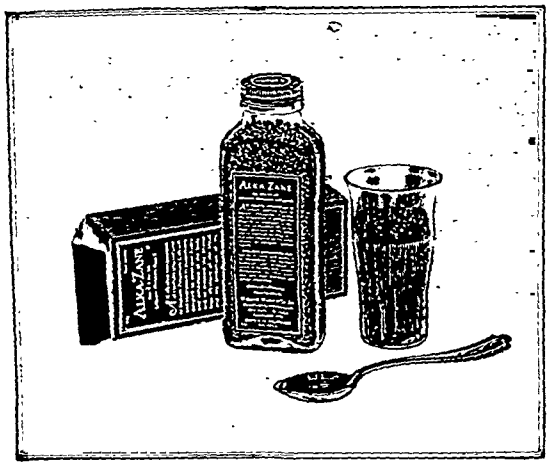
REMINERALIZATION
VITALITY
ENERGY

DEMINERALIZATION
CONVALESCENCE
NEURASTHENIA

SODIUM
CALCIUM
POTASSIUM
MANGANESE AND IRON
STRYCHNINE AND QUININE

FELLOWS MEDICAL MANUFACTURING COMPANY, Inc.
26 Christopher Street, New York City.

ALKA-ZANE



A pleasant, effervescent granular preparation composed of carefully selected salts of Sodium, Potassium, Calcium and Magnesium in physiologically correct proportions.

is a palatable and rational antacid, indicated in all conditions of relative hyperacidity, rheumatism, gout, intestinal, gastric, and certain cutaneous disorders.

Prompt in action, lasting in effect, it promotes diuresis, neutralizes excess acid production and helps to rebuild the alkaline bases.

The efficiency of Alka-Zane is demonstrable by the briefest of trials.

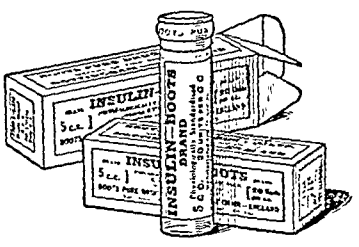
A supply for clinical use and literature sent gratis to physicians on request.

Francis Newbery & Sons, Ltd.,
31-33, Banner Street, London, E.C.1
Prepared by WILLIAM R. WARNER & CO., INC.,
Manufacturing Pharmacists Since 1856.

BOOTS PRODUCTS
OBTAINABLE THROUGH ALL BRANCHES OF The Boots Chemists

Insulin (BOOTS)

INSULIN (BOOTS) is prepared in the Laboratories of Boots Pure Drug Company Ltd., under Licence No 19 (Therapeutic Substances Act, 1925) of the Ministry of Health.
It is made from selected ox pancreas which is subject to the strictest examination before use.
The company possesses specially equipped Analytical, Pharmacological and Bacteriological Laboratories in which all the tests required by the Therapeutic Substances Act are carried out. Each batch of Insulin (Boots) is tested for potency against the International Standard Insulin and also for sterility — these tests being carried out both before and after filling into ampoules.
A sample of each batch, together with a report on the potency and bacteriological tests made, are submitted to the British Medical Research Council whose certificate of correct strength and of sterility is obtained before the batch is issued.



WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG Co. Ltd.,
NOTTINGHAM, ENGLAND.
Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

INSULIN 'A.B.'

TRADE A B MARK

80 Units per c.c.

Insulin 'A.B.' is now available in a concentration of 80 units per c.c., or four times the normal strength, for the convenience of large dose administration.

Supplied in three strengths:

20 units per c.c. Packed in bottles containing:
5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing:
5 c.c. (200 units or 20 doses) 4/- each

80 units per c.c. Packed in bottles containing:
5 c.c. (400 units) 8/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession.

Joint Licencees and Manufacturers:

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

The British Drug Houses Ltd.
Graham Street, London, N.1

REMINERALIZATION

POLYOPOTHERAPY

OPOCALCIUM

In Granules
Tablets.

The oldest and the most active of recalcifying agents in an endocrino-mineral combination.

LABORATOIRES DE L'OPOCALCIUM
30, Marsham Street, S.W.1

A Highly Efficient Local Anæsthetic for Sub-cutaneous Regional & Spinal use

"PLANOCAINE" Trade Mark

BRAND ETHOCAINE

Replacing with advantage cocaine and its substitutes, Planocaine is the ideal agent for use in all cases where a local anæsthetic is indicated.

Supplied in the form of powder, tablets or solution.

Descriptive literature and clinical trial sample on request.

Prepared in the Laboratories of

MAY & BAKER, LTD.

BATTERSEA LONDON, S.W.11

Telegrams: Bismuth, London.
Telephone: Batter-sea 1813 (6 lines)

When children have *coryza* watch the middle ear

MOST cases of otitis media in children result from extension of a common cold or the coryza associated with influenza or the exanthemata. Unless the primary inflammation in the rhinopharynx is treated vigorously, there is always the danger that the infection may travel through the Eustachian tube and into the middle ear cavity.

Pediatrists and otologists alike urge the necessity of watching the middle ear in all cases of coryza in children. By advising frequent nasal instillations of a light oily solution containing menthol, eucalyptol, camphor and chlorbutol—Mistol—it is believed that many cases of otitis media can be prevented or even checked in their beginning.

The use of Mistol is effective treatment for all conditions of nasal congestion. Its anticongestive and stimulating ingredients are contained in a light oil possessing the most favourable properties for spreading on and clinging to the nasal mucosa, so that the preparation reaches every part and is not readily washed away by accumulated secretions.

Mistol assures greater comfort for little coryza patients and also protection for their ears. It may be diluted one-half with Nujol, for infants, and proportionately for children.

Mistol

REG. TRADE MARK

MADE BY THE MAKERS OF NUJOL

Nujol Laboratories:
128 Albert Street, Camden Town, N.W.1

SCIENTIFIC ENZYME DIGESTION

RICH SELECTED ENGLISH MILK
Pancreatised

SELECTED ENGLISH WHEAT
Dextrinised and Pancreatised

PREDIGESTED MILK
(25% Protein Conversion)

PREDIGESTED WHEAT
(25% Starch Conversion)

Powdered by the
COW & GATE
Improved
Roller Process

Peptalac REGD.

THE NEW INSTANT PREDIGESTED FOOD

Predigestion of starch *and* milk is guaranteed and is effected under the most exact scientific conditions in our laboratories before powdering. This means that when required for use it can be immediately and simply prepared by the *mere* addition of hot water. The C. & G. Improved Roller Process is used ensuring retention of the full mineral and vitamin content with freedom from pathogenic organisms.

PEPTALAC is indicated in all those cases where the powers of the digestive tract are insufficient to deal with that amount of food necessary for maintaining health—for nursing mothers with weak digestions, in ante- and post-operative surgical cases, in achlorhydria, peptic ulceration, cancer of the alimentary tract, in all forms of convalescence and in old age.

SEND THE COUPON FOR FREE CLINICAL SAMPLE

Cow & Gate Milk Food

Name .....

Address .....

B.M.J. 17/1/31

COW & GATE LTD. GUILDFORD, SURREY

ASPIRIN DERIVATIVES

IN

RHEUMATISM, NEURALGIA, AND INFLUENZA

"ASPRIODINE"

A compound of Aspirin and Iodine

FOR RHEUMATIC AFFECTIONS AND ARTERIO-SCLEROSIS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"SEDASPRIN"

A compound of Aspirin and Bromine

FOR INSOMNIA AND NERVE AFFECTIONS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"METHYL-ASPRIODINE"

THE NEW ANTI-RHEUMATIC FOR INUNCTION. BALM or LINIMENT 3/-

"PHENYL-ASPRIODINE"

AN INTESTINAL AND URINARY ANTI-SEPTIC. EMBODIES THE ACTIVITIES OF IODINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"PHENYL-SEDASPRIN"

A NEW COMPOUND OF THE SALOL TYPE EMBODYING THE EFFECTS OF BROMINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"MAGISAL," "TYLCALSIN," and "TYLLITHIN"

ARE VALUABLE SOLUBLE SALTS OF ASPIRIN, WHICH ARE PROMPT IN ACTION AS ANTI-NEURALGICS AND ANTI-RHEUMATICS.

Original Bots. of Tablets 2/- and 7/6.

Write also for particulars of Peptone, Mercurome, and other Martindale preparations

W. MARTINDALE

12 NEW CAVENDISH ST., LONDON, W.1

Telephone: Langham 2440. *Telegrams: "Martindale, Chemist, London"*

The confidence of the MEDICAL PROFESSION.

Benger's Food has gained its unique position not by extravagant or sensational claims but by the constant recommendation of Medical Practitioners.

Benger's Food is scientifically prepared to adjust fresh cows' milk, diluted or undiluted, to suit the individual requirement of the patient. In this respect it is distinct from any other food obtainable.

Benger's Food is largely used as a routine treatment in all cases of impaired digestion. The following comments, recently made by Doctors, indicate some specific conditions in which the Medical Profession prescribes Benger's Food.

DYSPEPSIA.

"routine food in all cases of dyspepsia and disordered digestion."

"used for invalids and all gastric cases."

INFLUENZA.

"very largely used for Influenza in all its forms."

CANCER.

"invaluable for cancer of the throat."

"cancer of the stomach—doing well on Benger's Food."

THE AGED.

"very beneficial for man of greatly advanced years."

"invariably used for invalids and aged persons."

A Physician's Sample will be sent post free to any member of the Medical Profession making application to the Proprietors—

BENGER'S FOOD, LTD., Otter Works, MANCHESTER.
NEW YORK (U.S.A.): 41, Maiden Lane. SYDNEY (N.S.W.): 350, George St. CAPE TOWN (S.A.): P.O. Box 573

Benger's Food, in sealed tins, is on sale throughout the world by Chemists, etc.

M.122

BENGER'S Food

"MIST. PEPSINAE CO. c. BISMUTHO (HEWLETT)"

for

ALL DISEASES of the STOMACH

OVER 50 YEARS' REPUTATION.

BORBORYGMUS

GASTRIC CARCINOMA

GASTRITIS

GASTRODYNIA

PYROSIS

DYSPEPSIA

DOSE.—Half to one drachm diluted.

Price, in England, 12/6 per lb. Packed in 5, 10, 22, 40, and 90 oz. bottles.
Also supplied "Sine Opio."

Introduced and prepared only by—

C. J. HEWLETT & SON, LTD.,

Wholesale and Export Druggists and Surgical Instrument Makers,

35-42, Charlotte Street, and 83-85, Curtain Road, London, E.C.2

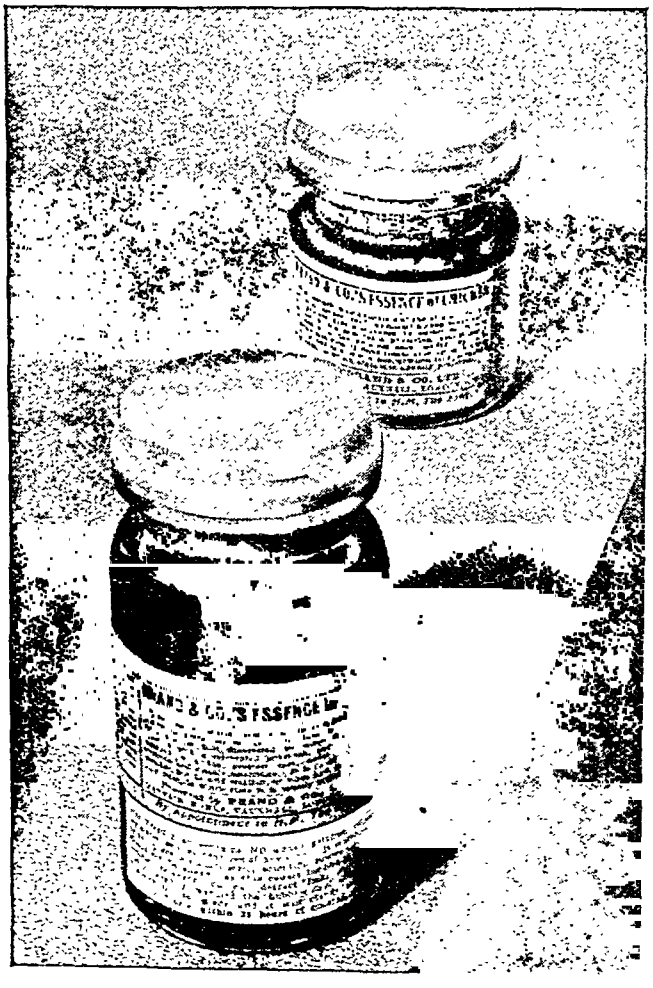
Telegraphic Address:
"PEPSINE, FINSQUARE, LONDON."

Established 1832.

Telephones:
BISHOPSGATE 1172 and 1173.

Scientific tests prove

THAT THESE ESSENCES REDUCE THE PERIOD OF DIGESTION BY FORTY MINUTES



No elements harmful to the system—colouring matter, preservatives, or gelatine—are present in Brand's Essences to hinder assimilation. They consist only of the pure essence of meat, drained out under the most hygienic conditions, in its natural form—a clear, appetizing jelly.

RECENT scientific tests have shown that meat essences are entirely assimilated by the digestive organs in one hour and thirty-eight minutes—forty minutes sooner than the normal time taken for digestion.

So high is the flow of gastric juice promoted that it reaches 87% of the total acidity content of the stomach in 37½ minutes.

The absorption thus induced by the powerful stimulation of the gastric secretions is rapid and effortless—leaving no solid residue and making no demands on the digestive system. At the same time the nourishment required to renew exhausted energy is supplied.

For this reason 99 out of every 100 doctors recently interviewed are recommending Brand's Essences of Beef and Chicken in severe illness when the patient is unable to assimilate solid food—or in convalescence, when the appetite needs stimulus.

Brand's Essences of Beef and Chicken are hygienically prepared from the finest, freshly-killed English meats by an exclusive process which conserves the pure strength of the meats without the addition of any preservatives.

They are deliciously palatable and easy to swallow; in cases of cancer, gastro-enteric catarrh and bowel trouble they are an unequalled standby. Samples will be sent on receipt of a professional card. Dept. F.20, Brand & Co. Ltd., Mayfair Works, South Lambeth Road, London, S.W.8.

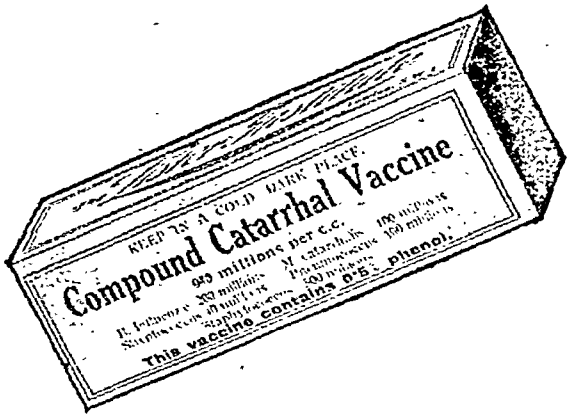
BRAND'S

essences of beef and chicken

The Lister Institute
OF PREVENTIVE MEDICINE

Therapeutic Substances Act, 1925
Manufacturing Licence No. 9

Vaccines and Sera



Compound Catarrhal Vaccine In phials containing 235, 470, 940 and 1,880 million organisms per c.c.

Concentrated Diphtheria Antitoxin In phials of 500 to 10,000 units.

Compound Influenza Vaccine In phials containing 330 and 660 million organisms per c.c.

Micrococcus Catarrhalis Vaccine In phials containing 25, 50, 100 and 250 million organisms per c.c.

Concentrated Tetanus Antitoxin In phials of 1,000 to 40,000 units (= 500 to 20,000 U.S.A. units).

Anti-Streptococcus Serum In phials of 10 and 25 c.c.

Anti-Meningococcus Serum In phials of 10, 15 and 30 c.c.

Vaccine Lymph

A descriptive pamphlet, issued under the Authority of the Governing Body of the Lister Institute, will be sent on request.

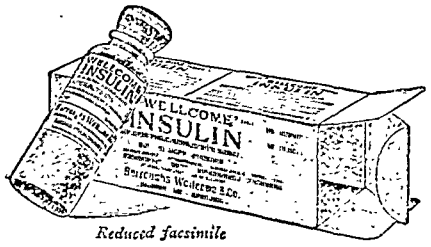
Sole Agents:

Allen & Hanburys Ltd., London

Telephone: Mayfair 2216 (three lines)

Telegrams: "Vereburys, Wesdo, London."

PERSIAN SERIES



Reduced facsimile

Pure, Accurate and Reliable

TRADE MARK 'WELLCOME' BRAND INSULIN

Rubber-capped amber-glass phials of 100 *units in* 5 *c.c., at* 2/- *each;* 200 *units in* 5 *c.c., at* 4/- *each;* 200 *units in* 10 *c.c., at* 4/- *each; and* 400 *units in* 5 *c.c., at* 8/- *each*

The Insulin Hydrochloride used in the preparation of 'Wellcome' Brand Insulin reaches a standard of purity approaching that of the purest Insulin ever obtained, even by research workers

Prices in London to the Medical Profession

TRADE MARK 'TABLOID' BRAND INSULIN HYDROCHLORIDE

No. 150—2/- *per carton containing* 10 *products in ONE tube*

No. 152—2/3 *per carton of* 10 *tubes each containing ONE product*

Hypodermic Sterile 10 UNITS

The only British Insulin issued as a compressed product

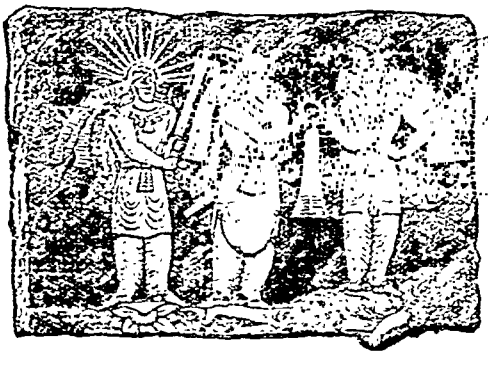
Accurate in dosage. Solutions of any strength prepared instantly

BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES



Rock-sculpture, showing Persian Monarch handing the Cydaris, or royal circlet, with streamers, to his son. The figures are seen wearing the loose Persian trouser or shulwar. The design worked on the belt of the central figure has been reproduced.

DATE: circa 590-621 A.D.

H 2833

COPYRIGHT

Reduced facsimile

The Oxytocic Principle of the Pituitary Gland

For Obstetrical use

TRADE MARK **'NEO-INFUNDIN'** BRAND

Oxytocic Principle of Pituitary Posterior Lobe

10 *International Units per c.c.*

Obtained by fractionation from 'Infundin' Pituitary (Posterior Lobe) Extract.

Practically free from the pressor principle.

Provides the oxytocic effect of 'Infundin' without risk of the vasomotor phenomenon known as "pituitary shock."

The absence of the pressor principle indicates 'NEO-INFUNDIN' for use in obstetrical cases with raised blood-pressure.

(See special literature, free on request)

'HYPOLOID' and 'NEO-INFUNDIN' are trade marks

0·5 *c.c. and* 1 *c.c. Boxes of* 6 *hermetically-sealed containers,* 5/- *and* 7/6 *per box*

BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Rooms: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

H 2796

COPYRIGHT

LABORATOIRES ROBERT & CARRIÈRE
A. TABART, PHARMACIEN
37, Rue de Bourgogne, PARIS (VII^e)

Biocholine

CHOLINE HYDROCHLORIDE (R.&C.) FOR INJECTION

(Prepared according to the investigations of Prof. Carles and Dr. Leuret.)

THE BIOLOGICAL BASIS OF RESISTANCE TO

TUBERCULOSIS

References:—Bulletin de l'Académie de Médecine, Feb. 18th, 1930.
Journal de Méd. de Bordeaux et du Sud-Ouest, March 10th, 1930.
(Epitome, B.M.J., May 10th, 1930.)

Ampoules of 1 c.c. Boxes of 10, 25, 50, and 100 Ampoules.

Supplied at special prices to Hospitals and Sanatoria.

Literature and Samples on request.

THE ANGLO-FRENCH DRUG Co., Ltd.
238a, Gray's Inn Road, LONDON, W.C.1

Over 12,000 Doctors now obtain their own supplies of Ty.phoo tea from us.

a Physician writes re....

FLATULENCE AFTER TEA

Copy of M.0208.

"Since you brought 'Ty.phoo' tea to my notice I have drunk no other kind, and I know that I have no flatulence now.

I have prescribed it to my dyspeptic patients, who all find benefit from its use."

WE print here one of the many Medical testimonials we are constantly receiving as to the undoubted value to dyspeptics of the pure natural "leaf-edge" tea in which we specialise.

Ask Sumner's Ty.phoo Tea Ltd., Dept. B/MD, Birmingham,

for a free sample of "Ty.phoo" natural leaf-edge tea and full particulars.

TRY "Ty.phoo" TEA in Indigestion.

A Lecture
ON
ZOSTER, VARICELLA, AND ENCEPHALITIS*

BY
W. RUSSELL BRAIN, D.M., M.R.C.P.
ASSISTANT PHYSICIAN TO THE LONDON HOSPITAL; PHYSICIAN TO THE HOSPITAL FOR EPILEPSY AND PARALYSIS, MAIDA VALE; ASSISTANT PHYSICIAN TO THE ROYAL LONDON OPHTHALMIC HOSPITAL

Herpes zoster is now regarded as due to an infection with a virus which is quite distinct from that responsible for herpes febrilis. It is confusing to apply the term herpes to both, and it would be advantageous to confine this term to herpes febrilis and to speak of herpes zoster simply as zoster, on the analogy of the French "zona." The infective character of zoster is an inference from the following facts. The eruption is often preceded by a disturbance of the general health, and sometimes by fever, and causes enlargement of neighbouring lymph nodes. There is a seasonal incidence, most cases occurring in the early summer and late autumn. Small epidemics have been described, and the contagiousness of the condition is well established. There is also a relationship between zoster and varicella, which I shall discuss further below. A patient suffering from zoster may infect others with varicella. More rarely the opposite occurs. Immunity almost always follows the attack, and the histological changes in the skin and nervous system are inflammatory in character. In spite of the strong presumption that zoster is an infection, it is doubtful whether it has ever been transmitted to animals. Lipschütz[13 16] and Grüter's[7] experiments are not conclusive. Kundratitz[11] and others, however, appear to have transmitted it to children by direct cutaneous inoculation. The histological changes in the nervous system in zoster are now familiar. They were first described in 1861 by von Barensprung, and have since been studied by many observers, especially by Head and Campbell[8] and by Wohlwill.[21] In the acute stage there are haemorrhages, infiltration with mononuclear and occasional polymorphonuclear leucocytes, especially in the form of perivascular cuffs, and degenerative changes in the nerve cells. Fibrosis and secondary degeneration follow in severe cases. The changes occur in the first sensory neurone. The posterior root ganglion and its cranial equivalent, the Gasserian ganglion, are most frequently affected, but the spinal cord often exhibits a lesion at the base of the posterior horn, and the peripheral nerves may also suffer. These tissue reactions are clearly inflammatory, and led Head and Campbell, in 1900, to speak of zoster as "an acute specific disease of the nervous system" manifesting itself as "an acute posterior poliomyelitis."

"Symptomatic" and "Idiopathic" Zoster

It is very important for clinical purposes to distinguish two groups of cases of zoster—those with and those without a discoverable predisposing cause. The former are often called "symptomatic" as distinguished from "idiopathic" zoster. "Symptomatic" zoster may occur in the course of intoxications—for example, with arsenic, bismuth, carbon monoxide, and other poisons. Jonathan Hutchinson, in 1868, described cases of zoster arising during treatment with arsenic. It may also complicate infections such as pneumonia or tuberculosis, but is especially liable to occur when the first sensory neurone is itself damaged. Thus syphilitic radiculitis and spinal compression following carcinomatous deposits in the vertebrae are well-recognized causes. In the idiopathic group no obvious predisposing event can be found. Clinical distinctions, however important to the physician, are sometimes biologically misleading, and we now know that "symptomatic" and "idiopathic" zoster are fundamentally identical. Head and Campbell observed thirty years ago that the histological changes of both were indistinguishable. Their etiological identity has been established by Netter[19] by means of complement-fixation tests, which I shall describe later. What, then, is the relationship between zoster and a lesion of the first sensory neurone? This is most direct when a gross injury of the posterior root is followed by zoster. In such a case it is a legitimate inference that the primary lesion has lowered the resistance of the root ganglion to the zoster virus. Known exogenous or endogenous toxins presumably operate in the same way, and it is surely no unjustifiable leap to the conclusion that in idiopathic zoster an unknown factor, infective or toxic, may exercise the same predisposing effect, lowering what Levaditi[14] calls the "tonus immuno-trophique" of the ectodermal tissues of the metamere. Once the virus has invaded the sensory neurone it proceeds peripherally towards the skin and centrally towards the neuraxis. Kundratitz has demonstrated the virus in the vesicles, hence the cutaneous lesions are a zoster dermatitis, and not, as was formerly supposed, "trophic" or primarily vasoparalytic in nature.

Some Clinical Aspects of Zoster

Besides the characteristics of zoster in its commonest form with a cutaneous eruption and sensory disturbance, there are manifestations of the infection which are interesting and important on account of the implication of other tissues. These are not very rare, and may be puzzling if one is not familiar with them.

1. *Ophthalmic Zoster.*—As we have seen, zoster may invade the Gasserian ganglion, in which case the eruption appears in some part of the trigeminal distribution. Usually only a part of the ganglion is involved; hence the eruption is usually confined to the distribution of one division of the nerve. Since the cornea receives its sensory supply from the ophthalmic division, it may be the site of the eruption when this division is attacked. Even so, it may escape, and, as Jonathan Hutchinson first pointed out, it usually does so unless the naso-ciliary branch is involved. Hence the absence of an eruption on the nose in zoster of the first division of the trigeminal usually means that the cornea will escape. According to Paton,[21] in his excellent account of "The trigeminal and its ocular lesions," "the most frequent primary corneal lesion takes the form of small, round infiltrations in the more superficial layers of the substantia propria of the cornea." I must refer you to Paton's paper for the corneal complications of zoster, which are sometimes severe, and may even involve loss of the eye. Other orbital structures may be involved in the inflammation, and the most important complication, fortunately a rare one, is optic neuritis, followed by atrophy and leading to blindness. Oculomotor paralyses sometimes occur, the third nerve being more often affected than the fourth and sixth. Trigeminal zoster, like zoster elsewhere, may be either "idiopathic" or "symptomatic." In the latter case it may follow any intracranial lesion of the fifth nerve, even alcoholic injection of the Gasserian ganglion. It must be distinguished from neuro-paralytic keratitis, a much commoner complication of this therapeutic measure, and from simple herpes of the cornea, which usually manifests itself as a dendritic ulcer.

2. *Geniculate Zoster.*—Zoster of the geniculate ganglion is interesting, not only anatomically, but also as a cause of facial paralysis. This tiny ganglion is the sensory ganglion of the facial nerve, corresponding to the Gasserian

* Delivered to the Glasgow University Medico-Chirurgical Society.

ganglion of the trigeminal and to the spinal posterior root ganglia. Its main sensory function is the reception of taste impulses from the anterior two-thirds of the tongue by the chorda tympani, but it also sends sensory fibres to a variable area of the external auditory meatus and concha, and to the anterior pillar of the fauces and soft palate. Geniculate zoster is associated with typical zoster vesicles in the auricle, less often on the fauces, and with pain in the ear and mastoid region, radiating to the anterior pillar of the fauces and to the vertex. The principal sensory loss in geniculate zoster is of taste in the anterior two-thirds of the tongue on the same side. Its most important clinical feature, however, is facial paralysis, which is almost invariably present (Ramsay Hunt[10]). Since the herpetic vesicles may be inconspicuous, the true cause of the paralysis is likely to be missed by anyone unfamiliar with the condition. The facial paralysis which may be associated with clonic facial spasm is doubtless due to the spread of inflammation from the geniculate ganglion to the facial nerve. Sometimes the eighth nerve is also involved, with resulting deafness or vestibular disturbances.

3. *Lower Motor Neurone Lesions in Zoster.*—We have just dealt with one example of a lower motor neurone lesion in zoster due to involvement of the facial nerve. Occasionally we meet with similar lesions corresponding to the muscular supply of spinal segments. Thus I have seen weakness and wasting of all the muscles supplied by the fifth cervical segment on one side associated with zoster of the same cutaneous distribution. Segmental paralysis of the abdominal wall is fairly common, and similar motor lesions may occur in other situations. It is more likely that they are due to a spread of the inflammation from the posterior to the anterior horns than to mutual involvement of the corresponding roots.

4. *Zoster Arthritis.*—Acute inflammation of the joints is a rare manifestation of zoster which has been little recognized in this country. Six cases have been reported in France, and I have seen two, one a patient of my colleague Dr. Anthony Feiling. In all eight cases the joints involved have been those of the fingers, and in one instance the wrist also. In some cases only one or two fingers have been involved, the joint changes corresponding to the segmental distribution of the eruption. In other cases, including my own patient, all the fingers of one hand were affected, though the eruption was limited to one root segment. In all the reported cases the onset of the arthritis has approximately coincided with the outbreak of the eruption. Pain and oedema have been severe, and in some instances oedema of the skin and subcutaneous tissues has persisted for months. Zoster arthritis seems always to be followed by great limitation of movement of the affected joints, probably due mainly to periarticular changes, since radiograms show few bony alterations, except rarefaction. French writers usually describe these disturbances as arthropathies, but the evidence points to their being, in fact, an arthritis. During the acute stage the clinical appearances are indistinguishable from an acute arthritis, and neither clinically nor radiologically does the condition resemble the familiar arthropathies. As we have seen, there is evidence that the zoster virus spreads along the nerves to the skin, and Paton believes that it reaches the cornea in a similar manner. It is not unreasonable to suppose that sometimes it may reach the joints also.

5. *Zoster Meningitis and Encephalitis.*—If, as there is reason to believe, zoster is primarily a posterior poliomyelitis or ganglionitis, it is not surprising that the infection should sometimes spread to other parts of the nervous system. That the meninges are often secondarily involved is indicated by the frequent occurrence of lymphocytosis and raised protein content in the cerebro-spinal fluid. Chauffard and Froin[3] first drew attention to this, and Chauffard and Rendu[4] described it as "Méningite zonateuse." They pointed out that the evidence for meningitis might be not only cytological, but also clinical, and that cervical rigidity and Kernig's sign might be present. In some cases we find zoster associated not only with meningitis, but with evidence of involvement of the substance of the brain—that is, encephalitis. These cases are not easy to interpret, since we know that symptomatic zoster may follow a lesion of the nervous system, and the question arises whether the zoster is secondary to an encephalitis of different origin, or whether the encephalitis has been produced by the zoster virus. Schiff and Brain[23] have recently reviewed the reported cases of this association and published a further example. They reached the conclusion that although in some instances the zoster was a complication of an independent encephalitis, there remained a group of cases in which an extension of the zoster infection had produced the clinical picture of encephalitis. In their own case this conclusion was supported by complement-fixation tests on the cerebro-spinal fluid, which were carried out by Bedson and Bland,[1] and which afforded evidence of the presence of the zoster virus therein. In the mildest cases, therefore, extension of the zoster infection to the meninges is indicated only by the appearance of inflammatory changes in the cerebro-spinal fluid. In more severe cases the clinical manifestations of meningitis are added, and a further extension may involve the substance of the neuraxis. In zoster meningo-myelitis myoclonus is not uncommon. At least two fatal cases of zoster meningo-encephalitis have been reported.

THE RELATIONSHIP BETWEEN ZOSTER AND VARICELLA

The existence of an association between zoster and varicella appears to have been first observed by Bokay[2] in 1888, and has since been very thoroughly investigated by clinical, bacteriological, and serological methods.

Clinical Observations

1. In Bokay's original instance zoster in one individual was followed after ten days by varicella in a contact. This is by far the most frequent sequence, and has now been recorded hundreds of times. Netter[19] in 1928 had collected 174 examples published in France alone. The same author has investigated the incubation period in 102 cases and found that it ranged from seven to twenty-four days, but more than half of the cases of varicella occurred between the thirteenth and the sixteenth day after exposure. Varicella may thus follow not only so-called idiopathic zoster, but also zoster occurring in the course of arsenical treatment.[19]

2. Conversely, zoster may occur in an individual who has been in contact with varicella, though this is much less frequent. Netter has collected twenty-five cases in which the incubation periods were the same as in the preceding group. The sequence zoster-varicella is eight or ten times as frequent as the sequence varicella-zoster. Hill,[9] recording epidemics of both in an institution, found nine of the former and one of the latter.

3. It is common enough for varicella to breed true and cause varicella in contacts. The same may occur with zoster.

4. All possible combinations of these associations have been recorded. Thus a case of zoster may be followed by zoster in one contact and varicella in others, and the same is true of varicella. In the case of either disorder the first generation of contacts may show the similar and the second the dissimilar illness, or vice versa.

5. The same individual may show both zoster and a scattered eruption resembling varicella. There may be only a few "aberrant vesicles" or a widespread vesicular eruption. The latter has been described by some authors as "zoster generalisatus." Others, struck with its resemblance to varicella, have written of "zoster and varicella in the same patient." Usually the generalized rash appears within three or four days of the outbreak of zoster, but the interval may be longer. Bokay[2] has investigated this point in twenty-nine recorded cases. He found that in ten cases both local and general eruptions appeared on the same day, and in twenty-one the latter was evident before the fifth day. It is sometimes, however, delayed even until the third week.

Epidemiology

Allusion has already been made to the occurrence of epidemics of zoster. Bokay has sought to discover whether these have any relation to varicella epidemics. He therefore obtained such data as were available concerning the incidence of the two disorders month by month in Budapest for the ten years 1915-24. These data are admittedly not complete, and are indices rather than totals. Nevertheless, there is a striking correspondence between the variations in the monthly prevalence of the two diseases. In nine out of the ten years there is an autumn peak, usually reaching its maximum for varicella in November, and in most years a smaller peak in June. A point of interest and importance to which Bokay does not draw attention is that the peak of the zoster curve usually occurs one month before that of varicella.

Bacteriology

Kundratitz[11] was the first worker to claim to have transmitted zoster by inoculation to children. In 1927 he reported twenty-six successful inoculations of children with the contents of zoster vesicles. The usual result was an eruption at the site of inoculation, but a few patients also exhibited a generalized vesicular rash. Children who came in contact with those successfully inoculated developed varicella. Kundratitz previously reported fourteen successful inoculations in twenty-two attempts. The inoculation period varied from nine to fourteen days. Only children who had not previously had zoster or varicella were found to be susceptible. A successful inoculation protected against a subsequent zoster inoculation and also against varicella. Netter[13] quotes eight other workers, and Cleveland[3] one, who obtained similar successful inoculations of zoster, often with transmission of varicella to contacts. It is uncertain whether the serum of patients who have recovered from zoster protects others against varicella. Kundratitz claims positive results. Sicard and Paraf[23] have failed to verify them. Netter, however, justly points out that negative results are not very strong evidence against the common nature of zoster and varicella, since several workers have found that serum from varicella convalescents fails to protect against varicella.

Complement-Fixation Tests

In 1923 de Lange[12] claimed to have demonstrated antibodies to varicella in the blood of a patient suffering from zoster. Netter and Urbain[20] thereupon set themselves to investigate this point by means of complement-fixation tests in a large series of patients. In 1926 they published the results in 100 cases of zoster, of which 84 had had no apparent contact with varicella. In 93 out of the 100 cases deviation of complement occurred when the contents of vesicles either from varicella or from zoster were used as antigens against the blood serum of the zoster patients. Exactly the same results were obtained with the same antigens and the blood serum of patients convalescent from varicella. Netter and Urbain have similarly demonstrated the presence of antibodies to varicella in the blood serum of nine patients in whom zoster followed arsenical treatment, of three in whom it was induced by injections of bismuth, and of two in whom mercury was apparently a precipitating factor. Lauda and Silberstein[18] have failed to confirm Netter and Urbain's complement-fixation tests, but Bokay attributes their failure to a variation in technique. Netter quotes Pincherle and Vegni[19] as having confirmed his findings.

Relation between Zoster and Varicella

What conclusion can we draw concerning the relation between zoster and varicella? It seems incontestable that some cases of zoster are due to a virus which may also produce in contacts a condition indistinguishable from varicella. It is not yet proved, however, that all cases of zoster and all cases of varicella are due to the same organism, though there is evidence which suggests that they may be. The indications that zoster arising in the course of treatment with arsenic, bismuth, and mercury may be of varicellar origin goes far to support the view that lesions of the first sensory neurone also operate only as predisposing causes. If so, the heterogeneous causation of zoster is not an argument against its being due to a single virus. Reports of varicella in contacts with zoster arising secondary to gross lesions of the posterior roots are lacking, and would be very valuable. Netter and Urbain's complement-fixation tests and Bokay's epidemiological investigation go far to link together at least a large proportion of cases of both zoster and varicella.

Let us leave open the question of how far we can generalize, and turn to the interesting problems which arise from the conclusion that at least some cases of both diseases are due to the same organism. Why do some infected persons develop zoster, others varicella, and some both? And why is it about ten times more common for zoster to give rise to varicella than vice versa? Answers to these questions must be largely speculative. Nevertheless, there are some indications as to the directions in which the explanations should be sought. There is a striking difference in the average age of the zoster-from-varicella and the varicella-from-zoster patients. In Netter's first group only eight out of twenty-five were children. The ages of the adults are not all given, but the average of five was 55, and among the remainder were a grandmother, a concierge, and two doctors. On the other hand, almost all the varicella-from-zoster patients are children, the average age of fifty cases reported by Netter being 6 years. These facts suggest that adults are relatively immune to the varicella virus, that immunity wanes as life goes on, and that the adult who becomes susceptible develops zoster rather than varicella. It is tempting to suppose that this hypothetical immunity is due to an early attack of varicella. The special susceptibility of the first sensory neurone in adults may be due to its possessing a tissue immunity feebler than that of other parts of the body, or to its immunity being temporarily diminished by a preceding lesion. Once the infection has established itself in the metamere it may disseminate itself in the blood stream, causing the generalized rash as in generalized vaccinia. From what we know of the effects of partial immunity upon the manifestations of an infection we may hazard a guess that the length of the interval between the outbreak of zoster and the occurrence of a generalized rash is an index of the degree of existing immunity to the virus. The shorter the interval the greater, probably, is the immunity.

Cranston Low[17] has suggested that varicella is a haematogenous infection, while in zoster the virus reaches the posterior root from the cerebro-spinal fluid, to which it gains access from the nose. This may be true, but the significant difference in age incidence seems to require an explanation in terms of immunity.

VARICELLAR ENCEPHALITIS

Much attention has recently been directed to the occurrence of encephalitis as a complication of the acute specific "fevers," and a brief study of varicellar encephalitis and myelitis may prove not only interesting in itself but illuminative of the general relationship between "fevers" and their neural complications. I have been able to find in the literature thirty-two cases which can reasonably be included under this heading. Apart from two patients aged 32 and 23, all were children, the average age in twenty-seven cases being 4½ years. Symptoms of involvement of the nervous system developed as a rule between the fifth and the twentieth day after the appearance of the rash, in most cases during the second week, usually between the seventh and tenth days. The onset was acute, and was generally associated with fever, headache, vomiting, and giddiness, and sometimes with delirium. In the following table I have arranged the thirty-two cases in groups according to their predominant symptoms.

Meningeal	2 cases
Ataxic and "cerebellar"	11 ,,
Tremor	3 ,,
Chorea and choreo-athetosis...	2 ,,
Diplegia	1 ,,
Hemiplegia	1 ,,
Ophthalmoplegia	2 ,,
Spinal	8 ,,
Coma	1 ,,
(?) Polyneuritis	1 ,,

The distinction of "types" in dealing with so diffuse a process as encephalitis is of course artificial. Thus a pyramidal lesion may coexist with ataxia and meningeal symptoms with transverse myelitis. Nevertheless the classification is valuable as indicating the predilections of the disease for certain parts of the nervous system. It is striking that in half the cases disturbances of co-ordination with or without involuntary movements were the conspicuous feature. The ataxia was often so gross that the child was quite unable to walk. The spinal lesion usually produced the picture of a transverse myelitis at the dorsal level of the cord. In one case one upper and both lower limbs were paralysed. It is doubtful whether the diagnosis of "polyneuritis" is correct, since the patient thus diagnosed was not examined till five years after the onset, and was then found to have muscular wasting of all four limbs. In only a small number of cases is there a report on the cerebro-spinal fluid. In some this was normal; in others there was an excess of cells, up to 71 per c.mm. In one case these were polymorphonuclear; in the others their nature is not described, and it may perhaps be assumed that they were mononuclear. The prognosis is good both as to life and as to recovery of function. Of thirty-two patients, only two died—the two adults—one of ascending myelitis, the other in coma twenty-four hours after the onset of the nervous manifestations and on the third day of varicella. As this patient was pregnant, it is possible that the cause of death was related to the pregnancy rather than to the varicella. Only three of the remaining thirty cases appear to have failed to recover completely; even the grossest ataxia usually disappeared within a few weeks. In neither of the fatal cases was there a post-mortem examination, and I have been unable to find any record of a pathological examination in varicellar encephalitis.

Two views prevail as to the nature of post-vaccinal encephalitis: that it is due to the virus of vaccinia, and that it is produced by some other virus which invades the nervous system secondarily to vaccination. The same alternatives have been put forward to account for measles encephalitis, and it has been suggested, chiefly on pathological grounds, that both measles encephalitis and post-vaccinal encephalitis may result from the same secondary invader. Are we to regard varicellar encephalitis as due to the organism of varicella or to this hypothetical neurotropic virus? In this case we have no pathological findings to guide, or perhaps to mislead, us, and we must therefore turn for light to the clinical features. It is instructive to compare certain of the clinical characteristics of encephalitis complicating vaccination, measles, and chicken-pox, tabulated below:

	Post-vaccinal Encephalitis	Measles Encephalitis (Ford[6])	Varicellar Encephalitis
Cerebellar syndromes:			
Frequency	Rare	14 out of 125	11 out of 32
Recovery from	—	12 out of 14 incomplete 10%	All complete
Mortality (all cases) ...	58%*		6%
Recovery of function (all cases)	Good	25% complete 65% incomplete	84% complete 9% incomplete

* English epidemic, 1922-23.

We have here indications that the clinical pictures, mortality rates, and prognosis as to functional recovery are quite different in the three conditions. Those who regard them as due to the same virus will have to suppose that the action of this hypothetical organism is hypothetically modified by the influence of the different pre-existing infections. This may be true, but it seems less speculative to suppose that the differences are due to the encephalitis being produced by different organisms—namely, the viruses of vaccinia, measles, and chicken-pox. The solution of this problem, however, awaits a greater knowledge of these viruses and the discovery of better methods of detecting both the organisms themselves and the antibodies which they evoke in their hosts.

REFERENCES

1 Bedson, S. P., and Bland, J. O. W.: *Brit. Journ. Exper. Path.*, 1929, x, 593.
2 Bokay, J.: *Jahrb. f. Kinderheilk.*, 1928, cxix, 127.
3 Chauffard, A., and Froin, G.: *Bull. et Mém. Soc. Méd. des Hôp. de Paris*, 1902, xix, 994.
4 Chauffard, A., and Rendu, H.: Ibid, 1907, xxiv, 141.
5 Cleveland, D. E. H.: *Canadian Med. Assoc. Journ.*, 1927, xvii, 1299.
6 Ford, F. R.: *Bull. Johns Hopkins Hosp.*, 1928, xliii, 140.
7 Grüter, W.: *Münch. med. Woch.*, 1924, xxxi, 1058.
8 Head, H., and Campbell, A. W.: *Brain*, 1900, xxxiii, 353.
9 Hill, N. G.: *Brit. Journ. Child. Dis.*, 1929, xxvi, 193.
10 Hunt, R.: *Brain*, 1915, xxxviii, 418.
11 Kundratitz, K.: *Wien. med. Woch.*, 1927, lxxvii, 771.
12 Lange, C. de: *Nederl. Tijdschrift v. Geneesk.*, 1923, i, 1634.
13 Lauda, E., and Silberstein, E.: *Med. Klin.*, 1926, 22, i, 374.
14 Levaditi, C.: *L'Herpès et le Zona*, Paris, 1926.
15 Lipschütz, B.: *Centralbl. f. Bakt.*, 1922, lxxxvii, 303.
16 Lipschütz, B., and Kundratitz, K.: *Wien. klin. Woch.*, 1925, xxxviii, 499.
17 Low, R. C.: *British Medical Journal*, 1919, i, 91.
18 Netter, A.: *Bull. de la Soc. de Paediat. de Paris*, 1925, xxiii, 429.
19 Idem: *Bull. et Mém. Soc. Méd. des Hôp. de Paris*, 1928, 3 sér., xliv, 1014.
20 Netter, A., and Urbain, A.: *C. R. Soc. de Biologie*, 1926, xciv, 98.
21 Paton, L.: The Trigeminal and its Ocular Lesions, *Brit. Journ. of Ophthalm.*, 1926, x, 305.
22 Schiff, C., and Brain, W. R.: *Lancet*, 1930, i, 70.
23 Sicard, J. A., and Paraf, J.: *Bull. et Mém. Soc. Méd. des Hôp. de Paris*, 1925, xlix, 391.
24 Wohlwill, F.: *Zeit. f. d. ges. Neurol. u. Psychiat.*, 1924, lxxxix, 171.

TREATMENT OF PERNICIOUS ANAEMIA WITH HOG'S STOMACH

REPORT OF 108 CASES*

BY

JOHN F. WILKINSON, M.B., M.Sc., PH.D., F.I.C.

DIRECTOR OF THE LABORATORY FOR CLINICAL INVESTIGATIONS AND RESEARCH, MANCHESTER ROYAL INFIRMARY

The successful results of some experiments upon the value of hog's stomach tissues in the treatment of pernicious anaemia were published in a preliminary report upon nine cases so treated in the laboratory.[1] It was found that very good results could be obtained either with uncooked fresh hog's stomach tissues or desiccated preparations of the same. By using such active products in cases of pernicious anaemia remissions were initiated more quickly and progress was better maintained than with the liver treatment. Subjective symptoms, such as glossitis, paraesthesiae, and gastro-intestinal disturbances, were much more rapidly and satisfactorily relieved without the aid of the mixture of hydrochloric acid and pepsin so often necessary in liver therapy. In 1929 Sturgis, Isaacs, and Sharp,[2] working independently along similar lines, reported remission in three cases, using a desiccated preparation. More recently they have made observations upon thirty-nine cases of pernicious anaemia for periods up to ten weeks.[3] These results have been confirmed by workers in other countries, but the number of cases reported has been few, while the periods of observation have not been sufficiently long to indicate the real value of this form of therapy. Conner[4] has reported six cases and Rosenow[5] two where similar treatment was employed for pernicious anaemia. Meulengracht and Hecht-Johansen[6] obtained satisfactory responses using desiccated preparations, but failed to get an active extract (one case) according to Cohn's method with liver. Ungley[7] also failed to produce remissions in two cases treated with fresh sheep's stomach. I have confirmed this result using the desiccated preparation. Five cases have been recorded by Snapper and Dupreez[8] as having been successfully treated with hog's stomach, while Hitzenberger,[9] Faber,[10] Winge,[11] and Lambin and Steenhoudt[12] have also obtained satisfactory results in a smaller number of cases.

GENERAL DESCRIPTION OF EXTENDED SERIES

During the last eighteen months I have extended considerably my own series. Since most of the patients on whom the treatment was first tried have continued to take it, its ultimate value can be estimated more exactly over these longer periods.

The present communication deals with a series of 108 consecutive cases of uncomplicated pernicious anaemia treated at the Manchester Royal Infirmary with preparations of hog's stomach. All these cases were typical for this condition, having reduced red cell counts and haemoglobin values, high colour indices, megalocytosis, achylia gastrica, etc.; a few of them had a less pronounced early postero-lateral involvement of the spinal cord.

For convenience of discussion and comparison the series is divided into three groups, although the cases constitute one consecutive series.

Group I consists of 52 cases, none of which had ever had liver or other special treatment for the condition prior to coming under observation.

Group II consists of 31 cases that had been given liver treatment at some time previously but had relapsed.

Group III consists of 25 cases that had been on liver treatment and complained of a return of symptoms.

Two cases have been omitted from this series owing to other complications: both had relapsed on full doses of raw liver. In one an epithelioma had been removed from the tongue; later, a block dissection of the cervical glands was performed. The patient died from pneumonia and cardiac muscle failure after readmission to the Manchester Royal Infirmary. Necropsy confirmed the diagnosis of coexisting pernicious anaemia. The other died, while an in-patient, from broncho-pneumonia and acute colitis, having received treatment for only five days.

TREATMENT

The treatment given in this series of cases may be considered under two headings, according as the patients received fresh or desiccated preparations of hog's stomach.

Raw Tissue of Hog's Stomach

In the preliminary report already referred to[1] several cases were described that had been given uncooked fresh hog's stomach preparations. In all, about ten cases have been so treated, but the difficulty of continuing this treatment after the patient's discharge from hospital led to the replacement of the fresh by the desiccated preparations on transference to the out-patient department. These cases are marked with an asterisk in Table I.

One patient, however, was conveniently situated, so that it has been possible to continue the raw tissue therapy. This case was described in the earlier paper as Case III.

Case 1 (Table I)

It was a typical case of pernicious anaemia. The initial blood count showed: red blood cells 1,910,000 per c.mm., white blood cells 7,600; haemoglobin 50 per cent.; colour index 1.3. The patient was treated with 250 grams of uncooked fresh mucous membrane of hog's stomach daily, and very rapidly improved, so that by the seventy-eighth day the blood count was: red blood cells 5,072,000, white blood cells 8,300; haemoglobin 84 per cent. He returned to full-time work; since then he has been in normal health.

The dose has been gradually adjusted; at the present time he takes 1,000 grams of uncooked fresh tissue per month. For convenience this is divided into daily doses of approximately 350 grams, so that the whole of the month's supply is consumed in three days. He takes no more until the next month's supply is due. The tissue is carefully washed in cold water, examined macroscopically for parasites, and then minced. It keeps well in a refrigerator for long periods; the patient has not had any difficulty in keeping it the maximum of two and a half days before taking the last portion. By the administration of rather larger doses than this maintenance dose the blood picture can be kept at a somewhat higher level, but there has not been any noticeable difference clinically. He is perfectly well after sixty-four weeks on this diet; he is doing his full-time work, and has put on weight. The treatment is being continued.

During the treatment there was a marked eosinophilia, reaching its maximum (19 per cent.) at the twenty-seventh week, but was less than 5 per cent. after the forty-fifth week. The leucocytes have varied between 6,000 and 14,000, being high when he had a cold, and again when he had a septic finger.

Desiccated Preparations

In the earlier experiments, as reported previously, the desiccated hog's stomach was mixed with chocolate and lactose. This made a very palatable drink, but many patients have a distaste for milk—the medium chiefly used. I have therefore been using the preparation without these added constituents. This has certain advantages, in that the bulk of powder is less per dose, while it can be taken in milk or water as desired, or may be mixed with other foodstuffs *provided that heat is avoided.*

The preparation used for routine treatment is a desiccated whole hog's stomach ("extomak"), kindly prepared for me by Messrs. Benger's Food, Ltd., of Manchester. It is a very light, biscuit-coloured powder, insoluble in water and organic solvents; 25 grams are

* From the Laboratory for Clinical Investigations and Research, Manchester Royal Infirmary.

equivalent to 100 grams of the fresh whole hog's stomach. It mixes well with milk and such media. Owing to its very powerful peptic activity (see below) it is advisable to mix the required dose just prior to its administration, otherwise it arrives before the patient as a junket-like mass—a much less palatable form to most patients.

The dose employed initially is 25 to 30 grams daily, divided into three portions. This is reduced to 10 to 20 grams daily as the blood picture becomes more normal, the average maintenance dose being about 10 to 12 grams daily. In some cases the maintenance dose is larger or smaller than this amount; the needs in each individual case have to be estimated by careful observation and regular blood counts. The dose may have to be increased or diminished according to the season of the year or the health of the patient, common colds and influenza having very profound effects on the blood counts in many of these cases.

An important practical point arises here. The dosage employed must be measured *by weight*. Owing to the very light, relatively bulky nature of the powder, the usual method of measuring by spoonfuls frequently leads to the ingestion of a dose which is much less than that prescribed, with obvious consequences.

Adjuvant Medicines

The use of hydrochloric acid in association with this form of treatment does not appear to be necessary or to have any marked effect. This is in contrast to its use in conjunction with liver, where it is often necessary for the complete relief of gastro-intestinal symptoms.[13] During their period as in-patients a few of the cases were given certain iron preparations and occasionally arsenic, according to the prescription of the honorary physician in whose ward they happened to be. There was no noticeable difference in the speed of remission in any of these patients, compared with those who were not receiving such additional treatment. In this connexion it is interesting to compare the result obtained in Case 71 (see p. 87). It should be mentioned that in most cases after discharge from hospital these adjuvant medicines have been discontinued, only the hog's stomach preparations being taken regularly.

RESULTS OF TREATMENT

The results of treatment in 83 of the 108 cases contained in this paper are conveniently summarized in Tables I and II.

In Columns A the initial blood condition (red blood cells and haemoglobin) of each patient is shown before the commencement of hog's stomach therapy. The corresponding values obtained at the *last* blood count taken are recorded in Columns B, and do not represent the maxima obtained. In the last column are given the total periods of observation (in weeks) of each patient from the beginning of treatment until the last blood count was taken (Columns B). These periods do not represent the time taken to reach normal values in these cases. The leucocyte and differential counts have been omitted for economy of space, and are irrelevant to the present discussion.

The results may be classified in the three groups previously mentioned.

Group I.—No Previous Treatment

Table I, 52 cases. None of these had had any treatment before coming under my observation—apart from the usual tonics containing iron, arsenic, "phosphates," etc. They were treated with preparations of hog's stomach as above, but in Case 1 (see above) the uncooked fresh tissue has always been taken. The nine other patients, indicated by an asterisk, were similarly treated while in-patients, but continued on desiccated

TABLE I

Case	Sex	Erythrocytes		Percentage Haemoglobin		Period of Observation (weeks)
		A	B	A	B	
1*	M	See text page 85		—	—	64
2	F	600,000	4,900,000	20	86	23
3*	F	660,000	5,650,000	17	96	52
4	F	650,000	5,620,000	17	70	33
5	M	740,000	4,300,000	19	90	13
6	F	928,000	4,800,000	19	94	13
7	M	1,000,000	4,500,000	23	90	20
8	M	1,100,000	3,850,000	26	82	7
9	M	1,100,000	4,100,000	30	76	13
10	M	1,160,000	5,160,000	28	102	49
11*	M	1,150,000	4,990,000	38	94	40
12	M	1,200,000	5,950,000	37	96	22
13	M	1,240,000	5,000,000	40	90	20
14	M	1,200,000	5,000,000	45	110	52
15	M	1,290,000	4,700,000	35	100	50
16	F	1,290,000	5,100,000	27	96	41
17	F	1,300,000	4,800,000	46	96	37
18	M	1,400,000	5,220,000	46	104	49
19	M	1,500,000	4,200,000	40	78	13
20	M	1,600,000	4,800,000	34	80	25
21*	M	1,600,000	5,020,000	40	86	41
22	M	1,600,000	6,150,000	36	96	25
23	M	1,700,000	5,200,000	40	106	20
24	F	1,700,000	4,100,000	43	90	21
25	F	1,700,000	5,400,000	49	90	29
26	M	1,700,000	7,260,000	36	100	37
27*	M	1,700,000	5,400,000	46	106	37
28	M	1,790,000	5,110,000	40	98	23
29	F	1,890,000	5,980,000	42	86	24
30*	F	1,900,000	4,000,000	55	80	53
31	M	1,900,000	4,740,000	45	98	34
32	F	2,000,000	5,440,000	41	104	25
33	F	2,100,000	4,900,000	58	102	19
34*	M	2,180,000	5,100,000	50	100	59
35	M	2,350,000	5,870,000	52	80	27
36	M	2,400,000	4,500,000	52	88	19
37	M	2,700,000	5,320,000	56	108	44
38*	M	2,800,000	4,800,000	74	90	34
39	M	2,800,000	4,950,000	74	100	29
40	M	2,910,000	6,110,000	82	96	25
41	M	2,950,000	5,100,000	74	90	35
42	M	2,980,000	5,090,000	82	100	35
43*	M	3,000,000	4,800,000	82	100	48
44*	M	3,000,000	4,840,000	90	106	61
45	F	3,100,000	4,520,000	81	86	13
46	M	3,100,000	5,630,000	70	110	20
47	F	3,200,000	4,600,000	90	96	22
48	M	3,200,000	5,280,000	68	74	17
49	F	3,400,000	4,300,000	84	92	21
50	F	3,460,000	4,800,000	90	98	7
51	M	3,500,000	6,950,000	88	100	56
52	M	3,700,000	5,480,000	74	110	21

A = Blood count before treatment with hog's stomach.
B = Present blood count.
* = Received uncooked fresh hog's stomach while in-patients.

preparations after discharge from hospital. They are thus considered together with the remainder of the cases. Several patients were treated as out-patients, attending the laboratory daily for observation and treatment.

It will be observed that the periods of observation varied from seven to sixty-four weeks, giving an average of 32.4 weeks; seven cases have been under this form of treatment for more than fifty-two weeks, and fifteen for more than forty weeks.

The majority of the cases showed initial red cell counts less than 3 million, and thirty-one of them less than 2 million. The most recent counts are interesting, since they indicate a very marked tendency towards high red cell counts, but haemoglobin values of relatively less increment. This is not marked until the red cells become more numerous than approximately 5.5 million, after which the colour index shows a steady fall. Six cases have given higher counts, but at the present time only four are over 6 million, one of these being 7.25 million.

The haemoglobin tends to lie between 90 and 110 per cent., but where the dose is rather too small, or the patient discontinues the treatment for a time, it frequently falls to about 80 to 90 per cent. This rapidly improves with slightly increased doses.

The leucocytes showed an average initial count of 4,530, and an average final count of 6,500.

The following case illustrates this group very well, and is typical of the result obtained.

Case 18 (Table I)

A labourer, aged 49, was admitted to hospital complaining of anaemia, weakness, and paraesthesiae in the fingers for ten weeks before coming under observation. In the last few weeks the pallor had increased and numbness in the feet had developed. His appetite was good and the bowels were regular; there was no complaint of diarrhoea, sore tongue, indigestion, or loss of weight. Family and previous medical histories revealed nothing of note.

Examination.—Lower teeth were very septic; tongue was smooth but clean. He weighed 8 st. 8 lb. Spleen and liver were not enlarged, and there were no alterations in the reflexes. Wassermann reaction was negative. Fractional gastric analysis showed achylia gastrica. Blood count: red blood cells 1,400,000, white blood cells 6,500; haemoglobin 46 per cent.; colour index 1.6; platelets scanty; anisocytosis and poikilocytosis marked; polychromasia present; megaloblasts and nucleated red cells also seen.

The patient was given a desiccated preparation of hog's stomach equivalent to 280 grams of fresh tissue daily, reduced later to 15 grams of desiccated preparation, together with a hydrochloric acid[13] mixture. There was a very prompt response to this treatment, the blood picture rapidly improving, so that one week after discharge from hospital—the sixty-fifth day of treatment—it showed: red blood cells 5,060,000, white blood cells 9,200; haemoglobin 104 per cent.; colour index 1.04; platelets abundant; and slight anisocytosis. The present condition, after forty-nine weeks of treatment, is indicated in Table I.

Results.—All the patients in this group are well after an average period of thirty-two weeks, and none have shown any indication of relapse at the time of writing.

Of these 52 cases, 46 (88.5 per cent.) are now in normal health, free from symptoms, and doing their original full-time work. (Included in this figure are a few male patients now perfectly fit but unable to get employment.)

Three patients are quite well, but still have symptoms of early postero-lateral sclerosis; one suffers from paralysis agitans, but is otherwise well (Case 15); the remaining two patients (Cases 8 and 19) are progressing very well, but have only recently been discharged from hospital, so that their blood counts are not yet normal. The latter patient took no treatment for two weeks, but is also rapidly improving; both will be fit for work in a very short time, as there are no signs of nervous involvement.

Twenty-seven of these patients complained of various paraesthesiae affecting their hands and feet; after treatment with hog's stomach only one has definite numbness in the fingers, the remainder being cured or suffering only from occasional attacks.

Six patients had definite postero-lateral involvement of the spinal cord; three are so much improved that they have returned to full-time heavy manual work; two are much improved but are not working; one is unchanged as regards the nervous condition.

Group II.—Relapsed Cases after Liver Treatment

Table II summarizes the 31 cases in this group. All the patients had taken liver at some period before coming under my observation and had had definite relapses, as shown by the clinical conditions and the blood counts (Columns A). In most cases the relapse was caused

TABLE II

Case	Sex	Erythrocytes		Percentage Haemoglobin		Period of Observation (weeks)
		A	B	A	B	
53	F	920,000	4,920,000	21	93	43
54	M	976,000	5,720,000	24	93	25
55	M	1,070,000	5,000,000	25	88	13
56	M	1,090,000	4,200,000	22	92	20
57	F	1,100,000	5,750,000	24	92	41
58	M	1,200,000	5,100,000	26	102	70
59	M	1,250,000	5,790,000	40	86	19
60	F	1,300,000	4,700,000	25	104	49
61	M	1,300,000	5,400,000	34	92	28
62	M	1,440,000	6,100,000	50	102	16
63	F	1,470,000	4,600,000	37	72	19
64	M	1,700,000	4,300,000	40	84	34
65	F	1,700,000	4,500,000	48	90	14
66	M	2,400,000	5,200,000	65	112	25
67	F	2,620,000	5,150,000	72	102	21
68	M	2,900,000	5,112,000	72	98	12
69	M	2,930,000	4,000,000	93	78	18*
70	M	3,080,000	4,400,000	70	90	32
71	M	3,200,000	5,220,000	92	98	19
72	F	3,300,000	4,450,000	76	76	11†
73	M	3,400,000	4,400,000	100	94	23
74	F	3,400,000	4,350,000	85	70	11
75	F	3,420,000	5,200,000	90	94	9
76	F	3,500,000	4,540,000	92	96	8
77	F	3,600,000	5,130,000	80	82	38‡
78	F	3,700,000	4,950,000	91	94	26
79	F	3,700,000	5,060,000	96	94	20
80	F	3,700,000	5,860,000	100	102	17
81	F	3,750,000	4,450,000	80	92	6
82	F	3,900,000	5,400,000	86	108	25
83	F	3,900,000	4,100,000	82	72	18§

* Discontinued treatment for 8 weeks.
† Discontinued treatment for 4 weeks.
‡ See text.
§ Discontinued treatment for 8 weeks.

either by discontinuance of the treatment or by the ingestion of inadequate active doses, due partly to excessive cooking of the raw liver. These cases were reinvestigated in this laboratory, and treated according to the routine followed in Group I.

Results.—In this group the results are not so striking as the previous ones, since the patients usually came under observation earlier, and hence the initial blood counts were on an average higher than in those cases

diagnosed for the first time. The average initial blood picture showed: red blood cells, 2,500,000; haemoglobin, 63 per cent. These patients have been under observation for a period of eight to seventy weeks, with an average of 23.5 weeks. During this time none has shown any signs of relapse, or developed postero-lateral involvement of the spinal cord.

Twenty-one patients (67.7 per cent.) are very well and doing full-time work; eight (25.8 per cent.), although not working, are also well and have no symptoms, making a total of twenty-nine patients (93.5 per cent.) in normal health again; two (6.4 per cent.) are well except for slight postero-lateral involvement, which is very much better than before treatment; none has failed to respond satisfactorily to the treatment.

Case 77 (Table II)

This case is of considerable interest, since, after discharge from hospital, the patient became pregnant. She was seen regularly at intervals of one month, later fortnightly, and was kept on a daily dose of 20 to 30 grams of desiccated hog's stomach. At no time during the period of gestation did the count fall below 4,200,000 red blood cells and a haemoglobin percentage of 78. Two weeks before parturition the count was: red blood cells 4,256,000, white blood cells 5,900; haemoglobin 90 per cent.; colour index 1.05. Three weeks after parturition the red blood cells were 4,440,000, white blood cells 4,800; haemoglobin 78 per cent.; colour index 0.9. The count fourteen days later is given in the table.

The following two cases have been chosen to illustrate this group; the first was treated as an out-patient from this laboratory, the second as an in-patient.

Case 54 (Table II)

A marine engineer, aged 61, attended the out-patient department of the Manchester Royal Infirmary complaining of considerable weakness, dyspnoea on exertion, indigestion, and paraesthesiae in the hands and feet. He had been unable to work for two years. There was no sore tongue or diarrhoea, but he was very constipated. For about four months he had noticed the progressive development of a yellowish pallor over the body. He had not lost much weight, and his appetite was fairly good.

Previous Medical History.—He had been treated for pernicious anaemia six months previously, but had not continued the liver diet. Family history disclosed nothing of note.

Examination.—Pale lemon-yellow colour; conjunctivae deep yellow; considerable pyorrhoea present and teeth very septic; liver and spleen were not enlarged, and no other abnormality was found. Wassermann reaction was negative. Blood count was as follows: red blood cells 976,000, white blood cells 6,200; haemoglobin 24 per cent.; colour index 1.3; platelets very scanty; anisocytosis and poikilocytosis very marked. Fractional gastric analysis showed achylia gastrica.

Day of Treatment	Erythrocytes	Leucocytes	Percentage Haemoglobin
1	976,000	6,200	24
5	1,576,000	2,700	35
13	1,816,000	3,500	50
27	3,216,000	4,500	80
39	3,958,000	5,400	88
55	5,168,000	5,100	97
69	5,072,000	5,800	95
175	5,720,000	7,400	98

He was given a daily dose of 25 grams of an active desiccated hog's stomach preparation and attended this laboratory as an out-patient throughout the treatment. No blood transfusion was given. The very rapid and progressive response obtained with this treatment is indicated by the figures in the preceding table. He is now in perfect health and free from symptoms.

Case 62 (Table II)

A shopkeeper, aged 54, first came under observation at the Manchester Royal Infirmary on October 9th, 1928, complaining of lassitude, weakness, and an increasing pallor since March of that year. It became more noticeable in June, when shooting pains in the back and legs incapacitated him from walking. His appetite was poor, and he had had attacks of vomiting for two to three weeks. There was no history of sore tongue or diarrhoea, but the bowels were constipated. The feet swelled occasionally and the left foot felt numb. There was no marked loss of weight.

Previous Medical History.—Appendicitis at 16 years of age had been treated medically. For some years he had worked in a rubber factory and had been troubled with gastric disturbances. He stated that he had had lead poisoning several times; and neuritis during the last twelve years. He had been a shopkeeper for the last ten years. His family history disclosed that his mother died of diabetes mellitus, and that his father died, aged 78, from gangrene.

Examination.—Marked yellow pallor; teeth artificial; tongue furred and flabby; weight 9 st. 7 lb.; knee-jerks present; spleen slightly enlarged. Blood count: red blood cells 1,150,000, white blood cells 4,800; haemoglobin 25 per cent.; colour index 1.17.

The patient was treated with liver (four ounces), iron, arsenic, and salol, and improved very much, so that on his discharge from hospital on November 28th his weight was 10 st. 10 lb., and the blood count: red blood cells 4,200,000, white blood cells 6,200; haemoglobin 86 per cent.; colour index 1.02; differential count normal.

He was not seen again until July 25th, 1930, when he was readmitted to the Manchester Royal Infirmary with a recurrence of the original symptoms of lassitude, pallor, loss of appetite, and shortness of breath on exertion. This time also he complained of a constant pain in the epigastrium, loss of weight, and had had paraesthesiae in both legs for the last eighteen months. He stated that he had been taking lightly cooked liver (2 lb. per week), with iron and arsenic mixtures, but no hydrochloric acid.

Examination.—Pale lemon-yellow colour; teeth artificial; tongue clean; weight 9 st. 5 lb. Left leg was wasted to a greater extent than the right; left knee-jerks absent, and there was difficulty in walking. Wassermann reaction was negative. The blood count on July 31st showed: red blood cells 1,440,000, white blood cells 5,800; haemoglobin 50 per cent.; colour index 1.8. Fractional gastric analysis showed achylia gastrica.

He was given a daily dose of 30 grams of desiccated hog's stomach in cold milk, and hydrochloric acid (*B.P.*, dil. mxxx) with each meal. The improvement was extremely satisfactory, and he was discharged on August 30th with a blood count as follows: red blood cells 3,600,000, white blood cells 3,300; haemoglobin 98 per cent.; colour index 1.3. After sixteen weeks of treatment the count showed: red blood cells 6,100,000, white blood cells 7,400; haemoglobin 102 per cent.; colour index 0.8. He is in perfect health, doing his full-time work, has put on weight, and is free from all symptoms.

Group III.—Return of Symptoms after Liver Treatment

The patients in this group had been taking liver diet in some form or other. Many of them had discontinued the treatment, but others had relaxed the dose or went cooking the liver too much. Two had been taking a type of "liver extract" that I have found to be unsatisfactory.

The initial erythrocyte counts in these cases were relatively high, but the colour indices were greater than unity in all of them. Although these patients had relatively good blood counts, they complained of a very marked return of the original symptoms—for example weakness and shortness of breath, sore tongue, gastro-intestinal disturbance, paraesthesiae in fingers and toes, etc. In nearly all these cases the pepsin and hydrochloric acid mixture had been discontinued for many months.

They were given desiccated hog's stomach, 15 to 2 grams daily as above, in place of the liver diet.

Results.—The twenty-five cases in this group have been under observation on hog's stomach treatment for a

average of twenty-two weeks. All the patients are very well and obviously in much better health than before receiving this treatment, while the symptoms have entirely disappeared. A few of them were also given the hydrochloric acid mixture.

The average blood count for the whole group before treatment showed: red blood cells, 4,370,000; haemoglobin 89 per cent.; after treatment during an average of twenty-two weeks there were 5,160,000 red blood cells and a haemoglobin percentage of 95.6.

Summary of Results

The results in 52 cases of untreated pernicious anaemia and in 31 definitely relapsed cases (Groups I and II) indicate that 92.7 per cent. (77 patients) are perfectly well and free from symptoms of any kind, while 6 per cent. (five patients) are well, but are still suffering from some degree of nervous impairment, although this has much improved. Not one failed to respond to treatment satisfactorily. These figures should be compared with the corresponding figures of 50 per cent. and 15 per cent. obtained in patients treated by liver.[14]

From these results, obtained by the use of active preparations of hog's stomach, both fresh and desiccated, in 108 cases of pernicious anaemia, it is abundantly clear that this is the best treatment so far known for the disease. While liver diet is also an excellent method of treatment, there are many cases that do not respond to this form of therapy. On the other hand, when *adequate* treatment has been given with an *active* preparation of hog's stomach no case of true pernicious anaemia, from my own experience, has failed to respond.

The use of a mixture of hydrochloric acid and pepsin, in addition to liver diet, for the relief of certain gastro-intestinal symptoms in pernicious anaemia has been discussed in an earlier paper.[13] In the newer treatment with hog's stomach this mixture is rarely necessary, and none of the symptoms have, so far, been found to recur.

CHANGES IN THE BLOOD PICTURE

In all the cases recorded in this paper the improvement and good health have been maintained. Many patients, however, who have continued on full doses of hog's stomach after reaching normal blood counts have shown tendencies towards excessive erythrocytic reaction until the doses have been reduced. An increase to over 6 million red cells has been observed in seven cases (six in Group I, one in Group II), but three have returned to normal levels after suitable reductions in dosage. The others have only recently reached these higher values, and have not been examined since the reductions. All these cases showed a marked "lag" in haemoglobin increment over 110 per cent., so that the colour indices have fallen steadily with increasing red cell counts over 6 million. This has automatically corrected itself with the return of the erythrocyte counts to normal value.

The question then arises of the possibility of producing a polycythaemia as a result of continued large doses of hog's stomach. So far as I am aware no such cases have been recorded in which liver or liver extracts have been used, and the subsequent progress of these cases is being closely observed. The point is illustrated by the following case.

Case 26 (Table I)

A foreman lockgate-keeper, aged 49, complained of weakness and dizziness, associated with frequent nausea and headaches, for eighteen months prior to coming under my observation. He had indigestion and flatulence, and paraesthesiae in the hands and feet, but had only had a sore tongue for about two weeks. There was no history of diarrhoea, constipation, or loss of weight, but his appetite was poor. He had noticed the development of a gradually increasing yellow colour over the whole body. Apart from a slight attack of malaria twenty-five years previously, there was nothing of note in his previous medical history. His son suffers from purpura haemorrhagica.

Examination.—A slightly built man, with very marked yellow pigmentation of the conjunctivae and sclerotics, slightly less marked over the whole body. Tongue clean, teeth artificial. Nothing else found abnormal. Wassermann reaction was negative. Fractional gastric analysis showed achylia gastrica. On March 31st, 1930, his blood count showed: red blood cells 1,700,000, white blood cells 3,600; haemoglobin 39 per cent.; colour index 1.1; very marked anisocytosis and poikilocytosis; platelets scanty; nucleated red cells, polychromasia, and megaloblasts present.

The patient was given 28 grams of desiccated hog's stomach daily, and rapidly responded to this treatment (see below), the reticulocytes rising to 37 per cent. on the nineteenth day. On May 12th his blood count showed: erythrocytes 5,912,000, white blood cells 5,100; haemoglobin 98 per cent., colour index 0.83.

The dosage was reduced to 10 grams daily of the desiccated preparation, and the patient was seen at monthly intervals. The erythrocytes steadily increased in number, but the haemoglobin did not show a correspondingly rapid rise, so that the colour index fell below unity. On October 21st the blood count was as follows: red blood cells 7,260,000, white blood cells 5,500; haemoglobin 100 per cent., colour index 0.68. There was no eosinophilia at any time. A similar observation was made in Case 3 (Table I), but on reducing the dose for this patient the erythrocytes fell, while the colour index again increased.

The patient was perfectly well, and did not complain of any ill-effects from this excessive blood reaction. All treatment, however, was discontinued, and three weeks after these notes were written the count showed: red blood cells 5,360,000, white blood cells 5,000; haemoglobin 90 per cent.; colour index 0.9.

Date	Erythrocytes	Percentage Haemoglobin	Colour Index
1930 March 18	1,700,000	38	1.1
April 11	2,160,000	52	1.2
April 17	2,740,000	58	1.06
April 26	4,030,000	83	1.03
May 12	5,910,000	98	0.8
June 16	5,780,000	92	0.8
July 14	6,560,000	108	0 8
August 12	6,750,000	109	0.8
Sept. 9	6,590,000	96	0.69
Oct. 21	7,260,000	100	0 68
Nov. 11	5,360,000	90	0.9

Progress of Improvement in Blood Picture.

From a general survey of the results obtained in this series of cases the progress of improvement in the blood picture appears to be somewhat as follows. The erythrocyte count and the haemoglobin value increase simultaneously at the beginning until the haemoglobin is approximately 40 to 60 per cent. (or perhaps a little higher, according to the individual), when it remains roughly constant for a short time until the red cells have reached 3.5 to 4 million. The haemoglobin then continues to improve until it reaches 95 to 100 per cent., by which time the erythrocytes, if the dosage is not reduced, are approaching 5 million or a little more. Occasionally the position may be reversed, the haemoglobin improving progressively while the erythrocytes show the first "lag." In some cases this step-like progress is not shown.

From this stage only the erythrocytes increase, the haemoglobin very rarely rising above 110 per cent. Thus the colour index throughout the course of the treatment shows a general tendency to fall from above to below unity as the red cells increase—that is to say, the colour index varies inversely with the height of the erythrocyte counts. An erythrocyte count approximating to a

polycythaemia thus produces a colour index of a marked secondary type of anaemia.

This is so characteristic when it does occur that it suggests very strongly (*a*) the possible value of iron at this stage in conjunction with the treatment; (*b*) that the erythrocytes and haemoglobin may be produced by entirely different mechanisms, although to some degree interdependent, and possibly even at different sites. The importance of this consideration upon the general question of anaemia is being investigated.

The Reticulocyte Response

It is well known as a result of the work of Minot and others[15] that the reticulocyte response varies inversely with the initial erythrocyte level. Confirmation has been obtained in this laboratory. With this as a basis of comparison the observations on the reticulocyte responses following this form of therapy which have been published by others fall considerably short of those obtained in my series of patients described above. Thus, where they have reported "peaks" of 15 to 20 per cent. of reticulocytes, in cases with similar initial blood pictures I have obtained 25 to 40 per cent.—more usually the latter—and in some cases even higher. I have found by experiment that the use of an inadequate dose or a less active preparation usually results in such lower reticulocyte responses, which may also be delayed in reaching their maxima for perhaps fourteen days or more.

COMPARISON OF METHODS OF TREATMENT

In a previous paper[14] the results of treating pernicious anaemia with iron and arsenic in 47 cases were compared with those obtained by the liver treatment (33 cases). These figures represented the average percentage increases of erythrocytes, haemoglobin, and leucocytes respectively after a period of forty-five days' treatment in hospital in each case. For comparison, I have now added the corresponding results obtained by this newer treatment with hog's stomach, and Table III indicates the relative values of the three forms of treatment in exactly comparable cases. In order to avoid complications, the figures are compiled from the 52 cases that have had only hog's stomach treatment.

TABLE III

Treatment	No. of Cases	Average Percentage Increase in 45 Days		
		Erythrocytes	Haemoglobin	Leucocytes
Iron, arsenic, blood transfusion	47	+ 46	+49	− 8
Liver diet	33	+ 94	+77	+41
Hog's stomach ..	52	+157	+91	+41.5

It will be observed that the rates of improvement in the erythrocyte counts and haemoglobin values are, respectively, 1.7 and 1.2 times quicker than those obtained with the liver treatment, but 3.4 and 1.8 times respectively than the older iron-arsenic-blood-transfusion treatment.

The relative merits of these methods of treatment are extremely well illustrated by the following case.

Case 71 (Table II)

A clerk, aged 41, was admitted to the Manchester Royal Infirmary for the first time on November 4th, 1924, complaining of increasing anaemia (six weeks' duration), weakness, vomiting (several months' duration, but worse during the five weeks prior to admission), vertigo, and shortness of breath on exertion. There had been some diarrhoea, indigestion, and flatulence, but no loss of weight or sore tongue.

Previous Medical History.—Psoriasis vulgaris, eczema, erythema multiforme at various periods; "gastritis" in 1915; was "gassed," and had septicaemia during the war period. Family history disclosed that his father died of Bright's disease, and one sister died of dropsy.

Examination.—Teeth septic; no enlargement of spleen or liver; knee-jerks present; weight 10 st. 13 lb., nothing else of note. Wassermann reaction was negative. Blood count: red blood cells 1,336,000, white blood cells 6,800; haemoglobin 26 per cent.; colour index 1.05; platelets scanty; very marked anisocytosis and poikilocytosis; megaloblasts present.

Treatment mainly consisted of iron and arsenic preparations. He was discharged slightly improved on December 15th, and remained in a moderate state of health for twelve months, when the symptoms returned as before.

On September 15th, 1926, he was readmitted to hospital, but this time soreness of the tongue was also present, together with epistaxis and intermittent pain in the legs.

Examination.—Skin, mucous membranes, and conjunctivae a markedly yellow colour; teeth very septic, with marked pyorrhoea; liver slightly enlarged to two inches below the costal margin; knee-jerks present. Blood count: red blood cells 948,000, white blood cells 6,000; haemoglobin 20 per cent.; colour index 1.05.

He was treated with large doses of arsenic (oral and intramuscular), iron, streptococcal vaccines, salol, and artificial sunlight, and again showed some slight improvement. When discharged on January 18th, 1927, the blood picture was: red blood cells 1,440,000, white blood cells 4,800; haemoglobin 36 per cent.; colour index 1.3; platelets scanty; marked anisocytosis and poikilocytosis.

After a second relapse, he was again an in-patient from July 6th to August 24th, 1927. He complained of similar symptoms as previously, but not diarrhoea. The blood count showed: red blood cells 1,160,000, white blood cells 10,200; haemoglobin 30 per cent.; colour index 1.3; platelets scanty; anisocytosis and poikilocytosis very marked; polychromasia and punctate basophilia also present.

The previous treatment was renewed vigorously, with the addition, for the first time, of four ounces of lightly cooked "potted" liver per diem. This time he showed a much better response to treatment, probably due to the liver, and the blood count on discharge from hospital was: red blood cells 3,340,000, white blood cells 4,400; haemoglobin 70 per cent.; colour index 1.0.

He was sent home to continue this liver diet (four ounces daily), but relapsed a third time, being readmitted from January 8th, 1929, to February 16th. The symptoms were similar to those previously recorded, and he had a marked lemon-yellow colour; the tongue was pale and flabby, and the lower teeth were still very septic. Examination did not reveal any other abnormal features. Blood count: red blood cells 1,064,000, white blood cells 4,600; haemoglobin 26 per cent.; colour index 1.3.

He was again given vaccines, large doses of iron and arsenic, and four ounces of lightly cooked liver per diem until his discharge, when the blood count was: red blood cells 2,780,000; haemoglobin 58 per cent.; colour index 1.03. Four months later, on this treatment, the count was: red blood cells 3,016,000; haemoglobin 82 per cent.; colour index 1.3.

He was not seen again until December 11th, when he was admitted as an urgent case to the Manchester Royal Infirmary with the following count: red blood cells 696,000; haemoglobin 14 per cent.; colour index 1.6. He was in a very bad, semi-comatose condition, with a marked lemon-yellow colour all over the body.

A blood transfusion (one pint) of citrated blood (Group IV) was given, and the earlier treatment continued. To the daily four ounces of fresh liver was added liver extract (half an ounce of a fluid preparation); hydrochloric acid and pepsin were also given with each meal (gastric analysis showed achylia gastrica). On February 15th, 1930, he was discharged from hospital on a diet consisting of four ounces of liver, together with liver extract and hydrochloric acid. The blood count at that date was: red blood cells 3,740,000, haemoglobin 80 per cent.; colour index 1.06—the best count recorded since he came under observation.

(I am indebted to Dr. C. H. Melland for the above notes on this patient, who was under his care in the Manchester Royal Infirmary.)

The patient attended this laboratory, as an out-patient, from this time onwards, at frequent and regular intervals, but there was no improvement on the last count, even when the dose was increased to eight ounces of raw liver daily.

On July 8th the blood count was: red blood cells 3,240,000; haemoglobin 92 per cent.; colour index 1.4. In view of this

the whole of the previous treatment was discontinued, and replaced by 28 grams daily of desiccated whole hog's stomach. *The blood picture* showed an immediate and progressive improvement such as had never been observed before in this patient. The most recent blood count shows: red blood cells 5,430,000; haemoglobin 92 per cent. The patient himself is perfectly well, and states that he has never been so fit for over seven years. He is now working, and starting to play football.

GENERAL OBSERVATIONS

Active desiccated preparations of hog's stomach should have extremely good peptic activities. An examination of the commercial desiccated products offered by several wholesale houses in Europe and America has disclosed very widely varying peptic activities in different samples. If this pepsin content is also an approximate index, as I think it may be, of the coexisting "anti-anaemic" value of the product, then the lower and slower responses to treatment with such preparations obtained by certain other workers is explained.[16]

Many of the patients have been re-examined at intervals by fractional gastric analyses, but so far no alteration has been noted in the achylia gastrica.

It is important that the patient should understand that, as with liver, hog's stomach does not constitute an absolute cure for the condition. One patient, however, under observation at present is perfectly well after nearly twelve months of abstinence from all forms of treatment. As a rule, a greater or less maintenance dose must be taken at fairly regular intervals, so far as is known, for an indefinite period, and possibly for life. This involves regular blood counts for the control of the patient's condition, and it should be borne in mind that the blood picture is profoundly affected by colds and other infections: it is advisable at these times to increase the dose temporarily.

This maintenance dose may be taken in small regular daily amounts (this is usually the most satisfactory method), or, as has been well illustrated in Case 1 above, it may be administered in relatively large doses for a day or two every few weeks. A somewhat similar observation has been made by Riddle and Sturgis,[17] who gave massive doses of liver extract (equivalent to 3 kg. fresh liver) to three patients. It appears, therefore, that the maintenance of good health and a normal blood condition in these cases requires the supply of a definite minimal quantity of the active principle within certain time limits, probably fourteen to twenty-eight days, the body being unable to store this necessary, as yet unknown, substance, at any rate in an available form, for more than this short period.

At the present time fresh hog's stomach is the cheapest and the most active form of treatment, while a certain desiccated preparation available is as cheap as fresh liver when taken in the average maintenance dose.

SUMMARY

1. The earlier observations upon the value of hog's stomach have been extended to 108 cases of pernicious anaemia, and the results are here discussed.

2. Treatment has been described using fresh and desiccated preparations of hog's stomach tissues. The dose and administration have been indicated.

3. After periods of observation up to eighteen months no relapses have occurred, and all the cases have done well.

4. This new form of treatment for pernicious anaemia with active preparations of hog's stomach has given highly satisfactory results—undoubtedly better than with liver, while the relative effective dose is less than the liver dose.

5. More than 92 per cent. of the patients treated with hog's stomach are perfectly well, and the majority are doing their full time work. A further 6 per cent. are much improved, but still suffer from varying degrees of nervous impairment.

6. *Hog's stomach therapy is superior to liver diet in* the speed of remission of the condition, the erythrocytes and haemoglobin increasing 157 per cent. and 94 per cent. respectively, compared with 90 per cent. and 77 per cent. respectively with liver under comparable conditions.

7. Hog's stomach therapy has qualitative effects on the blood picture similar to those of liver, but the erythrocytes and haemoglobin increase in a characteristic step-like manner in many cases. The colour index varies inversely with the red cell count.

8. Eosinophilia is frequently seen, but not in every case.

9. Clinically, the immediate results are similar to those obtained with liver. They are more prompt and, ultimately, the normal health is reached more quickly; work is resumed sooner; and all the gastro-intestinal symptoms appear to be relieved. This is not always the case with liver treatment, hydrochloric acid and pepsin being frequently required in addition to relieve the indigestion, flatulence, and occasional sore tongue.

10. Achylia gastrica persists despite the treatment.

11. Hydrochloric acid and pepsin do not appear to be necessary for the relief of symptoms with this form of treatment.

12. There is a minimum dose of hog's stomach to maintain the normal health of each patient. Regular blood counts are essential for the control of this dose, owing to seasonal variations and the profound effects of even minor infections.

13. Hog's stomach in normal doses readily produces an excessive erythrocytic response, approaching polycythaemia, and several cases with counts over 6 million are now under observation.

14. Fresh hog's stomach can be taken in adequate doses for a few days every three to four weeks with a maintenance of normal health.

15. Several cases with early postero-lateral involvement of the spinal cord have shown remarkable improvement, and paraesthesiae of hands and feet (without alteration of reflexes) have been almost completely cured in nearly every case. These have always been the symptoms most resistant to treatment.

I have to thank the honorary physicians of the Manchester Royal Infirmary for kindly supplying me with the clinical material essential for this work, and also Professor H. S. Raper, F.R.S., for his continued interest. The majority of the blood counts have been done by the clinical pathologists of the Manchester Royal Infirmary, and by Dr. Agnes Bodoano in this laboratory, to all of whom I express my deep appreciation of their invaluable assistance.

Addendum.—Since this paper was written this series has been extended to 133 cases, and the periods of observation in Tables I and II can be increased by eight weeks in each case. Those cases with relatively low final blood counts have all reached normal values. There is no material alteration in the other figures requiring comment.

REFERENCES

[1] Wilkinson, J. F.: *British Medical Journal*, 1930, i, 256.
[2] Sturgis, C. C., Isaacs, R., and Sharp, E. A.: *Journ. Amer. Med. Assoc.*, 1929, xciii, 747.
[3] Isaacs, R., and Sturgis, C. C.: Ibid., 1930, xcv, 585.
[4] Conner, H. M.: Ibid., xciv, 388.
[5] Rosenow, G.: *Klin. Woch.*, 1930, ix, 652.
[6] Meulengracht, E., and Hecht-Johansen, A.: Ibid., 1162; and *Ugeskrift for Laeger*, 1930, xcii, 495.
[7] Ungley, C. C.: *Newcastle Med. Journ.*, October, 1929, 1.
[8] Snapper, I., and Dupreez, J. D. G.: *Nederl. Tijdschr. v. Geneesk.*, 1930, lxxiv, 745.
[9] Hitzenberger: *Wien. klin. Woch.*, 1930, xliii, No. 9, 283.
[10] Faber, K.: *Ugeskrift for Laeger*, 1930, xcii, 467.
[11] Winge, K.: Ibid., 511.
[12] Lambin, P., and Steenhoudt, J.: *Bull. et Mém. Soc. Méd. des Hôp. de Paris*, 1930, xlvi, 986.
[13] Wilkinson, J. F., and Brockbank, W.: *Clin. Journ.*, 1930, lix, 475.
[14] Idem: *British Medical Journal*, 1929, ii, 12.
[15] Minot, G. R., Murphy, W. P., and Stetson, R. P.: *Amer. Journ. Med. Sci.*, 1928, clxxv, 581.
[16] Wilkinson, J. F.: *Klin. Woch.*, 1931, x.
[17] Riddle, M. C., and Sturgis, C. C.: *Amer. Journ. Med. Sci.*, 1930, clxxx, 1.

REMOVAL OF ADENOIDS—A SIMPLIFIED TECHNIQUE

BY

O. POPPER, M.B., F.R.C.S.ED.

SURGEON IN CHARGE OF THE EAR, NOSE, AND THROAT DEPARTMENTS, QUEEN'S HOSPITAL FOR CHILDREN

Of the so-called " minor surgical procedures " in children, the complete removal of adenoid hypertrophies must rank as the most important, and, being a blind manœuvre, also the most difficult. Those who perform this operation frequently will agree that a certain knack must be acquired in order to sweep the entire adenoid mass out of the rhinopharynx in one clean stroke. The adenoid operation is one of those rare survivals in surgery where a difficult technique has been developed to perfection in order to overcome an inherent structural fault of a stereotyped instrument. Even those who have regular opportunities of performing the operation exhibit a lack of certainty. It is essentially a planing operation, the adenoid mass being shaved off from its broad attachment in one clean sweep. Its ancient label of " curettage," the method used very long ago, describes the modern operation as fittingly as it would the removal of a layer of skin for a Thiersch graft. The instrument used should be called a plane. If an instrument is used as a rake or scraper, it must have a certain shape best suited for this purpose; when this instrument is to function as a plane, however, a totally different set of mechanical factors is brought into play, and the old shape must be modified to suit new conditions.

The " Knack " of the Operation

With the ordinary instrument the cutting blade is 1/2 to 3/4 inch above the line of force as transmitted through the handle (Fig. 1). In order to " hug the post-

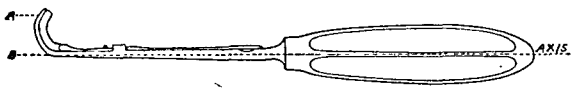


FIG. 1.—Outline of Sir StClair Thomson's modification of the Gottstein curette. A, Cutting edge; B, Axis.

nasal wall," an essential in effecting the complete removal, the cutting edge describes a curved path corresponding to the curvature of the particular post-nasal space which is being operated upon (Fig. 2, (*a*), (*b*), (*c*)). The knack of the expert operator is that he is able to transmit adequate pressure in such a manner that the resultant, speaking mechanically, of the force he applies and of the opposing force of the blade, which is at a higher level in the post-nasal space, will give the cutting edge the desired curved direction; it also signifies that the blade is always presented at an efficient cutting angle. During the operation the handle rotates upwards, *the centre of rotation being the edge of the blade.* The latter must be made to describe a path corresponding to the curvature of the rhinopharynx if complete removal of adenoids is to be achieved. That is the crux of the matter. In Figure 1, A represents the edge of the blade and is the pivot around which the instrument must rotate. There is very little latitude here for an allowable margin of error. The completeness of removal will depend upon how near to point A the centre of rotation has been kept. At A the removal will be complete, whereas the further it gets towards B the more incomplete will be the removal. As B is in line with the axis of the handle there is a constant tendency on the part of the instrument to pivot on this latter point. Furthermore, the curvatures of the different post-nasal spaces (Fig. 2) vary ; some are flat, others more recessed, all calling for some slight modification of pressure and rotation. Only one who constantly does this work can be expected to be able to compensate for all these factors.

My attempts at teaching this technique convinced me that the difficulty or inability on the operator's part to guide the blade accurately down the curvature was primarily due to the fact that the blade and handle were in two different planes. It seemed to me that there was no reason whatever why the blade and the handle should not be placed in the same plane. I therefore instructed Messrs. Mayer and Phelps to make the instrument illustrated (Fig. 3) for me. The cutting edge of this adenoid

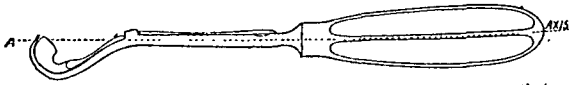


FIG. 3.—Outline of the author's adenoid plane. Note that the cutting edge (A) is in the axis of the instrument.

plane is in direct continuity with the axis of the handle. In order to clear the soft palate, that part of the instrument between the head and the handle is curved downwards. The major technical difficulties of the operation vanish with this construction. This plane cannot rotate about any point other than the edge of the blade, corresponding to A in Figure 1. There is no need to acquire any knack, because *the operation has been converted from an indirect into a direct cutting manœuvre.* The surgeon need not direct the blade. *The instrument will guide itself down the post-nasal wall, as it must do, and will adapt itself automatically to the varying curvatures of the different post-nasal spaces.* All that is necessary is to apply moderate pressure throughout the sweeping-down movement. This also means that whatever the position of the instrument the blade is always at the cutting angle. The blade is set at an angle of 45 degrees to the handle, which I have found to be most suitable. In the older types of instrument this angle seems, in some cases, to have been determined by the whim of the

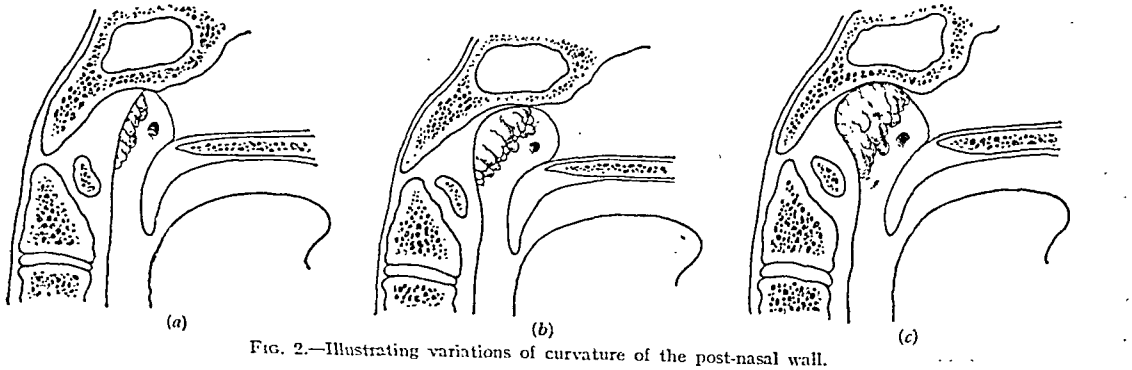


FIG. 2.—Illustrating variations of curvature of the post-nasal wall.

particular maker. I have found varying angles in the different sizes of the same make. In the plane described I have insisted on uniformity in this matter. This instrument has been in continuous use at the Queen's Hospital for over eighteen months, and even those attempting the operation for the first time rarely fail to clear the adenoids out of the rhinopharynx in one sweep.

Sharpness of the Blade

This is a matter of supreme importance. As the adenoid mass is shaved off, and not curetted, it follows that the blade must be razor-sharp. Actually the metal of the instrument is not an ideal medium to take and retain such an edge. The metal of the blade is in one piece with the rest, and therefore cannot be tempered highly lest the whole should become too brittle. If, however, the edge is set very frequently it will serve its purpose well. The surgeon can do this for himself with a small oilstone. A blunt or jagged edge is liable to tear into and strip the mucous membrane. Copious and often prolonged bleeding occurs when the pharyngeal venous plexus and branches of the ascending artery are involved. If, in addition, excessive force is used, fibres of the superior constrictor muscle may be detached. Unsightly scars and tags, occasionally followed by post-nasal dryness, are then to be expected. Messrs. Allen and Hanbury have made a plane to my design (Fig. 4) where the blades are

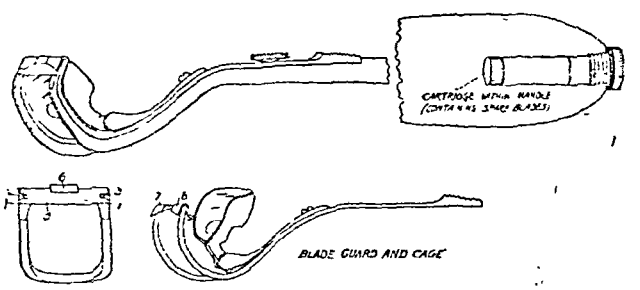


FIG. 4.—The author's adenoid plane with removable blades. The figures indicate points of support for the blade.

removable and interchangeable, with six spares carried in the handle. These blades are cut-down commercial safety razor blades, which, being spring steel of correct temper, have a superb cutting edge, and make this an ideal instrument to use. The safety cage is so designed as to hold the blade on both surfaces and all four sides—nine points in all—and is therefore absolutely secure. The spare blades are naturally inexpensive. One can always be certain of a razor edge and a clean operation.

Anaesthetic

It cannot be stressed too strongly that a deep anaesthesia is not only unnecessary, but undesirable; it should be on the light side, and the coughing reflex must have returned before the operation is commenced. The tonsils are usually enucleated beforehand by guillotine or dissection, where anaesthesia must be sufficiently deep to relax completely the musculature of the throat. One can safely wait until the anterior and posterior pillars and soft palate begin to contract, as one is operating behind them and against a firm base. If the bloodless method of enucleation is employed, as described in my paper (*British Medical Journal*, 1929, i, 988), the operative field is clear of blood and the moment of the returning reflexes is immediately seen. Where swabs are being pressed into the throat the commencement of retching and gagging indicates the moment to commence adenectomy. Only where the surgeon intends to control the immediate haemorrhage by pressure is deeper anaesthesia permissible, when, as soon as the adenoids are removed, the palate is retracted forwards and the post-nasal space is packed with gauze wrung out in sterile liquid paraffin and moistened with ferric chloride solution. This packing is left in for approximately two minutes. When the packing has been removed the soft palate is again pulled forward, and the rhinopharynx can be inspected.

The Operation

With regard to the position of the patient, the important thing is that the head must be at a lower level than the larynx to avoid the aspiration of blood. The following are the stages of the operation (Fig. 5):

1. The post-nasal space is carefully examined with the finger to determine the size of the mass and extensions. Under good illumination the instrument is inserted behind the soft palate and pushed upwards until it touches the vault.

2. The handle is dropped towards the chest, so that the back of the cage rests against the posterior edge of the nasal

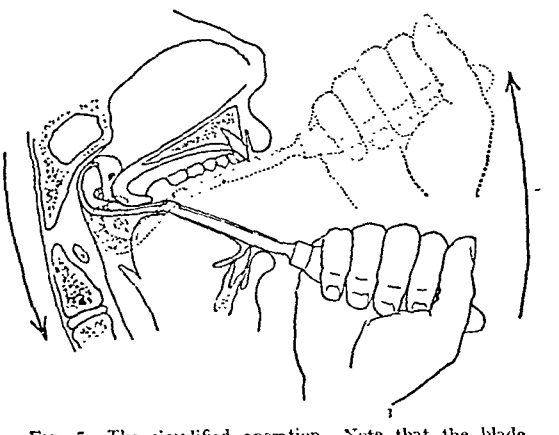


FIG. 5.—The simplified operation. Note that the blade "hugs" the post-nasal wall at every stage. (Drawn to scale.)

3. Applying moderate pressure, the blade is swept down septum and the blade engages the upper portion of the adenoid mass in the vault.

the post-nasal wall by raising the handle towards the face.

4. When the cage appears from behind the palate it is swept out of the mouth. This detaches the adenoids, and the whole mass will be found in the cage. The movements are, of course, continuous.

The operator must keep strictly in the mid-line or long axis of the body. There is then no risk of injury to the Eustachian cushions. Never more than moderate pressure is required if the blade is keen. I have seen shavings from the body of the atlas where the operator has been too heroic. This did not seem to be followed by anything worse than a transient feeling of stiffness in the neck. The adenoid mass occasionally extends laterally into the fossae of Rosenmüller. This is ascertained beforehand by palpation. I have found that most of it can be coaxed into a more central position by breaking down adhesions with the finger, and then removing them together with the central mass. I am indebted to Sir James Dundas-Grant for this hint. Where this is ineffective these extensions must be removed by carefully inserting the instrument to one or other side of the mid-line behind each Eustachian cushion, and proceeding as before. The bleeding is usually brisk and of short duration, ceasing spontaneously. Where it appears to be excessive, a blunt instrument, combined with too much force, is usually to blame, and packing may be necessary.

THE CHOICE OF A BLOOD SUGAR METHOD FOR CLINICAL WORK

BY

FREDA K. HERBERT, M.A., M.B., B.S.*
BIOCHEMIST, ROYAL VICTORIA INFIRMARY, NEWCASTLE
AND
MARGHERITA C. BOURNE, B.A., M.Sc., PH.D.
(From the Department of Chemical Pathology, St. Bartholomew's Hospital)

Modern methods of blood sugar determination are numerous, and the choice of one has usually been regarded as a matter merely of personal predilection. The purpose of this paper is to emphasize two principles which are of importance in the choice of method as they concern the validity of the results obtained. The first is the use of a procedure which gives a true sugar figure, unaffected by the non-sugar-reducing material of blood; the second is the use of capillary blood, since the capillary sugar figure is the same as the arterial figure, whereas the venous figure is, under certain conditions, much lower.

TRUE SUGAR

The criteria by which a method is ordinarily judged are: (1) that it must give accurate results on pure glucose solutions; (2) that it must give constant results when multiple analyses are made on one blood sample; and (3) that it must recover quantitatively glucose added to blood. These are minimum requirements, which are fulfilled by all the recognized blood sugar methods. But these criteria leave untouched the question of whether all the reducing substance contributing to the "sugar" figure of a blood sample is glucose. There is, in fact, non-sugar material present in corpuscles which has different effects in different analytical methods, so that the figure obtained for a given blood sample depends on the analytical method used.

Some of the methods of protein precipitation used in blood sugar determination allow the non-sugar-reducing substance to reach the filtrate, whereas in others the non-sugar material is precipitated (or retained in corpuscles) so that the filtrate contains no reducing substance other than glucose. Moreover, the various oxidizing reagents (copper or ferricyanide solutions) used in sugar determinations are differently affected by the non-sugar material. It is necessary, therefore, to consider the behaviour of the non-sugar material, both at the protein-precipitation stage and in the subsequent analysis of the filtrate. Methods of determining the true sugar depend on avoiding the effect of the non-sugar fraction, either by using a method of protein precipitation which eliminates it or by using a copper reagent which is not reduced by it. The methods of protein precipitation of Somogyi, of Herbert and Bourne, and of Folin (1930) yield filtrates containing only true sugar, so that any analytical method used with these filtrates gives a true sugar figure. The Benedict method (1928) depends on the opposite principle—the copper reagent is unaffected by the non-sugar-reducing material, and the method therefore gives true sugar figures, whatever the method of protein precipitation. It was described for use with the Folin-Wu filtrate, which contains the non-sugar material. The reducing effects of the non-glucose material of human blood may be entirely explained as due to the glutathione, which is present only in corpuscles, and of which there is probably 40 to 60 mg. per 100 c.cm. normal whole blood.

In Table I are summarized the average effects produced, for normal human blood, when various analytical procedures are used in association with various precipitation methods. The figures give the non-sugar fraction in terms of glucose (mg. per 100 c.cm.).

TABLE I

Methods of Precipitation of Protein	Methods of Analysis of Filtrate: Hagedorn-Jensen	Shaffer-Hartmann (Somogyi's Modification)	Folin-Wu	Benedict (1928)	MacLean
Tungstic acid precipitation of haemolysed blood (Folin-Wu)	28	25*	11*	0*	Definite but variable
Tungstic acid precipitation of non-haemolysed blood (Herbert and Bourne)	0	0	0	0	—
Zinc hydroxide precipitation at *p*H 7.4 (Somogyi)	0	0	0	0	—
Zinc hydroxide precipitation at *p*H 6.8 (Hagedorn-Jensen)	4*	—	—	—	—
Ferric hydroxide precipitation (MacLean)	—	—	—	—	Probably none

The asterisks show the combinations in the methods as originally described.

From the above table it is evident that some of the recognized methods are influenced by the non-sugar material sufficiently to affect the interpretation of results in clinical work. In the Shaffer-Hartmann method the Folin-Wu precipitation, which allows the non-sugar material to pass into the filtrate, is associated with an analytical method which is affected by this non-sugar fraction, and the resulting error is about 20 mg. per 100 c.cm. The same criticism applies to the original Folin-Wu method, but the error is here only about 11 mg. per 100 c.cm. In the original Hagedorn-Jensen method, the protein precipitation allows only a fraction of the non-sugar material to pass, and this method is therefore subject only to small errors, although the ferricyanide reduction is greatly affected by the non-sugar material, as is shown by the results of combining the ferricyanide reduction with the Folin-Wu precipitation. In the original MacLean method the effect of the non-sugar fraction is most probably negligible, owing to the use of the ferric hydroxide precipitation; but the evidence for regarding MacLean's method as giving true sugar figures is less complete than in the case of the other methods which estimate true sugar. The figures here given refer to normal human blood. Since the interfering substance is a constituent of corpuscles, its amount depends upon the corpuscle content of the blood. In anaemia the concentration of non-sugar substance in whole blood is therefore reduced, whereas in polycythaemia it is increased.

The two protein precipitation methods which yield true sugar figures and to which several analytical methods are applicable are (1) the zinc hydroxide precipitation of Somogyi, and (2) the tungstic acid precipitation of non-haemolysed blood, described independently by Herbert and Bourne and by Folin. Folin now recommends the latter method instead of the original Folin-Wu technique for the Folin-Wu system of blood analysis. Its special importance is in determinations of sugar and of uric acid. The technique used by Herbert and Bourne for venous blood is as follows: 1 c.cm. of blood is suspended in 8 c.cm. 3 per cent. sodium sulphate (Na_2SO_4, $10H_2O$); 0.5 c.cm. 10 per cent. sodium tungstate (Na_2WO_4, $2H_2O$), and 0.5 c.cm. 2/3 N. sulphuric acid are added. The reagents are mixed without undue shaking, and the mixture is filtered or centrifuged. There should be no unnecessary delay in the separation of the filtrate when once the tungstate and acid have been added. In this method the glutathione remains within the corpuscles, whereas

* Working with a grant from the Medical Research Council.

the glucose freely diffuses through the mixture, so that the filtrate contains the same amount of glucose as a Folin-Wu filtrate, but no glutathione. The corpuscle proteins are not precipitated, and the corpuscles are mechanically removed with the plasma protein precipitate.

THE USE OF CAPILLARY BLOOD

Foster has shown that, in the dog, the blood from a prick in the paw has the same sugar content as the blood from the femoral artery, whereas the blood from the femoral vein contains less sugar. That is to say, the blood loses no measurable amount of sugar in its passage through the skin, whereas venous blood which has passed through muscle tissue has been depleted of sugar since it left the arteries. For human subjects also there are important differences between the figures obtained on blood taken by capillary puncture of the ear or finger and on venous blood from an arm vein. These differences are most marked during insulin action. The difference is therefore small in the normal fasting subject and in the untreated diabetic, but it becomes noticeable in the diabetic under insulin. It is very marked in non-diabetic subjects after administration of glucose, when the blood sugar is beginning to fall under the influence of the individual's "endogenous" insulin secretion. At this period of a sugar tolerance curve it is usual to find the venous figure lower than the capillary figure by 40 to 80 mg. per 100 c.cm.

THE SIGNIFICANCE OF THE CHOICE OF METHOD FOR THE CLINICAL INTERPRETATION OF RESULTS

In view of the difference between capillary and venous blood it is very important to use a method applicable to capillary blood for the differentiation between renal glycosuria and hyperglycaemic glycosuria. The renal threshold is, strictly speaking, that concentration of sugar in the renal artery at which the kidney begins to excrete glucose. The cutaneous capillary sugar is an index of the sugar content of the general arterial system, and is therefore the best available approximation to the figure for renal arterial blood. If the venous blood sugar curve is taken instead of the capillary, the renal threshold may be placed too low by 40 to 80 mg. per 100 c.cm. This is the type of work for which a capillary method is essential; for other work it is desirable, but not so necessary. In work on proved diabetics the use of a method requiring venous blood will scarcely cause serious error.

The errors due to the use of methods which do not give true sugar figures are great enough to be of some clinical importance. They are evidently large enough to be of clinical interest in the Shaffer-Hartmann method and in the ferricyanide method applied to Folin-Wu filtrates; but as these methods are not much used in this country it is not necessary to consider them in detail. The only method commonly used for routine work which is liable to errors of any importance is the Folin-Wu method, which, for blood of normal corpuscle content, gives figures too high by 9 to 16 mg. per 100 c.cm. whole blood. Such differences are of slight importance when the blood sugar is high, but they may be of importance when the sugar is low, for the non-sugar fraction remains the same, while the glucose changes. If, for example, the true sugar is 60 mg. per 100 c.cm. and the apparent sugar 76 mg. per 100 c.cm., the difference is great enough to cause a hypoglycaemia to be regarded as normal. Since carbohydrate metabolism is now being studied in many non-diabetic conditions, and, in particular, since chronic hypoglycaemia is regarded as a definite clinical syndrome, it is important that true sugar figures should be obtained. This is likely to be of special significance in the study of children's diseases, since children are prone to dehydration, and the relative rise in corpuscle content in anhydraemia will cause a proportionate increase in the non-sugar effect. We have seen an infant double its red cell count and haemoglobin as a result of dehydration. Under such conditions one would expect the Folin-Wu figure to be 18 to 32 mg. per 100 c.cm. above the true sugar—an error of very great importance if there is a question of hypoglycaemia.

Much work on carbohydrate metabolism in non-diabetic conditions is of very doubtful significance, owing to the differences in method and differences between capillary and venous blood. Commonly the figures are reported without any note on these points. The subject would be clarified if a true sugar method applicable to capillary blood were generally adopted. All the methods of protein precipitation mentioned in the table may be adapted for capillary blood, and there are therefore several possible combinations. As an example, the application of the Folin-Wu analysis to the tungstic acid precipitation of non-haemolysed blood is given below.

Micro-Method for the Determination of True Sugar by a Modified Folin-Wu Method

Reagents.—1. 3 per cent. sodium sulphate (Na_2SO_4, $10H_2O$).
2. 10 per cent. sodium tungstate (Na_2WO_4, $2H_2O$).*
3. 2/3 N. sulphuric acid.*
4. Folin-Wu copper reagent.*
5. Phosphomolybdic acid reagent.*
6. Standard glucose solution (a stock solution of 1 per cent. glucose in benzoic acid is diluted to 0.01 per cent. for use).

* As in the original Folin-Wu method.

Protein Precipitation.—Take 3.6 c.cm. sodium sulphate solution, and measure into it 0.2 c.cm. blood. Add 0.1 c.cm. tungstate solution and 0.1 c.cm. 2/3 N. sulphuric acid. Mix the reagents without undue shaking, and separate the fluid at once by centrifuging and pouring the supernatant fluid through a small filter (filter paper, Whatman No. 41, 5.5 c.mm.). It is possible to obtain just over 2 c.cm. of filtrate, provided the filter is of the size mentioned.

Analysis.—In three Folin's tubes (graduated at 12.5 c.cm. and 25 c.cm), A, B, and C, take:

A. 2 c.cm. filtrate,
2 c.cm. Folin-Wu copper solution.

B. 1 c.cm. 0.01 per cent. glucose (that is, 0.1 mg. glucose),
1 c.cm. water,
2 c.cm. Folin-Wu copper solution.

C. 2 c.cm. 0.01 per cent. glucose (that is, 0.2 mg. glucose),
2 c.cm. Folin-Wu copper solution.

B and C are the standards.

Mix the contents of the tubes, and place them in a boiling water bath for six minutes. Cool for one or two minutes, without shaking. To each tube add 2 c.cm. phosphomolybdic acid solution. Dilute to the 12.5 c.cm. mark with water, and mix thoroughly. Compare the unknown A in the colorimeter with the standard either B or C, whichever is closer to it in colour.

Calculation.—In the protein precipitation 0.2 c.cm. blood was diluted to a total volume of 4 c.cm. Of the filtrate 2 c.cm. were taken—that is, a volume equivalent to 0.1 c.cm. blood. Let S be the reading of the standard, U the reading of the unknown, and x be mg. glucose in the 2 c.cm. filtrate taken. Standard B contains 1 c.cm. of 0.01 per cent. glucose—that is, 0.1 mg. glucose.

$$x \times U = 0.1 \times S$$

$$x = \frac{0.1 \times S}{U}$$

$\therefore$ 2 c.cm. filtrate contain $\frac{0.1 \times S}{U}$ mg. glucose

$\therefore$ 0.1 c.cm. blood contains $\frac{0.1 \times S}{U}$ mg. glucose

$\therefore$ 100 c.cm. blood contain $\frac{0.1 \times S \times 100}{0.1 \times U} = \frac{S}{U} \times 100$

Similarly, for the standard C the blood sugar is $\frac{S}{U} \times 200$.

BIBLIOGRAPHY

Original Methods

Benedict: *Journ. Biol. Chem.*, 1928, lxxvi, 457.
Folin and Wu: Ibid., 1919, xxxviii, 106.
Idem: Ibid., 1920, xli, 367.
Hagedorn and Jensen: *Biochem. Zeit.*, 1923, cxxxv, 46.
MacLean: *Biochem. Journ.*, 1919, xiii, 135.
Somogyi: *Journ. Biol. Chem.*, 1926, lxx, 599.

The Non-Sugar Fraction and the Differences between Methods

Ege and Roche: *Skandinavisches Arch. f. Physiol.*, 1930, lix, 75.
Herbert and Groen: *Biochem. Journ.*, 1929, xxiii, 339.
Herbert, Bourne, and Groen: Ibid., 1930, xxiv, 291.
Herbert and Bourne: Ibid., 1930, xxiv, 299.
Somogyi: *Journ. Biol. Chem.*, 1927, lxxv, 33.
Idem: Ibid., 1928, lxxviii, 117.
Idem: Ibid., 1929, lxxxiii, 157.
Somogyi and Kramer: Ibid., 1928, lxxxi, 733.

Special Protein Precipitation Methods

Folin: *Journ. Biol. Chem.*, 1930, lxxxvi, 173.
Herbert and Bourne: *Biochem. Journ.*, 1930, xxiv, 299.
Somogyi: *Proc Soc. Exp. Biol. and Med.*, 1929, xxvi, 353.
Idem: *Journ. Biol. Chem.*, 1930, lxxxvi, 655.

Differences between Capillary and Venous Blood

Foster: *Journ. Biol. Chem.*, 1923, lv, 291.
Lawrence: *British Medical Journal*, 1924, i, 516.

Memoranda

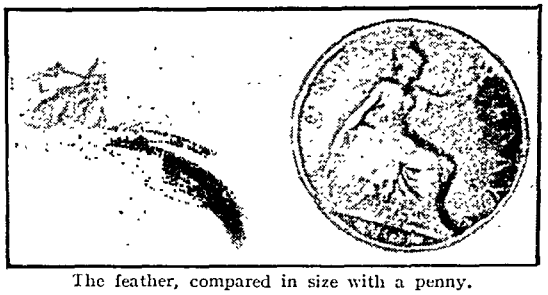
MEDICAL, SURGICAL, OBSTETRICAL

FOREIGN BODY IN THE NECK

THE following case deserves record if only because of its resemblance to one of the cases mentioned in an annotation on the extrusion of inhaled foreign bodies published in the *British Medical Journal* of February 1st, 1930 (p. 210).

A female breast-fed child, aged 9 months, was brought to hospital with the history that four days previously a small swelling was noticed on the right side of the neck below the jaw. The family doctor that day had diagnosed "sore throat."

On examination the throat was red, and both hypertrophied tonsils were inflamed, especially the right one, which



The feather, compared in size with a penny.

was surrounded by a considerable amount of sticky muco-pus. A small tender swelling was present just below the middle of the right ramus of the mandible. This swelling rapidly diffused and increased, the overlying skin becoming red and oedematous, and six days after the first appearance of the "lump" a skin incision was made over its fluctuant centre, allowing extremely foul pus to escape (*B. coli*).

The abscess cavity was enlarged by sinus forceps, and a foreign body, which proved to be a contour feather 1½ inches long, protruded from the wound. The proximal or quill end was fairly rigid and quite sharp. The wound is now healing rapidly.

On inquiry, the mother admitted that about a week before any swelling was noticed, her 7 years old daughter told her that "the baby had swallowed a feather from the pram eiderdown." I might add that this baby, when 5 months old, was operated on in this hospital for intussusception.

A. J. P. ALEXANDER,
House-surgeon, Belfast Hospital for Sick Children.

ACUTE PUERPERAL INVERSION

The following details of a case of acute puerperal inversion may be of general interest, following the report of Dr. Noel Hypher, which appeared in the *Journal* of August 2nd, 1930 (p. 179). This is the second case of the kind which I have seen in the past five years.

A married woman, aged 34, had had three previous labours. The first, in 1918, was normal, apart from the placenta being adherent and requiring manual removal which was associated with haemorrhage. The second labour, in 1922, was complicated by a breech presentation, the child being stillborn. An adherent placenta came away one and a half hours later, with haemorrhage. The third labour was also concerned with a breech case; the child lived for twelve hours, and the placenta was again adherent. There was no history of abortion or irregular menstruation in the intervals between the labours.

I was called to see this patient on March 16th, 1930, and found the os fully dilated and a breech presentation. I delivered a full-time child, who breathed and cried lustily after some time. I waited one and a half hours for the delivery of the placenta. The patient had lost a fair amount of blood, and the haemorrhage was becoming increasingly profuse, so I decided to remove the placenta manually. It proved to be calcified in parts and very adherent, but I extracted it piecemeal; during the manipulation I felt what I took to be a tumour about the size of a hen's egg, and not truly pedunculated. The patient was much collapsed and suffered from shock; her pulse was 128 and its tension was weak. Her respirations were of the sighing type, and she was cold, clammy, and sweating. A hypodermic injection of strychnine and pituitrin was given, and the patient was immediately removed to hospital by ambulance, where her pulse improved steadily as the result of the application of warmth, four-hourly injections of strophanthin, and rectal injections of glucose and saline solution.

At 6.30 p.m. on March 20th complete inversion of the uterus occurred while a bedpan was being used. A fibromyoma was found attached to the inside of the fundus; replacement proved impossible, and amputation became necessary. I tied a tourniquet as high up as I could, made a vertical incision through to the serous coat, and established the absence of any prolapse of the bowel or bladder. I then continued the incision round the level of the lower os, stripped the peritoneum, and repaired it. I oversewed the uterine stump with interrupted sutures and a continuous suture. The tourniquet was then removed and the stump replaced. The patient made a good recovery and left hospital after five weeks.

The interesting points of this case are the question whether there is any relation of an adherent placenta to intrauterine tumours; the absence of symptoms relating to the tumour; the three successive breech births; and the placenta being found adherent at each delivery.

I wish to thank Dr. Stewart for his kind assistance and interest in the case.

Krugersdorp. LAURENCE D. ADLER, M.B., Ch.B.

POISONING BY CAMPHORATED OIL

Although the occurrence of cerebral symptoms following poisoning with camphor is well known, I think the following case might be of general interest owing to its very definite symptoms.

A girl, aged 10, who is a mild grade mental deficient, while at home on leave from an institution, was admitted to the casualty department of Walsall Hospital with a history of having taken by mouth twopennyworth of camphorated oil (about 75 grains of camphor) one and a half hours previously, followed by "a fit." On examination the child was pale and drowsy; the temperature was 99° F., the pulse 105, and the respiration 30; she was able to answer questions clearly.

The stomach was washed out, and a considerable quantity of camphor-smelling oil was removed; several ounces of concentrated magnesium sulphate were left in the stomach, and the child was admitted to hospital. The next morning she

was very drowsy, but could be awakened. The temperature was then normal, but by 4 p.m. had risen to 101°, the pulse being 148 and the respiration 36; by 8 p.m. the temperature had reached 104°. The child complained of pain over the lumbar region and the left hip. There was no bowel action.

On the second day the temperature rose to 105.6° at 10 a.m.; there was headache, and the pain over the left hip continued; the abdomen was soft, there was no tenderness, and the chest was normal. The throat was slightly inflamed. The child was still very drowsy, and an enema produced only a slight constipated result. The condition remained practically unchanged throughout the day.

On the third day the temperature was 105.4°, the pulse being 152 and the respiration 40. The child was very drowsy and lay curled up on her side. She complained of severe headache, and of pain at the back of the neck, in the shoulders, and in the dorsal region. She was uttering constant slight cries, and definite head retraction was present. The pupils were unequal, but reacted to light; the ocular movements were normal, and there was no nystagmus nor other cranial nerve disturbance. All the limb and abdomen reflexes appeared hypersensitive, but the Babinski sign was absent. Pronounced ankle clonus was obtainable on both sides, and Kernig's sign was strongly marked. The arms were maintained in a flexed position with moderate rigidity. Lumbar puncture was performed at 3 p.m., and 22 c.cm. of clear colourless fluid, under pressure, were withdrawn. The report showed a cell percentage of less than 1; globulin was not in excess, the protein percentage was 50 mg., that of chlorides 0.71, and of sugar 0.118. By 6 p.m. the temperature had dropped to 102°, and the child was much less restless. Four hours later it was 98.4°, the pulse rate being 130 and the respiration rate 30; she was sleeping quietly.

On the fourth day the child appeared very much better, the temperature being 97.2°, the pulse 118, and the respiration 24. The pupils were now equal, but the muscles generally were still very irritable. Kernig's sign was still present but not marked. She was not drowsy, and was very hungry. The child had her first unaided bowel action with a semi-fluid and dark greenish result. On the fifth day the temperature was 97.4°, the pulse 72, and the respiration 22. The child appeared perfectly normal, and her appetite was good. On the eleventh day there was a rise of temperature to 101.4°, without symptoms, and the child was discharged cured on the sixteenth day.

I am indebted to Dr. Frank Layton, senior physician to the Walsall General Hospital, for permission to publish this case.

J. COTTRELL, M.B., B.S.Syd.,
Senior House-Surgeon, Walsall General Hospital.

EXTRAUTERINE PREGNANCY OF FOURTEEN MONTHS' DURATION

The following case of extrauterine pregnancy is of interest in view of its long duration, the complications that ensued, and the recovery of the mother.

A Burmese woman, aged 36, was admitted to hospital on November 22nd, 1929, with a large abdominal swelling. The patient stated that it had been first noticed in the right lower quadrant of the abdomen about fourteen months previously, and since the menses had stopped, she thought she was pregnant. No attacks of pain or bleeding from the vagina about the third or fourth month were remembered, but foetal movements were felt about the fifth or sixth month. At ten months there was vaginal bleeding for about three days without labour pains.

The patient was a thin, ill-nourished woman, with a protuberant abdomen. The uterus was small, hard, and drawn to the left; the cervix was hard and thick, and the right fornix felt full. There was a tense and fluctuating abdominal tumour, dull to percussion in all positions, and extending from the xiphoid cartilage downwards, involving the entire abdomen. A fluid thrill was present, but there were no enlarged veins coursing over the abdominal wall. A solid tumour was indistinctly felt on deep pressure. A cyst of the right ovary was provisionally diagnosed, and the patient was prepared for operation.

On December 9th she was anaesthetized with chloroform, and a median incision was made below the umbilicus. The peritoneum was hardly recognizable, being thick and covered with blood vessels. On opening it a large quantity of brownish fluid escaped and a white mass was presented, which on examination proved to be the thigh of a child. The head was near the xiphoid, and the breech below the level of the umbilicus of the mother. The body was that of a dead full-grown female child, with a thick umbilical cord. There was a large placenta attached to a thin sac in the abdominal cavity, from which it was separated by adhesions, some coils of intestine being adherent to the sac. The child was covered with a greenish-yellow deposit, and the flesh was quite firm, except that the hair on the head came off on the slightest pressure. When the child was delivered the placenta was found to be adherent; it had to be very carefully removed for fear of breaking down the adhesions and infecting the general peritoneal cavity. Since the placental circulation had presumably stopped some days previously, the placenta was soft and had to be carefully scraped out. No attempt was made to remove the sac, as it would certainly have resulted in the infection of the peritoneal cavity, but it was scraped and washed, and the walls were approximated by catgut sutures, the abdomen being closed in the usual way. No opening was detected connecting the sac with the uterus or Fallopian tubes.

On the third day after operation there was an evening rise of temperature to 100° F.; the pyrexia persisted for the next three days, when the patient had a profuse foul-smelling discharge from the vagina. The temperature then fell to normal, where it remained. The discharge continued, but diminished daily. The abdominal stitches were removed on December 19th, ten days after the operation, and the wound healed by first intention. On December 22nd a little serous discharge emerged from one of the stitch holes, and on the following day discharge resembling that from the vagina appeared at that hole. Evidently the sac walls had not united and the discharge from it was finding vent through the abdomen and vagina. A drainage tube at the outset might perhaps have prevented this complication. By January 28th, 1930, all discharge had stopped, and the abdominal sinus had completely healed, the patient leaving the hospital quite well on February 18th.

M. K. PILLAI, M.B., C.M.,
Civil Surgeon, Sagaing, Burma.

Reports of Societies

ETIOLOGY OF DISSEMINATED SCLEROSIS

At a meeting of the Section of Neurology of the Royal Society of Medicine, on January 8th, with Mr. LESLIE PATON in the chair, a paper on chronic subdural haematoma was read by Dr. J. PURDON MARTIN.

Dr. Martin said that cases of chronic subdural haematoma were nearly always associated with a history of injury. The bleeding probably came from small vessels of the dura torn by the blow; the blood remained fluid, possibly owing to its defibrination by transmitted pulsation from the brain. In 40 per cent. of cases the haematoma was bilateral. A vascular, fibrous membrane enclosed the fluid, which Virchow thought was formed by the organization of inflammatory exudate. In the early stages there were few symptoms, and signs of local pressure were absent until late. Dr. Martin did not consider that trauma was the only etiological factor, especially in patients over 40. Degeneration of the arteries or alcoholism might have a considerable influence. The latent period following trauma might last three or four months or even a year. The symptoms included drowsiness, headache, ocular disturbances, and sometimes mental changes; focal symptoms might develop in the late stages. The treatment of election was operation with evacuation of the contents of the haematoma, and recovery was usually complete.

Dr. C. P. SYMONDS said that as diagnosis was difficult in these cases operation should be undertaken whenever a suspicion of subdural haematoma arose. The injury which was responsible was often described as trivial, and the latent period was frequently long.

Dr. E. ARNOLD CARMICHAEL, opening a discussion on the etiology of disseminated sclerosis, with special reference to spherula insularis, said that claims had recently been made by workers at the Westminster Hospital that spherula insularis could be cultured from the cerebro-spinal fluid of patients with disseminated sclerosis. In the first place, in conjunction with Dr. Greenfield, he had tried to reproduce their results with the Langer gold salt tests. The gold solution was made by the method of Mellanby and Davis, which he believed to be more reliable than that employed at the Westminster Hospital, where, he thought, too sensitive a solution might have been used, as his results were indefinite and not in agreement with those of the workers there. Secondly, it had been found at Westminster that, following the ingestion of 50 grams of levulose, the proportion of levulose in the blood rose above the normal limit of 30 mg. per 100 c.cm. in a large number of cases. In his series this limit had been exceeded only in six patients, one of whom had recently been confined, while in twenty-two it remained below normal limits. He thought that a less pure form of levulose, or the previous exhibition of arsenic, might be responsible for the Westminster results. Thirdly, he had repeated the experiments on the *p*H values of cerebro-spinal fluid, serum, and broth mixtures. Since the bubbling hydrogen electrode used at Westminster caused excessive frothing of the solution and drying of the platinum he had chosen a closed cell method. Hartley's broth was employed, and the serum was obtained from hospital students; he had found it difficult to obtain a mixture of *p*H 7.6 or 7.5, as was said to be necessary. In every case he found that the *p*H of the mixture rose to the alkaline side during the days which followed; on no occasion had he observed the shift to the acid side described by the Westminster workers. An alkaline change was inevitable under aerobic conditions owing to the escape of CO_2 from the mixture; by keeping the mixture under paraffin he had found that the *p*H was still raised, though more gradually. Finally, of eight cultures from the cerebro-spinal fluid of patients examined at Hampstead, and of eleven examined at Queen Square, no spherules had been found. Among thirty-two samples cultured independently at Queen Square and at Westminster, no spherules had been seen in fourteen from patients with disseminated sclerosis and in seventeen with other conditions, but spherules had been grown at Westminster from the cerebro-spinal fluid of a chorea patient.

Sir JAMES PURVES-STEWART thought the apparent variations of Dr. Carmichael's results from those of Westminster were due to the use of different methods. It had never been claimed that a positive result in the gold curve indicated the presence of a living virus; it was probably an effect of the toxin of some causal agent. In a similar way the levulose tolerance test was only of value as an indication of deficiency of the liver as the result of injury by toxins, and had no importance unless associated with indican in the urine and positive glycuronic tests. Workers in England and in Budapest had confirmed Miss Chevassut's work, and three groups of observers, therefore, had reached the same conclusions, as opposed to one dissentient.

Miss CHEVASSUT said she believed that the method of preparation of the gold salt laid down by Langer and used at the Westminster Hospital gave reliable results. Dr. Carmichael had used a different method, and in his results had given no details of the points at which the colour changes occurred. His findings were therefore scarcely comparable. The levulose given at Westminster had been identical with that used by Dr. Carmichael. In the experiments on *p*H values he had been attempting to measure the reactions of cultures without knowing whether a culture was present or not. If, with her method, he had found nothing to be excessive, his technique was faulty; that method had been chosen because it had the advantage of removing free CO_2, and hence it avoided the alkaline change due to loss of CO_2 which he had observed. His suggestion that paraffin should be used to prevent this change defeated the end in view, since an attempt was being made to culture the virus aerobically. The acid change was slight, and, by using Dr. Carmichael's method, might easily be masked by the alkaline change. With regard to microscopical examination, the technique was difficult; results were usually obtained only after two or three examinations of the same case.

Mr. J. R. MARRACK said that it was quite impossible to wash out the CO_2 from the mixture by Miss Chevassut's method in any reasonable time. With a *p*H of 7.5 a third of the CO_2 present would be free, and as long as any CO_2 remained in the mixture that proportion of it would be liberated.

Mr. J. E. BARNARD said that in the eight cultures which he had examined at Queen Square he had failed to find anything abnormal. Among the small proportion of Miss Chevassut's cases seen by him, he had certainly observed something which was new to him. Whether this finding was distinctive of her cases he did not know.

Miss A. R. KERRIDGE said that, as far as she could see, Dr. Carmichael's electrode should give results more relative than those of Miss Chevassut. But the errors appeared to go the wrong way; with Miss Chevassut's technique one would expect the mixture to become more alkaline. Dr. Carmichael's results did not explain why Miss Chevassut found an acid change.

Dr. J. G. GREENFIELD preferred the method of Mellanby and Davis for the preparation of the gold salt solution; he had come to the conclusion many years ago that the formalin method was not reliable. He had found normal gold curves in untreated cases, and in cases within a month of death.

Dr. CARMICHAEL, in his reply, said that he left his figures and those of Miss Chevassut to the judgement of the meeting. It had been suggested that he should repeat his observations, and if Miss Chevassut would advise him in employing her technique he would welcome her help.

EDINBURGH OBSTETRICAL SOCIETY

At a meeting of the Edinburgh Obstetrical Society held on December 10th, 1930, with the president, Dr. H. S. DAVIDSON, in the chair, Dr. JAMES DAVIDSON read a paper on the histological changes occurring in the liver in a series of cases of eclampsia, with reference to the clinical manifestations, in which a series of cases was discussed, both with regard to the clinical manifestations and to the pathological changes occurring in the liver and kidneys.

It was shown that there were at least three different types of lesion found in the liver—namely, necrosis of the cells of the peripheral zones of the lobules; widespread necrosis of the cells in the central and mid-zones; and small areas of focal necrosis with no gross hepatic lesions. These pathological changes were found in cases which clinically were typical of eclampsia, in cases with fits and low blood pressure, in those with no fits and high blood pressure, and in those with no fits and low blood pressure. In other words, cases diagnosed clinically either as eclampsia or as a severe toxaemia of pregnancy were shown to have the same pathological lesions. The striking resemblance of the more severe type of liver lesion to acute yellow atrophy was discussed, and the severity of

the renal changes was contrasted with those found in the liver. It was suggested that the kidney lesions were to a certain extent secondary to the hepatic condition.

Dr. R. EVERETT reported on a case of traumatic rupture of the uterus at the fourth month. The patient, aged 18, was thrown off the pillion of a motor cycle going at thirty miles an hour. She was admitted to hospital in a dazed condition, and for several days suffered from cerebral irritation associated with a moderate degree of shock and a pulse of 130. She had also a Colles's fracture of the left forearm. She gave a history of having missed four periods. There were apparently no abdominal symptoms. For seven weeks after the accident she had a slight vaginal discharge, when she was readmitted to a gynaecological ward. She was then found to have a hard mass in the right iliac fossa, which was thought to be a haematoma of the abdominal wall that had undergone some calcification. Curettage was performed, and a few fragments of what appeared to be retained placenta were removed. The patient was discharged a week later, having had an uninterrupted convalescence with no further bleeding. Three weeks later she reported at hospital and stated that she was feeling well and had returned to work two days previously. The mass on the right side appeared to be harder, and an *x*-ray photograph was taken which revealed a lithopaedion. A lipiodol examination was carried out, when it was found that the lithopaedion was separated from the uterus and was outside the tubes, suggestive of a rupture of the uterus. Subsequently, the lithopaedion was removed with some difficulty, as there were numerous adhesions both to it and to the uterus. The patient was discharged from hospital three weeks after operation, and two months later her periods were regular, the uterus being mobile and completely involuted.

PUERPERAL SEPSIS

At the last meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland Dr. A. H. DAVIDSON read, as his presidential address, some notes on puerperal sepsis, dealing chiefly with treatment as carried out to-day in the various large centres of Great Britain and Ireland. Some recent work on the bacteriophage of the genital tract before and after labour suggested that the commonest type of severe puerperal sepsis, that due to haemolytic streptococci, was always an exogenous infection. Non-haemolytic streptococci were constantly present in the vaginal flora; under conditions of lowered resistance they became virulent and gave rise to an endogenous infection. Attention had recently been drawn to anaerobic streptococci as a cause of puerperal sepsis. Albuminuria, haemorrhage, anaemia, and laceration or bruising of the soft parts were predisposing factors which also were of great importance. Vaginal examinations and intrauterine manipulations should be avoided as far as possible. Many deaths from sepsis followed manual removal of the placenta, an operation sometimes rendered necessary by unskilled conduct of the third stage of labour. In considering treatment Dr. Davidson laid stress on the importance of prophylaxis by keeping the patient in good condition throughout pregnancy and labour. When sepsis had developed, good nursing and the relief of any distressing symptom were of much value. Drainage of the uterus by postural treatment was essential, and the patient should be made to sit upright in bed for short periods five or six times daily. Intrauterine douching or exploration should be carried out only when it was reasonably certain that something had been left behind. Rheinstaedter's curette should never be used in a septic uterus. Hysterectomy and ligation of the pelvic veins had a small place in the treatment of uterine sepsis, but the results were not very encouraging. There were also such forms of treatment as Hobbs's glycerin method, the giving of vaccines and serums, intravenous injection of antiseptic solutions such as collosol iodine, mercurochrome, eusol, and the arsenobenzol preparations, and Luker's serum and quinine technique. All these methods had their successes, but none was a specific.

Sir WILLIAM SMYLY said that the chief impression left on his mind by the President's paper was that "meddlesome midwifery was bad." At present the first duty of doctors in connexion with puerperal sepsis seemed to be that of prevention. Dr. T. M. HEALY thought that in dealing with cases of sepsis nursing did more to help the patient's recovery than any drugs known at present. He felt that the value of drugs in these cases was exaggerated, and that the chief essentials were plenty of sleep and plenty of nourishment. In the war immuno-transfusion had been proved to be of little use.

Dr. G. FITZGIBBON gave an outline of the views he had formed from his own experience. It was a mistake to speak of puerperal sepsis as though the condition were a single and separate disease. He divided the cases into two distinct groups: (1) those in which, after delivery, the woman's tissues were undamaged and undevitalized; (2) those in which there had been protracted labour with prolonged devitalizing pressure on the soft parts. In the first group the infection was due to invasion by pathogenic organisms of a host in whom a pre-existing debility had lowered the normal resistance. In these cases the infection was usually exogenous, due to carriers, indirect contacts, or faulty operative technique, but in a small number quiescent dental root or tonsil infection was responsible, the organism being a streptococcus, though not necessarily haemolytic. In the second group there was the immediate influence of the labour in devitalizing tissue; the infecting organisms might be exogenous and more virulent from the start by reason of the lowered resistance, both general and local, or they might be some of the normal flora of the body—staphylococci, coli bacilli, and non-haemolytic streptococci—which were opportunists, and became infective. In the first group the course of the disease was similar to that of any acute infection, and was typical of such; the rapidity of recovery depended upon the patient's resistance. In these cases specific treatment was useless. Various methods of treatment might appear to be effective, but the main treatment was general improvement of personal resistance by good nursing, comfort, feeding, sunlight, and the avoidance of decubitus. When the disease had continued for seven to ten days, it was essential to watch for localization, and, if this occurred, to treat it according to its nature. In the second group the local condition was important from the outset. The tissue damage might be so great that nothing could be done. The condition was one of gangrene; if it could be extirpated with a healthy margin this might be effective, but a margin could seldom be obtained as the parametrium was involved, and so the result depended on whether the patient's resistance was good enough to hold out until local demarcation had taken place.

Dr. BETHEL SOLOMONS considered there was a cure for every case if the obstetrician was lucky enough to strike the correct one. He believed in certain definite principles: (1) It was wrong to preserve an attitude of watchful expectancy, because some treatments did good. (2) Intrauterine douching, digital exploration of the uterus, and curetting were proved harmful treatments. (3) There was a definite but small place for hysterectomy, which, if done at the right time, would certainly save lives which would otherwise be lost. (4) Glycerin had a very small place in treatment; it was specially useful when there was suppression of lochia. (5) To await definite localizing signs in every case would retard progress in knowledge. The fact that a patient developed pneumonia did not mean that she had not sepsis; pneumonia was often an end-result of sepsis. This affected the value of statistics about sepsis, for many cases reported as deaths from influenza or pneumonia should rank as septic death. With regard to forceps, any operation increased the risk of sepsis, but unfortunately it was often necessary to apply forceps to save infant life.

Dr. D. G. MADILL said that the report on puerperal sepsis submitted to the last London congress showed

247 cases with 87 deaths—that is, nearly 33 per cent. mortality. Of the 87 deaths, 19 had had spontaneous delivery; and 68 active intervention. Of the 160 recoveries, 42 had normal labour and 118 active intervention; sixty different methods of treatment were used. Meddlesome midwifery and unnecessary forceps delivery should be avoided if sepsis was to be prevented; training of the district nurse should be extended, and each nurse should have a short post-graduate course every few years. The one advance in active treatment was abandonment of douching and of the blunt curette. Exploration of the uterus was permissible only if a piece of placenta was known to be retained, or, in certain cases, for taking an intrauterine culture. A great many of the cases listed in the reports of maternity hospitals as normal deliveries did not deserve the term at all, because the women had been long in labour and the tissues were devitalized, and this trauma led to sepsis later on. The lines laid down for the treatment of any case of fever seemed to him to be the best for the treatment of puerperal sepsis.

Dr. R. J. ROWLETTE thought that although very little advance had been made in the treatment of puerperal sepsis in the last generation or two, ideas as to its cause were now a good deal clearer. The organism most frequently found was the *Streptococcus haemolyticus*, but there were some cases of acute sepsis due to the *Staphylococcus aureus*. These cases could not be explained as being caused by contamination during the investigation. The *Staphylococcus aureus* was not a common organism in cultures made from the circulating blood. Other organisms were often found in the uterus, such as *Bacillus coli*, but he thought it very doubtful whether *B. coli* was ever really the cause of the infection. He did not think the views put forward as to the presence of anaerobes playing an important part in the causation of sepsis had ever been substantiated. One practical advance in the treatment of puerperal sepsis was the abolition of douching, and there was every evidence that chemotherapy was injurious. In no condition of bacterial infection was there the slightest evidence that antiseptics introduced into the blood stream had any effect in combating sepsis. Satisfactory results had been obtained by the early use of autogenous vaccines, which were preferable to serums; in combination they were very successful.

Dr. G. TIERNEY said that, before any advance could be made in the treatment of septic cases by vaccines, it was necessary to estimate the powers of resistance of the patient's blood to infection, but at present no such method was available. In acute septic infection the resistance was so lowered that any stimulus such as a vaccine failed to do good—in fact, it sometimes made the patient worse; non-specific antigen was required. Dr. R. M. CORBET referred to two septic cases in which *Staphylococcus aureus* was grown from the cultures. He believed it was possible to recognize the condition clinically. Many treatments had the disadvantage that they gave the patient lasting pain; such should be discarded as not being worth while. Dr. A. J. HORNE thought the curtailment of vaginal examinations by students and midwives was very desirable. Dr. NINIAN FALKINER mentioned a case in which a long time had elapsed between the birth of the patient's baby and the onset of sepsis; the cause was a haemolytic streptococcus. It was interesting to note that serum failed; radiostoleum, S.U.P., and a vaccine after localization cleared up the condition. He thought that the importance of administering serum at once in these cases could not be overstressed.

At a meeting of the North of England Obstetrical and Gynaecological Society, held in Liverpool on December 19th, 1930, the president, Dr. JOHN W. BURNS, delivered his valedictory address entitled "Stocktaking." This was a review of the advances made in the present-day knowledge of gynaecology and obstetrics obtained by making a *précis* of the more important papers read before the society during the past thirty years. Before the address, specimens and cases were shown and described by members of the society.

Reviews

FILTERABLE VIRUSES

Although it is more than probable that the filterable or ultra-microscopic viruses do not represent a homogeneous group, in the present state of our knowledge it is convenient to consider them together. There are certain features, such as small size, the inability to devise a lifeless medium which will sustain their growth *in vitro*, and the production of inclusion bodies in the affected tissue cells, which are common to the majority, and the editors of *A System of Bacteriology* have done wisely in devoting a separate volume[1]—the seventh—to a consideration of these viruses. Incidentally although neither the term "filterable virus" nor "ultra-microscopic virus" is satisfactory, the title "virus diseases" chosen for this volume is no better, because, of course, all micro-organismal disease would rightly come under this heading. The point is not, however, of any real consequence.

The volume opens with an introductory survey by W. E. Gye and J. C. G. Ledingham which, after a brief historical sketch, passes to a consideration of the probable nature of these viruses. Both authors are evidently of the opinion that the filterable viruses represent a form of life very similar to, if not identical with, the bacteria, a view to which many workers in this field would subscribe. Loeffler and Frosch, by the way, discovered the virus of foot-and-mouth disease in 1898, not 1892. Following this is a useful chapter on cell inclusions contributed by R. J. Ludford, which is adequately illustrated. In reviewing a volume such as this comprising thirty-nine chapters, it is impossible to do more than touch on a few of its salient features. The account of virus diseases of plants by J. Henderson Smith, though necessarily brief, is good, and will be welcomed by medical readers who have not the leisure to keep in touch with the researches of plant pathologists. Similarly, the short account of insect virus diseases by R. St.J. Brooks is acceptable. The late F. R. Blaxall has contributed an excellent chapter on small-pox and a brief account of the animal pock diseases. Chapter VIII, by J. G. Greenfield, deals with acute disseminated encephalomyelitis as an independent disease and as a complication of certain virus diseases. We are well aware that a number of authorities hold that these various conditions have a common etiological agent; but until this hypothesis has been proved experimentally, it is better not to prejudge the question by presenting the group of conditions as an entity; very similar histological findings seem hardly to warrant this attitude. An interesting account of encephalitis lethargica is given by J. McIntosh, and his judicial summing-up on the question of etiology will meet with the approval of most readers. Some may question the inclusion of such diseases as pleuropneumonia of cattle and agalactia in a volume on filterable viruses, since the causal organisms of these two conditions can be cultivated in simple artificial media. Were it not for this fact these two organisms would be grouped among the filterable viruses without hesitation, and to exclude them on the ground that they can be cultivated like the bacteria would, in our opinion, be unsound. Exception might also be taken to the presence of chapters on diseases due to the *Rickettsiae* in this volume, but here again there is much to be said for the editor's policy.

The volume concludes with an admirable account of the bacteriophage by E. M. Burnet, and although it has only been possible to mention specifically a few of the articles,

---

[1] *A System of Bacteriology in Relation to Medicine.* Medical Research Council. Vol. vii. London: H.M. Stationery Office. 1930. (Pp. 509; illustrated. Single volumes, £1 1s. net; set of nine volumes, £8 8s. net.)

that does not mean that the others are of little account. Throughout, a high standard of excellence is maintained, and we have little hesitation in saying that this will probably be the most appreciated of the nine volumes which are to constitute this *System of Bacteriology*.

AN ANALYSIS OF CREATIVE MIND

In *Creative Mind*,[2] a work of rare literary merit, Professor CHARLES SPEARMAN cold-bloodedly takes the creative faculty to pieces in an attempt to find out the "springs and mechanisms" that set and keep it going. For this undertaking he makes no apology; he has no truck with the popular superstition that knowledge of how great works are created somehow or other sterilizes the mind of the creator or abates the pleasure of those who can only contemplate his creations. "If ever," he writes, "we should succeed in prying out any secrets as to how the mind achieves these creations, it will be in the hope that such a better understanding may aid us to appreciate and to create the more effectively."

Professor Spearman's first concern is to clear the ground of current doctrines, all of which he regards as unsatisfactory and rejects with a curtness that cannot but be gratifying to those who are unable to accept the psychological systems on which they are based. "Gestalt" psychology, he holds, offers an explanation of the process of appreciating a work of art but not of making it; behaviourism, far from explaining any mental activity, expunges the very term "mental" from its vocabulary; even psycho-analysis, according to Spearman, for all its preoccupation with what he calls subconscious bestiality, lends but scant help in searching out "the mental laws by which either poet or beast is able to conjure up his amazing tropes." An open field now before him, the author sets out briefly but lucidly a series of psychological laws, qualitative and quantitative, in terms of which he believes mental creativity finds a place among the basal and ultimate powers of knowing; and the rest of the book he devotes to the practical bearing of these laws on the visual arts, music, literature, and scientific and intellectual creation. The laws are simple, some indeed may suggest too simple; but the same, the author reminds us, could be said about Newton's laws of motion. The scientist aims, after all, at expressing even the most complex events in simple terms. It is not therefore on the ground that they are less complex, less mysterious, than the phenomena they are intended to explain that Professor Spearman's laws may justly be criticized. Three qualitative principles, indicating tendencies which under the influence of certain clearly defined quantitative laws become facts, are offered confidently as defining the utmost degree of creativeness to which the human mind could possibly attain; first, the principle that a person tends to know his own sensations, feelings, and strivings; secondly, that when two or more items (percepts or ideas) are given a person may perceive them to be in various ways related; and finally, that when any item and the relation to it are present to mind, the mind can generate in itself another item so related. "Noegenesis," a new termed coined by Professor Spearman from the Greek "nous" and "genesis," represents, he believes, a revolutionary doctrine of psychology—namely, that the processes described in the principles just enunciated possess the joint virtues of producing new mental content and of enabling the individual to attain belief on adequate grounds.

But though unassailable on the grounds of simplicity, Professor Spearman's laws, when it comes to their practical application—and to this over three-quarters of the book is devoted—fail to realize the hopes that their very clarity, hard intellectual quality, and comprehensiveness cannot but arouse in the mind of the reader. One feels throughout that a few questions, perhaps the most important, still remain unanswered. What, in essence, is this drive to create that differentiates the artist from his fellows? Why, having it, does he work in this medium and not in that, make this work of art and not another, select these images and not those? How does the aesthetic emotion of the artist compare with or differ from the aesthetic emotion of ordinary men and women who come under the influence of his creations? How far, indeed, do Professor Spearman's principles enable us the better to understand the mysticism of Dostoievsky or Blake, the ordered genius of Bach, or the intuition of Einstein? To suggest that these things are ultimately inexplicable is mere obscurantism; but even if the reader does not get from Professor Spearman's book, or from the admirably reproduced pictures that illustrate it, the sense that at last an adequate explanation has been offered, he will get, beyond the immediate pleasure of reading a work itself so exquisitely written as to merit inclusion among the products of creative mind, a habit of subjecting to intellectual analysis that part of artistic creation which even now is susceptible to such analysis, and guidance towards a new and very enjoyable way of looking at works of art.

GUY'S HOSPITAL REPORTS.

The last quarterly instalment of the eightieth volume of the *Guy's Hospital Reports*[3] opens with Sir William Hale-White's interesting article on the satirical prints of Thomas Guy, thus filling a gap left in previous accounts of the founder of the hospital. These represent him as a miser and usurer, and maliciously give an undeserved impression; for apart from his endowment of the Borough hospital Guy made a number of generous donations in other directions during his lifetime. The other sixteen articles cover a wide ground. Drs. Knott, Oriel, and Witts, reporting on the work of the asthma clinic since its foundation in 1928, state that among more than 200 cases dermal reactions to powdered allergens were positive in 46 per cent., eosinophilic sputum was found in 64 per cent., and Gram-negative bacilli of the Friedländer type in the sputum in 35 per cent. There is an increase of amino-acids in the blood during the attacks, and the urine contains a proteose to which the individual is specifically sensitive. The biochemical changes in the urine and blood are the result, not the cause, of the allergic paroxysm. Glucose exerts a beneficial influence in asthmatic children, but not in adults. Mr. Gill-Carey shows that abnormal conditions of the accessory nasal sinuses were present in twenty-four out of fifty asthmatic persons. Professor G. W. Nicholson continues his work on tumour formation in a philosophical study of the teratomas. The symposium on staphylococcal infections in the April number is now supplemented by Mr. C. H. Fagge's essay on osteomyelitis. In his stimulating article on abdominal orthopaedics, Mr. W. H. Ogilvie pleads for physiology as a basis for surgical treatment, and points out that the principles now underlying orthopaedic practice might with advantage be applied to all branches of surgery. Dr. Hurst singly, or in collaboration, contributes four short but interesting papers; in reporting a case of Addisonian anaemia in which treatment of gastritis was followed by restoration of gastric secretion, he points out that in cases without a family history of that disease and with evidence of gastritis, an

[2] *Creative Mind*. By C. Spearman, Ph.D., Hon. LL.D., F.R.S. Contemporary Library of Psychology. London: Nisbet and Co., Ltd., and the Cambridge University Press. 1930. (Pp. xii + 153; 6 figures, 16 plates. 5s. net.)

[3] *Guy's Hospital Reports*, vol. 80 (vol. 10, Fourth Series), No. 4, October, 1930. Edited by Arthur F. Hurst, M.D. London: The Lancet Ltd. (Annual subscription £2 2s.; single numbers 12s. 6d. each.)

attempt to cure the stomach disorder should be made, and may result in a cure without the continued use of liver preparations to prevent relapse. With one of his house-physicians he records a case of Addisonian anaemia with achlorhydria after gastro-jejunostomy performed for duodenal ulcer. With Professor M. J. Stewart of Leeds he describes a case of gastric carcinoma with miliary tubercles; the achlorhydria was not regarded as facilitating this infection. Dr. L. J. Witts writes on chlorosis in the male; Mr. W. M. Mollison on the treatment of vertigo by destruction of the labyrinth with alcohol; Mr. J. Gaymer Jones on duodenal ileus; Mr. R. A. Ratcliff on submucous lipoma of the colon. Dr. R. E. Smith places on record two rare conditions in infants, and the treatment of a case of haematemesis by gastric lavage is detailed by Dr. A. Nelson Jones.

PHYSICAL DIAGNOSIS

In 1905 Dr. RICHARD C. CABOT, now professor of clinical medicine in Harvard University, brought out his book on *Physical Diagnosis*. The tenth edition[4] has been revised so as to keep pace with the times, and is about the same size as the ninth edition, noticed at the time in our pages (1928, i, 310). It is dedicated to the late F. C. Shattock, a former Jackson professor of clinical medicine in Harvard University, in appreciation of his example of sincerity, common sense, and enthusiasm in the teaching and practice of medicine. The sustained popularity of this useful and well-illustrated volume is the result of the similar characters shown by the author, who in order to break down the unfortunate distinction between clinical and laboratory diagnoses has wisely described all the methods applicable to the examination of each of the several organs of the body (for instance, the stomach), in a single section, so that the student may pass directly from one to the other. The first chapter, entitled "Data relating to the body as a whole," deals briefly with variations in weight and in temperature, and then the various regions of the body follow, beginning with the head, face, and neck, the thorax being naturally considered in much detail and generously illustrated by skiagrams. The author's clinical experience is appositely utilized. Thus, to take one example, the normal intensity of the second sounds at the base of the heart varies at different periods of life; the records of 1,000 cases from his clinic showed that in 90 per cent. of children under 10 years of age the pulmonary second sound was louder than the aortic; in subsequent decades the number fell progressively until after the sixtieth year the aortic second sound was louder in 66 out of 68 cases examined; these figures are well demonstrated by two graphs. The concluding section is devoted to examination of the nervous system, and here as elsewhere the author limits his directions to the methods which he has himself employed and found useful, and does not attempt to give an impartial and impersonal account of all the investigations that have been recommended.

BIOMETRIC TECHNIQUE

The volume entitled *The Measurement of Man*[5] is the expansion of four lectures delivered in the University of Minnesota by research workers, dealing with different aspects of anthropology, but all versed in modern biometric technique. The late Professor J. ARTHUR HARRIS has discussed not only the familiar bodily dimensions, stature, weight, etc., but has also included a careful discussion of his own reductions of measures of metabolism. Professor CLARENCE M. JACKSON provides a study of the anthropometry of various racial stocks represented in the United States. Professor DONALD G. PATERSON, in an admirably written critique of the pseudo-scientific schools of character forecasters, from Lavater and Gall to our own time, well illustrates the power of modern statistical analysis. Lastly, Professor RICHARD E. SCAMMON summarizes what is known about the rate of growth not only of the whole body, but of its separate components. The essays are clearly written; technical terms and methods are properly explained, and the book can be recommended to any intelligent reader. All the essays are good, but that of Professor Paterson is of special interest to the medical reader.

[4] *Physical Diagnosis*. By Richard C. Cabot, M.D. Tenth edition, revised and enlarged. London: Baillière, Tindall and Cox. 1930. (Pp. xxi + 529; 6 plates, 279 figures. 25s net.)

[5] *The Measurement of Man*. By J. A. Harris, C. M. Jackson, D. G. Paterson, and R. E. Scammon. Minneapolis: University of Minnesota Press. 1930. (Pp. 214; 87 figures. 2.50 dollars.)

THE OEDEMA OF BRIGHT'S DISEASE

Correction

In the review of Professor Achard's interesting book on *The Oedema of Bright's Disease*, published in our issue of October 11th, 1930 (p. 602), an unfortunate misstatement of fact was made, to which our attention has since been drawn. Our reviewer commented upon the apparent absence of mention of Southey's tubes as a means of withdrawal of fluid from the lower limbs. Actually, on page 226, which contains the last paragraph of the book, Southey's tubes are fully described and their value is indicated. We regret the mistake, and hasten to offer our apologies.

NOTES ON BOOKS

The November instalment of the *Annals of Medical History*[6] bears on its cover the portrait of John Syng Dorsey (1783–1818), a most brilliant member of the medical profession, who was prematurely cut off at the early age of 35 directly after his introductory lecture as professor of anatomy in the University of Pennsylvania. In his dissertation for the degree of M.D. he decried surgery as "the proof of the imperfection of medicine." He was the pupil and assistant of his maternal uncle Philip Syng Physick, the eminent surgeon, whose portrait forms the frontispiece. Dr. Walter Freeman sketches the life of Lewis Morgan of New Jersey, who in 1771, when 15 years of age, went to Edinburgh to attend the lectures of Cullen and Monro. The history of epilepsy given by Dr. T. C. Von Storch presents much interesting information. The late Dr. C. F. Hoover's article on "The significance of the scientific conquest of the air for intellectual freedom" does not, as perhaps might be anticipated, refer to flying, but to the struggle between science and superstition, and contains the aphorism that "Christian science is nothing more than modernized witchcraft." Dr. Ernest Caulfield concludes his valuable history of the infant welfare movement in London during the eighteenth century, and Professor A. S. Warthin's third part of "The physician in the dance of death," which it is to be hoped will later be published as a whole, deals with Holbein's share in the illustrations of this subject.

The fifth edition of Mr. WILLIAM PARTRIDGE'S *Aids to Bacteriology*,[7] which has appeared eight years after the last, has been revised and brought up to date by the inclusion of an account of several more human, veterinary, and plant diseases, as well as new sections on tuberculin tests, control of mosquitos, the chilling and storage of fruit, timber mycology, and bacteriophagy.

[6] *Annals of Medical History*. New Series, vol. ii, No. 6, November, 1930. Edited by Francis R. Packard, M.D. New York: Paul B. Hoeber Inc.; London: Baillière, Tindall and Cox. 1930. (Subscription in Great Britain, £2 5s. per volume of six numbers.)

[7] *Aids to Bacteriology*. By William Partridge, F.I.C. Fifth edition. Student's Aids Series. London: Baillière, Tindall and Cox. 1930. (Pp. vii + 311. 5s. net.)

The problems associated with multiple births have provoked both scientific discussion and also ill-founded speculations and beliefs. In a small volume, entitled *Twins: Heredity and Environment*,[8] Mr. HIRSCH presents the data obtained by an investigation of 108 cases of twins, his object being to determine the relative importance of hereditary constitution and environment in deciding the degree of similarity between such individuals. The first part of the book is devoted to a review of the scientific facts and opinions relating to the origin of twins. The second deals with the series of cases examined by the author himself, a new approach being made to the subject, in that the cases were selected not by random sampling, but according to a scheme whereby the similarities of identical and fraternal twins could be compared in similar and quite different environments. In this way the extent to which heredity and environment respectively contribute to the expression of mental and physical characters could be evaluated, and the analysis of these cases is of considerable interest in demonstrating that while both factors are concerned, heredity is the more important of the two.

The Mechanism of the Heart and its Anomalies,[9] by Dr. GÉRAUDEL of the University of Paris, is a translation of the French volume published two years ago. The author's interpretation of the anomalies of rhythm, based on anatomical and electrocardiographic studies, was briefly described in our issue of August 25th, 1928 (p. 344).

Mr. TOWNROE's survey of *The Slum Problem*[10] has been reissued, with a chapter on the Housing Act of 1930. The volume, as already noted in these columns, is an admirable study of insanitary areas dealing practically with the various problems and schemes of reclamation in Great Britain and America.

[8] *Twins: Heredity and Environment.* By Nathaniel D. M. Hirsch. Cambridge, Mass.: Harvard University Press; London: Milford, Oxford University Press. 1930. (Pp. 159; illustrated. 10s. net.)

[9] *The Mechanism of the Heart and its Anomalies.* By Émile Géraudel. Translated, with an introduction, by Louis Faugères Bishop, M.D., Sc.D., F.A.C.P., and Louis Faugères Bishop, jun., Ph.B., M.D. London: Baillière, Tindall and Cox. 1930. (Pp. xx + 266; 200 figures. 45s. net.)

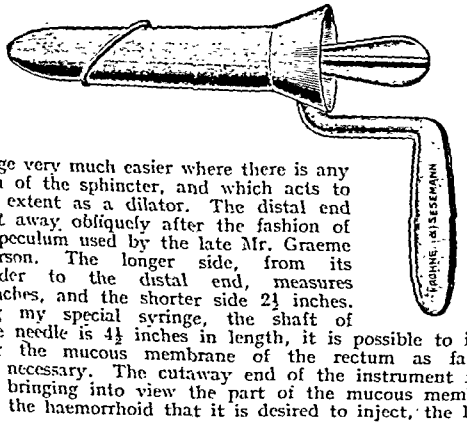
[10] *The Slum Problem.* By B. S. Townroe, M.A., Hon. A.R.I.B.A. Reissue. London: Longmans, Green and Co. 1930. (Pp. xi + 220. 6s. net.)

PREPARATIONS AND APPLIANCES

RECTAL SPECULUM AND LAMP

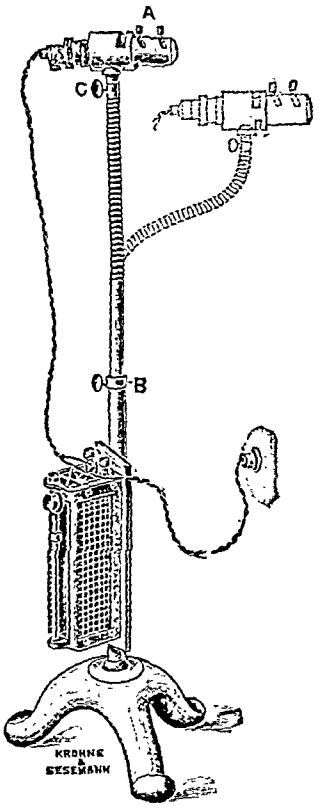
Mr. ARTHUR S. MORLEY, F.R.C.S., writes: The two instruments described below have been made in accordance with my design by Messrs. Krohne and Sesemann of Duke Street, Manchester Square, W.1. I have found each of them of material assistance in the treatment of haemorrhoids by submucous injections with carbolic oil.

The *rectal speculum* combines in one instrument several good features utilized separately in other patterns. The obturator is made with a conical end, which renders its



passage very much easier where there is any spasm of the sphincter, and which acts to some extent as a dilator. The distal end is cut away obliquely after the fashion of the speculum used by the late Mr. Graeme Anderson. The longer side, from its shoulder to the distal end, measures 3½ inches, and the shorter side 2½ inches. Using my special syringe, the shaft of whose needle is 4½ inches in length, it is possible to inject under the mucous membrane of the rectum as far up as is necessary. The cutaway end of the instrument facilitates bringing into view the part of the mucous membrane or of the haemorrhoid that it is desired to inject, the longer side keeping other parts out of the way like a retractor. A special point is the shape of the handle. This makes it possible to rotate the instrument *in situ* round a complete circle, because it is so designed that the horizontal part of the handle stands out clear of the buttocks and does not catch on them as does the ordinary straight handle. This is a much simpler arrangement than the movable collar, suggested by the late Dr. Whitcombe with a similar object.

The *standard lamp* affords a powerful light for illuminating the interior of the rectum through any form of speculum. Formerly I used a forehead lamp, but there are obvious disadvantages in being tethered by the cable of such an instrument. The lamp illustrated is arranged on a stand with a heavy base. The upright carries a rheostat, which makes it possible to use the lamp from mains of any voltage. The upper half of the upright is flexible, so that it can be



moved in all directions and to any angle. The lamp may be raised and lowered still further by pulling out the flexible portion from the rigid lower part after loosening the thumbscrew (B). The lamp itself is fixed on to the top of the column by a hinged collar (C), so that it can be tilted again at this point through an angle of nearly 180 degrees. The lamp is of the Vesta pattern. It is provided with two powerful movable lenses (A), by means of which the focus can be altered at will. It provides an intense circle of light, the diameter of which can be varied by moving it nearer to or farther from the field of operation. I have found it of the greatest assistance for rectal work. It can also be used for laryngoscopic or ophthalmoscopic work, and for microscopy.

EQUIPMENT FOR ACTINOTHERAPY

We have received from the British Hanovia Quartz Lamp Company, Limited, of Slough, a copy of their new catalogue containing particulars of equipment for artificial light treatment. This firm specializes in quartz *mercury vapour lamps* for general and local irradiation. First place is given to the Alpine sun lamp, which requires no accessory apparatus, and combines in its burner, its electrical controls, and its supports and directing and reflecting mechanism every device and adjustment which can make for ease and efficiency in operation. There is also listed a combination unit embodying an Alpine sun lamp for general irradiation and a Kromayer lamp for local conditions. Several variations and simplifications of the apparatus are shown in the catalogue. Another form of quartz lamp is after the design of Jesionek, for group irradiation in clinics.

British Medical Journal

SATURDAY, JANUARY 17th, 1931

VACCINATION AND ENCEPHALITIS

As announced in our last issue (p. 64), the Committee on Vaccination, appointed in 1926, under the chairmanship of Sir Humphry Rolleston, by the Minister of Health and the Medical Research Council, has now issued a further report. In passing, we may express regret that a committee concerned with "observations on the epidemiology and the clinical and pathological character of post-vaccinal nervous disease" should include no neurologist. The report begins with an analysis of ninety new cases of post-vaccinal encephalitis which have been reported in England and Wales during the two years ending September 30th, 1929. These cases do not appear to have brought to light any new facts concerning the incidence and manifestations of the disease. The chief incidence has again fallen upon children of school age, of whom at least 92 per cent. had not previously been vaccinated. Outbreaks have been correlated with an increase in the number of persons vaccinated, but not with the prevalence of other acute infective diseases of the nervous system. A familial incidence has been observed in four instances. The incubation period after vaccination has not differed from that previously observed. No single source of lymph has been impugned. An account of the clinical features and post-mortem findings in twenty-five fatal cases adds nothing to existing knowledge.

Drs. Fairbrother and Hurst, at the Lister Institute, have inoculated monkeys and rabbits with material from the nervous systems of seven patients who died, but without result; and they have failed not only to produce in animals any condition resembling post-vaccinal encephalitis, but also to demonstrate the vaccinia virus in affected brains. Four fatal cases of encephalitis following other acute infectious diseases—namely, variola, measles, and "influenza"—are reported, and the pathological findings in the nervous system in these cases are stated to resemble closely those of post-vaccinal encephalitis. Consideration is next given to the treatment of post-vaccinal encephalitis with the serum of individuals recently vaccinated. Sir Thomas Horder has treated a child with an intrathecal injection of the blood serum of its mother, who had recently been vaccinated. Hekman has employed intravenous or intramuscular injections of the parents' serum in eleven cases, and Grüneberg in two. Only two of the fourteen patients thus treated died, the others making a complete recovery. These numbers are small, but the committee considers the results suggestive enough to encourage the use of human antivaccinal serum at the earliest possible moment. Professor Ledingham and Dr. G. F. Petrie have prepared an antivaccinal horse serum, which is now available when human serum cannot be obtained. In view of the desirability of inoculating the minimal amount of virus necessary to secure immunity, experiments have been carried out with diluted lymph, and the results of these are described in an appendix to the report. It was found possible to obtain successful vaccination in 100 per cent. of cases with Government lymph in a dilution of 1 in 100, and such diluted lymph led to less severe local and general reactions than more concentrated lymphs. A further appendix consists of a translation of an extract from the report of the Smallpox and Vaccination Commission of the Office International d'Hygiène Publique, Part II of which is a valuable review by Sir George Buchanan of the more recent data obtained in regard to post-vaccinal encephalitis from different countries.

It must be confessed that we are still far from understanding the nature of post-vaccinal nervous disease and from explaining its peculiarities of distribution and incidence. Two alternative explanations present themselves: that it is directly due to the virus of vaccinia, and that it is produced by some other virus which (in the words of a contributor to the report) may be "directed against the nervous system by certain febrile or exanthematous diseases." Those who advocate the former view point to the remarkably constant chronological relationship of the encephalitis to vaccination, to the fact that encephalitis can be produced experimentally by vaccinia virus, which has been demonstrated in the brain in human cases by Blaxall, and to the beneficial therapeutic results claimed for the serum of recently vaccinated persons. The other school lay stress upon the pathological evidence. Histologically, they claim, human post-vaccinal encephalitis is quite unlike experimentally produced vaccinal encephalitis in animals, while it closely resembles encephalitis following measles, antirabies inoculation, and a febrile illness described as "influenza." Neither side can claim much help from experimental infection of animals, since neither vaccinal nor any other form of encephalitis has been produced in animals inoculated from the nervous systems of fatal cases. The crux of the question is, perhaps, How much stress can be laid upon pathological resemblances? As Dr. Russell Brain points out in his lecture on "Zoster, varicella, and encephalitis," which we publish in this issue, there are important clinical differences between post-vaccinal encephalitis, measles encephalitis, and varicellar encephalitis. To conclude that similar pathological pictures imply the same organism is to make what many will consider the rash assumption that the body cannot react in the same way to more than one infection.

If immune serum is proved to be effective in the treatment of post-vaccinal encephalitis, it will afford strong support to the theory of its vaccinal nature. For it appears extremely doubtful whether a secondarily invading organism which has produced an encephalitis could have its course "suddenly arrested," as the report suggests, by an improvement in the primary condition. If we consider the whole range of diseases, including disseminated sclerosis, characterized by perivascular demyelination in the nervous system, and recall their

many common characteristics, among others the fact that it is doubtful whether any of them have ever been transmitted to animals, we may justly wonder whether we are not here dealing with phenomena which are beyond the scope of our present neuro-pathological concepts, and involve more complex events than the simple invasion of the nervous system by an infecting organism.

THE DIABETIC CHILD

Insulin came into use in the latter half of 1922, and it is now possible to take stock of the present position of the diabetic child. It may fairly be said that no more severe test of the value of insulin treatment can be devised than that afforded by its use in a series of juvenile diabetics. In them, as is well known, the disease is almost invariably of a most serious type. In the old days the diabetic child died, and as a rule died rapidly; in the era of the Allen treatment it lived longer but precariously. Additional factors testing the success of insulin treatment in childhood easily occur to the mind: the necessity for growth and education, the frequency of epidemic infections and minor operations, and some would add, perhaps, the unreliability of the patient in the matter of obeying strict rules. The majority of practitioners must remember well enough the tragic circumstances of the child diabetic in the pre-insulin days, so that they have a clear picture with which to compare the results of modern treatment. What promise to these children does insulin hold out of survival, health, development, and capacity to take their proper positions socially in the world?

Given ideal supervision, survival seems assured. In 1928 E. P. Joslin and P. White[1] were able to report that in a special clinic of over three hundred juvenile diabetics the loss through death was only at the rate of one child per annum. Such a mortality is so low that it is justifiable to conclude that, as a class, juvenile diabetics are going to survive, and it is wonderful to think that hundreds of such children, constituting, so to speak, a new race of people, will be able, for the first time in history, to take their places in the affairs of the world. These survivors at present consist of two groups: diabetic children already ill at the time of the discovery of insulin, and those who have had the benefit of insulin treatment since the first symptoms of their disease. Comparison of these groups with cases of the pre-insulin days seems to show that insulin brings not only survival but health. It is too early to be assured that the late complications of diabetes can be altogether averted in those who have had insulin treatment from the start of their malady, yet the evidence on this point is most encouraging. P. White[2] in a recent paper (October, 1930) states that, in this group of cases, xanthoma, cataract, and calcification of the blood vessels of the legs are practically no longer seen as complications of the strictly treated diabetic child. On the other hand, she reports that three children whose diabetes started after August, 1922, have developed tuberculosis. As she found that in pre-insulin days such complications usually required something like seven years of disease to become at all frequent, it is only now that an opinion on this matter is beginning to be possible, and we must at present reserve judgement on what condition of health will be maintained by these surviving children. During the exanthems to which children are prone the dose of insulin requires to be adjusted to a higher level for the time being. As regards operations, Joslin mentions that of his cases one out of five had had some sort of operation without disaster.

Of special medical interest is the point whether with treatment by insulin from the very start of the disease any improvement in pancreatic function would be found. It might be thought that, if anywhere, such improvement would be noted in the diabetes of childhood. In practice, however, there seems no real evidence of such basic improvement. Growth, development, and education of juvenile diabetics present special problems. It has been shown by several authorities that the disease appears to choose the precocious type of child, one who is above the average in weight, height, and intelligence. S. F. Adams,[3] for instance, found that 30 per cent. of diabetics under the age of 20 years were more than 10 per cent. overweight before the disease declared itself. On these grounds the question has been raised whether the pituitary has an influence in starting diabetes in children. I. M. Rabinowitch and E. V. Bazin[4] have found that, although with the onset of diabetes growth and development slow down, they proceed quite satisfactorily under treatment.

The education of these children is somewhat difficult. At present it is impossible to think that they could go to boarding schools, either private or public; but the universities are within their reach, and already some are arriving at university age. Joslin mentions one diabetic being successful in both work and athletics at an American university, and further news of the late histories of those reaching adult life will be awaited with keen interest. The claim has been made that insulin offers "limitless hope" for the future of the diabetic child, and there are certainly grounds for anticipating that this claim will be substantiated.

[1] *Interstate Post-Graduate Medical Association of North America*, 1928, 329.
[2] *Journ. Amer. Med. Assoc.*, 1930, xcv, 1160.
[3] *Journal of Nutrition*, 1929, i, 339.
[4] *Arch. Dis. Child.*, 1929, iv, 125.

SCIENCE AND ITS INSTRUMENTS

The mutual dependence of the instrument-maker and the scientific worker was again illustrated at the twenty-first annual exhibition of the Physical and Optical Societies, held at the Imperial College of Science, South Kensington, in the early days of this month. As Sir Arthur Eddington, who opened the exhibition, remarked, the instrument-maker generally does not profess to be scientific; he calculates out his curves and dimensions by trial and error. But it was interesting to hear the Plumian professor of astronomy at Cambridge go on to declare that that method might be as scientific as any other. Every year this exhibition

marks fresh progress towards the perfection of instruments. Apart from the increasing expense of scientific research of all kinds, it is a matter for regret also that, as appliances become more elaborate and exact, the amateur research and the ingenious improvisation which have evoked so much enthusiasm in past years have to be ruled out. The days of "tin tacks and sealing wax" are gone for ever, and a team of trained men, using material precisely adapted for the purpose, seems to be required in the provision of apparatus for any scientific adventure, whether it be the wresting of their secrets from the electrons or from the stars. To judge from the exhibition, progress in optics has now slowed down to a pedestrian pace, unless television be regarded as a branch of optics; and for the demonstrations of projected television there was actually an all-day queue at the Imperial College. But it is the study of acoustics that is now going forward, thanks to the stimulus of broadcasting, mechanized music in various forms, and the "talking" film. The elaborate devices for transmitting sound in public halls no doubt minister to the comfort of audiences, but the frequent complaint of inaudibility when these things are not installed—or sometimes when they are—makes one wonder whether this generation is growing deaf, whether a noisy age has not lessened the general sensitiveness of the civilized human ear. Audiences in former times, before these electrical or mechanical devices became possible, used to meet in the same halls, or in halls of similar dimensions, and there was no general complaint that speakers could not be heard. There is, of course, another possibility—namely, that the standard of enunciation and delivery has deteriorated. Science might consider giving us, not only ears to hear, but voices to speak. Of exhibits of another order, one which specially deserves mention was that of the Research Institute of the Cancer Hospital. This comprised various electroscopes for the detection of radiation and the measurement of the content of radium needles, also ionization chambers, a mechanical counter for the recording of blood cells of different types, and the fluorescent spectra of a number of compounds known to be productive of cancer in mice, the spectra appearing to act as a rough guide to their activity.

PATHOLOGY OF CARDIO-VASCULAR SYPHILIS

In a recent issue of the *American Heart Journal* H. S. Martland recalls the conflicting results of the earlier work, notably of Warthin and Clawson and Bell, on syphilitic involvement of the myocardium. He has investigated the modern view that such myocardial lesions commonly cause sudden death, by analysing 300 necropsies on patients who had died suddenly from heart disease. Cardio-vascular syphilis was present in 101, as compared with 139 deaths from arterio-sclerotic and 60 deaths from rheumatic heart disease. The lesions predominantly found in the specific group were aortic regurgitation (36), stenosis and atresia of coronary orifices (15), aneurysms (38), the remaining 12 consisting of unusual lesions. Myocardial hypertrophy was commonly observed, and was most evident in the presence of aortic incompetence; slight myocardial scarring was not infrequent, but was such as might well be associated with coexisting coronary arterio-sclerosis. Definite specific lesions of the myocardium occurred unusually, and were even then of insignificant extent. Regarding the biological development of cardio-vascular syphilis, the author believes that the process in early aortic syphilis is a retrograde lymphatic extension from the reservoirs in the mediastinal lymph nodes into the perivascular spaces around the vasa vasorum of the aorta. In this way is produced a syphilitic supra-valvular sclerosis, the most important lesion in syphilis of the aorta. It is triangular, and situated generally above a line encircling the commissures of the aortic cusps, and often just above the orifice of the left coronary artery. Aortic atheroma may coexist and may mask the syphilitic lesions. Extension of the pathological process takes place towards the commissures, widening them characteristically and spreading also into the free edges of the aortic cusps. During this extension of the syphilitic process the mouths of the coronary orifices are apt to become narrowed or even obliterated. The concomitant weakening of the wall of the aorta may lead to aneurysm formation, and this is specially likely to occur if the aortic valve remains competent. The aortic lesion should be regarded as a sclerotic deformity secondary to gummatous infiltration. A study of the gross pathology of the heart in cardio-vascular syphilis has been made by J. G. Carr, who gives the results of his analysis of 119 necropsies. Left ventricular hypertrophy resembling that secondary to essential hypertension was the only gross characteristic myocardial change. It was found that the frequent coexistence of arterio-sclerosis rendered very difficult the true etiological assessment of myocardial degeneration, but the author considers that rather less than 10 per cent. of patients with aortic syphilis have syphilitic coronary disease; 20 per cent. of such patients have aortic insufficiency, and this reflux is most apt to occur in enlarged hearts. Cardiac enlargement is thought to be a significant index of the cardiac involvement in cardio-vascular syphilis, and may be present even in the absence of aortic incompetence or hypertension. Aneurysm was found principally in those patients with relatively minor cardiac damage. Concerning the microscopic pathology in syphilis of the heart, C. C. Maher has made exhaustive examinations of the aorta at different levels, the aortic valves, the coronary arteries, the auricles and ventricles, and the septa, in five patients who died from untreated syphilitic aortic regurgitation. In these patients an inflammatory reaction was found represented by lymphocytic and plasma cell infiltration about the coronary arteries and their branches, and beneath the visceral pericardium. Invasion by the same cells of the spaces between the muscle fibres and around the capillary vessels was the typical form of myocardial involvement.

EFFICIENCY OF LIGHT WELLS

The increase in the height and size of modern buildings renders the internal well of the building of the greatest importance to the lighting of the inner rooms. When the building is high only a small portion of the rooms facing the well on the lower floors can have any view of the sky itself unless the light well is unusually wide; the remainder of the light entering the rooms must therefore depend on light reflected from the walls of the well. It follows from this that it is of the greatest

importance, in planning for the use of daylight in buildings of this kind, to know the amount of light received at various depths in a well of any given dimensions, when the surface of the well has a given reflection factor. The problem does not lend itself readily to mathematical treatment. It was therefore decided to investigate it experimentally, using the method of small-scale models. This has been done by Messrs. Meacock and Lambert for the Illumination Research Committee.[1] Diagrams are given to indicate the variations of "daylight factor" with depth in the case of light wells of different reflection factors. The curves show that any increase in the length of the well beyond about six times the breadth has no noticeable effect on the lighting of points on the centre line of the long wall. It was found possible to express the results in a simple empirical formula which would represent them with sufficient accuracy for practical purposes; this formula is given in the paper. Experiments were also made on the effect of glazed or matt surface brick linings to the well. A glazed brick well is less bright than a matt-coated well at the top, but brighter at the bottom if both wells have corresponding dimensions and the same reflection factor. The differences are, however, quite small, except at very considerable depths. It is intended that the whole of the methods of determination of the daylight factor outlined in this report, which are based upon experiments with models, shall in due course be compared with measured results on a few full-size light wells and in the rooms lit by them.

FIGURES FOR MEASLES AND WHOOPING-COUGH

The monthly epidemiological report for November, 1930, issued by the Health Section of the League of Nations, contains a valuable survey of the incidence and fatality of measles and whooping-cough in different European countries during the last two years. It is pointed out at the beginning of the article that the statistics of measles must necessarily be incomplete and to some extent unreliable, because many cases do not come under medical observation, or are wrongly diagnosed, and because in some countries possessing an excellent medical organization and facilities for medical statistics, measles is not notifiable. A study of the morbidity of measles in Bulgaria, Denmark, Hungary, Italy, Norway, Poland, and Switzerland in 1925–29 shows very marked fluctuation in its incidence from year to year. In Denmark in particular, where the arrangements for the notification of cases are both stringent and well enforced, the morbidity ranged from 958.5 cases per 100,000 inhabitants in 1923 to 50.8 in 1929. Correspondingly low figures were met with in 1929 in several other countries, suggesting that the rising wave of morbidity which had previously affected several countries had subsided. In spite of the fluctuations in its morbidity, the fatality of measles still remains high, notably in certain countries such as England and Wales, Germany, and France, where measles is one of the most fatal infectious diseases of childhood. Both in France and in England and Wales 90 per cent. of the deaths from measles occur in the 0–4 year group, the bulk of the fatalities within the first year of life taking place in the period 9–12 months. By reason of the lower vitality of male infants the fatality of measles is greater among them than among female infants, as is illustrated by the fact that while 1.02 deaths from measles occurred per 1,000 live births of both sexes, there were 1.08 male deaths from measles per 1,000 male live births and 0.96 female deaths per 1,000 female live births. Apart from clinical considerations the high case-fatality of measles can be explained by several factors, which include lack of care, unsatisfactory housing conditions, especially overcrowding, and illegitimacy. In a recent study of the seasonal rhythm of infectious diseases, Madsen has shown that while the maximum incidence of measles is liable to vary, its minimum incidence occurs regularly in September, especially in Denmark, and to a slightly less extent in Bulgaria, Scotland, France, Hungary, and Switzerland. As with measles so with whooping-cough, caution must be exercised in interpreting the statistics. Owing to the uncertainty of diagnosis, and the absence of official figures, the statistics of fatality are of more value than those of morbidity. A table of the death rates from whooping-cough in Bulgaria, Denmark, Hungary, and Poland during the period 1923–29 is given, showing that the rates per 100,000 population ranged from a minimum of 1.6 in Poland in 1929 to a maximum of 16.1 in Denmark in 1926. In most countries for which statistics have been available in recent years the maximum fatality rate for whooping-cough occurs in the spring, especially in the months of March and April. It is noteworthy that though in most countries, including Great Britain, there is a decided excess mortality for male infants generally, more girls than boys die of whooping-cough. In contrast with other acute infectious diseases there is no seasonal relation between whooping-cough fatality and its maximum or minimum morbidity.

[1] Department of Scientific and Industrial Research. Illumination Research. Technical Paper No. 11. The Efficiency of Light Wells. By. H. F. Meacock and G. E. V. Lambert. London: H.M. Stationery Office. 1930. (9d. net.)

GLANCES AT PRESENT-DAY SURGERY

A good deal of mud has been flung lately at the panel practitioner and the Insurance Acts, but, whatever their deficiencies, these are much less obvious than those of the sixpenny dispensaries and medical aid associations which have been displaced by them. There is plenty of evidence of this, but we have at present in mind, as a sign of vitality and interest in professional progress, the last quarterly issue of the *West Riding Panel Record*, the number of which—28—indicates that the periodical has been in existence for seven years. Besides paragraphs of insurance news and a thoughtful note on tuberculosis by Dr. W. Steven of Featherstone, entitled, "A difficulty in a panel practitioner's life," the *Record* contains an important article by Mr. H. Collinson of Leeds on some aspects of present-day surgery. The problems of surgery change from decade to decade, if not from year to year, and what seemed settled into routine practice a few years ago becomes once more subject for debate. Mr. Collinson deals judiciously with questions of abdominal drainage. Halsted has recorded his opinion that the deeper parts of a wound are less liable to microbial growth than the superficial parts; similarly Mr. Collinson states his belief that the peritoneum is less liable to infection than the tissues of the abdominal wall, and, in cases where drainage is thought advisable, it is these tissues, and not the peritoneum, that should be drained, while the peritoneal

wound should be closed. Exploratory abdominal operations, without clear indications of serious mischief, he condemns, as such patients are often neurotic, and if nothing is found they are worse off than before. The battle between non-operative and operative treatment of gastric and intestinal ulcers is still raging. The advocates of each method can claim successes. The clinical difficulty appears to lie in the choice of cases suitable for each. As regards duodenal ulcer, Mr. Collinson advises trial of medical treatment for a year or eighteen months before proceeding to operation. What the operation should be is a difficult question. He confesses that after a very large experience of the operative treatment of duodenal ulcer he is becoming much more conservative in his employment of gastro-enterostomy. That prostatic enlargement and its consequences should be mistaken for carcinoma of the stomach seems at first thoughts unlikely, yet such cases have been known to occur. Mr. Collinson gives a striking instance, in which the patient luckily escaped laparotomy and was cured by cystotomy and prostatectomy. Indeed, the surgery of the urinary organs holds out prospects of great advancement. No man in the present conditions of constant experiment and advance can dogmatize on the value of different methods of radium treatment of cancer. Much more extensive trials, and lapse of time, are needed before methods can be standardized (if ever) or results appraised. Some deaths under anaesthesia are no doubt wrongly put down to the discredit of the anaesthetic. On the other hand, a number of post-operative deaths from pulmonary complications which are the result of anaesthesia are not attributed to that cause. Pulmonary embolism apart, Mr. Collinson has no doubt that the incidence of bronchitis and pneumonia can be reduced by careful pre-operative preparation and removal of oral sepsis, by a wise choice of anaesthetic and its skilful administration, and the taking of every means to ensure adequate aeration of the lungs after operation. We can approve, though space will not let us follow, Mr. Collinson's *obiter dicta* on all the subjects dealt with, but we conclude with a hearty endorsement of his preference for the nurse who has acquired "a knowledge of real nursing, which in my view consists in the art of making a patient comfortable, the recognition of disquieting symptoms, the proper handling of an injured limb, and so on," rather than one with a superficial knowledge of anatomy, physiology, medicine, and surgery lacking the above-named essentials.

MUSIC IN THE OPERATING THEATRE

IN a paper contributed to the November issue of the *American Journal of Obstetrics and Gynecology* Dr. J. A. McGlinn says that owing to the unpleasant reactions from drugs, and the fear of complete loss of consciousness when using spinal anaesthesia, he has for the last year been employing music to divert the patients' minds from the thought of operation, as has previously been done by Donald Guthrie of Sayre before and after ethylene anaesthesia. Several hospitals have also added the radio to their theatre equipment as an adjuvant to local anaesthesia in tonsil operations on children. The advantages of music in the operating room are summarized as follows: (1) it creates a better atmosphere for all patients coming to the theatre, where it prevents the usual noises, such as the jingle of instruments and basins, and hiss of escaping steam, from being heard; (2) it diverts the attention of patients during operations under local and spinal anaesthesia; (3) it relaxes the tension of the surgeon and theatre staff during operations; (4) it entertains the "operating suite force" during the arduous tasks of cleaning up and preparation after the day's work is finished. Dr. McGlinn adds that jazz and sentimental tunes should alike be avoided, and that soft, soothing, melodious music is the type most acceptable to all patients. The music is supplied by a special self-playing automatic record-changing instrument with a superior type of reproduction.

ADVISORY COMMITTEE ON NUTRITION

For the purpose of advising the Minister of Health on the practical application of modern advances in the knowledge of nutrition an Advisory Committee has been appointed comprising the following members: Professor Major Greenwood, F.R.C.P., F.R.S. (chairman); Professor E. P. Cathcart, M.D., F.R.S.; Sir Frederick Gowland Hopkins, F.R.C.P., President of the Royal Society; Miss Jessie Lindsay; Professor Edward Mellanby, M.D., F.R.C.P., F.R.S.; and Professor V. H. Mottram, M.A. The members will hold office until December 31st, 1933, and will be eligible for reappointment. The secretary to the committee is Mr. F. R. Hudson of the Ministry of Health.

The staff of Charing Cross Hospital and Medical School has invited Professor Sigmund Freud of Vienna to deliver the next biennial Huxley Lecture at the Medical School. The lectureship was founded in commemoration of Professor Thomas Henry Huxley, a former student of the school. Previous lecturers include Lord Lister, Professor Virchow of Berlin, Professor Pavlov of Petrograd, Professor Simon Flexner of the Rockefeller Institute, New York, and Sir Frederick Hopkins.

The following lectures will be given this year before the Royal College of Physicians of London: Milroy Lectures, by Surgeon Commander S. F. Dudley, February 26th and March 3rd; Goulstonian Lectures, by Dr. Macdonald Critchley, March 10th and 12th; Lumleian Lectures, by Sir William Willcox, March 19th, 24th, and 26th; Oliver-Sharpey Lectures, by Professor Samson Wright, May 5th and 7th; Croonian Lectures, by Professor M. J. Stewart, June 4th, 9th, and 11th; Harveian Oration, by Dr. Robert Hutchison, October 19th; Bradshaw Lecture, by Dr. J. S. Fairbairn, November 3rd.

The seventeenth annual conference of the National Association for the Prevention of Tuberculosis will be held at Margate on June 25th, 26th, and 27th. It has been decided to devote the proceedings to an all-round discussion, divided into sub-headings, on the protection of the child from tuberculosis. The conference is open to all persons interested in tuberculosis on payment of the fee of one guinea, either as delegates or as private members. Application should be made to the secretary, N.A.P.T., Tavistock House North, Tavistock Square, W.C.1.

POST-VACCINAL NERVOUS DISEASE

THE ROLLESTON COMMITTEE'S SECOND REPORT

Reference has been made in an annotation published last week (p. 64), and in a leading article in to-day's issue, to the second report[1] of the Committee on Vaccination which was appointed in February, 1926, by the Minister of Health and the Medical Research Council, with Sir Humphry Rolleston as chairman. This document gives details of 90 cases of post-vaccinal nervous disease, brought to notice in England and Wales during the two years ending September 30th, 1929, and thus supplements Part II of the committee's earlier report. Twenty-five fatal cases were authenticated, and in respect of these the clinical information is correlated with the post-mortem findings.

Analysis of Cases

The report begins with an analysis of the 90 cases of acute nervous disease which had occurred, during the period under review, "within four weeks" of vaccination. Time and place incidence, the lymph used, the period between date of vaccination and onset of the nervous symptoms, and the clinical diagnosis or, in fatal cases, certified cause of death, are set out in tabular form. The interval between vaccination and onset in the 83 primary cases reported was two to fifteen days, with an average of 10.2 days. Of the 25 fatal cases in which the diagnosis of post-vaccinal encephalitis was confirmed, 23 followed primary vaccination. The groups of cases occurring in the Bristol area and in the Norfolk village of Wereham are examined in detail.

In regard to sex and age incidence, 42 patients were males and 48 females; the youngest was aged 20 months, and the oldest 55 years; approximately two out of every three patients were children of school age. Forty-seven patients recovered completely after an illness of from three days' to seven weeks' duration. One (a female) had not completely recovered after six months. No clinical features not previously observed were met with. There were 42 deaths, 41 occurring within three weeks of the onset, and 28 within seven days. Of the 90 patients, 83 had not previously been vaccinated; 3 had; and in 4 the question could not be determined. In 66 cases the lymph was obtained from the Government Lymph Establishment. Familial incidence was noted in four instances. Next follows a detailed account of the clinical features, post-mortem findings, and certain experimental investigations in 25 fatal cases of encephalitis following vaccinia, and of 4 following other acute infectious diseases; also an account of a recovered case following variola and/or vaccinia. The body of the report ends with a commentary summarizing the present position in regard to post-vaccinal nervous disease, from which we quoted the opening and closing passages last week (p. 65). While the present report adds no fresh facts to our knowledge of the pathology of post-vaccinal nervous disease, "the claim of certain authors that the lesions of post-vaccinal encephalitis are similar to, if not identical with, those of the nervous affections observed after certain acute infections, notably the exanthems, has received further support."

Treatment with Convalescent Serum

In regard to the results of treatment with the serum of convalescents, the report says:

"The cases cited supply a powerful argument for the use of human antivaccinal serum as a treatment which should be instituted at the earliest possible moment. At the present time whether or not this remedy happens to be available in this country is a matter of chance, and the committee suggests that the example of Professor Paschen might well be followed by the authorities of large residential institutions, particularly those which require recent vaccination or revaccination as a condition of admission. In default of human serum a member of the committee (Professor Ledingham), with the help of Dr. G. F. Petrie, has prepared by immunization of a horse an antivaccinal serum, which is now available for trial. Vaccinia admittedly supplies the direct stimulus to these conditions, and it may well happen that antivaccinal serum administered at the onset of cerebral symptoms—that is, at the period when the local and general effects resulting from vaccination are at their maximum—may by virtue of its content in antiviral bodies lead to fall of temperature and improvement in well-being. By such action the course of the secondary disturbance may be suddenly arrested, as apparently happened in the majority of the Dutch cases. It is, however, impossible in the present state of knowledge to exclude entirely a non-specific action of the serum similar to that of protein shock, which may manifest itself by rapid fall of temperature, and at least temporary amelioration of symptoms. In any case, such is the prognosis of post-vaccinal encephalitis that the empirical use of antivaccinal serum as early as possible after the onset of symptoms pointing to cerebral disturbance is strongly urged."

Appendices to the Report

There are three appendices. The first is a diagram showing (*a*) number of charges of lymph issued for public vaccination; (*b*) number of cases of poliomyelitis, polio-encephalitis, and encephalitis lethargica; and (*c*) number of cases of small-pox in relation to the incidence of cases which developed post-vaccinal nervous disease during the two years under review. The second appendix gives an account of some observations of the course of primary vaccination produced with lymph in greater dilution than that ordinarily used. It appears that there is little difference in the reaction to vaccination by lymphs in a dilution of 1:5 or 1:10, and that while 100 per cent. insertion success has been obtained with 1:100 this cannot be relied on. The general reaction to 1:100 lymph is less severe. The third appendix consists of two parts, each being extracted from the report of the Small-pox and Vaccination Committee presented to the Office International d'Hygiène Publique in May, 1930. Part I is a philosophical paper on variola minor and variola major by Professor Ricardo Jorge, entitled "Note on various designations of small-pox and their epidemiological and prophylactic significance." Part II is a review of the recent data obtained in regard to post-vaccinal encephalitis from different countries.

Post-Vaccinal Encephalitis in Different Countries

As in the earlier years covered by the Rolleston Committee's first report, the countries principally affected by post-vaccinal encephalitis during 1928 and 1929 were the Netherlands and England. The impression formed by the rapporteur, Sir George Buchanan, is that the accounts of these more recent cases accord very closely with those of the earlier series, and confirm the view that this complication of vaccination, when it occurs, may be regarded as forming a characteristic clinical entity. It has no doubt a parallel in the encephalitis which may complicate acute infectious diseases, such as measles, variola, and varicella. The possibility that post-vaccinal encephalitis is only a manifestation of the more general condition *encephalitis post-infectionem* has been urged by several writers, and it is most desirable that fuller data on this crucial point should be obtained. One general lesson brought out by Sir George Buchanan's review is that post-vaccinal encephalitis, though constituting an important practical problem, is extremely rare, and that it should not be allowed in any way to diminish the confidence placed hitherto in vaccination as a preventive of variola.

[1] Cmd. 3738. Ministry of Health. Observations on the Epidemiology and the Clinical and Pathological Character of Post-Vaccinal Nervous Disease, with certain Collateral Papers. London: H.M. Stationery Office. 1930. (2s. 6d. net.)

Nova et Vetera

SIR JOHN RICHARDSON

SURGEON, PHYSICIAN, SAILOR, EXPLORER, NATURALIST, SCHOLAR *

BY

D. A. STEWART, B.A., M.D., LL.D.

MEDICAL SUPERINTENDENT, MANITOBA SANATORIUM, NINETTE

Surely here is a long, full life of many enthusiasms that would have been after Osler's own heart! A ship surgeon fighting Napoleon, and on American duty in 1814, a physician also, a searcher after the North-West Passage in three expeditions, a naturalist—first to write about the fauna and flora of the Arctic Circle—a hospital administrator and reformer, Richardson lived to know Carlyle, to interview Florence Nightingale, and to find a job abroad for a keen house-surgeon called Huxley. Brought up literally at the feet of Robert Burns, who spent Sunday evenings in his father's home and chose the boy's poetry, Richardson lived to share the hobbies of Archbishop Trench and Max Müller, and to work out a study of the vocabulary of the ploughman poet.

John Richardson, son of Gabriel Richardson, one-time chief magistrate of Dumfries, and Anne Mundell, his wife, was born in Dumfries on November 5th, 1787, the eldest of an old-fashioned family of twelve children. In the very proper custom of the day he learned to read at home, and afterwards, at the early age of 4, was sent to school. In those days, and in purposeful, strenuous Scotland, no time could be wasted in merely being a boy. At the age of 12 he began a three years' apprenticeship to his uncle, an eminent surgeon of Dumfries. On the death of this uncle he was sent to Edinburgh, when not yet 14, to begin the formal study of surgery, which included chemistry and Greek. Before his seventeenth birthday he and his family, with due Scotch caution, considered the pros and cons of a house-surgeonship at the Dumfries and Galloway Infirmary, and decided in favour. There he was an earnest student and a reliable intern. In his eighteenth year, with already six years' experience, he returned to formal study at the University. Thrust thus prematurely into surgical studies and experience, the boy fortunately had a liking for nature and outdoor life, and delighted in long rambles in the country. This hobby, which was to become almost a vocation, shaped his whole life.

In 1806 Napoleon was upsetting Europe, and the British Navy was diligently on the job. It became this mature young man of 19 to consider both his country's need and the duty of getting a job for himself. His examination for an assistant surgeonship in the Navy "lasted only fifteen minutes and was quite easy." After a visit home he set off for London by the Glasgow mail, travelled three days unrestingly and uncomfortably, but economically, and arrived in London, as would be expected, in low spirits. Here he met his old companion, Robert Burns, junior, "began to speak English and walk straight," dined daily for a shilling on a plate of roast beef and a pint of ale, passed the examination of the Royal College of Surgeons of London, and was appointed, not yet 20, assistant surgeon to *La Nymphe* frigate. His ship mounted forty-four guns, and sailed well; the officers were civil, the commander congenial, and the young Scot wrote home: "We shall mess cheaply and comfortably."

Off Portugal there were "cutting-out" episodes—ships, of course, not tumours—in which the young surgeon gave evidence of soldierly spirit as well as surgical skill. So in the line of promotion he became senior assistant surgeon in the flagship *Hibernia*, acting surgeon of the *Hercule*—seventy-four guns—and, later the same year, when not yet 21, full surgeon to the *Blossom*, sloop of war. In 1812, at the age of 24, came a leave of absence, mostly devoted to study in London, where with characteristic forethought he laid out twenty pounds in taking permanent tickets for surgical and anatomical lectures, so that at any future time he might attend free of expense.

In the bitter winter of 1812–13 the Grand Army of France perished amid the snows of Russia, and Napoleon came back to Paris almost alone. But if France was quiet for a time, America was up in arms. The *Cruiser*, with Surgeon Richardson, scoured the northern seas for American privateers, was disabled and paid off, and the young surgeon got some further use of his London fees. In the summer of 1814 he was appointed to the First Battalion of Royal Marines, then in America, and, not liking service on the Great Lakes, marched and sailed with half the battalion from Montreal—greatly admiring Canadian trees by the way—for service along the coast of Georgia.

Richardson had no heart in this American service; he thoroughly disliked the "predatory system of warfare, which serves to degrade the British character without materially injuring the enemy," thought the British attack upon Washington, especially the burning of the public library, "barbarous," much worse than the conduct of half-civilized Russians in France, and was thoroughly uncomfortable about the seizing of the property of the unresisting settlers. Even so far south he had to deal with frostbites; and chilblains were the order of the day. Fortunately for the force, the two nations, and the world, peace was soon concluded, and shortly afterwards came the great general peace following Waterloo.

With peace came half-pay, two years' further study to add to his surgeonship the much superior status of physician, then marriage, and an attempt at practice in Leith. His graduation thesis, making use of his American experience, was *De Febre Flava*.

From the monotony of the beginnings of practice he escaped by applying for the position of surgeon and naturalist to the first Arctic expedition of Lieutenant, afterwards Sir John, Franklin. The report on his knowledge of natural history being satisfactory, he was appointed, and was made second in command of the expedition as well. It was his avocation, not his vocation, that brought him this appointment with its opportunities. When Richardson met Franklin he wrote of him as "a steady, religious, and cheerful man, and altogether an honour to the profession." Franklin might have written much the same of Richardson, though we doubt if he was so cheerful. The work expected of Richardson as naturalist was to collect minerals, plants, and animals, and observe phenomena generally. He confessed that his knowledge about these things was very limited, but did all he could to extend it, and looked forward to "a rich harvest in a country never before visited by a naturalist."

The Hudson's Bay Company ship *Prince of Wales*, sailing to York Factory in 1819, was held back by ice and nearly destroyed. On board with the party were men, women, and children, bound for Lord Selkirk's Red River Colony. Even the women took turns at the pumps. The delay cost the explorers a year of time, for they were forced to winter no farther inland than Cumberland House, and to spend a second winter at Great Slave Lake, before the real adventure began. In nearly two years of preliminary travel, preparation, and weary waiting, when Richardson the leader, or the surgeon, chanced to be at leisure, Richardson the naturalist was always occupied.

* Abstract of a paper read before the Section of Medical Sociology and History of Medicine at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

At the opening of the season of 1821, the party of twenty-five—British naval officers, Canadian voyageurs, and Indians—set out, against the advice of the fur companies' experienced travellers, carrying not more than a day's provisions, and having none *en cache* for their return journey, descended the Coppermine, reaching its mouth in July, and explored 550 miles of coastline to the eastward, before they decided at Cape Turnagain that it was time to get back to winter quarters. Then everything went wrong, and the story of the return journey is one of the grimmest of all the Northland epics. It is worth reading to see what human beings can endure. The leaders knew nothing of this kind of travel or of voyageur or Indian psychology. Eleven men were lost. Cannibalism broke out among the Indians. The survivors crawled back, gaunt skeletons, kept barely alive by half-rotted deer skins and charred bones scraped from the snow at their old encampments, and the scanty, unsatisfying, and griping lichen, *tripe de roche*. Richardson almost lost his life swimming with a line across a swift, icy river, and it fell to him to execute deliberately a crazed Indian cannibal.

In 1824—the year of his appointment to Chatham—it was resolved to attack the North-West Passage at three points—on both flanks and at the centre—Parry again on the east, Beechey through Behring Strait, and Franklin down the Mackenzie River. Again Richardson joined him as second in command, surgeon, and naturalist.

This time all the conditions were different. The leaders considered it, by comparison with the former journey, a sort of picnic party. While wintering on the lower Mackenzie, a mail from home arrived. To Richardson the people in England "seemed to be going mad about railroads, tunnels, steam engines, mines, diving bells," and he supposed "the mania would extend to Scotland also if there was money enough there to play the fool with." In 1827 the party arrived back in London. Richardson, who was now 40, resumed his duties at Chatham, worked steadily also over the narrative and scientific data of the second expedition, and now considered himself well enough equipped to begin a work he had long had in mind, his *magnum opus—Fauna Boreali Americana* or *Natural History of the Arctic Regions*, the first volume of which was published early in 1829 and the last nine years later, in 1838.

Shortly after the second expedition he was appointed chief medical officer of the Melville Naval Hospital, and in 1838 to the Royal Hospital at Haslar, near Portsmouth. Richardson was one of the first in Britain to dare to take insane people out of the dark cells in which they had been huddled like felons, to strike off their fetters and strait-jackets, and to put them into ordinary wards as patients. With the Admiralty he finally won the day for the new treatment, not by proving that it was more humane, but that it was less costly. He was also able to persuade the Admiralty, when a ship arrived off Portsmouth smitten with a most malignant type of fever, to let him take the sick ashore for fresh air and hospital care rather than leave them to swelter between decks in the rank air aboard ship.

In 1840 came promotion to the post of inspector of hospitals for the Admiralty, and the beginning of the publication of a series of papers, reports, and observations on a variety of subjects. It was at this time that he was knighted by the youthful Queen Victoria.

Franklin and Richardson returned from the second expedition in 1827. Three years later, John and James Ross, uncle and nephew, knocked again at the doors barred by icebergs and sealed by frost and snow. When years passed and they had not returned, Richardson offered to repeat substantially the expedition of 1825, and search the coastline of the solid continent eastward from the mouth of the Mackenzie. This offer was accepted, and Dr. John Rae of the Hudson's Bay Company consented to go as second in command. Richardson was now 62, and not the traveller he had been. He had a definite heart attack. In the spring he considered it the better plan, as indeed it was, to give Dr. Rae the leadership and let him try the coast again, with a small party, while he returned to England.

As a traveller he was simply omnivorous. All that he met was of interest to him. Observations of men and the ways of men, of places and events, but chiefly of rocks and trees, birds and flowers, fill two interesting volumes, published after the relief expedition. His many interests were often mingled, as when he studied together botany and Indian pharmacology.

"The *Heuchera richardsonii* (a saxifrage), which abounds on the rocks of this river, is one of the native medicines, its astringent root being chewed and applied as a vulnerary to wounds and sores. . . . The leaves of the *Ledum palustre* are also chewed and applied to burns, which are said to heal *rapidly under their influence. The cake of chewed leaves is* left adhering to the sore until it falls off. . . . The *Artoca alba* grows abundantly here. It is called by the Canadians 'la racine d'ours' and by the Crees 'musqua mitsu' (bears' food); a decoction of its roots and of the tops of the spruce-fir is used as a drink in stomachic complaints. . . . The *Acorus calorrus* is another of the indigenous plants which enter into the native pharmacopoeia, and is used as a remedy in colic. About the size of a small pea of the root dried before the fire or in the sun is a dose for an adult, and the pain is said to be removed soon after it is masticated and swallowed. . . . A drop of the juice of the recent root is dropped into inflamed eyes, and the remedy is said to be an effectual though a painful one. . . . The *Geum strictum* grows plentifully on these portages, *and is used by the natives for the purpose of increasing* the growth of their hair. They dry the flowers in the sun, powder them, and mix them with bear's grease. . . . The dog bane and Indian hemp grow luxuriantly on the sandy banks of this river. They abound in a milky juice which, when applied to the skin, produces a troublesome eruption. . . . The second-named species grows more robustly and erectly than the other, and furnishes the natives living on the coast of the Pacific with hemp out of which they form strong and durable fishing nets."

The journal of the relief expedition had two hundred and forty pages of separate and detailed appendices on geography, geology, climatology, the sequence of events in the seasons at various places in the North, the thermometer, the distribution of plants north of the forty-ninth parallel, cereals in the North, a forty-page appendix on trees and shrubs, a twenty-page list of plants, and, to complete the whole, a list of insects.

Still expeditions went and came, adding much to our knowledge of the Arctic regions, but little to the story of Franklin and his fate. Four medical men, it may be observed, were leaders of expeditions: Sir John Richardson, Dr. John Rae, Dr. Elisha Kane—whose journal has almost as much to say of scurvy as of polar ice—and Dr. Hayes. It was Dr. John Rae who finally, in 1853, eight years after Franklin had set out, chanced upon traces, and indeed skeletons also, of the ill-fated party. In the meantime, searching expeditions had mapped 7,000 miles of new coastline. The saying that summed it all up best, and was carved on the London monument to Sir John Franklin, was Richardson's: "They forged the last link with their lives."

Among the young surgeons who served at Haslar under Richardson several rose to high places and one to fame. Thomas Huxley dedicated to his old chief his *Oceania Hydrozoa* and, what is better, left a pen picture of him in what must have been his later days. With Huxley at Haslar under Richardson were Andrew, afterwards Sir

Andrew, Clark, and two future directors-general of the medical service of the Navy, Sir Alexander Armstrong and Sir John Watt-Read.

After nearly half a century in the medical and surgical services of the Navy, Sir John, now 68, retired from formal duties. The ten years of evening which rounded out his life were as full as any of its earlier decades, occupied with interests that had been interrupted in the years of daily duties. He travelled and observed, dug up Roman remains, came to be an authority about these also, and kept up associations with a wide circle of men of kindred spirit. He fell whole-heartedly into the new interest in the study of words aroused by Max Müller and Archbishop Trench, and contributed to the dictionary of philology a complete index of the words used by Robert Burns, with their significations and cognates in Norse, Icelandic, and Gaelic. Living in the country, his professional skill was always at the service of his neighbours, great and small. After a life full and useful, and after a day pleasantly occupied, he drew a long breath, and was dead.

To follow the successive steps in Richardson's professional training and work is almost to live for an hour in the very medical world of the first half of the nineteenth century. And men of our Northland should have a special interest in one who traversed it in three laborious expeditions, lived nearly eight years in it, and a lifetime in working over its natural history. Plants of Northern Canada named by and for Richardson would make a garden of respectable size, and animals named by and for him a considerable zoo. Among the plants are, to use the common names, lady's slipper, black currant, desert willow, dwarf cinquefoil, mountain avens, buffalo plum, tick seed, blueberry, gentian, twine berry, bastard toadflax, sand daisy, prairie ragwort, pond weed, spear grass, bunch grass, wire rush, alum weed, loco weed, beard tongue, one of the asters and *Entocha franklinii*, which, it would seem, Richardson introduced into the gardens of England. Among the animals are the Franklin ground squirrel or scrub gopher, the Richardson ground squirrel or flicker tail, the Richardson kangaroo rat, Richardson's water shrew, and the Richardson northern skunk. Then there are the well-known Franklin gull and the Richardson owl. Let it be remembered to his credit by the more practical among us also that while almost to our own day the forty-ninth parallel was supposed to be about the northern limit for wheat-growing, Richardson, a half-century earlier, placed the limit about the sixty-fifth parallel, and reported upon cereals actually growing there and then.

He had in his life many of the conventional honours, and some special marks of distinction as well. His was perhaps a life of industry more than a life of genius, but it was a full, good life, and in many ways even a great life. It is not every day that we meet in one person—surgeon, physician, sailor, soldier, administrator, explorer, naturalist, author, and scholar, who has been eminent in some roles and commendable in all.

HEALTH OF THE SCHOOL CHILD

SIR GEORGE NEWMAN'S REPORT *

Education and Training of the Blind, Deaf, and Lame

In 1929 the number of school children ascertained to be blind or partially blind was 1,736 and 5,354 respectively, being a decrease of 151 in the first and an increase of 129 in the second category, compared with 1928. There are 4,647 school places for these children. It is estimated that at any one time there would always be some 200 children who, for reasons other than lack of accommodation, would not be in attendance at any special school. There is apparently no general shortage of accommodation for the totally blind in the country as a whole, but the provision for the partially blind is admittedly inadequate. Of the present blind population, the largest proportion become blind in the first year of life, though this proportion is progressively diminishing year by year. The next largest proportion become blind between the ages of 60 and 70 years, and this proportion is increasing annually. During the period from 1919 to 1929 there has been a gradual diminution in the proportion of persons becoming blind up to 40 years, and a gradual increase in the proportion becoming blind after that age. This rising proportion of the late blind has been inevitably accompanied by an increase in the number of unemployable blind—an increase which is probably more apparent than real owing to fuller investigation. The number of blind under training is increasing year by year, and the number trainable but untrained is decreasing.

School children ascertained to be totally deaf in 1929 numbered 3,769, compared with 3,935 in the previous year. Fifty schools for the deaf and partially deaf give a total accommodation for 4,696 children. Mr. P. M. Yearsley of London investigated the causes of deafness in 122 children seen during the year. In 5 of these the cause of deafness was doubtful, in 29 it was congenital, and in 91 it was acquired. Most of the congenital cases were those of sporadic deaf birth. Of the acquired cases, more than half were caused by primary ear disease, and a fourth by infectious fevers. Measles and scarlet fever head the list with 58 and 25 cases respectively.

New schemes for the treatment of orthopaedic cases were approved in seventeen areas, bringing the total areas making such provision up to 200. There are 228 out-patient clinics maintained by local authorities—an increase of 37. In approved schemes the provision made covers both in-patient treatment at hospitals or hospital schools and after-care treatment at local clinics. Earlier ascertainment is leading to earlier treatment, and consequent prevention of crippling defect. This encouraging result, which is being brought about mainly by popularizing the clinics and by obtaining the friendly co-operation of the local family doctor, is indicated by the demand for, and appropriation of, a larger number of hospital beds for infants and by the increasing attendance of infants at the orthopaedic clinics. The report mentions that not infrequently, when a mother brings her child to the family doctor for influenza or some other ailment, he discovers that the child is suffering from poliomyelitis in an early stage, or from some slight congenital defect. In these circumstances the child would probably be referred to the clinic.

Artificial Light Treatment

Light treatment is provided by 78 education authorities—14 more than in the preceding year. The former enthusiasm with which, in some quarters, ultra-violet therapy was hailed as a panacea for all ills has evidently given place to a more scientific, unbiased, and inquiring attitude. The experiences of many are summed up by Dr McLaren in the Lincolnshire report as follows:

"Cases of malnutrition due to some recent acute illness improve very quickly under the light treatment. On the other hand, I did not find any very great improvement in the condition of children suffering from chronic malnutrition."

Secondary School Children

With the notable exception of deformities, the incidence of various defects among secondary school children is either approximately equal to, or more usually lower than,

* Notice concluded from page 70.

that found among elementary school children. In malnutrition, skin diseases, squint, external eye diseases, and defective hearing it is considerably lower; while in defective vision, organic heart disease, and nervous disease the incidence is about the same. The apparent heavy incidence of deformity among secondary school children is explained by the recording of minor postural deformities.

A comparison of the returns for the past four years reveals that the general health and fitness of these children is improving. In no case has the incidence of a particular defect increased, and many have diminished. But a warning note is sounded. There is a large amount of "subnormality," not amounting to malnutrition, but which, related to the competitive strain of the secondary school curriculum, may lead to serious conditions of ill-health. The burden, in a large measure, is inevitable, but its existence should not be disregarded or overlooked, for it is of vital importance to healthy adolescence that the secondary school period should be used to safeguard and fortify both the physical and the mental constitution. "A healthy body and brain are of more value than an immediate intellectual achievement."

The Teaching of Hygiene in Schools

Since 1907 several circulars have been issued by the Board of Education directing attention to the importance of regular instruction in hygiene in schools and in training colleges. As late as 1927 a handbook of suggestions to teachers was issued, in which it was stated that "the *study* and *practice* of health must form, from the first, part of the everyday life of the school." The handbook of the following year advocated as one of the minimum requirements that hygiene should be systematically taught at least once a week, and practised every day throughout the nine years of the child's school life. In 1930 an inquiry was made into the present position of hygiene teaching in schools through the co-operation of the school medical officers. Sir George Newman concludes:

> "I am afraid that the experience gained, as a result of the inquiry, leaves some doubt on my mind as to whether school medical officers generally have fully appreciated their responsibility in this particular matter, or whether their other duties have taken undue precedence over the discharge of this duty. However that may be, it is obvious that school children should learn by practice and by direct instruction the healthful way of life, and that the school doctor has responsible duties in this behalf. The ultimate aim and purpose of the work of the school medical officer is not only the detection and treatment of disease and defect, but that by conference with, and advice given to, the authority, teachers, and parents, the school doctor may take his full part in advising on the conditions necessary to create and maintain all-round healthfulness. Among these are the condition of the school and the practical and class instruction given in matters of health."

In approximately one-third of the senior boys' schools no definite or systematic instruction was found to be given in the subject of hygiene, and no systematic provision seems to be made in 85 per cent. of the boys' secondary schools and in 45 per cent. of the secondary schools for girls.

The condition of things revealed by this inquiry is not new. The teaching of hygiene has always presented difficulties to the school teacher. There are several reasons for this. The first is that the school curriculum has not always included hygiene as an integral and necessary subject. Secondly, hygiene is sometimes not regarded as educationally important by those in immediate authority. Thirdly, it is not easily measured, tested, or inspected; nor is a knowledge of it acquired without some difficulty. The subject cannot be so readily "crammed" as some others, nor can it be easily graded or prescribed within narrow limits. Fourthly, its far-reaching comprehensiveness involves the home as well as the school, and its lessons inevitably raise all sorts of subsidiary issues. For example, to teach cleanliness in an unclean school to children coming from an unclean home seems impracticable and ineffectual; to teach health of the body seems to trespass upon the professional field of the doctor, in which the teacher does not feel at home; again, instruction and advice give rise to domestic and personal questions which may be misunderstood and become a source of grievance to the parents.

The ignorance of children in regard to healthy living and their failure to acquire and practise healthy habits is impairing much of our educational effort and producing in after-life a burden of disease, disharmony, and incapacity, which is extremely costly in both wastefulness and remedy.

It would seem that the first requisite is still a much fuller understanding of the place for, and the need of, school hygiene. In creating or securing this understanding the school doctor should be the best interpreter and leader. He is sometimes restricted to the role of recorder, and is not a pervading influence. In some areas there is a tendency to restrict his sphere, and his advice is uninvited, side-tracked, or disregarded.

The survey includes a detailed summary of the work of the school dental service, with estimates of the pressing need for its extension and development. In this connexion a summary is given of a detailed investigation by Mr. A. T. Pitts of London into the arrangements for dental inspection and treatment in ten representative areas. His report contains a strong recommendation to authorities employing a staff of school dentists that a supervising dental officer should be appointed whose chief duties would be organization and supervision.

Various matters are dealt with in a series of appendices—for example, the story of the school medical service, nursery schools, infective disease and mortality among school children, rheumatism in childhood, external eye diseases, provision of school meals, and special inquiries made by school medical officers during 1929. Each of these appendices would justify a separate review, and all of them will amply repay study.

THE MAUDSLEY HOSPITAL AND THE MENTAL TREATMENT ACT

The London County Council has been considering the extent to which, under the Mental Treatment Act, provision for voluntary and for temporary patients should be made in supplement of, or substitution for, the existing accommodation for patients coming in under reception orders. Its conclusion is that voluntary patients should be received at such of the London county mental hospitals as possess adequate admission villas or units. Some of these patients will already have had experience of the mental hospitals, and will realize the advantage to be gained from treatment there should they feel a recurrence threatening them. It is thought also to be a good thing to associate as far as possible with the work of the existing mental hospitals the hopeful treatment of voluntary patients. At the same time the Council realizes that it will be impossible to rely entirely and at once upon such accommodation for voluntary patients as may be set apart in the mental hospitals. The margin of accommodation available for patients requiring care under reception orders is so small that it is scarcely possible to keep abreast of the requirements, and there is no room for the further developments which will be necessary if voluntary patients are to be received in large numbers. The Council will also be expected to make

some provision of a more particular nature for the needs of such voluntary patients.

In these circumstances the London County Council has considered the special position of Maudsley Hospital, an institution specifically devoted to early cases of nervous and mental disorder, which is able to receive voluntary boarders and in practice has never received any patients other than voluntary ones. It is therefore proposed to reserve Maudsley Hospital for the reception and treatment of the voluntary patients provided for under the Mental Treatment Act, and it is particularly hoped that this hospital will continue to be entirely dissociated in the public mind from any connexion with compulsory detention. If and when persons received at Maudsley lose their volition, or if some form of detention becomes necessary without or against their will, they will have to be removed from that particular institution. In order to ensure a proper public appreciation of this hospital's special function and usefulness, it is proposed to appropriate the hospital, under Section 265 of the Lunacy Act, 1890, for the purpose solely of the reception of voluntary patients. That is, and always has been, its function, but by this technical method of appropriation it is hoped to establish it beyond doubt in the public mind. It is also proposed to ask the Board of Control to make special modified rules for application to an institution like Maudsley Hospital, provided by the local authority for the purposes of the Mental Treatment Act, in which only voluntary patients are received. It is recognized that a great part of the value of the Maudsley Hospital lies in the opportunity for clinical instruction which it affords, as a school of the University of London. In the past the position of the hospital has been unique, but the Mental Treatment Act will tend to unify administrative procedure in connexion with the treatment of voluntary patients at all institutions which will receive such patients, and the London one will no longer hold a singular position in this respect.

It is considered that the provision for temporary treatment, without certification, of persons incapable of expressing willingness or unwillingness to receive such treatment will not create for the Council the problem of making accommodation for a new type of patient in increasing numbers. The temporary patient, it is thought, will be found to be clinically identical with the kind of patient already received to a large extent in the county mental hospitals. Such patients can be received quite properly in the admission units of those mental hospitals which have developed accommodation of this type, and no distinction need be made between temporary patients and the new cases received under order, provided that both are put in an environment which makes due provision for classification and segregation of individuals who will be disturbing to others. It is proposed to develop specialized arrangements for temporary patients where these can best be provided, and in this connexion it is believed that the Ewell colony, which is designed entirely on the villa principle, will be specially suitable.

With regard to out-patients, attention is drawn to the comments contained in the Board of Control's memorandum. The Board contemplates association between the staffs of mental and of general hospitals in the establishment and administration of out-patient mental clinics. The Mental Hospitals Committee of the London County Council reports that in London especially such association will be needed, for the Council's mental hospitals, with the exception of the Maudsley, Fountain, and Tooting Bec institutions—the two latter being transferred institutions, and technically not mental hospitals, but workhouses—are all outside the London boundary. It is understood that detailed arrangements for after-care will be presented at a later stage.

Scotland

Milk and the School Child

For several years the Department of Health for Scotland has been actively engaged in the investigation of milk as an important factor in the diet of the school child. In 1927 and 1928 various researches were carried on, but as the results were obtained from only 1,200 children, a much bigger scheme was devised to include 20,000. During the first half of 1930 Dr. Gerald Leighton and Dr. Peter L. McKinlay, assisted by Dr. John Macintyre, chief medical officer to the Education Authority of Lanarkshire, and by teachers in the selected schools, conducted a series of experiments with various types of milk. The cost of the investigation was borne by grants of £5,000 from the Empire Marketing Board, and £2,000 from the Central Advisory Committee of the Distress and Mining Areas (Scotland) Fund, to which was added £477 4s. from private funds. Lanarkshire was chosen as the area most suitable for the test, as the schools were all situated in industrial and densely populated parts, where unemployment was rife, and thus domestic extras unobtainable; it was possible, therefore, to eliminate the criticism previously applied, that the improvement in the children might be due, in part, to better domestic conditions during the period of trial. The milk supply came from twenty-six herds situated in different parts of Scotland. Bulked Grade A (T.T.) milk was used, and the strictest medical supervision was kept throughout. A central receiving depot was established in Glasgow, this being visited several times a week by one of the investigators, who was responsible for the standardization of the daily ration. The issue of the milk to the schools was carried out under the strictest hygienic rules, all risks of infection being eliminated. Half the number of children were used as controls; it was therefore necessary to provide 10,000 with milk, each child receiving three-quarters of a pint daily. A further distinction was made, in that 5,000 of the children consumed raw milk, while the remainder took it in pasteurized form. The selection of the children was made with great care, the teachers being left to decide as to "feeders" and "controls"; and, fully realizing the importance of using an average type of child, they adopted either the method of ballot or that of alphabetical election; thus the children were neither weakly nor over-robust. Regular records of height and weight were kept. The report,[1] just issued, states that on the whole the parents were in sympathy with the test, and gave ready assistance. The teachers themselves were enthusiastic over the results, and, quite apart from the purely technical aspect of the test, they noted that the children, both in body and in mind, were much more buoyant and lively. The conclusions arrived at are that the addition of milk to the diet of children has a striking effect in improving physical and general health, and in increasing mental alertness. No obvious or constant differences occur between boys and girls, and the results are rarely influenced by age, the older children benefiting as much as the younger. There is no special advantage in pasteurizing milk, and the question of the relative merits of the two varieties must remain open. But it is certain that pasteurized and separated milk as a supplementary ration to the usual variable and mixed diet of the household is a potent growth-producing factor. The results agree with those recently obtained in London and elsewhere, and it is clear that, with new powers, local authorities may consider the recommendation of an additional ration of graded milk for all school children. This (as Dr. Parlane Kinloch says in his prefatory note)

[1] Department of Health for Scotland. Milk Consumption and the Growth of School Children. H.M. Stationery Office. 1930. (3d. net.)

would have far-reaching results in eliminating tuberculosis from the dairy herds, and generally improving the quality of the Scottish race.

Education of the Deaf

The Education Committee of Edinburgh Town Council has now considered objections lodged against the draft scheme of the Educational Endowments (Scotland) Commission, which was summarized in the *British Medical Journal* of November 15th, 1930 (p. 841). The scheme proposes to convert the building and the funds of Donaldson's Hospital into a Royal Edinburgh School for the Deaf. The main criticism was directed against the erection of boarding-houses for the children under training in the grounds of Donaldson's Hospital, and opposed any alteration of the architectural characters of this building, which is a distinctive feature of Edinburgh. The report containing the proposals as already outlined, and embodying the above recommendation, was approved.

Larbert Mental Hospital

The fourteenth annual report of the Stirling District Board of Control for the year ended May 15th, 1930, dealing with mental disease in the counties of Stirling, Dumbarton, West Lothian, and Clackmannan, has just been issued. This is the last annual report under the old system, the mental hospital at Larbert being now under the management of a joint committee consisting of twenty-ive representatives from four counties and four burghs. According to the report of Dr. R. B. Campbell, medical superintendent of the Stirling District Mental Hospital at Larbert, there were 964 certified patients on the hospital register at the beginning of the year, 548 being males and 416 females. The total number of patients under treatment during the year was 1,243, 279 certified patients being admitted. The average age for both sexes was 43. Only 49 of those admitted were in normal bodily health. In regard to causes of insanity there were 38 cases of senile insanity, 21 of general paralysis and insanity resulting from gross brain disease, 13 of epileptic insanity, 13 of congenital mental enfeeblement, and 3 of encephalitis lethargica. Alcoholic excess and serious bodily illnesses were assigned as causes in 13 and 26 cases respectively, while senility was responsible in 38, syphilis in 14, organic brain disease in 5, and epilepsy in 13. In 67 cases the mental breakdown had occurred at a critical period of life; 5 cases were ascribed to childbirth. At the beginning of the year there were 24 voluntary patients, and 16 others were admitted during the year. In that period 12 voluntary patients left the hospital cured. Service patients, maintained by the Ministry of Pensions, numbered 46, one being a voluntary patient. Of the 173 patients discharged during the year, 105 are stated to have been cured, giving a recovery rate on the number of admissions of 37.3 per cent. for both sexes. The report comments favourably on the system of allowing patients to go home on pass before final discharge. Such a patient might be sent back to the institution without any formality within a trial period of twenty-eight days. Out of 16 patients who were provisionally discharged under this system, only 2 had to return for further treatment. The number of deaths during the year was 83, the death rate calculated on the average number resident being 8.4. This is 1.3 lower than the average death rate since the opening of the hospital. In referring to treatment Dr. Campbell draws attention to the success which has been obtained in treating early cases of general paralysis with tryparsamide and malaria. He also mentions that over a hundred patients benefited from treatment in the electrotherapeutic department of the hospital, and that occupational therapy has been one of the most useful agents in promoting recovery and contentment. Outdoor employment is provided by a large garden and farm, where an attempt is being made to establish and maintain a tubercle-free herd of cattle. The report of the chairman of the District Board of Control states that the weekly cost of board per patient during the past year was 18s. 1d., which is rather less than the average rate for other mental hospitals in Scotland. It also points out that if a separate institution for mental defectives were established in the neighbourhood, about a hundred patients could be transferred from the Larbert Mental Hospital, which would relieve the present congestion, and postpone the necessity for further additions to the hospital buildings.

England and Wales

The Lister Institute

On December 18th, 1930, a large company of staff and other research workers, past and present, met in the library of the Lister Institute of Preventive Medicine to offer parting gifts to their two distinguished colleagues, Sir Charles Martin and Professor Arthur Harden, on the eve of their retirement. Professor Ledingham, who is succeeding to the post of director, presided, and referred to the fact that only a few years ago a very similar gathering had assembled to express the great satisfaction which the conferment of knighthood on their director had given them, and to celebrate the occasion by presenting him with his portrait. They were not accustomed at the Lister Institute to retirements of staff on account of age, and it was a matter for mutual congratulation that Sir Charles Martin and Professor Harden had reached the prescribed age-limit while still in their full mental vigour. Sir Charles had directed the activities of the Institute for twenty-seven years. His highly successful administration might justly be attributed, in the first instance, to the charm of his personality, and secondly to his tact, his business ability, and the catholicity of his scientific interests. Professor Harden had served the Institute for thirty-three years, and as biochemist-in-chief during that period had made his department an important centre of biochemical research. Only a year ago he had been awarded a Nobel prize in chemistry for his work on fermentation. The departure of Sir Charles Martin and Professor Harden would mean a severe loss to the Institute's forces, but it was to be hoped that the traditions they had set would long remain a potent source of inspiration to their successors. On behalf of the many subscribers at home and abroad Miss Harriette Chick was called upon to present to Sir Charles and Lady Martin a silver coffee service designed and executed by Mr. P. S. Alexander of Walberswick, Suffolk; and Miss Muriel Robertson unveiled and presented to Professor Harden his portrait in oils by Mr. Neville Lewis. Sir Charles Martin and Professor Harden, in returning thanks for these gifts, referred to the developments they had witnessed in the scope of the Institute's activities during their long service, and at the close of the reception, which concluded the ceremony, they took leave of their colleagues. Sir Charles and Lady Martin sailed on January 2nd for Capetown, *en route* for Australia.

The Cicely Northcote Trust

It is evident from the annual report of the Cicely Northcote Trust for the year ended October, 1930, that its beneficent work in relieving the distress of patients at St. Thomas's Hospital, London, continues to be carried out with undiminished enthusiasm. In 1910, when the first report was issued, the almoner's services were comparatively limited in scope, being confined to the casualty

and out-patient departments. Much of the pioneer work of the Trust has consisted in organizing and co-ordinating social services for the benefit of patients in the wards, and in securing for those in need of personal and individual care the most favourable conditions for early and permanent recovery. For one patient, whose difficulties are described in the present report, grants were obtained from three different organizations, and contributions by the patient herself were arranged to be made in convenient instalments. During the year 9,000 patients were visited in the wards, and convalescent provision was made for almost 900—occasionally for long periods. The work of the Trust, however, is not restricted to financial assistance, but touches nearly every aspect of social and domestic life. Among its manifold interests is the after-care of cancer patients, who are regularly visited and given advice and help in money or in kind. A complete record is kept of every cancer patient who passes through the wards of the hospital. Besides maintaining a hostel for rescue work, the Trust has organized a club for fathers and mothers, which was fully described in the previous report. This club now occupies more extensive premises in Royal Street, but £1,200 is still required to complete the cost of the building. It is a striking tribute to the efficient administration of the Trust that Miss Macintyre, its head worker, was invited to Australia to assist in founding an almoner's department in Melbourne Hospital.

Correspondence

THE SWEDISH MEDICAL CURRICULUM

SIR,—In the *British Medical Journal* for January 3rd Dr. Munro Kerr states that Sweden has "the longest curriculum of any country—namely, eight to nine years." This statement as to the length of the Swedish curriculum has been made several times recently in important publications. Presumably, the period of 8 to 9 years is thought to be comparable with our British period of 5 academic years. This is a misconception of the Swedish curriculum. The Swedes are a race of great intellectual powers, and their qualified doctor is a highly efficient product. It is of some interest to consider how they obtain their results and the price they pay for them.

The regulations, fixed by law, of the Swedish medical curriculum lay down the courses which must be served, as do ours. Having completed these satisfactorily, the Swedish student is entitled to take his examinations in the various subjects when and as soon as he likes. Consequently, there is no legal period which is exactly comparable with our 5 academic years, a time considerably exceeding the duration of the necessary courses. The main divisions of the Swedish curriculum closely resemble our own. Before registration as a student an examination in general education must be passed, and also an examination in chemistry and physics. These can be taken together in the State examination. This will be passed usually at the age of 18 years. The medical curriculum proper is divided into two parts, which may be referred to as Pre-clinical and Clinical. The subjects in these are practically identical with our own divisions.

With regard to the Pre-clinical Period, the legal minimum for the courses is five terms—that is, two years and four months—and the examinations can be passed in this time, though it is not easy. There is a paragraph in the regulations which states: "The estimated time for the Pre-clinical Examination is thus, according to this plan of study, 3 to 3½ years," the longer time mainly referring to students commencing in the middle of the academic year. These times are estimates, and are in no way compulsory. There is certainly no reason why students should not complete this part in not more than 3 years.

The courses in the Clinical Period are calculated not in terms but in months. These courses can be completed in 33½ months or even in 31½ months, with the overlapping allowed in certain courses, such as dermatology and ophthalmology. The total for the two parts is thus approximately 5 years. To pass the examinations and qualify actually in the minimum time would be far more difficult than qualifying in 5 years in this country; probably it is impossible, but it is said to have been accomplished in little over 5 years. At the end of sections defining the courses necessary in the clinical subjects there is an estimate of the amount of time which it is suggested is needed for additional reading. For example, the section on pathology states: "The time of study for the examination in this subject is estimated at 2 months." These times of study add up to 15 or 18 months. These are not in any way compulsory, and are not by any means always necessary.

There is a paragraph in the regulations which states: "According to this plan the estimated time of studies for the Licentiate of Medicine Examination is 4½ years after the Pre-clinical Examination." This is apparently arrived at by taking the courses at 3 years and the times of additional study at 1½ years. This is an extreme figure according to the total of times quoted, but in any case it is not compulsory. A group of students gave the estimate for the Clinical Period as "3 years, or more often 3½ years." There should be no difficulty in a Swedish student qualifying in 6½ years. This would, I think, about correspond to a student in this country qualifying in 5½ years on a five years' curriculum. As a personal opinion I should estimate the Swedish curriculum to be 9 months longer than our 5 academic years, or possibly 12 months, but not more.

The period of 8 to 9 years quoted for the curriculum is no doubt arrived at by adding the 3 to 3½ years and the 4½ years for the two parts, and possibly the extra year is added for resident hospital appointments. These, however, are not compulsory in Sweden, except for certain Government services, and a student, after passing the examinations, is fully entitled to practise, as in this country.

When a Swedish student takes 7½ or 7¾ years to qualify, it will commonly be found that he has spent 3½ years on the clinical part and 4 years or more on the pre-clinical part. The Swedish student on an average apparently wastes a year or 18 months in the Pre-clinical Period, for which he receives no appreciable return or benefit. Many students take 8, 9, 10, or more years to qualify, and it is a matter of curiosity why this occurs, since Swedes are a highly intellectual and industrious race. The explanation appears to lie in the system of examinations. As we are dissatisfied with our own system, it is interesting to observe the apparent results of a different method.

There is a separate examination in each subject—for example, ophthalmology. When a student wishes to be examined he goes to the teacher, who is always the examiner and is generally the professor, and asks for an appointment. He has a right to be examined within fourteen days, but in practice it will rarely be delayed more than forty-eight hours. The examination is a private and personal matter between the student and the professor. There are practically no rules as to how it shall be conducted. There is no written paper. The student's "examination book" is then marked for that subject "Not passed" or "Passed," or "Passed [with various commendations]." This method is clearly a considerable imposition on the professors. There will be no

pressure on students to present themselves prematurely, and the time, especially in the Pre-clinical Period, slips away easily. The percentage of rejections seems to be low.

The average time for qualification appears to be about 7½ or 7¾ years. The finished article is very good, but the long time of preparation increases its cost. It is a serious matter to put a son into the medical profession, although the subsequent return in practice is good. A doctor in ordinary practice can manage with some difficulty one son, but can scarcely afford to have two sons as medical students. Taking the number of qualified doctors per 100,000 of population, the United States has approximately 130, Canada 105, Britain 90 to 100, France and Germany 70 to 80, and Sweden 35. On an average there is a qualified doctor in this country for every 2 square miles and 1,000 inhabitants, in the United States for every 30 square miles and 800 inhabitants. The Swedish doctor is responsible for 90 square miles and 2,800 inhabitants. To accomplish his duties successfully, he needs at least to draw fully on the fine intellect, the efficient teaching, and the magnificent physique which he usually possesses.—I am, etc.,

London, W., Jan. 5th. H. LETHEBY TIDY.

OBSTETRICAL EDUCATION OF THE UNDERGRADUATE

SIR,—One must respect and sympathize with the endeavour of Professor Munro Kerr to render perfect the obstetrical education of the undergraduate and so to diminish or to abolish sepsis and trauma in midwifery cases. Unfortunately, the doctor has to look at the economic aspect. He is now asked by the experts to put in six months' training as a student, and then to serve a further year as an "intern" in one of the many hospitals for midwifery which are to spring up in the near future. It is reasonable to assume that, acting on the specialists' advice, which is to include financial pressure—for example, the proposed withholding of the maternity grant unless the confinement takes place in a hospital—the great bulk of the present "private cases" will be dealt with in institutions. The graduate, supremely educated, will emerge from his training with no work to do; economically it will be so much wasted time.

Again, all abnormal cases will be dealt with in these hospitals; the residue, if any, will be normal cases, with which any nurse can deal. There will remain a few who will insist on a doctor in addition to a nurse. Following expert instruction, the treatment of these must include a first examination of a complete and searching nature—heart, lungs, blood pressure, urine, measurement of pelvis, examination of uterus and vagina—thereafter an examination every fortnight, and for the last month, each week, tests of urine, blood pressure, etc. The treatment of anything abnormal must be included; masks, sterile outfit, and so on must be used at the confinement itself, followed by three weeks' attendance and examination in two months' time for prolapse or displacement. Supervision and correction of any abnormalities will be the routine for a year thereafter. For all the above the biggest fee obtainable here is £5 5s.!

In the public press Professor Kerr stated some months ago that "80 per cent. of all midwifery was already institutional." He said that the advocates of non-institutional maternity treatment were fighting a losing battle and that the proper place for maternity cases was the ward of a well-equipped maternity hospital. If he is right, then why should the student be robbed of a year of his life getting superlative training for work he will never do?—I am, etc.,

Dennistoun, Jan. 3rd. JAMES COOK, M.B.

THE HAEMORRHAGIC DIATHESIS AND THE ANTITRYPTIC INDEX

SIR,—Dr. Letheby Tidy, in his valuable and helpful article in your issue of December 27th, 1930, concludes that the haemorrhagic diathesis is due primarily to an increased permeability of the capillary endothelium, but he attempted no explanation of this. About 1909 I had the privilege of working with my brilliant friend Dr. E. C. Hort, who died prematurely a few years later. His doctrine, which seems in danger of oblivion, was that almost any cell in the body is capable of digesting itself, and is restrained only by the antitryptic power of the blood. Normal horse serum, especially if fresh, has the same power of inhibiting tryptic digestion; and we have all observed that, in a person dying of bleeding into the digestive canal, the blood is not at all digested although an excellent food.

Hort explained purpura or mucous haemorrhages by assuming that a subnormal antitryptic power of the blood permitted endotheliolysins or mucolysins to digest these membranes. (The platelets would then repair the breach.) As a clinician, I have found this doctrine confirmed by the apparent dramatic cure by horse serum of some cases of purpura haemorrhagica and of all (so far) of the formerly fatal cases of melaena neonatorum. But the case which really convinced me was that of a girl of 8, operated on by Mr. E. M. Hainworth for congenital hip by the bloodless method of Lorenz. About ten days afterwards she developed a septic pimple on the forearm. This rapidly became an ulcer, which spread so quickly that in a very few days it covered three-quarters of the length and circumference of the forearm. The extensor muscles were also visibly being digested away, but not the tendons. No granulations were to be seen. As I was then working on the antitryptic index, my delight may be imagined when dressings of gauze, kept moist with normal horse serum, immediately arrested this nightmare of autodigestion. Granulations quickly appeared and epithelialization was encouraged by scarlet-red ointment 8 per cent.

At the instigation of Hort I worked out an easy method of measuring the antitryptic index with only a finger-prick of blood, whereas a syringeful had previously been required (*British Medical Journal*, June 25th, 1910). Daily observations on a patient for two and a half months yielded a curve indicating that a proper dose of vaccine or tuberculin reduced the raised antitryptic index nearer to normal, and an overdose made it dive below normal. But the method is non-specific (possibly an advantage), and pathological opinion was then dominated by the specific methods of Sir Almroth Wright (opsonic index). So that Hort's doctrine and the antitryptic index were largely ignored and appear to have been undeservedly forgotten. It seems likely that they could now be applied profitably to the haemorrhagic diathesis and its etiology.—I am, etc.,

Hull, Jan. 6th. FRANK C. EVE, M.D., F.R.C.P.

TREATMENT OF ENURESIS

SIR,—At a recent meeting of "Le Carrefour de Cos" (where we discuss those medical topics that are not taught at school) Dr. Ferreyrolles of La Bourboule told us of a treatment of enuresis which has been carried on with marked success for many scores of centuries. Dr. Ferreyrolles is well-known as a learned student of Chinese medicine, and is about to issue a book on acupuncture, a treatment which aims at the starting of various reflexes by the stimulation of superficial well-defined spots. In China they use fine needles or heat. We combine both with the modern galvanocautery. In order to inhibit

the contraction reflex of the bladder, very light and short stimulation is needed. Those who are conversant with the laws of physiology will jump right to the conclusion that overstimulation would produce exactly a reverse effect.

In cases of enuresis, light stimulation (a prick, skin deep, with the fine loop of the cautery) should be applied at the base of the matrix of the big toe nail just outside the middle line on both sides. If a cure is not secured by the first attempt, or if relief does not prove to be permanent, the same procedure should be repeated. Other spots which we consider as secondary (scattered on the reflex track between toe and spine) have been mapped out by the Chinese.

If I venture to suggest in our Near West this Far East method it is because we have had results amazingly—and to my sceptical turn of mind quite unexpectedly—satisfactory. The best testimonials are to be found in the letters of those who have tried it. Everything that is new is not always good, nor is everything good always new.—I am, etc.,

GUSTAVE MONOD, M.D., M.R.C.P.

Vichy, Jan. 5th.

GLYCERIN AS A SURGICAL DRESSING

SIR,—I am interested to see in Dr. D. Kyle's letter in the *Journal* of January 10th a reference to a letter of mine of 1909. I write now, however, because it does seem that Dr. Kyle mistrusts the hygroscopic action of glycerin, whereas I have always maintained, and still do, that it is that action which is the essence of its success. Indeed, I once protested, in referring to the magnesium sulphate paste of Sir Almroth Wright, that he and I equally caused a centrifugal stream of lymph, and so interfered with the centripetal tendency of septic organisms; but whereas Sir Almroth Wright kept his germs alive in the non-bactericidal paste I killed mine in the carbolic acid.

Carrying that theory to its rational end, I used the *B.P.* carbolic acid solution of 1 in 5, so that the germs, when drawn out of the lymphatics by the glycerin, should find themselves in a pool of carbolic acid sufficiently strong to destroy them. Of course, glycerin is an alcohol, and may well act as a bactericide; but I had neither means nor leisure to determine its efficiency therefore I took no risks. Dr. Kyle's work strongly suggests that glycerin is sufficiently potent by itself.—I am, etc.,

London, E.C.2, Jan. 10th. A. OGIER WARD.

PROPHYLAXIS IN MIDWIFERY

SIR,—I am grateful to you for giving me an opportunity of thanking those who have so kindly written to me, following my letter in the *British Medical Journal* of December 20th, 1930 (p. 1066), on the above subject, and asking for further information about the methods suggested.

I have been in communication with Dr. W. H. Martindale as to the simplest method of preparing the flavine and glycerin, and we recommend the following method. Heat 4 oz. of glycerin to 110°-C. for five minutes, allow to cool a little, then add one tablet acriflavine 1.75 grains (British Drug Houses), previously powdered. This will make a 1 in 1,000 solution ready for vaginal injection. The tablet must be powdered before adding to the glycerin, as it dissolves instantly and does not require prolonged heating, which would decompose the glycerin. Flavine has been selected on the advice of Professor Oldfield of Leeds. It has the following advantages: it possesses an extremely high antiseptic power, it is not toxic to the tissues, it is practically non-irritant even to mucous tissues in dilutions at which it is highly toxic to pathogenic bacteria, and, last, but by no means least, it is highly toxic to the gonococcus.

In the latter part of my letter I advised the continuous administration of calcium salts; this also is an important prophylactic measure. In my paper written two years ago I advised the continuous administration of calcium salts during pregnancy for the *prevention* of the two great toxaemias of pregnancy—pernicious vomiting and albuminuria and eclampsia; these conditions are *more closely allied than was at one time thought* to be the case. I recommend, as soon as pregnancy is suspected, the administration of calcium phosphate 15 grains in half an ounce of water thrice daily, and in addition two glasses of milk a day, plenty of fresh fruit, and green vegetables, together with carbohydrates, and a diet of fish, eggs, chicken, etc., with a minimum of meat, or preferably no meat at all; the urine to be examined each fortnight at the first sign of albumin, the calcium phosphate to be taken three-hourly, and the patient given milk ad lib. (more calcium), fresh fruit, and green vegetables, and to be kept on this treatment till the albumin disappears. At the first sign of pre-eclamptic symptoms an intravenous injection of calcium chloride to be given, as recommended by J. L. Wodon.

There are several curious well-known facts in connexion with eclampsia that seem to confirm my theory that calcium therapy is *the* prophylactic remedy for it.

1. There is a seasonal variation in the calcium content, the highest percentage being during the months of maximum sunshine. Harrar of New York considers that the increased incidence of eclampsia in the early spring is due to the cold and damp weather. It is curious that this phenomenon should occur at a time when the calcium content is low.

2. The incidence of eclampsia is much less in warm countries than in cold. May not the increased calcium content, due to the presence of more sunshine, be the cause of this?

3. There was a startling reduction in the incidence of eclampsia in Central Europe during the great war, and after the war the incidence reverted to pre-war figures. This has been ascribed to various causes. As the diet was restricted in fats and meat, it is probable that more milk and fresh vegetables were taken. The lowered incidence has been ascribed by some observers to the ingestion of more fresh vegetables. Is it not possible that the increased consumption of milk (calcium) and the increased consumption of fresh vegetables and fruit containing vitamin C, which is associated with the metabolism of calcium, were the cause of the startling reduction in the incidence of eclampsia?

I am also of opinion that the continuous administration of large doses of calcium is of great benefit in those cases of lowered resistance where the patient falls an easy prey to infection from within or without.

I only ask that a reasonable trial be given to these methods, and that they be judged after a fair trial has been given them, and not before.—I am, etc.,

Congleton, Jan. 6th. J. L. MOIR, M.B., Ch.B.

GENERAL PRACTITIONERS AND ANTE-NATAL WORK

SIR,—In a lecture by Dr. W. H. F. Oxley on the role of the general practitioner in ante-natal work, reported in your issue of January 3rd, there is a reference (p. 6) to the arrangements in this county which may possibly result in misunderstanding. It is an essential part of the Hampshire scheme that a woman unable to attend one of the ante-natal clinics can be seen by the general practitioner chosen at her home or at his surgery, whichever he considers preferable. I regret that I was unable to be present at the opening of Dr. Oxley's most interesting lecture, or I should have taken the opportunity of pointing this out.—I am, etc.,

H. LESLIE CRONK,

Winchester, Jan. 8th. *County Medical Officer, Hampshire.*

ECLAMPSIA WITH UNUSUAL SYMPTOMS

SIR,—In the *Journal* of November 29th, 1930, there is a report of a case of eclampsia with unusual symptoms by Dr. H. R. Sparrow, which concludes with the remark: "Unfortunately we have no answer to the question, What would have happened if hospital treatment had been adopted on May 30th?" Perhaps the history of the following rather similar case may go some way towards a solution.

A primipara, aged 27, had, on account of having suffered from pyelitis some three years previously, been kept under particularly careful supervision and the urine frequently examined. Up to September 17th everything had been perfectly normal, and her general health throughout her pregnancy had been excellent. On that date a trace of albumin was found in the urine, and there was some slight oedema of the ankles. The blood pressure was 150/100. She was immediately sent to hospital and put on a fluid salt-free diet, with diuretics and saline purgation. By the next day (18th) the oedema had gone, and did not return; there was no headache, and the albumin was about the same. Between this and the 22nd she felt absolutely well, was passing urine copiously, and the blood pressure had fallen to 135/90. There was, however, some slight increase in the amount of albumin. On the 22nd, labour commenced in the early morning; at 6 a.m. she vomited some bile, but apart from the pains felt well. At 1 p.m. she was delivered of a 6½ lb. child, the placenta following in fifteen minutes, with a normal loss. During the afternoon she twice vomited some more bile, but felt quite cheerful. At 9.15 p.m. she complained of increasing epigastric pain, and, this being so frequently the precursor of convulsions, she was given 1/4 grain of morphine hypodermically. In spite of this a convulsion began at 10 p.m., and lasted about ten minutes, consciousness returning about 10.20. This was the only convulsion she had, and she remained conscious to the end.

The next day (September 23rd) the urine was scanty, and still contained about the same amount of albumin, but she was perspiring freely; blood pressure 125. Beyond feeling rather weak, she made no particular complaint. Towards evening jaundice began to appear, but liver dullness seemed quite normal, and there was no return of the oedema. On the morning of the 24th the abdomen was distended, and while this was somewhat reduced, following a high enema, it later returned. The urine was still scanty, blood pressure 110, and weakness more pronounced. She complained of being very tired, and died at 2.30 p.m. Permission for a necropsy could not be obtained.

In many ways this case closely resembles that of Dr. Sparrow: the comparatively small amount of urine, the falling blood pressure (at no time excessively high) without amelioration of the condition, and the absence of oedema.—I am, etc.,

J. B. MACKAY, M.B., Ch.B.

Provost, Alberta, Dec. 19th, 1930.

ACCESSORY LOBE OF AZYGOS VEIN

SIR,—With reference to the very interesting article on the accessory lobe of the azygos vein, by Drs. H. P. Nelson and George Simon, in the *Journal* of January 3rd, I wish to report that I have a film of this condition identical with Figure 3 (p. 10). It is of a boy, aged 12, and was taken in April, 1930. The film is No. 1721 in our series of films of patients in this department, and so far is the only one of the condition I have had.—I am, etc.,

GEORGE HURRELL, M.D.,
Tuberculosis Medical Officer,
Newcastle-upon-Tyne.

January 9th.

THE MEDICAL CHARITIES

SIR,—I am wholly with Dr. Claude Wilson in his plea for better support of the medical charities by the profession. For two years consecutively you have allowed me to recommend in your columns one particular kind of such support—namely, by testamentary bequest. I had meant to refrain this January; but Dr. Wilson's letter encourages me to mount my hobby-horse once more. A year ago I began to make a collection of cuttings from the *Times* of bequests to charities by medical men, to whom every kind of beneficent organization seemed to be dear, except the two great charities of their own profession. But the cuttings multiplied so quickly that I got disheartened and threw them away. Seriously, Sir, it is very strange that of those of our colleagues whose estates are more than sufficient to provide for their dependants so few ever bear in mind the Benevolent Fund and Epsom College. The former has, I fancy, been notified of one really useful windfall during the past year; the latter, as your own columns have recently told us, needs £18,000 to complete the new sanatorium, a debt which must be as a millstone round the neck of the council unless some valuable legacy should eventuate. Both institutions should be much more frequently and liberally helped by testamentary dispositions than they are, as well as by the increased subscription income which Dr. Wilson calls for.—I am, etc.,

London, S.W.5, Jan. 5th. HENRY ROBINSON.

Obituary

JOHN JENKINS, M.R.C.S., L.R.C.P.

Medical Superintendent, Hammersmith Hospital

Dr. John Jenkins, who died at Hammersmith Hospital on January 3rd, was born in 1869, and received his medical education at University College, Cardiff, and University College, London, where he qualified as M.R.C.S., L.R.C.P. in 1902.

Mr. SIDNEY FORSDIKE writes: After a short experience of mental work at Colney Hatch and Hanwell Asylums, Jenkins became assistant medical officer to Dr. Thackray Parsons at Fulham Infirmary. He carried out his duties so well that when the present Hammersmith Hospital was opened in 1905 he was appointed its first medical superintendent, a post which he held with signal success to the day of his death. During the war the hospital was taken over by the War Office as an orthopaedic centre, and Jenkins, as the officer in charge, was given the rank of major. He was later appointed president of the Military Invaliding Boards, holding office until peace was proclaimed. When the War Office vacated the building it was reconditioned and rehabilitated under his supervision. He was of small physique, and his friends regarded him as a Class A man from the point of view of health, but to their astonishment and grief he was carried off in the space of thirty-six hours after a brief but tragic illness. He was a man of great character and tact, which was the secret of his successful administration of a large hospital. He was rather reserved, and did not make friends readily, but once within the defences a loyal and generous nature was revealed. He was ever ready to help the weak and the deserving, but had little patience with the wastrel. To all at Hammersmith he was "the chief," well beloved and respected, an esteem which was shown by the numbers who took a last farewell glance at him as he lay dead, and by the enormous attendance at a memorial service held in the chapel of the hospital on January 7th, the day of the funeral. On his last journey, to Golders Green Crematorium, he was escorted by his immediate medical staff and his oldest friends, among whom I am privileged to be one. He is survived by his widow.

Dr. C. THACKRAY PARSONS writes: It was my privilege to know Dr. John Jenkins from December, 1902, when he came to Fulham Infirmary as assistant medical superintendent, until his sudden death early this month. Promoted to the medical superintendentship of Hammersmith

Hospital at its opening in 1905, he gave the whole of the rest of his life to its service. The improvement of it, the maintenance of it in the front rank of the London Poor Law infirmaries, absorbed him. He wore himself out by his devotion to it. In a short time of consciousness, nine hours before his death, he said, "I can't think why you are making this fuss about me; I am not going to stay in bed; I shall get up to-morrow and get back to work." He was a great administrator. He knew how to get the best out of his staff, to stimulate them in their work, and to maintain a strict discipline whilst retaining their affection. His was a full life. Work-time and leisure time he filled with interest. He read widely and with discrimination. He was a good shot; and, being interested in all mechanical things, motoring was one of his great joys. With his genius for friendship he had a wide circle of friends, and bound them to him by his sympathy and practical advice and help in difficulties. Married in 1905, no man was more fortunate in his wife. They were never apart from the day of their marriage, and were one in thought, interests, and aims. We who knew him know how much he owed to her in times of stress and in times of peace. "The buisy world is hushed, the fever of Life is over." "Mori est felicis antequam mortem invocet."

MAURICE FITZMAURICE-KELLY, F.R.C.S.

Assistant Surgeon, Royal Sussex County Hospital

The medical profession of Sussex has suffered a great loss by the death, at the age of 52, at a nursing home in Hove, of Mr. Maurice Fitzmaurice-Kelly. He received his medical training at St. Mary's Hospital, London, and won the gold medal in surgery at the London University, graduating M.B. in 1902, and obtaining the B.S. and F.R.C.S. in 1905. During the first week of the war he joined the R.A.M.C., and was sent to Antwerp, but his ship arriving on the coast of Belgium after the fall of that city, he landed a fortnight later at Boulogne, and became attached to the 13th General Hospital, which he largely helped to equip. He afterwards became surgical specialist at Calais, and was there under canvas during the very severe winter of 1916–17. He was also for a short period at a casualty clearing station, and the illness from which he died dates from the exposure he suffered during that winter. He was invalided home as a stretcher case about six months before the end of the war, and was still in hospital on November 11th, 1918. Shortly afterwards he was sent down to Brighton on account of his health, and was offered the post of chief of the surgical wards of the Pavilion, which he accepted, remaining there until the closing of that building as a hospital. During this period he was also attached to the Ministry of Pensions Hospital at Shepherd's Bush, and to Queen Mary's Auxiliary Hospital at Roehampton.

On completion of his war service, Mr. Fitzmaurice-Kelly remained in Brighton as a consultant, and was appointed surgeon to the Royal Alexandra Hospital for Sick Children (from which, for reasons of health, he resigned last year), to the Hove Hospital, and, later on, assistant surgeon to the Royal Sussex County Hospital. He was an active member of the Brighton Division of the British Medical Association, at which he frequently showed his cases at clinical meetings, and of the Brighton and Sussex Medico-Chirurgical Society. He was a man of outstanding ability, was held in the greatest esteem by his professional colleagues, was a most brilliant operator, and devised many modifications of operative technique, notably for amputations at the hip-joint, his method being described in Carson's *Modern Operative Surgery* as the best one in use. He leaves a widow and four children.

Dr. L. A. PARRY, honorary secretary of the Sussex Branch, writes: I have known Fitzmaurice-Kelly ever since he came to Brighton, and saw a good deal of his work, both in private and at the Children's Hospital. He was a regular attendant at the clinical meetings arranged by the Brighton Division of our Association, frequently showing cases and demonstrating some novel and skilful operation he had employed. He threw his whole heart into his profession. His work at the Children's Hospital and at the Royal Sussex County Hospital was always carried out with the greatest enthusiasm; no case was too much trouble, all presented something of interest to him; nothing was left undone by him for his patients. He went meticulously into every detail which would help them towards recovery. We have lost a very brilliant surgeon and a good colleague.

The death of Dr. RICHARD BRODIE, school medical officer for Ross and Cromarty, occurred suddenly at his home in Maryburgh, Ross-shire, on New Year's Eve. Both for his personal qualities and for his outstanding efficiency in his public health work, he will be greatly missed by the county, which three weeks before sustained another tragic loss in Dr. William McLean, the medical officer of health. McLean and Brodie were brothers-in-law, and were united by ties of friendship and of close official associations. It was difficult to think of the one without the other. After graduation in Edinburgh in 1898, Dr. Brodie became parish medical officer at Munlochy in the Black Isle district of Ross-shire. He practised there for many years, and was successful and popular among his patients. The war came, and to his temperament the attraction of serving was irresistible, although he could ill be spared. He was attached to a territorial battalion of the Seaforth Highlanders, with which he went out to France. He was invalided home, and later was medical officer in charge of the hospital at Cromarty, an important station throughout the whole of the war period. Brodie discharged his duties with the greatest acceptance. At the end of the war there was need for a medical officer to take charge of the inspection of school children of the county, and Brodie was appointed. For ten years he laboured with the greatest zeal, and built up a most efficient service. As in everything else he undertook, his humour, friendliness, and personal charm smoothed the official path. His years in practice had given him a wide outlook, together with experience desirable in an adviser of school children, and all over the county he was received with great respect and affection. His military funeral was attended by members of the 4th and 5th Battalions of the Seaforths, and by a great number of official and private friends.

Through the untimely death of Miss AMY HODGSON, M.D., M.R.C.P., the medical profession has lost a member of an admirable type. The leading motive that influenced her in embracing her vocation was service. Dr. S. G. Moore, lately M.O.H. for Huddersfield, writes: Endowed with mental qualities above the average and many other virtues, the amelioration of the lot of the young gave to Dr. Hodgson a natural outlet. Her contributions to current medical literature are evidence of this intention. Thus, "Vitamins and rickets," "Comparative results of child welfare work," "Milk and child welfare," are all worthy of serious consideration. An advertisement for a medical officer to conduct a special intensive scheme of work for the reduction of infant mortality in Huddersfield attracted her, and she received the appointment. During a complete year of work the infant mortality figure fell from 75 in the preceding year to 48, surely a notable reduction. Dr. Hodgson achieved success in a difficult part of the task, one which is essential: she secured the confidence of the mothers, and of the grandmothers also, to a remarkable extent. This was not merely due to competence as a physician and a paediatrician, nor to keenness on the task, nor to mere

kindliness and sincerity. Dr. Hodgson brought all these factors into play; but in addition there were authority, and an earnestness born of a consciousness of the importance of the subject, which were of at least equal consequence. The excellent work of the Infants Hospital in Vincent Square next attracted her. She secured a post on the staff and did admirable work there under the direction of Dr. Eric Pritchard, until the time came when she felt justified in practising as a consultant paediatrician. She took rooms in Harley Street, and worked there until serious illness interfered. General professional regret for the cutting short of such a career is accentuated by many memories of a charming personality considered from the purely social side.

BRITISH EMPIRE CANCER CAMPAIGN

At the quarterly meeting of the Grand Council of the British Empire Cancer Campaign, held on January 12th, with Sir CHARLES GORDON-WATSON in the chair, a grant of £6,000 was made to the Middlesex Hospital towards the maintenance of its cancer research work for the year 1930-31, and a further grant of £600 (making a total of £3,600 since 1925) was authorized to the cancer research committee of the Marie Curie Hospital, for the services of its medical research officer.

Sir Cuthbert Wallace, director of the Radium Institute, London, was elected a member of the Grand Council and, in view of the importance attached by the Campaign to the study of comparative medicine and pathology, Professor F. T. G. Hobday, principal of the Royal Veterinary College, was invited to become a member of the Grand Council.

Approval was given to the arrangements proposed for examiners and judges in connexion with the Garton Prize of £500 and gold medal, to be awarded for the best original dissertation on "The early diagnosis of cancer" submitted by December, 1931. "The biological effects and mode of action of radiations upon malignant and other cells" has been chosen as the subject for the second award, dissertations for which must be received by December, 1933.

It was reported that the popular handbook *The Truth about Cancer*, issued to the public on December 4th, 1930, was now obtainable from all booksellers, or direct from the publishers, Messrs. John Murray, at 2s. 6d. a copy, and that it had been received with appreciation in all directions. It is intended to issue revised editions from time to time in order to keep the book abreast of all developments in connexion with the cancer problem.

The Grand Council appointed the Saskatchewan Cancer Commission a branch of the Campaign, thus completing representation in New Zealand, the States of Australia, the Union of South Africa, and Canada. A communication was read from the Queensland branch expressing appreciation of the technical advice accorded it in connexion with the proposed establishment of a radon centre in Brisbane.

Universities and Colleges

UNIVERSITY OF LONDON

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

Professor E. P. Cathcart, regius professor of physiology in the University of Glasgow, will give two lectures on the national diet, with lantern illustrations, on February 23rd and 24th, at 6 p.m. The chair at the first lecture will be taken by Sir Walter M. Fletcher, secretary of the Medical Research Council. Admission is free without ticket.

KING'S COLLEGE

Three lectures, entitled "The constancy of the internal environment: its evolution and purpose," will be delivered at King's College, Strand, W.C.2, by Professor Joseph Barcroft, on Mondays, January 26th, and February 2nd and 9th, at 5.30 p.m. The lectures, which will be illustrated by lantern slides, are addressed to students of the University and others interested in the subject. Admission is free without ticket. Dr. H. H. Dale, director of the National Institute for Medical Research, will take the chair at the first lecture.

UNIVERSITY OF LIVERPOOL

The following candidates have been approved at the undermentioned examination:

D.P.H.—E. Hughes, J. W. Pickup.

UNIVERSITY OF BRISTOL

The Markham Skerritt Memorial Prize is available for award this year. It is open to the medical member of the University of Bristol (not a member of the medical board for the time being) who, in the opinion of the board, has in the three previous years published the best original work in any branch of medical science. Applications should be sent to the Dean of the Medical Faculty.

NATIONAL UNIVERSITY OF IRELAND

At University College, Dublin, on January 10th, the following degrees in the Faculty of Medicine were conferred by Dr. Denis J. Coffey, the Vice-Chancellor:

M.D.—M. J. Bryson, V. C. Ellis, F. L. McLaughlin, M. J. O'Neill.
M.Ch. (*Ophthalmology*).—F. J. Lavery.
M.B., B.Ch., B.A.O.—M. Moriarty, F. O'K. Craven, C. P. B. Bermingham, L. Dunne, P. Dunphy, J. J. Groome, M. J. C. Lynch, N. J. McGahon, P. A. McGuinness, T. J. Martin, T. A. Moynihan, P. O'Driscoll, Johanna O'Shea.
D.P.H.—P. J. Deery, M. M. J. Maughan, J. C. A. Liddy, J. O'Gorman, Margaret M. Partridge.

Dr. Thomas Walsh, professor of pathology, University College, Cork, has been appointed to represent the University at the annual conference of the National Association for the Prevention of Tuberculosis at Margate in June.

UNIVERSITY OF GLASGOW

The Harry Stewart Hutchison Prize, of the value of about £50, will be awarded in 1931 for the best writing embodying original research work in a branch of medical science relating to children. Medical graduates of not more than ten years' standing from the date of first graduation in medicine, of all British home and colonial universities, are eligible. Compositions, distinguished by two mottoes, must be sent to the Clerk of the Senate, University of Glasgow, by March 31st, accompanied by a sealed letter bearing upon the outside the same mottoes and containing a declaration by the author that the composition is entirely his own.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The following course of lectures will be given in the College at 5 p.m. during the next three weeks. January 19th: Professor Victor Bonney, results and technique of myomectomy; January 21st: Professor J. Basil Hume, pathology of diaphragmatic hernia; January 23rd: Professor J. W. Tudor Thomas, successful grafting of the cornea in rabbits; January 26th: Professor D. H. Patey: the pathological basis for the treatment of varicose veins by injections and its bearing on the problems of thrombosis; January 28th: Professor J. Paterson Ross, treatment of cerebral tumours with radium, with an account of experiments made to study the effects of radium upon cerebral tissue; January 30th: Dr. Donald Hunter, changes in the bones in hyperparathyroidism and hyperthyroidism; February 2nd: Mr. H. H. Woollard, the potency of pharyngeal entoderm; February 4th: Mr. T. P. Dunhill, malignant disease of the thyroid gland.

COUNCIL MEETING

A quarterly Council meeting was held on January 8th, when the President, Lord Moynihan, was in the chair.

Mr. Russell J. Howard, Mr. E. C. Hughes, and Mr. L. E. C. Norbury were introduced and admitted Members of the Court of Examiners.

Diplomas

Diplomas of Membership were granted to Mr. S. S. Ahluwalia, Mr. W. N. Chalmers, and Mr. E. M. Sharples, who have complied with the by-laws of the College.

Diplomas in Psychological Medicine and in Laryngology and Otology were granted jointly with the Royal College of Physicians to twelve and eleven candidates respectively.

Fellowship Examinations

A report was read from the Board of Examiners in Anatomy and Physiology for the Fellowship stating that at the examination held in December, 1930, 178 candidates were examined, of whom 57 were approved and 121 rejected.

The Secretary reported that arrangements have now been made for Professors Wright and Buckmaster to conduct a primary examination for the Fellowship in Australia, at Melbourne, on August 11th, 1931, and following days, and in Canada, at Toronto, on October 20th and following days.

Appointments

The President reported that Mr. Wilfred Trotter had been appointed Hunterian Orator for 1932, and Mr. W. Sampson Handley Bradshaw Lecturer for the ensuing year.

Mr. J. H. Thompson, lecturer in physiology under Professor McDowall of King's College, was appointed Meldrum Research Scholar for one year, the subject of his research to be

"Investigation into the influence of the parathyroid gland on processes of growth."

The Hallett Prize was awarded to Jack Carl Rudolph Hindenbach of the University of Otago, New Zealand.

Lord Moynihan was appointed delegate to the centenary meeting of the British Association, to be held in London on September 23rd to 30th, 1931.

Representation of Members on the Council

The Council of the College gave the following answer to the resolution of the annual meeting of Fellows and Members:

"The main functions of the College are to promote and encourage the art and science of surgery for the common weal, and for this purpose to conduct the examinations of the College and to maintain the great Museum and Library placed under its care. In carrying out these functions the Council organizes lectures and demonstrations, provides facilities for, and encourages research, fosters social intercourse and the amenities of the profession, and in every way possible renders the College an instrument for the advancement of surgery in its widest sense, not only for the benefit of the Members and Fellows, but the whole profession throughout the Empire. In the opinion of the Council these functions are well carried out under the present constitution: after further and prolonged deliberation the Council has therefore decided that it is not desirable to alter the constitution of the College by providing for the direct and separate representation of Members of the College upon the Council. The decision of the Council is in conformity with the opinion expressed three years ago by the body of Fellows of the College, who are the electorate."

Medico-Legal

MARKING OF SURGICAL INSTRUMENTS

PROSECUTION UNDER MERCHANDISE MARKS ACT

At the Marylebone police court on January 9th, before Mr. Hay Halkett, Van Lier Brothers, Limited, of Eden Street, N.W., vendors of surgical instruments, were summoned to answer three charges under the Merchandise Marks Act, 1926. The Board of Trade prosecuted on information given by certain firms of instrument manufacturers. It was alleged that the firm had advertised and offered for sale under a specific designation certain imported surgical instruments of a class or description to which an Order in Council under the Merchandise Marks Act, 1926, applied, and did not include in the advertisement an indication of the origin of the goods; further, that they sold in the United Kingdom imported surgical instruments made solely or mainly of metal which did not bear an indication of origin as defined by the Merchandise Marks Act.

Mr. G. B. McClure, who appeared for the Board of Trade, explained that under an Imported Goods Order, 1928, surgical instruments of foreign make, when sold in this country, must be so marked in one of various specified ways. He put in a catalogue entitled "'Summit' stainless surgical instruments," issued in November, 1930, which gave no indication that any of the goods described were foreign made. He also presented a number of instruments which bore the trade mark "Summit" and the word "foreign" as evidence that the defendant company knew of the requirements of the Act. Moreover, he said, one of the firms which had laid the information made a habit of printing on their invoices a warning that all goods made abroad must be so marked.

Mr. G. D. Roberts, for the defendant firm, entered a plea of guilty. He pointed out, however, that the law was not quite as simple as Mr. McClure had stated. The Act declared that it was illegal to sell or expose for sale any imported goods to which any name or trade mark was applied, unless the trade mark was accompanied by an indication of their origin. The defendant company was not charged under that section, and had never infringed it. The catalogue upon which the prosecution was based had been printed in 1927 before the Order was made, and had, by the oversight of a clerk, been forwarded to one of the informing firms in response to a request. The defendant company were wholesale dealers, describing themselves as surgical instrument exporters and importers. A section of the Act (Section 10 (4) (*b*)) laid it down that exposure for sale should not include exposure for sale wholesale by a person being a wholesale dealer. The wholesale dealer who exposed his goods for sale wholesale need not give any indication of origin, but when he sold the goods he must give such indication. The offence consisted in the sale to the informing firm of goods not described in the catalogue as foreign. Every article which bore the word "Summit" was also stamped with the word "foreign"; the defendants traded frankly under a Dutch name, and no deceit nor any attempt to deceive had ever been alleged. Both the prosecuting firms had accounts with the defendant firm, and both had full knowledge of the origin of the goods. The defendants exceedingly regretted that they had lost their way in the maze of this complicated legislation.

Mr. Van Lier, in evidence on his own behalf, stated that a new catalogue complying with the law was to be issued shortly. He had been unaware that the 1927 catalogue infringed the Order which came into force in 1929.

The magistrate remarked that laymen were supposed to understand everything, including matters which puzzled lawyers, such as the difference between selling and exposure for sale. The present offence was the most venial infringement of the Act which he had yet tried. There had been no serious intention to defraud. He imposed a fine of 40s. on each of the informations, and ordered the defendant firm to pay ten guineas costs.

The Services

DEATHS IN THE SERVICES

Colonel Edgar Elkins Powell, D.S.O., late R.A.M.C., died suddenly in London on December 12th, 1930, aged 66. He was born at Guildford on November 3rd, 1864, and was educated at St. George's, taking the M.R.C.S. and L.R.C.P.Lond. in 1887, and the M.D.Brux., with honours, in 1888. After filling the post of assistant resident medical officer at the Royal National Hospital for Consumption, Ventnor, he entered the Navy as surgeon in 1889, but resigned his commission in the following year. He then entered the Army as surgeon on January 31st, 1891, becoming major after twelve years' service, lieutenant-colonel on September 26th, 1916, and finally brevet colonel on January 1st, 1919, retiring on November 3rd, 1921. He served in the Chitral campaign on the North-West Frontier of India in 1895, with the relief force, receiving the frontier medal with a clasp; in the South African war in 1900-2, taking part in operations in the Transvaal, Cape Colony, and Orange River Colony, including the actions at Venterskroon, Lindley, and Rhenoster River, and gained the Queen's medal with three clasps and the King's medal with two clasps; and in the war of 1914-18, when he commanded the 24th Stationary Hospital, and, later, was A.D.M.S. of the 75th Division, in the Egyptian Expeditionary Force, was mentioned in dispatches in the *London Gazette* of January 12th, 1918, and received the D.S.O.

Lieut.-Colonel Raymond Herbert Price, I.M.S. (ret.), died in India on September 25th, 1930, aged 62. He was born on September 23rd, 1868, the son of Dr. A. G. Price, civil surgeon of Betul, in the Central Provinces, and was educated at Edinburgh University, where he graduated as M.B. and C.M. in 1893, subsequently taking the F.R.C.S.Ed. in 1907, and the D.T.M., with distinction, in the London School in 1912. Entering the new Indian Medical Service, the General List service, in the first batch gazetted, as surgeon lieutenant, on January 28th, 1897, he became lieutenant-colonel on July 29th, 1916, and retired on February 13th, 1922. He served on the North-West Frontier of India, in the campaigns of 1897-98, in the operations on the Samana Range, and in the Kurram Valley (medal with two clasps), in Tirah (clasp), and in the operations against the Para Chamkani tribe in 1899; in the Nandi campaign of 1905-6 (medal with clasp); and in the war of 1914-18: in Egypt, 1915; in Macedonia, 1915-16; with the Egyptian Expeditionary Force, in 1916-17; and in Persia and the Persian Gulf, in 1918-19.

Lieut.-Colonel Arthur Gwyther, Bengal Medical Service (ret.), died at Guildford on October 28th, 1930, aged 60. He was born at Mhow on April 16th, 1870, and was educated at Edinburgh, where he graduated as M.B. and C.M. in 1893. Entering the Indian Medical Service as surgeon lieutenant on January 29th, 1895, he became lieutenant-colonel on July 29th, 1914, and retired on January 29th, 1918. He served in the Tirah campaign of 1897-98, on the North-West Frontier of India, receiving the frontier medal with a clasp. Most of his service was spent in civil employ in Bengal. He received the Kaisar-i-Hind medal of the first class in the King's Durbar list of honours on December 11th, 1911.

Medical News

At a meeting of the Royal Sanitary Institute, to be held at 90, Buckingham Palace Road, S.W., on Tuesday, February 10th, a discussion on recent methods of sewage treatment will be opened by Dr. William Butler, senior medical officer, London County Council. The chair will be taken at 6 p.m. by Professor A. Bostock Hill.

A meeting of the Medico-Legal Society will be held at 11, Chandos Street, W.1, on Thursday, January 22nd, at 8.30 p.m. Dr. Nathan Raw will read a paper on the coroner's verdict in cases of suicide, which will be followed by a discussion.

The Harveian Society of London was founded in 1831, and is therefore now entering its centenary year. At the annual general meeting, held on January 8th, Sir Thomas Horder, Bt., was elected president, Dr. G. de B. Turtle treasurer, and Mr. Cecil P. G. Wakeley and Dr. R. Cove-Smith secretaries for the ensuing session.

A conversazione and cinematograph exhibition, for members of the University of London Medical Graduates Society, will be held on the afternoon of Thursday, January 22nd, at the Eastman Dental Clinic, Royal Free Hospital, Gray's Inn Road, W.C.

The annual meeting of the Royal Microscopical Society will be held in the Hastings Hall, British Medical Association House, Tavistock Square, W.C., on Wednesday, January 21st, at 5.30 p.m. Professor R. Ruggles Gates will deliver his presidential address on "Adaptations in cellular structure."

At a meeting of the London Clinical Society at the London Temperance Hospital on Tuesday, January 20th, at 9 p.m., Dr. Geoffrey Evans will open a discussion on the importance of diet in health and disease.

The Joint Tuberculosis Council has arranged a post-graduate course in tuberculosis, to be held at the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E., from February 16th to 20th, inclusive. Lectures and demonstrations will be given each morning and afternoon by members of the hospital staff. There will also be lectures on genito-urinary tuberculosis and tuberculosis of the skin at the London Hospital on February 18th and 19th, and on February 21st a lecture at the National Dental Hospital on disease of the teeth in relation to tuberculosis. Inquiries about the course should be addressed to the honorary secretary, Dr. William Brand, 8, Highway Court, Beaconsfield, Bucks.

The fourth conference of the German Association for the Investigation of Diseases of the Circulation will be held at Breslau on March 9th and 10th. Dr. O. Krayer of Berlin will discuss the theoretical basis of the action of digitalis, and Professor H. Pribram of Prague will deal with the therapeutic indications of this drug. Professor H. Schäffer of Breslau will consider the arguments for and against the employment of maximal doses. Further information may be obtained from Dr. Bruno Kisch, Lindenthal, Lindenburg, Cologne.

On the proposal of the Spanish Government the Council of the League of Nations decided in September to summon a conference on rural hygiene, to meet on April 22nd next, under the League's auspices, and to include representatives of all European States. The preparatory committee is composed of Dr. Pittaluga (Spain), Dr. Carriere (Switzerland), Dr. Chodzko (Poland), Dr. Hamel (Germany), Dr. Lutrario (Italy), Professor Madsen (Denmark), and Dr. Stampar (Jugoslavia).

The number of hospitals maintained by estates in the Federated Malay States during 1929 was 172, of which many were group hospitals, each serving several estates; 11 were in charge of resident medical practitioners. Considerable progress is reported in organizing uniformity of service by private medical practitioners on estates throughout the Federation, and hospitals are being provided or extended in order to ensure medical treatment of labourers in need of it.

An illustrated pamphlet on *Vegetables, their Use, Abuse, and Neglect*, by Mr. Charles E. Hecht, is issued by the Food Education Society, 29, Gordon Square, W.C.1, post free 3½d.

The Italian State Railways' Official Agency in London (16, Waterloo Place, S.W.1) informs us that as a result of the reduction in the cost of living in Italy (including food and house rents) it has been possible to make a general reduction in hotel tariffs of 10 per cent. The terms are now among the lowest in Europe. Special railway tickets at reduced rates are in force to Rome, the Naples Riviera, Sicily, and Tripoli (N. Africa); for example, for the journey of 2,100 miles from the Italian frontier to Sicily and back the fares are £5 14s. first class should intimate this.

The usual half-yearly indexes to the *Journal* and to the *Supplement* and *Epitome* have been prepared and will be ready shortly; they will not, however, be issued with all copies of the *Journal*, but only to those readers who ask for them. Any member or subscriber who wishes to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Treatment of Syphilis

Dr. A. L. PIRRIE writes: Can any reader give me help with the following? A healthy young man, aged 23, came to me with a hard chancre on the glans penis. This was clinically confirmed by a skin specialist. Dark-ground illumination was negative, but the Wassermann reaction was positive, and novarsenobillon was given in seven intravenous doses, as is usual, 0.3 gram to 0.6 gram. The patient was given mercury by inunction and mist. hydrarg. iod. by the mouth. One month after the course he came back with glossitis, and looked ill. The *novarsenobillon* was again given, the Wassermann reaction proving to be strongly positive. He then had a course of seven 0.6-gram doses, after which the blood was again positive. A further course of ten 0.6-gram doses followed, together with intramuscular bismostab, ten 0.2-gram doses. To-day, after a month's interval, the blood Wassermann reaction is strongly positive. During treatment he has abstained from alcohol, has played golf, and has felt in the best of health. Can anything further be done? Expense does not matter.

Remission of Symptoms in Pyloric Cancer

"T. L. P." writes in reply to "Wicklow" (September 13th, 1930, p. 455): The remission may be due to the cod-liver oil acting beneficially on the septic condition, to which the cachexia of malignant disease is due in great part. It is the vitamin A content of the oil that is the influencing factor. It may be that the disease is even arrested temporarily by the improving of the patient's general resistance. In Gerson's diet, which has been recommended for lupus and cases of surgical tuberculosis, a specially high vitamin content cod-liver oil has been advocated, together with exclusion of chlorides from the food. Further, meat is allowed only twice a week, and fresh fruit, salads with raw turnips, carrots, beet, and tomato, with eggs, milk, and farinaceous foods in small quantity, and wholemeal bread. This diet has resulted in great improvement of the condition for which it has been tried. There may be the mechanical factor here, which has a tonic and vitalizing effect on the mucous membrane of the alimentary tract; and the bulk of food may act similarly on the musculature of the system; thus a too rapid absorption of the stomach contents or those of the duodenum into the blood stream is avoided. In this case septic and toxic products on the surface of chronic or malignant ulcers will be excluded from the blood stream to a certain extent.

Income Tax

Oversea Officer on Leave

"LIEUT.-COL. I.M.S. (RET.)" has a house in England. In 1927 he was on six months' leave from India, and spent just over four months of the year 1927–28 in England. He was assessed to tax on the amount of the salary drawn in England, plus £300 brought to England for the purchase of a car and outfit, plus the amount of his oversea pay from October, 1927, to March, 1928, though he was back in India by the end of October, 1927. Was that assessment correct?

*** A *cardinal fact* is that, as our correspondent has a residence in this country, he has to be regarded as a British resident for purposes of taxation. It is therefore clear that he was correctly charged to British income tax on the amount of pay received in this country, and also on the £300, if that sum was remitted (or rather brought) to this country out of income. But we are not clear with regard to the taxation of the pay for the period November to March. If, as we gather, the pay was received abroad in respect of an appointment held from an authority abroad, we should have expected it to be outside the scope of British taxation, and we advise our correspondent to raise the question accordingly with the authorities.

LETTERS, NOTES, ETC.

Varicose Ulceration

Dr. G. A. MOULDEN (Bebington, Cheshire) writes. I have been much interested in the papers on the treatment of varicose ulceration after the method of Dickson Wright, and also in the ensuing correspondence. Dr. Adamson's detailed description of Hunt's method still further confirms the fact that the most important element of treatment is adequate support of the leg. Dr. J. Byrne contributed a paper to the *American Journal of Medical Sciences* (October, 1926), and I have used his method with success since then. Stated briefly, after protection of the surrounding skin by vaseline or a bland ointment, the ulcer is covered by overlapping strips of gutta-percha tissue. Any excess of discharge is allowed exit between the strips. A ring of non absorbent wool is then formed around the edges of the ulcer, and the space inside the ring is lightly packed with absorbent gauze; this ring of wool serves to protect the ulcer itself from bandage pressure, and also gives a little extra pressure to the oedematous edge and surrounding tissues. The whole of the leg, from toes to knee, is now encased in a fairly thick layer of non-absorbent wool, as evenly as possible. Two bandages of unbleached calico, 3 inches wide and 6 yards long, are now fixed firmly to the limb, one after the other. The patient is instructed to remove the top bandage when she gets into bed at night, and to replace it firmly before she gets out of bed in the morning. Any slackening of bandage pressure due to diminution of the oedema is in this way taken up, and firm pressure is thereby maintained. The dressings are changed as little as possible—for example, fortnightly. This method has the advantages of Hunt's bandaging, giving equality of pressure with simplicity. It protects the ulcer from trauma, and leaves it in contact with the discharge. Excess of discharge is taken up by the gauze, and the unpleasantness of a foul bandage is avoided. The pressure of the ring of wool on the edge also helps to expedite healing. Dr. Byrne suggests that the beneficial action of the discharge on the ulcer lies in the tryptic action of the serum, which digests the hard, callous edge of the ulcer, and therefore allows the epithelium to grow inwards.

Bromide Poisoning in a Monkey

Dr. JAMES R. SALMOND (Appleby Magna, Burton-on-Trent) writes: Our young pet drill monkey, weighing 7 lb., last week managed to secure a sample packet of sedobrol which had just been unpacked from the post, and devoured 5½ tablets before dropping the box. Treatment to recover them having failed, he was put outside under observation. At the end of three hours he developed vertigo, staggering gait, and finally spasmodic muscular movements somewhat like chorea, accompanied by threatened syncope. He was kept awake for an hour by massage, handling, and flicking with wet towels, and the collapse was met by amyl nitrite capsules and heat. Finally he became comatose, and could only be revived and the heart's action maintained by hypodermic injections of 1/200 grain of digitaline and strychnine, ½ c.cm. of pituitrin, 15 minim doses of ether, and brandy when he could swallow. On the third day the cortical irritation grew less, and he showed only a few jerky movements of the head, but the constipation became absolute, and tympanitis developed, accompanied by anuria. The heart's action became very feeble, and artificial respiration was resorted to as well as the hypodermic injections, while turpentine stupes were applied all that day, and three enemas (which were retained); he was also given a gastric lavage with potassium permanganate solution. Treatment was continued during the night, but the distension was tremendous, and a 2 grain dose of calomel had no effect. As he was still alive on the fourth day we administered ½ grain of calomel hourly, and a total of 5½ grains was taken before an action took place. This gave relief, and an hour later, although very thin and weak, the patient had recovered sufficiently to steal a banana left near his box. Since then he has made rapid progress, and save for loss of flesh seems little the worse. I understand that the amount of sodium bromide in each sedobrol tablet is about 17 grains, making the total dose taken about 90 grains.

Insurance against Incapacity

"SAFEGUARDED" writes: In a letter which appeared in your issue of January 3rd, appealing for the medical charities, the writer asks: "What is the financial result of an 'accident' or 'sickness' policy to a man suddenly and permanently struck down by trauma, encephalitis, or cerebral lesion?" and he puts the further question, "What proportion of our members can face with equanimity disasters such as these?" I should like, from personal experience, to answer these questions. I was suddenly struck down by such an illness early in 1930, from which, after eleven months, I have happily recovered. During this period the Medical Sickness, Annuity, and Life Assurance Society, Ltd., have paid me £478. Had my incapacity been permanent I would have been entitled to over £300 a year, free of tax, to age 65. Such financial backing is an excellent sedative for any sick and seriously disabled man.

An Index of Proprietary Drugs

Messrs. ROBERTS AND CO. (76, New Bond Street, W.1) have published a third edition of their *Prescriber's List*. This gives concise particulars about the chief medical preparations of their own manufacture and those of foreign origin which are in most frequent demand. The arrangement is alphabetical. A copy will be sent free of charge to any member of the medical profession who has not already received one.

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 58, 59, 60, 61, 65, and 66 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 62, 63, and 64.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 15.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

46 Enteric Fever during the War

A. HANNS (*Rev. d'Hyg. et de Méd. Prév.*, November, 1930, p. 817) states that during the early months of the war the French army was attacked by typhoid fever, but the disease was most prevalent in the Third Army, which chiefly occupied the Argonne. The daily incidence in the whole army was from 400 to 500 cases a day, of which 200 to 250 were in the Third Army alone. The incidence of enteric per 1,000 men at this time was: November, 1914, 6.12; December, 1914, 7.24; January, 1915, 7.0. In February, 1915, the number of cases began to fall, and by June the incidence per 1,000 was only 1.4. This first epidemic, which was cut short chiefly by inoculation on a large scale, was mainly one of typhoid fever. Of 98 positive blood cultures, 93 showed *B. typhosus* and only 5 *B. paratyphosus* B. In July, 1915, a fresh outbreak of enteric fever occurred, the number of cases rising in September to 6,629, but on this occasion was mainly one of paratyphoid, especially of paratyphoid A, the percentage of which was 40.9 in July, 59.3 in August, 76.3 in October, and 92.4 in November. The predominance of paratyphoid infection on this occasion was due to the fact that antityphoid inoculation furnished no protection against paratyphoid infection. A mixed paratyphoid A and B vaccine was then given, and in February, 1916, the incidence of paratyphoid, first of B and then of A, began to fall. In July, 1916, however, a rise in the incidence of typhoid occurred almost entirely among the Third Army, the explanation of this being that the immunity conferred by antityphoid inoculation did not exceed a year. In May, 1916, therefore, a further inoculation was ordered, this time with a complete T.A.B. vaccine; a fall in the incidence began at once, and no further rise occurred during the year. The official percentage figures for the enteric mortality for each year of the war were as follows: 1914 (5 months), 17.97; 1915, 9.77; 1916, 3.82; 1917, 8.15; 1918, 16.5. The fatality of the different epidemics of enteric during the war depended mainly on the distribution of typhoid and paratyphoid. The first epidemic (November, 1914, to April, 1915), in which the fatality ranged from 12.5 to 17.9 per cent., was one of typhoid. The second epidemic (June to September, 1915), which was characterized by a very low death rate—2.5 to 3.53 per cent.—was one of paratyphoid. The third outbreak (July to November, 1916), in which the death rate suddenly rose to 5.6 per cent., was mainly one of typhoid. During the final period (1917 to 1918), when the enteric incidence remained at a constantly low level, the death rate rose to 10–11 per cent., and the majority of the cases were typhoid fever.

47 Late Effects of the Specific Treatment of Syphilis

E. GOTTLIED and N. I. NISSEN (*Ugeskrift for Laeger*, November 6th, 1930, p. 1039) report investigations which do not support the view that there is a connexion between salvarsan treatment and the frequency of syphilitic aortitis. Their cases of aortitis and other diseases of the heart and aorta in patients who had suffered from syphilis had either been treated with mercury alone or had received no specific treatment whatever. Their investigations consisted of a scrutiny of the records of a hospital between November, 1925, and July, 1929. In their first category they put the patients showing late signs of syphilis, clinically or post mortem. In their second category they placed those patients whose only sign of a previous infection was a positive Wassermann reaction. In their third category were those patients who admitted having contracted syphilis, but who no longer showed any signs of it. No case was included in this classification in which the original syphilitic infection dated back less than ten years, since a smaller interval would, generally speaking, be insufficient for the development of demonstrable syphilis of the vascular system. The cases were further classified according to whether they had not received treatment, had been treated with mercury, or had been treated with salvarsan, with or without mercury. Of the 87 patients with late syphilitic lesions, only 2 had been given injections of salvarsan at the beginning of the disease; the remainder had either received no treatment or had been treated most inadequately with mercury. On the other hand, in the third group, among the 31 patients with a history of a previous infection with syphilis, but without any syphilitic manifestations in the period under review, there were as many as 16 who had been treated with salvarsan.

48 Diphtherial Infection of the Umbilicus

J. C. MONTGOMERY (*Amer. Journ. Dis. Child.*, November, 1930, p. 968), who records a personal case and has collected from the literature 42 other examples in which the diagnosis was proved by bacteriological examination, distinguishes three groups of diphtheria of the umbilicus, namely: (1) those with no clinical evidence of infection but affording positive cultures from a moist umbilicus (3 cases); (2) those with a slight caseous deposit and positive cultures (22 cases); and (3) those with more extensive evidence of infection (17 cases). In several instances diphtheria was found in other parts of the body, especially the nose. Montgomery's patient was a male infant who developed some redness round the umbilicus at the age of 3 weeks. This was followed by an area of swelling which gradually reached the size of the palm of the hand. A few days later the skin about the umbilicus presented a brownish-red discoloration, and in the umbilicus there appeared a small fistulous opening; in this a greyish exudate was seen, and from it a growth of virulent diphtheria bacilli was obtained. Death ensued from paralysis of the diaphragm and myocarditis. The author has found no other case on record of diphtheria confined to the umbilicus and associated with myocardial or nervous complications.

49 Chancre of the Tongue

J. VILENSKY (*Thèse de Paris*, 1930, No. 219) states that chancre of the tongue, which was first described by Astruc in 1726, is almost always due to inoculation from mucous tubercles. The modes of infection are either direct (bucco-buccal, bucco-genital, bucco-anal, or bucco-mammary) or, more frequently, indirect. Chancre of the tongue occupies the third place in the list of extragenital chancres, those of the lips and tonsils being the most frequent. It is three to three and a half times more frequent in males than in females, whereas the other extragenital chancres are most frequent in females. The relative frequency of lingual chancre to other extragenital infections is 5 per cent. As a rule lingual chancre is single, but double chancres are not very rare. The age most frequently affected is between 20 and 30. The sites of the tongue affected in order of frequency are the tip, anterior third of the dorsum, base, centre, and sides. The lower surface is rarely involved. Four forms of lingual chancre may be described—namely, ulcerative, hypertrophic, mixed, and phagedaenic. The lesion is only slightly tender, and does not cause much trouble. It must be differentiated from herpes, aphthae, mucous tubercles, the sublingual ulcer of whooping-cough, secondary and tertiary syphilitic ulcers, acute tuberculous ulcers, cancer, tertiary sclerotic glossitis, and dental glossitis. The secondary stage appears unusually early—on the average 25 days after the appearance of the chancre—and is very often characterized by an intense eruption, which shows a predilection for the thorax, arms, neck, and sometimes the face. The

nervous complications of syphilis and the common tertiary manifestations are unusually frequent. Treatment is the same as for syphilis in general, but local treatment is necessary to prevent the spread of the infection.

50 Perlèche in Adults

E. A. SKOLNIK (*Arch. of Derm. and Syph.*, October, 1930, p. 642) records five cases, in adults aged from 41 to 46, of this fissured condition of the angles of the mouth, which usually is confined to children. In each case the disease assumed a chronic form, the shortest duration being three years. The lesions were bilateral, and varied from 7 to 12 mm. in length. All were roughly wedge-shaped, fissured in their long dimension, and showed slight maceration and thickening. There was some scaling of the erythematous areas, which stopped abruptly at the vermilion border of the angles of the mouth. The lesions neither bled nor ulcerated. The patients complained only of a sensation of dryness and of slight pain on opening the mouth widely. Cryptococci were isolated from the lesions in each case, and inoculation of a pure culture of cryptococcus under the normal breast produced a lesion similar to those at the angles of the mouth, which disappeared spontaneously in three or four weeks. Exaggeration of the normal fold at the angle of the mouth by a drooping upper lip apparently contributes to the etiology and chronicity of perlèche.

Surgery

51 Burns in Children

E. C. DAVIDSON (*Minnesota Med.*, November, 1930, p. 775) agrees that the profound metabolic disturbance following severe cutaneous burns is due to toxaemia caused by the absorption of some toxic substance or substances from the burned area. The toxaemia is best combated by a local treatment which would prevent absorption from the site of the burn. Tannic acid accomplishes this by forming more or less stable, insoluble compounds with the burnt tissue. Davidson claims that treatment of burns with this drug, followed by exposure to air, lessens toxaemia, and as an initial dressing the acid is analgesic. Its local astringent effect prevents loss of body fluid, and secondary infection is greatly limited by the absence of a favourable nidus for bacterial growth. Scar-tissue formation is less marked than with other methods; moreover, the protective layer of coagulated protein forms a framework for the growth of young epithelial cells over the denuded area. The prognosis in burns in childhood must be guarded, and depends on the depth rather than the extent of the burns. The clinical course of burns may be divided into four stages: shock, acute toxaemia, septic toxaemia, and healing. In children shock almost invariably occurs. The child should be placed in a light tent on sterile sheets. Blebs should be opened, all loose tissue carefully removed, and the denuded area thoroughly cleansed without excessive traumatism. The burned part is then sprayed with a 5 per cent. aqueous solution of tannic acid every fifteen minutes until the surface is a light brown colour. Normal saline solution should be injected subcutaneously, intravenously, and rectally, and fluids be given by the mouth. If shock threatens, transfusion is performed, and this is repeated if necessary. Intravenous normal saline solution should be injected daily and sedatives be administered at night till the period of toxaemia is past. Since children tolerate granulating wounds very badly, skin grafting should be performed promptly, generally in the third or fourth week. Pinch grafts are advised for large areas. Burns involving the axilla are very important owing to the disability of arm-chest adhesions. This deformity may be largely avoided by keeping the arm in abduction during healing. If webbing occurs the web should be divided high up in the axilla, anterior and posterior flaps be turned into this newly formed axilla, and the lower defect be filled with Thiersch or pinch grafts. The treatment of deformities following old burns is briefly dealt with.

52 Rupture of the Spleen and Left Kidney

R. DESJACQUES, F. BÉRARD, and H. LATHURAZ-VIOLLET (*Rev. de Chir.*, November, 1930, p. 296) record 47 cases of rupture of the spleen associated with rupture of the left kidney. These cases occurred nearly always in the male sex, the most common age being between 10 and 20 years. The cause is seldom pathological, and is nearly always an accident, the condition resulting from severe trauma. Since the kidney is firmer and less friable than the spleen, it does not usually suffer so much damage in an abdominal injury. It is nearly always necessary to remove the spleen, and in 13 cases in which this was not done death invariably occurred. In 33 cases the capsule was ruptured, and in two instances the spleen was crushed; in another case it was found to be torn at the junction of the upper third with the lower two-thirds, the upper pole being almost completely separated. Lesions of the kidney are frequently less serious than those of the spleen; in the majority of cases the capsule only is ruptured, but in eight of the cases reported it was torn from its pedicle. There may be associated lesions in other organs, such as the liver, pancreas, or diaphragm. The most noticeable symptom is that of shock, and death may occur quickly from severe internal haemorrhage, of which the chief signs are a progressive weakness, pallor, coldness of the limbs, a rapid pulse, and a variable temperature. Pain is felt in the left flank, and may be generalized over the whole abdomen; it may also be localized in the lumbar region, or referred to the left shoulder. Ecchymosis may also be present, and palpitation will provoke abdominal pain and contraction of the abdominal wall, which may be localized in the splenic area. Abdominal meteorism may be observed, and percussion of the abdomen may reveal dullness in the left flank in 25 per cent. of cases. The prognosis is grave; out of the 47 cases under review 32 patients (68 per cent.) died. Treatment, which must be surgical, depends mainly for its success upon the condition of the spleen, and also upon the rapidity with which an operation can be undertaken. In cases where no operative treatment was employed, or where the kidney only was dealt with, the mortality was 10 per cent. When the spleen alone was removed the mortality was reduced to 57 per cent., and when operation included the spleen and the kidney only 50 per cent. of deaths are recorded.

53 Diaphragmatic Paralysis by Phrenic Evulsion

H. WILSON (*Med. Journ. of Australia*, October 11th, 1930, p. 487) presents a critical review of phrenic evulsion in 200 patients, including the indications for and the results of the operation. The diagnosis of diaphragmatic paralysis is best made by radiology. There is no direct physical sign of unilateral paralysis, but a combination of signs gives indirect evidence; when the thorax is grossly altered, diagnosis may be impossible. Hemidiaphragmatic paralysis on the same side always occurs after phrenic evulsion; the paralysed side rises higher than its fellow, and may continue to rise for six months after the operation. If no gross thoracic alteration exists, the elevation of the paralysed side is influenced by the patient's physique and habitude. The degree to which the paralysed half rises is greater on the right side than on the left, and the paralysis is permanent if more than 2.5 cm. of the nerve is evulsed. The size of the pleural cavity and the lung volume are diminished by phrenic evulsion; this results in relaxation and resting of the whole lung. Compression of the lower pulmonary lobe also ensues, and an average reduction of 18 per cent. of the actual vital capacity follows. The reduction is greatest when the pulmonary disease is not extensive. Untoward symptoms after this operation are rare; slight increase of pre-existing dyspnoea occasionally occurs, but is rarely sufficient to cause complaint or disability. Wilson considers phrenic evulsion a valuable adjunct to thoracoplasty; it produces better collapse in cases of artificial pneumothorax with basal diaphragmatic adhesions. When refills have to be given frequently, it lengthens the interval between them, but in the pneumothorax treatment of phthisis its value in decreasing the incidence of pleural effusion is doubtful, and the results of combined phrenic

evulsion and artificial pneumothorax in bronchiectasis have been disappointing. Marked pulmonary collapse may be obtained with only slight improvement in the amount of sputum and fetor. In pulmonary tuberculosis, this operation benefits the local lesion, toxaemia, and haemoptysis, but only slightly influences the amount of sputum. In bronchiectasis phrenic evulsion alone causes but little benefit. It is of value in assisting drainage from lung abscess and interlobar empyema; it should be considered also in treating pain due to pleural adhesions, and as a palliative measure in pleuro-pericardial adhesions.

54 Varieties of Gall-stone Ileus

O. LUTTEROTTI (*Wien. klin. Woch.*, November 13th, 1930, p. 1399) states that obstruction of the small intestine, especially of the ileum, is the commonest accident to follow ulceration of a gall-stone into the alimentary canal; he cites some illustrative cases. Volvulus also occurs, and may be due to the stone weighing down a loop of intestine into the pelvis and causing kinking. This may also explain some of the cases of obstruction without volvulus, since in one recorded case the stone was palpated through the vagina, dislodged digitally, and later passed per rectum. A gall-stone in the intestine may reach a hernial sac and here cause obstruction owing to narrowing of the gut, without strangulation of the hernia ensuing. Pyloric obstruction due to a gall-stone is a rare condition. The stone in this case may have ulcerated directly into the stomach, or may have been vomited into the stomach from the duodenum. Large intestine obstruction, again, may be due to direct ulceration into the colon, or the stone may have come through the small gut without mishap. It must be remembered here that the mass tends to increase in size on its way down owing to incrustation. The mortality in all recorded cases of gall-stone ileus is serious (56 to 64 per cent.), owing to the high average age of the patients and the advanced stage at which they usually arrive at operation.

55 Milkers' Whitlow

A. KITTINGER (*Zentralbl. f. Chir.*, November 29th, 1930, p. 2980), who records an illustrative case, states that this condition has received little attention owing to its essentially mild character, which allows the milkman to continue his occupation. It is frequently met with in large dairies among the milkers and those employed in cleaning the cows. The whitlow is produced by the fissures in the callosities on the flexor aspects of the milkers' hands becoming inflamed, the irritation being kept up by penetration of small hairs from the cow's udder during milking. Histological examination reveals plasma cells, a large quantity of lymphocytes and pus cells, and inclusion bodies containing fragments of hairs and detritus. Kittinger's patient contracted a subungual whitlow of the right thumb, complicated by periostitis and osteitis. The man was able to resume his work three weeks after an operation, when granulation tissue and masses of fine hairs were removed with a sharp spoon.

Therapeutics

56 The Ketogenic Treatment of Epilepsy

H. F. HELMHOLZ and H. M. KEITH (*Journ. Amer. Med. Assoc.*, September 9th, 1930, p. 707) tabulate the results of treatment by the ketogenic diet method between 1921 and 1930 in the case of 243 children suffering from idiopathic epilepsy. In a former report (1927) cases were classified as (1) free from attacks for a year or more; (2) definitely benefited; (3) not improved. In the present report two cases formerly in class (1) now appear in class (2) on account of recurrence of symptoms after return to a normal diet, though it has been found, as a rule, that freedom from symptoms for nine to twelve months under dietetic treatment is followed by freedom after return to a normal diet. Of the total number treated, 72 are excluded on account of failure to follow the strict diet; of the remaining 171, 30 have been treated for less than one year, and of 141 treated for more than one year, 43 come into class (1), 32 into class (2), and 66 into class (3). Inquiry has been made into the present status of cases reported on in 1927. Of 18 free from attacks for more than one year, 16 remain well on a normal diet, and 2 have been transferred to class (2) on account of recurrences. Of 8 free for less than one year, 5 have had no attacks, 2 show improvement, and 1 has not persevered with the diet. Three patients had recurrences after returning to a normal diet; one has had no more attacks, one has improved, and one has not persevered. Of 20 patients who showed improvement only, 1 has had no attacks, 4 show further improvement, 9 are not benefited, and 6 did not persevere. It has been found that patients who need to be kept constantly in ketosis, in order to be free from attacks, do not tend to cure, and often show no improvement on return to normal diet. Dehydration has not been found to lessen the frequency of attacks. It has been found experimentally that the exhibition of ketone bodies protects animals from the action of convulsant drugs. In certain cases where dieting alone has been insufficient to control attacks, the combination of diet with the exhibition of phenobarbital has given better results than the use of diet or drugs alone. The proportion to the total number of cases treated of the three classes already mentioned is the same in the later series as in that previously reported.

57 Intravenous Administration of Morphine

M. SALZER (*Med. Journ. and Record*, November 5th, 1930, p. 452) advocates the intravenous injection of morphine, slowly given, as a safe and certain method of providing immediate relief in cases of colic and cardiac distress, without exceeding the requisite minimum dose. Half a grain of morphine in solution is very slowly injected into the vein, and the syringe is withdrawn as soon as complete relief is obtained; this occurs much more rapidly than when the alkaloid is administered by the subcutaneous route, and the effects last as long. The value of this procedure is obvious in those cardiac cases where the time factor is of the greatest importance if any chance of saving life is to be taken. Besides being of value in cases of biliary or renal colic, where the aim is to obtain immediate relief with a sufficient dose and no more, it is of use in cases of coronary occlusion, angina pectoris, and acute pulmonary oedema due to acute decompensation.

58 Serotherapy in Meningococcal Septicaemia

CODVELLE and FERRABOUC (*Rev. Méd. Française*, October 1930, p. 707) analyse the results in twelve cases of meningococcal septicaemia, personally treated by them, and considered from the clinical, bacteriological, and therapeutic standpoints. The different forms of treatment employed are grouped as: (1) specific, which includes serotherapy, vaccinotherapy, and autotherapy; and (2) the anti-infective. The second (non-specific) group comprises shock methods, such as chemotherapy with metallic colloids, diamino-methyl-acridine hydrochlorate (gonacrine), and fixation abscess. The authors disclaim any therapeutic discovery, admitting the smallness of the numbers of each group which were tested, but they express a preference for early intraspinal serotherapy. They call attention, however, to the risk of sensitizing thus the meningeal tissues, and emphasize the need for further research.

59 Acriflavine in Undulant Fever

D. S. THURBER (*Canadian Med. Assoc. Journ.*, November, 1930, p. 665) points out that treatment in undulant fever is an urgent problem, since this disease always incapacitates the patient for months and occasionally for years, and is frequently followed by disabling joint pains and arthritis. The use of acriflavine hydrochloride has been commended in Europe and in America. Thurber reports the results in 7 cases following intravenous injections of this salt, and in 7 untreated patients. In 5 of the former cases the fever was arrested within one month; in 2 the fever continued, but at a lower level. In the untreated cases the disease lasted from nine months to two years, and 2 ended fatally. The best results were obtained in

patients treated during the earlier weeks of the disease; chronic arthritis did not develop in such cases. If given after the development of arthritis, acriflavine seemed to have little or no effect on the condition. Tablets containing 0.1 or 0.3 gram of acriflavine hydrochloride should be dissolved in about 20 c.cm. of warm normal saline solution, immediately before use. An ordinary intravenous saline injection is first started to ensure proper entry into the vein, and then the 20 c.cm. of acriflavine solution is added to about 200 c.cm. of warm normal saline solution. The dosage varies according to the size, age, and condition of the patient, and the number of previous injections. The acriflavine must be administered slowly (5 c.cm. per minute) to avoid reactions. Following the injections, a decline, a rise, and a final decline in the fever occur. No severe reactions or harmful effects were noted. Thurber believes that by the intravenous use of acriflavine the course of undulant fever is materially shortened, and the development of an incapacitating arthritis prevented.

60 Vaccine Therapy in Enteric Fever

J. H. CROUCH (*Public Health Rep., Washington*, October 10th, 1930, p. 2429) states that during an epidemic of typhoid fever which occurred in Helena, Montana, in the latter part of 1929, 77 of the 216 cases received T A B vaccine, either just before the onset or during the course of the disease. With a very few exceptions, all received the first dose after the probable date of infection. A comparison of these 77 cases with 105 cases during the same epidemic which did not receive vaccine yielded the following results. (1) 22 patients who were given three doses of vaccine, the first of them before the onset of symptoms, had a definitely milder and shorter attack than any of the others, and no fatal cases occurred. (2) In 17 cases which had only one or two doses, the first of which was given before the symptoms started, the duration of the disease seemed to be shorter, but the severity was not less than in control cases, and there was one death. (3) A group of 21 cases in which the first dose was given shortly after the onset, but before the patient went to bed, showed very little variation from the controls as regards duration and severity, and one fatal case occurred. (4) In a group of 17 cases which received vaccine after going to bed the average duration was a few days less, but the severity of the attack was at least as great as in the control group, and there were two deaths. Crouch concludes that typhoid vaccine is well worth while when given after infection, provided the first dose in administered before the onset and three doses are given. After the onset vaccine is of little or no value.

Dermatology

61 Keratoma Senile and Verruca Senilis

Contrasting these two conditions, J. A. HOOKEY (*Proc. of the Staff Meetings of the Mayo Clinic*, August 27th, 1930, p. 239) states that keratoma senile affects men more often than women, and as a rule occurs after middle age; it is often associated with the changes of senile atrophy. The lesions, which are typical, are usually situated on the face, hands, and forearms, though they occur elsewhere on the body. They begin as small, sharply circumscribed yellow or brown spots, and may remain as such for years. After varying periods many lesions become elevated and covered with adherent, thick, grey scales, presenting on their undersurface projections which fit into minute depressions in the cutis. Usually more than one lesion is present. The lesions may develop into cornu cutaneum. Inflammation, when present, usually indicates a malignant change. Of 31 patients (19 men and 12 women), 8 showed malignant changes. Irregular hyperkeratosis and acanthosis are present in all cases. More important are the individual cell changes; the normal keratinization of the cells is disturbed and dyskeratotic cells are produced. Mitotic cell division is commonly seen; amitotic division also occurs, with the formation of giant cells with multiple clumped nuclei. Another type of giant epithelial cell has a large nucleus with granular chromatin and one or more nucleoli. Oedema of the prickle cell layer develops, but the basal cell layer is usually intact. Pigment in small amount may be found, particularly in the epidermal dendritic cells. The hair follicles and the sebaceous and sweat glands and ducts are normal. The duration of the lesions varied from 3 months to 16 years. Verruca senilis occurs usually on the trunk, especially in the seborrhoeic areas. The lesions are usually multiple and the patients elderly; when fully developed the lesions consist of yellow or brown patches with thin, greasy scales. They begin as small macules, which gradually increase in size and become deeply pigmented; they are often granular in appearance. Inflammation at the base and subjective symptoms are not common. Varying degrees of hyperkeratosis are present. Irregular acanthosis occurs with partial fusion of the rete ridges to form a network in which are found connective tissue islands and cyst-like spaces containing cornified material. Keratinization is not disturbed, and the basal cell layer is intact. The pigment (melanin) is found in and between the epidermal cells and in the chromatophores of the cutis. *No malignant changes* were detected in 52 cases (28 men, 24 women). The duration of the lesions ranged from 2 to 60 years. The differential diagnosis of these conditions is outlined. Senile changes in the skin, exposure to the sun and wind, and hereditary predisposition are etiological factors in keratoma senile, and malignancy arising in the latter affection is usually of the squamous cell type. Verruca senilis is not a precancerous lesion; it is best classed among the delayed naevi of the epithelial layer. The lesion is essentially an epithelial hyperplasia; under proper stimulus, such as continued irritation, it might possibly become malignant.

62 Acriflavine in Psoriasis Vulgaris

In 1928 OPPENHEIM reported the successful treatment of psoriasis with intravenous injections of trypaflavine combined with ultra-violet irradiation. The dye (acriflavine hydrochloride) was shown to have a strong photosensitizing effect, and was given to increase the action of the actinic rays. S. E. SWEITZER and P. K. ALLEN (*Minnesota Med.*, November, 1930, p. 818) report 20 cases of psoriasis vulgaris treated with intravenous injections of acriflavine. The acid salt was used, as the neutral one proved to be toxic. All but 3 of the cases showed clinical improvement; in 4 the results were striking. In no case in which the eruption disappeared entirely were violet rays used. Moreover, the lesions on the protected areas of the body showed involution as rapidly as those on the hands and arms, which were more exposed to actinic rays. All the patients who improved did so without the rays, though these undoubtedly enhanced the value of the procedure. In the 3 patients who showed no improvement with injections the addition of radiation produced no benefits. The results, therefore, were not entirely due to photosensitization. In treatment the authors dissolve 0.1 gram of the salt in 20 c.cm. of sterile distilled water, and inject this slowly. This dose was given three times weekly, and was always well tolerated. Involution of the lesions followed a definite course; there was a gradual flattening of the papules and a diminution of the scales, leaving a pigmented area. This pigmentation faded slowly, and was the last sign of the dermatitis to disappear.

63 Xanthoma Multiplex with Hypothyroidism

The rarity of the association of xanthomatosis and hyperthyroidism has induced J. F. CHRISTIE, A. LYALL, and T. E. ANDERSON (*Brit. Journ. of Dermatol. and Syph.*, October, 1930, p. 429) to record the case of a woman, aged 44, who was stout, slow, and of placid habit; she was admitted to hospital in October, 1929, on account of multiple xanthomatous deposits on the hands, feet, and arms which had been present for a year. The size of the lesions varied from that of a hazel nut on the palms and soles to that of a split pea elsewhere. The patient had suffered from digestive troubles of an indefinite sort for twenty years, but a general physical examination showed no abnormality.

Examination of the blood showed it to be normal (including a normal sugar tolerance curve) except for a cholesterol content of 426 mg. per 100 c.cm. (normal high limit 200 mg. per 100 c.cm.). A dietary poor in fat was given for a month with no effect on the skin lesions or the blood cholesterol, and the definite lipaemia persisted. Insulin treatment having been previously shown to clear up lipaemia in diabetics, it was given a trial; although a single dose did not cause hypoglycaemia, some faintness followed, and the patient refused further injections. In November the basal metabolic rate was found to be 27 per cent. below normal, and thyroid gland, up to 12 grain doses daily, was given. A rise in the metabolic rate followed, with a fall in the blood cholesterol, but there was no immediate improvement in the skin lesions. There was a subsequent rise in the cholesterol figure, but following discharge of the patient in the following January, on a daily dose of 10 grains of thyroid, it was found to have dropped to 228 mg. per 100 c.cm. in April, 1930, by which time there was a definite clinical improvement in the skin lesions. The authors consider that this case suggests a possible etiological factor in non-diabetic xanthoma.

Obstetrics and Gynaecology

64 Hormones of Gestation

E. PHILIPP (*Zentralbl. f. Gynäk.*, November 1st, 1930, p. 2754), while acknowledging that many gaps still exist in our knowledge of the hormonic activity and relations of the ovum, ovaries, decidua, and hypophysis during early pregnancy, puts forth the following scheme as representing conceptions which are justified at present. Prolan B (Zondek), a hormone produced in the cells of the early chorion (although not there alone), induces development of the corpus luteum of pregnancy. The consequent luteinization in the ovary is associated with copious production of a corpus luteum hormone, which Philipp terms "lutin" or progestin. This hormone causes the development of the decidua in the pre-gravid endometrium, in which further preparation for pregnancy had previously been inhibited by the pre-existing corpus luteum. The decidua regresses in the later months of pregnancy, with diminution in production of prolan B and degeneration of the corpus luteum of pregnancy. Prolan B is found in appreciable amounts in the placenta in man and apes only, and almost disappears towards term. It is admitted that prolan B is not a placental product only, but is also formed in the anterior lobe of the pituitary body, as shown in the work of Zondek and Aschheim. In Philipp's experiments now described the production of pre-gravid endometrial hypertrophy in castrated rabbits is taken as a test sign of corpus luteum hormone, a recommendation made by Corner, Allen, and Clauberg. Transplantation experiments have indicated that this hormone is absent from the placenta. The association of prolan B, originating in the chorion, with lutein formation in the pregnancy corpus luteum, gives an explanation of the frequently reported coexistence of hydatidiform mole (with chorionic overgrowth) and corpus luteum cysts of the ovary.

65 Pelvic Sympathectomy

BINET (*Bull. Soc. Obstét. et de Gynécol. de Paris*, October, 1930, p. 590) states that in thirty-two out of thirty-three trials he has found it easy to divide the pelvic sympathetic nerves. Instead of isolating and dividing the presacral nerve (as described by Cotte) he removes the whole of the cellular tissue, with the included sympathetic fibres, lying between the common iliac arteries. No cases of uterine carcinoma were included, but most of the patients suffered from intractable pain. In nearly all of them uterine haemorrhage occurred from the second to the fifth day after operation. Relief of pain was usually secured among those suffering from dysmenorrhoea or from dyspareunia. According to A. HAMANT (ibid., p. 593), resection of the presacral nerve is a comparatively simple operation which is usually effective. Metrostaxis a few days afterwards is constant, and is to be regarded as a sign that the sympathetic fibres have really been divided. In dysmenorrhoea the results are said to be very good. In certain cases other surgical measures are carried out at the operation—for example, appendicectomy, division of adhesions, and uterofixation. In other cases, of which an example is cited, presacral resection alone is effective. When there is carcinoma of the uterus Hamant has obtained much relief from pain by combining resection of the presacral nerve with periarterial sympathectomy. V. RICHE and G. FAYOT (ibid., p. 575) report eight cases of resection of the presacral nerve. Their results were: in two cases of cancer of the uterus, no improvement; in a case of essential pelvic neuralgia, some amelioration; in five cases of dysmenorrhoea, cure in two, relief in two, and no change in one.

66 Gestation in Generalized Neurofibromatosis

M. V. MOREIRA (*Gynécol. et Obstét.*, September, 1930, p. 229) describes a case showing the effects of repeated pregnancies on a woman with von Recklinghausen's disease. The patient was 28 when first seen by him, and no other member of the family had been similarly affected. She had given birth previously to two children; both pregnancies, confinements, and puerperia had been normal. At the age of 10 years a small subcutaneous tumour had appeared on the face; it was painless, and grew only to the size of a hazel nut. This constituted the sole manifestation of the malady for twelve years. During the three months after her first confinement pigmentation appeared, the first being a patch on the arm with, subsequently, other patches on the back and front of the trunk. These persisted until her second pregnancy five years later. During this pregnancy the pigmentation again increased, but regressed after the confinement. During the third month of the third pregnancy the woman noted the appearance of cutaneous tumours on the unpigmented skin areas, and also an extension of the existing pigmentation, with a number of asymmetrically placed bronze patches of variable size. There were many small tumours of different sizes, most being distributed over the back. The patient eventually gave birth to healthy twins, the confinement and puerperium being normal. The spots of pigmentation on the face gradually diminished, but there was no modification of the tumours. The patient presented no signs of intoxication, of infection, or of nervous involvement, apart from a certain amount of apathy. Moreira remarks that since pregnancy augmented the disease, the possibility of the ductless glands being concerned must be considered. The ovaries appeared to function normally, as the pregnancies were normal. The prognosis would have to be reserved because the pelvic basin might not remain normal as at present. Although the patient had been affected for eighteen years, no cachexia was observable. It appears that if the influence of pregnancy on the evolution of the malady was incontestable, the malady itself had no influence on the function of reproduction.

67 Extrauterine Pregnancy

After briefly discussing the etiology, pathogenesis, diagnosis, and treatment of extrauterine pregnancy, J. C. MASSON (*Minnesota Med.*, November, 1930, p. 822) records the antecedent and subsequent histories in 471 such cases. These occurred at the Mayo Clinic during a period of twenty-five years. The youngest patient was aged 15 and the oldest 52, the average age being nearly 32. In 20 cases the ovum was still developing in the tube when the operation was performed. There were 7 cases of abdominal pregnancy, in 3 of which the pregnancy had reached full term. Lithopedions were found in 10 cases. Three cases of bilateral tubal pregnancy occurred, and one of twin pregnancy in one tube. Cases of associated intra- and extrauterine pregnancy were not found. The average length of married life was almost nine years. Masson agrees that previous sterility and abnormal pregnancy are important etiological factors: 109 patients (23.14 per cent.) did not give a history of previous uterine pregnancy, and 53 gave one of only miscarriages or ectopic pregnancies. Previous pelvic disease was present in 221 cases (46.9 per cent.). The average length of time from the last menses to the

onset of symptoms was about 10½ weeks. Pain was the chief complaint in 278 patients (62.32 per cent.), and vaginal bleeding in 160 (36.03 per cent.). The following average findings are given: blood pressure, 118.56 systolic and 82.61 diastolic; pulse 90.5; temperature 98.84° F.; haemoglobin 66.41 per cent.; and the leucocyte count 9,080. Six deaths followed operation, an operative mortality of 1.27 per cent. Two other patients, admitted *in extremis*, died from haemorrhage before being operated on. In 2 cases early tubal abortion was found accidentally at necropsy; one patient had died from acute nephritis, the other from oesophageal cancer. In a previous paper the subsequent pregnancies in 198 cases of ectopic gestation were reported; in 87 of these (44 per cent.) pregnancy again occurred. The total number of pregnancies was 162, 111 of which were normal. In 34 (20 per cent. of the 162) the pregnancies were intrauterine, but terminated in miscarriages. Eighteen pregnancies (less than 12 per cent. of the 162) were extrauterine. Masson believes, therefore, that bilateral salpingectomy is not justifiable for extrauterine pregnancy if the opposite tube is apparently fairly normal.

Pathology

68 Insulin and Epinephrine in Fasting Children

L. SALOMONSEN (*Amer. Journ. Dis. Child.*, October, 1930, p. 718) carried out eight experiments on healthy, fasting children, from 1 to 3 years old, with small doses of insulin. Hunger itself brings about a rapid fall in blood sugar and considerable ketonaemia in small children. The insulin was administered when the acetone curve was rising, and the blood sugar curve was either falling or had reached its minimum value. The insulin produced a further fall in the already low blood sugar content, while the blood acetone curve was unquestionably inhibited. However, the lower the blood sugar content was at the beginning of the experiment, the less marked was this effect; it appeared later and was less pronounced. The content of fatty acids in the blood plasma was shown, in two experiments, to fall if the blood acetone fell, and to remain unaltered if the acetone curve continued to rise after the injection of insulin. Seven experiments were performed on these children with epinephrine, injected subcutaneously in 0.1 per cent. solution. In all the experiments the blood sugar showed an immediate rise, of considerable extent and of short duration, reaching the maximum one or two hours after the injection. In all cases there occurred a distinct and temporary rise in the acetonaemia, the peak being attained an hour after that of the blood sugar. The lower the content of blood sugar the greater and more rapid was the rise in acetonaemia. In five out of six experiments a distinct rise in the quantity of fatty acids in the blood plasma occurred in one hour, and in the sixth experiment two hours, after the injection of epinephrine.

69 Experimental Transmission of Colds by a Filterable Agent

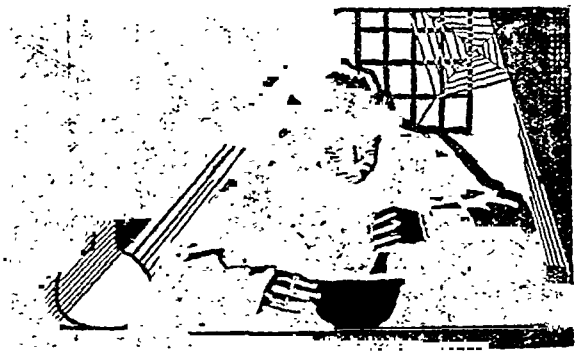
A. R. DOCHEZ, G. S. SHIBLEY, and KATHERINE C. MILLS (*Journ. Exper. Med.*, November, 1930, p. 701) have succeeded in transmitting the common cold to chimpanzees and human volunteers by means of filtered nasal washings from patients suffering from colds. A colony of chimpanzees was established under the most careful conditions of quarantine. After a period of preliminary observation, during which their nasal and nasopharyngeal flora was studied, they were submitted to experimental testing. Nasal washings were obtained from subjects with colds of not more than twenty-four hours' duration; these were passed through a Berkefeld V candle, and 1 c.cm. of the filtrate was injected into each nostril of the chimpanzee; the injections were repeated a few hours later. In positive experiments the first symptoms of a cold developed thirty-six to forty-eight hours later; the clinical picture that resulted was similar to that of a cold in a child. Examination of the nasal flora showed that with the onset of the cold a definite alteration occurred, characterized chiefly by the appearance of pneumococci in the nose and their rapid development to become the predominating organisms, together with a conspicuous increase in the numbers of Pfeiffer's bacillus. Of a total of 16 chimpanzees experimentally inoculated, 7 developed definite colds. Similar experiments in human volunteers kept in strict isolation resulted in 4 successful transmissions out of 9 attempts. It is noteworthy that no change in the nasal flora of the human volunteers was met with corresponding to that seen in the chimpanzees. The filtrates used generally contained anaerobic filter-passing organisms of the type described by Olitsky and Gates, but the authors do not regard these as having any etiological significance, because they were also present in control filtrates from healthy persons which gave negative results in chimpanzees, because two experiments made with pure cultures of these organisms failed to give rise to colds, and because some filtrates which proved infective were free from these organisms. The authors conclude that certain types of cold are caused by an ultra-microscopic filterable virus.

70 The Complement Fixation Test in Gonorrhoea

R. FÖRSTER (*Münch. med. Woch.*, October 31st, 1930, p. 1877), from a study of 1,350 serums, concludes that the complement-fixation reaction for gonorrhoea, if correctly performed (by Cohn's method) and interpreted, is of very considerable value in diagnosis and prognosis, and in controlling treatment. His main conclusions are as follows. In the early stages of the disease a negative reaction has no significance. A strongly positive reaction is evidence of present or recent gonorrhoea, a very useful point in the diagnosis of arthritic and gynaecological diseases. The reaction is only of diagnostic significance if specific vaccine treatment has not been employed. If a strongly positive reaction continues, it is evidence of latent infection remaining which may give trouble later on. A positive reaction becoming gradually negative during treatment is one sign of cure. A positive reaction is ordinarily to be considered as an indication for vaccine treatment.

71 Bacterially Produced Nervous Tissue Lesions

D. ORR (*Journ. Neurol. and Psychopathol.*, October, 1930, p. 97) states that he has shown that in lymphogenous infection of a peripheral nerve the lesion is interstitial in character, and the reaction is active at the site of the infection focus, becoming proportionately subacute and less active in the more remote portions of nerve. Experiments on seven rabbits, in which bacteria were introduced into the general circulation, are now recorded. These indicated that the resultant lesion in the nervous structures was degenerative or destructive, and involved definite cerebral anatomical sites. Necrotic areas in the fornix and cornu Ammonis were adopted as a criterion of the lesion. Definite necrotic areas were found in four of the seven brains examined; in the other three there was marked oedema, in spite of which coagulation necrosis was present. No haemorrhage was detected at or near the necrotic foci. In the cortex there were no gross lesions similar to the ischaemic softenings in the fornix and cornu Ammonis, but the nerve cells exhibited varying degrees of coagulation necrosis, which was not distributed uniformly throughout the cortex. In the superior and lateral areas of the pallidum the morbid changes varied in intensity, and all the cortical cell laminae were not involved in the necrotic change. The whole depth of the grey matter did not show nerve-cell necrosis. All the outer layers as far inwards as the ganglionic lamina were affected, but rarely the deepest or multiform layer. Granule and pyramidal cells were affected indescriminately. The pathogenesis is discussed, and the opinions of various authorities are cited. On this point the relation between the short cortical and long subcortical arterioles is important. Orr suggests that the localization of the lesions in the fornix and cornu Ammonis indicates that the vessels in these situations are terminal, while in the cortex, where the lesions are less marked and more diffuse, the absence of definite ischaemic lesions is due to the richness of the looped system of capillary supply.



Measuring Progress by the Therapeutic Yardstick

ANCIENT medicine set great store by "specifics." Paracelsus had his "Specificum Purgans." Cophon relied on mirobolanum or rhubarb in relieving constipation. Suppositories of honey and oxgall had their day in the fifteenth century.

Medicine has since made notable advances toward rationalism. In this day of therapeutic progress Agarol Brand Compound holds the foremost place. An exceptionally fine emulsion of mineral oil and agar-agar with phenolphthalein, it is not merely a laxative, but a remedial measure in the efficient treatment of constipation.

By introducing unabsorbable moisture, Agarol Brand Compound keeps the intestinal contents soft and makes their passage easy and painless. By *gentle stimulation* of peristalsis, it makes the result certain and aids in re-establishing normal bowel function.

One tablespoonful at bedtime —is the adult dose

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

AGAROL BRAND COMPOUND *for Constipation*

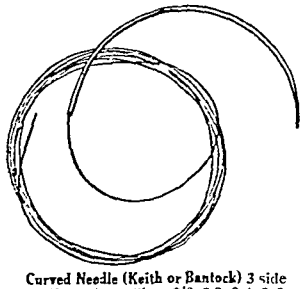
FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC., *Manufacturing Pharmacists Since 1856.*

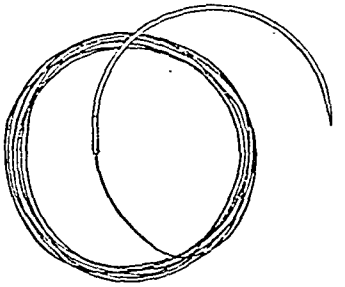
London Hospital Eyeless Needles

WITH L.H. CATGUT

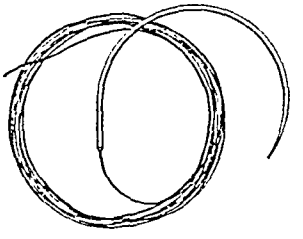
The London Hospital Eyeless Needles have been specially designed to avoid the doubling of the suture necessary in using needles with pierced eyes. They are fitted with tubular ends into which the sutures are firmly fixed, thus enabling the needles to be used with single strands. These needles are finely ground, sharp pointed and packed sterile in tubes for immediate use. Special precautions are taken to avoid any rusting of the needle after it has been packed.



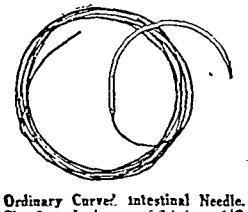
Curved Needle (Keith or Bantock) 3 side cutting edge. Sizes 3/0, 2, 0, 0, 1, 2, 3. In boxes of 3 tubes, **4/6**



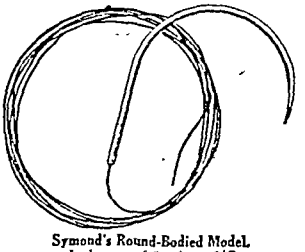
Curved Mayo Robson Stomach Needle. Sizes 4/0, 3/0, 2/0, 0, 1, 2, 3. In boxes of 3 tubes, **4/6**



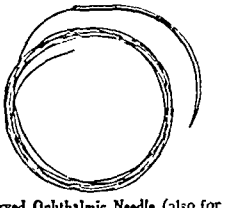
Moynihan's Model. In 3-tube box, **4/6**



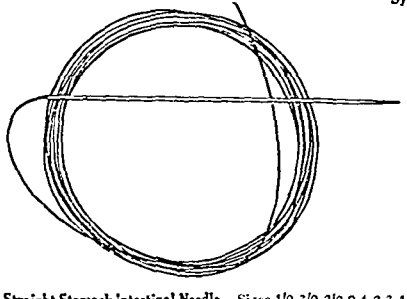
Ordinary Curved Intestinal Needle. Size 0 In boxes of 3 tubes, **4/6** In boxes of 3 cachets, **4/-**



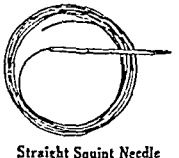
Symond's Round-Bodied Model. In boxes of 3 tubes, **4/6**



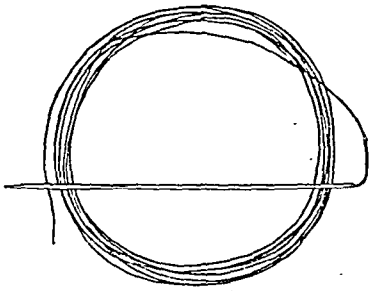
Curved Ophthalmic Needle (also for plastic work). Size 6/0. In boxes of 3 tubes, **4/6**



Straight Stomach Intestinal Needle. Sizes 4/0, 3/0, 2/0, 0, 1, 2, 3, 4.
In boxes of 3 tubes with single needles, **4/6**
" 12 " " **16/-**
" 3 " 2 needles **7/6**
" 12 " " **25/-**



Straight Squint Needle (Green model), ⅜ in Size 6/0.
In boxes of 3 tubes, **4/6**
" 12 " **16/-**



Straight Needle (Keith or Bantock), 2 in., 3-side cutting edge. Sizes 2/0, 0, 1, 2, 3.
In boxes of 3 tubes, **4/6** In boxes of 12 tubes, **16/-**

London Hospital Eyeless Needles are obtainable from

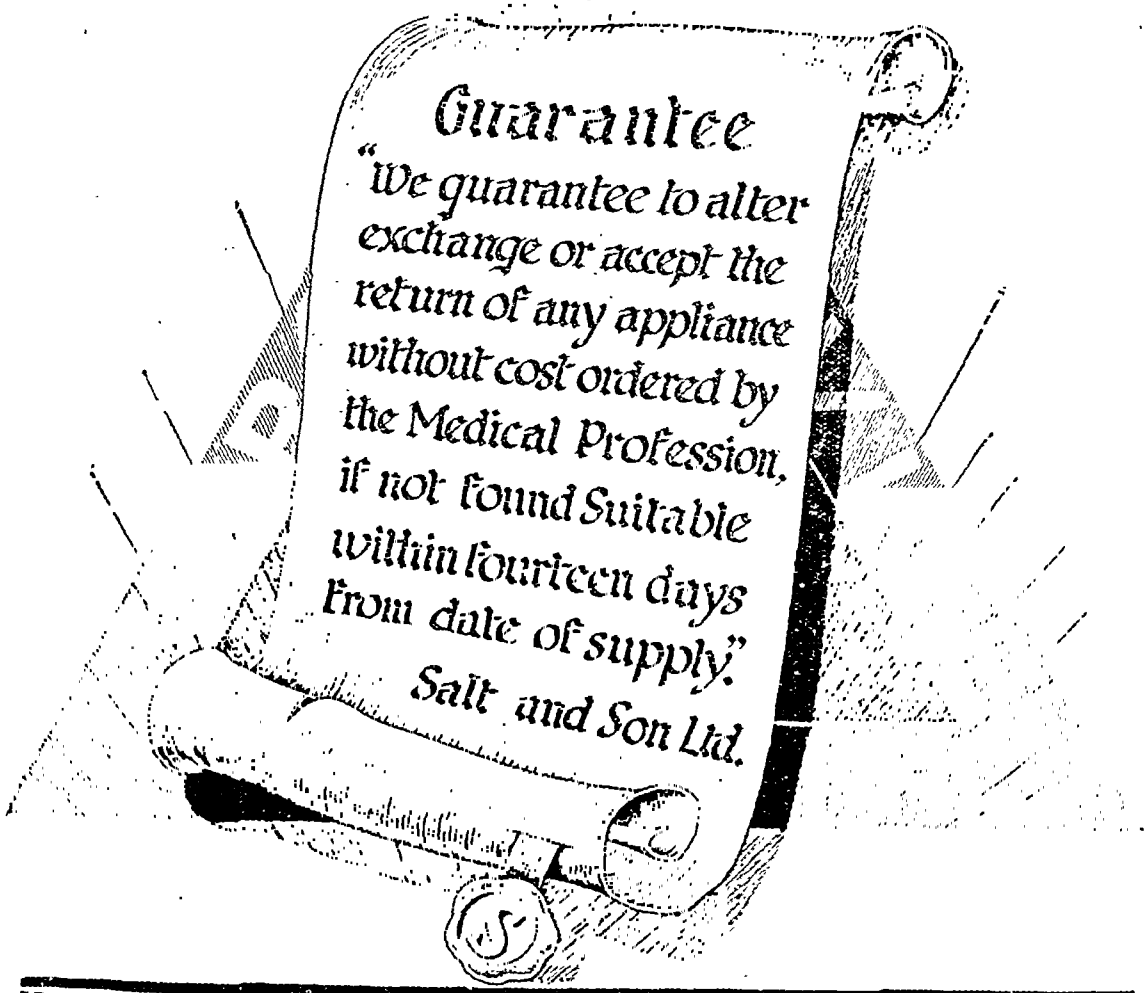
Allen & Hanburys Ltd. 48 Wigmore Street London - W.1.

and all leading Surgical Equipment Houses.

SURGICAL SERVICE
SALTAIR

SALTAIR SURGICAL SERVICE

The Guarantee behind every Salt appliance.



SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

ESTABLISHED 17

ACTINOTHERAPY

...A complete service rendered to the Medical Profession

THE VARIOUS MODELS OF HANOVIA QUARTZ LAMPS

FOR ACTINOTHERAPY

HANOVIA ALPINE SUN for general radiation. Administered to individual patients lying or standing.

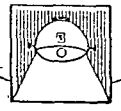
THE KROMAYER LAMP for local or artificial treatment.

JESIONEK QUARTZ LAMP for the treatment of groups of patients, in hospitals, clinics, etc.

THE PORTABLE HOMESUN LAMP for use in hospital wards or the patient's home, where roborant treatment is indicated.
This lamp is intended only for tonic purposes.

FOR LUMINOUS HEAT THERAPY

THE SOLLUX LAMPS for luminous heat therapy. Also frequently used in conjunction with Hanovia Quartz Lamps.



TWENTY-FIVE years' concentration on the most practical lamps for the administration of light therapy.

The steady accumulation of authentic information and its dissemination in reprint and magazine form.

Close co-operation consistently maintained with the Medical Profession throughout the world.

These among other factors have placed the Hanovia Company in its present unique position. To-day the name Hanovia is the mark of reliable actinotherapy equipment best suited to clinical needs.

Hanovia Service is by no means restricted to the supply of the latest equipment. The services of experienced agents are freely available when installations are being planned. Full assistance is given without obligation or expense. The wealth of clinical knowledge recorded in the Hanovia Reference Library is available for consultation by users. Particular emphasis is given to service after installation—every Hanovia user is at all times entitled to expect and receive full technical assistance to ensure best results from his lamp.

You cannot do better than send for a copy of Hanovia's new free prospectus, giving a full list of over 100 free reprints on this important subject. Send for your copy of this prospectus to-day, marking the enquiry Dept. 9.

167,000 HANOVIA Quartz Lamps in use the world over.

THE BRITISH HANOVIA QUARTZ LAMP CO. LTD.,

SLOUGH, BUCKS.

Actinotherapy Equipment Specialists.

Showrooms: LONDON: 3, Victoria Street, S.W.1
GLASGOW: 180, West Regent Street

Equipment and service also through all electro-medical dealers.

This coupon is for your convenience.

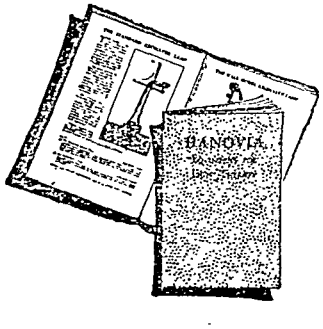
THE BRITISH HANOVIA QUARTZ LAMP CO. LTD., SLOUGH, BUCKS. (Dept. 9.)

Please send me a copy of Hanovia's new free Prospectus, and a full list of over 100 free reprints on actinotherapy.

NAME _____

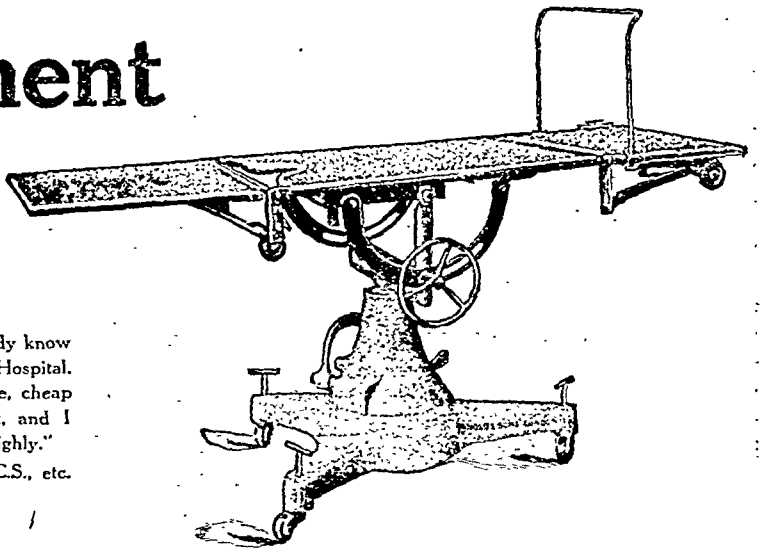
ADDRESS _____

306



Hospital Equipment

by
ARNOLD & SONS
London



A London Surgeon writes:—

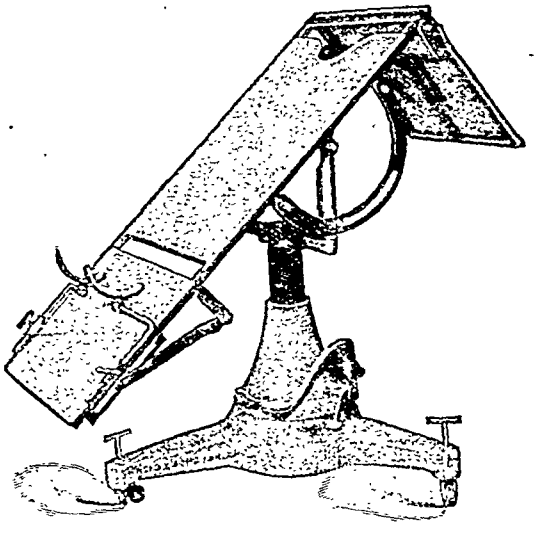
"Your Operating Table I already know well as we have one at the ——Hospital. It is far and away the best, simple, cheap operating table that I have met, and I should like to recommend it very highly."

Signed ——, F.R.C.S., etc.

The "ARNOLD" PEDESTAL OPERATION TABLE

A Matron writes:—

"The Table which you supplied for my Nursing Home is giving great satisfaction, and the Surgeons who work here find it convenient for all operations. It is just as useful for ear, nose and throat as for gynaecological ones. The advantage of your Table over others we have had is the rapidity with which the position of the patient can be changed without any strenuous work on the part of the Nursing Staff."



The "ARNOLD" TABLE
with lithotomy supports, shoulder rests, and douching funnel.

PRICE COMPLETE £49.10.0 Anaesthetic Screen £1.1.0

Descriptive booklet sent free on application

Arnold & Sons (JOHN BELL & CROYDEN)

British make.

50-52, WIGMORE STREET, LONDON, W.1.

Telephone: WELBECK 5555 (12 lines) Telegrams: INSTRUMENTS, WESDO, LONDON

THE

MEDICAL INSURANCE AGENCY

has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the **Insurance of Cars.**

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, &c., Insurances
under comprehensive policies, giving full protection.

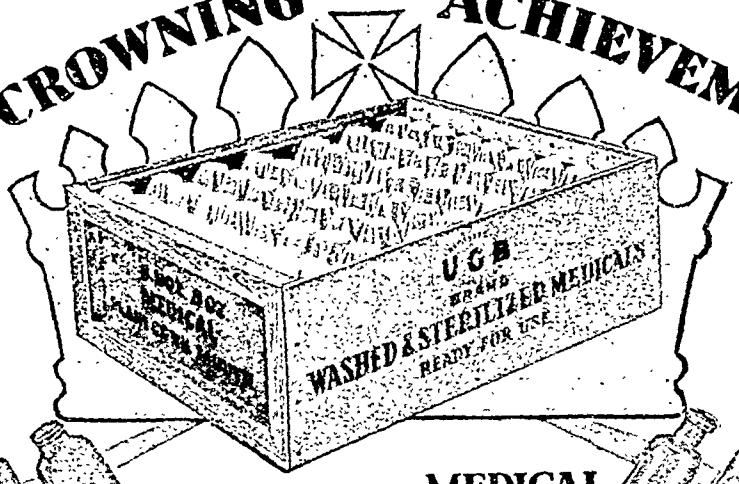
What the Agency has done for the Profession:

Saved by way of Rebates on Premiums - -	over **£42,500**
Contributed to the Medical Charities - - -	over **£25,500**

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1, &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

THE CROWNING ACHIEVEMENT



U.G.B. MEDICAL BOTTLE *Service*

DURING the past ten years at tremendous expense, a very wide range of automatic machine mould equipment has been built up by the U.G.B. to cater for practically every bottle requirement of the Chemist and Dispenser. New and attractive shapes are now being added from time to time.

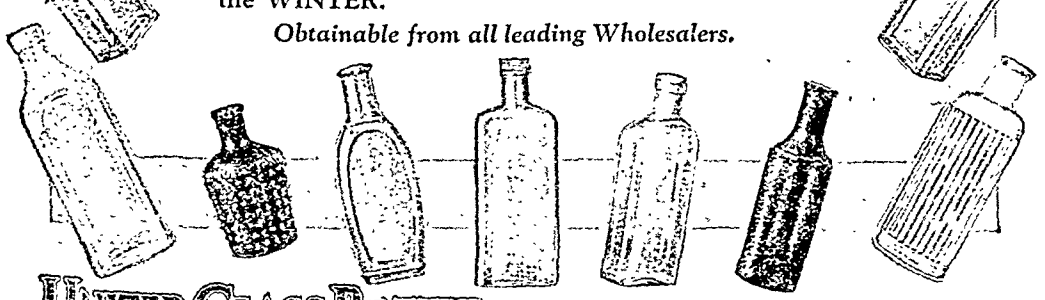
The Crowning Achievement was the introduction of the "Washed and Sterilised Ready-to-Use Package" which is daily growing in demand.

Only a small percentage of the actual cost of this service is passed on to the customer.

Supplied either for corks or complete with Rustless White Enamelled Screw Caps.

Once you have experienced the value and convenience of this U.G.B. Service you will use nothing else. Try it NOW and be prepared for the WINTER.

Obtainable from all leading Wholesalers.



UNITED GLASS BOTTLE MANUFACTURERS · LIMITED
The largest manufacturers of Glass Bottles in Europe.

Head Offices:
40-43, NORFOLK STREET, STRAND,
LONDON, W.C.2.
'Phone: Temple Bar 6680. 'Grams: 'Unglaboman, Estrand, London.'

Alimentary Toxæmia and Endocrine Insufficiency

A WRITER in *The Lancet* directed attention to an apparent connection between Alimentary Toxæmia and endocrine insufficiency, particularly of the thyroid gland. Many cases of "ill-health," neurasthenia and others, were benefited by the administration of thyroid extract.

Intestinal Disinfection

He goes on to remark that there seems to be a close connection between endocrine insufficiency and poisoning from intestinal absorption, and notes the beneficial results obtained by the use of intestinal antiseptics in addition in these cases.

He seems to be unaware that the best of all intestinal antiseptics is Kerol. In endocrine insufficiency, therefore, use Kerol in addition to other measures.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.

Kerol Capsules

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD., Ravens Lane
Berkhamsted England

13171

ACKERMAN-LAURANCE

"Brut-Royal"
and
"Dry-Royal"

"may be recommended with every confidence. By reason of the very low "content of sugar these wines are "specially suitable for persons with a "rheumatic or gouty tendency."

(Vide Report Institute of Hygiene, Feb. 1927)

Obtainable everywhere

Per bottle	9/-
Per half-bottle	4/9
Per quarter-bottle	2/6

General Agents (Wholesale only) for U.K. and Colonies

ANDERSON DOBSON & CO., LTD.

13, COOPER'S ROW, LONDON, E.C.3

A useful attachment for U.K. Telephone, holding Memo Block, sent post free on application.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ROYAL LONDON OPHTHALMIC HOSPITAL.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.
THE LONDON HOSPITAL.
WALTHAMSTOW HOSPITAL.
BRADFORD EYE AND EAR HOSPITAL.
HOSPITAL.
SPITAL.
HUDDERSFIELD ROYAL INFIRMARY.
HUDDERSFIELD ROYAL HOSPITAL.
KENT COUNTY OPHTHALMIC HOSPITAL, MAIDSTONE.
NEWPORT, ROYAL GWENT HOSPITAL.
NEWCASTLE-ON-TYNE, ROYAL VICTORIA INFIRMARY.
OXFORD EYE HOSPITAL.
MBAY.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

WYLEYS LIMITED WHOLESALE DRUGGISTS COVENTRY *Established 1750.*

ELIXIR IODO-CREOSOTI CO.

Two fluid drachms contain Beechwood Creosote 2m., Potassium Iodide 4 gr., Caffeine Sodio-Salicylate 1 gr., with Tinctures of Aspidosperma, Bryony and Cereus.

Palatable and pleasantly flavoured.

Most useful and efficient for the relief of Lobar Pneumonia, Pulmonary Tuberculosis, Broncho-pulmonary Influenza, and Influenzal Laryngitis, particularly for controlling temperature and pleuritic effusion.

Price: 3/- per 8-oz. bottle; 16-oz. 5/6.

FULL LISTS ON APPLICATION.

Emol-Keleet

Samples free to the Medical Profession on request.

FASSETT & JOHNSON, Ltd.
86, Clerkenwell Road, London, E.C.1.

Beneficial in Inflamed and Irritable Conditions of the Skin.

Emol-Keleet is a natural dusting powder of purely organic origin, combining a marked sedative action with absorbent, emollient and mildly astringent properties. It has a velvety-smooth texture and is remarkably adhesive. Emol-Keleet allays the itching of Eczema and dries up the exudations of "weeping" cases. It relieves the cutaneous irritation accompanying Measles and Scarlet Fever, and soothes any inflammation which may follow vaccination.

"STERULES" Regd.

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1
Telegrams: "MARTINDALE, CHEMIST, LONDON." Telephone: LANGHAM 2440.

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is counter-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A panacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Klinick (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments.

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

FOR SUCCESSFUL VACCINATION USE CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens to H.M. the King* 76, NEW BOND STREET, LONDON, W.1
Telephone: Mayfair 4173—4.

Vapo-Cresolene Est. 1879

Sold by all Chemists

Write for descriptive Booklet No. 29.

ASTHMA

There are certain types of chronic asthmatics who require relief of their paroxysms. While adrenaline is generally effective, it must be given hypodermically, and its action is short lived. Vapo-Cresolene (specially prepared cresols of coal tar) vaporized in the bedroom at night will give the desired relief. The patient is not disturbed as he breathes the medicated air of the bedroom.

This antiseptic vapour is particularly effective in bronchial ailments accompanied with cough and difficult breathing—as bronchitis, whooping cough, spasmodic croup.

ALLEN & HANBURYS, LTD. :: :: Lombard Street, London, E.C.3.

SIMPLE METHODS OF DIET CONTROL

The Energen starch-reduced and protein-increased dietary—including Bread, etc., and Cereal Health Foods—possesses the distinctive advantage of standardisation, each package bearing a statement of contents in grams of protein, carbohydrate and fat, and the total calorie value. Invaluable to the dietitian in the arrangement of special dietaries.

Prescribed throughout the English-speaking World in the dietetic treatment of defective metabolism; in the treatment of diseases of the Alimentary Tract; in cases of Carbohydrate Dyspepsia, Obesity, Rheumatism, Blood Pressure, etc. Standard in Diabetes.

These foods should be prescribed in all cases where the patient is placed on a light diet; in pre- and post-operative surgical dietetic treatment and in convalescence; as their extremely light and assimilable properties greatly improve the tonic condition.

A special scheme is in operation for supplies to Panel Patients at reduced cost.

The following Diet Tables sent post-free on receipt of post-card: for Diabetes (revised in accordance with the recent report prepared for the Medical Research Council (H.M. Privy Council) by McCance & Lawrence, on the Carbohydrate Content of Foods), for Obesity, and for Light Diets. Samples forwarded free of charge to patients, on request.

Energen FOODS Co. Ltd.
WILLESDEN, LONDON, ENGLAND.

PLEASE USE THIS FOR REQUISITIONING DIET CARDS, STATING NUMBER DESIRED.

Please send me (name).....
(address).....
Standard Diets (Diabetes)..... Obesity Diet Card.....
Panel Patients' Supply Certificates..... Light Diets Card.....

If samples are to be sent to patient please attach name and address.

Direct Treatment of

INFLUENZA WITH VACCINES

FOR PROPHYLACTIC AND THERAPEUTIC USE.

ANTI-CATARRH VACCINE
Prophylactic
3 doses.

Duncan

THE VACCINE FOR COLDS
Curative
3 doses.

INFLUENZA VACCINE
2 doses.

Prepared by the Research Laboratory of the Royal College of Physicians, Edinburgh.

Issued by and full particulars from

DUNCAN, FLOCKHART & CO.

EDINBURGH and LONDON

104, Holyrood Road. 155, Farringdon Road, E.C.1.

PERMANENT ALL SICKNESS AND ACCIDENT INSURANCE FOR MEDICAL MEN AT THE LOWEST RATES

The following specimen rates show the cost of each guinea per week payable during total incapacity arising from any form of Sickness or Accident, except those due to the wilful misconduct of the insured.

The full sum insured is payable for the first 26 weeks, and thereafter half that amount so long as the total incapacity lasts, up to the age of 65.

Age 25, £1 : 12 : 8	Age 35, £2 : 1 : 0
„ 30, £1 : 16 : 5	„ 40, £2 : 6 : 7

A Reversionary Bonus of 15/- per guinea per annum was declared on these Policies at the last valuation.

SICKNESS FUND exceeds £370,000

Write for full particulars and Booklet "B. 17" to the Manager and Secretary,

The MEDICAL SICKNESS, ANNUITY, & LIFE ASSURANCE SOCIETY, Ltd.

300, HIGH HOLBORN, LONDON, W.C.1.

PERFECT

TOBACCO

NATURALLY

MATURED

MAKES

Player's Please

10 FOR 6D.

20 FOR 11½D.

Issued by The Imperial Tobacco Co. (of Great Britain and Ireland), Ltd. N.C.C.20

DEAF DOCTORS
AND DEAF PATIENTS

have proved "ARDENTE" a boon—a Heart Specialist whose work is so dependent on his hearing writes: "*'Ardente' is a godsend to me*"; without "ARDENTE" he is, to all intents and purposes, "stone" deaf; with "ARDENTE" he carries on his work—what better testimony to "ARDENTE" merit?

Mr. Dent makes a Stethoscope specially for deaf Doctors—the only one of its kind, which is widely used and praised. Doctors whose work lies amongst the deaf prefer to prescribe "ARDENTE" because they know that "ARDENTE" is the only individual method in the whole deaf world (no mass production way can ever succeed with human disabilities) and they know what "ARDENTE" service stands for to the deaf. Many doctors who are deaf use "ARDENTE."

"ARDENTE" is entirely different and uncopyable and succeeds in widely differing cases. A full range covers the needs of those suffering from varying forms and degrees of deafness and tinnitus. Minutely adjusted to the requirements of the case for young, middle-aged, or old, and so sensitive as to have the desired effect even in middle-ear and nerve cases, bringing into action and stimulating the auditory system, enabling it to function naturally and saving atrophy. "ARDENTE" can be used or not at will, and is sold under guarantee.

"ARDENTE" is the choice of Doctor and patient—only after test and hearing, or from prescription or particulars, is "ARDENTE" fitted, toned, tried, adjusted, supplied, and serviced.

Tests and demonstrations given at Doctors', patients' or our addresses, without fee or obligation.

Mr R.H.DENT'S
Ardente
FOR DEAF EARS

309, OXFORD STREET, LONDON, W.1

(Midway between Oxford Circus & Bond Street). *Telephone*: MAYFAIR 1380/1718.

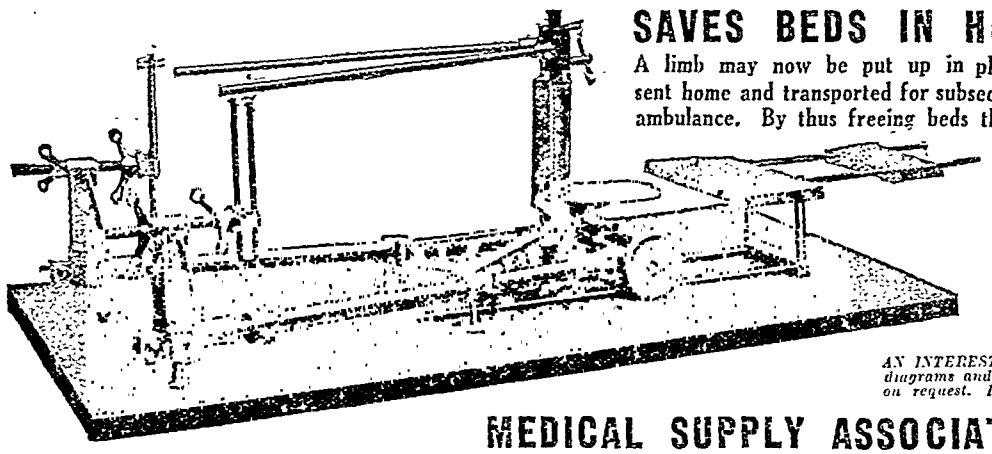
9, Duke Street, CARDIFF.
118, New Street, BIRMINGHAM.
27, King Street, MANCHESTER.
37, Jameson Street, HULL.
271, High Street, EXETER.
64, Park Street, BRISTOL.
23, Blackett Street, NEWCASTLE.
206, Sauchiehall Street, GLASGOW.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.

An IMPROVED and MODIFIED
Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

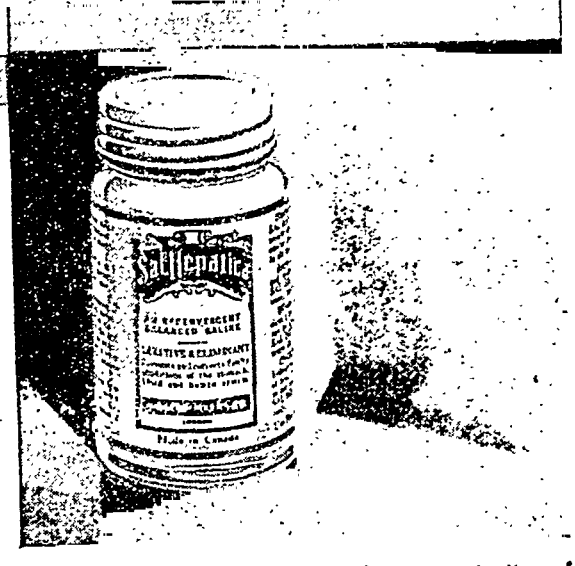
AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

167/185, Gray's Inn Road, LONDON, W.C.1.
12, Holly Street, SHEFFIELD.
10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines).

ESTABLISHES REGULAR EVACUATION



It is admitted that the large majority of patients suffer from the direct or indirect effects of constipation. It is often difficult to educate them to combat these evils. Some are ignorant, others apathetic, while many of them dread the griping pains and weakness occasioned by the ordinary laxatives. Sal Hepatica is pleasant to take and both prompt and painless in action. It maintains the biliary secretion in a healthy fluid state, and ensures freedom from congestion and from that sub-acute inflammation of the gall bladder which is at present so common, especially amongst sedentary workers. Sal Hepatica does not create a condition of tolerance. It is, therefore, the laxative of choice in chronic constipation.

Samples for clinical trial will be forwarded on request to duly qualified members of the medical profession on application to Bristol-Myers Company, 112, Cheapside, London, E.C.2.

Sal Hepatica contains sodium sulphate, sodium phosphate, sodium chloride and lithia citrate in an effervescent medium.

Sal the proved Hepatica

d, medicinal, saline laxative and cholagogue.

ALLIANCE DRUG & CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C.3.

Telephone: ROYAL 5885.

Tel. Address: "NALTEROL," BILGATE, LONDON.

Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulæ as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 In 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.
Lussar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Lin. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/8 lb.
Chloroform Pur., 8 lb. @ 3/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosph. Co., B.P.C., 7 lb. @ 1/- lb.
Prunt Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillae, B.P., 7 lb. @ 8d. lb.
Sennae, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Bland's (Sugar-coated), gr. 5	3/10
Nitroglycerini, B.P., gr. 1-50th	5/-
Perchloride of Mercury (Coloured)	15/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000.	
Thyroid Gland, gr. 5	12/6

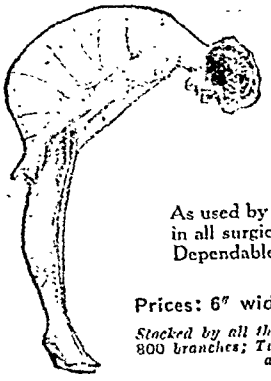
We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.

	B.P. Aquos.		B.P. Aquos.
Belladon.	4/3	1/6 Hyoscyam.	4/3 2/4
Benzoin Co.	4/7	— Nucis. Vom.	3/10 1/4
Camph. Co.	3/-	1/6 Opii	5/3 4/3
Card. Co.	2/6	1/6 Quin. Ammon.	3/3 —
Gentianæ Co.	2/8	1/6 Rhei Co.	2/8 1/9

Ung. Acid Boric., B.P., 28 lb. pail @ 11d lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichthamolis, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

* Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.



Prescribe NORVIC

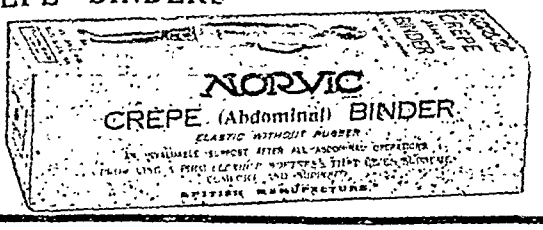
Regd.

ABDOMINAL CRÊPE BINDERS

As used by the leading hospitals for support in all surgical cases. Invaluable in maternity. Dependable and efficient. 70% wool quality, fully guaranteed.

Prices: 6" wide 4/6; 8" wide 6/-; 11" wide 8/3.

Stocked by all the leading Chemists and Druggists; Boots 800 branches; Timothy White, Ltd.; Taylors Drug Stores; and Parkes Chemists, Ltd.



PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.)

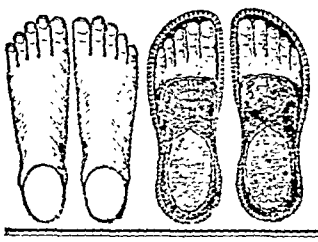
MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

'CELLANBAND'

✻ DESCRIPTIVE LITERATURE is available UPON REQUEST.

SAMPLE BANDAGE 1/- post free

CUXSON, GERRARD & CO. LTD. *OLDBURY, near BIRMINGHAM*



DOWIE & MARSHALL, LTD.,

Bootmakers (Easy).

455, WEST STRAND, Near TRAFALGAR SQUARE, LONDON, W.C.2.

(Established 1824.) ["G.P.O. Telephone No. 9015 Central."

The Instructions of the Profession intelligently carried out in the Departments for LADIES, GENTLEMEN, and CHILDREN, and especial attention is given to Surgeons' prescriptions.

Illustrated Catalogue Gratis, in which is instruction for Self-measurement.

DOWIE & MARSHALL, Ltd., 455, West Strand, near Trafalgar Sq., London, W.C.2.

BURBERRYS SALE

The great annual opportunity to purchase OVERCOATS, SUITS & WEATHERPROOFS well-made from the best quality materials, at a little above or below

HALF-PRICE

SALE CATALOGUE detailing thousands of bargains for men, women, and children, sent on mention of "B.M.J."

BURBERRYS LTD. (Dept. 47) HAYMARKET S.W.1

KOND'S

EUONYMISED COCOA.

Euonymin is the most valuable [illegible] yielded by the [illegible] its action, when [illegible] delicious beverage [illegible] of the liver, and is invaluable in stomach disorders, slow digestion, gout, rheumatism, and biliousness. Numberless testimonials over 35 years.

Free sample to Doctors on application.

SOLD IN TINS, 1s. 6d. & 2s. 6d.

From Grocers or Chemists, or from the Wholesale Depôts.

MAY ROBERTS & CO., LTD.,

13, Clerkenwell Road, LONDON, E.C.1.

A Gentleman Always Looks Well Dressed in Savile Row Clothes.

NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.:—DAVIES & SON, LESLEY & ROBERTS, SCHOLTE, &c. OVERCOATS, LOUNGE, DRESS, SPORTS SUITS, &c., 4 to 8 Gns.

Alterations on Premises.

REGENT DRESS CO.,

17, Shaftesbury Avenue, Piccadilly Circus, W.1. (Next to Cafe Monico.) Gerrard 7611

BRONZE NAME PLATES

Cream enamelled lettering, no cleaning required

BRASS NAME PLATES

Museum 2264. *Send for Book* 18.

F. OSBORNE & Co., Ltd.

27, EASTCASTLE ST., LONDON, W.1.

BRONZE NAME PLATES

No cleaning required.

Also Brass Name Plates.

Send for list.

CHAS. S. FORD, 37, Palace Rd., Bromley, Kent.

Tycos

MANUFACTURED by SHORT & MASON LTD. WALTHAMSTOW LONDON, E.17.

SPHYGMOMANOMETERS

NAME PLATES

IN BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd.,

Medical and Scientific Stationers,

135, GOWER STREET, LONDON, W.C.1.

ST. ANDREW'S HOSPITAL

FOR MENTAL DISORDERS,

NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

HAYDOCK LODGE,

NEWTON-LE-WILLOWS, LANCASHIRE.

Phone: 11 Ashton-in-Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

TYKEFORD ABBEY, NEWPORT PAGNELL,

BUCKS.

Formerly Belvoir Nursing Home, Aston-on-Trent.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psychotherapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport Pagnell 121.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful secluded grounds.

Fees are from 10 guineas per week.

Voluntary Patients received for treatment.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Resident Supt.
Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the *Resident Medical* Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical *massage, and ultra violet light.* [Established 1922

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

HINDHEAD.

850 feet above sea-level.

STONYCREST *NURSING* HOME.

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. *Tel.*: Hindhead 27.

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 481 GATLEY.

HOME FOR DELICATE CHILDREN.

"THE LOG HOUSE," KLOSTERS

GRISONS, SWITZERLAND. 4,000 ft. above sea-level.

Inclusive terms from five guineas weekly.

No Infectious cases taken. All particulars from MRS. or Dr. B. HUDSON (above address).

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle, Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

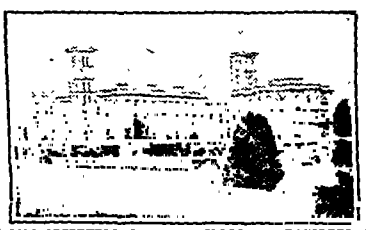
BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.
Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure and farm grounds, and is ready to receive patients. Application can now be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates and in certain cases will be prepared to admit patients free of charge.
Every facility for specialised investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.



King Edward VII Convalescent Home for Officers of the Navy, Royal Marines, Army, and Air Force.

Massage. TERMS: Hard Tennis Court.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy of access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Voluntary Boarders received without certificates. Private suites. Convalescent Home, Kearsney Court, Dover.
For further particulars, apply to the MEDICAL SUPERINTENDENT.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Patients or Boarders may visit by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51

ALCOHOLISM, OTHER DRUG HABITS, AND TROPICAL AILMENTS

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc., for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders, TROPICAL Ailments, etc.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Terms moderate. Quiet and pleasant situation. *Ladies and gentlemen admitted for treatment.* For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No.: Bathcaston 8189.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr A. E. Carver, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 241.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417)

For Mental Disorders, with or without certificates.

Resident Physician: CEDRIC W. BOWER.

Ordinary Terms, Five Guineas per week. (Including Separate Bedrooms where suitable.) Interviews in London by appointment.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High-Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARRISON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

MATLOCK

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3¼ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA, nr. LIVERPOOL.

For the care and treatment of a limited number of Ladies and Gentlemen suffering from NERVOUS or MENTAL breakdown. Voluntary Boarders received. Psycho-therapy in suitable cases if desired. Terms moderate. Apply, RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.

All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.

IDEAL HEALTH RESORT.

Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone*: Brixton 0494. Apply, Miss THWAITES.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.

Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

HOME FOR FEEBLE-MINDED,

BRUNTON HOUSE, LANCASTER.

This well-appointed private establishment overlooks Morecambe Bay, and possesses extensive gardens and grounds, with tennis and croquet lawns. Varied scholastic and manual instruction. Individual attention given by experienced staff under Lady Matron. For terms apply, Dr. W. H. COUPLAND. Med. Supt.

THE MOAT HOUSE,

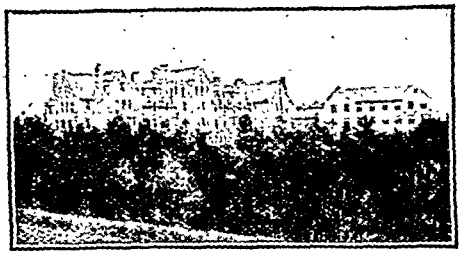
TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. 'Telephone: Tamworth 108.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

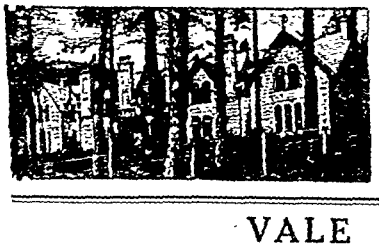
Resident Physician: ARTHUR H. HOFFMAN, M.D. St. Andrews, GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Mile[illegible]ilks through pine-clad hills, with sea and mountain views. Modern treatment, including [illegible]AL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special [illegible]n-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.). R. M. Bremner, M.B., M.R.C.S., L.R.C.P.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)



KINGUSSIE, N.B.
THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1901. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 6s. 8d. to £6 6s per week inclusive, no extras.

MEDICAL SUPT.: FELIX SAVY, M.D. *For particulars apply to the Secretary.*

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*

For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and artificial bathing [illegible] miles of graduated solarium. Private lift, wireless signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

HOTEL ANNONCIATA,
MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.

Dry, bracing mountain air, semi-tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods.

Easy access to Town. Up-to-date comfortable Hotel, moderate charges.

Under French and English Management.

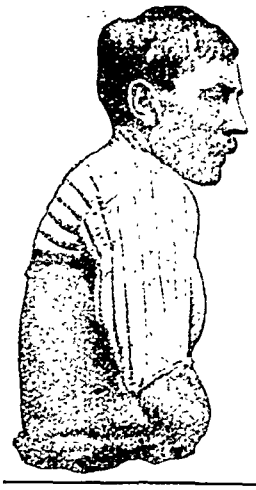
Teleg.: Annonciata, Menton. *Teleph.*: 1.06.

MAJORCA: Dr. GILBERT SCOTT'S CONVALESCENT HOME
PALMA DE MALLORCA, SPAIN

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St 25 min.—Apply, Dr. HAYNES.



RATIONAL REPETITION IN THE TREATMENT OF RHEUMATISM

For many years Pistany has been appreciated by the Medical Profession for its great work in the cure of Rheumatism.

The properties of Pistany's hot volcanic soft mud are quite peculiar. Its power of stimulating and increasing the absorption of pathological products is still unrivalled.

The treatment may be continued by the patient after returning from the Spa, under his own doctor's supervision, by means of the Mud Packs, which are in use in many rheumatism clinics in this country.

PISTANY

RADIO-ACTIVE MUD PACKS

Send for interesting Medical and Tourist literature.

PISTANY SPA REPRESENTATION, 38, Sackville Street, W.1
'Phone: Gerrard 1238.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,300 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

BOURNEMOUTH HYDRO,

with Vita glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.

Prospectus from Secretary. *Tele.* 341.
Resident } W. JOHNSON SMYTH, M.D.,
Physicians: } L. T. ROSE HUTCHINSON, M.D.

SUNNY MALVERN.

The most beautiful and health-giving Spa. HOME for Gentlefolks under Medical supervision.—BEVAN, New Court, Colwall, Malvern.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.

Medical Superintendent: Dr. MCCLINTOCK.

Home wanted for mentally deficient young woman, where others are taken. Near Bristol or Weston-super-Mare preferred. Terms very moderate.—Address, No. 375, B.M.A. House, Tavistock Square, W.C.1.

Lady (R.C.), living near Hind- head, wishes ADOPT BABY GIRL about one year old, of refined parents.—Write, Box 970, SELLS' ADVERTISING OFFICES, Fleet Street, E.C.4.

Rossall School. — Some twelve Open SCHOLARSHIPS for boys between the ages of 12 and 14, on March 1st next, value from £90 a year downwards, will be awarded by Examination, beginning March 3rd, 1931. Boys examined at Rossall and in London.—Apply, THE BURSAR, Rossall School, Fleetwood.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.

(University of London.)

LECTURES IN PATHOLOGY.

The following Lectures will be given on TUESDAYS at 5.15 p.m. in No. 1 Lecture Theatre of the Medical School, University St., Gower Street, W.C.1.

Jan. 20th and 27th.—Dr. J. A. MURRAY, F.R.S. (Imperial Cancer Research Fund). *Induction of Cancer by Tar and other Agents.*
Feb. 3rd and 10th.—Dr. W. CRAMER (Imperial Cancer Research Fund). *Filterable Tumours.*
Feb. 17th and 24th.—Dr. JANET VAUGHAN (Royal Northern Hospital). *The Pathology and Treatment of Pernicious Anaemia.*
Mar. 3rd and 10th.—Dr. C. H. ANDREWES (National Institute of Medical Research). *Immunity in Virus Diseases.*
Mar. 17th and 24th.—Dr. E. W. HURST (Lister Institute of Preventive Medicine).
(i) *The Pathology of Poliomyelitis.*
(ii) *Disseminated Encephalomyelitis following the Exanthemata (Vaccination, etc.).*

Admission free to Medical Students and Graduates.

A. M. H. GRAY, Dean.

LONDON HOSPITAL MEDICAL COLLEGE.

PRIMARY FELLOWSHIP EXAMINATION.

A COURSE OF INSTRUCTION for the above Examination will begin on Monday, Feb. 9th.

The Fee for the Course is 15 guineas.

Further particulars may be obtained from Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean, Mile End, E.1.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.

The Prince of Wales's General Hospital, Tottenham, N.15, North Middlesex Hospital, Edmonton, and Associated Hospitals.

An INTENSIVE REFRESHER COURSE will be held from January 26th—February 7th. Lectures, demonstrations, and cliniques in the various general and special departments.

The number is limited to 25.

Enquiries and applications should be sent to the Dean at the Hospital, or to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

Reduced Fees for Daughters of Medical Men offered by a Headmistress, who is adding a Third Boarders' House to her School. — Address, No. 185, B.M.A. House, Tavistock Square, W.C.1.

HIGHER MEDICAL QUALIFICATIONS

Are you desirous of obtaining one of the special higher qualifications?

Diploma in Psychological Medicine.
Diploma in Ophthalmology.
Diploma in Radiology.
Diploma in Laryngology, Otology, and Rhinology.
Diploma in Bacteriology.
Diploma in Public Health.
Diploma in Tropical Medicine.
Mastery of Midwifery.
All Higher Medical and Surgical Degrees and Diplomas.

You can qualify for any of the above by our Courses of Combined Postal & Practical Courses

Write at once stating your requirements to the Secretary,
MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, W.1. Tel: Welbeck 8901.

WE SPECIALISE IN POST-GRADUATE COACHING FOR ALL EXAMINATIONS.

Send Coupon below for Free Guide.

Name.....
Address.....
.....
Examination in which interested }.....

MIDDLESEX HOSPITAL,

LONDON, W.1.
(University of London)
PRIMARY F.R.C.S. EXAMINATION.

ANATOMY.

Personal instruction is given daily by Professor T. YEATES.

PHYSIOLOGY.

This Section of the Course is under the joint direction of:
Professor SAMSON WRIGHT,
Professor E. C. DODDS,
Mr. J. H. WOODGER, D.Sc.,
and includes General Physiology, Biochemistry, and Histology.

Instruction is given daily except on Saturdays.

The Course will start on February 2nd, at 9.15 a.m.

FEE: 20 guineas. Single Subject: 12 guineas.

For further information apply to the Dean or to the School Secretary.

GUY'S HOSPITAL MEDICAL SCHOOL.

M.R.C.P. COURSE.
Feb.—March, 1931.

A Course in preparation for the Examination for the Membership of the Royal College of Physicians of London will commence on Monday, February 2nd, and will continue for a period of eight weeks. Fee for the Course, £31. A limited number of vacancies is available, and application for admission to the Course should be made immediately to the *Dean*, Guy's Hospital Medical School, London Bridge, S.E.1.

T. R. JOHNSTON, Dean.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BENIANS, F.R.C.S., Dean.

THE LONDON LIGHT AND ELECTRICAL CLINIC,
RANELAGH ROAD, S.W.1.

Under the personal direction of Sir Leonard Hill, M.B., F.R.S., etc., the Post-Graduate Course for Medical Men, of six weeks' duration, has been postponed until the 2nd February, 1931.

The subjects: Actinotherapy; Electrotherapy.

Fee for the full Course, £6 6s. 0d. For syllabus and full particulars apply to the Secretary.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.).
POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary* 1906-30)	162
	Final	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-29 (Completed Exam.)	286
F.R.C.S.(Edin.),	1918-29	43
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.
M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Second and Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)
CONTENTS:—The method and the cost of entering the Medical Profession; *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations [illegible] higher Surgical [illegible] the Special Diplo[illegible]urse. Openings [illegible] theses. Med[illegible] with list of Tutor[illegible] Principal, Mr. I[illegible]d Lion Sq., Londo[illegible]ORN 6313.)

STAMMERING, SPEECH DEFECTS.
BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.
"Pre-eminent success in the education and treatment of [illegible]"—"Times."
"[illegible]"—"Lancet."
[illegible] and perfectly
STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.
(University of London.)

Tropical Medicine and Hygiene.
The School provides two courses yearly, each of 22 weeks. The Spring Course commences on February 2nd, 1931, and the Autumn Course in October, 1931. Composition fee, to include hire of Microscope, etc., £34 5s.

Diploma in Public Health.
The next course of study, covering a period of twelve months, commences on October 1st, 1931, and is so designed that Students wishing to do so can proceed to the New Academic Diploma instituted by the University of London. The composition fee of 54 guineas covers the cost of the necessary practical work and instruction in Infectious Diseases, etc.

Diploma in Bacteriology.
The course of study, covering one academic year, commences in October. Composition fee £47 15s.

Epidemiology and Vital Statistics.
Special three-monthly advanced courses. Composition fee £7 7s.

Applications for Prospectuses and for other information should be addressed to the Secretary, Keppel St. (Gower Street), London, W.C.1.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.
(University of London.)
PRIMARY F.R.C.S. COURSE.
A Course of Instruction for the JUNE EXAMINATION will begin on TUESDAY, FEBRUARY 3rd, 1931, and will be conducted as follows:
ANATOMY AND EMBRYOLOGY.—Prof. J. ERNEST FRAZER, F.R.C.S. (Professor of Anatomy in the University of London).
PHYSIOLOGY AND HISTOLOGY (with Practical Classes).—Prof. B. J. COLLINGWOOD, O.B.E., M.D. (Professor of Physiology in the University of London).
Fee for the Course, 16 gns., or 9 gns. for either section separately. This fee includes membership of the Students' Club during the period covered by the Course.
For further particulars apply to the School Secretary.

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £8 8s. for 10 lessons.—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.
The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.
Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in
RADIOTHERAPY
especially in its relation to Malignant Disease
will be held at the above School, commencing Monday, March 2nd, 1931.

The Course will be repeated on subsequent dates.

Copy of the syllabus and full particulars may be obtained on application.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

CITY OF LONDON MATERNITY HOSPITAL,
CITY ROAD, E.C.1.
MIDWIFERY TRAINING SCHOOL.
MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.
PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.
PRIVATE WARDS for paying patients.
MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,
TAUNTON.
A PUBLIC SCHOOL FOR BOYS.
Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.
Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.
New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.
(UNIVERSITY OF LIVERPOOL)
COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)
For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

POST-GRADUATE MIDWIFERY.
Qualified Medical Women are admitted to
The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5
for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

Medical and Dental Students.
Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims.
Chemistry, Physics, and Biology Labs.
MANCHESTER TUTORIAL COLLEGE,
327, Oxford Road, Manchester.

F.R.C.S.(Edin.).
CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

University of Glasgow.

THE HARRY STEWART HUTCHISON PRIZE.

The Harry Stewart Hutchison Prize, of the value of about £50, for the best writing or writings embodying Original Research Work in a branch of Medical Science relating to Children will be awarded in 1931. Medical Graduates (of not more than ten years' standing from their first graduation in Medicine) of all British, Home and Colonial Universities may be competitors. Compositions must be submitted to the Clerk of Senate, University of Glasgow, not later than March 31st, 1931. Each must be distinguished by two mottoes, and accompanied by a sealed letter bearing upon the outside the same mottoes, and containing a declaration subscribed by the Author that the Composition is entirely his own.

University of London.

A Course of Three Lectures on "*The Constancy of the Internal Environment: Its Evolution and Purpose*," will be given by Professor J. BARCROFT, C.B.E., F.R.S. (Professor of Physiology in the Univer[illegible]'G'S COLLEGE, LONI[illegible] on JANUARY 26th, [illegible] at 5.30 p.m. At the first Lecture the Chair will be taken by Dr. H. H. DALE, C.B.E., D.Sc., F.R.S. (Director of the National Institute for Medical Research).
Admission free, without ticket.
S. J. WORSLEY,
Academic Registrar.

Markham Skerritt Memorial PRIZE.

This Prize, which is available for award this year, is open to that medical member of the University of Bristol who, not being a member of the Medical Board for the time being, in the opinion of that Board has in the three previous years published the best original work in any branch of medical science.
Applications are invited from those eligible to the Dean of the Faculty of Medicine.

United Services Fund.

HEATHERWOOD HOSPITAL, ASCOT.

RESIDENT ASSISTANT MEDICAL OFFICER.

Applications are invited from fully qualified Medical Practitioners (bachelor, not over 30) for the above post.
Candidates must have held some appointment in a General Hospital.
The present Hospital accommodation is 136 beds for the treatment of Surgical Tuberculosis and other forms of crippledom in children
The appointment will be for a period of twelve months and may be extended at the end of that time.
Remuneration is at the rate of £300 per annum, together with residence, board, and laundry.
The officer appointed will be required to devote the whole of his time to the duties of the office, to give anaesthetics, etc., and generally to act under the supervision and direction of the Medical Superintendent. Ample opportunities for study.
Applications, stating (1) age, (2) qualifications, (3) experience and appointments held, accompanied by three copies of recent testimonials, should be forwarded to the Secretary, Heatherwood Committee, United Services Fund, 29, Cromwell Road, South Kensington, London, S.W.7, not later than January 20th.
Further particulars can be supplied on application to the Medical Superintendent, Heatherwood Hospital, Ascot, Berks.

County Council of Durham.

SEAHAM HALL SANATORIUM.

MEDICAL SUPERINTENDENT.

The County Health Committee desire to receive applications for the post of Medical Superintendent of the above Institution, which has accommodation for about 80 female patients, and further accommodation is shortly to be provided by the Council for 50 additional beds.
The salary will be at the rate of £600 per annum, with furnished quarters and board, etc., valued at £150 per annum. In the case of a married man, the emoluments will be paid in cash, as there is accommodation (a cottage) for which a charge of £55 per annum is made by the County Council to cover rent, rates, and water.
The officer appointed must be a registered Medical Practitioner, and must devote whole time to the duties required of such person by the County Council. It is essential that the person appointed shall have held house appointments in a general hospital, and have had practical experience in the administration of a tuberculosis sanatorium and in the treatment of tuberculosis in such an institution, including X-ray and ultra-violet ray treatment, and in bacteriological laboratory work. Such officer must also be specially experienced in the orthopaedic treatment of non-pulmonary tuberculous cases.
The person appointed will be attached to the County Health Department and will be required, subject to the administrative control of the County Medical Officer of Health, to take full responsibility for the general management of the institution, including the supervision of the staff and the treatment of patients.
The appointment will be terminable by three months' notice on either side. A deduction of 5 per cent. will be made from the salary in accordance with the provisions of the Local Government and Other Officers' Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to the successful candidate passing the County Council's medical examination in connection therewith.
Applications, endorsed "Medical Superintendent, Seaham Hall Sanatorium," with copies of not more than three recent testimonials, must be delivered to the County Medical Officer, Shire Hall, Durham, on or before the 22nd instant.
Shire Hall, Durham, January 5th, 1931. HAROLD JEVONS, Clerk of the County Council.

Liverpool County Borough.

LOCAL EDUCATION AUTHORITY.

JUNIOR ASSISTANT SCHOOL MEDICAL OFFICERS.

Applications are invited for Two Junior Assistant School Medical Officers at a salary in each case of £500 per annum, rising by annual increments of £25 to £700 per annum.
Applicants must be registered Medical Practitioners, and must have had at least three years' experience. It is desirable that they should have had some special experience in school hygiene and in diseases of children.
The officers appointed will be required to devote their whole time to the service of the Education Authority under the direction of the Medical Officer to the Education Authority. They will not be allowed to undertake private practice, and will be required to contribute to the Local Government and Other Officers Superannuation Act, 1922 (Substituted Scheme), as required by the Standing Orders of the City Council.
Form of application, which may be had by forwarding a stamped addressed foolscap envelope, should be returned, together with three copies of recent testimonials, to the undersigned not later than January 30th, and endorsed "Junior Assistant School Medical Officer."
The canvassing of Members of the Education Committee or the City Council is strictly prohibited and will be considered a disqualification.
Municipal Buildings, Liverpool. WALTER MOON, Town Clerk, and Clerk to the Local Education Authority.
January 13th, 1931.

Bradford Royal Infirmary.

Two HOUSE SURGEONS (male) wanted for March 1st.
Candidates must be single and legally qualified. Salary £150 per annum each, with board, residence, and washing.
There are 215 beds and six resident officers.
Applications, stating age, qualifications, and previous experience (if any), with copies of recent testimonials, to be received by the undersigned not later than Tuesday, Jan. 27th.
J. J. BARRON, Secretary-Supt.
January 11th, 1931.

City of Canterbury.

MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER.

The Council invite applications from duly registered Medical Practitioners of not more than 35 years of age, holding a Diploma in Public Health and possessing Municipal or Local Government experience, for the appointment of Medical Officer of Health and School Medical Officer.
The candidate appointed will be required to devote his whole time to the service of the Council, and must reside within the City.
The initial inclusive salary will be £800 per annum, rising by annual increments of £25 to a maximum of £900 per annum. An allowance of £40 per annum will be made in respect of the use of a car.
The appointment will be subject to the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination.
The Council will provide offices and staff.
Applications, stating age, qualifications, and experience, with copies of three recent testimonials, must be sent (in envelopes endorsed "Medical Officer") so as to reach me not later than January 31st.
Fourteen copies of the application and testimonials should also be forwarded for the use of the members of the Public Health Committee.
Canvassing in any form is strictly prohibited and will disqualify.
R. H. WANKLYN, Town Clerk.
Town Clerk's Office, Municipal Buildings, Canterbury. January 7th, 1931.

Bedfordshire County Council.

ASSISTANT MEDICAL OFFICER (Resident)

Applications are invited for the appointment of a male Assistant Medical Officer (resident) at the BEDFORDSHIRE SANATORIUM, near Bedford.
The officer appointed will also be required to act as Assistant School Medical and Assistant Tuberculosis Officer in the County. The officer, who will be under the direction of the County Medical Officer of Health, will be required to perform such other duties as the Council may direct, and will be required to devote the whole of his time to the duties assigned to him, and not to engage in private practice.
Applicants must be under 35 years of age, single, registered Medical Practitioners, and have had experience in Tuberculosis work. Experience in School Medical Inspection, and the possession of a Diploma in Public Health, are desirable.
Salary £400 per annum, together with board, residence, laundry, garage, etc., and a travelling allowance of £150 per annum, the appointment to be subject to one month's notice to be given by either side at any date.
Further particulars can be obtained from the County Medical Officer, Shire Hall, Bedford.
Applications, stating age, qualifications, and previous experience, accompanied by copies of three recent testimonials, and endorsed "Assistant Medical Officer (resident)," should be sent to the undersigned not later than Jan. 22nd.
Shire Hall, Bedford. J. B. GRAHAM, Clerk of the County Council.
January 1st, 1931.

City of Leicester.

RESIDENT MEDICAL OFFICER.

JUNIOR [illegible] OFFICER (male) requit[illegible] HOS-PITAL AND [illegible] The appointment [illegible] twelve months. The [illegible]0 per annum, with board, residence, and laundry.
The officer appointed will be required to contribute to the Superannuation Fund of the Corporation.
Applications, stating age, experience, etc., together with copies of three testimonials, to be sent to the undersigned not later than Feb. 2nd.
C. KILLICK MILLARD, Medical Officer of Health.
Health Offices, Leicester.
January 12th, 1931.

Bridge of Weir Sanatorium
(15 miles from Glasgow. 185 beds.)

RESIDENT MALE ASSISTANT MEDICAL OFFICER wanted.
Duties include charge of 90 beds for Epileptics as well as 75 beds for Consumptives.
The appointment will be for six months in the first instance, at the rate of £200 p.a., with board, laundry, etc.
Applications, stating age, qualifications, and previous experience, and enclosing copies of testimonials, should be addressed to E. J. PELL, Medical Superintendent, Sanatorium, Bridge of Weir, Renfrewshire.

Dudley Road Hospital.

JUNIOR ASSISTANT MEDICAL OFFICERS (Male).

Applications are invited from fully qualified Medical Practitioners for appointments as Junior Assistant Medical Officers (male) at the Dudley Road Hospital, Birmingham.

The Hospital accommodation is fixed at 926 beds, divided into Medical, Surgical, Children's Infectious, Maternity, Gynaecological, and Obstetrical Sections. There are completely equipped Pathological and Biochemical Laboratories, Deep Therapy, X-ray, Electrical Massage, Sunlight, and Dental Departments. Approximately 5,000 operations are performed annually.

The appointments will be for a period of six months in the first instance, but may be extended at the end of that time for a further period not exceeding six months.

The persons appointed will be required to assist at operations, to administer anaesthetics, and undertake casualty work and such other duties as may be assigned to them by the Medical Superintendent.

The salaries attached to the appointments will be at the rate of £200 per annum, together with full residential emoluments (rations, apartments, laundry, and attendance).

The officer appointed will be required to pay to the Council all fees, allowances, and emoluments (other than the foregoing) received by him.

Further particulars of the appointments may be obtained from the Medical Superintendent, F. W. ELLIS, Esq., M.D., F.R.C.S., Dudley Road Hospital, Birmingham, to whom applications, stating age, experience and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Thursday, January 22nd.

F. H. C. WILTSHIRE,
The Council House, Town Clerk.
Birmingham.

Manchester Royal Infirmary.

CENTRAL BRANCH, ROBY STREET, MANCHESTER.

JUNIOR HOUSE SURGEON AND CASUALTY OFFICER (Lady).

The ... Manchester Royal ... for the above

Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for twelve months, commencing forthwith—four months as Junior at £100 per annum, four months as Assistant at £100 per annum, and four months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their application and testimonials to the undersigned by 9 a.m. on Thursday, January 22nd.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.
HOUSE SURGEON in charge of Male Wards.
HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

North Ormesby Hospital, MIDDLESBROUGH.

HOUSE PHYSICIAN required (male, and unmarried). Salary £120 per annum, with board, residence, and laundry. There are three Residents, and the successful candidate will be eligible for the post of House Surgeon in due course. Applications, stating age, qualifications, previous experience (if any), with copies of three recent testimonials, should be sent to the undersigned not later than Saturday, January 31st.

GEORGE WATTS,
January 12th, 1931. Secretary-Supt.

Applications are invited for the

appointment of HONORARY ANAESTHETIST for duty on Tuesday mornings at the NATIONAL DENTAL HOSPITAL, Great Portland Street, W.1, and should be forwarded to the Secretary, University College Hospital, Gower Street, W.C.1, before noon on Jan. 20th.

Bristol Royal Infirmary.

Applications are invited for the following Resident appointments for the six months commencing March 1st:

Two HOUSE PHYSICIANS.
Four HOUSE SURGEONS.
One HOUSE PHYSICIAN to the Cancer Research Dept.
One HOUSE SURGEON to the Ear, Nose, and Throat Dept.
One HOUSE SURGEON to the Gynaecological and Ophthalmic Dept.
One OBSTETRIC HOUSE PHYSICIAN.
One CASUALTY HOUSE SURGEON.
One ASSISTANT HOUSE SURGEON and HOUSE SURGEON to the Dermatological Dept.

Salaries at the rate of £60 per annum, with board, apartments, and laundry, except in the case of the Casualty House Surgeon, when the salary will be at the rate of £80 per annum, with board, apartments, and laundry.

One DENTAL HOUSE SURGEON.

If resident, salary at the rate of £80 per annum, but if non-resident, salary at the rate of £116 per annum, with board.

Candidates, who must be duly qualified, to send in their applications, stating age, together with copies of not more than three testimonials, to the undersigned on or before January 30th.

ELLIS C. SMITH, F.C.I.S.,
Secretary & House Governor.

Northampton General Hospital.

HONORARY ASSISTANT PHYSICIAN.

The Board of Management invite applications for the appointment of Honorary Assistant Physician in charge of an Out-patient Clinic for the treatment of early Mental cases.

Candidates must be Graduates in Medicine of one of the Universities of the United Kingdom, or Members or Licentiates of the Royal College of Physicians, London, and shall not be connected with any dispensary nor engaged in panel practice.

Further particulars may be obtained from the undersigned, to whom formal applications, accompanied by copies of testimonials, should be sent on or before January 21st.

H. ST. JOHN WOOD,
December 30th, 1930. Secretary-Supt.

The Royal Infirmary, Sheffield. (500 Beds.)

The Weekly Board of Management invite applications for the post of:

ASSISTANT AURAL AND OPHTHALMIC HOUSE SURGEON.

The appointment will be tenable for six months from January 1st.

The salary attached to the post is £80 per annum, rising after six months' service to £100 per annum, together with board and residence.

Applications, together with copies of testimonials, to be sent to the undersigned immediately.

JNO. W. BARNES, F.C.I.S.,
Board Room, Gen. Supt. & Secretary.
January 6th, 1931.

The Royal Gwent Hospital, NEWPORT, MON. (160 Beds)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER, to act as House Surgeon to Out-patients and as House Physician.

Salary £135 per annum, with board, lodging, and laundry. Resident Medical Staff 5. Eligible for promotion.

Large Out-patient Department.

Applications, stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.

Applications from ladies not entertained.

J. K. MILLWARD,
Secretary-Superintendent.
January 6th, 1931.

St. Mary's Hospitals, Manchester

SENIOR ASSISTANT ... the Children's ... resident), salary ... annum. Also a JUNIOR OFFICER (non-r... ... at the rate of £50 per annum. The appointments are for a period of six months from February 1st next. Applications, with copies of three testimonials, to be sent to the undersigned on or before the 20th instant.

R. RATCLIFFE, Secretary.

St. Paul's Eye Hospital, Old Hall Street, LIVERPOOL.

HOUSE SURGEON required immediately, six months' appointment. Salary £120 per annum, board, residence, etc.

Applications with copies of testimonials, should be sent to the Secretary at the Hospital, on or before January 24th.

Royal Sussex County Hospital, BRIGHTON.

Notice is hereby given that a Meeting of the Elective Committee will be held in the Board Room at the Hospital on Wednesday, February 18th, at 12.15 p.m., for the purpose of electing an HONORARY ASSISTANT SURGEON, and such Elective Committee is hereby convened accordingly.

Applications are invited from gentlemen who are Fellows, Members, or Licentiates of the Royal College of Surgeons of England, Edinburgh, or Ireland, or Masters or Bachelors of Surgery of one of the Universities of the British Empire, and who are duly registered under the Medical Acts.

Applications must reach the Secretary-Superintendent at the Hospital before 12 noon on Monday, February 9th.

By Order of the Board of Management,
L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Royal London Ophthalmic HOSPITAL (Moorfields Eye Hospital), City Road, E.C.1.

OUT-PATIENT OFFICER.

Applications are invited for the post of Out-patient Officer to attend on Wednesday and Saturday mornings. Candidates must be registered Medical Practitioners. Salary at the rate of £100 per annum. The Out-patient Officer will be appointed for a period of one year and will be eligible for re-appointment.

Copies of regulations governing the appointment can be obtained on application.

Applications, with testimonials, stating age and qualifications, must be received not later than January 31st by—

ARTHUR J. M. TARRANT,
Secretary.

Seamen's Hospital Society.

The Committee of Management invite applications for the appointment of ASSISTANT RADIOLOGIST at the HOSPITAL FOR TROPICAL DISEASES, Endsleigh Gardens, W.C.

The elected candidate will be appointed for twelve months, but will be eligible for re-election.

Candidates must be fully qualified Medical Practitioners and hold the D.M.R.E. Experience in general radiology and especially gastro-intestinal and urological work desirable. Attendance twice or three times weekly.

Applications, with copies of three recent testimonials, to be sent in on or before Wednesday, February 4th, to the undersigned, from whom further particulars can be obtained.

Greenwich. R. E. V. BAX,
January 12th, 1931. Secretary.

Royal Edinburgh Hospital for SICK CHILDREN.

Wanted for this Hospital, TWO HONORARY RESIDENT HOUSE SURGEONS and THREE HONORARY RESIDENT HOUSE PHYSICIANS. One of the latter shall have charge of both a medical ward and an ear and throat ward. The appointments shall commence on April 1st, and shall be for a period of six months. Information as to duties, etc., can be obtained from the Ordinary Physicians and Surgeons at the Hospital. Thirty copies of applications and relative testimonials to be lodged on or before January 31st with Messrs. HENRY & SCOTT, W.S., 56, Frederick Street, Edinburgh. No applications will be received after that date.

Rochdale Infirmary and DISPENSARY. (110 Beds.)

The Board of Management invite applications for the appointment of JUNIOR HOUSE SURGEON. The salary attached to the appointment is £200 p.a., including board, residence, and laundry. Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon."

Particulars of duties and conditions of the appointment may be had on application to the Secretary.

Infirmary Office, W. WYNNE.
Rochdale. Secretary.

The Willesden General Hospital (Incorporated), N.W.10. (106 Beds.)

Applications are invited from General Practitioners for appointment as REGISTRARS for a period of six months from March 1st.

A copy of the Regulations governing these appointments can be obtained from the Secretary of the Hospital, to whom detailed applications should be addressed not later than Wednesday, January 21st.

January 5th, 1931.

Staffordshire County Council.

DEPUTY COUNTY MEDICAL OFFICER OF HEALTH.

The County Council invite applications for the appointment of a Deputy County Medical Officer of Health at a commencing salary of £1,000, rising by annual increments of £50 to £1,100. Reasonable travelling expenses will be paid by the County Council.

Applicants must be duly registered Medical Practitioners, holding a degree or diploma in Public Health, and the gentleman appointed will be required to devote the whole of his time to the duties of the office.

He will be required to undertake any duties required of him by the Council bearing on the health and medical services of the County.

He will be required to act under the administrative control of, and to be responsible to, the County Medical Officer of Health for his duties.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the statutory contributions to the Superannuation Fund under that Act will be deducted from the salary.

Applications, marked "Deputy County Medical Officer," together with copies of not more than three recent testimonials, must be sent to the undersigned not later than January 31st.

County Buildings, Stafford. EUSTACE JOY, Clerk to the County Council.

January 12th, 1931.

Staffordshire, Wolverhampton, AND DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS.

ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited from Medical Men, not more than 35 years of age, with special experience in the treatment of pulmonary tuberculosis, for the post of Assistant Resident Medical Officer at PRESTWOOD SANATORIUM FOR MEN (150 beds), situated 9 miles south of Wolverhampton.

The salary will be £400 per annum, rising by £50 to £450 at the end of 12 months' service including quarters for a single man only, with full board and laundry.

Forms of application, together with any other information desired, may be obtained from the undersigned.

Applications, together with three recent testimonials, must be received not later than Thursday, January 29th.

Canvassing, either direct or indirect, will be a disqualification.

County Buildings, Stafford. EUSTACE JOY, Clerk to the Joint Committee.

January 9th, 1931.

Middlesbrough Education Committee.

APPOINTMENT OF SENIOR ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from duly qualified Men for the post of Senior Assistant School Medical Officer, to act under the School Medical Officer in connection with the Medical Inspection and Treatment of School Children.

Applicants must have had experience in the work of the School Medical Service, and the successful candidate will be required to devote his whole time to the duties of the office.

Commencing salary £500 per annum, with annual increments of £25 to a maximum of £700 per annum.

Applications, stating age, together with particulars of qualifications and experience, and accompanied by copies of three recent testimonials, to be forwarded to the undersigned not later than Saturday, January 31st.

Education Offices, Middlesbrough. STANLEY MOFFETT, Director of Education.

January 12th, 1931.

County Borough of Swansea.

ASSISTANT SCHOOL DENTAL SURGEON.

Applications are invited from registered Dental Surgeons for the above appointment. Salary £450 per annum, rising by annual increments of £25 to £550.

Applications (on special form to be obtained from the Medical Officer of Health, Public Health Office, Swansea) to be received not later than February 1st.

Leeds Public Dispensary.

Wanted, JUNIOR RESIDENT MEDICAL OFFICER. Salary £150 per annum, with board, residence, and four shillings weekly for laundry. Separate sitting-room.

Applications, with copies of three recent testimonials, to be addressed to the Secretary of the Faculty, Public Dispensary, North Street, Leeds.

County of London.

The LONDON COUNTY COUNCIL invites applications for appointment as FOURTH ASSISTANT MEDICAL OFFICER (woman) at HORTON MENTAL HOSPITAL, EPSOM, SURREY. Candidates must have had special education and experience in Gynaecology, the practice of which will be one of the principal duties. The duties otherwise will be those allocated generally to Assistant Medical Officers at the Hospital. Applicants must be under 40 years of age, and be registered to practise both in Medicine and Surgery in England. Marriage terminates contract of service. Salary, £575 a year, rising by £25 annually to £700. No emoluments. Charges made for board, lodging, etc. (at present £2 9s. weekly) if required to be resident. Pensionable under the Asylums Officers Superannuation Act, 1909. Application form, giving full particulars, obtainable from Chief Officer, Mental Hospitals Department, L.C.C., Artillery House, Artillery Row, S.W.1. Applications returnable by January 31st. Canvassing disqualifies.

MONTAGU H. COX, Clerk of the London County Council.

Bristol Homoeopathic Hospital (Bruce Melville Wills Memorial).

The Board of Management invite applications for the appointment of RESIDENT MEDICAL OFFICER, to commence duties on or about February 1st next, at a salary of from £120 to £150 per annum, according to experience, with board, laundry, and residence. The Hospital is new, with the latest equipment, and a most comfortable suite of rooms is provided in the Hospital.

Opportunity for good Surgical and general experience.

Applications should be forwarded with three copies of recent testimonials, addressed to the undersigned.

H. HUNTER (Lt.-Colonel), Secretary.

Cornelia and East Dorset HOSPITAL, POOLE, DORSET. (105 Beds.)

HOUSE SURGEON.

Applications are invited for the post of House Surgeon (male). Salary £150 p.a., with usual emoluments. Duties to commence March 1st next for six months.

Applications, stating age, experience, and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital by 12 noon February 4th.

E. S. FOLEY, Secretary.

Royal Infirmary, Wigan. (180 Beds.)

THIRD HOUSE SURGEON (male) required immediately, for a period of six months. Salary £150 per annum, with board, apartments, and washing. Staff consists of one R.S.O. and three House Surgeons. Applications, stating age and qualifications, with copies of three recent testimonials, should be addressed to the undersigned as soon as possible.

A. STANLEY BRUNT, Gen. Supt. & Sec.

January 13th, 1931

Hertford County Hospital.

Applications are invited for the post of HOUSE PHYSICIAN (male). Salary £150 per annum, with board, residence, and laundry. The appointment is for six months in the first instance.

Applications, with copies of three recent testimonials, should be sent to the undersigned as early as possible.

PERCY G. BROOKS, Secretary.

St. Mark's Hospital for Cancer, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.

RESIDENT SURGICAL OFFICER (male) required. Must be fully qualified. Salary £150 per annum, and certain emoluments, with board, residence, and laundry. The appointment is for a minimum of six months from March 10th next. Applications, with copies of testimonials, must reach the Secretary (from whom further particulars may be obtained) not later than February 4th.

St. George's Hospital, S.W.1.

Applications are invited for the appointment of ASSISTANT OPHTHALMIC SURGEON, who will be required to attend two days a week, and must hold the F.R.C.S.Eng. Diploma.

Applications, with copies of three testimonials, should be sent to the undersigned not later than January 26th.

JAMES M. CHURCHFIELD, Secretary.

January 5th, 1931.

The Hospital for Sick Children, Great Ormond Street, W.C.1.

A REFRACTION ASSISTANT is required in the Ophthalmic Department on February 7th.

Candidates are invited to send in their applications, addressed to the Secretary, with copies of not more than three testimonials written specially for the purpose, before 12 o'clock on Monday, February 2nd.

The appointment is made for one year, but the successful candidate will be eligible for re-appointment annually upon the recommendation of the Medical Committee.

Salary at the rate of one guinea per attendance at the visit of the Honorary Ophthalmic Surgeon.

Candidates must be registered Medical Practitioners and be prepared to take up the duties on February 7th.

All candidates must be in attendance on Wednesday, February 4th, to appear before the Joint Committee at 4.45 precisely if required.

Forms of application, and copies of the Rules for the appointment, will be supplied on application to the Secretary.

By Order of the Board of Management, JAMES McKAY, Secretary.

January, 1931.

The Hospital for Sick Children, Great Ormond Street, London, W.C.1.

A SURGICAL REGISTRAR is required on March 1st.

Gentlemen are invited to send in their applications, addressed to the Secretary, with copies of not more than three testimonials given specially for the purpose, before 12 o'clock on Monday, February 2nd.

The appointment is made for one year, but may be held, subject to re-election, for a period of three years.

Salary £300 per annum and allowance for substitute for holiday £18 18s.

Candidates must be registered Medical Practitioners, and must have held a responsible Hospital appointment and be prepared to take up the duties on March 1st.

All candidates must be in attendance on Wednesday, February 4th, to appear before the Joint Committee, at 4.45 p.m. precisely, if required.

Forms of application, copy of the rules for, and details of the duties of, the appointment, will be supplied on application to the Secretary.

By Order of the Board of Management, JAMES McKAY, Secretary.

January, 1931.

The Guest Hospital, Dudley. (General Hospital—104 Beds.)

Applications are invited for the post of ASSISTANT HOUSE SURGEON, to commence duties immediately. Salary £160 per annum, with furnished apartments, board, and laundry. Candidates must be fully qualified and registered. Applications, stating age, qualifications, and experience, and accompanied by copies of testimonials, to be sent to the undersigned.

H. RAYMOND HURST, Secretary.

The Guest Hospital, Dudley. January 10th, 1931.

City of London Hospital for DISEASES OF THE HEART & LUNGS, Victoria Park, E.2.

(Bus, Tram, and Rail, Cambridge Heath, L. & N.E. Railway.)

A vacancy for a HOUSE PHYSICIAN (male) will occur on March 1st. Six months' appointment. Salary at the rate of £100 per annum. Board, residence, and laundry provided.

Applications, with copies of three testimonials, should be sent to the undersigned on or before Friday, February 13th.

GEORGE WATTS, Secretary.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY. The Institution, which contains over 100 Beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession. Salary at the rate of £100 per annum, rising to £150 per annum.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84, Irish Street, Dumfries, at once.

East London Hospital for CHILDREN, Shadwell, E.1.

Applications are invited for the post of HOUSE SURGEON (male). The appointment is for six months from February 1st. Board, residence, and laundry provided. Salary at the rate of £125 per annum. Applications, with testimonials, should reach the undersigned on or before Wednesday, January 21st.

W. M. WILCOX, Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH.**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	PLYMOUTH EDUCATION AUTHORITY. *(Deputy Assistant Medical Officer.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 5, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

January 14th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

North Riding Infirmary,
MIDDLESBROUGH.
(General Hospital—150 Beds.)

JUNIOR HOUSE SURGEON wanted to take up duties on February 1st.

The appointment will be for a definite period of six months, with salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three testimonials, should be sent forthwith to the undersigned.

N.B.—The successful candidate will be eligible to apply for the Senior House Surgeon's post at the expiration of the above term.

CHARLES POSTGATE,
Secretary-Superintendent.

Lincoln County Hospital.

Wanted, a JUNIOR HOUSE SURGEON, male, unmarried. Salary at the rate of £150 per annum, rising to £200 per annum at the conclusion of six months' approved service. Board, residence, and washing will also be provided.

Candidates for the appointment must be registered under the Medical Acts.

Applications, stating age and other particulars, with copies of testimonials (not more than three), are to be sent to the undersigned, from whom further particulars may be obtained.

Lincoln. ARTHUR MOORE,
December 29th, 1930. Secretary-Supt.

Stockton and Thornaby Hospital,
STOCKTON-ON-TEES. (140 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about January 21st. Salary £150, with board, residence, and laundry. Candidates must be duly qualified and unmarried. Applications, stating age, nationality, and experience, together with copies of three recent testimonials, to be sent to the undersigned.

JOHN WILKINSON, Secretary.

The Royal Sea-Bathing Hospital
FOR SURGICAL TUBERCULOSIS,
MARGATE.

HOUSE SURGEON Required.

A Male House Surgeon is required to take up duty in January, 1931. The salary is at the rate of £200 per annum, with board, residence, attendance, and laundry.

Candidates for the post must be legally qualified and registered. The appointment is for six months.

There are 308 beds for adults and children, which afford special opportunities for the study of surgical tuberculosis.

Applications, stating age and previous appointments, with copies of three recent testimonials, should be sent to the Secretary, R.S.B.H. Offices, 15, York Buildings, Adelphi, London, W.C.2.

Chelsea Hospital for Women,
Arthur Street, S.W.3.

There is a vacancy for a REGISTRAR (Gynaecological). Candidates must be Graduates in Medicine of a recognized University or Fellows or Members of one of the Colleges of Physicians of London, Edinburgh, or Ireland, or Fellows of one of the Colleges of Surgeons of England, Edinburgh, or Ireland. They must be registered under the Medical Act and engaged in consulting practice only. There is an honorarium of £50 per annum. Applications are invited for the above post, and must be sent to the Secretary, accompanied by copies of three testimonials, not later than Wednesday, January 28th

Central Hospital, Plymouth.
(50 Beds.)

HOUSE SURGEON (male or female) required. Salary £130 per annum, with residence, board, etc. Applications, stating age, together with not more than three recent testimonials, to be sent to the undersigned not later than January 31st. Duties to commence early in February.

W. W. URELL, Secretary.

Worcester County and City
MENTAL HOSPITAL,
POWICK, near WORCESTER.

JUNIOR ASSISTANT MEDICAL OFFICER (male), single, required.

Candidates must be duly qualified in Medicine and Surgery. Salary £350 per annum, rising by four annual increments of £25 to £450 per annum, together with furnished apartments, board, laundry, and attendance.

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909. Applications, stating age and full particulars, together with copies of three recent testimonials, to be forwarded to the Medical Superintendent not later than Saturday, January 24th.

Bolton Infirmary & Dispensary.
SECRETARY'S OFFICE.
(257 Beds, including Auxiliary Hospitals.)

Applications for appointment of CASUALTY OFFICER. Salary £150 per annum, with board, residence, and attendance, are invited from Ladies having a registered Medical and Surgical qualification. The appointment will be for six months. The Resident staff consists of five persons.

Applications, stating age and nationality, with copies of testimonials, should be forwarded to the undersigned (from whom further particulars may be obtained) not later than Monday, the 19th inst.

ALBERT E. BRISCOE,
Secretary.

The Royal Eye and Ear Hospital,
BRADFORD.

Wanted, JUNIOR HOUSE SURGEON, male, Salary £150, with board, residence, and laundry.

Applications, stating qualifications, age, etc., with copies of recent testimonials, to be forwarded to the undersigned.

F. BRIGGS,
Secretary-Superintendent.

(Appointments continued on p. 64.)

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.

(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted. — Assistantship, with prospects, by Conjoint, 30, English, married, Protestant, Public Schoolboy, 2 years' Hospital, 4 years' G.P. Hard and keen worker. Handicapped by lack of capital. Anxious to settle down in good Practice if given opportunity. Own car. South or West England preferred. — Address, No. 355, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—South Wales.—Keen, [illegible] married, male, British qualified, for extensive offering considerable surgical hospital work. Commencing salary £300, with rooms and attendance (outdoor).—No. 372, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship, with early view, by M.B., Ch.B. (Scotch), 28 years, married, ex R.M.O., Senior H.S.; two years' general practice experience. London or South preferred. Interview.—Address, No. 463, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship, with or without view, by Glasgow Graduate, aged 28, married; 3½ years' G.P. and Hospital exper. Good appearance, and well received. Free one month. — Address, No. 360, B.M.A. House, Tavistock Square, W.C.1.

Wanted by M.B., B.Ch. (N.U.I.), ex H.S. and H.P., three years qualified, general practice experience, an ASSISTANTSHIP with early view to Partnership or Succession.—Address, No. 352, B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced Practitioner, Englishman, aged 34, married, Public School Man, ASSISTANTSHIP with view to Partnership in good-class mixed panel and private Practice, preferably near London.—No. 453, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship or LOCUMS by Woman Doctor. 5 years' experience in private and panel practice. Dispensing Can drive car.—Address, No. 387, B.M.A. House, Tavistock Square, W.C.1.

Wanted, end of January, indoor ASSISTANT, male, Scots or Irish, young, for working class Practice in S.E. London. £300 a year. — Address, No. 367, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with or without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted, an indoor Assistant, semi-country mixed Practice in Derbyshire. Salary £300.—Address, No. 362, B.M.A. House, Tavistock Square, W.C.1.

Assistant required for 4—6 months in Country Practice, North Wales. Knowledge of Welsh essential. Good salary. Car provided. Early application essential.—Address, No. 377, B.M.A. House, Tavistock Square, W.C.1.

Assistant, man or woman, indoor, wanted, Midlands. State age, religion, height. Only letters replied to where essential particulars are given. — Address, No. 8755, B.M.A. House, Tavistock Square, W.C.1.

Assistantship (outdoor) required by M.B., B.Ch., four years' experience general practice. Seeks experience in Nose and Throat work. Good references.—Address, No. 364, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, preferably with view, wanted by M.B., Ch.B.(Glasgow), aet. 28. 3½ years' experience G.P. Keen and energetic. Excellent testimonials.—Address, No. 379, B.M.A. House, Tavistock Square, W.C.1.

Part-time Assistant required, Central London Practice. Specialist with spare time and previous experience preferred. —Address, No. 460, B.M.A. House, Tavistock Square, W.C.1.

PARTNERSHIPS.

Notice is hereby given that the Partnership heretofore subsisting between us the undersigned Charles Vincent McCormack and James Joseph Dwyer carrying on practice as Physicians and Surgeons at 58, Merton Rd., Bootle, in the County of Lancaster, under the style or firm of McCormack and Dwyer, has been dissolved by mutual consent as and from the 31st day of December, 1930.

All debts due to and owing by the said late firm will be received and paid by the said Charles Vincent McCormack who will continue the said Practice alone.

Dated this second day of January, 1931.

C. V. McCORMACK,
JAS. J. DWYER.

Wanted.—University Graduate (Scot), age 30, single, over 2 years' Hospital experience, 2—3 years' panel and private practice, desires PARTNERSHIP or outdoor ASSISTANTSHIP with view. Own car. Capital available. Free now.—Address, No. 353, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Partnership by M.B., Ch.B.(Glas.), aged 34. Experience G.P. seven years; testimonials. Income about £1,100. Nice district. Capital available. House with garden to rent preferred.—Address, No. 380, B.M.A. House, Tavistock Square, W.C.1.

Wanted by M.B., Ch.B.Aberd., aet. 30, single, ex H.S., H.P., R.M.O., exper. G.P., PARTNERSHIP Share £1,000 upwards. Capital available.—Address, No. 382, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Surgeon as Partner. County Town. Hospital appointment.—Address, No. 452, B.M.A. House, Tavistock Square, W.C.1.

Edinburgh M.D., 31, desires PARTNER[illegible] with view, in goo[illegible] private practice B.M.A. House, Tavistock Square, W.C.1.

Half Share of Partnership for Sale in South Wales. Audited receipts of Practice £4,100 p.a. Panel 3,200. Hospital appointment. F.R.C.S. desirable. Might be divided. Premium 2 years' purchase.—Address, No. 455, B.M.A. House, Tavistock Sq., W.C.1.

Manchester residential suburb.— HALF SHARE PARTNERSHIP, with view to early Succession. Receipts £1,800, with much scope for increase. House available. Price 2 years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

M.B., F.R.C.S., wishes Partnership. Englishman; speaks French and German. Six years' Hospital experience. Capital available. —Address, No. 462, B.M.A. House, Tavistock Square, W.C.1.

Partnership for Sale in old-established Practice in industrial area in Manchester. Good house. Suit energetic young married man. Quarter share £1,500, up to half pro rata if desired. Bookings approximately £4,000 (panel 2,600). Any investigation. —No. 8775, B.M.A. House, Tavistock Sq., W.C.1.

Woman Partner required in working-class district for small Practice. Lock-up surgery, and panel, increasing rapidly. —Address, No. 384, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

Wanted.—Medical Man, English qualifications, well-established Practice, wishes to start a Life Extension Institute in Rio de Janeiro, for which he would like to hear from BACTERIOLOGIST with knowledge of biochemistry, NURSE-RADIOGRAPHER-SECRETARY with knowledge of dark-room work, and PHARMACEUTICAL CHEMIST with experience in the preparation and dispensing of drugs, running of shop, etc. Other qualifications—good health, abstemious habits, and willingness to co-operate. Salary and percentage offered.—No. 363, B.M.A. House, Tavistock Sq, W.C.1.

Wanted, keen young man to DEVELOP BRANCH SURGERY in poor district, S.E. London. Experience or capital not essential. Free rooms if required. HALF SHARE PARTNERSHIP free to suitable man. —Address, No. 383, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Elderly or retired Medical Man to give some HELP in Surgery, Dispensing, Visiting; indoor; Northern city. Good house. Irishman preferred, but not essential. Salary. — Address, No. 359, B.M.A. House, Tavistock Square, W.C.1.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Dispenser-Bookkeeper, male, 42, desires POST, London or 30 miles radius. Life experience. Good appearance, quick and methodical. Excellent references. Disengaged. —"DISPENSER," c/o 14, St. Jude Street, Mildmay Park, N.1.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3579, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Dispensing.—For over 30 years we have been training the daughters and other relatives of Doctors as DISPENSERS, and supplied Lady Dispensers to Doctors requiring same.—Apply Mr. J. E. WALDEN, Westminster College, 112, St. George's Rd., Southwark, S.E.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Gentlewoman, young, adaptable, seeks private SECRETARIAL POST (whole or part-time). Highly experienced, fluent French, own typewriter. Excellent references.—Address, No. 385, B.M.A. House, Tavistock Sq., W.C.1.

India. — Evangelical, Interdenominational Missionary Society, with Women's Hospitals in India, urgently requires THREE WOMEN DOCTORS. Post-Graduate experience essential. Exceptional scope for incalculable service. Passage paid to and fro on 4 years' agreement. Moderate salary.—Apply, SECRETARY, 33, Surrey St., Strand, W.C.2.

Lady Dispenser - Bookkeeper (Hall), etc., young, good experience in private and panel Practices, requires POST with Doctor. Free now.—F. W., "Tresco," The Uplands, Loughton, Essex.

Lady with small income, good business woman, expert typist, bookkeeper, etc., domesticated, offers SERVICES for nominal salary in return for congenial home, or would consider au pair. — Address, No. 361, B.M.A. House, Tavistock Square, W.C.1.

Photographer, aged 46, after 8½ years' active, whole-time service in Hospitals and Medical School of a University, seeks similar APPOINTMENT. A period of probation not objected to. — Address, No. 451, B.M.A. House, Tavistock Square, W.C.1.

Lady (widow) seeks position as HOUSEKEEPER or CARETAKER of SURGERY. Nominal salary for accommodation. —CARTER, 9, Anerley Park Road, S.E.20.

Syria.—Doctor required to take CHARGE of small QUAKER MISSIONARY HOSPITAL on the LEBANON. Friend preferred, but not essential. — Apply, FRIENDS SERVICE COUNCIL, Friends House, Euston Road, London, N.W.1.

The Charterhouse Typewriting BUREAU, 18-21, Charterhouse Square, E.C.1.—TYPEWRITING, DUPLICATING, and TRANSLATIONS of all descriptions, MEDICAL WORK a speciality. TESTIMONIALS typed and returned same day. 'Phone Clerkenwell 6672.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

LOCUMS.

FOR LOCUM TENENS APPLY TO PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: 'Phone:
"Epsomian, Lond." Temple Bar 9011.
After Office Hours: Epsom 9142.

Locums wanted by Lady Doctor, L.R.C.P.S., L.M., D.P.H., accustomed sole charge and dispensing. Good personality. Seven years' experience. Excellent references. Free January 25rd. Will go anywhere.—Add., No. 376, B.M.A. House, Tavistock Sq., W.C.1.

Locum Tenens. — Experienced G.P. requires Locum work in or near London. Whole or part-time. Abstainer. Own car.—Address, No. 458, B.M.A. House, Tavistock Square, W.C.1.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. (TEMPLE BAR 1054. RIVERSIDE 1254. (Night Calls)
Telegrams:
"REASIDE, TUBERCLE, WESTRAND, LONDON."

PRACTICES.

Wanted in Midlands, South of England, or Suburb of London, by an experienced married Graduate, a good mixed General PRACTICE of £2,000 a year or more, with panel. Birmingham district specially desired. Can negotiate at once. Capital £3,000.—Details, in confidence, to 32.2, c/o PERCIVAL TURNER, Ltd., 4 and 5, Adam Street, Adelphi, Strand, W.C.2.

Wanted, a small mixed Practice or ASSISTANTSHIP with view. Income required £500—£750. London or Home Counties preferred.—Address, No. 454, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Practice about £1,000 —£1,500. Small panel. Country town, near Coast. South or S. West England preferably. — Address, No. 373, B.M.A. House, Tavistock Square, W.C.1.

Doctor offers living, attendance, and small remuneration in return for CARE of his Practice during night after surgery; very little work. Small house. Suit married man or bachelor reading. — Address, No. 459, B.M.A. House, Tavistock Sq., W.C.1.

Doctor already practising in London, S.W., wishes to PURCHASE small additional PRACTICE in Clapham Common district. — Address, No. 357, B.M.A. House, Tavistock Square, W.C.1.

For immediate Disposal, Vendor taking appointment, a general, dispensing, private and panel PRACTICE, with several attractive appointments, in a University City in the South-West. Receipts in the region of £1,000 p.a., but could be greatly increased by good man. Excellent facilities, educational and otherwise. Commodious house for sale with Practice. — Address, No. 374, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Old-estab. Private and Panel PRACTICE, with several appointments, in South Durham, in an agricultural and sporting district. Annual receipts over £2,000. Large house, garden, and two garages. Own electric light. The present Vendor is retiring from practice. Every investigation. House and Practice £5,000.—Address, No. 358, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Kilburn-Hampstead area. — Middle and working-class cash PRACTICE, worked by two Doctors. Panel 1,200. Average income £1,000. Rent for surgeries £140 p.a. incl.; living accommodation available. Premium £1,500 cash. No offers.—Add., No. 356, B.M.A. House, Tavistock Sq., W.C.1.

For Sale. — North Oxfordshire. Country PRACTICE, unopposed, £1,100 p.a., panel and appts. Healthy dist., compact house, with garage, outbuildings, stables, and gardens. F'hd. £1,250. Practice 1½ yrs.' pur.—No. 259, B.M.A. House, Tavistock Sq., W.C.1.

Hindhead (near) or S. of England.—Country PRACTICE wanted in March. £1,500 up. Sand or gravel soil. Really good house and land, with stabling. Hunting. — Address, No. 304, B.M.A. House, Tavistock Square, W.C.1.

Ill Health. — Compulsory Sale. Small industrial, panel, private, cash PRACTICE, S.E., near London. Strictest confidence required. Small cash prem. House, low rent. Suit. single man or woman. Fine scope increase. —No. 388, B.M.A. House, Tavistock Sq., W.C.1.

Lancs Town. — Mixed Practice. Average £1,170 p.a. Panel 1,500. Good house, garage, garden, for sale or may rent for a time. Near country. Premium £1,750.—Address, No. 370, B.M.A. House, Tavistock Square, W.C.1.

Manchester.—Old-established.—Nice house, gardens, £50. Receipts (including panel £135) over £600. Great scope. Price £1,000 or near offer (to include fittings, drugs, linoleum coverings, and good debts £600), part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

Near Chester. — Compact Industrial Town PRACTICE (under 3 miles radius). Receipts 1929, £1,677. Panel 1,250. Accounts audited. Excellent house, garden and garage, rent £125 p.a. Fishing, golf, shooting, tennis available. Price, whole Practice, £2,500. —No. 366, B.M.A. House, Tavistock Sq., W.C.1.

North Wales. — Inland Country Town. Receipts £800 p.a., including good panel and transferable appointments. Exceptional opport. House to rent. Prem. £200 cash, plus 20% of gross receipts first 3 years.—No. 381, B.M.A. House, Tavistock Sq., W.C.1.

Nucleus of Practice, in growing neighbourhood, and established NURSING HOME, for disposal. Disposing on account of ill health. 12 miles from London.—Address, No. 457, B.M.A. House, Tavistock Sq., W.C.1.

Practice required in good London suburb Must have modern house. Income £1,500 upwards. Purchaser willing to pay 2 years' purchase. — Address, No. 306, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

X-Ray Practice. — For Sale owing to ill health. Receipts average £950 Low price for quick sale. Vendor holds honorary Hospital appointment.—Address, No. 354, B.M.A. House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

ESTABLISHED 1860.
Messrs. BEDFORD & CO.
(C. E. BEDFORD, F.S.I., F.A.I.),
Surveyors, Auctioneers, and Estate Agents,
10, WIGMORE STREET,
CAVENDISH SQUARE, W.1.
SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS
In Harley Street and leading Medical Positions.
Telephone: Langham 3927 and 3928.

Commodious Modern Bungalow, freehold, 10 large light rooms, electric light, central heating, etc., large garden, in prominent corner position in populous district 10 miles N.E. of London. Enormous potential PRACTICE awaiting purchaser. No opposition. Price £1,650; small cash deposit secures, balance on mortgage. Cost over £2,000 five years ago.—Write OWNER, R. T. MORGAN, 129, Minories, E.C.3, for full particulars.

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELLGOOD & CO., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Consulting Rooms, ground floor, three rooms en suite, and lavatory. Electric power, h. and c. Door service if required. Newly decorated. Moderate rent.—MORRIS, 32, Seymour Street, W.1. (Padd. 1136).

Doctor offers Dentist Consulting, Working, and Accommodation ROOMS if required (Dentist's private flat) in large imposing Corner House. Garages. Busy populous sea front. Famous resort. Good Practice (Advertiser's), panel and priv., well-estab., exists. Magnificent opening. Reasonable rental, lease or agreement. —No. 456, B.M.A. House, Tavistock Sq., W.C.1.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Doctor's widow has comfortable BED-SITTING ROOMS to LET. Electric light, gas fires, every convenience, close Tube, trams, and buses. Newly decorated throughout. —Apply, 21, Cantley Avenue, South Side, Clapham Common, S.W.4.

Harley Street.—Large Consulting ROOM to Let every Tuesday afternoon. Attendance, handsome waiting room, every convenience. No door-plate, but telephone with name in Directory. £40 per annum.—No. 365, B.M.A. House, Tavistock Sq., W.C.1.

Harley Street. — Consulting ROOM to LET in Surgeon's house, £200 per annum, with attendance and use of waiting room. — Address, No. 368, B.M.A. House, Tavistock Square, W.C.1.

Harley Street.—Suite: Consulting Room and examination room or laboratory, on ground floor; both with h. and c. water, and well lit. £300 per annum.—Add., No. 369, B.M.A. House, Tavistock Sq., W.C.1.

Large Corner House in busy main thoroughfare in London, E. Suitable for Doctor or Dentist. Rental £150 per annum, inclusive. Newly decorated; electric light. No premium.—Address, No. 351, B.M.A. House, Tavistock Square, W.C.1.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 253, B.M.A. House, Tavistock Square, W.C.1.

To Let. — Queen Anne Street, W.1.—Handsome SECOND FLOOR FLAT, furnished or unfurnished; fitted every convenience. Part-time Consulting Room available if required. Very low rent.—Address, No. 254, B.M.A. House, Tavistock Square, W.C.1.

32, Park Village East.—Charming small HOUSE, just outside Regent's Park, within 3 minutes car run of Harley Street. 4—5 bed., 2—3 reception rooms. Large garage. Garden. 13-year Crown lease for sale.—MUSEUM 2117.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.

Telephone: 3204 MAYFAIR.

127, Harley Street.—Large well-lit ground floor CONSULTING ROOM, with excellent attendance and joint use of beautifully furnished waiting room. £300 per annum.—Apply the Secretary, Welbeck 7840.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS " £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists

181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:

Regent 3024-3025 & 7486. National 8696/7.

Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS,

49, Chancery Lane, London, W.C.2.

'Phone: Holborn 6659. Write for Tax Guide, Free.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles.

Showroom: 97, Swinderby Road, Wembley.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

Line Focus Tube required for Bone Photography to work with COIL OUTFIT—Muller or other make.—Address, No. 385, B.M.A. House, Tavistock Square, W.C.1.

Portable X-ray Set for Sale, complete with two tubes, accumulator driven. Carried in any car; efficient and reliable for limbs; has done barium feeds with success. £30 or near offer.—Address, No. 389, B.M.A. House, Tavistock Square, W.C.1.

Surgery fittings, Instruments (second-hand), also DRUGS, required by Doctor starting Surgery in London. View by appointment. — Particulars to SMITH, Tanered House, Potters Bar, Middx.

What offers? Medical Man retiring from practice wishes to sell following: 19 vols. Braithwaite's Retrospect 1892—1901; 18 vols. Medical Annual Synoptical Indice, 1902—1926; Crocker's Atlas Skin Diseases; various Instruments for Minor Surgery; Maternity Bag with Instruments; various Gynaecological Instruments; Wooden and other Splints — Address, No. 461, B.M.A. House, Tavistock Square, W.C.1.

LITERARY.

Authors and Composers are invited to forward MSS. of all descriptions for prompt PUBLICATION. £50 cash for poems. No reading fees; current catalogues free. —STOCKWELL, Ltd., 29, Ludgate Hill, London.

Covers for Binding

Vols I and II of the BRITISH MEDICAL JOURNAL for 1930 and previous years can be had, price 2s. 6d., by parcel post 2s. 10d. each.

Remittances must accompany all orders. Apply at the office, B.M.A. House, Tavistock Square, W.C.1.

APPOINTMENTS.—Contd.

The Hospital for Epilepsy and PARALYSIS, Maida Vale, W.9.

HOUSE PHYSICIAN required for three months.

Applications are invited for the post of HOUSE PHYSICIAN for three months from February 1st to May 1st. The salary is at the rate of £100 per annum. Applications, accompanied by copies of three recent testimonials, should reach the undersigned by January 24th.

The accommodation at the Hospital does not permit of women Graduates holding this appointment.

H. W. BURLEIGH,
Secretary and Gen. Superintendent.

The Loughborough and District GENERAL HOSPITAL and DISPENSARY.

Wanted, to commence duties on appointment, RESIDENT HOUSE SURGEON (male or female and unmarried), possessing a medical and surgical registered qualification. Practical experience in the administration of anaesthetics is required. Salary £175, with apartments, board, and laundry. All applications, stating age, etc., with copies of testimonials, to be sent to me at once.

9, Leicester Road, Loughborough. FRANK H. TOONE, Secretary.

Worthing Hospital.

Applications are invited for the post of RESIDENT MEDICAL OFFICER, vacant February 9th. The appointment is for six months, renewable, but it may be determined by three months' notice on either side.

Salary at the rate of £150 per annum, with board, lodging, and laundry.

Applications, stating age, qualifications, and experience, with copies of testimonials, should reach the Secretary not later than Feb. 2nd.

King George Hospital, Ilford (8 miles from London).

Applications are invited for the appointment of HOUSE SURGEON (male). Salary £100 per annum, with board, residence, etc. Term six months, with eligibility for a further period. Applications should be sent at once to the Secretary.

King George Hospital, Ilford.

Applications are invited for the appointment of HONORARY GYNAECOLOGICAL SURGEON to the Hospital. Candidates (male) must be Fellows of the Royal College of Surgeons of England. Further particulars may be obtained from the undersigned, to whom applications should be sent not later than February 7th.

C. AUSTIN HEPWORTH, Secretary.

County Council of East Sussex.

STEYNING INSTITUTION, near BRIGHTON.

RESIDENT MEDICAL OFFICER AND ASSISTANT ADMINISTRATIVE COUNTY MEDICAL OFFICER (Hospitals).

The County Council invites applications for the above whole-time appointment. The Steyning Institution contains 262 sick beds and 405 other beds, and is under the administrative control of the Master.

In addition to his duties as Resident Medical Officer, the officer appointed will be required to act as an Assistant Administrative County Medical Officer (Hospitals) under the County Medical Officer of Health.

The salary will be at the rate of £600 per annum, rising to £800 per annum by annual increments of £25. The officer appointed will be required to reside in the neighbourhood of the Institution, and will receive a lodging allowance of £150 per annum until a residence is provided.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate may be required to pass a medical examination.

Candidates must be registered Medical Practitioners and must have held resident hospital appointments.

Canvassing in any form will be deemed to be a disqualification.

Forms of application can be obtained from the County Medical Officer of Health, County Hall, Lewes, to whom applications, accompanied by copies of not more than three recent testimonials, must be delivered not later than February 4th.

County Hall, Lewes. HUGH J. T. MCILVEEN, Clerk of the County Council.

January 10th, 1931.

Charing Cross Hospital.

ASSISTANT OBSTETRIC PHYSICIAN.

Applications are invited for the post of Assistant Obstetric Physician to the above Hospital. Candidates must be Graduates of a University and possess the Diploma of M.R.C.P. or F.R.C.S.

Applications, accompanied by copies of three recent testimonials, should reach the undersigned not later than February 3rd.

Charing Cross Hospital, W.C.2. PHILIP INMAN, House Governor.

The General Hospital, BIRMINGHAM.

Applications are invited for the following Resident appointments from February 15th:

ANAESTHETIST. Salary £120 per annum.
HOUSE PHYSICIAN. Salary £70 per annum.
HOUSE SURGEON. Salary £70 per annum.

Applications, giving full details of qualifications and accompanied by testimonials (if desired), should reach the undersigned by January 26th.

A. H. LEANEY, House Governor.

Altrincham General Hospital. (100 Beds.)

Applications are invited for the posts of SENIOR and JUNIOR HOUSE SURGEONS. Salaries at the rate of £150 and £120 per annum respectively, with board, residence, and laundry. The appointments are for six months in the first instance. Duties to commence on March 1st next.

Applications, stating age and experience, together with copies of recent testimonials, to be sent in to the Secretary, Altrincham Hospital, Cheshire, not later than February 17th.

St. Mark's Hospital for Cancer, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.

The Committee of M... ...t invite applications for the posts to attend operations afternoons and Wednesdays respectively. Honorarium £25 per annum. Candidates must be fully qualified and with Hospital experience. Applications should reach the Secretary at the Hospital not later than January 31st.

Golden Square Throat, Nose, and EAR HOSPITAL, London, W.1.

... ...

West Suffolk General Hospital,
BURY ST. EDMUND'S. (108 Beds.)

RESIDENT HOUSE PHYSICIAN and OBSTETRIC OFFICER required. Salary £150 per annum, with board, residence, and laundry.
Applicants must be fully qualified and registered.
Applications, giving particulars and experience, and enclosing copies of three recent testimonials, to be sent to the undersigned.
E. E. HARDWICKE, Secretary.
January 12th, 1931.

The Sheffield Royal Hospital.
(340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum, also RESIDENT ANÆSTHETIST, salary £80 per annum, rising to £100 in six months, to commence duties at once (males). Board, residence, and laundry. There are twelve Resident Medical Officers. Applications should be forwarded at once to—
W. H. BOOTH,
January 5th, 1931. Supt. & Secretary.

Wallasey Victoria Central HOSPITAL.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry. Candidates chosen would be appointed for six months.
Applications, with copies of recent testimonials, to be sent to the Secretary not later than January 26th.

The Liverpool Eye and Ear INFIRMARY, Myrtle Street.

Applications are invited for the post of HOUSE SURGEON to the above Institution. Salary £100 per annum, with board and lodging.
Applications, stating age and qualifications, together with copies of not more than three recent testimonials, should be sent to CHAS. W. WRIGHT, 9, Harrington Street, Liverpool, by mid-day, January 20th.

Tiverton Hospital, DEVON.

Applications are invited for the post of HOUSE SURGEON. Salary £100 per annum, with board, residence, and laundry. Six months' engagement. Duties to commence as soon as possible.
Application, with testimonials, to be sent to the undersigned.
C. H. DEEKS, Hon. Secretary.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.
Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER, [illegible] *Oxford Rd*
[illegible] *ndsor Terr.*
Baggot St.
Lei[illegible] Lines).
Dub[illegible] ick.
[illegible] 177 Douglas
Eastbourne, London, Surgical, Glasgow.

D[illegible] in a position to supply PARTNERS, ASSISTANTS, and LOCUMS, and also have several inquiries for PRACTICES in the West of England and Wales.—Address, THE WESTERN MEDICAL AGENCY, Phoenix Chambers, 22, Clare Street, Bristol.

THE
WESTERN MEDICAL AGENCY
(DR. K. H. BENNETT, DR. W. J. PARAMORE.)
PHOENIX CHAMBERS
22, CLARE STREET, BRISTOL.
Telegs.: "Medgen, Bristol." *Tel.*: Bristol 4629.
NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.
PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

WEST OF ENGLAND CITY.—PARTNERSHIP. Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central surgery. Good scope for increase.
SOUTH WALES.—Old-established good mixed PRACTICE, about £1,300 p.a. Panel 1,300. Large proportion contract work. Opposition weak. Good house to rent, £60 p.a. Good scope for increase.
CORNWALL. — PARTNERSHIP. Beautifully situated Village on Cornish Coast. Share £400 p.a., but good scope. Good house to rent, £60 p.a. Excellent society.
SOUTH MIDLANDS.—NUCLEUS, about £400 p.a. Pleasant village. Good house. Very low premium for quick sale.
WELSH BORDERS. — Unopposed Country PRACTICE averaging £1,000 p.a. Panel 380. Three appointments, all transferable. Excellent house.
SPECIALIST'S PRACTICE.—Eye, Ear, Nose, & Throat Practice in Western Provinces. Receipts in Ophthalmology £1,350 p.a. Ear, Nose, & Throat £400 p.a. Would sell both or separately. Excellent prospects.
WANTED. — PRACTICE in Northern cities. Panel 1,500 to 2,000.
WANTED.—Small Country PRACTICE with commodious house and land in Devonshire, preferably coast.
WANTED.—Country Town PRACTICE, £1,000 p.a. up., ample capital available.
WANTED.—We have several applicants for Practices in Bristol and district, also Wales.
WANTED.—We have many enquirers, of both sexes, for Locums and Assistantships.
FINANCIAL ASSISTANCE can be arranged for the purchase of Practices and Partnerships. Full particulars on application.

Messrs. R. SUMNER & Co., Ltd.,
Manufacturing Chemists,
40, HANOVER ST., LIVERPOOL,

PRACTICE in North of England Town, receipts £1,150 per annum, number on panel 1,257. Established over fifty years, capable of increase; good opening for Roman Catholic Doctor.
DEATH VACANCY in Lancashire Town, receipts £810 per annum, panel 1,000. House can be rented.
PRACTICE in Town near Manchester, receipts £2,590 per annum, panel 2,600. Old-established. House can be either purchased or had on rental.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER." *Telephone*: 6932 CITY.
TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 3873.) (*Estab. 1860.*)
This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS, and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.
No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

ST. LUKE'S HOSPITAL
FOR MENTAL DISORDERS.
Private Nursing Staff Department.
Trained Nurses for Mental and Nervous Cases can be had immediately.
Apply to Lady Superintendent,
19, Nottingham Place, London, W.1.
Telephone: Mayfair 5420.
Northern Branch.—Apply, Lady Superintendent, 57, Clarendon Rd., Leeds. 'Phone: Leeds 26165.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.
Terms post free on application.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No mids. Fees 3/6 to 10/6. House to rent. —No. 8791.

Kent. — Outer Suburb.—About £900 p.a. Scope. Panel over 900. Appt. £100. Visits 3/6 to 21/-. Good house and garden. Good school.—No. 8789.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

Death Vacancy.—Essex Suburb. —Average £1,000. Small panel. Visits 7/6 to 10/6. Corner house, 5 bed., surgery, etc.—No. 8785.

Home County.—Assy., with view to Partnership in 3 months. About £3,000 p.a. Ample scope. Panel 1,950, increasing. Visits 3/6 to 10/6.—No. 8784.

Outlying London Suburb.— X-Ray and Electrical. £500, with scope. House, 6 bed., on lease.—No. 8783.

Bucks.—About £950 p.a. Panel 580, increasing. Little midwifery. Visits 4/- to 21/-, med. extra. Small house, 1½ acres ground to rent.—No. 8781.

London Suburb, S.W. — About £1,000. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 3/6 up. House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London, W. — Half Share of over £1,850. Succession later. Small panel. Appt. £400. Visits 5/- to 21/-. Good house, 6/7 bed., and garden.—No. 8777.

London Suburb, S.W. — Half share of £2,800. Old-estab. General Practice. Panel 1,250. Detached house (7 bed.) and garden.—No. 8768.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £35. Prem. £800, incl. furn.—No. 8766.

Favourite South Coast Resort.— Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

Midland Town. — About £2,400 p.a. Panel 2,500. Old-estab. Opposition less than usual. Very little midwifery. Visits 3/6 up. House, 4 bed., and garage, to rent.—No. 8755.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 3/6 to £1 1s. Large house and garden. Smaller ones available.—No. 8750.

South Coast. — Within 60 miles. Over £1,000, increasing rapidly. Panel 500. Clinic £50. Fees 3/6 to 12/6. Good house, 4 bed., etc.—No. 8742.

Surrey. — Rapidly increasing PRACTICE. Receipts over £830. Panel 580. Excellent house, 8 bed., with large garden, to rent.—No. 8741.

Devon.—Dispensing Practice in [illegible] £740 p.a. Fees 5/- to 2 [illegible] 7/6. Large house, w[illegible] for £5,000, of which [illegible] or for sale without [illegible]

S.W. County near Coast.—Dispensing PRACTICE over £2,000 p.a., chiefly agricultural. Visits 5/- up. Surgery 2/6 up. 1,100 panel.—No. 8728.

SPECIAL NOTICE.
FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants.
Full particulars on application to Mr. Percival Turner.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054. / RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

LONDON, S.W.—Old-established middle-class G.P., situated on main thoroughfare, with branch surgery. Corner house (5 bedrooms), garage, etc. Receipts approx. £2,000. Panel nearly 1,300. Premium, £3,000 or near cash offer. Highly suitable to one interested in Vaccine-Therapy.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approximately £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

SHROPSHIRE.—Country Town PRACTICE, unopposed. Modern house, with every convenience, to rent at £100 p.a. (11 rooms.) Large garden (3 acres). Receipts over £1,000 p.a. Panel 500. Visits 8/6 up. Consultations 5/- up. Midwifery £2 2s. up. Three appointments. Premium 1½ years' purchase.

KENT (Seaside). — PARTNERSHIP in good middle-class Practice, with excellent scope for increase. Receipts nearly £1,900. Panel 700. 1/2 share at 1½ years' purchase. Suitable to experienced Practitioner, aged about 27—35.

BERKS.—Town PRACTICE within 60 miles of London.—Middle and working-class. Receipts nearly £900 Panel 555. Fees 2/6 up. No midwifery (scope). Suitable house available. Premium 1½ years' purchase.

MIDDLESEX (W). — Middle and working-class PRACTICE in rapidly growing residential locality. Fees 5/- up. House (9 rooms), freehold property of the Vendor. Garden, garage, etc. Receipts nearly £800. Panel 300. Scope for surgery. Cottage Hospital. Premium for Practice £1,100 House £1,700, mortgage to remain.

LIVERPOOL (near).—Mixed G.P. Medium-sized house, with large garden. Branch Surgery. Receipts £2,500. Panel 2,600. Fees 2/6 up. Scope for surgery if desired. Premium 1½ years' purchase.

BEDS.—PARTNERSHIP after PRELIMINARY ASSISTANTSHIP if desired in well-established mixed Practice. Receipts over £1,300 p.a. Panel nearly 1,800. Fees 2/6 up. Mids. 2 gns. up, not encouraged. Good educational facilities. Premium for 3/4 share, with possible view to succession, 2 years' purchase.

DERBYSHIRE.—ASSISTANT required with possible view to Partnership in well-established, large, busy Practice. Preference given to Protestant, well qualified, with Hospital experience and with a certain amount of capital. Car provided. Commencing salary £400 p.a.

MIDDLESEX.—RIVERSIDE SUBURB PARTNERSHIP in rapidly growing Practice. Receipts £1,500. Two appointments worth £650. Panel nearly 1,000. Premium for 1/3 share, with view to larger share, 1½ years. Suitable accommodation available.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 5/- up. Up-to-date Hospital. Scope for surgery. Premium 1/3 share, with view to larger share, £1,300.

EASTERN COUNTIES.—Cathedral City.—PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

KENT.—Within 25 miles of London, well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £1,100. Panel over 300. Suitable residence to let. Alternative accommodation available. Premium £1,500

YORKS. N.—Well-established G.P. in busy thickly populated Town, with excellent prospects of still further development. Suitable for two friends in Partnership; preferably one should be R.C. Receipts approx. £3,000. Panel 3,200. Fees 3/6 up. Choice of houses, two available. Good Hospitals and Schools. Scope for Surgery and Gynaecology is desired. Premium £6,000 cash.

LONDON, E.13.—NUCLEUS working-class PRACTICE (mostly cash), situated in thickly populated locality. House to rent at £60 p.a. (part sub-let at £26 p.a.). Receipts approximately £350. Panel 400. Fees 1/6 up. Mids. 2—3 gns. Premium £400.

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable - to your requirements. -

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone:* 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. BIRMINGHAM.—Well-established PRACTICE. Receipts average £931 p.a. Panel 1,420. Ample scope for right man. Nice house (5 beds). Garden and garage.
2. SOUTH STAFFORDSHIRE. — Well-estab. Country PRACTICE. Receipts £1,124. Panel 700. Good house. Garage and garden.
3. MIDLANDS.—Panel and Private PRACTICE. Estab. 5 years. Receipts over £700; panel 550, both increasing. Appointments worth about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transferable. Good house, garage, and all conveniences.
5. WEST MIDLANDS.—Well estab. PRACTICE in market town and agricultural district. Receipts £1,572 Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts average £1,146 p.a. Panel 550, and good scope. Appointments worth about £250. Good fees and house.
7. LANCASHIRE.—Old-estab. Panel and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
8. MIDLANDS. — COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY, 19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London. *Telephone:* Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. NEAR CAMBERWELL GREEN.—Well-established Cash and Panel PRACTICE. Receipts last 12 months £1,900, panel 1,052. House, rent to be arranged, lease granted. Premium £3,200. Panel steadily increasing.
2. EASTERN SUBURB. — Old-established Cash and Panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by arrangement.
3. LONDON, N.W. (near Cricklewood).—Old-established PRACTICE. Receipts about £500 p.a., panel 450. Rent £70 p.a. Suit Lady or Gent. Premium £650, including new Surgery furniture.
4. SHROPSHIRE. — Half-share of well established PRACTICE. Total receipts average over £2,000 p.a., panel 1,100. Good house available, rent £60. Premium for share £2,000.
5. LONDON, E. (near Liverpool Street).—Mixed-class PRACTICE. Receipts last year £530, including panel 605. Premises 32/6 weekly. Premium £750 or near offer.
6. NEAR BRIXTON, S.W.—Old-estab. PRACTICE. Receipts average £825 p.a., panel 600. Good corner house, rent to be arranged, long lease granted. Premium moderate, income steadily increasing.
7. LONDON, N. — Well-established Cash and Panel PRACTICE. Receipts £1,300 p.a., panel 1,900. House, rent £80, branch £60. Partnership introduction. Premium 2 years' purchase.
8. LONDON, E.—Old-established Cash PRACTICE, with small panel. Receipts last year nearly £600. Living accommodation and surgery, rent £85. Vendor retiring. Premium £875. Suit Lady Doctor.
9. ESSEX.—Seaside Town.—Well-estab. mixed-class PRACTICE. Receipts average £560 p.a., including panel 250. Nice house on lease, rent £65 p.a. Premium £700 for quick sale.

No charge to purchasers or for enquiries.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT

The

Medical Insurance Agency

(Limited by Guarantee),

BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

LANCS TOWN.—Old-estab. PRACTICE. Average cash receipts £905 p.a. Panel 1,087. Plenty of scope. Corner house, 2 reception, 3 bedrooms. Garage. Rent £70 p.a. Premium £1,325 or near offer (to include drugs, book debts, fittings, and some household furniture).—No. 221.

NORTH WALES.—RAPIDLY GROWING SEASIDE TOWN.—PRACTICE. Average cash receipts £627 p.a. Panel £123. Excellent modern house (freehold), 2 reception, 6 bedrooms. Garage. Garden. Electric light. Premium—Practice and house—£1,550. —No. 223.

DEATH VACANCY.—LANCS COUNTRY TOWN.—Average cash receipts £848 p.a. Panel 1,003. Scope. Excellent house, 2 reception, 4 bedrooms. Garage and large garden. Rent £65 p.a. Premium 1 year's purchase.—No. 215.

NEAR NORTH-EAST COAST.—SEASIDE RESORT.—Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £800 for quick sale.—No. 220.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Rent £90 p.a. Premium £1,500.—No. 222.

ISLE OF MAN.—Seaside Resort.—PRACTICE. Cash receipts 1930, £861. Panel. Good house, 3 reception, 7 bedrooms. Garage and garden. Premium—Practice—£700 (or near offer).—No. 224.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Premium—Practice—1½ years' purchase. —No. 194.

MANCHESTER.—INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

NORTH WALES.—Country Town near Sea.—PRACTICE. Cash receipts £700 p.a. Panel £300 p.a. Good detached house. Garage and garden. Rent £65 p.a. Premium for quick sale 1 year's purchase.—No. 219.

LIVERPOOL (Near).—Old-estab. middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

ISLE OF MAN.—SEASIDE TOWN.—Old-estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium —Practice and house—any reasonable offer.—No. 173.

SHEFFIELD.—NUCLEUS in growing district. Cash receipts £490. Panel 400. Rent of Surgery £52 p.a. Tremendous scope. Premium—best cash offer.—No. 218.

CHESHIRE TOWN, near MANCHESTER.—PRACTICE. Average cash receipts £858. Panel 800. Much scope. Good house, 2 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 159.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE.—Average cash receipts £745. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 2 years' purchase.—No. 197.

SCOTLAND.—26 miles from Edinburgh.—Industrial PRACTICE. Cash receipts last year £1,016. Panel 1,094. House to rent at £28 p.a. Premium £1,500.—No. 217.

CHESHIRE.—Coast Town near Liverpool.—Old-estab. middle-class PRACTICE. Cash receipts last year £1,134. Excellent house, 2 reception, 6 bedrooms. Garage and garden. Premium—Practice —1½ years' purchase. Vendor retiring.—No. 189.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium—Practice—£1,600.—No. 195.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £700. Panel 614. Good house, 2 reception, 3 bedrooms. Garage and garden. Premium—best offer.—No. 116.

NEAR MANCHESTER.—Residential district.—PRACTICE. Cash receipts last year £540. Small panel. Excellent house, 2 reception, 5 bedrooms. Garden and garage. Premium—Practice and house—£2,250.—No. 202.

MANCHESTER. — Residential suburb. — Old-estab. PRACTICE. Average cash receipts £1,918. Panel 1,395. Good house, 2 reception, 4 bedrooms. Garage and garden. Premium—Practice—2 years' purchase.—No. 175.

LANCS TOWN.—Old-estab. PRACTICE. Average cash receipts £2,523. Panel 1,021. Good house, 2 reception, 6 bedrooms. Garage and garden. Premium—Practice—1½ years' purchase. —No. 63.

NORTH-WEST COAST.—Old-established mixed PRACTICE. Cash receipts 1929, £1,129. Panel 580. Good scope. Easily worked. Good house, 3 reception, 5 bedrooms. Garage and garden. Premium—Practice—1 year's purchase.—No. 154.

CHESHIRE TOWN, near MANCHESTER. Middle-class PRACTICE, established 4 years. Cash receipts 1929, £720. Much scope. Modern detached house, 2 reception, 4 bedrooms. Garage and large garden. Premium—Practice and house—£2,500, part on mortgage.—No. 153.

MANCHESTER.—PRACTICE, established 3 years. Cash receipts 1929, £456. Scope. Panel 410. House, 2 reception, 4 bedrooms. Rent £50 p.a. Premium—best cash offer.—No. 203.

LANCS TOWN, near MANCHESTER.—PRACTICE. Average cash receipts £751. Panel 430. Much scope. Excellent house to rent, 6 bedrooms, large garden, and garage. Premium for quick sale £500.—No. 216.

MANCHESTER SUBURB.—Old-estab PRACTICE. Average cash receipts £600 p.a. Panel 360. Scope. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium 1½ years' purchase. Vendor retiring.—No. 191.

LANCS TOWN.—PRACTICE. Average cash receipts £1,200 p.a. Panel 900. Good house, 2 reception, 4 bedrooms. Premium 1½ years' purchase.—No. 178.

LANCS TOWN PRACTICE.—Average cash receipts £2,500. Panel 1,850. Suitable for two friends as two houses are available. Half share, with view to succession in 6/12 months, if desired. Premium 1½ years' purchase.—No. 168.

MANCHESTER SUBURB.—PRACTICE, established 4½ years. Cash receipts 1930, £575. Panel 270. Appointment to holder of D.P.H. value £110 p.a. Excellent house, 3 reception, 7 bedrooms. Garage and garden. Rent £50 p.a. Premium 1 year's purchase. —No. 201.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 / 1783}

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,600 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

2 W. OF ENGLAND.—Partnership in Practice over £3,000 p.a., in pleasant Country Town, under 130 miles from London. Young keen Partner, preferably with the F.R.C.S., who has held Hospital appointments. Premium for a two-fifths or one-half share 2 years' purchase.

3 INLAND HEALTH RESORT. — Good-class non-dispensing PRACTICE, averaging over £2,200 p.a., in first-rate residential town. No panel or midwifery. Good house (8 bed and dressing rooms), with every modern convenience, garage and large garden, for sale or rent. Good Hospital. Premium 2 years' purchase

4 ISLE OF MAN.—Practice in small watering-place. Receipts 1930, £861. Double-fronted house in best road (7 bedrooms, etc.), garage and large garden, for sale. Educational facilities. Excellent scope. Premium £700.

5 LONDON, S.W.—Good middle-class PRACTICE (General and Ophthalmic) in pleasant suburb. Receipts average over £1,350 p.a (about £600 from Eye work). Corner house (5 bedrooms), garage and garden, for sale. Scope for panel and midwifery if desired. Premium £1,500.

6 SOUTH WALES.—Partnership in Practice about £4,000 p.a in good Town with Hospital. Panel over 3,000. Half share (or smaller) at 2 years' purchase. Partner should have F.R.C.S. as there is plenty of Surgery.

7 LONDON, E.—Cash and Panel Practice about £360 p.a. (carried on by Medical Woman) Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

8 S.W. OF ENGLAND.—Practice averaging £1,666 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,500.

9 LONDON, N.—Practice of about £700 p.a. in suburban district. Panel 727. Small house (3 bedrooms, consulting and waiting rooms) for sale. Price £600. Scope for increase. Premium £900.

10 S.W. OF ENGLAND. — Practice over £2,000 p.a in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

11 S. COAST.—Partnership after preliminary Assistantship in well-established Practice in Seaside Resort. Share worth £700 p.a. at first to suitable man after six months. Premium 2 years' purchase. Considerable scope and excellent opportunity for young man.

12 S. DEVON.—Practice nearly £950 p.a. in small Country Town, easy distance of the coast. Panel 340. Good house and garage, in acre of garden, for sale. All kinds of sport. Premium £1,500.

13 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

14 ITALY. — Partnership in easily worked, good-class Practice of £1,400 p.a. in world-renowned Mediterranean Sea Coast Town. Established over fifty years. Fees chiefly 21/- (permanent residents less). Vendor purposes retiring from general practice in the near future, and his charmingly situated apartment would be available if wanted. No midwifery. No language difficulty. Premium 1½ years' purchase. Vendor well known to Bureau.

15 S. MIDLANDS. — Practice over £750 in first-rate County Town. Small panel. Suitable house for sale at £1,200 or offer. Good Hospital. Scope. Premium 1½ years' pur.

16 N.E. COAST.—Partnership in increasing Practice over £4,800 in Seaport Town. Panel 2,500. Incoming Partner should be married and have held H.S. and H.P. appointments. One-fourth share at first at 1½ years' purchase.

17 WEST END OF LONDON.—Special PRACTICE for Treatment of Varicose Veins and Haemorrhoids, etc. Receipts last year over £1,150. Consulting rooms in best position. Premium £600.

18 SOUTH MIDLANDS.—Partnership (after preliminary Assistantship) in Practice about £3,000 p.a. in small Country Town. Panel nearly 2,000. Applicant must be English or Scotch, a good Anaesthetist and experienced in Midwifery. Share worth about £700/£800 p.a. at 2 years' purchase.

19 LONDON, N.—Cash and Panel Practice of £1,300 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

20 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

21 MIDLANDS. — Partnership in Practice over £5,300 p.a. in a good town. Panel about 1,000. Modern up-to-date Hospital. Four-twelfths share at 2 years' purchase. Preliminary Assistantship if desired.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

22 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

23 DEATH VACANCY.—Staffs.—Practice of over £1,100 p.a. in manufacturing town. No panel or midwifery. Semi-detached 8-roomed house, with garage, for sale or rent. Scope for great increase.

24 EAST ANGLIA.—Partnership in unopposed country Practice, about £3,500 p.a., easy distance of important town. Panel about 2,300. Beautiful house (4 bedrooms), garage, and nearly two acres garden, to rent. Sport. One-third share at 2 years' purchase.

25 LONDON, W. — Small good-class non-dispensing PRACTICE of about £450 p.a., in West Kensington. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

26 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

27 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £500.

28 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

29 LONDON, W. — Partnership in Practice about £2,000 p.a. in suburban area. Panel about 1,650. Well-situated house (6 bedrooms), garage, and small garden, to rent. Scope. Premium two-fifth share 2 years' purchase.

30 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

31 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a. in growing and pleasant residential district. Choice of residence for sale. Good scope. Prem. £1,200.

32 EASTERN COUNTIES.—Country Practice nearly £1,200 p.a., easy reach of two good towns. Panel 759. Small house (5 bedrooms), garage, and garden, to rent. Premium 1½ years' purchase.

33 MIDLANDS.—Practice, over £1,700 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

34 CHESHIRE. — Chiefly non-dispensing PRACTICE of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

35 MIDLANDS.—Partnership in Practice of between £1,800/£2,000 p.a. in a beautiful district in a hunting centre. Panel about 1,000. Good house, with 5 bed and dressing rooms, garage and one acre garden, for sale. Smaller one might be obtained. Premium one-third share 2 years' purchase. Public School or University man preferred.

36 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

37 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

38 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

39 NOTTINGHAMSHIRE.—Country Practice of nearly £1,100 p.a. Panel 700. Good house (6 bedrooms), garage, and 1¼ acres garden, to rent. Great scope. Premium 1½ years' purchase.

40 SURREY. — Partnership in good mixed-class Practice about £3,000 p.a. in Town within 10 miles South of London. Small panel. Suitable house obtainable. Excellent scope. Premium one-third or one-half share 2 years' purchase.

41 S. DEVON. — Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage, in acre of garden, for sale. All kinds of sport. Premium £1,500.

42 LONDON, E.C.—Partnership (with Succession) in steadily increasing Practice of about £1,200 p.a. in the City. Majority of consultations £1 1s. Excellent consulting rooms. Premium one-half share 2 years' purchase.

43 EAST COAST.—Partnership in non-panel Practice in favourite watering-place. Partner should be young and with Hospital experience. Share of about £1,000 p.a. at 2 years' purchase. Preliminary Assistantship.

44 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a., at 1½ years' pur.

45 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

46 KENT.—Country Practice about £650 p.a. in beautiful district. Panel about 700. No house, but surgery and waiting room to rent. Capable of much increase. Moderate premium.

47 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase with ultimate succession.

48 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

49 WITHIN 50 MILES OF LONDON.— PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate county town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P. appointments. Preliminary assistantship.

50 CHESHIRE.—Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

51 S. DEVON. — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House, containing 5/6 bedrooms, for sale. Premium one-half share £1,320, to include drugs, etc. Work very light.

52 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

53 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES
who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

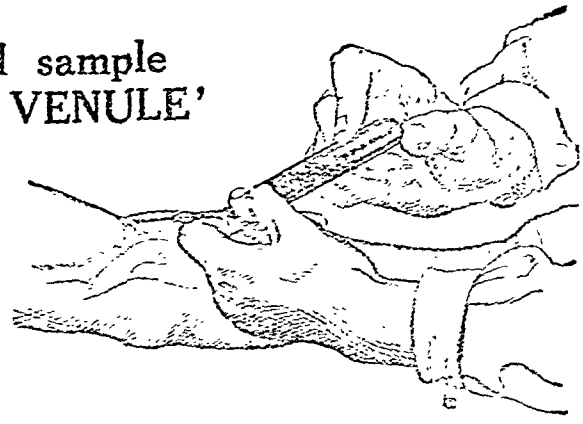
No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. LONDON, EAST.—Old-established good middle and working-class PRACTICE, averaging approximately £1,750 p.a., including panel of 2,300. Visits 2/6 and 3/6 No appointments. Suitable house, with 2 reception, 3 bedrooms, and professional rooms; in excellent condition. Rent on lease £100 p.a. Premium £3,000.
2. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts average about £1,700 p.a., including appt. £70 and panel of over 1,000 Good house, with ample accommodation. Small garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.
3. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,124, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.
4. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.
5. ESSEX.—Unopposed PRACTICE in very pleasant agricultural district, averaging over £900 p.a., including panel of nearly 500 and appts. worth £140. Fees 3/6 to 10/6. Commodious house with 2 and good professional accommodation. Large on lease £60 p.a. Good sport and schools 1½ years' purchase.
6. DEATH VACANCY.—WITHIN SIX MILES OF LIVERPOOL STREET.—Old-established good middle-class PRACTICE, averaging over £1,100 p.a. Small panel recently started, but good scope. Fees from 5/-. Good house, with 2 reception, 5 bedrooms, etc., and professional rooms Price £1,250. Premium £750.
7. WITHIN 100 MILES OF LONDON (NORTH).—PARTNERSHIP.—The two-sevenths share (with option to third and eventually half) producing about £1,000 p.a. is offered in very old-established Practice, averaging about £3,500 p.a., including panel of 2,500. Situated in pleasant town, with pop of 2,000. Ingoing partner should be unmarried (about 25 to 30) until suitable house available. Premium 2 years' purchase. Short preliminary assistantship.
8. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
9. PARTNERSHIP.—SURREY.—Attractive residential district within 40 miles. A one-half share, with ultimate succession, is offered in a good mixed Practice, averaging about £1,500 p.a., but capable of large increase. Panel of over 1,000. Fees 3/6 to 21/-. Suitable house, with 3 reception, 3 bedrooms, etc. Good garden. Price for freehold £1,500, £1,000 on mortgage. Premium 1½ years' purchase.
10. NEAR FOREST OF DEAN.—Old-established Country PRACTICE, in picturesque surroundings, averaging about £1,250 p.a. Panel of 1,100. Visits from 3/6. Suitable house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £1,500, £1,000 on mortgage. Premium £350 cash, and £1,500 by instalments over five years.
11. NORTH WALES.—Very old-established chiefly middle-class PRACTICE, producing over £800 p.a Panel of 600. Visits from 2/6, with medicine extra. Very low expenses. House contains 2 reception, 6 bedrooms, etc., and has all modern conveniences. Garden. Garage. Rent on lease £60 p.a. Sport of all kinds and schools. Ample scope for increase. Premium 1 year's purchase.
12. SOUTH COAST TOWN.—Rapidly increasing PRACTICE producing for last 12 months over £400. No panel. Visits 5/- up. Suitable house, with 2 reception, 3 bedrooms, etc. Rent on lease £130. Prem. £600.
13. MIDLANDS.—COUNTY TOWN.—Old-established better-class PRACTICE, averaging £793 p.a. and offering good scope. Panel of 500. Fees 5/- upwards. Well situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111 p.a Premium 1½ years' purchase.
14. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope Panel of over 1,400. Fees from 3/6. Suitable house can be secured Premium 2 years' purchase.
15. CHESHIRE.—Coast Town, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down.
16. SOUTH COAST.—FAVOURITE HEALTH RESORT.—Well-established mixed-class PRACTICE, offering good scope. Average gross cash receipts over £700 p.a., including panel of 720. Very good house, with 2 reception, 5 bedrooms, etc. Nice garden. To be sold, or might be let for a time. Premium 1½ years' purchase.
17. YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one-half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle-class Practice. Income for the past twelve months approximately £4,000. Small select panel of 430. One appointment worth nearly £650 p.a. Fees 5/6 upwards. Opposition not strong. Suitable house can be bought or leased. Very good educational and sporting facilities. Premium 2 years' purchase.
18. MANCHESTER.—Chiefly working-class PRACTICE. Average income £1,000, including panel of 1,000. Moderate expenses. Corner house, with 3 reception, 8 bedrooms, etc. Garage. Rent on lease £65 p.a. Premium £1,500 or near offer.
19. LANCS.—PARTNERSHIP.—A one-fourth share to commence (with increase up to one-half later) is offered in a very old-established good middle-class Practice producing for the last twelve months over £4,700 p.a. Panel of 2,730. Appts. worth nearly £200 p.a. Visits 2/6 to 12/6. Not much midwifery from 2 to 3 gns. Suitable house obtainable, but, if single, purchaser can reside with Vendor, who is a bachelor. Premium 2 years' purchase.
20. CAMBS.—PARTNERSHIP.—A one-half share is offered in a sound mixed-class Practice, producing last year nearly £2,000. Panel of 765. Situated in pleasant agricultural district, with good sporting facilities. Fees 5/- to 21/-. Suitable house can be rented at £75 p.a. Premium 2 years' purchase.
21. SOUTH-WESTERN COUNTY.—Near the Sea.—Old-established easily worked country PRACTICE, in beautiful district, within easy reach of Market Town, averaging £1,100 p.a., including appts. and panel producing £450. Exceptionally attractive house, in over 3 acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £3,000, part on mortgage. Premium £1,650. Sport of all kinds and schools within reach.
22. SURREY.—In a beautiful residential district within 40 miles of London (good train service) a small mixed-class PRACTICE worth about £600 p.a., and offering scope. Select panel of 200. Charming house, in very pretty grounds, with ample accommodation. Price, freehold, £3,500. Premium 1½ years' purchase.
23. BORDERS OF NORFOLK AND SUFFOLK.—PARTNERSHIP.—A half-share (with succession in 2 to 3 years' time) in a good mixed unopposed Practice, in pleasant village, near two good towns. Income for last 12 months £1,992, including panel of 1,000, and appts. worth about £150. Fees 2/6 to 10/6. House contains 3 reception, 6 bedrooms, etc. Sport of all kinds. Premium 2 years' purchase.
24. ITALIAN RIVIERA.—SEASON PRACTICE.—Old-established and held by Vendor for the past six years. Average income about £400 p.a. Fees 10/- to 20/- approximately. Suitable furnished flat, with one large reception room, consulting room, 4 bedrooms, etc. Rent on lease £140 p.a. Premium £500.
25. MANCHESTER DISTRICT.—Old-established middle and working-class PRACTICE, worth last year about £700 p.a., including panel of 614 and capable of increase. Expenses small. Well-situated house, with six rooms in addition to professional accommodation. Large garden. Price for freehold £850. Moderate premium accepted.
26. LINCOLNSHIRE COAST.—Well-established mixed-class PRACTICE averaging £2,749 p.a. (last year £2,868) including panel of over 1,700. Fees 3/6 to 21/-. Mid. from 2 gns. (about 70 cases yearly). Newly built modern house, with special professional accom., central heating, etc. Garden. Garage. Price, freehold, £2,500, part on mortgage. Good sport and schools within reach. Prem. 1½ years' pur.
27. MIDDLESEX.—Rapidly developing district, within 20 miles.—PARTNERSHIP.—A one-half share in an old-estab. good middle-class Practice, averaging for the past two years over £3,500 p.a. Panel of 1,100 and appts. bring in £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
28. KENT.—Country PRACTICE near Coast.—Old-established mixed-class Practice, averaging about £1,100 p.a. Panel of nearly 400. Fees 3/6 upwards. Convenient house, with 3 reception, 6 bedrooms, etc. Good garden. Price £1,650, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
29. PLEASANT CATHEDRAL CITY, within 200 miles North of London.—Old-established mixed-class PRACTICE, averaging £1,600 p.a., including £800 from panel and over £100 from clubs. Visits 5/- upwards (occasionally 2 gns.) Very little midwifery, from 2 to 5 gns. Large attractive house, with garden. Rent £80. Prem. 1½ yrs.' pur.
30. NEAR HUDDERSFIELD.—PARTNERSHIP.—A half share in an old-established mixed-class Practice. Income for immediate past year over £4,250. Panel of 3,500. Fees 3/6 to 7/6. Very good house, with 4 reception, 6 bedrooms, etc. 1½ acres of garden. Price for freehold £2,500. Premium 1½ years' purchase.
31. PARTNERSHIP.—COUNTRY TOWN, within 130 miles North of London.—A one-fifth share is offered in an exceptionally sound good mixed-class Practice, averaging for past 3 years over £6,000 p.a. Panel of 3,400. Fees from 4/-. Not much midwifery. House can be rented at £50 p.a. Premium 2 years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of [illegible]

The next time you collect a blood sample use the 'BEHRING VENULE'



Automatic Aspirating Syringe
complete with needle
Sterile :: Simple
Time-saving

'VENULES' are stocked by the leading hospitals and institutions.
Ask your Laboratory to supply you with 'Venule' outfits.

SAMPLES and description on request to

BAYER PRODUCTS LTD., 19, St. Dunstan's Hill, London, E.C.3.

SOUTH AFRICA.
Taechner & Corssen (Pty.) Ltd.,
P.O. Box 2953,
Cape Town.

AUSTRALASIA.
Fassett & Johnson Ltd., 36-40 Chalmers Street, Sydney, N.S.W., and P.O. Box 33, Wellington, New Zealand.

UNG. SEDRESOL (Ferris).

A Valuable Sedative Antiseptic and Healing Ointment.

UNG. SEDRESOL is a combination of the products obtained by the destructive distillation of the wood and bark of the *Betula alba* in combination with Oxide of Zinc and Antiseptics.

UNG. SEDRESOL is supplied to the Medical Profession at the following prices:—
¼-lb. Jars, 1/8 each; ½-lb. Jars, 3/- each; 1-lb. Jars, 5/9 each; 2-lb. Jars, 11/- each;
4-lb. Jars, 21/- each. *(Empty Jars allowed for on return.)*

SEDRESOL DRY DRESSING (Ferris).

A useful surgical dusting powder for cases in which it is not desirable to apply ointments.
Sedative, healing, analgesic, stimulating.
Price: 4-oz. tins, 1/6 each; ½-lb. tins, 2/4 each; 1-lb. tins, 4/- each.

SEDRESOL SOAP (Ferris).

A pure superfatted soap for the skin containing the same medication as Ung. Sedresol.
Price: 10d. per tablet, 9/6 per dozen. 30/- per dozen boxes of 3 tablets.
(The word "Sedresol" is registered under the Trade Marks Act and is the sole property of Ferris & Co., Ltd.)

FERRIS & COMPANY, Ltd.

BRISTOL

Wholesale and Export Druggists and Manufacturing Chemists.

AMENORRHEA
DYSMENORRHEA

"It is a very great mistake to treat amenorrhea as though it were simply a lack of the catamenia, for it is a great deal more than that. Behind this lack lies a cause. It may be in the uterus or the ovaries, or it may be still farther back in the secretions of the endocrine glands or in the functioning of the vegetative nervous system."—("The Treatment of Amenorrhea," Dalché, *Revue Française de Gynecologie et d'Obstetrique*, May 1, 1920.)

In the treatment of irregularities of the catamenia, rational therapeutic procedure is directed to the restoration of normal balance in the endocrine and vegetative nervous systems.

Hormotone
BRAND

contains thyroid, pituitary, adrenal, and gonad substance, combined to take advantage of the demonstrated synergism existing between them. In the treatment of these disorders Hormotone has been very successful.

Dose: One or two tablets three times daily.

G. W. CARNRICK CO.

2-24, Mt. Pleasant Avenue,
NEWARK, NEW JERSEY.

Dependable Gland Products.

London Agents: BROOKS & WARBURTON Ltd., 232-240, Vauxhall Bridge Road, S.W.1

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3655 SATURDAY, JANUARY 24, 1931 Price 1/3

"IODOLYSIN"

(TRADE MARK)

A Powerful Fibrolytic Agent

Gives strikingly successful results in many cases of rheumatoid arthritis and allied arthropathies.

Also employed with advantage for the removal of all other forms of pathological fibrous tissue.

It is a chemical combination of Iodine and Thiosinamin with these special features:

READY SOLUBILITY IN WATER. WELL TOLERATED. ABSENCE OF LOCAL REACTION ON INJECTION.

"Iodolysin" is supplied in ampoules for hypodermic injection; in capsules for oral administration, or as an ointment or paint for local application.

Free Clinical Sample and Literature on request.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: 3201 Bishopsgate (10 lines) Telegrams: "Greenburys Edo London"

Overcomes Fear—

Nembutal '844'

a new and most efficient member of the barbituric acid series, has proved of outstanding value in overcoming pre-operative fear and apprehension, in assisting to maintain a satisfactory degree of hypnosis and freedom from pain during operation, and in diminishing the post-operative nausea, vomiting and pain which so commonly follow inhalation anaesthetics such as ether, etheline, etc.

Nembutal '844' [Sodium-ethyl- (1-methyl butyl) barbiturate] is one of over sixty barbiturates developed and studied in the Abbott research laboratories and clinically during the last thirteen years. **Nembutal '844'** possesses unusual properties as a pre-anaesthetic sedative and hypnotic. It is a quick-acting drug, having a short hypnotic but prolonged sedative action, from which recovery is remarkably rapid. The clinical use of **Nembutal '844'** is based upon extensive pharmacological investigation of many compounds, followed by clinical trial by physicians and a number of the largest clinics.

Nembutal '844' is valuable in surgery, in connection with general, local and spinal anaesthesia; in obstetrics, where its use has won the approval of the physician and patient alike; and as a quick-acting hypnotic to calm and control nervous, excited and demented individuals.

Nembutal '844' is employed pre-operatively by the oral route. The usual oral dose is one capsule (1½ grains) the evening before, and two capsules (3 grains) one hour before operation; when so used the amount of inhalation or other anaesthetic required is very markedly reduced.

Abbott's Nembutal '844' is supplied in bottles of 100, 1½-grain capsules, for oral use, and in boxes of six ampoules, each containing 7½ grains (0.5 gram) powder for use in preparing solutions for intravenous use; to control convulsions; or for rectal administration.

E. H. SPICER & CO., LTD.

Sole Distributors for Abbott Laboratories

WATFORD, HERTS.

British Medical Journal

CONTENTS

JANUARY 24, 1931

ORIGINAL ARTICLES

Laboratory and Hospital Infections with Yellow Fever in England. By G. CARMICHAEL LOW, M.D., F.R.C.P., and N. HAMILTON FAIRLEY, M.D., F.R.C.P. (With Chart) 125

Malignant Disease of the Lung. By A. TUDOR EDWARDS, M.D., F.R.C.S. (With Plate) 129

Cataract Operation in Extreme Old Age. By R. H. ELLIOT, M.D., F.R.C.S. 132

Hydatid Disease in England. By JAMES F. BRAILSFORD, M.D. (With Plate) 133

The Meinicke Clarification Reaction. By DAVID PRENTICE, M.B., Ch.B. 136

Further Observations on Ovarian Transplantation. By JOHN H. HANNAN, M.D. 137

MEMORANDA

An Epidemic of Dysentery Due to *B. Dysenteriae y* of Hiss. By A. H. RINTOUL, M.B., M.R.C.P. 138

Foreign Bodies in an Appendix Lying in a Right Inguinal Hernia. By W. GIFFORD NASH, F.R.C.S. 139

REPORTS OF SOCIETIES

MEDICAL SOCIETY OF INDIVIDUAL PSYCHOLOGY: Dr. Adler's Lecture on the Practice of Individual Psychology ... 139

ROYAL SOCIETY OF MEDICINE: Management of Pregnancy in Tuberculous Women 140

WEST LONDON MEDICO-CHIRURGICAL SOCIETY: Large 141

BRIGHTON CHIRURGICAL SOCIETY: Insomnia 142

REVIEWS

The Plating of Fractures 143

Tuberculosis in Children 143

Pathogenic Micro-organisms 143

Biological Assay 144

144

144

..... 145

OBITUARY

James A. Adams, M.D., F.R.F.P.S. 160

Ethel Bentham, M.D., M.P. 161

The late Mr. M. Fitzmaurice-Kelly 161

LEADING ARTICLES

PROBLEMS OF HYDATID DISEASE 146

A PRIMER OF FRACTURE PRACTICE 147

THE WEEK

Direct Transmission of Yellow Fever ... 147

Individual [illegible] ... 148

Health of [illegible] ... 148

Etiology o [illegible] ... 149

The James [illegible] ... 149

The Prescription of Literature 150

"Safety Week" 150

The Half-Yearly Indexes 150

GENERAL ARTICLES AND NEWS

The Peking Man. Professor ELLIOT SMITH'S Investigations in China 151

NEW MOTOR REGULATIONS 151

METHYLATED SPIRITS REGULATIONS 152

VITAL STATISTICS FOR ENGLAND AND WALES, 1930 162

PREPARATIONS AND APPLIANCES. (Illustrated) 145

MEDICAL NEWS 162

CORRESPONDENCE

Vaccination and Encephalitis. By M. H. Gordon, M.D., F.R.S. 155

The Outlook on Tuberculosis. By Robert Carswell, M.B.; D. J. Gair Johnston, M.B.; and John Gibbens, M.R.C.P. 155

Tuberculin and the Tuberculosis Problem. By W. Camac Wilkinson, M.D., F.R.C.P. 156

Incubation Period of Measles. By Percy Stocks, M.D. 157

Familial Incidence of Cancer. By Griffith Evans, D.M., F.R.C.S. 157

[illegible] 158

[illegible] 158

Copeman, M.B. 158

Foreign Body in the Neck. By George Morgan, F.R.C.S.Ed. 158

Hog's Stomach in Pernicious Anaemia. By C. S. D. Don, M.D., and C. E. Jenkins, M.R.C.S. 158

General Practitioners and Ante-natal Work. By W. H. F. Oxley, M.R.C.S. 159

Members of the Royal College of Surgeons. By Ernest E. Ware, M.D., and Redmond Roche, M.R.C.S. 159

Glycerin as a Surgical Dressing. By F. A. Brodribb, M.R.C.S. 159

Cambridge Diploma in Medical Radiology. By G. Stead, M.A. 160

LOCAL NEWS

SCOTLAND—

Professor Muir's Portrait 152

St. Mungo Chair of Pathology 152

Care of the Child in Scotland 152

New Falkirk Infirmary 153

IRELAND—

Public Health in the Irish Free State 153

Health of Belfast in 1929 153

Armagh Union Infirmary 154

ENGLAND AND WALES—

Silicosis and Coal Mining 154

Post-Graduate Clinic at Hampstead 154

UNIVERSITIES AND COLLEGES

University of Oxford 162

University of Cambridge 162

University of London 162

University of Durham College of Medicine 162

THE SERVICES

Deaths in the Services 162

(For Naval, Military, and Air Force Appointments see SUPPLEMENT)

LETTERS AND ANSWERS

Income Tax 164

Medicine and Public Economy 164

Removal of Adenoids 164

Pathological Museum at Eastbourne ... 164

Disputing the Bill 164

Medical Golf 164

VACANCIES 164

(See also page 23 of SUPPLEMENT)

The SUPPLEMENT contains:

BRITISH MEDICAL ASSOCIATION: **Annual Meeting, Eastbourne, 1931: Summary of Hotel and Boarding House Accommodation.**

Hospital Policy and the Local Government Act. By A. MASSEY, M.D.

CURRENT NOTES: Prizes for Essays by Final-Year Students and Newly Qualified Practitioners. B.M.A. Charities Fund.

TABLE OF DATES.

Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. President: Sir HERBERT WATERHOUSE, F.R.C.S. Entrance Fee, 10/-

No entrance fee to those joining within 12 months of registration. Assets exceed £50,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Churchill, J. & A.
Cameron, A. T.—Biochemistry.. ... 3
Cameron & White—
[illegible] 3
[illegible] 3
[illegible] 3
Connor, F. P.—Surgery in Tropics.. 3
Crowther, J. A.
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
Medical Directory 1931.. 3
Romanis & Mitchiner—
Science and Practice of Surgery 3
Surgical Emergencies, etc.... .. 3
Smith & Glaister—
Forensic Medicine ... 3
Thornett, M.—Chili: Its Dangers... 3

Harrison & Sons, Ltd.
Miles, W. E.—Cancer of Rectum . 4

Lewis, H. K. & Co. Ltd.
The Clinical Journal ... 4

ASSURANCE COMPANIES—
Century Insurance Company 51
Medical Insurance Agency. 30

BATHS, SPAS, &c.—
Trefriw Chalybeate Wells 41

BOOTMAKERS, &c.—
Dowie & Marshall—Bootmakers.... 32

BRASS NAME PLATES, &c.—
[illegible] 4
[illegible] 4
[illegible] 34
[illegible] 4

SURGICAL APPLIANCES—
Curtis & Son—Supports ... 31
Cuxson, Gerrard & Co., Ltd.—
'Sanoid' Catgut. 36
Davidson, F. & Co.—
Surgical Appliances .. Cover iv
Dent's 'Ardente' Stethoscope... 36
Domen Belts Co., Ltd.—Notice .. 34
[illegible] 4
[illegible] 50
[illegible] 34
[illegible] 4
[illegible] 33
[illegible] 6,7
Tycos Sphygmomanometers ... 4

FOOD PREPARATIONS—
Bemax Laboratories—Bemax ... 19
Benger's Food, Ltd.—'Extomalt' . 13
Brand's Essences ... 12
Cow & Gate Ltd.—Peptalac. Cover iii
Fortnum & Mason—Grape Jelly . 36
Mellin's Food .. 16
Robb & Co. Ltd.—Biscuits 33
Valentine's Meat-Juice ... 18
Wander Ltd.—Ovaltine ... 17

MINERAL WATERS—
Rubinat Llorach 4

MOTOR CARS, TYRES, &c.—
Lodge Sparking Plugs . 35
Mann, Egerton & Co., Ltd.—
Motors ... 36
Second-hand Motors for Sale . 50

PRINTING & STATIONERY—
Anderson & Son.—Account Forms 4
Taylor's Typewriters 4

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
Cremor Alkalinus 13
'Icdolysin' ... ... Cover i
Medicated Pastilles ... 5
American Apothecaries Co.—
'Salvitae' ... 33
Angier Chemical Co., Ltd.—
Angier's Emulsion 24
Armour & Co.—Glanoid Products 25
Boots Products 10,15
British Drug Houses Ltd.—
S.U.P. 36 15
Burroughs Wellcome & Co.—
Preparations 26,27
Clayton Aniline Co., Ltd.—
[illegible] —
[illegible] —
[illegible] —
Fairchild Bros. & Foster—
'Panopepton' 20
[illegible] 22
[illegible] 33
[illegible] 19
[illegible] 33
[illegible] 34
[illegible] 18
[illegible] 10
[illegible] 21
[illegible] 14
Monsol ... 16
Nujol Laboratories—Mistol ... 14
Oppenheimer Products 17
Pearson's Antiseptic Co., Ltd.—
Iodine-Medol 11
Peat Products Ltd.—Sphagnol ... 10
Saccharin Corporation Ltd.—
Novocain 11
Schering Ltd.—Medinal... 23
Sharp & Dohme, Ltd.—
Pneumococcus Antibody... 20
S.P. Charges Co.—Sulphaqua ... 32
Spicer & Co., Ltd.—
Nembutal '244' ... ... Cover ii

TAILORING & UNDERCLOTHING—
[illegible] 32
[illegible] 50
[illegible] 34
[illegible] 32
[illegible] 35

TOBACCO & CIGARETTES—
Player's No. 3 35

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub Hlth. 32

WINES & SPIRITS—
de Kuyper's Holland's... 29

X-RAY & ELECTRO-MEDICAL APPARATUS—
Dean & Co.—X-Ray Diascope ... 8
Haycraft & Son, Limited—Lamps .. 34
Kodak Ltd—X-Ray Cassette 9
Medical Supply Association, Ltd.—
Portable Traction Apparatus... 31
Newton & Wright—Specialities ... 8

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 41
Peebles Hydro 41
Ruthin Castle, North Wales... 39
Smedley's Hydro, Matlock ... 41

INEBRIETY—
Albion House, Beverley, E. Yorks. 37
[illegible] —
[illegible] —
[illegible] —
[illegible] —

MEDICAL SCHOOLS, &c.—
[illegible] 41
[illegible] 46
[illegible] 46
[illegible] 45
[illegible] 46
[illegible] 45
[illegible] 43
[illegible] 47
[illegible] 43
Bristol Eye Hospital ... 44
[illegible] 43
[illegible] —
[illegible] —
[illegible] —
Charing Cross Hospital ... 44
[illegible] 46
[illegible] —
[illegible] —
[illegible] —
Eastbourne Ear & Nose Hospital.. 46
Fulham School Medical Centre.... 46
Gt. Yarmouth General Hospital 43
[illegible] 46
[illegible] 44
[illegible] 46
[illegible] 47
[illegible] 50
[illegible] 46
[illegible] 45
[illegible] 46
Leigh Infirmary, Lancashire... 46
Liverpool County Borough... 45
London County ... 50
London Female Lock Hospital. ... 50
London Homoeopathic Hospital 44
London Hosp. for Heart & Lungs .. 47
Loughborough & District Hospital 41
[illegible] 44
[illegible] 45
[illegible] 45
[illegible] 46
[illegible] 46
[illegible] 44
[illegible] 46
[illegible] 50
[illegible] 45
[illegible] 47
[illegible] 45
[illegible] 50
[illegible] 50
[illegible] 43
[illegible] 44
[illegible] 46
[illegible] 44
[illegible] 43
Royal Infirmary, Sheffield... 46
[illegible] 46
[illegible] 50
[illegible] 51
[illegible] 51
[illegible] 47
[illegible] 51
[illegible] 50
[illegible] 41
[illegible] 44
[illegible] 44
[illegible] 47
[illegible] 44
[illegible] 46
[illegible] 43
Staffordshire County Council... 45
Stockton and Thornaby Hospital... 46
[illegible] 45
[illegible] 50
[illegible] 45
[illegible] 44

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS ... 47

HOTELS & HEALTH RESORTS—
Hotel Annonciata 41

SANATORIA—
[illegible] 41
[illegible] 40
[illegible] 40
[illegible] 41
[illegible] 40
[illegible] 40
[illegible] 40
[illegible] 49
[illegible] 41

HOMES & ASYLUMS—
Bailbrook House, Bath ... 37
[illegible] —
[illegible] —
[illegible] —
[illegible] —
'Dunley Hill' Nursing Home ... 35
[illegible] —
[illegible] —
[illegible] —
[illegible] —
Royal Earlswood Institution ... 37
St. Andrew's Hosp. Northampton.. 38
Springfield House, near Bedford... 41
[illegible] 38
[illegible] 51
[illegible] 41
[illegible] 38
[illegible] 37
[illegible] 41

SCHOOLS, &c.—
Paton—Schools for Girls & Boys ... 42
Rossall School, Fleetwood ... 42
Taunton School, Taunton ... 42

TUTORS & LECTURERS—
College of Preceptors ... 41
[illegible] 41
[illegible] 42
[illegible] 42
[illegible] 42
[illegible] 41
[illegible] 41

TRANSFER AGENTS—
Bovril Medical Agency, Ltd.... 55
British Medical Bureau 5, 54, 51
Lee & Martin, Ltd.... 52
Manchester Medical & Schl. Assoc. 51
Needes, H. ... 51
Peacock & Hadley, Ltd.... 49, 52
The Medical Agency ... 48, 51
Turner, P., Ltd.... 48, 51
Western Medical Agency, Bristol... 52

TRANSLATORS, TYPEWRITING—
Radford, B.—Typewriting, &c. 49

ASSISTANTS, PRACTICES, &c.—
[illegible] 49
[illegible] 48, 49
[illegible] 49
[illegible] 49
[illegible] 49
[illegible] 49

NURSING INSTITUTES—
Cavendish Nurses 51
Nurses' Association 51
St. Luke's Hospital 51

MISCELLANEOUS—
[illegible] 49, 50
[illegible] 50
[illegible] 32
[illegible] 1
[illegible] 50
[illegible] 4
'Vita' Glass 4

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,500 copies.

J. & A. CHURCHILL

Purchase now and secure full year's use

87th Annual Issue. 2,400 pages. 55,000 names. 36s., postage 1s.

The MEDICAL DIRECTORY, 1931

Including Guide to British Spas and Marine Health Resorts, with 14 Pictures of Spas, etc. Edited by R. FORTESCUE FOX, M.D.

"This year, its eighty-seventh annual issue, the Medical Directory contains 2,263 pages, and the names of 55,035 practitioners. It is a volume for which one somehow feels affection, as well as admiration, because of its freedom from mistakes and misprints. The Medical Directory is indispensable and inimitable—an "unofficial" publication to which official publications must give pride of place."
—PRACTITIONER, Jan., 1931.

6 Illustrations. 3s. 6d. Postage 3d.

CHILL: ITS DANGERS AND PREVENTION

By MARIAN THORNETT, F.R.C.S.I.

DR. JANE WALKER says:—*"Dr. Thornett has produced scientific reasons for the reforms she urges. . . . Now we must go a step further and fight a campaign for the greater comfort and health of children. . . . Dr. Thornett has made a real contribution to national health, and especially to the health and comfort of young people and children. Her book should be very widely read."*

66 Illustrations. 12s. 6d. Postage 6d.

RECENT ADVANCES IN FORENSIC MEDICINE

By SYDNEY SMITH, Regius Professor of Forensic Medicine, University of Edinburgh; and J. GLAISTER, Jnr., M.D., D.Sc., J.P., Barrister-at-Law, Inner Temple, and Prof. of Forensic Medicine, University of Egypt, Cairo.

80 Illustrations. 15s. Postage 9d.

PUBLIC HEALTH PRACTICE IN THE TROPICS

By J. BALFOUR KIRK, M.B., Ch.B., D.P.H., D.T.M. & H., Director, Medical and Health Dept., Mauritius.

AN ESTABLISHED BOOK and A NEW BOOK BY

W. H. C. ROMANIS and PHILIP H. MITCHINER

Surgeons, St. Thomas's Hospital.

THE SCIENCE AND PRACTICE OF SURGERY

Third Ed. 716 Illus. Two Vols. 28s. Post. 1s. 3d.

SURGICAL EMERGENCIES IN PRACTICE

153 Illustrations. 18s. Postage 9d.

THIRD EDITION. 65 Illustrations. 15s. Postage 9d.

APPLIED PHARMACOLOGY

By A. J. CLARK, M.C., M.D., F.R.C.P., Professor of Pharmacology, University of Edinburgh.

SECOND EDITION. 2 Plates and 12 Illustrations. 15s. Postage 6d.

A TEXT-BOOK OF BIOCHEMISTRY

For Students of Medicine and Science

By A. T. CAMERON, D.Sc., F.I.C., F.R.C.S., Professor of Biochemistry, University of Manitoba.

4 Plates. 23 Text-figures. 8s. 6d. Postage 6d.

A COURSE IN PRACTICAL BIOCHEMISTRY

By A. T. CAMERON, D.Sc., Professor of Biochemistry, University of Manitoba; and FRANK D. WHITE, A.R.T.C., Ph.D.Edin., F.I.C., Assist. Prof. Biochem., University of Manitoba.

NINTH EDITION. 73 Illustrations. 24s. Postage 9d.

CUSHNY'S PHARMACOLOGY AND THERAPEUTICS, OR THE ACTION OF DRUGS IN HEALTH AND DISEASE

By C. W. EDMUNDS, A.B., M.D., Professor of Materia Medica, University of Michigan; and J. A. GUNN, M.D., D.Sc., Professor of Pharmacology, University of Oxford.

99 Illustrations. 12s. 6d. Postage 6d.

SURGERY IN THE TROPICS

By Sir FRANK P. CONNOR, D.S.O., F.R.C.S., D.T.M. & H.
Professor of Surgery, Medical College of Bengal, Calcutta, and Surgeon to the College Hospital.

38 Illustrations. 30s. Postage 9d.

THE HEALTH OF THE INDUSTRIAL WORKER

By E. L. COLLIS and M. GREENWOOD, F.R.S. Introduction by Sir G. NEWMAN, K.C.B.

By J. A. CROWTHER, Sc.D., F.Inst.P., Professor of Physics, University College, Reading.
FOURTH EDITION. 34 Illustrations. 7s. 6d. Postage 4d.

MOLECULAR PHYSICS AND THE ELECTRICAL THEORY OF MATTER

55 Illustrations. 7s. 6d. Postage 4d.

THE PRINCIPLES OF RADIOGRAPHY

London: 40, Gloucester Place, Portman Square, W.1

THE CLINICAL JOURNAL.

6d. An Illustrated Weekly Record of CLINICAL MEDICINE and SURGERY. **6d.**

Including a Section on MEDICAL PROGRESS dealing concisely with the most important advances.

"... my weekly perusal of the 'Clinical Journal' was a very important factor in my medical education."

***Special Leaflet, with selected list of articles and other details, on application. —SIR THOMAS HORDER.

ANNUAL SUBSCRIPTION (commencing at any date), 26s.; Six Months, 13s. 6d.; Three Months, 7s., post free.

London: H. K. LEWIS & CO. Ltd., 136, Gower Street, and 24, Gower Place, W.C.1.

CANCER OF THE RECTUM

ITS PATHOLOGY, SYMPTOMATOLOGY, AND TREATMENT.

BY

W. ERNEST MILES, F.R.C.S.,

Surgeon Emeritus (with beds) to the Cancer Hospital; Surgeon to the Gordon Hospital for Diseases of the Rectum, etc.

80 pp. and 33 plates. Bound cloth.
Price 7s. 6d. net, post free 7s. 10d.

"It is the best exposition of the subject with which we are acquainted."
—*British Journal of Surgery.*

"Deserves to rank as a classic in the literature dealing with cancer of the rectum."
—*Bulletin of the Johns Hopkins Hospital.*

"Perhaps no surgeon of to-day has had a greater experience in treating cancer of the rectum."—*Surgery, Gynecology, and Obstetrics.*

HARRISON & SONS, LTD.,
44, ST. MARTIN'S LANE, LONDON, W.C.2.

FREQUENT MICTURITION.

"YBWET"

NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 123, Douglas Street, Glasgow, C.2.

NAME PLATES

FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.

Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.

With fastenings ready for fixing.

SEND FOR ILLUSTRATED CATALOGUE.

COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
27, EASTCASTLE ST., LONDON, W.1.

Tycos MANUFACTURED by SHORT & MASON LTD. WALTHAMSTOW LONDON, E.17.
SPHYGMOMANOMETERS

BRASS NAME PLATES.

BRONZE PLATES (ENAMEL LETTERS), SKETCH & ESTIMATE UPON REQUEST.

S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

"VITA" GLASS
daily health through windows

NATURAL APERIENT MINERAL WATER

OF

RUBINAT LLORACH

(Hydragogue, Purgative, and Cholagogue.)

The official analysis shows in each litre about 1601.321 grains of Anhydrous Salts, of which are Sulp. Soda 1485.368 grains, and Sulp. Magnesia 50.301 grains.

Prescribed in cases of Gall-stones, Liver Disease, and threatened Appendicitis, Constipation associated with Gout, Hepatic Dyspepsia, Gastric Fever, and generally in Abdominal Obstruction.

DOSE.

Wineglassful fasting; can be increased according to temperament. Effect is more rapid if followed by a cup of hot tea.

NO GASTRIC IRRITATION. NO ALTERATION IN DIET REQUIRED.

"A moderately powerful stimulant of the liver, and a powerful stimulant of the intestine."

"The Rose Corset-Belt"

for Accurate Abdominal Support and Comfort

Extract from the "British Medical Journal," Dec. 10th, 1927—

"Visceroptosis is the cause of so much discomfort and ill-health . . . and an ill-fitting or wrongly applied belt or corset may aggravate rather than diminish the subjective effects of this condition. . . . Madame Rose has for many years devoted special attention to this problem, and we have good reason to believe that she has given help and comfort to a considerable number of sufferers. We have received assurances from medical men, who have sent patients to her, that she gives personal attention to each patient, that she takes great care in adapting and adjusting the support to the particular needs of the case."

Refer your Patients also to

MADAME ROSE, 97, Mortimer St., Regent St., W.1. LANGHAM 1575

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY AND REPAIR ALL MAKES of typewriters. Duplicators, Adding Machines. *Write for Bargain List 32.*
'Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.
Desks, Tables & Chairs, Est. 1884.

THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.
74, CHANCERY LANE (Holborn End), W.C.2

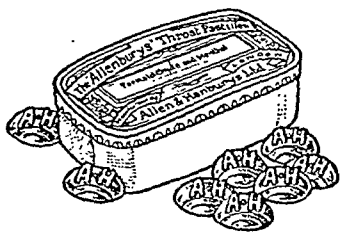
Doctors' A/c Forms a Speciality

Printed in Best Style.
Account Forms, Letterheads, Cards, etc.,
Samples Sent.
R ANDERSON & SON

Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH

Over 70 Varieties of the 'Allenburys' Medicated Pastilles from which to prescribe

The 'Allenburys' Medicated Pastilles may be relied upon to present the accurate amounts of the active ingredients and to be thoroughly effective in use. They dissolve slowly and uniformly ensuring a thorough suffusion of the medicament over the mucous membrane



Packed in original tin boxes at 1/6, 3/9 and 7/-.

Descriptive Booklet and Price List sent on request to members of the Medical Profession.

A few examples

No. 71—Antiseptic Liquorice

Menthol, Benzoic Acid,
Oil of Eucalyptus, aa. $\frac{1}{60}$ gr.
Thymol, $\frac{1}{120}$ gr.
Bromide of Ammon., $\frac{1}{4}$ gr.
Ext. of Liquorice, $3\frac{1}{4}$ grs.

No. 9—Menthol, Cocaine and Red Gum

Menthol, $\frac{1}{60}$ gr.
Cocaine Hydrochlor., $\frac{1}{60}$ gr.
Red Gum, $1\frac{1}{4}$ grs.

No. 29—Rhatany and Cocaine

Ext. of Rhatany, $1\frac{1}{4}$ grs.
Cocaine Hydrochlor., $\frac{1}{60}$ gr.

No. 67a—Compound Codeine

Codeine Pur., $\frac{1}{12}$ gr.
Ipecac., $\frac{1}{12}$ gr.
Squill, $\frac{1}{12}$ gr.
Bals. of Tolu, $\frac{1}{4}$ gr.

ALLEN & HANBURYS LTD., LONDON

Telephone: Bishopsgate 3201 (10 lines)
Telegrams: "Greenburys Edo London"

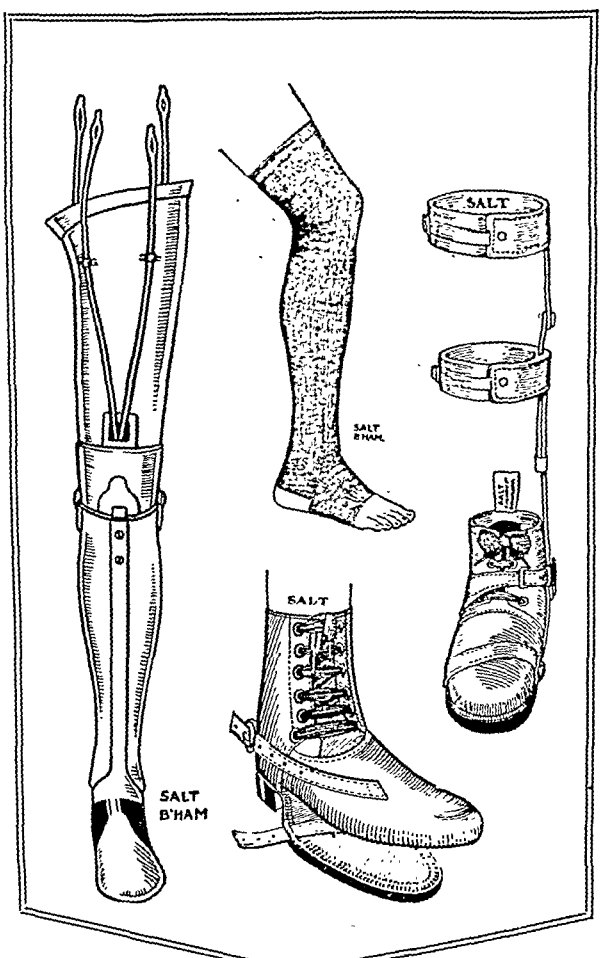
CANADA—Lindsay, Ont.
UNITED STATES—41 Maiden Lane, New York City

SURGICAL SERVICE
SALTAIR

SALT

SPECIALISATION
IN SERVICE

SALT



THE outstanding feature of Saltair Surgical Service is the fact that every appliance is specially made for each individual requirement, as prescribed by the attendant practitioner.

The majority of our appliances are our own patents and are registered patterns. New types are constantly being added, and we cordially invite the Medical Profession to co-operate with us in experimenting in new designs—at **OUR expense.**

All correspondence (excepting regarding London appointments) should be addressed to Birmingham.

'Phone (Birmingham): Midland 5455.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT.

SERVICE IN SPECIALISATION

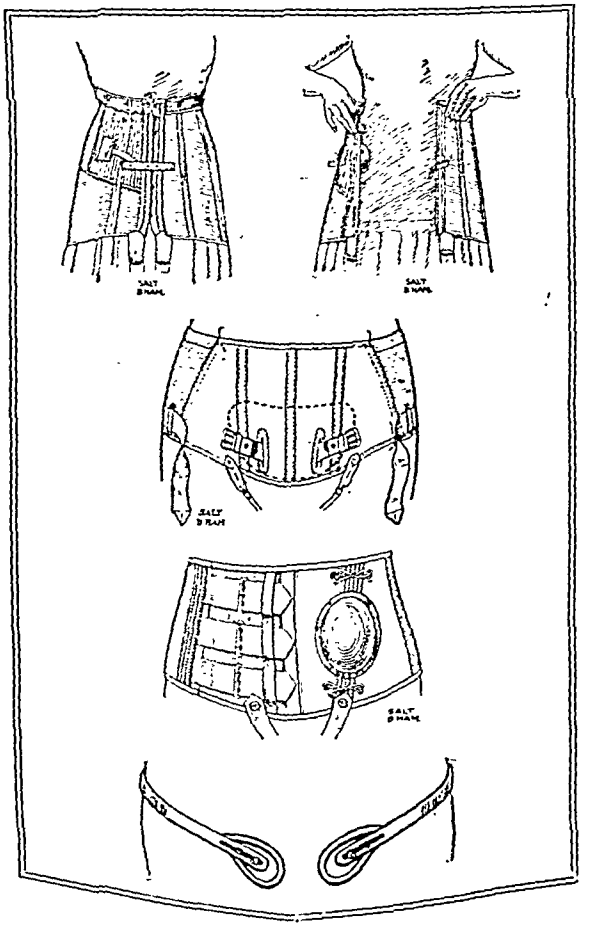
Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

OUR close co-operation with the Medical Profession for 138 years, together with our practical knowledge, enables us to interpret Medical requirements with the greatest accuracy.

Our Service—owing to our Depots and Fitting Rooms situate in London and provincial centres—enables the attendant practitioner to send his patient to be fitted by surgical experts with the exact type of appliance prescribed.

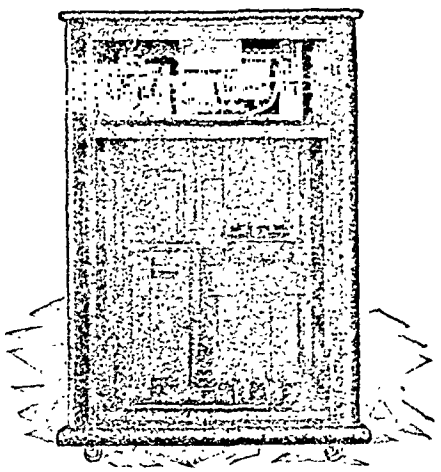


London Consulting Rooms:
"OAKLEY HOUSE," 14-18, Bloomsbury Street, W.C.1.

Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician, Wednesdays only.
(By Appointment only.)
'Phone (London): Museum 3845.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

ESTABLISHED 1793.



"HOLWAY" DIATHERMY APPARATUS
showing internal construction.

N. AND W.

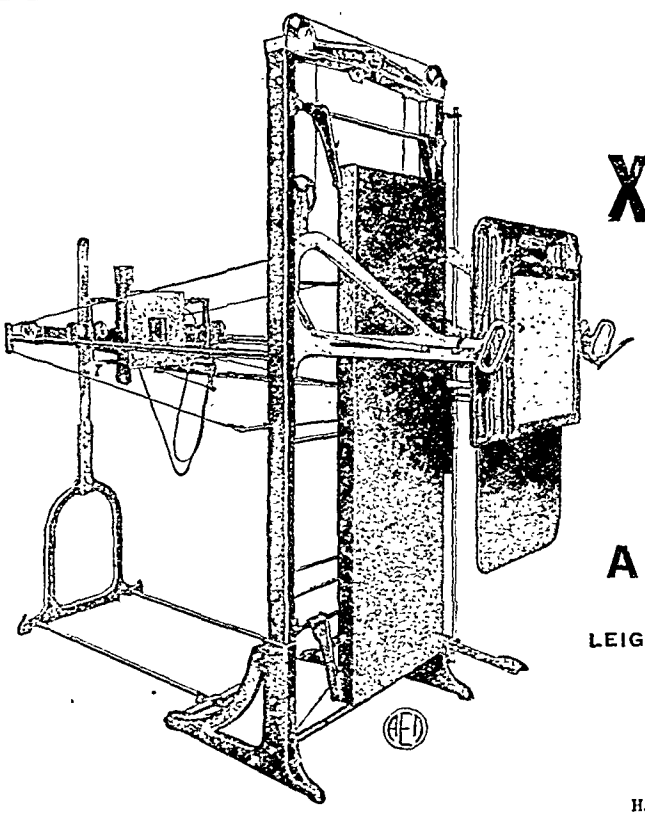
SPECIALITIES

APPARATUS for RADIOLOGY and PHYSIOTHERAPY

Newton & Wright Ltd

471-3, HORNSEY ROAD, LONDON, N.19

Telephone: Archway 2621 (3 lines)



DEAN'S
LATEST PATTERN
X-RAY DIASCOPE

WITH TWO-METRE ATTACHMENT

This Vertical Screening Stand has been designed to meet the requirements of the latest techniques in Stomach and Chest Examinations.

INDISPENSABLE TO SANATORIA & T.B. CENTRES

Full particulars in Catalogue Section from the Sole Makers:

A. E. DEAN & CO.

Manufacturers of X-Ray and Electro-Medical Apparatus of the Highest Grade.

LEIGH PLACE, BROOKE STREET, HOLBORN, LONDON, E.C.1.

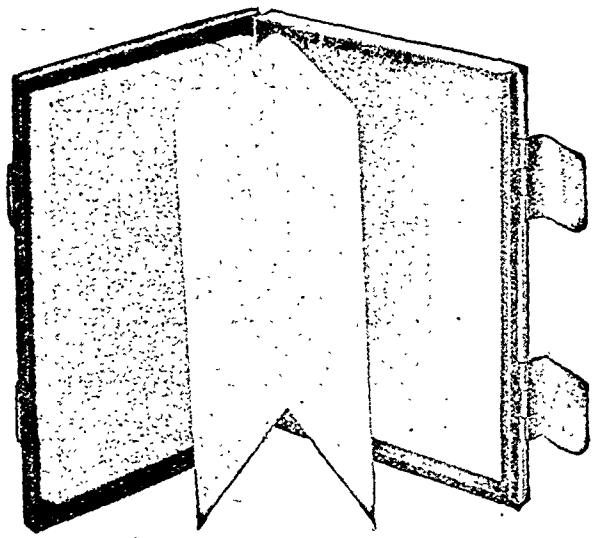
Showrooms: 14, BALDWIN'S GARDENS—adjoining.

NORTHERN AGENT:
SEFTON WILSON, Woodlands, Bawtry Road, DONCASTER.

AGENTS FOR MIDLANDS:
WATSON & GLOVER, 2, Easy Row, BIRMINGHAM.

NEW ZEALAND AGENTS:
H. COONEY & SON, The Esplanade, Kohimarama, AUCKLAND.

"Kodak"
Metal X-Ray Cassette



Simple and efficient.

The convenient book-form and absence of heavy back spring makes loading and unloading exceedingly simple.

Effective contact is ensured.

Kodak Limited, (Medical Dept.)
Kodak House, Kingsway,
London, W.C.2.

ONE DOCTOR AFTER ANOTHER PRAISES SPHAGNOL

"In a case of Psoriasis of the Scalp from which the patient had been suffering for 15 years, the use of Sphagnol Soap and Ointment for about two months has cured it."

"I have used your Sphagnol Soap and Ointment in a case of Seborrhoea and Acne with splendid results."

"Sphagnol has been used on one of the most distressing cases of Haemorrhoids and has acted like magic."

"I am constantly recommending Sphagnol Ointment just now for Insect Bites. It gives instant relief and brings out the inflammation in a remarkably quick way."

SEND FOR FREE SAMPLE

PEAT PRODUCTS (SPHAGNOL) LIMITED (DEPT. B 43), 21, BUSH LANE, LONDON, E.C.4.

Full-size trial package free to Medical Practitioners in the British Isles on application to Boots the Chemists, Station Street, Nottingham.

OLIVITA

OLIVE OIL WITH VITAMIN D

Olivita consists of the finest Virgin Olive Oil to which has been added that proportion of Irradiated Ergosterol which gives it a Vitamin D content equivalent to that of Cod Liver Oil.
Having investigated the conditions under which Boots Olive Oil is produced in Spain, the finest grade of Olive Oil available is guaranteed to be the first pressings from the Olives.
Olivita will be found very palatable and can be recommended without hesitation to regular users of Olive Oil.
The wide range of usefulness of Olive Oil is well known, and members of the medical profession will readily appreciate the [illegible] conferred on this product by the incorporat[illegible]
Recent researches have indicated that [illegible] D should form part of the diet of all children during the period while the permanent teeth are being calcified. Cod Liver Oil is now often given to babies as a regular part of their diet as a good source of Vitamin D and Olivita provides a palatable alternative.
Its keeping properties have been thoroughly tested.

OBTAINABLE FROM

The Boots Chemists

NEARLY 900 BRANCHES IN GREAT BRITAIN

Boots Pure Drug Co. Ltd., Nottingham.

PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic œdema, cyclic vomiting, periodic diarrhœa, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules." for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Leaflet on application.

W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON."

Telephone Nos.: LANGHAM 2440 and 2441.

Iodine-Medol

Non-Toxic, Non-Eschorotic, Non-Staining

IODINE-MEDOL, an antiseptic unguentum presenting Iodine in a form that actually penetrates the tissues and destroys the bacteria *in situ*. Case reports have shown this *Antiseptic Unguentum* to be of marked value in the treatment of skin troubles of a parasitical nature such as Impetigo, Scabies, Tynea Sycosis, etc. Owing to its special emusifiable base, Iodine-Medol is rapidly absorbed with deep penetration. To be used in all cases where Iodine medication is indicated.

Testing samples and full particulars sent on application to :—

Pearson's Antiseptic Co., Ltd., 61, Mark Lane, London, E.C.3.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

UTERINE PROLAPSE.

Typical Case.

Mrs. E. D. F., aged 53.

Diagnosis: Uterine prolapse, third degree, with large vesicocele.

Operation: Watkin's interposition; perineorrhaphy.

Anaesthesia: Classical infiltration block, using 45 c.c. of a 0.5 of 1 per cent. Novocain-Adrenaline solution in perineum. A circumferential block about the cervix was made, using 30 c.c. of the same solution. The patient noticed some distress during delivery of the uterus into the vagina. The round ligaments were blocked as soon as they appeared, 4 c.c. of Novocain-Adrenaline solution being used in each case. The classical Watkin's operation was performed. The perineum was then repaired by the split septum method. Anaesthesia was ideal. Patient's pulse was 80 at the end of operation, and she had no post-operative nausea, vomiting, or gas pains, and made an uneventful recovery.

—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

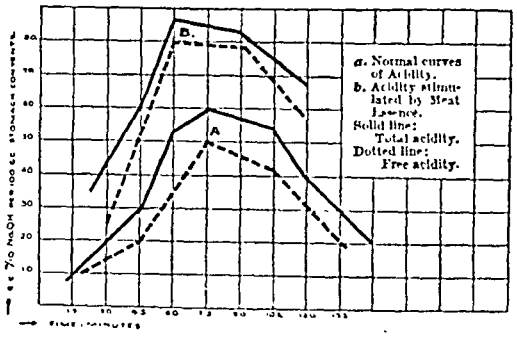
PERIOD OF DIGESTION REDUCED 29%

when these essences are taken

ONLY one hour and twenty-eight minutes are needed for the complete assimilation of meat essences by the digestive organs, as shown by recent scientific tests.

This is a saving of 40 minutes or 29% on the normal time taken for digestion. The flow of gastric juice is promoted to such an extent that 87% of the total acidity content of the stomach is reached in 37½ minutes. So quick is the absorption of energy thus induced by the stimulation of the gastric secretions, that the work of the digestive tract is reduced to a minimum and no solid residue is left. The nourishment needed to restore expended energy is supplied without effort or strain to the weakest system.

Made by an exclusive process which conserves the pure strength of the finest, freshly-killed English meats, Brand's



The increased rapidity of digestion when essences are taken is shown by this chart

* * *

Essences are absolutely free from preservatives and colouring matter. They are easy to swallow and delicious to taste. Patients relish them even in the most severe crises of illness.

Hundreds of doctors report on their unparalleled value—more particularly in cases of cancer, gastro-enteric catarrh and bowel trouble. Samples of Brand's Essences will be sent on receipt of a professional card.

BRAND'S

ESSENCES OF BEEF & CHICKEN

BRAND & CO. LTD., Dept. F.21, MAYFAIR WORKS, SOUTH LAMBETH ROAD, LONDON, S.W.8

A PINCH OF SNUFF

during the INFLUENZA SEASON

taken before and after examination of pulmonary cases is suggested to the Medical Profession as

THE BEST PREVENTION

to invasion by infecting germs in the nose and naso-pharynx.

DIMOL SNUFF

LABORATORY TESTS: Dimol Snuff has a coefficient equivalent to 30% pure phenol—that is, it is as active as a bactericide as pure phenol diluted with twice its volume of water—a strength of phenol of course quite intolerable in the respiratory tract.

Dimol Snuff diluted with 10 times its bulk of mucus will kill:

Pneumococci in 30 seconds
B. influenzae in 30 seconds
M. catarrhalis in 35 seconds
Streptococci in 40 seconds

Prices and particulars will be sent on application to

DIMOL LABORATORIES, LTD., 40, LUDGATE HILL, LONDON, E.C.4.

"EXTOMAK"

TRADE MARK

(BENGER)

As supplied to the Manchester Royal Infirmary.

An active and natural desiccated stomach product, preferable to Liver Extracts in the treatment of Pernicious Anaemia — see the "British Medical Journal" January 17th, 1931. Literature on application.

Prepared in the Benger Laboratories.

Sole Proprietors:
BENGER'S FOOD, LTD., Otter Works, MANCHESTER.
Branch Offices:
NEW YORK (U.S.A.): 41, Maiden Lane. SYDNEY (N.S.W.): 350, George Street. CAPE TOWN (S.A.): P.O. Box 573

(N.B.—The word "Extomak" is the exclusive Trade Mark property of Benger's Food, Ltd.)

M257

Without Sodium Bicarbonate

Cremor Alkalinus "A. & H." is now largely and successfully used in the intensive alkaline treatment of Gastric and Duodenal Ulcers. The formulæ A, B, C and K contain Sodium Bicarbonate.

For cases where the use of Sodium Bicarbonate is regarded as disadvantageous a new formula has been introduced.

Cremor Alkalinus "A. & H."

Formula D

Mag. Carb. 4 parts Calcii Carb. 4 parts Bismuth Carb. 1 part

In 8 oz. bottles for Prescribing. In 80 oz. bottles for Dispensing.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: 3201 Bishopsgate (10 lines). Telegrams: "Greenburys Edo London."

For the Treatment of Arthritis and Neuritis

"ARTHRYTIN" Trade Mark

BRAND

Ammonium ortho-iodoxy benzoate

"ARTHRYTIN" possesses an action resembling that of the salicylates, but is much more potent in its effects. It is indicated in all forms of acute arthritis, and has given strikingly successful results in many cases of chronic arthropathy.

Supplied in capsules for oral administration, and powder for intravenous and rectal injection.

Prepared in the Laboratories of

MAY & BAKER, LTD.

BATTERSEA LONDON, S.W.11

Telegrams: Bismuth, London.

Telephone: Battersea 1813 (6 lines)

Clinical trial sample and literature on request.

Why the profession approves Mistol

FOR a number of years leading rhino-laryngologists have been recommending an oily spray solution containing menthol, camphor, eucalyptol and chlorbutol, for common cold, chronic rhinitis, hay fever, minor sore throats and lesser inflammations of the upper respiratory passages.

The makers of Nujol developed this suggestion so as to produce, after much scientific investigation, a product containing these ingredients in the form best suited for intranasal medication. Mistol was the result.

Administered with the dropper contained in each package, Mistol immediately spreads evenly over the nasal mucosa so as to form a thin protective film. It has the further property of clinging tenaciously, so as not to be dislodged by secretions. Further advantages of Mistol are that it may be taken as a gargle or nebulized into a fine vapour for inhalation.

Because its use is based on sound medical practice, Mistol enjoys the highest measure of professional approval and confidence.

Mistol

REG. TRADE MARK

MADE BY THE MAKERS OF NUJOL

Nujol Laboratories:

128 Albert Street, Camden Town, N.W.1

S.U.P. 36

Below are a few extracts from reports on its use in clinical practice:—

'. . . have used S.U.P. 36 on myself with much success in aborting a cold.'

'. . . typical influenza, temperature 102°, exceptionally severe muscular pain and headache, one injection S.U.P. 36, twenty-four hours later temperature normal, returned to work on fourth day.'

'. . . in the evening temperature 104°, all the premonitory signs of pneumonia without the sounds, gave 2 c.c. S.U.P. 36; in the morning temperature 100°, same evening temperature normal and remained so.'

'. . . child with bad history, acute broncho-pneumonia, pulse unfeelable, temperature high, thought hopeless, one injection S.U.P. 36 11 a.m.; much better at night; nothing could be heard in chest, next day practically well.'

'. . . treated 100 cases of Lobar and Broncho-pneumonia, effect most constant in all cases.'

'. . . had remarkable success with S.U.P. 36 in a mastoid from which staph. pus exuded—cleared up and no return of symptoms.'

'. . . used it in tonsillitis with a "magical" response.'

Successful

in the treatment of

Common Colds

Influenza

Broncho-pneumonia

and similar

Inflammatory Conditions

Literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

S.U.P. 36/18

BOOTS PRODUCTS

OBTAINABLE THROUGH ALL BRANCHES OF The Boots Chemists

WHOLESALE AND EXPORT DEPARTMENT.

BOOTS PURE DRUG Co. Ltd.,

NOTTINGHAM, ENGLAND.

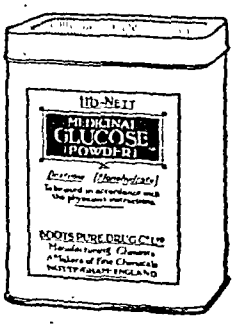
Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

MEDICINAL GLUCOSE (POWDER)—BOOTS

A Reliable Brand of Medicinal Glucose (Powder)

Glucose is a valuable source of muscular energy. It is an easily assimilated form of carbohydrate for infants, invalid feeding and in cases of malnutrition. It can be given when ordinary sugar is not tolerated.

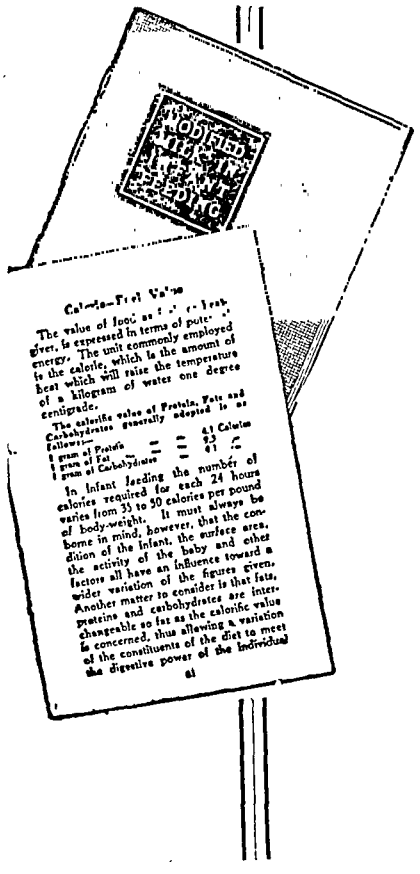
Obtainable from all branches of Boots The Chemists. A special brochure giving fuller details of the use of Medicinal Glucose—Boots will be forwarded on request.



Issued in tins containing 1 lb. nett.

PRICE 2/- PER TIN

Special discount to the Medical Profession.



"MODIFIED MILK IN INFANT FEEDING"

The above-named booklet of 64 pages will be gladly sent to members of the Medical Profession.

The booklet shows how

Mellin's Food

is very readily adaptable to the needs of both the normal infant as well as the infant requiring a special modification of diet. It contains suggestions respecting milk modifications for use in cases of constipation, marasmus, diarrhoea, etc.

It shows the analysis of the mixture suitable for infants of various ages, the weight of the various food constituents and their calorific value.

Write for a copy to-day.

MELLIN'S FOOD Ltd., LONDON, S.E.15

MONSOL BRAND

PESSARIES

In response to repeated requests from the Medical Profession, Monsol is now available in the form of Pessaries containing 2½% of Monsol in a glyco-gelatine base. Powerfully germicidal, non-irritant, and possessing all the essential characteristics of Monsol Liquid, they have proved of value in the treatment of both acute and chronic cervicitis and vaginal infections, particularly when of gonorrhoeal origin, and are specially indicated for a chronic infection in pregnancy when douching is undesirable.

Monsol Liquid for dressings, douches, packs, and all sick-room purposes.

Monsol Capsules, keratin-coated, for intestinal disinfection.

Monsol Ointment and *Monsol Throat Pastilles.*

Monsol Dental Cream.

Monsol Medicated Soap.

Monsol Pessaries.

Manufacturers:

THE MOND STAFFORDSHIRE REFINING CO., LTD., ABBEY HOUSE, LONDON, S.W.1

IMPROVED
DAY AND NIGHT SERVICE
TO
THE MEDICAL PROFESSION
FOR
OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPÔT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1
(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE, or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, **CLAPHAM ROAD, S.W.9**

OVALTINE

FOR THE GROWING CHILD

"Ovaltine" is indicated as a means of promoting normal growth and development when the weight of the child under observation is less than that which statistics show a child of the same height should weigh.

The physician has only to consider the composition and properties of the product to recognize how suitable it is as a building and reconstructive nutrient.

"Ovaltine" is a concentrated extraction of malt, milk, and eggs in the form of golden brown granules. For tissue growth or repair it provides proteins, mineral constituents, adequate energy value, and the Accessory Growth Factors or Vitamins in correct nutritive ratio.

Children love the deliciousness of "Ovaltine" and thrive remarkably well upon this complete food. It is of unsurpassable value as a meal-time beverage in place of tea, coffee, cocoa, or other beverages.

A liberal supply for clinical trial sent free on request.

A. WANDER, Ltd., 184, Queen's Gate, S.W.7.
Works: KING'S LANGLEY, HERTS.

KHNEMU—An Egyptian God whose name means "the moulder builder of men."

M745

Valentine's Meat-Juice

For **Quieting** the **Irritable Stomach** and **Aiding** the **Tired Digestive Organs**, for **Refreshing** the **Fever Patient** and for **Restoring** and **Strengthening** when Other Food Fails, **Valentine's Meat-Juice** is used in **Hospitals** and prescribed by many leading Physicians and Surgeons.

Physicians are invited to send for Clinical Reports from Hospitals and General Practitioners in all parts of the world.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB94

RADICAL TREATMENT

of DISEASES of the VEINS and their COMPLICATIONS

In Tablets { Formula M — red — for men
Formula F — violet — for women

A synergic medication based on organotherapeutic extracts irradiated with ultra-violet rays

VEINOTROPE

LABORATOIRES LOBICA, *46, Avenue des Ternes, PARIS*
CONTINENTAL LABORATORIES Ltd., *30, Marsham St., LONDON, S.W.1*

Distributors British Isles

What shall I prescribe?

WHEN CONFRONTED WITH A DIFFICULT CASE OF OSTEO OR RHEUMATOID-ARTHRITIS IT IS INDEED COMFORTING TO KNOW THAT QUICK AND LASTING RELIEF CAN BE OBTAINED FROM THE ADMINISTRATION OF ELIX. FORMASAL AND TAB. ARTHRITONE.

THE POPULARITY OF THESE PREPARATIONS IN RHEUMATIC CONDITIONS IS DUE SOLELY TO THE GOOD RESULTS OBTAINED.

PRACTITIONERS HAVE TAKEN THE TROUBLE TO WRITE AND TELL US OF THE WONDERFUL EFFECTS THAT THESE PREPARATIONS HAVE IN CASES WHERE ALL OTHER FORMS OF MEDICATION HAVE BEEN OF NO AVAIL.

ELIXIR FORMASAL
1 PINT **6/3**
SMALLER AND LARGER SIZES ISSUED

TAB. ARTHRITONE
250, **8/2**
SMALLER AND LARGER SIZES ISSUED

HOUGH, HOSEASON & CO. LTD.
PHARMACEUTICAL SPECIALISTS TO THE MEDICAL PROFESSION - MANCHESTER.

Vitamin Deficiency?

Put them on BEMAX

THE NATURAL VITAMIN TONIC FOOD

Bemax was prepared to provide a food rich in natural vitamins, which, added to the normal diet, would restore a balanced metabolism, and so create a condition in which remedial measures by the physician would be assured of the fullest success in all ailments due to deficiency of Vitamins A, B and E.

Laboratory reports on Bemax and clinical sample for personal trial will be sent to any medical man on receipt of his professional card.

THE BEMAX LABORATORIES, 23, UPPER MALL, LONDON, W.6.

Pneumococcus Antibody Solution

because

It is a specific treatment for the lobar pneumonias caused by Types I, II, or III pneumococcus. It has been subjected to a thorough clinical trial over a period of six years in both hospital and private practice.

It has been used on about 2,000 patients in private practice. Published reports cover nearly 1,000 cases.

When used early (on or before the third day), a definite shortening in the duration of the disease and a reduction of 50 per cent. in the mortality rate has been reported.

Serum sickness and anaphylaxis have not been observed in any instance.

It contains the pneumococcus protective antibody in the purest form generally available.

Typing, as a preliminary procedure, is unnecessary and causes delay. Experience has shown that the most benefit is derived from very early treatment. The dangerous bacteriemia accompanying many cases of pneumonia can often be controlled by this agent, especially in Type I cases. Intravenous administration is the preferred method, because the antibodies are thus made immediately available in the blood stream.

Thermal reactions, while they sometimes occur, are controllable by usual methods.

Descriptive Folder sent free to Members of the Medical Profession.

SHARP & DOHME LTD.,

associated with

H. K. MULFORD CO.

252, REGENT STREET, OXFORD CIRCUS, LONDON, W.1. *Tel.: Regent 2567.*

'PANOPEPTON'

AS A RESTORATIVE FOOD.

PANOPEPTON presents, in a form ready for absorption, the entire nutritious substance of beef and wheat. It is a complete solution of all the nutrient, savory, and stimulant nitrogenous and inorganic constituents of thes typical foods.

Supplied in 12-oz. bottles.

'Zymine' Peptonising Tubes

FOR THE PREPARATION OF PEPTONISED MILK AND OTHER PREDIGESTED FOOD FOR THE SICK

Peptonised Milk prepared with 'Zymine' Peptonising Tubes is a perfectly digestible and absorbable food. Its use precludes all accumulation of unassimilable matter in the intestinal tract.

Supplied in boxes containing 6 and 12 tubes.

Originated and Manufactured by
Fairchild Bros. & Foster (Inc. N.Y.)
NEW YORK and 65, Holborn Viaduct, London, E.C.1.

Agents:
Burroughs Wellcome & Co.,
LONDON, SYDNEY, and CAPE TOWN.

ASPIRIN DERIVATIVES

IN

RHEUMATISM, NEURALGIA, AND INFLUENZA

"ASPRIODINE"

A compound of Aspirin and Iodine

FOR RHEUMATIC AFFECTIONS AND ARTERIO-SCLEROSIS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"SEDASPRIN"

A compound of Aspirin and Bromine

FOR INSOMNIA AND NERVE AFFECTIONS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"METHYL-ASPRIODINE"

THE NEW ANTI-RHEUMATIC FOR INUNCTION. BALM or LINIMENT 3/-

"PHENYL-ASPRIODINE"

AN INTESTINAL AND URINARY ANTI-SEPTIC. EMBODIES THE ACTIVITIES OF IODINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"PHENYL-SEDASPRIN"

A NEW COMPOUND OF THE SALOL TYPE EMBODYING THE EFFECTS OF BROMINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"MAGISAL," "TYLCALSIN," and "TYLLITHIN"

ARE VALUABLE SOLUBLE SALTS OF ASPIRIN, WHICH ARE PROMPT IN ACTION AS ANTI-NEURALGICS AND ANTI-RHEUMATICS.

Original Bots. of Tablets 2/- and 7/6.

Write also for particulars of Peptone, Mercurome, and other Martindale preparations

W. MARTINDALE

12 NEW CAVENDISH ST., LONDON, W.1

Telephone: Langham 2440. *Telegrams: "Martindale, Chemist, London."*

furunculosis

STAPHYLOCOCCUS Antivirus, prepared by the GLAXO LABORATORIES, is specific in the treatment of this and other suppurative lesions caused by staphylococcal infections, and will clear up the condition when all ordinary methods of treatment have failed.

Staphylococcus antivirus is a sterile detoxicated filtrate of a bouillon culture of a great variety of strains of S. Aureus and S. Albus. It is applied locally to the surface of the skin, or packed into the cavity on strips of gauze. Where a cavity exists with drainage to the surface the fluid may be used as an irrigation. The treatment is completely safe, and no general reaction is experienced. The method is much more rapid than antiseptic treatment, and instead of injuring the cells increases their resistance to infection.

The following typical cases indicate the clinical results that attend the application of ANTIVIRUS THERAPY, even to severe lesions of considerable duration:—

"The patient had had boils in the external auditory meatus for 7 weeks, accompanied by great pain, causing insomnia. Various methods of treatment had been adopted with no success. At 9.30 a.m. a dressing of staphylococcus antivirus was applied. At 4 p.m. the pain was relieved. On the third day of treatment the boils had cleared up and there has been no return."

"A dressing of staphylococcus antivirus was applied to a large, very painful and tender furuncle of the neck. In 24 hours the furuncle had burst; it was plugged with staphylococcus antivirus and in 5 days, dressings having been applied 12-hourly, was completely healed."

To these cases could be added many others showing the value of staphylococcus antivirus in the treatment of such conditions as suppurating wounds, post-operative sinuses and osteomyelitis.

The manufacturers will gladly co-operate with any physician . . . and surgeon . . . who cares to make further clinical trials by placing free supplies of staphylococcus antivirus at their disposal.

5 c.c. ampoules; box of six ampoules - - 5/- per bottle
30 c.c. bottles (rubber-capped) - - - - 4/- per bottle

(Subject to the usual professional discount)

GLAXO LABORATORIES, 56, Osnaburgh Street, London, N.W.1

NOTE: For use in cases where streptococcal infection is known to be present, a mixed staphylococcus and streptococcus antivirus is available. Sizes and prices as above.

(*Æsculapius*)

LIVER THERAPY IN PERNICIOUS ANAEMIA

The production of a palatable liquid preparation which conserves the potency of the fresh gland has proved a boon to medical men who wish to prescribe liver for fastidious patients.

HEPATEX

A highly concentrated extract is now accepted as a reliable means of obtaining the effects upon the blood picture, etc., which follow the administration of fresh liver. The erythrocyte count is rapidly raised to a satisfactory level, pallor disappears, and nervous symptoms show appreciable improvement. A reduced dosage then suffices to maintain a sense of well-being and to guard against relapse.

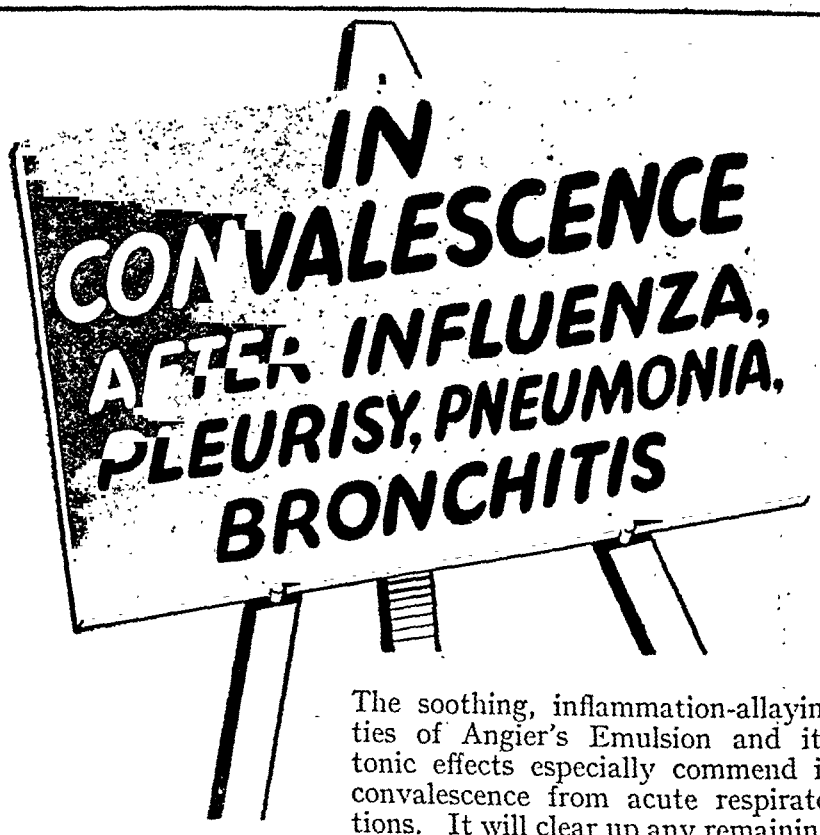
HEPATEX is concentrated so that one ounce represents the activity of one pound of fresh liver.

Issued in 4-oz. bottles at 12/6 a bottle.
Each bottle contains sufficient for
8 days' full treatment.

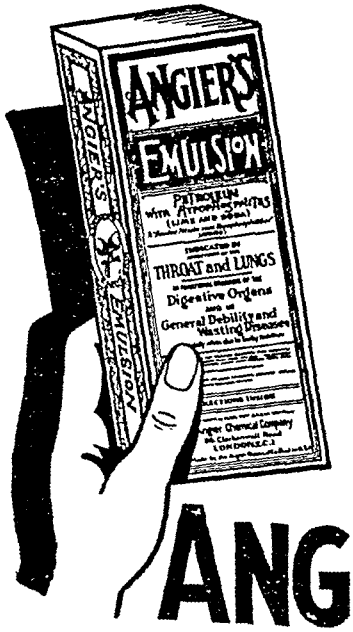
Prepared at
Evans' Biological Institute,
Higher Runcorn, Cheshire.

EVANS SONS LESCHER & WEBB Ltd

LIVERPOOL 56 Hanover St. DUBLIN LONDON 50 Bartholomew Close



The soothing, inflammation-allaying properties of Angier's Emulsion and its general tonic effects especially commend its use in convalescence from acute respiratory affections. It will clear up any remaining catarrh, whether of the respiratory or digestive organs. It will restore tone to the digestive functions, and greatly improve assimilation and nutrition.



An absolutely perfect emulsion, it is presented in a form pleasing to the taste, and acceptable to the most fastidious. Moreover, it can be administered to advantage in conjunction with other remedies, such as salol, aspirin, bismuth, etc.

Angier's Emulsion is made with petroleum specially purified for internal use. It is the original petroleum emulsion—the result of many years of careful research and experiment.

ANGIER'S Emulsion

Free Samples to the Medical Profession

THE ANGIER CHEMICAL COMPANY, LTD., 86 CLERKENWELL RD., LONDON, E.C.1

A List of

GLANOID MEDICINAL PRODUCTS

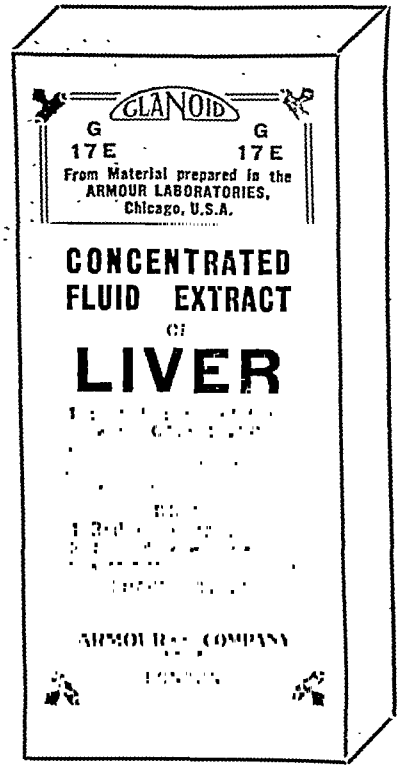
Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
*Catgut**
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
Pituitary, W. G.
*,, Ant. Lobe**
*,, Post. Lobe**
*,, Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
,, Co.
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

*Literature available on request.

GLANOID

Concentrated Fluid Extract of LIVER

PALATABLE AND READY TO TAKE.



ONE OUNCE EQUALS HALF A POUND FRESH CALF LIVER.

ALSO IN POWDER AND TABLETS.

4-oz. bottle	7/-
8-oz. „	12/6
16-oz. „	24/-
W.Q. „	100/-

We prepare a Sterile Solution for Intramuscular INJECTION.

A brochure on "Glanoid" Concentrated Fluid Extract of Liver in the treatment of Pernicious Anaemia, Sprue and allied diseases, will be sent to members of the Medical Profession on request.

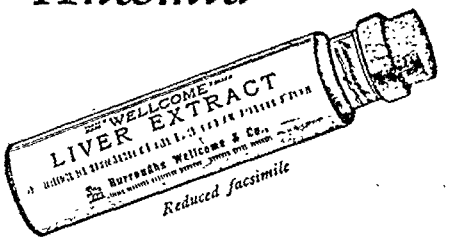
LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

Pernicious Anæmia



Reduced facsimile

PERSIAN SERIES

TRADE MARK **'WELLCOME'** BRAND

LIVER EXTRACT

(An Active Selected Fraction of an Extract of Fresh Liver)

Prepared by a process tested and found efficient by the Medical Research Council. Clinical evidence has established the value of 'WELLCOME' LIVER EXTRACT in pernicious anæmia.

Liver treatment is also indicated in cases of secondary anæmia due to hæmorrhage, such as hæmatemesis or post-partum hæmorrhage; suggested in conditions due to liver dysfunction, in the vomiting of pregnancy and pre-eclamptic conditions and in the anæmia of sprue.

(See Wellcome's Medical Diary, 1931, pages 111-113)

In tubes, each containing an active selected fraction of an extract derived from half-a-pound of fresh liver.

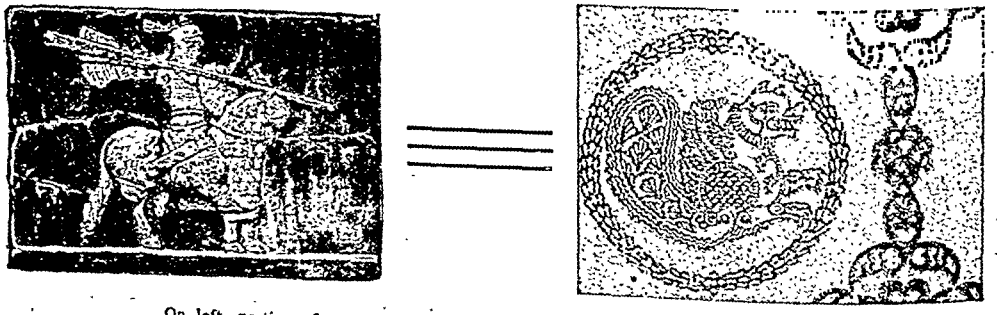
DIRECTION.—

The contents of one tube, or more, daily, in soup or water.

Price in London to the Medical Profession
32/5 *per box of* 12 *tubes*

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES



On left, portion of rock-sculpture in high relief showing equestrian figure of a Sassanid King. The Royal tunic is embroidered with the elaborate design of winged dragons and rosette patterns reproduced in detail, on right.
DATE: circa 590-627

H 2834

COPYRIGHT

PERSIAN SERIES

TRADE MARK 'TABLOID' BRAND

TRADE 'EMPIRIN' MARK

and its Combinations

The brand name 'EMPIRIN' denotes Acetylsalicylic Acid prepared at the Wellcome Chemical Works. This fine product—of a purity higher than that required by official standards—is used in the preparation of 'TABLOID' 'EMPIRIN' and its combinations

TRADE MARK 'TABLOID' BRAND 'EMPIRIN' TRADE MARK

Prices in London to the Medical Profession:
gr. 5, bottles of 25, 10d.; 100. 2/6;
0·5 gm., bottles of 25, 1/3; 100. 3/9 per bottle

TRADE MARK 'TABLOID' BRAND 'EMPIRIN' COMPOUND

℞ 'Empirin,' (Acetylsalicylic Acid) gr. 3-1/2 (0·227 gm.)
Phenacetini, gr. 2-1/2 (0·162 gm.)
Caffeinæ, gr. 1/2 (0·032 gm.)
Bottles of 25, 1/3; 100, 3/9

Prices in London to the Medical Profession

Other 'Empirin' products are:—

'TABLOID' 'EMPIRIN' AND CAFFEINE
'TABLOID' 'EMPIRIN' AND PHENACETIN
'TABLOID' 'EMPIRIN' AND DOVER POWDER

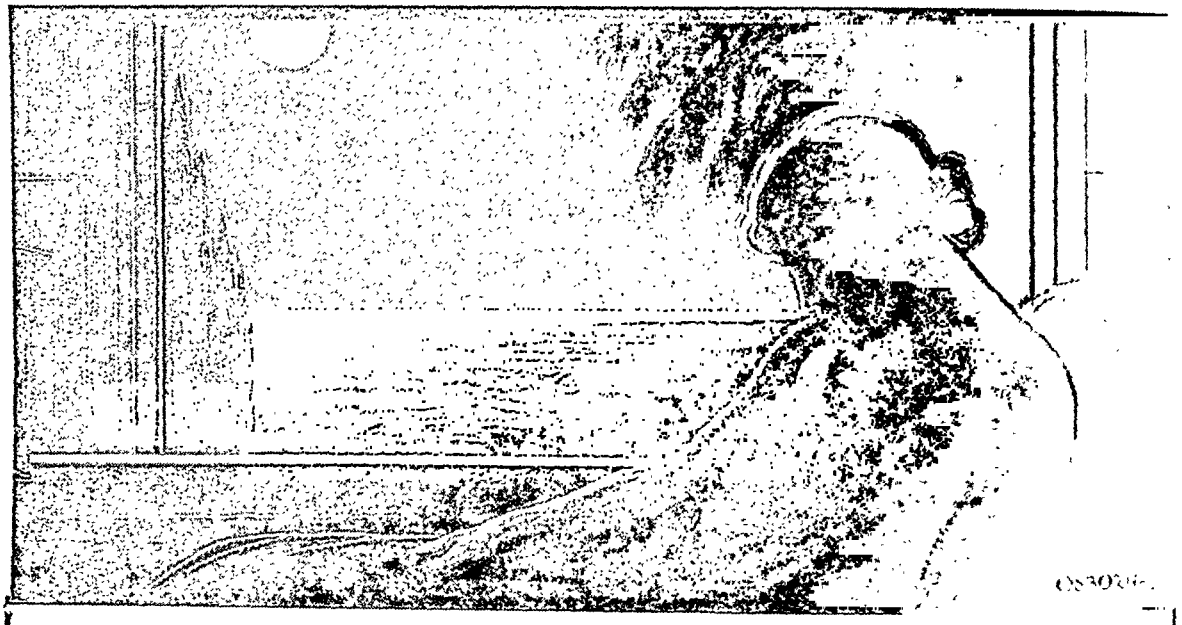
For formulæ and prices, see Wellcome's Medical Diary

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

H 4857

COPYRIGHT



Clinical experience over a long period has demonstrated the remarkable value of

Medinal
TRADE MARK

IN

INSOMNIA

The soporific effect is rapid in onset and prolonged in action, and—in therapeutic doses—there are absolutely no toxic or carry-over effects to be feared.

In critical conditions it may be administered without danger to the patient.

The ready solubility of 'Medinal' implies quick absorption and rapid elimination.

Tablets (grs. 5 and 7½). Cachets (grs. 5 and 10). Powder.
Dose: 5-10 grains as required.

Clinical sample and literature on request from the following Overseas Depots:

CANADA—
Schering (Canada) Ltd., Unity Building, P.O.B. 353, Montreal.

CEYLON—
Paul Winn & Co., Ltd., Colombo.

BRITISH INDIA—
Schering-Kahlbaum (India) Ltd., P.O.B. 2006, Calcutta.

AUSTRALIA—
Schering-Kahlbaum (Australia) Ltd., P.O.B. 3576 S., Sydney.

NEW ZEALAND—
F. & N. Suckling, Auckland.

SOUTH AFRICA—
Schering-Kahlbaum S. Africa (Proprietary) Ltd., P.O.B. 7539, Johannesburg.

STRAITS SETTLEMENTS & SIAM—
N.V. Handelmaatschappij v/h Barmer Export Gesellschaft, Singapore & Bangkok.

DUTCH INDIES—
H.V. v h W. Biedermann & Co., Batavia, N.V. Handelmaatschappij v/h Barmer Export Gesellschaft, Medan.

Or from

SCHERING LIMITED
3, LLOYD'S AVENUE, LONDON, E.C. 3.

Observations
ON
LABORATORY AND HOSPITAL INFECTIONS WITH YELLOW FEVER IN ENGLAND

BY

G. CARMICHAEL LOW, M.D., F.R.C.P.

SENIOR PHYSICIAN, HOSPITAL FOR TROPICAL DISEASES; PRESIDENT, ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE

AND

N. HAMILTON FAIRLEY, O.B.E., M.D., F.R.C.P.

ASSISTANT PHYSICIAN AND DIRECTOR OF PATHOLOGY, HOSPITAL FOR TROPICAL DISEASES; LECTURER IN APPLIED PATHOLOGY, LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

Since the introduction of the rhesus monkey in the study of yellow fever by the American Commission in West Africa, various laboratory workers have acquired the disease, not through the agency of infected mosquitos, but by direct contamination with infective blood or tissues. Hindle, in a recent communication (1930), briefly referred to certain patients contracting the disease in this manner, but since the present outbreak, which started in July, 1930, involved, in addition, two of our hospital laboratory workers who had had no access to infected monkeys, we propose to give a more detailed account of the mode of infection. So important an experience justifies publication, as it forcibly illustrates the grave risk attending the routine collection and examination of human blood during the first four days in yellow fever cases.

Our first patient was a laboratory assistant from the Wellcome Bureau of Scientific Research, where experimental investigations on yellow fever were being undertaken. Infection occurred with a Brazilian strain which had been maintained by Dr. Hindle in monkeys and mosquitos for at least a year. At the time of contracting the disease, however, the only source of virus was *Macacus rhesus*.

CASE I

This patient, who was a delicate youth, aged 17, had never been abroad; he gave a history of measles, pertussis, and varicella in childhood, of suppurative appendicitis in 1923, and of an operation for right strangulated inguinal hernia in 1929. A mild attack of pneumonia occurred in the same year.

July 8th, 1930.—At 6.30 p.m. the patient, who was then quite well, went for a ride on his bicycle; about 10 p.m. he developed a headache, and later felt chilly, then hot.

July 9th.—The headache persisted, but he came to the laboratory in the morning. Half an hour after arrival he vomited bile, and repeated this forty-five minutes later. He returned home from work at 6 p.m.; was very restless that night, and vomited food once.

July 10th.—At 2.30 p.m. he was admitted to the Hospital for Tropical Diseases complaining of headache and fever. He sweated profusely, and at 6 p.m. the temperature was 104.8° F., the pulse was 100, and the respirations 24 per minute. The tongue was coated with fur, the face slightly flushed, and the conjunctival vessels were injected. No icteric tinge was present. The pulse was regular and bounding, and there was a blowing systolic bruit at the apex. The liver and spleen, though not enlarged, were definitely tender on deep palpation under the costal margin. The abdomen showed the scarred incisions of previous operations, but did not present any other features of clinical interest. That night the patient slept at intervals, the headache having abated somewhat by 10 p.m.

July 11th.—In the morning he was rather drowsy, and complained of photophobia. The tongue was dry, with yellowish fur laterally and a reddened centre. Herpes was present on the lower lip, and the eyes were definitely bloodshot. At 10 a.m the temperature was 102.2° and the pulse 88 per minute. At 2 p.m. blood was taken for biochemical estimations of urea and bilirubin, and some was also sent to the Wellcome Bureau of Scientific Research for inoculation into a monkey (*Macacus rhesus*). The specimen was collected sixty-four hours after the onset of the illness as judged by the initial headache. At 8.30 p.m. 12 c.cm. of immune serum were injected subcutaneously into the abdominal wall. This was obtained from a person who was known to have contracted yellow fever some months previously, and whose blood had been proved to be protective to animals inoculated with the virus. The urine (specific gravity 1012) was acid in reaction, and contained only a slight trace of albumin; bile salts and pigments were absent. The total quantity passed that day was 42 oz. The van den Bergh test yielded a negative direct reaction, and an indirect reaction of only 0.8 unit. The blood urea figure was 46 mg. per 100 c.cm. Haematological estimation showed that the red blood corpuscles numbered 4,400,000 per c.mm., the haemoglobin percentage was 80, and the colour index 0.9. The leucocyte count was 9,000 per c.mm.

July 12th.—The patient had slept during the night, but now again complained of photophobia. The pulse was 80 per minute, regular, and slow compared with the temperature (102°). No vomiting, rash, or jaundice was present, but the conjunctival vessels were congested. Slight twitchings of the arms and face were noted. The urine still contained only a trace of albumin, and 40 oz. were passed in the twenty-four hours. During the evening the patient was drowsy and slept at intervals, at 10 p.m. a loose stool containing mucus was passed.

July 13th.—The patient appeared somewhat weaker, the temperature was 102°, and the pulse still slowing—74 per minute. A distinct trace of jaundice was evident on the conjunctivae. The urine was acid, with a specific gravity of 1022, and the amount of albumin had increased. The total quantity passed in the twenty-four hours was 38 oz. Urobilin was present, but there were no bile salts or pigments. Vomiting occurred during the day, and indigestion was complained of at 10 p.m., but the patient slept satisfactorily despite it.

July 14th.—During the morning the breathing was somewhat irregular, and at times slight cyanosis developed. There was a good deal of muscular twitching, and the patient complained of abdominal pain. Vomiting occurred only once. The blood pressure was then: systolic 110, diastolic 66. The urine contained a considerable amount of albumin (0.3 per cent.), and also urobilin; the total amount passed in the twenty-four hours was 46 oz.

July 15th.—At 2 a.m. the temperature fell to 98.8°; subsequently during the day it rose and fell thrice. The patient was restless, troubled with nausea and abdominal pain, and vomited once. A saline enema was given at 6 p.m., with good result. The urine was acid, and contained a considerable quantity of albumin (0.5 per cent.); bile pigment in small quantity was present, and there was a marked excess of urobilin. The total quantity passed in the twenty-four hours was 36 oz.

July 16th.—The patient now remained afebrile, the general condition improving, and the tongue being moist for the first time. The urinary findings were almost identical with those recorded on the preceding day (albumin 0.45 per cent.), but microscopical examination showed granular casts and a few leucocytes. The van den Bergh test showed a negative direct reaction, the indirect registering 1.2 units.

July 17th.—No further rises of temperature were recorded, but the tendency to sweating was marked. The urine still contained a trace of bile pigments, much urobilin, and considerable quantities of albumin (0.4 per cent.). The blood urea figure was 29 mg. per 100 c.cm.

July 19th.—The patient's condition was quite satisfactory, and the urine now contained only a trace of urobilin and albumin (less than 0.01 per cent.).

July 20th.—The patient was discharged from hospital. Convalescence was uneventful, and two months later normal health was attained.

Commentary

In addition to convalescent serum the patient was given 10 grains of calcium lactate three times daily, and glucose in his drinks. For the first few days plain water, albumin water, and diluted milk were alone allowed, and later Horlick's malted milk and peptonized milk. As much fluid as the patient could swallow was administered, the nursing staff being instructed to see that at least 80 oz. of fluid were taken

daily. Symptomatic treatment was instituted when necessary; an ice-bag proved useful for headache, glycerin suppositories and saline enemata for constipation, and sponging for reducing the temperature. On July 21st sago, eggs, and junket were permitted, and later toast, butter, pounded fish, and weak tea were added to the menu. A full diet was allowed ten days later.

This case ran a typical course of a moderate infection of yellow fever, the pyrexial bout lasting seven days, with bradycardia as a marked feature of the illness (see chart). Albumin appeared in the urine on the third day, and bile pigment on the seventh day of fever, though an icteroid tinge of the skin and conjunctivae was noted on the fifth day.

The low blood urea and the low van den Bergh findings are of special interest when compared with those found in blackwater fever, where much higher values are recorded.

CASE II

The second patient, aged 28, first examined the blood of the preceding case on July 11th, 1930. The specimen was sent from the ward to the laboratory with the request for an estimation of bilirubin and urea. Blood collected at the same time was inoculated subcutaneously into a monkey of the species *Macacus rhesus* at the Wellcome Bureau, the animal succumbing subsequently to yellow fever. The only other occasion on which the second patient could have come into contact with yellow fever was on July 16th—five days later—when the biochemical tests were repeated. By this time, however, the blood was non-infective, so that the date of exposure in this case can be definitely fixed.

July 21st, 1930.—The patient was quite well during the day, then suddenly, about 10 p.m., he was taken ill with generalized headache. Shivering started about 11 p.m., and severe abdominal pain and discomfort followed. Flatus was passed with difficulty. The condition was as if "lumps of ice were located in the abdomen." Castor oil taken in the early morning brought some relief.

July 22nd.—Next morning he was seen by Dr. W. Williams, the temperature at 8 a.m. being 100.2°. The general condition remained much the same, the fever, headache, nausea, and other features persisting. In the afternoon the temperature was 100.8°, while at 8 p.m. it was 102°.

July 23rd.—Next morning at 10 a.m. the temperature was 102°, and at 5 p.m. 102.6°. Dr. Williams then got in touch with one of us (G. C. L.), who arranged for admission to the Tropical Diseases Hospital. The patient was by this time complaining of very severe supra-orbital headache, fleeting pains in the muscles, and pain in the lumbar region. The face was flushed, and there was some visible perspiration. No obvious anaemia or jaundice was present; the tongue was thickly covered with white fur. The temperature was 102.6°, and the respirations 18 per minute. The pulse, which was 72 per minute, was regular in time and force, and of good volume; the blood pressure was sustained, the systolic pressure being 126 and the diastolic 62. No abnormal physical signs were detected on examination of the heart or lungs. The abdomen was slightly distended and the parietal muscles were somewhat rigid, but no visceral enlargement or localized tenderness was elicited on palpation. The urine contained both albumin and phosphates.

July 24th.—In the morning the temperature was 103°, and the general condition unchanged. The pulse was now only 60 per minute; this bradycardia subsequently persisted throughout the pyrexial period. Blood was collected from the ear by a laboratory technician, who later developed the disease (Case III) The red blood corpuscles numbered 5,000,000 per c.mm., the haemoglobin percentage was 90, and the total leucocyte count was 5,000 per c.mm. The differential count revealed 81 per cent. of neutrophil polymorphs, and 19 per cent. of lymphocytes. The urine had a specific gravity of 1025, was acid in reaction, and contained a quantity of albumin and urobilin, but no sugar, bile salts, or acetone bodies. During the day the patient slept on and off, but still complained of headache, and was at times restless. About 11.30 p.m. 30 c.cm. of convalescent serum from the first case was injected subcutaneously, and calcium lactate and glucose were commenced, the patient being treated along the lines already indicated in Case I.

July 25th.—At 6.15 a.m. the patient vomited, but later the headache improved somewhat, and the temperature tended to fall. The pulse kept at about 60 per minute thoughout the day. At 3.15 p.m., 89¼ hours after the onset of the illness, blood was taken for inoculation into a monkey, which subsequently died of yellow fever, necropsy revealing the typical pathological changes. The van den Bergh test showed a delayed direct reaction and an indirect reaction of 1.5 units of bilirubin (0.75 mg. per 100 c.cm.). At 9.30 p.m. the patient complained of pain in the lower abdomen, associated with a desire, but an inability, to micturate.

July 26th.—Hot fomentations failed to give relief, and at 1 a.m. 48 oz. of urine were withdrawn by catheter. Next morning the general condition had markedly improved; the temperature fell to 97°, but rose subsequently to 100°; the pulse remained slow, and the tongue somewhat dry, furred, and dirty. The urine still contained albumin in quantity, but no bile salts. Urobilin was present, and the Rothera test, though not Gerhardt's, was positive. At 6 p.m. he was again catheterized, 31 oz. of urine being withdrawn.

July 27th.—The secondary rise in the temperature chart, so characteristic of yellow fever, now occurred (see chart). The pulse remained slow, and did not appreciably increase with the subsequent rises in temperature (Faget's sign); generally the rate varied between 50 and 65 beats per minute. The blood pressure was still well maintained, the systolic being 115 and the diastolic 70, while the urinary findings were similar to those seen on July 26th. The conjunctival vessels were somewhat injected, and an icteroid tinge of the skin was present. During the day he complained of headache, and slept on and off. He passed 20 oz. of urine with difficulty at 10 p.m., and after that slept well from 11 p.m. to 6.30 a.m.

July 28th.—The jaundice now appeared less, but abdominal discomfort persisted, necessitating hot fomentations. During the day the temperature varied from 100° to 101.4°, and the pulse from 60 to 65 beats per minute. The respirations remained stationary at 20 per minute. The patient slept from 9.30 p.m. to midnight, and then complained of inability to micturate. After hot fomentations 20 oz. of urine were passed.

July 29th.—The eyes were still very injected, the face looked flushed, and the patient complained of headache. Throughout the day the temperature varied between 99.2° and 101.6°, and the pulse between 58 and 64 per minute. The respirations remained unaltered at 20 per minute. The urine showed a fair amount of both albumin and urobilin, but no bile.

July 30th.—The patient passed 18 oz. of urine during the morning, but only after hot fomentations had been applied to the hypogastrium. A delayed direct van den Bergh reaction and an indirect reaction of 2.5 units were recorded. Clinically, jaundice was now more evident than at any previous time. The urine showed albumin and bile pigments, but not bile salts.

July 31st.—In the early hours of the morning the temperature fell to normal, varying from 97° to 98.4° throughout the day; the pulse remained slow, varying from 52 to 60 beats per minute. Albumin, urobilin, and bile pigments were still present in the urine, and next day bile salts were also detected. The subsequent course of the illness was uneventful, except that for the next five days rises of temperature of from 99° to 100.4° were noted. Bradycardia also persisted, the pulse remaining between 49 and 68 beats per minute. Throughout this period the tongue was somewhat furred, and on occasions there were attacks of headache, restlessness, and excessive perspiration.

August 5th.—The urine contained a trace of albumin, but no bile salts or pigment.

August 6th.—The diet was now reinforced with junket, chicken broth, and toast; later, eggs, sago pudding, and chicken were added to the menu. After this steady improvement followed.

August 23rd.—The patient was now transferred to a convalescent home, and later, after a month's holiday, he returned to duty in normal health.

Commentary

Points of interest in this particular case are the definite incubation period of ten days, and the proved persistence of virus for at least 89¼ hours in the circulating blood. The classical "saddle back" temperature and bradycardia are well illustrated in the accompanying chart.

CASE III

On July 24th, before the establishment of a definite diagnosis, a laboratory technician, aged 21, had performed a blood count on the second patient, and for this purpose had collected the blood himself. Until August 2nd he was at work as usual in the laboratory.

August 3rd, 1930.—At 2 a.m. he awoke with chill and sweating. Headache, backache, and epigastric pain soon developed, and rapidly became worse. He was admitted to the Hospital for Tropical Diseases at 11 a.m. that day, complaining of shivering, headache, and abdominal pain. The temperature was then 99.8°, the pulse 136, and the respirations 28 per minute. Shortly after admission he vomited a small quantity of bile-stained fluid speckled with brown.

Examination revealed a young man of good physical development, with a flushed face and slightly injected conjunctivae. He was very restless, the breathing was rapid and laboured, there was a dry cough, and occasional attempts at vomiting were evident. The skin was warm, dry, and not jaundiced. The tongue was dry and the throat congested. The pulse was full and bounding, its rate being 136 per minute; the systolic pressure was 120, and the diastolic 80. No abnormal physical signs were detected in the chest.

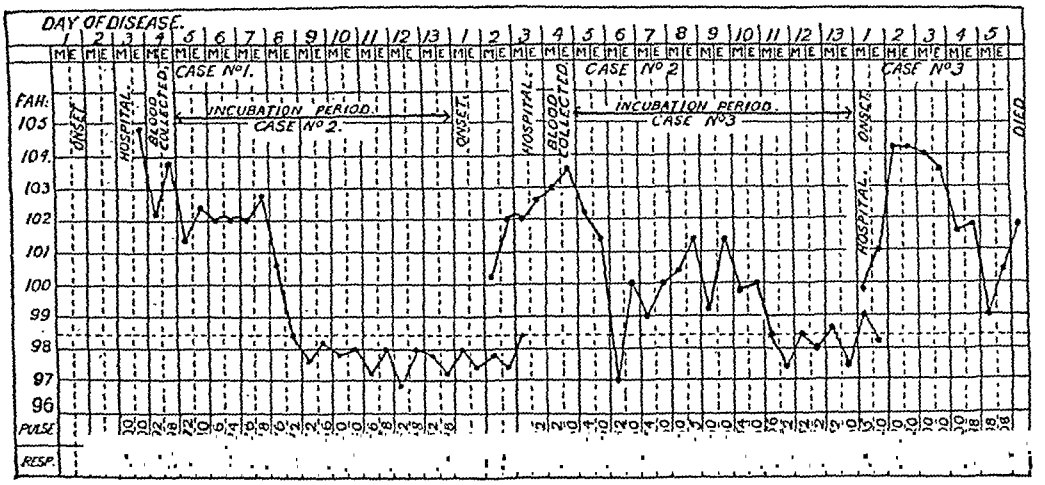
On examining the abdomen there was no rigidity, though tenderness was marked in the epigastrium, the right and left hypochondrium, and the flanks. The spleen was also tender and just palpable, but the liver showed no demonstrable enlargement. Active reflexes and photophobia were present. The urine was alkaline, and contained no albumin or bile; 16 oz. were passed soon after admission.

By 9 p.m. the headache was less severe, but the general condition remained unaltered. About 24 c.cm. of convalescent yellow fever serum from Case 1 was then administered subcutaneously, and 10 grains of calcium lactate three times a day was prescribed. The general line of treatment followed that outlined in the preceding cases, fluids and glucose being given freely. During the night the patient slept for short intervals, but restlessness was marked, the skin was hot and dry, and headache and painful micturition were present.

August 4th.—The tongue was dry, with central fur; the temperature was 104°, the pulse 120, and the respirations 26 per minute. The blood pressure was well sustained, the systolic being 124 and the diastolic 80. Urine was passed naturally, the specific gravity being 1022; there was an amphoteric reaction and a fair quantity of albumin. Urobilin was present, but not bile salts or pigment, sugar, or acetone bodies. The total quantity passed in the twenty-four hours was 34 oz. During the afternoon the patient again complained of headache, and appeared dazed, but he slept for short intervals. At 9 p.m. sighing, irregular respirations were first noted, and later incontinence of faeces developed, several loose stools being passed throughout the night.

August 5th.—In the morning the patient was obviously worse; he was very restless, at times delirious, and vomited a small amount of yellowish brown fluid. The temperature was 104°, the pulse 100, and the blood pressure had risen to 132 systolic and 96 diastolic. The face was flushed, the skin was definitely jaundiced, and the motions were loose and dark. Epistaxis occurred. During the day 54 oz. of urine were passed. Examination showed a specific gravity of 1016, slight acidity, and a moderate amount of albumin (25 mg. per cent.). Urobilin and a trace of bile salts were present, while the deposit contained numerous granular tube casts and epithelial cells.

August 6th.—There was no improvement, though the temperature was somewhat lower (102°). The patient was very restless and delirious, and vomited several times before 11 a.m. Retching was troublesome, and the typical "black vomit" now appeared. Yawning and sighing respirations also ensued, and later an attack of hiccups occurred, lasting one hour. The urine findings were similar to those on August 5th, except that pus cells appeared for the first time in the centrifugalized deposit. Again 54 oz. were passed in the twenty-four hours. By 5 p.m. the respirations became shallow, the pulse weaker, and rapid changes in colour were observed, the flushed, jaundiced face on occasions suddenly developing a sickly pallor. Oedema of the eyelids appeared later, and by 11 p.m. the patient lay curled up in bed, refused all nourishment, and at times was so restless that he was restrained only with difficulty.



Charts illustrating the incubation period in hospital infections with yellow fever.

August 7th.—During the early morning hours some sleep was obtained, but restlessness and delirium persisted; retching was troublesome; and the breathing was shallow, and often periodic in type. At 7 a.m. 25 oz. of urine were withdrawn. The temperature was now 99°, the pulse 88, and the respirations 28 per minute, while the blood pressure was 115 systolic and 80 diastolic. The tongue was dry and dirty, the lips cracked, and the breath foul. Puffiness around the eyes had decreased, but the skin was more jaundiced and at times somewhat cyanosed. The neck was stiff and the head retracted; the eyes were closed, and delirium was continuous. Twitchings of the facial muscles were also evident. The blood pressure was higher than in the morning, the systolic being 126 and the diastolic 80. Black vomit and melaena occurred during the afternoon, and later petechiae appeared on the skin of the back and face. At 6.30 p.m. the intense hiccupping, which had been continuous since midday, ceased, following injections of morphine and atropine and the application of a mustard plaster to the epigastrium. After this the patient slept for some time, but later grave toxaemic features developed. He now lay curled up in bed, with head retraction, half-closed eyes, and turned-up eyeballs. Epistaxis again occurred. The breathing was shallow and irregular, and sometimes periodic in type, the blood pressure fell (systolic 96 and diastolic 80), and the pulse became irregular, weak, and finally imperceptible. Digitaline, pituitrin, and intravenous glucose were given without benefit, and the patient succumbed at 4.5 a.m. on August 8th after less than five days' illness.

Commentary

This patient undoubtedly contracted his infection while either taking the blood or performing a blood count on Case II. The incubation period was ten days. From the onset he was severely ill, and the pulse, though slower than at first, failed to show the characteristic bradycardia met with in the other cases. There was no evidence that the convalescent serum administered on the first day of illness decreased the intensity of the toxaemia, or that calcium lactate had materially modified the tendency to haemorrhage, as Hindle and Findlay (1930) had found in experimentally infected monkeys.

General Discussion

Until 1928 investigations on yellow fever were invariably conducted in countries where it was endemic, and for this reason when members of the medical, laboratory, and nursing staff developed the disease, infection was attributed as a matter of course to the bite of the natural vector, *Aëdes argenteus* (*Stegomyia fasciata*). The tragic ends of Guillet, Adrian Stokes, Young, and Noguchi on the West Coast of Africa dramatically directed attention to the dangers of direct infection, while, as Hindle (1930) points out, the frequency of laboratory infections in Europe and America during the past two years has proved beyond all doubt the danger to man of direct virus transmission from contact with the blood of infected monkeys during life, or with their organs at necropsy. As a result of the death of Adrian Stokes, who had not been working with infected mosquitos for several months, Bauer and Hudson (1928) investigated the passage of virus through the skin of monkeys. They showed that yellow fever resulted if infected blood was merely rubbed on the normal intact skin of the abdomen of *Macacus rhesus*, but they stress the delicacy of the dermis in this situation, and point out that these experimental results did not determine whether the virus was capable of penetrating the normal unimpaired human skin of the hands, which is of thicker and denser texture. In the case of Adrian Stokes several abrasions were recorded as being present, but in our patients this was not so. Cases II and III illustrate the important fact that, in man, yellow fever virus is capable of penetrating the intact skin of the hands.

In countries where yellow fever is endemic it must frequently be necessary to take blood films, to make blood counts, and to perform routine tests of a similar nature on patients during the incubation period and febrile stages of this disease prior to its diagnosis. Our experience shows conclusively the very great danger associated with such procedures—at least during the first four days of fever. In the laboratory of the Hospital for Tropical Diseases antiseptic lotions were used for the hands, and all pipettes, syringes, and other glassware were unfailingly sterilized after coming into contact with infective blood, yet despite these precautions two of our staff were directly infected, as detailed in the text. Gloves, however, were not worn. This measure appears to be the only satisfactory one for preventing direct infection, for several others of us who employed gloves in collecting and handling infective blood did not acquire the disease. The virus content of human blood, during both the incubation period and the febrile stage, is not known as accurately as in monkeys, where it is recorded that 1 c.cm. of blood on the first day of fever commonly contains from one to ten million certainly lethal doses. Microscopic quantities of blood will probably infect, and our recent experience convinces us that in yellow fever countries many members of the medical, laboratory, and nursing staffs must in the past have acquired the disease in so simple a procedure as preparing blood slides, through not realizing its extraordinary infectivity and the capacity of the virus to penetrate unbroken skin.

The black vomitus, urine, and faeces from human sources are generally regarded as non-infective, and the organs at necropsy are held to be innocuous, owing to the disappearance of the virus by the time the patient succumbs. Davis and Burke (1929), however, infected a monkey from kidney tissue in a patient dying after three and a half days of fever, while in one of our cases human blood was proved to be infective 89¼ hours after the illness commenced. It should not be too lightly assumed, therefore, that post-mortem examination in man is entirely free from the risks of direct infection, and in all patients dying before the fifth day of the disease adequate precautions should be taken.

The subcutaneous administration of convalescent serum derived from patients who had recovered from yellow fever did not appear to modify the course of the disease in our patients. This was especially evident in Case III, death occurring after less than five days' illness, despite the injection of 24 c.cm. of convalescent serum within nineteen hours of the onset of the fever. Similarly, in Case II, though the patient recovered, the blood was found to be infective 89¼ hours after onset, despite the fact that serum had been injected 15¾ hours previously. In monkeys serum is of no therapeutic value once the disease is established, but Stokes, Bauer, and Hudson (1928) showed that as small a quantity as 0.1 c.cm. of immune serum would afford absolute protection for a monkey against subsequent inoculation with virus. Such findings suggest the advisability of immediate prophylactic inoculation whenever man has been exposed to contact with infected blood, while the long incubation period of ten days in the present series indicates the feasibility of this procedure.

Summary and Conclusions

1. Three cases of direct infection with a Brazilian strain of yellow fever are recorded in laboratory workers in London.

2. Two of these patients never came into contact, either directly or indirectly, with infected monkeys; they acquired the disease during routine hospital examinations, one in making blood slides and performing a white cell count, the other in doing routine biochemistry on a specimen of blood sent to the laboratory.

3. The incubation period in both cases was ten days.

4. Monkey inoculation showed that the blood of one case was infective for at least 89¼ hours after the onset of fever, despite the earlier injection of immune convalescent serum.

5. The hitherto little-appreciated danger of routine blood examination in cases of yellow fever during the first four days' illness, and probably also in the incubation period, is emphasized.

6. It is strongly urged that in endemic areas when yellow fever is prevalent gloves should invariably be worn when taking blood, whether the case is suspected of being yellow fever or not.

Our best thanks are due to the nursing staff of the hospital and to the resident medical officers, Dr. K. Lindsay and Dr. C. J. Hackett, for their tireless devotion to these cases during their illness.

BIBLIOGRAPHY

Stokes, A., Bauer, J. H., and Hudson, N. P.: Experimental Transmission of Yellow Fever to Laboratory Animals, *Amer. Journ. Trop. Med.*, 1928, viii, 103.

Bauer, J. H., and Hudson, N. P.: Passage of the Virus of Yellow Fever through the Skin, ibid, viii, 371.

Davis, N. C., and Burke, A. W.: Studies in South American Yellow Fever, *Journ. Exper. Med.*, 1929, xlix, 975.

Findlay, G. M., and Hindle, E.: Guanidine-like Substances in the Blood in Experimental Yellow Fever, *Lancet*, 1930, ii, 678.

Hindle, E.: The Transmission of Yellow Fever, ibid., 1930, ii, 835.

MALIGNANT DISEASE OF THE LUNG*

BY

A. TUDOR EDWARDS, M.D., M.CH., F.R.C.S.

SURGEON, BROMPTON HOSPITAL; SENIOR SURGEON TO OUT-PATIENTS, WESTMINSTER HOSPITAL

(With Special Plate)

Malignant disease in the chest—and especially in the lung—has occupied the mind of the profession to a much greater degree during recent years than formerly. Whether there has been a definite increase in the incidence of malignant disease in the lung during the last ten or twelve years has been, and still is, much debated. Of one thing there appears to be no doubt: the incidence of cases diagnosed is much higher to-day than even as recently as five or six years ago.

Primary malignant neoplasms in the chest—and more especially those arising in the lungs—are extremely insidious in their onset, and may have been present for many months before their presence is suspected. Unfortunately in a large proportion of them dissemination into the glands of the mediastinum has resulted by the time the symptoms are sufficient to cause the patient to seek medical advice, and all hopes of successful surgical removal of the disease is gone. In the lung, carcinoma appears to arise primarily in two situations—the bronchi and the parenchyma. In the bronchi, carcinomatous changes may originate—

(1) in the epithelial lining of the tubes, comprising (*a*) the squamous-celled group which result from anaplasia or metaplasia of the normal epithelial lining cells, and (*b*) the so-called cylindrical-celled carcinoma in which there is very wide variation in structure; or

(2) in the mucous glands, in which growths—generally alveolar in structure—myxomatous degeneration is often seen.

In the lung parenchyma the histological appearances vary somewhat according to the type of tumour. In the diffuse pneumonic type, involving varying proportions from part of a lobe to the whole lung, the alveoli are occupied by masses of cuboidal, cylindrical, or flattened cells. The localized carcinomata in the parenchyma may be single or multiple, and consist of vesicles partially filled with papillary projections of cylindrical cells. Endothelioma of the lung has been described, the growth being localized to a greater or lesser degree, and consisting of masses of cells of endothelial type. These are sometimes confused with the squamous-celled carcinomas. Sarcoma is generally of the spindle-shaped type, and varies considerably in size, occasionally filling the hemithorax, eroding ribs and even chest wall. Sarcomata are much rarer than has been thought, and unquestionably a number of cases formerly described as sarcoma would now be classified as carcinoma.

SYMPTOMS AND SIGNS

The onset of malignant disease is generally very gradual and insidious, but in a number of cases is initiated by a pyrexial attack commonly labelled influenza. For weeks, and occasionally for months, the history in others may disclose nothing except increasing lassitude without localizing symptoms. This symptom is later accompanied by dyspnoea or non-productive cough, both persisting and tending to become worse. The general appearance is often good, and weight may even be gained at this period. Haemoptysis occasionally occurs early. Irregular pyrexia may be an early symptom, but the temperature is rarely high until the later stages, when there is retention of secretions, or when necrosis has occurred in the centre of the growth. A sudden attack of haemoptysis, associated with the expectoration of a quantity of purulent sputum, occurs occasionally in malignant disease, and tends to confuse the condition with pulmonary abscess, especially as it is often preceded by a rise, and succeeded by a fall, of temperature. Pain is certainly rare in the early stages, but until the pleura or mediastinum is involved is never severe. Dysphagia occasionally results from the pressure of secondary deposits in mediastinal glands upon the oesophagus, and hoarseness from pressure upon, or involvement of, the left recurrent laryngeal nerve.

The signs vary according to the type of the disease. In the bronchial growths the physical signs are those of pulmonary atelectasis, bronchial breathing of a blowing type, some dullness, and often increase of voice sounds when the obstruction is incomplete, with dullness and weakness or absence of breath and voice sounds when complete bronchial obstruction is present. In the central or alveolar type physical signs may be absent, or may consist of localized dullness associated with weakness of breath and voice sounds. Extrapulmonary signs should also be sought for, such as enlarged supraclavicular glands and paralysis of the homolateral diaphragm due to phrenic nerve involvement. Evidence of venous obstruction, such as dilatation of the superficial veins of the chest and the veins of upper limb and neck, is comparatively rare in pulmonary neoplasms. Effusions of the pleura are usually late in their incidence, and are often haemorrhagic. Bronchiectasis secondary to the obstruction results in a proportion of cases, and its symptoms may mask those of the initial lesion.

DIAGNOSIS

The fact that the signs are atypical of any of the common lung diseases should immediately suggest the possibility of malignant disease of the lung. Diagnosis may be confirmed by further investigations. These comprise *x*-ray examination, before and after pneumothorax, and the introduction of lipiodol into the bronchi, bronchoscopy, thoracoscopy, and, finally, exploration of the thoracic cavity.

X-ray Examination

This examination should consist of observation of the patient under the screen to judge the range of diaphragmatic movement and the manner in which the lighting up of the lung field varies during inspiration and expiration. The different types of pulmonary growth give rise to different radiological appearances.

(*a*) *Growths Obstructing the Bronchus.*—A characteristic appearance is given in skiagrams where a neoplasm is occluding a bronchus sufficiently to prevent the passage of air into and from the area of lung supplied by that bronchus. The air in the occluded portion of lung is gradually absorbed, and the lung tissue appears opaque in the skiagram. Generally the area is somewhat wedge-shaped, with the apex at the occluded bronchus and its base at the periphery. When the main bronchus to a lobe is occluded the whole lobe becomes atelectatic and shows a shadow. When the obstruction has been present for some time the mediastinum may be displaced to the affected side. *X*-ray examination, following the introduction of lipiodol, will often show an irregularity in the shadow of the opaque oil which has collected above the obstruction, corresponding to the irregularity at the surface of the growth. Naturally, the oil will not enter the obstructed part of the lung. Other causes of bronchial occlusion, such as foreign bodies, can generally be eliminated by the history, but where there is any doubt bronchoscopy should be performed.

(*b*) *Central Growths.*—In localized growths in the parenchyma of the lung the skiagrams show a definite opaque shadow corresponding in outline with the tumour. There is complete absence of any pulmonary reaction

*A paper read at the joint meeting of the Sections of Surgery and Tuberculosis at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

around, as is seen in infective conditions such as abscess, and this usually results in a very clear definition of the margins of the growth. Pleural and subpleural tumours often give similar appearances in skiagrams to those of central pulmonary neoplasms. Where pneumothorax is possible these can be differentiated, the lung collapsing partially over the intrapulmonary growths, whereas extrapulmonary growths can be seen outside the area of the collapsed lung. In a certain proportion of cases the centre of the growth necroses, and should infection spread in from the bronchi an infective abscess surrounded by new growth will result, whereon the *x*-ray appearances will be altered and the opacity be much more diffuse and ill-defined owing to the inflammatory reaction in the surrounding lung. This complication accounts for those cases of new growth which are diagnosed as pulmonary abscess and treated as such for some time before the underlying cause is suspected.

Bronchoscopy

In all cases in which there is evidence of bronchial obstruction, bronchoscopy should be undertaken. Not only these cases, but those of patients in whom haemoptysis is a prominent symptom and in whose sputum no specific organisms, such as tubercle bacilli, can be found after several examinations, should be submitted to bronchoscopy. During this examination it is often found difficult to distinguish a malignant growth from oedematous granulation tissue, and it is therefore essential that a small portion of suspicious tissue should be removed for histological examination.

Thoracoscopy

Following the production of an artificial pneumothorax or the replacement of an effusion, either haemorrhagic or serous, by air, thoracoscopy may be of value in a limited number of cases. In cases where the growth or growths are superficial in the lung it may enable a definite diagnosis to be made. It may also be of value in the differentiation of growths of the lung itself from growths of the pleura or chest wall.

Thoracic Exploration

It cannot be questioned that the enormous advance made in diagnosis and treatment of abdominal disease in the past is largely due to the frequency of exploration for obscure lesions. In our comparative ignorance of the early pathology of chest disease it is surely reasonable to expect that exploratory thoracotomy should be much more frequently undertaken than is the case if progress is to be made. Exploratory thoracotomy as carried out under modern conditions and, if possible, preceded by the induction of artificial pneumothorax, is certainly no more serious a procedure than abdominal exploration, and in general the patients have much less post-operative discomfort. Intercostal incision, with retraction of the adjoining ribs, gives sufficient exposure, and rib resection is unnecessary, except in older subjects in whom the costal cartilages are ossified. In each of two cases of suspected malignant disease submitted to exploration I have been able to remove successfully a teratoma, one containing six pounds of semi-solid sebaceous material.

TREATMENT

Apart from the various forms of *x*-ray therapy, no definite attempts have been made until recently to treat malignant disease of the lung in an adequate way. Owing to its insidious onset, and therefore the comparatively advanced stage which is reached before diagnosis is made, and owing to its position with regard to vital structures, the difficulty of complete removal or adequate irradiation of malignant disease of the lung is obvious. As cases have been classified into two main groups—the parenchymatous and the bronchial—in *x*-ray diagnosis, similarly for treatment they may be grouped as: (1) central growths, (2) bronchial carcinoma.

Central Growths

Unfortunately this group, consisting of growths which offer most chance of surgical extirpation, forms a very small proportion of the total cases of malignant disease of the lung. Of 118 cases of primary malignant neoplasm in the lung which I have personally seen, only nine patients could be put in this category. These nine cases were submitted to exploratory thoracotomy, and six were inoperable because of the presence of secondary malignant glands in the mediastinum or widespread adhesion to the chest wall. The other three, comprising two endotheliomata and one squamous-celled carcinoma, were removed, and are worthy of record.

CASE I.—*Endothelioma of Lung Involving the Right Lower Lobe and Diaphragm*

The patient was a man, aged 60, and the condition necessitated removal of about three-quarters of the right lower lobe and a portion of the diaphragm. The patient died fourteen hours later from haemorrhage from an intercostal artery, which had been penetrated by the needle used in suture of the chest wall.

CASE II.—*Endothelioma of Lower Lobe of Right Lung*

The patient, a woman aged 48, was operated upon in December, 1928. Pain and discomfort were the only symptoms, apart from expectoration of a small quantity of blood-stained mucus on one occasion. The *x* rays showed a definite tumour involving the right lower lobe, and after pneumothorax was induced the lung and its contained tumour were seen to be free from pleural adhesions (Fig. 1). Exploration showed the tumour localized in the lung with no involvement of the mediastinal glands. A small cuff of normal lung was turned back at the hilum, and the lobar artery and vein to the right lower lobe ligatured. The bronchus was crushed and ligatured, and the cuff of pulmonary tissue was sewn over the stump after removal of the lobe. Airtight drainage was employed for forty-eight hours. Apart from a subacute dilatation of the stomach, convalescence was uninterrupted. This patient is alive and without symptoms at the present time, one year and eight months after operation (Fig. 2).

CASE III.—*Squamous-celled Carcinoma of the Lung Involving the Chest Wall*

In July, 1929, the patient, a man aged 55, complained of a slight cough and expectorated a small quantity of blood-stained sputum. *X* rays showed a mass in the left lung, extending to the chest wall. Another skiagram, fourteen days later, showed a similar appearance, but there was now evidence of spontaneous fracture of the sixth rib. There was an area of dullness and dry pleural cracking in the left axilla. Artificial pneumothorax showed adhesion of the mass, which had extended outward from the lung to the chest wall. In September, 1929, exploration was made, and the mass in the lung and the adherent chest wall was removed. This necessitated the excision of the major part of the left lower lobe and portions of three ribs and the intercostal structures between. Airtight drainage was instituted. The general condition was good after operation. The patient improved for a period, but later there was definite evidence of recurrence, from which death ensued about four months later. Histological section of the tumour showed squamous-celled carcinoma.

Of the remaining six cases in this group one patient had multiple primary growths in the right lower lobe with secondary glands in the mediastinum, and eventually died without further treatment. Three others were treated with radon seeds, and will be mentioned later, as will another who was treated by application of a radium plaque externally. One patient with an inoperable growth died from acute bronchitis involving the opposite lung.

Bronchial Carcinoma

This type will rarely offer any hope for successful removal owing to its position and to its early spread into the mediastinal glands. In one case only have I attempted to remove a growth in this region.

CASE IV.—*Carcinoma of Bronchus of Left Upper Lobe*

The patient, a woman aged 27, suffering from haemoptysis, had been treated for some months for pulmonary tuberculosis. *X*-ray examination showed a bilobed shadow in the subapical region of the left upper pulmonary lobe. Its sharp outline suggested a growth, and there was doubt as to whether it was benign or malignant. Pneumothorax, followed by *x* rays, showed the tumour in the lung tissue (Fig. 3). Exploratory thoracotomy on January 8th, 1930, showed the tumour—about the size of a tangerine—to be situated in the upper lobe. The overlying lung was incised, and the tumour was found to lie within an enormously distended bronchus. To this it was attached by a broad base. This base was excised with the tumour, whereon a sudden haemorrhage from the lobar artery ensued. Seizure of the bleeding area was followed by sudden collapse of the patient. A ligature was applied and the lung tissue rapidly sutured over the opened bronchus. Airtight drainage of the chest through a low intercostal stab wound was instituted, and the chest rapidly closed. A small transfusion of 200 c.cm. of blood was followed by rapid improvement of the patient, although the collapse was probably due to vagal shock. Steady convalescence resulted, and the patient is well and symptomless now, eight months after operation (Fig. 4). The growth proved to be a columnar-celled carcinoma.

Radium Treatment

When radical removal is impossible radium therapy should be considered for all growths of a malignant nature in the lung. Three methods are available: (1) teletherapy, application at a distance of large doses (1 to 4 grams) in a bomb; (2) external application of plaques; (3) insertion of radon seeds.

(1) *Teletherapy.*—This method is very attractive, for it does away with any necessity for operation and, being unaccompanied by pain, appeals to doctor and patient alike. My personal experience with this method is limited, and the possibilities of its variations entail a very extended trial before judgement can be passed. However, in those patients—six in number—which have been treated by this method alone, I have yet to see any, even temporary, improvement, and they have all died.

(2) *External Plaques.*—The application of radium on external plaques of Columbia paste or sorbo rubber having proved valuable in other regions, it has been used for five cases of malignant disease of the lung. It is quite obvious that the intensity of the rays in deep growths is so small that no effective action could be expected on growths in the main bronchi, and therefore it should be reserved for growths adjacent to the chest wall. By this method also I have yet to see improvement in the radiological appearance of the neoplasm, although in three cases where the growth had commenced to involve the chest wall and acute pain was a marked feature, the radium application has resulted in considerable amelioration of this symptom.

(3) *Radon Seeds.*—For growths in the main bronchi there are definite dangers of perforation into the mediastinum by haphazard insertion of seeds into the growth itself, and I have therefore devised a small hollow silver tube which carries eight radon seeds. This tube is inserted into the bronchus through the bronchoscope, and a small thread, attached thereto before insertion, passes up through the larynx, and is fixed to the cheek by strapping. The tube has been retained from five to eight days, and appears to cause little irritation. Withdrawal is easily effected by traction on the thread. This method I have used in four patients, but the records are too recent to decide as to its ultimate value. As these growths are often of the squamous-celled variety there is a distinct possibility that we may get a curative result in cases where no extension to the mediastinal glands has occurred before irradiation.

For central neoplasms, and for those arising peripheral to the main bronchi, which are inoperable, the direct insertion of radon seeds would appear to be the method of choice. In every case in which the general condition of the patient does not contraindicate, the growth should be explored, its extent determined, and the seeds inserted as regularly as possible under direct vision. Where adhesions are extensive wide exploration is not possible, and, in these, careful study of skiagrams in various directions will aid in the even distribution of the seeds throughout the growth. Originally the seeds were introduced by one of the types of introducers used for growths elsewhere in the body. In the recent cases I have been employing an ingenious modification, which allows of coagulation of the needle-track by the diathermic current before the trocar is withdrawn. This simple but ingenious modification, which has been suggested by Dickson Wright, prevents the escape from the puncture holes of blood containing tumour cells, and the possible transplantation and development of these cells on the pleural surfaces.

The last three cases which I have treated by this method offer considerable encouragement. In one case the tumour shadow became much less dense and diminished in size, the persistent cough disappeared, and the patient, a man of 68, gained 11 lb. in weight. I have recently heard, eleven months after operation, that he has developed a hemiplegia, which is possibly due to a secondary deposit in the brain. A second patient, a woman of 35, was operated upon in February of last year. When she was examined six months later she had completely lost all sputum; pyrexia and cough were absent, and she had gained well over a stone in weight. *X* rays show almost complete disappearance of the opacity in the lung. The last patient, a man of 64, who also suffered from myocardial changes, is already much improved, although the seeds were only inserted early in June.

Results such as the above are, in my opinion, a distinct encouragement to persevere in the treatment of these cases by radium, and, even if cure cannot be obtained, the relief given and the prolongation of life afforded by these means thoroughly justify the comparatively small risk of the operation.

Deep X-Ray Therapy

This method of treatment has proved very disappointing for primary malignant lung tumours, and I have yet to see a patient who has benefited thereby. The newer and more powerful forms of apparatus may prove of more value, but unless other methods fail I am disinclined to recommend this treatment to my patients at the present time.

Secondary deposits in the lungs are most commonly multiple, and often bilateral. In such cases no question of operative treatment is likely to arise. In rare cases, however, a single secondary deposit may occur in the lung, and in such as the following may justify radical operation.

CASE V.—*Secondary Myeloma in the Left Upper Lobe*

The patient, a woman aged 57, gave the following history. In 1904 she had a myeloma curetted from the upper end of the right fibula. This operation was repeated in 1907. There was another recurrence in 1921, which was treated by radium. This resulted in considerable pain and swelling, and the right lower limb was amputated three weeks later. On July 22nd, 1927, there was a slight attack of haemoptysis. Inquiry elicited a history of a certain feeling of constriction in the upper chest for the previous six months. On examination there was a small patch of dullness over the left apex

posteriorly. X rays showed a well-defined shadow in the apex of the left upper lobe (Fig. 5). Pneumothorax proved the mass to be intrapulmonary, and, in view of the history, probably a secondary deposit (Fig. 6). The upper two-thirds of the left upper lobe were removed through an intercostal incision. Apart from some temporary collapse of the left lower lobe, due to a mucus plug in the bronchus, which was coughed up later, convalescence was uninterrupted (Fig. 7). This patient is alive and symptomless to-day, three years after operation.

Occasionally the rapidity of development of secondary deposits of limited extent in the lungs is diminished by deep x-ray therapy, and this treatment should be recommended only when its limitations are fully realized.

In the past, when a diagnosis of malignant disease was established, the tendency has been to abandon all hope. As diagnosis is becoming possible at an earlier stage it is surely time that some definite efforts should be made to deal with the problem of malignant disease of the lung in a more active way than by palliation of symptoms alone.

CATARACT OPERATION IN EXTREME OLD AGE

BY

R. H. ELLIOT, M.D., F.R.C.S.
LIEUT.-COLONEL I.M.S. (RET.)

It is commonly urged by relations that a patient is "too old for an operation for the removal of cataract." During the course of my experience in cataract operation, running into many thousands of extractions, I have on four occasions operated on patients 90 years old and over, and on one just before her ninetieth birthday. In addition to this I have operated on a very large number of patients between the ages of 80 and 90. No experienced operator will dispute that a cataract extraction is a shock to the patient, and that the lives of some old people are shortened by procedures of the kind injudiciously undertaken. The fact is worth noting that in all five cases the operation was successful, and also the further fact that in not one single instance does it appear to have shortened life. Before discussing the reason for this a few details of these cases may be of interest.

The first patient was a woman in Madras whose skin hung on her in satiny wrinkled folds, resembling the skin of an animal rather than that of a human being. She claimed to be "very, very old," but, like a number of the natives of India, could not give her exact age. She could say, however, that her eldest son fought in one of the Sikh wars. My assistants were able to calculate from this that, even allowing for the very tender age at which Indian women become mothers, she must have been at least 96 at the time of the operation, and possibly several years older. Not only did she make an uninterrupted and perfect recovery, but she signalized the event by stealing a necklace from under a neighbour's pillow the first night that her eye was released from the bandage. The result was that I had to interview her and the outraged lady in the orderly room next morning.

The next case was that of an old retired civil servant, who had long told that an operation for cataract was necessary, refused to have it done until after his ninety-fifth birthday, as he had undertaken to give a bride away on that date. He also made an uninterrupted recovery, and appeared to suffer no shock from the operation. A year later he came to see me, asking me to inspect my golfing eye. He brought with him cuttings from an illustrated paper with his photograph, and the legend beneath it stated that he had made a record "drive" for his age. Considering the very small number of people who play golf at that advanced period, such a statement might readily be accepted. He was asked by a friend at Lucerne his drive, as given in the press, was, he maintained, ten yards short of the length he had really driven. (A true golfer!) I have lost sight of him for a good many years and conclude that he is dead.

The third case was that of an old general who had served many years in the Indian Army. I first operated just after his ninety-fifth birthday for double glaucoma. Six months later I extracted a cataract from one eye. The operations were successful; he stayed only the usual fortnight in the nursing home, and did not appear to be unduly depressed by the shock he had sustained. Whenever I went to see him he had a racy story to tell me. On the occasion of my visit to him in the home on the night before the operation he assured me that he felt quite young, and to satisfy me on this point he insisted on the nurse dancing one of the new steps with him round his room while he vigorously hummed a tune.

In the fourth case the patient was a man very distinguished in public life in his day, and accustomed to having his own way. He had both cataracts extracted towards the close of the ninth decade of his life. An after-cataract formed some time later in one of his eyes. His family were desirous that he should not undergo further operation, and, needless to say, I was very unwilling to undertake any procedure on him after 90 years of age, in view of the fact that the vision was quite reasonably good with the eye in question, while he could read diamond print and had 6/5 vision with the other. I tried to dissuade him, but he turned very determinedly on me and asked, "Do you think I shall see better with that eye if I have it operated on?" I replied, "Yes, but there is an element of risk to your life in this case which I do not feel justified in taking without putting the matter very clearly before you." His reply was, "Well, that is settled. I will come into the home." He was a perfect patient, as he always had been, and once again showed no sign of shock; his recovery was even and uninterrupted, and he regained the sight which he formerly had, equal to that of the other eye.

The fifth patient was operated upon a few months before her ninetieth birthday for a cataract of the Morgagnian variety. The operation was performed in two stages. The patient was stone deaf, and the only possible means of communicating with her was by the hands. We had to establish a code before the operation with signs for "look down," "look up," etc. She was a model patient, and in consideration of her great age she was allowed to sit up in bed the day after the operation. She remained in the home the usual fortnight, making a perfect recovery. Later she was fitted for glasses, though on account of her deafness it was a matter of great difficulty to conduct an accurate test. Her distance vision, under correction, was 6/12, and she read No. 2 (pearl) print easily. She is now over 92, and I recently heard that she was doing well.

Colonel Kirkpatrick has very kindly allowed me to include in this record a case of his own, in an old "John Company" pensioner, 96 years of age, upon whom he operated in Madras. He cannot remember with absolute certainty whether one or both cataracts were extracted, but he is practically sure that the old man came back three or four months later for the second eye to be treated. The point of great interest is that the patient had rhinophyma, causing a marked disfigurement of his nose, and that after the recovery of his sight he insisted on having this operated on at the General Hospital, Madras. He went home with a greatly improved appearance, having regained the strikingly handsome looks of his earlier years—not a bad sequel at about 97.

COMMENTARY

It is probable that very few surgeons have had the opportunity of operating on so many patients at such very advanced ages, and this seems to justify a short note on the cases. What appears to me of much more interest is: (1) that in every one of these cases the operation was successful; and (2) that in none of them was the shock of the operation severe. Remembering how many patients aged 70 or less are in too frail a condition to be submitted

to a cataract operation, and recalling the cases in which it was feared that life was definitely shortened by the shock of the procedure, even though the patient did not die for many months afterwards, the question arises, How is it that these old patients stand operation so well? I think that the answer lies in the extraordinary vitality that has enabled them to live twenty years and longer beyond what is usually accepted as the allotted span of life. The little incidents I have related in connexion with them illustrate the vitality that radiates through these exceptional specimens of the human race. Their protoplasm appears to be of a more active and resistant nature than that of most of their fellows, and I suggest that it this that makes them such good subjects for operation. It is not without significance that such people usually have warm hands and feet—an indication, one may suppose, of an active thermotaxic centre and of excellent circulation. The joy that they obtained out of their restored sight was delightful to see, and I can unhesitatingly say that, given the conditions I have mentioned in these cases, I would sooner operate on such subjects than on many who are only in the sixth and seventh decades of life.

HYDATID DISEASE IN ENGLAND

BY

JAMES F. BRAILSFORD, M.D., M.R.C.S.

THE QUEEN'S HOSPITAL, BIRMINGHAM

(With Special Plate)

Hydatid disease is not a rare disease in this country, although its frequency is much less than in Iceland and in the countries with extensive sheep farming—for example, Australia and the Argentine.

ANIMAL INFESTATION

While investigating the pathological conditions of food animals, I visited the Birmingham public abattoir daily for several years, and every day saw the viscera of sheep, cattle, or pigs infested with the parasite of this disease. Some herds were extensively infested, others free. In a few cases only a solitary cyst was discovered in the animal; in the majority the cysts were multiple, almost completely destroying the normal tissue. The organs so infested were greatly increased in bulk and weight; in some cases cows' livers weighing 200 to 250 lb. were seen, the normal being about 14 lb. (Figs. 1 and 4). Examples of human infestation are seen in hospitals from time to time, and these always attract attention by the variety of the manifestations of the parasitic invasion and by the interesting characteristic features of the hydatid cyst and its contents. No fewer than three hundred articles relative to cases of hydatid disease have been published during the last five years. That we see the disease so frequently in food animals and occasionally in man indicates that conditions are allowed to exist which permit of the completion of the life-cycle of a parasite capable of producing a very dangerous disease in human beings. This is regrettable because, thanks to the researches of Cranwell, Dévé, Dew, Fairley, Graham, Leukart, Thomas, Vegas, and many others, we have the knowledge which would enable us to eradicate the disease from Great Britain as we have done with rabies and other contagious diseases of animals. Every local authority has by-laws which contain a clause prohibiting the dog from slaughterhouse premises, but this by-law is not as strictly enforced as it should be. The parasitic cysts being common in food animals, and not affecting the sale of the meat of the animal, odd cysts are cut off and [illegible] the butcher while trimming the viscera for sale. He thinks no more of the cyst than he would of a clot of blood or other waste fragment. Further, sheep's lungs, which sometimes one has seen so extensively packed with cysts that little normal tissue remains, are not sold for human food; they are put on one side as food for dogs and cats. Dogs are permitted to enter slaughterhouse premises and help themselves to the exposed refuse of the establishment, including any of these odd cysts which may have been thrown on the floor. Again, slaughterhouse refuse is sometimes used for manure, being spread over fields to the joy of all the dogs of the neighbourhood. The adult parasite *Taenia echinococcus* has been found in the wolf, jackal, jaguar, and fox. Obviously only the last may be a source of spread in this country. It is difficult to get foxes for examination, but during the past three years I have examined the intestines of four foxes without finding any echinococci. The part which the fox plays in dissemination could readily be ascertained if a careful inquiry were made into the source of infestation of food animals of the district. At the abattoir are evidences of herds which are badly infested, and if the farms on which these animals are reared were visited, and the dogs known to frequent the particular farms examined, it should easily be possible to find the host or hosts of the adult parasites. Town dogs appear to be fairly free from infestation. In 1920 I made post-mortem examinations on 100 dogs which had been destroyed for various reasons at the Dogs' Home, but in no case did I find *Taenia echinococcus*, although 65 of them were harbouring other tapeworms. I have no doubt from the frequency of the cysts in food animals that the examination of a similar number of dogs in rural districts, particularly sheep dogs, would show a definite number to be harbouring the adult *Taenia echinococcus*. Krabbe discovered the parasite in 25 per cent. of the dogs of Iceland, while 15 to 100 per cent. of the dogs in different districts in Australia have been found to be infested. During recent years the Australian authorities have adopted active measures of prevention, and it is apparent that the percentage of infested dogs has considerably diminished. In this country there is no active propaganda against the parasite. Even the Board of Agriculture and Fisheries does not seem to think it of sufficient importance to issue a leaflet of instruction as it does with diseases of animals much less dangerous and of less economic importance. The possibility of the disease being spread by the cat should not be absolutely ignored, for Dévé has infested the cat experimentally, and cats are frequently fed on raw sheep's lungs. It is probable that the cat is spared infestation by the owner rejecting "lights" containing large cysts, or by the cooking of this food.

HUMAN INFESTATION

Although Dévé has proved experimentally that cysts can develop if the ova are introduced into the bronchi, it is unlikely that many cases of human infestation occur from the inhalation of dust containing ova. Certain possibilities for this exist during the brushing and combing of a dog whose hair has been soiled by faeces containing ova; but a more probable mode of spread is by soiling the hands with ova which are transferred to the mouth, particularly by children whilst eating. It is not always easy to trace the source of infestation. In 1920 I visited the homes of ten patients suffering from, or who had died from, hydatid disease. In one case, where the occupier said that they had never kept a dog, I saw dog excreta on the floor under the table in the living room, and a child crawling about the floor. On pointing this out, I was told that the "mess" had been made by a neighbour's dog, which came in at meal times. I

posteriorly. X rays showed a well-defined shadow in the apex of the left upper lobe (Fig. 5). Pneumothorax proved the mass to be intrapulmonary, and, in view of the history, probably a secondary deposit (Fig. 6). The upper two-thirds of the left upper lobe were removed through an intercostal incision. Apart from some temporary collapse of the left lower lobe, due to a mucus plug in the bronchus, which was coughed up later, convalescence was uninterrupted (Fig. 7). This patient is alive and symptomless to-day, three years after operation.

Occasionally the rapidity of development of secondary deposits of limited extent in the lungs is diminished by deep *x*-ray therapy, and this treatment should be recommended only when its limitations are fully realized.

In the past, when a diagnosis of malignant disease was established, the tendency has been to abandon all hope. As diagnosis is becoming possible at an earlier stage it is surely time that some definite efforts should be made to deal with the problem of malignant disease of the lung in a more active way than by palliation of symptoms alone.

CATARACT OPERATION IN EXTREME OLD AGE

BY

R. H. ELLIOT, M.D., F.R.C.S.

LIEUT.-COLONEL I.M.S. (RET.)

It is commonly urged by relations that a patient is "too old for an operation for the removal of cataract." During the course of my experience in cataract operation, running into many thousands of extractions, I have on four occasions operated on patients 90 years old and over, and on one just before her ninetieth birthday. In addition to this I have operated on a very large number of patients between the ages of 80 and 90. No experienced operator will dispute that a cataract extraction is a shock to the patient, and that the lives of some old people are shortened by procedures of the kind injudiciously undertaken. The fact is worth noting that in all five cases the operation was successful, and also the further fact that in not one single instance does it appear to have shortened life. Before discussing the reason for this a few details of these cases may be of interest.

The first patient was a woman in Madras whose skin hung on her in satiny wrinkled folds, resembling the skin of an animal rather than that of a human being. She claimed to be "very, very old," but, like a number of the natives of India, could not give her exact age. She could say, however, that her eldest son fought in one of the Sikh wars. My assistants were able to calculate from this that, even allowing for the very tender age at which Indian women become mothers, she must have been at least 96 at the time of the operation, and possibly several years older. Not only did she make an uninterrupted and perfect recovery, but she signalized the event by stealing a necklace from under a neighbour's pillow the first night that her eye was released from the bandage. The result was that I had to interview her and the outraged lady in the orderly room next morning.

The next case was that of an old retired civil servant, who, being told that an operation for cataract was necessary, refused to have it done until after his ninetieth birthday, as he had undertaken to give a bride away on that date. He also made an uninterrupted recovery, and appeared to suffer no shock from the operation. A year later he came to see me, asking me to inspect my handiwork, he brought with him cuttings from an illustrated paper with his photograph, and the legend beneath it that he had made a record "drive" for his age. Considering the very small number of people who play golf at 91, the statement might readily be accepted. He was extremely indignant because his drive, as given in the press, was, he maintained, ten yards short of the length he had really driven. (A true golfer!) I have lost sight of him for a good many years and conclude that he is dead.

The third case was that of an old general who had served many years in the Indian Army. I first operated just after his ninety-fifth birthday for double glaucoma. Six months later I extracted a cataract from one eye. The operations were successful; he stayed only the usual fortnight in the nursing home, and did not appear to be unduly depressed by the shock he had sustained. Whenever I went to see him he had a racy story to tell me. On the occasion of my visit to him in the home on the night before the operation he assured me that he felt quite young, and to satisfy me on this point he insisted on the nurse dancing one of the new steps with him round his room while he vigorously hummed a tune.

In the fourth case the patient was a man very distinguished in public life in his day, and accustomed to having his own way. He had both cataracts extracted towards the close of the ninth decade of his life. An after-cataract formed some time later in one of his eyes. His family were desirous that he should not undergo further operation, and, needless to say, I was very unwilling to undertake any procedure on him after 90 years of age, in view of the fact that the vision was quite reasonably good with the eye in question, while he could read diamond print and had 6/5 vision with the other. I tried to dissuade him, but he turned very determinedly on me and asked, "Do you think I shall see better with that eye if I have it operated on?" I replied, "Yes, but there is an element of risk to your life in this case which I do not feel justified in taking without putting the matter very clearly before you." His reply was, "Well, that is settled. I will come into the home." He was a perfect patient, as he always had been, and once again showed no sign of shock; his recovery was even and uninterrupted, and he regained the sight which he formerly had, equal to that of the other eye.

The fifth patient was operated upon a few months before her ninetieth birthday for a cataract of the Morgagnian variety. The operation was performed in two stages. The patient was stone deaf, and the only possible means of communicating with her was by the hands. We had to establish a code before the operation with signs for "look down," "look up," etc. She was a model patient, and in consideration of her great age she was allowed to sit up in bed the day after the operation. She remained in the home the usual fortnight, making a perfect recovery. Later she was fitted for glasses, though on account of her deafness it was a matter of great difficulty to conduct an accurate test. Her distance vision, under correction, was 6/12, and she read No. 2 (pearl) print easily. She is now over 92, and I recently heard that she was doing well.

Colonel Kirkpatrick has very kindly allowed me to include in this record a case of his own, in an old "John Company" pensioner, 96 years of age, upon whom he operated in Madras. He cannot remember with absolute certainty whether one or both cataracts were extracted, but he is practically sure that the old man came back three or four months later for the second eye to be treated. The point of great interest is that the patient had rhinophyma, causing a marked disfigurement of his nose, and that after the recovery of his sight he insisted on having this operated on at the General Hospital, Madras. He went home with a greatly improved appearance, having regained the strikingly handsome looks of his earlier years—not a bad sequel at about 97.

COMMENTARY

It is probable that very few surgeons have had the opportunity of operating on so many patients at such very advanced ages, and this seems to justify a short note on the cases. What appears to me of much more interest is: (1) that in every one of these cases the operation was successful; and (2) that in none of them was the shock of the operation severe. Remembering how many patients aged 70 or less are in too frail a condition to be submitted

to a cataract operation, and recalling the cases in which it was feared that life was definitely shortened by the shock of the procedure, even though the patient did not die for many months afterwards, the question arises, How is it that these old patients stand operation so well? I think that the answer lies in the extraordinary vitality that has enabled them to live twenty years and longer beyond what is usually accepted as the allotted span of life. The little incidents I have related in connexion with them illustrate the vitality that radiates through these exceptional specimens of the human race. Their protoplasm appears to be of a more active and resistant nature than that of most of their fellows, and I suggest that it this that makes them such good subjects for operation. It is not without significance that such people usually have warm hands and feet—an indication, one may suppose, of an active thermotaxic centre and of excellent circulation. The joy that they obtained out of their restored sight was delightful to see, and I can unhesitatingly say that, given the conditions I have mentioned in these cases, I would sooner operate on such subjects than on many who are only in the sixth and seventh decades of life.

HYDATID DISEASE IN ENGLAND

BY

JAMES F. BRAILSFORD, M.D., M.R.C.S.

THE QUEEN'S HOSPITAL, BIRMINGHAM

(With Special Plate)

Hydatid disease is not a rare disease in this country, although its frequency is much less than in Iceland and in the countries with extensive sheep farming—for example, Australia and the Argentine.

ANIMAL INFESTATION

While investigating the pathological conditions of food animals, I visited the Birmingham public abattoir daily for several years, and every day saw the viscera of sheep, cattle, or pigs infested with the parasite of this disease. Some herds were extensively infested, others free. In a few cases only a solitary cyst was discovered in the animal; in the majority the cysts were multiple, almost completely destroying the normal tissue. The organs so infested were greatly increased in bulk and weight; in some cases cows' livers weighing 200 to 250 lb. were seen, the normal being about 14 lb. (Figs. 1 and 4). Examples of human infestation are seen in hospitals from time to time, and these always attract attention by the variety of the manifestations of the parasitic invasion and by the interesting characteristic features of the hydatid cyst and its contents. No fewer than three hundred articles relative to cases of hydatid disease have been published during the last five years. That we see the disease so frequently in food animals and occasionally in man indicates that conditions are allowed to exist which permit of the completion of the life-cycle of a parasite capable of producing a very dangerous disease in human beings. This is regrettable because, thanks to the researches of Cranwell, Dévé, Dew, Fairley, Graham, Leukart, Thomas, Vegas, and many others, we have the knowledge which would enable us to eradicate the disease from Great Britain as we have done with rabies and other contagious diseases of animals. Every local authority has by-laws which contain a clause prohibiting the dog from slaughterhouse premises, but this by-law is not as strictly enforced as it should be. The parasitic cysts being common in food animals, and not affecting the sale of the meat of the animal, odd cysts are cut off [illegible] by the butcher while trimming the viscera for sale. He thinks no more of the cyst than he would of a clot of blood or other waste fragment. Further, sheep's lungs, which sometimes one has seen so extensively packed with cysts that little normal tissue remains, are not sold for human food; they are put on one side as food for dogs and cats. Dogs are permitted to enter slaughterhouse premises and help themselves to the exposed refuse of the establishment, including any of these odd cysts which may have been thrown on the floor. Again, slaughterhouse refuse is sometimes used for manure, being spread over fields to the joy of all the dogs of the neighbourhood. The adult parasite *Taenia echinococcus* has been found in the wolf, jackal, jaguar, and fox. Obviously only the last may be a source of spread in this country. It is difficult to get foxes for examination, but during the past three years I have examined the intestines of four foxes without finding any echinococci. The part which the fox plays in dissemination could readily be ascertained if a careful inquiry were made into the source of infestation of food animals of the district. At the abattoir are evidences of herds which are badly infested, and if the farms on which these animals are reared were visited, and the dogs known to frequent the particular farms examined, it should easily be possible to find the host or hosts of the adult parasites. Town dogs appear to be fairly free from infestation. In 1920 I made post-mortem examinations on 100 dogs which had been destroyed for various reasons at the Dogs' Home, but in no case did I find *Taenia echinococcus*, although 65 of them were harbouring other tapeworms. I have no doubt from the frequency of the cysts in food animals that the examination of a similar number of dogs in rural districts, particularly sheep dogs, would show a definite number to be harbouring the adult *Taenia echinococcus*. Krabbe discovered the parasite in 25 per cent. of the dogs of Iceland, while 15 to 100 per cent. of the dogs in different districts in Australia have been found to be infested. During recent years the Australian authorities have adopted active measures of prevention, and it is apparent that the percentage of infested dogs has considerably diminished. In this country there is no active propaganda against the parasite. Even the Board of Agriculture and Fisheries does not seem to think it of sufficient importance to issue a leaflet of instruction as it does with diseases of animals much less dangerous and of less economic importance. The possibility of the disease being spread by the cat should not be absolutely ignored, for Dévé has infested the cat experimentally, and cats are frequently fed on raw sheep's lungs. It is probable that the cat is spared infestation by the owner rejecting "lights" containing large cysts, or by the cooking of this food.

HUMAN INFESTATION

Although Dévé has proved experimentally that cysts can develop if the ova are introduced into the bronchi, it is unlikely that many cases of human infestation occur from the inhalation of dust containing ova. Certain possibilities for this exist during the brushing and combing of a dog whose hair has been soiled by faeces containing ova; but a more probable mode of spread is by soiling the hands with ova which are transferred to the mouth, particularly by children whilst eating. It is not always easy to trace the source of infestation. In 1920 I visited the homes of ten patients suffering from, or who had died from, hydatid disease. In one case, where the occupier said that they had never kept a dog, I saw dog excreta on the floor under the table in the living room, and a child crawling about the floor. On pointing this out, I was told that the "mess" had been made by a neighbour's dog, which came in at meal times. I

7 years old, but I was unable to find any echinococci in its intestines. Owing to the fact that infestation may take place as long as ten years before the hydatid cyst is detected, it is extremely difficult for the patient to say when or how it may have occurred. This is very different with food animals, as they may be killed within six to twelve months of being infested, and in consequence the host of the adult be more readily detected. Ordinary house flies may deposit on food the ova from their legs. The contamination of lettuce and other salad material by dogs is also a possibility which must not be neglected. Infection of the water supply has been seriously suggested by various Australian workers, but although in certain cases it may occur, as a rule in this country it would be a most unlikely source of infestation.

CHARACTERISTICS OF TAENIA ECHINOCOCCUS

The adult *Taenia echinococcus* is only about 1/8 inch long, and consists of a head and neck with three segments —the last segment being about one-half of the entire length of the worm, and containing about one thousand ova. The head has four suckers and a rostellum of about thirty-six hooklets. Several forms of the genus *Echinococcus* are referred to by Cameron. Infested dogs usually harbour a very large number of adult worms ; so numerous and so close together are they that some authorities have likened the appearance of the worms on the inside of the intestine to the pile on plush. The innumerable scolices which exist in one cyst account for this (Fig. 2). It will be obvious, therefore, that the faeces of an infested dog may possess an enormous number of ova. These ova, having been swallowed, are attacked by the gastric juice, which dissolves the outer shells and sets free embryos having six spines. These embryos obtain access to radicles of the portal vein and are carried to the liver. In the liver most of the embryos settle and develop into hydatid cysts, but a proportion get through into the general circulation via the inferior vena cava and the right heart, from which they are carried to any tissue of the body, where they ultimately come to rest and develop into hydatid cysts. There does not appear to be any selective affinity of the parasite for any particular organ, as is the case with the embryos of some of the other Taenia. Thus, the embryos of *Taenia serialis* appear to have an affinity for the connective tissues, the embryos of *Taenia cenurus* for the brain, and the embryos of *Taenia serrata* and *Taenia marginata* for the subserous tissues, while the embryos of *Taenia solium* seem to have an affinity for muscle and nerve tissue. This is well illustrated by the photograph (Fig. 3), which shows subserous cysts of *Cysticercus pisiformis* beneath the peritoneum of the organs of a rabbit. These embryos presumably pass through the liver, but develop only in special tissues or sites. That the reason for the greater frequency of the cysts in the liver may be a mere filtration of the parasite from the blood is not likely, because the majority of hydatid cysts in the liver are subserous, although deep cysts do occur (Fig. 4).

HYDATID CYSTS IN MAN

The average frequencies of hydatid cysts in man appear to be about 70 per cent. liver, 10 per cent. lungs, 2.5 per cent. kidneys, 2.5 per cent. spleen, 5 per cent. other abdominal organs, 5 per cent. muscles and cellular tissues, 5 per cent. brain, and 1 per cent. bones. Some authorities find a higher percentage of pulmonary cysts in children. A number of pulmonary cysts rupture into a bronchus and cure takes place, estimated by some workers as occurring in 50 per cent. of cases. In 25 per cent. of the cases which occur in man multiple cysts are found. The rate of development in size of the cyst appears to vary with different tissues. In the lung it reaches about 1/2 inch in diameter in six months. Edwards has recorded the development of a cyst 2 inches in diameter in one year. The cyst may grow to a great size. Dévé has reported a cyst of the abdomen which held 22 pints of fluid. The adventitious sheath of the cyst may in time become calcified. Usually the cysts in the lungs are single, and possess a laminated cyst wall, on the inner side of which are seen brood capsules of the size of sand particles and white in colour (Fig. 2). Older cysts frequently contain daughter cysts. It is now generally believed that the formation of daughter cysts is related to trauma of the parent cyst, for where the parent cyst is protected, as in the bony thorax or the skull, it is frequently single. On the other hand, in those cases where rupture, either natural or through surgical treatment, has occurred, daughter cysts are invariably found. Dew says that this theory is supported by the fact that practically all cysts containing daughter cysts give a positive complement-fixation test, whereas a good proportion of simple cysts may fail to give a positive test. These daughter cysts may be set free by rupture of the parent cyst and become attached to other structures, or they may lie free in the abdominal cavity and develop into large secondary cysts. The condition called by Dévé secondary echinococcosis may be produced by the rupture of the parent cyst and the development of multiple cysts from the scattered brood capsules, scolices, or cells of the germinal layers of the cyst. In some cases an intense reaction is set up by the serous membranes, soiled by the spilt cyst contents, and the parasitic elements are destroyed. Rupture of a hydatid cyst into the heart is usually associated with multiple cysts of the brain. Hydatid cysts have been found in most structures of the body. Though, as we have seen, the majority of cysts occur in the liver, in some cases this organ is missed, and an isolated cyst is found in some other tissue. If, however, a cyst has been found in any other part, the possibility of one or more liver cysts should not be overlooked. The fluid is under great pressure, and consequently may push aside adjoining structures, but the process is so slow that pain is rare until the cyst has attained a large size, has ruptured, or has become infected with bacteria. It may therefore remain symptomless for years, and may then be detected only accidentally during an *x*-ray examination or owing to rupture from trauma.

CLINICAL FEATURES

An investigation which leads to the detection of the cyst may be undertaken because of the pressure effect of the cyst on the structures containing or adjoining it. Hydatid cysts have supplied the clinician with every physical sign, and called for investigation with almost every laboratory test. In the thorax the cyst may displace the heart, big vessels, trachea, bronchi, or oesophagus. It may produce erosion of the vertebrae or ribs adjoining the cyst. It may rupture into the heart, pericardium, bronchus, oesophagus, vena cava, or pleura. In the liver the cyst may push up the diaphragm, compress or rupture into the biliary ducts, portal vein, duodenum, pleura, bronchus, or peritoneal cavity. Similarly, cysts in other abdominal organs may displace neighbouring large vessels and organs. In the brain are produced symptoms of increased intracranial pressure, displacement of or rupture into the ventricle, and erosion of the skull, the cyst becoming superficial. In the spine symptoms of spinal tumour may occur, and the cyst may erode the vertebrae and rupture into the spinal canal. In the musculature the cyst may be ruptured and the contents disseminated throughout the area, with later development of secondary cysts. In bone the cyst has a greater resistance to overcome, and its progress appears to be slower, but in time the structure of the bone is destroyed

and replaced with a large cystic tumour, having a shell of thin bone. The strength of the bone is obviously considerably weakened, and ultimately fracture results.

RUPTURE OF CYST

Following the rupture of the cyst in any of these sites, the cyst and its contents may become septic, and symptoms of septic poisoning or localized inflammation may develop. The rupture of a cyst may be accompanied by rupture of blood vessels in the vicinity; particularly is this seen in the case of lung cysts. Some authorities state that haemoptysis occurs in 60 per cent. of patients with pulmonary hydatid cysts. The bronchi or trachea may be blocked by large pieces of hydatid membrane or by daughter cysts. Urticaria, pruritus, erythema, sweating, asthmatic cough, cyanosis, dyspnoea, oedema, nausea, vomiting, diarrhoea, tenesmus, syncope, collapse, delirium, coma, pallor, and tachycardia are some of the more urgent symptoms which may develop from the rupture of a hydatid cyst. Death has occurred from rupture due to anaphylactic shock, asphyxia, pulmonary oedema, and embolism. I can imagine nothing more horrifying happening to a man or woman who looks and feels very fit than the sudden rupture of a pulmonary cyst. The sudden pain and expulsion of hydatid fluid, membranes, and perhaps, later, blood down the nostrils and through the mouth, the suffocation, the marked dyspnoea, the profound shock, and a feeling of impending death, are among the features of such an event. Pictures of such recollections are described by two students, Chachereau and Marconnet.

DIAGNOSIS

The finding of hydatid membrane, scolices, or hooklets in sputum, vomit, urine, excreta, or discharge from a sinus is the most conclusive evidence of the presence of the disease. The temptation to obtain this evidence by puncture of a doubtful cyst is fraught with grave danger, and may result in the sudden death of the patient. The fluid in a hydatid cyst is under great pressure, and when the membrane is punctured the sudden release of tension may cause a large tear of the membrane similar to that found in the bursting of toy rubber air balloons. Particularly in such tissues as the lungs is this likely to happen, when not only the cyst wall, but the layer of lung tissue, including the blood vessels surrounding any adjoining bronchus, are torn, and hydatid fluid and membrane are forcibly propelled into the bronchial tree. Numerous instances of sudden death from this cause have been recorded. Bristow speaks of the death of an otherwise apparently healthy boy, 9 years of age, which occurred within six minutes of pushing an aspirating needle into a hydatid cyst of the left lung. At post-mortem it was found that the cyst had ruptured into a bronchus. Puncture of a hydatid cyst of the brain usually results in immediate rupture of the cyst into the ventricle.

The percentage of eosinophils in the blood may be of value in suggesting the possibility of hydatid disease. Unfortunately, these cells are increased in most helminth infestations, in some skin diseases, and after the taking of certain drugs. Fairley regards 300 eosinophil cells per cubic millimetre as the upper normal limit, and states that with hydatid disease as many as 500 per cubic millimetre may be found.

A positive precipitation test is indicated by a fine flocculent precipitate forming in the course of thirty-six hours in prepared hydatid fluid on the addition of the serum of a patient affected with hydatid disease. Dew says that this precipitation is obtained in about 65 per cent. of hydatid patients. The test is only of value when measured against the results obtained with carefully prepared controls.

The intradermal test for hydatids introduced by Casoni is of great value, and gives a high percentage of positive results in the presence of simple cysts. It was suggested by the skin eruptions which are frequently produced by the rupture of a hydatid cyst and the absorption of hydatid fluid into the blood. The test has been elaborated by Bull and others, and is performed by the intradermal injection of prepared sterile hydatid fluid. An immediate reaction with a delayed phase in some cases indicates a positive result. Particulars of the test are given by Dew, who states that in uncomplicated cysts an immediate reaction and delayed phase are obtained in 90 to 95 per cent. of cases, whereas with the presence of ruptured cysts the delayed phase may be absent. Dew further states that the test is of extreme importance, in that a reaction can be detected in many cases in which no complement fixation is obtained. Thus, in simple cysts of the lungs and liver in children, positive results are universally obtained.

Bordet and Gengou have shown that the same complement will unite with both haemolytic and bacteriolytic immune bodies. This phenomenon of Bordet and Gengou has been used for the detection of immune bodies in the blood serum of patients suffering from hydatid disease. Most of the patients who have cysts which have ruptured naturally, or have received surgical intervention, give a positive complement-fixation test, but the test may be negative if an unruptured or dead cyst be present. Consequently the test may be misleading, particularly in children, in whom the cysts are mostly simple.

As the hydatid cyst may exist for years without producing any specific symptoms, the first suggestion of this disease may be obtained during an *x*-ray examination. The patient may have had a haemoptysis and is radiographed because of the suspicion of tuberculosis. On the screen, or better still on a radiogram, an abnormal shadow will be seen. The features of the hydatid cyst of the lung, as shown on a radiogram, depend on the condition of the cyst. If it is a simple cyst and unruptured, it will appear usually as an ovoid shadow, uniform in density, with a well-defined margin, and without any changes in the lung tissue around (Figs. 5 and 6). If it has ruptured, only the outline of the cyst may be shown, and it may be mistaken for a pleural ring (Fig. 5). The introduction of lipiodol into the involved bronchus may give a better idea of the nature of the shadow. The cyst contents may have been only partially evacuated, and a fluid line may be shown, or more fluid may collect in the evacuated cyst in the course of a day or so and show as encysted fluid on *x*-ray examination. Calcified cyst walls cast a dense shadow, and their appearance is very suggestive. Cysts near the mediastinum or ribs produce radiographic appearances which are simulated by a number of other pathological conditions, such as fibroma, primary sarcoma, dermoid cysts, interlobar collection of fluid, secondary sarcomata, carcinomata, and other neoplasms, pyaemic abscesses, or aneurysm. Some of these are shown in Figures 7 and 8, and good illustrations are given by Belot and Peutenil in their monograph. In suggesting the diagnosis of a hydatid cyst of the lung I now attach more importance to the continuity and regularity of outline, and the ovoid rather than the spherical shape, although even these may be seen with secondary neoplasms (Figs. 7 and 8).

The *x*-ray shadows of fibroma and secondary neoplasms tend to be more spherical, but I have seen secondary tumours which, owing to central degeneration, liquefaction, and, later, rupture into a bronchus, have shown a fluid level, and given the radiographic appearance of a hydatid cyst half full of fluid (Fig. 9). It is therefore important to correlate the *x*-ray findings with the results of the laboratory tests already enumerated, and with the

clinical findings, before finally coming to a definite decision. If the cyst in the lung has ruptured, and the neighbouring tissue has been infected, it may be impossible to distinguish the condition from other inflammatory lesions. In some cases where this has occurred the radiographic appearances may give no suspicion of hydatid cyst. Cysts in the abdomen may not show any shadow on the radiogram unless there has been a deposition of lime salts in its wall or contents. If this has taken place, the outline of the cyst may be distinctly shown, and where cysts have been discovered in the lungs it is advisable to try to get this additional evidence. Some workers have shown hydatid cysts in the liver and spleen by radiograms after pneumoperitoneum has been performed. Radiograms of the skull in suspicious cases of hydatid disease with cerebral symptoms may show erosion of the bone and displacement of the shadow of the pineal gland. Owing to the grave danger of rupture of hydatid cysts of the brain into the ventricle, it is most unwise to perform ventrilography where this condition is suspected. Hydatid disease of the bone simulates giant-celled myeloma in its radiographic appearance. The characteristic radiographic features are well illustrated in the articles by Bauer and Gold. The latter has a radiogram showing cystic destruction of one side of the pelvis and upper third of the femur.

CONCLUSIONS

1. Hydatid disease is not rare in this country.
2. It has a high mortality rate.
3. It could be eradicated by the burning of all hydatid cysts and the isolation of infested dogs until all adult parasites had been expelled and destroyed. This could be accomplished by (*a*) education of the public, particularly butchers and farmers, by suitably illustrated leaflets and posters for slaughterhouse premises. (*b*) Strict enforcement of the by-laws prohibiting dogs in slaughterhouse premises. (*c*) Compulsory notification of all cases of hydatid cysts and the destruction of the cysts by the sanitary authorities. (*d*) The inspection of farms on which the infested animals were reared, and isolation treatment of all suspicious dogs.

I wish to express my thanks to Dr. G. B. Dixon and Mr. W. Smith of the tuberculosis department for permission to include the radiograms 5 and 6.

THE MEINICKE CLARIFICATION REACTION

BY

DAVID PRENTICE, M.B., CH.B.GLAS.

ASSISTANT MEDICAL OFFICER, COUNTY MENTAL HOSPITAL, WHITTINGHAM, LANCASHIRE

The second laboratory conference on the serodiagnosis of syphilis was held in Copenhagen, under the auspices of the Health Organization Section of the League of Nations, from May 21st to June 4th, 1928. An examination was made of 944 specimens of serum from various cases by means of seven modifications of the Bordet-Wassermann test, and also by various flocculation procedures, including the tests of Kahn, Meinicke (turbidity), Muller (clotting), Murata, Sachs-Georgi, and the modified sigma, and the Vernes syphilimetric tests.

One of the conclusions reached at the first conference, which was held in 1923, was that "flocculation tests cannot replace the Bordet-Wassermann test." Since then the flocculation tests have been improved in technique, and now the recent conference "is of opinion that the best of them may be regarded as equal in value to the best of those which depend on fixation of complement (Bordet-Wassermann)." It also "recommends that, in order to secure the most reliable information to the clinician, at least two different serodiagnostic methods should be used." A majority of the eminent serologists who performed the tests would prefer for the present that one of the methods should be a Bordet-Wassermann test.

The conference stated that the Kahn and Muller tests were superior in sensitiveness to all other methods. The Kahn reaction is difficult to read, and involves the measuring of small quantities of serum by means of capillary pipettes. The performance of the Muller test is rather difficult, and in both procedures the serum has to be inactivated.

In consequence of this report Meinicke has modified his turbidity reaction (M.T.R.), and has produced the Meinicke clarification reaction (M.K.R.), in an endeavour to increase the sensitivity of his test. Since June, 1926, the Meinicke micro-reaction, a modification of the M.T.R., has been performed in all cases at the Whittingham Mental Hospital, and our preliminary results have been published.[1,2] Meinicke has now prepared a modification of the M.K.R., enabling it to be used as a micro-test, and reported this method in a letter dated April 11th, 1929, to the medical superintendent of this hospital, Dr. Clark.

We have tested both the M.K.R. and its micro-modification on a number of patients, and can now give an opinion on its sensitivity, reliability, and ease of performance.

THE MEINICKE MACROSCOPIC REACTION

Principle

An ether extract of ox heart is diluted with alcohol, and balsam of tolu is added. When this is mixed with a 3.5 per cent. solution of sodium chloride containing various quantities of sodium carbonate, extract dilutions are formed which are densely milky, turbid, and opaque. To this extract dilution active serums are added. With a positive serum a clarifying of the fluid takes place within twenty hours (clarification reaction). In a negative case there is no clarification; the fluid remains turbid.

Technique

Serum.—This is centrifuged and then placed in a test tube; it must not be heated or inactivated. Haemolytic, icteric, and cloudy serums are all adaptable to the reaction.

Antigen.—This may be obtained from Dr. Meinicke's laboratory (Elberfelder Strasse, 74, Hagen, Westphalen, Germany). It should be kept at room temperature and be protected from light; the bottle should have a cork stopper.

Salt Solution.—Two stock solutions are used—namely, (*a*) a 3.5 per cent. solution of sodium chloride, and (*b*) a 1 per cent. solution of sodium carbonate in 3.5 per cent. salt solution. Four dilutions of the soda solution are required for the test:

0.01 per cent. made by adding 1 part of (*b*) to 99 parts of (*a*).
0.015 per cent. made by adding 1.5 parts of (*b*) to 98.5 parts of (*a*).
0.02 per cent. made by adding 2 parts of (*b*) to 98 parts of (*a*).
0.04 per cent. made by adding 4 parts of (*b*) to 96 parts of (*a*).

Method

Antigen-soda dilution mixture.—Four test tubes, each containing 10 c.cm. of the various soda dilutions, and another four each containing 1 c.cm. of antigen, are placed in a water bath and left there for ten minutes at 45° C. Each tube of soda-salt solution is then rapidly mixed by pouring backwards and forwards with 1 c.cm. of the antigen. The resulting antigen mixture is milky and entirely opaque. It should be allowed to mature for two minutes. Four test tubes, A, B, C, and D, each 8 cm. in length and 1 cm. in diameter, are set up in rows in a rack; 0.2 c.cm. of the serum is pipetted into tubes A, B, and C, while 0.1 c.cm. of the serum is pipetted into tube D, and to this is added 0.1 c.cm. of the 0.04 soda solution.

To A is added 0.5 c.cm. of 0.01 per cent. extract dilution.
To B is added 0.5 c.cm. of 0.015 per cent. extract dilution.
To C is added 0.5 c.cm. of 0.02 per cent. extract dilution.
To D is added 0.5 c.cm. of 0.04 per cent. extract dilution.

The time taken in pipetting the antigen mixture into the tubes with serums should not be more than ten minutes. Eight different serums can generally be tested in this time. The racks are then well shaken, and are left for twenty hours in a room at a temperature of about 20° C.

Reading of the Results

In a negative reaction the fluid in the test tubes is milky and opaque as before. In a strongly positive reaction a complete clarification has taken place in the test tubes, so that the cross-bar of a window two or three yards away is distinctly visible. In a weaker positive the fluid is more or less opalescent, but the cross-bar can be seen through it.

In most of the tubes a certain amount of sedimentation takes place, but it is the opacity and not the sedimentation which is the guide to the reading of the result. Should only the last tube (D) be clear, and the other three slightly opaque, the reaction must still be considered strongly positive.

Sixty-five specimens were examined and a confirmatory Wassermann test was performed on each at the University of Manchester. There was agreement between the two tests in 92.4 per cent. of these cases. In two of the five cases which disagreed the result of the M.K.R. was *doubtful*.

In reading the results tubes A, B, and C were found to give unreliable results. In twenty-one cases out of the sixty-five the reading in one or more of them differed from that of tube D. *Our results are all based on the reading of tube D*, which we consider the only one really necessary for the reliable performance of the test. By using it alone the test could be much simplified.

THE MICROSCOPIC MODIFICATION

The principle of the test is the same as for the M.K.R.

Serum.—The blood collected from a finger-prick is passed along a capillary tube 10 cm. in length by 1 mm. inside diameter. Two-thirds of the tube are filled, and the empty end is sealed by a flame, care being taken that the blood is not heated. Only when the capillary has *to be sent* away need the other end be sealed with wax. The tube is now left for a few hours in a cool place in a horizontal position and then centrifugalized towards the sealed end. The clear serum collects in the centre and is ready for use when the tube has been filed and broken, and the contents tapped or blown on to a clean numbered slide.

Antigen.—The same extract is used as for the M.K.R. The soda-salt dilution required is made by adding 3 c.cm. of a 1 per cent. solution of sodium carbonate in 3.5 per cent. salt solution to 97 c.cm. of a 3.5 salt solution—that is, by adding 3 parts of stock solution (*a*) to 97 parts of stock solution (*b*). This gives a 0.03 per cent. soda-salt dilution. Then 1 c.cm. of the extract and 10 c.cm. of the soda-salt dilution are placed in test tubes and incubated in a water bath at 45° C. for ten minutes. They are then mixed by pouring rapidly several times from one to the other. The resulting extract dilution is then poured into a warmed porcelain crucible, and covered with a watch glass; there it must "ripen" for two minutes before the test is performed. It is milky and entirely opaque, and should not be kept longer than ten to fifteen minutes, in which time fifteen serums can be mixed with it.

Mixing.—Two platinum eyelets are used for the admixture. The larger, 4 mm. in diameter, is attached horizontally to a small porcelain stand, and a loopful of the extract dilution is taken on it. On the smaller, which is 2 mm. in diameter, serum is taken. They are mixed by passing the smaller eyelet several times rapidly through the lumen of the larger. A drop of the mixture from the smaller is now placed on a clean coverslip, and a hanging drop preparation is made; this is allowed to stand for one hour in a moist atmosphere at room temperature. As each fresh serum is examined the platinum eyelets are dipped in water and next in alcohol; they are then flamed. They must be cool before being used again, and it is better, therefore, to have two pairs of eyelets.

Examination.—After an hour the slides can be read, a microscope with weak ocular and dry objective magnifying about sixty times being used. A negative reaction shows an even, finely granular field in which the particles are lively. In a positive reaction agglutination occurs, and large, widely separated dark-brown clumps are seen. Where the reaction is weakly positive the clumps are smaller and closer together. On one occasion a delayed positive reaction was noted. It is advisable, therefore, to re-examine the slides eight or nine hours after the test has been completed.

RESULTS

Since April, 1929, 384 serums have been examined, and a confirmatory Wassermann test has been performed on ninety-five of these cases. Our routine is that a nurse collects the serum from the new admissions and from other cases as directed by the medical officer, and they are then sent to the laboratory in lots of about ten at a time, and examined. Where the Meinicke reaction is positive, and in all suspicious cases, a specimen is always sent away for a Wassermann test.

There was agreement between the two tests in 92.7 per cent. of the cases. In the seven which differed the Meinicke was positive *in six cases and doubtful in the* other, while the Wassermann reaction was negative in all.

We are of the opinion that a reliable microscopical test has many advantages to offer over any of the macroscopical methods in which a large quantity of serum is required. Especially is this the case when dealing with children, resistive and troublesome patients, the obese, and those in whom the veins are poorly developed.

CONCLUSIONS

The Meinicke clarification reaction can be simplified by eliminating three of the tubes containing serum (A, B, and C) and using only tube D. Its micro-modification is rapid in operation, gives a high percentage of agreement with the Wassermann reaction, is very sensitive, and is easy both to perform and to read. As a routine test for syphilis in the patients admitted to a mental hospital it offers advantages over any other test. It has proved both serviceable and reliable.

My thanks are due to Dr. R. M. Clark, medical superintendent, under whose general supervision this work has taken *place, for permission* to publish these results, and also to Mr. A. H. Fann, senior laboratory assistant, for help with the technical *part of the work.*

REFERENCES

[1] Clark: *Journ. of Ment. Sci.*, October, 1926.
[2] Prentice: *Lancet*, 1928, i, 493.

FURTHER OBSERVATIONS ON OVARIAN TRANSPLANTATION.

BY

JOHN H. HANNAN, M.D.*

REGISTRAR AND PATHOLOGIST TO THE HOSPITAL FOR WOMEN, SOHO

My work on this subject during 1929[1 2] indicated the results obtained by (1) transplantation of ovaries, removed from rabbits, into other rabbits (twenty transplantations); (2) transplantation of ovaries, removed from cats, into rabbits (twenty transplantations).

The site chosen in this series was a pocket, framed between the superficial and deep fasciae of the back of the receiving animal. Sections were taken of transplanted ovaries removed at regular intervals, and examination of these revealed no trace of ovarian tissue in transplants older than six weeks. Further, the occurrence of heat, acceptance of the male, and the other signs associated with full ovarian activity steadily declined as the graft degenerated, until complete sexual senility was observed at the time when no ovarian tissue could be found in the transplants.

In 1930 human ovaries were transplanted into monkeys (*Macacus rhesus*)—five transplantations in all. These were performed in two situations—namely, (1) between the layers of the broad ligament, and (2) subcutaneously.

* Working under a grant from the British Medical Association.

Results with this technique were no better than those reported previously. In short, my attempts to transplant ovaries which would continue their physiological function have proved entirely unsuccessful.

So many claims in this field of research have been made of recent years that the time has come to consider the whole question in the light of the available evidence. Microscopical evidence of the survival of the transplanted glands can be the only evidence accepted, and a study of the literature shows that such evidence is in inverse proportion to the number of papers published.

That the stroma cells of the ovary may persist for some time in transplants I do not deny; but as to the value of these modified connective tissue cells in the preservation of the endocrine function of the ovary, I can only refer to modern researches in ovarian physiology. Research in this field has proved conclusively that the physiological function of the ovary depends upon an active Graafian follicular system—that is, the maturation of the follicles and the formation of the corpus luteum. On the evidence, I maintain that this follicular mechanism continues to function for only a few weeks in transplanted ovaries.

Is there any clear evidence that a compound gland can be transplanted in such a manner that its full physiological function can be maintained? We know that the physiological activity of a compound gland depends upon three factors: (1) the blood supply and drainage, (2) the lymphatic supply and drainage, (3) the nerve supply. Allowing that surgical technique may develop to such an extent that the blood supply and drainage can be assured by the anastomosis of the vessels of the transplanted gland to the vessels of the bed in which the transplant rests, can we offer any hope of being able to deal effectively with the lymphatic supply and drainage? I do not think so. With regard to the nerve supply, even if it were possible to anastomose the nerve supply of the transplant to the nerve supply of the bed, regeneration of the anastomosed nerves would take place only a considerable time after trophic changes had occurred in the transplant. On the available evidence, therefore, I consider that the transplantation of a compound gland, such as the ovary, is of no value, since its physiological activity cannot be maintained.

Moreover, a consideration of the anatomy and physiology of a compound gland such as the ovary, and of modern surgical research on compound glands in general, affords no prospect of successful ovarian transplantation in the future.

REFERENCES

[1] *British Medical Journal Supplement*, September 21st, 1929, 150.
[2] *Journ. Obstet. and Gynaecol. of the British Empire*, 36, No. 3.
[3] *British Medical Journal Supplement*, October 11th, 1930.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

AN EPIDEMIC OF DYSENTERY DUE TO B. DYSENTERIAE γ OF HISS

In view of the increasing interest in bacillary dysentery, and the accumulating evidence of a hitherto unsuspected incidence of the disease in this country, it would be of interest to put on record what appears to have been another outbreak, although as a private practitioner I am able to give bacteriological evidence in regard to two cases only.

During July, 1929, a large number of cases of diarrhoea came to my notice. The severity of the infection varied, but the great majority were of a mild character, the symptoms being frequent loose, watery motions, up to a dozen a day, with colicky pains in the abdomen, and tenesmus at the time of movement, sufficient to give rise to considerable discomfort and general malaise, leaving a feeling of weakness afterwards. Those mild cases had no rise of temperature, and there was only occasionally a little blood in the stools. In older and not so robust people the general disturbance was more marked at the time of the diarrhoea, there being a slight rise of temperature to 99°, 99.5°, or 100°; the prostration remaining was more appreciable. In a few exceptional cases the illness was definitely febrile, the highest temperature noted being 104°.

Although I was not so keenly aware then as I am now of the incidence of bacillary dysentery in this country, it soon became evident after the first few cases that this was an infectious disease; I concluded that it was probably of the nature of a summer diarrhoea, and I thought it might be fly-borne. The weather at the time was warm.

The mildly infected patients were not sufficiently incapacitated to have to remain off work. With a course of a saline cathartic, and restriction of diet to bovril and similar fluids, practically all were feeling well in forty-eight hours, but the older people felt a more lasting weakness. Even the more severe cases with fever were convalescent within four days. Besides those actually treated, I heard of a good many more people affected by diarrhoea at the same time who did not seek medical advice.

The disease was widespread, and not confined to any locality or to any class, though it was not quite so prevalent among the leisured class as among the working and business classes. No case was of sufficient severity to warrant the expense of further investigation till there occurred the sudden death of a boy, aged 7, which was the means of throwing light on the epidemic.

At 1.10 a.m. on July 28th, I was asked to go and see two brothers, J. W., aged 7, and M. W., aged 6, who were said to be vomiting and to be delirious. The history of the beginning of the trouble was uncertain; it had been Saturday night, and the parents were not at home when the children went to bed, but it seems that the children had eaten their midday meal in the usual way, and, though not hungry for tea, had been out of doors in the evening till 7 o'clock. When I reached the house within a few minutes of being called the elder boy was dying, obviously from some very acute intoxication. He had passed from the delirious to the comatose state. The temperature was 104°, the pulse very rapid and irregular, and the breathing irregular. There was a large evacuation of the bowel just before his death at 1.30 a.m. The younger boy was not in such an advanced state of toxaemia, and after the bowel had been thoroughly cleaned out he gradually came round.

A post-mortem examination of the elder boy revealed a condition of acute toxaemia affecting principally the pancreas, liver, and kidney. An organism was found in the intestine and colon which was classed by the bacteriologist as *Bacillus dysenteriae* γ of Hiss. The blood of the brother agglutinated this bacillus.

There seems little doubt that the general epidemic was caused by the same bacillus. With the occurrence of the fatal case it began to abate, and after a week or ten days no more cases appeared. The weather was now decidedly cooler. The interest in this epidemic lies in the widespread distribution in a community of an infection which, though so mild in its general effect as to give rise to no concern, could in an exceptional case cause death in a few hours. The specific causal organism is also of interest.

Crieff, Scotland. A. H. RINTOUL, M.B., M.R.C.P.

FOREIGN BODIES IN AN APPENDIX LYING IN A RIGHT INGUINAL HERNIA

A man, aged 60, was admitted into the Bedford County Hospital on May 11th, 1919, for radical cure of a right inguinal hernia. At the operation the appendix was found in the hernia, and as it was enlarged and felt very hard, it was removed. On opening it the following foreign bodies were found: 12 shot, 11 pieces of flattened lead which were evidently shot, a number of minute fragments of lead, 12 hairs (possibly from rabbits or hares), 2 fragments of egg-shell, and 4 threadworms.

The man was a smallholder, and was very fond of ground game. He had never had any symptoms of appendicitis, and there were no signs of inflammation.

Bedford. W GIFFORD NASH, F.R.C.S.

Reports of Societies

THE PRACTICE OF INDIVIDUAL PSYCHOLOGY

LECTURE BY DR. ADLER

At a meeting of the Medical Society of Individual Psychology, held in London on January 16th, Dr. ALFRED ADLER of Vienna gave an address. Dr. O. H. WOODCOCK, who presided, explained that this society devoted itself to the individual psychological approach to the problems of medicine and surgery; it was thus the direct continuation of the teaching of Hippocrates, who dealt with the individual rather than with the disease. The two requisites for the pursuit of Adler's method were courage and honesty. It required no little courage to tell a neurotic patient that his illness was a self-deception. But courage and honesty were equally required of the ordinary practitioner; he would not progress by giving to the patient's condition the name of a disease, or by putting the blame on some possibly inoffensive micro-organism.

Dr. ADLER began his address at 8.40, and ended it abruptly, leaving much untold, at 10.50. He had been given, on entering the room, the notes of an actual case of neurosis, and his deductions or "guesses" from point after point as the case-history was developed were most engrossing. He provided, in fact, a demonstration of his method of individual psychology applied to a case the details of which, in writing, had only just been placed before him.

The lecturer began by remarking that both general and special diagnosis were as necessary in psychology as in any other branch of medicine. In individual psychology there was continually presented a situation in which a person was confronted with a certain problem or difficulty he was unable to overcome. The varieties and deviations occurred according to the manner of the patient's strivings or attempts at escape. The point for the psychologist was to discover just where the patient was not prepared to meet a particular social demand, because he lacked the right degree of courage or self-confidence, or was unable to co-operate. The circumstances of early life and the previous behaviour had to be investigated in order to explain this lack of preparation, this inability, this maladjustment. The case presented to him was that of a woman, aged 31, eight years married, with two children —boys—aged 8 and 4. The husband was in poor circumstances; he was an ambitious man who had suffered humiliation because he was prevented from securing a better form of employment by reason of a war injury. Using what he called the sharp eye of the individual psychologist, Dr. Adler immediately presumed that the husband's conflict was reflected in his family life. Unable to satisfy his ambition outside, he would endeavour to satisfy it within his home by striving to rule or "boss" his wife and children. With his ambitions the wife had little sympathy, and therefore there was family dissension. It appeared that the wife suffered from certain phobias, notably the fear of death, and at the time she came for treatment she could think of nothing else. She had been a careful housewife, with an almost obsessional hatred of dirt; she appeared to have a compulsion-neurosis with regard to cleanliness. Evidently this was a mixed neurosis, for the usual cases of wash-compulsion neurosis were not associated with fear of death. She was evidently a woman who could not co-operate, who was occupied only in thinking of herself, with the result that some of her duties and responsibilities would be neglected. Cleanliness was an admirable trait, but if a woman focused her whole being on cleanliness, it meant that she could not co-operate. It was the same with a mind focused on health or any other thing excellent in itself: the obsession disturbed the harmony of life; it involved a certain distortion of life. This patient, however, now began to show neglect in precisely these respects of cleanliness and tidiness; she had broken down and given up the struggle. Dr. Adler mentioned that he had never seen any persons so dirty as those who had suffered from wash-compulsion neurosis; they always appeared to get themselves soiled in situations where others kept clean. In this case, perhaps, it was a step nearer to psychosis. The fear of death was apparently related to definite knife-phobia. Probably this woman had a concealed animus against her children, whom—or one of whom—she had not wanted. There were also suicidal as well as homicidal tendencies. These were all indications of a person not trained in co-operation. Suicide, said Dr. Adler, was in a certain sense always an accusation or a revenge, as also was homicide. The aggressive feelings of this woman towards other people were shown in various ways. She experienced at times an overwhelming wish to hit her husband or anybody else who had annoyed her, and she was very sensitive to affront; such sensitiveness indicated the feeling of being in a hostile country. She was always experiencing and sensing the enmity of her environment. She really believed herself constantly in a hostile situation, and expected to be attacked and humiliated. These characteristics had of late extended in two directions. On the one hand, she experienced at times a strong desire to hit any casual stranger in the street; she had to be carefully watched, and her husband had to accompany her when she went out. She had, so to speak, by this development of her neurosis, given him rules which he must obey. He became a husband under command; he was required to assume responsibility for her, and she utilized and exploited him. She also had a homicidal feeling towards her younger son, aged 4, and this was so intense at times that again her husband had to be carefully on guard. It was probable, said Dr. Adler, that from the beginning this woman had nothing more in her imagination than to make this man a slave. Perhaps she would have been wholly satisfied with the husband's submission, but the husband, too, had been ambitious, and would not submit. But now, by this strange route, she had conquered and subjected her husband, who was in constant attendance on her. In fact, said Dr. Adler, she had created a masterpiece of art. In talking with her he would praise her cleverness, and explain to her that her goal all along had been to rule, and now she had reached it. In this devious way she had made her conquest.

The earlier history of the case showed that definite neurotic strains had been in existence for many years, but had been accentuated since marriage. She had found herself up against the three great problems: the social problem, how to behave to others; the occupation problem,

how to be useful in one's work; the marriage problem, how to co-operate with a person opposite in sex. If since marriage the symptoms had become accentuated, it was a sign that she had not been prepared for marriage. The heredity factor did not interest the individual psychologist particularly; it was not very interesting to him to hear of a crazy aunt or a drunken grandmother. The family history of this woman, however, showed neuroses on both sides. The father was a rough man; he suppressed and maltreated his children, who lived in dread of him. The girl was in childhood guilty of occasional cruelty to her younger brothers and sisters, and these acts of cruelty had been followed by regret. Dr. Adler believed that psychology should not take too seriously these feelings of regret after wrong action. They were common in problem children, who after some wrong-doing were full of regrets before they did the same thing again. Obviously this was mere smartness; if their acts of wrong-doing were continuous they would be intolerable, and strong action would be taken against them. The regret experienced in melancholia, for example, Dr. Adler believed to be no more than a trick. It was interesting to notice that this girl was the second child; some statistics from America showed that among delinquents second children were in the majority. Dr. Adler, however, did not explore the reason for this curious discrimination. The woman had some degree of goitre in childhood, from which she recovered. Very often there was a certain degree of organic imperfection in these cases. A murderous attack was made on her on one occasion by her father; she ran away and spent the day in a graveyard; her fear of death being connected possibly with this experience. Her courtship had been a chequered one. Her fiancé was a cripple, and probably her determination to marry him was due to the same constant desire to assume a dominating role. That was the reason why women of dominating instincts often married the physically crippled, the weak-willed, or drunkards, or men of lower social standing than their own. The motive was not pity, nor a desire to make new men of them; it was the desire to dominate. Definite suicidal feelings started when the patient found herself pregnant before marriage. Pre-marital relations often had an adverse psychological effect in the subsequent life.

The narration ended with the statement that this woman, the subject of these phobias and mad impulses, had been at length taken by her husband to a doctor, who diagnosed nervous dyspepsia, and recommended that all her teeth should be extracted. To this, after some hysterical outbursts, she submitted; sixteen teeth were taken out, and there the story ended. Owing to the lateness of the hour Dr. Adler had to break off his interesting analysis, and the treatment which he himself would have carried out had to be left to the imagination.

Dr. F. G. CROOKSHANK moved a vote of thanks to Dr. Adler for his delightful exemplification of his methods. He could vouch for the fact that until arriving at the meeting Dr. Adler had no idea what was the nature of the case to be submitted to him.

Dr. W. LANGDON BROWN, seconding the vote of thanks, said that this was the first generation that had seriously tried to study the science of human relationship. Once something about the science was known, the art had to be practised. He had always thought that of all the systems placed before the profession, Dr. Adler's was the one which came most into contact with the work of the practising physician in general medicine; it was not nearly so remote from ordinary life as some of the other schemes. The materialistic physician of the past generation never seemed to recognize the fact that the patient had a mind or imagination; and some psychologists now seemed to forget that the patient had a body which could suffer. Dr. Adler, however, never forgot that, and it was because he combined these two aspects of life in unity that the speaker believed his method would prove of very great practical importance in the future.

MANAGEMENT OF PREGNANCY, PARTURITION, AND THE PUERPERIUM IN TUBERCULOUS WOMEN

The Section of Obstetrics and Gynaecology of the Royal Society of Medicine combined with the Tuberculosis Association on January 16th for a discussion on this subject. The chair was taken by Mr. EARDLEY HOLLAND.

Dr. GEOFFREY MARSHALL, in opening for the Tuberculosis Association, said that the first question which had to be asked and answered was whether pregnancy in a tuberculous woman should be allowed to proceed to full term. If allowed to proceed, what effect was the pregnancy likely to have on the pulmonary disease? It seemed to have been the general opinion of the old writers, including Sydenham, that pregnancy was beneficial to the disease in the lung, but in more recent times the view of Osler and others had prevailed, that the effect in such cases was more likely to be disastrous. The pendulum was now swinging to the neutral position. In a French series of 52 cases of tuberculous women who became pregnant, 85 per cent. were said to have been made worse by the pregnancy. Dr. Marshall submitted results in 25 of his own cases, which were only slightly better. Most experienced physicians dreaded the onset of pregnancy in tuberculous women. If, however, when the patient first came under observation, her pregnancy had reached the fourth month or later, artificial termination was seldom advisable. When the pregnancy was at an early stage a better guide than the condition of the pulmonary disease was the tuberculous history of the case. His own view was that in those in whom the disease had recently become quiescent, and in those in whom it had only recently become active, it would be difficult to justify an attitude of non-intervention; but where the disease was chronic, and had already lasted a considerable number of years, he seldom found that pregnancy had any disastrous effect. In advanced cases of the disease the actual pregnancy did less harm, but neither the strain of an anaesthetic nor any incidental operation was well borne. Physicians were afraid of anaesthetics in cases of pulmonary tuberculosis, and this had much to do with their reluctance to employ surgical measures to aid the delivery of the child. He had noticed that some of the worst cases of acceleration of the pulmonary symptoms were those in which the pregnancy was allowed to proceed to full term and in which anaesthetics or forceps had not been used. On the question of suckling the child, if the mother had gone through the pregnancy and parturition without disturbance of the pulmonary disease, the puerperium was not likely to bring about any notable change, and if the weight was maintained and there was no pyrexia, he usually offered no objection to nursing by the mother.

Dr. MELVILLE HILEY quoted a number of authorities favouring the view that pregnancy in the tuberculous woman generally led to an aggravation of the pulmonary symptoms, to the production of fresh lesions, and to the "flaring up" of lesions which had been quiescent. Tuberculosis of the lung had apparently but little effect on parturition; it rarely caused abortion. Even in cases where the tuberculosis was advanced the labour was easy, and apparently the child was well and almost of normal weight. The trouble was that the pregnant tuberculous patient paid insufficient attention to her general health. There ought to be much closer co-operation between the

ante-natal clinics and the tuberculosis officers. It was also too frequently the custom in many sanatoriums to keep tuberculous women in the establishment until they were approaching term, then to discharge them to their homes so that they were lost to medical knowledge until the disease took a graver form. Every effort should be made to render the actual labour as painless as possible, for pain meant the output of much energy. He also thought that for the sake of both mother and child lactation should be forbidden.

Mr. ALEC BOURNE drew attention to the striking diversity of opinion on this matter, both as to the effect of pregnancy on tuberculous disease and as to the treatment which should be adopted. Probably the chief reason for the difference was that no one had sufficient experience of both aspects, so that opinions were biased. A feeling prevalent in Germany was that pregnancy had a noxious influence on pulmonary tuberculosis, so that termination was a logical procedure. In a series of Stockholm cases, comparing 396 non-pregnant women in varying stages of phthisis with 203 pregnant phthisical women, it was found that in tuberculosis which was dormant and supposed to be healed 2 per cent. of the non-pregnant died within a year, as against 1 per cent. of the pregnant; in advanced cases of tuberculosis 37 per cent. of the non-pregnant were dead within a year, as compared with 46 per cent. of the pregnant. After twelve years' experience of infirmary work his general impression was that pregnant women should be informed that pregnancy was of no consequence when the disease was not apparently active, that it was unfortunate when the disease was active, and that it was disastrous when the disease was advanced. In general, it could be said that abortion had no place in the treatment of pregnancy when associated with phthisis. Lactation during the puerperium must be disallowed, and, wherever possible, the infant removed from probable infection by the mother.

Mr. L. CARNAC RIVETT contended that pulmonary tuberculosis and pregnancy were a serious combination, and quoted various statistics on the subject by different workers. In his own opinion, any woman who was pregnant and had an active tuberculous lesion of the lung should receive full sanatorium treatment during the whole period of her pregnancy and for at least six months afterwards. Usually the presence of a tuberculous lesion did not tend to cause abortion, though the child was generally somewhat small. There seemed to be no special reason for interference with labour, especially as it was not advisable to use anaesthetics in such cases. The tuberculous mother should not suckle her infant.

Dr. JANE WALKER referred to an inquiry she had made in 1926, which revealed that the general trend of opinion was against the artificial termination of pregnancy; it was held to be not only useless, but a danger, to produce abortion in these women. At a discussion since on a similar subject at Cambridge, the general opinion was that if pregnancy was to be terminated, the method should be that of Caesarean section. With regard to lactation, her own view was that for the mother to nurse her baby was better for both. During gestation it was agreed by most of her correspondents that the pregnant tuberculous woman should be treated as if she were not pregnant.

Dr. MARGARET SALMOND exhibited tables of figures concerning a series of tuberculous mothers dealt with at the Royal Free Hospital. It was unwise to mix the tuberculous and non-tuberculous patients; the ideal was to have a special small ante-natal ward, a labour ward, and a lying-in ward and nursery for those with the disease. If the latter was active there was little point in inducing abortion after sixteen weeks, as tuberculosis was as much aggravated by abortion as by going to full term.

Dr. VERE PEARSON remarked that pregnant tuberculous patients did very well under sanatorium treatment, though mothers generally showed objections to being in a sanatorium for delivery. Dr. F. H. YOUNG said that in the last four and a half years he had had 120 women undergoing artificial pneumothorax. Eight had become pregnant, and in five the pregnancy was detected early and terminated artificially; in three it was detected late, and allowed to go on. In no case did the tuberculosis seem worse after pregnancy.

Professor LYLE CUMMINS spoke on the question of marriage of tuberculous women, remarking that statistics indicated that the health of the married was superior to that of the single, probably because the married woman had the shelter of a home, and was spared the struggle for a living.

Dr. GEOFFREY MARSHALL, in his reply, said that there was little evidence that the milk of a tuberculous mother contained tubercle bacilli. He allowed the poor tuberculous mother to nurse her child, unless she showed evidence that the strain was too great.

MALIGNANT DISEASE OF THE LARGE INTESTINE

A meeting of the West London Medico-Chirurgical Society was held on January 9th, with Dr. HAROLD SANGUINETTI in the chair.

A discussion on malignant disease of the large intestine was opened by Mr. GORDON TAYLOR, who said that cancer of the alimentary tract was responsible for half the total number of deaths due to malignant disease, and among malignant growths of the large intestine three out of every four were to be found in the last two feet. Half-hearted surgery was to be avoided in these cases, and ruthless resection offered the best hope of cure; a surgeon with a high operation mortality rate could usually boast of more cures than another with a low one. Considerable advantage resulted from preliminary drainage, especially in obstructed cases; the infection of the neighbouring glands was reduced, and hence the subsequent resection was safer. In disease of the ascending colon preliminary anastomosis of the ileum and the transverse colon was valuable, and in one form of operation the peritoneum was sutured in such a way at the first stage as to make extraperitoneal removal of the diseased part of the gut possible at a later date. Even where obstruction was only partial he believed in a two- or three-stage operation. Blood transfusion before operation was useful in all cases where there was bleeding, even if occult blood only was found. In elderly patients with arterio-sclerosis there was always danger of thrombosis of vessels, and he preferred to avoid the use of crushing clamps. A flank incision was preferable to one in the mid-line, and he always drained the wound. In rectal cases the abdomino-perineal operation was the treatment of election. Unfortunately many patients were unfit to stand the shock, and in these the perineal route only must be used. He performed the abdomino-perineal operation in two stages, beginning with a left iliocolostomy; at the second operation the rectum was freed by the perineal route and eventually removed through the abdominal wound. Another method, which might be called the "perineal-abdominal" operation, consisted of a perineal incision and removal of the coccyx; the rectum was freed and removed through an abdominal incision. The introduction of radium into the mesocolon or rectum was a hypnotic technique on the part of the surgeon; the interests of the patient were better served by radical removal. In growths of the recto-sigmoid region the abdomino-perineal operation was required. Attempts had been made in France to preserve the

anal sphincter in new growths of the large bowel, by bringing down the upper segment of bowel and suturing it to the lower, but this accentuated the danger of recurrence, and was to be regarded as a retrograde procedure while the knife was our chief refuge.

Dr. C. E. LAKIN spoke of the differential diagnosis of malignant disease of the large intestine, and described cases in which (*a*) diverticulitis, and (*b*) stricture following amoebic ulcer and associated with amoebic abscess of the liver, had been respectively mistaken for carcinoma of the bowel; while in a case of pulmonary tuberculosis and another of supposed diverticulitis, unsuspected growths had been found post mortem.

Dr. S. L. BAKER referred to the pathology of pre-carcinomatous conditions of the intestine. He was able to show slides of an adenomatous thickening of the intestinal mucosa with a proliferation of the cells lining the tubules; from such an adenoma he thought a tumour might probably arise, not in a few cells only, but over the whole area, and foci might be multiple.

Dr. PARRY MONKHOUSE thought considerable relief in squamous-celled growths of the anal region might be obtained from radium. He would not recommend its use for columnar-celled growths of the rectum, because results were too variable. Radium sometimes relieved the symptoms in inoperable cases.

Mr. W. B. GABRIEL emphasized the value of simple clinical methods in diagnosis. The history was of great importance, and repeated examinations often led to the detection of signs at first missed. The barium enema allowed many fallacies; it might run through a stricture or obscure a small growth, and a negative result from this method of examination should not be regarded as final. For growths of the rectum the abdomino-perineal operation was the ideal treatment, since a large portion of bowel could be removed in order to prevent upward spread; only 6 to 8 inches could be removed by the perineal operation. At St. Mark's Hospital they were able to claim a five years cure in 48 per cent. of cases from the abdomino-perineal operation, with an operation mortality between 10 and 17 per cent. The disadvantage of a two-stage operation was the danger of local cancer implantation in the abdomen from the resected bowel. The perineal-abdominal operation was valuable in cases unsuitable for the abdomino-perineal one. He usually performed his preliminary colostomy under a general anaesthetic, and the second operation under avertin and spinal anaesthesia. Radium he had found to be bitterly disappointing.

Dr. H. H. MILLS questioned whether operation was desirable after a certain age, and described a patient, aged 95, with a distended abdomen and obstruction of lymphatic drainage of the legs, who had persisted in this condition for eight years, while still ruling her household with a rod of iron.

Mr. W. T. WARWICK said that few attempts had yet been made to grade tumours of the large intestine. The St. Mark's Hospital grouping was anatomical, and depended on the degree of spread through the walls of the bowel. At the Mayo Clinic the tumours had been divided pathologically into four groups, according to malignancy, and the percentage of cases in which metastases occurred was found to increase directly with the malignancy of the tumours; 75 to 80 per cent. of the cases fell into the second and third groups. In the first group the tumour cells resembled those of the bowel mucosa; in the second group they were larger, but contained the same proportion of mucin; in the third group they were longer, contained less mucin, and the acinous arrangement was slightly irregular; in the fourth group the acinous arrangement was almost non-existent. Those in the fourth group progressed so rapidly that operation was probably never effective. Clearly some form of grading which combined the anatomical and pathological characters of the growths was desirable.

Dr. GERALD SLOT asked what was the value of a blood count in these cases when anaemia was marked. Cells like megaloblasts were sometimes found which might lead to confusion with pernicious anaemia. He said he would also like to know what value was placed on treatment with heavy metal salts. He had seen cuprase and a selenium preparation used in two inoperable cases with apparent relief of symptoms.

Dr. STUART-WEBB pointed out the fallacies of the barium enema, and the CHAIRMAN referred to the difficulties of the general practitioner in obtaining special examinations at a reasonable cost for middle-class patients. He thought it possible that in some cases removal of the tumour reduced the resistance of the patient to further spread.

INSOMNIA

The Brighton and Sussex Medico-Chirurgical Society met on January 8th, the president, Mr. H. N. FLETCHER, being in the chair.

Lieut.-Colonel GEORGE BIDIE, I.M.S.(ret.), in the course of a paper on insomnia, dealt primarily with some points in the physiology of sleep, beginning with Altshuler's definition of sleep as "The expression of the work of an instinct, strengthened by habit, and regulated by conditioned reflexes." Phases in the development of the sleep instinct from the lower animals to man were described. Stress was laid on Pavlov's theory of sleep —namely, that internal inhibition was a conditioned reflex productive of a state of inactivity, and that sleep was an accumulation of internal inhibitions radiating over the entire cerebral cortex. The physiological accompaniments of sleep were discussed, as well as the production of experimental insomnia in man and in animals. The daily rhythm of sleep, dissociation in sleep, Pavlov's experiments, the effect of drugs on conditioned reflexes, calcium metabolism, the influence of pathological conditions, the role of hypnotics, and the regulation of sleep by the grey matter of the brain, were dealt with in turn, after which the speaker proceeded with his main theme. He said that, as the physiology of sleep was unknown, the causes of insomnia could not be classified on a scientific basis, but we could differentiate cases, from the view-point of treatment, into (1) those associated with various stimuli founded on physical changes, (2) emotional states, or (3) grave psychotic conditions. In cases of persistent insomnia, the habit of sleep had been broken, and the patient had lost confidence; to these were added fears—all powerful factors in maintaining the condition. Sleeplessness should be regarded merely as a symptom, and every endeavour made to unearth the primary cause. The treatment of insomnia called for a thorough investigation of the physical and mental functions of the patient. Lieut.-Colonel Bidie stressed that the aim should be to restore the patient's confidence, and that every effort should be made to reform the habit of sleep. After enumerating the principal factors of insomnia and the effects of sleeplessness, the lecturer discussed the clinical manifestations of disordered sleep, and their treatment. He emphasized the importance of the selection of an appropriate drug, its early administration and adequate dosage, and its continuance until the patient's health and sleep were restored. One important problem had to be decided—whether in serious cases of insomnia the patient should be treated at home or sent on a holiday free from all anxiety. In the event of it being a case of severe psychosis or one requiring prolonged psychotherapeusis, institutional treatment might be necessary. The position of psychotherapy and the importance of suggestion were discussed, also the careful apportionment of rest, work, and play. Lieut.-Colonel Bidie concluded by making a survey of present-day hypnotics, with a summary of the opinions on their continuous administration and the effects on excretory organs, especially by drugs of the barbitone group.

Reviews

THE PLATING OF FRACTURES

The book on osteosynthesis[1] of Dr. DUPUY DE FRENELLE is, in one respect, unique. His work is preceded by a critical analysis of twenty-three pages, by that distinguished advocate of the open treatment of fractures, Dr. Lambotte of Antwerp. We thus have not only an exposition of Dr. Dupuy's opinions and methods at length, but also an extremely interesting and instructive essay on them, in which Dr. Lambotte frankly expresses approval and disapproval as the case may be, and at the same time provides a summary of his own views. This work may profitably be compared with the much less ambitious *Primer on Fractures* of the American Medical Association, which is discussed elsewhere in this issue (p. 147), as the two publications represent widely separate points of view. Unlike the primer, Dr. Dupuy's book does not include emergency treatment, and he has no use for external splints, relying as he does on metallic splints placed in contact with bone, but we may presume that he would recognize the necessity for some first-aid support.

Dr. Lambotte asks why it is that the method of treating fractures with plates, screws, etc., has been so long discussed and is still not accepted by all surgeons as a routine treatment. He answers the question by pointing out that it is the most difficult kind of surgery, and, although capable of giving marvellous results, it exposes the patient to serious disasters if the technique is faulty. These considerations should not, however, be allowed to prejudice us against the method, but rather should stimulate us to perfect our technique. No doubt the surgeon who treats fractures by open methods must be a particularly skilled handicraftsman, even if he does not, like Dr. Lambotte, make his own instruments, but we think that there is more in it than that. In the clinics of Drs. Lambotte and Dupuy there is every appliance, all the trained assistance that may be needed, and the practice of asepsis is carried on to its greatest perfection. The majority of simple fractures cannot be treated in such ideal conditions, however, nor can the surgeons who must perforce treat them have the same degree of skill or a tithe of the experience of these leaders in osteosynthesis. Even if surgeons were all convinced by the arguments of Lane, Lambotte, Dupuy, and some others they could not safely attempt to follow their practice as a general rule. In those cases—and they are not a few—in which open operations are necessary, a knowledge of the opinions expressed by Dr. Lambotte, and of the methods described and so well and clearly illustrated by Dr. Dupuy, will be of the greatest value. It is not enough to decide rightly to apply a plate or a wire girth (*cerclage*) to the fragments; it is all-important to choose the right kind of metallic supports and those of the right dimensions. Too often a short plate is expected to fulfil the duty of keeping the ends of the fragments of a femur in position, when a better knowledge of mechanics and the technique of joinery would discourage such expectation. Dr. Lambotte lays down as a general rule that for diaphyseal fractures the plate should be at least five times as long as the diameter of the bone. In this connexion he remarks: "My plates, such as are sold commercially, are nearly all ill made; they have nothing of mine about them but the name. Those which I use I make myself."

It is impossible within the bounds of a review to go further into the questions raised by this interesting book. Those who are about to undertake bone-plating or grafting will be well advised to consult it. Dr. Dupuy's figures are on a large scale, and are exceptionally clear and explicit.

[1] *Ostéosynthèse.* Par Dupuy de Frenelle. Analyse critique par A. Lambotte. Paris: N. Maloine. 1931. (Pp. 334; 260 figures. 140 fr.)

TUBERCULOSIS IN CHILDREN

We opened Dr. J. A. MYERS's book, *Tuberculosis among Children*,[2] with anticipation of great pleasure and profit, but at its closing there was a definite sense of disappointment. This is not an adverse criticism of Dr. Myers, or even, in some sense, an adverse criticism of his book, but rather a prayer that he should allow us a larger and more detailed participation in his great experience of this subject. The relation of childhood tuberculosis to adult tuberculosis is now considered to be all-important, and is being intensively studied in every civilized country. America seems more able to find the money, the ardour, and the docility among her citizens for large sociological experiments than any other country, and the Lymanhurst School for Tuberculous Children in Minnesota, of whose medical staff Dr. Myers is the chief, is one of these. He has a great deal he could tell us, but he has used this comparatively small book of two hundred pages to drive home one important fact—that tuberculosis in children and adolescents is due nearly always to direct exposure, and that the main danger lies in repeated or continuous exposure. If one realizes from the start that this is the main lesson of the book it can be read with great pleasure and profit, and with no disappointment.

In the process of developing his argument the author gives us glimpses of other very interesting and important aspects of tuberculosis in childhood and much terse teaching. But from beginning to end he reiterates that we must search for and eradicate the source of infection. The book is introduced by A. K. Krause, and is divided into three sections: tuberculosis in infancy, tuberculosis in childhood, tuberculosis in the "teen age" (not a very pleasant new phrase). There are some excellent *x*-ray plates, and—a wise decision—very few statistical tables. Each chapter finishes with a useful summary and a full bibliography. A twelve-page chapter on tuberculous meningitis, a sixteen-page chapter on surgical tuberculosis, and a six-page chapter on chronic non-tuberculous basal pulmonary disease in children, by collaborating authors, could be omitted with advantage; also, perhaps, one of fifteen pages by the author on other tuberculous lesions in childhood.

The book is well produced. Dr. Myers's style is not an easy one to read, but that is a small matter. The hope may be expressed that this is to be one of a series from him, and that its successors will be more direct and more condensed.

PATHOGENIC MICRO-ORGANISMS

The third edition of KOLLE and v. WASSERMANN's Handbook of Pathogenic Micro-organisms[3] continues to appear seriatim; references to the earlier volumes have appeared in these columns, the last being in the issue of May 10th, 1930 (p. 866). We have now received Parts 42, 46, and 47 of vol. vii, Parts 44 and 45 of vol. viii, and Part 43 of vol. x. The first of these contains a descriptive account of the pathological spirochaetes by Professor P. Mühlens of Hamburg, and also a note on the saprophytic spirochaetes by Dr. St. Zurukzoglu of Berne. Dr. R. Ruge of Dresden contributes a full account of the bacteriology of malaria, and Professor G. Giemsa of Hamburg deals with chemotherapy. Part 46 is mainly devoted to the trypanosomes, Professor W. Nöller of Berlin supplying a comprehensive survey of these organisms and the diseases they cause. Professors P. Manteufel and M. Taute of Berlin review human trypanosomiasis, and Professors W. Zwick of Giessen and P. Knuth of Landsberg

[2] *Tuberculosis among Children.* By J. Arthur Myers, Ph.D., M.D., F.A.C.P. London: Baillière, Tindall and Cox. 1930. (Pp. xiv + 208; 43 figures. 16s. net.)

[3] *Handbuch der pathogenen Mikroorganismen.* Begründet von W. Kolle und A. v. Wassermann. Dritte, erweiterte Auflage. Jena: G. Fischer; Berlin und Wien: Urban und Schwarzenberg. 1930.

give an account of the manifestations of this disease in animals. Part 47 contains an interesting description of leishmaniasis by Dr. L. E. Napier of Calcutta, and a general account of protozoal diseases by Professor V. Jollos of Berlin. Two Parts of vol. viii have also now been published; this volume relates more particularly to certain special diseases caused by micro-organisms. In Part 44 Professor H. da Rocha Lima of Brazil writes about verruca peruviana (Oroya fever), and Dr. E. Lauda of Vienna discusses its specific organism, *Bartonella bacilliformis*. Typhus fever is considered by Professor R. Otto and Dr. H. Munter of Berlin; Rocky Mountain spotted fever by Professor F. Breinl of Prague; and quartan fever by Professor H. Werner of Berlin. The diseases attributable to pediculi are reviewed by Professor A. Hase of Berlin.

Part 45 of vol. viii has special claims to attention in view of a detailed description in it by Professor R. Doerr and Dr. E. Berger of Basel of herpes zoster and encephalitis, with a note on post-vaccinal encephalitis. The Rickettsia group of micro-organisms is the subject of an article by Professor da Rocha Lima of Brazil. The other contributors to this Part are Professor R. Kawamura, who writes on tsetse infections, and Dr. O. Hartoch of Leningrad and Professor Schürmann of Bochum, who deal with infections of obscure etiology, and record some investigations on measles. In Part 43 of the tenth volume Professors O. Teutschlaender and R. Werner of Heidelberg discuss the various methods of investigating tumours. The remainder of this Part is devoted to the establishment and organization of laboratories, Professor L. Haendel of Berlin dealing with this subject generally, while Professor R. Doerr of Basel restricts himself to mobile bacteriological laboratories. The practical outlook of the several authors is as pronounced and helpful as was the case in the previous volumes of this useful, though increasingly bulky, handbook. The illustrations are of a very high order, and the only complaint that can reasonably be made is of the length of the series, and the spasmodic appearance of its various Parts. As a work of reference the *Handbuch* certainly merits great praise.

BIOLOGICAL ASSAY

The principles, methods, and problems of biological assay[4] form the subject-matter of an interesting and authoritative monograph by Dr. JEANNE LÉVY. Up to the present, according to Professor Tiffeneau, who contributes a preface, no work has appeared in the French language covering quite the same ground, and he believes that Dr. Lévy's monograph should encourage the introduction of compulsory biological assay by the French Government.

When in the middle of the nineteenth century workers began to study drugs by the method of chemical assay, an important step was taken in the development of accuracy in therapeutics. But to many substances the method was inapplicable, or its application failed to yield accurate enough information, and gradually methods of biological standardization were evolved. With the new method came new problems, one of the chief of which was to make proper allowance for variation among the animals used for standardization. One by one these problems are being solved, partly by breeding standard experimental animals, partly by adopting statistical methods, and the result has been a discovery of many unsuspected imperfections in the work of the organic chemist. The variations in potency that biological assay has proved to exist between different samples of such organic arsenical compounds as neosalvarsan are well known; less familiar is the fact that it has revealed similar variations in much simpler synthetic substances—for example, mercurochrome and novocain.

Lévy's monograph falls naturally into three parts. The first deals with the general principles of biological assay; the second with the methods recognized by the League of Nations Committee; and the third with methods that have not yet received official recognition, including a number that have been evolved in the pharmacological laboratory of the Faculty of Medicine, Paris. Of special interest in the third part of the book are the author's descriptions of new methods for the standardization of local anaesthetics. The work is well illustrated, and the technique of the various processes is clearly set out.

TREATMENT OF GAS CASUALTIES

The *Manual of Treatment of Gas Casualties*[5] is a War Office publication, issued by command of the Army Council. It therefore appears with all the importance and authority of an official document. In the event of fresh wars it is almost certain that the number of temporary medical officers serving with the forces will be greatly augmented. It is no less obvious that in the presence of large fleets of aeroplanes this country will be just as vulnerable to attack from the air as any other European country. That the greatest part of such an attack will be conducted by means of gas seems equally evident. Under such an attack the civilian population will be the first to suffer. From the nature of their employment in their daily life, civilian doctors will have little knowledge or understanding of gas warfare, while their comrades in the Regular Army will have to depend mainly on theoretical principles rather than on actual experience in dealing with gas cases. Yet on the ability of medical officers to bring rapid and appropriate treatment to casualties from this method of offence will largely depend our success in minimizing losses.

This book, with less than a hundred pages, has been issued in portable form in order that information of practical value may be available in the field. The nature of anti-gas defence and the factors governing the use of gas are carefully described, along with short accounts of the gases liable to be encountered by troops in the field and the civilian population. As may be supposed from previous experience with publications from the same source, the manual deals clearly and concisely with the various aspects of this important subject. In these days, when the belief is widespread that all questions of international disagreement can and will be settled by arbitration, it is not to be expected that such a work will have a wide circulation. To those, however, who fear that war has not been abolished, and who are so old-fashioned as to believe in being prepared, this book can be strongly recommended.

HEART DISEASE

The sixth edition of Dr. E. M. BROCKBANK'S book on *The Diagnosis and Treatment of Heart Disease*[6] follows the lines of the issue of 1923, when considerable alterations and additions were made. In its present form students and younger practitioners should find it of value, as it gives much of the practical detail and explanation frequently absent from current textbooks. It also keeps before them the importance of the clinical examination of the patient, an aspect which is apt to be overshadowed by the more objectively attractive methods of instrumental

[4] *Essais et Dosages Biologiques des Substances Médicamenteuses.* Par Dr. Jeanne Lévy. Paris: Masson et Cie. 1930. (Pp. 148; 15 figures. 28 fr.)

[5] *Manual of Treatment of Gas Casualties,* 1930. By command of the Army Council. London: H.M. Stationery Office. 1930. (Pp. 95. 2s. net.)

[6] *The Diagnosis and Treatment of Heart Disease.* By E. M. Brockbank, M.D., F.R.C.P. Sixth edition. London: H. K. Lewis and Co., Ltd. 1930. (Pp. xvi + 240; 35 illustrations. 7s. 6d. net.)

examination. If the book errs, it is perhaps in the attempt to deduce too much from individual signs. There are a few additional illustrations, but the volume maintains its convenient form and moderate price.

NOTES ON BOOKS

The sixth volume[1] (Kropf- Magen- und Duodenalgeschwür) of the New German Dictionary of Practical Medicine, edited by Professors GEORG and FELIX KLEMPERER, has soon succeeded the fifth, to which we drew attention some months ago. The twenty-one articles contained in the present volume are as follows: goitre, by Dr. A. Kocher of Berne; paralyses, by Professor P. Schuster and Dr. H. Pinéas of Berlin; treatment by liver extract, by Professor R. Morawitz of Leipzig; acute inflammations of the liver, by Professor G. Lepehne of Königsberg; chronic inflammations of the liver and forms of cirrhosis, by Professor F. Rosenthal of Breslau; tumours of the liver, by Professor T. Brugsch and Dr. H. Horsters of Halle; syphilis of the liver, by the same writers; leukaemia and allied diseases, by Professor H. Hirschfeld of Berlin; lichen ruber, by Professor A. Buschke and Dr. W. Curth of Berlin; examination of the cerebro-spinal fluid, lumbar, cisternal, and ventricular puncture, encephalography, ventriculography, and myelography, by Professor K. Eskuchen of Zwickau; pulmonary emphysema, by Professor R. Siebeck of Bonn; pneumonia, by the late Professor M. Matthes and Dr. R. Wigand of Königsberg; cancer of the lung, by Professor O. Rostoski of Dresden; pathogenesis and morbid anatomy of pulmonary tuberculosis, by Professor H. Anders of Berlin; diagnosis and treatment of pulmonary tuberculosis in the adult, by Professor Felix Klemperer; dislocations, by Professor W. Baetzner; lymphogranulomatosis, by Professor H. Assmann of Leipzig; lymphogranulomatosis inguinalis, by Dr. Professor W. Frei of Berlin; methods of examining the stomach, by Professor R. Ehrmann and Dr. L. Dinkin of Berlin; gastric and duodenal ulcer, by Dr. H. Kalk of Berlin; and surgical treatment of gastric and duodenal ulcer, by Professor H. von Haberer of Düsseldorf.

Forty Years with the Aborigines,[2] by the Rev. E. R. GRIBBLE, is a personal record of pioneering missionary work in the backwoods of Queensland and Western Australia. It is a pity that the author has few literary graces, for his flat and rather stilted style is apt to obscure the dramatic interest of the narrative. There can be no doubt, however, of his exceptional courage and strength of conviction in peril and adversity, and it is clear that these qualities have been combined with rare tact and sympathy in his dealings with the natives. Mr. Gribble is convinced that the Australian aboriginal is capable of being educated to a fairly high standard in a suitable environment and with congenial conditions of work. At his mission station at Yarrabah, where an eight-page newspaper was issued monthly, all the printers were aboriginal youths, while the mission dentist, also an aboriginal, was drummer in the brass band, and sacristan and server in the church. He adds that seven full-blooded aboriginals who held the bishop's licence as lay readers were adults and married before they learned the alphabet. Such progress, however, is seriously hampered by alien influences. The author deplores the addiction to opium, which, in spite of Acts of Parliament, is evidently destroying thousands of lives every year in northern Australia. "The opium refuse . . . is all saved by the Chinese, made into small balls, and given to the blacks; this mess is dissolved in water and drunk. I have witnessed mothers giving the vile poison to their infants." There are a few notes about burial customs and native beliefs, but these, unfortunately, are scattered and only incidental. Several of the photographs illustrating the volume are remarkable.

[1] *Neue Deutsche Klinik*. Herausgegeben von Professor Dr. Georg und Felix Klemperer. Sechster Band. Berlin and Vienna: Urban und Schwarzenberg. 1930. (Pp. iv + 802; 288 figures, 15 plates. Paper cover, R.M.33; bound, R.M 40.)

[2] *Forty Years with the Aborigines*. By the Rev. E. R. Gribble. Sydney: Angus and Robertson, Ltd.; London: The Australian Book Company. 1930. (Pp. 228; 27 plates. 6s.)

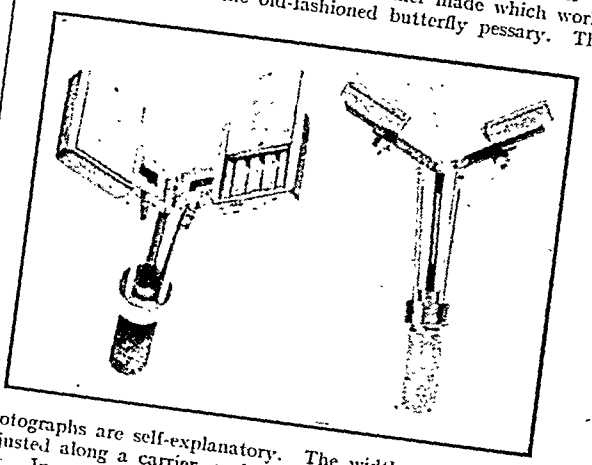
The name of Richet is inseparably associated with anaphylaxis, and therefore the little volume on *Alimentary Anaphylaxis*,[3] which has been written by that distinguished authority's son, collaborating with LAROCHE and SAINT-GIRONS, is to be recommended to those interested in the subject. As Professor RICHET states in a foreword, each clinical case must be studied by itself if one is to obtain a comprehensive idea of the problem, and therefore this treatise should be of assistance to research workers in protein sensitivity when dealing with the individual difficulties of a variable condition.

[3] *Alimentary Anaphylaxis*. By Guy Laroche, Charles Richet fils, and François Saint-Girons. Foreword by Professor Charles Richet. Translated by Mildred P. Rowe and Albert H. Rowe. Preface by Albert H. Rowe. Berkeley, California: University of California Press; London: Cambridge University Press. 1930. (Pp. 139. 9s. net.)

PREPARATIONS AND APPLIANCES

THE MOUNT VERNON HOSPITAL BUTTERFLY RADIUM CONTAINER

Mr. MALCOLM DONALDSON, F.R.C.S., writes: In carrying out the Heyman technique it is not always easy to get the "box" containers "well out into the fornices and to keep them in position. This fact can readily be demonstrated by *x*-ray photographs of the patient during treatment. In order to overcome this difficulty I had a container made which works on the principle of the old-fashioned butterfly pessary. The



photographs are self-explanatory. The width of the wings is adjusted along a carrier, and the boxes are fixed by a small nut. In case of a large crater the wings can be screwed past the right angle, so that the radium lies flat against the sides of the crater. The whole pessary is covered with rubber during use.

The above container was made for Mount Vernon Hospital by Messrs. Johnson, Matthey and Co., Ltd., 78, Hatton Garden, E.C.1.

A SIMPLE HOLDER FOR RADIUM NEEDLES FOR SURFACE APPLICATION

Dr. CRANSTON WALKER (Birmingham) writes: The corrugated paper of commerce consists of corrugated sheets attached to plain sheets so that each alternate corrugation forms a small tube. The fine quality, such as is used for packing chocolates, provides a convenient holder for the superficial application of radium needles. Strips are cut from it easily obtainable from stationers. This paper is a little wider than the length of the needles; it is not necessary to thread the needles; they are inserted into the tubes of the paper at suitable intervals. They may be secured by folding a piece of gummed paper, or adhesive strapping, over each edge of the strip. The corrugated paper containing the needles may be passed through melted paraffin wax; this renders it impervious to discharges and lotions, and without other adjunct secures the needles. By this means is obtained a flexible applicator retaining the needles in a regular arrangement, which is not altered by adjustments of dressings. By holding the paper strip up to the light the needles in it may be counted without being disturbed, and the radium stock audited. The needles are easily released by cutting the paper, or by dropping the strip into boiling water, when the wax melts and the paper soon disintegrates. The resemblance of the loaded strip to a small bandolier suggests a convenient nickname.

British Medical Journal

SATURDAY, JANUARY 24th, 1931

SOME PROBLEMS OF HYDATID DISEASE

The prevalence of hydatid disease in man is difficult to assess accurately, even in countries where it is endemic. Competent observers are convinced, however, that it is increasing in the Argentine and in New Zealand. In our own country, cases are met with and are occasionally reported in the medical literature; and though by no means common, hydatid disease occurs often enough to merit the attention alike of practitioners and the public health authorities. The life-history of the parasite is known. The adult tapeworm, *Taenia echinococcus*, inhabits the intestine of the dog, and the ripe ova are passed in the excreta and conveyed to the human being by food that has become contaminated. In man the cystic stage of the parasite develops, and though the liver and lungs are the commonest sites for hydatid cysts, infestation may occur in any part of the body. The herbivora, as well as man, act as intermediate hosts, and harbour the parasite during its cystic stage. When dogs eat the affected organs of sheep or of cattle the life-cycle is completed; tapeworms develop in the dog's intestine and become a potential source of infection to man and to herbivorous animals. With the common knowledge of these facts, it would seem possible to break the chain of infection and so to stamp out the disease.

Dr. James F. Brailsford's article on hydatid disease in England, published elsewhere in this issue, and accompanied by illustrations on a special plate, is a timely contribution to the subject. Dr. Brailsford has made a special study of the occurrence of hydatid infestation of the viscera of sheep, cattle, and pigs over a series of years at the public abattoirs in Birmingham. He noted that examples of this disease were of daily occurrence in slaughtered animals, and that often the infestation was heavy. It is from such animals that the infection is carried to dogs, since the diseased viscera, though unfit for human consumption, may be eaten by dogs and cats. This is the link in the chain of infection which is likeliest to break if an adequate effort is made by the public health authorities to stamp out the infection. Already, most of the local authorities have by-laws prohibiting the admission of dogs to slaughterhouse premises, but these are not strictly enough enforced. The destruction of infected offal by burning is to be recommended, since when used as manure and spread about the land butcher's offal is easily accessible to stray dogs. In the course of his observations Dr. Brailsford found that some herds were extensively infested, others were free. In the former it should be possible to trace the infection back to some dog on the farm which is a carrier of the tapeworm and disseminates ova in its excreta. Where the carrier is a well-trained sheep-dog treatment by courses of anthelmintics would be efficacious, though less valuable dogs should be destroyed. Since hydatid infection is common in animals bred for food, and does not affect the sale of the meat of the animal, butchers are led by familiarity to neglect its potential dangers. Another cause of indifference may be the comparative rarity of its occurrence in man, but medical practitioners should be aware of the severe nature of hydatid infection when present, and the danger of its life-destroying complications. The period between infection and the appearance of symptoms is so long that lay persons are seldom aware of the risk they run in allowing infected dogs to be the close companions of children. It is, of course, when dogs are closely associated with sheep and cattle, in slaughterhouses or on farms, that hydatid infestation is most likely to occur. In countries where the disease is endemic, stray dogs in towns are affected equally with dogs in the country; but Dr. Brailsford has not found that this is true in England. It would seem, therefore, that in this country a vigorous policy of control in slaughterhouses and farms would lead to the eradication of hydatid disease.

The problems of diagnosis are many. Readers will find a full description of the methods of solving them in Dr. Brailsford's interesting paper. Modern serological inquiry has done much by studying the tissue reactions evoked by the growing hydatid cyst, while Dr. Brailsford's own special subject, radiology, has thrown light on the diagnosis of deep-seated cysts, particularly in the chest. In the natural course of the disease the hydatid cyst continues to grow, producing symptoms by pressure and by erosion of the host's tissues, with haemorrhage or rupture into a hollow viscus or cavity. Interference with its blood supply may cause the cyst to die and degenerate, when it is easily the subject of septic infection. Trauma may rupture the cyst or bring about a curious form of involution, resulting in the growth of daughter cysts within the original. Absorption of the hydatid fluid following rupture is often attended by severe symptoms of shock, anaphylactic in nature. A further consequence of rupture is the spread of the scolices or immature hydatid heads; these, becoming scattered in the peritoneal cavity or in a wound, may later develop into true hydatid cysts—a "secondary" echinococcosis, first described by Dévé and now accepted as a mode of involution of the parasite. The dangers of indiscriminate puncture of hydatid cysts are therefore very real. Drugs, however, appear to have no remedial effect, and surgery is the only method of treatment. Operation should be carried out with due regard to the risks the patient may run, both at the time of operation and afterwards, if the surgical technique be faulty. John Hunter said in his lectures on the principles of surgery, writing of hydatids of the liver: "When known to be a bag containing fluid it may be opened, but I would not be in a hurry to do this."

A. TUDOR EDWARDS: MALIGNANT DISEASE OF THE LUNG

FIG. 1.—Skiagram showing tumour in right lower lobe. Note absence of inflammatory reaction in adjacent pulmonary tissue. (Case 2.)

FIG. 2.—Appearance of chest five weeks after complete removal of right lower lobe of lung. (Case 2.)

A. TUDOR EDWARDS: MALIGNANT DISEASE OF THE LUNG.

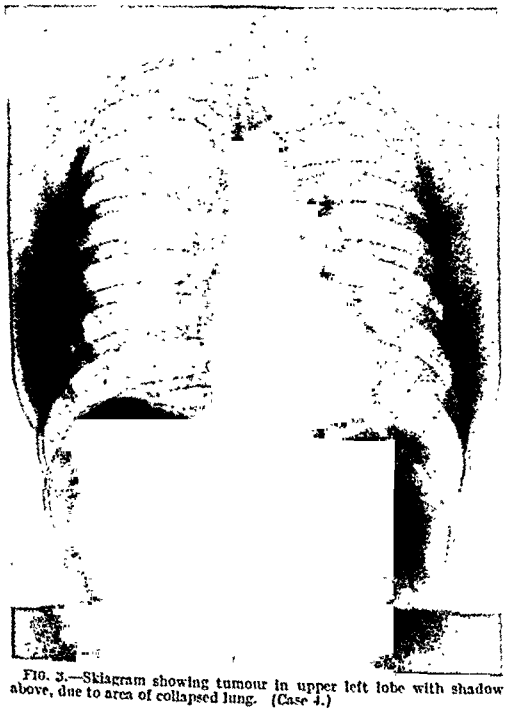


FIG. 3.—Skiagram showing tumour in upper left lobe with shadow above, due to area of collapsed lung. (Case 4.)

FIG. 4.—Skiagram taken two months after removal of carcinoma of bronchus. (Case 4.)

A. TUDOR EDWARDS: MALIGNANT DISEASE OF THE LUNG.

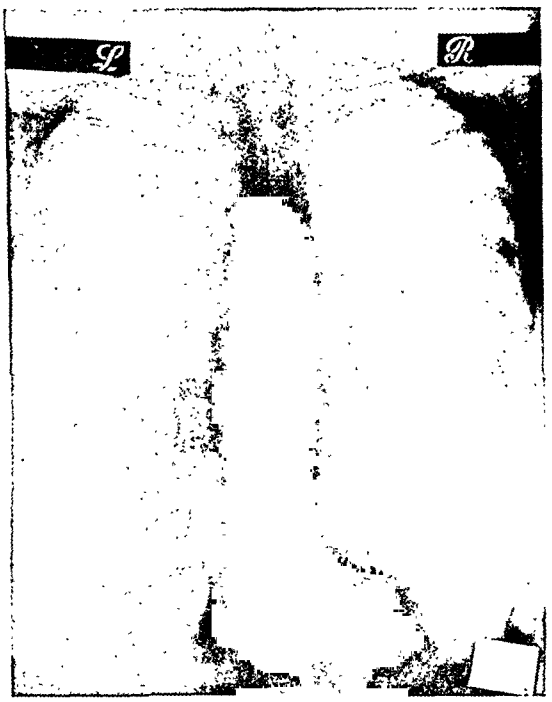


FIG 5.—Shows well-defined tumour at apex of left lung. (Postero-anterior view.) (Case 5.)

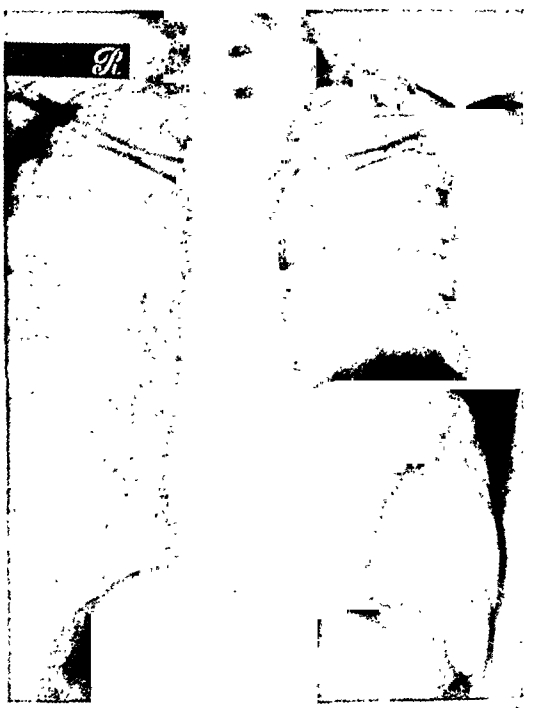


FIG. 6.—Appearance in erect posture after induction of pneumothorax. The weight of the contained tumour has displaced the apex of the lung downwards. (Antero-posterior view.) (Case 5.)

A. TUDOR EDWARDS: MALIGNANT DISEASE OF THE LUNG.

FIG. 7.—Appearance four months after partial pneumectomy. Note the displacement of the mediastinal structure to the left to compensate for loss of pulmonary tissue. (Case 5.)

JAMES F. BRAILSFORD: HYDATID DISEASE IN ENGLAND.

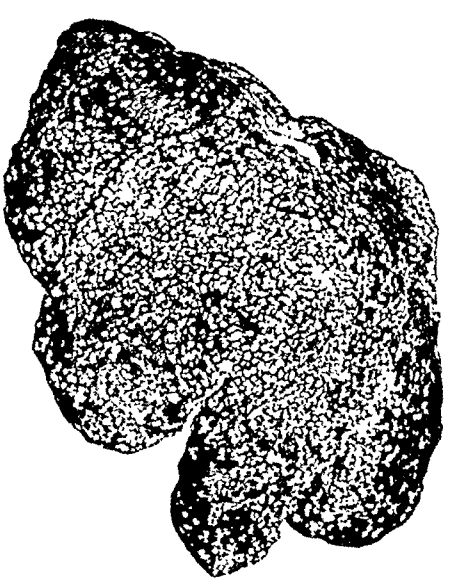


FIG 1.—Photograph of a [illegible] showing [illegible] They [illegible] ing it a [illegible]

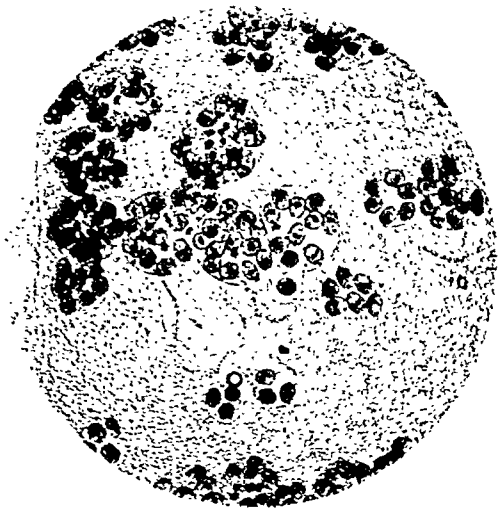


FIG. 2.—Photomicrograph through the wall of a hydatid cyst showing brood capsules containing one or more scolices. Some of the scolices have degenerated and only the group of hooklets remains.

FIG. 3.—Photograph of abdominal viscera of a rabbit showing subserous distribution of the cysts of Cysticercus Pisiformis. To the left is the liver; to the right, the omentum; and above, the kidney.

JAMES F. BRAILSFORD: HYDATID DISEASE IN ENGLAND.

FIG. 4.—Inferior surface of a sheep's liver showing subserous distribution of hydatid cysts.

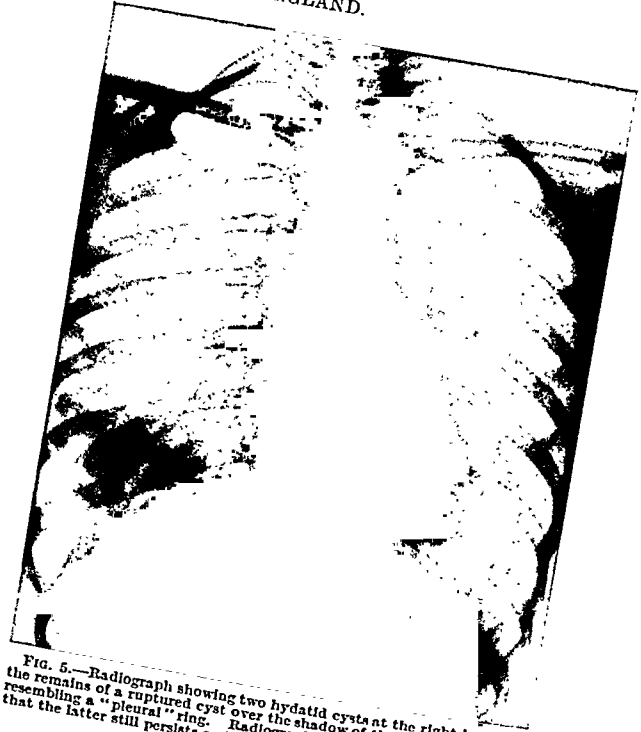


FIG. 5.—Radiograph showing two hydatid cysts at the right base and the remains of a ruptured cyst over the shadow of the apex of the heart resembling a "pleural" ring. Radiographs taken two years after, show that the latter still persists and is partially filled with fluid.

JAMES F. BRAILSFORD: HYDATID DISEASE IN ENGLAND.

FIG. 6.—Large hydatid cyst of the superior mediastinum. This cyst eroded the vertebral bodies and caused pressure on the cord, and eventually ruptured into the spinal canal.

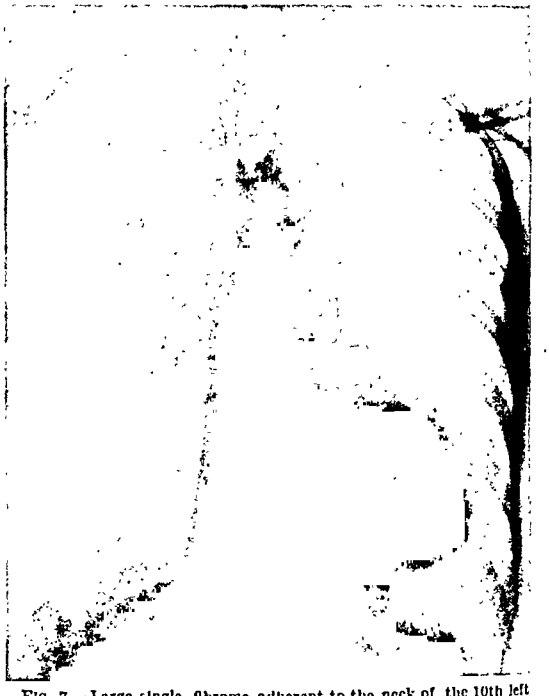


FIG. 7.—Large single fibroma adherent to the neck of the 10th left rib. (Removed by Mr. Wm. Gemmill.)

JAMES F. BRAILSFORD: HYDATID DISEASE IN ENGLAND.

FIG. 8.—Lateral radiograph of same case as Fig. 7.

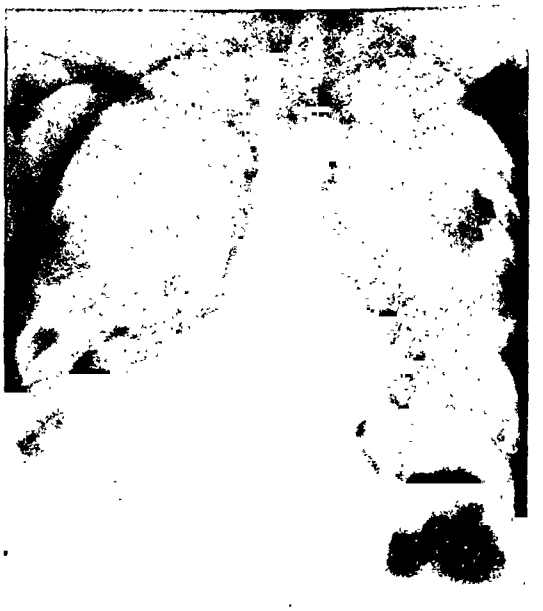


FIG. 9.—Radiograph showing degeneration of a secondary tumour in the left lung with partial evacuation of its liquefied interior.

A PRIMER OF FRACTURE PRACTICE

The problems presented to us in this country by the ever-increasing number of accidents have been confronted with energy and enterprise in the United States, where they are even more formidable than here. Among methods of improving the treatment of fractures the education of the general practitioner, and also of the general surgeon, has not been overlooked. In 1926, at the annual meeting of the American Medical Association, it was decided to present at the annual Scientific Exhibit demonstrations of proper handling of fracture cases. The committee appointed by the Sections on General, Abdominal, and Orthopaedic Surgery to carry out the necessary work included Dr. Nathaniel Allison of Chicago, Dr. William Darrach of New York, and Dr. Kellogg Speed of Chicago. During the next four years (1927–30) these distinguished surgeons were assisted by an Advisory Committee on Fractures, on which, at one time or another, seventeen well-known surgeons served. At four successive annual meetings of the association demonstrations of approved methods of treatment, especially of first-aid treatment, have been given, and so great an interest has been taken in these that no fewer than seven "booths" have been needed to satisfy the demands of members. The number of surgeons who have acted as demonstrators amounts to 137, and the list of their names includes those of many well-known orthopaedic surgeons and exponents of general surgery. These demonstrations were made upon the *corpora vilia* of United States soldiers, lent by the Army Medical Department.

Each year an illustrated folder is prepared, depicting the booths and reproducing the legends which emphasize important maxims. The American Medical Association appears to have profited by the lessons taught by professors of the great transatlantic art of advertisement, and such slogans as "Splint 'em where they lie!" and "It is the doctor behind the splint, and not the splint that counts in the treatment of fracture," seem to have been repeated again and again, until the dullest mental retina must have received indelible impressions of them! The demand for the folders from those who attended the demonstrations, from teachers in medical schools, and from others was so great that it was decided to reprint them all and bind them in one cover, under the title of *Illustrated Primer on Fractures*.[1] The Committee on Scientific Exhibit of the American Medical Association, which has courteously presented us with a copy of the primer, points out that it is not intended as a step towards the standardization of treatment, but rather an attempt to suggest what constitute acceptable methods of treatment. For such a purpose it is well adapted. The outline drawings are clear, and the eighteen injuries chosen for illustration are typical, but we do not know on what principle of selection dislocation of the hip is left out while dislocation of the shoulder is included, unless it be on the ground of comparative frequency. Each plate is accompanied by a short text descriptive of the treatment recommended. The advice given is practical and pithy, and, together with the slogans which are represented as adorning the walls of the operating theatre, they include the essentials for attaining satisfactory results. The list of "splints for the doctor's automobile" includes 1 Thomas leg splint, 1 Thomas arm splint, 6 bass wood splints, enough sheet wadding or cotton-wool, 1 tourniquet, 1 can of ether, bandages, and adhesive tape. The kind of tourniquet and the size of the can of ether are not specified. The supply of splints recommended for the doctor's surgery is naturally on a much more generous scale. It includes material and tools for making and adjusting splints and other appliances for fractures.

Such energetic and persistent propaganda as this primer represents must have an effect, and perhaps a great one, on fracture practice in the United States. Although it makes no pretence of teaching diagnosis or prognosis, yet it wisely insists on the necessity for *x* rays. A manual of this sort would probably be welcomed and would prove of great use in this country. Slight modifications of the original might be required to fit it to British conditions, and we would suggest that its usefulness would be increased without great addition in bulk and cost if Pott's fracture and more dislocations were to be included; but, taken as it stands, it is a very valuable practical guide for the practitioner and those in charge of cottage hospitals.

[1] *Illustrated Primer on Fractures*. Prepared by the Co-operative Committee on Fractures. Chicago: American Medical Association. 1930. (1 dollar.)

DIRECT TRANSMISSION OF YELLOW FEVER

The article by Dr. G. C. Low and Dr. N. Hamilton Fairley, printed in the opening pages of this issue, again directs attention to a method of infection with yellow fever which remained unsuspected until the disease had been studied in non-endemic areas, where the possibility of mosquito transmission could be eliminated. Since the pioneer work of the American Yellow Fever Commission in Cuba it has been generally held that this disease is transmitted solely by the bite of the yellow fever mosquito, *Aëdes aegypti* (*Stegomyia fasciata*), but although, as mentioned in our leading article of December 20th, 1930, it is now known that other species of mosquitos may also serve as carriers, there has remained a certain doubt as to the manner in which the various laboratory infections of the past two or three years have been acquired. It was well known that the blood of human patients, and also of monkeys infected with yellow fever, contained a very high concentration of virus, at least during certain stages of the disease; but the experiences of past Yellow Fever Commissions in endemic areas seemed to indicate that there was no danger of the infection being acquired in the absence of mosquitos. Unquestionably cases of infection and death from yellow fever had occurred among the members of these commissions, but such infections were always attributed to the bites of infected mosquitos. The results described by Dr. Low and Dr. Fairley, however, suggest that at least some of these

infections may have been acquired in the course of routine collection and examination of blood from yellow fever patients, for it has not been the general practice to wear gloves when making these tests. In view of our present knowledge of the highly infectious character of blood from yellow fever patients, it is surprising that more of these infections should not have been recorded among the earlier investigators. The explanation probably lies in the fact that the only known method of identifying mild cases of the disease is by means of protection tests in monkeys with the patient's serum, and as this test has only recently been introduced many of these investigators may have undergone unrecognized attacks of yellow fever. The two hospital cases now recorded illustrate strikingly the danger of making any blood examinations on yellow fever patients unless the skin is adequately protected; and, in endemic areas where the disease is prevalent, it would certainly seem to be a wise precaution to use gloves when collecting blood, even if the case is not suspected as being yellow fever.

INDIVIDUAL PSYCHOLOGY

The visit last week to England of Dr. Alfred Adler of Vienna has called attention anew to a form of psychological investigation and therapeutics in which emphasis is primarily laid upon the patient and only secondarily on his symptoms. In a lecture on the structure of neurosis, which he delivered on January 13th before the Section of Psychiatry of the Royal Society of Medicine, Dr. Adler emphasized the importance, as a factor in nervous disorder, of mental tension brought about by the inability to make healthy adjustments to environmental difficulties. This tension manifested itself through defective organs, and as alterations of the endocrine balance, with an excessive sensitiveness and faulty compensations. The presence of an "inferiority complex" was indicated by the struggle to achieve superiority over others in some way or another, and to render them dependent, while insisting simultaneously on being allowed to be dependent on them. In another lecture, which is reported at page 139, Dr. Adler indicated how such a process of maladjustment worked out in a particular case, and how the various symptoms could be explained. This was the first step in devising suitable treatment, which would be directed to the essential cause of the disorder. There would follow a process of re-education with a view to replacing passive dependency on others by an interest in active co-operation with them. Such a readjustment of the emotional and mental outlook would result in the disappearance of organic and psychic symptoms, now no longer necessary to the patient as a defence against painful situations in life. In his scheme of psychological analysis and treatment Dr. Adler recognizes the importance of taking into account organic inferiorities as well as psychological failures of adjustment, and so the basis of his approach to the rectification of nervous derangements is broader than that of certain other schools. Whether it is sufficiently broad to be fully comprehensive is doubted by some, but at any rate there is in it a measure of "sanctified common sense" which has the very important additional merit of being scientific.

HEALTH OF COTTON OPERATIVES

Dr. Dearden, in his Milroy Lectures delivered in 1927, dealt fully with sickness among operatives in Lancashire cotton-spinning mills with special reference to card-rooms, and showed by a very accurate morbidity table the chief factors affecting the health of the cotton operative. Later in the same year the Home Secretary, as a result, we believe, of representations made from the operatives' union, appointed a Departmental Committee to investigate the whole subject of card-room dust, and it is pleasing to note that one of the references was for inquiry and report on how the sickness rates for card-room operatives compare in stated respects with those of other workers in Lancashire spinning mills. This committee relegated the necessary statistical investigations to the Industrial Health Research Board, and the report of Dr. A. Bradford Hill, who conducted the inquiry, is now in print.[1] Though the publication has a rather comprehensive title, the subject-matter has not gone beyond the terms of reference, and we must congratulate the investigator on having made the best possible use of the somewhat limited material at his disposal. He had chosen the difficult task of searching the records of the several trade approved societies, and although he got a little help from the spinners and the winders, it would appear that he had to depend on the Card and Blowing Room Society for the effectiveness of his figures. This organization was at special pains to ascertain from each member his or her age and exact occupation, thus making possible the formation of age groups, the separation of card-room operatives from ring spinners and others, and the conversion of the latter into a control group. The sickness incidence for male workers in blowing-rooms and card-rooms respectively was compared with that of warehousemen, cop packers, and ring-room workers. It was shown that strippers and grinders and other male card-room hands had slightly less general sickness in the first five-year age group, but that after age 30 the rate steadily rose until it reached an excess of 83 per cent. at ages 50 to 59. Blowing-room men showed a similar increase after age 30. Respiratory diseases—bronchitis, bronchial catarrh, asthma, emphysema, congestion of the lungs, and pneumonia—likewise showed no striking differences in incidence up to age 30, but from ages 30 to 59 their prevalence among card-room workers was three times that of the control group, the blowing-room figures again being somewhat similar. Both single and married female operatives had up to age 50 rather less incapacity from all causes than ring spinners, winders, and reelers, but single women over 25 had an excess of respiratory sickness of 60 to 75 per cent. over the controls, and married women a similar excess after age 40. As ring-room spinners work in a hot and humid atmosphere, and are liable to develop respiratory diseases following on catarrhal colds, we suggest that these factors may partially account for the narrowing of the differences when compared with the males. It is stated for both men and women that the excessive loss of time was not due to lengthy illnesses, but to the very large number of short absences from work.

[1] Medical Research Council. Industrial Health Research Board. Sickness amongst Operatives in Lancashire Cotton Spinning Mills (with Special Reference to the Card-room). By A. Bradford Hill, D.Sc., Ph.D. Report No. 59. H.M. Stationery Office. 1930. (1s. 6d. net.)

Dr. Hill expresses a final opinion that localized exhaust and vacuum stripping have materially improved conditions in card-rooms, and suggests that, as the excess of respiratory diseases affects older workers only, the reason may be attributed either to the dusty conditions of other days or to the necessity of long exposure under modern conditions to produce deleterious effects. As the improvements mentioned were only introduced after 1912 he thinks that another ten to twelve years must elapse before this point can be definitely settled. The former theory, of course, presupposes that the improvements up to date have been universally adopted, and have fully met all requirements, but unless the report to be issued by the Departmental Committee shows this to be the case any such explanation can scarcely hold good. We understand that carding engines, apart from the stripping process, are continuously giving off quantities of fine dust, and that tenters are not only in close contact with this, but spend a big part of their time in brushing into the air the dust which has settled on the covers; also, if we add to these workers the tenters at drawing frames, lap machines, and combers, who are all promotions from card tenting, there still appear to be a fair number who have had several years' close contact with dusty cards under modern conditions. We are also informed there is still considerable hand-breaking and mixing of cotton, that the method of dust removal from under the cards of scutchers is not perfect, that vacuum cleaning of the machines is little practised, and that traversing vacuum strippers are only now replacing the older exhaust covers for brushes. An attempt was made to ascertain if the type of respirators introduced by Dearden in 1924 reduced the respiratory sickness incidence among 1,100 strippers known to have been wearing these for two years, but the difference shown between the year of wearing and the previous year was not sufficiently marked to justify any conclusion on this point.

ETIOLOGY OF THE COMMON COLD

So many allegations have been vainly made in the past as regards the origin of the common cold that the more recent attempts to fix the blame on the filterable viruses will be regarded for the most part with scepticism, tinged however with hope. Such organisms as the *Micrococcus catarrhalis, B. friedländer, B. septus,* Pfeiffer's bacillus, and the pneumococcus have at times seemed to be so predominant in the nasopharyngeal flora during catarrhal conditions as to arouse strong suspicion of their pathogenicity, and vaccine treatment has proved undoubtedly efficacious in some cases, though not in others. The systematic investigation which has been pursued for some years in New York by G. S. Shibley, A. R. Dochez, and Katherine C. Mills has led them, however, to the firm belief that the contagious cold in human beings is caused by "an invisible, uncultivable filterable agent, which in all likelihood belongs to the group of so-called submicroscopic viruses." In the *Journal of the American Medical Association* for November 22nd, 1930, these investigators recount their experiments, and indicate the way in which their conclusion was eventually reached. Colds were successfully transmitted from man to the chimpanzee (an animal with a nasopharyngeal flora closely resembling the human types), and from man to man, by the inoculation of Berkefeld filtrates of nasal washings obtained from persons suffering from spontaneous colds. The experiments were controlled as strictly as possible, but the results were obtained during a period of rising infection in the general community. The colds thus caused resembled in all respects those spontaneously contracted in the natural environment. One of the most significant sequels of introducing such filterable agents into the nostrils of the chimpanzee was the stirring up into greatly increased activity of such organisms as pneumococci, Pfeiffer's bacillus, and *Streptococcus haemolyticus,* which led to graver complications and influenza. This "stimulating" tendency of the filterable virus is regarded by these investigators as a phenomenon worthy of the most serious attention; it is to be hoped that confirmation or otherwise of their findings will be available before long. That this is the only way of producing colds in man may be doubted, but it is noteworthy that P. H. Long and J. A. Doull reported in the October issue of the *Proceedings* of the Society of Experimental Biology and Medicine that they had similarly transmitted colds to human subjects, and at a time of low general incidence, by the use of filtrates from which all bacteria had been excluded. In all cases it appears that the nasopharyngeal washings employed must be obtained within the first twenty-four or forty-eight hours of the onset of the infection. It may be, therefore, that the exciting cause of the common cold is different from that which is responsible for the continuation of the symptoms. This possibility would be in agreement with the suggestion of earlier observers that the aerobic organisms, incriminated previously, are secondary invaders, and have no etiological importance.

THE JAMES MACKENZIE INSTITUTE

Sir James Mackenzie has left his monument, more lasting than brass, "steadfast against the desperate north winds and the devouring rains" of the Old Grey City. There it stands, useful and unique, carrying on the traditions built up by the "Beloved Physician." In the eleventh annual report, just issued, a review of the year's work shows that the Institute for Clinical Research at St. Andrews is steadily adding to its laurels. It is well known that Mackenzie's later work was devoted to the study of disease in the stage before any structural changes were evident in the organs of the body. One of the main principles of the Institute is to deal with early symptoms and minor maladies, so that their mechanism of production and their bearing upon the future health of the patient may be determined. At the same time contact is maintained with the patients at their homes, and endeavours are made to discover the relation between environment, ailments, and subsequent disease. There is a special branch which concerns itself with the health of the child, and departments for bacteriology, chemistry, radiology, etc. A staff of local consultants is available if necessary. Mackenzie's teaching to general practitioners was, however, to carry on investigations themselves, so that the report is the result of work peculiarly within their province. One hundred and one new cases, and 1,140 additional notes were added to the files during the year, but probably the most interesting statistical data are those in the analysis of the records of the Institute. At the end of 1929 it was found that 62 per cent. of

the records were complete, 18 per cent. were incomplete, and 20 per cent. of the patients had been lost trace of. A special committee has reviewed 408 records during the year, and a considerable extension of the existing symptom index has been made. This will undoubtedly prove of great value to the future work of the Institute. Individual members of the staff undertook various researches during the year, these including work on the state of the tonsils and its relation to disease, the cytology of the blood in health and in common ailments, the etiology of the common cold and its relation to influenza, and a radiological investigation into the normal position of the abdominal viscera. In the children's department, which undertakes a most complete supervision of the health of the child, including his ante-natal history, an important addition has recently been made in that the school medical officer supplies the Institute with the notes of his periodic inspections. Already 252 cases are on the files with complete histories from birth to 5 years of age, and this is obviously most valuable material for the detailed study which is now in progress. Other activities of the Institute include public health research, and a wider area than formerly now benefits from its facilities; the laboratories have been as busy as in previous years, and thirty-nine weekly case-reading meetings of the staff have been held, in which all the difficult cases and problems demanding co-ordinate discussion have been dealt with. During the year the council decided to organize biennially a lecture on the application of the teachings of Mackenzie to general practice. The first lecture was delivered at St. Andrews by Professor John Hay of the University of Liverpool, and was fully reported in our issue of June 7th, 1930.

THE PRESCRIPTION OF LITERATURE

Dr. Gerald B. Webb of Colorado Springs spoke at the last annual dinner of the Association of American Physicians on "The prescription of literature," and this pleasantly phrased address, now published in the *Transactions*,[1] relieves the strictly professional interest of the symposiums on coronary thrombosis and on malignant disease of lung contained in the same volume. As he points out, there are many occasions on which it is much wiser "to prescribe, not a posset or a purgative, but an essay or a poem." Nor need he apologize for this as a new and revolutionary doctrine, for Rabelais, besides being an early demonstrator of anatomy and the inventor of the glottotome to cut the tongue-tie of an inarticulate woman, was (he believes) the first to prescribe literature to his patients, and, according to Coriat, wrote the romances of Gargantua and Pantagruel for the edification of those under his professional care. The medical man must be as familiar with his literary as with his Galenical remedies, for it would be a *faux pas* to recommend the *Life and Letters of G. H. Romanes*, who may have had a cerebral tumour, to a patient with that affliction, or to press Mrs. Gaskell's *Life of Charlotte Brontë* on those with pulmonary tuberculosis. Poetry may be read by only a few in this age of prose, but this is not an argument germane to its being read by the sick, for they are temporarily out of the hurry and scurry of ordinary modern life. Although no anthology is perhaps wholly acceptable to anyone except its compiler, anthologies are probably the best means of initiating the novice into verse, for they provide variety, an important element in successful treatment—the mind, like the body, thriving best on a mixed diet. With regard to prose works Dr. Webb recommends an example whereby monotony can be avoided: if Emerson is followed by Melville, and then Melville by Edgar Allan Poe, the probability is that none of them will pall. With many apt quotations much wise advice is gently given by one who has read widely and wisely.

[1] Webb, G. B.: *Trans. Assoc. Amer. Phys.*, 1930, xlv, 13.

"SAFETY WEEK"

The first "Safety Week" was held last year. Activities were carried out in places where branches of the National Safety First Association exist, and in a number of other districts, where local authorities took up the matter. The underlying idea was to arouse public opinion as to the necessity of additional effort to reduce the heavy loss of life from accidents of all kinds. The general experience in these districts was a marked reduction in the number of accidents on the streets and in industrial undertakings. In view of the success of this first effort, it is hoped to make the activities more widespread this year; several Government departments and a large number of unofficial societies are collaborating in a combined programme, which will be carried out from May 11th to 16th. Statistics speak for themselves. During 1929 approximately 18,000 persons were killed in accidents of all kinds, 7,000 being victims of street accidents; over 1,500 of the killed were children. On February 12th H.R.H. the Duke of York, as patron of this movement, will address a conference of local authorities in the Council Chamber of the Guildhall, with the Lord Mayor in the chair. The British Medical Association is represented on the National Safety Week council by Mr. E. B. Turner.

THE HALF-YEARLY INDEXES

The usual half-yearly indexes to the *Journal* and to the *Supplement* and *Epitome* have been printed; they will, however, not be issued with all copies of the *Journal*, but only to those readers who ask for them. Any member or subscriber who wishes to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this.

The Hughlings Jackson Lecture before the Section of Neurology of the Royal Society of Medicine will be delivered by Sir Charles Sherrington, O.M., F.R.S., on Thursday, January 29th, at 5.30 p.m.; the subject is "Quantitative management of contraction for 'lowest-level' co-ordination."

On the afternoon of Wednesday, January 21st, in the Great Hall of St. Bartholomew's Hospital, Lord Moynihan, P.R.C.S., presented to Sir D'Arcy Power, K.B.E., F.R.C.S., on behalf of the subscribers, the volume of Sir D'Arcy's *Selected Writings* which has been prepared in commemoration of his seventy-fifth birthday.

THE PEKING MAN

PROFESSOR ELLIOT SMITH'S INVESTIGATIONS IN CHINA

Before a large audience at University College, London, on January 15th, with the Chinese Minister in the chair, Professor G. Elliot Smith gave an account of his recent visit to Peking as the guest of the Chinese Geological Survey. His purpose had been to study the fossil remains of four representatives of the genus *Sinanthropus* and to visit the site at Chou Kou Tien, where excavation is still in progress. The Chinese Minister expressed the sincere thanks of the Chinese nation to University College for granting Professor Elliot Smith leave to enable him to visit Peking.

After paying a high tribute to the excellence of the laboratory work in Peking, and to the courtesy and hospitality of the Chinese authorities, Professor Elliot Smith said that the brain case found in the limestone cave at Chou Kou Tien in December, 1929, by Mr. W. C. Pei, a young Chinese geologist, was the most significant and illuminating relic of primitive man yet discovered. Its characters established a bond of union between the other two types of primitive man comparable in age, the *Pithecanthropus* of Java, and the *Eoanthropus* of Piltdown, which had previously seemed to be irreconcilable; indeed, both had been regarded with some doubt, and treated as suspect by certain anthropologists. The investigation in China had established a fuller measure of confidence in these other genera, and had destroyed any just ground for doubts regarding their character and significance. It had also given coherence to the information available about the earliest known members of the human family. The evidence of the geological age of the Peking man, the early Pleistocene epoch, was more certain than that of either the Ape man of Java or the Dawn man of Piltdown, for the remains were found on the spot where their original owners left them when they died in the cave at Chou Kou Tien, and the vast collection of animal bones, which had been studied by many competent palaeontologists, certainly belonged to creatures contemporaneous with the brain case. It was not possible to translate these geological data into figures of years, but Professor A. W. Grabau of the National University of Peking had claimed that the changes in the radioactive elements in early Pleistocene rocks—studied in the way first suggested by Professor Joly of Dublin—suggested an age of approximately one million years. This, however, was to be regarded at present as mere conjecture, and as providing only a general idea of the remoteness in time of these remains. Whether or not the Peking man was older than the fossils of Java and Sussex, he represented a more primitive type revealing generalized characters, some of them distinctly reminiscent of man's simian ancestry, and others strangely foreshadowing the qualities hitherto regarded as distinctive of *Homo sapiens*.

To justify the far-reaching claims for the exceptional importance of the discoveries in China, the lecturer devoted some time to the exhibition and description of photographs of the brain case discovered in December, 1929, and the second one, believed to be that of a young female, found later. The history of the search itself was as romantic as the actual discovery which rewarded the team of workers. Unlike other discoveries of remains of extinct types, when individuals accidentally found fossils and realized their importance, the Chinese discoveries were the result of years of persistent searching by a team of geologists and anthropologists, who had the insight to recognize clues and search for confirmatory evidence. When Dr. Zdansky found human teeth in a deposit containing Chinese fossils from this cave, he did not attach special significance to them, but Dr. Davidson Black of the Peking Union Medical College regarded them not only as a discovery of unique importance, but also as confirming the hope that had induced him to settle in Peking years previously. Dr. Black's conviction that epoch-making material awaited discovery at Chou Kou Tien was responsible for the intensive search which led to the great discovery. The lecturer included in his praise Mr. Roger Greene, the present executive head of the Peking Union Medical College, and Dr. Wong, director of the Geological Survey.

Particular attention was drawn to the thickness of the brain case pictured on the screen, and the lecturer said that it was not at present clear why there should have been this extraordinary thickness in comparison with the skulls of modern men. He also drew attention to the remarkable fact that, in spite of the closest search, it had been impossible to find any stone implements in or near the cave; it would appear that the implements used by these primitive men must have been of wood or some other perishable material. It was hoped that the exceptional thoroughness with which the full evidence had been supplied to anthropologists would prevent the development of such misunderstandings as had marred discussions over the fossil remains of man in the past; but in spite of all precautions, eminent palaeontologists in Germany, and also in France, were already claiming that the Peking man belonged to the genus *Pithecanthropus*, others in America that he was a Far Eastern example of Neanderthal man, and others, again, that the Chinese fossils were not human. Having himself recently made a careful examination of the actual remains in Peking, and compared them with human and simian skulls, Professor Elliot Smith could confidently support the claim of Dr. Davidson Black that *Sinanthropus* was a member of the human family who revealed in every quality of his skull evidence to distinguish him from all other known human types, and to justify the separate generic rank suggested to define his status.

NEW MOTOR REGULATIONS

In accordance with powers given by the new Road Traffic Act, the Minister of Transport has issued a comprehensive set of Regulations on matters concerning the construction of motor vehicles and their use on the highway. These are in addition to the specific requirements of the Act itself, and have been made after consultation with the Automobile Association and other interested organizations. The A.A. Legal Department has prepared a note on points of general interest to the motorist, from which we extract the following passages.

A motor vehicle must not be allowed to travel backwards for a greater distance or time than requisite for the safety or reasonable convenience of the occupants or other traffic on the road.

Every motor vehicle shall be so constructed that the driver, while controlling the vehicle, has a full view of the road and the traffic ahead. The person driving must be in such a position that he has full control over the vehicle and can retain a full view ahead. From January 1st, 1932, every motor vehicle other than a motor cycle must be fitted with a reflecting mirror.

All glass fitted to windscreens or windows facing to the front on the outside of any motor vehicle, except glass fitted to the upper deck of a double-decked vehicle, must be safety glass. All vehicles registered before 1932 are exempt until January 1st, 1937, but meanwhile the glass so fitted (safety or otherwise) must be maintained in a condition which does not obscure the driver's vision. "Safety glass" is defined as glass which, if fractured, does not fly into fragments capable of causing severe cuts.

Every motor vehicle must be constructed so that no avoidable smoke or visible vapour is emitted therefrom. The owner must maintain the vehicle in such a condition that it would not emit smoke, visible vapour, sparks, etc., which could be prevented by taking reasonable steps, or the exercise of reasonable care.

When a motor vehicle is stationary, otherwise than in enforced stoppages in traffic, the driver shall stop the action of machinery so far as may be necessary for the prevention of noise. Whenever necessary, the driver must give audible and sufficient warning of the approach or position of the vehicle. When the vehicle is stationary the horn must not be used, except when such use is necessary on the grounds

of public safety. The vehicle must not be allowed to stand on the road so as to cause unnecessary obstruction. The driver must not quit the vehicle without having stopped the engine and applied his brake.

Unless adequate protection is afforded by the body, the motor vehicle must be fitted with wings or other similar means to catch mud or water thrown up by the wheels. All brakes prescribed by the Regulations (the requirements vary with the type of vehicle) must be maintained in good and efficient working order and shall be properly adjusted. Every motor vehicle propelled by an internal combustion engine must be fitted with a suitable silencer or other contrivance for reducing the noise caused by the exhaust. Vehicles must not cause excessive noise (except from some temporary or accidental cause) through any defects or lack of repair, or faulty adjustment in the motor vehicle or trailer, or the faulty packing or adjustment of the load. They must be constructed and maintained so that no danger is likely to be caused to other road users. This applies equally to the weight distribution, packing, and adjustment of loads.

METHYLATED SPIRITS REGULATIONS

EXPLANATORY MEMORANDUM

In a leading article in the *Journal* of December 6th last (p. 968), we referred to the Methylated Spirits Regulations, 1930. The Commissioners of Customs and Excise have published an explanatory notice on the new Regulations (Notice No. 55) for the benefit of doctors, dentists, veterinary surgeons, hospitals, and nursing homes. This memorandum explains the new position so clearly that we reproduce it below, substantially in full.

Notice by the Commissioners of Customs and Excise

1. Any medical practitioner, dentist, veterinary surgeon, hospital, or nursing home may, on application to the nearest officer of Customs and Excise, obtain authority to receive industrial methylated spirits.

2. Industrial methylated spirits consist of 95 parts of ethyl alcohol denatured with 5 parts of wood naphtha. They may be obtained in various strengths, including a strength corresponding to that of absolute alcohol.

3. Industrial methylated spirits received under an authority as in paragraph 1 may be obtained either from a methylator (in quantities not less than five gallons at one time) or from any wholesale chemist or dispensing chemist authorized to sell them (in quantities not exceeding four gallons at one time). On each occasion a "requisition" (in an official form, a book of which will be supplied by the officer of Customs and Excise) must be forwarded to the supplier.

4. Without obtaining any authority, any medical practitioner, dentist, veterinary surgeon, hospital, or nursing home may obtain industrial methylated spirits in quantities not exceeding half a gallon at one time, from any wholesale chemist or dispensing chemist authorized to sell them, merely on a written order signed by a medical practitioner, dentist, or veterinary surgeon. Hospitals and nursing homes should arrange for a doctor to whom they are known to sign orders for them.

5. Industrial methylated spirits received under either paragraph 1 or paragraph 4 may be (*a*) used in making up articles to be dispensed for medical, surgical, dental, or veterinary purposes, or (*b*) used or dispensed without admixture, or diluted with water, for any medical, surgical, dental, veterinary, or scientific purposes, but may not be used or disposed of for any other purposes.

6. In all cases the following conditions must be observed:

(i) To every bottle or other container dispensed to a patient and containing either an article made with industrial methylated spirits or industrial methylated spirits must be affixed a label bearing the words "For external use only," "Not to be taken," or otherwise to the same effect.

(ii) No greater quantity than one pint of industrial methylated spirits, either alone or as an ingredient in any article, may be dispensed at one time to or for the use of any one person.

Scotland

Professor Muir's Portrait

On the afternoon of Tuesday, January 20th, in the Randolph Hall of the University of Glasgow, Sir Frederick Gowland Hopkins, President of the Royal Society, presented to Professor Robert Muir, M.D., F.R.S., on behalf of the subscribers, his portrait in oils by G. Fiddes Watt, R.S.A., and to the University a bust by G. H. Paulin, A.R.S.A. Professor Muir has held the Chair of Pathology in the University since 1899.

St. Mungo (Notman) Chair of Pathology, University of Glasgow

The curators, at their meeting on January 7th, appointed John Shaw Dunn, M.A., M.D., to the St. Mungo (Notman) chair of pathology in the University of Glasgow, in succession to the late Professor John Hammond Teacher. The holder of this chair is *ex officio* pathologist to the Royal Infirmary, where he has, in the pathological institute, accommodation and facilities for teaching and research. Professor Shaw Dunn is 47 years of age, and was educated in Glasgow. After graduating M.A. in 1901, and M.B. with honours in 1905, he took the degree of M.D. with honours in 1912, gaining a Bellahouston gold medal for excellence in this thesis. He then held resident posts in the Royal and Western Infirmaries and in the Royal Hospital for Sick Children. Thereafter he became assistant in the pathological department of the Western Infirmary under Professor Muir, holding appointments in turn as lecturer in pathological histology and in clinical pathology in the university and director of the clinical laboratory in the Western Infirmary. During the war he was attached to the R.A.M.C., from which he retired with the brevet rank of major, and published important papers on war nephritis and gas gangrene. In 1919 he was appointed professor of pathology in the University of Birmingham, and in 1922 became Proctor professor of pathology in the University of Manchester. He has made numerous contributions to pathological literature in addition to those already mentioned.

Care of the Child in Scotland

Under the auspices of the Edinburgh and Leith Parents' and Parent-Teachers' Associations, a lecture was delivered on January 14th by Dr. John Guy, medical officer of health for the city of Edinburgh, who said that the past year had shown, with the exception of two war years, the lowest birth rate yet recorded in Edinburgh. During his own lifetime the fall in the birth rate in the city had been exactly 50 per cent. Approximately 7,500 children had been born in 1930. In his opinion the excuse for the low birth rate, often advanced at the present time, that quality was better than quantity, was untenable. The fact that the number of children born diminished each year so that families became smaller and smaller might be a condemnation of present modes of living. The Scottish race had been, and was, of too good a quality to be allowed to die out without regret, for a persistently declining birth rate ultimately meant the passing away of a race. Last year the birth rate was 17 per 1,000, and the death rate approximately 14, so that there were only 3 persons to the good out of every 1,000 living. A family of four might be regarded as a reasonable minimum. He had found that of the 7,500 children born, 250 died before they were 4 weeks old, and he wondered how many of these children would have lived if they had been borne by well-developed, healthy mothers. In regard to the care of young children, he thought that, while physical and mental training was important, it was

also necessary to develop the moral side of a child's life. Although this was accomplished partly in school life, parental influence had probably the most permanent effect.

New Falkirk Infirmary

The Right Honourable William Adamson, Secretary of State for Scotland, addressed a public meeting at Falkirk on January 9th in connexion with the opening of the new Falkirk Infirmary, which has just been completed at a cost of approximately £100,000. Dr. John Young, chairman of the Board of Managers, presided, and said that in the past Falkirk Infirmary had been one of the few institutions in Scotland whose expenditure had not exceeded its income. In supporting a resolution to increase the contributions from workmen and other subscribers to the infirmary, Mr. Adamson remarked that it was hardly necessary for him to preach to the Falkirk people on this subject. They had already built an institution which would need monetary support for its maintenance. The evolution of workmen's contributions to social services, including the infirmaries, demonstrated that the working classes were whole-heartedly behind this service, and that they would see it through. Although he was not prepared to detail facts and figures, he wished to say that certain sections of workmen had reconsidered the question of weekly contributions. They had not only to support district infirmaries and hospitals, but they were called upon to subscribe to central institutions, such as the Royal Infirmary of Edinburgh. In general, such working-class contributions would have to be raised from a penny to twopence a week. Mr. Adamson said that he had lived among working men practically all his life, and he had never met a workman who complained of his contribution to the local or district infirmary as a burden. He emphasized that these infirmaries had always been maintained by voluntary effort, and that what had already been done could be repeated. The people of Scotland had to realize their responsibility by adequately supporting all such institutions.

Ireland

Public Health in the Irish Free State

The fourth report of the Department of Local Government and Public Health in the Irish Free State, which has been recently published, covers the twelve months ending March 31st, 1929, and comprises sections on local finance and general administration, public health, housing, public assistance, and roads. During the period reviewed there was a fall in the general mortality rate to 15 per 1,000, pulmonary tuberculosis and influenza being markedly less fatal; there was, however, an increased death rate for measles and diarrhoeal diseases. Boards of health are now required to furnish monthly classified summaries of cases of enteric, typhus, puerperal and scarlet fevers, and diphtheria which are admitted to local fever hospitals. The county medical officers of health each week also forward to the central department comprehensive detailed returns of notified cases of infectious disease. In the twelve months there were reported 29 cases of typhus fever, 304 of enteric, 989 of diphtheria, and 1,148 of scarlet fever. Typhus fever was recorded in the rural districts of Clare, Donegal, Galway, and Kerry, but no outbreak was extensive. In Kerry, which has suffered severely from this disease in past years, portions of the county having even been classifiable as endemic areas, a systematic campaign has been organized against it, including the disinfecting and delousing of infected households in each area successively. A scheme for the eradication of diphtheria was undertaken in Louth, where children between the ages of 6 months and 6 years were submitted to the Schick procedure. Diphtheria immunization schemes are being brought into operation also in Dublin and Cork. An attempt is being made to establish county schemes of pathological investigations at central laboratories, which will also arrange for the bacteriological analysis of milk and of water. The complaint is again recorded that lack of uniformity in the public health administration throughout the Free State continues to menace the health of the community and to limit the improvement of external trading.

The medical inspection of school children is steadily extending, but much remains to be done as regards the subsequent treatment. There has so far been revealed a high incidence of carious teeth, enlarged tonsils and adenoids, and defective vision, but all tuberculous deformities and other forms of crippling were fewer than had been anticipated. Emphasis is laid in the report on the need for tracing more completely the occurrence of septic foci which may give rise to rheumatic manifestations, and for detecting as early as possible defects of the eyes and ears. Follow-up measures are conducted by district nursing associations, of which there are now 124 affiliated with the Queen's Institute of District Nursing. More attention should be paid to the condition and equipping of schools. Improvements have been made in the organized campaign against tuberculosis; there are twenty-one central tuberculosis dispensaries, and 154 branch ones. The improvement in the tuberculosis death rate is attributed to a decline in the incidence of the pulmonary form; the decline in non-pulmonary cases, though less marked, is considered promising. Standard schemes for dealing with the blind have been established in three county boroughs and twenty-one counties, while partial benefits were available in two other counties. Two county boroughs and nine counties have now adopted approved arrangements for the diagnosis and treatment of venereal disease.

Health of Belfast in 1929

The annual report on the health of the county borough of Belfast for 1929, prepared by Dr. C. S. Thomson, medical superintendent officer of health, is for the first time drawn up in the form prescribed by the Ministry of Health in England, and represents the foundation upon which future reports will be based. Dr. Thomson comments on the fact that Belfast has no serious slum problem, or any real housing question apart from the necessity of paying attention to buildings which are growing old. As regards house accommodation there has been a slightly retrograde movement since 1911, but, even so, 92 per cent. of the inhabited private houses were occupied by single families. Among nearly 90,000 families in Belfast there were only about 7,000 who shared a house; over 40 per cent. of the families occupied four rooms each. A survey was made with a view to assess overcrowding, and it was found that the overwhelming majority of people living in houses or rooms which were overcrowded, according to the standard of the English Registrar-General, were in employment. The rents in a very large majority of cases were remarkably low, but the wages were often poor, though by no means always so. The deduction is drawn that if the Corporation sets out to build houses for the overcrowded section of the population money will be lost. Evidence was obtained supporting the conclusion that the incidence of tuberculosis is related to housing. Dr. Thomson urges the adoption of further educational measures with a view to instructing the citizens of Belfast in the application of the laws of health; the holding of a "health week" in alternate years is contemplated, and more use will be made of cinematograph films and other forms of

propaganda. Six centres for maternity and child welfare were operating in the year under review, but there are no municipal ante-natal centres, though three hospital ante-natal centres exist. The conclusion is reached that a definite scheme is required for maternity and child welfare comprising the services of a whole-time medical officer and nine additional health visitors. During the year no complaint was received of contamination of the city water, the quality and quantity of which are reported as excellent. In his capacity as port medical officer, Dr. Thomson gives details of the arrangements made for preventing the introduction of infectious diseases. No cases of plague, cholera, yellow fever, smallpox, or typhus occurred, and no plague-infected rats were discovered during 1929.

Dr. Andrew Trimble, chief tuberculosis officer to the Corporation, submits a report on the work of the tuberculosis department, in which he calls attention to the useful reorganization which has been achieved, effecting closer co-operation in public health work generally. During the year 1,805 persons notified as suffering from tuberculosis were examined, as compared with 1,816 in the previous year. Of the 1,805, 54 per cent. were found to be tuberculous, and 6 per cent. doubtful. Dr. Trimble gives a table illustrating the declining trend of the death rate from pulmonary tuberculosis during the last twelve years, and shows that for every 100 who died from the disease in Belfast in 1918, only 42 died in 1929, a reduction of 58 per cent. in the rate. He emphasizes the importance of providing more open-air schools for delicate children, more intensive education of the people with regard to the prevention of the disease, the addition to the medical curriculum of a course in tuberculosis, and the extension of accommodation for children suffering from non-pulmonary forms.

Armagh Union Infirmary

While expressing satisfaction with the improvements carried out to the buildings of the Armagh Union Infirmary and Fever Hospital since the last report was received, the Minister of Home Affairs has directed the attention of the board of guardians to the serious overcrowding of male mental patients, and to the fact that only one ambulance has been available for transporting patients with infectious and non-infectious diseases. Other matters mentioned included defective arrangements for drying clothes, the unsatisfactory system of conveying food to the infirmary, and lack of a disinfecting apparatus. The report has been referred to a committee.

England and Wales

Silicosis and Coal Mining

At the annual meeting of the Institution of Mining Engineers, held in London on January 15th, Dr. J. S. Haldane introduced the subject of silicosis in coal mining. Silicosis, he said, was a disease of the lungs brought about by the inhalation of siliceous dust, and leading to tuberculous infection. Hence deaths from silicosis, when they occurred, were nearly all returned as due to tuberculous lung disease. There was, however, also clear evidence that inhalation of siliceous dust led, or might lead, to deaths returned as due to bronchitis, so that deaths from bronchitis had also to be taken into account in connexion with silicosis risks. After quoting the statistics of the Registrar-General showing deaths from phthisis and from bronchitis among coal miners and other workers, especially workers in stone, Dr. Haldane said that neither the statistics nor any other evidence whatsoever showed that any class of work in coal mining was subject to risk from silicosis except under very unusual conditions which could be guarded against effectively. Nor was there any clear evidence that dust inhalation by coal miners was an ordinary cause of either bronchitis or pneumonia among them, though it seemed practically certain that excessive inhalation of coal dust or shale dust must cause bronchitis and ought therefore to be avoided. While the evidence did not reveal the existence of any silicosis among coal miners, other direct evidence had shown in recent years that in exceptional circumstances very great risk might occur among men driving roads through sandstone or other siliceous rock. The precautions required in work in sandstone or similar rock were quite simple. To prevent inhalation of dust from machine drills an effective form of the dust-trap worked out by Captain Hay of the Mines Department should be used, along with good ventilation; to prevent harm from the dust produced by blasting, no one should return until the place had been thoroughly cleared by ventilation; and to prevent harm from dust raised in shifting the broken rock, it should be thoroughly wetted. Dr. Haldane added that the fact that coal miners were, and had been for generations, less subject to phthisis than average persons was very striking, considering their conditions above ground. The coal dust and shale dust which they breathed were not antiseptic substances, but it must be supposed that some soluble constituent in this dust stimulated the phagocytes to activity, so that they digested and destroyed the bacteria in the lung alveoli. This would account for the relative immunity to phthisis of a coal miner or coal boat loader. On the other hand, when certain kinds of dust containing free silica were breathed, the defence against tuberculous infection broke down, and the disease familiarly known as miners', grinders', potters', stone-masons', or other occupational phthisis became prevalent, commonly accompanied, though not always, by a marked increase in bronchitis mortality. Dr. Haldane could not agree with the view put forward lately at a congress in Johannesburg that the risk of silicosis was simply proportional to the ratio of free silica in the dust. Touching finally on the question of compensation for silicosis in the coal-mining industry, Dr. Haldane said that the matter was rendered difficult by past neglect of the provisions of the Mines Act. There were a certain number of men suffering from undoubted silicosis—apparently dying—who could obtain no compensation under existing law, since the exposure from which the illness resulted was at a time before the law applied.

Post-Graduate Clinic at Hampstead

A post-graduate school has been established at the Hampstead General and North-West London Hospital. Meetings will be held there every Wednesday afternoon at 4 o'clock, when discussions of interest to general practitioners will be opened by members of the medical staff. Membership of the school is being confined to doctors practising in the North-West of London; there will be no subscription. The inaugural meeting will take place on Wednesday, January 28th, at 4 p.m., when an address on maternal mortality and morbidity is to be given by Mr. Comyns Berkeley. It is hoped that these post-graduate afternoon clinics will serve as a rallying ground for all practitioners within about five miles of the hospital, and help them to keep in touch with the latest advances in medicine. The dean of the school is Mr. Clifford Morson. Successful work along the same lines has been done at the Royal Northern Hospital for some years past.

Correspondence

VACCINATION AND ENCEPHALITIS

SIR,—In the leading article in your issue of January 17th, which deals with the second report of the Rolleston Committee, there are two points upon which, with your permission, I should like to offer a few comments, more especially as that committee (of which I had the honour to be a member) is now dissolved.

The first point is as follows. In discussing the two rival hypotheses as to whether the encephalitis in question is brought about by vaccinia virus itself, or by another virus activated by vaccination, the following sentence occurs: "Neither side can claim much help from experimental infection of animals, since neither vaccinal nor any other form of encephalitis has been produced in animals inoculated from the nervous system of fatal cases." Now while it is true that direct inoculation of the central nervous system of fatal cases of post-vaccinal encephalitis into animals has given negative results, other animal experiments that have been carried out have given results that afford a possible explanation of these negative results. Thus, in the appendix to the first report of the Rolleston Committee, an account was given of some experiments carried out by me in which the effect was determined of introducing a particularly potent brand of calf lymph intracerebrally into rabbits. When the dose was strong enough twelve of these animals developed encephalitis, of which they died, and at post-mortem examination the opportunity was taken of determining the distribution of vaccinia virus in their central nervous system and elsewhere. No fewer than ten of these twelve animals succumbed from the sixth to the tenth day after inoculation, and in all of them the virus was abundant in the brain. On the contrary, in the case of the two other rabbits that survived till the twelfth and the thirteenth day, no vaccinia virus could be found in the brain. These results therefore indicate that after the tenth day the virus is no longer in evidence in the central nervous system, even when the encephalitis is produced directly by vaccinia virus. This process of "autosterilization," as Levaditi has called it, may conceivably have something to do with the negative results referred to.

The second point is in regard to the beneficial effect of convalescent serum, which was employed first of all by Sir Thomas Horder in the case admitted to St. Bartholomew's Hospital in May, 1929, and subsequently and independently by Hekman of Rotterdam in a number of cases with encouraging results. When Sir Thomas did me the honour of calling me in to consultation over the case referred to, I recommended that serum from the mother (who had been vaccinated the same day as the child) should be taken on the fourteenth day after vaccination and given to the child. The choice of the fourteenth day was the result of a considerable number of experiments previously carried out on rabbits for the specific purpose of determining the best time to collect serum for protective purposes. In each of three sets of experiments the animals' serum gave optimum protection on the fourteenth day after vaccination.

Although the problem of post-vaccinal encephalitis is still very far from solved, I venture to submit that animal experiments have not been without profit.—I am, etc.,

London, W.C.1, Jan. 19th. M. H. GORDON.

THE OUTLOOK ON TUBERCULOSIS

SIR,—The bold advocacy by Sir Robert Philip of the routine use of the tuberculin test "at stated intervals from early infancy onwards," which you have so strongly supported, will not fail to arouse widespread interest. With this advocacy those who recognize the practical implications of the procedure will be in warm agreement. But when the proposition is submitted to a cool, critical examination, with the view of ascertaining what precisely the practical implications are, we arrive at matters requiring elucidation. It may be taken that a scheme of this magnitude, which if energetically launched is capable of being rapidly brought into action, is no mere epidemiological study. The figures quoted by you—namely, 37.7 per cent. of children infected with tuberculosis at the age of 5 years, and 90.2 per cent. at the age of 18—are for the moment sufficiently informative. Let us suppose the fact and date of tuberculization to have been duly noted in relation to each child. What practical use is now to be made of the information?

Sir Robert Philip's answer to this question is: Concentrate upon the reactors with "watchfulness," "maintenance of high level of resistance," "effective detuberculization," "anticipative and preventive procedure." If we exclude, as Sir Robert Philip appears to do, specific methods of immunization, this answer is too nebulous to be of any more value for the reactors than for the rest of the population. Writing in 1923 in advocacy of the percutaneous use of a tuberculin ointment as being "of effective value in the direction of general detuberculization," Sir Robert Philip soundly observes: "If the validity of any method of *de*tuberculization be established, it is clear that the earlier in the life-history of the infected individual it is adopted, the speedier and completer will be the effect achieved" (*British Medical Journal*, March 24th, 1923, p. 495). But even the assistance of the percutaneous use of tuberculin ointment appears to have no place in the list of advantages to be derived from the routine use of the tuberculin test to-day. In announcing his conviction that "extended knowledge of the facts, and the application of anticipatory measures which will be consequently demanded, will lead to better results than attempts along the line of enforced vaccination," Sir Robert Philip goes on to state categorically: "Attempts at vaccination have been numerous. . . . One after another they have been proposed on scientific grounds. . . . *They have been tested and, so far, all have been found wanting.*" Although perhaps the language is somewhat ambiguous, the general impression left upon the reader's mind is that the preventive and anticipatory measures upon which he dwells do not include specific immunization.

With this view, if I have correctly gauged it, I am in profound disagreement. There is good reason to believe, with Koch and his successors, that curative and preventive immunization, in relation especially to such tuberculous infection as is now under consideration, is an accomplished fact. In spite of the failures of the past, there has been sufficient success to make it more than a hope—knowledge founded on evidence—that specific immunization, supported by ordinary hygienic measures, is capable of rounding off the argument in favour of a wide use of the tuberculin test by a definite, trustworthy promise of eradication of the infection thus to be detected.

I would respectfully submit that a demonstration of the truth of this statement is the next most important step in the campaign against tuberculosis.—I am, etc.,

London, S.W., Jan. 17th. ROBERT CARSWELL.

SIR,—It was with much pleasure that I read in the *Journal* Sir Robert Philip's address on the above subject. The present favourable position of the campaign against tuberculosis is due almost entirely to his genius, and courageous persistence in spite of much opposition.

Nobody who takes a comprehensive view of this most intriguing subject can fail to agree with his dictum, that, while much is done for those suffering from tuberculous disease, very little is done for those suffering from tuberculous infection—a much more hopeful subject from the

point of view of treatment. I am firmly of opinion that little further progress will be made until the significance of tuberculous infection is appreciated and seriously treated. In a previous article in the *Journal* I pointed out that tuberculous infection was relatively common among children of school age, while tuberculous disease was correspondingly rare, yet no preventive treatment is undertaken until the infection becomes a disease. While tuberculin must be regarded as the more precise index, it is not difficult for an experienced man, by clinical methods alone, to detect tuberculous infection. Public health departments, in the sphere of preventive medicine, are thinking too much in watertight compartments. There is much truth in the statement that the school medical officer, who is in the best position to detect tuberculous infection, rarely sees tuberculous disease, and the tuberculosis officer rarely sees tuberculous infection.

Again, the general practitioner, who should receive every encouragement to familiarize himself with the earliest signs of tuberculous infection, not merely tuberculous disease, is persistently kept in the background in this as in all other branches of preventive medicine. The child suffering from tuberculous infection is the potential consumptive of the future, and no man can foretell the ultimate course in any given case. It is only by early recognition and close observation of the infected child that prevention can be successfully practised. A new orientation is indeed urgently required, and no one is better fitted than Sir Robert Philip to give the necessary lead.—I am, etc.,

Birkenhead, Jan. 12th. D. J. GAIR JOHNSTON.

SIR,—I have read with the greatest interest, in the *Journal* of January 10th, Sir Robert Philip's lecture, and your leading article on the diagnosis of latent tuberculosis. I absolutely agree with him on the fundamental value of the various tuberculin tests. The intradermal test was described by Mantoux in 1908, and is extensively used in all children's hospitals on the Continent and in the United States, yet in this country its usage is quite exceptional, although, as Sir Robert points out, "the knowledge obtained by it is priceless." During and after the war, when there was an immense increase in tuberculosis in children in Vienna and Germany, the value of this test, also of the von Pirquet test, was established beyond all doubt. Now tuberculosis, as it occurs in the child, differs widely in its pathology from that of the adult, yet the subject of pulmonary tuberculosis is still taught in many of our leading medical schools by a specialist in adult tuberculosis, who is often quite unfamiliar with tuberculosis in the child. Examination of contact cases is largely left to the specialist in adult tuberculosis, and thus many paediatricians see very few cases of tuberculosis in children, with detriment to their teaching. Surely it would be better if the care and treatment of tuberculosis in childhood, and teaching in this subject, were left in the hands of the children's physician. At this point I would like to suggest that if possible a translation of Pirquet and St. Engel's great book on tuberculosis in childhood, published last year, should be made at once, so that all teachers in diseases of children, and tuberculosis experts, may acquaint themselves with this, the greatest book yet published on this subject.

There is one paragraph in Sir Robert Philip's lecture that compels criticism. "Vague conditions of 'delicacy' in the child may find their explanation—for example, malnutrition, obscure feverish attacks, ill-defined lack of energy, so-called 'disturbed action of the heart,' which may interfere with the claims of education and sport. Such conditions, I am satisfied, are very frequently the expression of tuberculous infection." If one takes a group of cases of "nervous debility" and "malnutrition" in children, and tests their Mantoux reactions, one does not find a higher percentage of positives than in a similar group of apparently normal children. To term such symptoms "tuberculosis" is surely going too far. For the mother the word "tuberculous" is practically synonymous with "consumptive," and many doctors faced with a case of this sort may recommend sanatorium treatment, where the chance of secondary tuberculous infection is increased. Undoubtedly tuberculosis carries with it too great a stigma to justify anyone in diagnosing it easily in such delicate children. Surely the value of the positive Mantoux test lies rather in stimulating the doctor to take extra precautions to get the child back to full health as rapidly as possible.

The fact of tuberculization is, as Sir Robert Philip says, extremely important, but, in my opinion, for another reason—namely, that the earlier the age at which a positive reaction is found, the more likely one is to find the adult that is disseminating the infection. It is mainly through the early detection of these adults that reduction in the incidence of tuberculosis in childhood will eventually occur. It should be regarded almost as a criminal offence to allow adults with open pulmonary tuberculosis to come into near contact with young and delicate children, yet to-day this is still a frequent occurrence. If tuberculosis in childhood is to diminish, it seems that the following conditions must be fulfilled:

1. Much greater facilities for the care and treatment and for teaching in tuberculosis in children should be given to children's physicians.

2. All who have had to do with tuberculosis in childhood should carefully criticize all articles and books written on the subject before the advent of *x* rays and tuberculin tests. It is hoped that all will read Pirquet and St. Engel's great book, which contains practically all our scientific knowledge up to date.

3. The value of tuberculin tests in childhood should be much more generally realized.

—I am, etc.,

St. Thomas's Hospital, Jan. 12th. JOHN GIBBENS.

TUBERCULIN AND THE TUBERCULOSIS PROBLEM

SIR,—The prominence given to tuberculin as a diagnostic agent in Sir Robert Philip's address and your leading article in the *Journal* of January 10th afford me unalloyed pleasure. We are within sight of a goal that is worthy of our aim. Forty years after its discovery English physicians may be persuaded to use the one indispensable agent for tracking tuberculosis to its source.

We have always been at a great disadvantage, because the true solution of the problem of tuberculosis needed, above everything, constant, intimate, and tedious observations upon the lesions disclosed after death. The wealth of such observations in other countries, notably in Germany, is the best measure of our own poverty. It was for this reason that I urged in the *Times* not long ago the creation of a Government institute, similar to Koch's institute in Berlin, for the study of tuberculosis on scientific lines. There can be no great progress till we are allowed to follow the disease to the bitter end. Let us be wise and change the orientation of our conceptions and methods, and deal with the problem in accordance with the logic of accepted facts that have been revealed to us by the labours of Koch, Römer, Ghon, Ranke, Redeker, and others, whose views have been based upon the bedrock facts of bacteriology, pathology, and epidemiology.

I do not think the writer of your leader would persist in his view that "pulmonary tuberculosis is spread as much by apparently healthy carriers as by patients suffering from the clinical disease" if he had studied Redeker's article in the *Zeitschrift für Tuberculose*, Bd. 43, Heft 6, "Die epidemiologie der ambulanten kindlichen tuberculoseformen." Beyond all doubt tuberculosis is a disease that begins in childhood, and the environment of the child is the source of infection. Too much attention cannot be paid to the environment of the child if we wish to tackle infection at its source. The sanatorium cannot prevent infection in childhood, and plays a very trifling part in converting infectious into non-infectious cases.

The problem of prevention is not touched by the existing system of sanatorium treatment for a few months, nor by the glorification of fresh air and sunshine. Neither fresh air nor sunshine can prevent tuberculosis in children living in the houses of consumptive parents. The key to the detection of the danger spots has not been used comprehensively, consistently, and courageously. The primary duty of State medicine should be to reduce the incidence of tuberculosis infection in young children. Next in importance to the testing of children with tuberculin comes the provision of homes for advanced and infectious forms of phthisis, supported by the Government. Even when the disease is far advanced, tuberculin as a remedy may sometimes work wonders; thus these homes would become hospitals for specific treatment, and, further, they would greatly prevent the incidence of serious infection with tubercle bacilli in children. But all these modifications of existing systems should be discussed by a special commission of experts, with a lawyer as chairman. Conflicting interests and views would be inevitable, and a lawyer would be able to sift the wheat from the chaff, and prejudices would be at a discount. Vested interests and reputations might suffer, but a deeper knowledge would find the clue to a solution of the problem of preventing tuberculosis in children.—I am, etc.,

London, W., Jan. 11th. W. CAMAC WILKINSON.

INCUBATION PERIOD OF MEASLES

SIR,—The records of incubation periods in measles given by Dr. Goodall in his letter in the *Journal* of January 10th show an interesting agreement with a distribution which we arrived at from notification records in St. Pancras, and which was first published in a table at the top of page 391 of "A study of the epidemiology of measles" in the *Annals of Eugenics* (vol. iii, 3-4, 1928).

This distribution was obtained by tabulating the intervals in days between the dates of appearance of the rash in pairs of cases of measles occurring in the same house during the years 1924-28, and the portion of this distribution from six to twenty days is reproduced below. There were 2,490 of these intervals, and in Dr. Goodall's data there were 115 intervals of from six to twenty days. Reducing the total of 2,490 to 115, the expected figures would be as shown in the third column, and these may be compared with Dr. Goodall's data in the fourth column.

Interval in Days	St. Pancras Notification Data		Dr. Goodall's data
	Actual Frequency of Intervals	Expected Frequency in a Total of 115	
6	90	4	1
7	99	5	5
8	173	8	7
9	236	10	9
10	318	15	17
11	353	16	18
12	329	15	16
13	269	12	6
14	205	9	8
15	153	7	10
16	104	5	7
17	70	3	1
18	48	2	2
19	38	2	4
20	35	2	4
Total ..	2,490	115	115

Applying the usual statistical test for "goodness of fit" between the distribution expected from the larger data and that actually found, by squaring each difference and dividing by the expected number and then summing the resulting figures, it appears that for the fifteen groups the total (which statisticians call *chi squared*) is 13.6, and by reference to statistical tables this is found to denote that as poor a correspondence would be found about once out of every two sets of such data through chance alone. In other words, the degree of correspondence is as good as might be expected on the theory of probability, in view of the size of the data.

This is of interest because it shows that (1) the employment of good notification records in the way I have advocated leads to results consistent with those obtained by more carefully controlled clinical observations in isolation hospitals, and (2) the interval between the appearance of the rash in successive cases in the same house provides, at any rate for statistical purposes, as good a measure of the incubation period as can be obtained by other methods.—I am, etc.,

Department of Applied Statistics, University College, London, Jan. 14th. PERCY STOCKS.

FAMILIAL INCIDENCE OF CANCER

SIR,—The recently published scientific report of the Imperial Cancer Research Fund is a document of the first importance. On page 139 may be found the words "There are references in the literature to so-called cancer families—but these are of doubtful validity." Truth may be learnt from fact, from reason, and from experience. General practitioners know from experience that cancer families exist, though they are usually denied the opportunity to prove the fact by demonstration at necropsy.

I am personally acquainted with a family where both parents died of cancer, and five of the six children who reached adult life have died of cancer. The remaining child survives. At a recent funeral the assembled relatives could not recollect any collateral (that is, cousins) who had passed middle life and who had died of any other cause than cancer. In a second family the mother was the thirteenth member to die of cancer; one of her four children died of cancer of the stomach, and his daughter had a breast removed for the same disease.

If the familial incidence of cancer is important, as I believe it is, would not the resources of the Fund be well spent in investigating families such as the foregoing? What standard of proof is required? That cancer should be the certified cause of death, with the word of a general practitioner that the clinical signs were typical, seems insufficient.—I am, etc.,

GRIFFITH EVANS, D.M., F.R.C.S.

Caernarvon, Jan. 18th.

TREATMENT OF ETHMOIDITIS

SIR,—In your issue of January 10th appears a paper entitled " A safe method of dealing with ethmoiditis," by my colleague Mr. Peters. I had the privilege of hearing him read it before the Section of Laryngology at Winnipeg, but owing to the plethora of other papers then presented, there was no time for discussion. It is not quite clear to me what the essential points are which he desires to emphasize, as constituting the safety of the method he advocates. Is it in the preliminary radiographic examination of all cases before operation for evidence or otherwise of any accessory sinus infection, or his method of operative approach, or the direct examination of the various sinuses during operation and their drainage if necessary, or all these combined? Personally, I use the combined method, as in my experience any case of long-standing ethmoiditis infects one or more, or all, of the adjoining sinuses, and this is particularly so where purulent changes supervene on the hyperplastic or polypoid type of ethmoidal disease, and, unless all the other infected sinuses are drained when dealing with the ethmoid, there is little hope of getting a good result.

I agree as to the need for the removal of the middle turbinal as essential to the proper approach to the ethmoidal cells, but instead of using a Luc's forceps, which was my former practice, I have for many years severed its attachment with a special nasal scissors, and then removed it with a nasal snare containing a rather stout wire. This gives as clean severance of its attachment as that procured by the Sluder knife in the preliminary incision advocated by him in his radical operation. The diseased ethmoidal cells are then removed, from before backwards to the sphenoid, by a round-ended Luc's forceps, or, if the cell walls are friable, a ring curette, drawn from above downwards, from the level of the middle turbinal stump to the upper border of the inferior turbinal, is a safe and efficient procedure. This leaves the sphenoidal sinus easily accessible for examination of its contents and drainage if necessary. The frontal infundibulum can be cleaned out with a reverse-action curette and rasps, and the antrum punctured, washed out, and, if infected, drained intranasally below the inferior turbinate. In my opinion, nothing short of this procedure is likely to give satisfactory results, and, when even all this is done, in a few cases an infected aberrant ethmoidal cell may remain beyond the reach of safe surgical approach, to partly mar the surgeon's hope of a complete cure.—I am, etc.,

London, W.1, Jan. 12th. JOHN F. O'MALLEY, F.R.C.S.

THE " DEEP POOL " BATH

SIR,—I have read with great interest the very instructive and original article on a method of exciting movements in weakened and paralysed muscles, in your issue of January 10th, by Mr. Arthur Porritt and Mrs. Guthrie Smith. Their aim is to give in their cases exercises and movements based on the idea of primary relaxation, and of producing a maximal movement with a minimal muscle effort by the removal of extraneous forces—in particular, gravity, the weight of the limb, and friction—which leads to the abolition of fear and its concomitant involuntary spasm, and to the growth of confidence, and consequent ability to assist voluntarily in the restoration process. The apparatus by means of which they attain this ideal is admittedly simple, and, as I know from personal observation at St. Mary's Hospital, where they use it, effective. I feel, however, that it is only just to that much-suspected handmaiden of therapeutics—hydrology—to point out that all these effects can be, and are, attained by the immersion of the limb, and where possible the whole patient, in warm water, in which case these effects and movements may be attained without the need arising for any apparatus other than the pool itself. There appear to me to be two further advantages to be gained by using the under-water method: first, that the warmth (98° F. generally) tends to relax spasm during the whole course of the treatment; and, secondly, that since no *sudden* movement, which might give rise to pain, is possible under water, the confidence of the patient, and consequently his co-operation, is gained even more rapidly than with the authors' rope-and-sling method.

The value of the method I advocate is abundantly shown in the treatment of those very chronic cases of painful osteo-arthritis of the hip in which it is often believed, prior to treatment, that ankylosis with considerable adduction and shortening has taken place. I would further point out that this method has been used for years with considerable success at Bath in the treatment of spastic paralysis, which the authors also mention as an indication for their methods. The possibility of gaining access to the " deep pool " bath is no longer confined to those who are able to visit a spa; which is my justification for venturing to plead for the more general adoption of this form of treatment now that it can be obtained in many towns.—I am, etc.,

London, W.1, Jan. 15th. W. S. C. COPEMAN.

FOREIGN BODY IN THE NECK

SIR,—Dr. Alexander's case, recorded in the *British Medical Journal* of January 17th (p. 96), reminds me of an identical case which I reported in a paper on foreign bodies read before the Society for the Study of Disease in Children at their Brighton meeting three years ago. This patient also was a baby, aged 13 months, seen in consultation with Dr. Simpson. The swelling was only about seven days in forming and in softening. When opened under chloroform two small feathers escaped with the pus; and on the second day another small feather. These feathers corresponded with those of the baby's pillow. The wound healed quickly, and gave no further trouble.—I am, etc.,

GEORGE MORGAN,
Consulting Surgeon, Children's Hospital,
January 18th. Brighton.

HOG'S STOMACH IN PERNICIOUS ANAEMIA

SIR,—We have read Dr. J. F. Wilkinson's paper (*Journal*, January 17th, p. 85) with interest, but the data presented therein concerning the percentage of haemoglobin call for comment.

Dr. Wilkinson does not state the method or standard of the estimation, but we presume he uses the Haldane apparatus. Many of the observations in treated cases reveal a colour index below 1—for example, Case 57, Table 2, colour index 0.54, haemoglobin 62 per cent., red blood cells 5,750,000. This is at variance with our experience, using the flicker haemoglobinometer described by one of us (*Brit. Journ. Exp. Path.*, 1930, xi, p. 261). We have never seen a single instance of a low colour index in pernicious anaemia; the colour index varies directly with the change in the erythrocytic diameter. Further, the colour index persists above 1 when the haemoglobin is 110 per cent. or more, which is parallel to the observations of Price-Jones and others that the mean diameter is the last abnormality to disappear. It is probable that the inaccuracies of all colorimetric methods of estimating haemoglobin are chiefly responsible for the popularity of mean diameter estimation at the present time. We find it convenient to express our results in terms of the Haldane scale because the difference in the male and female erythrocyte count allows the respective colour

indices to approach unity in each case—0.98 for males and 1.04 for females. The average normal haemoglobin content as determined by one of us was found to be 118 per cent. for males and 104 per cent. for females, both over the age period 18 to 50. These flicker estimations agree, to within 3 per cent., with Williamson's monumental work with the spectrophotometer. (The relative fluctuations at different age periods were found to be identical with Williamson's observations.) We state these points concerning the normal in order to make clear that our present remarks are based upon results obtained with an instrument which is more accurate than any colorimetric method. Finally, we have observed that in some of our cases recovery is marked by a temporary rise in the haemoglobin to a percentage above the normal —for example, to 125 or more; this holds good for the erythrocytes also, which, we note, agrees with Dr. Wilkinson's observations. The phenomenon suggests to us that the final stage of recovery from a grave anaemia, pernicious or "secondary," is attended by a swing in the opposite direction due to the overaction or imperfectly opposed action of some factor held in abeyance during the active period of the disease.

Dr. Wilkinson gives ample evidence of the superiority of the hog's stomach over liver, but this is perhaps due not to any difference in the active principle contained in each, but to hog's stomach containing more of the anti-anaemic substance than liver. Duesberg (*Deut. med. Woch.*, Berlin, 1930, lvi, p. 1604) states that the active principle in both is probably the same, and he bases his conclusion, briefly, on the fact that liver, hog's stomach, and meat treated with normal gastric juice produce methaemoglobin in the blood. It is of interest also that after the termination of the reticulocyte response due to stomach preparation, Holböll (*Hospitalstidende*, Copenhagen, 1930, lxxiii, p. 825) obtained no new reticulocyte response by giving liver extract. Our criticism is directed solely to the lack of value of the haemoglobin estimations and colour indices, and is not intended to decry in any way Dr. Wilkinson's estimations of improvement based upon clinical observations, as we also observed the excellent effects produced by hog's stomach (extomak).—We are, etc.,

Salford Royal Hospital, Jan. 19th. C. S. D. DON.
C. E. JENKINS.

GENERAL PRACTITIONERS AND ANTE-NATAL WORK

SIR,—I am pleased to see from Dr. Leslie Cronk's letter in the *Journal* (p. 118) that I was mistaken in stating that the Hampshire scheme does not provide for examination of the midwife's patient at the doctor's surgery; it does so in the exceptional cases in which the woman is unable to attend a clinic. Since this scheme was drawn up, the position has been altered by the issue of Memo. 156/M.C.W. (reported in the *Journal* of December 27th, 1930 (p. 1089)). A perusal of this document makes it clear that the Ministry of Health is now prepared to sanction schemes for ante-natal services which allow the uninsured woman who has engaged a midwife for her confinement to go to the doctor of her choice for the necessary examination, not only when there is no clinic available, but also because some may be reluctant to visit a clinic. It should now be possible to secure in every area the carrying out of the recommendation of the Maternal Mortality Committee that the person doing the ante-natal examination should be the person who would be called in by the midwife for abnormalities during pregnancy, labour, and puerperium.—I am, etc.,

Poplar, E.14, Jan. 17th. W. H. F. OXLEY.

MEMBERS OF THE ROYAL COLLEGE OF SURGEONS

SIR,—A report of the proceedings of the Council of the Royal College of Surgeons of England appears in your issue of January 17th. The College consists of about 2,000 Fellows and 18,000 Members. The Fellows alone elect the Council, which has autocratic powers. Three generations of Members, backed up by some of the most distinguished Fellows, and several Presidents and Vice-Presidents of the College, have asked for some representation on the Council, so that the views of the 18,000 Members on professional matters may be directly expressed.

At forty-two consecutive annual meetings of Fellows and Members a resolution to this effect has been carried almost unanimously. Last year the College Council, in reply to such a resolution, answered that it had no evidence before it that any considerable number of Members supported this demand—in spite of nearly a century's consistent and persistent agitation to this end. In response to this statement the Society of Members of the Royal College of Surgeons of England took a poll of 12,600 Members—the financial reasons for so limiting the Members polled were fully explained to the President at the last annual meeting (November, 1930). The result was: Votes in favour, 6,938; Against, 156. It will be observed that considerably over 50 per cent. voted. Those experienced in professional voting will recognize that this is well above the average.

Completely ignoring this convincing vote, the Council, as stated in your last issue (p. 122) recited a number of oft-repeated platitudes, concluding by complacently stating that these various functions were well discharged by the governing body as now constituted. It further claims to be acting "not only for the benefit of the Members and Fellows, but the whole profession throughout the Empire," and that its view on this question is endorsed by its electorate—the Fellows. It is not stated that this "electorate" consists of only 2,000 Fellows in a corporation of 20,000, or that a very large number—nearly one-third—of the Fellows voted in favour of giving a voice to the Members. The rejection in this autocratic fashion of the reasonable claim of Members to have some four to six of their number added to a Council of twenty-four Fellows will not be likely to commend itself to the 18,000 Members of this great College.—We are, etc.,

ERNEST E. WARE,
President,
REDMOND ROCHE,
Vice-President,
Society of Members of the College.

London, Jan. 18th.

GLYCERIN AS A SURGICAL DRESSING

SIR,—I have read with great interest Dr. Kyle's letter on the use of glycerin for wounds (January 10th, p. 75). Perhaps I might mention that the addition of a certain amount of glycerin to perchloride of mercury lotion takes away from it the roughening effect on one's hands, which is such a drawback to the use of perchloride. But why does Dr. Kyle describe magnesium sulphate as hygroscopic? After reading his letter I weighed out 60 grains of magnesium sulphate, and spread it on a piece of dry paper, and left it exposed to the damp air of my unheated dispensary for four days. This morning I found it and the paper quite dry, and discovered that it still weighed neither more nor less than 60 grains.—I am, etc.,

Yattendon, Berks, Jan. 15th. F. A. BRODRIBB.

CAMBRIDGE DIPLOMA IN MEDICAL RADIOLOGY

SIR,—In view of various rumours as to the discontinuance of the Cambridge Diploma in Medical Radiology and Electrology, I should be grateful if you will let me draw attention to the following recommendation, which was sent from the Faculty Board of Medicine to the Senate on November 11th, 1930, and was passed by the Senate at a Congregation held on December 19th, 1930.

"The Faculty Board have had under consideration the annual report of the Committee for Medical Radiology and Electrology, as well as other information relating to the Diploma. The Board are convinced by the evidence laid before them that the Diploma continues to meet a real need, and that the standard of the teaching and of the examination is satisfactory. The financial position also is satisfactory.

"The Board therefore are of opinion that the Diploma should be re-established for a period of three years, but that, in view of the rapid growth in allied subjects, the position and scope of the Diploma and the arrangements made with the British Institute of Radiology should be reviewed before the expiration of that period."

—I am, etc.,

Medical School, Cambridge, Jan. 13th. G. STEAD, Secretary for the Diploma.

Obituary

JAMES A. ADAMS, M.D., F.R.F.P.S.

Consulting Surgeon, Glasgow Royal Infirmary

Dr. James A. Adams died in his seventy-fourth year on December 28th, 1930, at Shandon, Dumbartonshire, where he had been living for the past three years. His retirement was preceded by illness, and it was a matter of great regret, both to himself and to his colleagues, that he found himself compelled to resign his appointments and to give up practice. He maintained his interest in medical affairs to the end, making a last public appearance on November 30th at the service in Glasgow Cathedral in commemoration of Maister Peter Lowe, the founder of the Royal Faculty of Physicians and Surgeons of Glasgow.

Dr. Adams was the son of Dr. James Adams, a very popular and well-known doctor in Glasgow, and was the fifth Dr. Adams in direct descent from Dr. A. M. Adams, a portrait of whom, dated 1790, is still in the possession of the family. From this ancestor there sprang two main branches of the family—the Adams of Glasgow and the Maxwell Adams of Lanark. A member of the family, Dr. Maxwell Adams (*quartus*), in a brochure entitled a "Dynasty of Doctors," claims to be able to trace no fewer than sixteen members of the family all more or less connected with the profession of medicine. The only other dynasty comparable with this in Scotland is that of the Marshall and Cowan family, whose genealogical tree is traced through seven generations.

James Adams was a distinguished student in the University of Glasgow, graduating M.B., C.M. in 1878, with commendation, and in 1881 M.D. with honours. He became a Fellow of the Faculty of Physicians and Surgeons of Glasgow in 1878. The year 1878 was financially disastrous in Glasgow, as at that time the City of Glasgow Bank failed. Dr. Adams's father was a moderately large shareholder, and as these were the days before the Companies Limited Liability Act he found himself liable in many thousands of pounds to the depositors. Financial conditions, therefore, of necessity altered the professional outlook and future of the family. A young man whose student career had been of promise would naturally, with the support and influence of a father already a leader in the medical profession, look forward to preparation for specialism in some form as his future. That preparation began in the anatomical department of the University, where Adams was demonstrator under Professor Cleland, and in the Royal Infirmary, where he was surgeon to out-patients; in order to help to retrieve the family fortunes, however, he plunged into general practice with his father in the West End of Glasgow.

The subject of his thesis for M.D., "Certain anatomical relations between abscess of the brain and aural disease," was probably prompted by a discussion in the Medico-Chirurgical Society of Glasgow on cerebral abscess and its association with diseases of the ear, introduced by Dr. Thomas Barr, Glasgow's chief authority on otology. Apparently a great deal of interest was aroused; Macewen was in close association with Dr. Barr, and was then beginning his brilliant work which, seven years later, formed the subject of his epoch-making lecture to the British Medical Association at its Glasgow Meeting in 1888. Dr. Adams's research went to show that there are "anatomical peculiarities of structure in the organ of hearing which differ in the infant and in the adult, and which explain the greater frequency of abscess of the brain in adult life as originating from disease of the ear. Under certain conditions there is an abnormal state of the cerebral circulation which admits of a direct vascular connexion between the ear and the brain." This work was a very substantial contribution to the whole subject of cerebral abscess in its relation to otitis media, and cleared the way for establishment of the pathology of the disease on a secure anatomical basis. Again, in March, 1882, at the Medico-Chirurgical Society, he pointed out the vascular relations of the middle ear and mastoid cells and the brain, and, it seems to us, anticipated some of the work of Macewen and Horsley in urging the operation of trephining the mastoid process in cases of aural disease where head symptoms had appeared even in the slightest degree; and in the same contribution he advocated the opening of the mastoid antrum in cases of chronic otitis media, a procedure which afterwards became a matter of everyday practice. His anatomical studies led him to suggest the advisability of shortening the round ligaments through incisions over the inguinal canals in the treatment of uterine displacement. This "new operation for uterine displacement," published in the *Glasgow Medical Journal*, June, 1882, soon became known as the Adams-Alexander operation, as apparently the idea had occurred synchronously to two men. Adams was very careful to give Dr. William Alexander of Liverpool all the credit of priority in publishing successful cases of the operation, though he pointed out that for eighteen months previous to Alexander's publication he had been teaching the operation and discussing it with his colleagues. Papers on "Diaphragmatic hernia," and on a case of "Voluntary dislocation of the hip and jaw," also gave him excellent opportunities for anatomical discussion.

With his appointment to the Royal Infirmary, operative surgery became his chief interest, and he found little or no time to publish. In 1895 he had the distinction of performing the first successful pylorectomy for malignant disease in Scotland. The case is fully recorded in the *British Medical Journal* of April, 1896, where the details of technique are fully set forth. His publications show that Dr. Adams possessed, in considerable degree, originality of thought in the application of surgical anatomy, and it is in a measure unfortunate that the exigencies of practice and the strenuous routine work of surgeon to a large hospital like the Glasgow Royal Infirmary consumed the time and energy that might have been given to surgical research. He held the post of surgeon for the long period of twenty-seven years, carrying on in the years of the war, even after his term of office had, through age-limit regulations, come to an end. Other war

service was generously given as surgeon to the Princess Louise Hospital for limbless sailors and soldiers.

Dr. Adams received high honour from his professional brethren, as became one who had a long professional tradition to uphold, and was himself a keen and loyal doctor. In 1911 he was elected president of the Royal Faculty of Physicians and Surgeons of Glasgow; he conducted the monthly meetings with skill and geniality, and counselled wisely in committee. From 1920 to 1928 he was the Faculty's representative on the General Medical Council, where his knowledge of medical education must have been of great service. When he retired from active duties at the Royal Infirmary he was made an honorary consulting surgeon and a member of the board of managers. Not only the medical, but the social world of Glasgow, recognized him as a notable personality. In his prime he was an enthusiastic Volunteer. An original member of the university contingent of the 1st L.R.V., he transferred with it to the 5th Scottish Rifles, where he rose to the rank of lieutenant-colonel, and was awarded the Volunteer Decoration. He was a welcome member in officers' mess or medical company, for no one was more famous for his fund of anecdotes, racily told, and apt in allusion. His ordinary talk abounded in good-humoured chaff, and he had ready methods of turning aside the ouslaughts of the irate and the irrationality of the crank.

"Jimmy Adams" will long be remembered in Glasgow as a genial kindly man, a well-liked and trusted doctor, a sound practical surgeon, and a worthy bearer of the torch of medical light.

J. P.

ETHEL BENTHAM, M.D., M.P.

Consulting Physician, Memorial Baby Clinic, North Kensington.

We regret to record the death of Dr. Ethel Bentham, M.P., which took place on January 19th, due to heart failure following a severe attack of influenza.

Dr. Bentham was born in London seventy years ago. Her father, William Bentham, J.P., was well known in the Society of Friends, of which society she remained a faithful member throughout her life. She spent her early school years in Dublin, and, resolving to become a doctor, studied at the London School of Medicine for Women, at the Rotunda Hospital, Dublin, and also in Brussels and Paris, taking the triple Scottish qualification in 1894, and the M.D. degree of Brussels University in the following year. She began practice at Newcastle-on-Tyne, where she remained for about fourteen years, and then, coming to London, continued in general practice until recently. It was on her suggestion that the Baby Clinic and Hospital at North Kensington was founded in memory of Margaret MacDonald, wife of the present Prime Minister, and Mary Middleton, both of whom were her old friends and fellow workers. She became its senior medical officer, and was still consultant there at the time of her death. Dr. Bentham joined the British Medical Association in 1895 on commencing practice; in 1912 she was elected a member of the Executive Committee of the Kensington Division, and in 1921 she served on the British Medical Association Parliamentary Sub-committee. She was also a member of the Association of Registered Medical Women. At the inception of the National Health Insurance Act she became a member of the Panel Committee for the county of London, and for some time did very active work as chairman of its Finance and General Purposes Subcommittee. She had a seat on the old Metropolitan Asylums Board, and there strongly supported the reform of the casual wards.

Her public and political career began in Newcastle, where she interested herself in the constitutional movement for woman suffrage, and also became a zealous worker in the Labour movement, standing, unsuccessfully, for the city council. On coming to London she engaged in many forms of public work, and showed an interest, which with her was hereditary, in social problems in many directions. She sat for several years on the Kensington Borough Council, and was appointed a justice of the peace as soon as women were eligible for that office; in that capacity she interested herself particularly in lunacy cases and juvenile courts, and was herself a member of such a court. Her first attempt to enter Parliament was made at East Islington in 1922. She contested the constituency again in 1923 and in 1924, and finally, in 1929, gained the seat for the Labour party, being returned by a majority of 1,558 in a three-cornered contest. She was the first medical woman and also the first woman Friend to enter Parliament. In the House of Commons she was active without being conspicuous; although rarely speaking in debate, she did much quiet work behind the scenes. One of her longest speeches was on the Mental Treatment Bill, whose introduction she heartily welcomed as a reform long overdue. She pleaded on that occasion for the renaming of the Board of Control, and for something to be done to create greater public confidence in that rather mysterious authority. The speech illustrated her quiet humour, which was never very far from the surface. She amused the House by recounting from her experience the story of a man discharged as cured from a mental hospital, who was discovered by an after-care visitor just about to cut his throat as he lay in bed. She prevented him effectively by calling out, "Not there, man; think what a mess you'll make. Come out and do it over the sink." Dr. Bentham's last speech in Parliament was to introduce the Bill which provides that British women who marry aliens shall retain their nationality. She was a member of the Select Committee on Capital Punishment, which recently reported.

This simple Quaker lady, whose only recreations were walking and music, had a frail physique, and one wondered sometimes at her vast expenditure of energy. She was not marked out for, nor was she very successful in, platform electioneering; her strength lay in quiet unobtrusive administrative work, and she was always glad enough that others should have the glory if only the thing itself were done. The hackneyed quotation about doing good by stealth received a fresh exemplification in her, as many poor families in Newcastle and in London, to whom she gave of her kindness and skill, could testify. It is stated that her last hours were brightened by an intimate letter sent to her by the Prime Minister directly he learned that her illness had taken a turn for the worse.

The remains were to be cremated at Golder's Green on Thursday morning; this to be followed by a public memorial meeting at Friends House, Euston Road, of which Dr. Bentham was a member. The interment was to take place at Jordans new burial ground on Friday.

THE LATE MR. MAURICE FITZMAURICE-KELLY

Mr. PAUL BERNARD ROTH writes: I feel that no obituary notice of the lamented Maurice Fitzmaurice-Kelly is complete without special mention of the part he took in introducing into England the circular amputation as an emergency operation for cases of severe gunshot wounds of the limbs. I am not sure but that he alone introduced it. Before he brought it to the notice of British surgeons we were all performing amputations on these cases, as they arrived from the front, according to civil usage, and with deplorable results. Flaps were marked out, cut, turned back; the muscles were stripped from the bone; the bone was sawn through four or five inches above the break; and the muscles and skin-flaps replaced and sutured. On the following day violent suppuration commenced in the freshly exposed surfaces, and in a great many cases death occurred as a direct result, I fear, of the operative proceedings. We were absolutely at a loss

to know what to do until there appeared in the medical press a letter from Fitzmaurice-Kelly, pointing out that what we were doing was entirely wrong, and that a circular amputation at the level of the injury, without exposing any fresh surface and without any suturing whatever, was the only way to save the soldier's life. Later, when all the fever had subsided and the inflammation had gone, we could amputate in the ordinary way at our leisure. We adopted his revolutionary proposal, and thereby thousands of lives were preserved. To my friends and myself at the time the operation was always known as the Fitzmaurice-Kelly amputation.

Universities and Colleges

UNIVERSITY OF OXFORD

An examination for a Radcliffe Travelling Fellowship of the annual value of £300, tenable for two years, will be held during Hiliary term, 1931, at the University Museum, commencing on Tuesday, February 24th, at 10 a.m. Candidates must have passed all the examinations required for the degree of Bachelor of Arts and for the degree of Bachelor of Medicine. The examination will occupy four days. Intending candidates should send in their names, addresses, qualifications, etc., to the Regius Professor of Medicine, University Museum, by Wednesday, February 11th.

UNIVERSITY OF CAMBRIDGE

The Appointments Committee of the Faculty of Medicine has reappointed Dr. A. E. Barclay of Christ's College as University Lecturer in Medical Radiology and Electrology for three years.

On the nomination of the Council of the Senate, Professor H. R. Dean, M.D., Master of Trinity Hall, has been appointed a member of the Dominion Students Hall Trust for the establishment of "London House," a hall of residence for British and Dominion students in the metropolis.

UNIVERSITY OF LONDON

The University Court, at its meeting on January 14th, accepted on behalf of the University the generous bequest of £4,000, free of legacy duty, from the late Miss Mary Ethel Sim Scharlieb, who died in 1926. The purpose of the bequest is the founding of a scholarship in memory of Miss Scharlieb's mother, the late Dame Mary Ann Dacomb Scharlieb, M.D., M.S., LL.D., to whose life interest the legacy was subject. The scholarship is to be called "The Mary Scharlieb Research Scholarship," and the conditions of award are to be determined by the University.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE

Post-graduate courses will be held at the College of Medicine, Newcastle-upon-Tyne, in January, February, and March. The courses will include diseases of infancy and childhood, midwifery, gynaecology, diseases of the eye, diseases of the throat, nose, and ear, diseases of the skin, and of neurology; the classes will meet weekly. A detailed syllabus will be sent on application to the Registrar. A general course in medicine and surgery will be held from April to June, and a fortnight's intensive course in September.

The Services

DEATHS IN THE SERVICES

Deputy Surgeon General Horace Ximenes Browne, R.N. (ret.), died at Thorncote, Higher Hove, Plymstock, South Devon, on November 22nd, 1930. He was educated at Bart's, and took the M.R.C.S. and the L.R.C.P.Ed. in 1878. Entering the Navy soon after, he attained the rank of fleet surgeon on August 11th, 1894, and retired with an honorary step of rank as deputy inspector-general on November 24th, 1910. He served as surgeon of H.M.S. *Condor* during the naval and military operations at Suakin in 1884-85, receiving the Egyptian medal, with a clasp for Suakin, and the Khedive's bronze star; and as staff surgeon of H.M.S. *Raleigh*, the flagship, when he served in the Naval Brigade under Rear Admiral Bedford, C.B., for the punitive expedition against the Chief Nanna of Brohemie, in the Benin River, resulting in the capture of the stronghold of Brohemie on September 25th, 1894, when he was mentioned in dispatches, and received the African general service medal with a clasp for Benin River, 1894.

VITAL STATISTICS FOR ENGLAND AND WALES, 1930

We are indebted to the Registrar-General for the following statement regarding the birth rates and death rates, and the rates of infantile mortality, in England and Wales and in certain parts of the country during 1930. The statement is issued for the information of medical officers of health. The birth rate and infantile mortality rate for London have been provisionally corrected for transfers.

ENGLAND AND WALES

Birth Rate, Death Rate, and Infantile Mortality during the Year 1930 (Provisional Figures)

	Live Births per 1,000 Population	Deaths per 1,000 Population (Crude Rate)	Deaths under One Year per 1,000 Live Births
England and Wales (on 1930 estimated population)	16.3	11.5	60
10[illegible] on	16.7	11.5	64
159 smaller towns (populations from 20,000 to 50,000 in 1921—on 1929 estimated population)	16.2	10.5	55
London (on 1929 estimated population)	15.7	11.4	59

The death rate for England and Wales relates to the whole population, but that for London and the two groups of towns to the civil population only.

The birth rate is the same as that for 1929, which was the lowest recorded. The death rate is 1.9 below that for 1929, and is the lowest on record, being 0.1 below the rate for 1923 and 1926—the previous lowest.

The infantile mortality rate is also the lowest on record, being 5 per 1,000 below that for 1928, the previous lowest, and 14 per 1,000 below that for 1929.

Medical News

The Hunterian Society of London will commemorate the 203rd anniversary of the birth of John Hunter by a banquet at the May Fair Hotel on Thursday, February 19th, at 7.30 p.m. The Lord Mayor and Lady Mayoress of London, and other distinguished guests, have accepted invitations to be present. The price of the dinner (12s. 6d., exclusive of wines) will be collected at table.

The Master and Wardens of the Society of Apothecaries are giving a Livery Dinner, to meet the Lord Mayor and Sheriffs of London, in the Society's Hall, Blackfriars, on Tuesday next, January 27th.

Under the auspices of the People's League of Health Sir Robert Armstrong-Jones will give a lecture on March 2nd in the Town Hall, Woolwich, on mental hygiene.

A joint meeting of the Sections of Surgery and Pathology of the Royal Society of Medicine will be held on Wednesday, February 4th, at 8.30 p.m., for a discussion on "Indications for, and the value of, the intravenous use of germicides."

The annual general meeting of the Association of Public Vaccinators of England and Wales will be held at the offices of the Society of Medical Officers of Health, 1, Upper Montague Street, W.C., on Friday, January 30th, at 3.30 p.m. All public vaccinators are cordially invited.

A joint meeting of the Society for the Study of Inebriety and the Psychiatry Section of the Royal Society of Medicine will be held at 1, Wimpole Street, W.1, on Tuesday, March 10th, at 8.30 p.m., to discuss the prevention and treatment of drug addiction (excluding alcoholism). The openers representing the Society for the Study of Inebriety will be Dr. William Brown and Dr. Macdonald Critchley. The openers representing the Psychiatry Section will be Dr. Edward Mapother and Dr. F. G. Laughton Scott.

The National Council for Mental Hygiene has arranged the following lecture-discussions, to be held at 11, Chandos Street, Cavendish Square, W., on Thursdays, at 5.15 p.m., from February 12th to March 19th inclusive: modern marriage and its problems, Mrs. Neville-Rolfe; psychology of education, Professor J. E. Marcault; psychology of dreams, Dr. J. R. Rees; psychology of sanity, Dr. J. Burnett-Rae; psychology of suicide, Dr. H. Crichton-Miller. Dr. W. A. Potts; psychology of punishment, Tickets, 1s. 6d. each, or 7s. 6d. for the course, may be had from the secretary of the Council, 78, Chandos House, Palmer Street, S.W.1, or at the doors.

Three lectures, arranged by the Food Education Society on "Food and food habits, and their connexion with rheumatism, cancer, and other chronic diseases," will be given by Dr. R. Ackerley at 29, Gordon Square, W.C. (entrance in Gordon Street), on Wednesdays, February 11th, 18th, and 25th, at 5.30 p.m. Admission free.

The House of Commons resumed after the Christmas Recess on Tuesday, January 20th, when the China Indemnity (Application) Bill was read a second time. The report stage of the Education (School Attendance) Bill was down for Wednesday.

Dr. Alfred Cox's speech on the medical aspects of State insurance in Great Britain, made last summer at the congress known as the Journées Médicales de Bruxelles, has been published in French in the *Bruxelles-Médical* of January 11th.

At the recent formal opening of the nurses' home extension of the Royal Victoria Infirmary, Newcastle-upon-Tyne, Sir Walter Runciman announced his intention of increasing his contribution to the movement from £20,000 to £25,000. The new wing, which is to be named after Sir Walter Runciman, will provide accommodation for 150 nurses who have hitherto had to live outside the hospital.

The propaganda committee of King Edward's Hospital Fund for London (7, Walbrook, E.C.4) invites applications for illustrated lectures on the work of the London voluntary hospitals, to be given to schools and institutions during the Easter term. These lectures are being given on the committee's behalf by doctors, nurses, hospital secretaries, and others experienced in hospital work.

At the January meeting of the Central Midwives Board for England and Wales the secretary reported that the College of Nursing had agreed to undertake the conduct of a course of instruction in the subjects of the midwife-teachers' examination, and that the College and the Midwives' Institute had arranged that the Institute should co-operate in the conduct of the course.

A Bill to be introduced into the Tanganyika Territory Legislative Council provides for the recognition in the Protectorate of a medical diploma granted in any part of the world. Under the present law the only persons entitled to registration in Tanganyika are the holders of qualifications recognized as entitling to registration in the United Kingdom. Similar provision is made as to the registration of dentists.

The next International Congress of Oto-Rhino-Laryngology will be held in Madrid in 1932, when the subject for discussion will be scleroma, introduced by Professor Lasagna of Parma, Professor Burack of Minsk, and Professor Wisckovki of Bratislava.

The late Dr. James Macfee of Auchterarder has left personal property of the value of £105,861. He has bequeathed £10,000 to the National Lifeboat Institution and £3,000 to the Perth Royal Infirmary.

As the result of a report drawn up by Professor Guillain and Dr. Souques, the Académie de Médecine has expressed the opinion that public exhibitions of hypnotism are undesirable, and should be prohibited.

The gold medal of epidemics has been conferred posthumously on the late Dr. Ernest Conseil, director of the Health Office of Tunis, and collaborator with Dr. Charles Nicolle in his work on typhus, cholera, and plague.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Late Effects of Vasectomy

"J. W. L." desires to know what are the late effects of vasectomy. Do the good effects claimed by Steinach (in 1923) continue?

Writing with Left Hand

"SINISTRAL" sends the following query: A boy of 9 writes with his left hand, but uses his right for other purposes. Should he be required to write with his right hand, and, if so, what is the risk of producing stuttering?

Blushing

Dr. W. L. GILLBARD writes: I wonder if any of your readers can tell me of a successful cure for blushing. I have a patient, a young man of 24, who is much distressed by a habit of blushing when among strangers. Sometimes he will flush for no apparent reason when in the company of his own family, but it more commonly occurs in public vehicles, restaurants, and places of entertainment.

Hystero-epilepsy?

Dr. H. V. CRABTREE (Exeter) asks for suggestions for diagnosis and treatment in the case of a married woman, aged 30, who suffers from attacks of an apparently hysterical nature. They occur only indoors, and may last from five minutes to three hours or more. The attack, of which she has foreknowledge, starts with a violent shivering, during which she tries to prevent herself from losing consciousness. Sometimes she is successful, and the attack passes off, at other times she lapses into a semi-conscious state, with struggling movements of the limbs. Her eyelids close, and she repeats conversations (always in the correct order of their occurrence) which she has had for some years back, and advancing up to the moment when the attack commenced; there is then another violent shudder, she opens her eyes, and the attack is over. During the attack, if the lids are forced open, the eyeballs are found to be turned downwards, not upwards as in sleep, and there is a tendency for them to roll. Bromides, valerian, and general tonics have been tried; and during her pregnancy the patient has had fewer and shorter attacks.

Dalrymple's Sign

Dr. W. R. BETT (London, W.4) writes: Eponyms are like spider's webs; they entangle the weak but are broken by the strong. The weakness of historical curiosity has lately led me to trace the legitimate or illegitimate birth of thyroid eponyms. Trying to discover the original description of Dalrymple's sign I must confess myself defeated. I cannot rest satisfied with the contemporary description by W. White Cooper in the *Lancet* (1849, i, 551) of Dalrymple's observation: "The eyes, being greatly protruded, were nearly denuded of the protection of the upper

lid by a constant and powerful spasm of the levator palpebrae superioris, which drew the lid so far upwards and backwards that much of the sclerotic above the cornea was visible. This spasm of the levator of the lid is not uncommon in nervous and hysterical females, and is frequently associated with other irregular muscular actions, such as chorea. The expression given to the countenance by this protrusion of the globes, and the unnaturally elevated lid, is very peculiar, and the aspect is that of the wildest terror." If one of your readers can quote Dalrymple's own description of what is now known as his sign, the writer of this note would be his debtor.

Nail Biting

"B. S." writes: In reply to "M.B." (January 3rd, p. 427), I would suggest persuasion, and education in the proper care of the hands. Without making any special mention of the subject, let the child see you cut your nails regularly, brush them, and wash the hands, and encourage him to do the same. Inspect his hands frequently to see if there is anything to cut, but without any word of reproach. I have often found that a child bites his nails on account of discomfort, and this is relieved by suggesting at once that he should wash his hands. He should be given free use of a soft nail brush. Children are usually ashamed of the habit, and will thankfully accept some help in overcoming it. It is a good plan, if they mention it, to say calmly, "Oh! I used to do it, but I don't now." Children are easily led if the leading is not too obvious.

Income Tax

Motor Car Expenses

"R. D." changes his car every year—as do a number of other practitioners—and the cost of replacement this year was £375 - £260 = £115. The inspector of taxes refuses to allow the deduction of that sum as "obsolescence" on the ground, apparently, that the car disposed of was not "obsolete."

*** In such circumstances the simplest course is to claim neither "depreciation" nor "obsolescence," but that the cost of replacement of the car is a professional expense of the year in which the exchange was effected. If, however, depreciation has been claimed for the year of assessment in question then "cost of replacement" cannot be claimed as well, and the best course would be for the "depreciation" claim to be withdrawn or cancelled, and so clear the way for the more direct claim. So far as "obsolescence" is concerned the inspector of taxes has some legal authority for his objection, though the judicial decision on the point was given on somewhat special facts, and does not appear to be applicable—so far as our knowledge goes—to the circumstances of this case.

LETTERS, NOTES, ETC.

Medicine and Public Economy

Sir ERNEST GRAHAM-LITTLE, M.P. writes: It will be universally agreed that the most urgent need at the present moment is economy, both in national and local public expenditure. The medical profession played a nobly patriotic part in the great war, and the present crisis threatening our country is of nearly equal gravity; there can be no doubt that the profession will wish to take its share in promoting any campaign for enforcing public economy. A group of public men, drawn from all parties and calling themselves "The Friends of Economy," are about to inaugurate such a campaign by a public meeting to be held in the Great Hall, Cannon Street Hotel, London, E.C., on Tuesday, January 27th, at 3 p.m. The chairman will be Mr. Edward Charles Grenfell, M.P. for the City of London, and the meeting will be addressed by Viscount Grey of Fallodon, Sir Robert Horne, and Sir Ernest Benn. As the only medical man engaged in active practice included in this group (the list of which I enclose), I am entrusted with the duty of approaching medical journals in the hope of enlisting the support of the profession for this movement.

Removal of Adenoids

Dr. C. CONOR O'MALLEY (surgeon, ear, nose, and throat department, Central Hospital, Galway) writes: In his interesting article on removal of adenoids Mr. O. Popper draws attention to an important point—namely, sharpness of the curette blade. With the right pattern, trauma with stripping of the mucous membrane should occur only when the instrument is a blunt scraper. Since the removal of adenoids is a cutting operation I have always felt that the curette is a more sensitive instrument when held as one holds a scalpel or dinner knife. One would think that skill in a surgical manipulation must be in some degree regulated by one's practice at similar manœuvres in everyday life. Personally, I have rarely seen difficulty in making a clean sweep of the adenoid mass with the StClair Thomson curette. My only difficulties have been caused by using faulty instruments, unblushingly called "StClair Thomson pattern" by various makers, and supplied by hospital contractors. It would be a boon to the profession, and only fair to the original designers, if something could be done to make manufacturers realize the importance of correct design when marketing surgical instruments.

Mr. O. POPPER writes: I am afraid that a transposition of type, occurring in my paper in last week's issue, has rendered the affected portion unintelligible. On page 93 (second column) the stages of the operation are outlined. The printer's error affects (2) and (3) only, but as all the movements merge into one another I would be most obliged if you could reprint these stages *in toto*, as follows: (1) The post-nasal space is carefully examined with the finger to determine the size of the mass and extensions. Under good illumination the instrument is inserted behind the soft palate and pushed upwards until it touches the vault. (2) The handle is dropped towards the chest, so that the back of the cage rests against the posterior edge of the nasal septum and the blade engages the upper portion of the adenoid mass in the vault. (3) Applying moderate pressure, the blade is swept down the post-nasal wall by raising the handle towards the face. (4) When the cage appears from behind the palate it is swept out of the mouth. This detaches the adenoids, and the whole mass will be found in the cage. The movements are, of course, continuous.

Pathological Museum at the Eastbourne Meeting

In referring to the organization of a museum of scientific exhibits and pathological specimens in connexion with the ninety-ninth annual meeting of the British Medical Association, to be held at Eastbourne in July next, we mentioned in our issue of January 10th (p. 67), that a proposal had been made to gather together "a series of exhibits—*x*-ray and other photographs—relating to milk-borne human diseases." We have since been informed that this description should have been: "a series of exhibits relating to milk-borne diseases *and* a series of *x*-ray and other photographs."

Disputing the Bill

Many of our readers must have followed the interesting correspondence between Mrs. X and Dr. Y in last week's *Punch*, and we are prompted to offer to "Woon" the thanks of a much-exploited profession for his work in another Good Cause. Through the interlocutory extravaganzas of Great and Little Dithering, the nocturnal inculcations by telephone, and the irrelevant questions about the practitioner in attendance on a cousin, there runs that vein of agony which many doctors know so well but few express. If "Medical Details" were reprinted and sent out in leaflet form with every doctor's account it might act as a deterrent to the ungrateful and the demurring. And as a title, the advice of Mr. Punch himself might be adapted: To those about to query—Don't!

Medical Golf

The annual general meeting of the Sheffield Medical Golfing Society was held in December last. The society now has a membership of sixty-eight. Five matches have been played—three being won, one lost, and one drawn. The winner of the society's cup for 1930 was Dr. F. N. R. Price, and the runner-up Dr. A. B. F. Rodger.

Vitamin Deficiency

A pamphlet on *The A and B Avitaminosis Disease of Sierra Leone* has been privately printed for the author, Dr. E. Jenner Wright, who informs us that he will be pleased to supply copies to any reader particularly interested in the subject. His address is 11, Ridge Hill, Golder's Green, N.W.11.

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 43, 44, 45, 46, 47, 50, and 51 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at at pages 48, 49, and 50.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 23.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

72 Treatment of Non-tuberculous Pulmonary Conditions

J. ALEXANDER and W. W. BUCKINGHAM (*Journ. Amer. Med. Assoc.*, November 15th, 1930, p. 1478) discuss the treatment of non-suppurative pneumonitis, abscess, and bronchiectasis. Suppurative pneumonitis not infrequently complicates operations, pneumonia, and infections of the mouth and sinuses. The lesion of the earliest stage is usually a purulent infiltration of the alveoli and interstitial tissue of the lung, with an associated infection of the bronchioles and small bronchi. The suppurative infiltration may be excavated by necrosis to become an abscess or multiple abscesses, or even a gangrenous extension; the condition may also proceed to bronchiectasis. The location of the principal lesions in the parenchyma determines abscess formation, and in the bronchial walls a bronchiectasis; it is important to prevent the sequels by curing the initial lesions. In the early stages of suppurative pneumonitis medical treatment is best, and often cures. If it fails, surgery frequently offers chances for cure if an operation is not unduly delayed. The most useful medical and surgical methods are: sanatorium regimen; frequent postural drainage; elimination of mouth and sinus infection; intravenous injections of neoarsphenamine; bronchoscopic removal of foreign bodies and secretions; artificial pneumothorax; temporary or permanent interruption of one phrenic nerve; extrapleural pneumolysis and thoracoplasty; drainage of an abscess; and lobectomy. The selection of the best procedure is an individual consideration; the simplest measure likely to suit the particular patient should first be chosen. The authors enumerate the succession of methods which they have found of value in the various types of suppurative pneumonitis.

73 Idiopathic Pyrexias

J. TROISIER (*Ann. de Méd.*, November, 1930, p. 480) mentions various conditions in which an unaccountable slightly elevated temperature occurs. Continued fever is often noted in children following cured infections of the rhinopharynx and enterocolitis, and in nervous children. The temperature is also sometimes raised in fatigue, and in women for some days before the menstrual periods. A case is recorded of a man, aged 31, who had been under observation for many years and who had always shown a temperature higher than that usually regarded as normal. His average morning rectal temperature was 100.5° F., and the evening rectal one nearly 101° F.; the axillary temperature was three-tenths of a degree lower. The man complained only of slight lumbago, being otherwise apparently healthy, and there was no evidence of nervous disequilibrium such as hysteria, or of endocrine disturbance. He stated that he has always had a high temperature, and that his father also had a habitual temperature of 104° F. Troisier considers this a case of congenital high temperature, transmissible by direct heredity from father to son, its pathogenesis being quite hypothetical. He points out that the homothermal mammals (dogs, rabbits, guinea-pigs, oxen, etc.) have a normal temperature of about 102° F., and that the horse and the chimpanzee have the normal human temperature of 98.4° F. The author adds that in cases of prolonged fever the possibility of a congenital high temperature being the cause should be considered.

74 Endocrine Factors in Migraine

E. F. HARTUNG (*Med. Journ. and Record*, November 19th, 1930, p. 497) considers migraine to be a manifestation of pituitary hypofunction. While in ordinary circumstances the pituitary gland is adequate, it suddenly enlarges with the call for increased activity under physiological or emotional stress and produces migraine. The condition is associated with the onset of puberty or occurs after the climacteric has passed, at which times the activity of the endocrine glands is increasing or subsiding. Acting upon this assumption, it has been clinically demonstrated that an attack of migraine may be abated by the hypodermic administration of adrenaline or of pituitary substance orally. In an experience of fifty cases hypodermic injections of anterior and posterior lobe pituitary or whole gland extract were given twice a week for the first month and thereafter once a week as long as required. In oral administration one-twentieth to one-half grain doses of the whole powdered gland were administered, such relatively small doses being necessitated by the fact that larger doses occasionally cause headache even in normal persons. Failure to procure relief occurred in only three instances; twelve patients were markedly improved, and the attacks in the remaining thirty-four were greatly reduced in frequency and severity. Hartung remarks that gastro-intestinal irregularities, focal infections, and refractive errors must be corrected, and a low carbohydrate diet be enforced, while the patient is kept within his constitutionally low fatigue threshold. Although the numbers thus treated are too few to allow of a final conclusion being drawn, the author considers that endocrine therapy offers the most encouraging results in the treatment of migraine.

75 Benign Lymphocytic Meningitis

According to V. DAUNA (*Thèse de Paris*, 1930, No. 320), who records 22 cases in patients aged from 4 to 45 years, all of whom made a complete recovery, this condition is characterized by an infectious state, accompanied by a meningeal syndrome, in which lumbar puncture shows the presence of an abundant lymphocytosis. The affection may occur in either a sporadic or an epidemic form. In a certain number of cases benign lymphocytic meningitis is due to acute poliomyelitis, epidemic encephalitis, or well-defined diseases such as herpes, mumps, and spirochaetal jaundice, but in some cases the etiology remains obscure. The diagnosis is extremely difficult, especially from tuberculous meningitis, so that in any case of lymphocytic meningitis resembling tuberculous meningitis, but not definitely proved to be so, the prognosis should be guarded, and the patient's condition should not be regarded as hopeless.

Surgery

76 Treatment of Skin Cancer

J. J. ELLER and E. C. FOX (*New York State Journ. of Med.*, November 15th, 1930, p. 1344) urge the importance of early diagnosis and judicious treatment of dermatoses that may become cancerous. Of the many skin diseases which may terminate in malignant neoplasm, syphilis, leucoplakia, radio-dermatitis, senile and seborrhoeic keratoses, kraurosis vulvae, lupus, and tuberculides have to be suspected, and a preliminary biopsy (except in melanoma) is advised in order to determine the degree of malignancy and the approximate radio-sensitivity or radio-resistance. Many chronic skin diseases in patients over 40 years old are basal cell epitheliomata; they develop frequently on a seborrhoeic keratosis, differ greatly in appearance, and may occur in any region, but approximately 80 per cent. are situate about the head and neck. The majority of early cases are curable; failures occurring in chronic cases exhibit invasion of bone or cartilage. The authors used unfiltered x rays for the majority of their basal cell epitheliomata. Lesions involving the aural or nasal cartilages were destroyed completely by electro-coagulation or excised with the high-frequency knife,

followed by unfiltered x rays or an equivalent local application of radium or radon. In prickle-cell epithelioma the tumours grow more rapidly and metastases occur earlier; they are usually more resistant to radiotherapy. Early prickle-cell tumours of the trunk can be treated successfully by radiation alone, but it is often advisable to excise the lesion or to employ electro-coagulation, followed by radium or radon. Electro-coagulation of tumours in cartilaginous areas (which are very resistant to irradiation) is advised, followed by irradiation. In lip epitheliomata the papillary type responds most rapidly to radiotherapy, while the infiltrating form is most dangerous on account of early metastasis. Penile epithelioma constitutes 1 to 3 per cent. of all cases in men; basal squamous-cell epithelioma is more malignant than the foregoing and is more resistant to radiotherapy. The prickle-cell lesion is more common in penile cases and responds well to radiotherapy in early cases. When Buck's fascia is involved the lesions react less readily, and electrothermic amputation may be required. Melanocarcinoma and melanosarcoma are both extremely malignant and require extensive excision with the high-frequency knife. In Paget's disease of the nipple, ablation of the breast, followed by irradiation, is advised. Lymphosarcoma of the skin responds well to irradiation, but in intensely hard chronic tumours surgical treatment should precede it. In early sarcoma the best results are obtained by a combination of radiotherapy and surgery; the dose required is similar to that given in prickle-cell epitheliomata. More resistant tumours require surgical excision and subsequent radiotherapy.

77 Traumatic Perforation of the Small Intestine without External Injury

S. POLIZZI (*Rinascenza Medica*, December 1st, 1930, p. 575) reports the case of a man who was kicked in the lower right quadrant of the abdomen about three hours after a meal. A few hours later he vomited food but no blood. During the night the pain increased, the vomiting became bilious, and the temperature rose. When admitted to hospital he was obviously very ill and his pulse was 120. There was abdominal rigidity and tenderness on palpation over the right lower quadrant, but no sign of external injury. Laparotomy was immediately performed. Although the appendix was unhealthy, it did not seem sufficiently so to account for the peritonitis, and there was no perforation. Appendicectomy was performed, and on further search a perforation was found in the small intestine about 30 cm. from the ileo-caecal valve. The perforation was sewn up and the patient made a good recovery. Polizzi suggests that the perforation was probably caused by the intestine having been squeezed against the hard vertebral column.

78 Operations on Diabetic Patients

L. R. GROTE and M. FLESCH-THEBESIUS (*Zentralbl. f. Chir.*, December 5th, 1930, p. 3026) comment on the great assistance brought by insulin to the surgical treatment of diabetic patients, and report three cases in detail by way of illustration. In the first case a woman, aged 47, who had had diabetes for twenty-four years, was successfuly submitted to an operation for the removal of a large uterine fibromyoma which had resisted irradiation treatment. Vaginal panhysterectomy under ether anaesthesia was performed, and the patient made an excellent recovery. The second patient was a man, aged 30, who was operated upon for chronic appendicitis, and the third patient, a woman aged 52, was suffering from severe furunculosis, the prognosis being very grave. In spite of there being no fewer than twenty abscesses, careful insulin treatment enabled a complete cure to be obtained by surgical intervention. The authors mention other cases in support of their contention that it is possible to control the metabolism appropriately before and after the surgical treatment of diabetic patients. For the operation, chloroform anaesthesia is inadmissible; lumbar anaesthesia is popular in America, and the present authors obtained good results from the intravenous injection of pernocton.

Therapeutics

79 Rational Treatment in Arterial Hypertension

S. WEISS and L. B. ELLIS (*Journ. Amer. Med. Assoc.*, September 20th, 1930, p. 846) maintain that no satisfactory drug treatment has yet been evolved for arterial hypertension. Experimental studies have shown that this condition, which may be functional at the outset, is the physiological and necessary response to decreased permeability of the arteriolar and capillary systems; they agree that the etiology is obscure, and in particular hold that there is insufficient proof of its relation to any local circulatory disturbance in the kidneys. Graphic proof of the transient nature of nitrite action is shown, and the danger of cerebral and other catastrophes resulting from sudden pressure reduction is mentioned. The most hopeful course is to induce the hypertensive patient to lead a rational life. All excesses of diet and exertion are naturally to be avoided; a proper amount of ordinary sleep is essential, and an additional period of afternoon rest is highly desirable. The reduction of all protein intake to 10 per cent. of the total calorie value of food taken daily is advised. Tobacco is not contraindicated, except in cases where its use is found to cause a definite increase in tension. A daily action of the bowels without straining is important. The use of sedatives of the barbituric acid group has been found of great value as an adjunct to general management, especially in the case of highly strung and excitable persons. Warm baths at not less than 34° C. are helpful. It is, above all, essential to consider the temperament of each patient, and to avoid the creation of "blood pressure phobia" by too great insistence on the condition. Experience has revealed that with the use of general measures, with or without accessory drugs, a proportion of the patients will improve as regards their symptoms and the recorded pressures; others will show great improvement generally, and be enabled to lead useful and comparatively active lives, without any measurable change in their tension. Some patients will not manifest any objective or subjective change, and will inevitably progress unfavourably. The tendency of certain patients to spontaneous improvement must not be forgotten. In all cases the eradication of obvious focal sepsis is indicated, not because it has any proved association with hypertension, but because, like syphilis and other infectious processes, it predisposes to vascular sclerosis.

80 The Haemostatic Action of Congo Red

During the course of Wedekind's researches on carbon and Congo red in pulmonary tuberculosis, the haemostatic properties of the latter substance were accidentally discovered. T. WEDEKIND, J. BECKER, and B. WIENERT (*Münch. med. Woch.*, November 28th, 1930, p. 2049) have therefore explored the clinical use of Congo red as a haemostatic in various cases of haemorrhage. A sterile 10 per cent. solution of Congo red (Grübler) was used, 5 to 10 c.cm. being injected intravenously, the injection being repeated if necessary; no untoward effects were ever observed although 50 conditions were treated, including haemoptysis, bleeding from teeth sockets, menorrhagia, and haematuria, and in the great majority of these the haemorrhage was arrested in from half an hour to six hours. Foreign bodies, especially electro-negative colloidal suspensions, have been shown to be held up in the reticulo-endothelial system, and to cause there an increase of activity which shows itself by various changes in the chemical and physical composition of the circulating blood, including an increase of fibrinogen and blood platelets. This is probably the explanation of the haemostatic action of Congo red, since in most of the cases which did well the coagulation time was abnormally long before the injection, and was reduced to normal by the treatment, the platelet count increasing at the same time. This was particularly the case in haemoptysis from pulmonary tuberculosis, where a prolonged coagulation time appears to be a common finding.

81 Vaccine Treatment of Typhoid Osteo-arthritis

M. LAURENT (*Thèse de Paris*, 1930, No. 266), who records 8 illustrative cases in patients aged from 18 months to 27 years, states that osteo-arthritis, although a rare complication, is always likely to occur in enteric fever, especially in the child. The onset is often insidious and the symptoms ill marked. Timely treatment, however, may diminish such grave complications as dislocation (which is particularly frequent in children) and ankylosis. Vaccine therapy should be applied as early as possible. It is most effective during the onset of the lesions, and may prevent suppuration in a primary serous arthritis. In cases where Widal's test has not been used a polyvalent T A B vaccine should be injected. The doses of the vaccine should be progressively increased so as to produce a general reaction. Laurent states that there is no contra-indication to the vaccine treatment of typhoid osteo-arthritis, and it should be associated with immobilization.

Disease in Childhood

82 Urticaria in Early Infancy

ANNA PINELLI (*La Pediatria*, October 15th, 1930, p. 1134) publishes a synthetic review of recent knowledge in regard to infantile urticaria. The family history of these patients often shows a skin weakness on similar lines, including a sensitiveness to cow's milk or to eggs, and especially to the white of the egg. Various hypotheses have been suggested to explain how these dietetic errors produce urticaria. It may be due to some special susceptibility of the skin, excited by some irritant passing through the nervous or vascular system and setting up congestion, and exudation of serum in the derma. Sometimes the cause is specific, as in the case of cow's milk and eggs or other food; in other cases no food error can be traced. Probably the liver plays an important part in the formation of the substance or substances which set up urticaria. Pinelli describes six main types: urticaria rubra, porcellana (with pale raised blotches), bullosa, pigmentosa, haemorrhagica, and acute circumscribed urticaria chiefly affecting the eyelids. In treatment the usual antipruritic lotions and drugs are mentioned, and stress is laid on the need for caution, particularly in introducing too drastic alterations of diet. Good results sometimes follow desensitization by means of gradually increasing small doses of the incriminated article of food. The administration of peptone, specific or non-specific, has been much recommended.

83 Artificial Feeding in Infants

H. P. WRIGHT and A. K. GEDDES (*Canadian Med. Assoc., Journ.*, October, 1930, p. 537) believe that, since the value of the accessory food factors in infant feeding has been appreciated, the relative unimportance of the actual food factors has been learned, provided always that certain minimum requirements are complied with and that sufficient calories are supplied. In the autumn of 1928 it was decided, at the Montreal Foundling and Baby Hospital, to submit a number of infants to selective feedings—that is, to feed them according to their appetite with the following preparation: lactic acid whole milk 20 oz., and corn syrup (50 per cent.) 2 oz. The results were uniformly successful. The calorie value of each ounce of this milk is between 23 and 24 calories, or slightly higher than that of breast milk; the carbohydrates and proteins are both in greater percentages than in breast milk. All the babies were fed for twenty minutes every four hours (five feedings in the 24 hours). Each infant under the age of 3 months was held while being fed. When any of them began to take 32 oz. of this mixture in the 24 hours, cereals were offered twice daily and vegetable broth once, and the number of feedings were reduced to four. When two platefuls of cereal were taken, the child was as a rule fed only three times a day. Infants 4 months old were usually eating cereal with avidity, and at the age of 6 months were receiving only four feedings in the 24 hours. Boiled water was offered to all infants. Cod-liver oil, rapidly increased to one teaspoonful twice daily, was administered in all cases. Orange juice was also given and quickly augmented to one tablespoonful a day. The authors consider that it is perfectly safe to feed normal babies during the first year with this mixture according to the appetite, and that some such simplified feeding is safer than a scheme which requires modification at regular intervals. Eleven case reports are appended as representative of those of 20 infants who received the feeding described. Only two failed to make satisfactory progress; one of these had congenital syphilis, and the other a cerebral haemorrhage following birth injury.

84 Diagnosis of Pulmonary Tuberculosis in the Infant

G. RUELLE (*Bruxelles-Médical*, October 26th, 1930, p. 1417) bases his diagnosis in suspected pulmonary tuberculosis in infants on the sum of the information obtained from the family history, clinical examination, reaction to tuberculin, and bacteriological and radiological investigations. He remarks that members of the household and near relatives should all be examined; the more intimate the contact the more likely is the infection. Transplacental infection is stated to be quite exceptional. The presence of adenitis, caries of the bone, or gummata indicates the necessity for very careful percussion and auscultation of the lungs. Ruelle holds that a positive Pirquet reaction indicates the presence of living tubercle bacilli in the infant. Since there may be a " silent " incubation period of two or three months, it is necessary to repeat the test, if negative, in suspected cases. If the skin reaction is positive the author advocates injection into guinea-pigs of material swabbed from the throat or antiforminized portions of the stools. Several animals should be inoculated on two to eight occasions, and daily or every other day. The animals are killed after a minimum of thirty days, and only those are considered tuberculous from which reinoculable tubercle bacilli are recovered. Tubercle bacilli may also be found on direct examination of the centrifugalized stomach contents, or, very rarely, the stools. Tracheo-bronchial adenitis, while not necessarily tuberculous, should always be regarded with great suspicion. *X*-ray shadows may be present in the right or left hila; they may be central or may involve the parenchyma of the lungs. Splenopneumonia or Grancher's disease, an acute infection, usually of the left lung, simulating a pleurisy with moderate effusion, is said to give a characteristic diffuse *x*-ray shadow, and to be generally tuberculous in origin. In miliary tuberculosis scattered granular shadows are apparent in the lungs. Cavity formation, not very common, must be confirmed radiologically.

Obstetrics and Gynaecology

85 Tubal Inflation and Salpingography

According to J. NOVÁK (*Zentralbl. f. Gynäk.*, November 29th, 1930, p. 3013) injection of the tubes with lipiodol or similar preparations for radiological purposes is far from being without danger; nevertheless, increasing numbers of foreign patients seeking treatment in Vienna for sterility bring with them radiograms of their Fallopian tubes. Novak describes the post-mortem findings in a patient who died from typhoid fever two months after salpingography, and three weeks after salpingostomy; recent inflammatory disease in the reclosed tubes and in the pelvic peritoneum was present. He cites a case in which, as shown radiographically, the injected oil was still present in the tube after two years. Novak no longer advises salpingography as a preliminary to operative treatment of tubal sterility, and save in very exceptional cases is content with tubal inflation. This is performed shortly after menstruation, but not until gonorrhoea has been excluded by examination of the cervical secretion and/or complement deviation, and (when the adnexa are enlarged) not until there is a normal leucocyte count and erythrocyte sedimentation rate. In none of the author's patients have untoward results followed the use of Rubin's method, and in one case only in which tubal occlusion was demonstrated did pregnancy occur later.

86 Post-operative Obstetric Embolus

J. O. POLAK and V. MAZZOLA (*Amer. Journ. of Obstet. and Gynecol.*, October, 1930, p. 529) discuss the incidence, cause, and prevention of post-operative obstetric embolus. The total incidence of thrombosis and embolism in 12,000 gynaecological and obstetrical cases was found to be 0.5 per cent. The number of cases of thrombosis in the obstetric group was double the number in the gynaecological group. Embolism predominated after gynaecological operations, thrombosis in obstetric deliveries. The authors state that 50 per cent. of all post-operative pulmonary emboli have their source in thrombi of the femoral and iliac veins. All clinical observers admit that pulmonary embolism is more common in pelvic operations, and in women aged 40 or more who are overweight and inactive. Relatively low blood pressure is frequently associated also, and some degree of post-operative infection, however mild. In this series of cases the mortality in gynaecological cases resulting from embolism is nearly twice as great as that resulting from embolism in the obstetric patient. Morbidity was present in 100 per cent. of cases. The conclusions reached by the authors are that venous stasis, the physiological blood changes following operation trauma, and infection are the chief factors which predispose to thrombosis and embolism. As a prophylactic measure they advise a more thorough pre-operative study of the patient, with individual treatment of cases of hypotension, low basal metabolism, leucopenia, anaemia, or hypertension. To increase metabolic activity and improve the circulation of blood in the lower extremities, the employment of passive movements and the administration of thyroid extract before and after operation are advocated.

87 Treatment of the Fibrocystic Ovary

C.-A. CASTAÑO and A. S. INTROZZI (*Gynécol. et Obstét.*, October, 1930, p. 301) in observations at operations have invariably found the fibrocystic ovary to be combined with pelvic varicocele. They believe that alteration in the pelvic sympathetic nerves plays an important part in the etiology of both conditions. In six cases of fibrocystic ovarian disease they have had excellent symptomatic results from ligature and section of all the vascular and nervous elements (the ovarian artery included) lying within the ileo-ovarian (suspensory) ligament near the hilum. The utility of Cotte's resection of the presacral nerve in similar cases is admitted, but the technique of the author's operation is simpler.

Pathology

88 Intradermal Reactions in Early and Late Allergic Syphilis

DUJARDIN and WISER (*Bruxelles-Médical*, August 17th, 1930, p. 1133) consider that the positive reactions to the intradermal inoculation with luetin—a substance obtained by maceration of syphilomata rich in the treponema obtained from rabbits—which occur in certain well-defined cases, have a definite clinical significance, though a positive result in infected subjects is much less general than is the case with tuberculin. A positive reaction is most commonly obtained in tertiary cases, but also in some earlier stages, especially where nervous lesions have followed rapidly on a primary stage insufficiently treated with arsenobenzol. The sequence of events points to the provocation of an early tertiary stage. The same reaction may be obtained in some cases where treatment has been really vigorous, and in certain congenital cases having special sensitivity to the toxins of the treponema. Luetin, according to the authors, thus produces the typical reaction of syphilitic allergy. As already recognized by Noguchi, this allergic reaction is not strictly specific, similar ones being obtainable by the use of various proteins. The present authors suggest that syphilis evolves through non-allergic primary and secondary stages to an allergic tertiary stage which may not be reached for some years, or the disease may remain indefinitely anallergic, the allergic stage being eventually provoked under the influence of treatment, as, for example, by malaria therapy in general paralysis. In a series of 113 cases where the test was tried, negative results were obtained in 23 primary cases (100 per cent.), 14 out of 19 generalized secondary, 7 of 10 localized secondary, 9 of 19 latent cases, and 3 out of 10 tertiary cases where lesions had been present but had been inactive for some years. Severe reactions occurred in three cases where the tertiary manifestations were very recent, and also in another case where a tertiary lesion appeared in the nose three months after infection, exemplifying the highly allergic state of the skin. The authors remark that the occurrence of positive reactions in latent cases is hard to explain; probably tertiary signs may be expected to appear later. They conclude that the development of allergy is promoted by the massive destruction of treponemata, as in recent syphilis when the action of arsenic is as potent as that of fever in general paralysis, and by a maximum concentration of treponemata in the organism, as at the "critical stage" for treatment when the secondary septicaemia occurs, and in general paralysis, where there is frequently a massive concentration of treponemata in the nervous tissues.

89 Streptococci in Infectious (Atrophic) Arthritis and Rheumatic Fever

R. N. NYE and E. A. WAXELBAUM (*Journ. Exper. Med.*, December, 1930, p. 885) have undertaken a series of experiments to determine whether streptococci are frequently present in rheumatic infections. In their first series of cases blood cultures were taken—using the method of Cecil, Nicholls, and Stainsby—from 10 cases of chronic arthritis, 11 cases of acute infectious arthritis, and 12 cases of rheumatic fever; of these, only one culture proved positive, a diphtheroid organism being recovered. Of 35 control cases, 6 positives were obtained, staphylococci, diphtheroids, Gram-positive cocci, and Gram-positive bacilli being recovered. In their second series of cases 5 patients with chronic infectious arthritis and 3 with rheumatic fever were examined, cultures being taken from the blood of seven, the synovial fluid of six, and lymph glands or subcutaneous nodules of four. Altogether positive cultures were obtained from six patients, the organisms recovered being Gram-positive bacilli and diplococci, Gram-negative bacilli, diphtheroids, staphylococci, non-haemolytic streptococci, and *Str. viridans*. In the total series of 41 rheumatic cases *Str. viridans* was obtained only once—from the blood of a patient with chronic infectious arthritis. The diversity of organisms recovered, the fact that duplicate tubes inoculated with the same material were never both positive, and the fact that more positive cultures were obtained from the control than from the experimental series of cases, lead the authors to believe that the positive results were probably due to contamination. The streptococcal origin of rheumatic conditions therefore receives no support from their work.

90 Cholesterinaemia in Diphtheria

J. DONATO (*Thèse de Paris*, 1930, No. 323), who records 44 illustrative cases in children aged from 2 to 14 years, states that while in an ordinary attack of diphtheria the glucose and cholesterin content of the serum is little affected, in severe forms there is a considerable diminution of glycaemia and cholesterinaemia. This diminution appears to have a direct relation to the intensity of the intoxication, so that the estimation of the glucose and cholesterin content of the serum is of value in the diagnosis and prognosis of suprarenal insufficiency, which is the chief cause of malignancy in diphtheria. When recovery ensues, there is always a reaction in the form of hypercholesterinaemia, which appears to be closely connected with the progress of immunization and the formation of antibodies. The administration of total suprarenal extract seems to have a favourable effect on the curve of glycaemia and cholesterinaemia, and consequently on the course of the disease.

The **SPECIFIC OVARIAN HORMONE**
which normally controls and activates the menstrual cycle

SISTOMENSIN
standardised physiologically

dysmenorrhœa, menorrhagia, hæmorrhages of puberty and menopause, hypoplasia of the uterus, disturbances subsequent to menopause or oöphorectomy.

Tablets Ampoules

PROKLIMAN
(Sistomensin Compound)

Association of ovarian hormone with therapeutic agents for the prompt relief of the most pronounced troubles of menopause: cardiovascular and nervous troubles, hot flushes, headache, etc.

Tablets

Hydrosoluble Ovarian Substance

AGOMENSIN

causes hyperæmia of the female genital organs. Stimulates the function of the genital glands and menstruation.

Functional amenorrhœa, oligomenorrhœa, sterility, vomiting during pregnancy, etc.

Tablets Ampoules

Clinical Reports on request

Samples on request

THE CLAYTON ANILINE Co Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1
Telephones: Hop. 6954, 6955 Pharmaceutical Department Telegrams: Cibadyes Boroh London

de KUYPER'S
HOLLANDS

Distilled from genuine malt liquor with the Juniper berry added. The advantage gained by distilling the berry with the spirit is the production of a preparation of Oleum Juniperi, mellow and free from irritating properties.

Oleum Juniperi is official in the British Pharmacopœia, and is described as carminative, anti-spasmodic, and a stimulating diuretic.

In this form, therefore, the oil of Juniper can be safely taken with regularity.

Distilled by the same family for 236 years.

THE

MEDICAL INSURANCE AGENCY

has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the **Insurance of Cars.**

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, &c., Insurances
under comprehensive policies, giving full protection.

What the Agency has done for the Profession:

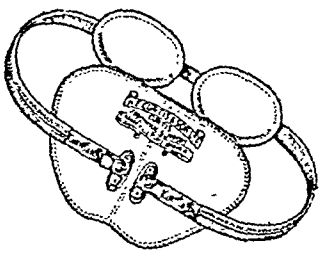
Saved by way of Rebates on Premiums - -	over **£42,500**
Contributed to the Medical Charities - - -	over **£25,500**

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1, &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

THE CURTIS ABDOMINAL SUPPORT

(Model 1 for average cases. Special designs to meet individual requirements.)



Model No. 1

A scientific support exerting a positive pressure which can be measured accurately. Its range, up to 50 lbs., is far more than adequate for all therapeutic purposes.

Unlike other belts which merely limit distension, the Curtis Support supplies a definite thrust in a backward and upward direction which lifts the fallen viscera into place.

The ideal support for *Visceroptosis* of every degree and variety.

Sole Manufacturers

H. E. CURTIS & SON LTD., 7, Mandeville Place, Wigmore Street, W.1

Telephone: WELBECK 2921 Telegrams: CURTIS WELBECK 2921

BUY BRITISH AND SAVE 33⅓% IMPORTATION TAX

The field for Diathermy Current applications is rapidly increasing

DIATHERMY

MEDICAL AND SURGICAL

EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available:—

FOR SURGERY

e.g.: Surgical cutting by High Frequency indulations or coagulation.

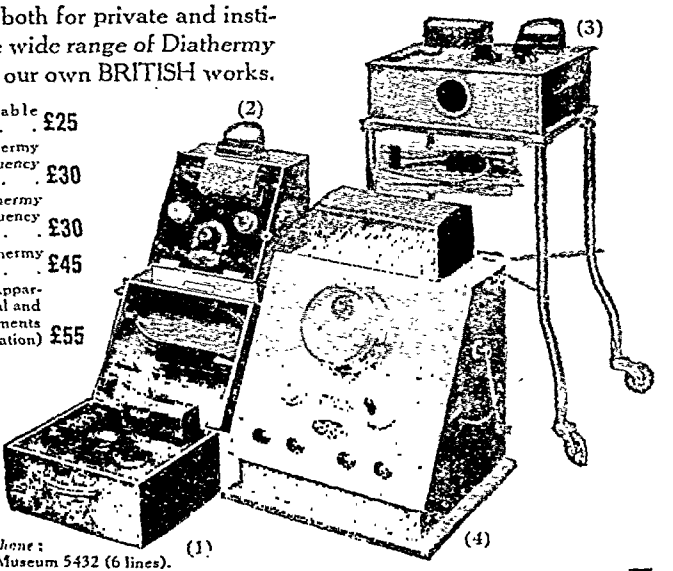
FOR THE PHYSICIAN

for treatment purposes only.

also

FOR BOTH SURGICAL and MEDICAL.

No. 1. "EMESAY" Portable Diathermy	£25
No. 2. "AMAZON" Diathermy and High Frequency Current Apparatus	£30
No. 3. "MERIDIAN" Diathermy and High Frequency Current Apparatus	£30
No. 4. "EQUATOR" Diathermy Apparatus	£45
No. 5. "MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation)	£55



Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

MEDICAL SUPPLY ASSOCIATION, LTD.

167-185, Gray's Inn Road, London, W.C.1.

ACTUAL BRITISH MAKERS.

Phone: Museum 5432 (6 lines).

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.
EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel.

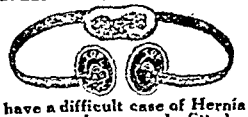
SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ½-doz. SOAP TABLETS.

Samples and Literature on Request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.



If you have a difficult case of Hernia send your patient to be properly fitted with a
SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency. Perfect freedom of movement.
The most scientific truss ever devised.

SALMON ODY LTD.
Highly recommended by the Medical Profession
7, NEW OXFORD STREET, LONDON, W.C.1
Telephone - - - *Holborn* 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS
The best Medical authorities are

18/6 per pair. State size of footwear when ordering. Estab. 120 years.

DOWIE & MARSHALL, Ltd., 16, Garrick Street, London, W.C.2
[ESTABLISHED SINCE 1824.] Telephone: TEMPLE BAR 5587.

The instructions of the Profession intelligently carried out.

In addition to the departments for **Ladies and Gentlemen,** special attention is given to provide properly shaped shoes for **Children,** parcels of which can be forwarded on approval to any part of the country. Please send outlines of the feet.

Dowie & Marshall have had great experience in the shoeing treatment of weak ankles and flat feet.

SPECIAL 20% REDUCTION DURING JANUARY

J. H. HAMILTON & CO. Ltd.
21, SAVILE ROW, LONDON, W.1
Established 1850.

LOUNGE SUITS from **£8 : 8 : 0**

DINNER SUITS from **£12 : 12 : 0**

OVERCOATS from **£7 : 15 : 0**

Phone: Gerrard 2510.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.
Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS
Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA
Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

BURBERRYS SALE

The great annual opportunity to purchase
OVERCOATS, SUITS & WEATHERPROOFS
well-made from the best quality materials, at a little above or below
HALF-PRICE

SALE CATALOGUE detailing thousands of bargains for men, women, and children, sent on mention of "B.M.J."

BURBERRYS LTD. (Dept. 47) HAYMARKET S.W.1

AUTO MECANUS AND PAR DROITE INTÉRIEUR

The new treatment for THE CURE OF CONSTIPATION and HAEMORRHOIDS by vibratory massage.
NO MORE MEDICINES
Adopted by the Medical Faculty of France. Exclusive agent wanted for England. Very interesting conditions.
Apply:—Etablissements "MECANUS," 103, Rue Lafayette, Paris, 10e.

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.
KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.
Telegrams: KAYLOIDOL, CRICKLE, LONDON.

For the COMMON COLD—the throat and bronchi

Gomenol Syrup, Gomenol Capsules, Gomenol Pastilles

Syrup—capsules—pastilles—all three have Gomenol (the powerful antiseptic so widely used on the Continent) as their base. The principal constituents of Gomenol are Cineol, Pinene, Terpineol, Citrene. Gomenol is an essential oil of great diffusibility: non-toxic, non-irritant, analgesic.

Full particulars, together with reports of medical authorities and evidence of its therapeutic efficacy, are given in a publication which is sent free to the Medical Profession on request to the Sole Distributors, Messrs. Coates & Cooper, 41, Great Tower Street, London, E.C.3.

TRADE MARK

Gomenol

PREVET BRAND.

Gomenol Laboratories, Prevet, 48, Rue des petites Ecuries, Paris, 10me.

Famous as **The Food of Royal Infants**

also for invalids, the aged, and all persons of weak digestion

ROBB'S NURSERY BISCUITS have no equal. Easy of assimilation, a nourishing and sustaining diet, its appetising flavour is greatly appreciated by both young and old. Very welcome as a substitute for the ordinary bread-and-milk diet. Can also be lightly baked, with eggs and milk, to supply a delicious *custard pudding.*

Robb's NURSERY BISCUITS

Highly recommended by eminent Accoucheurs and Physicians throughout the world as the most reliable food for Infants over six or seven months.

ROBB'S NURSERY BISCUIT POWDER is recommended when a feeding bottle is to be used, also as a diet for invalids, Nursing mothers and the aged.

ROBB'S DIGESTIVE RUSKS, TOPS and BOTTOMS, GINGER NUTS, and CHARCOAL BISCUITS are specially recommended for invalids and convalescents.

Send for large free sample and descriptive booklet, etc.

Alex Robb & Co Ltd. (Dept. 6), NURSERY BISCUIT FACTORY, ATKINS ROAD, LONDON, S.W.12.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of *Potassii et Sodii Citro-Tartras* and 30% of *Sodii Sulphas* it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably *influencing circulation, glandular secretions, peristalsis, and* metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and *facilitate their* removal.

Write for samples and literature to

COATES & COOPER,
41, Gt. Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.
Two sizes, 4/6 and 7/-.

Salvitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co., New York.

DOMEN BELTS

HEADQUARTERS

are now at ●●●

26, SLOANE ST. S.W.1.

Telephone: Sloane 3524

WHEN YOU PRESCRIBE WARMTH WITH FRESH AIR

All medical men will agree that the practice of heaping thick, stuffy fabrics on the body to keep out the cold is merely increasing the risk of winter chills and influenza. The skin needs ventilation—the impurities in the air round the body must be allowed to escape. Fresh air must have access. Perspiration must be absorbed. That is why Jaeger underwear, made of pure Jaeger wool, is so often recommended as the healthiest underwear for all seasons. All Jaeger underwear is treated against shrinkage. And there are Jaeger Agents in every town.

YOU RECOMMEND JAEGER PURE WOOL UNDERWEAR!

K.K. (MEDIUM)		K. (LIGHT)	
Vests, short sleeves	17/6	Vests	14/6
Pants	18/6	Pants	15/6
"Unit-Suits"	31/6	"Unit-Suits"	27/6

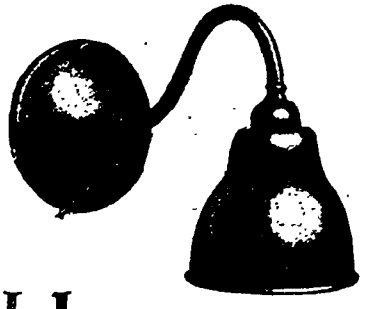
JAEGER HOUSE, 352-54, OXFORD STREET, W.1.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE.

Telephone: Temple Bar 2206

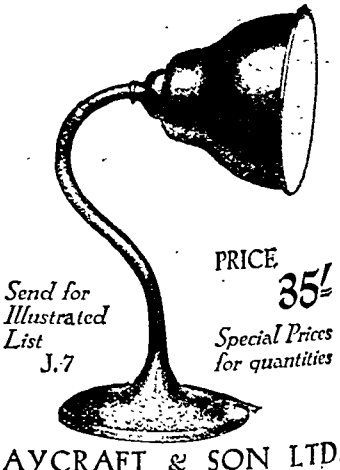
Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2



HAYCRAFT'S NEW DUAL MEDICAL BRACKET as supplied to the NEW WING of the MIDDLESEX HOSPITAL

¶ Specially designed so that it can be easily detached from the wall and used as an inspection lamp. The large base and balanced design make it equally useful as a standard lamp, as below. ¶ Special bronze finish throughout. Reflector white enamel inside. Wired complete with two yards of circular flex. Registered No. 744671.



Send for Illustrated List J.7

PRICE 35/-

Special Prices for quantities

HAYCRAFT & SON LTD.
Electrical Engineers, London, S.E.8

NAME PLATES IN BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
135, GOWER STREET, LONDON, W.C.1.

KEROL CAPSULES

B. MILLER & CO LTD
17 CONDUIT STREET
BOND STREET, LONDON, W.
Established 1896

LOUNGE SUITS
and
OVERCOATS
From
£8 : 8 : 0

DINNER SUITS
Lined Silk
From
£10 : 10 : 0

A large selection of materials in the newest designs.—Patterns sent on request.

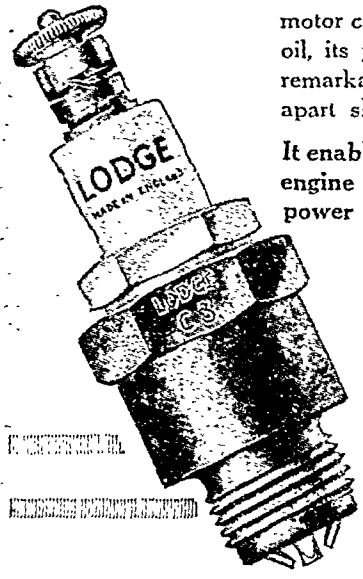
Convenient terms can be arranged.

15% Cash Discount to Feb. 14th.

THE
LODGE
SPARKING PLUG

possesses just those qualities that make it the finest plug in the world for all motor cars. It is unaffected by soot or oil, its powers of heat resistance are remarkable, while it can be readily taken apart should cleaning be necessary.

It enables the modern high-efficiency engine to develop its maximum power under all running conditions.



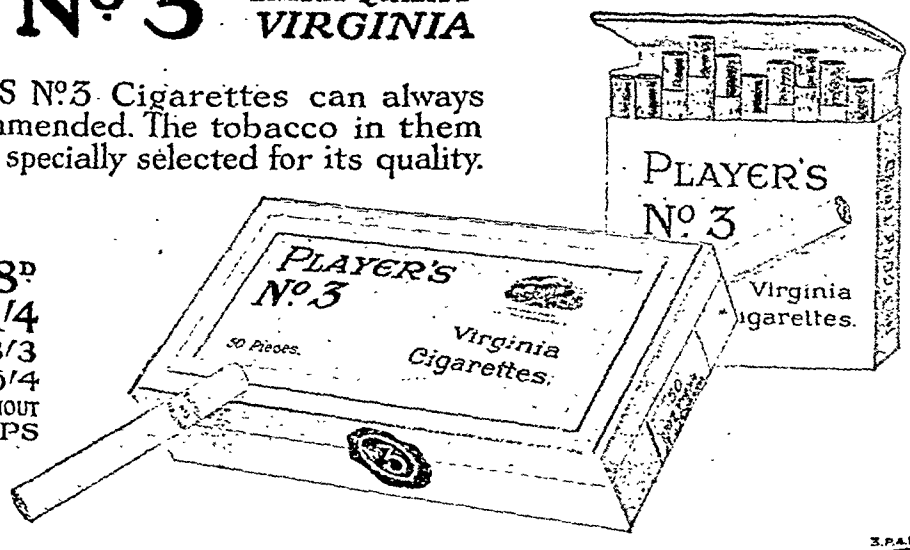
LODGE C3
the plug for nearly all English and Continental engines.
5/-
everywhere
in sealed metal box (red).

LODGE PLUGS LTD., RUGBY.

PLAYER'S
No 3 *EXTRA QUALITY VIRGINIA*

PLAYER'S No. 3 Cigarettes can always be recommended. The tobacco in them has been specially selected for its quality.

10 *for* 8D
20 *for* 1/4
50 *for* 3/3
100 *for* 6/4
WITH OR WITHOUT CORK TIPS



3.P.4.B.

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles
5. It is entirely different, unequable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS
arranged for Doctors and Patients.
Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

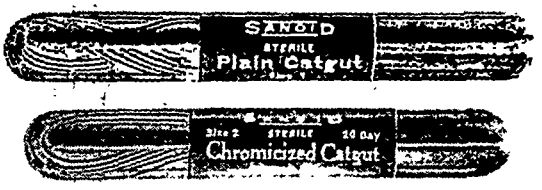
Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

Mr R. H. DENT'S
ArdenTe
FOR DEAF EARS

309, OXFORD ST., LONDON, W.1.
Tel.: Mayfair 1380/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.
206, Sauchiehall Street, GLASGOW.
25, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.

Exceptional Flexibility



Tensile Strength & Smooth Surface
are prominent Features of

"SANOID"

TUBES OF
STERILE LIGATURES
which are prepared in accordance with the Therapeutic Substances (Catgut) Regulations, 1930.

LICENCE No. 40 PRICE 9/- PER DOZ. TUBES

CUXSON, GERRARD & Co., Ltd.
— MANUFACTURING CHEMISTS —
OLDBURY, BIRMINGHAM

GRAPE JELLY

Cool and delicious for invalids 4/- a glass post free

Dainties for Invalids from

FORTNUM & MASON

182 Piccadilly, W 1 Regent 0040

BARGAINS in USED CARS
Specially suitable for Medical Men.

1929 AUSTIN 16 h.p. Specially designed "Mann Egerton" 4-str. Fabric Coupe. Choice of two . £175

1929 WOLSELEY 16/45 h.p. Chblt. 4-door Saloon £170

1929 PACKARD Saloon De Luxe . £395

1929 SUNBEAM 20 h.p. "Mann Egerton" Chblt. Coupe Cabriolet; almost as brand new . . . £395

EXCHANGES. DEFERRED TERMS.

MANN EGERTON & Co., Ltd.
156, New Bond St., W.1. Tel.: Gerrard 9060.
Appointed Consulting Engineers to Medical Insurance Agency.

ST. ALBANS, HERTS.
(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

BROOKE HOUSE,
CLAPTON, LONDON, E.5.
[illegible] 1648.

[illegible] ies and Gentle-
[illegible] l Nervous Dis-
or [illegible] in nine acres
of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

THE GRANGE,
near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

FENSTANTON,
CHRISTCHURCH ROAD,
STREATHAM HILL, S.W.2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2254.) Apply J. H. EARLES, M.D., Resident Physician. Telephone: Streatham 8430.

BAILBROOK HOUSE,
BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No.: Bathcaston 8189.

BOREATTON PARK,
BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.

Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—WOODBRIDGE, SUFFOLK.

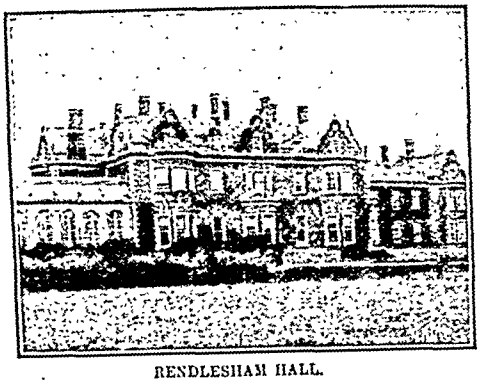
Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16. *(Toll Call from London.)*



RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham, as carried on for the last twenty years, is available. Booklet and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: The Norwood Sanatorium, Limited.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Patients or Boarders may visit by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone:* PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3¼ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr A. E. Carver, M.D., D.P.M. Fees moderate.

In

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

GARTH HILL HOUSE

NORTH QUEENSFERRY, near EDINBURGH.

A SMALL PRIVATE HOME FOR TREATMENT OF NEURASTHENIC CASES.

Magnificent situation overlooking Firth of Forth. Stress laid on re-education of will and intelligent re-adaptation to environment.

For particulars apply ARTHUR J. BROCK, M.D., Medical Superintendent.

Telephone: Inverkeithing 179.

Upton Lodge Nursing Home,

BIRCHINGTON, THANET.

All types of cases taken; special care for aged; shelters in garden; charming comfort, home; nr. sea. Terms mod.—MISS ROBERTSON, Matron.

ALCOHOLISM, OTHER DRUG HABITS, AND TROPICAL AILMENTS

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders, TROPICAL Ailments, etc.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Terms moderate. Quiet and pleasant situation. *Ladies and gentlemen admitted for treatment.* For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams:* "Masters," Chislehurst.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous allied disorders of Habit. All types of cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in *farming, gardening, and fruit-growing.*

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in-Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
Formerly Belvoir Nursing Home, Aston-on-Trent.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psychotherapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport Pagnell 121.

THE ROYAL EARLSWOOD INSTITUTION
FOR MENTAL DEFECTIVES, REDHILL, SURREY.
(Formerly the EARLSWOOD ASYLUM.)

FOR THOSE REQUIRING CONTROL with EXPERT SUPERVISION and needing SPECIAL TRAINING in useful occupations. *SCHOOLS, FARMING, and various TRADE WORKSHOPS.*

Inclusive fees from £110 p.a. *THOSE UNABLE TO PAY* admitted by votes of subscribers, with part payment towards cost.

RECREATIONS. ALL outdoor games, EXCELLENT BAND by Male Staff, for Concerts, Dancing, etc.

Apply, THE MEDICAL SUPERINTENDENT, Earlswood, Redhill, Surrey, or to the Secretary, Mr. H. STEPHENS, 14-16, Ludgate Hill, E.C.4.

Telephone: REDHILL 344. *Telephone*: CENTRAL 5297.

The MAUDSLEY HOSPITAL
DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: (*a*) 189 beds (both sexes) in wards or separate rooms. (*b*) 13 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS:

(*a*) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(*b*) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital.

Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders *of both sexes are also received for treatment.*

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Resident Supt.
Telephone: No. 7 Barnwood.

BOURNEMOUTH.
West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS.
MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 481 GATLEY.

HINDHEAD.
850 feet above sea-level.
STONYCREST NURSING HOME.
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. *Tel.*: Hindhead 27.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:

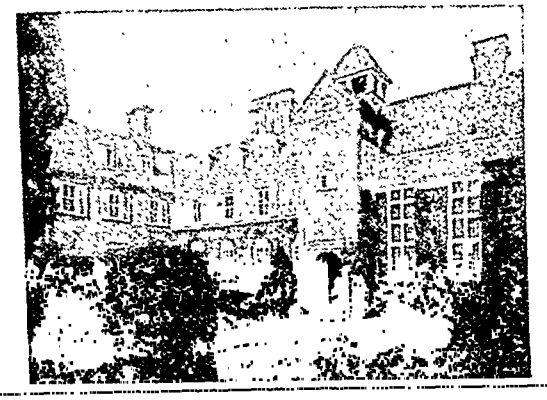
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"



STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281. Matron: Mrs. Ellen Allfrey, S.R.N.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle, Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

BOWDEN HOUSE,

HARROW-ON-THE-HILL.

A NURSING HOME OPENED IN 1911 FOR THE INVESTIGATION AND TREATMENT OF FUNCTIONAL NERVOUS DISORDERS OF ALL TYPES.

No cases under certificate. Thorough clinical and pathological examinations. Psychotherapeutic treatment, occupation, and recreation as suited to the individual case.

PARTICULARS FROM THE MEDICAL SUPERINTENDENT. *Telephone and Telegrams:* HARROW 0545.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone:* RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acr d Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusement other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone:* NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy of access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Voluntary Boarders received without certificates. Private suites. Convalescent Home, Kearsney Court, Dover.
For further particulars, apply to the MEDICAL SUPERINTENDENT.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

EAST ANGLIAN SANATORIUM.

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

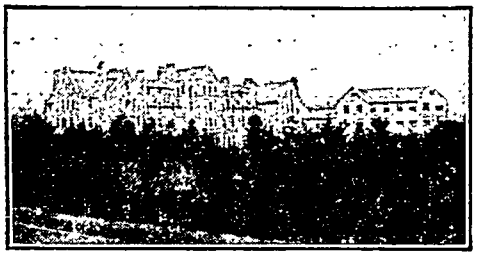
TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus, etc., apply to the SECRETARY, East Anglian Sanatorium, Nayland, near Colchester. *Tel. and Telegrams*: NAYLAND 1.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), R. M. Bremner, M.B., M.R.C.S., L.R.C.P.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams*: Nordrach, Blagdon. *Telephone*: Blagdon 23.

THE COTSWOLD SANATORIUM

Specially built in 1893 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physician: ARTHUR H. HOFFMAN, M.D. St. Andrews, GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

SMEDLEY'S

rivalled suites of Baths for Ladies and Gentlemen, including Turkish d Russian Baths, Aix and Vichy Douches, Massage and Plombières eatment, an Electric Installation for Baths and other Medical purposes, wsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim ths, New Soapless Foam Baths, etc. Special provision for invalids. lk from our farm of 300 acres. Large Winter Garden. Night Attend- ce. Rooms well ventilated and all bedrooms warmed in Winter. A rge Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, d Attendants.

rams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. or Prospectus and full formation please write to MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

Member of the British Spas Federation.

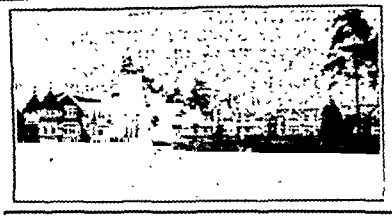
TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.



HOSPITAL FOR CONSUMPTION

AND DISEASES OF THE CHEST,

BROMPTON,

and FRIMLEY SANATORIUM.

Special Accommodation for Paying Patients.

4 to 8 Guineas per week.

Apply to the Sec., Brompton Hospital, S.W.3.

VICTORIA SANATORIUM : : DAVOS

SWITZERLAND

(BRITISH SANATORIUM), 5,200 feet above sea-level.

ALTERED AND MODERNISED IN SUMMER 1930.

Terms from £5 . 12 . 0 per week.

Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.
Resident Physicians: W. JOHNSON SMYTH, M.D., L. T. ROSE-HUTCHINSON, M.D.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. *House comforts* and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.
Station: Clapham Common Tube. *Telephone:* Brixton 0494. Apply, Miss THWAITES.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.

Resident Physician: CEDRIC W. BOWER.

Ordinary Terms: Five Guineas per week.

(Including Separate Bedrooms where suitable.) Interviews in London by appointment.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. *Situated* 1,200 *ft. above sea-level,* facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

MAJORCA: Dr. GILBERT SCOTT'S CONVALESCENT HOME

PALMA DE MALLORCA, SPAIN

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone:* 2708.

SUNNY MALVERN.

The most beautiful and health-giving Spa. *HOME for Gentlefolks under Medical supervision.*—BEVAN, New Court, Colwall, Malvern.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

Preliminary Examinations.

The CO[illegible] Preliminary [illegible] Dental *Students* [illegible] centres in March, [illegible] For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

GRAMPIAN SANATORIUM,

KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of *Tuberculosis, and opened in* 1901. *Bracing* mountain air. Elevation 860 ft. above sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoc[illegible] available for patients—24 h[illegible] duty all night. Ter[illegible] £5 5s. *inclusive p.w.* Me[illegible] M.D. For particulars [illegible]

HOTEL ANNONCIATA,

MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.

Dry, bracing mountain air, semi-tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods.

Easy access to Town. Up-to-date comfortable *Hotel, moderate charges.*

Under French and English Management.

Teleg.: Annonciata, Menton. *Teleph.:* 1.06.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. *Facing south, completely sheltered from north* and east. 21 miles from Edinburgh.

All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.

IDEAL HEALTH RESORT.

Electric Light, Central Heating, Electric Lift, *three Billiard* Tables, Ball Room, Winter Gar[illegible]rd and Grass Tennis [illegible]et Lawn, Golf Course.

Tel.: Peebles 2 & 3.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to *The Mothers' Hospital of the Salvation* Army, Lower Clapton Road, E.5 for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances *at all abnormal cases, operations,* ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims.
Chemistry, Physics, and Biology Labs.
MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

University of London.

A Course of Three Lectures on "*The Constancy of the Internal Environment: Its Evolution and Purpose,*" will be given by Professor J. BARCROFT, C.B.E., F.R.S. (Professor of Physiology in the Univers[illegible] of Cambridge) at KING'S COLLEGE, LONI[illegible] on JANUARY 26th, [illegible] at 5.30 p.m. At the [illegible] will be taken by Dr. [illegible] Sc., F.R.S. (Director [illegible] for Medical Research).

Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

The University of Durham

COLLEGE OF MEDICINE.

POST-GRADUATE COURSES, NEWCASTLE-UPON-TYNE.

Courses in the following subjects will be held in the months of January, February, and March, the classes meeting once weekly.

DISEASES OF INFANCY AND CHILDHOOD.
MIDWIFERY.
GYNAECOLOGY.
DISEASES OF THE EYE.
DISEASES OF THROAT, NOSE, AND EAR.
DISEASES OF THE SKIN.

[illegible]plica-
t[illegible]irham
C[illegible]

[illegible]rgery

will be held from April to June, and an Intensive Course of a fortnight's duration in September, 1931.

University of Durham College of MEDICINE.

JUNIOR DEMONSTRATOR IN PHYSIOLOGY (including Histology) wanted.

Applications are invited from qualified *Medical Practitioners and should be sent to the* Registrar, College of Medicine, Newcastle-upon-Tyne, on or before February 2nd, 1931. The salary offered is £250 per annum.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

THE LONDON LIGHT AND ELECTRICAL CLINIC,
RANELAGH ROAD, S.W.1.

Under the personal direction of Sir Leonard Hill, M.B., F.R.S., etc., the Post-Graduate Course for Medical Men, of six weeks' duration, has been postponed until the 2nd February, 1931.

The subjects: Actinotherapy; Electrotherapy.

Fee for the full Course, £6 6s. 0d. For syllabus and full particulars apply to the Secretary.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary*	162
	1906-30) *Final*	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-29 (Completed Exam.)	286
F.R.C.S.(Edin.),	1918-29	43
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes

ORAL CLASSES.
M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Second and Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)
CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral the higher Medical for the higher Sur- Special Open- ses. list of incipal, ion Sq., 6313.)

F.R.C.S.(Edin.).
CLASSES or POSTAL TUITION.—*Full* Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Rossall School. — Some twelve Open SCHOLARSHIPS for boys between the ages of 12 and 14, on March 1st next, value from £90 a year downwards, will be awarded by Examination, beginning March 3rd, 1931. Boys examined at Rossall and in London.—Apply, THE BURSAR, Rossall School, Fleetwood.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.
The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.
Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in
RADIOTHERAPY
especially in its relation to Malignant Disease

will be held at the above School, commencing Monday, March 2nd, 1931.

The Course will be repeated on subsequent dates.

Copy of the syllabus and full particulars may be obtained on application.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

LONDON HOSPITAL MEDICAL COLLEGE.

PRIMARY FELLOWSHIP EXAMINATION.

A COURSE OF INSTRUCTION for the above Examination will begin on Monday, Feb. 9th.
The Fee for the Course is 15 guineas.
Further particulars may be obtained from Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean, Mile End, E.1.

SCHOOLS for BOYS and GIRLS
TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.
The age of the pupil, district preferred, and rough idea of fees should be given.
J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

Society of Apothecaries of LONDON.

MASTERY OF MIDWIFERY EXAMINATION.

The next Examination will take place on Monday, November 17th, 1930, and following days. For regulations apply to—
FRANK HAYDON, Secretary.

F.R.C.S.(Edin.).
CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

MIDDLESEX HOSPITAL,
LONDON, W.1.
(University of London)
PRIMARY F.R.C.S. EXAMINATION.

ANATOMY.
Personal instruction is given daily by Professor T. YEATES.

PHYSIOLOGY.
This Section of the Course is under the joint direction of:
Professor SAMSON WRIGHT,
Professor E. C. DODDS,
Mr. J. H. WOODGER, D.Sc.,
and includes General Physiology, Biochemistry, and Histology.
Instruction is given daily except on Saturdays.
The Course will start on February 2nd, at 9.15 a.m.
FEE: 20 guineas. Single Subject: 12 guineas.
For further information apply to the Dean or to the School Secretary.

CITY OF LONDON MATERNITY HOSPITAL,
CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.
MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.
PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.
PRIVATE WARDS for paying patients.
MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,
TAUNTON.
A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.
Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.
New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925.
Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.
(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (*Candidates* for the D.T.H. must possess the D.T.M. of this University.)
For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

STAMMERING, SPEECH DEFECTS.
BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.
"*Pre-eminent success in the education and treatment* of [illegible]."—"Times." [illegible]."—"Lancet." [illegible] and perfectly eff[illegible]
STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

ALL MEDICAL EXAMINATIONS

Are you preparing for any MEDICAL or SURGICAL EXAMINATION?

Do you wish to coach in any branch of Medicine or Surgery?

Send Coupon below for our valuable publication

"Guide to Medical Examinations."

Principal Contents:

The Examinations of the Conjoint Board.
The M.B. and M.D. Degrees of all British Universities.
How to pass the F.R.C.S. Exam.
The M.S.Lond. and other Higher Surgical Examinations.
The M.R.C.P.
The D.P.H. and how to obtain it.
The Diploma in Tropical Medicine.
The Diploma in Psychological Medicine.
The Diploma in Ophthalmology.
The Diploma in Laryngology and Otology.
The Diploma in Radiology.
The L.D.S. and all Dental Exams.

¶ The activities of the Medical Correspondence College cover every department of Medical, Surgical, and Dental tuition.
¶ Desultory reading is wasteful for examination purposes.
¶ The secret of success at examinations is to concentrate on essentials.
¶ First attempt success at examinations is the sole aim of our courses.
¶ Concentration on the exact requirements is assured by our intensive Revision Courses.
¶ The intensive postal, oral, clinical, and practical courses of the College in every subject are always in progress and meet every requirement.

Post-graduate coaching for all the higher examinations, and hospital attendance arranged in any special department of medicine or surgery.

We can satisfy every requirement. Send for your copy now!

The Secretary,
MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck St., Cavendish Sq., London, W.1. Tel.: WELBECK 8901.

Sir,—Please send me your "Guide to Medical Examinations" by return.

Name.....

Address.....

.....

Examination in which interested .....

The Tavistock Square Clinic for Functional Nervous Disorders,
61, Tavistock Square, W.C.1.

A SHORT COURSE of Lectures on FUNCTIONAL NERVOUS DISORDERS FOR PRACTITIONERS AND MEDICAL STUDENTS

will be given at the Clinic beginning February 9th, 1931.

	4.45 p.m.	5.45 p.m.
	R. G. GORDON, M.D., F.R.C.P. Royal United Hospital, Bath.	**J. R. REES**, M.D. Deputy Director.
Mon., Feb. 9.	The Significance of Psychological Insight in Diagnosis and Treatment.	The Nature and Scope of Psychotherapy.
	C. P. SYMONDS, M.D., F.R.C.P. National Hospital, Queen Square.	
Tues., Feb. 10.	The Differential Diagnosis of Organic Brain Disease and Functional Conditions.	Treatment: Physical, Environmental, Re-educational and Adaptation.
	W. LANGDON BROWN, M.D., F.R.C.P. St. Bartholomew's Hospital.	
Wed., Feb. 11.	The Biology of the Endocrine System.	Emotional Development: Mental Mechanisms.
Thurs., Feb. 12.	The Function of the Endocrines in Childhood. Infantilism.	Persuasion: Suggestion: Hypnosis.
Fri., Feb. 13.	The Interaction of the Endocrine System with the Gonads.	Mental Analysis: Its Methods and Technique.
Sat., Feb. 14.	2.30 to 4 p.m. **Miss E. C. MacLEOD**, Hon. Speech Therapist. Disorders of Speech and their Treatment.	
	4.45 p.m.	**5.45 p.m.**
	W. LANGDON BROWN, M.D., F.R.C.P. St. Bartholomew's Hospital.	**J. R. REES**, M.D. Deputy Director.
Mon., Feb. 16.	Psychoneuroses associated with Endocrine Disturbances.	Analytic Method (continued).
	F. G. CROOKSHANK, M.D., F.R.C.P. Diagnostic Physician.	**MAURICE B. WRIGHT**, M.D.
Tues., Feb. 17.	Psychoneuroses. Toxins and Sepsis.	The Psychology of Freud and Psychoanalysis (1).
	E. A. HAMILTON-PEARSON, M.B., Ch.B.	
Wed., Feb. 18.	The Delinquent Child.	The Psychology of Freud and Psychoanalysis (2).
	W. A. POTTS, M.D. Psychological Expert to Birmingham Justices, etc.	**A. R. REDFERN**, M.B., Ch.B.
Thurs., Feb. 19.	Mental Deficiency.	Adler's Theory and Technique and its Relationship to other Schools of Thought.
	ALICE M. HUTCHISON, M.D., M.R.C.P.	**JAMES YOUNG**, M.D., M.S.
Fri., Feb. 20.	The Neurotic Child.	Jung's Analytical Psychology and its Relationship to other Schools of Thought.
Sat., Feb. 21.	2.30 to 5 p.m. Demonstration of Intelligence Testing by **Miss C. A. SIMMINS**, M.A., Hon. Psychologist.	

8.15 p.m. each evening: **Description of Cases, with Discussion**, by Members of the Clinic Staff.

FEE for the Course - Medical Graduates £2 2s. 0d.
Medical Students (i.e., unqualified) 10s. 6d.

Tickets for the Course to be obtained in advance from the Hon. Lecture Secretary at the Clinic.
These Lectures are open to Medical Students and Graduates only.

City of Portsmouth.

THIRD ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited for the appointment of a Third Assistant Resident Medical Officer for the ST. MARY'S HOSPITAL, ST. MARY'S INSTITUTION and CHILDREN'S HOME.

The appointment will be limited to a term not exceeding one year, and will be subject to one month's notice on either side.

Salary at the rate of £250 per annum, with furnished apartments, rations, and other allowances.

Candidates must be single, and duly registered. Preference will be given to those having a knowledge of the treatment of mental diseases, and who have experience in surgical work.

A resident Medical Superintendent is in attendance.

Applications to be made on printed forms, which may be obtained from me at 1, St. Michael's Road, Portsmouth, and which must be returned to that address, accompanied by not more than three recent testimonials, and a description of the diplomas, certificates of degrees, licences, and other instruments held by the candidates, by Monday, February 2nd.

The Guildhall, E. J. SPARKS,
Portsmouth. Town Clerk.
January 15th, 1931.

County Borough of South Shields

HARTON HOSPITAL. (340 Beds.)

Applications are invited for the appointment of Two HOUSE SURGEONS (male). Salary £150 per annum, together with board, residence, and laundry.

Applicants must be registered Medical Practitioners and unmarried.

Forms of application may be obtained from the undersigned, and should be returned to him completed, together with copies of not more than three testimonials, on or before noon on Saturday, January 31st, endorsed "House Surgeon."

Town Hall, J. MOORE HAYTON,
South Shields. Town Clerk.
January 12th, 1931.

City and County of Bristol.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER—MATERNITY AND CHILD WELFARE.

The Bristol City Council invite applications for the post of whole-time (male or female) Assistant Medical Officer for Maternity and Child Welfare. Applicants must have had experience in Obstetrics.

The salary will be £500 per annum, rising by annual increments of £25 to £700 per annum.

The appointment will be subject to one month's notice on either side, and the provisions of the Local Government and Other Officers Superannuation Act, 1922, for which purpose the selected candidate must undergo a medical examination.

Forms of application may be obtained from the undersigned, to whom they must be returned completed by Thursday, February 5th, together with copies of not more than three recent testimonials.

Canvassing, either directly or indirectly, will disqualify.

The Council House, JOSIAH GREEN,
Bristol. Town Clerk.
January 19th, 1931.

The Royal Hospital,

WOLVERHAMPTON.
(Incorporated under Charter.)

Two HOUSE SURGEONS required immediately (one for Ear, Throat, and Nose Department).

The Hospital contains 240 beds, includes the usual special departments, and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice.

Candidates must be registered under the Medical Acts, and unmarried.

The appointment is for six months. Salary at the rate of £100 per annum. Board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded to the undersigned forthwith.

Wolverhampton. W. H. HAMPER,
January 15th, 1931. House Governor.

Bristol Royal Infirmary.

Applications are invited for the following Resident appointments for the six months commencing March 1st:

Two HOUSE PHYSICIANS.
Four HOUSE SURGEONS.
One HOUSE PHYSICIAN to the Cancer Research Dept.
One HOUSE SURGEON to the Ear, Nose, and Throat Dept.
One HOUSE SURGEON to the Gynaecological and Ophthalmic Dept.
One OBSTETRIC HOUSE PHYSICIAN.
One CASUALTY HOUSE SURGEON.
One ASSISTANT HOUSE SURGEON and HOUSE SURGEON to the Dermatological Dept.

Salaries at the rate of £60 per annum, with board, apartments, and laundry, except in the case of the Casualty House Surgeon, when the salary will be at the rate of £80 per annum, with board, apartments, and laundry.

One DENTAL HOUSE SURGEON.

If resident, salary at the rate of £80 per annum, but if non-resident, salary at the rate of £116 per annum, with board.

Candidates, who must be duly qualified, to send in their applications, stating age, together with copies of not more than three testimonials, to the undersigned on or before January 30th.

ELLIS C. SMITH, F.C.I.S.,
Secretary & House Governor.

Cardiff Royal Infirmary.

(Associated with Welsh National School of Medicine.)

Applications are invited for the undermentioned posts:

Three HOUSE SURGEONS.
One HOUSE SURGEON (Surgical Unit).
Two HOUSE PHYSICIANS.
One HOUSE PHYSICIAN (Medical Unit).
One HOUSE SURGEON—Gynaecological.

Salary at the rate of £50 per annum, with board and lodging. Appointments are for six months commencing February 20th.

Forms of application can be obtained from the undersigned and should be returned, with copies of three recent testimonials, on or before February 2nd.

R. ARMSTRONG,
Jan. 14th, 1931. Medical Supt.

Cornelia and East Dorset HOSPITAL, POOLE, DORSET.

(105 Beds.)

HOUSE SURGEON.

Applications are invited for the post of House Surgeon (male). Salary £150 p.a., with usual emoluments. Duties to commence March 1st next for six months.

Applications, stating age, experience, and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital by 12 noon February 4th.

E. S. FOLEY, Secretary.

North Ormesby Hospital, MIDDLESBROUGH.

HOUSE PHYSICIAN required (male, and unmarried). Salary £120 per annum, with board, residence, and laundry. There are three Residents, and the successful candidate will be eligible for the post of House Surgeon in due course. Applications, stating age, qualifications, previous experience (if any), with copies of three recent testimonials, should be sent to the undersigned not later than Saturday, January 31st.

GEORGE WATTS.
January 12th, 1931. Secretary-Supt.

Great Yarmouth General Hospital (72 Beds.)

Applications are invited for the post of SENIOR HOUSE SURGEON. Salary at the rate of £150 per annum, with board, residence, and laundry.

The successful candidate will be expected to commence duties immediately.

Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned.

FRANK JENNINGS,
Secretary.

Princess Louise Kensington HOSPITAL FOR CHILDREN, St. Quintin Avenue, North Kensington, W.10.

The Board of Management invite applications for the post of HON. ASSISTANT DENTAL SURGEON. Applicants must be Bachelors or Licentiates of Dental Surgery.

Candidates should apply for further information to the Secretary, to whom final applications, accompanied by copies of three testimonials, should be made by Wednesday, February 11th.

London Homoeopathic Hospital (Incorporated by Royal Charter), Great Ormond Street and Queen Square, Bloomsbury, W.C.1.

(A General Hospital—172 Beds.)

POST OF RESIDENT MEDICAL OFFICER.

The periodical vacancies for the Three Resident Medical Officers, male or female, occur on February 1st, June 1st, and October 1st, in each year, the appointment being for twelve months—four months as Medical and Casualty Officer, four months as House Surgeon, and four months as Medical and Gynaecological Officer, with salary at the rate of £100 per annum, and board, apartments, and laundry.

Candidates must be legally qualified and registered.

Candidates will be required to attend a meeting of the Medical Committee.

Applications, stating age, with 35 copies of application and 35 copies of each testimonial, may be sent to the Secretary for the February 1st vacancy as soon as possible.

Successful candidates are required to take the Hospital course of instruction in the principles and practice of Homoeopathy.

EDWARD A. ATTWOOD,
Secretary.

North Riding Infirmary, MIDDLESBROUGH.

(General Hospital—150 Beds.)

JUNIOR HOUSE SURGEON wanted to take up duties on February 1st.

The appointment will be for a definite period of six months, with salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three testimonials, should be sent forthwith to the undersigned.

N.B.—The successful candidate will be eligible to apply for the Senior House Surgeon's post at the expiration of the above term.

CHARLES POSTGATE,
Secretary-Superintendent.

Rochdale Infirmary and DISPENSARY. (110 Beds.)

The Board of Management invite applications for the appointment of JUNIOR HOUSE SURGEON. The salary attached to the appointment is £200 p.a., including board, residence, and laundry. Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon."

Particulars of duties and conditions of the appointment may be had on application to the Secretary.

Infirmary Office, Rochdale. W. WYNNE, Secretary.

Buchanan Hospital, ST. LEONARDS-ON-SEA.

The [illegible] invites applications [illegible] posts:

(a) [illegible]
(b) HONORARY PHYSICIAN in Charge of Neurological Department.

Applications, together with copies of testimonials, should be sent to the undersigned on or before Saturday, February 14th.

F. T. WILTON, Secretary.

Altrincham General Hospital. (100 Beds.)

Applications are invited for the posts of SENIOR and JUNIOR HOUSE SURGEONS. Salaries at the rate of £150 and £120 per annum respectively, with board, residence, and laundry. The appointments are for six months in the first instance. Duties to commence on March 1st next.

Applications, stating age and experience, together with copies of recent testimonials, to be sent in to the Secretary, Altrincham Hospital, Cheshire, not later than February 17th.

Hertford County Hospital.

Applications are invited for the post of HOUSE PHYSICIAN (male). Salary £150 per annum, with board, residence, and laundry. The appointment is for six months in the first instance.

Applications, with copies of three recent testimonials, should be sent to the undersigned as early as possible.

PERCY G. BROOKS, Secretary.

Lowestoft and North Suffolk HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required at once. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

St. Bartholomew's Hospital, ROCHESTER. (126 Beds.)

Rochester, Chatham, Gillingham, and District.

The House and Finance Committee invite applications for the post of THIRD RESIDENT MEDICAL OFFICER to act as Casualty House Surgeon, and who will assist the Orthopaedic Surgeon, duties to be commenced February 21st or as soon after as is convenient.

Candidates must be unmarried, qualified, and registered Medical Men. The appointment is for six months. Salary at the rate of £175 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, experience, etc., accompanied by copies of three recent testimonials, must be received by the Secretary not later than February 5th.

St. Bartholomew's Hospital, E.C.1.

OFFICE OF SURGEON.

Notice is hereby given that a meeting of the Election Committee will be held on Tuesday, February 24th, at 4 o'clock in the afternoon, to elect a Surgeon to this Hospital.

Candidates, who must be Fellows of the Royal College of Surgeons of England, are required to lodge 50 copies of their applications and testimonials with the undersigned on or before Saturday, February 7th.

THOMAS HAYES,
Jan. 23rd, 1931. Clerk to the Governors.

The Loughborough and District GENERAL HOSPITAL and DISPENSARY.

Wanted, to commence duties on appointment, RESIDENT HOUSE SURGEON (male or female and unmarried), possessing a medical and surgical registered qualification. Practical experience in the administration of anaesthetics is required. Salary £175, with apartments, board, and laundry. All applications, stating age, etc., with copies of testimonials, to be sent to me at once.

9, Leicester Road, Loughborough. FRANK H. TOONE, Secretary.

Charing Cross Hospital.

ASSISTANT OBSTETRIC PHYSICIAN.

Applications are invited for the post of Assistant Obstetric Physician to the above Hospital. Candidates must be Graduates of a University and possess the Diploma of M.R.C.P. or F.R.C.S.

Applications, accompanied by copies of three recent testimonials, should reach the undersigned not later than February 3rd.

Charing Cross Hospital, W.C.2. PHILIP INMAN, House Governor.

St. Mark's Hospital for Cancer, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.

RESIDENT SURGICAL OFFICER (male) required. Must be fully qualified. Salary £150 per annum, and certain emoluments, with board, residence, and laundry. The appointment is for [illegible] from March 10th [illegible] copies of testimonials, [illegible] (from whom further particulars may be obtained) not later than February 4th.

The Sheffield Royal Hospital. (340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum, also RESIDENT ANAESTHETIST, salary £80 per annum, rising to £100 in six months, to commence duties at once (males). Board, residence, and laundry. There are twelve Resident Medical Officers. Applications should be forwarded at once to—

W. H. BOOTH,
January 5th, 1931. Supt. & Secretary.

Worthing Hospital.

Applications are invited for the post of RESIDENT MEDICAL OFFICER. Vacant February 9th. The appointment is for six months, renewable, but it may be determined by three months' notice on either side.

Salary at the rate of £150 per annum, with board, lodging, and laundry.

Applications, stating age, qualifications, and experience, with copies of testimonials, should reach the Secretary not later than Feb. 2nd.

Bristol Eye Hospital.

Applications are invited for the post of RESIDENT HOUSE SURGEON (single man). Salary £150 per annum. Twelve months' appointment. Vacant Monday, March 9th.

Applications to be received by the Secretary by Saturday, February 7th.

County Council of East Sussex.

STEYNING INSTITUTION, near BRIGHTON.

RESIDENT MEDICAL OFFICER AND ASSISTANT ADMINISTRATIVE COUNTY MEDICAL OFFICER (Hospitals).

The County Council invites applications for the above whole-time appointment. The Steyning Institution contains 262 sick beds and 406 other beds, and is under the administrative control of the Master.

In addition to his duties as Resident Medical Officer, the officer appointed will be required to act as an Assistant Administrative County Medical Officer (Hospitals) under the County Medical Officer of Health.

The salary will be at the rate of £600 per annum, rising to £800 per annum by annual increments of £25. The officer appointed will be required to reside in the neighbourhood of the Institution, and will receive a lodging allowance of £150 per annum until a residence is provided.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate may be required to pass a medical examination.

Candidates must be registered Medical Practitioners and must have held resident hospital appointments.

Canvassing in any form will be deemed to be a disqualification.

Forms of application can be obtained from the County Medical Officer of Health, County Hall, Lewes, to whom applications, accompanied by copies of not more than three recent testimonials, must be delivered not later than February 4th.

HUGH J. T. McILVEEN,
Clerk of the County Council.

County Hall,
Lewes.
January 10th, 1931.

County Council of Middlesex.

DISPENSER.

The County Council invite applications for the post of Dispenser at HILLINGDON HOSPITAL, Uxbridge, Middlesex, at a salary of £250 per annum (no bonus).

Candidates must be Graduates in Pharmacy of a recognized University or hold one of the qualifications of the Pharmaceutical Societies of Great Britain. The officer appointed must be acquainted with the running of the pharmaceutical department of a modern hospital, and ability to undertake simple biochemical and microscopical investigations will be additional qualifications.

The officer appointed will be required to devote whole time to the duties of the post, to contribute to the County Council's Superannuation Fund, and for the latter purpose will be required to pass such medical examination as the County Council may direct.

The appointment is terminable by one month's notice on either side.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than February 7th.

No special application forms are provided.

Envelopes must be endorsed "Dispenser."

Canvassing, directly or indirectly, will be a disqualification.

ERNEST S. W. HART,
Clerk of the
County Council.

Guildhall,
Westminster, S.W.1.
January 14th, 1931.

County Borough of Bolton.

PUBLIC ASSISTANCE COMMITTEE.

TOWNLEYS HOSPITAL.

Wanted for the Townleys Hospital, Farnworth, near Bolton, an ASSISTANT MEDICAL OFFICER (male) for a period of one year.

The salary will be at the rate of £225 per annum, and rations, furnished apartments, attendance, washing, etc.

Forms of application, together with conditions of appointment (for which a stamped addressed foolscap envelope must be enclosed), may be obtained from me.

Last day for applications February 7th.

28, Mawdsley Street, SAMUEL KINLAY,
Bolton. Public Assistance Officer.
January 19th, 1931.

County Borough of Swansea.

ASSISTANT SCHOOL DENTAL SURGEON.

Applications are invited from registered Dental Surgeons for the above appointment. Salary £450 per annum, rising by annual increments of £25 to £550.

Applications (on special form to be obtained from the Medical Officer of Health, Public Health Office, Swansea) to be received not later than February 1st.

Liverpool County Borough.

LOCAL EDUCATION AUTHORITY.

JUNIOR ASSISTANT SCHOOL MEDICAL OFFICERS.

Applications are invited for Two Junior Assistant School Medical Officers at a salary in each case of £500 per annum, rising by annual increments of £25 to £700 per annum.

Applicants must be registered Medical Practitioners, and must have had at least three years' experience. It is desirable that they should have had some special experience in school hygiene and in diseases of children.

The officers appointed will be required to devote their whole time to the service of the Education Authority under the direction of the Medical Officer to the Education Authority. They will not be allowed to undertake private practice, and will be required to contribute to the Local Government and Other Officers Superannuation Act, 1922 (Substituted Scheme), as required by the Standing Orders of the City Council.

Form of application, which may be had by forwarding a stamped addressed foolscap envelope, should be returned, together with three copies of recent testimonials, to the undersigned not later than January 30th, and endorsed "Junior Assistant School Medical Officer."

The canvassing of Members of the Education Committee or the City Council is strictly prohibited and will be considered a disqualification.

WALTER MOON,
Town Clerk, and Clerk to
the Local
Education Authority.

Municipal Buildings,
Liverpool.
January 13th, 1931.

County Borough of Oldham.

PUBLIC HEALTH DEPARTMENT.

ASSISTANT MEDICAL OFFICER OF HEALTH AND CLINICAL TUBERCULOSIS OFFICER.

Applications are invited from qualified Medical Men for the post of Assistant Medical Officer of Health and Clinical Tuberculosis Officer for the above Borough.

Applicants must have special experience in Tuberculosis in accordance with the Local Government Regulations, 1930.

The gentleman appointed will be required to devote the whole of his time to these duties and act under the direction of the Medical Officer of Health, and will be required to reside within the Borough. Salary £750 per annum.

Applications upon forms to be obtained from the Medical Officer of Health, Town Hall, Oldham, must be returned to him, accompanied by not more than three recent testimonials, not later than the first post on Monday, February 2nd.

Canvassing in any form will disqualify.

JAMES B. WILKINSON, M.D., D.P.H.,
Medical Officer of
Health.

Town Hall,
Oldham.

Middlesbrough Education Committee.

APPOINTMENT OF SENIOR ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from duly qualified Men for the post of Senior Assistant School Medical Officer, to act under the School Medical Officer in connection with the Medical Inspection and Treatment of School Children.

Applicants must have had experience in the work of the School Medical Service, and the successful candidate will be required to devote his whole time to the duties of the office.

Commencing salary £500 per annum, with annual increments of £25 to a maximum of £700 per annum.

Applications, stating age, together with particulars of qualifications and experience, and accompanied by copies of three recent testimonials, to be forwarded to the undersigned not later than Saturday, January 31st.

STANLEY MOFFETT,
Director of
Education.

Education Offices,
Middlesbrough.
January 12th, 1931.

City of Leicester.

RESIDENT MEDICAL OFFICER.

JUNIOR ASSISTANT MEDICAL OFFICER (male) required for the CITY ISOLATION HOSPITAL AND SANATORIUM, Groby Road. The appointment will be for a period of twelve months. The salary at the rate of £300 per annum, with board, residence, and laundry.

The officer appointed will be required to contribute to the Superannuation Fund of the Corporation.

Applications, stating age, experience, etc., together with copies of three testimonials, to be sent to the undersigned not later than Feb. 2nd.

C. KILLICK MILLARD,
Medical Officer of
Health.

Health Offices,
Leicester.
January 12th, 1931.

Staffordshire County Council.

DEPUTY COUNTY MEDICAL OFFICER OF HEALTH.

The County Council invite applications for the appointment of a Deputy County Medical Officer of Health at a commencing salary of £1,000, rising by annual increments of £50 to £1,100. Reasonable travelling expenses will be paid by the County Council.

Applicants must be duly registered Medical Practitioners, holding a degree or diploma in Public Health, and the gentleman appointed will be required to devote the whole of his time to the duties of the office.

He will be required to undertake any duties required of him by the Council bearing on the health and medical services of the County.

He will be required to act under the administrative control of, and to be responsible to, the County Medical Officer of Health for his duties.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the statutory contributions to the Superannuation Fund under that Act will be deducted from the salary.

Applications, marked "Deputy County Medical Officer," together with copies of not more than three recent testimonials, must be sent to the undersigned not later than January 31st.

EUSTACE JOY,
Clerk to the County Council.

County Buildings,
Stafford.
January 12th, 1931.

Staffordshire, Wolverhampton, AND DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS.

ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited from Medical Men, not more than 35 years of age, with special experience in the treatment of pulmonary tuberculosis, for the post of Assistant Resident Medical Officer at PRESTWOOD SANATORIUM FOR MEN (150 beds), situated 9 miles south of Wolverhampton.

The salary will be £400 per annum, rising by £50 to £450 at the end of 12 months' service including quarters for a single man only, with full board and laundry.

Forms of application, together with any other information desired, may be obtained from the undersigned.

Applications, together with three recent testimonials, must be received not later than Thursday, January 29th.

Canvassing, either direct or indirect, will be a disqualification.

EUSTACE JOY,
Clerk to the Joint Committee.

County Buildings,
Stafford.
January 9th, 1931.

County Borough of Birkenhead.

BACTERIOLOGICAL AND PATHOLOGICAL LABORATORY.

LABORATORY ASSISTANT.

Applications are invited from experienced Laboratory Assistants for the position of Assistant at the Municipal Laboratory at a salary of £240 per annum.

Applicants must have a good knowledge of the technique of section work and media making, and must have had experience of the ordinary routine duties of an Assistant in a Pathological Laboratory.

The post is a designated one and the candidate appointed will be required to contribute 5 per cent. of his salary to the Corporation's Superannuation Fund as required by the provisions of the Local Government and Other Officers Superannuation Act, 1922. He will be required to pass a medical examination.

Applications must be made on a form which may be obtained from Dr. D. MORLEY MATHIESON, Medical Officer of Health, 9, Hamilton Square, Birkenhead, and must be returned to the undersigned not later than February 6th.

E. W. TAME,
Town Clerk.

Town Hall,
Birkenhead
January 14th, 1931.

City of Oxford.

Applications are invited from duly qualified Medical Practitioners for the post of TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH, duties to commence from April 1st.

The salary is at the rate of £500 per annum, the appointment subject to one month's notice on either side.

A large proportion of this officer's time will be devoted to ante-natal, post-natal, and infant welfare work, and special Post-Graduate experiences of these branches is essential. Applications, stating age, qualifications, and experience, with copies of not more than three recent testimonials, should be forwarded to the undersigned by February 4th.

G. C. WILLIAMS,
Medical Officer
of Health.

Public Health Dept.,
Greyfriars, Oxford.

Ancoats Hospital, Manchester.

RESIDENT MEDICAL OFFICER required to commence duty on or about February 15th. Appointment for six months. Salary at the rate of £150 per annum, with board, residence, etc. Previous experience in similar position preferred.

HOUSE PHYSICIAN required to commence duty on March 1st. Appointment for six months. Salary at the rate of £100 per annum, with board, residence, etc.

Further vacancies will occur as follows:

RESIDENT SURGICAL OFFICER, April 30th. Salary £200 per annum. One ORTHOPAEDIC HOUSE SURGEON and one GENERAL HOUSE SURGEON on March 31st. Salary at the rate of £100 per annum.

These appointments will be advertised in due course.

Applications for the posts of R.M.O. and H.P., stating age, qualifications, experience (if any), and full particulars, to be forwarded to the undersigned on or before February 4th, together with copies of three recent testimonials.

By Order of the Board,
HERBERT J. DAFFORNE,
Gen. Supt. & Secretary.

Queen Mary's Hospital for the EAST END, Stratford, E.15.

HONORARY DENTAL SURGEON.

There is a vacancy at the above Hospital for an Honorary Dental Surgeon.

Candidates must be Licentiates in Dental Surgery.

The Dental Surgeon will be required to attend on Monday mornings each week at 9.30 a.m.

The appointment is for a period of 5 years, subject to re-appointment at the end of that period.

Applications, accompanied by copies of recent testimonials, must be sent in to the undersigned not later than Tuesday, February 3rd next.

RAPHAEL JACKSON, Major, Secretary.

Batley and District Hospital.
(General Hospital—84 Beds.)

Applications are invited for the position of RESIDENT HOUSE SURGEON (male). Salary £175 per annum, with board, residence, and laundry.

Applications, stating age and qualifications, with copies of testimonials, should be sent to the undersigned.

Batley, Yorks. A. W. WESTERN, Secretary.

Leigh Infirmary, Lancashire.

Wanted, a RESIDENT HOUSE SURGEON, male, single, for Hospital of 82 beds. Salary £200, with rooms, fire, attendance, and board. The position is vacant on February 1st.

The appointment is for six months with eligibility for re-election. Must be good Anaesthetist. Knowledge of Ear and Throat work desirable.

Applications to be addressed to Mr. J. A. SMITH, Secretary, 3, Silk Street, Leigh, Lancs.

Royal Infirmary, Wigan.
(180 Beds.)

THIRD HOUSE SURGEON (male) required immediately, for a period of six months. Salary £150 per annum, with board, apartments, and washing. Staff consists of one R.S.O. and three House Surgeons. Applications, stating age and qualifications, with copies of three recent testimonials, should be addressed to the undersigned as soon as possible.

A. STANLEY BRUNT,
January 13th, 1931 Gen. Supt. & Sec.

South London Hospital for WOMEN, South Side, S.W.4.

The Board of Management invite applications from fully qualified Medical Women for the appointment of ANAESTHETIST. Attendance required Saturday mornings. Honorarium 10s. 6d. per attendance.

Applications, with copies of testimonials, to the Secretary at the Hospital.

The Royal Infirmary, SHEFFIELD. (500 Beds.)

The Weekly Board of Management invite applications for the post of HOUSE SURGEON. The appointment will be terminable on June 30th next, but the officer elected will be eligible for re-election. The salary attached to the post is £80 per annum, rising after six months' service to £100 per annum, together with board and residence. Applications, together with copies of testimonials, to be sent to the undersigned immediately

JNO. W. BARNES, F.C.I.S.,
General Supt. & Secretary.
Board Room, January 20th, 1931.

Fulham School Medical TREATMENT CENTRE, 18—20, Bagleys Lane, Fulham, S.W.6.

The Committee of the above Centre invite applications from duly registered Practitioners for the following appointments for the year commencing April 1st.

SURGEON to Eye Department. Five sessions per fortnight. Remuneration £200 per annum.

SURGEON, Ear, Nose, and Throat Department. One session weekly, and one inspection session fortnightly. Remuneration £120 per annum.

ANAESTHETIST, Ear, Nose, and Throat Department. One session weekly. Remuneration £75 per annum.

RADIOLOGIST, Ringworm Department. One session fortnightly. Remuneration £40 per annum.

ANAESTHETIST, Dental Department. One session weekly. Remuneration £75 per annum.

SURGEON, Minor Ailments Department. (2 Appointments). One session weekly (each). Remuneration (each appointment) £66 per annum.

Applications, giving qualifications and experience, together with copies of two recent testimonials, should be sent to the undersigned not later than February 7th.

A. T. HURFORD, Hon. Secretary.
Public Health Department,
Town Hall, Fulham, S.W.6.

City Mental Hospital, HUMBERSTONE, LEICESTER.

SECOND ASSISTANT MEDICAL OFFICER.

Applications for the above post are invited. Candidates should be single and under 30 years of age. Salary £350 a year, rising by annual increments of £25 to £450 a year, together with board, lodging, washing, and attendance, valued for the purposes of superannuation at £100 a year.

An allowance of £50 a year will be made in the event of the successful candidate holding a diploma in Psychological Medicine.

Preference will be given to candidates with a University degree who have held a resident house appointment.

The provisions of the Asylums Officers Superannuation Act, 1909, will be observed.

Applications, marked "A.M.O.," with full particulars of qualifications and experience, together with copies of not more than three recent testimonials, to be sent to the Medical Superintendent.

Minehead and West Somerset HOSPITAL, MINEHEAD, SOMERSET. (56 beds.)

Applications are invited for the post of RESIDENT HOUSE SURGEON (male or female) to this Hospital.

Duty to commence on March 1st next. Appointment for a period of not less than six months. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned not later than February 4th.

W. H. P. RODDA, Secretary.

Stockton and Thornaby Hospital, STOCKTON-ON-TEES. (140 Beds.)

Applications are invited for the post of SENIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about March 2nd. Salary £175, with board, residence, and laundry. Candidates must be duly qualified and unmarried. Applications, stating age, nationality, and experience, together with copies of three recent testimonials, to be sent to the undersigned.

JOHN WILKINSON, Secretary.

Harrogate Infirmary.

Applications are invited from British subjects (male) for the post of JUNIOR HOUSE SURGEON for the period terminating August 1st. Salary at the rate of £125 per annum, with board and lodging. Applications, to be made on official form to be had from the undersigned, should be sent in immediately. The post is now vacant.

GEO. BALLANTYNE,
The Infirmary. Secretary.

Bradford Children's Hospital.

Wanted, HONORARY ASSISTANT SURGEON. Applications, with two recent testimonials, should be sent to the Secretary-Superintendent not later than Friday, January 30th.

J. W. LONGLEY,
Secretary-Superintendent.

Northumberland County Council.

APPOINTMENT OF DENTAL OFFICER.

Applications are invited from fully qualified Dental Surgeons for the above post. The salary will be at the rate of £500 per annum, with first-class travelling expenses, and the post will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922. The official appointed will be required to drive a motor dental van; he will work on the Administrative Staff of the County Medical Officer in the School Medical and Maternity and Child Welfare Departments.

Applications, together with three recent testimonials, must be sent to the undersigned not later than February 16th. An official form will be supplied on receipt of a stamped addressed envelope.

WILLIAM F. J. WHITLEY,
County and School Medical Officer.
South Granville House, Jesmond,
Newcastle-upon-Tyne.

City of Birmingham.

MATERNITY AND CHILD WELFARE DEPARTMENT.

RESIDENT MEDICAL OFFICER.

A Woman Resident Medical Officer is required on March 1st next, for a period of six months, for the CITY BABIES' HOSPITAL, Canwell Hall. Salary at the rate of £100 per annum, with board and laundry. Previous experience in a Children's Hospital desirable.

Apply, giving all particulars of qualifications, age, and experience, to the Medical Officer of Health, Council House, Birmingham, on or before February 5th.

The Babies' Hospital, NEWCASTLE-UPON-TYNE.

Part-time non-resident MEDICAL OFFICER required in February.

Duties, which must be considered as of first importance, are those of a House Physician, and will occupy half the day, leaving time for examination or research work. The appointment is for six months and subject to re-appointment. Salary £150 per annum.

Applications, with two testimonials, and particulars of previous appointments held, must be lodged with the Secretary, 33, West Parade, Newcastle-upon-Tyne, by February 6th.

The Hospital for Epilepsy and PARALYSIS, Maida Vale, W.9.

HOUSE PHYSICIAN required for three months.

Applications are invited for the post of HOUSE PHYSICIAN for three months from February 1st to May 1st. The salary is at the rate of £100 per annum. Applications, accompanied by copies of three recent testimonials, should reach the undersigned by January 31st.

The accommodation at the Hospital does not permit of women Graduates holding this appointment.

H. W. BURLEIGH,
Secretary and Gen. Superintendent.

The Ear, Nose, and Throat HOSPITAL, EASTBOURNE. (17 Beds.)

HONORARY SURGEON.

Applications are invited for the post of Honorary Surgeon to the above Hospital. Candidates must possess the Fellowship of one of the Royal Colleges of Surgeons, and undertake to practise purely as a Consulting Surgeon, and to reside in Eastbourne.

Applications, stating age, with copies of three recent testimonials, to be sent to the Secretary of the Hospital.

Chester Royal Infirmary.
(211 Beds.)

Wanted, HOUSE SURGEON (male) to the Ear, Nose, and Throat Department, to commence duties February 16th. Salary £150 per annum, with board, lodging, and washing. Candidates must be doubly qualified and registered. Application list closes on February 7th.

Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P.,
Hon. Supt. of the Resident Medical Staff.

King George Hospital, Ilford.

Applications are invited for the appointment of HONORARY GYNAECOLOGICAL SURGEON to the Hospital. Candidates (male) must be Fellows of the Royal College of Surgeons of England. Further particulars may be obtained from the undersigned, to whom applications should be sent not later than February 7th.

G. AUSTIN HEDWORTH, Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** (contd.).	**PUBLIC HEALTH.**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	PLYMOUTH EDUCATION AUTHORITY. *(Deputy Assistant Medical Officer.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 166, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

January 21st, 1931.

By Order of the Council.

ALFRED COX, Medical Secretary.

The Hospital for Sick Children, Great Ormond Street, W.C.1.

A REFRACTION ASSISTANT is required in the Ophthalmic Department on February 7th. Candidates are invited to send in their applications, addressed to the Secretary, with copies of not more than three testimonials written specially for the purpose, before 12 o'clock on Monday, February 2nd.

The appointment is made for one year, but the successful candidate will be eligible for reappointment annually upon the recommendation of the Medical Committee.

Salary at the rate of one guinea per attendance at the visit of the Honorary Ophthalmic Surgeon.

Candidates must be registered Medical Practitioners and be prepared to take up the duties on February 7th.

All candidates must be in attendance on Wednesday, February 4th, to appear before the Joint Committee at 4.45 precisely if required.

Forms of application, and copies of the Rules for the appointment, will be supplied on application to the Secretary.

By Order of the Board of Management,

JAMES McKAY, Secretary.

January, 1931.

Seamen's Hospital Society.

The Committee of Management invite applications for the appointment of ASSISTANT RADIOLOGIST at the HOSPITAL FOR TROPICAL DISEASES, Endsleigh Gardens, W.C.

The elected candidate will be appointed for twelve months, but will be eligible for re-election.

Candidates must be fully qualified Medical Practitioners and hold the D.M.R.E. Experience in general radiology and especially gastro-intestinal and urological work desirable. Attendance twice or three times weekly.

Applications, with copies of three recent testimonials, to be sent in on or before Wednesday, February 4th, to the undersigned, from whom further particulars can be obtained.

R. E. V. BAY, Secretary.

Greenwich.

January 12th, 1931.

The Hospital for Sick Children, Great Ormond Street, London, W.C.1.

A SURGICAL REGISTRAR is required on March 1st.

Gentlemen are invited to send in their applications, addressed to the Secretary, with copies of not more than three testimonials given specially for the purpose, before 12 o'clock on Monday, February 2nd.

The appointment is made for one year, but may be held, subject to re-election, for a period of three years.

Salary £300 per annum and allowance for substitute for holiday £18 18s.

Candidates must be registered Medical Practitioners, and must have held a responsible Hospital appointment and be prepared to take up the duties on March 1st.

All candidates must be in attendance on Wednesday, February 4th, to appear before the Joint Committee, at 4.45 p.m. precisely, if required.

Forms of application, copy of the rules for, and details of the duties of, the appointment, will be supplied on application to the Secretary.

By Order of the Board of Management,

JAMES McKAY, Secretary.

January, 1931.

The Royal Sea-Bathing Hospital FOR SURGICAL TUBERCULOSIS, MARGATE.

HOUSE SURGEON Required.

A Male House Surgeon is required to take up duty in January, 1931. The salary is at the rate of £200 per annum, with board, residence, attendance, and laundry.

Candidates for the post must be legally qualified and registered. The appointment is for six months.

There are 308 beds for adults and children, which afford special opportunities for the study of surgical tuberculosis.

Applications, stating age and previous appointments, with copies of three recent testimonials, should be sent to the Secretary, R.S.B.H. Offices, 15, York Buildings, Adelphi, London, W.C.2.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.

HOUSE SURGEON in charge of Male Wards.

HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE, General Superintendent.

Bradford Royal Infirmary.

Two HOUSE SURGEONS (male) wanted for March 1st.

Candidates must be single and legally qualified. Salary £150 per annum each, with board, residence, and washing.

There are 215 beds and six resident officers.

Applications, stating age, qualifications, and previous experience (if any), with copies of recent testimonials, to be received by the undersigned not later than Tuesday, Jan. 27th.

J. J. BARRON, Secretary Supt.

January 11th, 1931.

City of London Hospital for DISEASES OF THE HEART & LUNGS, Victoria Park, E.2

(Bus, Tram, and Rail, Cambridge Heath, L. & N.E. Railway.)

A vacancy for a HOUSE PHYSICIAN (male) will occur on March 1st. Six months' appointment. Salary at the rate of £100 per annum. Board, residence, and laundry provided.

Applications, with copies of three testimonials, should be sent to the undersigned on or before Friday, February 13th

GEORGE WATTS, Secretary.

(Appointments continued on p. 50.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.

T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL
ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.

(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted.—Liverpool.—A young newly qualified male British Medical Practitioner to give PART-TIME ASSISTANCE in panel and private Practice, with full scope to work up on his own account the industrial private practice, hitherto discouraged, excellent opportunity for the right man. To reside at surgery, all found. Salary £156, plus his own earnings. Preliminary Assistantship at usual fees for a few months. — Address, No. 558, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, single, indoor, 25 to 30, with experience, for private and panel Practice, Lancashire town, residential district. Salary £300, all found. Rapid rise and early prospects to steady, reliable and willing man. Graduate preferred, but not essential. State age, height, qualifications, etc. Enclose photo. and references. — Address, No. 606, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, outdoor ASSISTANT to two partners, view early Partnership. Pleasant colliery district, Midlands. Married. Scotch Graduate preferred. Salary £450, with good unfurnished house. State full particulars and references, with earliest date free.—Address, No. 562, B.M.A. House, Tavistock Square, W.C.1.

Wanted by Doctor (bachelor), an ASSISTANT, indoor, for industrial village Practice, Hants. Man without experience who wishes to learn routine of practice. Salary £225 and mid. fees. Share later if desired. — Address, No. 554, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship by M.B., Ch.B., M.R.C.S., L.R.C.P. (1928), aged 29, male, single, abstainer, Protestant. Well experienced panel and private. Excellent testimonials. Own car. Free now. Birmingham or district preferred.—Address, No. 568, B.M.A. House, Tavistock Square, W.C.1.

Wanted, an experienced ASSISTANT, net salary £950 to £1,000 per annum, with house at a low rental. No application considered unless accompanied by full particulars as to age, qualification, etc.—Add., SECRETARY, 10, The Circle, Tredegar.

Wanted. — Assistantship, with early view, by M.B., Ch.B. (Scotch), 28 years, married, ex R.M.O., Senior H.S.; two years' general practice experience. London or South preferred. Interview.—Address, No. 463, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, outdoor, with or without view, by M.B., B.Ch. (Q.U.B.). London or near preferred. Hospital, panel, and Tropical experience. Free now.—Address, No. 582, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Indian Assistant for mixed Colliery Practice, Yorkshire. Opportunity for Surgical work. A year or longer stay pref. Furnished house, with board. Bond. Salary accord. exper.—Add., with refs., etc., No. 580, B.M.A. House, Tavistock Sq., W.C.1

Wanted. — Male Assistant, British, some experience. Apply personally any week-day 11 a.m.—Dr. RIDEWOOD, 103, Bethnal Green Road, E.2.

Wanted. — Male Assistant for panel and private Practice, W.R. City. (1) Indoor £300, or (2) outdoor £400, and use of house. British, Protestant; ex hospital preferred. Full particulars.—Address, No. 559, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant £390 p.a. Man under 32. Panel and private practice. Able to cycle and take sole *charge occasionally. Give essential particulars.* —Address, No. 579, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant with view. Must be well qualified. Mixed Practice. Manufacturing Town. Salary £500, or £550 with car. State age, qualifications, nationality, experience, etc. Usual bond. —No. 564, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Outdoor Assistant, 23 to 27 years of age. If possible with some previous experience. Salary according to age and experience. Good salary for keen man.—Apply, C. F. THACKRAY, Park Street, Leeds.

Wanted.—Assistant for pleasant Midland town. Outdoor (£350), single man or woman, British. State essential particulars Dispenser kept. Usual bond.—Add., No. 613, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Outdoor Assistant male, unmarried, in East London district. Abstainer preferred. Salary £300, with board and residence.—Address, No. 581, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, male Assistant, indoor, unmarried, for Yorkshire. Photograph, testimonials, and other particulars. —Apply, Dr. PORTER, Helmsley, Yorkshire.

Wanted immediately. — ASSISTANT, Woman, outdoor, preferably Scotch. London, S.W. Recently qualified, or with view succession.—Address, No. 575, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Outdoor male Assistant to two Doctors. Midlands. Salary £400.—Address, No. 566, B.M.A. House, Tavistock Square, W.C.1.

Assistant, indoor, wanted immediately, British, male, with view to Partnership. Industrial and country Practice in North Midlands. £300 per annum. Usual bond. References.—Address, No. 560, B.M.A. House, Tavistock Square, W.C.1.

Assistant, young man, preferably with some Hospital experience, wanted end of January for 5 or 6 months. Residential district, South Manchester. Private and panel.—Address, No. 577, B.M.A. House, Tavistock Square, W.C.1.

Assistant, man or woman, indoor, wanted, Midlands. State age, religion, height. Only letters replied to where essential particulars are given. — Address, No. 8755, B.M.A. House, Tavistock Square, W.C.1.

Indian Doctor, spent some years in Edinburgh on Post-graduate studies, now managing Branch Surgery East End Lond., very anxious to settle in Edinburgh, desires ASSISTANTSHIP, exceptionally mod. terms.—No. 603, B.M.A. House, Tavistock Sq., W.C.1.

M.B., B.Ch., requires outdoor ASSISTANTSHIP. Four years' experience general practice. Good testimonials and references. — Address, No. 572, B.M.A. House, *Tavistock Square, W.C.1.*

Required for Colliery Practice in Co. Durham, an outdoor ASSISTANT, aged about 30, accustomed to panel practice, and wishful for a permanency. Salary £45 per month, with commission, which last year amounted to £50. Also a free house (recently erected) and free coals. — Address, No. 565, B.M.A. House, Tavistock Square, W.C.1.

Woman Medical (M.B.Glasg.), keen a[illegible] lad to hear of [illegible] to Partnership, in Country Practice, Yorkshire or Lancashire preferred. Well versed in Hospital routine work, Ophthalmology and general practice. Children and midw'y of special interest. —No. 607, B.M.A. House, Tavistock Sq., W.C.1.

Will any progressive Doctor, interested in Physiotherapy (Diathermy, etc.), who wishes to increase the therapeutic efficiency of, and consequent financial returns from, his Practice, communicate with Advertiser, ASSISTANTSHIP, with view, desired to develop this specialty. Advertiser has had several years' experience and held staff appointment in large teaching hospital for 3 years. Is also on the Board of Examiners of the C.S.M.M.G. —*No. 614, B.M.A. House, Tavistock Sq., W.C.1.*

LOCUMS.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: 'Phone:
"Epsomian, Lond." Temple Bar 9011.
After Office Hours: Epsom 9142.

Locum or Assistantship (permanent or for busy season only) wanted by M.B., B.Ch. (woman). Four years in G.P. Splendid testimonial last Principal. Now free, in London.—Address, No. 559, B.M.A. House, Tavistock Square, W.C.1.

Locums required, 6 yrs.' G.P. own practice. Good Anaes. and Obstet., aged 33. Five guineas weekly, including use own car, and hospitality for wife. Free January 28th.—"W.," 336, Holloway Road, London, N.7. North 2171.

Locum Tenens. — Medical Man needs EMPLOYMENT. Days, Evenings, Week-ends, etc. Very moderate terms. London. —Address, No. 602, B.M.A. House, Tavistock Square, W.C.1.

Locum Tenens. — Experienced G.P. requires Locum work in or near London. Whole or part-time. Abstainer. Own car.—Address, No. 458, B.M.A. House, Tavistock Square, W.C.1.

LOCUM TENENS
FOR A RE[illegible]SULT
THE[illegible]
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams:
"REASIDE, TUBERCLE, WESTRAND, LONDON."

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Applications are invited for the post of MEDICAL OFFICER for Mining property in CHOTA NAGPUR district, INDIA. First-class passage, 3 years' agreement. Salary £700—£750—£800. Free partially furnished quarters. Application form obtainable from Secretaries, INDIAN COPPER CORPORATION, LTD., 55/61, Moorgate, E.C.2.

Dispensing.—For over 30 years we have been training the daughters and other relatives of Doctors as DISPENSERS, and supplied Lady Dispensers to Doctors requiring s[illegible] C[illegible]

Dispensers supplied to Doctors *at short notice, without fee.* Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Experienced G.P., now living at Southampton, would be glad of PART-TIME WORK for Doctors. Southampton or neighbourhood. — Address, No. 570, B.M.A. House, Tavistock Square, W.C.1.

Gentleman, 25-30, unmarried, to RUN Two Branch Surgeries. £250, plus percentage of takings. Use of car. Live in. Prospects. Near N.W. London.—Address, No. 610, B.M.A. House, Tavistock Square, W.C.1.

Honours Graduate M.B., B.Ch., D.P.H., desires POST, aged 36, no capital, married, no children. Experienced G.P., Panel, Midwifery, T.B., and Silicosis. Motorist. Mod. inc. with congenial circumstances desired. —No. 574, B.M.A. House, Tavistock Sq., W.C.1.

Lady Dispenser - Bookkeeper requires APPOINTMENT. Certificates in dispensing (Hall) and bacteriology. 8 years' exper. in private and panel practice, also hosp. Free now.—Address, No. 585, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser (Apoth. Hall), Doctor's daughter, certificates for Bacteriology, medical bookkeeping, desires POST.—Miss BATES, 10, Nevern Square, S.W.5.

Lady Dispenser - Bookkeeper (Hall), etc., young, good experience in private and panel Practices, requires POST with Doctor. Free now.—F. W., "Tresco," The Uplands, Loughton, Essex.

Lady Secretary-Dispenser seeks POST. Good references. Experience in both private and panel Practices. — Address, No. 571, B.M.A. House, Tavistock Square, W.C.1.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted.—University Graduate (Scot), age 30, single, over 2 years' panel and Hospital experience, 2—3 years' panel and private practice, desires PARTNERSHIP or outdoor ASSISTANTSHIP with view. Own car. Capital available. Free now.—Address, No. 553, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Partnership in Northern University City. Receipts 1927, £500; 1928, £990; 1929, £1,500; 1930, £2,300; all audited. Panel 1,400, rapidly increasing. Extensive building and unlimited scope. Prob. early succession. Only keen energetic man will be considered. Anaes. an advan. Full investig. offered. Prem. 1/3 share £1,200.—No. 583, B.M.A. House, Tavistock Sq., W.C.1.

Liverpool. — Partnership (1/3 share), cash and panel Practice, 2 years' purchase. Suit young and energetic single man. Small capital may be arranged.—Address, No. 551, B.M.A. House, Tavistock Sq., W.C.1.

Manchester.—Partnership.—Old-established Practice. Cash receipts £1,800. Panel and private. Plenty of scope. Half share. Premium 1½ years' purchase.—Apply, Messrs. HOUGH & HOSEASON, Bridge Street, Manchester.

Near Kensington Gardens.—Fifth SHARE of non-panel Practice. Receipts between £5,000 and £6,000 a year. Fees half to one guinea. Partner should be about 30 and well qualified.—Address, No. 584, B.M.A. House, Tavistock Square, W.C.1.

Partnership. — Home County.— Within 50 miles London.—ONE-FIFTH SHARE with increase later, is for disposal in an old well-established General Practice in County Town, producing about £5,000 p.a. Incoming man should be about 30, have had some experience, and should be well qualified and en-rectic. Appointment on the staff of County Hospital probable to well qualified man. Good house available. Premium 2 years' purchase. Short preliminary assistantship essential.—No. 559, B.M.A. House, Tavistock Sq., W.C.1.

PRACTICES.

Wanted. — Practice, good-class, non-panel, with scope. Must be old-established. Good suburb London, Home Counties, or South of England. Advertiser is M.D., F.R.C.S.(Edin.), and experienced. Strictest confidence. No agents.—Address, No. 552, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Practice in N. London, Seaside Town, or Home Counties, doing about £800, with scope. House to rent, not less than 5 bedrooms, garden, and garage. Good boys' school within reach.—Address, No. 555, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, by M.B.(Hons.), 5 years' Hospital, G.P., and Midwifery experience, small PRACTICE on easy terms, or Management of Practice with view. Small capital. References supplied. — Address, No. 578, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Small general Practice. Income approx. £500, with about 6/700 panel inclusive. In thickly populated area in London or suburbs, with scope.—Address No. 586, B.M.A. House, Tavistock Square, W.C.1.

Wanted in London by experienced Practitioner, PRACTICE or PARTNERSHIP Succession. Income about £2,000 or more p.a., including substantial panel. Ample cash available.—Address, No. 611, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Practice about £1,000 —£1,500. Small panel. Country town, near Coast. South or S. West England preferably. — Address, No. 373, B.M.A. House, Tavistock Square, W.C.1.

Wanted, a mixed Practice of £800 upwards, in or near a seaside town. Good house essential. South preferred. —Address, No. 557, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Midlands, in good hunting country.—Old-established Country PRACTICE. Receipts about £1,200 p.a., panel and usual appts. Unopposed. Beautiful surroundings. Comfortable house, garages, gardens, stabling. Freehold £1,500. Practice 1½ years' purchase. — Address, No. 561, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Old-estab. Private and Panel PRACTICE, with several appointments, in South Durham, in an agricultural and sporting district. Annual receipts over £2,000. Large house, garden, and two garages. Own electric light. The present Vendor is retiring from practice: Every investigation. House and Practice £5,000.—Address, No. 567, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Qualified Physio-THERAPEUTIC PRACTICE in Lancs Univ. City. Audited income £900, second year increasing. Living accom. 11 yrs.' purchase. Exc. house, central heating, can be purch. or let. —No. 563, B.M.A. House, Tavistock Sq., W.C.1.

Good-class non-panel Practice.— Purely residential district, 10 miles London Over £500 last six months. Rapid increase certain. Price £800. Fine corner house, freehold, best position, £2,750.—Address, No. 573, B.M.A. House, Tavistock Sq., W.C.1.

Isle of Man. — Unopposed. — Lovely district. Nice house, large garden and garage, rented with ultimate purchase. Receipts £800, much scope. Panel £140, increasing. Easily worked. Golf, boating. Price £700, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Lancs Town. — Old-established. Receipts £2,500. Panel 1,850. Two excellent houses, each with garden and garage, rents £90 and £80. Appointments £120. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, S.E. — Old-established PRACTICE for immediate sale, owing to Vendor's ill health. Low working expenses. Scope for development. Premium £250.—Add., No. 612, B.M.A. House, Tavistock Square, W.C.1.

Near Brixton, S.W.—Old-estab. PRACTICE. Receipts average £825 p.a., panel 600. Good corner house, rent to be arranged, long lease granted. Prem. moderate, income steadily increasing.—Apply, PEACOCK & HADLEY, LTD., 19, Craven St., Strand, W.C.2.

Near Camberwell Green.—Well-established Cash and Panel PRACTICE. Receipts last 12 months £1,900, panel 1,052. House, rent to be arranged, lease granted. Premium £5,200. Panel steadily increasing—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Opening for experienced Doctor, over 30, in N. London. — Mixed old-established PRACTICE. Premium £1,500. Good house and accommodation for the Practice. Rent or purchase. Some panel.—DEVON, 11, Weymouth Street, W.1.

Practice for disposal in North of England town. Receipts £1,150 per annum, number on panel 1,257. Established fifty years, capable of increase Good opening for Roman Catholic Doctor.—For further particulars apply to Messrs. R. SUMNER & CO., LTD., Manufacturing Chemists, 40, Hanover Street, Liverpool.

Required by two experienced friends, old-established PRACTICE, with big panel, in Southern half of England.—Add., No. 609, B.M.A. House, Tavistock Sq., W.C.1.

Scotland.—Large Town.—Well-established PRACTICE. Receipts over £2,000 p.a., panel 1,816 Very good house, tent £78 p.a. Premium 1½ years, Part payable by instalments —Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr PERCIVAL TURNER can advise in all cases Terms free on application to 4, Adam St., Strand, W.C.2. Telephone Temple Bar 9011 Telegrams: "Epsomian, London."

Very good Practice to sell in Surrey, within 10 miles of London. Average income £2,500 Panel nearly 1,300. Buyer must have ample cash. Introduction could commence June. No agents.—Address, No. 553, B.M.A House, Tavistock Square, W.C.1.

Yorkshire (W.R.). — Compact easily worked PRACTICE, averaging £1,100 p.a., in manufacturing town Panel over 1,200. Splendidly situated corner house (4 bedrooms), garage, and garden for sale Premium £1,250.—Address, No. 605, B.M.A House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

DOCTORS ATTENDING POST-GRADUATE COURSES.

A beautifully appointed HOUSE offers ACCOMMODATION, overlooking (and with access to) quiet private square, within easy reach, by 'bus and tube, to all parts. Bed-sitting rooms from 35/- single. Double from 3 gns Inclusive of breakfast, e.l., service, c.h.w., and bath.—10, Porchester Square, W.2. Park 6015

Consultant.—Exceptional opportunity.—Ground floor FLAT, imposing entrance, parquet floors, constant h.w., central heated; marble basins; marble bathroom. Excellent decorations. Oak dining room. Two w.c.'s. Great bargain, £425 p.a. No premium. —S. BURDWOOD, 25, Weymouth Street, W.1.

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & Co., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Doctor's wife has three or four nice ROOMS to LET furnished, in good district, 25 mins. Victoria and City. Close to three stations. Nice house, all conveniences. Near plenty of sport, shops, etc.—Address, No. 608, B.M.A. House, Tavistock Square, W.C.1.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS Terms moderate. —Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Doctor's widow has comfortable BED-SITTING ROOMS to LET Electric light, gas fires, every convenience, close Tube, trams and buses. Newly decorated throughout. —Apply, 21, Cantley Avenue, South Side, Clapham Common, S.W.4.

Eastbourne. — Beautiful large CONSULTING ROOM to Let, part-time, with Specialist; also whole-time room; 'phone, attendance, waiting room. FLAT available same building. Splendidly situated Mansion House on sunny corner, 1 min. station. Formerly owned by late Harley Street Specialist.—Address, No. 604, B.M.A. House, Tavistock Square, W.C.1.

Suitable for Nerve or Rest Home, or Institution. — For Sale, commodious HOUSE, S. London. Secluded grounds. Ready immediate occupation. Lease 40 years. Furniture if desired. — Address, No. 576, B.M.A. House, Tavistock Square, W.C.1.

For Sale, in growing Kentish Village, comfortable HOUSE, 6 bedrooms, bathroom, w.c., 2 reception rooms, and usual offices. Garage and stabling. Kitchen garden, orchard, and tennis court, 1¼ acres. Co's water, electric light and telephone installed. Freehold with possession. 2,000 guineas. — Apply, BURTENSHAW, Valner, Tenterden.

Near Harley Street. — Bedroom to LET with attendance, etc. Also part-time use of Consulting Room. Rent £125 per annum, or would be let separately.—Address, No. 601, B.M.A. House, Tavistock Sq., W.C.1.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 253, B.M.A. House, Tavistock Square, W.C.1.

To Let. — Queen Anne Street, W.1.—*Handsome SECOND FLOOR FLAT*, furnished or unfurnished; fitted every convenience. Part-time Consulting Room available if required. Very low rent.—Address, No. 254, B.M.A. House, Tavistock Square, W.C.1.

To Let from February Term.— Excellent PREMISES in populous locality, lately occupied by Medical Man for many years.—Apply, VASEY & REED, 25, King Street, South Shields.

127, Harley Street.—Large well- lit ground floor CONSULTING ROOM, with excellent attendance and joint use of beautifully furnished waiting room. £300 per annum.—Apply the Secretary, Welbeck 7840.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE
to MEMBERS of the
MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.
The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.
JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.
THE Ideal Suit for Professional or Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS " £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.
PATTERNS POST FREE.
Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.
Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.
Governing Director: HARRY HALL.
"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.
Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX
As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.
HARDY & HARDY
TAXATION CONSULTANTS,
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659. Write for Tax Guide, Free.

Medical Surgical Sundries Ltd.
Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles.
Showroom: 97, Swinderby Road, Wembley.

Citröen Four-seater Touring CAR for Sale. Completely equipped with hood and side curtains, 1927 model, recently overhauled and in excellent condition. View at any time by appointment.—Address, No. 587, B.M.A. House, Tavistock Square, W.C.1.

All about Photography.—Get the "BRITISH JOURNAL PHOTOGRAPHIC ALMANAC" for 1931. The great book for every amateur photographer. It is a marvellous 2/- worth. The Almanac contains all that the amateur can and will want to know. Articles on all kinds of methods and gadgets. Descriptions of all the latest goods for amateur photography and cinematography. 748 pages; 64 pictorial photographs in gravure. From photographic dealers and bookstalls.—HENRY GREENWOOD & Co., Ltd., Publishers, 24, Wellington Street, Strand, W.C.2.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

APPOINTMENTS.—Contd.

Pontefract General Infirmary.

Wanted, RESIDENT MEDICAL OFFICER. Work largely surgical; 60 beds; 1929—30 In-patients 1,175. State age and qualifications. Salary from £200 to £300 according to qualifications (board, apartments, and laundry provided). Send three copies of recent testimonials to HERBERT HOLMES, Secretary, Ropergate, Pontefract.

Burslem Haywood and Tunstall WAR MEMORIAL HOSPITAL.

Wanted, RESIDENT MEDICAL OFFICER (male or female), unmarried. Salary £175 per annum, with board and residence. Must be fully qualified. Applications, stating age and experience, together with copies of three recent testimonials, to be sent to me not later than January 31st. The Hospital has 66 Beds.
Duties to commence on March 5th.
F. C. POWELL, F.C.I.S.,
Public Offices, Secretary.
Price Street, Burslem.

Central Hospital, PLYMOUTH. (50 Beds.)

Applications are invited for the post of HOUSE SURGEON (male or female). Duties to be taken up at an early date.
The appointment is for six months. Salary £130 per annum, with board, residence, etc.
Applications, stating age and qualifications, together with three recent testimonials, should be sent immediately to the undersigned.
W. W. URELL, Secretary.

Kent and Canterbury Hospital, CANTERBURY.

HOUSE SURGEON (male) required to commence duties on March 1st. Six months' appointment. Salary at the rate of £125 per annum, plus board, residence, and laundry.
Applications, accompanied by copies of testimonials, should be forwarded to the undersigned not later than January 30th.
W. T. SOUTHWOOD,
Superintendent & Secretary.

Nottingham and Midland Eye INFIRMARY.

RESIDENT HOUSE SURGEON (gentleman) required. 40 beds. Large Out-patient Department. Salary £200 per annum, with board and laundry. Applicants should state age, qualifications, experience, when disengaged, and send copies of three recent testimonials to the Secretary, The Ropewalk, Nottingham.

Swindon and North Wilts VICTORIA HOSPITAL, SWINDON. (80 Beds.)

Wanted, RESIDENT MEDICAL OFFICER (male). Salary £125 per annum, with board, residence, and laundry.
Candidates must be registered under the Medical Act. Appointment for the minimum of six months.
Applications, stating age, etc., and accompanied by copies of not more than three recent testimonials, should be sent to the Secretary as soon as possible.

County of London.

The LONDON COUNTY COUNCIL invites applications for the undermentioned appointments at the MAUDSLEY HOSPITAL, Denmark Hill, S.E.5. Candidates must be under 40 years of age unless in London County mental hospital service, and must be registered to practise both in Medicine and Surgery in England.
(a) ASSISTANT MEDICAL OFFICER (men). Full-time. Salary £435 a year, rising to £510 a year. No emoluments. Charges made for board, lodging, etc., if required to be resident.
(b) ASSISTANT MEDICAL OFFICER (man or woman). Part-time. Salary £300 a year of 48 weeks, for five sessions of three hours each week. No emoluments. In the case of women, marriage terminates contract of service.
Application forms (which contain full particulars of the appointment) obtainable from Chief Officer, Mental Hospitals Department, L.C.C., Artillery House, Artillery Row, S.W.1.
Canvassing disqualifies.
Applications must be received by Tuesday, February 3rd.
MONTAGU H. COX,
Clerk of the London County Council.

The London Female Lock HOSPITAL, 283, Harrow Road, W.9.

The Board of Management invite applications for the appointment of SURGICAL REGISTRAR. Honorarium £100 per annum, one year's appointment. Candidates, who must be doubly qualified [illegible] re invited to send the with copies of three Secretary not later than 10 a.m. on February 9th. Selected candidates will be required to attend a meeting of the Medical Committee on February 12th. Copies of the Laws and By-laws relating to these appointments can be obtained on application to the Secretary. Candidates must be Fellows (or *Members*) of the R.C.S.England or Surgical Graduates of a University of the United Kingdom. Duties to commence April 1st.
By Order of the Board,
HY. J. EASON,
January 21st, 1931. Secretary.

The Cancer Hospital (Free)
(Incorporated under the Royal Charter),
Fulham Road, London, S.W.3.

Applications are invited for the post of PHYSICIAN to the Hospital. Candidates must be Fellows or Members of the Royal College of Physicians, London, and a Graduate in Medicine of a recognized University.
Applications, with three (copies only) testimonials, to be sent to the undersigned not later than the first post on Tuesday, February 10th.
The appointment is made subject to Rules and Conditions laid down by the Charter of Incorporation, details of which can be obtained from the Secretary.
The Assistant Physician is a candidate for the office.
J. COURTNEY BUCHANAN, Secretary.

Royal Northern Hospital, Holloway, London, N.

A vacancy occurs for a SURGEON (Honorary) in charge of the Orthopaedic Department. Applications are invited for the appointment.
Candidates must be Fellows of the Royal College of Surgeons of England.
Particulars of the office and details with regard to the submission of testimonials, etc., may be obtained from the undersigned, to whom applications should be sent not later than February 13th.
GILBERT G. PANTER, Secretary.

General Infirmary, Salisbury. (General Hospital—161 Beds.)

HOUSE SURGEON (male) required to commence duty at the end of February.
Candidates must be unmarried, fully qualified and registered. Salary £150, with board, etc.
Applications, with copies of testimonials, to be sent to the House Governor and Secretary, from whom a copy of the Rules may be obtained on application.

Royal Manchester Children's HOSPITAL, PENDLEBURY, MANCHESTER.

The Board of Governors invite applications for the post of HONORARY OPHTHALMIC SURGEON.
Applications, stating qualifications, and accompanied by copies of three testimonials, should be sent to the undersigned at the Hospital, Pendlebury, on or before Thursday, February 5th.
W. M. HUMPHRY,
January 20th, 1931. Secretary.

Royal Victoria Infirmary, NEWCASTLE-UPON-TYNE.

WHOLE-TIME JUNIOR SURGICAL REGISTRARS.

Applications are invited for Six Junior Surgical Registrars.

These posts are designed for Graduates who desire to gain surgical experience and who have already held a post as House Surgeon. Certain duties in the allied departments at the College of Medicine will offer opportunities for post-graduate study.

The appointments will in no case extend beyond three years, and will be for one year in the first instance, beginning March, renewable for two further periods.

A payment of £150 per annum will be made to each Registrar.

Applications, with copies of not more than three recent testimonials, must be lodged on or before Friday, January 30th, with the House Governor & Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne, from whom further particulars may be obtained.

S. DUNSTAN,
House Governor & Secretary.

January 19th, 1931.

Royal Victoria Infirmary, NEWCASTLE-UPON-TYNE.

Applications are invited for the posts of SENIOR MEDICAL OFFICER and Two JUNIOR MEDICAL OFFICERS for the Pay-Bed Section of the Hospital.

Candidates must be registered in Medicine and in Surgery.

The term of appointment is for six months beginning March 1st, and is renewable for a further period.

Salary for Senior Medical Officer £200 per annum, with board and residence, and for the Junior Medical Officers £100 per annum each, with board and residence.

Applications, stating age, experience, and accompanied by three recent testimonials, should be sent not later than Friday, January 30th, to the undermentioned, from whom further particulars may be obtained.

S. DUNSTAN,
House Governor & Secretary.

January 19th, 1931.

Royal Northern Hospital, Holloway, London, N.7.

A vacancy occurs for an ASSISTANT SURGICAL OFFICER.

Candidates must possess the degree of F.R.C.S. England, and will be required to attend at the Hospital on three days each week, at the time of the Surgical Out-patient sessions. The appointment is for one year, with eligibility for re-election.

Honorarium £75 per annum, with luncheon and tea provided.

Applications, with three copies each of the letter of application and testimonials, should be sent on or before February 10th to the undersigned, from whom rules for the post can be obtained.

GILBERT G. PANTER, Secretary.

Royal Northern Infirmary, INVERNESS. (150 Beds.)

HOUSE SURGEON wanted to commence duties on March 1st. The appointment is for six months. Salary is at the rate of £100 a year, with board, residence, and washing.

Applications, stating age, qualifications, etc., with copies of recent testimonials, should be sent not later than February 14th to ROBERT GILBERT, Hon. Secretary, 20, Church Street, Inverness.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd., MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,

The oldest Medical Agency in Manchester,

6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 5932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER, LTD.

(Established 50 years.)

4 & 5, ADAM ST., STRAND, W.C.2.

Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

Yorks.—Death Vacancy.—£1,000 or more. Panel 950. Not much mdy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. £600 down, bal. deferred.—No. 8795.

Surrey.—Death Vacancy.—About £750 or more. Panel 130 and scope. Visits 3/6 up. Large house, smaller available. Excellent opening.—No. 8794.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No mdy. Fees 5/6 to 10/6. House to rent. —No. 8791.

South Coast Resort.—£1,800 p.a. Panel 910. Third share for disposal. Increasing later. Appts. £175. Choice of houses. Visits 4/- up.—No. 8790.

Kent. — Outer Suburb.—About £900 p.a. Scope. Panel over 900. Appt. £100. Visits 3/6 to 21/-. Good house and garden. Good schools.—No. 8789.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

Death Vacancy.—Essex Suburb. —Average £1,000. Small panel. Visits 7/6 to 10/6. Corner house, 5 bed., surgery, etc.—No. 8785.

Home County.—Assy., with view to Partnership in 3 months. About £3,000 p.a. Ample scope. Visits 5/6 to 10/6.—No. 8784. Increasing.

Outlying London Suburb.— X-Ray and Electrical. £500, with scope. House, 6 bed., on lease.—No. 8783.

Bucks.—About £950 p.a. Panel 580, increasing. Little midwifery. Visits 4/- to 21/-, med. extra. Small house, 1½ acres ground to rent.—No. 8781.

London Suburb, S.W. — About £1,000. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 3/6 up. House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London, W. — Half Share of over £1,850. Succession later. Small panel. Appt. £400. Visits 5/- to 21/-. Good house, 6/7 bed., and garden.—No. 8777.

London Suburb, S.W. — £2,800. Detached house (7 bed.) and garden.—No. 8766. Old-estab. General Practice. Panel 1,250.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £25. Prem. £800, incl. furn.—No. 8765.

Favourite South Coast Resort.— Average £2,500. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,500. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 3/6 to £1 1s. Large house and garden. Smaller ones available.—No. 8750.

South Coast. — Within 60 miles. Over £1,000, increasing rapidly. Panel 500. Clinic £50. Fees 3/6 to 12/6. Good house, 4 bed., etc.—No. 8742.

Surrey. — Rapidly increasing PRACTICE. Receipts over £830. Panel 580. Excellent house, 8 bed., with large garden, to rent.—No. 8741.

S. W. County near Coast.—Dis- pensing PRACTICE over £2,000 p.a., chiefly agricultural. Visits 5/- up. Surgery 2/6 up. 1,100 panel.—No. 8728.

SPECIAL NOTICE.

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

CAVENDISH NURSES (Male and Female)

Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, Oxford Rd.
GLASGOW: 28, Windsor Terr.
DUBLIN: 23, Upper Baggot St.

TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas

TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

ST. LUKE'S HOSPITAL FOR MENTAL DISORDERS.

Private Nursing Staff Department.

Trained Nurses for Mental and Nervous Cases can be had immediately.

Apply to Lady Superintendent,
19, Nottingham Place, London, W.1.
Telephone: Mayfair 6420.

Northern Branch.—Apply, Lady Superintendent, 67, Clarendon Rd., Leeds. 'Phone: Leeds 26165.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.

Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

THE CENTURY INSURANCE COMPANY LTD.,

7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS TO PURCHASE A PRACTICE, OR PARTNERSHIP

NO GUARANTORS REQUIRED.
REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054. RIVERSIDE 1234. *(Night Calls.)*

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

KENT.—Within easy reach of London. — Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Premium £1,300. Excellent scope for energetic man.

WE HAVE SEVERAL SMALL PRACTICES in and around LONDON with incomes varying from £100—£400 p.a., with or without panel. Details in full on request.

BEDFORDSHIRE. — NUCLEUS Country PRACTICE, with conveniently situated house (7 beds). Receipts nearly £500. House to be rented on lease at £65 p.a., or would sell for £800. Premium for Practice £300 for quick sale.

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional [illegible] consists of three rooms, centrally situated, [illegible] £100 p.a. Receipts [illegible] Fees 2/-. Panel 430. [illegible] £650, cash. Scope for further development.

LONDON, E. — Well-established PRACTICE in middle-class residential locality. Corner house to rent on lease (4 bedrooms). Garden, garage, etc. Receipts just over £800. Books audited. Panel 718. Fees 2/- up. Premium £1,250.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three Hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640, or near offer. Partnership considered.

LONDON, S.W.—Old-established middle-class G.P., situated on main thoroughfare, with branch surgery. Corner house (5 bedrooms), garage, etc. Receipts approx. £2,000. Panel nearly 1,300. Premium, £3,000 or near cash offer. Highly suitable to one interested in Vaccine-Therapy.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approximately £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

SHROPSHIRE.—Country Town PRACTICE, unopposed. Modern house, with every convenience, to rent at £100 p.a. (11 rooms.) Large garden (3 acres). Receipts over £1,000 p.a. Panel 500. Visits 8/6 up. Consultations 5/- up. Midwifery £2 2s. up. Three appointments. Premium 1½ years' purchase.

MIDDLESEX.—RIVERSIDE SUBURB PARTNERSHIP in rapidly growing Practice. Receipts £1,500. Two appointments worth £660. Panel nearly 1,000. Premium for 1/3 share, with view to larger share, 1½ years. Suitable [illegible] available.

EAST MIDLANDS. [illegible] roomed house [illegible] middle-class Practice. Ten-to-date Hospital [illegible] £2,000. Fees 3/- up. Up-to larger share, £1,300. Scope for surgery. Premium 1/3 share, with view

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

EASTERN COUNTIES.—Cathedral City.—PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

BERKS.—Town PRACTICE within 60 miles of London.—Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery (scope). Suitable house available. Premium 1½ years' purchase.

MIDDLESEX (W). — Middle and working-class PRACTICE in rapidly growing residential locality. Fees 5/- up. House (9 rooms), freehold property of the Vendor. Garden, garage, etc. Receipts nearly £800. Panel 300. Scope for surgery. Cottage Hospital. Premium for Practice £1,100. House £1,700, mortgage to remain.

BEDS.—PARTNERSHIP after PRELIMINARY ASSISTANTSHIP if desired in well-established mixed Practice. Receipts over £1,300 p.a. Panel nearly 1,800. Fees 2/6 up. Mids. 2 gns. up, not encouraged. Good educational facilities. Premium for 3/4 share, with possible view to succession, 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

THE WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)

PHOENIX CHAMBERS
22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

NORTH WALES.—Good mixed PRACTICE in Hospital Town returning £800 p.a. Panel £300 p.a. Working knowledge of Welsh essential. Excellent house on lease, rent £65 p.a. Prem. £800, on very easy terms.

WEST OF ENGLAND CITY.—PARTNERSHIP. Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central surgery. Good scope for increase. Premium 1½ years. Choice of residence.

CORNWALL. — PARTNERSHIP. Beautifully situated Village on Cornish Coast. Share £400 p.a., but good scope. Good house to rent, £60 p.a. Excellent society.

VILLAGE PRACTICE, MIDLANDS.—Within 50 miles of London. Receipts last year £483. Good house to rent. Premium £500 for quick sale.

SOUTH WALES.—Old-established good mixed PRACTICE, about £1,300 p.a. Panel 1,500. Large proportion contract work. Opposition weak. Good house to rent, £60 p.a. Good scope for increase. Premium £1,550.

TO VENDORS.

WE HAVE A LARGE NUMBER OF PURCHASERS ON OUR LIST FOR BOTH PRACTICES AND PARTNERSHIPS.

IF PARTICULARS ARE SUBMITTED TO US WE FEEL CONFIDENT THAT QUICK SALES CAN BE EFFECTED.

FINANCIAL ASSISTANCE CAN BE ARRANGED FOR THE PURCHASE OF PRACTICES AND PARTNERSHIPS.

FULL PARTICULARS ON APPLICATION.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency,
71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. BIRMINGHAM.—Well-established PRACTICE. Receipts average £931 p.a. Panel 1,420. Ample scope for right man. Nice house (5 beds). Garden and garage.
2. SOUTH STAFFORDSHIRE. — Well-estab. Country PRACTICE. Receipts £1,124. Panel 700. Good house. Garage and garden.
3. MIDLANDS.—Panel and Private PRACTICE. Estab. 5 years. Receipts over £700; panel 550, both increasing. Appointments worth about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transferable. Good house, garage, and all conveniences.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts average £1,146 p.a. Panel 550, and good scope. Appointments worth about £250. Good fees and house.
7. LANCASHIRE.—Old-estab. Panel and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
8. MIDLANDS. — COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.

(Temple Bar 3373.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS, and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. PRACTICE of about £1,200, situate in an attractive industrial country district within an hour's run of Paddington. Rapidly incr. Good educat. and shopping facilities. Panel £300. Small, convenient mod. res., garden and garage, on lease. Premium £1,650.
2. LONDON, N. — Old-estab. Panel and Cash PRACTICE of £1,100—£1,200 in open thriving district. Panel 1,100. Midw'y refused. Rent £70. Vendor retiring from profession will give an introd. of 12 months, and the investment is well suited to any active young Doctor, as there is ample scope.
3. YORKS COAST.—Unopposed PRACTICE in pleasant locality. Average income £1,000, including panel of £470 and appts. Capital house, garden, and garage, at £55. Price for quick sale only £800.
4. DEVON.—Good middle-class PRACTICE of over £2,000 a year in attractive Town on the Coast. Select panel of 1,500. Figs. cert. by Accountant. Efficient intro. given.
5. LONDON SUBURB, W.—PARTNERSHIP in an old-established middle-class Practice. A Share worth £800 p.a. at 2 years' purchase. Panel 1,600. Good modern residence, garden, and garage, at £100. Easily worked, but offering scope for extension.
6. HANTS. — Country PRACTICE in pleasant residential locality. Income about £750, including panel and appts. Cap. f'hd. res., garden, and all conveniences. Prem. £1,050.
7. REQUIRED in London or other large town (preferably Midland or South) a PRACTICE of £2,500 with a good panel and family residence. Money no object if investment is suitable.
8. REQUIRED by Two Young Medicos, PRACTICE of £1,700—£2,000, with good panel, in outer London circle, within 30 miles. Details in confidence.
9. REQUIRED by Camb. Grad., aged 30, PRACTICE or PARTNERSHIP of £1,000 to £1,200 in Country Town with hosp., anywhere S. of Birmingham. Details in confid.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

LIVERPOOL.—INDUSTRIAL PRACTICE.—Average cash receipts last 5 years, £1,500/£1,600 p.a. Panel 2,423. Midwifery discouraged. Surgery rent £80 p.a. Vendor resides in residential district. Premium £2,000.—No. 231.

LANCS TOWN.—Near Country. —Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

[illegible] in old-established mixed Prac- [illegible] £3,450 p.a. Panel 2,600. Good [illegible] bedrooms. Garage. Premium 1/4 to 1/2 share, 1½ years' purchase.—No. 229.

LIVERPOOL (near).—PARTNERSHIP in excellent middle-class Practice. Average cash receipts £2,194 p.a. Panel over 1,000. Good scope. Nice house, 2 reception, 4 bedrooms. Garage and garden. Rent £70 p.a. Premium 1/3 share 1½ years' purchase. —No. 228.

NEAR NORTH-EAST COAST.—SEASIDE RESORT.—Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £800 for quick sale.—No. 220.

LANCS TOWN.—Old-estab. PRACTICE. Average cash receipts £905 p.a. Panel 1,087. Plenty of scope. Corner house, 2 reception, 3 bedrooms. Garage. Rent £70 p.a. Premium £1,325 or near offer (to include drugs, book debts, fittings, and some household furniture).—No. 221.

DEATH VACANCY.—LANCS COUNTRY TOWN.—Average cash receipts £848 p.a. Panel 1,003. Scope. Excellent house, 2 reception, 4 bedrooms. Garage and large garden. Rent £65 p.a. Premium 1 year's purchase.—No. 215.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Rent £90 p.a. Premium £1,500.—No. 222.

NORTH WALES.—RAPIDLY GROWING SEASIDE TOWN.—PRACTICE. Average cash receipts £627 p.a. Panel £123. Excellent modern house (freehold), 2 reception, 6 bedrooms. Garage. Garden. Electric light. Premium—Practice and house—£1,550. —No. 223.

LIVERPOOL.—NUCLEUS in Industrial district. Average cash receipts £500 p.a. Panel 200. Tremendous scope. Surgery rent 30/- per week clear. Premium £600 or near offer.—No. 227.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

ISLE OF MAN.—SEASIDE TOWN.—Old-estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium —Practice and house—any reasonable offer.—No. 175.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Premium—Practice—1½ years' purchase. —No. 194.

CHESHIRE TOWN, near [illegible] Average cash receipts £838. Panel [illegible] house, 2 reception, 6 bedrooms. Gar[illegible] 1¼ years' purchase.—No. 159.

SCOTLAND.—26 miles from Edinburgh.—Industrial PRACTICE. Cash receipts last year £1,016. Panel 1,094. House to rent at £23 p.a. Premium £1,500.—No. 217.

LIVERPOOL (Near).—Old-estab. middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE.—Average cash receipts £745. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 2 years' purchase.—No. 197.

SHEFFIELD.—NUCLEUS in growing district. Cash receipts £490. Panel 400. Rent of Surgery £52 p.a. Tremendous scope. Premium—best cash offer.—No. 218.

NORTH WALES.—Country Town near Sea.—PRACTICE. Cash receipts £700 p.a. Panel £300 p.a. Good detached house. Garage and garden. Rent £65 p.a. Premium for quick sale 1 year's purchase.—No. 219.

MANCHESTER.—INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

ISLE OF MAN.—Seaside Resort.—PRACTICE. Cash receipts 1930, £861. Panel. Good house, 3 reception, 7 bedrooms. Garage and garden. Premium—Practice—£700 (or near offer).—No. 224.

NEAR MANCHESTER.—Sound old-established PRACTICE. Average cash receipts £1,440. Panel 1,100. Excellent house, 2 reception, 6 bedrooms. Garage. Premium 1½ years' purchase.—No. 233.

LANCS TOWN, near MANCHESTER.—PRACTICE. Average cash receipts £751. Panel 430. Much scope. Excellent house to rent, 6 bedrooms, large garden, and garage. Premium for quick sale £500.—No. 216.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium—Practice—£1,600.—No. 195.

CHESHIRE.—Coast Town near Liverpool.—Old-estab. middle-class PRACTICE. Cash receipts last year £1,154. Excellent house, 2 reception, 6 bedrooms. Garage and garden. Premium—Practice —1½ years' purchase. Vendor retiring.—No. 189.

CHESHIRE TOWN, near MANCHESTER. Middle-class PRACTICE, established 4 years. Cash receipts 1929, £720. Much scope. Modern detached house, 2 reception, 4 bedrooms. Garage and large garden. Premium—Practice and house—£2,500, part on mortgage.—No. 153.

NEAR MANCHESTER.—Residential district.—PRACTICE. Cash receipts last year £540. Small panel. Excellent house, 2 reception, 5 bedrooms. Garden and garage. Premium—Practice and house—£2,250.—No. 202.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £700. Panel 614. Good house, 2 reception, 3 bedrooms. Garage and garden. Premium—best offer.—No. 116.

MANCHESTER SUBURB.—Old-estab. PRACTICE. Average cash receipts £600 p.a. Panel 560. Scope. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium 1½ years' purchase. Vendor retiring.—No. 191.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair 1782 (1783)

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal.

Full particulars sent free.

1 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

2 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

3 LONDON, N.W.—Good middle and better-class non-dispensing PRACTICE in residential district. Receipts about £1,000 p.a. (about half from Surgical work). No panel or appointments. Excellent detached house (4 bedrooms), garage, garden, etc., to rent. Good up-to-date Hospital and scope for Surgery. Premium 1½ years' purchase.

4 NEW ZEALAND.—Practice of £1,500 p.a. in Country Township in North Island. Visits range from 10/6 to £3 13s. 6d. Well-situated house (4 bedrooms, bathroom, etc.), and half acre of garden, for sale. Good private Hospital, with scope for Surgery. Premium £1,250.

5 LONDON, S.E. — Practice over £800 p.a. in thickly populated district close to the City. Panel 1,200/1,300. Well-situated house (4 bedrooms, bathroom, etc.), to rent. Great scope. Premium 2 years' purchase.

6 S. WALES.—Practice about £1,000 p.a. in one of the Principal Towns. Panel over 700. Large house (7 bedrooms) in best locality. Good scope. Premium—Practice and house—£3,000.

7 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main thoroughfare for sale or rent. Scope for panel and midwifery. Premium £1,200.

8 LONDON, W.—Good middle-class Practice over £850 p.a. in outlying residential suburb. No panel. Nice compact house (4 bedrooms), with fair-sized garden to rent. Good scope. Premium £1,100.

9 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

10 W. OF ENGLAND.—Partnership in Practice over £3,000 p.a., in pleasant Country Town, under 130 miles from London. Young keen Partner, preferably with the F.R.C.S., who has held Hospital appointments. Premium for a two-fifths or one-half share 2 years' purchase.

11 ISLE OF MAN.—Practice in small watering-place. Receipts 1930, £861. Double-fronted house in best road (7 bedrooms, etc.), garage and large garden, for sale. Educational facilities. Excellent scope. Premium £700.

12 LONDON, S.W.—Good middle-class PRACTICE (General and Ophthalmic) in pleasant suburb. Receipts average nearly £1,350 p.a. (over £350 from Eye work). Corner house (5 bedrooms), garage and garden, for sale. Scope for panel and midwifery if desired. Premium £1,600.

13 S. WALES. — Partnership in Practice about £4,000 p.a. in good Town with Hospital. Panel over 3,000. Half share (or smaller) at 2 years' purchase. Partner should have F.R.C.S. as there is plenty of Surgery.

14 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

15 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

16 LONDON, N.—Practice of about £700 p.a. in suburban district. Panel 727. Small house (3 bedrooms, consulting and waiting rooms) for sale. Price £600. Scope for increase. Premium £900.

17 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

18 S. COAST.—Partnership after preliminary Assistantship in well-established Practice in Seaside Resort. Share worth £700 p.a. at first to suitable man after six months. Premium 2 years' purchase. Considerable scope and excellent opportunity for young man.

19 S. DEVON.—Practice nearly £950 p.a. in small Country Town, easy distance of the coast. Panel 340. Good house and garage, in acre of garden, for sale. All kinds of sport. Premium £1,500.

20 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

Tele. Address: Triform, Wesdo—London.

12, Stratford Place, Oxford Street, W.1.

Telephone: Mayfair 1782 1783

Practices and Partnerships for Disposal (continued).

21 ITALY. — Partnership in easily worked, good-class Practice of £1,400 p.a. in world-renowned Mediterranean Sea Coast Town. Established over fifty years. Fees chiefly 21/- (permanent residents less). Vendor purposes retiring from general practice in the near future, and his charmingly situated apartment would be available if wanted. No midwifery. No language difficulty. Premium 1½ years' purchase. Vendor well known to Bureau.

22 S. MIDLANDS. — Practice over £750 in first-rate County Town. Small panel. Suitable house for sale at £1,200. Good Hospital. Scope. Premium 1½ years' purchase.

23 N.E. COAST.—Partnership in increasing Practice over £4,800 in Seaport Town. Panel 2,500. Incoming Partner should be married and have held H.S. and H.P. appointments. One-fourth share at first at 1½ years' purchase.

24 S. MIDLANDS. — Partnership (after preliminary Assistantship) in Practice about £3,000 p.a. in small Country Town. Panel nearly 2,000. Applicant must be English or Scotch, a good Anaesthetist and experienced in Midwifery. Share worth about £700/£800 p.a. at 2 years' purchase.

25 LONDON, N.—Cash and Panel Practice of £1,300 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

26 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

27 MIDLANDS. — Partnership in Practice over £3,300 p.a. in a good town. Panel about 1,000. Modern up-to-date Hospital. Four-twelfths share at 2 years' purchase. Preliminary Assistantship if desired.

28 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

29 DEATH VACANCY.—Staffs.—Practice of over £1,100 p.a. in manufacturing town. No panel or midwifery. Semi-detached 8-roomed house, with garage, for sale or rent. Scope for great increase.

30 LONDON, W. — Small good-class non-dispensing PRACTICE of about £450 p.a., in West Kensington. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

31 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

32 MIDDLESEX.—Steadily increasing PRACTICE about £600 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

33 LONDON, W. — Partnership in Practice about £2,000 p.a. in suburban area. Panel about 1,650. Well-situated house (6 bedrooms), garage, and small garden, to rent. Scope. Premium two-fifth share 2 years' purchase.

34 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

35 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a in growing and pleasant residential district. Choice of residence for sale. Good scope. Prem. £1,200.

36 EASTERN COUNTIES.—Country Practice nearly £1,200 p.a., easy reach of two good towns. Panel 759. Small house (5 bedrooms), garage, and garden, to rent. Premium 1½ years' purchase.

37 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

38 CHESHIRE. — Chiefly non-dispensing PRACTICE of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

39 MIDLANDS.—Partnership in Practice of between £1,800/£2,000 p.a. in a beautiful district in a hunting centre. Panel about 1,000. Good house, with 5 bed and dressing rooms, garage and one acre garden, for sale. Smaller one might be obtained. Premium one-third share 2 years' purchase. Public School or University man preferred.

40 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

41 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

42 NOTTINGHAMSHIRE.—Country Practice of nearly £1,100 p.a. Panel 700. Good house (6 bedrooms), garage, and 1¼ acres garden, to rent. Great scope. Premium 1½ years' purchase.

43 LONDON, E.C.—Partnership (with Succession) in steadily increasing Practice of about £1,200 p.a. in the City. Majority of consultations £1 1s. Excellent consulting rooms. Premium one-half share 2 years' purchase.

44 EAST COAST.—Partnership in non-panel Practice in favourite watering-place. Partner should be young and with Hospital experience. Share of about £1,000 p.a. at 2 years' purchase. Preliminary Assistantship.

45 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a., at 1½ years' pur.

46 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

47 KENT.—Country Practice about £650 p.a. in beautiful district. Panel about 700. No house, but surgery and waiting room to rent. Capable of much increase. Moderate prem.

48 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase with ultimate succession.

49 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

50 WITHIN 50 MILES OF LONDON.—PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate county town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P. appointments. Preliminary assistantship.

51 CHESHIRE.—Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

52 S. DEVON. — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House, containing 5/6 bedrooms, for sale. Prem. one-half share £1,320, include drugs, etc. Work very light.

53 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (6 bed and dressing rooms and attics), garage, and half acre of garden for sale. Scope. Premium 1½ years' purchase

54 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. SOUTH OF ENGLAND.—Pleasant Town, near Sea Coast.—Very old-established partly Surgical PRACTICE, averaging £2,433 p.a. (last year £2,516, of which £760 was derived from operative work), including appt. £170 and panel of 500. Nursing Home, centrally situated and well fitted up, which is also used for operations. Price £2,000. House, with ample accommodation, in 1½ acres of ground, commanding magnificent views. Price £2,000. Mortgage arranged on both. Premium 1½ years' purchase, partly by instals. Successor should also have knowledge of Eye, Ear, Nose, and Throat work.
2. LONDON, EAST. — Old-established good middle and working-class PRACTICE, averaging approximately £1,750 p.a., including panel of 2,300. Visits 2/6 and 3/6. No appointments. Suitable house, with 2 reception, 3 bedrooms, and professional rooms; in excellent condition. Rent on lease £100 p.a. Premium £3,000.
3. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts average about £1,700 p.a., including appt. £70 and panel of over 1,000. Good house, with ample accommodation. Small garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.
4. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,124, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.
5. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.
6. ESSEX.—Unopposed PRACTICE in very pleasant agricultural district, averaging over £900 p.a., including panel of nearly 500 and appts. worth £140. Fees 3/6 to 10/6. Commodious house with 2 reception, 5 bedrooms, and good professional accommodation. Large garden. Garage. Rent on lease £60 p.a. Good sport and schools within reach. Premium 1½ years' purchase.
7. DEATH VACANCY.—WITHIN SIX MILES OF LIVERPOOL STREET.—Old-established good middle-class PRACTICE, averaging over £1,100 p.a. Small panel recently started, but good scope. Fees from 5/-. Good house, with 2 reception, 5 bedrooms, etc., and professional rooms. Price £1,250. Premium £750.
8. WITHIN 100 MILES OF LONDON (NORTH).—PARTNERSHIP.—The two-sevenths share (with option to third and eventually half) producing about £1,000 p.a. is offered in very old-established Practice, averaging about £3,500 p.a., including panel of 2,500. Situated in pleasant town, with pop of 2,000. Ingoing partner should be unmarried (about 25 to 30) until suitable house available. Premium 2 years' purchase. Short preliminary assistantship.
9. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
10. PARTNERSHIP.—SURREY.—Attractive residential district within 40 miles. A one-half share, with ultimate succession, is offered in a good mixed Practice, averaging about £1,500 p.a., but capable of large increase. Panel of over 1,000. Fees 3/6 to 21/-. Suitable house, with 3 reception, 3 bedrooms, etc. Good garden. Price for freehold £1,500, £1,000 on mortgage. Premium 1½ years' purchase.
11. NORTH WALES.—Very old-established chiefly middle-class PRACTICE, producing over £800 p.a. Panel of 600. Visits from 2/6, with medicine extra. Very low expenses. House contains 2 reception, 6 bedrooms, etc., and has all modern conveniences. Garden. Garage. Rent on lease £60 p.a. Sport of all kinds and schools. Ample scope for increase. Premium 1 year's purchase.
12. SOUTH COAST TOWN.—Rapidly increasing PRACTICE producing for last 12 months over £400. No panel. Visits 5/- up. Suitable house, with 2 reception, 3 bedrooms, etc. Rent on lease £130. Prem. £600.
13. MIDLANDS.—COUNTY TOWN.—Old-established better-class PRACTICE, averaging £793 p.a. and offering good scope. Panel of 500. Fees 5/- upwards. Well situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.
14. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope. Panel of over 1,400. Fees from 3/6. Suitable house can be secured. Premium 2 years' purchase.
15. CHESHIRE.—Coast Town, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down.
16. SOUTH COAST.—FAVOURITE HEALTH RESORT.—Well established mixed-class PRACTICE, offering good scope. Average gross cash receipts over £700 p.a., including panel of 720. Very good house, with 2 reception, 5 bedrooms, etc. Nice garden. To be sold, or might be let for a time. Premium 1½ years' purchase.
17. YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one-half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle-class Practice. Income for the past twelve months approximately £4,000. Small select panel of 430. One appointment worth nearly £650 p.a. Fees 3/6 upwards. Opposition not strong. Suitable house can be bought or leased. Very good educational and sporting facilities. Premium 2 years' purchase.
18. MANCHESTER.—Chiefly working-class PRACTICE. Average income £1,000, including panel of 1,000. Moderate expenses. Corner house, with 3 reception, 8 bedrooms, etc. Garage. Rent on lease £65 p.a. Premium £1,500 or near offer.
19. LANCS.—PARTNERSHIP.—A one-fourth share to commence (with increase up to one-half later) is offered in a very old-established good middle-class Practice producing for the last twelve months over £4,700 p.a. Panel of 2,730. Appts. worth nearly £200 p.a. Visits 2/6 to 12/6. Not much midwifery from 2 to 3 gns. Suitable house obtainable, but, if single, purchaser can reside with Vendor, who is a bachelor. Premium 2 years' purchase.
20. CAMBS.—PARTNERSHIP.—A one-half share is offered in a sound mixed-class Practice, producing last year nearly £2,000. Panel of 765. Situated in pleasant agricultural district, with good sporting facilities. Fees 5/- to 21/-. Suitable house can be rented at £75 p.a. Premium 2 years' purchase.
21. SOUTH-WESTERN COUNTY.—Near the Sea.—Old-established easily worked country PRACTICE, in beautiful district, within easy reach of Market Town, averaging £1,100 p.a., including appts. and panel producing £450. Exceptionally attractive house, in over 3 acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £3,000, part on mortgage. Premium £1,650. Sport of all kinds and schools within reach.
22. SURREY.—In a beautiful residential district within 40 miles of London (good train service) a small mixed-class PRACTICE worth about £600 p.a., and offering scope. Select panel of 200. Charming house, in very pretty grounds, with ample accommodation. Price, freehold, £3,500. Premium 1½ years' purchase.
23. BORDERS OF NORFOLK AND SUFFOLK.—PARTNERSHIP.—A half-share (with succession in 2 to 3 years' time) in a good mixed unopposed Practice, in pleasant village, near two good towns. Income for last 12 months £1,992, including panel of 1,000, and appts. worth about £150. Fees 2/6 to 10/6. House contains 3 reception, 6 bedrooms, etc. Sport of all kinds. Premium 2 years' purchase.
24. ITALIAN RIVIERA.—SEASON PRACTICE.—Old-established and held by Vendor for the past six years. Average income about £400 p.a. Fees 10/- to 20/- approximately. Suitable furnished flat, with one large reception 4 bedrooms, etc. Rent on lease £140
25. MANCHESTER middle and working-class PRACTICE, worth last year about £700 p.a., including panel of 614 and capable of increase. Expenses small. Well-situated house, with six rooms in addition to professional accommodation. Large garden. Price for freehold £850. Moderate premium accepted
26. LINCOLNSHIRE COAST.—Well-established mixed-class PRACTICE averaging £2,749 p.a. (last year £2,868) including panel of over 1,700. Fees 3/6 to 21/-. Mid. from 2 gns. (about 70 cases yearly). Newly built modern house, with special professional accom., central heating, etc. Garden. Garage. Price, freehold, £2,300, part on mortgage. Good sport and schools within reach. Prem. 1½ years' pur.
27. MIDDLESEX.—Rapidly developing district, within 20 miles.—PARTNERSHIP.—A one-half share in an old-estab. good middle-class Practice, averaging for the past two years over £3,500 p.a. Panel of 1,100 and appts. bring in £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
28. KENT.—Country PRACTICE near Coast.—Old-established mixed-class Practice, averaging about £1,100 p.a. Panel of nearly 400. Fees 3/6 upwards. Convenient house, with 3 reception, 6 bedrooms, etc. Good garden. Price £1,650, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
29. PLEASANT CATHEDRAL CITY, within 200 miles North of London.—Old-established mixed-class PRACTICE, averaging £1,600 p.a., including £800 from panel and over £100 from clubs. Visits 5/- upwards (occasionally 2 gns.) Very little midwifery, from 2 to 5 gns. Large attractive house, with garden. Rent £80. Prem. 1½ yrs.' pur.
30. NEAR HUDDERSFIELD.—PARTNERSHIP.—A half share in an old-established mixed-class Practice. Income for immediate past year over £4,250. Panel of 3,500. Fees 3/6 to 7/6. Very good house, with 4 reception, 6 bedrooms, etc. 1½ acres of garden. Price for freehold £2,500. Premium 1½ years' purchase.
31. PARTNERSHIP.—COUNTRY TOWN, within 130 miles North of London. — A one-fifth share is offered in an exceptionally sound good mixed-class Practice, averaging for past 3 years over £6,000 p.a. Panel of 3,400. Fees from 4/-. Not much midwifery. House can be rented at £50 p.a. Premium 2 years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SCIENTIFIC ENZYME DIGESTION

RICH SELECTED ENGLISH MILK
Pancreatised

SELECTED ENGLISH WHEAT
Dextrinised and Pancreatised

PREDIGESTED MILK
(25% Protein Conversion)

PREDIGESTED WHEAT
(25% Starch Conversion)

Powdered by the
COW & GATE
Improved
Roller Process

Peptalac REGD.

THE NEW INSTANT PREDIGESTED FOOD

Predigestion of *starch and milk is guaranteed and is effected under the most* exact scientific conditions in our laboratories before powdering. This means that when required for use it can be immediately and simply prepared by the *mere* addition of hot water. The C. & G. Improved Roller Process is used ensuring retention of the full mineral and vitamin content with freedom from pathogenic organisms.

PEPTALAC is indicated in all those cases where the powers of the digestive tract are insufficient to deal with that amount of food necessary for maintaining health—for nursing mothers with weak digestions, in ante- and post-operative surgical cases, in achlorhydria, peptic ulceration, cancer of the alimentary tract, in all forms of convalescence and in old age.

SEND THE COUPON FOR Cow & Gate Milk Food FREE CLINICAL SAMPLE

Name .....

Address .....

B.M.J. 24/1/31

COW & GATE LTD. GUILDFORD, SURREY

ASPIRIN DERIVATIVES

IN

RHEUMATISM, NEURALGIA, AND INFLUENZA

"ASPRIODINE"

A compound of Aspirin and Iodine

FOR RHEUMATIC AFFECTIONS AND ARTERIO-SCLEROSIS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"SEDASPRIN"

A compound of Aspirin and Bromine

FOR INSOMNIA AND NERVE AFFECTIONS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"METHYL-ASPRIODINE"

THE NEW ANTI-RHEUMATIC FOR INUNCTION. BALM or LINIMENT 3/-

"PHENYL-ASPRIODINE"

AN INTESTINAL AND URINARY ANTI-SEPTIC. EMBODIES THE ACTIVITIES OF IODINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"PHENYL-SEDASPRIN"

A NEW COMPOUND OF THE SALOL TYPE EMBODYING THE EFFECTS OF BROMINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"MAGISAL," "TYLCALSIN," and "TYLLITHIN"

ARE VALUABLE SOLUBLE SALTS OF ASPIRIN, WHICH ARE PROMPT IN ACTION AS ANTI-NEURALGICS AND ANTI-RHEUMATICS.

Original Bots. of Tablets 2/- and 7/6.

Write also for particulars of Peptone, Mercurome, and other Martindale preparations

W. MARTINDALE

12 NEW CAVENDISH ST., LONDON, W.1

Telephone: Langham 2440. *Telegrams: "Martindale, Chemist, London."*

British Medical Journal

CONTENTS

JANUARY 31, 1931

ORIGINAL ARTICLES

Forms of Spasm in Childhood: Their Cause and Treatment. By A. DINGWALL FORDYCE, M.D., F.R.C.P.Ed.... 165

Subphrenic Abscess. By W. D. DOHERTY, M.Ch., F.R.C.S., and R. P. ROWLANDS, M.S., F.R.C.S. (Illustrated) 168

General Observations on Sea-sickness and the Labyrinthine Theory. By T. GWYNNE MAITLAND, M.D. 171

Note on Sea-sickness. By MARTIN FLACK, C.B.E., M.B. 176

Ketosis in Sea-sickness. By J. R. MARRACK, M.D. (With Charts)..... 178

MEMORANDA

A Large Occipital Meningocele. By R. M. MACPHAIL, M.B., Ch.B..... 179

Whooping-cough with Inspiratory Stridor. By I. M. BENJAMIN, M.R.C.S., L.R.C.P. 180

Perforative Diverticulitis of the Colon. By J. M. BLACK, M.B., Ch.B. 180

Haematometra and Haematosalpinx in one Horn of a Bicornuate Uterus. By S. SUBBA RAO, M.R.C.S., L.R.C.P. ... 180

REPORTS OF SOCIETIES

MEDICAL SOCIETY OF LONDON: The Medical and Surgical Uses of Diathermy 181

ROYAL SOCIETY OF MEDICINE: The Radiological Renal Outline 183

CHELSEA CLINICAL SOCIETY: Treatment of Eczema..... 184

LIVERPOOL MEDICAL INSTITUTION: Bacteriology and the Clinician 184

HUNTERIAN SOCIETY: Senility and Rejuvenation 185

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY: Chronic Appendicitis..... 185

REVIEWS

The Study of Rheumatism 186

Classification of Culture Media..... 186

Abdominal Diagnosis 186

The Spirit of Chemistry 186

Pathological Neuro-Histology..... 187

Notes on Books 188

LEADING ARTICLES

MEDICAL SELECTION FOR LIFE ASSURANCE 189

TRAFFIC IN DANGEROUS DRUGS 190

THE WEEK

Source of Infection in Puerperal Fever 191

After-history of Tuberculous Patients 191

The Nature of the Vitreous..... 191

A Chinese Mining Hospital 192

"Erythrocyanosis Crurum" 192

British Chemicals and Drugs 193

International Congress of History of Science 193

GENERAL ARTICLES AND NEWS

Presentation to Sir D'Arcy Power. Ceremony at St. Bartholomew's 194

TREATMENT OF CIRCULATORY FAILURE: Address by Professor W. T. Ritchie... 195

PREPARATIONS AND APPLIANCES. (Illustrated) 188

MEDICAL NOTES IN PARLIAMENT: Pharmacy and Poisons Bill..... 203

Tuberculosis Statistics 203

Spahlinger Treatment of Tuberculosis 203

MEDICAL NEWS 205

LOCAL NEWS

SCOTLAND—

Revision of the *British Pharmacopoeia* 196

The Bellahouston Central Corridor System. (With Plan)..... 196

Presentation to Prof. Robert Muir ... 197

The Front Line Defence 198

ENGLAND AND WALES—

Birmingham Women Medical Officers and the "Resignation on Marriage" Clause 198

University of London Medical Graduates Society 198

IRELAND—

Discussion on Hospital Policy 199

Diphtheria Immunization in County Wexford 199

UNIVERSITIES AND COLLEGES

University of Oxford 204

University of London 204

University of Manchester..... 204

University of Dublin 204

THE SERVICES

Deaths in the Services 204

(For Naval, Military, and Air Force Appointments see SUPPLEMENT)

CORRESPONDENCE

Familial Incidence of Cancer. By J. P. Lockhart-Mummery, F.R.C.S.; and R. J. Ludford, D.Sc., Ph.D..... 199

The Diagnosis of Specific Fevers. By Ernest Ward, M.D., F.R.C.S. 200

Enteric Intussusception. By Colin Mackenzie, M.D., F.R.C.S. 200

Management of the Puerperium in Tuberculous Women. By John R. Gillespie, M.D. 200

Treatment of Ethmoiditis. By J. B. Horgan, M.B. 200

Cinchona and Quinine. By L. A. Hodgkinson Lack, M.B. 201

Treatment of Varicose Ulceration. By J. H. Twiston Davies, M.B... 201

Members of the Royal College of Surgeons. By T. Wilson Parry, M.D. ... 201

OBITUARY

F. Meadows Turner, M.D., B.Sc. 202

William Elsworth Warne..... 202

MEDICO-LEGAL

Injury to Patient in a Nursing Home .. 203

LETTERS AND ANSWERS

Treatment of Syphilis 206

Income Tax 206

Medical Congress at Bangkok..... 206

Glycerin as a Surgical Dressing..... 206

Linseed for Constipation 205

Painless Natural Labour 205

Tuberculin Clinic..... 205

VACANCIES 206

(See also page 31 of SUPPLEMENT) 205

The SUPPLEMENT contains:

Road Traffic Act: Hospital Patients and Third-Party Claims.

CURRENT NOTES:

The Southport Division and the Medical Charities.

The Half-Yearly Indexes.

NATIONAL INSURANCE:

Survey of the Insurance Acts: Paddington Medical Society's Report.

London Panel Committee.

London Insurance Committee.

Association Notices: Correspondence; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., P.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of the Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-.

Those who join within one year of Registration are exempt from Entrance Fee.

Telephone: REGENT 0611.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Baillière, Tindall & Cox.
Bell, W. B.—Cancer Problem. 5
Bergey's Manual of Bacteriology. 5
[illegible] 5
[illegible] 5
[illegible] 5
[illegible] 5
[illegible] 5
Leonardo da Vinci 5
Partridge, W.—Aids to Bacteriology 5
Robertson, W. G. A.—
Aids to Forensic Medicine 5
Stedman's Medical Dictionary. 5
Tredgold's Mental Deficiency 5

Churchill, J. & A.
Arvedson— 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
Darling, R. C. R.— 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
Surgical Emergencies, etc. 3
Whitby, L. E. H.—Med. Bacteriol. 3

Constable & Co., Ltd.
Davies, S. P.—
Social Control of Men. Deficient 4

Wright & Sons, Ltd.
Braithwaite, J. V. C.—
Infant Feeding, etc. 4
Eye's Surgical Handicraft 4
Watson-Williams, P.—Sinusit s 4

ASSURANCE COMPANIES—
Medical Insurance Agency 51

BRASS NAME PLATES, &c.—
[illegible] 35
[illegible] 35
[illegible] 34
[illegible] 35

SURGICAL APPLIANCES—
Bell & Croyden—Dressings 30
Cuxson, Gerrard & Co., Ltd.—
[illegible] 36
[illegible] 32
[illegible] 35

HOSPITAL, &c., FURNITURE—
[illegible] 36
[illegible] 32
[illegible] 35

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
Bynin Amara 25
'Byno' Hepol 25
Castor Oil 4
Insulin 'A.B.' 12
Vapo-Cresolene 4
Alliance Drug & Chemical Co.—
Price List 34
Boots Products 14 17
British Drug Houses Ltd.—
Caprokol 13
Ephedrine B.D.H. 11
Insulin 'A.B.' 12
Burroughs Wellcome & Co.—
'Ermutin' 27
Carnrick, G. W., Co.—
Hormotone Cover iv
Cranbux Limited—Odol 23
Domeford & Co. Ltd.—Magnesia 18
Eno's Fruit Salt Cover i
[illegible] 15
[illegible]
phosphites—Fellows 17
Glaxo Laboratories—
[illegible]
[illegible]
Anonal 18
Kaylene Ltd.—Kaylene-ol 22
Kerol Ltd.—Capsules 20
Martindale, W.—
'Sterules' 33
Preparations Cover ii
May & Baker, Ltd.—'Arthrytin' 10
Newbery & Sons, Ltd.—
Agarol Cover iii
[illegible] 10
[illegible] 23
[illegible] 18
Oppenheimer Products 13
Roberts & Co.—Dismenol 29
[illegible] 21
[illegible] 13
[illegible] 22
[illegible] 19
[illegible] 16
Wyleys Ltd.—
Elixir Iodo-Creosoti Co. 21

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee 35
Battle Creek Food Co.—
Lacto-Dextrin 11
Cow & Gate Ltd.—Peptalac 26
[illegible] 34
[illegible] 8
[illegible] 12
[illegible] 34
Valentine's Meat-Juice 16
Virol 24

HOUSE AGENTS—
Bedford & Co. 50
Elliott, Son & Boyton 50

MOTOR CARS, TYRES, &c.—
Mann Egerton & Co., Ltd.—
Motors 35
Rover Company Limited—Cars. 9
Second-hand Motors for Sale 50

PRINTING & STATIONERY—
Anderson & Son—Account Forms 36
Hamiltons—Stationery 36
Lewis's Card Index System 4
Taylor's Typewriters 36

TAILORING & UNDERCLOTHING—
Burberry's Sale 35
Hall, H.—Medical Service Dress 50
Miller & Co. Ltd.—Tailors 34
Regent Dress Co.—Tailors 35
Studd & Millington—Tailors 39

VACCINES & CULTURE MEDIA—
Duncan, Flockhart & Co.—Vaccines 15
Laboratories of Path. & Pub Hlth. 24
Roberts & Co.—Vaccine Lymph 35

X-RAY & ELECTRO-MEDICAL APPARATUS—
Gen. Radio. & Surg. Appar. Co.—
Sunlight Apparatus 6
Medical Supply Association, Ltd.—
Portable Traction Apparatus. 30
Victor X-ray Corporation Ltd.—
Physical Therapy. 7

HOSPITAL, &c., VACANCIES—
Altrincham General Hospital 50
Ancoats Hospital Manchester. 45
Ashton-under-Lyne Dist. Infirm. 45
[illegible] 46
[illegible] 44
[illegible] 45
[illegible] 44
[illegible] 45
Bristol Eye Hospital 47
Cancer Hospital, S.W.3. 44
Central Lond. Throat & Nose Hosp 44
Charing Cross Hospital 45
Cheltenham General Eye Hosp. 45
[illegible] 45
[illegible] 46
[illegible] 44
[illegible] 43
[illegible] 44
[illegible] 43
[illegible] 46
[illegible] 50
[illegible] 42
Guest Hospital, Dudley 43
[illegible] 45
[illegible] 44
[illegible] 45
[illegible] 45
[illegible] 47
Madras Government 45
[illegible]
[illegible]
[illegible]

J. & A. CHURCHILL

THE ADRENALS: THEIR PHYSIOLOGY, PATHOLOGY, AND DISEASES

By MAX A. GOLDZIEHER, M.D. 73 Illustrations. 30s. Post. 9d.

BOWLBY & ANDREWES' SURGICAL PATHOLOGY and MORBID ANATOMY

Revised by GEOFFREY KEYNES, F.R.C.S., Assistant Surgeon, St. Bartholomew's Hospital. Eighth Edition. 224 Illustrations. 21s. Post. 9d.

"This is an ideal book for students, as it is clearly written, concentrates on the common conditions and is admirably illustrated. There cannot be any doubt that it will fully maintain its reputation."—THE PRACTITIONER.

EDEN & LOCKYER'S GYNAECOLOGY

Third Edition. 556 Illustrations. 32 Coloured Plates. 36s. Post. 1s.

FORENSIC PSYCHIATRY IN CRIMINAL COURTS

By W. N. EAST, M.D., Medical Inspector, H.M. Prisons, England and Wales. 16s. Post. 6d.

REFRACTION OF THE EYE

Including Physiological Optics. By CHARLES GOULDEN, O.B.E., M.D., F.R.C.S., Ophthalmic Surgeon, London Hospital. 180 Illustrations. 10s. 6d. Post. 6d.

RECENT ADVANCES IN OPHTHALMOLOGY

By W. STEWART DUKE-ELDER, M.D., F.R.C.S., Assist. Ophthalmic Surgeon and Assist. Lecturer in Ophthalmology, St. George's Hospital, London. Second Edition. 4 Coloured Plates and 110 Text-figures. 12s. 6d. Post. 6d.

CRAIG'S PSYCHOLOGICAL MEDICINE

Fourth Edition. With the Collaboration of T. BEATON, O.B.E., M.D., Lecturer in Mental Diseases, Bethlem Royal Hospital. 25 Plates. 21s. net. Post. 9d.

MALAY POISONS AND CHARM CURES

By J. D. GIMLETTE, M.R.C.S., L.R.C.P., Residency Surgeon (retired), Kelantan, Unfederated Malay States. Third Edition. 3 Illustrations. 10s. 6d. Post. 6d.

SURGICAL NURSING AND AFTER-TREATMENT

By H. C. RUTHERFORD DARLING, M.D., M.S., F.R.C.S., Surgeon, Coast Hospital and Lidcombe State Hospital, Sydney, N.S.W. Third Edition. 149 Illustrations. 8s. 6d. Post. 6d.

ELEMENTARY HYGIENE FOR NURSES

By H. C. RUTHERFORD DARLING, M.D. Fourth Edition. 54 Illustrations. 5s. Post. 4d.

THE DISEASES OF CHILDREN

By the late Sir J. F. GOODHART. Twelfth Edition, edited by G. F. STILL, M.D., F.R.C.P., Professor of Diseases of Children, King's College. 68 Illustrations. 28s. Post. 9d.

MALARIAL NEPHRITIS

By GEORGE GIGLIOLI, M.D., D.T.M. & H., Chief Medical Officer to the Demerara Bauxite Co., British Guiana. 17 Illus. 8s. 6d. Post. 4d.

A CHEMICAL DICTIONARY

By INGO W. D. HACKH, San Francisco. 232 Illustrations. Over 100 Tables. 42s. Post. 1s.

THE EMPIRE SERIES

"This addition to Churchill's 'Empire Series of Textbooks' will be cordially welcomed by practitioners who desire a good handbook of treatment of tropical diseases. It is an admirably arranged, thoroughly practical, and well-written book, in which a praiseworthily large part of the text is devoted to the discussion of treatment. In it is incorporated the most recent literature on tropical medicine. The authors are to be congratulated on an achievement which comes as a real boon to those who have long wished for a simple and, at the same time, authoritative and reliable textbook on the treatment of tropical diseases."—Jl. MED. ASSOC. S. AFRICA.

TROPICAL MEDICINE

By Sir LEONARD ROGERS, C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S., and Maj.-Gen. JOHN W. D. MEGAW, I.M.S., C.I.E., V.H.S., M.B. 1 Coloured Plate, 77 text-figures. 14s. Post. 9d.

PUBLIC HEALTH PRACTICE IN THE TROPICS

By J. BALFOUR KIRK, M.B., D.P.H., D.T.M. & H., Director, Medical and Health Department, Mauritius. 80 Illustrations. 15s.

SURGERY IN THE TROPICS

By Sir FRANK P. CONNOR, D.S.O., F.R.C.S., D.T.M. & H. 99 Illustrations. 12s. 6d. Post. 6d.

CHEMICAL METHODS IN CLINICAL MEDICINE

By G. A. HARRISON, M.D., M.R.C.S., Reader and Lecturer in Chemical Pathology, St. Bart's Hospital. 65 Illustrations. 18s. Post. 9d.

CLINICAL ATLAS OF BLOOD DISEASES

By A. PINEY, M.D., M.R.C.P., and STANLEY WYARD, M.D., M.R.C.P. 36 Plates. 32 Coloured. 12s. 6d. Post. 6d.

SURGICAL EMERGENCIES IN PRACTICE

By W. H. C. ROMANIS and PHILIP H. MITCHINER, Surgeons, St. Thomas's Hospital. 158 Illustrations. 18s. Post. 9d.

SURGICAL ANATOMY

By GRANT MASSIE, M.B., M.S.(Lond.), F.R.C.S. (Eng.). 121 Illustrations. 15s. Post. 6d.

A TEXTBOOK OF BIOCHEMISTRY

By A. T. CAMERON, D.Sc., F.I.C., F.R.C.S. Second Ed. 2 Plates, 12 Text-figs. 15s. Post. 6d.

A COURSE IN PRACTICAL BIOCHEMISTRY

By A. T. CAMERON, D.Sc., F.I.C., F.R.C.S., and FRANK D. WHITE, A.R.T.C., Ph.D., F.I.C. 4 Plates. 23 Text-figures. 8s. 6d. Post. 6d.

MEDICAL BACTERIOLOGY

By L. E. H. WHITBY, C.V.O., M.D., D.P.H. 75 Illustrations. 10s. 6d. Post. 6d.

CLINICAL CHEMICAL PATHOLOGY

By F. S. FOWWEATHER, M.D., M.Sc., D.P.H. 18 Illustrations. 8s. 6d. Post. 4d.

THE PRACTICE OF REFRACTION

By W. STEWART DUKE-ELDER, D.Sc., M.D., F.R.C.S. 208 Illustrations. 12s. 6d. Post. 6d.

THE CAUSES AND PREVENTION OF MATERNAL MORTALITY

By HENRY JELLETT, M.D., F.R.C.P.I., late Master, Rotunda Hospital, Dublin. 15s. Post. 6d.

DISEASES OF THE BLOOD

By A. PINEY, M.D., M.R.C.P., Research Pathologist, Cancer Hospital. 20 Illustrations, including 6 Coloured Plates. 12s. 6d. Post. 6d.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1

SOCIAL CONTROL OF THE MENTALLY DEFICIENT

By STANLEY POWELL DAVIES, Ph.D.

The BRITISH MEDICAL JOURNAL says:

"One of the most important, as well as one of the most hopeful books that have yet been published on mental deficiency is *Social Control of the Mentally Deficient.*"

"As a well-balanced, judicial, and authoritative summary of existing knowledge on the social aspects of mental deficiency it will not easily be surpassed."

Demy 8vo. 408 pages. **CONSTABLE** *12 illustrations. 13s. net.*

10 & 12 Orange Street London W C 2

JUST PUBLISHED. Tenth Edition. Fully Revised. With 343 Illus. and 22 Plates. Demy 8vo. 660 pp. 21s. net. Postage 9d.

Pye's Surgical Handicraft

A Manual of Surgical Manipulations, Minor Surgery, and other matters connected with the work of House Surgeons and Surgical Dressers.

Edited by H. W. CARSON, F.R.C.S.(Eng.)

Late Senr. Surg., Prince of Wales's General Hosp., Tottenham.

With Special Chapters by well-known Contributors.

LANCET.—"Full of information invaluable to the student, the house surgeon, and general practitioner."

JUST PUBLISHED. Crown 8vo. 156 pp. 4s. 6d. net. Post. 4d.

Infant Feeding in General Practice

By J. V. C. BRAITHWAITE, M.D., M.R.C.P.(Lond.)

Physician and Physician in Charge of Children's Out-patients, Leicester Royal Infirmary and Children's Hospital.

With a Foreword by H. C. CAMERON, M.A., M.D.(Cantab.), F.R.C.P.

Presents the subject of Infant Feeding from the point of view of the general practitioner, who is called upon every day in his practice to deal with the difficulties under consideration.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

ARE YOU SATISFIED with YOUR BOOK-KEEPING SYSTEM?

LEWIS'S CARD INDEX SYSTEM is the simplest and most practical.
It is an efficient and increasingly popular one.

Sample Cards and Particulars sent post free on application.

H. K. LEWIS & CO. LTD. (*MEDICAL STATIONERY DEPT.*), 136, Gower Street, London, W.C.1

CHRONIC NASAL *JUST PUBLISHED. Large 8vo. Pp. viii. 220. 107 Illus. 15s. net; post. 6d.*

SINUSITIS AND ITS RELATION TO GENERAL MEDICINE

By PATRICK WATSON-WILLIAMS, *Cons. Surg., Ear, Nose, and Throat Dept., Bristol Royal Infirmary.*

"All the possible systematic manifestations of focal sepsis are fully described."—*Brit. Med. Journ.*
"Regional complications include psychoses, neuritis, headaches, respiratory, gastro-intestinal, cardiac, arthritic, and ocular affections. . . . An epoch-making work beautifully produced . . . profusely illustrated . . . filled with sound teachings."—MEDICAL WORLD.
"It will be of interest to the General Physician as well as to laryngologists."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. London: SIMPKIN MARSHALL Ltd.

THE 'ALLENBURYS' CASTOR OIL

Is Tasteless and is the Standard of Quality

Supplied in bottles at 8d., 1/3, 2/3 and 4/- each

Vapo-Cresolene Est. 1879
Sold by Chemists
Write for descriptive Booklet No. 29.

WHOOPING COUGH

The best practice in the treatment of whooping cough recognizes the importance of keeping the patient out of doors as much as possible. The food should be easily digestible, nourishing, and given a little at frequent intervals.
There are no specifics for this disease. In very young children drugs are administered with difficulty and are of uncertain effect.
Vaporized Cresolene at night will be found a simple and effective means of preventing the paroxysms at that time, thus tending to preserve the strength of the patient, avoid complications, and hasten convalescence.

ALLEN & HANBURYS, LTD. :: :: Lombard Street, London, E.C.3.

BAILLIÈRE, TINDALL & COX

¶ "The best and most convenient substitute for the body."—*British Journal of Surgery.*

BAILLIÈRE'S SYNTHETIC ANATOMY

Now Ready. By J. E. CHEESMAN. Price 3/- each.

Part VII (Thorax) and VIII (Abdomen). These two parts together form the complete trunk. Post. 2d.

ALREADY PUBLISHED. Part I.—Upper Arm; Part II.—The Forearm; Part III.—The Hand; Part IV.—Thigh and Hip; Part V.—The Leg; Part VI.—The Foot; Part IX.—Head and Neck; Part IXa.—Pterygo-Maxillary Region.

¶ "To all interested in the cancer problem this volume is stimulating and original."—*Glasgow Medical Journal.*

SOME ASPECTS OF THE CANCER PROBLEM

An Account of Researches by the Liverpool Medical Research Organisation. Edited by W. BLAIR BELL, M.D.

Crown Quarto. Pp. xvi + 544, with 279 illus. (37 figures in text and 20 Plates, 4 in colour). Price 63s. Post: Inland 1s.; abroad 2s.

This is a practical Dictionary, including Dental, Veterinary, Chemical, Botanical, and other special terms.

STEDMAN'S MEDICAL DICTIONARY

¶ "Well-arranged and well-produced work of reference. . . . Its popularity may be judged by the constant demand for fresh editions."—*British Medical Journal.*

ELEVENTH EDITION. Quarto size. Pp. xii + 1,194, double columns, with 22 Plates and over 400 Illustrations, of which 64 are coloured. Limp leather, with thumb-cut index. Price 35s. Postage: Inland 1s.

TREDGOLD'S MENTAL DEFICIENCY

¶ "Indispensable as a trustworthy guide to the most recent scientific and sociological findings in this department of human activity . . . should be read and referred to by all who are called into relation with the mentally defective."—*Journal of Mental Science.*

FIFTH EDITION. Size 9 × 6. Pp. xvi + 520, with 35 Plates. Price 25s. Postage: Inland 9d.; abroad 1s.

¶ "The clear descriptions of procedures and the deductions to be drawn are very helpful."—*British Medical Journal.*

CABOT'S PHYSICAL DIAGNOSIS

By RICHARD C. CABOT, M.D., Professor of Medicine in Harvard University.

NINTH EDITION. Royal 8vo. Pp. xxii + 536, with 6 Plates and 279 Illustrations. Price 25s. net. Postage: Inland 9d.; abroad 1s, 2d.

INTESTINAL TUBERCULOSIS: ITS IMPORTANCE, DIAGNOSIS AND TREATMENT

By LAWRASON BROWN, M.D., and HOMER L. SAMPSON, of the Trudeau Sanatorium, Saranac Lake, New York.

¶ "In this book the reader will find a very complete account of intestinal tuberculosis."—*Lancet.*

SECOND EDITION. Royal 8vo. Pp. xii + 376, with 122 Illustrations. Price 22s. 6d. Postage 9d.

MATHEWS' PHYSIOLOGICAL CHEMISTRY

By ALBERT P. MATHEWS, Ph.D., Professor of Biochemistry, University of Cincinnati.

¶ "This textbook can be thoroughly recommended. It is really the only modern one actually written in our language, all the others being translations."—*Lancet.*

FIFTH EDITION. Royal 8vo. Pp. xviii + 1,234, with 109 Illustrations. Price 31s. 6d. Postage 1s.

BERGEY'S MANUAL OF DETERMINATIVE BACTERIOLOGY

A KEY TO THE IDENTIFICATION OF SCHIZOMYCETES.

By D. H. BERGEY, M.D., Professor of Bacteriology, University of Pennsylvania.

¶ "For many years there has been felt a need for a standard classification of bacteria. This work meets the need very satisfactorily."

THIRD EDITION. 6 × 9½. Pp. xviii + 590. Price 27s. Postage: Inland 9d.; abroad 1s.

LEONARDO da VINCI, THE ANATOMIST

HIS ACHIEVEMENT AND PLACE IN HISTORY.

By J. PLAYFAIR McMURRICH, Professor of Anatomy, Toronto University.

Size 7 × 10. With a Portrait of Leonardo, and 89 Facsimile drawings. Price 27s. Postage 9d.

HINTS ON EQUIPMENT AND HEALTH FOR INTENDING RESIDENTS IN THE TROPICS

By J. BALFOUR KIRK, M.B., Ch.B.Ed., D.P.H.Oxon., D.T.M. & H.Eng., M.O.H. Port Louis, Mauritius.

SECOND EDITION. Pp. xii + 128. Price 3s. 6d. Postage 4d.

Aids to Forensic Medicine

By W. G. A. ROBERTSON, M.D.

Tenth Edition.

Price 3s. 6d. Postage 6d.

Aids to Bacteriology

By W. PARTRIDGE, F.I.C.

Fifth Edition.

Price 5s. net. Postage 4d.

Aids to Histology

By A. GOODALL, M.D.

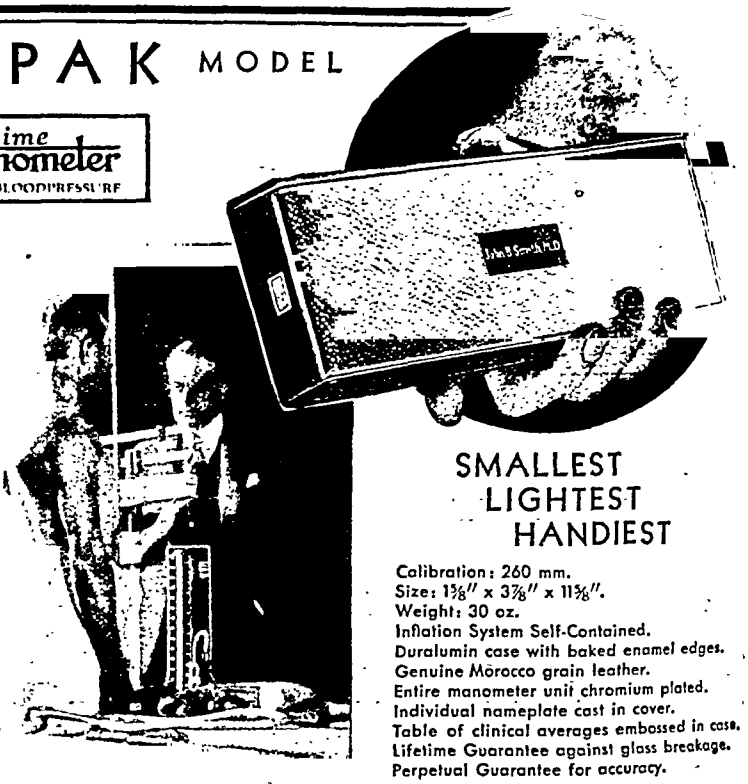
Third Edition.

Price 3s. 6d. Postage 4d.

BAILLIÈRE, TINDALL & COX, 7 & 8, Henrietta Street, London, W.C.2

THE NEW KOMPAK MODEL

Lifetime Baumanometer
STANDARD FOR BLOODPRESSURE



CONFIDENCE

The balance scale reads 141... The weight is recorded with confidence ..... as was the Baumanometer reading. Both instruments are accurate, for both act on the simple, positive, gravity principle . . . Physicians who prefer the certainty of scientifically balanced weighing scales to the uncertainty of spring scales, will tolerate nothing less than the precise unvarying accuracy of the Baumanometer for bloodpressure.

SMALLEST
LIGHTEST
HANDIEST

Calibration: 260 mm.
Size: 1⅝" x 3⅜" x 11⅝".
Weight: 30 oz.
Inflation System Self-Contained.
Duralumin case with baked enamel edges.
Genuine Morocco grain leather.
Entire manometer unit chromium plated.
Individual nameplate cast in cover.
Table of clinical averages embossed in case.
Lifetime Guarantee against glass breakage.
Perpetual Guarantee for accuracy.

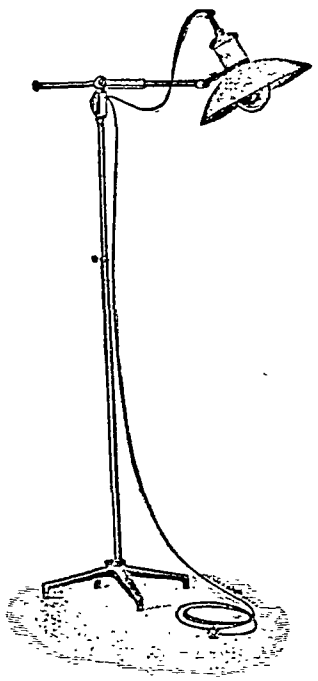
At Leading Surgical Supply Houses or from the British Distributor
HAWKSLEY & SONS, LTD., 83 WIGMORE STREET, LONDON, W. 1.

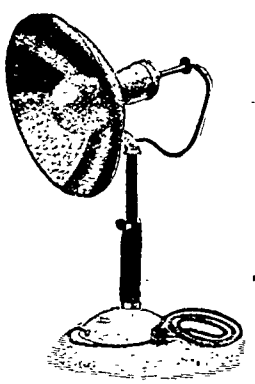
GRSA

NERON VITALUX

The Sunlight Generator

HEAT, LIGHT, ULTRA-VIOLET





Price £8 10 0 Price £6 10 0
Complete with bulb.

An indication as to some of its uses:

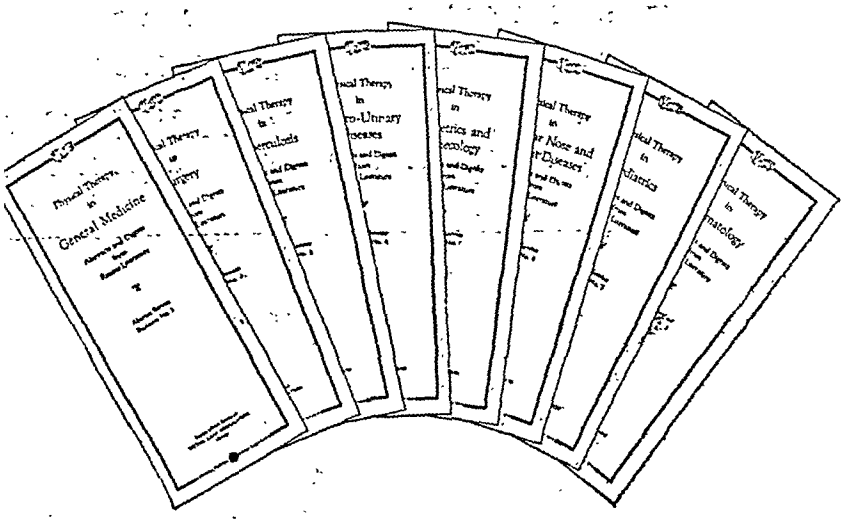
Rachitis prophylaxis, tubercular cervical glands, surgical and cutaneous tuberculosis, neuralgia, rheumatism (neuritis, myalgia), catarrhal diseases (colds), inflammation of the lungs (pleurisy), treatment of wounds, etc.

Extract from letter recently received from a doctor:
"The lamp is giving me thorough satisfaction, being a great improvement on the carbon arc lamp I was using, owing to the absence of fumes and greater ease of working, as well as giving a more satisfactory spectrum."

A SUSPENSION MODEL is available for Group treatment.
Plans prepared free of cost for Hospital Sun Rooms.

THE GENERAL RADIOLOGICAL & SURGICAL APPARATUS CO. LTD.,
204 & 206, Great Portland Street, London, W.1

Telephones: Museum 1719, Museum 8326
Showrooms: FIRST FLOOR
Telegrams: Equispital Wesdo London



What Will Physical Therapy Mean To My Practice?

THOUSANDS of physicians are still pondering over this question. They are aware of an increasing number of articles on physical therapy in their medical journals, but have not found time to make a real survey or summary of the literature.

"Physical therapy," to quote the Council on Physical Therapy of the American Medical Association, "must be recognized as a definite part of medicine to be practiced and controlled by graduate physicians. It should be used only as one of the triad of medicine, surgery and physical therapy."

For the convenience of the general practitioner and specialist alike, we have prepared the above illustrated booklets of abstracts and digests from recent literature on Physical therapy. They give the gist of articles by many authorities—a key to this literature as it pertains to your practice. We believe this abstract service to be an ethical means of furthering your interest in the subject.

Your request on the above coupon will receive prompt attention.

Fill out below and mail:

Please send me Abstract Service Bulletin on the use of Physical Therapy in

_____

_____

_____

Am especially interested in equipment for:

_____

_____

Name _____

Address _____

_____

VICTOR X-RAY CORPORATION LTD.

15-19 CAVENDISH PLACE (Cavendish Sq.), LONDON, W.1

X-RAY
Diagnostic, Deep Therapy and Portable Apparatus, Coolidge and Protexray Tubes.

VICTOR

PHYSICAL THERAPY
Diathermy, Sinusoidal, Galvanic and other Electro-Medical Apparatus, Electrocardiograph, &c.

MICKLEFIELD IRRADIATED MILK

TREATING THE COW

By this Process—

(1) VITAMIN A AND NATURAL FLAVOUR ARE PRESERVED.
(2) VITAMIN D CONTENT IS INCREASED 1,800 PER CENT., OR TEN TIMES THAT OF ANY OTHER IRRADIATED MILK.

One pint equivalent in Vitamin D to 600 drops or 12 grammes of average Cod-Liver Oil.

A ten weeks' test recently conducted at the Infants' School, Rickmansworth, under the supervision of the Medical Officer of Health, gave the following results:—

(1) 18 children (controls) had their usual ordinary milk.
(2) 29 " 1/3-pint of Grade A (T.T.) milk five days a week.
(3) 30 " " Micklefield " " "

(1) Average increase in height .605-in. (2) Average increase in weight 9.72 ozs. more than (1).
(2) " " " .610-in. (3) " " " 10.9 ozs. more than (1).
(3) " " " .744-in.

Full particulars appeared in an article in the LANCET, January 18, 1930, p. 127, et seq., a reprint of which will be sent post free on request.

The milk is delivered every week-day in London; elsewhere by arrangement.

Write to J. O. HICKMAN, MICKLEFIELD GREEN, RICKMANSWORTH.

Rover offer a range for general and special service

The Light Twenty Coachbuilt Saloon

ALL Rover cars are eminently suited to the heavy duty list of the Doctor. Where economy of running and maintenance has to be a first consideration the Rover Family Ten from £189 claims the attention, with its proved record of economy and its known efficiency in performance. For those who prefer a larger car the Two Litre is a six-cylinder model of 16 h.p., is fast, flexible, low to the road and a delightful car to handle. The Light Twenty and Meteor have six-cylinder engines of 19.3 h.p. The differences lie in carriage accommodation and preference rests on individual needs. There is also for Town work a very handsome limousine at a most reasonable price.

Ask your Dealer to show you the car that interests you.

Meteor Limousine - - - - - £548

Meteor Coachbuilt Saloon - £398
Meteor Genuine Weymann Saloon - - - £398
Meteor Weymann Sportsman's Saloon - - - £398
REGAL MODELS - £438

Light Twenty Coachbuilt Saloon £358
Light Twenty Genuine Weymann Saloon - - £358
Light Twenty Weymann Sportsman's Coupe - - £358
REGAL MODELS - £380

Two Litre Coachbuilt Saloon £298
Two Litre Genuine Weymann Saloon - - - £298
Two Litre Weymann Sportsman's Coupe - - £298
REGAL MODELS - £348

Six cylinder models fitted 4 speed gear box with Silent 'Third'

Rover Family Ten - - from £189

ROVER

The Rover Company Limited, Meteor Works, Coventry

SEND TO-DAY FOR ILLUSTRATED LIST

THE CAR WITH THE 2 YEARS GUARANTEE

For the Treatment of Arthritis and Neuritis

"ARTHRYTIN" Trade Mark

BRAND

Ammonium ortho-iodoxy benzoate

"ARTHRYTIN" possesses an action resembling that of the salicylates, but is much more potent in its effects. It is indicated in all forms of acute arthritis, and has given strikingly successful results in many cases of chronic arthropathy.

Supplied in capsules for oral administration, and powder for intravenous and rectal injection.

Clinical trial sample and literature on request.

Prepared in the Laboratories of

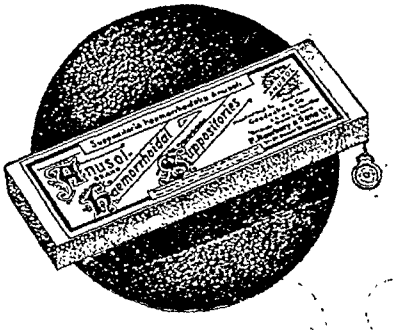
MAY & BAKER, LTD.

BATTERSEA LONDON, S.W.11

Telegrams: Bismuth, London.

Telephone: Battersea 1813 (6 lines)

You will like to prescribe them.



Because the relief of pain is naturally your first desire, you will like to prescribe

Anusol BRAND Haemorrhoidal Suppositories

They relieve pain without the use of narcotic drugs; they control haemorrhage and allay inflammation. Safe to use in all rectal diseases.

A trial of Anusol Brand Suppositories will prove a satisfying experience. May we send you a liberal trial package?

British Distributors:

FRANCIS NEWBERY & SONS, Ltd., 31-33, Banner Street, London, E.C.1

Manufactured by GOEDECKE & CO., LEIPZIG (Germany)

For Quick Relief
in
Nasal and Bronchial Congestion

Ephedrine B.D.H. is a useful ally in the campaign that is waged annually at this season against colds in the head, whooping-cough, catarrh, asthma and other nasal and bronchial congestions.

Ephedrine B.D.H. is supplied in special forms, noted marginally, to meet the individual need of the patient, whilst the B.D.H. Ephedrine Atomiser provides a convenient and effective means of spraying any affected part.

Ephedrine B.D.H. is the natural product, and it can be relied upon to produce the maximum therapeutic effect without any attendant toxicity.

Ephedrine B.D.H.
Nasal Jelly

Ephedrine B.D.H.
Elixir

Ephedrine B.D.H.
Throat Spray

Ephedrine B.D.H.
Inhalant Compound

EPHEDRINE B.D.H.

Literature and samples on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1 Eph/15

A palatable combination of Lactose & Dextrin
for changing the intestinal flora

Lactose 73%, dextrin 25%—that is the proportion in which these carbohydrates are combined in this new food for changing the intestinal flora. Both are more slowly absorbed than other carbohydrates, and both are able to reach the colon in sufficient quantity to cause a luxuriant growth of protective flora. An acid reaction of the intestinal contents unfavourable to toxic organisms is thus produced—Lacto-Dextrin being highly efficient in promoting the growth and development of both B. acidophilus and B. bifidus in the colon. In this pure carbohydrate food both lactose and dextrin are presented in a palatable and agreeable combination.

PSYLLA

. . . an accessory for use in conjunction with Lacto-Dextrin

Where bulk and lubrication of the intestinal tract is also required, the use of BATTLE CREEK Psylla (Plantago Psyllium) is invaluable as an accessory. The small brown seed when in contact with water swells into a soft gelatinous mass and acts most effectively both as an emollient and intestinal evacuant.

Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, 41, Gt. Tower St., London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

LACTO-DEXTRIN

Manufactured by the BATTLE CREEK FOOD CO., Mich., U.S.A.

Purity, Activity and Stability

INSULIN 'A.B.'

TRADE A B MARK

The world-wide supremacy of Insulin 'A.B.' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions.

Supplied in two strengths:

20 units per c.c. Packed in bottles containing:
5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing:
5 c.c. (200 units or 20 doses) 4/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession

Joint Licencees and Manufacturers:

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

The British Drug Houses Ltd.
Graham Street, London, N.1

HORLICK'S MALTED MILK has been tested by the Medical Profession for close upon half a century, and to-day is as confidently prescribed as at any time in its history. Whenever it is necessary to build up a patient—after acute illnesses, in neurasthenia, in tuberculosis or other debilitating conditions—HORLICK'S satisfies the clinical requirements. A combination of milk and the soluble extracts of malted barley and wheat, it forms a partially predigested, easily assimilated diet, which places no strain on the weakened digestive powers of the patient. Protein and "protein sparers" are present in well-balanced proportions, and metabolic needs are satisfied in the most economical manner: body tissue is spared and re-building is accomplished to the satisfaction of doctor and patient. Should the needs of the patient appear to demand it, HORLICK'S can always be "fortified" by mixing with milk, or by forming an emulsion with olive oil or cream.

'CAPROKOL'

Brand of Hexyl-Resorcinol

The urinary antiseptic characterised by the following attributes:—

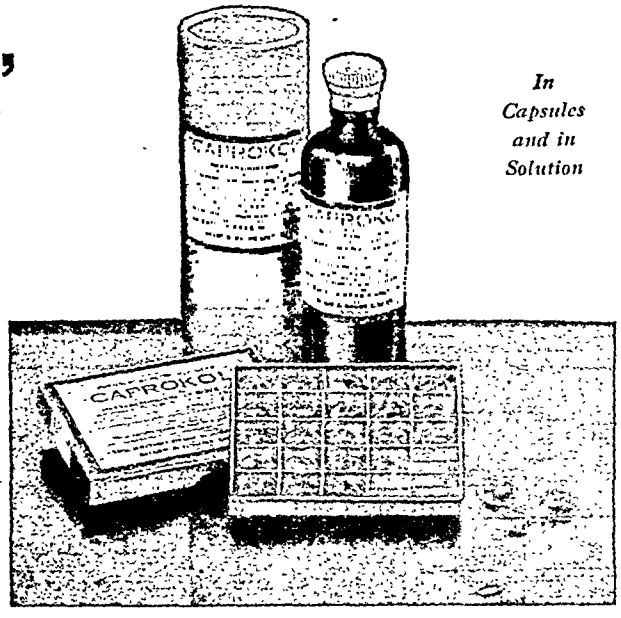
1 Powerful germicidal effect in urine of any reaction

2 Analgesic action upon the urinary mucosa

3 Chemical stability

4 Non-toxicity

Literature on request



In Capsules and in Solution

Sole Selling Agents:

THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Cap129

IMPROVED DAY AND NIGHT SERVICE TO THE MEDICAL PROFESSION FOR OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPÔT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1

(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

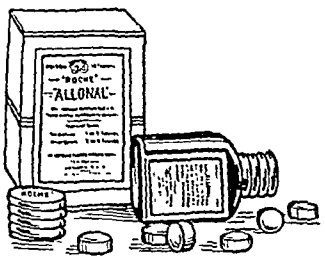
WRITE, 'PHONE, or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, CLAPHAM ROAD, S.W.9

'Allonal' Analgesic and Hypnotic

for Pain & Insomnia!



Issued in Bottles of 12, 100 & 500.

Sedative:—1—2 Tablets.

Analgesic / Hypnotic } 1—3 Tablets.

Literature and Samples from:—

THE HOFFMANN-LA ROCHE CHEMICAL WORKS Ltd.,
The 'Roche' Laboratories,
51, Bowes Road, London, N.13.

Regesan

CREAM OF MAGNESIA with LIQUID PARAFFIN

(Contains 30% Liquid Paraffin).

A stable well-balanced combination containing 30% Liquid Paraffin held in suspension in a finely divided state. Its consistency is such that the tendency to leak exhibited by Liquid Paraffin is eliminated.

Regesan Cream of Magnesia with Liquid Paraffin provides suitable treatment for all digestive troubles with which constipation and hæmorrhoids are associated. It is certainly the ideal laxative during pregnancy and lactation, and most suitable for infants and children.

Price 1/6 per bottle.

Full-size trial package free to Medical Practitioners in the British Isles on application to Boots the Chemists, Station Street, Nottingham.

OBTAINABLE FROM

The Boots Chemists

OVER 900 BRANCHES IN GREAT BRITAIN

Boots Pure Drug Co. Ltd., Nottingham

Direct Treatment of

INFLUENZA WITH VACCINES

FOR PROPHYLACTIC AND THERAPEUTIC USE.

ANTI-CATARRH
VACCINE
Prophylactic
3 doses.

Duncan

THE VACCINE
FOR COLDS
Curative
3 doses.

INFLUENZA VACCINE
2 doses.

Prepared by the Research Laboratory of the Royal College of Physicians, Edinburgh.

Issued by and full particulars from

DUNCAN, FLOCKHART & CO.
EDINBURGH and LONDON

104, Holyrood Road. 155, Farringdon Road, E.C.1.

EVANS' THROAT Pastilles

MADE BY
EVANS SONS LESCHER & WEBB Ltd.
56, Hanover Street, LIVERPOOL
and LONDON

THROAT THERAPY.

Evans' Pastilles are prepared to a formula of the Liverpool Throat Hospital. Their action is soothing and demulcent, the formula being carefully balanced with both these objects in view. Evans' Pastilles relieve harshness and irritation and maintain their effect for some time after the pastille has dissolved.

Sold in 1/- tins or in bulk for dispensing.

A physician's sample will be gladly sent on request.

The Medical Profession
when prescribing
"Liquor Carbonis Detergens"
SHOULD ADD THE WORD
Wright's

On receipt of your professional card, a package will be sent containing a sample of each of the following—

Wright's Coal Tar Soap.
Wright's Coal Tar Ointment.
Wright's Lysol.
Wright's Liquor Carbonis Detergens.

Although there is no secrecy as to the composition of Liquor Carbonis Detergens (it is described as "an alcoholic solution of coal tar"), the method of manufacture is unique. Imitations will be found to be produced by simple digestion, usually accompanied by some primitive, perfunctory, and inadequate stirring; whereas, in the case of the genuine product, the intimate contact required, for the complete extraction of all the soluble antiseptic constituents, is attained by a series of complicated processes, involving the use of highly specialized machinery.

WRIGHT, LAYMAN & UMNEY LTD., 66, Park Street, Southwark, S.E.1

Valentine's Meat-Juice

In the **Treatment** of **Weak Babies**, in the **Gastric** and **Enteric Troubles** of **Infants** and in the **Wasting** and **Febrile Diseases** of **Children**, the **Ease** of **Assimilation** and **Power** of **Valentine's Meat-Juice** to **Sustain** and **Strengthen** has been **Demonstrated** in

Hospitals for Children.

The quickness and power with which **Valentine's Meat-Juice** acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB95

BOOTS PRODUCTS

OBTAINABLE THROUGH ALL BRANCHES OF

The Boots Chemists

WHOLESALE AND EXPORT DEPARTMENT.

BOOTS PURE DRUG Co. Ltd.,

NOTTINGHAM, ENGLAND.

Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

Liver Extract (BOOTS)

A HIGHLY concentrated EXTRACT OF FRESH LIVER specially prepared for the treatment of PERNICIOUS ANÆMIA. Liver Extract (Boots) is made by a process tested and proved efficient by the Medical Research Council.

—(See B.M.J. and Lancet, March 10th, 1928).

Supplied in vials each equivalent to ½-lb. Fresh Liver

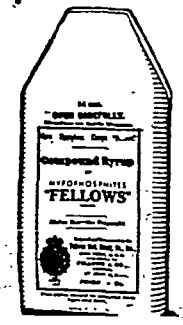
SINGLE VIAL 3/-

BOX OF TEN 30/-

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark



ITS FORMULA

Combines Mineral Foods and Synergistic Agents.

ITS POSOLOGY

One to two teaspoonfuls after meals.

ITS EFFICACY

Is such that under its influence one observes a rapid increase of appetite and a marked elevation of tone.

ATONY

DEBILITY

CONVALESCENCE

DEMINERALIZATION

FELLOWS MEDICAL MFG. CO., INC.
26 Christopher St.
New York City, U. S. A.

Samples on Request

Reaching Laryngeal and Bronchial Inflammations

MANY laryngologists are advising the treatment of laryngeal, tracheal and bronchial inflammations by the direct route, nebulized spray solutions—in addition to the use of oral medication.

Mistol is ideally suited to this form of administration. When used in a nebulizer, it forms an exceedingly fine, almost invisible, vapour. This spray is unirritating to the upper respiratory passages and is drawn into the larynx and bronchi with each inspiration. In this way it reaches and exerts its therapeutic action upon the upper respiratory passages.

The ingredients of Mistol—menthol, camphor, eucalyptol, and chlorbutol in high-grade liquid paraffin—are endorsed by all leading rhino-laryngologists.

They relieve congestion and hyperemia in inflamed mucous membranes, diminish abnormal secretions, and aid in the return to normal conditions.

More and more physicians are finding in Mistol administered by means of a nebulizer a valuable ally to oral medication for laryngeal, tracheal, and bronchial inflammations.

Mistol

REG. TRADE MARK

MADE BY THE MAKERS OF NUJOL

Nujol Laboratories:

128 Albert Street, Camden Town, N.W.1.

A safe and simple antacid which is also a gentle laxative must necessarily be of great value to medical practitioners when administering to ladies and children and all who are constitutionally delicate.

May we, therefore, venture to remind you of

DINNEFORD'S PURE FLUID MAGNESIA

which has been extensively prescribed and used by the Medical Profession for a Century, and is still the best and safest means of administering Magnesia.

When prescribed for the nursery, too, Dinneford's Magnesia has always proved immensely useful as a corrective, and when mixed with infant's food it prevents many of the troubles which are due to acidity, flatulence, etc.

We are confident that you will find in Dinneford's Fluid Magnesia a reliable and safe solution which may be freely used for many ailments, and we would request your kind consideration of its use as occasion offers.

Dinneford's Pure Fluid Magnesia possesses antacid and laxative qualities which are incomparably better than those of any of the various preparations of Magnesia, in powder, now being introduced.

It cannot harm the most delicate constitution and is at all times a safe and effective laxative.

Manufactured in London for the past 100 years.

DINNEFORD & CO. LTD.

An Improved form of Treatment for Digestive Disorders

"Alocol" is the practitioner's safeguard when alkaline medication is required. Its clearly defined antacid properties exceed those of bicarbonate of soda, magnesia and subnitrate of bismuth; furthermore, "Alocol" eliminates all the unpleasant drawbacks which are particularly feared with the usual alkalis and oxides.

When "Alocol" reaches the stomach adsorption takes place; a colloidal jelly is formed which, adhering to the walls of the stomach, diminishes their sensibility. The excess of hydrochloric acid is absorbed, but the acid reaction necessary for peptic digestion remains normal.

"Alocol" is highly recommended for use in all cases of hyperacidity, against which it is a specific. It is also indicated in the more serious manifestations, such as gastrectasis, gastrelcosis, pyloric and duodenal ulcers, etc.

Complete chemical history of "Alocol," with convincing clinical reports and supply for trial, sent free to physicians on request.

A. WANDER, Ltd., Manufacturing Chemists, 184, Queen's Gate, London, S.W.7

Works: KING'S LANGLEY, HERTFORDSHIRE.

M233

ALOCOL

Colloidal Hydroxide of Aluminium

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative, "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

M 235

ARTERIO-SCLEROSIS

IT is an old adage that a man is "as old as his arteries," meaning that degenerative changes in the arteries are largely responsible for senility.

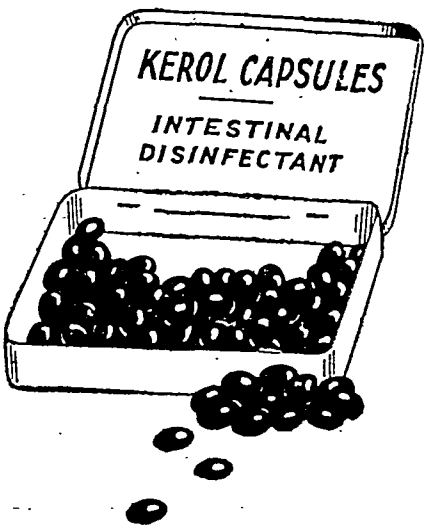
The modern view is that arterio-sclerosis is produced by increased blood-pressure, and that increased blood-pressure results from the absorption of "pressor" substances developed by putrefactive bacteria in the intestine.

(Prof. A Robin, among his suggestions for the treatment of arterio-sclerosis, emphasises in the first place the need to remove the alimentary toxic factors which are causative of arterial hypertension.—*Therapeutique Usella du Practicien*, p. 344.)

To retard the activity of the putrefactive bacteria, Metchnikoff introduced the soured milk treatment; but how much better it is to use an antiseptic substance. The ordinary so-called intestinal antiseptics, such as Salol, possess little real disinfectant power, and more potent germicides, such as Phenol, are absorbed, and, in sufficient dose, are toxic.

The active principle of Kerol, besides being a very potent germicide, is not absorbed, and is therefore non-toxic. The rational treatment of arterio-sclerosis would, therefore, include adequate intestinal disinfection by means of the keratin-coated Kerol Capsules.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated): they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.



Kerol Capsules

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD., Ravens Lane, Berkhamsted, Eng.

13971

DISMENOL for instantaneous relief of pain in DYSMENORRHOEA

In spasmodic Dysmenorrhoea the primary call is for the elimination of pain, and the physician has a valuable weapon in Dismenol Tablets, which are entirely *free from narcotics.* This product is a sure and safe sedative in all cases of Dysmenorrhoea, possessing anti-spasmodic properties of a remarkable kind. A feeling of general well-being is substituted for the state of lassitude in the patient.

Please write for samples and literature (also formula) to—

ROBERTS & Co., 76, NEW BOND STREET, LONDON, W.1.

Pharmaciens to H.M. the King.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ROYAL LONDON OPHTHALMIC HOSPITAL.
LMIC HOSPITAL.
PITAL.
FAL.
ARY.
HUDDERSFIELD ROYAL HOSPITAL.
KENT COUNTY OPHTHALMIC HOSPITAL, MAIDSTONE.
NEWPORT, ROYAL GWENT HOSPITAL.
NEWCASTLE-ON-TYNE, ROYAL VICTORIA INFIRMARY.
OXFORD EYE HOSPITAL.
ST. PAUL'S EYE HOSPITAL, LIVERPOOL.
SWANSEA GENERAL HOSPITAL.
WESTERN OPHTHALMIC HOSPITAL.
WOLVERHAMPTON EYE INFIRMARY.
SIR C. J. OPHTHALMIC HOSPITAL, BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.
Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

WYLEYS LIMITED WHOLESALE DRUGGISTS COVENTRY *Established 1750.*

ELIXIR IODO-CREOSOTI CO.

Two fluid drachms contain Beechwood Creosote 2m., Potassium Iodide 4 gr., Caffeine Sodio-Salicylate 1 gr., with Tinctures of Aspidosperma, Bryony and Cereus.
Palatable and pleasantly flavoured.

Most useful and efficient for the relief of Lobar Pneumonia, Pulmonary Tuberculosis, Broncho-pulmonary Influenza, and Influenzal Laryngitis, particularly for controlling temperature and pleuritic effusion.

Price: 3/- per 8-oz. bottle; 16-oz. 5/6.

FULL LISTS ON APPLICATION.

Kaylene

for the treatment of acute intestinal infections, ptomaine and other forms of food poisoning, and all diarrhoeal conditions. It acts by adsorption and is the true antidote to bacterial toxins and toxalbumins in contaminated food.

The action is speedy and certain.

Kaylene-ol

An emulsoid of the toxin adsorbent Kaylene combined with Colonol Liquid Paraffin. The latter counteracts the consolidating effect of the Kaylene. This preparation may be prescribed with confidence for those conditions in which toxaemia is associated with constipation. **It actively prevents the absorption of toxins** and completely puts an end to the fouling of the lymphatics and the blood.

Samples and "adsorption" literature obtainable on request to the Manufacturers:

KAYLENE LIMITED,

Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone—	*Cables—*	*Telegrams—*	*Code—*
GLADSTONE 1071 (2 lines).	KAYLOIDOL, LONDON.	KAYLOIDOL, CRICKLE, LONDON.	BENTLEY'S.

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is contra-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A panacea for Mosquito and other insect bites. Most effective for all purposes where Tr Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Klinick (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

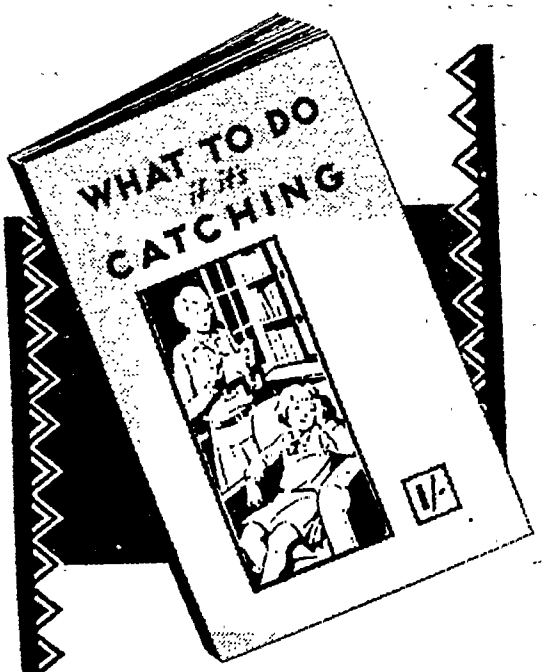
Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments.

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

Eases the work of Doctor and Nurse



A compendium of information written in simple language giving the public directions for preventing the spread of infectious illness in the house and in the district.

Compiled and published in co-operation with eminent medical and health authorities by Newton, Chambers & Co. Ltd., proprietors of Izal, the disinfectant most used by public health authorities throughout the world.

Now being widely advertised in the daily press.

Private circulation among Doctors has brought many appreciative letters of which the following are typical.

"'What to do if it's catching.' The information it contains is of the greatest value; and I should like to see it in the hands of all parents; it would prove a most useful guide to them . . . ."

M.B., B.S. (Lond.), F.R.S.I., D.P.H.
Medical Officer of Health.

"[illegible] information and advice when confronted with the various illnesses and emergencies which form the subject-matter of this valuable booklet."

M.D., Ch.B. Hons., D.P.H.,
County Medical Officer.

"What to do if it's Catching" saves the doctor endless explanations and can be recommended with complete confidence.

CONTENTS INCLUDE:

- How illness spreads.
- Rules for semi-isolation of invalid.
- Rules for complete isolation.
- Cleaning up the sick room.
- What the law says regarding infectious diseases.
- First aid in the home.
- All-the-year round health precautions.
- Rules for personal hygiene.
- What to do in sudden emergencies before the doctor comes.
- Directions for family emergency chest.
- Household hints.

FREE a special complimentary copy will be sent free to any doctor on receipt of professional card. Please address to Messrs. Newton, Chambers & Co. Ltd., Dept. M2, Thorncliffe, Sheffield. Makers of

IZAL

the disinfectant most used by public health authorities throughout the world. Z m 88

MEASLES
and
WHOOPING COUGH

The danger of these disorders is often in their far-reaching secondary effects.

During Convalescence from Measles there is a very special liability to tuberculosis invasion, many victims subsequently succumbing to Tuberculosis, Broncho-Pneumonia or Surgical Tuberculosis, and there is the same liability to Broncho-Pneumonia from Whooping Cough.

Virol is composed of Bone Marrow, Glycerine Extract of Red Bone Marrow, Malt Extract, Eggs, Lemon Syrup and Salts of Lime and Iron.

The Vitamins are present in Virol in its manufactured state.

Phagocytosis

The raising of the patient's powers of resistance is therefore important. Virol has been proved to increase the phagocytosic action of the leucocytes against the germs of Tuberculosis.

The convalescent stage calls for special reparative nutrition. Virol has a marked effect upon the conservation of the tissues, repairing the waste and restoring the equilibrium of a healthy metabolism.

VIROL

More than 3,000 Hospitals, Sanatoria, and Infant Clinics use Virol regularly.

IN JARS, 1/3, 2/- & 3/9. VIROL LTD., EALING, LONDON, W.5.

For Nervous and Physical Depression

℞ Bynin Amara

Sig 3/s ocrey t.d.s.p.c.

COMPOSITION:

Quinine Phosphate 1½ gr.

Iron Phosphate 2 gr.

Nux Vomica Alkaloids equal to Strychnine 1/16th gr.

'Bynin' Liquid Malt 1 oz.

Further particulars and clinical trial sample will be sent on request.

ALLEN & HANBURYS LTD., LONDON

Telephone: 3201 (10 lines) Bishopsgate *Telegrams:* "Greenburys Edo London."

A Liver Preparation your Patients will enjoy

'Byno' Hepol Registered.

Trade Mark

For Pernicious Anæmia and Sprue

'Byno' Hepol is a solution of Liver Extract 'A. & H.' in 'Bynin' Liquid Malt.

Supplied in 4 oz. and 10 oz. bottles

The presence of the malt extract assists the digestion and assimilation of the liver which renders its continued use less prone to produce nausea.

Three tablespoonfuls of 'Byno' Hepol are equivalent to eight ounces of fresh mammalian liver, the amount usually ordered to be taken daily in the treatment of pernicious anæmia.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

SCIENTIFIC ENZYME DIGESTION

RICH SELECTED ENGLISH MILK
Pancreatised

SELECTED ENGLISH WHEAT
Dextrinised and Pancreatised

PREDIGESTED MILK
(25% Protein Conversion)

PREDIGESTED WHEAT
(25% Starch Conversion)

Powdered by the
COW & GATE
Improved
Roller Process

Peptalac REGD.

THE NEW INSTANT PREDIGESTED FOOD

Predigestion of starch *and* milk is guaranteed and is effected under the most exact scientific conditions in our laboratories before powdering. This means that when required for use it can be immediately and simply prepared by the *mere* addition of hot water. The C. & G. Improved Roller Process is used ensuring retention of the full mineral and vitamin content with freedom from pathogenic organisms.

PEPTALAC is indicated in all those cases where the powers of the digestive tract are insufficient to deal with that amount of food necessary for maintaining health—for nursing mothers with weak digestions, in ante- and post-operative surgical cases, in achlorhydria, peptic ulceration, cancer of the alimentary tract, in all forms of convalescence and in old age.

SEND THE COUPON FOR FREE CLINICAL SAMPLE

Cow & Gate Milk Food

Name.....

Address.....

B.M.J. 31/1/31

COW & GATE LTD. GUILDFORD, SURREY

PERSIAN SERIES

When Ergot is indicated always prescribe 'Ernutin'

Used with consistent success in obstetrical practice to induce contraction of the uterus after labour, thus assisting involution and controlling post-partum hæmorrhage

Reduced facsimile

For Oral Administration:
'ERNUTIN' (Oral), in bottles of 30 c.c., 4 fl. oz. and 16 fl. oz., at 2/6, 7/6 and 25/- each, respectively

Reduced facsimile

For Hypodermic and Intramuscular Injection:
'HYPOLOID' 'ERNUTIN,' in boxes of six hermetically-sealed containers of 0·6 c.c. (approx. min. 10) of Sterile Solution, at 3/4 per box

TRADE 'ERNUTIN' MARK

A clear solution presenting Ergotoxine, the true, active principle of the official Ergot, in definite amount and in a state of chemical purity.

Also contains 'Ergamine' and 'Tyramine.'

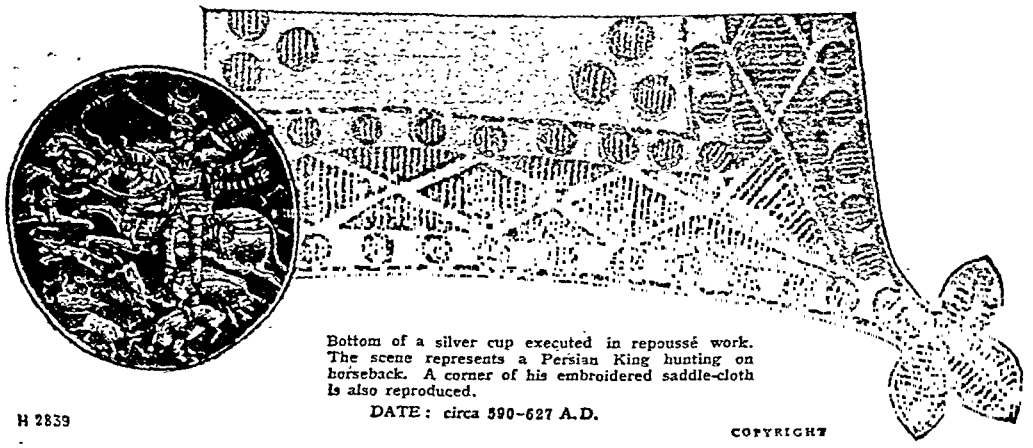
'Ernutin' gives a definite physiological response to a definite dose

BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES



Bottom of a silver cup executed in repoussé work. The scene represents a Persian King hunting on horseback. A corner of his embroidered saddle-cloth is also reproduced.

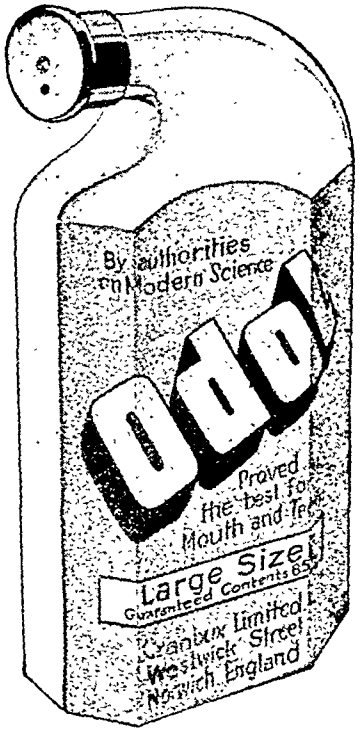
DATE: circa 590–627 A.D.

H 2839

COPYRIGHT

Odol and BACILLUS TYPHOSUS

Experiments have proved that ODOL will destroy Bacillus Typhosus within 30 seconds if used at a strength of 4%, or within two minutes if used at a strength of 2%.



Odol is

Anti-Acid
Non-Caustic
Non-Toxic

Samples and literature will gladly be sent to any member of the Medical or Dental professions on application to:
CRANBUX LIMITED OF NORWICH

Remarks
ON
SOME FORMS OF SPASM IN CHILDHOOD: THEIR CAUSE AND TREATMENT*

BY
A. DINGWALL FORDYCE, M.D., F.R.C.P.ED.
HONORARY PHYSICIAN, ROYAL LIVERPOOL CHILDREN'S HOSPITAL

It has been said[1] that "a child is the sum total of his movements or tendencies to move." Movement follows on muscular contraction resulting from nervous stimulation, and spasm in ordinary medical parlance is a term used to mean involuntary sustained muscular contraction occurring as an abnormal manifestation. Such spasm may be usefully considered as it discloses itself to the clinician at different sites and in different bodily conditions.

An abnormal condition of neuro-muscular apparatus—for example, spasm—may be produced by a local peripheral cause, or result from a primary lesion or abnormality of the central nervous system interfering with its function of nervous control. It is not possible, however, to dissociate the mental functions and the functions of nervous control in the central nervous system, and spasm may occur from disturbance of the mental functions, with no detectable abnormality in local neuro-muscular apparatus or in the central seat of nervous control. Thus emotional disturbance may be the primary exciting cause. Careful attention must also be given to the degree of development of the intellectual powers in childhood. If, then, we have to take into account such varying factors in etiology, we must go further and consider important influences affecting the functions of the central nervous system. Such, in this connexion, are the influence on bodily processes of endocrine secretion, calcium metabolism, and the phenomena of anaphylaxis; the results of training and education; and the development of inhibition.

The symptom of spasm may be considered in four groups.

1. Congenital in origin, associated with local organic change in infancy, and with no detectable lesion of the nervous system.
2. The result of gross intracranial abnormality or lesion, congenital or acquired.
3. A symptom of disease resulting from vitamin deficiency in infancy.
4. A symptom dependent on nervous hyperexcitability, congenital or acquired, temporary or permanent.

Consideration here will be restricted to some conditions in Group 4. While these occur largely in "nervous" children, there is an interesting aspect of abnormal nervous excitability which is capable of practical demonstration—namely, the phenomenon of facial irritability.

CHVOSTEK'S SIGN

It has long been well known that a positive Chvostek's sign (facial irritability) is no uncommon phenomenon among children of school age, both healthy and debilitated. Eckert[2] investigated the frequency of its occurrence in 13,854 Austrian children and found it present in (1) 22.8 per cent. of boys and 20.1 per cent. of girls in Vienna; (2) 7.1 per cent. of boys and 7.8 per cent. of girls in provincial cities; and (3) in an intermediate percentage in the country districts. Various observers[3, 4] in this country have also found that it is by no means rare, but its significance in children of school age is disputed. As a result of the examination of a consecutive series of 400 children between the ages of 6 and 14 I found it present in twenty-eight, or 7 per cent.

It is impossible to believe that the sign has no significance. In spite of its obscurity, there seems to be a type of child in which its presence points to certain tendencies in reaction to a specific treatment. For some considerable time I have given to practically all asthmatic children, after treatment in the ward, a prolonged course of treatment by ephedrine supervised in the out-patient department. This has usually had good results, and never untoward ones, except in five cases in which it was stated that the children suffered some "collapse," lethargy, tendency to faint, shortly after taking the medicine. In these five cases F.I. was marked, and in only two, in which F.I. was negative, have symptoms of a minor degree occurred. This will be referred to later when discussing asthma; at present it is sufficient to say that the reaction appears to depend upon the degree of alteration in systolic blood pressure brought about by the administration of a particular internal secretion in a child of unstable nervous constitution.

BLOOD CALCIUM CONTENT IN SPASMODIC CONDITIONS

The presence or absence of the sign frequently varies much from time to time in the same child, but it is often present with a normal blood calcium content. In cases of tetany in infants it has been shown[5] that the calcium in the blood serum is greatly reduced. Italian investigators have found that a solution of calcium when applied to the brain diminishes its irritability to electrical stimulation,[6] while the peripheral nerves are even more sensitive to lack of calcium than the central nervous system.[7] It is interesting, therefore, to consider if variations in the bodily content of calcium bear any relation to different spasmodic conditions.

In infantile spasmophilia the total calcium in the blood is low, but it is because the ionic calcium is low that nervous symptoms occur. In other forms of tetany there may be no diminution of calcium in the blood serum, but the existence of an alkalosis, and in these cases the chlorine, not the calcium, is the important factor in treatment by calcium chloride. The place of calcium in the etiology and therapeusis of symptoms has then to be considered along with other factors, none more important than those associated with the endocrine system, particularly the parathyroids—and with vitamins, particularly vitamins A and D.

The significance of the parathyroids in the production of tetany in young children is still uncertain, but it is unusual for the parathyroid gland to be the primary cause of the trouble.

The conditions which produce rickets and spasmophilia are those in which there is a lack of the fat-soluble vitamins A and D. Deficiency of these vitamins causes lack of absorption of calcium, an abnormally low blood content of ionic calcium, and spasmophilia in infants. The blood content of ionic calcium can be raised either by increasing absorption, this being the fundamental method, by administration of vitamin (by irradiation, cod-liver oil, irradiated ergosterol); or by hypodermic administration of Collip's parathormone, altering and utilizing calcium reserves in the body, especially the calcium in the bones. The latter is obviously almost always an undesirable method of attempting to raise blood calcium in young children.

Apart from infantile spasmophilia there appears to be no definite relationship between blood calcium content and spasmodic conditions, or a positive facial irritability. Thus in fifty consecutive examinations of blood calcium, taken in seventeen cases of chorea under treatment, I have obtained reports varying from 7.33 mg. to 13.5 mg.

* Abstract of paper read before the Wallasey Medical Society on December 10th, 1930.

per 100 c.cm., the severity of symptoms bearing no relation to the blood calcium content. In asthma and various neuroses the figure varied from 7.0 mg. to 12.3 mg.

Equally difficult to estimate is the value of treatment directed towards increasing blood calcium. It may be said, however, that where blood calcium is approximately normal in amount—that is, from 9 to 11 mg. per 100 c.cm.—no benefit is to be expected from any form of such treatment; when blood calcium is low, the all-important measure in therapeusis is administration of vitamin D (ostelin, for example). Granted that the child is under satisfactory conditions, dietetic and hygienic, the administration of calcium chloride or of parathormone may or may not cause improvement where there is low blood calcium; with the addition of vitamin D the prospect of improvement is great. Parathormone alone may cause a marked rise, but, as already noted, there are drawbacks to employing this treatment in childhood, and vitamin D is a safer and more powerful agent.

RELATION OF THE ENDOCRINE SYSTEM TO SPASM

The relation of the endocrine system to the autonomic nervous system is very close and complicated. According to Eppinger and Hess[8] two types of individual can be distinguished in whom the normal balance of the sympathetic and parasympathetic divisions is disturbed—namely, a group displaying undue irritability of the sympathetic (sympathicotonia), and another group with undue irritability of the parasympathetic (vagotonia). In this latter group are subjects liable to anaphylactic conditions—asthma and certain skin conditions—and diminution or removal of symptoms in these cases is to be obtained by stimulation of the sympathetic. If, then, allergic individuals are vagotonic, remedies having this effect are likely to be beneficial.

The ductless glands, which act in closest association with the autonomic nervous system, are the suprarenals, thyroid, and pituitary. While the function of the suprarenal in health is very uncertain, the effect of stimulation in times of stress through the outpouring of medullary secretion or adrenaline results in stimulation of the sympathetic and of thyroid activity; the converse is also true. Both diminish undue symptoms of vagotonia. For our present purpose it is important to note that suprarenal activity depresses the broncho-constrictors and that the characters of reaction to the therapeutic administration of adrenaline differ considerably in different individuals.

Thyroid instability is very marked in childhood. When thyroid activity is strained or excessive, all metabolic processes are increased in rate, and response to all forms of physical and mental stimulation is exaggerated. This may occur with the onset of puberty, infection, digestive or other metabolic disorder, or as a result of emotional strain; one outstanding characteristic of resultant excessive thyroid activity is great emotional excitement.

Even minor degrees of endocrine disorder, however, may cause mental disturbance—intellectual and temperamental. Cerebral organization is primarily stimulated by sensory impressions, and all of these are associated with some degree of emotional activity. "But our sensory reactions are more true to type, more constant in relation to the objects and impressions that excite them, than are our emotional reactions."[9]

EMOTION AND INSTINCT

Emotion is not only a mental, but also a bodily process; every kind of emotion is normally accompanied by widespread physical changes, and excessive emotion may produce various forms of physical stress, disorder, or actual disease. Further, emotion not only has a sensory, but also a cognitive quality, from which chiefly arises the possibility and the danger of the artificial production of emotion. Healthy emotion may be regarded "as a mode of experience which accompanies the working within us of instinctive impulses," and healthy emotion has as an essential feature an impulse to action. We have the outstanding example of fear with the suprarenal preparation for flight. Excessive emotional excitement may cause physical strain or disease, which again may increase susceptibility to emotional reaction, or, on the other hand, physical disorder may in the first place lead to hyperemotional conditions. In this connexion digestive disorder, whether as a primary condition or secondary to infection and fever, is especially noteworthy.

Allusion has already been made to the relationship between emotion and instinct. While the dominating parental instinct is the "mother of both Intellect and Morality," its unwise expression may ruin the child mentally, morally, and physically. The human young require prolonged tutelage, a guarded lengthy youth wherein slow development and organization may occur. During youth experience should be gained by free activity without full responsibility. If instincts are unduly curbed, if inhibitions are prematurely developed, trouble is inevitable. If a natural, healthy, slow, emotional development is gainsaid, thwarted reactions and activities disclose themselves in abnormal forms or degree of emotion, general disorder, and often in forms of neuromuscular disturbance—spasm.

We may say, therefore, that consideration of many spasmodic conditions in childhood involves study of general mental and physical conditions, and that the result of such study along the lines indicated by the spasm present is likely to give important indications for both general prophylactic and therapeutic measures.

ASTHMA

The asthmatic is vagotonic, and consequently sympathetic excitors are likely to prove useful in treatment. Following on the subcutaneous use and proved value of adrenaline in the acute condition came the reintroduction of ephedrine, efficacious by the mouth. Both these agents depress the broncho-constrictors, cause vaso-constriction in the bronchial mucous membrane, have a pressor action on the circulation, and raise blood sugar. Ephedrine is best given on an empty stomach; the effect takes some thirty minutes to occur, and lasts about five hours. It has been reported that some persons fail to respond to ephedrine, that in some tolerance is produced, while in others serious collapse may follow.

During recent years I have employed very largely in treatment peptone injections followed by ephedrine administration and as long supervision as possible. In the course of such treatment in approximately fifty cases certain points of interest have arisen, the cases being those in which gross disease of the chest was excluded by *x* rays, diet adjusted when opportunity permitted, and focal sepsis attended to. The series was restricted to hospital patients, and while in most of them protein cutaneous tests were made, in none were the results of practical value. In many instances multiple positive reaction occurred for which the most desirable treatment appeared to be general rather than specific. It is not true, however, that skin tests in early childhood are valueless, for in several other asthmatic patients, whose cases are not here included, dramatic benefit followed on treatment suggested by positive skin reactions.

A positive Chvostek's sign is not rare in asthmatic children, most of whom are negative to this test, which, whether positive or negative, is no sign of the blood calcium content. Many cases of asthma with F.I. apparently consistently negative improve greatly under treatment by peptone and ephedrine. Some, on the other

hand, show no marked improvement, but in none does ephedrine cause serious "collapse." One of the effects of adrenaline or ephedrine administration is a rise in the blood pressure, and it is a common experience in cases which respond to ephedrine to find that from half an hour after its administration the systolic pressure is distinctly raised for some hours. There are, of course, many difficulties and fallacies associated with accurate blood pressure estimations, but, granted the confidence and ease of the child, these are not insuperable so far as general approximations are concerned.[10] In the cases of the type which I have mentioned the average response in a child of about 8 to 13 years of age to 1/2 grain of ephedrine is a rise in systolic blood pressure of rather less than 20 mm. of mercury, the diastolic pressure remaining stationary. In cases which do not respond clinically to treatment by ephedrine, and whose F.I. is persistently negative, it may be found that there is no blood pressure response to the drug, and that even when its administration is reinforced by thyroid there is still no response, or almost none.

Other children suffering from asthma have a variable F.I. reaction and respond indifferently to ephedrine—that is, they have an occasional attack of asthma while taking the drug. They have little or no blood pressure reaction, and they suffer no "collapse."

Lastly, there are some children who, a short time after taking ephedrine, suffer from "collapse," weakness, dizziness. I have met with 7 such cases—5 severe and 2 slight. In all the cases in which the collapse was severe, marked F.I. was present; in the mild cases it was absent. In all 7 cases the rise in systolic blood pressure was very marked after administration of ephedrine, the diastolic pressure remaining approximately level. In one case over several estimations the average rise was 26 mm. Hg, in another 30 mm. Hg, and in a third 40 mm. Hg. Symptoms can usually be avoided by smaller dosage. As a part of prophylactic treatment the prolonged administration of ephedrine is usually beneficial and always safe. It is most usefully given thrice daily before meals in a dosage of approximately 1/4 grain to a child aged 5 years and 1/2 grain to a child aged 10 years. When combined with careful and prolonged supervision—the most important element in treatment—the prognosis is good in early uncomplicated cases.

CHOREA

Chorea is a symptom, not a disease. When we consider the various conditions occurring at the different periods of life with which chorea may be associated, we find that all "have this in common, that the victim is not in possession of fully developed mental powers."[11]

Chorea occurs in the young; it may result from the existence of intracranial lesions; or it may owe its origin to constitutional nervous instability. In all cases its onset is determined mainly by the emotional side of mentality. In childhood the chief importance of the symptom lies in the fact that it is usually associated with rheumatic infection. At this period of life some degree of nervous instability is natural. For the proper development of emotional control suitable experience is necessary. Lack of, or abnormality in, education and training may lead to emotional disorder, and may also form the basis of faulty motor control.

In the treatment of chorea many drugs have been tried, vaunted, and discarded. Notice is taken here of only two methods of treatment: the one directed to alteration of calcium metabolism and the other to nervous control by means of nirvanol.

My experience in regard to rheumatic chorea is that diminution in the amount of blood calcium cannot be an important factor in determining the symptom. In fifty recent examinations the reports revealed that in twenty-one cases the blood calcium was between 9 mg. and 11 mg. per 100 c.cm.—that is to say, within the limits of the normal; in twenty-one instances it was below normal, and in eight above normal.

If, as was the case, very severe and acute chorea occurs with blood calcium figures above normal, the possibility that lack of blood calcium is an essential element in the development of the symptom is excluded. My evidence further goes to show that methods directed towards increasing ionic calcium have no marked influence on the symptom, and that they do not, in fact, in many cases increase the blood calcium content.

The methods used have been oral administration of calcium chloride and ostelin, and hypodermic injection of parathormone with ostelin by the mouth. On the latter treatment the blood calcium of a boy, aged 9 years, rose from 7.2 mg. to 11 mg. per 100 c.cm. in the course of three weeks, but the chorea remained very severe. In another case treated with parathormone, calcium chloride, and ostelin, the blood calcium figure during a period of six weeks was between 9 mg. and 9.3 mg. per 100 c.cm., and yet the child steadily improved.

A long-recognized method of treating choreic children has been by means of nerve sedatives. Of drugs recently introduced, nirvanol was found very useful in Germany for the treatment of various adult conditions, and it has later been largely employed for the treatment of chorea in childhood. It appears that in order to have any beneficial effect this drug, which is closely allied to luminal, has to be given in dosage sufficient to produce a somewhat violent reaction—"nirvanol sickness"—and that excessive dosage is dangerous.

In a series of ten consecutive cases of chorea treated with nirvanol, there was a good result in five. Although improvement was speedy and without distressing symptoms, it was accompanied by rash, pyrexia, and some initial exacerbation of symptoms. Persistence of improvement, however, was no more marked than with various other methods of treatment. In two of the other five cases great exaggeration of symptoms called for cessation of treatment. In one case hyperpyrexia with glandular enlargement was followed by rapid improvement; in the two others improvement was slow, and the ultimate results unsatisfactory. While nirvanol is sometimes associated with very satisfactory results, its use is severely restricted by the reaction it evokes, which is not entirely without danger.

FITS

The symptom of epilepsy occurs in various forms in childhood other than those of typical grand or petit mal, or of Jacksonian epilepsy. Early diagnosis is often difficult. A commencing idiopathic epilepsy may show itself for a long time solely by recurrent attacks of visceral spasm, and it may be only with the advent of an obvious fit, when the condition is fully established, that anti-epileptic treatment is begun.

Three common causes of fits due to gross intracranial abnormality are birth trauma, infantile cerebral paralysis, and amentia—for example, syphilitic meningitis. Epileptiform attacks may also occur unassociated with any gross intracranial abnormality as a symptom of, or in conjunction with, simple primary amentia, or they may be of the nature of idiopathic epilepsy. Since an ament is prone to fits, it is fundamental for prognosis to recognize whether amentia is present or not.

In a recent review of 129 children of school age noted as being sufferers from "epilepsy" I found that in 35 there was evidence of an organic cause or of primary

amentia; that in 16 out of the 94 cases of idiopathic epilepsy the patients were imbeciles, while 16 out of the 35 cases of organic lesion of the brain or primary amentia were imbecile. When a child has neither gross organic abnormality nor primary amentia but takes fits, these may have very different etiology and prognosis, and call for very different treatment. Epileptiform attacks forming part of the picture of spasmophilia—Group 3—are associated with rickets; they are intimately connected with the metabolism of calcium and phosphorus, are controlled by calcium injection, and can be prevented and cured by means of vitamin D. The ultimate prognosis here, for the mental condition also, is good.

Fits that may be classified under Group 4 are of certain types—for example, (*a*) infantile eclampsia, (*b*) an occasional fit or fits, (*c*) pyknolepsy, and (*d*) characteristic idiopathic epilepsy. In all, the presence or absence of an essential or idiopathic epilepsy may be conjectural for a time, but in none may the matter be lightly regarded. Although we have definite signs in spasmophilia for an independent diagnosis, and a definite exciting cause, the importance of a possible underlying diathetic trend towards convulsion is even here hard to evaluate.

When dealing with cases of infantile eclampsia we are on even less sure ground. Under this term I include the type of convulsions occurring during the first few weeks of life, usually in boys, where there is no apparent cause and often no digestive disorder, where the fits are of the nature of short general convulsions repeated at brief intervals, where other treatment is unavailing, but where temporary chloralization produces a permanent cure. Whether or not we have here to deal with an anaphylactic phenomenon is not known.

With a child who has an occasional fit we cannot altogether dismiss the possibility of an underlying vice of nature, provided there is no obvious cause, such, for example, as alkalosis. There is no certain test. But family and personal history, precedent or accompanying symptoms, the general physical and mental condition, may all go far to confirm a diagnosis in one or other direction.

In the rare type of case described as pyknolepsy we find that a previously healthy child of about 4 or 5 years of age suddenly begins to have fits of the nature of mild petit mal, which occur very regularly and usually very frequently from the onset. There may be as many as a hundred daily. As they commence, so they continue. No treatment has any beneficial effect; clinically striking is the fact that in spite of long-continued frequent attacks there is no mental impairment and no physical ill-health. After a variable number of months or years the attacks cease as suddenly as they began.

In striking contrast to such a course are most cases of ordinary idiopathic epilepsy; here the treatment consists essentially in attempts to restore nervous tone, and this demands attention to all bodily functions, particularly digestion and excretion. Chloralization is not successful, but the regular and long-continued administration of bromide and probably luminal is of the utmost importance. It is also necessary to establish intelligent control of instinct and emotions, to develop good habits, and to inculcate obedience, reticence, and modesty. Careful guidance of interest, occupation, and scholastic instruction is helpful. In some cases many of the peculiarities of the epileptic are due rather to his training, or rather spoiling, than to his weakness itself. The child is commonly not only a victim of a neuropathic heredity, but suffers also from a psychopathic home environment. Loose control is highly deleterious: the more average-normal his training the better. The satisfactory care of chronic nervous or spasmodic conditions, especially of chorea, asthma, and epilepsy, demands the co-operation of parents, nurses, teachers, and doctors, and continuity of treatment for a long time.

REFERENCES

1 Hall, Stanley: *Youth*, 1907.
2 Eckert: *Zeit. f. Kinderheilk.*, 1924, xxxvii, 245.
3 Graham and Anderson: *Lancet*, 1924, i, 1307.
4 McNeil: *Edinburgh Med. Journ.*, 1924, xxxi, 651.
5 Howland and Marriott: *Quart. Journ. of Med.*, 11, xliv, 289.
6 Sabbatani: *Accad. R. d. Sc. di Torino*, 1904.
7 Percival: *British Medical Journal*, 1927, ii, 783.
8 Eppinger and Hess: *Journ. of Nerv. and Ment. Dis.*, 1914, xli, and 1915, xlii.
9 McDougall, William: *An Outline of Psychology*. Methuen, 1926.
10 Meyer: *Zeit. f. Kinderheilk.*, 1929, xlvii, 560.
11 Mackenzie, Ivy: *Glasgow Med. Journ.*, 1915, lxxxiii, Nos. 4, 5, and 6.

SUBPHRENIC ABSCESS

BY

W. D. DOHERTY, M.Ch., F.R.C.S.

SENIOR SURGICAL REGISTRAR AND TUTOR, GUY'S HOSPITAL, AND SURGEON, HAMPSTEAD HOSPITAL FOR CHILDREN

AND

R. P. ROWLANDS, M.S., F.R.C.S.

SURGEON, GUY'S HOSPITAL

A subphrenic, or subdiaphragmatic, abscess is a limited collection of pus just below the diaphragm. Frequently gas, either from a perforated viscus or as a product of gas-forming bacteria, is also present in the abscess cavity.

H. L. Barnard,[1] in his excellent paper upon this subject, analysed seventy-six consecutive cases, and classified subphrenic abscesses as follows:—

Intraperitoneal: right anterior, right posterior, left anterior, left posterior; of these, anterior abscesses are more common than posterior, especially on the left side.
Extraperitoneal: right, left; of these, the right-sided is much more frequent.

The falciform ligament is the dividing line between the right and left intraperitoneal abscesses, and the lateral ligaments of the liver separate the anterior from the posterior varieties. The right extraperitoneal space under the diaphragm is small, and is limited by the coronary ligament of the liver; the left extraperitoneal space is near the upper pole of the kidney. Extraperitoneal abscesses, however, may travel upwards behind the peritoneum from the colon, appendix, or kidney, pushing the peritoneum forward and eventually occupying the large space under the diaphragm. Sometimes a subphrenic abscess extends downwards into the subhepatic space on either side of the middle line. In the present series of 49 cases, 36 occurred on the right side, and 13 on the left.

CAUSES

Micro-organisms may travel by the blood stream from any part of the body and cause a subphrenic abscess, but the abdominal viscera are naturally the sources of most abscesses in this position, and of these the stomach and the appendix originate the large majority. The liver, gall-bladder, and bile ducts together contribute the next largest group of cases. Here the infection is usually spread direct from a perforated viscus, but it may be carried by the portal veins or by the lymphatics. Diseases of the chest, especially of the lungs, cause a few subphrenic abscesses; diseases and injuries of the chest wall, particularly of the ribs, are also etiological factors in a few cases. Either systemic or portal pyaemia may give rise to a subphrenic abscess. Many different organisms have been found in these abscesses, notably the *Staphylococcus aureus*, streptococcus, pneumococcus, *B. coli communis*, *B. pyocyaneus*, and *B. typhosus*. Subphrenic abscesses are most frequent between the ages of 20 and 50, and they are distinctly commoner in men than in women.

An analysis of 49 consecutive cases at Guy's Hospital shows the following causes:

Perforated gastric and duodenal ulcers*	20
Acute appendicitis	12
Blood-borne	6
Acute cholecystitis	4
Carcinoma of colon	3
Carcinoma of stomach	3

* This includes subphrenic abscesses found post mortem as part of a general peritonitis.

SYMPTOMS

Fever, remittent or intermittent, and with or without rigors and associated abnormal physical signs at the base of the chest, suggest a subdiaphragmatic abscess, especially if there is a known source of infection such as a recent appendicitis or perforation of a gastric or duodenal ulcer. Dullness over the lower part of the chest is the most constant local sign, and the upper limit of this is often dome-shaped. This dullness is continuous with that of the liver or spleen. Sometimes there may be three or four zones of varying resonance at the base of the chest, the liver or splenic dullness being continued upwards to that over the collection of pus under the diaphragm. Just above this there may be a tympanitic note over a collection of gas above the pus, higher up a dull area indicating pleural effusion, and still higher the normal resonance of the lung. Although there may be no pulmonary signs at first, these develop later, due to the spread of congestion and inflammation to the pleura and lung. Sooner or later there may be pleurisy with a "rub," followed by effusion; there may be signs also of inflammation and perhaps some collapse at the base of the lung with rales and rhonchi, and particularly deficient entry of air and tubular breathing. Lower down, over a collection of gas below the diaphragm, there may be the coin sound or *bruit d'airain*. Leucocytosis is an important and almost constant sign. In late cases there may be bulging of the corresponding side of the chest, and later still oedema and even pointing of the abscess generally below the costal margin, either in front or behind.

DIAGNOSIS

The diagnosis of this condition is unfortunately difficult, and is too often seriously delayed. A good radiographic examination is invaluable; often there is shown a characteristic local elevation with fixation of the dome of the diaphragm. In some cases a collection of gas above the pus is also shown upon the screen. It must not be forgotten, however, that the retraction of a fibrosing lung may pull the diaphragm up so much and in such a way as closely to simulate the shadow of a subphrenic abscess. Similarly the stomach has been mistaken for a subphrenic abscess on the left side. In the hope of settling the diagnosis a large and long exploratory needle is generally relied upon, but unfortunately the needle often fails us, either getting blocked by thick lymph or missing the abscess. It failed in eleven out of eighteen cases so tried by Barnard. There is a far more reliable method of proving the presence or absence of a subdiaphragmatic abscess, and when in doubt in these grave cases, where a prompt decision is absolutely necessary to save life, this method should always be used. Under general or local anaesthesia an incision just large enough to admit the hand is made in the epigastrium, and the hand is passed in all directions above the liver. Within a few minutes the diagnosis is settled, and an abscess, either under the diaphragm or in the liver, is not only found but accurately located; it can then be safely and quickly drained below the pleural reflection and extraperitoneally, thus avoiding the grave risks of pneumothorax, empyema, and peritonitis.

Upon three occasions, after being asked to drain a subphrenic abscess, one of us used the epigastric incision, and proved that no abscess existed, although the radiograms had shown shadows which were thought to be typical. It is often almost impossible to distinguish empyema from a subdiaphragmatic abscess. In both, the cupola of the diaphragm is fixed, but in the former it is depressed, and in the latter elevated in a characteristic way, leaving the costophrenic angle transparent (Fig. 1).

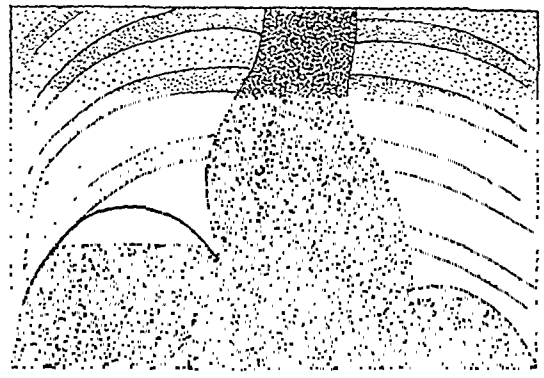


FIG. 1.—Diagram showing the radiographic appearances of a gas-containing subphrenic abscess on the right side. The right cupola of the diaphragm is pushed up and immobilized. The costophrenic and pericardiophrenic angles are not obliterated or opaque, as they would be if the pus had been above the diaphragm.

The exploring needle does not help in the distinction. Not uncommonly, empyema complicates a subphrenic abscess.

PROGNOSIS

In our experience, subphrenic abscess is much rarer than it used to be. Over a period of ten years since the war, the Guy's Hospital surgical reports record forty-nine cases, an average of under five cases a year. This is almost certainly due to earlier diagnosis and operation for perforated peptic ulcer and acute appendicitis, and to the better packing off of the subphrenic space and the avoidance of irrigation during these operations. The frequent adoption of the Fowler position has also helped.

TREATMENT

Without operation there is very little hope of recovery, although the abscess may drain imperfectly through the lung into one of the hollow abdominal organs or through the skin. The few patients who survive this tedious process are apt to become chronic invalids. The main ideal of successful operation is efficient drainage without risks either of pulmonary complications or of peritonitis. To attain this ideal every effort should be made to drain the abscess at its lower part, below the pleural reflection, and extraperitoneally.

The anterior abscesses, which are fortunately most common, often descend into the epigastrium or hypochondrium. They can be drained through an incision below the costal margin, but a counter-incision in the loin is sometimes also necessary. Posterior abscesses may be drained through the thorax, either by a subpleural or transpleural route. The cases cited below illustrate the frequency with which pulmonary complications follow the transpleural route, yet this still appears to be the common method of approach. It is interesting in this connexion to review Barnard's lines of treatment.

Barnard did not advocate early operation upon these abscesses, but preferred in most cases to delay intervention until the abscess had enlarged considerably and was well shut off. His reasons for doing so were that as the abscess enlarged the diaphragm was driven up, and the

lower part of the pleural cavity was obliterated or closed by adhesions. The abdominal viscera, on the other hand, were pushed down, so that when the transpleural operation was chosen the abscess could be opened through a lower spot in the thoracic wall. It is apparent from Barnard's case reports that the diagnosis of subphrenic abscess was not made until a late stage of the condition. He says that in fifty out of seventy-six consecutive cases an abdominal swelling was noticed as one of the signs of the abscess. Again, *x* rays demonstrated the abscess as a dark shadow in the only case in which they were used. Barnard preferred the posterior transpleural operation for large abscesses which had pushed the viscera down, but he was alive to the danger of producing pneumothorax and empyema by this route. He therefore took elaborate

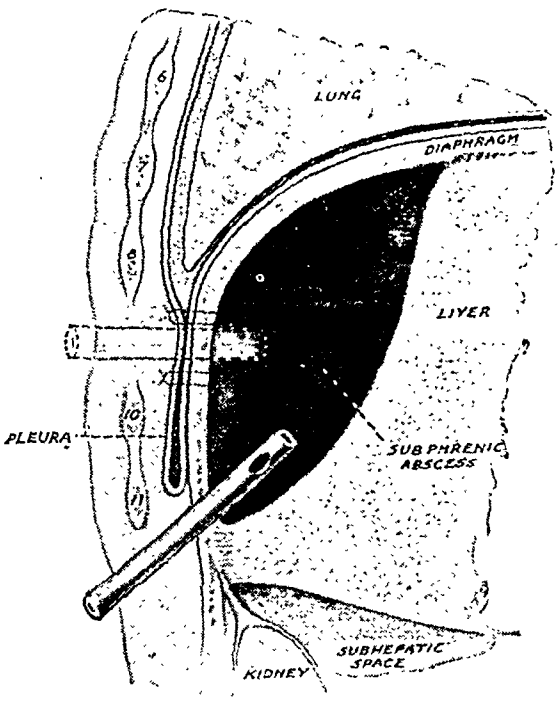


FIG. 2.—Subpleural and retroperitoneal drainage of a subphrenic abscess; a part of the twelfth rib has been removed, and the lower tube has been inserted through a horizontal incision in the diaphragm below the pleura. The upper shadowed tube passes through the pleura. This method is to be avoided, because pneumothorax and infection of the pleura may result even after all precautions have been taken to avoid them, and even when the pleura is adherent at the time of the operation.

precautions to prevent these complications. He got an assistant to push up the liver whilst he was incising the pleura. Then he sutured the pleura on the surface of the diaphragm to the parietal pleura, even although adhesions were present. Lastly, having incised the diaphragm, he sutured the latter to the intercostal muscles.

At the present time subphrenic abscesses are recognized at a comparatively early stage by improved methods of radiography, etc., and they call for treatment before the pleural cavity has become obliterated and the viscera pushed down to any great extent. It is particularly important to avoid the transpleural operation in these early cases, but even in late cases it is not so safe as the subpleural operation, pneumothorax with pleural infection having often followed, even when the lower part of the pleura has appeared to be safely obliterated either by nature or by art. Therefore the exploring needle should be inserted below the pleural reflection, which runs obliquely about an inch above the lower costal margin. The needle should be passed obliquely upwards and inwards. If pus be found the incision should follow the needle, the diaphragm being exposed and a transverse incision made through it below the pleura. Generally it is necessary to remove a portion of one or more ribs below the pleura in order to get adequate room (Fig. 2). Nather and Ochsner remove the whole of the last rib, but it is enough, and safer, to excise only the distal half, because the pleura often extends below the neck of the last rib, where it is liable to be wounded. The transverse incision through the diaphragm is made at the level of the first lumbar spine, and therefore nearly always well below the pleura. The peritoneum lining the diaphragm is carefully separated and pushed forward, and the closed points of long dressing forceps are passed just below and along the needle into the abscess. The forceps are opened gently to enlarge the opening, and a large rubber tube is inserted and stitched to the skin.

MORTALITY

Without operation the death rate of subphrenic abscess is over 85 per cent. With operation it used to be over 50 per cent.; in recent years, however, it has been reduced to about 25 per cent. Before long it should be further reduced by earlier diagnosis and better operations, especially with the avoidance, whenever possible, of pulmonary complications.

CASE I

R. B., aged 20, was admitted to Guy's Hospital on March 30th, 1930. On the 24th he had had pain in the region of the umbilicus, associated with nausea and vomiting; on the 25th the pain had travelled to the right iliac fossa and had got steadily worse; on the 30th the pain was excessive; the bowels had not opened for five days. On examination the abdomen was rigid all over, and particularly on the right side; there was no special tenderness in the right iliac fossa. Rectal examination showed tenderness in all directions. His temperature was 103° F., and pulse 120; the tongue was dry and brown. The abdomen was opened the same day through a lower right paramedian incision, and a gangrenous appendix was removed. The peritoneum was full of pus. The pelvis and the right iliac regions were drained through stab wounds. He did fairly well until April 12th, when his temperature rose to 102°. The right chest was rigid, and there was dullness over the lower part of it. On the 13th, the eighth space, on the right side beneath the axillary line, was aspirated and three-quarters of a pint of foul pus, containing *Bacillus coli* and streptococci, was removed. The following day another pint of similar pus was removed, and as there still appeared to be more, further operation was undertaken, a piece of the eighth rib removed, and a subphrenic abscess drained. The diaphragm was found to be firmly adherent to the parietal pleura. On April 19th he collapsed again, and was found to have a pneumothorax; air was sucking in and out with each breath, around the drainage. A larger drain was inserted and sealed to the thoracic wall with a rubber dam. Negative pressure was maintained by suction with Sprengel's pump, but he died the following day. At the subsequent examination the abscess cavity was found almost empty, and there was no empyema on either side.

CASE II

A man, aged 45, was admitted to Guy's Hospital on April 22nd, 1930, for a perforated duodenal ulcer with extravasation. The perforation was closed and the wound was drained, and everything went satisfactorily until about three weeks later, when the temperature went up and remained remittent, and about 101° F. in the evening. The man made no complaint of pain in his back, but there was dullness at the right base. The radiograms did not reveal any bulging up of the diaphragm, but only fixation of the right cupola. The leucocyte count was 20,000. A physician saw him and was a little uncertain as to the exact cause of the symptoms. A needle was inserted in the right pleura, without finding any pus; only a little clear fluid was withdrawn.

Under an anaesthetic on May 22nd, the patient lying on his left side, a large needle was passed obliquely upwards and forwards from behind and below the last rib. At the second

venture offensive brown pus was found. Then, through an oblique incision, the terminal half of the last rib was removed and the diaphragm cut horizontally; it was thickened and inflamed. Forceps were passed upwards and forwards along the needle into the abscess cavity, which was the size of an orange, and lying chiefly behind the right lobe of the liver. It was drained through a large tube, and the patient made a good and rapid recovery.

CASE III

T. B., a male aged 59, had had indigestion and attacks of vomiting for years. On November 1st, 1922, he was seized with sudden severe abdominal pain, accompanied by vomiting, and was admitted to Guy's Hospital on November 4th. The right upper quadrant of the abdomen was rigid, and there were signs of compression of the base of the right lung. The *x*-ray report stated: "Right diaphragm is greatly elevated and completely immobile. Left diaphragm moves well. Gas bubble above right lobe of liver." This abscess was explored transpleurally by resecting the tenth rib in the mid-axillary line, four and a half pints of fluid being removed. The patient died on December 11th, and at the post-mortem examination a large right empyema and collapsed lung were found. The subphrenic abscess was secondary to a perforated duodenal ulcer.

CASE IV

I. G., aged 33. A gastric ulcer was operated upon seven hours after perforation, suture of ulcer being done with suprapubic drainage. Eight days later pain was complained of below the left costal margin, and examination proved a "rub" at the left base. A straw-coloured fluid was aspirated. On the eleventh day a left subphrenic abscess was drained by incision below the last rib. On the fourteenth day there was rib resection for left-side empyema; the patient died on the twenty-eighth day.

CASE V

C. McC., aged 62 years, was admitted to Guy's Hospital on May 2nd, 1925, with a fifteen-hour history of acute pain in the upper abdomen. Laparotomy revealed a perforated duodenal ulcer. Suture with drainage of the peritoneum was performed. Three weeks later he had pyrexia with pain over the lower ribs on the right side. The white blood count was 20,000. *X*-ray report: "Right leaf of diaphragm is slightly elevated, movements greatly diminished. Slightly indefinite opacity at right base suggestive of pleural thickening, but no effusion seen. Left base and left diaphragm show no abnormality." Pus having been found by an exploring needle on June 11th a portion of the eleventh rib was resected on the right side; the lower margin of the pleura was found and sutured to the diaphragm. The diaphragm was then opened subpleurally and the abscess drained. He made a satisfactory recovery, and was discharged a fortnight later.

CASE VI

K. S., aged 38, was admitted to Guy's Hospital on September 12th, 1927, with fourteen days' history of pain in the left loin, with pyrexia. There was tenderness in the left loin and dullness at the left base of the lung, but *x* rays showed no abnormality. An exploring needle inserted through the tenth space located pus apparently below the diaphragm. A portion of the eleventh rib was resected and the pleural cavity opened; no pus was present. The pleura was closed and the diaphragm incised and a subdiaphragmatic abscess drained. One month later the pyrexia was still present, and pus was found by an exploring needle in the left pleural cavity; this was drained through the original wound. After a prolonged convalescence the patient left the hospital with a discharging sinus.

CONCLUSIONS

A review of the causes, symptoms, and diagnosis of the subphrenic abscess is given.

The treatment is discussed, and the posterior subpleural method of approach is advocated in order to avoid pulmonary complications.

Cases are cited illustrating the complications following the transpleural route. Cases II and V show the advantages of the subpleural route.

REFERENCE

[1] H. L. Barnard: *British Medical Journal*, 1908, i, 371, 429.

GENERAL OBSERVATIONS ON SEA-SICKNESS AND THE LABYRINTHINE THEORY*

BY

T. GWYNNE MAITLAND, M.A., B.Sc., M.D., D.PHIL.

MEDICAL SUPERINTENDENT, CUNARD COMPANY

The British nation, eminently seafaring, is conspicuous for its neglect of the study of sea-sickness. In consequence of this ignorance there is as much diversity of opinion about cause as there is about treatment. The very prevalent view that sea-sickness is a matter of mere nerves arises from the observations that vomiting sometimes occurs before the passenger has embarked, and also that sea-sickness is apparently so often controlled by suggestion. There are other views equally superficial which overlook the primary cause because of some casual feature which is unduly prominent. So it is with treatment. The layman, in the person of the old traveller or the bedroom steward, is always prepared with an "infallible remedy." Even the medical man, at sea as on shore, may have partial success with a favourite drug, and, turning a blind eye to failures, may become stereotyped in his advice. The underlying factors are altogether too inconstant for certitude. Personal adaptability, the subsidence of winds and waves—any one or all may make a remedy appear effective. Thus it is advisable that the would-be voyager, when urged to try so many "personally recommended cures," should bear in mind the poverty that lies in such wealth.

CONDITIONS AT SEA

It is exceptional to have seas continuing rough for a trip of six days. It is not uncommon to hear sailors speak of a wind as "blowing itself out"; rough days alternate with calm days; all the greater care is needed, therefore, in waxing enthusiastic over a specific remedy. The weather may have changed, the sea subsided, the first attack of vomiting have corrected the overtaxed digestion, or one's sea legs may have come to the rescue. For these reasons it is necessary to appraise all the accessory aids as nearly as possible in order to judge how far any particular remedy has contributed towards recovery. Care must also be exercised as to the denotation of sea-sickness in order to be quite sure that we are considering *sea-sickness* and not *sickness at sea*—cases of mere "nerves," those who are "sea-sick" when they step on the gangway or even (as in one case) when in sight of the sea, those who vomit merely in imitation or in consequence of the odour of vomiting, all in fact belonging to the readily suggestible, but who do not properly come within the scope of the inquiry.

THE SHIP'S MOVEMENT

Quite a large number of old travellers (ship captains among them) never acquire complete adaptability to ship movement. One ship surgeon of fourteen years' standing never put out to sea without, for the first two days, headache, mental confusion, and nausea, which went on to vomiting if the sea became rough. Long familiarity with one type of ship, in susceptible persons, may give undue confidence in their capacity as good sailors, only to have this rudely shattered as in the case of so many "old salts" when transferred during the war from big battleships and big liners to destroyers and trawlers. One may venture to say that with the exception of certain rare and mostly pathological cases, all normally constituted people are susceptible to some definite type of movement. Nevertheless sea-sickness has not the terrors for passengers it had in old times. Our parents may have been hardier, but the descriptions of crossings

* Read in the Section of Medicine at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

in the days of the sailing ships and early steamers make nauseating telling. The present-day liners, with their size, their exquisite balance, the diversion by exhaust of all unpleasant odours from engine and from galley, and the immense precautions with regard to cleanliness and comfort, make of the ordinary crossing a genuine rest and holiday. It is not possible for a ship to be so constructed as to keep an even keel at sea. A ship's stability, its reputation as a good sea boat, depends to a certain degree on its harmonic response to wind and wave. The tendency has lately leaned towards giant liners, as they are unaffected by the wave movement which smaller craft find definitely uncomfortable, although these big vessels, with a certain type of sea, may also roll and pitch to an unpleasant degree.

CAUSATION OF SEA-SICKNESS

An inquiry into the causes of sea-sickness was held with Group-Captain Martin Flack, Dr. J. R. Marrack, and Major Reid. The ship chosen has a splendid reputation as a sea boat, but fortunately for our investigations the outward journey was the roughest crossing experienced in it for over eight years. Major Reid was enabled, with a ship-movement indicator and his rate-of-turn gyro, to analyse into its components the movement of the ship in a head sea, twice registering a maximum pitch of 10 degrees; with a sea abeam, a maximum roll of 20 degrees was recorded. The yaw—a sort of "side-slip"—was also taken. In bad weather the rolling and yawing are interrelated. The observations not charted were the scend, or upward and total displacement of the ship, and the oscillation. Needless to say, the scending throughout the trip was always present, the others—pitch, roll, and yaw—varying in combination with it. The most unpleasant movement is what is called "corkscrew," when the seas are on the bow or quarter, a combination of roll and pitch on a basis of yaw and scend.

Major Reid's apparatus was able to register the time-frequency of the roll, pitch, and yaw, which will later be seen to have considerable significance when comparing ship movement with rotation experiments. Any statement of rolls exceeding 30 degrees should be received with caution. But even a big roll, if slow in development and change of direction, need not necessarily be unpleasant; the type that provokes sea-sickness is generally the suddenly unexpected arrest of movement and change of direction. Whatever the ship's movements may be, the passenger can only partially counteract it by bodily adjustment, since the movement takes place in so many planes. Lying "fore and aft" for roll or "athwart" for pitch is well advised, but no fixed position does more than give a relative measure of ease. Since the change of direction cannot be anticipated, the eye fails to pick up datum levels which will rectify the erratic information from the semicircular canals. In very rough weather, the ship's movement may not be provocative at all; the boat may not pitch, roll, or scend, for a wind of sufficient force may flatten out the waves. It is generally in the aftermath of the gale that the sea begins to rise.

The sea voyager, then, is submitted to movements from without which he bears ill, contending with others than those in the horizontal plane to which he is well accustomed in car and train. The experiences that have something in common with ship movement are those of a quick-moving lift, of the aeroplane in an air pocket, of the swings and mountain railways of the world's Coney Islands, and, perhaps most of all, of a camel, which rolls and pitches. All these have movements in other planes than the horizontal, but with a sensible duration in each; after a pause they abruptly pass to other planes. This is obviously entirely different from, say, the quick jerk up and down of the parade cavalry trot, which, although the abdomen is rudely shaken, has never been known to cause symptoms similar to sea-sickness. All movements such as these are altogether too short in duration to be provocative.

A number of subjects, eight in all, were examined for pulse rate, ocular imbalance, and blood pressure, before and after they were seated for fifteen minutes on the automatic trotting horse. They were all new to this experience, and were told not to rise to the movement, but relax in order to get the maximum of jolt from a rise and fall of the seat from 5 to 6 inches. In no case, although the abdomen was thus submitted to a fairly severe tax, was there change in any of the readings; the pulse rate was normal, and there were no symptoms of nausea, vertigo, or even headache.

The point to note with regard to the movements of the ship and of allied means of transport is that there is an appreciably long latent period before the development of symptoms. The threshold is lowered by a summation of stimuli, the symptoms even under bad conditions usually occurring after ten minutes, and often not before three or four hours have elapsed. This sharply distinguishes the genuine sea-sick type, whose distress is definitely due to the ship's movement, from those highly suggestible persons who retch the moment they set foot on the gangway, or are affected by the sound, the sight, or the odour of vomit.

SYMPTOMS

The symptoms differ very considerably from case to case. A list of these was drawn up and found to include for the most part blurred vision, a feeling of visual uncertainty, giddiness, coldness of the extremities, headache (variable in position), cold sweats, hot sweats, mental confusion, lethargy to any effort, mental or bodily, salivation, nausea and vomiting, occurring in any order within certain limits. The cases were roughly classified as severe, moderate, and slight; because vomiting is regarded as a classic symptom of sea-sickness it was made the standard for severe cases; those cases with one or two not very distressing symptoms, such as vertigo, lassitude, etc., were put down as slight; headache, nausea, and any other symptoms which were definitely uncomfortable were placed in the moderate group. The examinations were made in conjunction with Dr. Martin Flack, the result being: severe 86, moderate 11, slight 27.

Symptoms with their Frequencies
March, 1930

Vomiting	86	Hot and cold sweats in turn	5
Vomiting without nausea	34	"Feeling of heat"	1
Vomiting with nausea	52	"Feeling of cold"	1
Nausea	74	"Sinking feeling"	2
Nausea without vomiting	22	Lassitude	6
Headache	63	Light-headed	3
Vertigo	47	Constipation	2
Mental confusion	32	"Acid stomach"	1
Pallor	40	Thirsty	1
Blurred vision	17	Pain in back	1
"Hot sweats"	25	Diplopia	1
"Cold sweats"	5	Asthma	1

A Compilation made by One Surgeon over the Period 1924-26

Vomiting	320	Vomiting without nausea	60
Nausea alone	240	Lassitude	44
Headache	165	Blurred vision	40
Vertigo	122		
Abdomen discomfort	97		

PHYSIOLOGICAL TESTS

With regard to the simple physiological tests that were practicable, three symptoms were appropriate. The first was blurred and confused vision. Dr. Flack deals with this aspect, examining the claim that ocular disturbance is a primary factor in sea-sickness. It is well known that certain patients (keeping the eyes on a datum level, such as the horizon) derive considerable benefit by closure of the eyes, by bandaging one eye, by wearing coloured glasses, or even by paralysing accommodation with a local application of atropine. That these remedies fail in the great majority of cases is now admitted, but that the eye may be a contributory factor

is not to be denied; the question, however, is to what extent. The Bishop Harman apparatus was therefore used to test imbalance before and after sea-sickness, and before and after experiments in rotation with the Bárány chair. There was little doubt that a large majority of early cases were associated with an initial heterophoria, and that this definitely increased with the development of sea-sickness. Nevertheless, the monoculars did not escape sea-sickness, neither did the zero Bishop Harman cases, so that perfect eye balance is not necessarily a protection, nor is single vision.

44 sea-sick cases showed B. H. readings above 3.
66 sea-sick cases showed B. H. readings below 2.
4 non-sea-sick cases showed B. H. readings above 3.
24 non-sea-sick cases showed B. H. readings below 2.

That the eye can be involved without the cerebral effort of visual attention is demonstrated by rotating the subject in the Bárány chair with closed eyes. Nystagmus is very apparent under the closed lids, but the confusion and vertigo are considerably increased when the eyes are opened, owing to the visual information still further conflicting with the other proprioceptors and extroceptors. In sea-sickness the closed eyes undergo a constant and compensatory adjustment of equilibration, despite the absence of any object in the visual field. This adjustment acts, not only in correspondence with the waves of pressure in the endolymph of the labyrinth, but to a lesser degree with the tonic neck reflexes and the tactual sensations from the parts involved in posture. Such bodily adjustments of eye and musculature have all been described by Magnus,[1] under the headings of "tonic neck reflexes," "tonic labyrinthine reflexes," and "optical righting reflexes."

The next investigation was that of the pulse rate and blood pressure. The signs and symptoms themselves indicated the need of such observations. Some subjects showed extreme pallor and slight collapse, others a heightened colour, sweating, and a dilated pupil, suggesting either a parasympathetic or a sympathetic disturbance. Sometimes these alternated, parasympathetic symptom following sympathetic. In others it would seem as though the cases displayed certain features of each. It was often difficult to decide on the type of disturbance. In the better-defined cases the pulse rate showed either a bradycardia, with a drop in rate when the subject stood up, or a tachycardia still further increased on standing. The blood pressure showed a corresponding coincidental change, some cases demonstrating a blood pressure with a systolic reading below 100, and others with a systolic pressure above 140 when the normal was 120 or thereabouts, all being young and healthy people. These are shown in the following tables.

Alteration of Blood Pressure after Certain Prominent Symptoms

Symptoms	Blood Pressure		No Change
	Fall	Rise	
Severe	20	16	8
Moderate	6	—	—
Slight	2	3	3
Alteration of Blood Pressure, with Severity of Symptoms			
Vomiting (severe)	21	14	9
Nausea	17	11	24
Headache	20	12	7
Giddiness	10	9	6
Confusion	10	4	4
Cold extremities	—	—	—
Hot sweats	9	8	3
Other symptoms	16	16	14

Last of the observations were the biochemical tests. Three years ago, after some interesting statements on sea-sickness by Dr. Oriel in the *Lancet*, there followed in the *British Medical Journal* an extraordinary number of conflicting opinions. Dr. Oriel's results seemed in sharp conflict with expert opinion. They were interesting and unorthodox, but perplexing in that a biochemical irritant, a condition of ketosis, was suggested as the possible cause of sea-sickness. The question to investigate, then, was whether ketosis was invariably present as a cause of the symptom of sea-sickness, or whether it was an effect of the vomiting or of starvation. Dr. Marrack, on two separate Atlantic trips, undertook to make some examinations on cases of sea-sickness prior to vomiting, after vomiting, and also on some non-sea-sick controls. The report of this investigation is made the subject of a separate paper by Dr. Marrack (p. 178).

Other Explanations of Cause

Many views of the cause of sea-sickness, though aired in the medical press, hardly deserve consideration, since they are conjectures only, and are supported by neither clinical observation nor experimental evidence. Such are the views of the primary importance of cerebro-spinal ebb and flow, cerebral congestion and anaemia, the varying pressure changes in hepatic circulation, the long omentum; these possess only a speculative interest. Then there is the opinion that is based on the success of treatment. Respiratory drill is the result of the view that the causal agency in sea-sickness is respiratory arrhythmia. In the first place this arrhythmia is not very marked except in highly agitated individuals, and is at variance with the fact that on shore, except in very abnormal subjects, no amount of distress, terror, or any emotion, brings about symptoms such as vertigo, nausea, or vomiting. In the second place, directing attention away from the dreaded object to some task or effort requiring attention occasionally succeeds. In the third place, even making every concession, the drill is of service to the very few, usually only those of apprehensive type; for that reason it has fallen into disrepute. Lastly, like so many remedies, it depends too largely on personal suggestibility to be generally valuable.

Dr. Poulton, in his interesting observations on the causes of nausea, in the Oliver-Sharpey Lectures for 1925, on certain visceral sensations, considers the locality of nausea to be in the back and lower part of the throat, and that it is due to a condition of tension. He describes the sensation as one of sinking in the throat, and views the condition as caused by a tug or distortive action of the oesophagus on its fixed portion at the rigid framework, the skull and vertebral column. The sensation of sinking he ascribes to a rise of tonus of the stomach wall. He produces experimental evidence to show that the stomach may actually fall, coincident with the sensation, and that bracing up the abdomen may wholly check it. Dr. Poulton considers that the nausea of sea-sickness is attributable to the movement of the ship, particularly by its retardation during the latter part of the descent. He is not prepared to say how far the acceleration at the beginning of the ascent may also account for it. This is a very reasonable presentation of the possibility of a peripheral factor in the production of nausea. That it may be a contributory element one is prepared to admit, but the hypothesis does not explain why nausea may be extreme in the very sea-sick patients who keep to their bunks or who wear a tight belt. With regard to the locality of nausea it is, as Dr. Poulton states, most difficult to get definiteness of opinion. Many describe it as vaguely extending over the upper part of the chest and throat; that the pharynx is here involved is probably due to its extroverted association with the pharyngeal reflex of vomiting.

THE LABYRINTHINE THEORY

The normal reactions of the vestibule are responsible for righting reflexes which compensate active displacements of the body. They are excited not so much by abnormal postures of the body as by movement, its initiation, its cessation, its acceleration, and its retardation. The loss of the associated reaction (the righting reflex) in the airman when flying, all unawares, upside down in a cloud, is evidence that the saccule and utricle of the labyrinth have lost their one-time delicate appreciation of static relations, so that the function of the labyrinth in man is now almost entirely confined to the semicircular canals.[2] The righting reflexes evoked by vestibular excitation are the same as those involved in the general static reactions; they are the extraocular compensatory adjustments, and the statokinetic reflexes from the neck and body as a whole. The musculokinetic system differs from the labyrinth in that it is aesthetic, and subject to inhibition, whereas the labyrinth has no associated labyrinthine sensation, and is entirely outside voluntary control. The musculokinetic reflexes therefore resemble a great many other reflexes, such as the conjunctival and the pharyngeal, which can be inhibited. The rider, when thrown from his horse, must inhibit these reflexes, which may destroy him, and the diver must deliberately counteract these influences the moment he takes off for a head dive. The statokinetic reflexes indirectly excited by the vestibule are then subject to voluntary control, which may explain certain facts in connexion with immunity from the after-effects of excessive and repeated stimulation.

It does not seem to be clearly understood how limited is the range of effective vestibular response. A long ancestry of adaptation to a stable environment has not fitted the vestibule with a defensive mechanism against some types of excitation which cause complete disorientation. From the very nature of lymphokinesis it will be realized why continuous rotation may fail to register, or at the cessation of rotation why movement of the endolymph, still continuing, may transmit information which is in conflict with that of the other exteroceptors and proprioceptors. When the labyrinth is destroyed, as it is in some deaf mutes, there is no longer a vestibular impulse, and in consequence neither conflict nor disorientation. The inherent failure of the labyrinth to register certain kinds of excitation bears witness to the body's limited ancestral experience of movements other than those self-initiated. Waltzing is no exception to this, inasmuch as, though at first self-initiated, it afterwards depends on the momentum which ensues, and which thus places it in the type of movement imposed from without.

There is considerable confusion, then, as to the proper function of the labyrinth. Nystagmus and postural and kinetic deviation are frequently regarded as if they were normal responses, whereas they are an expression of dysfunction and complete disorientation. It is nevertheless true that these, and not the normal responses, are material for the clinician, for paradoxically it is only by the abnormal response that the normality of the vestibule can be determined.

The tests employed to determine the integrity of the vestibule are those of caloric douching, of galvanic stimulation of the ear, and of body (= head), rotation; they are all abnormal or unusual excitations, and in the normal labyrinth bring about disorientation. The vestibule alone of all the organs engaged in the function of equilibration is abnormally susceptible to this kind of excitation, and the above reactions follow immediately on cessation in the case of rotation, and in a few seconds after the initiation of caloric douching and galvanic stimulation; they are called the primary reactions, and in the case of rotation usually disappear in less than thirty seconds. Apart from these primary and abnormal reactions there are secondary signs and symptoms depending upon the severity of the experiment and the susceptibility of the subject, and they continue after the primary reactions have passed away, the symptoms sometimes lasting for twenty-four hours. The secondary signs are a rise or fall of blood pressure and of pulse rate, and heterophoria; these signs rarely persist for more than thirty minutes. The secondary symptoms are variable, but vertigo, nausea, and headache are common. These secondary signs and symptoms are unquestionably evidence of irradiation, which is due either indirectly to the immediate results of excessive stimulation from the conflict brought about by nystagmus, postural and kinetic deviation with other exteroceptor and proprioceptor impulses, or directly to the excessive vestibular impulses in and by themselves. They are in no sense true reflexes, despite the ability in animal experiments to obtain invariably such vasomotor, cardiac, and respiratory effects, along with intestinal peristalsis, nausea, and vomiting.[3] They are no more specific than are other very frequent examples of irradiation.

THE SEMICIRCULAR CANALS AND RELATIVE SUSCEPTIBILITY

Both experience and experiment indicate the remarkable difference in the secondary effects after stimulation of the vertical, as compared with the horizontal, canals. To adequate and normal stimulation the verticals respond as effectively as do the horizontals, but for excessive stimulation there is a noticeable difference. It is unusual for waltzing, merry-go-round movement, and all such horizontal rotation to cause these secondary signs and symptoms, except in very rare cases, whereas scenic railways, swings, lifts, a rough sea, affect unpleasantly a large number of people. In experiments with the Bárány chair, in which the subject is seated with the head in different planes, according to the canals chosen for excitation, it is found that the abnormal excitation of twelve rotations in the horizontal for most people causes little discomfort, though the primary responses are more pronounced than when the vertical canals are tested. Twelve rotations, however, of the latter cause intense discomfort, the sense of disorder is overwhelming, and nausea and vomiting are quite common.

In attempting roughly to group subjects according to their susceptibility to abnormal excitation, it is remarkable how few display secondary effects from horizontal rotation. Only two of the many subjects showed a response; one vomited, and the other (the ship surgeon previously mentioned) felt malaise for twenty-four hours afterwards. Such persons so affected are usually subject to train- and car-sickness, and dislike waltzing. Then there is a large number who even enjoy these movements, but are upset by the swings, scenic railways, fast-moving lifts, and passenger ships in a moderately rough sea. The next group are not upset by the foregoing, but succumb to a torpedo-boat destroyer or a trawler in a gale, and to excessive vertical canal stimulation by rotation or caloric douching. Lastly, there are the pathological cases, the deaf mutes with functionless labyrinths, who show neither primary nor secondary effects in response to any kind of excitation.

NYSTAGMUS AND VERTIGO

The only normal and functionally useful reflex between the vestibule and the eye through the medium of the nuclei of the third, fourth, and sixth nerves is the eye-righting reflex. Owing, however, to the objective evidence of nystagmus arising from abnormal excitation of the vestibule, this connexion between the eye and the vestibule has been called the nystagmic circuit. The disorientation

associated with this abnormal excitation has been considered to be due either to a conflict from the disorderly exteroceptor, the visual impulses, or to the disorderly proprioceptors—the extraocular impulses—rather than to the disorderly vestibular impulses, in and through themselves. That it is not entirely dependent upon the former or visual impulses is clear from the fact that vertigo may still occur on shutting out the visual field by closure of the eyes; that it is not entirely dependent on the extraocular impulses is evident from two observations, the first being that after the disappearance of the primary reactions—that is, nystagmus, postural and kinetic deviation—vertigo may still persist; the second being that vertigo may follow abnormal excitation of the vestibule in the absence altogether of the primary reactions. Malan[4] of the Italian Air Force has observed that nystagmus and the primary reactions after abnormal excitation of the vestibule by rotation may, after a time, fail to appear on frequent repetition of the rotation experiment. This observation is in accord with my own experience, but, unlike Malan, I do not consider this is due to fatigue, but believe that it depends on cerebral control, an increasing ability to inhibit the effects of the abnormal excitation of the vestibule.

It is in most cases easy to curtail the time limit of nystagmus by asking the subject of the experiment to focus his vision persistently on some near object, and the same result observed by Malan in his subjects will, in due course, occur by a deliberate act of concentration rather than by an effort of self-preservation and eye fixation acquired, little by little, to eliminate the unpleasant effects of nystagmus. This same feature is associated with nearly all superficial and some organic reflexes, which, as stated previously, may come under cerebral control. The opinion has been advanced that the vestibule can have no relation to sea-sickness because nystagmus has not been observed in sea-sickness, while it is inevitable in chair rotation. This is erroneous, and is an entirely inadequate statement, and the basis on which the comparison is made has no norma. Rotation, when conducted so as to simulate ship movement, can produce the syndrome of sea-sickness without any of the primary reactions. Two errors in the argument depend on failure to collect evidence as to the time periods of the various ship movements, such as the pitch or the roll, and on ignorance of the importance of choosing for abnormal excitation the same canals that ship movement excites—that is, the vertical canals. With regard to the time element, this can be approached from the point of view of the time of ship movement, as compared with the time taken for the usual experiment with horizontal rotation. The most vertiginous of simple ship movements is the pitch, which in one phase rarely exceeds five seconds, only a third of the time taken by eight continuous horizontal rotations, which occupy sixteen seconds. To simulate the pitch, three rotations only should have been made, but then nystagmus would not have appeared in most subjects. In the next place, the pitch throws excitation on the vertical canals so that the comparison should have been instituted between ship movement and excitation of the vertical canals rather than with the horizontal. Had this been done another remarkable fact would have been forthcoming, and that is that eight rotations in the verticals produce a period of rotatory nystagmus of six seconds, or vertical nystagmus of eight seconds, according to the position of the head, against fifteen seconds of horizontal nystagmus. It can now be understood why three continuous rotations only of the verticals are unlikely to elicit the primary reactions such as nystagmus. Neither the individual phases of a pitch or roll on the one hand, nor a corresponding period of vertical canal rotation on the other, will therefore cause primary reactions, but it is true of all these excitations that if they are repeated again and again the secondary reactions will almost unfailingly occur. Thus it is that the experiment of rotation with the head 120 degrees forward or 60 degrees backward for three continuous revolutions, including a pause of two seconds with the head brought to the erect in the interval, continued for two to four minutes, will cause these secondary reactions without the primary ones.

Of the eight out of the fifty-two subjects who consented to this variant to the usual experiment of the eight continuous rotations, all but two were nauseated, with mental confusion and headache, and they showed the physiological reactions in blood pressure and pulse rate changes, together with imbalance. There is therefore the closest resemblance between ship movement and rotation experiments when done in this way. In both there is a latent period, and both depend upon a summation of stimuli causing the secondary reactions—the syndrome, in fact, of sea-sickness.

The results of caloric douching dispose of the possibility of any visceral or somatic origin of sea-sickness. The same train of symptoms occurs as after rotation, but with caloric douching the head and body remain fixed throughout the experiment. That does not preclude the possibility of the visceral element, as in ships or lifts, acting as an accessory factor and aggravating a disorder already in being from bulbar irradiation. There are, in fact, no exteroceptor or proprioceptor impulses which may not directly or indirectly assist in the development of secondary signs and symptoms, but there are few cases, and exceptional ones, where such impulses act in and through themselves; for the most part, they play the part of signalizers. It is for the above reasons that overemphasis of the causality of the nervous and apprehensive factors of auto-intoxication by dyspepsia and constipation appears disingenuous. These, with ocular susceptibility, the toxaemia of tobacco, alcohol, and of the menopause, derangement of the cerebral circulation by mitral disease, and very many other conditions, may render the subject abnormally susceptible to this type of movement, or may aggravate the disorder once set up.

TREATMENT OF SEA-SICKNESS

For the therapy of sea-sickness it is therefore obvious, as with every other type of dysfunction, that not one of these factors can be omitted from consideration. From this it must appear superfluous to state that suitable measures against these may, and often do, avert an attack. But the matter does not rest always thus simply. In the failure so to avert sea-sickness, having taken all reasonable anticipatory measures, we have still the problem of its treatment when established. There is, of course, the treatment by direct and indirect methods of suggestion, with a certain amount of success to its credit, but with failure also, as is self-proclaimed in the ever-increasing number of advertised remedies. That these latter meet with both success and failure is due to a lack of discrimination, and it is imperative that a surgeon should not label his case "sea-sickness" and proceed to prescribe the last and most fashionable remedy. If he does so he will meet with some success, but also with inevitable disappointment, which will display his ignorance of the varying and conflicting manifestations of the disorder.

An examination of the secondary reactions is therefore obligatory, but it requires effort and a study of the case. That these reactions present anomalies has already been apparent in the analysis of sea sick cases, but is still more obvious in that of rotation cases. The statement for specific therapy will not be complete without a brief summary of these experiments.

ANALYSIS OF SECONDARY REACTIONS

In order to analyse the secondary reactions it was decided to record the results from eight continuous rotations on fifty-two volunteers, as offering a wider field for research, only eight having consented to the variant of two-minute interrupted rotations. The subjects were all healthy. All but twelve were between the ages of 17 and 30. Of the twelve, the ages ranged between 40 and 52, ten of these with a long sea service, and two with air service. The primary reactions, being irrelevant, were not recorded.

The results were those usually found in sea-sickness, the blood pressure taken for convenience as the chief vasomotor reaction, and the symptoms and signs were tabulated alongside as follows:

Systolic Blood Pressure	Symptoms and Signs	Nil
Rise	... 13	13
Fall	... 8	12
Unchanged	... 2	6

It will be observed that just half of the subjects showed a rise, indicating that the experiment was not too severe. Twenty showed a fall, and eight remained unchanged. Some of the twenty-six subjects were possibly apprehensive, and thirteen of these showed symptoms. Another curious feature is that while twenty showed a drop in blood pressure, twelve of these apparently showed no signs or symptoms. Of those whose blood pressure remained unchanged, eight in number, six were long-service Navy men who remembered being sick only as young lads. One of the eight was an airman who, for later and more drastic experiments, remained abnormally insensitive, though he showed the usual primary vestibular reactions. Three long-service Navy men showed a fall in blood pressure, without symptoms, so they said; these admitted susceptibility in heavy weather.

An examination of the sea-sick cases reveals the fact that the number of cases with a fall in blood pressure exceed those with a rise—twenty-eight with a fall, and nineteen with a rise. In the rotation experiments, on the other hand, there were thirteen with a rise and eight with a fall. There is a column headed Nil (no symptoms) showing that rotation influenced blood pressure without causing symptoms in twenty-five cases. The analysis of sea-sick cases shows no parallel column, but it is reasonable to assume that a great many voyagers might exhibit the same blood vascular reaction without necessarily exhibiting symptoms, and would therefore not come under notice in the ordinary way. It should also be noted that in eleven out of the fifty-eight sea-sick cases no change of blood pressure was exhibited.

CONCLUSION

This presentation of the subject of sea-sickness is not intended to be destructive of all existing remedies. It is rather directed against the assumption that any drug or method of treatment is infallible, and is incidentally intended to impress on the ship surgeon the need for careful appraisement of type, and, when prophylaxis fails, analysis and evaluation of signs and symptoms. Only after this can he avoid drugs and methods which are definitely contraindicated. Intervention is sometimes unwise, and sea-sickness may occasionally be a blessing; on the other hand, relief can be confidently offered to urgent cases from among the many valuable remedies which may be clearly indicated.

REFERENCES

1. Magnus, R.: Croonian Lecture. Animal Posture, *Proc. Roy. Soc.*, 1925.
2. Sherrington, C. S.: On Plastic Tonus and Proprioceptive Reflexes, *Quart. Journ. Exper. Physiol.*, 1909.
3. Spiegel, E. A., and Demetriades, T. D.: Beitrage zum Studium des vegitativen Nervensystems, *Pfluger's Archiv f. d. ges. Physiol.*, 1922.
4. Malan: *Results of the Rotation Experiments in 11,066 Normal Subjects.*

NOTE ON SEA-SICKNESS*

BY

GROUP CAPTAIN MARTIN FLACK, C.B.E., M.A., M.B.

DIRECTOR OF MEDICAL RESEARCH, ROYAL AIR FORCE

Experience has shown that there is little connexion between a history of sea-sickness and the possibility of being air-sick, except in persons who are invariably severely sea-sick. Candidates for aviation, therefore, are not asked whether they are subject to sea-sickness, but whether they are subject to severe sea-sickness, as well as unduly sensitive to rotary or uneven movement, such as those on roundabouts, switchbacks, or scenic railways, etc. They are also questioned as to train-sickness and tram-sickness.

To determine suitability for aerobatics, the following test has been devised. The subject is seated in a rotating chair, and, while sitting as in an aeroplane, with eyes open and head in the best possible position—that is, looking inside the knee further from the direction of spin—is subjected to a relatively fast spin, ten times in twenty seconds. The pulse rate and arterial pressures are taken just before the spin, and immediately afterwards. In special cases, the effect upon the ocular muscle balance is also investigated. The main results of the test, which was worked out in the Royal Air Force Medical Research Laboratory in 1922–24, may be summarized as follows:

1. In fit pilots, particularly those accomplished in aerobatics, rotation produces but little effect upon the pulse rate or arterial pressures, and does not disturb the eye muscle balance.

2. In cases subject to vertigo, nausea, or vomiting, rotation produces a marked rise in pulse rate and systolic and diastolic pressures; the eye muscle balance is also greatly disturbed in such cases.

3. In subjects liable to fainting, rotation produces marked pallor, and a characteristic fall in the diastolic pressure.

4. In highly strung subjects, liable to develop an anxiety neurosis, there is a marked anticipatory rise of pulse rate and systolic blood pressure prior to rotation, which may or may not be further affected by rotation.

5. In practice, it is found that subjects may tend to exhibit a combination of abnormal responses, but the main criterion is the fact that the satisfactory pilot is relatively stable in all his responses.

A relevant case as regards sea-sickness is given here. The subject was a naval officer who had suffered from sea-sickness in submarines and torpedo-boat destroyers.

Case showing Liability to Vertigo, etc.

The subject was 24 years old, and the official report stated: "On each occasion that I have taken this officer in the air for the purpose of dual instruction, after fifteen minutes he has collapsed through sickness." In an examination on June 20th, 1923, before being placed on the rotating chair his pulse varied from 6–8 in five-second periods, his systolic blood pressure being 128 mm. Hg and his diastolic 82 mm. Hg. After rotation, his pulse, in five-second periods, was 11, 12, 11, 12, 11, 12, and did not fall back below 10 in one minute; the systolic blood pressure was 172 mm. Hg, and the diastolic 98 mm. Hg. The nystagmus time was normal, and the ocular muscle balance was greatly disturbed.

* Read in the Section of Medicine at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

It will be noted in this case that although the nystagmus time was normal, the ocular muscle balance was greatly disturbed, as well as the pulse rate and blood pressures.

The above results on experimental nausea and vertigo have since been confirmed, as regards disturbance of pulse rate and blood pressures, by M. H. Fischer, whose results are quoted in his article on sea-sickness in the *Handbuch der Normalen und Pathologischen Physiologie*, 1930 (p. 495), where a relatively full bibliography is also given.

In the opportunity recently afforded by the Cunard Company to investigate certain aspects of sea-sickness, it was felt that it would be of interest to see how subjects exposed to the prolonged uneven movements of the sea in rough weather reacted as regards maintenance of ocular poise, pulse, and blood pressure. In all 162 cases were examined. Members of the crew who had not been sea-sick for many years were used as controls. Ability to maintain ocular poise was tested by means of the Bishop Harman diaphragm, working, for the sake of convenience, with a fixed pupil distance of 65 mm. Under these conditions, work in connexion with visual judgement in pilots has shown that a reading of 3 or under may be termed good, of 3 to 4, average, above 4, poor.

Unfortunately, one voyage was relatively smooth, and of short duration, while on the other voyage the rough weather started before a sufficient number of observations could be made on subjects prior to the occurrence of symptoms. It was not possible to make more than a few experiments with the rotating chair, as in candidates for aviation. It was found, however, in the few cases examined that good sailors were not greatly disturbed by the chair test, while in one passenger who was feeling "squeamish" it induced vomiting.

The results obtained may be briefly summarized as follows:

1. There was no marked deviation from the normal of the pulse rate or blood pressure in forty-two members of the crew who had never been sea-sick, or had not been sea-sick for over ten years. As regards ocular poise, five were monocular. The others all showed exceptionally good eye muscle co-ordination, giving a Bishop Harman reading of 3 or under, with the exception of one man who had previous damage to the eyeball not affecting the vision (reading 4½). This confirms the results as regards air-sickness in over one hundred pilots (controls) who had had great experience in aerobatics.

2. In many of the passengers and crew who were sea-sick there were definite signs of ocular muscle imbalance with the onset of the first symptoms of sea-sickness. Readings of 4 to 8 were frequently obtained. This lack of power of co-ordination of the eye muscles was found to have developed in several who had been examined prior to the onset of symptoms, and during sea-sickness, and to have passed away in others who were examined while sick and after the symptoms had passed off. Normally, sensations from the labyrinths and kinaesthetic sensations from the neck muscles produce deviations of the eyes of a compensatory nature, which tend always to preserve the same visual field as would pertain if the head and neck were in their normal positions. Therefore it would appear probable that the induced eye muscle imbalance represents in these cases a defective compensatory poise of the eyes produced reflexly by stimulation of the labyrinths, and that its production in eyes previously well balanced, or the aggravation of imbalance in eyes previously suffering from a certain degree of this defect, is one of the predisposing causes in the early onset of symptoms.

3. Concomitantly with, or, more generally, following, the onset of eye muscle inco-ordination, there is a marked vagal effect causing slowing of the pulse and a fall of blood pressures, both systolic and diastolic. The immediate effect on the pulse and blood pressure would appear to vary as to whether the individual is primarily sympathicotonic or vagotonic; in some cases an increase in pulse rate and blood pressure is found with the onset of symptoms; in others the fall in pulse rate and blood pressure seems to occur almost at once. The vagal effect upon the pulse and blood pressure tends to last longer than the effect upon the eye muscles. Below are given particulars of a number of illustrative cases which were examined on two or more occasions, the cases of J. M. and A. M. being also quoted in detail by Dr. Marrack in his paper.

Further experiments are required to confirm the results tentatively set forth in this preliminary communication.

Case	Bishop Harman Reading	Pulse Sitting	Blood Pressure		Date	Remarks
			Systolic	Diastolic		
J.M.	1	66	126	78	30/3/30	Feeling fit. No acetone.
,,	3	56	108	64	31/3/30	Marked acetone. Been sick.
,,	1	66	120	70	5/4/30	Feeling recovered.
A.M.	½	84	132	74	30/3/30	Feeling all right.
,,	4	72	132	74	31/3/30	After being sick.
,,	3½	80	104	64	1/4/30	After being sick.
,,	2	72	122	78	5/4/30	Feeling better.
H.M.	4	78	122	72	1/4/30	Following vomiting.
,,	1½	78	120	80	9/4/30	Recovered.
R.McC.	4	67	102	60	30/3/30	Squeamish. Acetonuria few hours later.
,,	1	84	108	76	8/4/30	Feeling recovered.
J.A.T.	4	80	132	74	30/3/30	Feeling queer Acetone present, sea sick.
,,	5½	84	116	66	31/3/30	Sent hospital. Acetonuria marked.
,,	3½	66	144	96	6/4/30	Feeling better. No acetonuria.
W.S.	Over 10	80	128	68	30/3/30	While sea-sick. No acetonuria.
,,	10	72	128	72	8/4/30	Feeling "fine."
M.F.	2	86	120	80	30/3/30	Feeling squeamish.
,,	3	82	106	62	31/3/30	Following sickness.
,,	1	66	120	80	8/4/30	Recovered.
O.A.	3½	84	154	84	1/4/30	Following sickness.
,,	1	78	128	60	8/4 30	Recovered. Seven days later.
J.A.G.	3½	78	118	66	16/4/30	All right.
,,	8	72	136	70	20/4/30	Beginning to feel queer
E.B.	1½	78	110	70	16/4/30	All right.
,,	4	90	103	64	20/4/30	Thick in head No vomiting.
G.B.	3	72	110	76	16/4/30	All right.
,,	6	78	112	70	20/4/30	Sea rougher. Not so good.
V.H.	2½	78	114	78	16/4/30	All right.
,,	6	90	98	58	20/4/30	Sea rougher. Headache developing.

Conclusions

Provisionally it may be concluded that:

1. Sea-sickness is predominantly of vestibular origin due to uneven movement.

2. In certain cases where the labyrinths are unduly sensitive vomiting may occur early, due to reflex stimulation of the vagus motor fibres to the stomach. Such cases are of the type which are also liable to air-sickness.

3. In cases of sea-sickness where the labyrinth cannot be deemed unduly sensitive, its stimulation early induces or aggravates a degree of ocular muscle imbalance, which, combined with the continued stimulation of the vestibular apparatus, serves to provoke further symptoms.

4. Generally speaking, subjects in whom eye muscle imbalance is not induced or aggravated do not suffer from sea-sickness, although a slow pulse and a lowered blood pressure may cause a feeling of "limpness."

KETOSIS IN SEA-SICKNESS*

BY

J. R. MARRACK, D.S.O., *M.C.*, M.A., M.D.

CHEMICAL PATHOLOGIST, LONDON HOSPITAL

The theory of the presence of a metabolic disturbance in sea-sickness is mainly based on the work of Oriel (1927); his observation that ketosis may occur before the onset of vomiting suggests the possibility that this ketosis may either itself be the cause of the sickness or evidence of a metabolic disorder which is the actual cause. It is therefore of interest to find how frequently ketosis appears before vomiting begins, and to measure the degree of ketosis when it does occur, in order to decide whether it is sufficiently severe to account for symptoms.

The subjects of this investigation were mainly passengers and crew on two Cunard liners during two rough passages from Liverpool to New York; a few observations were also made on two calm passages from New York to Southampton.

Incidence

With one exception, ketosis occurred in all subjects within twenty-four hours after actual vomiting began. This one exception was a woman, aged 54, who stated that she suffered from "stomach trouble," associated with vomiting at other times; it is possible that her sickness was not "sea-sickness."

On the other hand, considerable disturbance apart from actual vomiting may occur without ketosis; one subject, J. M., had continuous nausea for two days on one voyage without ketosis, although on a later voyage, when actual vomiting occurred, ketosis appeared after twelve hours. Another subject, A. M., had ketosis immediately after vomiting on one voyage, but on a subsequent one ketosis was never detected, although she felt unwell throughout the voyage and her blood pressure was low.

Relation of Ketosis to Time of Vomiting

Figure 1 shows the relation between the intensity of the nitroprusside reaction and the time before or after vomiting at which the observation was made in a series of cases. A pink colour developing in about ten minutes

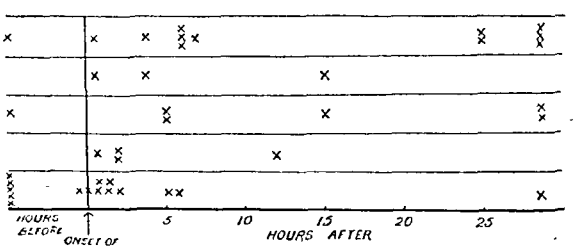


FIG. 1.—Relation between the intensity of the nitroprusside reaction and the time at which the observation was made before or after vomiting.

was classed as (1), and an almost black colour as (4); (2) and (3) were intermediate degrees. As Oriel found, ketosis may appear before the onset of vomiting. The subject with a (4) reaction before vomiting appeared quite well at the time. Otherwise the cases with early ketosis did not appear different in any way from other cases. However, the figure shows that as a general rule ketosis developed *after* vomiting had started, and might still be moderate after twenty-four hours' vomiting.

* Read in the Section of Medicine at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

Amount of Acetone Bodies Excreted and Relation to Carbohydrate Metabolism

Figure 2 shows the ammonia excretion of two sea-sick subjects; A. M. took a small amount of carbohydrate food, A. S. was starved. The ammonia affords a fair measure of the ketone bodies in the urine, as is shown by the estimates of ketone bodies and organic acids made on some of the urines. Although the ketosis in the first case was slight it is difficult to regard it as due to carbohydrate starvation, as it was detectable at the

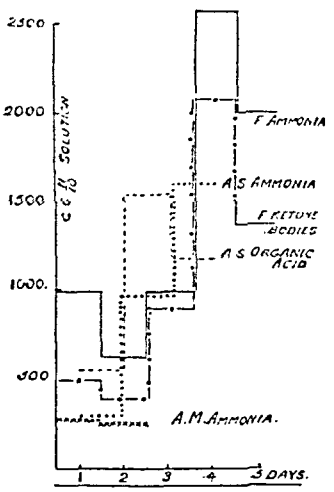


FIG. 2.—Diagram to illustrate the ammonia excretion in two sea-sick persons.

onset of vomiting only six hours after a solid meal taken in comfort and retained; and the small amount of food (mainly carbohydrate) taken and retained after vomiting began should have been sufficient to prevent ketosis. Again, another subject (J. M.) developed ketosis although he retained all but one meal, and the meals taken were mainly carbohydrate.

In Case A. S., which is a fair sample of three cases in which no food was taken, the ketosis was more severe than is usual in starvation in adults. It is true that Folin (1915) found a similar degree in a fat woman who was starved for therapeutic reasons, but that case was quite exceptional, and we have not seen anything comparable in epileptics, nor in a fat woman who was starved to reduce her weight. However, in young children ketosis of this degree may occur (Ross and Josephs, 1924).

In the three cases in which we estimated blood sugar (see Table I) we did not find the rapid fall noted by Oriel: the figures are such as are usual in normal persons before breakfast.

TABLE I

	Blood Sugar	Nitroprusside Reaction
Case A. M.	Per cent.	
At onset of vomiting	0.14	+
Seventeen hours later	0.09	++++
Twenty-seven hours later	0.12	++++
Case J. M.		
At onset of vomiting	0.10	0
Fourteen hours later	0.10	++++
Case J. T.		
Seven hours after onset of vomiting	0.08	++++

It appears, therefore, that carbohydrate starvation alone will not account for the ketosis.

Relation of Ketosis to Symptoms

Ketosis may produce symptoms either owing to the toxicity of the ketone bodies, particularly aceto-acetic acid, or by a disturbance of the acid-base balance such as may be produced by any acid—that is, an acidosis in the strict sense of the word. A good deal is written still about ketosis and "acidosis" in relation to sickness, especially in children. In order to appreciate the effects of ketosis it is well to consider cases occurring in diabetes mellitus. We find here that patients may excrete large quantities for long periods without nausea, vomiting, or mental changes. Joslin mentions a patient who excreted 3 grams of ammonia (=2,000 c.cm. decinormal solution, normal amount) daily for a year, and was able to travel.

It appears, then, that the effects of moderate amounts of ketone bodies are apt to be exaggerated. It might be argued that such patients have gradually become accustomed to large amounts of ketone bodies; we give, therefore, an example (Case F., in Figure 2 and Table II)

TABLE II

Days:	1	2	3	4	5
Case F.					
Ammonia	970	618	930	2,580	1,930
Ketone bodies	500	384	560	2,030	1,380
Case A. M.					
Ammonia	303	290	—	—	—
Ketone bodies	—	136	—	—	—
Case A. S.					
Ammonia	348	930	1,190	—	—
Free acid	334	544	385	—	—
Organic acid	567	1,576	1,184	—	—
Ketone bodies	175	—	—	—	—
Case A. E.					
Ammonia	225 285	—	—	—	—
Free acid	150 275	—	—	—	—
Organic acid	328 537	—	—	—	—
Ketone bodies	— 353	—	—	—	—
Case J. S.					
Ammonia	—	354	—	—	—
Free acid	—	286	—	—	—
Organic acid	—	568	—	—	—
Ketone bodies	—	257	—	—	—

The excretion of ammonia, organic acid, and ketone bodies in one diabetic and four sea-sick subjects; all urinary constituents reckoned in cubic centimetres of decinormal solution. Except in Case A. M. the estimations on the sea-sick subjects began twelve hours after vomiting started. Estimations in Case A. E. made in two twelve-hour periods.

of ketosis of sudden onset without symptoms. This was a young diabetic patient with a short history of illness who had been treated with insulin; the insulin was temporarily stopped and ketosis appeared. Although the ketosis was more severe even than in the subject A. S., there was no nausea or vomiting. Compared with such a case the ketone bodies excreted by A. M. are trivial. When we take into account the fact that nausea and depression may last for several days, and vomiting begin without ketosis, it is impossible to regard ketosis as the cause of the symptoms.

In Case F. we can see the degree of disturbance of acid-base balance that may be expected in such a ketosis of short standing; on the fifth day the plasma bicarbonate had fallen to 49 (normal 55–66); such a degree of acidosis occurs in normal persons after exertion, and is accompanied by no unpleasant sensations—rather the reverse. It is improbable that more than slight disturbance of acid-base balance occurred even in the cases of sea-sickness that were starved. We examined one patient (J. W.), who had vomited repeatedly for two days, but had retained some food. His urine gave a +4 nitroprusside reaction; his plasma *p*H was 7.33 and his plasma bicarbonate was 62; no acidosis had developed in this case.

There is no evidence that acidosis, in the strict sense of the word, will produce vomiting or any other symptoms but hyperpnoea. In fact, the symptoms of sea-sickness suggest far more the collapse seen with alkalosis. The possibility that an alkalosis might be produced either by hyperpnoea or by loss of acid in the vomit is refuted by the fact that all the urines examined were acid. In Case J. W. the plasma chloride was normal (0.63 per cent.), so that there was no evidence of excessive loss of hydrochloric acid by vomiting. Ketosis therefore appears to be an incident in sea-sickness which is not itself the cause of any of the symptoms, but is evidence of some metabolic change which may itself be the cause. What this disturbance is, is not clear; it cannot be frank carbohydrate starvation. There are, however, other conditions in which ketosis appears—for example, alkalosis, pregnancy, and in occasional liver diseases. It is unfortunate that the nitroprusside reaction is not more commonly used in the routine examination of urines, as much knowledge about the occurrence of ketosis might be gained. Children seem particularly prone to ketosis, both in starvation and in fevers. The exact relation of ketosis to cyclic vomiting in children is still unsettled, but the position seems to be very similar to that in sea-sickness.

During a calm voyage we examined the urines of patients who were liable to sea-sickness on rough voyages, but found ketone bodies in none. Also in Case A. M., although ketosis appeared at the onset of vomiting, it was not detected on previous examinations nor during a subsequent voyage when the subject was nauseated and her blood pressure low.

We have therefore found no evidence of a special liability to ketosis in persons subject to sea-sickness.

Conclusions

Ketosis is usual in sea-sickness after vomiting has begun, and occasionally appears earlier.

Ketosis is not the cause of sea-sickness nor of any of the symptoms of sea-sickness.

It may be regarded as evidence of some metabolic disturbance the nature of which is not known.

BIBLIOGRAPHY

Folin: *Journ. Biol. Chem.*, 1915, xxi, 183.
Oriel: *Lancet*, 1927, ii, 811.
Ross and Josephs: *Amer. Journ. Dis. Child.*, 1924, xxviii, 447.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

A LARGE OCCIPITAL MENINGOCELE

The following case, which presents certain features of interest, seems worthy of record.

The patient, a Hindu female child aged 3 months, was brought to hospital on June 2nd, 1930. There was a tumour, rather larger in size than the child's head, springing from the occipital region, to which it was attached by a thick pedicle. The tumour was fluid and fairly flaccid. The skin covering it was healthy, though beginning to show signs of malnutrition at the most dependent part. Pressure on it did not lead to any signs of increased tension within the skull, nor did it lead to any decrease in the bulk of the tumour. The child was fairly well nourished and had, the parents alleged, increased in weight at a normal rate since birth. The tumour had been present at birth, when it was about the size of an orange, and had steadily increased in size since then; but the general health of the child had been good, and, apart from

its size and weight, the tumour has caused no symptoms. A provisional diagnosis of occipital meningocele, probably with an occluded pedicle, was made, and it was decided to operate.

The operation was performed next day, and presented no difficulty. When the skin and subcutaneous tissues had been incised, a pedicle, about a fingerbreadth in thickness, was seen to issue from the occipital fontanelle. This was incised, and proved to consist of a gelatinous material, surrounded by membrane. No fluid was encountered. The dura was stitched over the opening, and the skin wound closed. On dissecting the removed tumour, it was discovered that the pedicle was filled with a plug of the gelatinous material, the rest of the sac being filled with fluid. Recovery was uneventful, and the patient was discharged on the twelfth day.

In *Tumours, Innocent and Malignant* (seventh edition, p. 741), Sir John Bland-Sutton writes as follows: "There is reason to believe that the pedicle of a cranial meningocele may become obliterated so as to cut off the communication between the cyst and the subdural space. I have never had an opportunity of dissecting a specimen in which this has happened." Is it possible that this plugging of the pedicle with gelatinous material is the first stage in the complete obliteration of the lumen? Unfortunately, there was no laboratory available to which the material could be sent for examination.

R. M. MACPHAIL, M.B., Ch.B.Glas.,
Church of Scotland Mission Hospital,
Bandah, India.

WHOOPING-COUGH WITH INSPIRATORY STRIDOR

The symptoms occurring in two of the following cases of whooping-cough seem sufficiently unusual to be placed on record.

CASE I

D., aged 32, a medical practitioner, contracted whooping-cough from one of his patients early in February, 1930. The cough was violent, persisted day and night, and was accompanied by vomiting but not by "whoop." The patient was pyrexial for ten days.

Whooping-cough was diagnosed by Dr. Geoffrey Marshall of Guy's Hospital, and a skiagram of the chest revealed no other abnormality. Within a month of onset the cough was more limited to the hours of rest, but was particularly bad first thing in the morning. After an hour's coughing, sneezing of peculiar violence would take its place and the nose would run freely. This would continue for about an hour, or until vomiting ended the morning's bout. For the rest of the day there was no nose-running. The nasal discharge was always watery; never muco-purulent. Two weeks later another symptom developed. As the morning attack was in progress a wheeziness was felt in the throat, and as the other symptoms subsided this became more marked. The patient sounded like a man in an attack of asthma, but the stridor was strictly inspiratory. There was undoubedly a spasmodic condition of the vocal cords, which would last for an hour or more after subsidence of the other symptoms. The nasal and laryngeal symptoms were well marked in June, though the cough was by then insignificant; they have considerably diminished since then and are now only noticed on cold mornings.

CASE II

Miss R., dispenser, aged 29, contracted whooping-cough from Case I, but showed no unusual symptoms.

CASE III

Mrs. S., nurse, aged 58, contracted whooping-cough from Case II in March. She had violent cough, and after a month complained of wheeziness in the throat. She felt "a piece of flesh" in the throat. There were no nasal symptoms, but the laryngeal stridor, which was inspiratory, became well marked and would persist for three or four hours each day It was still present in July. None of the patients was subject to hay fever. Cases I and II had had whooping-cough in childhood. "Whooping" was absent in all three cases.

The interest of the inspiratory laryngeal spasm is in the support it gives to the generally accepted theory that the "whoop" in children is due to an active spasm of the vocal cords. It would be of assistance to know whether these symptoms have been observed in other patients.

London, N.19. I. M. BENJAMIN.

PERFORATIVE DIVERTICULITIS OF THE COLON

In the *British Medical Journal* of January 4th, 1930, Sir W. I. de C. Wheeler reported a fatal case of perforative diverticulitis of the colon. In April last a somewhat similar case, but with a happier termination, was under my observation in the Dunfermline and West Fife Hospital.

A woman, aged 50, had felt vague discomfort in the lower abdomen for fourteen days prior to her admission to hospital on April 5th. On that date, four hours before admission, she was seized with sudden acute pain in the left iliac fossa, radiating to the umbilical region and accompanied by movement of the bowels and by vomiting. On admission she was groaning with pain. Her temperature was 103° F., and her pulse 114. On account of the adiposity of the patient (her weight was 18 st.) it was difficult to localize the seat of trouble, and a perforation of the appendix was diagnosed.

The abdomen was opened by incision through the right rectus muscle; free, non-odorous pus immediately welled up. The appendix was seen to be normal, and on investigating the left iliac region a boggy mass was palpated and delivered into the wound. This was found to be the pelvic colon, heavy with oedema. At about its centre a perforated diverticulum, surrounded by fatty adhesions, was discovered. The diverticulum contained a small faecolith, which was dislodged into the bowel. A left gridiron incision was rapidly made, and the loop bearing the diverticulum was brought through this to the surface. An enterostomy near the terminal ileum was performed, and a local and a suprapubic glass drain were introduced for drainage.

The enterostomy drained well, and there was little post-operative discomfort. The diverticulum discharged faecal matter for some days, and could be easily distinguished. The skin gradually grew over the extruded bowel, and when she was discharged from hospital the left gridiron incision was completely healed. The intention at the time of the operation was to remove later the diverticulum-bearing segment, but this was not carried out, owing to the rapidity with which the extruded bowel became covered over.

Since her discharge the patient has been perfectly well.

J. M. BLACK, M.B., Ch.B., F.R.C.S.Ed.,
Honorary Surgeon, Dunfermline and West Fife Hospital.

HAEMATOMETRA AND HAEMATOSALPINX IN ONE HORN OF A BICORNUATE UTERUS

I read the case reported by Drs. Calverley and Buttery in the *Journal* of March 29th, 1930 (p. 590), with much interest; on account of the great rarity of the condition, I wish to place on record a similar case I operated upon in 1926.

The patient was a young girl, aged 16. Menstruation began ten months before date of admission, and she had menstruated only three times subsequently—two months, six months, and nine months—after the first one. At the first menstruation she had acute pain, and a small irregular swelling appeared in the right iliac fossa, which increased in size at each succeeding period.

On palpation an irregular hard mass was felt in the right iliac fossa; it was about the size of a cricket ball and fairly freely movable, tender on deep pressure, and dull to percussion. Bimanual examination revealed the presence of a tense cystic swelling filling up the posterior fornix, and pushing up the cervix behind and to the left of the symphysis pubis. The uterus could not be differentiated from the swelling.

A median incision was made. There was no free fluid in the peritoneal cavity. The mass was found to consist of

the right tube and right horn of a bicornuate uterus, which were both cystic and separated from each other by a marked constriction. The tube was sausage-shaped and the horn was globular. The mass was adherent to the intestines and the vermiform appendix, and the fimbriated end of the tube was completely closed. The adhesions were carefully separated, appendicectomy was performed, and the tube and right horn were dissected out and removed. Finally, the cut end of the right horn was carefully sutured. The tube and the right horn were found to contain altered blood, and there was free communication between them. The patient made an uneventful recovery, and was discharged cured five weeks after the operation.

Bangalore. S. SUBBA RAO.

Reports of Societies

THE MEDICAL AND SURGICAL USES OF DIATHERMY

A meeting of the Medical Society of London was held on January 26th, with Dr. R. A. YOUNG, president, in the chair, when a discussion took place on "The medical and surgical uses of diathermy."

Dr. E. P. CUMBERBATCH, in opening the discussion, said that diathermy had been practised in this country for a little over twenty years. Its growth during the first decade was very slow, but during the second decade it increased at a rapid rate, and to-day there was hardly a region of the body to which diathermy had not been applied. Diathermy was used for the treatment of certain symptoms such as pain and spasm, for the raising of temperature of parts pathologically subnormal, for the reduction of blood pressure which was pathologically high, for aiding resolution of inflammation, for helping the tissues to free themselves from infection, and for elevating the temperature of the entire body, producing what was known in America as "therapeutic fever." Dealing with different specialties in turn, Dr. Cumberbatch first spoke of the uses of diathermy in gynaecology. Diathermy had made its most striking advances in the treatment of certain diseases peculiar to women. By means of diathermy it was possible to raise the temperature of the urethra and of the cervix to 114° F., or perhaps one degree higher. As a result, all clinical signs and symptoms of infection of those parts disappeared. The gonococcus disappeared in 90 per cent. of the cases, the *Streptococcus haemolyticus* in about 80 per cent. In order to raise the temperature of the parts mentioned to 114° or 115° it was necessary to adopt a special technique. The method used as a standard in his own department was devised by his colleague Dr. C. A. Robinson. It was sometimes stated that any region of the body could be heated to any temperature by diathermy, but that was not the case. In the depths of the vascular parts, and in the pelvis, abdomen, or thorax, the temperature could be raised only by a slight degree. In regard to the tubes and ovaries it was possible by means of diathermy to effect a fairly high degree of "therapeutic fever," though not to obtain the high temperatures possible in the urethra and cervix. Dysmenorrhoea due to minor degrees of infection of the tubes could always, in his experience, be brought to an end by intrapelvic diathermy. The application of diathermy to the interior of the pelvis had some influence on the ovarian hormones. If the cessation of menstruation was premature in women, it was a common occurrence for pelvic diathermy to start it again even after a number of years. The application of diathermy to the interior of the pelvis had the effect of bringing climacteric bleeding to a stop and of diminishing or abolishing the symptoms peculiar to the change of life. Dr. Robinson had treated a number of cases of puerperal fever at the West Middlesex Hospital, and had been able to bring the fever to an end in thirty-three cases out of thirty-nine. Passing to conditions affecting men, Dr. Cumberbatch said that in gonococcal infections of the epididymis diathermy was almost invariably effective. Applied to the prostate gland by way of a rectal electrode, a powerful effect was produced on gonococcal prostatitis and vesiculitis. The greatest difficulty he had found was in cases of prostatitis which gave a history of gonorrhoea in which there was a persistent gleet; in the majority of these cases he had not been able to obtain complete results. Recently he had had three or four cases of men aged 55 to 65 who were beginning to get symptoms of obstruction as a result of enlargement of the prostate, and these cases had received benefit by diathermy. Their symptoms had disappeared, and so far they had kept well. With regard to the joints, gonococcal arthritis could be very satisfactorily treated by applying diathermy, not to the joint, but to the prostate and vesicles in men, and to the cervix in women, and in almost all the cases the effect of the treatment was to abolish the pain, to increase the range of movement, and to diminish the swelling. In women suffering from multiple arthritis it was very common to find an infection of the cervix which was non-gonococcal. The application of diathermy to the cervix brought the arthritis to an end in about 75 per cent. of cases. He believed also that it was possible for a non-gonococcal prostatitis to be responsible for a secondary arthritis in men, and in a few cases the application of diathermy to the prostate had cleared up the joints. Women just before or just after the climacteric tended to put on weight and to get pain in the knees and wrists, and on examination pads of tissue resembling fat were found in the neighbourhood of the knees and the upper arms. If these cases were treated by general pelvic diathermy the pain in the joints disappeared, the swellings diminished, and the patient lost weight. He believed the arthritis in such cases was due, not to infection, but to disturbance of the endocrine function of the ovaries. He suggested, also, that there was a type of arthritis in elderly men which was analogous to the climacteric form in women. With regard to the circulatory system, diathermy had been recommended by some authorities for the treatment of hyperpiesis. His own experience showed that cases which had been under general medical treatment and had been left with certain symptoms could be benefited. Diathermy did not lower the blood pressure permanently, though the first applications of the treatment produced a temporary diminution. If, however, the blood pressure was very high—say, 250 to 260 mm. Hg—there appeared to be a much longer duration of the lowered pressure after treatment by diathermy. He had had no personal experience of angina pectoris where the spasms were agonizing and sudden, though diathermy was recommended in some of these cases. His work had been confined to cases of "angina without agony"; such did not respond particularly well. In intermittent claudication diathermy was disappointing. The most he could claim for it was relief of the pain which was sometimes present. In lobar pneumonia many cases had been treated by this method in the United States. In this country opinions were divided, but in the West Middlesex Hospital one room had been set apart for treatment of lobar pneumonia by diathermy. He had a number of derelict asthma cases which had left other departments of the hospital, and the patients said they felt better after diathermy, the attacks being less severe and less frequent. He also spoke of astonishingly successful results in mucous colitis. In diseases of the skin, surgical diathermy was strongly to be recommended. Diathermic coagulation in which the heat was concentrated in the

mass it was desired to destroy was very useful for papilloma of the skin, flat warts and naevi, telangiectases, and pigmented areas. He had used it also for lupus vulgaris. With regard to diseases of the eye, he had treated only two or three cases of gonorrhoeal iritis, and there was a quick relief of the pain. In the treatment of diseases of the upper air passages surgical diathermy had produced some of its most remarkable results. He wished to hear the opinions of members on the treatment of enlarged tonsils by diathermy. The public had heard of this method of treating enlarged tonsils and were rather anxious to have it in preference to the ordinary operation.

Mr. SAMPSON HANDLEY spoke of diathermy as used in cancer surgery. Diathermy had the property, he said, of sterilizing the tissues to a considerable depth. In cancer surgery one of the great difficulties was the presence of secondary infections around the primary growth. Therefore it seemed likely that the diathermic needle had a great advantage over the scalpel, which latter could not pretend to any such antiseptic action. He had come to the conclusion that over large fields of surgery the diathermic needle was definitely superior to the knife, and he believed that in two or three years a large proportion of surgical operations would be done by diathermy. He had used the cutting current and a needle only, and those who had not seen the method would be astonished at the ease with which the tissues faded away at the approach of the needle without employing mechanical pressure. Ten years ago he began to use diathermy in surgery, at first for inoperable cases of breast cancer. He was surprised at the way in which the wounds healed; even in old patients the healing seemed unusually rapid and also painless. He was encouraged, therefore, to apply the method to the treatment of operable breast cancer, using the needle as he would use the knife, though being careful not to go near the axilla, with its large vessels, for fear of puncturing them. Since 1927 he had used diathermy almost exclusively for operating on breast cancer. It did not interfere with primary union, and the wound could be sutured completely as after a cutting operation. If the machine was working efficiently the method had a slight advantage over the knife in respect of rapidity. One advantage of the diathermic needle was that it sterilized the wound surface, and therefore the risk of transferring cancer cells from one part of the wound to another was minimized. Another advantage was the avoidance of the risk of chill. One of the difficulties of the breast operation by the knife was to keep the flaps warm after they were cut. With diathermy the flaps, as one could feel through the glove, when first cut were warmer than normal. Bleeding also was much lessened, and the number of vessels to be tied was reduced. It was better, however, to tie a vessel than to apply a terminal too persistently to a bleeding point, and that applied especially to vessels which lay near the pleura. Shock was generally absent, and that was a point which deserved the attention of the physiologists. Among the slight disadvantages of surgical diathermy was the fact that ether could not be used as an anaesthetic; also, if the needle was used to divide the skin, the skin edges at the end of seven or ten days might become red and suggest incipient skin infection, but these symptoms could be dealt with by spraying the wound daily with antistaphylococcic virus. Perhaps the most serious danger was that of overheating a long thin flap. Great care should be taken not to transmit too great a current through the base of the flap, so as to run the risk of thrombosing the vessels which nourished it. He had tried during the last three years to extend the scope of diathermic operations within the abdomen, and had found that they had great technical advantages in the operation of gastrectomy. It quite altered the aspect of the first few days of convalescence. Shock was largely eliminated, and the patient did not suffer from the rapid pulse and collapsed condition which was common after knife operations. The technique he used for gastrectomy was to open the abdomen by the diathermic needle, and then to use diathermy for dividing the stomach and the duodenum and the omentum, after applying clamps in the usual way. If the needle were allowed to touch the intestine at any point there would be perforation, but that danger could be avoided by care and technique.

Dr. F. D. HOWITT said that diathermy had three main fields: surgical diathermy, where the current was concentrated at the active electrode to such a point as to produce destruction; medical diathermy, which was used when heat was required internally; and a third form in which the heating was sufficient to sterilize the tissues without producing destruction. With regard to cervical erosion and sepsis, he had used Dr. Cumberbatch's technique with excellent results. Diathermy was valuable in the treatment of anal fissure and spasm. It was useful also in iridocyclitis, where the trouble of giving heat by ordinary methods, such as conduction or radiation, was that it was quickly carried away by superficial circulation, and penetrated only to a slight degree into depth. By diathermy a large concentration of heat reached the inside of the orbit. Dr. Howitt showed an instrument designed to attack the tonsil by surgical diathermy.

Mr. C. HAMBLEN THOMAS said that he had found diathermy a definite aid in the treatment of ear conditions, though, unfortunately, the relief appeared to be only temporary. With regard to the tonsils, he thought it would be difficult to sterilize the tonsil which had a deep infection at the base near the capsule. Mr. W. IBBOTSON mentioned that he had removed a large cancerous mass in the pharynx by diathermy, with extremely rapid and painless healing. Mr. MORTIMER WOOLF was sure that the results of diathermy in breast cancer were infinitely superior to those obtained with the knife. A finer needle should be used for the skin than for dividing the deeper tissues, also a rather more powerful current. After the skin was divided, the current should be always reduced. An important point, only learned with practice, was to move the needle quickly, yet not too quickly. If the proper speed was attained, the skin divided just as with the knife. Sir JAMES DUNDAS-GRANT asked as to the degree of freedom from recurrence; the recurrence in some cases had disappointed him. Mr. PHILIP TURNER gave instances of two cases in which diathermy had been tried, one seventeen and the other eighteen years ago. One had been treated for an ulceration involving one side of the lip and the nose, at first assumed to be lupus, and treated as such, but later becoming definitely malignant. The other was a case of advanced gland tuberculosis which had broken down. He saw both these patients when they came up for other conditions recently, and the diathermy treatment had proved effective and permanent.

Dr. CUMBERBATCH, in reply, said that Mr. Sampson Handley must have been the first to attempt the use of a cutting current for the abdominal organs. He detected some confusion of nomenclature in Mr. Handley's mention of the "diathermic knife." If a scalpel was used as an active electrode it was a true diathermic knife, but the reference to the needle and the cutting current as a "knife" was rather to be deprecated. The question of the use of diathermy in catarrhal deafness had been raised; he himself had not got any striking results. Theoretically, the action of diathermy was to raise the temperature of the middle ear, and where there was inflammation, the heat would assist its resolution.

THE RADIOLOGICAL RENAL OUTLINE

At a meeting of the Section of Urology of the Royal Society of Medicine on January 22nd, with Mr. S. G. MACDONALD in the chair, a discussion on the significance of the radiological renal outline was opened by Dr. S. GILBERT SCOTT.

Dr. Gilbert Scott said that the radiological examination of the urinary tract could not be considered complete unless the renal outlines were clearly demonstrated. He had read a paper on this subject at the Annual Meeting of the British Medical Association in Cambridge in 1920, but at that time there were very few radiologists who were capable of showing the outline of the kidneys. The technical side of radiology since then had advanced rapidly, and the difficulty of demonstrating the renal outline no longer existed. Even the suprarenal gland could now be shown, and this might possibly be of some diagnostic value. It was obvious, however, to the more experienced radiologist that diagnostic accuracy or skill had not reached the same high level as radiological technique. This was quite understandable when it was remembered that anyone could buy an up-to-date apparatus and after half a day's instruction turn out first-class radiograms. The primary object of the radiologist should be to extract every atom of accurate information from his examination, and pass the findings on in a clear and concise form to those concerned, his films being used to demonstrate and record the evidence on which he based his diagnosis. In the *x*-ray examination of the kidney a soft tissue organ had to be shown against a background of soft tissue—the back muscles—and faulty preparation or slight movement would make the outline of the kidney impossible. Two essentials were the clearance of the bowel and efficient abdominal compression, for which latter purpose he recommended a "sugar-loaf" compressor, something like a football, designed to apply pressure under the costal margin and lift it up. If it could be definitely stated that the patient had both kidneys apparently normal in position and size, containing nothing in the way of calculi, it would be a point of considerable value. Dr. Scott illustrated three variations from the normal shape of the kidney, which he called the globular, the elongated, and the lobular. The degree of excursion of the kidney on respiration differed widely as between patients; in one it might be 1 inch and in another 3 inches. It was not always easy to decide when a kidney was enlarged. Uniform enlargement was met with in hypertrophy, hydronephrosis, pyonephrosis, and new growth. Finally Dr. Scott referred to the value of the renal outline when opacities were present, and he described his own method, which had proved of great practical value at the London Hospital during the last ten years, of determining whether an opacity was intra-renal or extrarenal. This method was based on the assumption that any opacity located within the limits of the kidney shadow must be of renal origin if the respiratory excursion was equal to that of the kidney in direction and extent. He called this method "renal localization," and showed a cinematograph diagram illustrating the respective movements of a related and an unrelated shadow and of the kidney outline during the phases of respiration.

Mr. JOHN EVERIDGE said that the value of the method of observing the relative mobility of the kidney and of an opacity was rather diminished because, in a great number of such cases, where there was a shadow, the kidney was a fixed kidney, with considerable perinephritis. The method, he believed, could not be so complete and satisfying as pyelography, without which he never thought of attacking renal calculi. Mr. F. A. G. JEANS considered that the surgeon who went against the radiographer's opinion as to the presence or absence of stone was taking a great responsibility. It was true that sometimes the radiologist might be in error, but sometimes also the mistake might lie with the surgeon, who failed to find the stone which was actually present and radiographically demonstrated.

Dr. E. J. H. ROTH thought it unjustifiable to suppose that the movement of a doubtful shadow necessarily denoted that it lay within the renal substance. There were a number of other shadows which moved with the kidney—that of a calcified gland adherent to the kidney, for example—whilst, on the other hand, a floating calculus lying in the renal pelvis might remain stationary as the kidney moved downwards. The lateral radiogram with pyelography and the stereoscope offered the most complete method of localizing a doubtful shadow in the renal areas. The most useful method of preparation was to give the patient a vegetable laxative on two successive evenings before the examination.

Mr. E. W. RICHES said that the preparation was very important. Many radiograms were entirely spoilt by the presence of gas in the bowel. He thought that better radiograms were generally secured in the case of out-patients than in the case of in-patients, probably because the former were out and about, not lying in bed. Matters might be improved by giving the patient charcoal the night before examination, but that did not always work. Mr. CYRIL NITCH had seen three cases in which a pigmented mole in the back had thrown a shadow in the renal area which at first was mistaken for a possible stone. He believed that nothing equalled the stereoscopic radiograph after the passing of an opaque bougie. Most of the shadows seen were in front of the kidney, and the stereoscopic position would localize them with accuracy. Mr. CLIFFORD MORSON said that there was danger of the radiologist forgetting, in his absorption in the radiological picture, the clinical one. Accurate diagnosis in the long run depended on clinical skill. Mr. WINSBURY WHITE commented on Dr. Scott's remark that enlarged kidney resulted from hydronephrosis, among other things, and mentioned two cases of this condition in which the kidney was actually a little smaller than normal. It would certainly have been impossible to diagnose these cases by the plain radiograph as in any way pathological. He diagnosed them by pyelography; when removing the kidney he found that the ureter had become obstructed by blood vessels, and this added obstruction had no doubt caused a considerable degree of atrophy without thinning the renal substance in the way customarily found. Mr. JOCELYN SWAN had found the greatest value in the stereoscopic *x*-ray picture, and pleaded for greater co-operation between the surgeon and the radiologist. He did not think absolute reliance could be placed on the shadow which moved with the respiratory excursion. Mr. S. G. MACDONALD referred to the general question of the relation between the radiologist and the surgeon. Personally he always discussed the plates with the radiologist, but, after all, the urologist had been specially trained in the *x*-ray appearances in these cases.

Dr. GILBERT SCOTT, in reply, said that he did not claim for his renal localization method that it replaced pyelography in cases in which that method was indicated, but it was a method available for ordinary everyday work, without the trouble and disturbance to the patient which pyelography involved. With regard to preparation for examination, he relied chiefly on castor oil given twenty-four hours previously, carbohydrates being excluded from the diet. This seemed to result in less gas in the intestine.

TREATMENT OF ECZEMA

The meeting of the Chelsea Clinical Society on January 20th was devoted to a discussion on the treatment of eczema. Dr. F. J. McCANN presided.

Dr. HENRY MACCORMAC said that there were two great groups of skin diseases, the parasitic and the non-parasitic. In the former the cause was known; in the latter, of which eczema was perhaps the best example, the cause was not known, and only the symptoms were treated. There was not the disadvantage in the treatment of symptoms that was found in other branches of medicine, because there was nothing behind the skin condition, and if the eruption could be removed, the patient was perfectly well. He conceived that eczema was due to two separate things, an internal cause and an external one, which were complementary. He believed it to be a specific condition, due to some diathesis. Treatment must be general and local. The question of sensitization had to be considered in connexion with eczema. The patient might be sensitive to a certain food or other material, and when the antigen was liberated a reaction occurred which produced the eczema. He did not think that that should be called a specific reaction. An egg which in one person caused eczema might in another cause urticaria or asthma. The reaction belonged to the individual, not to the agent. But if the agent for a particular individual could be cut out, one of the things had been removed which interfered with health, and the eczema was likely to disappear. It was important at the beginning to examine the case generally, and to see if sensitization to any particular agent could be discovered. One of the most valuable measures for desensitizing was the intravenous administration of thiosulphate; 0.6 gram dissolved in 10 c.cm. of distilled water could be given every third day. But while general treatment was important, the local treatment was also necessary, eczema being very largely due to external causes. He had for his own purpose arranged his remedies in a scale, beginning with lotions, and then proceeding to a liniment or cream, a paste, and finally ointment. The eruptive process was not always present in the same degree in different parts of the body. Local treatment might be designed to fit the different stages of the eruption. In acute cases the old remedy, glycerin and lead, he had found to be useful. The part was rubbed with lint soaked in this substance, and kept constantly wet for twenty-four hours, after which time the acute inflammation would have subsided, and the itching diminished to a considerable extent. In the second stage the condition demanded something of an oily nature. His choice was calamine liniment in which, besides olive oil, there was lime water, which evaporated. After a time it would be felt that a change must be made again, and, as it might not be desirable yet to use an ointment, a compromise could be effected with a paste. The incorporation of a large amount of powder in the paste allowed the exudation present in the eczema to make its way to the surface, and the condition was not shut in as it was by an ointment. In the final stage the condition might become sluggish and demand some stimulating application and vigorous treatment. Probably there was nothing so valuable at this stage as coal tar, which could be applied directly to the part, or, even better, used in the form of an ointment. One gram of crude coal tar in an ounce of Lassar's paste might be applied directly to the part. If one had an *x*-ray apparatus, this was the time to give a small dose of *x* rays, which relieved irritation and promoted healing. Almost every patient asked about diet, but he believed there was no need to diet the patient specially, as long as the dietary was kept within reasonable bounds. The most distressing feature of eczema was the itching, which was worse than the pain, and more difficult to relieve. The local treatment would do something to mitigate it; in extreme cases even morphine might have to be given. But most of the agents recommended for the relief of itching would make the eruption worse. Aspirin was one of many drugs employed with some success, but the problem was a very difficult one.

Dr. H. C. G. SEMON remarked that eczema was supposed, nowadays, to be a dysfunction of the epidermal cell. It was the epidermis rather than any other part of the body which was involved. He thought that sodium thiosulphate was of more service in seborrhoeic eczema than in the ordinary varieties. Coal tar was undoubtedly the best local application available, but it should never be used if there was the least sign of pus because it always accentuated sepsis. If the patient was stout some good result would be obtained from a restricted diet. Dr. R. H. STEVENS mentioned a patient who had an urticarial eruption affecting the nose and malar region, which was traced to the fact that she had been wearing new glasses of imitation tortoise-shell, and had become sensitized to some composition used in the manufacture of the frame.

Dr. P. MONTAGUE SMITH said that he had seen many cases of eczema occur in women through the wearing of cheap furs. The eczema produced was of a painful and chronic variety. The primary thing in all treatments must be to make the patient a healthy person generally. One could not regard eczema as entirely a disease of the skin without taking into consideration the general health. Some measures must be taken, in the case of fat people, to get rid of excessive adipose tissue. One of the most difficult forms of eczema to treat was that which occurred in very small children, associated, perhaps, with intestinal disorder. Dr. L. D. BAILEY said he had found that a lamp rich in both the long ultra-violet and the red rays was useful for the chronic lesions. Dr. ELLIOTT referred to the hereditary factor.

The PRESIDENT said that his experience of eczema was limited to cases at and after the menopause. He had seen such cases improve dramatically after being given thyroid and put on suitable diet. In his view diet was a very important factor in eczema. The skin might be regarded as the barometer of the intestinal condition. By a complete change of diet the chemistry of the intestinal canal was altered and the skin manifestations disappeared.

BACTERIOLOGY AND THE CLINICIAN

The Liverpool Medical Institution held a meeting on January 15th, when Dr. J. D. ALLAN GRAY read a paper on "Recent bacteriological research which is of value to the clinician." He began by saying that recent work had been characterized by the accumulation of much detailed information. The ideal of prevention in infectious disease was now attainable in small-pox, enterica, cholera, plague, typhus, tetanus, scarlatina, and diphtheria. A brief description was given of the Dick and Schick tests and of the active immunization against, and treatment of, scarlatina and diphtheria. After explaining bacterial variation, the terms "H" and "O," and the use of the products of the Standards Laboratory, Dr. Gray outlined the theories of the action of the bacteriophage, discussing also its therapeutic uses. He made a protest against the indiscriminate use of vaccines. Immunologically the procedure was irrational, and further difficulties were due to the specificity of the immunity produced, our lack of knowledge of the intricate mechanism of immunity, the variation in response in different species and in different individuals, and the frequent failure to determine the primary organism in cases of mixed infection. There was no method of predicting the results of the administration of a vaccine. The speaker concluded with a plea

for sympathy with the research worker. Work which had at first appeared unduly academic had often proved eventually of the utmost practical value.

In the discussion which followed, Professor J. H. DIBLE congratulated Dr. Gray upon a comprehensive survey of a number of subjects especially interesting to the practitioner. With regard to vaccines, he thought that many persons must have had a few dramatic results and a great many disappointments, and he admired Dr. Gray's courageous attack upon this form of treatment. He pointed out that the confusion depending upon bacterial variation was at the present time largely resolved. Pure "O" infections in the typhoid group were not common in this country, although apparently frequent in South Africa. Much of the confusion was due to the introduction of the so-called Oxford "Standard" emulsions, which had been imposed by authority upon rather mistrustful pathologists during the war and had since entered the field of civil practice. These contained chiefly "H" antigen, and introduced a consequent complication which did not exist in the older method of employing living cultures. The activity of the bacteriophage was one of intense interest since it constituted a new phenomenon which he, among others, considered closely allied to the virus diseases of man and animals. Investigation of these was difficult, and it might well be that information obtained by the study of the bacteriophage could be extended to their elucidation. In conclusion, Professor Dible said that no immunity appeared so successful as that conveyed by a living virus, however attenuated it might be. This was seen in anthrax and in small-pox, whilst further evidence of it was forthcoming in the case of the virus diseases. Here it appeared that dead viruses were incapable of producing immunity, or only gave rise to such an incomplete degree as to escape detection.

Dr. CRONIN LOWE referred to the more satisfactory results with vaccine therapy in those cases in which the preparation employed contained organisms shown to be pathogenic to the patient concerned, by means of the pathogen-selective culture method. By such means a definite attempt was made to develop a more rational, and purer, type of vaccine treatment than was employed by simply utilizing all the organisms isolated from the specimens of any case. Not only did this apply to many forms of clinical infection of unknown origin, but particularly to a very large group of infective arthritic and fibrositic cases, and to the chronic catarrhal infections from which evidence was also obtained. The patient became not only effectively immunized against recurrent attacks, but, later on, bacteriological investigation gave evidence of a reduction in catarrhal carrier importance.

Dr. C. O. STALLYBRASS said that investigation carried out at an institution where diphtheria was formerly prevalent and carriers were numerous, and where immunization had been carried out for five years, had shown a complete absence of carriers of virulent diphtheria bacilli, although the disease was prevalent in the city and numerous carriers were found in the day schools.

SENILITY AND REJUVENATION

At a meeting of the Hunterian Society held in Apothecaries' Hall on January 19th, with the president, Professor SHEEN, in the chair, Dr. ARNOLD LORAND of Carlsbad delivered the Hunterian Lecture on "The problem of rejuvenation." The lecturer called attention to the frequency of achlorhydria, anaemia, and degenerative changes in the ductless glands as commonly accompanying senility, and said that intestinal stasis and excessive proliferation of bacteria in the alimentary canal, even in the duodenum and stomach, might follow a reduction in the acidity of the gastric juice and induce anaemia and other morbid conditions. Rejuvenation might often be achieved by attention to diet; fats having a high melting point, such as mutton fat, were difficult to digest, and should be replaced in the dietary by olive oil. Carbohydrates were best given in the form of fresh fruit and vegetables; bananas had been found particularly valuable in this connexion. A milk diet tended to check intestinal putrefaction; it was significant that Holland and New Zealand had a low mortality rate, and both these countries were noted for dairy produce. Constipation should be treated by natural remedies, such as cellulose, rather than by drugs; colonic lavage was often very beneficial. Pavlov's observations had shown the importance of food being attractively prepared; badly cooked food failed to elicit an adequate digestive juice. The speaker suggested that no marriage licence should be issued unless the bride produced a certificate of proficiency in cookery. Surgical operations, such as those of Voronoff and Steinach, gave good results in restoring sexual activity to senile animals, but these operations seldom produced any lasting benefit in man. Sexual impotence in man was often due to neurosis, and might be successfully treated by diet; among the natives of Guatemala nervous disorders were rare, and impotence practically unknown; the diet consisted mainly of beans and rice. It was idle to expect to transform an old man into a young man, but youth could often be prolonged by attention to hygiene; it was encouraging to find that the general public now took a greater interest in the rules of health.

CHRONIC APPENDICITIS

At the December meeting of the Sheffield Medico-Chirurgical Society, presided over by Professor GRAHAM SIMPSON, Mr. J. C. ANDERSON read a paper on chronic appendicitis. Dealing with the production of the symptoms and signs of chronic appendicitis without regard to the pathological processes, Mr. Anderson said that a local lesion in the alimentary tract was apt to set up distant reflex motor and secretory disturbances. Thus, ileo-caecal disease could produce gastric as well as ileo-caecal symptoms. The wall of the intestine was insensitive to ordinary pain-producing stimuli, but excessive muscular contraction, resulting from obstruction or from irritants, was manifested by referred pain in the abdominal wall. Ileo-caecal and appendicular colic were felt at the level of the umbilicus, but were unaccompanied by symptoms or physical signs. Inflammation of the parietal peritoneum, however, caused local pain, tenderness, and muscular resistance. The symptoms and signs of appendicitis depended upon mechanical or inflammatory factors. The abnormalities of the appendix which led to symptoms of mechanical origin were immobility, kinking, strictures, and concretions. In these cases pain might be felt in the ileo-caecal region or there might be an irregular type of dyspepsia; nausea and vomiting were also common symptoms, occurring sometimes without other local or general signs. When the appendix was inflamed, motor disturbances similar to the above might happen, but when the parietal peritoneum was involved, there were both local and general symptoms. In each mechanical and inflammatory symptom-group, *x*-ray examination might show reflex motor disturbances of the stomach as well as ileo-caecal distortion. Pain in the appendix, resulting from mechanical factors or occurring between inflammatory attacks, had to be recognized from symptoms alone, as physical signs were present only when the inflammatory process was active. If the predominating symptom was colic some of the causes enumerated above should be proved on exposure of the appendix. During an inflammatory attack, signs of inflammation would be found; but at operation the evidence might be slight if laparotomy was done at a quiescent period. Mr. Anderson stressed the importance of the evidence afforded by enlarged ileo-caecal glands. Finally, he surveyed briefly the question of differential diagnosis of right-sided abdominal pain, colic, and dyspepsia due to other causes. Phthisis might be associated with umbilical colic resulting from tuberculous enteritis, and possibly with right-sided abdominal symptoms originating in a right basal pleurisy.

Reviews

THE STUDY OF RHEUMATISM

In making their contribution[1] to the Recent Advances Series, which has proved so useful to the whole medical profession, Drs. POYNTON and SCHLESINGER undertook a very difficult task. There is no doubt that they faced it with courage and have produced a most readable book, full of interesting and stimulating material. That no very definite conclusions can be drawn is no fault of theirs, but demonstrates the fact that rheumatism still remains an unsolved problem.

The first and major part of the book is devoted to "acute rheumatism," comprising rheumatic fever and the subacute rheumatic infection of childhood. This section is an admirable piece of work; it shows that, though there is still a great deal of divergence of opinion, research is being conducted along so many lines that a successful issue is almost in sight; and we may hope that before long the vexed questions of etiology and rational preventive treatment will be solved. A good deal of space is given to the question of predisposing causes, especially in relation to climate and damp houses. The relationships of streptococcal infection, tonsillitis, and allergic reaction to the clinical manifestations of rheumatism are all dealt with adequately and clearly. In the section devoted to treatment the chapter on nirvanol and its peculiar reactions is of special interest, and we note a timely warning against reckless administration of this drug. The establishment and administration of rheumatic convalescent schools are described, and attention is drawn to the lamentable shortage of these desirable institutions in this country.

In the section on chronic rheumatism the authors have been less happy. Here they give a catalogue of very conflicting views on pathology, etiology, and treatment, without succeeding in drawing these together into any coherent scheme. They do not really distinguish between rheumatoid arthritis and osteo-arthritis, and we find no mention of fibrositis and muscular rheumatism. They point out, however, the fallacies in the attitude of those, on the one hand, who regard chronic rheumatic diseases as entirely due to focal infection, and of those, on the other hand, who put them all down to metabolic disorder, and they insist on a broad view which will take into consideration all the many factors that go to make up the rheumatic syndrome. They do service in pointing out that the prognosis in these diseases, distressing and prolonged as they are, is by no means hopeless; most wisely they urge the physician to treat the patient and not the disease, and to eschew the current therapeutic fad in vaccine, protein shock, or diet. The divergencies of view on vaccines and diets, exposed in the separate chapters devoted to these subjects, have to be read to be believed, and with such uncertainties in the minds of the profession it is no wonder that the rheumatic diseases are the happy hunting ground of the quacks. Nevertheless, it is doubtful if things are quite so chaotic as this section would seem to indicate, and those with prolonged experience in the treatment of these diseases have a clearer idea of what they are treating and how to do it than would be gathered from the study of the present volume. Dr. F. Howitt contributes a final descriptive chapter on the various forms of physiotherapy, and rightly points out that experience in the art of prescribing these measures is just as important here as in other branches of therapeutics.

[1] *Recent Advances in the Study of Rheumatism.* By Frederic John Poynton, M.D., F.R.C.P., and Bernard Schlesinger, M.D., M.R.C.P. London: J. and A. Churchill. 1930. (Pp. viii + 313; 25 figures. 12s. 6d.)

CLASSIFICATION OF CULTURE MEDIA

A classified list of the large number of media which have been used for the cultivation of micro-organisms, pathogenic and otherwise, has been prepared by LEVINE and SCHOENLEIN of Iowa. Their book[2] was written at the instigation of the Society of American Bacteriologists, and financed by the Digestive Ferments Company of Detroit; this combination of science and commerce has resulted in the appearance of a volume *sui generis*. The long catalogue of media here detailed, some 7,000 in number, bears witness to the industry devoted to their inventing, and to the labour that must have been expended in collecting and classifying them. The media are grouped and subgrouped according to their composition; in each case are recorded the ingredients, the mode of preparation, and the purpose for which the particular medium has been recommended. Both the text and the several indexes illustrate how completely the sifting and dissecting of original references has been carried out; for this reason alone the book has a real value, since, without its help, the search among numerous publications in several languages over many years must consume a great deal of time. But the practising medical bacteriologist will complain of redundancy, because, while a great number of media are described for the cultivation of a single bacterial species, he is given no guidance on how and why to choose any one rather than another; there is, in fact, some risk of his being perplexed by an encumbrance of wealth. For example, the index refers to over 100 pages, scattered throughout the book, on the preparation of media which have been recommended for the tubercle bacillus; the beginner is thus left wondering and puzzled, while the expert will ignore the multiplicity of suggestions and hold fast to what his individual experience has led him to approve. The bringing together of so many different experiences with media should render it possible, however, when the advantages of each constituent have been assessed, to furnish an ideal medium which will suit the requirements of each bacterium. It would be a truly constructive work if some authoritative body would define the essential features of such an ideal culture medium, for, if a universal medium is beyond the scope of the practicable, there must be an optimum constitution for each purpose.

ABDOMINAL DIAGNOSIS

A rose by any other name would smell as sweet, and it matters little that MONDOR'S fascinating book has found publication as the "Abdomen" section of a series entitled "Urgent Diagnosis."[3] If "urgency" be the essential, then this volume is laid open to serious criticism, but if the emphasis be on "diagnosis," then its discursive pages need fear no very fierce onslaught. Is it not delightful to have perforation of the appendix illuminated by the very drawing sent by Cornil, after the necropsy on Gambetta, to Lannelongue, to show him that his diagnosis had been right, that his wish to operate was justified, and that he might well have saved his patient—who died in 1882 of acute appendicitis—had not Charcot, Verneuil, Trélat, Brouardel, Cornil, and Siredy withstood him? How pleasant to find twenty-five pages devoted to a thorough *exposé* of perforations of Meckel's diverticulum. How instructive to find a long series of radiographs of acute intestinal obstruction of various types;

[2] *A Compilation of Culture Media for the Cultivation of Micro-organisms.* By Max Levine, Ph.D., and H. W. Schoenlein, M.S. Monographs on Systematic Bacteriology. London: Baillière, Tindall and Cox, 1930. (Pp. xvi + 969. 67s. 6d. net).

[3] *Diagnostics Urgents: Abdomen.* Par H. Mondor. Paris: Masson et Cie. 1930. (Pp. x + 846; 245 figures. 145 fr.)

of perforations of peptic ulcers with free gas in the peritoneum playing characteristic tricks; of acute intussusceptions, reducible and irreducible, by the opaque enema. To many, these pictures will be new, and perhaps instructive, though there may be a lingering doubt as to the welfare of the patients who are submitted to radiography when acutely ill. We note with pleasure that the author is far better versed in, and far more ready than most of his countrymen to acknowledge indebtedness to, English-speaking authors.

Like nearly all books that profess to deal with "diagnosis," the actual matter is very largely concerned, not with signs and symptoms, though these are prominently placed, even if a little scattered, but with classification and description of pathological states and their ways of happening. This is of course essential if interpretation of clinical pictures is to be precise. There is a wealth of illustrative cases, and not the least useful among them are the many in which the original diagnosis was wrong. Indeed the further one reads in these pages, as perhaps the further one progresses in actual experience, the more difficult does accuracy in exact diagnosis appear. Even statistics, of which there are many here, culled from diverse sources, prompt or confirm the notion that diagnosis rests on little more than probability. The author acknowledges no such pessimism. The section, for instance, on the diagnosis of mesenteric thrombosis, although it recounts wide differences of informed opinion upon the prevalence of almost any and every symptom, ends with the firm statement that the diagnosis can be and ought to be made, relying on (1) signs of incomplete obstruction, (2) an ill-defined diffuse, dull tumour, (3) signs of internal haemorrhage with early collapse. Dr. Mondor lays repeated stress on the absence of tympanites and the presence of an area of dullness. He has had such a case and made the diagnosis. When he meets this syndrome again he will repeat his success. But what of the surgeons who have seen only those cases in which distension of coils above those affected has obscured the dullness of the tumour?

However experienced and well-informed the reader, a dip into this lucky-bag will always result in some prize. Certainly a book worth keeping.

THE SPIRIT OF CHEMISTRY

The *Spirit of Chemistry*,[1] by ALEXANDER FINDLAY, is in some sort a history of chemistry, but that is not quite what the author set out to produce. It might be better to describe it as a history of the development of chemical thought and conception: yet it is more than that. There seems to be no better clue to its contents than the thought comprised in the title itself, as it appears to be the fittest expression of the author's incentive to write the book. His stated purpose is to provide for the many university students who take a course in chemistry as an element of general culture rather than as a part of their professional or technical training. The treatment is thus necessarily different from that of a work intended for the plain layman. Yet it is not too difficult for the layman who has a moderate acquaintance with the nomenclature of chemistry, and it may be commended to the layman who is interested in chemistry as well as to those for whom it was more expressly written.

The general theme of the book is to describe and explain the fundamental experiments which form the foundations and superstructure of the great storied edifice of chemistry, and to illustrate the more important application of its principles to technical purposes. It might be thought that the inclusion of a survey of chemistry within the compass of such a volume would necessitate an arbitrary choice of matter which must be limited as well as fragmentary and disconnected. Such is by no means the case. There is a wealth of matter, treated in adequate detail, and a flowing sequence recalling to memory some of the most entertaining of scientific lectures. Is it Professor Findlay's method of selection that has invested the book with a spirit of romance, or is it his peculiar gift for clothing his narrative with absorbing interest? How many people, for example, know that nitrogen was discovered and first prepared by a botanist, or that Robert Boyle was led to the discovery of what is now known as Boyle's Law by his interest in the machine then lately invented and called a "pneumatic engine," now more familiar to us by the name of "air pump"? On another page opened at random is found an illuminating account of the construction of different kinds of steel, with a beautiful description and a fine photomicrograph of Damascus steel: a description which contains a justification of the account given in Scott's *Talisman* of Saladin's exploit with a wonderful Damascus blade. The quotation is itself recited in a foot-note, and the reference chapter named. Next comes an account of the preparation of ink: what the colouring matter consists of and how it is dispersed in a colloidal form.

Writers may wonder how all this matter was introduced without conglomerate packing or the production of a bulging volume, and readers may wonder at their good fortune in finding just what they want most in so small a book. From among the ever-growing profusion of printed matter calling for notice an increasing proportion must be passed over for want of time to look at it. Any author, therefore, who selects and presents his matter in a form that will save the reader's time without prejudice to the subject is doubly deserving of gratitude. That is from the reader's point of view the author's most notable achievement, yet, it would be safe to guess, the idea was never present in Professor Findlay's mind. Rather he wrote as only one could write who was imbued with the spirit of chemistry.

[1] *The Spirit of Chemistry*. By Alexander Findlay, M.A., D.Sc. London and New York: Longmans, Green and Co. 1930. (Pp. xiv + 480; 88 figures. 10s. 6d. net.)

PATHOLOGICAL NEURO-HISTOLOGY

In his book on the histological technique of neuropathology[2] Dr. IVAN BERTRAND has given us not only the methods in general use in his laboratory at the Salpêtrière Hospital, but a complete compendium of modern methods of neuro-histology as applied to human pathology. Of special interest are his methods for photomicrography by the use of infra-red light to reveal the finer structure of nerve cells. But these form a technique of more than usual difficulty, necessitating the preparation of special sensitized plates. A full account is given of the gold and silver impregnation methods for neurofibrils and neuroglial tissues, which are being so continually modified and amplified that each new work on histological technique renders the last out of date in this particular. A useful section is also devoted to the degeneration products of myelin, and to special methods for glycogen, calcium, iron, and pigments. But in spite of its 376 pages the work is by no means complete, as many valuable methods and modifications have had to be omitted for lack of space. The book is valuable, not only for the new material which it includes, but also in that it gives details of the methods used in the chief neurological laboratory in France.

[2] *Techniques histologiques de Neuropathologie*. Par Ivan Bertrand. Préface du Professeur G. Guillain. Paris: Masson et Cie. 1930. (Pp. 376. 50 fr.)

NOTES ON BOOKS

Dr. FRIEDRICH MAUZ has written a very serviceable little book[6] in which he outlines succinctly our present-day knowledge of the schizophrenic and manic-depressive psychoses. The symptomatology of schizophrenia is described and its prognostic significance inquired into, and a short chapter is devoted to the discussion of the nature of the underlying defect in this psychosis. The second part of the book consists of an account of the varied manifestations of manic-depressive insanity, viewed mainly from the prognostic angle. The views of Kraepelin and Kretschmer are deftly harmonized, and a short but significant introduction by the latter adds interest to the work.

In his book on Therapeutic Novelties[7] Dr. GASTON LYON reviews various aspects of modern therapeutics, and gives a short account of such subjects as serum therapy, endocrine therapy, psychotherapy, action of radiations, etc. He considers also other more general problems, such as the dosage of drugs, and the influence of age and sex upon the response to therapeutic measures. He has written some particularly interesting chapters on the subject of the general purposes of therapy, in which he follows out the argument that it is a patient, and not a disease, that receives treatment. The point is emphasized that an accurate diagnosis is the only sure basis of therapy, and that this includes not only the determination of the main disease, but also an assessment of the gravity of any added complications. Such complications can often be relieved, even though the main cause of illness cannot be attacked, and the patient is thereby rendered more able to resist the progress of disease. In general, Dr. Lyon advocates a rational form of symptomatic treatment. He expresses many interesting ideas that are the result of a long experience of medicine.

Professor ALESSANDRO PERI'S monograph on Industrial Medicine as an Italian Branch of Learning,[8] which won a prize offered by the *Rivista di Terapia Moderna e di Medicina Pratica*, is divided into two parts. The first, mainly historical, deals with the pioneer work on industrial medicine of Bernardini Ramazzini at the beginning of the eighteenth century, the psychological studies of workmen by Paolo Mantegazza, the studies of fatigue by Angelo Mosso, Maragliano's address on medicine in relation to social questions, the first university course on industrial diseases held by Luigi Devoto at Pavia in 1901, and the contributions to the subject of industrial medicine by other Italians, such as De Giovanni, Rummo, Ferranini, and Pende. In the second part Peri deals with the instruction given at the Italian faculties of industrial medicine, the articles pertaining to the subject in periodical Italian medical literature, and Italian participation in the various international congresses of industrial medicine. He concludes with the claim that industrial medicine is essentially an Italian discipline.

Dr. MOHR, in his book on the application of psychotherapeutic methods of treatment in organic affections,[9] discusses the reciprocal effects of mind on body. The psychological side of physical methods of treatment is explored, the combination of psychological with physical therapy discussed, and finally the various psychotherapeutic methods outlined—hypnotic suggestion, psychoanalysis, suggestion in the waking state, and re-education of the will. The latter part of the book comprises an account of the application of this form of therapy in such diverse conditions as cholecystitis, pulmonary tuberculosis, pneumonia, and epilepsy. There is a brief bibliography.

[6] *Die Prognostik der Endogenen Psychosen.* Von Dr. Friedrich Mauz. Mit einem Geleitwort von Prof Dr. E. Kretschmer. Leipzig: G. Thieme. 1930. (Pp. 121. M.7.50.)

[7] *Les Thérapeutiques Nouvelles.* Par Gaston Lyon. Paris: Masson et Cie. 1930. (Pp. viii + 389. 26 fr.)

[8] *Medicina del Lavoro-Disciplina Italica.* By Professor Alessandro Peri. Milan: *Rivista di Terapia Moderna e di Medicina Pratica.* 1930. (Pp. 88. L.10.)

[9] *Psychotherapie bei organischen Erkrankungen.* Von Dr. med. Fritz Mohr. Therapie in Einzeldarstellungen. Leipzig: G. Thieme. 1930. (Pp. 103. M.4.80.)

PREPARATIONS AND APPLIANCES

INSTRUMENTS FOR EXAMINING AND TREATING THE TONSILS

Mr. C. OSMOND BODMAN, F.R.C.S.Ed. (Clifton), writes: The instruments here illustrated have been found of great use in the investigation and after-treatment of tonsil cases.

The tonsil exploring hook (Fig. 1) is of a convenient size and shape for lifting the anterior faucial pillar off the tonsil,

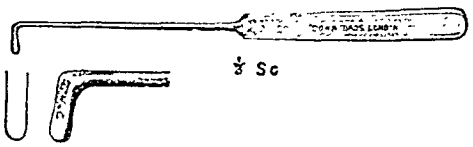


FIG. 1.

for raising the tonsil from the posterior pillar, for pressing upon the tonsil to squeeze out secretion, and for investigating crypts. The instrument is made in stainless steel, and, being somewhat hollowed and rounded, admirably serves the above-mentioned purposes without causing any injury.

The irrigating tongue depressor (Fig. 2), when connected with a Higginson syringe or irrigating can, serves the purpose

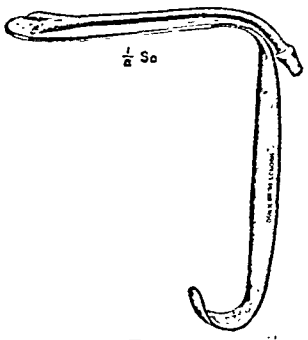


FIG. 2.

of douching the fossae with an antiseptic solution after dissection of the tonsils; it has proved popular with the hospital nursing staff. To use it, the patient sits forward over a basin so that the lotion runs freely in and out of the mouth.

These instruments have been made for me by Messrs. Down Bros., Ltd.

ARTIFICIAL PNEUMOTHORAX STOPCOCK AND NEEDLES

Dr. P. W. EDWARDS (Market Drayton) writes: The following is a brief description of a stopcock and needles used by me in my last 700 cases of artificial pneumothorax. The special feature is the simplicity and adaptability. There is a special stopcock, one end of which fits a Record needle and the other a Record syringe. This means: (1) that in an infant a hypodermic needle may be attached to the stopcock for the induction; (2) that, with my ordinary refill needle, on removing the stopcock irrigation may be undertaken through the refill needle; (3) that antiseptic solutions can be admitted through this needle by a Record syringe; and (4) that gomenol oil can likewise be introduced through this needle and a Record syringe.

There are three needles: (1) Induction needle. Length 4.5 cm.; needle fitting into a shoulder, the inside joint with the needle being a perfect cone, so that the stylet will pass without hindrance through the stopcock, the shoulder, and so to the needle point. The point of the needle is short, as on dental needles. Diameter of needle 0.035 inch, or 20 B.W.G.; stylet fitting through stopcock and needle with protruding 8 mm. (2) Refill needle. Similar to (1), but diameter 0.049 inch, or 18 B.W.G., taking correspondingly coarser stylet. This needle has a side opening, 5 mm. long by 0.5 mm. wide. (3) Refill needle. Same as (2), but has no side opening. The induction needle is fine enough for use without a local anaesthetic.

One stopcock only is needed. The needles can be supplied in any quantity. New needle shafts are cheaply refitted to the bosses; needles are resharpened at a low cost, and the stylets are very cheap, and protrude sufficiently to enable them to be heated and then withdrawn into the needles to dry them. Needles are thus not "flamed" and damaged.

The whole outfit, or parts, may be obtained from Messrs. Philip Harris and Co. (1913), Ltd., Edmund Street, Birmingham.

British Medical Journal

SATURDAY, JANUARY 31st, 1931

MEDICAL SELECTION FOR LIFE ASSURANCE

Broadly speaking, the tables of premiums used by a life assurance company represent the rates required to cover the risk in the case of an "average life." This implies a proposer in whom there are no factors in the family history, personal history, physical condition, habits, occupation, or milieu, likely to impair the normal expectation of life. Should any such impairment be present, the risk becomes an "under average" one, and the proposer is called upon to pay some extra premium or its equivalent in the form of a lien on the policy. The principle is clear, but the difficulty arises in deciding what constitutes an impairment, and, still more, in assessing it quantitatively. From the theoretical point of view it would be necessary to have a mortality table for each type of impairment, based upon a large number of cases, each exhibiting this particular impairment, and being in all other respects a normal risk. To construct such a table a large number of individuals would have to be included in each class, as a table based on a small number would inevitably tend to fallacy. This fact makes it difficult, though not impossible, to compile mortality tables for certain types of impairment, such as family history of diabetes, cancer, apoplexy, etc., and also for certain hazardous occupations.

In the case of impairments due to personal blemish, the difficulties are so great as to render accurate tables almost impossible. Consider, for example, a table for persons suffering from aortic regurgitation. One would require many thousands of cases, all suffering from this condition, with no other adverse feature. But they vary so much in severity as a result of differences in the extent of the valvular and muscular involvement, and the underlying etiological factor, that they would be a long way from the homogeneous group required. When to this difficulty is added the important one that the examinations are conducted by a large number of medical practitioners differing widely in diagnostic skill, it will be realized that the data constitute a heterogeneous mass incapable of giving trustworthy results. It is extremely doubtful whether any of the elaborate tables of personal impairments, even those of the American Medico-Actuarial Investigation of 1914, have more than a qualitative value, confirming the view that certain physical defects are a handicap to longevity, but failing to give an accurate measure of its extent. In America a system is widely used of assessing risks by an arithmetical method—taking the standard risk as 100, deducting marks for specially favourable features, and adding them for adverse ones. For the reasons given above, the system has not found much favour in this country, where the method is more frankly empirical, and consists, in essence, of collaboration between the actuary and the medical officer on the basis of experience and intuition.

The empiricism of our methods of assessment is strikingly reflected in a paper on "The selection of lives," read to the Faculty of Actuaries by Mr. Lewis P. Orr on December 1st, 1930. This was really a revised edition of an earlier paper on the same subject presented to the Faculty in 1919. Though written by an actuary for actuaries, it contains only a single mortality table (quoted from an American source); indeed, the whole paper is full of interest even to the least mathematically minded medical man, and can be read by him with complete understanding and enjoyment. It discusses, briefly but pointedly, all the principal impairments found in life assurance work, in family history, personal history and condition, and habits. In the first of these it is of special interest to find that Mr. Orr attaches little, if any, importance to a family history of cancer. He says: ". . . It was evidence such as the foregoing that led me in 1919 to express the belief that, while holding an open mind on the subject, it was probable that if future research should find that hereditary influence does bear a part, that part would be small. . . . During the intervening years, such evidence and statistics as came under notice tended to strengthen rather than weaken the opinion against hereditary influence." With regard to personal defects, the attitude towards some of them has been somewhat modified during the decade which has elapsed since the first paper was read. One of the most definite advances has been in the consideration of cases of glycosuria. An increasing use has been made of blood-sugar curves in the differentiation of true diabetes from other forms of glycosuria, with the result that cases of "renal glycosuria" are now often accepted as ordinary risks, especially for endowment policies maturing at a comparatively early age. As regards insulin, Mr. Orr mentions its beneficial effect in modifying the grave prognosis in ordinary diabetes, but he does not indicate how far its discovery is likely to affect insurance practice with regard to this disease. One of the difficulties is that there can be no guarantee that the proposer, if accepted, will continue with the dietetic restrictions and the injections necessary to keep the disease in check. The policy, once issued, is irrevocable; the holder's tenacity in maintaining the regime may be less enduring, with unfortunate results to himself and to the company.

Another condition which has attracted gradually increasing notice is that of hyperpiesia. In this field there has been a good deal of statistical work, principally in America, but also in this country by the Prudential Assurance Company, whose medical officer read a paper on this subject at the Bath meeting of the British Medical Association in 1925. All the published

results confirm the general impression that increasing pressure above the usually accepted normal connotes an increasing risk, and that a group of people with pressures over, say, 170 mm. Hg will show a definitely higher mortality than the average. There is no doubt that careful medical selection could do something in separating the more dangerous high-pressure cases from those in which the prognosis is relatively good. The presence or absence of signs or symptoms of impaired cardiac or renal efficiency, the family history, habits, and general physique of the proposer may all help, but even if all these points seem favourable, can one exclude the risk of a fatal apoplexy? Every practitioner can, of course, bring forward cases that he has watched for many years, little, if any, the worse for a pressure of 200 mm. Hg or more, but these individual exceptions do not invalidate the higher group mortality. As Mr. Orr points out: "If a practitioner should see 1,000 patients with high blood pressure at age 60 and bet with himself that 974 would survive the year" (the normal mortality), "and only 960 did survive, he would not feel downcast. In fact, he would probably point to the record with pride and boast of his ability in prognosis. But life insurance would have to tell him that his mortality was 150 per cent. in that group, and a medical director who never made a better guess than that would not keep his position for long. General medicine would look complacently at the living, but life insurance would ruefully regard the dead, for 40 claims would have to be paid instead of the 26 expected." Until medicine provides a more exact answer to the question of prognosis in such conditions, the companies are bound to protect their other policy holders by treating proposers manifesting these conditions as impaired lives, assessable, if at all, only on special terms.

TRAFFIC IN DANGEROUS DRUGS

It cannot be said that the report of the London conference on the limitation of manufacture of dangerous drugs, which has now been released for publication, marks any great advance towards achievement of the end in view. Last September the Assembly of the League of Nations, appalled by the disclosures of the huge illicit traffic in dangerous drugs, unanimously desired that steps should be taken, without delay, to limit the production of the drugs in question to the amounts required for medical and scientific purposes. The League's Advisory Committee on Opium was to prepare plans for that purpose, and the Council was to summon a conference, in May next, at which both manufacturing and consuming countries would be represented, to consider the draft plans in order to implement the International Opium Conventions of 1912 and 1925. At the instance of the Advisory Committee a "preliminary conference" was convened in London last October, at which it was hoped that the producing countries, or the drug manufacturers therein, might agree on the quotas of morphine, heroin, and cocaine to be allocated to each country out of a total to be fixed for legitimate world consumption. In addition to France, Germany, India, Italy, Japan, the Netherlands, and Switzerland, which accepted the invitation of the British Government to send representatives to the conference, the United States, which is not a party to the Geneva Convention, sent a delegate, while Turkey and Soviet Russia, which are parties to no convention, were, for the first time, represented.

On the main question the report states: "The Conference regrets that it has not been able, in the course of its session, to come to a definite conclusion as to the allocation of the quotas among the manufacturing countries." The manufacturers of the five largest exporting countries, though in negotiation since the summer, had not completed their labours when the conference met. Some provisional figures which they put in were criticized on various grounds, notably by the delegates of Great Britain and India, and "in these circumstances the Conference felt that the whole question required further investigation," although in the case of cocaine some quotas appear to have been provisionally accepted. Whether the manufacturing firms should be the sole, or the chief, arbiters in determining the national quotas is, to say the least, doubtful. It appears that the figures they vouchsafed had more regard to the sales by individual firms than to legitimate national productions. Insufficient allowance seems to have been made for the amounts that had gone into illicit traffic, and, indeed, no very obvious relation could be established between the manufacturers' quotas and the official statistics prepared by the Secretariat of the League of Nations. The enormous quantities of morphine and heroin exported from three recently established manufactories in Turkey had not been reported to the League's Central Opium Board by any of the countries to which these huge illicit exports were stated to have been consigned. Meanwhile, the Turkish delegation was prepared to participate in international control of the drug traffic, provided that its quota should be equal to one-third of the world production!

Another point which engaged the attention of the conference was in regard to the large quantities of morphine made, not for use as such, but for conversion into other substances, notably codeine. This latter alkaloid, though at first included under the draft Hague Convention, at the instance of the British delegation, was finally omitted at the desire of the German representatives. Consequently, morphine which has been converted into codeine is not deemed to be subject to control. Other questions arose which were held to be outside the scope of the conference, inasmuch as they concerned the consuming as well as the producing countries, and the Soviet delegation maintained, with some plausibility, that the limitation of production should apply, not only to alkaloids derived from opium and from the coca leaf, but also to these raw materials themselves.

SOURCE OF INFECTION IN PUERPERAL FEVER

A report has just been issued by the Department of Health for Scotland dealing with researches by Dr. John Smith of the City Hospital Laboratory, Aberdeen, into the causation of a group of cases of puerperal fever and septic abortion occurring in Aberdeen over a period of eight years.[1] It supplements the investigation of maternal mortality in Aberdeen for the decennium 1918–27, which was undertaken by Dr. Smith, in association with Drs. Parlane Kinloch and J. A. Stephen, and to which many references were made in these columns two years ago. The report deals specially with the source of infection in 18 cases of puerperal fever and 3 cases of septic abortion, based on bacteriological examination of the secretions and excretions obtained from the patients, and of materials, chiefly throat and nose swabs, obtained from doctors, nurses, and others in attendance on these patients. During these eight years all cases of puerperal fever admitted to Aberdeen City Hospital for Infectious Diseases have been subjected to routine bacteriological investigation, with special reference to the presence of the *Streptococcus haemolyticus*. In the present report an analysis is given of the bacteriological findings in 221 cases of puerperal fever and 25 cases of septic abortion. The *Str. haemolyticus* has been found to be associated with fatal cases in a manner which leaves no doubt as to its relative importance in puerperal fever. It was found in uterine cultures from 149 of the cases, and in 120 of these cases occurred alone. It was also recovered from blood cultures in 22.9 per cent. of the cases, while other organisms were found in 3 per cent. Out of 46 cases that proved fatal, this organism was obtained from one or more sources in 43 instances. In 25 cases of septic abortion studied, this organism was obtained in pure culture from the uterus in 11 cases, and in 3 others *Bacillus coli* was found. In the cases which were specially studied in regard to the bacteriology of the secretions, both of patients and of contacts, the cultural and serological characteristics of the various strains of *Str. haemolyticus* and *B. coli* that were obtained were fully investigated. In 15 cases the only organism isolated from the uterus was the *Str. haemolyticus*, and the source of infection was discovered in 12 of these. In 3 cases *B. coli* only was obtained from the uterine cultures, and its source was discovered in each case. In 12 cases the infecting strain of the streptococcus was found to have had its origin in the throat or nose of the doctor, nurse, or student in attendance; in only one case was the infection of autogenous origin—from a septic focus on the patient's hand. In infections due to *B. coli* it was found that the organisms were derived from either the urinary tract or the intestine. It is suggested with regard to prophylaxis that infection might be prevented if doctors, midwives, and maternity nurses were to make a wider use of masks and adopt more careful antiseptic treatment for the hands. Dr. Smith suggests further that, in hospitals, definite bed isolation by means of metal and glass screens interposed between the patients should be introduced. "As soon as it is generally recognized by practising physicians and maternity nurses that in the majority of cases of puerperal fever the infecting organism is introduced from an intrinsic source, and as soon as a satisfactory surgical technique is evolved for conducting a confinement, then there is bound to follow a large decline in the number of cases of this disease."

[1] Department of Health for Scotland. Causation and Source of Infection in Puerperal Fever. By J. Smith, M.D., D.Sc., M.R.C.P., D.P.H. Edinburgh: H.M. Stationery Office. 1931. (1s. net.)

AFTER-HISTORY OF TUBERCULOUS PATIENTS

Each year the London County Council publishes particulars of the after-history of patients who were receiving residential treatment under its tuberculosis scheme five years earlier. The cases are arranged in categories: A, sputum-negative cases; B, sputum-positive, the latter being divided into three groups. The category B1 comprises cases with slight constitutional disturbance, if any, and with obvious signs of very limited extent; B3, cases with profound systemic disturbance or constitutional deterioration, and all cases with grave complications; and B2, all cases not falling into Groups 1 and 3. Class A and B1 may be considered early cases; B2, moderately advanced; and B3, far advanced. In 1924 4,314 adult patients were discharged from treatment. In 227 cases the diagnosis of tuberculosis was not confirmed; 54 were discharged from observation hospitals and not transferred to sanatoriums; and of the remainder, 402 are not now traceable. The number of cases investigated after the completion of five years is therefore 3,631. The following is the result, P. standing for pulmonary and N.P.S. for non-pulmonary surgical.

Class		Total Cases	Alive after 5 Years	At Work, or Fit though Unemployed
Males:				
A and B1	P.	428	330	230
B2	P.	1,285	442	209
B3	P.	197	27	8
N.P.S.		137	101	75
Females:				
A and B1	P.	257	121	141
B2	P.	585	161	101
B3	P.	221	9	2
N.P.S.		137	83	65

During 1924, also, 775 children were discharged from residential institutions after having received at least one period of residential treatment. After deducting patients in whom the diagnosis of tuberculosis was not confirmed, those in respect of whom reports are not available, and those who have died from some other disease, an examination of the after-histories of the remaining 559 children shows that 114 out of 175 pulmonary patients, and 341 out of 384 non-pulmonary patients, are still alive.

THE NATURE OF THE VITREOUS

The fourth monograph supplement of the *British Journal of Ophthalmology*, issued in December, 1930, bears the above title, and is the work of Mr. Stewart Duke-Elder.[1] It incorporates work done for the Medical Research Council, and amplifies the author's previous monograph on the nature of the intraocular fluids, which was noticed in our columns on May 1st.

[1] The Nature of the Vitreous Body. By W. Stewart Duke-Elder. *Brit. Journ. of Ophthalmol.*, Monograph Supplement 4. London: George Pulman and Sons, Ltd. 1930. (5s.)

1927. The work is largely biochemical, and it will probably suffice to quote one of the opening paragraphs in order to give our readers some idea of the contents. The author brings forward evidence to show that "the vitreous body is a hydrophilic elastic gel; that it is formed upon the basis of special protein constituents elaborated by the surrounding ectoderm, and that the common intraocular fluid (which is a dialysate of the capillary blood) percolates these, combining with them to form a gel; that the reactions of the vitreous body to changes in its environment and in its internal economy proceed along physico-chemical lines according to the conditions which govern the behaviour of gels in general." The last seven pages of the monograph discuss shortly various clinical problems on which the nature of the vitreous has a very definite bearing, such as the relation of the turgescence of the vitreous body to glaucoma; the breakdown of the vitreous gel and the nature of vitreous opacities; and retinal detachment. A very full bibliography adds materially to the value of the work, which, in our opinion, enhances the reputation already possessed by the author for extensive and accurate research work. Undoubtedly it is a very difficult subject.

A CHINESE MINING HOSPITAL

The Kailan Mining Company is a fusion of British and Chinese mining interests, brought into being by the successful working of the huge coal area in North China which was developed by the Chinese Engineering and Mining Company, a British concern. For the past thirty years the company's hospital has been recognized in China as a model institution, well able to look after the medical and surgical needs of over 30,000 local employees. The medical work of the administration (under the direction of Dr. J. B. G. Muir, who has compiled a report for the year ending June 30th, 1930) has now been reorganized into four district hospitals, auxiliary to a general base hospital at Tangshan, the principal medical officer being its consulting surgeon. The extent of the work is shown by the fact that there were 4,301 in-patients during the past year, with an average mortality of 3.27 per cent., and 233,185 out-patient attendances. Despite the healthy climate of North China the problem of maintaining efficient sanitation in large industrial communities is greatly hampered by the ignorance of the individual in matters of personal and public hygiene, and the official apathy as regards gross defects in matters of public sanitation. On the whole the past year has been very satisfactory from the general health standpoint. During the first three months of 1930 numerous cases of influenza of the respiratory type occurred, and a very high incidence of venereal infection is also noted. The men are reluctant to complete a full course of antisyphilitic treatment, the average patient being contented as soon as his immediate symptoms are relieved. Though there is as yet no Workmen's Compensation Act in China, the present report is interesting as showing how the miners have become alive to the opportunities which the certification of injuries offers. An increased use of safety appliances in the mines was followed by a reduction in the number of serious injury cases, and a decrease of 16 per cent. in fatal injuries. But while the actual number of minor injuries sustained has not increased, the number of employees reporting themselves for treatment and certification of minor injury has doubled per unit of output. Thus in 1928–29, for each 10,000 tons unit of coal obtained, there were thirteen accidents, and in 1929–30 there were twenty-six. This increase is attributed to the mining company's decision in July, 1929, to grant certificates in respect of injuries causing incapacity for a minimum of three days, whereas formerly certificates for sick pay had not been given for less than five days. The labour unions have encouraged their members to apply for sick pay in respect of injuries so slight that formerly the employee would not have presented himself for treatment. This is an experience that applies to most modern industrial concerns in China.

"ERYTHROCYANOSIS CRURUM"

The detrimental effect of cold on the skin, in the guise of frostbite and chilblains, has long been a commonplace both to the medical profession and to the lay public. But in recent years further attention has been directed to this subject, first by the so-called trench foot, of which many thousand cases occurred during the war, and since then by an almost new affection of the skin which is the direct consequence of feminine fashion. This novel complaint is dignified by the name "erythrocyanosis crurum puellaris," a name which is self-explanatory, for, translated into the vernacular, it signifies that its victims are young women, and that they suffer from a bluish-red discoloration of their legs. This condition, first noticed by Balzer and Alquier in 1900, but only observed frequently during the last twelve years, is undoubtedly due to the fact that skirts have been shortened, and that the use of silk stockings has become almost universal among the present generation. Hence the common occurrence of this peculiar derangement of the cutaneous circulation in the legs of the modern young woman, which, owing to its etiology, has been dubbed by the irreverent "silk stocking disease." In Haxthausen's recently published volume entitled *Cold in Relation to Skin Diseases*[1] the condition is fully discussed, and the author finds himself in agreement with Klingmüller and Dietrich in ascribing it entirely to the effect of prolonged exposure to a moderate degree of cold, and in discarding the notion that it must be associated with the constitutional abnormalities invoked by other authors, such as disturbances of the endocrine glands. He points out that the vascular changes are identical with those which affect the legs of normal women on exposure to a lesser degree of moderate cold, and that no sharp differentiation is possible between these and cases of fully developed erythrocyanosis crurum. There is really no relationship between this condition and the much more serious erythema induratum, usually known as Bazin's disease, although the more severely congested areas in erythrocyanosis do undoubtedly bear a considerable resemblance to the lesions of erythema induratum before ulceration takes place. But Bazin's disease is a tuberculide, while erythrocyanosis carries with it no tuberculous stigma. Acrocyanosis or erythrocyanosis is much more closely related to the familiar chilblain, with which, indeed, it

[1] *Cold in Relation to Skin Diseases.* By H. Haxthausen, M.D. Translated from the Danish by Jenkins Oliver, M.D. Copenhagen: Levin and Monksgaard; London: W. Heinemann (Medical Books) Ltd. 1930. (Pp. 163. Paper cover, 13s. 6d.; cloth, 15s.)

is not infrequently associated. The main difference between it and ordinary perniosis is that inflammatory changes are inconspicuous or absent in the large areas which spread diffusely over the legs of the victims. As in the common circumscribed forms of perniosis the coagulation time of the blood is prolonged, and it is said that the arterial blood pressure is lowered, while the pressure in the subcutaneous veins is raised, and Layani states that the heart in most cases is perceptibly smaller than normal. Effective prevention and treatment would obviously consist in more adequate protection of the legs against cold, but most young women would rather follow the prevailing fashion than wear woollen stockings and long outdoor skirts in order to escape a complaint which only causes them a moderate amount of discomfort. *Il faut souffrir pour être belle.*

BRITISH CHEMICALS AND DRUGS

Arrangements for the 1931 British Industries Fair, to be held at Olympia during the last fortnight of February, are now nearly complete. Medical visitors should on no account miss the section dealing with chemicals and drugs, druggists' sundries, and scientific apparatus (including medical and surgical instruments and appliances), all of which will be found near together in the main hall. The resources of British industry in the realm of medicinal products are not as widely recognized as they should be. It is true that before 1914 this country depended largely on the Continent for many of the most important fine chemicals required by medical science, and there was a natural tendency to ascribe special merits—which in fact they often possessed—to the products of the German chemical and drug industries. It was only when cut off from this source of supply by the outbreak of war that our countrymen realized the importance of a well-organized and enterprising British industry which could supply the wide range of medicinal products required for a scattered Empire. British manufacturers responded successfully to the emergency, and with the post-war stimulus given by the Safeguarding of Industries Act, 1921 (Key Industry Section), it has since developed in a remarkable manner, until it can now bear comparison with any of its competitors. There are obtainable to-day in this country, at competitive prices and of the highest quality, medicinal substances of all kinds, such as anaesthetics, antiseptics, soporific drugs, synthetic remedies, and biochemical products. Since medical men sometimes find difficulty in ascertaining the British manufacturers of a particular product, attention may be drawn to the *Directory of Fine Chemicals*, recently published by the Association of British Chemical Manufacturers, which contains an alphabetical list (with the names of makers) of over 3,000 chemicals, a large proportion of which are of importance in medical practice or research. This can be obtained gratis from the office at 166, Piccadilly, W.1, and we are informed that the association is prepared to advise as to the makers of products which are not in the *Directory*, to make special arrangements for their manufacture, or to deal with any difficulty that may arise regarding the British products. It desires full collaboration with the medical profession in such matters, and has for some time been working in close touch with the Chemotherapy Committee of the Medical Research Council, and with the Colonial Research Committee in the production of new substances required for extended clinical trials. It is hoped that medical practitioners will make free use of this offer and do all they can to support British industry at a time when such encouragement is greatly needed.

INTERNATIONAL CONGRESS OF HISTORY OF SCIENCE

The second International Congress of the History of Science and Technology will be held at the Science Museum, South Kensington, from June 29th to July 3rd, under the presidency of Dr. Charles Singer. The congress originated with the Comité International d'Histoire des Sciences, which was founded at Oslo on August 17th, 1928. This body meets annually in Paris, and organizes every three years a congress in which persons interested in the history of science and technology are invited to take part. For the coming congress it has been fortunate in enlisting the co-operation of its parent body, the Comité International des Sciences Historiques, together with that of two other international societies, the History of Science Society, New York, and the Newcomen Society for the Study of the History of Engineering and Technology, London. The aim of the congress is to provide opportunity for intercourse and exchange of thought between all those who are interested in the various departments of the history of science and technology. The programme will include, in addition to the reading of scientific communications at the morning sessions, social gatherings, visits to Kew Gardens, Down House, Greenwich, Barber Surgeons' Hall, the Royal College of Physicians, the British Museum, the Natural History Museum, and the National Portrait Gallery, and excursions to Oxford and Cambridge. Further particulars can be obtained from the honorary secretary, Mr. H. W. Dickinson, Science Museum, South Kensington, S.W.7.

The Morison Lectures before the Royal College of Physicians of Edinburgh will be delivered in the hall of the College, 9, Queen Street, Edinburgh, by Dr. D. K. Henderson, on February 9th, 11th, and 13th, at 5 p.m. The subject this year is social psychiatry.

We have to announce with much regret the death, on January 26th, of Dr. Archibald Leitch, director of the Research Institute of the Cancer Hospital, London, and professor of experimental pathology in the University of London.

We regret to announce the death of Dr. John Edward Gemmell, honorary consulting surgeon to the Liverpool Maternity Hospital.

The next reception of the Royal Society of Medicine will be held on Wednesday, February 18th, at 8.30 p.m., when Fellows and their friends will be received by the President and Mrs. Watts Eden. At 9.15 p.m. Dr. H. Letheby Tidy will give an address on "Poisoners of ancient times." Admission by ticket only, applications for which should be addressed to the secretary, 1, Wimpole Street, W.1.

PRESENTATION TO SIR D'ARCY POWER

CEREMONY AT ST. BARTHOLOMEW'S

As briefly stated in our last issue, on Wednesday, January 21st, at St. Bartholomew's Hospital, Lord Moynihan, P.R.C.S., handed to Sir D'Arcy Power, on behalf of the subscribers, the volume of Sir D'Arcy's *Selected Writings* which has been prepared in commemoration of his seventy-fifth birthday. A large gathering of subscribers and friends assembled in the Great Hall, under the chairmanship of Lord Stanmore, treasurer of the hospital.

Lord MOYNIHAN, in making the presentation, said: A multitude of diverse duties fall to the lot of the President of the Royal College of Surgeons, but I can truthfully say that no more pleasurable obligation has been laid upon me during my term of office than that which I am asked to fulfil to-day. I am frequently, and perhaps a little imperiously, reminded by my numerous St. Bartholomew's colleagues on the Council of the College that whereas they enjoy the dignity of membership of your staff, I am to be regarded only as one of your students. But even that minor office carries to my ears a title of great honour. The members of the staff of this oldest and most renowned of British hospitals have not always been men of the highest professional distinction, though both you and they might be greatly surprised to hear so gruff a statement made in regard to them; but more often than in the case of any other hospital, they have been men of distinguished character and fine general culture—great even in truancy—who have added to the renown and respect of our profession. I like to think that of three supremely great Englishmen in medicine, Harvey was a physician to this hospital; Hunter, our patron saint at the College, was a student under that great little gentleman, Percivall Pott; and it is difficult to believe that Lister would have escaped you had he not been a Quaker. I am therefore full of pride at your request to return to what I will venture to call, I hope without arrogance, my old hospital. The occasion of my return makes a very warm appeal to me; for I am asked to help you in doing honour to an old and beloved colleague. It is, I think, significant and delightful that the initial impulse and the sustaining power of this project came from the younger men, and is associated with the energies of the Osler Club, and I may perhaps be permitted to mention the names of W. R. Bett and A. W. Franklin.

Sir D'Arcy Power, the most eminent medical historian of our day, illustrious son of a distinguished father, is, it is perhaps unnecessary in view of his distinguished career to say, a Yorkshireman. He joined the Council of the Royal College of Surgeons on the same day as myself. He has held many offices, and one, that of honorary librarian, has, in view of his high accomplishments, deep and accurate knowledge, and unwearied service for us, been created for him. The fact that he has served his full period upon your staff is in itself the testimony he would himself most value as to his surgical distinction. Yet when the name of D'Arcy Power comes to my mind, or his familiar image to my eye, I recall on the instant, not his career as a surgeon, not even his unrivalled knowledge of surgical history, from which the *British Journal of Surgery* has continuously and greatly benefited, but his friendliness, his cheery disposition, and his beauty of character. When we call to mind the names and services of our professional friends, we judge them, I think, not by the size of their practice, nor the money they have with so great difficulty accumulated, nor by their contributions to the science, the craft, or the lore of medicine, but by their character and their influence upon the younger members of our calling, through whom they earn immortality. For it is not by his wealth, nor by his learning, nor even by his wisdom that a man is rightly esteemed, but by his character. Judged by this sternest of all standards, you will all at once agree, D'Arcy Power has been one of the greatest influences in medicine in our day. He has been prudent in counsel, wise in action, eloquent in word written or spoken, imperturbable and resolute in time of challenge and difficulty, a staunch, loyal, happy friend whom all men have welcomed and trusted and loved.

Lord Moynihan then handed the book to the recipient.

Sir D'ARCY POWER, who was received with long-continued applause, said: My instructions are that I should be brief, very brief indeed, but my feelings are so deep that I can hardly express them at all. I am afraid that Lord Moynihan has spoken with the tongue of partiality and biased friendship. I have not deserved the half of what he has said. All that I can say for myself is that I have had a good memory, and when I have been asked a question I have tried to reply to it from such knowledge as I possess. Sometimes I have been fortunate, sometimes I have been wrong. I have been at many meetings in this hall, and seen many presentations, but this occasion to me is quite unique. On all previous occasions it has been the presentation of a portrait. I do not know of an occasion on which pupils—if I may use that expression—have given their master a selection from his own writings. I think that must stand absolutely by itself. When a book has been given—and that form of presentation has been adopted on the Continent and in the United States, and occasionally in this country—the contributions in the book have always been made by the pupils themselves. It was thought, I suppose, to be more appropriate that the master should not be reminded of the very poor things that he had often written himself. But this occasion is unique in that the volume presented to me consists of my own writings, and I have to thank, not only the Osler Club, who were the begetters of this beautiful idea, but also Mr. Franklin and those who have carried it into execution. As I look through the book I can see that it is beautifully produced, as a book-lover would love to have his writings preserved. The paper is good, the inscription goes to my heart, the pages are beautifully set out. *Simplex munditiis.* And I see that the production is in the very best style of the Clarendon Press. Then I notice how excellent is the binding, and there I am sure my sister (Mrs. Loosely), who is a first-rate binder, has evidently been at work and has put her whole heart into this undertaking and made it as pleasing as it can be. I feel sure that there is an undercurrent of feeling in all this which will certainly leave a lasting memory of personal affection, making this no stereotyped presentation in any way. It seems to me that in some way quite unknown to myself I have entered into your hearts, and I am quite sure, as we have been taught in other places, that it is better to live in the hearts of men than to rule over their lives and fortunes. I am in that fortunate position with respect to all those who have taken part in the presentation of this volume, whom I thank very heartily.

Professor G. E. GASK said that there had been a large number of letters from subscribers regretting their inability to attend, but he would read only three telegrams, one from the Institute of Medical History in Leipzig, sending heartiest greetings and best wishes to Sir D'Arcy Power; another from Professor Karl Sudhoff, also of Leipzig; and the third from Sir Robert Jones, all uniting in doing honour to their distinguished friend. Professor Gask went on to say that he would like to offer the thanks of those assembled to one of the more recent "perpetual students" of St. Bartholomew's—namely, Lord Moynihan—for coming there and giving one of his charming speeches, which had been listened to with so much pleasure. Lord Moynihan had spoken of Sir D'Arcy Power as a surgeon, a medical historian and bibliographer, and librarian of the Royal College of Surgeons, and nothing could be added to the way in which he had done so. But he himself had known Sir D'Arcy Power for more than thirty years, and he wished to add one small touch of personal reminiscence. He remembered him when he was appointed to the hospital as assistant surgeon, and from that time onwards one of his chief characteristics was his sunny disposition. That characteristic had remained with him through all his

long life, had helped him through some great sorrows, and left him with a smile on his face and a merry wit. The work in connexion with the volume which had been presented was a great pleasure to all who had been engaged in it. The idea was evolved by the Osler Club, who had borne the brunt of the work. It had been a labour of love. He called upon the gathering to express its thanks to those who had had the presentation in charge, also to Lord Stanmore for presiding, and to Lord Moynihan for making the presentation.

SIR D'ARCY POWER'S WORKS

We suspect the members of the committee entrusted with the preparation of the Birthday Volume* of having an eye to their own and the subscribers' interests as well as to the honour of their hero. Had they chosen to undertake a *festschrift* after the German fashion, we might all have possessed a number of essays by distinguished pupils of the Master, but we should still have lacked what has been long wanted, a collection of his writings. It is not complete. It would have been impracticable to include all the more fugitive publications, for Sir D'Arcy Power has been a prolific writer, and many a Nova et Vetera article in our columns has owed its attraction to his wit, humour, and scholarship. The history of British medicine and surgery is a subject which has been made peculiarly his own, as a cursory glance at the contents of this volume will show. Even those who have some knowledge of his industry, erudition, and wide interests will, we think, be surprised to find that the short-title bibliography attached to this collection contains 609 entries. Drs. A. H. T. Robb-Smith and Alfred Franklin tell us that Sir D'Arcy contributed 185 articles to the *Dictionary of National Biography*, and that "scarcely a number of the *British Journal of Surgery*, since the first in 1913, has lacked an 'eponym' an 'epoch-making book,'" or the biography of a bygone surgeon from his pen.

Of the sixteen articles in this commemorative volume all but two are on historical or biographical subjects, and it is only by reference to the bibliography that we realize how much valuable work Sir D'Arcy Power has accomplished in surgery and pathology; but, conditions of space apart, it is unfortunately true that scientific essays and records lose their interest with the swift advance of knowledge far more rapidly than historical work, which if true at the outset, remains so indefinitely. Faced by the disagreeable necessity of rejecting a great mass of articles, the editors were doubtless wise to choose the non-scientific in a proportion of seven to one. The two surgical articles on the palliative treatment of aneurysm and on cancer of the tongue fully justify their choice. The records here given of thoracic and even abdominal aneurysms wired with Colt's apparatus remind us strongly that this treatment affords a hope of relief from pain, and of prolongation of life, in what are otherwise hopeless cases. The Bradshaw Lecture on cancer of the tongue is a most valuable contribution to the subject. Sir D'Arcy points out that there is no record of this disease till 1635, and that its increase has marched in step with the increased use of tobacco for smoking. Time alone will show whether the prophecy of a great and sudden increase of cancer of the tongue in 1950 is fulfilled.

The fourteen historico-biographical articles which form the bulk of the book offer a rich feast. Very properly the Hunterian Oration on "John Hunter a Martyr to Science" takes the first place with its interesting illustrations from Jesse Foot. Sir D'Arcy has well brought out the personal attraction which was felt by all who had much to do with the "Dear Man." The Harveian Lecture, delivered before the Harveian Society in 1914, on "English Medicine and Surgery in the Fourteenth Century," and the second Vicary Lecture on "The Education of a Surgeon under Thomas Vicary," are full of information and curious lore. "John Ward and his Diary" gives an insight into the daily jottings of a medically minded parson in the seventeenth century, and discloses the nearly concealed fact that it is the outcome of four years' work of transcription of the sixteen small books of crabbed writing, which have since been sold by the Medical Society of London. Like a good and worthy follower of Rahere, Sir D'Arcy has written much on St. Bartholomew's Hospital, and the editors have included several essays on it and on William Harvey, who adorned the charity by his service. The humours of the examination hall of the College of Surgeons in the eighteenth century are enlivened by old caricatures, and many of the other chapters are well illustrated. This volume is printed and bound by the Oxford University Press. It is needless to say that it is well done.

* *Sir D'Arcy Power: Selected Writings, 1877–1930.* Oxford: The Clarendon Press; London: Milford, Oxford University Press. 1931. (Pp. x + 368; illustrated. 25s. net.)

THE TREATMENT OF CIRCULATORY FAILURE

At a meeting of the Royal Medico-Chirurgical Society of Glasgow, held on January 9th, Professor W. T. RITCHIE of Edinburgh delivered an address on "The treatment of circulatory failure," of which the following is an abstract.

Failure of the circulation is one of the problems which frequently confront every medical practitioner. In acute infective diseases and in many chronic diseases he is on the watch for a failing circulation, and strives to combat it. To the surgeon the problem presents itself as wound shock, death under general anaesthesia, and post-operative collapse of the lung.

Acute Circulatory Failure

When circulatory failure is acute the heart is not necessarily at fault. In syncope, wound shock, and experimental histamine shock, it is at the periphery that the circulation fails; the arterial pressure falls, the pulse becomes weak and rapid, the skin pale, cold, and moist. Further, intravenous injection of the nucleic acid derivative, adenosine, may be followed by pallor, giddiness, and faintness, which are doubtless attributable to sudden general arterial dilatation, because this is one of the pronounced actions of adenosine in the animal used for experiment.

The most frequent form of acute circulatory failure observed by the medical practitioner is toxaemic shock, which may develop in acute infective diseases, and especially in acute pneumonia. The patient may become collapsed, the arterial blood pressure falling. We are inclined to refer the collapse to "heart failure," and to consider the myocardium as being gravely weakened by bacterial toxins. We are clinging to a belief which may be as false as that which led the physician a hundred years ago to bleed his pneumonia patient freely. Acute cardiac failure in pneumonia is, I believe, often a direct sequel of failure at the periphery.

As to treatment, evidence may be adduced in favour of administering antipneumococcal serum, provided it can be given within the first two or three days of the illness, but our efforts are mainly directed to reducing the ill effects that follow in the train of the infection, of which anoxaemia is probably the most important. Oxygen should be administered as early, freely, and continuously as possible, preferably by means of a Haldane mask. To give oxygen through a funnel is a futile, wasteful procedure. The administration of 5 per cent. carbon dioxide with oxygen may also be recommended, not only because of its beneficial influence on the vasomotor centre, but because it increases the depth of respiration. The exhibition of digitalis in small doses in pneumonia does not appear to rest on any solid basis. In cases where acute circulatory failure has developed, the intravenous injection of 1/250 to 1/120 grain of strophanthin is sometimes attended by undoubted benefit. In the incipient phase of toxaemic shock the drug that is of most value is strychnine, 1/60 to 1/30 grain, given subcutaneously every four hours. Adrenaline, too, is sometimes beneficial, but the action is evanescent, and ephedrine is preferable. In the later stages of toxaemic shock, where the vasomotor

centre is perhaps exhausted, intramuscular injections of pituitrin are of value, by constricting the arterioles, and raising the arterial blood pressure. I am not yet convinced that any therapeutic benefit is to be gained from the administration of camphor, cardiazol, or other substances whose pharmacological action is primarily that of a local irritant. Alcohol should seldom be recommended.

Acute Cardiac Failure

Acute cardiac failure in its most grave form ensues when the coronary blood supply to a considerable proportion of the ventricular muscle is suddenly cut off by coronary thrombosis. Amyl nitrite is worse than useless, because the patient is collapsed and the blood pressure has fallen; morphine is the sole means of allaying the patient's anguish. Ammonia and alcohol are of temporary benefit in some cases; if the pulse is weak and rapid, trial may be made of strophanthin intravenously, but this is not unattended with danger, as it may precipitate a fatal issue by causing ventricular fibrillation.

Paroxysmal tachycardia of auricular origin may promptly be arrested by digital compression on the vagus nerve or the adjacent carotid sinus in the neck. The reflex initiated in the wall of the carotid sinus is transmitted to the heart by the vagus. In some patients the regular administration of quinidine may ward off attacks of auricular tachycardia.

The treatment of auricular fibrillation of toxic origin may vary from a mercurial purge and saline to radium or thyroidectomy, as required. In all cases, except those with an infrequent ventricular rate, digitalis is of great benefit. With acute rheumatic carditis the prognosis is usually favourable, provided the patient can enjoy complete rest for many months, and has no foci of infection.

Chronic Cardiac Failure

Cardiac dilatation is often ascribed to "loss of tone" of the heart muscle, but it is still doubtful whether the mammalian heart has the property of tone. The latest conception of chronic cardiac failure, based on the researches of A. V. Hill, Eppinger, V. Romberg, Jervell, and others, lays stress on the metabolic disturbances which accompany, aggravate, or may even induce this failure. The observations of Peabody, Meyer and Du Bois, Grafe, and Händel had indicated that the basal metabolic rate of compensated heart cases was within normal range, but that it was high if the patient was dyspnoeic. A high basal metabolic rate in cardio-vascular cases is one of the fundamental phenomena upon which Eppinger and his collaborators have built their interesting conception of cardiac failure. The conclusion we may draw is that the cardiac patient who is not breathless has a normal basal metabolic rate. With the evidence now available it seems probable that metabolic disorders in cardiac patients are a consequence rather than the cause of cardiac failure.

Treatment should include confinement to bed in the semi-recumbent posture. It is seldom advisable to restrict the fluid intake, but if the patient is dropsical a salt-free diet helps to promote diuresis. If a hypnotic is needed, chloramide, morphine, or heroin may be used. Digitalis, probably one of the drugs most commonly abused, is indicated when the heart's action is fast and failing, and when this failure is associated with auricular fibrillation. It is admittedly of less service when the heart is maintaining a normal rhythm; strophanthus is a reliable and safe substitute for digitalis. The dosage of digitalis should be determined by the patient's need and his response; massive doses should be reserved for urgent cases with an extremely high ventricular rate. In a case of grave urgency the intravenous injection of strophanthus is called for. The oral administration of ouabain is not satisfactory.

Once the patient is digitalized the daily amount of digitalis can be reduced until we have ascertained the maintenance dose which, by holding the ventricles in check, suffices for the best circulation available. For the purpose of restoring the normal cardiac rhythm the most potent drug is quinidine; it is contraindicated when there are signs of gross cardiac failure because, even if the normal rhythm is restored—which is unlikely—the cardiac failure will be less readily controlled than when the auricles were fibrillating. Quinine by oral and intravenous administration yields results less favourable than quinidine; adenosine fails to arrest auricular fibrillation and flutter in the human subject, because it causes faintness and other disquieting symptoms. Plasmoquine failed in the two cases in which I have tried it.

In every case of chronic cardiac failure it is important to ascertain the functional efficiency of the kidneys. If a salt-free diet and digitalis do not disperse the dropsy, other measures should be taken to promote the elimination of water. The administration of theobromine sodium salicylate, in ten-grain doses, three times daily, is usually followed by copious diuresis. The action of theocine is less certain, and of caffeine less efficacious, but when combined they are sometimes most effective. Urea acts well, and mercury combined with digitalis and squill is beneficial. Novasurol and salyrgan should be reserved for cases that have failed to respond to other remedies. The mercurial diuretics are contraindicated if the kidneys are grossly diseased. If diuretics fail, the introduction of a Southey tube into one of the lower limbs, or paracentesis of the pleural sac, is indicated.

Where chronic cardiac failure occurs in association with advanced arterio-sclerosis attempts to lower the arterial blood pressure are inadvisable. Thyroid extract is of service in mildly myxoedematous cases with hyperpiesis. Should the arterial pressure of the cardio-vascular patient rise decidedly higher than his usual level, rest in bed is indicated. One grain of emetine injected daily may lower the pressure, and venesection may be required.

Where the primary cause is rheumatic infection, foci of sepsis should be removed; where the origin is syphilitic no antisyphilitic remedies other than mercury or iodide should be given until a reasonably efficient cardiac action has been regained. In cases of fibrillation due to secondary toxic goitre, digitalis followed by quinidine should be given to restore the normal rhythm, and thyroidectomy performed to obviate the imminent risk of cardiac failure recurring, or the greater danger of a hyperthyroid crisis.

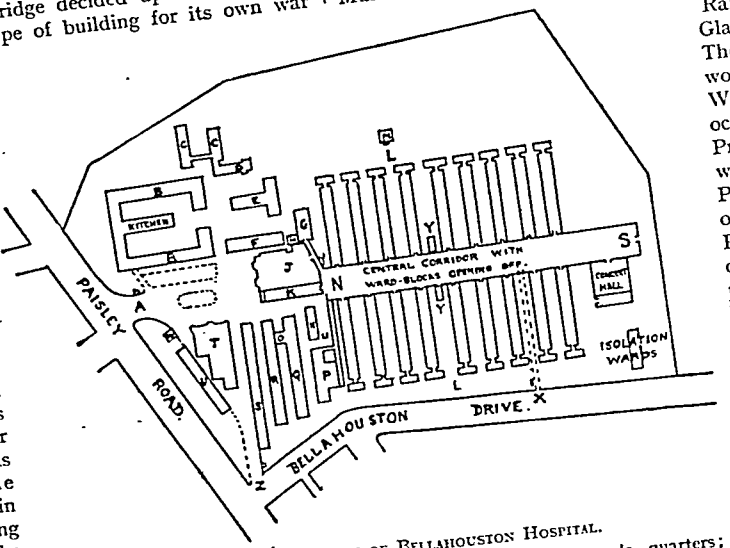
Scotland

Revision of the "British Pharmacopoeia"

At the third meeting for the session of the Pharmaceutical Society of Great Britain, held in the Society's Hall, York Place, Edinburgh, Mr. David Harley opened a discussion on the report of the Pharmacy Subcommittee of the British Pharmacopoeia Commission. The risks, he said, arising from the crystallization of the official liquefied carbolic acid during the cold weather could be obviated by the addition of 5 per cent. glycerin. A concession had recently been granted by the commissioners of Customs and Excise in regard to the use of industrial spirit by pharmacists in the making of pharmaceutical preparations, such as certain medicinal liniments. He suggested that in official formulae no purpose was served by requiring the use of highly expensive rectified spirit in preparations which were equally effective when made with the cheaper industrial spirit. He criticized the recommendation of the Revision Committee that for economical reasons olive oil should be replaced by cotton-seed oil, and suggested that, as olive oil was nowadays used both as a medicinal agent and as a food quite as much as cod-liver oil, the *Pharmacopoeia* should include tests and standards for the finest edible olive oil. In regard to the proposal to alter the composition of the familiar Gregory's powder, which was peculiarly a Scottish medicinal remedy, he said that in Scotland they would prefer that this preparation should be left alone. He approved of the suggestion to introduce an official formula for the compound syrup of iron phosphate, popularly known as Parrish's syrup or chemical food, but he thought that the formula proposed was unsatisfactory.

The Bellahouston Central Corridor System

The Scottish National Red Cross Hospital at Bellahouston, Glasgow, has lately been closed and dismantled, after having done service for fifteen years. Some 15,000 cases of sick and wounded in the war were treated there. Since 1919 it has been under the management of the Ministry of Pensions, to which department it was handed over by the Scottish Branch of the British Red Cross Society. Before it is allowed to lapse into its honourable history some practical lessons which it has afforded in hospital construction may be recorded. These were the subject of an article by Sir George Thomas Beatson in the *Glasgow Herald* of January 10th. Bellahouston Hospital was one of the first examples of the central corridor and one-story bungalow system of hospital construction. In Germany, in 1914, the Rudolf Virchow Krankenhaus, with 1,000 beds, was completed, and was in the form of single-story pavilions, which could be rapidly and economically duplicated as necessary. Immediately after the war broke out, Cambridge decided upon the central corridor and bungalow type of building for its own war hospital. In 1915 the Scottish Red Cross Committee resolved to erect a large general hospital quickly and economically, and in a manner which permitted of expansion to meet what even then seemed likely to be a prolonged and increasing need. After inspection of the war hospital at Cambridge, the central corridor plan with single-story wards leading off the corridor on each side was adopted for the Glasgow site, certain small changes being necessary to meet the northern climatic conditions. The value of such an arrangement, dispensing as it does with lifts and staircases, is apparent. Asbestos sheeting was chosen as the building material. The main lines of the construction followed at Bellahouston will be evident from the accompanying plan. The central corridor ran north and south, with nine one-story bungalow wards running off it on each side, sufficient space being left between the wards to permit of beds being wheeled out into the open air. Each ward contained fifty beds, and was complete in itself, with six small rooms at the end nearest the corridor for the use of the sister in charge, for special cases, and for other purposes; the sanitary arrangements for the ward were at the other end, completely shut off by a short passage with cross-ventilation. The central corridor had the additional advantage of affording two entrances to the hospital, at one end for the members of the staff and for the admission of patients, and at the other, for patients' friends. The other buildings, grouped chiefly to the north of the central corridor and the wards, included the receiving block, opening directly on to the corridor, a general and a small operating theatre, also of easy access, a large building for baths, massage, electricity, and radiant heat, orthopaedic workshops, and the administrative and pathological blocks. At a short distance were separate quarters for the doctors, the matron, and the nurses. Dining, kitchen, and recreation blocks were provided, and in the grounds at the other end of the hospital were the isolation wards. The hospital began with 500 beds, and subsequently increased its accommodation to 1,200 beds by means of seven additional blocks. This extra provision was made without interfering with the work of the hospital, and at a minimum cost. Had it been necessary, as the plan shows, further enlargement could have taken place to the south with the same expedition and economy. The plan reproduced has several points worthy of study—for example, the provision of store accommodation in rooms leading off from either side of the middle of the corridor. Sir George Beatson suggests that the memory of this famous hospital might fittingly be perpetuated by calling its plan of erection the "Bellahouston central corridor system."



PLAN SHOWING LAY-OUT OF BELLAHOUSTON HOSPITAL.

A, Main entrance; B and C, Nurses' quarters; D, Matron's quarters; E, Doctors' quarters; F, Administrative block; G, General operating theatre; H, Small operating theatre; J, Building for baths, massage, electricity, radiant heat; K, Receiving blocks; L, Ward blocks; M, Band-stand; N, Boiler house and destructor; O, Billiard room; P, Kitchen block; Q, Dining and recreation block; R, Orderlies' quarters; S, Hospital stores; T, Curative workshops; U, Pathological block; W, Garage; X, Entrance for patients' friends; Y, Nurses' cloakroom; Z, Entrance for stores.

Presentation to Professor Robert Muir

As intimated in this column last week, Professor Robert Muir was presented with his portrait in oils at a ceremony on January 20th in the Randolph Hall of Glasgow University. The portrait is the work of Mr. G. Fiddes Watt. On the same occasion a bust of Professor Muir, the work of Mr. G. H. Paulin, was handed over to the University. Professor Muir has occupied the chair of pathology at Glasgow University since 1899, having been transferred from the corresponding professorship in the University of St. Andrews. At one time he was pathologist to the Royal Infirmary of Edinburgh. Many contributors had subscribed to the gifts, including colleagues both in the University of Glasgow and in other pathological departments throughout the country, and past and present students. Principal R. S. Rait presided at the ceremony, and the presentation was made by Sir Frederick G. Hopkins, President of the Royal Society. Sir Frederick Hopkins remarked that the portrait was a gift which carried with it an expression of admiration, affection, and gratitude from Professor Muir's colleagues, pupils, and friends. Admiration was felt for his scientific work not only in this country, but in every centre where pathology was studied. The occasion, however, was not one of mere formality, but one which expressed affectionate feelings that were deeply rooted. Professor Muir had been a torch-bearer who had illuminated for many years the paths of progress in British pathology. The textbooks written by him had been an inspiration to multitudes of students, and many teachers had been grateful for them. Professor Muir's personal qualities of accessibility, sympathy, and generosity had created an atmosphere in his department which allowed his scientific vision and knowledge to have full play. He had created in Glasgow a centre of pathological thought and teaching which the speaker

believed was second to none in the world. Professor Muir, in accepting the gifts, expressed the high value that he placed upon these marks of regard. After reminiscences of his earlier days in Edinburgh, St. Andrews, and Glasgow, he said that one of the great attractions of pathology was an atmosphere of adventure, the possibility of doing something that had not been done before. It was a good thing that in pathology there was no such thing as authority. Another great attraction was that the pathologist could from time to time give help to surgeons and physicians, and was thus brought into contact with those who were combating suffering. He referred also to his predecessor, the late Professor Coats, whose great work for pathology, he said, would always be held in remembrance. Principal Rait accepted the bust on behalf of the University, and requested that it should be placed in the Western Infirmary, where most of Professor Muir's work had been done.

The Front Line Defence

At a recent meeting of the Public Health Committee of the Fife County Council, a discussion arose as to the need of regular co-operation between the public health staff and the general practitioners of the county. Ultimately it was resolved that conferences should be arranged from time to time with a view to frank interchange of opinions, but essentially to ensure the smooth operation of medical work in the area. This action of the committee is to be commended; as Bailie Primmer remarked, the general practitioners are the front line defence in the matter of public health.

England and Wales

Birmingham Women Medical Officers and the "Resignation on Marriage" Clause

Recently the Public Health Department of Birmingham City Council, in advertising for medical women for welfare work, inserted a clause requiring resignation from such appointments on marriage. Following upon a deputation representative of the National Council of Women and the Birmingham and District Medical Women's Association, however, the Maternity and Child Welfare Committee has decided not to insist upon that requirement.

Dame Ethel Shakespear, who introduced the deputation, reminded the committee that in 1921 the Birmingham City Council decided that married women should not be employed in its service, in view of the hardship which might be caused to men who were returning from the war and were anxious to obtain positions. An exception was made in the case of married medical women, and also of other women who, by virtue of their marriage, might be expected to do their work better than if they were unmarried. The recent advertisement of appointments for welfare work indicated apparently, said Dame Ethel Shakespear, that the committee had gone back on that policy, and the result would be, if it were persisted in, that married medical women would be pushed out of the public health service. The deputation and those it represented felt strongly that, as welfare work was one of the means of building up the family life of the nation, it was very desirable that there should be a leaven of married medical women among the officers in that service. Mrs. Wharton, chairman of the Citizenship Committee of the National Council of Women, said that such restriction as was now proposed would mean the loss to the service of the community of a number of women who would otherwise be of real value to it by virtue of their personal experience. She agreed that there might be cases where married women proved to be bad timekeepers, or failed to work properly on account of divided interests, but such persons could be winnowed out from employment. On the other hand, personal experience of parentcraft was a very great asset for the officer of a welfare centre. To the argument that long leave of absence would be necessary on the occasion of maternity, she urged that such leave should be granted in the same way as leave was occasionally granted to a medical man in order that he might perform a piece of work of national importance. No one could say that it was not work of national importance to bear a child, and the work of married medical women was sufficiently valuable for the city to justify the making of arrangements to cover such contingencies. The consequence of the marriage ban, added Mrs. Wharton, would be that if a woman was keen on her job, and knew that she would lose it on marriage, she would remain unmarried, though fitted for marriage and motherhood, and this would be a loss to the community. It was also stated that many working women preferred to deal with a married medical woman. Mrs. W. A. Cadbury, while in no way disparaging the work done by unmarried medical women, felt that a certain number of married women on the staff of the infant welfare centres would result in still better work. Dr. Beatrice Webb said that if married women were penalized in the way now suggested it would mean that the best women in the profession would go into private practice, and not into the public health service.

After the Maternity and Child Welfare Committee had considered the views advanced by the deputation, the chairman (Councillor E. W. Salt) stated that the committee had reviewed the whole of the circumstances, and had decided to rescind its decision. Thus it would be open for women medical officers to retain their posts after marriage. Birmingham has twenty-four municipal welfare centres and five maternity hospitals and homes.

University of London Medical Graduates Society

At the invitation of Lord Riddell, president, and the board of the Royal Free Hospital, a conversazione and cinema exhibition for members of the University of London Medical Graduates Society was held on January 22nd in the Eastman Dental Clinic. The guests were received by the President of the society, Sir John Rose Bradford, Bt., P.R.C.P. After tea a large company proceeded to the lecture theatre, where an instructive and interesting exhibition of cinema films took place. In introducing two medical films, Mr. W. McAdam Eccles, honorary treasurer of the society, stated his belief that medical educational films were of real service. If, for instance, a student was shown an anatomical film before dissecting the body, he would know what he had to look for and the method of obtaining this view. Nothing, of course, could take the place of actual dissection, and if the film were shown again after dissection then the student would have had three mental impressions of the part, thereby enhancing the likelihood of a permanent picture. A film of the anatomy of inguinal hernia, produced and exhibited by the Kodak Company and passed by the American College of Surgeons, was run through the projector, Mr. Eccles making a commentary. Similarly, a film of an actual operation on an inguinal hernia was exhibited. Dr. Claremont, the director of the Eastman Dental Clinic, then demonstrated a series of lantern slides exhibiting the work of the clinic, and answered numerous questions thereon. Finally, a film of the corresponding clinic at Rochester, New York, was shown, indicating the very useful work performed for school children by the skill of trained women "dental hygienists." The annual London dinner of the society will be held on Tuesday, May 12th, at 7.30 p.m., at the Langham Hotel.

Ireland

Hospital Policy

At a general meeting of the Ulster Branch of the British Medical Association, held on January 15th, with Mr. Howard Stevenson in the chair, there was an attendance of over seventy to hear an address by Sir Richard Luce on the Hospital Policy of the Association. He said that the ideals of the policy were that hospitals should be utilized only for such cases as needed institutional treatment, and that they should be available for educational purposes, not only for students, but for the whole profession. Grouping of hospitals should be such that one large hospital would act as a centre for consultant work, and would serve a district provided with cottage hospitals, special hospitals, and other institutions working in conjunction with it. General practitioners should be able to treat in hospital those patients needing special nursing, but obviously the base hospital could not supply this need, which must be fulfilled by subsidiary hospitals. Out-patient departments were much abused, and their scope should be restricted chiefly to casualties and to cases recommended by general practitioners. The staffs of voluntary hospitals were being exploited, and should receive monetary recompense from the various contributory schemes which now constitute a considerable part of the revenue of these hospitals. Dr. J. Armstrong, whilst agreeing with much of this, disagreed on some points. He advocated decentralization of specialist service, a large part of which could be more adequately given by the general practitioner with adequate provision of suitable institutions and apparatus. He also condemned the voluntary hospital system. Professor R. J. Johnstone, in proposing a vote of thanks to Sir Richard Luce, stressed the impossibility of acquiring sound surgical judgement without devoting one's whole time to this branch; he doubted the principle of paying the staffs of voluntary hospitals. Dr. R. W. Leslie seconded the vote. Sir Richard Luce, in the course of his reply, said that specialists were more necessary than ever to-day, because the growth of knowledge in every field rendered it impossible for any individual to be proficient in more than one branch.

Diphtheria Immunization in County Wexford

In a report to the County Wexford Health Board, Dr. J. Bastible, county medical officer of health, states that ten cases of diphtheria had been notified since December 1st—two in New Ross urban area, five in New Ross rural area, and three in the Wexford rural area. The epidemic in New Ross, which was apparently due to an infected milk supply, had been controlled, and the urban council had adopted a scheme of immunization, which, if fully carried out, would rid the town completely of the disease. In view of the large number of cases in the rural area of New Ross, and the possibility of a fresh outbreak, he recommended the Board of Health to adopt a modified scheme of immunization for this area, which would include the immunization of 150 children in five schools—namely, Ballykelly, Aclare, Cushinstown, Mylerspark, Rathgarogue; and the immunization of 300 children under 5 years of age in the dispensary district of Old Ross and in the rural part of the dispensary district of New Ross. The cost, including the expense of immunizing children from New Ross rural district who are attending schools in the urban area, was estimated to be about £100. As the cost of treating one case of diphtheria in the county fever hospital is about £10, it was pointed out that if the immunization scheme prevented only ten cases of diphtheria it would have paid for itself. Dr. Bastible's recommendations have been adopted.

Correspondence

FAMILIAL INCIDENCE OF CANCER

SIR,—Your correspondent Dr. Griffith Evans, in the *Journal* of January 24th (p. 157), describes two very interesting cases of families in which there was apparently a very marked hereditary factor, and suggests the possibility of further investigation on these lines.

This is a subject which is now interesting a great many research workers, but I doubt very much whether any light can be thrown upon it by the investigation of the familial histories of human beings. In order to get any satisfactory proof, it is necessary to trace the various members of the family back through a number of generations. Unfortunately, it is very seldom possible to find out what the grandparents died of, much less what the great-grandparents died of. It is possible that general practitioners living in one area, who hand on their practices to their sons or relatives, might be able to trace such families, but I doubt if it could be done on any systematic lines owing to the comparatively long period lived by human beings. There is fairly strong evidence that there is a hereditary factor in cancer, but it would appear to concern only one particular organ. Thus cancer of the rectum may have a hereditary factor, but a person inheriting such factor would have no tendency to die of cancer of the stomach, cancer of the breast, etc. Of course, it might easily happen that a tendency to cancer in two organs might be inherited, but it is obvious that very careful tracing of the histories would be necessary if any useful figures are to be obtained. It has been shown recently that cancer supervenes on other simpler growths, which themselves have a familial tendency. One of the best examples is that of multiple adenomatosis of the colon. This condition has a very marked familial incidence, and at first it would appear that it is the cancer which is the hereditary factor, though really it is the adenomatosis. A similar state of affairs may easily occur in regard to cancer of other organs. In fact, we know that simple multiple adenoma of the stomach is a precursor to cancer of that organ, and Sir Lenthal Cheatle has brought forth proof that duct cancer of the breast supervenes upon duct adenoma.

A strain of mice has been bred in America the females of which develop cancer of the mamma in 90 per cent. of cases, but the males do not develop cancer. It would be of the utmost value if doctors would trace such cases as those mentioned by Dr. Griffith Evans, but the difficulty would be to get accurate records of the exact nature of the tumour.—I am, etc.,

London, W.2, Jan. 23rd. J. P. LOCKHART-MUMMERY.

SIR,—I am indebted to Dr. Griffith Evans for directing my attention to an ambiguous reference to "cancer families" in my review of "The somatic cell mutation theory of cancer" in the Ninth Scientific Report of the Imperial Cancer Research Fund. We have good evidence for believing that a special type of cancer runs through certain families. I have referred specially to Dr. C. Dukes's work on polyposis intestini, that indicates the inheritance of "a tendency to epithelial proliferation leading to polypi and later to carcinoma."

My statement concerning cancer families was not intended to throw doubt upon the accuracy of the observations that have been recorded, but rather upon the validity of the conclusions which have been drawn from them upon the hereditary transmission of cancer. On the basis of chance distribution throughout the whole population there will be a certain number of families

in which the incidence of cancer will be relatively high, just as there will be families where little or no cancer will occur. This aspect of the cancer problem was discussed by the late Dr. E. F. Bashford in the Twelfth Annual Report (1914, p. 16) of this institution.—I am, etc.,

Imperial Cancer Research Fund, Queen Square, W.C., Jan. 26th. R. J. LUDFORD.

THE DIAGNOSIS OF SPECIFIC FEVERS

SIR,—Dr. Russell Brain's excellent lecture on zoster, varicella, and encephalitis (January 17th, p. 81), suggests that the time is opportune, as well as seasonable, for a spring-cleaning of our conceptions of specific fevers, conceptions which have not altered materially, perhaps, since the time of Sydenham.

We all know that the diagnosis "influenza" covers a multitude of divers infections, and the same may be true to a less degree of scarlet fever, German measles, and even chicken-pox, as it seems very probable that a number of cases due to different infective agents are now officially classed under one or other of these headings. Travelling round South Devon I often notice epidemics which, from the symptoms and the date of their appearance, are obviously the same, and yet, in different localities, receive different diagnoses. As an instance, some months ago a school epidemic, accompanied by a punctate erythematous rash, was diagnosed in one large town as rubella, although there was not the usual glandular enlargement, and although one case I knew of had had rubella within the year. In another locality the epidemic was called scarlet fever, and in yet another fourth disease. Probably there are other different epidemics accompanied by various erythematous rashes which might be labelled fifth, sixth, or seventh disease, and Dr. Brain rightly suggests that varicella may be due to more than one causative organism.

The prinicple I would like to emphasize is perhaps still insufficiently recognized—namely, that similar skin eruptions may be due to many different agents. Perhaps erythema nodosum may be quoted as an outstanding example; and no doubt the same is true of other organic manifestations, such as encephalitis, which may occur in mumps, measles, vaccinia, rubella, varicella, and variola. Practitioners who meet these appearances in the home under varying circumstances realize, better perhaps than the fever hospital staff, the difficulties of the position.—I am, etc.,

Paignton, Jan. 26th. ERNEST WARD.

ENTERIC INTUSSUSCEPTION

SIR,—I note in the *Journal* of January 10th (p. 58) a memorandum by Mr. Robert Glover on enteric intussusception. In my experience this is not so uncommon as he appears to think. During the past six years I can recall four cases.

Case 1.—A woman, aged 35. Admitted to hospital with acute appendicitis; appendicectomy without drainage; convalescence normal until the sixteenth day, then some indefinite signs of intestinal obstruction. On the eighteenth day after operation my house-surgeon telephoned to say he could "feel a lump, and thought I had left a swab in the abdomen." Operation showed an irreducible ileal intussusception, involving about five feet of ileum. This was resected, and end-to-end anastomosis performed. Recovery was uneventful; cause of intussusception unknown.

Case 2.—Male, aged 28. Admitted with two days' history of subacute obstruction. Lump felt, and intussusception diagnosed. Operation confirmed this. Site was the lower ileum, and the intussusception was irreducible; excision and end-to-end anastomosis performed. Unfortunately, on the sixth day, signs of peritonitis occurred, and he died the next day. Post mortem, a Meckel's diverticulum was found two feet beyond the resection. Doubtless this had caused the intussusception, and subsequent to the resection had thrown too much pressure on the anastomosis by chronic obstruction, and resulted in the leak at the site of anastomosis which had given rise to the peritonitis.

Case 3.—A woman, aged 40. History of subacute obstruction of three days; an irreducible ileal intussusception found. Resection with end-to-end anastomosis performed. Recovery. No cause for intussusception discovered.

Case 4.—A man, aged 31. Admitted to hospital suffering from acute obstruction. A tumour was felt just below and to the left of the umbilicus. Laparotomy showed an irreducible intussusception of the ileum. About four feet of intestine were involved. Resection and end-to-end anastomosis were performed. Uneventful recovery. Examination of the excised ileum showed the cause of the intussusception to be a small polypus at the head.

My experience of enteric intussusception is that it is the commonest type in adults, and that it speedily becomes irreducible.—I am, etc.,

Bradford, Jan. 15th. COLIN MACKENZIE.

MANAGEMENT OF THE PUERPERIUM IN TUBERCULOUS WOMEN

SIR,—In the discussion on the management of pregnancy, parturition, and the puerperium in tuberculous women, reported in the *Journal* of January 24th (p. 140), I find no mention of an item which I have found by experience to be of great importance. While women suffering from pulmonary tuberculosis usually improve during pregnancy, there is a great tendency to renewed activity of the disease after the termination of pregnancy. This tendency can be best combated, and usually successfully, by keeping the patient in bed for a month after her confinement, even though the temperature be normal.—I am, etc.,

Belfast, Jan. 26th. JOHN R. GILLESPIE.

TREATMENT OF ETHMOIDITIS

SIR,—Like your correspondent Mr. J. F. O'Malley, I was unable to appreciate any special factor indicative of safety in the suggestions put forward by Mr. Peters in his paper in the *Journal* of January 10th. Much of the confusion of thought and practice which surrounds this important surgical operation would be dispelled if the following principles were clearly realized and acted upon.

1. The maxillary antra, ethmoid, and sphenoid sinuses should be each explored with suitable trocar, cannula, and glass syringe under general anaesthesia as a preliminary to whatever form of nasal sinus operation is to be carried out.

2. Not only the presence of pus or muco-purulent flakes in the fluid brought back in the syringe, but the return of a viscid fluid, is indicative of one or other form of chronic sinus disease.

3. Scrupulous precautions should be taken to ensure that the nasal sinus inflammation is absolutely *à froid* at the time the operative intervention is carried out.

4. Whilst infection of the maxillary antrum is the responsible factor in the majority of these cases, a plurality of infected sinuses is very often present, the contiguous ethmoidal cells being the most frequently involved, in my opinion, from secondary infection.

5. The surgeon should duly and adequately respect the "danger area"—namely, the area which, according to Burger, is limited by the perpendicular plate of the ethmoid within, the cribriform plate above, and the inner surface of the middle turbinal without.

6. All diseased sinuses on one side, or eventually on both sides, of the nose should be surgically treated at one operation.

7. The removal of the middle turbinal, if requisite, should be deferred to the very end of the operative intervention, and this removal should be effected by a clean cut with a von Struychen forceps followed by the use of a snare as suggested by Mr. O'Malley.

The observance of the "respect" alluded to in paragraph 5 is not consonant with Mr. Peters's statement that "removal of the middle turbinal by Luc's forceps should be carried out either in its entirety by gripping the body of the bone, or by 'nibbling' from the anterior end and removing the opened cell." The writer considers that the use of the instruments and methods of the late Dr. Sluder in this area must constitute a dangerous, as well as a quite unnecessary, procedure. In all cases of multiple sinus disease in which the frontal sinus can be excluded—and this group constitutes the big majority—it is my practice to take down the outer wall of the diseased ethmoidal labyrinth and, if necessary, the anterior wall of the sphenoid sinus with a Luc's forceps operating from the canine fossa and across the antrum, after this cavity has been dealt with in the conventional manner. This method, which I have described in detail in the *Journal of Laryngology and Otology* (August, 1926), and which I have employed frequently for over eight years, is extremely safe and rapid, and allows the operator to open up all cells within the ethmoidal capsule, including the agger and fronto-nasal cells, without any encroachment upon the danger area. The actual removal of diseased tissue is carried out by Moure's hooded scoops, which are worked from behind downwards and forwards, and which by their shape preclude injury to the overlying orbital plate. The removal of the middle turbinal, which is rarely required, would constitute the final step of the operation.

In cases of concomitant frontal sinus disease in which the latter requires operation, I carry out the Howarth operation, which best allows the observance of the principles I have enumerated above.—I am, etc.,

Cork, Jan. 26th. J. B. HORGAN.

CINCHONA AND QUININE

SIR,—It is with some diffidence that I offer the following information with reference to the article on cinchona febrifuge (*Journal*, December 6th, 1930, p. 969), because the facts referred to, although quite clear in my own memory, cannot be substantiated by figures, since the papers were all eaten up by white ants between 1914 and 1918. Previous to the former date I was civil surgeon in the Bhamo district, and the hospital budget for medicines for a 64-bed hospital was only Rs600 (about £40) per annum. We used to have a lot of malaria in the hospital, and quinine sulphate was selling at Rs16 per pound in those days. The Inspector-General brought to my notice a preparation produced in the Neduvattam cinchona factory known as "amorphous cinchona alkaloid," which was being sold at Rs4 per pound. I tested a series of cases, the even numbers being put on quinine sulphate and the odd numbers on amorphous cinchona alkaloid. The result showed that it was possible to break the periodicity of the paroxysm with an equal weight of the latter as compared with the former after an equal interval, and that a period of continued antimalarial treatment with equal weights of the latter was as efficient as with the former; in other words, the cost of cure was reduced to one-quarter of the previous cost.

Subsequent experience has led me to give up entirely the use of all the salts of quinine except the hydrobromide, which can be employed to break the periodicity of the paroxysm with the least possible discomfort to the patient; thereafter the use of "Tabloid" tr. cinchonae co. has given results which have been uniformly successful, the cost being proportionately less.—I am, etc.,

L. A. HODGKINSON LACK,
University of Rangoon, Jan. 5th. Lieut.-Colonel I.M.S.

TREATMENT OF VARICOSE ULCERATION

SIR,—Every single one of your correspondents on the subject of the Dickson Wright treatment for chronic ulcer of the leg has missed the point in such a way that it is almost incredible that they can have read the papers on this subject published in the *Journal* of December 13th, 1930.

The method does not depend on firm support of the leg by bandaging, and it is evident that if it did it would have little advantage over the traditional methods mentioned by your correspondents. At the risk of becoming tedious by repetition I would point out again that it is necessary to compress or squeeze the excess tissue fluids out of the limb, where they are stagnant by virtue of (*a*) gravity, (*b*) 120 mm. Hg of arterial pressure, and (*c*) 48 inches of blood in the superficial veins (less any surplus capacity in the deep veins). Firm support will no doubt prevent further accumulation, but, in the absence of some such arrangement as described by Dr. Moulden, it will not get rid of that which is there already. To accomplish this the bandage must be wound on tightly—often, indeed, as tightly as a strong man can pull without tearing the bandage.

Naturally fear and superstition, more politely known as the first principles of surgery, will deny the 100 per cent. results we have obtained to many who have not the courage to follow our directions literally.—I am, etc.,

Hove, Jan. 19th. J. H. TWISTON DAVIES.

MEMBERS OF THE ROYAL COLLEGE OF SURGEONS

SIR,—The negative reply given by the Council of the College, reported in your issue of January 17th, to the request of the Members for *some* representation on the Council, has filled one with consternation. The one point that had been emphasized by the President himself, and by preceding Presidents—that there was no proof that the bulk of the Members were in favour of this representation—has been more than refuted by the result of the poll.

The string of the functions of the College given in the report are, as stated, "well carried out." Who has questioned this? The answer is that the functions, correct as they are, do not go far enough. Those Members that have had to bear the full responsibility of country practice in regions remote from hospitals and nursing homes, and who have been compelled to carry through operations of moment under extreme adverse conditions, patients refusing to be treated in any other place than in their own cottages, feel that they have a moral right to have some representation on a Council that functions for the surgical branch of our profession in this country. The "advancement of surgery in its widest sense," as stated in the report, is therefore not covered.

John Hunter, the virtual founder of the College, would, in my opinion, have taken a different view of the case. Had this passionate pioneer been alive to-day, we can picture him having not a little to say to those "die-hard" members of the Council that are still encircled and protected by their stone-wall method of defence. *Summum jus, summa injuria*!—I am, etc.,

Crouch End, N.8, Jan. 24th. T. WILSON PARRY.

Obituary

FREDERICK MEADOWS TURNER, M.D., B.Sc., D.P.H.

Medical Superintendent, South-Eastern Hospital, London County Council

We regret to record the death, at the age of 64, of Dr. F. Meadows Turner, which took place on January 17th, following an operation on January 12th. He was born in China, the son of a missionary, but came to England at an early age and received his medical education at Trinity College, Cambridge, Guy's Hospital, and Heidelberg. He took his B.Sc. degree at London University in 1887, and two years later his B.A. degree at Cambridge, where he graduated M.B., B.Ch. in 1892 and M.D. in 1895. On qualification in 1892 he was appointed a house-physician at Guy's Hospital, and in the same year entered the fever service of the Metropolitan Asylums Board. After being assistant medical officer under Dr. E. W. Goodall at the Eastern Hospital and at the North-Eastern Hospital under the late Dr. R. A. Birdwood, and acting as medical superintendent at the Hospital Ships and Gore Farm Hospital, he was appointed, in 1896, medical superintendent of the South-Eastern Fever Hospital, New Cross, where he remained in office until his last illness. He had been due to retire next August, on reaching the age limit.

Dr. Turner possessed in a high degree a mathematical ability which aroused the admiration and envy of his less gifted colleagues, and admirably fitted him for dealing with the statistical problems arising in the course of his work. For many years he rendered valuable service by acting as one of the two editors of the Medical Supplement of the Metropolitan Asylums Board's Annual Reports as well as by being a frequent contributor thereto of papers on clinical and statistical subjects. The medical profession is especially indebted to him for the immense amount of labour spent in the compilation of the summary in the 1910 report of all the tables published in the reports for the years 1900–9 inclusive. His principal contributions to medical literature were his M.D. thesis, published in 1895 in vol. li of *Guy's Hospital Reports*, on scarlatinal nephritis and its varieties, a valuable clinical and pathological study based on his experience at the North-Eastern Hospital, and a review of the literature; a special report, published in 1906, to the Metropolitan Asylums Board on return cases for the years 1902, 1903, and 1904, which formed an interesting sequel to the report made by Dr. A. G. R. Cameron in 1904; and a paper, inspired by Professor Karl Pearson, on the correlation between vaccination and small-pox in the London epidemic, 1901–2, and published in *Biometrika* in 1906.

His courses of instruction to students in the diagnosis and treatment of acute infectious diseases were always well attended. It is related that on one occasion he brought an inattentive and talkative class to their senses by suddenly saying, "Good afternoon, gentlemen," and leaving them shepherdless and bewildered in the ward. Unlike the medical superintendent of many fever hospitals Dr. Turner did not lead a sequestered life, but was attached to a number of medical societies. In addition to being a member of the Association of Physicians of Great Britain and the West Kent and the New Cross Medical Societies, he was a constant attendant of the Section of Epidemiology of the Royal Society of Medicine, and recently joined the Medical Superintendents' Society, which met at the South-Eastern Hospital shortly before his last illness. Dr. Turner's scientific interests were by no means confined to medicine. He was a member of the Queckett Microscopical Club and the Essex Field Club, and took a keen interest in fresh-water biology. He had for some time been paying special attention to the breeding of the common British freshwater mollusc *Limnaea peregra*, and was the joint author, with A. E. Boycott, C. Diver, and S. L. Garstang, of a paper recently published in *Philosophical Transactions* on the inheritance of sinistrality in *Limnaea peregra*. He had previously contributed papers on this mollusc to the *Naturalist* in 1926 and the *Essex Naturalist* in 1927.

Quiet and unassuming in manner, of a singularly equable disposition, readily accessible and helpful to all, Dr. Turner will be greatly missed, not only by the staff of his hospital, among whom he was known by the title of "Father," but by a wide circle of friends, many of whom had been his former pupils. The large gathering which attended his funeral, at Brockley Cemetery on January 21st, bore eloquent testimony to the affectionate esteem in which he was held. He is survived by a widow, but had no children.

Mr. WILLIAM ELSWORTH WARNE, who served the British Medical Association for forty years, and held the office of Financial Secretary and Business Manager from 1918 to 1921, died on January 26th at the age of 74. Members of Council, and many others who in former years took part in the central work of the Association, will share the regret felt by senior members of the headquarters staff at the passing of an old friend and a loyal colleague. Mr. Warne's upright character and kindly disposition won him the respect and affection of his fellow workers. His connexion with the Association began in 1881, when the membership was little more than 9,000, as compared with 23,000 when he left its service. On the occasion of his retirement ten years ago the Council presented to him an illuminated address, placing on record its grateful appreciation of his faithful and untiring work for the Association as clerk, chief clerk, and finally Financial Secretary and Business Manager in succession to the late Mr. Guy Elliston. The Chairman, Sir Robert Bolam, in making the presentation, said that the Council's wish was to show to Mr. Warne in this way that his devotion to the interests of the British Medical Association was recognized as setting an example to all those who tried to make that great Association a power for good in the profession and the community. Throughout his long period of service they had admired, too, his unfailing courtesy and kindness to everyone around him. A presentation was also made to Mr. Warne by the staff at a complimentary dinner presided over by the late Sir Dawson Williams, Editor of the *Journal*. After his retirement from active work Mr. Warne continued to take an interest in the Medical Insurance Agency as a member of the board of management. The funeral took place at Fulham Cemetery on Thursday, January 29th.

The following well-known foreign medical men have recently died: Professor GEORG HONIGMANN of Wiesbaden, author of several works on medical philosophy, aged 66; Dr. ROCCO SANTOLIQUIDO of Milan, formerly president of the International League of the Red Cross, director-general of the Italian public health service, and Grand Officer of the Legion of Honour, aged 76; Dr. RAYMOND SEYER, a prominent physician of Rouen; Dr. N. JANCSO, professor of internal medicine at Debreczen, aged 61; Professor E. SAVINI, a prominent Rumanian neurologist, aged 48; Dr. BELLOM PESCARDO, a neurological surgeon of Turin, aged 69; Dr. PIERRE DESCOMPS, surgeon to the Charité Hospital, Paris; Dr. PAUL SIMON, honorary professor of clinical medicine in the Nancy Medical Faculty; Dr. WILLIAM CRAIG, emeritus professor of surgery in the University of Colorado School of Medicine, aged 75; and Brigadier-General JAMES MADISON KENNEDY of the United States Army, aged 64.

Medico-Legal

INJURY TO PATIENT IN NURSING HOME

ALLEGATIONS OF NEGLIGENCE

Before Mr. Justice McCardie and a special jury on January 20th and 21st an action was heard in which Mrs. Elizabeth Collins, a widow of Llandudno, claimed damages for alleged negligence from Miss Sarah Froggatt, proprietress of "St. Helen's" nursing home, Llandudno, Dr. Edith Annie Shaw of Colwyn Bay, and Dr. Anna Gwenllian Lewis of Rhos-on-Sea. Miss Froggatt admitted negligence, but Dr. Shaw and Dr. Lewis denied it, and Dr. Shaw counterclaimed £200 for fees due to her from Mrs. Collins, being £37 for fees for an operation, and the remainder fees for attendance in connexion with a burn received by the patient, which was the subject of the action.

Mr. Norman Birkett, K.C., in opening the case for the plaintiff, said that in February, 1929, Mrs. Collins underwent an operation at the nursing home, Dr. Shaw performing the operation and Dr. Lewis administering the anaesthetic. After the operation the patient was removed to a bedroom on a stretcher, and, later, it was discovered that she had been laid, while unconscious, on a rubber hot-water bottle, which had caused an extensive burn. The plaintiff suffered great pain in consequence, and was still partially disabled. It appeared that a maidservant, under the direction of the nurse, had placed the bottle in the bed which the patient was to occupy, and, being under the draw-sheet, it was not noticed when the stretcher was laid thereon. Mr. Birkett said that the anaesthetist, who was responsible for making the patient unconscious, had the duty of taking all reasonable care to guard the patient against such a peril as that encountered by the plaintiff during unconsciousness, and the surgeon who performed the operation in the circumstances of the present case was also bound to see that the patient sustained no injury. It was not enough for either of them to say that the patient was left to the care of the nurse.

Mrs. Collins, in evidence, said that the nursing home was a house of four or five bedrooms, one of which—not a special operating theatre—was used for the operation. The burn was about 2 ft. by 1½ ft. in extent, and, nearly two years afterwards, the part was still painful, and prevented comfortable seating or lying on the back. She agreed that Miss Froggatt had been anxious to do all she could for her, and had not sent in any account for services rendered, also that she had had Dr. Shaw to attend her for a year after the operation. The nurse also stated that after the accident Miss Froggatt refused to have other patients in the home, and devoted her whole time to looking after Mrs. Collins. Professor Leonard Gamgee of Birmingham University said that the plaintiff had a deep burn over the bone at the extreme end of the spine and across the buttocks. He was astonished at the depth of burn received from a hot-water bottle. Eighteen months after the accident the wound had healed except for a space of about three square inches. There was thick and dense scarred tissue over the right buttock, which interfered with the patient's movements and capacity to sit down.

After consultation between judge and counsel, Mr. Birkett announced that a settlement had been reached. Miss Froggatt had admitted negligence, and had paid £600 into court. Plaintiff now sought judgement for that sum and an agreed sum for costs. The two medical defendants were in a different position. There was never any allegation of negligence against them at any stage or at any time in that case so far as their professional skill was concerned, and had Professor Gamgee completed his evidence he would have said that the operation had evidently been conducted with the highest skill and judgement on the part both of Dr. Shaw and Dr. Lewis, and that the devoted attention of Dr. Shaw had contributed in a very large measure to the recovery in body and mind of the plaintiff. The allegation of negligence in the case so far as the doctors were concerned was that in the particular circumstances a particular duty rested on the surgeon and the anaesthetist, but having regard to the evidence, he had advised the plaintiff that she would not be able to substantiate that allegation, and it would be completely withdrawn.

Mr. Roland Oliver, K.C., for Dr. Shaw, in asking for judgement for the amount of her counterclaim with costs, said that his client had always been willing, as she was still, to give up the whole of that amount, including the operation fee, on the understanding that the money was paid to the plaintiff, and that the plaintiff was not in any way mulcted in regard to costs. Dr. Shaw would not seek to recover her costs against anybody, on account of her sincere sympathy with the plaintiff. That was a voluntary action on the part of the defendant, and did not involve in any degree any sense of bargain, or anything of the kind. Mr. J. Singleton, K.C., asked for judgement for Dr. Lewis, and stated that she, too, would not seek to enforce against the plaintiff, having regard to the withdrawal of the allegation.

Mr. Justice McCardie said that he was glad the parties had reached a satisfactory settlement. Dr. Shaw and Dr. Lewis, it was now agreed, were free from any suggestion of negligence, and both had acted with skill, care, and judgement.

Judgement was then entered for the plaintiff for £600 and agreed costs against Miss Froggatt, and for the two doctors, on whose behalf it had been said that they would not enforce judgement.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons this week discussed the report of the Indian Round Table Conference and finished the second reading debate on the Trade Disputes Bill.

The Socialist medical group are to seek a conference with Mr. Greenwood on a projected Maternity and Child Welfare Bill.

Mr. Snowden stated, on January 27th, that the Government wishes to proceed with the Hours of Industrial Employment Bill. He could not say when the further stages of the measure would be taken.

The Prime Minister regrets that he cannot make any further statement with regard to the introduction of legislation to amend the Factory Acts.

Pharmacy and Poisons Bill

In the House of Lords, on January 27th, Earl RUSSELL moved that the second reading of the Pharmacy and Poisons Bill, which had been put down for that day, should be postponed *sine die*. He explained that the second reading could not be taken that day. He understood that a great many people were interested in the measure, but he was not able at present to name a day when it would be taken. He therefore proposed to let the Bill remain on the Order paper, and he would give as long notice as possible of the day when it was proposed to take the second reading. The motion was agreed to.

Tuberculosis Statistics

Mr. GREENWOOD, replying to Dr. Fremantle on January 22nd, said that in 1915 there were 68,309 new cases notified in England and Wales and 40,803 deaths from pulmonary tuberculosis, and 22,283 new cases notified and 13,492 deaths from non-pulmonary tuberculosis. These figures had dropped by 1929 to 57,274 new cases notified and 31,425 deaths from pulmonary tuberculosis, and 18,682 new cases notified and 6,565 deaths from non-pulmonary tuberculosis. Dr. FREMANTLE asked whether the Minister deemed this evidence requiring urgent action. Mr. GREENWOOD said he did not think so. Both new cases and deaths showed a pretty substantial decline. He could give no classified information concerning the number of cases attributable to infection of bovine origin.

Spahlinger Treatment of Tuberculosis

In reply to Mr. Mander, on January 22nd, Mr. GREENWOOD said that no experiments had been, or were being, carried out in connexion with the Spahlinger treatment of tuberculosis by or in co-operation with his Department. He was aware that experiments in connexion with this question were

being carried on in Northern Ireland at the present time. Other experiments were being carried out in co-operation with the Ministry of Agriculture in Great Britain.

Social Services

On January 23rd Mr. BRACKEN asked whether the considered policy of the Government was represented by a recent declaration by the Minister of Health that he would not consent to any reduction in social services. Mr. RAMSAY MACDONALD, in reply, said that the Government would not regard a contraction of efficiency in social services as a desirable form of national economy.

Mr. GREENWOOD told Captain Peter MacDonald, on January 22nd, that the arrangements with regard to the State maternity service were not sufficiently advanced for him to make any statement on the possibility of any reduction of the cash benefit for mothers.

Public Cleansing in London

Answering Dr. Fremantle, on January 22nd, Mr. GREENWOOD said that he understood that the Metropolitan Boroughs Standing Joint Committee had referred the report of the Departmental Committee on London Cleansing to the metropolitan sanitary authorities. Their replies would be considered at a meeting of the Standing Joint Committee on January 26th. He was informed that two of the borough councils had entered into fresh contracts for the tipping of refuse on a new site under improved conditions. Dr. FREMANTLE suggested it would be well to prevent any action being taken independently. Mr. GREENWOOD answered that he hoped it was not suggested that he should prevent enlightened authorities from making better provision. Dr. FREMANTLE then asked if Mr. Greenwood did not wish the report of his Department, which required a centralized authority, to be carried out. Mr. GREENWOOD said that he wanted the report to take effect, but it would involve highly controversial legislation.

Maternity and Child Welfare

On January 20th Mr. HOLFORD KNIGHT gave notice that, on going in committee of supply on the Civil Service Estimates, he would call attention to the question of maternity and child welfare, and move a resolution.

Housing.—Mr. GREENWOOD told Mr. Albery on January 22nd that since the armistice approximately 11,000 houses had been demolished under improvement and reconstruction schemes undertaken by local authorities in England and Wales. The 224 local authorities which had so far submitted programmes under the 1930 Housing Act proposed to demolish approximately 60,000 houses in clearance and improvement areas during the next five years.

Meat Inspection.—Replying to Mr. Samuel on January 22nd, Mr. GREENWOOD said the recommendation which for many years had been made by his Department to local authorities and generally adopted at the ports was that where there had been evidence or suspicion of caseous lymphadenitis in imported mutton and lamb, the whole carcass should be destroyed. The desirability of taking steps so that legs, shoulders, sides, saddles, and other parts of mutton and lamb should be passed by medical officers before the meat was shipped was receiving his consideration.

A Bill Talked Out.—On January 23rd Mr. KELLY moved the second reading of the Spiritualism and Psychical Research (Exemption) Bill. Dr. FREMANTLE moved its rejection. He said that the Bill proposed to relieve spiritualists and mediums from any penalties the law had thought fit to place on them. Spiritualism had been associated with a perversion of the uninformed mind of the young, and had disastrous effects in many cases. The law protecting people from such misguidance should not be remitted. The Bill was talked out.

Notes in Brief

The Home Secretary will consider a modification in the present law in respect of the trial of a pregnant woman on a capital charge.

No fresh outbreaks of foot-and-mouth disease had occurred in any part of Great Britain since that confirmed on January 18th at Westmeston (Sussex). The source of infection in that case had not been discovered.

Universities and Colleges

UNIVERSITY OF OXFORD

The following candidates have been approved at the examinations indicated:

FINAL B.M., B.CH.—A. H. Bateman, F. Bell, R. T. V. Clarke, F. R. Crookes, H. R. J. Donald, H. C. Harley, R. S. Harrison, M. A. Hatt, J. M. Lees, R. D. Newton, N. C. Parfit, W. G. Rees, E. H. Rink, B. T. Squires, F. M. Trefusis. (*Materia Medica*) C. F. S. Alken, E. J. Baldwin, S. W. T. Bentall, J. A. Boycott, L. G. Clayton, J. M. Cribb, T. T. Hardy, J. L. Ryce, O. S. M. Williams. (*Pathology*) E. J. Baldwin, S. W. T. Bentall, R. R. Bomford, E. Braithwaite, F. W. Brown, N. P. Bruce, H. W. Davies, R. C. Garman, H. F. Moseley, J. A. Nunn, T. R. Plummer, T. W. H. Porter, J. L. Ryce, A. E. Scott, J. A. E. Scott, H. C. Wadge, E. J. Williams, C. H. Yeoh. (*Forensic Medicine and Public Hygiene*) E. J. Baldwin, D. S. Bateman, A. H. Bateman, R. R. Bomford, N. P. Bruce, J. M. L. Burtenshaw, F. R. Crookes, T. M. Davie, H. W. Davies, N. Heath, J. H. Hunt, K. N. Irvine, H. de B. Kempthorne, R. M. Marshall, Q. St. L. Myles, M. W. C. Oldfield, W. G. Rees, E. H. Rink, B. T. Squires, Olive M. Capper Johnson.

Mr. W. D. W. Brooks, B.A., M.R.C.S., formerly a scholar of the College, has been elected to a Fereday Fellowship at St. John's.

At a congregation held on January 22nd the following medical degrees were conferred:

D.M.—P. N. B. Odgers, P. L. Gibson.
B.M.—B. T. Squires, R. T. V. Clarke, W. G. Rees, Mrs. Rosalind V. Ferguson.

UNIVERSITY OF LONDON

UNIVERSITY COLLEGE

A course of five lectures on "The modern technique of cytology" will be given at University College, Gower Street, by Professor R. Chambers, Dr. R. G. Canti, and Dr. R. J. Ludford, on Fridays, at 5 p.m., beginning to-day (January 30th) and ending on February 26th. The lectures are open without fee to students of the University and others interested in the subject.

A course of three lectures on growth problems in plants will be given at the Imperial College, Royal School of Mines, Prince Consort Road, S.W.1, by Dr. F. G. Gregory, on Tuesdays, February 10th, 17th, and 24th, at 5.30 p.m. Admission free, without ticket.

UNIVERSITY OF MANCHESTER

Professor H. S. Raper, M.B., F.R.S., has been appointed Pro-Vice-Chancellor of the University in succession to Professor Kastner.

UNIVERSITY OF DUBLIN

TRINITY COLLEGE

The degrees of M.B., B.Ch., B.A.O., and B.A. were conferred upon R. E. Hemphill on January 16th.

The Services

DEATHS IN THE SERVICES

Major William Gordon Wright, D.S.O., R.A.M.C., died at the military hospital at Murree, in the Punjab, of pneumonia, on October 15th, 1930, aged 47. He was born on June 22nd, 1883, and was educated in Dublin, taking the L.R.C.P. and S.I. in 1906. After filling the post of resident surgeon at the Adelaide Hospital, Dublin, he entered the R.A.M.C. as lieutenant on August 1st, 1908, received a brevet majority on January 1st, 1919, and was promoted to major on August 1st, 1920. He served throughout the war of 1914–18, when he was three times mentioned in dispatches, in the *London Gazette* of February 17th, 1915, June 15th, 1916, and January 4th, 1917, and received a brevet of major and the D.S.O. He leaves a widow.

Lieut.-Colonel Isaac Bomford Emerson, R.A.M.C. (ret.), died at Bath on November 4th, 1930, aged 77. He was born in Dublin on December 17th, 1852, was educated in Dublin, and took the L.R.C.S.I. in 1873 and the L.K.Q.C.P. in 1874. Entering the Army as surgeon on February 4th, 1877, he became lieutenant colonel after twenty years' service, and retired on December 17th, 1907. He served with the 83rd Foot, now the Royal Ulster Rifles, in the Afghan war of 1878–79, receiving the medal, and was also re-employed at home, from October 26th, 1914, in the war of 1914–18.

Medical News

Two lectures, on the national diet, will be given by Professor E. P. Cathcart, at 6 p.m. on February 23rd and 24th, at the London School of Hygiene and Tropical Medicine, Gower Street. Admission is free, without ticket.

A special discussion on "The adaptation of European women and children in tropical climates" will be held at a joint meeting of the Sections of Tropical Diseases and Parasitology and of Disease in Children of the Royal Society of Medicine, to be held on Thursday, February 5th, at 8 p.m.

At a meeting of the British Institute of Philosophical Studies, to be held at University College, Gower Street, W.C., on Tuesday, February 3rd, at 8.15 p.m., a lecture on "Purpose in evolution" will be given by Sir Arthur Thomson, with Dr. J. S. Haldane, C.H., F.R.S., in the chair.

Under the auspices of the British Empire Cancer Campaign (Yorkshire Council) and the Leeds and West Riding Medico-Chirurgical Society, Dr. Ronald G. Canti, bacteriologist to St. Bartholomew's Hospital, will give a cinematograph demonstration of living-tissue cells growing *in vitro*, with special reference to cancer, at the Alexandra Picture House, Camp Road, Leeds, on Wednesday, February 4th. The chair will be taken at 3.30 p.m. by Professor M. J. Stewart.

At the opening of the ninetieth course of study at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C., on Tuesday, February 3rd, Dr. P. Manson-Bahr will give a lecture and lantern demonstration on "The dawn of tropical medicine," being an account of the life and work of Sir Patrick Manson. The chair will be taken at 5 p.m. by Sir Harry Goschen, Bt. Admission is free, without ticket.

In the absence, through illness, of Dr. T. Watts Eden, President of the Royal Society of Medicine, the guests at the society's reception on the evening of January 21st were received by the immediate Past-President, Lord Dawson of Penn, and Lady Dawson. The announcement that Dr. Eden was now well on the way to complete recovery dispelled the only cloud over the gathering. The Barnes Hall was filled for a short illustrated lecture by Dr. Arnold Chaplin on "Some great figures in history." Having on previous occasions taken his audiences, as he said, down the narrow path of medical history, he confined himself on this occasion to certain celebrities who were renowned in other fields, his purpose being to remove some misconceptions which have clung to these characters.

The thirty-fifth Congress of French-speaking Alienists and Neurologists will be held at Bordeaux on March 27th, when the following subjects will be discussed: late periodic psychoses, introduced by R. Anglade of Vauclaire, Angoulême; spinal cord tumours, introduced by Noel Perron of Paris; and false simulation in mental disease, introduced by Fribourg-Blanc of Paris.

The German Society for Internal Medicine will hold its forty-third annual meeting at Wiesbaden, under the presidency of Professor von Bergmann of Berlin, from April 13th to 16th, when the following subjects will be discussed: neuroregulation, introduced by Goldstein of Berlin and Weiszäcken of Heidelberg; coronary circulation and angina pectoris, introduced by von Anrep of Cairo and Edens of Ebenhausen. A lecture will also be delivered by Bürger of Osnabrück on the clinical significance of the cholesterin problem.

The first Hispano-Portuguese Congress of Obstetrics and Gynaecology will be held at Madrid in April, under the presidency of Dr. Luis Soler Soto, president of the Spanish Gynaecological Society. Further information can be obtained from the general secretary, Dr. Francisco Haro, Serrano 74, Madrid.

With the object of making its natural advantages better known to members of the English medical profession, the authorities of Dax, a thermal resort situated in the Pau-Biarritz district of France, gave a dinner party at the Savoy Hotel, London, on January 26th. The chair was taken by Sir StClair Thomson, and among the guests were leading physicians and other medical men and women interested in hydrology and climatotherapy. The chairman gave the toast of the King and the President of the French Republic; and the health of the guests, proposed by M. Clement Bich, Administrateur de la Société Thermale de Dax, was responded to by the Consul-General for France. After these speeches, Dr. Leonard Williams entertained the company with a short discourse on the climate and waters of Dax and their therapeutic indications, followed by the exhibition of a cinema film. The arrangements for this very agreeable and informative evening were made by Mme Juppé-Blaise, manager of the Federation of the Health Resorts of France.

The Wellcome Museum of Medical Science is closed until further notice during rebuilding.

According to the monthly report of the Health Section of the League of Nations, 744,731 cases of scarlet fever were reported in Europe in 1929, as compared with 695,065 in 1928, and 667,222 in 1927. The increase in the incidence of the disease was most marked in Rumania, England, and Czechoslovakia, in the order named. A similar increase in diphtheria morbidity is shown by the fact that 27 European countries, which reported 257,959 cases in 1927 and 296,070 cases in 1928, recorded 327,391 cases in 1929.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecta Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Exfoliative Dermatitis

"J. A. H." asks for suggestions for the treatment, at home if possible, of a severe case of exfoliative dermatitis.

Treatment of Obesity

"A. S." asks for suggestions in the treatment of a female patient who is very stout. This condition began after marriage twelve years ago; present age 33. The patient has no children; menstruation irregular as regards both time and quantity. She has a good appetite and is quite energetic; no mental dullness. Thyroid, pituitary extract, ovarian extract, dieting, and iodides have been tried without result. Before marriage the patient was quite slender.

Treatment of Syphilis

Dr. E. TYTLER BURKE (Salford) writes: The case upon which Dr. A. L. Pirrie seeks advice in the *Journal* of January 17th (p. 123), although originally a simple one of sero-positive primary syphilis, must now be regarded as one of endo-syphilis heading towards Wassermann-fastness and permanent grave visceral damage chiefly in the cardio-vascular and central nervous systems. The treatment one would recommend is as follows: bivatol, twice weekly for eight weeks (iodides for last four weeks); stabilarsan, once weekly for eight weeks; bivatol, twice weekly for eight weeks (iodides for last four weeks); stabilarsan, once weekly for eight weeks; bivatol, twice weekly for eight weeks; stabilarsan, once weekly for eight weeks; bivatol, twice weekly for eight weeks. The duration of the treatment is fifty-six weeks, during which, with no rest intervals, there are given 18.6 grams of stabilarsan and sixty-four injections of bivatol of 2 c.cm. each, amounting to 3.84 grams of bismuth metal.

Income Tax

Assessment of Stipend from Appointment

"W. A. R." took up an appointment at £150 per annum as from March, 1929. At the end of June, 1929, he gave up a post and began practice elsewhere. He is now being assessed on the basis that the £150 is separate from his general earnings, and the result appears to be to increase his liability as compared with that calculated on the basis of including all earnings in the general assessment.

*** "W. A. R." appears to have no legal remedy. Fees paid by public authorities are assessed as part of general earnings, but a stipend is legally chargeable under Schedule E separately. But we are not clear that the ultimate result would be different, because if, say, £100 of the stipend is thrown into the general assessment at his present district, the balance would undoubtedly have to be changed in the former district, under the provisions dealing with *ceasing income. In other words, our correspondent* had £150 for the year 1929-30, and on either basis the revenue is entitled to tax thereon.

Obsolescence—Cash Basis

"W. A. W." (1) A car was bought in 1927 for £365 and that amount has been reduced by yearly depreciation allowances to £268. The car was sold in 1930 for £150 and a new car bought for £340. What allowance is due? (2) He proposes to retire from practice in July, 1931. Will he be liable to account for tax on amounts received after that date for previous services?

*** (1) £268—£150=£118 can be claimed as an "obsolescence allowance" in computing the profits of the year 1930. (2) They will not be liable as additional receipts. The only way in which they could affect taxation would be if the authorities insisted on a revision of the period April 5th, 1930, to July, 1931, to an "earnings" instead of a "cash receipts" basis, but that is unlikely in view of the additional charge for obsolescence occurring in the year 1930.

LETTERS, NOTES, ETC.

Medical Congress at Bangkok

The eighth Congress of the Far Eastern Association of Tropical Medicine was held last month at Bangkok, under the presidency of Prince Thavara, physician-in-ordinary to the King of Siam. The following description of the reception given to the delegates who attended this congress is extracted from a private letter sent home by a member of the British Medical Association: "The most prominent feature was the extraordinary and astonishing way in which we were entertained and welcomed by our hosts. Twenty-eight to twenty-nine hours from Bangkok we were met by several Siamese who had been sent down to look after us. At the station our guides had arranged flags along the platform to indicate the hotels to which we had been assigned. Before going to our hotels we were taken to the information bureau and given numbered badges, and two books about Siam, each, I think, specially compiled for the occasion. Fifty cars were available during the week to take us from meetings and entertainments. One morning I visited the waterworks, which are excellent. Bacteriological samples are taken five times daily. We were shown the sampling, which was beautifully done, and also the analysis figures, which are very good indeed. . . . The mosquitos in Bangkok are very numerous, but there is said to be little malaria about." The letter then refers to a performance of the "lantern dance"—a rare event—given in honour of the congress. "The lanterns were carried by seventy-two boys, who expressed in song the hopes of Siam that the health of her people would improve as the result of the congress. . . . In the interval of the 'khow' (mask dance) the delegates were presented to the King and Queen of Siam. All the royal princes are working very actively as heads of the various departments." The writer mentions that about 170 members of the Far Eastern Association of Tropical Medicine were present at the congress, and an even larger number of associate members from Siam. He was particularly struck by the general use of the English language, very well spoken, by all the Siamese officers and by the hotel staffs.

Glycerin as a Surgical Dressing

Dr. H. A. MORTON WHITBY (Hampstead) writes: Dr. Kyle's letter (*Journal*, January 10th, p. 75) and the subsequent correspondence on the subject interest me considerably as I have been in the habit of using glycerin, on account of its hygroscopic and apparent bactericidal action, for burns and accidental and operation septic wounds for several years with very good results. In combination with liq. hyd. perchlor. it acts as an excellent paint for all kinds of cellulitis, and, of course, is well known as a gargle. Two years ago I started to use plain glycerin for the injection of tuberculous abscess cavities, after evacuation of the contents and cauterizing with iodized phenol. I must have treated some thirty cases or more by this method, and in all the wounds healed with a minimum scar.

Dr. H. W. WEBBER (King's Tamerton) writes: As far as I am aware, no one in the recent correspondence has mentioned the combination of ichthyol with glycerin (equal parts). I learnt the use of this from a note in the *Practitioner* some years ago, and have proved its value on many occasions. In cases of lymphangitis it acts remarkably well; septic wounds of the fingers with the accompanying inflamed lymphatic vessels and glands clear up most satisfactorily with one or two applications.

Linseed for Constipation

Dr. W. GLEGG (Menton, France) writes: The use of whole linseed as an effective remedy for deficient bulk in the intestinal contents in constipation might be better known at home. Here it is supplied in tins, imported from Sicily, and it is cleaned from adventitious matter. Two teaspoonfuls, more or less, are taken, washed down with water without chewing. This is repeated daily, morning or night, and combined, when the stools require softening, with small doses of a reliable high-density brand of liquid paraffin.

Painless Natural Labour

Dr. A. BURN (Crawley, Sussex) writes: The case of painless natural labour which I reported three years ago (January 21st, 1928, p. 120) has just been repeated. The same patient had her second child—an eight-pound boy—by the same painless means last week. The labour lasted for two hours—that is to say, uterine contractions and dilatation of the os were only noticed two hours before the child was born. The sole inconvenience of which the patient complained was a dull ache in the groins whenever the uterus contracted. Another point of interest is the fact that the father of the child is suffering from post-lethargic Parkinsonism.

Tuberculin Clinic

Dr. W. CAMAC WILKINSON writes to announce that the work of the Tuberculin Dispensary, hitherto carried on at 82, Fitzroy Street, W.1, will be carried on henceforward at 11, Nottingham Place, W.1. The institution will be called the Tuberculin Clinic, and for the present it will be open on Mondays and Fridays, from 1.30 to 4 p.m.

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 43, 44, 45, 46, 47, and 51 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 48, 49, and 50.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 31.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

91 The Tuberculin Reaction in the First Three Years of Life

S. MONRAD (*Ugeskrift for Laeger*, November 6th, 1930, p. 1046) published in 1914 an account of tuberculin tests performed on about 3,400 children, and concluded that during the first year of life a positive reaction is always associated with active tuberculosis; in the second year it is so in six out of seven cases, and between the ages of 2 and 5 in two out of three cases. Since these investigations were undertaken so long ago as the period 1907–14, the author has thought it worth while investigating whether there has been any change in this respect, and he has therefore made a similar study of cases for the period 1919–30. Of 52 infants under the age of 12 months giving a positive reaction, all showed clinical signs of active tuberculosis. Of 104 children in their second year with a positive reaction, 92 showed clinical signs of active tuberculosis; and of 93 in their third year giving a positive reaction, 76 showed clinical signs of active tuberculosis. The sombreness of the prognosis, when a tuberculin reaction is obtained early in life, is emphasized by the same material. Of the 52 in the first year of life, 42 (80.8 per cent.) died; of the 104 in the second year of life, 37 (35.6 per cent.) died; and of the 93 in the third year of life, 21 (22.6 per cent.) died.

92 Measles Complicated by Diabetes Insipidus

V. ANGELINI (*Clinica Pediatrica*, November, 1930, p. 992) records the case of a girl, aged 5, in whom, after a mild attack of measles, polyuria and polydipsia developed, accompanied by anorexia and loss of flesh. The amount of urine passed in the twenty-four hours ranged from 5,200 to 7,600 c.cm., with an average of 6,100 c.cm. Micturition occurred about nineteen times a day; during the night the frequency of micturition and the quantity of urine passed were about the same. The specific gravity of the urine was 1003 to 1004, and the urinary chloride figure was 4.27 to 7.32 grams, as compared with 8.68 to 13.49 grams in a normal child of the same age and weight. Injection of extract of the posterior lobe of the pituitary gland temporarily reduced diuresis to a minimum of 1,400 c.cm. and a maximum of 1,800 c.cm.; the specific gravity rose to 1010, and the chlorides from 0.7 to 2.8 per 1,000. The ocular fundi were healthy, and radiography of the brain showed a normal sella turcica. The case did not come to necropsy, but Angelini suggests that the condition was due to an organic lesion of the diencephalon and hypophysis by the measles toxin.

93 Diagnosis of Aneurysm of the Heart

B. STRANDELL (*Acta Med. Scand.*, November 15th, 1930, p. 148) recalls the earlier work of Sternberg on the clinical course of cardiac aneurysm, in which the following stages of the disease might be differentiated: attacks of stenocardia; pericarditis and softening of the heart muscle; a stage of latency; and a stage of severe injury to the heart muscle. Despite the recognition of these manifestations, the diagnosis of cardiac aneurysm during life remains very difficult, even with the help of radiography. Strandell records four cases of aneurysm of the heart, in three of which the diagnosis was not made until necropsy, although two of them were radiographed. The Wassermann reaction in all three was negative. The fourth patient was a man, aged 42, who had been infected with syphilis at 26, the Wassermann reaction being positive. In the summer of 1928 the patient began to get attacks of angina, from which he gradually recovered. A year later, after a prolonged anginal seizure, radiography showed a distinct rounded shadow which remained visible at the apex when the patient was rotated. In view of the age and history of the patient a diagnosis of cardiac aneurysm due to syphilitic coronary thrombosis was made. He died eighteen months after the onset of symptoms, and at the necropsy were found two cardiac aneurysms, one involving the apex and the other the posterior wall of the left ventricle. The appearance of the aneurysms suggested the possibility of rupture, since they contained no muscle in their walls, and communicated with the cavity of the ventricle by small openings. The pericardium was very firmly adherent to the aneurysms. There was arterio-sclerosis and narrowing of the lumen in the coronary arteries, but no evidence of syphilitic involvement.

94 Subacute Inguinal Lymphogranulomatosis

A full description is given by P. CHEVALIER and J. BERNARD (*Rev. de Méd.*, December, 1930, p. 856) of a special form of inguinal adenitis, which was first noted by Nicolas, Durand, and Favre, and has been termed by them subacute inguinal lymphogranulomatosis; it is also known as the disease of Nicolas-Favre. The condition is universal, and is far more common in males, especially adults, than in females. The infection is conveyed genitally, and the disease is essentially venereal, with an incubation period of 10 to 25 days. The onset is usually insidious and slowly progressive. The first symptoms are discomfort in the groin with slight malaise; anorexia, fatigue, and arthralgias are generally observed. An inguino-iliac adenitis with marked periadenitis supervenes; as a rule this is unilateral, the ganglia on the opposite side being only slightly hypertrophied. The stage of suppuration which follows may last for months or even years. The process ends in a dense fibrous sclerosis. The disease may be complicated by an extensive suppuration or by a chronic inflammation and fibrosis which obliterates the lymphatics. Recurrences are exceptional. The authors enumerate various clinical forms of the disease, and discuss its pathological anatomy and differential diagnosis. Treatment is essentially medical, but local radiotherapy has given satisfactory results. Internal remedies recommended are iodine (orally or intravenously), and injections of emetine, antimony tartrate, and copper sulphate. Cure has also been obtained by the use of vaccines and tuberculin. Though Nicolas has found internal treatment unsatisfactory, the present authors hold the contrary opinion.

95 Percutaneous Immunization in Diphtheria

H. BAAR and H. BENEDICT (*Klin. Woch.*, December 20th, 1930, p. 2395), acting on the principle that the production of an erythema at the site of application of toxoid facilitates its absorption, made use of a mustard plaster before the toxoid was applied by inunction according to Lowenstein's method of active immunization against diphtheria. They found that of 106 children so treated 85 became negative and 21 remained positive; at the end of six weeks only 4 were still positive. Comparison of these figures with the results obtained by the original method shows a remarkable improvement, especially since all cases were scarlet fever patients, who, as Kundratitz and Hartmann-Karplus have shown, are more difficult to immunize than other children.

96 Curability of Congenital Syphilis

According to E. A. MORGAN (*Canadian Med. Assoc. Journ.*, December, 1930, p. 811) the securing of a permanently negative Wassermann reaction in congenital syphilis depends primarily on the stage of the disease when treatment is commenced. In the early stage 80 per cent. can be cured, in the latent stage 64 per cent., and in the late stage 49 per cent., provided that the treatment is continued for a reasonable time, which he suggests is eleven months for the early stage, and twenty-eight

months for the latent and late stages. Highly resistant cases in infants are found only in about 8 per cent., in the latent stage in 15 per cent., and in the late stage in 34.5 per cent. This estimate is founded on the results obtained in treating 270 cases during the last eleven years. Morgan adds that some cases will become Wassermann-negative even if treatment is incomplete, and he has collected evidence that the time factor is of importance in the production of such a negative reaction.

97 Recovery from Pneumococcal Meningitis

R. BHAGEERUTTY (*Thèse de Paris*, 1930, No. 377), who records nine illustrative cases, including that recently reported by H. Stoessiger (*Epitome*, June 7th, 1930, para. 521) in patients aged from 6 days to 38 years, states that, though pneumococcal meningitis is almost always fatal, recovery may sometimes ensue owing to the following bacteriological and therapeutical factors. There may be an attenuated form in which only a small number of pneumococci are present, and the cerebro-spinal fluid is clear. Serum treatment is occasionally successful. Repeated lumbar puncture may diminish the tension of the cerebro-spinal fluid, and help to expel the micro-organisms and their toxins. The organic resistance of the patient is probably the chief cause of recovery.

Surgery

98 Osteomyelitis Treated by the "Orr" Method

I. E. DEIBERT (*Annals of Surgery*, December, 1930, p. 1087) reviews 100 cases of acute and chronic osteomyelitis and compound fractures treated by the "Orr" method; 37 were acute, 57 chronic, and 6 compound fractures. The age incidence was from 1 to 47 years, and every bone in the body was included in the series with the exception of the skull. It was found that the predominating organisms were the *Staphylococcus aureus* and *albus* with an occasional *Streptococcus haemolyticus*. Orr's operative treatment consists in the making of a fairly large incision over the infected bone area and the spreading apart of the skin, muscles, fasciae, and periosteum to afford sufficient access. A window is chiselled into the diseased area to provide drainage; dead bone is removed, and the infected parts are cleaned gently with a curette. The wound is dried and wiped out with 10 per cent. tincture of iodine and then 95 per cent. alcohol; it is packed wide open with sterile paraffin gauze, and covered with a sterile pad and bandage. A plastic bandage or splint is applied to immobilize the parts and keep them in a correct position. No dressing of the wound is undertaken for several weeks unless there are signs of acute sepsis or because of the odour. The average time for changing the plaster case and dressing was from three to five weeks. In the cases under review there were six deaths from acute osteomyelitis in children for whom treatment had been delayed, but in the remaining cases 75 per cent. of the patients are clinically well. It was found that the wound healed more quickly than by other methods of treatment, the bony defects were fewer, and the subsequent sequestration and secondary operations were lessened. The closed plaster bandage reduced the liability to secondary or mixed infection, and no case of ankylosis of adjacent joints was seen. It was found to be the type of treatment most comfortable for the patient.

99 Diagnosis of Tumours involving the Spinal Cord

From his experience of 300 cases at the Mayo Clinic H. W. WOLTMAN (*Journ. Amer. Med. Assoc.*, November 8th, 1930, p. 1398) states that pain is the first symptom in 80 per cent. of cases of tumours involving the spinal cord. This pain is commonly referred along the segmental distribution of a posterior root; it is frequently of a squeezing or piercing nature, suggesting thoracic or abdominal disease. The segmental distribution of pain is circumferential in the trunk and lengthwise in the limbs. As the tumours grow, the involvement of neighbouring roots affords a guide to the direction of the extension; thus a unilateral sciatica may become bilateral. Pain is increased by any action, such as sneezing, which increases the tension of the cerebro-spinal fluid. Root pains commonly wake a patient between 3 and 4 a.m., and relief is obtained by sitting up or sleeping in a chair, whereby a relative shortening of the spinal cord is effected. The exacerbation caused by flexing the head on the thorax is a valuable diagnostic sign; it is due to traction on the cord. Disturbances of motility and sensibility, and of sphincter control, have a lesser value as localizing signs. High cervical tumours may be associated with sensory disturbances affecting the lower limbs only, and the exposed situation of the decussating pyramidal tracts may lead to a quadriplegia unassociated with such disturbances. Involvement of the descending root of the fifth nerve may cause facial sensory change and, because of the proximity to the foramen magnum, to signs suggesting cranial tumour. Manometric readings of the cerebro-spinal fluid, and their variation when pressure is made on the jugular vein, are much influenced by the obstructive effects of tumours; the fluid itself undergoes changes in colour and chemical composition below the site of the growth. *X* rays are valuable in excluding secondary tumours in bone and primary bone disease, but Woltman has found lipiodol of little service in difficult cases. Among other conditions from which differential diagnosis must be made are multiple sclerosis, retroperitoneal and mediastinal tumours (especially aneurysms), and tabes with associated root pains.

100 Tuberculosis of the Urinary Tract

B. A. THOMAS (*Amer. Journ. Surg.*, November, 1930, p. 308) states that urinary tuberculosis is most often primary in the kidney, is most common in the third, fourth, and fifth decades of life, and occurs about four times as often in males as in females. The right kidney was affected three times as frequently as the left in cases of unilateral disease, the infection almost always arising as a haematogenous infection. Diagnosis must depend not only on the clinical symptoms, but upon bacteriological examination in conjunction with radiography and cystoscopy. It is of the greatest importance that a correct diagnosis should be made before the opposite kidney has become infected. Ureteral catheterization is to be avoided, since this may cause the infection of the other kidney. Treatment of urinary tuberculosis must be both operative and palliative. Early nephrectomy with partial ureterectomy or aseptic nephro-ureterectomy is the procedure of choice in cases of unilateral renal tuberculosis. Spinal anaesthesia, nitrous oxide gas, and ethylene have proved the most satisfactory forms of anaesthesia. In certain operable cases of bilateral involvement, preliminary antituberculous treatment is necessary, and also as a post-operative procedure after nephrectomy. The operative mortality is slight, and a complete cure occurs in about 60 per cent. of cases.

101 Gastric Evacuation

According to Goetze, emptying of the stomach is not brought about by peristalsis, but by a general contraction (systole) of the whole organ, aided by the hydrostatic pressure of the fluid therein, the action being similar to that of emptying the urinary bladder; the cardia closes, the pyloric sphincter relaxes, and the muscular wall contracts. The gastric musculature also has the power of contracting round its contents (peristole) so that, no matter how full or empty, there is always sufficient tone to exert a fairly constant pressure on the contained fluid. In order to confirm this theory in the human stomach, K. H. SCHMIDT (*Deut. Zeit. f. Chir.*, November, 1930, p. 192) has estimated the pressure in different parts of the stomach by passing one thick-walled rubber tube into the antrum, and another into the fundus at the same time, after partly filling the stomach with a thin barium mixture. The level of the fluid in the tubes represents the pressure in that part of the stomach, and is demonstrated by *x* rays. By connecting the upper ends of the tubes to Marey's tambours, and thence to a kymograph,

variations in pressure can be recorded. Schmidt finds that the normal intragastric pressure is from 2 to 25 cm. of water, and consists of the hydrostatic pressure together with the pressure due to the tone of the muscle wall. Differences of pressure in different parts of the stomach are due solely to the level of the tubes in the fluid—that is, to hydrostatic pressure—the active pressure due to the stomach wall being the same all over the organ. A general increase of pressure precedes emptying of the contents through the pylorus. Peristaltic waves usually follow this increase of pressure, but do not themselves increase the pressure in the stomach. After expulsion of the contents the pressure falls again to normal, even though vigorous peristalsis may continue. The fundus probably plays a more important part in this emptying mechanism than the antrum. The erroneous view that peristalsis caused expulsion of the stomach contents has been held because the systolic contraction of the stomach is not demonstrable by *x* rays. Actually, peristalsis in the stomach has a purely mixing and triturating action.

102 Artificial Pneumothorax in Pneumonia in Infancy

During the prolonged course of a case of pneumonia in an infant aged 10 months an interlobar effusion was suspected. On exploration some blood-stained serous fluid was removed, but a pneumothorax was accidentally produced. In spite of this, no increase of dyspnoea or other untoward symptom ensued; the temperature actually fell to normal almost at once, and the child made an uninterrupted recovery, although before the pneumothorax the course of the illness had been long and the prognosis had been unfavourable. This observation led J. DUKEN (*Klin. Woch.*, November 22nd, 1930, p. 2195) to treat seven other cases by producing an artificial pneumothorax on the affected side. In most of these there was similar improvement, though it was found that several refills might be necessary before the temperature returned to normal. In no case was there any untoward symptom which could be ascribed to the introduction of the air. Duken points out that in pneumonia the affected part of the lung, being less active, occupies a smaller space than the normal. In the adult the other lobes undergo a compensatory emphysema, but in the child, owing to the relatively rich interstitial tissue, this compensation is not so complete. The mediastinum tends to be drawn towards the affected side, and the pneumonic lung takes more than its share of blood supply. Both these facts can be demonstrated radiologically. The induction of artificial pneumothorax, by diverting more of the blood to the healthy side (in consequence of the pressure alterations), will actually improve cyanosis in children suffering from severe unilateral pneumonia, and the author has used it for this purpose with considerable success. The cases have been very carefully selected, the indications being: (1) protracted course of pneumonia without response to conservative therapy, (2) marked cyanosis, and (3) anticipation of the development of bronchiectasis. Pneumothorax should not be induced if there is pneumonia or bronchitis in the other lung. J. JAHR and R. NEUMANN (ibid., p. 2200) have used the same treatment in five cases and record similar results.

103 Idiopathic Dilatation of the Oesophagus

F. A. C. SCRIMGER (*Arch. of Surg.*, Part II, December, 1930, p. 1315) describes idiopathic dilatation of the oesophagus, cardiospasm, or achalasia cardia as being second only to cancer in frequency of diseases of the oesophagus. Idiopathic dilatation occurs most often in the thoracic portion, and signifies a diffuse enlargement of the lumen of the oesophagus; the abdominal portion below the diaphragm is not dilated, but is usually thickened and contracted. The oesophagus is also elongated, and may measure up to 46 cm.; it may contain from 1,500 to 2,000 c.cm. of fluid. The wall becomes thickened, and the mucosa frequently inflamed, friable, or ulcerated. It is suggested that the disease is secondary to degenerative changes in the vagi, the closure of the cardia being due to the normal tone acting without nerve control. The condition usually develops before the age of 40; the onset may be sudden and progression intermittent, the chief symptom being difficulty in swallowing and the regurgitation of large quantities of frothy food mixed with saliva. Two cases are reported in which extramucosal oesophagoplasty was performed; in one of these the patient made a good recovery, with satisfactory results a year after operation; in the other case the patient died from a mediastinal infection. In a third case, operation consisted in the exposure of the cardiac end of the stomach through a Marwedel incision, the cutting of the coronary ligament of the liver, and the turning downward and to the right of the left lobe of the liver, thus exposing the cardiac end of the stomach and the subdiaphragmatic portion of the oesophagus. An incision was then made forward through the crura of the diaphragm, the dilated portion of the oesophagus being brought through the opening for at least an inch. This operative procedure avoided the danger of tearing the oesophagus; a risky suture is obviated. In the case so treated recovery was smooth, and soft food could be swallowed after the usual lapse of time.

Therapeutics

104 Antimony in Therapeutics

Though antimony has fallen more or less into disuse in medicine, C. N. MYERS and B. THRONE (*Journ. Lab. and Clin. Med.*, December, 1930, p. 239) show from a history of the drug that it has been a most valuable remedy in the treatment of disease. Particular study has been made of a preparation (M 303) which is composed of both arsenic and antimony; in it one molecule of nitro-hydroxy-phenyl-arsenic acid is reduced with one of nitro-hydroxy-phenyl-stibinic acid, the resulting compound containing the two salts, each in the trivalent condition. This compound, known as the base, is insoluble in ordinary solvents; treated with hydrochloride acid, a soluble preparation is obtained when the hydrochloride solution is precipitated from ether. In this product the favourable ratio between the toxic and the therapeutic dose renders it more satisfactory than any drug now available. Administered intravenously, its action in the treatment of syphilis and leprosy has indicated markedly its value in diseases due to protozoal infections.

105 Fruit Treatment of Diarrhoea in Children

The good results obtained in cases of coeliac disease treated with fruit diet induced FANCONI (*Deut. med. Woch.*, November 14th, 1930, p. 1949) to try the effects of a similar diet in the acute, subacute, and chronic diarrhoeas of children over 1 year old. In the earlier cases the improvement, though marked, was only temporary, the return to ordinary diet being followed by a recurrence of diarrhoeic stools. This was, however, subsequently avoided by the addition of whole milk, cereals, and sugar to the fruit diet very gradually during convalescence. For the first day or two after admission to hospital the children with acute enteritis were given raw fruit only, either fruit juice (orange or bilberry) or mashed bananas; grated apple was sometimes used in conjunction with or instead of the banana. The appetite, general condition, and stools of the children improved rapidly. Unsweetened buttermilk or almond milk (prepared by mixing an almond meal with warm water) was then added to the diet, the next step being the administration of small quantities of potato purée and sieved steamed vegetables. Milk curd or protein almond milk was included towards the end of the first week, and sour whole milk was gradually substituted for the buttermilk during the second week; crusts and rusks or other cereal foods were also gradually introduced again in small amounts about this time. In the milder cases the diet in which fruit preponderated was continued for a fortnight; in the more severe and the recurrent forms of colitis the fruit and vegetable diet, with the addition of liver, meat, egg-yolk, and milk products, has been continued for months, and in coeliac disease even for years, with beneficial results. The

stools may remain bulky during the treatment because of the large proportion of cellulose in the diet; this, however, does not retard recovery. The temporary loss of weight which occurs during the first few days is due to the low salt content of the diet.

106 Sodium Amytal in Neuro-psychiatric Conditions

W. J. BLECKWENN (*Journ. Amer. Med. Assoc.*, October 18th, 1930, p. 1168) defines narcosis as deep sleep or unconsciousness, more or less prolonged, and rapidly induced by drugs—a condition similar to surgical anaesthesia but not so profound. He has found its induction a most valuable procedure in many neuro-psychiatric states, such as various types of excitement and benign depression, katatonia of the stuporous, cataleptic, and negativistic forms, and in various convulsive conditions (status epilepticus, eclampsia, and tetany). Periodically induced narcosis in these cases simplifies their management and materially shortens the illness; to obtain this effect sodium amytal administration is advocated. Since deep anaesthesia is not desired, the technique differs from that used in surgical anaesthesia. The patient should have no food for four to six hours preceding the administration. The drug is freshly dissolved in water which has been distilled three times, and a 5 per cent. solution is made, each cubic centimetre thus containing 0.75 grain of the drug. The solution is injected intravenously at a rate not exceeding 1 c.cm. per minute. The initial dosage varies with different cases; for neuro-psychiatric patients it is said to be quite safe to give 2 c.cm. more than is necessary to produce corneal anaesthesia. The average patient will thus receive between 7 and 15 grains, or approximately half the amount used for surgical anaesthesia. If given intramuscularly the dose is increased, and the solution is more concentrated. From 2 to 5 c.cm. (10 to 20 grains) of a 20 per cent. solution is given. This narcosis is slower and less profound than that induced by the intravenous method. In mild cases the drug can be given orally in 3 to 6 grain doses; it takes 45 minutes to act by this method, and is effective as a hypnotic in the less severe types, but is useless in disturbed or violent cases. The patient must always be watched from the time of the administration of the drug until the initial narcosis has worn off, because of the danger of aspiration of vomited matter and the possibilities of suffocation. During more than a year Bleckwenn has given over 2,000 injections in 184 cases. He is impressed by the fact that the drug can be used daily over long periods without any untoward reactions. If the method described is followed, the reactions of greatly lowered blood pressure and shallow respirations are avoided. Sodium amytal, it is added, should be used with caution in cases of advanced arterio-sclerosis.

107 Injection Treatment of Paget's Disease

P. DELMAS-MARSALET (*Journ. Méd. de Bordeaux*, November 30th, 1930, p. 900) records the case of a man, aged 60, who on March 27th reported increase in the size of the head, bowing of the lower limbs, loss of teeth, dyspnoea on exertion, violent headaches, muscular cramps, and blanching of the fingers which had lasted for years. With the usual bony changes of Paget's disease there was a prolonged systolic bruit, and the arteries were markedly sclerosed. Radiological examination showed typical thickening and a flocculation of the cranial wall, and the sella turcica was irregularly enlarged; the femora were broadened and bowed, the medullary canal was enlarged, and the femoral arteries were calcified. For three months 50 drops were given daily of a solution of irradiated ergosterol and 60 intragluteal injections of calcium gluconate. Irrasterine was then combined with the calcium preparation and also calcium chloride. The treatment represented a total of 78 grams of calcium gluconate, 33 grams of calcium chloride, and 0.63 gram of irradiated ergosterol. During treatment the cranium did not increase in size, and the headaches, cramps, and blanching of the fingers nearly disappeared, but the blood pressure was unaltered. Radiological examination in June showed evidence of cranial recalcification; the inner table was reconstituted throughout practically its entire extent, though the outer table was still flocculent in appearance. In September the inner table was found to be entirely reconstituted, while the outer table could be delimited throughout its whole extent. Calcification of the falx cerebri in the subethmoidal region was now apparent, and this was considered an indication for the cessation of treatment. Recalcification similar to that in the cranium was noted in the femora, but there was no increase of calcification of the femoral arteries. The author observes that the pathological anatomy of Paget's disease shows a double process of resorption and new formation of bone; he inclines, however, to the view that decalcification is the fundamental change.

Laryngology and Otology

108 Treatment of Vasomotor Rhinitis by Sclerosing Fluid

RICHIER (*Arch. Internat. de Laryngol., Otol.-Rhinol., et Broncho-Œsoph.*, July–August, 1930, p. 843) reports a method of treatment which he has used in 150 cases of vasomotor rhinitis. The cases for this method must be those of purely congestive rhinitis, and not of the parenchymatous or polypoid variety. The nose must be carefully prepared by antiseptic lotions for one week. The mucous membrane is then completely retracted by cocaine and adrenaline solution, retained for ten minutes, and followed by a further application of adrenaline. Richier employs a 5 per cent. solution of the double hydrochloride of quinine and urea. The injection is made by three punctures into the internal surface of the inferior turbinate, and two punctures into the inferior surface. It is essential that the injection should enter deep into the erectile tissue, since otherwise sloughing may result. Richier as a rule requires 5 c.cm. of solution to inject both turbinates. The patients usually complain of a little pain in the nose and face following this treatment, and occasionally temporary deafness (quinine) is observed. A spray of adrenaline and cocaine is ordered daily for one week, after which no further treatment is needed. The author claims that this method is vastly superior to the classical treatment by the galvano-cautery, which requires many applications and is inconstant in its action, and, furthermore, often results in the formation of troublesome adhesions between the turbinates and septum.

109 Treatment of Infected Tonsils by Diathermy

DAUDIN-CLAVAUD (*Rev. de Laryngol., d'Otol. et de Rhinol.*, October, 1930, p. 605) commends diathermy for the treatment of small and medium-sized infected tonsils, and in those patients who object to removal, but who have tonsils which exude pus or caseous material on pressure. He describes two main tonsillar crypts, a superior and an inferior, both of which spring from one superficial sinus. All other crypts are small and secondary, and lead out of these two major crypts. Bipolar diathermy is used, one electrode being placed in the crypt, and the other moved over the surface of the tonsil. In this way all the tonsillar tissue between the surface of the tonsil and the depth of the crypts is destroyed; when healing is complete, the crypts have ceased to exist, and the retention of pus or infected material is rendered impossible. The tonsils and faucial pillars having been painted with Bonain's solution, the cotton-covered right-angled applicators are moistened with the solution, and are introduced into the two major crypts. Entirely satisfactory anaesthesia can be obtained in this way, and peritonsillar injection of anaesthetic solution is unnecessary. An electrode in the form of a right-angled blunt hook is then inserted to the bottom of the inferior major crypt, and coagulation is effected by a movable electrode; this is placed first at the most posterior part of the tonsil, conducted round the inferior portion, and brought finally to a point immediately over the stationary electrode. The blunt hook is then moved to the superior major crypt, and the superior portion of the tonsil is coagulated similarly. One session is usually sufficient. There is

often some pain after the operation, but always less than after complete tonsillectomy. The author has had some cases of secondary haemorrhage on the fifth day, but these caused no anxiety.

110 Primary Carcinoma of the Trachea

F. A. FIGI (*Arch. of Otolaryngol.*, October, 1930, p. 446) reviews the incidence of primary carcinoma of the trachea at the Mayo Clinic since 1918. Although 470 cases of laryngeal cancer were seen, there were only five tracheal cases. These five patients ranged in age from 29 to 77 years; three were women. Carcinoma secondarily invading the trachea is a much more frequent lesion. The symptoms may develop insidiously, or may appear abruptly following an acute infection of the upper air passages. There are paroxysms of coughing, and dyspnoea which at first is only present on exertion but later becomes extreme, being generally both expiratory and inspiratory. Small clots of blood may be coughed up, but acute haemorrhage is usually of late occurrence. Hoarseness is most commonly a late symptom, and is due to the involvement of the recurrent laryngeal nerve. There is as a rule very little loss of weight. The clinical course is rapid, the duration being a few weeks to a few months. Death is due to respiratory obstruction, pneumonia, or haemorrhage. Metastases develop late or not at all. Histological examination of the tumours recorded in the literature demonstrates glandular carcinoma as the most common type of growth. Squamous-celled carcinoma was found, however, in three of the five cases at the Mayo Clinic. The diagnosis is made by indirect laryngoscopy or by bronchoscopic examination of the trachea, and the author points out that all cases of dyspnoea, when physical and *x*-ray examinations of the thorax are negative, should be subjected to bronchoscopy. The prognosis is unfavourable in the upper portion and practically hopeless in the lower part of the trachea. The treatment suggested is tracheofissure and removal of the growth by surgical diathermy, followed by intensive radium treatment of the lymphatic area.

Obstetrics and Gynaecology

111 Heart Disease in Pregnancy

Discussing pregnancy in the cardiac patient, W. D. REID (*Journ. Amer. Med. Assoc.*, November 15th, 1930, p. 1468) points out that the diagnosis of heart disease in patients under the age of 40 is rarely justifiable without one or more reliable signs; in the elderly the reverse is true. Most pregnant women are younger than 40. The first essential in these is an accurate diagnosis of the cardiac condition, since organic cardiac disease is found to be absent in many pregnant women who have suspicious symptoms. Cardiac disease, if present, is nearly always a rheumatic manifestation. The average age at death of this class of patients is 35.5 years. Statistics show that the average age of death was 42.4 years for married women with heart disease, and 47.2 years for unmarried women. The average number of children of married women in the group which was analysed was 5.75. The mortality from cardiac disease in pregnancy is but slightly greater than that of other cardiac patients of similar age. Probably 90 per cent. or more of cardiac patients survive pregnancy and parturition. Reid concludes that married women with rheumatic heart disease die before their time because of the natural evolution of this disease rather than of child-bearing. This, he adds, should be considered when advising cardiac patients regarding marriage and pregnancy. G. HERMANN and E. L. KING (ibid., p. 1472) emphasize the importance of repeated electrocardiographic studies in pregnant women the subjects of heart disease, and records 24 cases, which are grouped in the order of their severity and various complications. The serious significance of bundle branch block, and the hopeful possibility of its temporary, transient nature, are demonstrated. Auriculo-ventricular block, fibrillation, and the less serious abnormalities and their effect in the cardiac function are also discussed. The state of the heart muscle is of the utmost significance. Alleviation of congestive heart failure before permitting labour or surgical delivery to proceed is necessary for success. Ether was found to predispose to fatal pulmonary oedema in patients with the lung congestion of mitral stenosis. Of the general anaesthetics ethylene is the first choice as regards the cardiac condition, but local anaesthesia is much the safest. Acute rheumatic endocarditis occurring during pregnancy responded to treatment, and subsided as in non-pregnant cases. Extensive and usually fatal pulmonary thrombosis is shown to occur relatively frequently in instances of serious idiopathic myocardial degenerative changes.

112 The Anterior Lobe of the Pituitary and the Ovary

E. PHILIPP (*Zentralbl. f. Gynäk.*, December 6th, 1930, p. 3076) endeavours to correlate the histological structure of the anterior lobe of the hypophysis at various ages, during pregnancy and after castration, with its hormonal activity on the ovary as shown by implantation experiments in immature female mice. The prehypophysis of non-gravid mature human females gives a well-marked prolan reaction (Zondek and Aschheim) of Grades I, II, and III; it is specially rich in chromophilic cells. After castration the prehypophysis contains increased numbers of eosinophil cells, and its implantation produces a specially well-marked prolan A effect (Grade I reaction). Implantation of the foetal prehypophysis, or that of the newborn infant, the mostly undifferentiated cells of which contain a few eosinophils, gives occasionally a slight Grade I reaction. The prehypophysis of older children, which contains more numerous chromophils, causes a well-marked Grade I reaction. In these, as in castrated subjects, prolan A is demonstrable in the urine. According to Philipp's view the pregnancy reaction of Zondek and Aschheim is due to the presence in the urine of a hormone not derived from the prehypophysis but from the chorion. He thinks that the only instance of the "pregnancy reaction" of the urine being due to a prehypophyseal hormone is that of women after castration.

113 Surgical Treatment of Placenta Praevia

TURENNE (*Gynécol. et Obstét.*, October, 1930, p. 289) summarizes the advantages of Caesarean section in the treatment of placenta praevia. The technique is familiar and within the power of those possessing general surgical experience; the operation is very speedy and gives good visual access. It follows that the foetal as well as the maternal risk is lessened, and that quick and complete delivery of the placenta is assured. Treatment by arterial ligature or by hysterectomy is easily undertaken if uterine inertia complicates the section. Tears of the cervix and lower uterine segment, which frequently contribute to a fatal termination, are avoided. The disadvantage of Caesarean section is the risk of infection; this is greatly diminished by early operation. In appropriate cases a low Caesarean or Portes's operation should be performed. The following are among the conclusions which have been unanimously adopted in Uruguay. Cases of placenta praevia should be sent to hospital as soon as they are diagnosed. Delivery through the vagina should be restricted to cases in which the placenta is comparatively remote from the internal os, and to cases well advanced in labour in which cervical, placental, or foetal injury is improbable. Caesarean section is indicated (1) whenever, with little or no cervical dilatation, the placenta can be felt, even if little or no bleeding is present; (2) in cases with well-dilated cervix, with the placenta in the area of the internal os, and with considerable actual or recent haemorrhage or any degree of persistent haemorrhage; and (3) when after persistent or repeated haemorrhage clinical examination reveals thickening of the lower uterine segment and malaccommodation of the presenting part. When an abdominal intervention is planned no vaginal examination or manœuvre should be made. With few exceptions, and in every case in which infection is suspected or certain, a Mikulicz drain should be used at the end of the operation.

114 Therapeutic Use of the Reflex Action of the Round Ligament

F. IMIANITOFF (*La Gynécol.*, November, 1930, p. 652) gives an account of the therapeutic employment of the reflex action of the round ligament. He has found that a course of stimulation of this reflex is of great value in the treatment of retroversions, chronic metritis, subinvolutions, tubo-ovarian congestion, and inflammation of the gland of Douglas. The particular reflex present in the round ligament is of sympathetic origin, and is provoked by stimulation of the periphery of the pubic hairs, or the internal aspect of the thighs. A high-frequency current is considered the most appropriate stimulus. The reflex acts by producing a contraction of the smooth muscle fibres of the round ligament. Since these are in direct continuity with the fibres of the uterine wall, a slow and generalized contraction is instigated, causing erection of the uterus and pulling it forwards. The repeated stimulation of the ligamentary reflex has a tonic effect on the genital apparatus, resulting in the re-education of the uterine band. This stimulation is accompanied by hyperaemia of the pelvic basin. Contra-indications are acute and subacute inflammations, adhesions, large tumours, malignant tumours, and the latter half of pregnancy. The author records results of 135 cases treated in this manner. He cured thus 42 out of 60 cases of retroversion; 24 of 32 cases of congestive dysmenorrhoea; 10 of 14 subinvolutions; while of 17 cases of tubo-ovarian congestion, 3 were cured, 10 alleviated, and 4 were unrelieved.

Pathology

115 Enumeration of Blood Platelets

I. OLEF (*Arch. Int. Med.*, October, 1930, p. 585) describes an improved method for the enumeration of blood platelets; he finds that the most satisfactory preserving fluid is a solution containing 2 grams of sodium metaphosphate and 0.9 gram of sodium chloride in 100 c.cm. of distilled water. It is essential to avoid all contact between the undiluted blood and any surface to which platelets tend to adhere, and pipettes and counting chamber are discarded. A drop of blood freshly drawn from the skin after washing with soap and water and alcohol and ether, pressure being avoided, is allowed to fall into a small paraffin cup containing some of the diluting fluid, to form about 1 in 10 dilution; this is stirred with a wooden applicator coated with paraffin, and a few drops of the mixture are transferred to a cleaned glass slide, covered with a cover-slip, and sealed. The platelets and red cells are counted in random fields taken in different parts of the specimen until 250 to 500 cells (in each of two preparations) have been seen. A red cell count is then made in the usual manner, and the absolute number of platelets per cubic centimetre is determined. The results obtained are higher than those of previous similar methods, the maximum in Olef's series being 1,108,000 per c.mm. and the minimum 407,000; the average for males was 650,000, and for females 587,000. It was noted that when the platelet count is below 500,000 per c.mm. the platelets tend to be large.

116 Renal Innervation

A. M. DOGLIOTTI and M. MAIRANO (*Arch. Ital. di Chir.*, September, 1930, p. 109) discuss the innervation of the kidney and the effects of section of the nerves and decapsulation. They describe the anatomy and functions of the renal nerves, and found by experimental investigations on dogs that partial interruption of the nerves going to the kidney is sufficient to relieve pain. As regards the vasomotor function of these nerves, they found both vaso-constrictor and vaso-dilator fibres present, the latter in small numbers. After section, regeneration was completed in the nerves, tested anatomically and functionally, in four to six months. The results of complete resection and of simple sympathectomy of the periarterial branches are also discussed. The effects of decapsulation were studied in 23 cases; the capsule was rapidly replaced, and was already evident after six to eight days. The new capsule was less elastic and the normal transcapsular anastomosis was destroyed, but a few days later vessels which could be injected were present, and for a short period afterwards there was an increase in the circulation in the kidney. Functionally, an improvement was observed similar to that seen after periarterial sympathectomy. An extensive bibliography is appended.

117 Increase in Virulence of the B.C.G. Strain

P. UHLENHUTH and W. SEIFFERT (*Zeit. f. Immunitäts.*, December 23rd, 1930, p. 187) conducted virulence tests on two strains of tubercle bacilli that had been isolated in 1902. One of these, Tb.18, was of bovine, the other, Tb.1, of human origin. In repeated tests on rabbits and guinea-pigs during the years 1926-30 these two cultures proved to be relatively avirulent, showing, if anything, a slight progressive fall with advancing time. In spite, however, of their relative avirulence to the majority of animals, occasional guinea-pigs inoculated developed severe generalized tuberculosis. Passage experiments, using material from these animals, proved negative, and the authors concluded that these exceptional results were due to a peculiarly high susceptibility of the individual animals, and not to an increase in the virulence of the organisms. In one experiment, however, an apparent rise in virulence to guinea-pigs did occur. Four rabbits were inoculated with Tb.18, and though scarcely any lesions resulted, the organs of these animals set up fairly severe tuberculosis in a number of guinea-pigs inoculated with them. From this the authors conclude that a bovine strain which partially regains its virulence may behave not unlike a human strain, being virulent for guinea-pigs but not for rabbits. Of even greater interest were experiments made with the B.C.G. strain. Seven guinea-pigs were inoculated intraperitoneally with 5 mg. of culture. After 14 months one of these animals died of severe generalized tuberculosis. Cultures were prepared from the organs, and 1/10 to 1/100 mg. were inoculated into ten fresh guinea-pigs; all these animals died in seven to ten weeks from severe generalized tuberculosis. Similarly, three rabbits inoculated with culture or with tissue died in three months with severe generalized tuberculosis. It is suggested, therefore, that under certain conditions the B.C.G. strain may revert to the fully virulent condition.

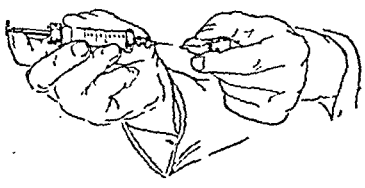
118 Anaerobic Blood Culture by the Boëz Method

By means of the anaerobic blood culture by the Boëz method Dr. M. STOLZOVÁ-SUTORISOVÁ (*Bratislavské Lekárske Listy*, November, 1930, p. 594) states that he has been able to recover pathogenic microbes in 27 out of 29 cases of sepsis. As a control the cultivation of the organisms in the same cases by means of the usual broth-glucose method succeeded in only 10 cases. The Boëz method, which was originally described in the *C. R. Soc. de Biologie*, 1924, allows the simultaneous cultivation of both aerobic and anaerobic forms. At the same time the bactericidal properties of the blood are destroyed by the addition of acid citrate (which lowers the *p*H) to the venous blood. Another advantage is the possibility of transporting the blood to a distant laboratory without destroying the microbes.

119 Local Vascular Changes in Splenic Anaemia

J. MCMICHAEL (*Edin. Med. Journ.*, January, 1931, p. 1) defines three distinct groups of local vascular changes in splenic anaemia—namely, hyaline changes, splenic phlebitis, and the appearance of the siderotic nodule. The first is said to be common after the age of 10, and is associated with lymphoid involution changes; it has no pathological significance. Splenic endophlebitis is probably determined by raised portal blood pressure, the calcification and thrombosis being secondary phenomena. The siderotic nodules result from periarterial haemorrhages due to the congestion of the spleen rupturing the ellipsoidal capillaries. In cases of hepato-lienal fibrosis there was found a constant relation between these nodules and haematemesis, and the author attributes both to the increased portal blood pressure.

Calcium is not absorbed in the absence of vitamin D



Fundamental relationship between calcium metabolism and vitamin D is to-day an established fact. The availability of "Ostelin" vitamin D in a colloidal solution makes it possible to combine the hypodermic administration of calcium and vitamin D

Indications

All vasomotor disturbances of the capillary vasomotor system, such as *chilblains, chilblain circulation,* urticaria and angio-neurotic œdema; also in delayed union of fractures, and in the severe nutritional failure encountered in tuberculosis and other debilitating diseases.

"Colloidal Calcium with Ostelin" vitamin D is also useful in the treatment of the patchy areas of congestion and breaking down of the skin in the lower leg from varicose veins. It may be used with benefit in the palliation of varicose ulcers, and it appears to have a definitely beneficial effect in promoting better capillary circulation and healing.

Administration

By injection subcutaneously. One injection every 3, 5, or 7 days. When the condition to be treated is severe or urgent, one injection daily for several days.

COLLOIDAL CALCIUM *with* OSTELIN VITAMIN D

Prices:

1 c.c. ampoules, six in a case	....	5/-
In rubber-capped bottles (1 oz.)	....	10/-

GLAXO LABORATORIES, 56, OSNABURGH STREET, LONDON, N.W.1.

EVERY MATERNITY CALL

serves to emphasize the necessity for the provision of

FOR ACCOUCHEMENT

Drums Nos.
12 29 30 33
and 48
Prices from 26/- up.

STERILIZED
ACCOUCHEMENT DRESSINGS
(In Hermetically Sealed Drums)
Made by JOHN BELL & CROYDEN
The Originators of Dressings in Sealed Drums

ALWAYS READY

600 Drums
Always
in
Stock.

DAY and night, year in, year out, the insistent demand for Sterilized Dressings. Throughout each 24 hours a trained staff is ready for quick dispatch. The demand increases, as necessity is recognised.

EVERY Sterilized Outfit carries the JOHN BELL & CROYDEN Guarantee. Each contain Quality Dressings, sterilized in High Pressure Autoclaves, dried in vacuo, and sealed under Hygienic Conditions.

Surgeons' own assortments of Dressings Sterilized at short notice.

Pocket Edition of Dressings List Free on Application.

Telephone: WELBECK 5555 (12 lines).

JOHN BELL & CROYDEN

Telegrams: INSTRUMENTS, WESDO, LONDON.

50-52, WIGMORE STREET, LONDON, W.1.

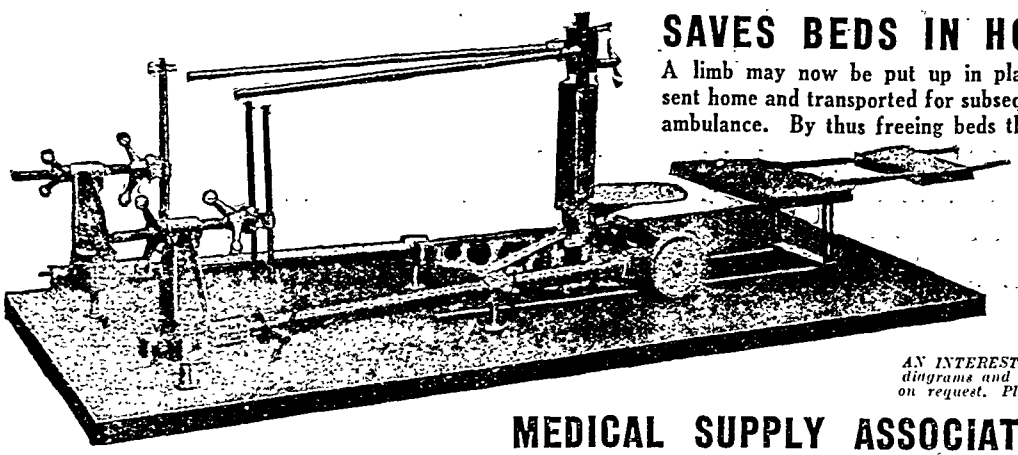
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

167/185, Gray's Inn Road, LONDON, W.C.1. — 12, Holly Street, SHEFFIELD. — 10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines).

Saltair Surgical Service

SALT'S PATENT GASTROPTOSIS BELT

SURGICAL SERVICE SALTAIR

Fig. A shows slightly dilated and much dropped stomach radiographed in the upright position immediately after partaking of a barium (6 oz.) "Umbrose" meal. The greater curvature projects 3½" below a line drawn between the iliac crests.

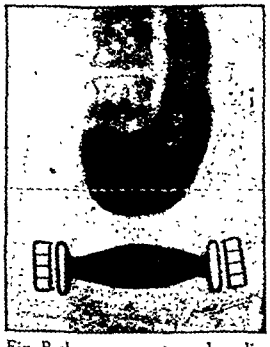
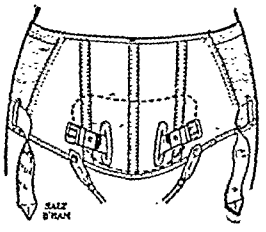


Fig. B shows same stomach radiographed 15 mins. later, the patient having lain upon a couch, the bottom feet of which were raised 9". The Belt was then applied, the patient allowed to walk about 5 or 6 minutes, and the radiograph taken in upright position.

This Belt was designed by us in co-operation with a well-known X-ray specialist.

The construction is such that the upper part allows of free expansion of the abdomen, whilst the lower part and pads are fixed. The support consists of a metal plate padded with spongy rubber and having transverse springs. On pressure being applied by the springs, the pad sinks into the soft abdominal tissues, so that, on the patient rising, it is impossible for the stomach to drop below the upper margin of the pad.

Every Gastroptosis Belt (or Corset) is made specially for the individual case to the Medical Adviser's prescription, and can be supplied in grades and qualities to meet the needs of all.



Front View.

Fig. A.
Front View of Springs and Pad.

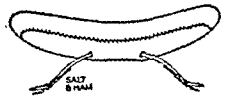


Fig. B.
View from top showing thickness of spongy rubber pad and position of steel springs.

Guarantee

"We guarantee to alter, exchange, or accept the return of any Appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

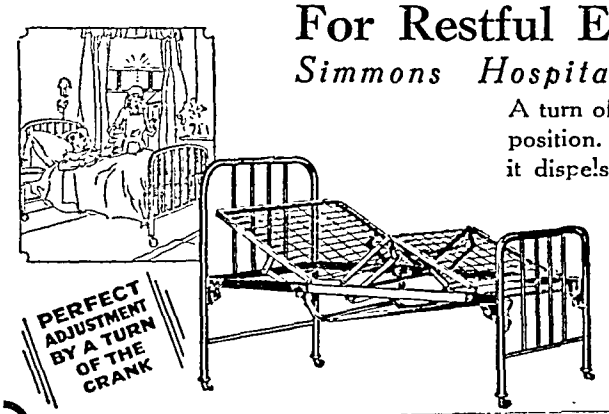
SALT AND SON Ltd.

7, CHERRY ST., BIRMINGHAM

'Phone (B'ham): Mid. 5455. *'Phone (London): Museum 3845.*

London Consulting Rooms:
"OAKLEY HOUSE"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Saturday midday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

NORVIC Reg'd CRÊPE BANDAGES



For Restful Ease or Surgical Positions—

Simmons Hospital Beds are instantly adaptable

A turn of the crank adjusts the Simmons Bed into any desirable position. For convalescents this means maximum repose, for it dispels the necessity of constantly rearranging pillows.

The strong construction of Simmons Beds, and their hygienic qualities, make them invaluable to all Hospitals and Institutions.

SIMMONS

Equipment for Hospitals and Institutions

Write to SIMCO Ltd. (Contract Dept.),
22/28, Shand Street, Tooley Street, Bermondsey,
London, S.E.1.

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported, on the latest, as evidenced by the interest shown at the last B.M.A. Meeting

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS

arranged for Doctors and Patients.
Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

Mr R.H.DENT'S **Ardente** FOR DEAF EARS

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.

309, OXFORD ST., LONDON, W.1.
Tel.: Mayfair 1380/1718.

206, Sauchiehall Street, GLASGOW.
23, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.)

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

'CELLANBAND'

* DESCRIPTIVE LITERATURE is available UPON REQUEST.

SAMPLE BANDAGE 1/- post free

CUXSON, GERRARD & CO. LTD. *OLDBURY, near BIRMINGHAM*

"STERULES" Regd.

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

Telegrams: "MARTINDALE, CHEMIST, LONDON." Telephone: LANGHAM 2440.

Trade "HEPATAGEN" *Mark*

(MIST. HEPATICA CONC. HEWLETT.)

Composition.—Ext. Cascaræ, Ext. Rhei, Jalapin, Podophyllin, Cocainæ Hydrochlor., 1-20th gr. in each fluid drachm.
This preparation does NOT come under the Dangerous Drugs Act.

THIS excellent compound has now become a popular remedy in that class of cases spoken of as Chronic Biliousness, in Catarrhal Jaundice, and in the Jaundice of simple Hepatic Torpor. In passive or habitual Congestion of the Liver, so frequently met with, it has been used with marked benefit.

In the treatment of acute or temporary constipation, frequently met with in the convalescence from acute disease, and in pregnancy or in the constipation due to sedentary habits, the mixture can be prescribed with wonderful effect.

The Dose is from 10 to 60 minims, according to the age and condition of the patient. One drachm is a direct aperient, and is not accompanied by griping or tenesmus.

Packed for Dispensing only in 5-oz.; 10-oz.; 22-oz.; 40-oz; and 90-oz. Bottles. Price in England, 12/6 per pound.
This preparation is also supplied "sine Cocaina," the dose and price remaining the same.

C. J. HEWLETT & SON, Ltd., 35 to 42, CHARLOTTE STREET, LONDON, E.C.2.

PERFECT

TOBACCO

NATURALLY

MATURED

MAKES

Player's Please

10 FOR 6D.

20 FOR 11½D.

Issued by The Imperial Tobacco Co. (of Great Britain and Ireland), Ltd. N.C.C.20

ALLIANCE DRUG & CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C.3.

Telephone: ROYAL 5885.

Tel. Address: "NALTROF," BILGATE, LONDON.

Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulæ as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.

Aurant @ 2/4 lb.
Aurant. Co. @ 2/2 lb
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.
Lassar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Lin. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/8 lb.
Chloroform Pur, 8 lb. @ 3/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero Phosp Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosph. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillae, B.P., 7 lb. @ 8d. lb.
Sennae, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Blaud's (Sugar-coated), gr. 5	... 3/10
Nitroglycerini, B.P., gr. 1-50th ...	... 5/-
Perchloride of Mercury (Coloured)	... 15/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000.	
Thyroid Gland, gr. 5	12/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.

	B.P. Aquos.		B.P. Aquos.
Belladon.	... 4/3	1/6 Hyoscyam.	... 4/3 2/4
Benzoin Co.	... 4/7	— Nucis. Vom.	3/10 1/4
Camph. Co.	... 3/-	1/6 Opii	5/3 4/3
Card. Co.	... 2/6	1/6 Quin. Ammon.	5/3 —
Gentianæ Co.	2/8	1/6 Rhei Co.	... 2/8 1/9

Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichtamolis, B.P.C., 7 lb. @ 1/10 lb
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

* Minimum quantity at these prices: Home Trade 5, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

KOND'S
EUONYMISED COCOA.

Euonymin is the most valuable liver stimulant yielded by the Vegetable Kingdom. Its action, when taken in this form (a most delicious beverage), increases the action of the liver, and is invaluable in stomach disorders, slow digestion, gout, rheumatism, and biliousness. Numberless testimonials over 35 years.

Free sample to Doctors on application.

SOLD IN TINS, 1s. 6d. & 2s. 6d.

From Grocers or Chemists, or from the Wholesale Depôts.

MAY ROBERTS & CO., LTD.,
13, Clerkenwell Road, LONDON, E.C.1.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage; but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 123, Douglas Street, Glasgow, C.2.

NAME PLATES
IN BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

Tycos
MANUFACTURED by SHORT & MASON LTD. WALTHAMSTOW LONDON, E.17.
SPHYGMOMANOMETERS

Write for the
INVALID DELICACY List

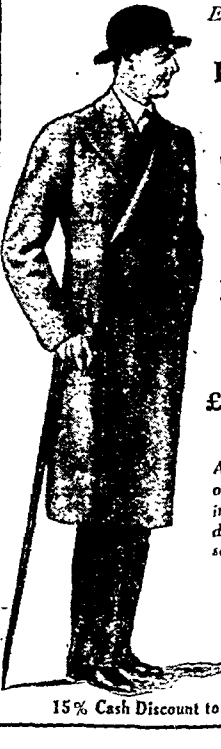
It describes all the delicious specialities that Fortnum & Mason prepare specially to tempt the appetite of delicate people

FORTNUM & MASON

182 Piccadilly, W.1 *Regent 0040*

B. MILLER & CO LTD
17 CONDUIT STREET, BOND STREET, LONDON, W.

Established 1896



LOUNGE SUITS and OVERCOATS *from* **£8 : 8 : 0**

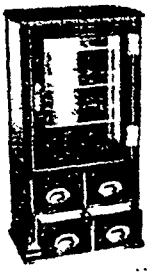
DINNER SUITS Lined Silk *from* **£10 : 10 : 0**

A large selection of materials in the newest designs.—Patterns sent on request.

Convenient terms can be arranged.

15% Cash Discount to Feb. 14th.

A. FLEMING & CO. (Dept. "A"), 39, Victoria Street, LONDON, S.W.1. Tel: Victoria 4677.



CABINET FOR INSTRUMENTS AND DRESSINGS.

Special Government Surplus Offer of Anaesthetic Apparatus

Each of the following sets are guaranteed in perfect order throughout, and the condition of each is practically as new.

STOCKS LIMITED. ORDER AT ONCE TO SECURE.

No. 1.—CLOVER'S ETHER INHALERS: Comprising nickel-plated ether chamber, metal facepiece fitted rubber facepad, ether bag with mount for attaching to ether chamber, and nickel-plated measure. The whole contained in compact mahogany case.

Standard price £4. OUR PRICE 30/- EACH.

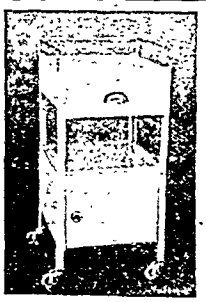
No. 2.—HEWITT'S ETHER INHALERS: Comprising wide bore nickel-plated ether chamber, celluloid facepiece fitted rubber facepad, ether bag with mount for attaching to ether chamber, nickel-plated measure and standard glass ether bottle. The whole contained in morocco cloth covered case.

Standard price £5. OUR PRICE 40/- EACH.

No. 3.—JUNKER'S INHALERS: Consisting of Rigby's Safety Bottle, bellows, face mask with facepad, and Silk's Tube. The whole contained in morocco cloth covered case.

Standard price 55/-. OUR PRICE 35/- EACH.

ALL GOODS SENT ON APPROVAL AGAINST CASH. MONEY RE-[illegible]



INSTRUMENT TABLE AND LOCKER.

BANTAM Coffee

Pure groundless coffee in powder form which dissolves instantly when hot water or milk is added. No preparation is necessary. A little Bantam Coffee added to hot milk makes a very palatable beverage and a welcome change to persons who must take milk regularly. Bantam Coffee is prepared from a blend of selected Empire-grown beans, and has been awarded the Certificate of the Institute of Hygiene. Economical in use. A 2/- tin will yield 50 cups of delicious coffee. From Grocers or Post Free from

DEPT. 30, BANTAM PRODUCTS LTD., BANTAM WORKS, LEEDS.

FOR SUCCESSFUL VACCINATION USE CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens to H.M. the King* 76, NEW BOND STREET, LONDON, W.1

Telephone: Mayfair 4173-4.

'WARDWAY'

The Chair you can wheel upstairs

John Ward, Specialist in Invalid Chairs, respectfully invites members of the Medical Profession to write for the "Wardway Booklet No. 9."

JOHN WARD Ltd

242 7 Tottenham Ct. Rd. London

BURBERRYS SALE

The great annual opportunity to purchase

OVERCOATS, SUITS & WEATHERPROOFS

well-made from the best quality materials, at a little above or below

HALF-PRICE

SALE CATALOGUE detailing thousands of bargains for men, women, and children, sent on mention of "B.M.J."

BURBERRYS LTD. (Dept. 47) HAYMARKET S.W.1

NAME PLATES

FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, *mounted on* mahogany blocks.

Bronze Plates, letters filled with vitreous cream enamel, *mounted on oak* blocks.

With fastenings ready for fixing.

SEND FOR ILLUSTRATED CATALOGUE.

COOKE'S (Finsbury) Ltd. Signs Dept.

FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

BRASS NAME PLATES.

BRONZE PLATES (ENAMEL LETTERS), SKETCH & ESTIMATE UPON REQUEST.

S. J. & A. HERD,

30, CLERKENWELL ROAD, E.C.1.

BARGAINS in USED CARS for Medical Men

1930 WOLSELEY 12 h.p. "Hornet" Saloon; in excellent order . . £135

1929 CITROEN 6-cyl. Sportsman's Coupe, seating 4; good luggage accommodation; practically new condition £110

1929 MORRIS 17/7 h.p. special 6-cyl. 4-door Coachbuilt Saloon. Originally cost £375. Bargain . £155

1928 AUSTIN 6-cyl. 4-door Saloon; carefully used, and in splendid order. Bargain £155

EXCHANGES. DEFERRED TERMS.

MANN EGERTON & Co., Ltd.

156, New Bond St., W.1. Tel.: Gerrard 9060.

Consulting Engineers to Medical Insurance Agency.

A Gentleman Always Looks Well Dressed in Savile Row Clothes.

NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.:—DAVIES & SON, LESLEY & ROBERTS, SCHOLTE, &c. OVERCOATS, LOUNGE, DRESS, SPORTS SUITS, &c., 4 to 8 Gns.

Alterations on Premises.

REGENT DRESS CO., Piccadilly Mansions, 17, Shaftesbury Avenue, Piccadilly Circus, W.1. (Next to Cafe Monico.) Gerrard 7611

Ladies' Department on First Floor.

BRONZE NAME PLATES

Cream enamelled lettering, no cleaning required

BRASS NAME PLATES

Museum 2264. *Send for Book* 18.

F. OSBORNE & Co., Ltd.

27, EASTCASTLE ST., LONDON, W.1.

ANTIQUE AND MODERN
HIGH-CLASS SECOND-HAND
FURNITURE
FOR IMMEDIATE DISPOSAL.

THE ENTIRE VALUABLE CONTENTS OF SEVERAL NOTABLE MANSIONS, Town and Country Residences, Flats, etc., removed for convenience of sale, including many important items from the following collections.

LANSDOWN HOUSE.
THE PRINCESS PALEY (Paley Palace).
SIR FREDERICK CHARLES HOLIDAY (Decd.).
MARY ANNA DUCHESS OF ABERCORN (Decd.).
THE THIRD EARL OF DURHAM (Decd.).

THE MAGNIFICENT BEDROOM APPOINTMENTS comprise: 500 Complete Suites in English Walnut, Finely Figured Mahogany, Cream, Green, and Black Lacquer, Painted and Figured Satinwood, Fine Oak, ranging in price from £4 10s. to 250 Guineas per suite, many of which originally cost over double, including a special offer of 36 only Club Bedroom Suites in Solid Oak, with Bedsteads complete, £4 10s. set.

GENUINE ANTIQUE FOUR-POST BEDSTEADS, Tallboy and shaped front Chests, Sofa Tables, Corner and other Washstands, Toilet Mirrors, and numerous Dressing Tables, Bow-front Wardrobes, etc. Several Fitted Gentlemen's Wardrobes offered at £4 each.

5,000 CARPETS AND RUGS, including fine Persian, Turkey, Wilton, Axminster, Chinese, and Aubusson, including a large salvage stock now being offered at remarkable bargain prices. A quantity of fine Pile Carpet at 2s. 9d. per yard, together with a large number of Seamless Squares in various designs and colourings from 21s. each.

750 SETTEES AND LOUNGE EASY CHAIRS, some covered Morocco Leather, Tapestry, rich Silk, Hide, etc., removed from a large West End Club and Hotel. A large quantity covered Plain Art Repp, all being of excellent quality and in all cases equal to new. Small Lounge Easy Chairs offered at 21s. each, several in Real Hide, £3 3s. each. Large Club Lounge Chairs, £4 17s. 6d. to 12 gns. Well-made softly-sprung Chesterfield Settees, 3 gns.; and a large quantity of Chesterfield Settees with Loose Pillow Backs and Seats, ranging from £7 15s. to 25 gns.

THE MAGNIFICENT DINING ROOMS LOUNGES, LIBRARIES, and HALLS comprise a wonderful collection of all periods, Early Tudor, Queen Anne, Chippendale, Hepplewhite, Adams, and Sheraton, in Oak, Mahogany, and Walnut. Complete Dining Room Suites, comprising Sideboard, Set of Chairs, and Dining Tables, being offered for 10 Guineas set, whilst the more elaborate suites range from 25 Guineas to 300 Guineas. Many of these exquisite sets having cost over treble the price now asked to clear. Special attention is called to a quantity of Cottage Wheelback Chairs offered at 6s. 9d. each.

A LARGE NUMBER OF PIANOFORTES by eminent makers, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, important collection of Statuary, Pictures, Silver and Sheffield Plate, quantity of fine old Cut Glass, Bed and Table Linen, a large quantity of Office Furniture, including Iron Safes, Roll-top Desks, Pedestal Desks, Bookcases, etc., etc.

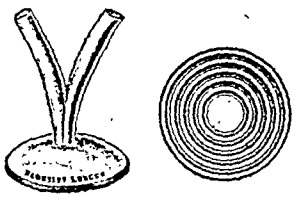
PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F.) POST FREE.

ON SALE DAILY, 9 till 7. Any item may be purchased separately, and can remain warehoused free for 12 months or delivered to any part.

SETTLEMENT OF ACCOUNTS CAN BE ARRANGED TO SUIT CUSTOMER'S CONVENIENCE.

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.
(By Royal Appointment to H.M. the King of Spain.)
PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1.
(Within Ten minutes of West End.)
'Phone: North 3580.

STETHOSCOPES



NEW
'METALLIQUE' CHEST END
(Pat. app. for)

The specially constructed metal *diaphragm is extremely sensitive* and magnifies heart sounds without distortion.

Price, chest end only, 10s. 6d.

Obtainable from all Dealers, or from the Makers: HAWKSLEY & SONS Ltd.

Manufacturers and Importers of
APPARATUS FOR BLOOD DIAGNOSIS
Sphygmomanometers, Haemacytometers, Haemoglobinometers, etc.

Psychological, Anthropometrical, & Experimental Apparatus

Lists post free.

HAWKSLEY & SONS Ltd.
83, Wigmore Street, London, W.1

STUDINGTON

CORRECT EVENING WEAR
THIS important branch of Tailoring is essentially the work of experts.
Care of detail and studied workmanship has built for Studington an enviable reputation for dress wear.

STUDD & MILLINGTON
MAKERS OF BETTER CLOTHES
51, CONDUIT STREET, BOND STREET, W.
67-69, CHANCERY LANE, HOLBORN, W.C.
81, GRACECHURCH STREET, E.C.
ABBEY HOUSE, VICTORIA STREET, WESTMINSTER, LONDON, S.W.1.

SEND for our NEW SAMPLES of the very BEST STATIONERY, Etc.

HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

Doctors' A/c Forms a Speciality

Printed in Best Style.
Account Forms, Letterheads, Cards, etc.
Samples Sent
R. ANDERSON & SON

Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PUR., Desks, Tables & Chairs, CHASE EXCHANGE BUY A REPAIR ALL MAKES Est. 1884.
Write for Bargain List 32.
Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.

THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.
74, CHANCERY LANE (Holborn End), W.C.2

Covers for Binding

Vols I and II of the BRITISH MEDICAL JOURNAL for 1930 and previous years can be had, price 2s. 6d., by parcel post 2s. 10d. each.

Remittances must accompany all orders. Apply at the office, B.M.A. House, Tavistock Square, W.C.1.

SPRINGFIELD HOUSE, Near BEDFORD. (Phone 3417.)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.
PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Patients or Boarders may visit by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No: Batheaston 8189.

The Stanboroughs

WATFORD HERTS

Specially equipped for treating cases of functional nervous disorders, alcoholism, and drug addiction. Fees moderate. Extensive park. Inspection invited.

S. MCCLEMENTS, M.R.C.S., L.R.C.P., Medical Superintendent.

'Phone WATFORD 1751.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

SUNNY MALVERN.

The most beautiful and health-giving Spa. HOME for Gentlefolks under Medical supervision.—BEVAN, New Court, Colwall, Malvern.

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M. (Edin.).

'Grams: "SMEDLEY'S MATLOCK."
'Phone: No. 17.
For Prospectus and full information please write MANAGER, M.J.

MATLOCK

NORTHWOODS, Winterbourne, Bristol.

Telephone and Telegrams: Winterbourne 18.

This beautiful mansion in fifty acres of secluded grounds was built specially for the TREATMENT OF MENTAL ILLNESS. Certified patients of both sexes. Thorough clinical, bacteriological, and pathological examinations. Separate bedrooms. Private suites. Indoor and outdoor amusements. Wireless and other concerts. Occupational therapy. Physical drill. Private golf course. Garden and dairy produce from farm on the estate. Reasonable terms. A few voluntary boarders are received in the Medical Superintendent's house.

For further particulars and prospectus, apply to JOSEPH CATES, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.

The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA, nr. LIVERPOOL.

For the care and treatment of a limited number of Ladies and Gentlemen suffering from NERVOUS or MENTAL breakdown. Voluntary Boarders received. Psycho-therapy in suitable cases if desired. Terms moderate. Apply, RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.

Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES).

Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone*: Brixton 0494. Apply, Miss THWAITES.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

ST. ANDREW'S HOSPITAL

FOR MENTAL DISORDERS,

NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

TYKEFORD ABBEY, NEWPORT PAGNELL,

BUCKS.

Formerly Belvoir Nursing Home, Aston-on-Trent.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-therapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week:

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport Pagnell 121.

HAYDOCK LODGE,

NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in-Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

CHISWICK HOUSE

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 11 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Resident Supt.
Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME.

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. *Tel.*: Hindhead 27.

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

[illegible]tal for MENTAL
branch Glan-y-Don,
eatment and care of
ie UPPER and MID-
Boarders received.
the Medical Superin-
tendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 481 GATLEY.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted: Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.
Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable *condition*.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates and in certain cases will be prepared to admit patients free of charge.
Every facility for specialised investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental *Departments and the Bio-Chemical, Pathological, and Psychological Laboratories*.
Furthermore provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle, Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

OXHEY GROVE,

HATCH END, MIDDLESEX.

A NURSING HOME for BORDERLINE CASES of BOTH SEXES, twelve miles from Marble Arch.
Resident Medical Officer, male and female staff, visiting Pathologist. Fees 5 to 12 guineas.

Full particulars from the MEDICAL SUPERINTENDENT. Telephone: Hatch End 368.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

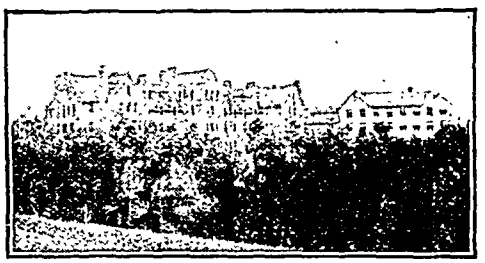
Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

TOR-NA-DEE SANATORIUM

MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

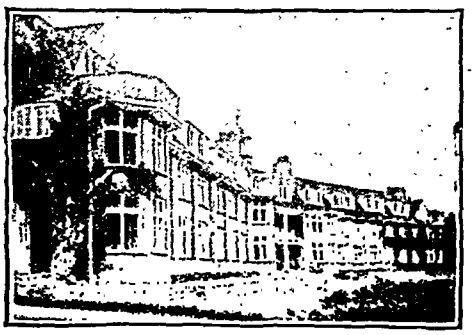
FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

EAST ANGLIAN SANATORIUM.



This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus, etc., apply to the SECRETARY, East Anglian Sanatorium, Nayland, near Colchester. *Tel. and Telegrams:* NAYLAND 1.

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physician: ARTHUR H. HOFFMAN, M.D. St. Andrews, GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

PENDYFFRYN HALL SANATORIUM

PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D (*Cantab.*), R. M. Bremner, M.B., M.R.C.S., L.R.C.P.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

KINGUSSIE, N.B.

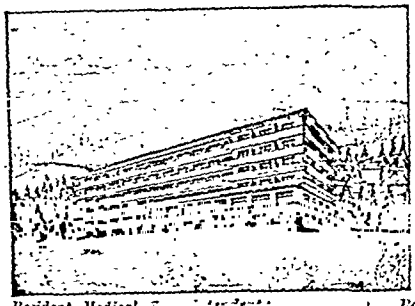
THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in [illegible] of the British Isles." Bracing and dry mountain climate. Well sheltered built for the Open-air Treatment of Tuberculosis. Opened in 1901. sea-level. Electric light throughout buildings and in rest shelters. equipped X-ray plant. All forms of treatment available, including and Ultra-Violet Rays for surgical cases of Tuberculosis.

Terms: £4 6s. 8d. to £6 6s per week inclusive, no extras.

MEDICAL SUPT.: FELIX SAVY, M.D. *For particulars apply to the Secretary.*

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air bathit miles of gradu solarium. Privat ter, wire- less signals throu ooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical HILARY ROCHE, Tuberculous Dis., House Physician, Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

HOTEL ANNONCIATA, MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.

Dry, bracing mountain air, semi-tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods.

Easy access to Town. Up-to-date comfortable Hotel, moderate charges.

Under French and English Management.

Teleg.: Annonciata, Menton. *Teleph.*: 1.06.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.

All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.

IDEAL HEALTH RESORT.

Electric Light. Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.

Prospectus from Secretary. *Tele.* 341.

Resident } W. JOHNSON SMYTH, M.D.
Physicians: } L. T. ROSE-HUTCHINSON, M.D.

MAJORCA: Dr. GILBERT SCOTT'S CONVALESCENT HOME

PALMA DE MALLORCA, SPAIN

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—*Full* Preparatory Classes will commence shortly. for July and later E H. C. ORRIN, F.R.C.S., Surgeons Hall, Edinburgh.

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £8 8s. for 10 lessons.—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

Grove House, All Stretton, Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.

Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above School, commencing Monday, March 2nd, 1931.

The Course will be repeated on subsequent dates.

Copy of the syllabus and full particulars may be obtained on application.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

EPILEPSY.

Attendance at school is a necessary part of the satisfactory treatment of Epilepsy in Children.

COLTHURST HOUSE SCHOOL

meets all the requirements of children of middle-class parentage. Extensions made necessary by the success of the school have created several vacancies.

Only bright and intelligent boys and girls are eligible for admission.

Apply to the Medical Supt., Colthurst House School, Warford, Alderley Edge.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims
Chemistry, Physics, and Biology Labs.
MANCHESTER TUTORIAL COLLEGE,
327, Oxford Road, Manchester.

Rossall School. — Some twelve Open SCHOLARSHIPS for boys between the ages of 12 and 14, on March 1st next, value from £90 a year downwards, will be awarded by Examination, beginning March 3rd, 1931. Boys examined at Rossall and in London.—Apply, THE BURSAR, Rossall School, Fleetwood.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30) **336**
M.S.(Lond.), 1901-30 (including 4 Gold Medallists) **21**
M.B.,B.S.(Lond.), *Final* 1906-30 (Completed Exam.) **269**
F.R.C.S.(Eng.), *Primary* 1906-30 **162**
Final **161**
M.R.C.P.(Lond.), 1914-30 **192**
D.P.H. (Various) 1906-29 (Completed Exam.) **286**
F.R.C.S.(Edin.), 1918-29 **43**
M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.) **467**
M.D.(Dur.) (Practitioners) 1906-30 **38**
M.D. Various. By Thesis. Numerous successes.

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. *Numerous successes.*

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Second and *Final M.B., B.S.*, and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all* tal Courses, and Oral the higher Medical for the higher Sur- tions for the Special fresher Course. Open- r writing theses.

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL, TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First sity Scholarships in

red for the teaching ny, and Zoology.

containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 15th and April 23rd. (Candidates for the D.T.H. must posses the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

The Tavistock Square Clinic for Functional Nervous Disorders, 51, Tavistock Square, W.C.1.

A SHORT COURSE

of Lectures on

FUNCTIONAL NERVOUS DISORDERS

FOR PRACTITIONERS AND MEDICAL STUDENTS

will be given at the Clinic beginning February 9th, 1931.

For particulars of the Course apply to the Hon. Lecture Secretary at the Clinic.

FELLOWSHIP OF MEDICINE

Forthcoming Courses: Gynaecology, Tropical Diseases, and Diseases of Children.

Special V.D. Courses arranged for Women only. Special Evening F.R.C.S. (Final) Courses (March/May).

Apply to THE FELLOWSHIP OF MEDICINE, 1, Wimpole Street, London, W.1.

For full particulars Telephone: Mayfair 2236.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

THE LONDON LIGHT AND ELECTRICAL CLINIC,

RANELAGH ROAD, S.W.1.

Under the personal direction of Sir Leonard Hill, M.B., F.R.S., etc., the Post-Graduate Course for Medical Men, of six weeks' duration, has been postponed until the 2nd February, 1931.

The subjects: Actinotherapy; Electrotherapy.

Fee for the full Course, £6 6s. 0d. For syllabus and full particulars apply to the Secretary.

HIGHER MEDICAL QUALIFICATIONS

Why not add one of the following degrees or diplomas to your name?

Diploma in Psychological Medicine. Diploma in Tropical Medicine.
Diploma in Laryngology, etc. Diploma in Bacteriology.
Diploma in Ophthalmology. Diploma in Public Health.
Diploma in Radiology. Mastery of Midwifery.

You can qualify for any of the above by our Courses of Combined Postal, Clinical, and Practical Instruction.

We Specialise in Post-Graduate Coaching for all Examinations.

Special Preparation for all Surgical Qualifications—F.R.C.S.England, F.R.C.S.EDINBURGH, F.R.C.S.IRELAND, M.S.LONDON, M.C.CANTAB., AND ALL THE HIGHER SURGICAL DEGREES AND DIPLOMAS.

You can ensure Success by taking a Course of Tuition for your Examination at the

MEDICAL CORRESPONDENCE COLLEGE

19, WELBECK STREET, CAVENDISH SQUARE, LONDON, W.1.

Courses always in progress for all t o the 1st, 2nd & Final
M.B., B.S.London, and all other Conjoint, Edinburgh
Triple & L.M.S.S.A., D.P.H.(Cant M.D.London, M.R.C.P.
London and Edinburgh, M.D.Thesis (all Universities, British and Colonial). All Dental Examinations.

WHY FAIL AT ANY MEDICAL OR SURGICAL EXAM?

VALUABLE BOOK FREE!

Write at once for our "Guide to Medical Examinations," stating in which Examination you are interested, and a copy will be sent post free by return.

Medical Correspondence College, 19, Welbeck St., W.1. Welbeck 8901.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,300 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

MIDDLESEX HOSPITAL,

LONDON, W.1.

(University of London)

PRIMARY F.R.C.S. EXAMINATION.

ANATOMY.

Personal instruction is given daily by Professor T. YEATES.

PHYSIOLOGY.

This Section of the Course is under the joint direction of:

Professor SAMSON WRIGHT,
Professor E. C. DODDS,
Mr. J. H. WOODGER, D.Sc.,

and includes General Physiology, Biochemistry, and Histology.

Instruction is given daily except on Saturdays.

The Course will start on February 2nd, at 9.15 a.m.

FEE: 20 guineas. Single Subject: 12 guineas.

For further information apply to the Dean or to the School Secretary.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5 for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BEVANS, F.R.C.S., Dean.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

F.R.C.S. ENGLAND

PRIMARY and FINAL.

May and June 1931 Examinations.

You can pass these examinations at the first attempt by enrolling for the unique Courses of Postal and Oral Coaching by Specialist Tutors. Free Guide and all particulars on application.

M.R.C.P. LONDON

Courses are now commencing for the M.R.C.P. London, April 1931, examination by Tutors acquainted with the special character and features of this examination. Highly successful results.

Write for free booklet, "The M.R.C.P. and How to Obtain It," to the Secretary, Medical Correspondence College, 19, Welbeck Street, W.1.

STAMMER, HESITATION, DISORDERS OF THE SPEECH.

CONSULT—

Mr. E. J. MIALL,

39, WELBECK STREET, W.1.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times." "Thoroughly physiological principles."—"Lancet." "The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/6 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

Gloucestershire Joint Committee

FOR TUBERCULOSIS.

STANDISH HOUSE SANATORIUM, STONEHOUSE, GLOS.

Applications are invited from registered Medical Men for the post of JUNIOR ASSISTANT MEDICAL OFFICER at the above Institution. No previous professional experience is necessary. There are at present 250 beds, including men, women, and children. There is an Orthopaedic Block.

The salary is £250 per annum, with board, furnished apartments, and laundry in addition. The appointment is for six months (with possibility of extension for a further period of six months) and will be terminable within that period by one month's notice on either side.

Applications, stating qualifications and age, and accompanied by copies of three recent testimonials, should be received not later than the morning of Saturday, February 14th.

Shire Hall, Gloucester. January 22nd, 1931.

E. T. GARDOM, Clerk of the Joint Committee.

LONDON HOSPITAL MEDICAL COLLEGE.

F.R.C.S.

A COURSE OF INSTRUCTION for the Final Fellowship Examination will begin on Monday, March 2nd.

Fees: (exclusive of Operative Surgery) 20 guineas. Operative Surgery 5 guineas.

A separate entry can be made for all Classes other than those of a strictly Clinical character. (Men students only are eligible for admission.)

Further particulars may be obtained from Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean, London Hospital Medical College, Mile End, E.1.

LONDON HOSPITAL MEDICAL COLLEGE.

PRIMARY FELLOWSHIP EXAMINATION.

A COURSE OF INSTRUCTION for the above Examination will begin on Monday, Feb. 9th.

The Fee for the Course is 15 guineas.

Further particulars may be obtained from Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean, Mile End, E.1.

UNIVERSITY OF LONDON. KING'S COLLEGE.

PRIMARY F.R.C.S.

A Course in ANATOMY and PHYSIOLOGY, in preparation for the JUNE EXAMINATION, will commence on TUESDAY, FEBRUARY 17th, 1931, and will continue until the date of the examination, with the exception of two weeks' vacation at Easter.

Fee for the Course: Twenty Guineas.

Applications for admission to the Course should be addressed to the Dean of the Medical Faculty, King's College, Strand, W.C.2, from whom further particulars may be obtained.

The University of Durham

COLLEGE OF MEDICINE.

POST-GRADUATE COURSES, NEWCASTLE-UPON-TYNE.

Courses in the following subjects will be held in the months of January, February, and March, the classes meeting once weekly.

DISEASES OF INFANCY AND CHILDHOOD.
MIDWIFERY.
GYNAECOLOGY.
DISEASES OF THE EYE.
DISEASES OF THROAT, NOSE, AND EAR.
DISEASES OF THE SKIN.
NEUROLOGY.

A detailed syllabus will be sent on application to the Registrar, University of Durham College of Medicine, Newcastle-upon-Tyne.

A General Course in Medicine and Surgery will be held from April to June, and an Intensive Course of a fortnight's duration in September, 1931.

University of Durham College of MEDICINE.

JUNIOR DEMONSTRATOR IN PHYSIOLOGY (including Histology) wanted.

Applications are invited from qualified Medical Practitioners and should be sent to the Registrar, College of Medicine, Newcastle-upon-Tyne, on or before February 2nd, 1931. The salary offered is £250 per annum.

City of Lincoln.

CHIEF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Council invite applications from registered Medical Practitioners who have had experience in Infectious disease, tuberculosis, and venereal diseases for the above appointment at a salary at the rate of £600 per annum (£450 salary and £150 for board and lodging, etc., at the City Hospital), rising by annual increments of £25 to £700 per annum, subject to the statutory deductions in pursuance of the Superannuation Act of 1922.

Applications, endorsed "Chief Assistant Medical Officer of Health," stating age, present appointment and salary, qualifications and experience, and accompanied by copies of three recent testimonials, should be received by me not later than February 14th.

Guildhall, Lincoln. January 22nd, 1931.

L. O. NEED, Town Clerk.

County Borough of West Ham.

APPOINTMENT OF JUNIOR ASSISTANT MEDICAL OFFICER (MATERNITY AND CHILD WELFARE).

Applications are invited from fully qualified unmarried Women Medical Practitioners for the post of JUNIOR ASSISTANT MEDICAL OFFICER in the Medical Officer of Health's Department.

The duties will mainly consist of work in connection with the Council's Maternity and Child Welfare Scheme. The person appointed will be required to devote her whole time to the service of the Council and to work under the direction of the Medical Officer of Health.

The salary will be at the rate of £500 per annum, rising by annual increments of £25 to £700.

Applicants should have had previous experience in Maternity and Child Welfare work and possess a Diploma in Public Health.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and to a medical examination as required by the Council for the purposes of that Act. The statutory contributions (5 per cent.) to the Superannuation Fund under the Act will be deducted from the salary.

The appointment will automatically terminate on marriage.

Application forms may be obtained from the Medical Officer of Health, Town Hall, West Ham, E.15, on receipt of a stamped addressed foolscap envelope, and must be returned to the undersigned not later than February 7th.

CHARLES E. CRANFIELD, Town Clerk.

Town Hall, West Ham, E.15. January 20th, 1931.

County Council of Middlesex.

DISPENSER.

The County Council invite applications for the post of Dispenser at HILLINGDON HOSPITAL, Uxbridge, Middlesex, at a salary of £250 per annum (no bonus).

Candidates must be Graduates in Pharmacy of a recognized University or hold one of the qualifications of the Pharmaceutical Society of Great Britain. The officer appointed must be acquainted with the running of the pharmaceutical department of a modern hospital, and ability to undertake simple biochemical and microscopical investigations will be additional qualifications.

The officer appointed will be required to devote whole time to the duties of the post, to contribute to the County Council's Superannuation Fund, and for the latter purpose will be required to pass such medical examination as the County Council may direct.

The appointment is terminable by one month's notice on either side.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than February 7th.

No special application forms are provided. Envelopes must be endorsed "Dispenser."

Canvassing, directly or indirectly, will be a disqualification.

Guildhall, Westminster, S.W.1. January 14th, 1931.

ERNEST S. W. HART, Clerk of the County Council.

City of Stoke-on-Trent.

ASSISTANT MEDICAL OFFICER (Male).

Applications are invited for the appointment of Second Assistant Resident Medical Officer at the LONDON ROAD INSTITUTION, near Newcastle, Staffs.

The remuneration assigned to such office is £200 per annum, with board and residence. The period of the appointment will be limited to one year, subject to termination by one month's notice on either side. The Institution accommodates about 1,000 inmates, including 600 in Hospital (which is recognized as a major training school for nurses) and 150 in Mental Wards. The medical service to the adjacent Children's Homes is performed by the Institution Resident Staff, who, also, are required to lecture to Nurses.

Applications, accompanied by copies of not more than three testimonials of recent date, should be delivered to the undersigned not later than first post on Friday, February 13th next. Applicants should state particulars of qualifications or degrees held, the date thereof, when taken, and experience since qualifying. Preference will be given to those who have had experience in any of the following subjects—viz., Anaesthetics, Obstetrics, Pathology, and Radiography.

E. B. SHARPLEY, Town Clerk.

Public Assistance Office, High St., Stoke-on-Trent. January 23rd, 1931.

Manchester Royal Infirmary.

CENTRAL BRANCH, ROBY STREET, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment.

Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for twelve months commencing forthwith—four months as Junior at £100 per annum, four months as Assistant at £100 per annum, and four months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m on Thursday, February 12th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

The Cancer Hospital (Free)

(Incorporated under the Royal Charter), Fulham Road, London, S.W.3.

Applications are invited for the post of PHYSICIAN to the Hospital. Candidates must be Fellows or Members of the Royal College of Physicians, London, and a Graduate in Medicine of a recognized University.

Applications, with three (copies only) testimonials, to be sent to the undersigned not later than the first post on Tuesday, February 10th.

The appointment is made subject to Rules and Conditions laid down by the Charter of Incorporation, details of which can be obtained from the Secretary

The Assistant Physician is a candidate for the office.

J. COURTNEY BUCHANAN, Secretary.

East London Hospital for

CHILDREN & DISPENSARY FOR WOMEN, Shadwell, E.1.

The Board of Management invite applications for the post of SURGEON to the Nose, Throat, and Ear Department, to attend one day a week.

By Section 6, Sub-Section 19 and 20, of the Constitutions of the Hospital, every Surgeon shall be a Fellow of the Royal College of Surgeons of England.

Applications, with copies of testimonials, should be addressed to the undersigned and delivered to the Hospital on or before Saturday, February 14th.

By Order of the Board of Management,
W. M. WILCOX,
Secretary.

North Riding Infirmary,

MIDDLESBROUGH.
(General Hospital—150 Beds.)

JUNIOR HOUSE SURGEON (male) wanted to take up duties as early as possible.

The appointment will be for a definite period of six months, with salary at the rate of £150 per annum, with board, residence, and laundry

Applications, stating age, nationality, and previous experience, with copies of three testimonials, should be sent forthwith to the undersigned.

N.B.—The successful candidate will be eligible to apply for the Senior House Surgeon's post at the expiration of the above term.

CHARLES POSTGATE,
Secretary-Superintendent.

Rochdale Infirmary and

DISPENSARY. (110 Beds.)

The Board of Management invite applications for the appointment of JUNIOR HOUSE SURGEON. The salary attached to the appointment is £200 p.a., including board, residence, and laundry. Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon."

Particulars of duties and conditions of the appointment may be had on application to the Secretary.

Infirmary Office, Rochdale. W. WYNNE, Secretary.

Nottingham and Midland Eye

INFIRMARY.

RESIDENT HOUSE SURGEON (gentleman) required. 40 beds. Large Out-patient Department. Salary £200 per annum, with board and laundry. Applicants should state age, qualifications, experience, when disengaged, and send copies of three recent testimonials to the Secretary, The Ropewalk, Nottingham

Derbyshire Royal Infirmary,

DERBY.
(General Hospital—346 Beds.)

Applications are invited for the following posts:

HOUSE SURGEON for General Surgery.
HOUSE SURGEON for General Surgery and Ear, Throat, and Nose.
OPHTHALMIC HOUSE SURGEON.

Candidates must be qualified and registered under the Medical Acts.

The appointments are for 12 months.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with copies of testimonials, to be sent to the undersigned not later than February 13th.

Duties will commence on March 1st.

WALTER BANKS,
Jan. 26th, 1931. Supt. & Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.
HOUSE SURGEON in charge of Male Wards.
HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Royal Northern Hospital,

Holloway, London, N.7.

A vacancy occurs for an ASSISTANT SURGICAL OFFICER.

Candidates must possess the degree of F.R.C.S. England, and will be required to attend at the Hospital on three days each week, at the time of the Surgical Out-patient sessions. The appointment is for one year, with eligibility for re-election.

Honorarium £75 per annum, with luncheon and tea provided.

Applications, with three copies each of the letter of application and testimonials, should be sent on or before February 10th to the undersigned, from whom rules for the post can be obtained.

GILBERT G. PANTER, Secretary.

Royal Northern Hospital,

Holloway, N.7.

Applications are invited for the following posts, vacant on March 15th.

OBSTETRIC HOUSE SURGEON for nine months (six months as Obstetric House Surgeon and three months as Casualty Officer).

HOUSE SURGEON for nine months (six months as House Surgeon and three months as Casualty Officer).

Salary in each case at the rate of £70 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be sent by February 7th to the undersigned, from whom forms of applications and rules can be obtained.

GILBERT G. PANTER,
Secretary.

Royal Northern Hospital,

Holloway, London, N.

ary)
Ap-
oyal

College of Surgeons of England.

Particulars of the office and details with regaid to the submission of testimonials, etc., may be obtained from the undersigned, to whom applications should be sent not later than February 13th.

GILBERT G. PANTER, Secretary.

Royal Manchester Children's

HOSPITAL, PENDLEBURY, MANCHESTER.

The Board of Governors invite applications for the post of HONORARY OPHTHALMIC SURGEON.

Applications, stating qualifications, and accompanied by copies of three testimonials, should be sent to the undersigned at the Hospital, Pendlebury, on or before Thursday, February 5th.

W. M. HUMPHRY,
January 20th, 1931. Secretary.

Bristol City and County Mental

HOSPITAL.

THIRD ASSISTANT MEDICAL OFFICER required. Candidates must be duly qualified and registered, and preference will be given to candidates with previous Mental Hospital experience and in possession of a Diploma in Psychological Medicine. Salary £350, rising by annual increments of £25 to £450 per annum; £50 extra if in possession of the D.P.M.; with emoluments valued at £150. The appointment is subject to the Asylums Officers Superannuation Act, 1909. Forms of application may be obtained from the Medical Supt, The Mental Hospital, Fishponds, Bristol, on or before Wednesday, February 11th.

JOSIAH GREEN,
The Council House, Bristol. Clerk to the Visiting Committee.
January 30th, 1931.

Birmingham and Midland Eye

HOSPITAL.

Applications are invited from duly qualified Medical Practitioners for the post of RESIDENT SURGICAL OFFICER, which will become vacant on or about March 20th.

The Resident Staff also consists of two House Surgeons, and, in the event of one of these being promoted, applicants should state whether they will be willing to accept the appointment of House Surgeon at a salary of £110 per annum.

Applications, with testimonials and evidence of registration, must be received not later than Monday, February 16th.

Church Street, Birmingham. C. A. MASON, General Superintendent.

Central London Throat, Nose, &

EAR HOSPITAL, Gray's Inn Road, W.C.1.

RESIDENT HOUSE SURGEON (Male).

There will be a vacancy for a Third Resident House Surgeon to enter on duty on March 1st next.

The appointment will be for a period of nine months—three months as Third House Surgeon, three months as Second House Surgeon, and three months as First House Surgeon.

Remuneration at the rate of £75 per annum.

Applications, accompanied by copies of not more than three testimonials, should be sent to the undersigned on or before February 9th.

JOHN H. YOUNG,
Secretary-Superintendent.

Holloway Sanatorium (Hospital

FOR MENTAL DISEASES), VIRGINIA WATER, SURREY.

JUNIOR ASSISTANT MEDICAL OFFICER required (woman), single. Salary £350 per annum, with board, lodging, laundry, and attendance. Should the candidate appointed hold the Diploma in Psychological Medicine, the salary will be £400 per annum; if not, the latter increase will be made as soon as she obtains it.

Applications, accompanied by three testimonials, to be sent to the Medical Superintendent not later than first post February 11th.

Ingham Infirmary,

SOUTH SHIELDS. (124 Beds.)

Wanted, HOUSE SURGEON (male). Salary £150 per annum, with residence, board, and washing. No out-visiting. Candidates must hold registered qualifications in Medicine and Surgery. The appointment will be terminable by one month's notice.

Applications, stating age, and accompanied by copies (which will not be returned) of recent testimonials, to be sent to the undersigned, from whom further particulars may be obtained.

JOHN POTTER, Secretary.

Newcastle-upon-Tyne Hospital

FOR DISEASES OF THE SKIN.

The Committee of the above Hospital invites applications for the position of (a) HONORARY JUNIOR PHYSICIAN, and (b) HONORARY ASSISTANT PHYSICIAN. Applications, together with two copies of recent testimonials, to be sent to the undersigned on or before Feb. 5th.

Dated 21st January, 1931.

Westgate Hill Grange, Newcastle-upon-Tyne. J. HALL (Mrs.), Hon. Secretary.

The Princess Mary Maternity

HOSPITAL, Jubilee Road, NEWCASTLE-UPON-TYNE.

RESIDENT MEDICAL OFFICER (male) required for six months from March 1st.

For details apply House Governor.

The Government of Madras invite

[illegible] should be between 28 and 40 years of age. They should possess a Medical qualification registrable in England, and must produce evidence of proficiency and experience in teaching and research in anatomy or human physiology, as the case may be. For candidates domiciled outside the Madras Presidency, agreement for five years in the first instance. Pay will be fixed according to qualifications, subject to a maximum scale of Rs.1,100 a month, rising by annual increments of Rs.50 to Rs.1,600 a month. An officer of non-Asiatic domicile would receive in addition overseas pay of £30 a month. A rate of initial rupee pay higher than Rs.1,100 but not exceeding Rs.1,600 may be considered in the case of a candidate with exceptional qualifications and experience. (Approx. sterling equivalent per annum at current rates of exchange £1,350, rising to £1,800.) Travelling allowances. Free first-class passage to Madras. Strict medical examination.

For candidates domiciled in the Madras Presidency, pay and conditions as prescribed in the Madras Medical Service Rules.

Forms of application and further particulars, may be obtained upon request by post-card from the High Commissioner for India, General Department, India House, Aldwych, London, W.C.2. Last date for the receipt of applications February 10th.

City and County of Bristol.

[illegible]TANT MEDICAL AND CHILD

The Bristol City Council invite applications for the post of whole-time (male or female) Assistant Medical Officer for Maternity and Child Welfare. Applicants must have had experience in Obstetrics.

The salary will be £500 per annum, rising by annual increments of £25 to £700 per annum.

The appointment will be subject to one month's notice on either side, and the provisions of the Local Government and Other Officers Superannuation Act, 1922, for which purpose the selected candidate must undergo a medical examination.

Forms of applications may be obtained from the undersigned, to whom they must be returned completed by Thursday, February 5th, together with copies of not more than three recent testimonials.

Canvassing, either directly or indirectly, will disqualify.

The Council House, Bristol. JOSIAH GREEN, Town Clerk.

January 19th, 1931.

City of Birmingham.

MATERNITY AND CHILD WELFARE DEPARTMENT.

RESIDENT MEDICAL OFFICER.

A Woman Resident Medical Officer is required on March 1st next, for a period of six months, for the CITY BABIES' HOSPITAL, Canwell Hall. Salary at the rate of £100 per annum, with board and laundry. Previous experience in a Children's Hospital desirable.

Apply, giving all particulars of qualifications, age, and experience, to the Medical Officer of Health, Council House, Birmingham, on or before February 5th.

The Sheffield Royal Hospital.

(340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum, also RESIDENT ANÆSTHETIST, salary £80 per annum, rising to £100 in six months, to commence duties at once (males). Board, residence, and laundry. There are twelve Resident Medical Officers. Applications should be forwarded at once to—

W. H. BOOTH,
January 5th, 1931. Supt. & Secretary.

Chester Royal Infirmary.

(211 Beds.)

Wanted, HOUSE SURGEON (male) to the Ear, Nose, and Throat Department, to commence duties February 16th. Salary £150 per annum, with board, lodging, and washing. Candidates must be doubly qualified and registered. Application list closes on February 7th. Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P.,
Hon. Supt. of the Resident Medical Staff.

The Hospital for Sick Children,

Great Ormond Street, W.C.1.

A REFRACTION ASSISTANT is required in the Ophthalmic Department on February 7th.

Candidates are invited to send in their applications, addressed to the Secretary, with copies of not more than three testimonials written specially for the purpose, before 12 o'clock on Monday, February 2nd.

The appointment is made for one year, but the successful candidate will be eligible for re-appointment annually upon the recommendation of the Medical Committee.

Salary at the rate of one guinea per attendance at the visit of the Honorary Ophthalmic Surgeon.

Candidates must be registered Medical Practitioners and be prepared to take up the duties on February 7th.

All candidates must be in attendance on Wednesday, February 4th, to appear before the Joint Committee at 4.45 precisely if required.

Forms of application, and copies of the Rules for the appointment, will be supplied on application to the Secretary.

By Order of the Board of Management,
JAMES McKAY,
January, 1931. Secretary.

County Borough of Bolton.

PUBLIC ASSISTANCE COMMITTEE.

TOWNLEYS HOSPITAL.

Wanted for the Townleys Hospital, Farnworth, near Bolton, an ASSISTANT MEDICAL OFFICER (male) for a period of one year.

The salary will be at the rate of £225 per annum, and rations, furnished apartments, attendance, washing, etc.

Forms of application, together with conditions of appointment (for which a stamped addressed foolscap envelope must be enclosed), may be obtained from me.

Last day for applications February 7th.

28, Mawdsley Street, Bolton. SAMUEL KINLAY, Public Assistance Officer.

January 19th, 1931.

Stoke Newington School

TREATMENT CENTRE.

The L.C.C. invite applications for the following appointments at the above Centre:

One SURGEON to the MINOR AILMENT DEPARTMENT at £66 a year; One for the EYE DEPARTMENT at £80; and One ANÆSTHETIST to the DENTAL DEPARTMENT at £75.

Applications, which must contain name, age, address, qualifications, and experience, should be addressed to the Hon. Sec., 67, Church St., Stoke Newington, N.16.

The Royal Infirmary,

SHEFFIELD. (500 Beds.)

The Weekly Board of Management invite applications for the post of HOUSE SURGEON. The appointment will be terminable on June 30th next, but the officer elected will be eligible for re-election. The salary attached to the post is £80 per annum, rising after six months' service to £100 per annum, together with board and residence. Applications, together with copies of testimonials, to be sent to the undersigned immediately.

JNO. W. BARNES, F.C.I.S.,
General Supt. & Secretary.
Board Room. January 20th, 1931.

Charing Cross Hospital.

ASSISTANT OBSTETRIC PHYSICIAN.

Applications are invited for the post of Assistant Obstetric Physician to the above Hospital. Candidates must be Graduates of a University and possess the Diploma of M.R.C.P. or F.R.C.S.

Applications, accompanied by copies of three recent testimonials, should reach the undersigned not later than February 3rd.

Charing Cross Hospital, W.C.2. PHILIP INMAN, House Governor.

Charing Cross Hospital.

[illegible] are invited for the post of [illegible] with full board, laundry, etc.

Candidates (male and unmarried) must be fully qualified.

Applications, together with copies of three recent testimonials, should be submitted to the undersigned not later than Tuesday, Feb. 3rd.

PHILIP INMAN,
Charing Cross Hospital, Strand, London, W.C.2. House Governor.

Ancoats Hospital, Manchester.

RESIDENT MEDICAL OFFICER required to commence duty on or about February 15th. Appointment for six months. Salary at the rate of £150 per annum, with board, residence, etc. Previous experience in similar position preferred.

HOUSE PHYSICIAN required to commence duty on March 1st. Appointment for six months. Salary at the rate of £100 per annum, with board, residence, etc.

Further vacancies will occur as follows:

RESIDENT SURGICAL OFFICER, April 30th. Salary £200 per annum. GENERAL HOUSE SURGEON on March 31st. Salary at the rate of £100 per annum.

These appointments will be advertised in due course.

Applications for the posts of R.M.O. and H.P., stating age, qualifications, experience (if any), and full particulars, to be forwarded to the undersigned on or before February 4th, together with copies of three recent testimonials.

By Order of the Board,
HERBERT J. DAFFORNE,
Gen. Supt. & Secretary.

Minehead and West Somerset

HOSPITAL, MINEHEAD, SOMERSET.
(56 beds.)

Applications are invited for the post of RESIDENT HOUSE SURGEON (male or female) to this Hospital.

Duty to commence on March 1st next. Appointment for a period of not less than six months. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned not later than February 4th.

W. H. P. RODDA, Secretary.

North Staffordshire Royal

INFIRMARY, STOKE-ON-TRENT.
(A General Hospital of 346 Beds.)

APPOINTMENT OF HOUSE SURGEON.

The Committee invite applications for the post of House Surgeon. Salary at the rate of £150 per annum, with board, residence, and laundry. Previous Surgical Hospital experience necessary. The appointment will be made for a period of twelve months. Applications, with copies of two recent testimonials, to be forwarded at once.

W. STEVENSON,
Sec. and House Governor.
January 24th, 1931.

District Infirmary,

ASHTON-UNDER-LYNE.
(General Hospital, 200 Beds, mainly Surgical.)

Wanted, a HOUSE SURGEON. Six months' appointment, renewable.

Salary at the rate of £150 per annum, with board, residence, and laundry.

The Resident Staff comprises a Resident Surgical Officer and three House Surgeons.

Applications, with testimonials, to be sent at once to the undersigned.

FRANK OLIVER,
General Supt. and Secretary.
January 27th, 1931.

Cornelia and East Dorset

HOSPITAL, POOLE, DORSET.
(105 Beds.)

HOUSE SURGEON.

Applications are invited for the post of House Surgeon (male). Salary £150 p.a., with usual emoluments. Duties to commence March 1st next for six months.

Applications, stating age, experience, and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital by 12 noon February 4th.

E. S. FOLEY, Secretary.

Cheltenham General and Eye

HOSPITALS.

The Board of Management invite applications for the post of HOUSE PHYSICIAN (male) at the General Hospital.

Candidates must be unmarried, have a registered qualification in Medicine and Surgery, and produce evidence that they are qualified to administer anæsthetics.

Salary £200 p.a., with board, lodging, and laundry.

Applications, with copies of testimonials, to be sent in sealed envelopes, marked "House Physician," to the undersigned by Feb. 14th.

J. CUMMING SMITH, F.C.I.S.,
Secretary.
The General Hospital, Cheltenham. January 27th, 1931.

Nottinghamshire County Council

APPOINTMENT OF SCHOOL DENTIST (Male).

Applications are invited for the appointment of a Whole-time School Dentist, at a salary of £500 per annum, rising after completion of two years' satisfactory service by increments of £25 annually to a maximum of £550. Travelling expenses will be paid in addition according to the Scale approved by the County Council.

Candidates must be fully qualified and registered Dental Surgeons, and the person appointed will be required to perform such duties as may be from time to time prescribed by the County Education Committee, and to devote his whole time to the duties of the office. He will be a member of the Staff and act under the control and direction of the County Medical Officer of Health, and required to reside in a part of the County to be approved by the Education Committee.

The appointment will be terminable by three months' notice on either side.

The successful candidate will be required to pass a medical examination.

The appointment is an established post under the Local Government and Other Officers Superannuation Act, 1922.

Applications on the prescribed form (which may be obtained on application to me), accompanied by copies of not more than three recent testimonials, should be forwarded to the County Medical Officer, Shire Hall, Nottingham, not later than February 18th.

Shire Hall, Nottingham. January, 1931.

K. TWEEDALE MEADY, Clerk of the County Council.

Surrey County Council.

ASSISTANT MEDICAL OFFICER.

Applications are invited for the appointment of a Male Assistant Medical Officer. Candidates must possess a qualification in Public Health, and have had experience in the medical inspection of school children, maternity and child welfare, and the treatment of tuberculosis and venereal diseases. The officer appointed will be required to undertake such other Public Health duties as may be allocated to him. He will be on the staff of the County Medical Officer of Health, must reside in the County, and devote his whole time to the work. Salary £600 per annum, rising by annual increments of £20 to £700 per annum. Travelling expenses in accordance with the Council's scale will be allowed

The appointment will be subject to the approval of the Minister of Health, to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and to the Standing Orders of the Council, which provide, inter alia, that appointments may be determined at any time by three months' notice.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be made on the prescribed form, and sent to the County Medical Officer of Health, County Hall, Kingston-upon-Thames, from whom copies of the application form may be obtained, and to whom any enquiries relating to the appointment should be addressed.

Last day of receipt of applications, Wednesday, February 18th. Canvassing, directly or indirectly, will disqualify.

DUDLEY AUKLAND, Clerk of the County Council.

County Hall, Kingston-on-Thames.
January 27th, 1931.

County Council of Ross and CROMARTY.

INVERGORDON HOSPITAL.
(Tuberculosis and Infectious Diseases, etc.).

Wanted for the Invergordon Infectious Diseases Hospital, RESIDENT MEDICAL OFFICER, to commence duties beginning of March. Salary £250 per annum, with board and residence Appointment for six months, with option of renewal.

Applications to be lodged with the undersigned, with three copies of testimonials, not later than February 6th.

Town Hall, Invergordon. WILLIAM GEORGE, Clerk.

Darlington General Hospital.

The Committee invite applications for the post of HONORARY ANAESTHETIST. Candidates must be on the Medical Register, and be a Graduate in Medicine of a University of the United Kingdom, or a Fellow or Member of one of the Royal Colleges of Surgeons of the United Kingdom. The post is tenable for a period of five years. Applications, giving full particulars, to be addressed to me forthwith.

A. RIDDLE, Secretary.

City of Birmingham.

ERDINGTON HOUSE.

RESIDENT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners, male, with experience in the special duties to be performed, for the appointment of Medical Officer (whole time) of the Erdington House Poor Law Institution and its Annexe, Witton Hall, and of the Erdington Children's Homes.

The Institution and Annexe has accommodation for 1,980 patients, of whom approximately 1,000 are mental patients, some being certified for detention under the Lunacy Act, others under the Mental Deficiency Acts. About 250 are in sick wards, the remainder being aged and infirm, ordinary house cases, etc. The Children's Homes (grouped) have accommodation for 379. The Medical Staff comprises the Medical Officer and two resident Assistants, one male and one female.

The total salary for the appointment is £850 per annum, together with furnished house, rations, lighting, heating, laundry, and attendance, the emoluments being valued for superannuation purposes at £250 per annum. The whole is subject to superannuation deductions.

The gentleman appointed may be required to perform the duties of Public Vaccinator in respect of the two Institutions, but any fees from this source, as well as fees under the Lunacy Acts, and all other fees or payments received by the Officer are required to be paid into the Corporation funds.

The appointment will be subject to satisfactory medical examination.

Applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, should be sent to the undersigned on or before Wednesday, February 11th.

Council House, Birmingham. F. H. C. WILTSHIRE, Town Clerk.
January 26th, 1931.

Metropolitan Borough of Poplar.

MATERNITY AND CHILD WELFARE CLINICS.

MEDICAL OFFICER (PART-TIME).

Applications are invited for the engagement of a Part time Medical Officer for five of the Council's Maternity and Child Welfare Clinics (2 Ante-natal and 3 Infant Consultation), held on the following days:—Monday, afternoon; Wednesday, forenoon and afternoon; Friday, forenoon and afternoon.

The person to be engaged must be a registered Medical Practitioner who, prior to April 1st, 1930, has held the appointment of Medical Officer of an Ante-natal Clinic with the approval of the Minister of Health, or who subsequent to qualification has had at least three years' experience in the practice of his or her profession, and special experience of practical midwifery and ante-natal work.

The rate of remuneration will be one and a half guineas per session.

Applications, stating age last birthday, qualifications, and experience, and accompanied by copies of not more than three recent testimonials, must be forwarded in envelope marked "Medical Officer," so as to reach the undersigned not later than 9 a.m. on Thursday, February 12th next.

Canvassing members or officers of the Council, in any form, will disqualify.

Council Offices, Poplar, E.14. H. E. DENNIS, Town Clerk.
January 27th, 1931.

St. Mary's Hospitals, Manchester

SENIOR ASSISTANT MEDICAL OFFICER for the Children's Out-patient Department (non-resident). Salary at the rate of £100 per annum. Also JUNIOR ASSISTANT MEDICAL OFFICER (non-resident). Salary at the rate of £50 per annum. The appointments are for a period of six months from February 4th next, and are suitable for Graduate work for higher qualifications. Applications, with copies of three testimonials, to be sent to the undersigned immediately.

R. RATCLIFFE, Secretary.

Stockton and Thornaby Hospital,

STOCKTON-ON-TEES. (140 Beds)

Applications are invited for the post of SENIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about March 2nd. Salary £175, with board, residence, and laundry. Candidates must be duly qualified and unmarried. Applications, stating age, nationality, and experience, together with copies of three recent testimonials, to be sent to the undersigned.

JOHN WILKINSON, Secretary.

Kent County Council.

MENTAL DEFICIENCY.

LEYBOURNE GRANGE.

APPOINTMENT OF RESIDENT MEDICAL SUPERINTENDENT.

Applications are invited for the position of Resident Medical Superintendent of the Institution for Mental Defectives to be opened at Leybourne Grange, near Maidstone. The Institution will accommodate 94 female defectives of the higher grades and will form the nucleus of a colony for mental defectives.

Candidates must not be more than 45 years of age, must be male registered Medical Practitioners, and must have had previous experience in the institutional care and treatment of mental defectives.

The salary will be £700 per annum, rising by annual increments of £25 per annum to £1,000 per annum. The emoluments will consist of an unfurnished house, lighting, fuel, water, garden produce, and laundry for self and family, and will be valued for pension purposes at £300 per annum.

Forms of application, with further particulars, can be obtained from the undersigned, and must be completed and returned to him not later than February 21st.

W. L. PLATTS, Clerk of the Kent County Council.

Sessions House, Maidstone.
January 27th, 1931.

Southport General Infirmary.

(150 Beds.)

Special Departments for Eye, Ear, Nose, and Throat, X-Rays, Massage, Skin, Pathology, etc.

Wanted to take up duties on February 18th, a SENIOR HOUSE SURGEON, fully qualified and registered, unmarried.

Salary at the rate of £200 per annum, with residence, board, and laundry.

Applications, stating age, nationality, and experience, with copies of testimonials, to be sent in not later than noon, February 9th, to the Secretary, the Infirmary Office, Pilkington Road, Southport.

Worthing Hospital.

Applications are invited for the post of RESIDENT MEDICAL OFFICER, vacant February 9th The appointment is for six months, renewable, but it may be determined by three months' notice on either side.

Salary at the rate of £150 per annum, with board, lodging, and laundry.

Applications, stating age, qualifications, and experience, with copies of testimonials, should reach the Secretary not later than Feb. 2nd.

Swindon and North Wilts

VICTORIA HOSPITAL, SWINDON.
(80 Beds.)

Wanted, RESIDENT MEDICAL OFFICER (male). Salary £125 per annum, with board, residence, and laundry.

Candidates must be registered under the Medical Act. Appointment for the minimum of six months.

Applications, stating age, etc., and accompanied by copies of not more than three recent testimonials, should be sent to the Secretary as soon as possible.

The Gloucestershire Royal

INFIRMARY AND EYE INSTITUTION, GLOUCESTER.
(153 Beds—4 Residents.)

Applications are invited for the post of SECOND HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned.

F. J. SYMONS, Secretary.

January 29th, 1931.

The Guest Hospital, Dudley.

(General Hospital—104 Beds.)

Applications are invited for the post of ASSISTANT HOUSE SURGEON to commence duties immediately. Salary £160 per annum, with furnished apartments, board, and laundry. Candidates must be fully qualified and registered. Applications, stating age, qualifications, and experience, and accompanied by copies of testimonials, to be sent to the undersigned.

The Guest Hospital, Dudley. H. RAYMOND HURST, Secretary.

January 23rd, 1931.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH.**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	PLYMOUTH EDUCATION AUTHORITY. *(Deputy Assistant Medical Officer.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD *(Hon. Sec., New South Wales Branch)*, Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	WELLINGTON, NEW ZEALAND. *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON *(Hon. Sec., New Zealand Branch)*, British Medical Association, P.O. Box 166, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR *(Hon. Sec., Victorian Branch)*, British Medical Association, Medical Society Hall, East Melbourne, Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

January 28th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

West Bromwich and District GENERAL HOSPITAL.

APPOINTMENT OF HONORARY PHYSICIAN.
APPOINTMENT OF HONORARY SURGEON.

The Committee of Selection will, on Monday, March 2nd, proceed to the appointments of an Honorary Physician and an Honorary Surgeon.

Candidates are requested to send their applications and testimonials and evidence of their degree and diploma to the Honorary Secretary, ERIC BACHE, Esq., LL.B., Lombard House, West Bromwich, on or before February 23rd.

The By-laws provide: "That every Honorary Physician shall [illegible] Medicine of a [illegible] or Member of the United [illegible] Surgeon shall [illegible] Surgery of a [illegible] or Member of [illegible] United Kingdom [illegible] be for a period [illegible]

Mr. A. L. BODLEY, Honorary Surgeon, who retires in accordance with the By-laws, being eligible, offers himself for re-election.

By Order,
F. I. HANCOCK,
Secretary & Superintendent.

Lowestoft and North Suffolk HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required at once. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

West Bromwich and District GENERAL HOSPITAL. (130 Beds.)

Applications are invited for the posts of (1) HOUSE SURGEON; (2) HOUSE PHYSICIAN; and (3) CASUALTY HOUSE SURGEON (males).

Candidates must be doubly qualified and unmarried. Salaries at the rate of £200 per annum, with board, residence, and laundry.

The appointments are for six months, and the candidates appointed will be required to take up their duties on March 1st next.

Applications, stating age and qualifications, with copies of recent testimonials, should be sent to the undersigned on or before Feb. 11th.

By Order,
Edward Street, West Bromwich. FRANK I. HANCOCK, Secretary & Supt.

General Infirmary, Salisbury. (General Hospital—161 Beds.)

HOUSE SURGEON (male) required to commence duty at the end of February.

Candidates must be unmarried, fully qualified and registered. Salary £150, with board, etc.

Applications, with copies of testimonials, to be sent to the House Governor and Secretary, from whom a copy of the Rules may be obtained on application.

Bristol Eye Hospital.

Applications are invited for the post of RESIDENT HOUSE SURGEON (single man). Salary £150 per annum. Twelve months' appointment. Vacant Monday, March 9th.

Applications to be received by the Secretary by Saturday, February 7th.

The Royal National Hospital for CONSUMPTION AND DISEASES OF THE CHEST, VENTNOR, ISLE OF WIGHT.

A male ASSISTANT RESIDENT MEDICAL OFFICER required for six months, to take up duties at an early date.

Salary £300 per annum, with residence and board in the Hospital. Candidates must be recently doubly qualified, registered, and unmarried, and be desirous of undertaking the study of Tuberculosis.

[illegible] candidates' own handwriting, [illegible]ions, with one copy [illegible]ls, should be sent to [illegible]ent, Royal National Ventnor, I.O.W., at once.

St. Bartholomew's Hospital, E.C.1.

OFFICE OF SURGEON.

Notice is hereby given that a meeting of the Election Committee will be held on Tuesday, February 24th, at 4 o'clock in the afternoon, to elect a Surgeon to this Hospital.

Candidates, who must be Fellows of the Royal College of Surgeons of England, are required to lodge 50 copies of their applications and testimonials with the undersigned on or before Saturday, February 7th.

THOMAS HAYES,
Jan. 23rd, 1931. Clerk to the Governors.

(Appointments continued on p. 50)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,

TAVISTOCK SQ., LONDON, W.C.1.

T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL

ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.

Each Additional Line, 1s. 6d.

(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted immediately. — First-class well-qualified ambitious man, about 30, to ASSIST Two Partners in further developing rapidly increasing good-class Practice. Small panel. Fast growing residential part of N.W. Middlesex. Salary £400, outdoors. Suitable man will be given opport. of developing new dist. on com. basis. Tact and ability essen. —No. 755, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship, with early view, by M.B., B.S.(London), 1928, male, singe, Protestant, ex H.S., H.P. Well experienced general practice. Own car. Free now.—Address, No. 756, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Yorkshire City. — Keen, hard-working ASSISTANT, view. Branch Surgery. Excellent old-established Practice. Commence £350, outdoor. Great scope and prospects for a worker. Photo. (returnable). Usual bond.—Address, No. 655, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, indoor, male, British, for country Practice, preferably with view to early Partnership. Work light. Man of good address and with experience of general practice required. Interview.—No. 668, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Male Assistant for panel and private Practice, W.R. City. (1) Indoor £300, or (2) outdoor £400, and use of house. British, Protestant; ex hospital preferred. Full particulars.—Address, No. 559, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant with view. Must be well qualified. Mixed Practice. Manufacturing Town. Salary £500, or £550 with car. State age, qualifications, nationality, experience, etc. Usual bond. —No. 564, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Assistant, with view to Partnership worth about £1,000 p.a. in Lancs Town. Experience essential. Single man, with car, preferred. Good prospects. — Address, No. 759, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant for pleasant Midland town. Outdoor (£350), single man or woman, British. State essential particulars. Dispenser kept. Usual bond.—Add., No. 613, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistantship (temp.) or long Locum by Woman M.B., aged 27. Exper. panel and private practice. Dispense, drive car, and cycle.—Address, No. 751, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship or LOCUMS, by Woman Doctor. Well experienced in private and panel practice; dispensing. Can drive car. — Address, No. 686, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistantship, London area, good-class Practice, by woman, M.B., B.S., five years' experience hospital, private, and panel practice, and Post-graduate work.—Address, No. 770, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, man or woman, outdoor, pleasant Lancashire district. Suit recently qualified. State essential particulars. — Address, No. 766, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, indoor male ASSISTANT, to visit, dispense, etc., in Catholic family, London. Work light. Usual bond. State essential particulars. — Address, No. 663, B.M.A. House, Tavistock Sq., W.C.1.

Wanted for Feb. 21st, married ASSISTANT (British), London area. Furnished house, electric light. £420 p.a. Reply with full particulars.—Address, No. 676, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

An Assistant urgently required, with view to Partnership, for large working-class panel and private Practice. Young, experienced, Protestant. Scotsman preferred. — Address, No. 680, B.M.A. House, Tavistock Square, W.C.1.

Assistantship required by M.B., B.Ch., in Surgical Practice. Experience in Anaesthetics. Near London preferred, but not essential.—Address, No. 754, B.M.A. House, Tavistock Square, W.C.1.

Assistantship wanted by well-qualified woman, aged 29. Experienced hospital and general practice. Keen. Anywhere, suitable conditions. London preferred. Testimonials, etc.—Address, No. 771, B.M.A. House, Tavistock Square, W.C.1.

M.B., Ch.B., D.P.H., aet. 29, Scot, married, abstainer, well received, 6 years present post, 4 years part-time M.O.H. large Urban District, experienced G.P., requires ASSISTANTSHIP with definite view early succession. Small town or country, Midlands or further North. Premium by instalments.—No. 689, B.M.A. House, Tavistock Square, W.C.1.

M.D.Cantab. requires Lady ASSISTANT to live in. Work light. Very healthy seaside town, N.E. English or Scotch only. Small salary, but generous percentage on increase of practice.—Address, No. 656, B.M.A. House, Tavistock Square, W.C.1.

Part-time Assistant required in Central London, to live at surgery. Suitable for retired Doctor or one doing Post-graduate work.—Address, with particulars, No. 685, B.M.A. House, Tavistock Square, W.C.1.

Woman M.R.C.S., L.R.C.P., keen, experienced, very well received, seeks *ASSISTANTSHIP, General Practice, preferably with view.* Excellent testimonials.—Address, No. 752, B.M.A. House, Tavistock Square, W.C.1.

LOCUMS.

South Africa. — Locum Tenens required to take charge of the Practice of a Surgeon-Oculist and Aurist from June 1st to December 31st, 1931. Salary £50 to £80 per month according to qualifications and experience.—Further particulars on application to BRITISH MEDICAL BUREAU, 12, Stratford Place, London, W.1.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams:
"REASIDE, TUBERCLE, WESTRAND, LONDON."

Indian, British qualified, experienced in panel and private, keen and energetic, desires LOCUM or ASSISTANCY.—Address, No. 763, B.M.A. House, Tavistock Square, W.C.1.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

A widow (refined) seeks position as CARETAKER or HOUSEKEEPER for Surgery. Nominal salary for unfurnished accommodation for herself and daughter (out all day).—Apply, CARTER, 9, Anerley Park Rd., S.E.20.

A good opening for a young, energetic, and well-qualified Practitioner. Sussex Coast.—Address, No. 764, B.M.A. House, Tavistock Square, W.C.1.

Dispenser, 20 years' experience, accustomed to medical accountancy, requires POST. — Address, No. 662, B.M.A. House, Tavistock Square, W.C.1.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Per- ensers, nd one on

Dispensing.—For over 30 years we have been training the daughters and other relatives of Doctors as DISPENSERS, and supplied Lady Dispensers to Doctors requiring same.—Apply Mr. J. E. WALDEN, Westminster College, 112, St. George's Rd., Southwark, S.E.1.

Doctor's Daughter, 21, English, desirous sharing brother's flat and companionship, London, seeks position as Doctor's SECRETARY-RECEPTIONIST. Surgery, bookkeeping, shorthand, etc. Drives car; linguist. —No. 661, B.M.A. House, Tavistock Sq., W.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Experienced G.P., now living at Southampton, would be glad of PART-TIME WORK for Doctors. Southampton or neighbourhood. — Address, No. 765, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser-Nurse required for panel Practice in Monmouthshire. Rooms and attendance provided. Give age, experience, and salary required, with references and photo (to be returned).—Address, No. 761, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser (recently qualified, Apothecaries' Hall) requires POST with Doctor or in Hospital.—G. C. PALMER, 2, Middleton Crescent, Dewsbury Road, Leeds.

Pensioned Sick Berth Chief Petty Officer desires POST with Doctor, as Dispenser, clerical work, and assist generally. Good working knowledge shorthand and typewriting. Excell. refs. and highly recommended. —No. 652, B.M.A. House, Tavistock Sq., W.C.1.

Qualified Chemist (B.Sc.Lond.), with Biochemistry subsidiary subject and certificate in Bacteriology, requires POST, either for routine or research work, 4 years' previous exper. Full particss. and refers. on application.—No. 651, B.M.A. House, Tavistock Square, W.C.1.

Recently retired Surgeon, London, aged 50, with over 20 years' experience all classes major surgery, not desiring complete retirement, is prepared to undertake SURGICAL WORK for general practitioners on mutual terms. London or suburbs.—No. 660, B.M.A. House, Tavistock Sq., W.C.1.

Secretarial post required, preferably in London, by young lady, experienced shorthand, typing, and bookkeeping. Now free. Nine years last appointment.—Write, Miss L. K. LUCAS, 8, Tiverton Mansions, Gray's Inn Road, W.C.1.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, *Sanitary Assistants*, Male Nurses, *Mental* and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

Young Lady, Apothecaries' Hall certificate (age 21), desires position as DISPENSER with Doctor or Hospital. Well recommended. — MISS MOUBANT, 67, Bedford Road, Clapham, S.W.4.

PARTNERSHIPS.

Wanted immediately, Partnership or PRACTICE, middle-class, with large panel. Income about £1,500 p.a. House to rent. Good girls' school near. Advertiser is M.B., Ch.B., ex H.S. and H.P., 8 years' exper. large Practice management and extensive knowledge Anaesthetics. Married. Own car. No agents. — Address, No. 671, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Partner in Country Practice in Cheshire. Cottage Hospital. 2/5 share of £2,700 at 1½ years' purchase. Panel 1,400. House to rent at £40. Some capital essential. Ex H.S. and G.P. experience preferred.—Address, No. 679, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—University Graduate (Scot), age 30, single, over 2 years' Hospital experience, 2—3 years' panel and private practice, desires PARTNERSHIP or outdoor ASSISTANTSHIP with view. Own car. Capital available. Free now.—Address, No. 353, B.M.A. House, Tavistock Square, W.C.1.

Manchester.—Partnership.—Old- established Practice. Cash receipts £1,800. Panel and private. Plenty of scope. Half share. *Premium* 1½ years' purchase.—Apply, Messrs. HOUGH & HOSEASON, Bridge Street, Manchester.

Partnership, or Assistantship with early view, in old-established good-*class Practice*, partly homoeopathic, in residential suburb of city, producing about £2,500 for several years past. Experienced man of high character desired. — Address, No. 677, B.M.A. House, Tavistock Square, W.C.1.

A sound Share in a London West End PRACTICE for sale to a suitable man. Cash £1,300 required. — Address, No. 667, B.M.A House, Tavistock Square, W.C.1.

Partnership. — Old - established private Practice. No panel. Income about £2,700. Not more than 1/3 share available. Knowledge of Eyes and Anaesthetics essential. Hunting man preferred.—Address, No. 768, B.M.A. House, Tavistock Sq., W.C.1.

Sheffield. — Partnership in Prac-tice, receipts about £2,300, in outlying and increasing suburb. Panel about 1,400. Splendid opening for young partner. One-third share £1,200.—Address, No. 658, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted.—London (any part).— Mixed PRACTICE. Income £1,000 or more *p.a.*, 50 per cent. at least from panel. *House to rent. Full particulars in confidence.* —Address, No. 674, B.M.A. House, Tavistock Square, W.C.1.

Wanted in Kent or Home Counties, a PRACTICE, mainly panel, value £1,000 or £1,500. Premium on as easy terms as possible, or Partnership with view succession. Excellent refs., etc.—Address, No. 685, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Practice, mid-class, in a town. Income approaching £2,000. Good house essential. Capital available to pay cash.—Address, No. 666, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Large Practice in London. Income about £2,000 or over. Substantial panel essential. Ample capital (cash) available. Replies in confidence.—Add., No. 757, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by M.B., B.S., D.P.H. (*semi-invalid*, aet. 50), easily worked PRACTICE, not over £1,000 p.a. Good panel preferred, little or no midwifery or night work South of Thames. — Address, No. 769, B.M.A *House, Tavistock Square, W.C.1.*

Wanted. — Surgical Practice in West Country county town. Fellowship desirable. — Address, No. 772, B.M.A. House, Tavistock Square, W.C.1.

A small well-established Practice for Sale in seaside South-Western town. Good class. Light work. Average receipts £750 (including £300 from panel). Good house for *purchase or on short lease. Educational facilities* good. Healthy situation. Golf, yachting, swimming. Favourable terms for immediate cash settlement. No agents. — Address, No. 681, B.M.A. House, Tavistock Square, W.C.1.

Cheshire. — Old-estab. Practice, average over £1,000 p.a., books audited. Panel 700. House, with separate surgery entrance, can be had on lease. Premium 1½ years' purchase. — Address, No. 687, B.M.A. House, Tavistock Square, W.C.1.

Devon. — Rapidly growing suburb of Seapoint Town. — NUCLEUS, ample scope, established 4 months, averaging £4 weekly and increasing. Panel 20. Self-contained flat over surgery. Prominent corner site, lease. Good reasons for sale. £200 cash or deferred for quick sale.—Address, No. 673, B.M.A. House, Tavistock Square, W.C.1.

Exchange Practices.—Good-class non-dispensing Practice (non-panel) of 7 years' standing (no night work), doing over £1,000 per annum, in Hyde Park district, London, W.2, would be exchanged for Practice of about same value in residential district half an hour by rail from London. Preferably Surrey or Sussex. Long introduction.—Address, No. 684, B.M.A. House, Tavistock Sq., W.C.1.

For Sale. — Old-estab. Private and Panel PRACTICE, with several appointments, in South Durham, in an agricultural and sporting district. Annual receipts over £2,000. Large house, garden, and two garages. Own electric light. The present Vendor is retiring from practice. Every investigation. House and Practice £5,000.—Address, No. 567, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Doctor's Practice.— East End working-class district. Electrically fitted throughout. Opposite new housing scheme. Price wanted £525.—Apply, personally or in writing, to J. LESLIE, N.T.P.A., Candleriggs, Glasgow.

For Sale. — Midlands, in good hunting country.—Old-established Country PRACTICE Receipts about £1,200 p.a., panel and usual appts. Unopposed. Beautiful surroundings. Comfortable house, garages, gardens, stabling Freehold £1,500 Practice 1½ years' purchase. — Address, No. 762, B.M.A. House, *Tavistock Square, W.C.1.*

For Sale.—Old-estab. private and panel PRACTICE in Yorkshire City (W.R.). Receipts over £2,000. Easily worked. Vendor retiring after 40 years. Every investigation. Comfortable house, garage, garden, etc. Practice 2 years' purchase. Ample scope. —No. 669, B.M.A. House, Tavistock Sq., W.C.1.

For Sale.—South-West England. —Mixed PRACTICE, with *appointments*. Average income about £1,200 Panel 750 Excellent scope for surgery. Price 1½ years' purchase. Convenient freehold house, with small garden. Price £1,200.—Address, No. 760. B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Increasing Practice in West of England city *Receipts* last year £425 Panel nearly 600. *Suitable house*, with electric light, garage, garden Plenty of scope. Premium £400. — Address, No. 753, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Unopposed Country PRACTICE in Bedfordshire, £1,800; panel 1,200. House to rent, with surgery, garage and garden.—Address, No. 657, B.M.A. House, Tavistock Square, W.C.1.

Lancs. — Unopposed Practice in lovely country. Nice house, 8 rooms, bath, garden, garage. Receipts over £500, much scope. Appointments £150. Price—Practice and house (freehold)—£2,000, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, S.E.—£840, increasing PRACTICE, established 6 years Panel 920. Fees 1 6—2/6. Great scope. House could be sold or let Vendor taking up appointment abroad. — Address, No. 653, B.M.A. House, Tavistock Square, W.C.1.

London, S.E. — Nucleus, cash and panel, growing rapidly. Prominent position main road. Good living accommodation, moderate rent, option of purchase. Quick sale desired (going abroad).—Address, No. 767, B.M.A. House, Tavistock Square, W.C.1.

Manchester, S. (residential dis-trict). — Growing mixed PRACTICE. Panel 1,700. Receipts £3,854. Newly-equipped central surgery. Modern house, 5 bedrooms, 3 reception rooms, etc. Garage. Half share 2 years' purchase. Partner leaving after year's introduction. Capital essential. No agents.—No. 758, B.M.A. House, Tavistock Sq., W.C.1.

M.D. desires purchase Nucleus of V.D. Practice, London, W. or S.W. districts. — Address, No. 659, B.M.A. House, Tavistock Square, W.C.1.

Old-estab. Practice in beautiful county within 70 miles of London for sale. Receipts over £500. Panel 400. House to rent. Low price for quick sale.—Address, No. 682, B.M.A. House, Tavistock Square, W.C.1.

Shrewsbury (in or near).— Wanted, well-established mixed PRACTICE, by experienced Practitioner. Income about £1,500. Would consider Partnership with early succession. — Address, No. 672, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

Unopposed Practice in South part of *Isle of Man. Average receipts* £750. Good freehold house. £1,500.—Apply, 2605, REYNOLDS & BRANSON, LTD., Briggate, Leeds.

Very good Practice to sell in Surrey, within 10 miles of London. Average income £2,500. Panel nearly 1,300. Buyer must have ample cash. Introduction could commence June. No agents.—Address, No. 555, B.M.A. House, Tavistock Square, W.C.1.

Working-class district.—Large cash and panel PRACTICE for Sale. Steadily increasing. Enormous scope. Small house, cheap rental, lease 21 years. Premium £3,000. — Address, No. 670, B.M.A. House, Tavistock Square, W.C.1.

Yorks.—Old-established. — Good house, large garden, garage, rent and rates £130. Average receipts £1,510. Panel averages over £500. Much scope. Transferable appointment £100. Price 1½ years' purchase, part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

HOUSES, CONSULTING ROOMS.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1

Estate Agents, Auctioneers, and Surveyors,

are the *BEST LOCAL AGENTS for HOUSES and* CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.

Telephone: 3204 MAYFAIR.

DOCTORS ATTENDING POST-GRADUATE COURSES.

A beautifully appointed HOUSE offers ACCOMMODATION, overlooking (and with access to) quiet private square, within easy reach, by 'bus and tubes, to all parts. Bed-sitting rooms from 35/- single. Double from 3 gns. Inclusive of breakfast, e.l., service, c.h.w., and bath.—10, Porchester Square, W.2. Park 6015.

Consulting Rooms to Let.—*Harley Street and District.*—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & Co., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Doctor's up-to-date Corner HOUSE for sale, 6 bedrooms, 3 rec. rooms, double garage, garden. First-class residential London suburb, N. (not industrial), easy access City and West End. Various amenities. Small Nucleus, Hospital appointment, large scope. Panel if desired. Suit middle-aged man with small income. Price £2,000, ground rent £20.—Address, No. 678, B.M.A. House, Tavistock Square, W.C.1.

Freehold House for Sale, middle of new estate. Built two years. Suit Physician. No opposition. Owner-occupier leaving district. End house, 2 reception rooms, 4 bedrooms, and usual offices. Exceptionally well-built. Garage. Price £1,500. — Address, No. 654, B.M.A. House, Tavistock Square, W.C.1.

Harley Street. — Large Consulting ROOM to Let every Tuesday afternoon. Attendance, handsome waiting room, every convenience. No door-plate, but telephone with name in Directory. £40 per annum.—No. 664, B.M.A. House, Tavistock Sq., W.C.1.

Harley Street.—Suite: Consulting Room and examination room or laboratory, on ground floor; both with h. and c. water, and well lit £300 per annum.—Add., No. 675, B.M.A. House, Tavistock Sq., W.C.1.

London General Practitioner offers QUIET ROOM, with part board, to Post-Graduate or Student. Moderate terms. Centrally situated.—Address, No. 665, B.M.A. House, Tavistock Square, W.C.1.

Near Harley Street. — Bedroom to LET with attendance, etc. Also part-time use of Consulting Room. Rent £125 per annum, or would be let separately.—Address, No. 601, B.M.A. House, Tavistock Sq., W.C.1.

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.),

Surveyors, Auctioneers, and Estate Agents,

10, WIGMORE STREET,
CAVENDISH SQUARE, W.1.

SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS

in Harley Street and leading Medical Positions.

Telephone: *Langham* 3927 *and* 3928.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 253, B.M.A. House, Tavistock Square, W.C.1.

To Let in a Doctor's House off Harley Street, CONSULTING ROOMS, full or part-time, with or without plates. Reasonable charges according to requirements. —Address, No. 688, B.M.A. House, Tavistock Square, W.C.1.

To Let. — Queen Anne Street, W.1.—Handsome SECOND FLOOR FLAT, furnished or unfurnished; fitted every convenience. Part-time Consulting Room available if required. Very low rent.—Address, No. 254, B.M.A. House, Tavistock Square, W.C.1.

127, Harley Street.—Large well-lit ground floor CONSULTING ROOM, with excellent attendance and joint use of beautifully furnished waiting room. £300 per annum.—Apply the Secretary, Welbeck 7840.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists

181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:

Regent 3024-3025 & 7486. National 8696/7.

Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS,

49, Chancery Lane, London, W.C.2.

Phone: Holborn 6659. Write for Tax Guide, Free.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Essell" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles.

Showroom: 97, Swinderby Road, Wembley.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 5931 & 7256.

APPOINTMENTS.—Contd.

Altrincham General Hospital. (100 Beds.)

Applications are invited for the posts of SENIOR and JUNIOR HOUSE SURGEONS. Salaries at the rate of £150 and £120 per *annum respectively, with board, residence,* and laundry. The appointments are for six months in the first instance. Duties to commence on March 1st next.

Applications, stating age and experience, together with copies of recent testimonials, to be sent in to the Secretary, Altrincham Hospital, Cheshire, not later than February 17th.

Royal Northern Infirmary, INVERNESS. (150 Beds.)

HOUSE SURGEON wanted to commence duties on March 1st. The appointment is for six months. Salary is at the rate of £100 a year, with board, residence, and washing.

Applications, stating age, qualifications, etc., with copies of recent testimonials, should be sent not later than February 14th to ROBERT GILBERT, Hon. Secretary, 20, Church Street, Inverness.

Royal Infirmary, Wigan. (180 Beds.)

THIRD HOUSE SURGEON (male) required immediately, for a period of six months. Salary £150 per annum, with board, apartments, and washing. Staff consists of one R.S.O. and three House Surgeons. Applications, stating age and qualifications, with copies of three recent testimonials, should be addressed to the undersigned as soon as possible.

A. STANLEY BRUNT,
January 13th, 1931. Gen. Supt. & Sec.

Princess Louise Kensington HOSPITAL FOR CHILDREN, St. Quintin Avenue, North Kensington, W.10.

The Board of Management invite applications for the post of HON. ASSISTANT DENTAL SURGEON. Applicants must be Bachelors or Licentiates of Dental Surgery.

Candidates should apply for further information to the Secretary, to whom final applications, accompanied by copies of three testimonials, should be made by Wednesday, February 11th.

Great Yarmouth General Hospital (72 Beds.)

Applications are invited for the post of JUNIOR HOUSE SURGEON (male and unmarried). Salary at the rate of £140 per annum, with board, residence, and laundry.

The successful candidate will be expected to commence duties immediately.

Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the *undersigned*.

FRANK JENNINGS,
Secretary.

Manchester Victoria Memorial JEWISH HOSPITAL, CHEETHAM, MANCHESTER. (Non-Sectarian.)

Applications are invited for the post of JUNIOR HOUSE SURGEON (male). The appointment is for six months. Salary at the rate of £125 per annum, with board, residence, and laundry. Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned not later than February 10th.

FRED. BARNES,
Superintendent & Secretary.

Nelson Hospital, Merton, S.W.20.

RESIDENT MEDICAL OFFICER (male), fully qualified, wanted at once. Small General Hospital, 62 beds. Majority of work surgical. Appointment for six months in first instance. Salary at rate of £100 per annum, all found. Comfortable quarters provided near Hospital.

Applications, with copies of two recent testimonials, should be sent to the Hon. Secretary forthwith.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIANO, LONDON."

NURSES

MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, Oxford Rd.
GLASGOW: 28, Windsor Terr.
DUBLIN: 23, Upper Baggot St.
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

ST. LUKE'S HOSPITAL

FOR MENTAL DISORDERS.

Private Nursing Staff Department.

Trained Nurses for Mental and Nervous Cases can be had immediately.

Apply to Lady Superintendent,
19, Nottingham Place, London, W.1.
Telephone: Mayfair 5420.
Northern Branch.—Apply, Lady Superintendent, 57, Clarendon Rd., Leeds. 'Phone: Leeds 26165.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,

The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 6932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

HAROLD GRIFFITHS & CO.

(Harold Griffiths, F.C.I.B.)
MEDICAL TRANSFER AGENTS,
Tredegar Chambers, Queens Square, Newport, Mon.

RELIABLE LOCUMS and ASSISTANTS required. Several Country and Contract PRACTICES for sale. Easy terms arranged in most cases.

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.
(Temple Bar 3873.) —— (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS, and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS. No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,

(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

West Riding.—£1,030 p.a., increasing. Panel 400. Appts. £45. Fees 3/6 to 10/6 and up. Midy. 3 to 7 gns. Small modern house to rent or on mortgage.—No. 8797.

S. Midland. — Country. — £480 and scope to young man. Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. Premium only £300.—No. 8796.

West of England Town.—£1,100 plus appts. worth £400. Panel 1,240. No midy. taken. Visits 4/- to 10/6. House, with 2 surg. and waiting rooms, 4 bed., etc. —No. 8786.

Yorks.—Death Vacancy.—£1,000 or more Panel 950. Not much midy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. £600 down, bal. deferred.—No. 8795.

Surrey.—Death Vacancy.—About £750 or more. Panel 130 and scope Visits 3/6 up. Large house, smaller available. Excellent opening.—No. 8794.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No midy. Fees 3/6 to 10/6. House to rent. —No. 8791.

South Coast Resort.—£1,800 p.a. Panel 910. Third share for disposal. *Increasing later.* Appts. £175. Choice of houses. Visits 4/- up.—No. 8790.

Kent. — Outer Suburb.—About £900 p.a. Scope. Panel over 900. Appt. £100. Visits 3/6 to 21/-. Good house and garden. Good schools.—No. 8789.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

Home County.—Assy., with view to Partnership in 3 months. About £3,000 p.a. Ample scope. Panel 1,950, increasing. Visits 3/6 to 10/6.—No. 8784.

Outlying London Suburb.—X-Ray and Electrical. £500, with scope. House, 6 bed., on lease.—No. 8785.

London Suburb, S.W. — About £1,100. Panel about £150, *increasing.* Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 3/6 up House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London Suburb, S.W. — £2,800. Old-estab. General Practice. Panel 1,250. Detached house (7 bed.) and garden.—No. 8760.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £25. Prem. £800, incl. furn.—No. 8766.

Favourite South Coast Resort.—Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 3/6 to £1 1s. Large house and garden. Smaller ones available.—No. 8750.

South Coast. — Within 60 miles. Over £1,000, increasing rapidly. Panel 500. Clinic £50. Fees 3/6 to 12/6. Good house, 4 bed., etc.—No. 8742.

Surrey. — Rapidly increasing PRACTICE. Receipts over £830. Panel 580. Excellent house, 8 bed., with large garden, to rent.—No. 8741.

S.W. County near Coast.—Dispensing PRACTICE over £2,000 p.a., chiefly agricultural. Visits 5/- up. Surgery 2/6 up. 1,100 panel.—No. 8728.

SPECIAL NOTICE.

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

PROSPECTIVE PURCHASERS

OF PRACTICES

and those seeking

PARTNERSHIPS

should consult

The

BRITISH MEDICAL BUREAU

at

12, Stratford Place, Oxford St., London,

or its Northern Branch at
33, Cross Street, Manchester.

or its Newcastle Branch at
7, Windsor Place, Newcastle - on - Tyne.

Those requiring additional

CAPITAL

should apply to the
Medical Insurance Agency
(Limited by Guarantee)
B.M.A. House, Tavistock Sq., London, W.C.1.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT

The

Medical Insurance Agency

(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

KENT.—Country Town PRACTICE, situated under 40 miles from London. Population 10,000, increasing. Receipts approximately £2,000 p.a. Panel 1,200. Fees 2/6 upwards. Good-sized house (6 bedrooms). Large garden. Garage. To rent on lease at £80 2s. p.a. Scope. Premium £3,000 cash.

MIDDLESEX.—Good-class non-dispensing and non-panel PRACTICE. Scope for Surgery. House to rent on lease at £120 p.a. (4 bedrooms). Garage. Garden. (May be purchased for £1,500.) Receipts £1,000 p.a. Fees 5/- upwards. Good schools, golf, tennis, etc. Prem. £1,500.

SURREY.—PARTNERSHIP in busy town in close proximity to London. Receipts approximately £1,000 p.a. (increasing rapidly). Panel nearly 1,000. Premium for half share £1,500.

KENT.—Within easy reach of London. — Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Premium £1,300. Excellent scope for *energetic man.*

LONDON, E. — Well-established PRACTICE in middle-class residential locality. Corner house to rent on lease (4 bedrooms). Garden, garage, etc. Receipts just over £800. Books audited. Panel 718. Fees 2/- up. Premium £1,250.

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional accommodation consists of three rooms, centrally situated, held on agreement at £100 p.a. Receipts approximately £530. Fees 2/-. Panel 430. Premium £650, cash. Scope for further development.

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

WE HAVE SEVERAL SMALL PRACTICES in and around LONDON with incomes varying from £100—£400 p.a., with or without panel. Details in full on request.

BEDFORDSHIRE. — NUCLEUS Country PRACTICE, with conveniently situated house (7 beds). Receipts nearly £500. House to be rented on lease at £65 p.a., or would sell for £800. Premium for Practice £300 for quick sale.

LONDON, S.W.—Old-established middle-class G.P., situated on main thoroughfare, with branch surgery. Corner house (5 bedrooms), garage, etc. Receipts approx. £2,000. Panel nearly 1,300. Premium, £3,000 or near cash offer. Highly suitable to one interested

PRACTICE, with excellent scope for panel detached house, containing 4 bedrooms, etc. eceipts approximately £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

SHROPSHIRE.—Country Town PRACTICE, unopposed. Modern house, with every convenience, to rent at £100 p.a. (11 rooms.) Large garden (3 acres). Receipts over £1,000 p.a. Panel 500. Visits 8/6 up. Consultations 5/- up. Midwifery £2 2s. up. Three appointments. Premium 1½ years' purchase.

EASTERN COUNTIES.—Cathedral City.—PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

EAST MIDLANDS. — PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for surgery. Premium 1/3 share, with view to larger share, £1,300.

BEDS.—PARTNERSHIP after PRELIMINARY ASSISTANTSHIP if desired in well-established mixed Practice. Receipts over £1,300 p.a. Panel nearly 1,800. Fees 2/6 up. Mids. 2 gns. up, not encouraged. Good educational facilities. Premium for 3/4 share, with possible view to succession, 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency,

71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone:* 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. NORTH OF ENGLAND.—Panel, Private, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appts. £350. Good house to rent. Considerable scope for energetic man.
2. SOUTH STAFFORDSHIRE. — Well-estab. Country PRACTICE. Receipts £1,124. Panel 700. Good house. Garage and garden.
3. MIDLANDS.—Panel and Private PRACTICE. Estab. 5 years. Receipts over £700; panel 550, both increasing. Appointments worth about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transferable. Good house, garage, and all conveniences.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts average £1,146 p.a. Panel 550, and good scope. Appointments worth about £250. Good fees and house.
7. Panel and Indus- £2,242, and in- *Appointments* house to rent.
8. OROUGH. — Well- PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London. *Telephone:* Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. LONDON, S.W. (near Chelsea).—Old-established cash and panel PRACTICE. Receipts £1,500 a year. Nice corner house, rent £150, long lease. Situated in residential part. Premium 2 years' purchase.
2. NORFOLK.—Large Town.—Quarter Share of old-established non-panel PRACTICE. Total receipts £4,500 p.a. Rooms available for Partner. Premium for share 2 years' purchase.
3. NEAR CAMBERWELL GREEN.—Well-established Cash and Panel PRACTICE. Receipts last 12 months £1,900, panel 1,052. House, rent to be arranged, lease granted. Premium £3,200.
4. SURREY.—Nice Town, 20 mins. Waterloo. —PARTNER wanted for rapidly increasing Practice. Receipts for last twelve months £1,750, panel 1,000. Excellent chance for active practitioner. Premium arranged.
5. SCOTLAND.—Large Town.—Well-established PRACTICE. Receipts over £2,000 p.a., panel 1,816. Very good house, rent £78 p.a. Premium 1½ years, part payable by instalments.
6. NEAR BRIXTON, S.W.—Old-estab. PRACTICE. Receipts average £825 p.a., panel 600. Good corner house, rent to be arranged, long lease granted. Premium moderate, income steadily increasing.
7. EASTERN SUBURB. — Old-established Cash and Panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by arrangement.
8. LONDON, N.W. (near Cricklewood).—Old-established PRACTICE. Receipts about £500 p.a., panel 450. Rent £70 p.a. Suit Lady or Gent. Premium £650, including new surgery furniture.
9. ESSEX.—Seaside Town.—Well-estab. mixed-class PRACTICE. Receipts average £560 p.a., including panel 250. Nice house on lease, rent £65 p.a. Premium £700 for quick sale.

No charge to purchasers or for enquiries.

THE

WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)

PHOENIX CHAMBERS

22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

SOUTH WALES.—In one of the most prosperous large towns in Wales. Good type of Practice. Receipts £1,000 p.a. Panel 700. Excellent house in best street (billiard room, 7 bedrooms, etc.). Price £3,000 for house and Practice. Accountant's certificate.

WEST OF ENGLAND.—NUCLEUS in large town. Receipts average £200 p.a. Rapidly growing dist. Good prospects. Prem. £200. Suit keen man wishing to work up Practice.

SOUTH WALES.—Old-established good mixed PRACTICE, about £1,300 p.a. Panel 1,300. Large proportion contract work. Opposition weak. Good house to rent, £60 p.a. Good scope for increase. Premium £1,550.

WEST OF ENGLAND CITY.—PARTNERSHIP.—Half-share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Premium 1½ years. Choice of residence.

NORTH WALES.—Good mixed PRACTICE in Hospital town, returning £800 p.a. Panel £300 p.a. Working knowledge of Welsh essential. Excellent house on lease, rent £65 p.a. Prem. £800, on very easy terms.

VILLAGE PRACTICE.—MIDLANDS.—Within 50 miles of London. Receipts last year £483. Good house to rent. Prem. £300, quick sale.

CORNWALL. — PARTNERSHIP. — Beautifully situated village on Cornish Coast. Share £400 p.a., but good scope. Good house to rent £60 p.a. Excellent society.

WELSH BORDER. — PARTNERSHIP. — Large Country Town. One-third Share of Partnership, bringing in £780 p.a. Mostly panel and contract work. Panel 2,600. Fees 2/6 to 7/6. Car not essential. House to rent £78 p.a. 5 bedrooms. Tennis court. All sports. Good schools, hospitals. Prem. £950.

FINANCIAL ASSISTANCE CAN BE ARRANGED FOR THE PURCHASE OF PRACTICES AND PARTNERSHIPS.

FULL PARTICULARS ON APPLICATION.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

DEATH VACANCY.—LANCS COUNTRY TOWN.—Average cash receipts £848 p.a. Panel 1,003. Scope. Excellent house, 2 reception, 4 bedrooms. Garage and large garden. Rent £65 p.a. Premium 1 year's purchase.—No. 215.

LANCS TOWN.—Near Country. —Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

LIVERPOOL (near).—PARTNERSHIP in excellent middle-class Practice. Average cash receipts £2,194 p.a. Panel over 1,000. Good scope. Nice house, 2 reception, 4 bedrooms. Garage and garden. Rent £70 p.a. Premium 1/2 share 1½ years' purchase. —No. 228.

LIVERPOOL.—INDUSTRIAL PRACTICE.—Average cash receipts last 5 years, £1,500/£1,600 p.a. Panel 2,423. Midwifery discouraged. Surgery rent £80 p.a. Vendor resides in residential district. Premium £2,000.—No. 231.

NEAR NORTH-EAST COAST.—SEASIDE RESORT.—Country PRACTICE.—Average cash receipts over £1,000 p.a. *Income from panel* £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £800 for quick sale.—No. 220.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Rent £90 p.a. Premium £1,500.—No. 222.

SCOTLAND.—25 miles from Edinburgh.—Industrial PRACTICE. Cash receipts last year £1,016. Panel 1,094. House to rent at £28 p.a. Premium £1,500.—No. 217.

NORTH WALES.—RAPIDLY GROWING SEASIDE TOWN.—PRACTICE. Average cash receipts £627 p.a. Panel £123. Excellent *modern house* (freehold), 2 reception, 6 bedrooms. Garage. Garden. Electric light. Premium—Practice and house—£1,550. —No. 223.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. *Premium—Practice*—1½ years' purchase. —No. 194.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

CHESHIRE TOWN, near MANCHESTER.—PRACTICE. Average cash receipts £838. Panel 800. Much scope. Good house, 2 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 159.

ISLE OF MAN.—SEASIDE TOWN.—Old-estab. PRACTICE. Receipts average £946 (*including* £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium —Practice and house—any reasonable offer.—No. 173.

LIVERPOOL.—NUCLEUS in Industrial district. Average cash receipts £500 p.a. Panel 200. Tremendous scope. Surgery rent 30/- per week clear. Premium £600 or near offer.—No. 227.

NORTH-WEST COAST.—Old-established mixed PRACTICE. Cash receipts £1,129. Panel 580. Good scope. Easily worked. Nice house, 3 reception, 5 bedrooms. Garage and garden. Premium 1 year's purchase.—No. 154.

LANCS TOWN.—Old-estab. *mixed* PRACTICE. Average cash receipts £2,523 p.a. Panel 1,021. Good house, 2 reception, 6 bedrooms. Garage and garden. Reason for disposal, ill health. Preliminary Partnership if desired.—*Premium*—Practice—1½ years' purchase.—No. 63.

NEAR MANCHESTER.—Sound old-established PRACTICE. Average cash receipts £1,440. Panel 1,100. Excellent house, 2 reception, 6 bedrooms. Garage. Premium 1½ years' purchase.—No. 233.

LIVERPOOL (Near).—Old-estab. middle-class PRACTICE. *Cash* receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. *Garage and large garden. Rent* £50 p.a. Premium—Practice—£1,600.—No. 195.

MANCHESTER.—INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

CHESHIRE.—Coast Town near Liverpool.—Old-estab. middle-class *PRACTICE. Cash receipts* last year £1,134. Excellent house, 2 reception, 6 bedrooms. Garage and garden. Premium—Practice —1½ years' purchase. Vendor retiring.—No. 189.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE.—Average cash receipts £745. Panel 700 Excellent house, 3 reception, 5 bedrooms. Premium 2 years' purchase.—No. 197.

MANCHESTER SUBURB.—Old-estab. *PRACTICE.* Average cash receipts £600 p.a. Panel 360. Scope. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium 1½ years' purchase. Vendor retiring.—No. 191.

ISLE OF MAN.—Seaside Resort.—PRACTICE. Cash receipts 1930, £861. Panel. Good house, 3 reception, 7 bedrooms. Garage and garden. Premium—Practice—£700 (or near offer).—No. 224.

CHESHIRE TOWN, near MANCHESTER. Middle-class PRACTICE, established 4 years. Cash receipts 1929, £720. Much scope. Modern detached house, 2 reception, 4 bedrooms. Garage and large garden. Premium—Practice and house—£2,500, part on mortgage.—No. 153.

NORTH WALES.—Country Town near Sea.—PRACTICE. Cash receipts £700 p.a. Panel £300 p.a. Good detached house. Garage and garden. Rent £65 p.a. Premium for quick sale 1 year's purchase.—No. 219.

LANCS TOWN, near MANCHESTER.—PRACTICE. Average cash receipts £751. Panel 430. Much scope. Excellent house to rent, 6 bedrooms, large garden, and garage. *Premium for quick sale* £500.—No. 216.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £700. Panel 614. Good house, 2 reception, 3 bedrooms. Garage and garden. Premium—best offer.—No. 116.

SHEFFIELD.—NUCLEUS in growing district. Cash receipts £490. Panel 400. Rent of Surgery £52 p.a. Tremendous scope. Premium—best cash offer.—No. 218.

NEAR MANCHESTER.—*Residential district.*—PRACTICE. Cash receipts last year £540. Small panel. Excellent house, 2 reception, 5 bedrooms. Garden and garage. Premium—Practice and house—£2,250.—No. 202.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (*male and female*) *SHOULD REGISTER AT* ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,

Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 UNIVERSITY CITY within 120 miles of London. Practice averaging £1,500 p.a., including valuable appointment and a panel of 1,250. House (4 bedrooms), with garage and garden, for sale. Scope. Premium £2,025.

2 SURREY.—Partnership in non-dispensing PRACTICE of £3,200 p.a., in residential Town. Panel over 4,000. House with 5 bedrooms. Partner should be aged 30/40, and experienced in anaesthetics. Premium two-fifths share 2 yrs.' purchase.

3 ESSEX.—Good middle-class Practice nearly £1,900 p.a., in outlying suburban district close to Epping Forest. Panel 440. Very good residence (4 bedrooms), garage, and large garden, to rent on lease. Sport. Premium 1½ years' pur.

4 HAMPSHIRE.—Practice in small Industrial Town. Receipts average over £1,200 p.a. (about £240 from clubs, and panel of 1,123). House (6 bedrooms), large garden and garage, for sale. Beautiful country around. Premium £1,500.

5 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice averaging £4,225 p.a. in residential town and Health Resort. Panel 800. Very good educational facilities. One-sixth share gradually increasing to one-half in three years. Premium 2 years' purchase.

6 SOUTH OF ENGLAND. — Progressive Seaport Town. Steadily increasing PRACTICE of about £800 p.a., including panel of 200 and club. Semi-detached house (5 bedrooms) in residential part, with garden and garage for sale. Great scope. Premium £1,200.

7 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

8 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

9 LONDON, N.W.—Good middle and better-[illegible] PRACTICE in residential district. Receipts [illegible] half from Surgical work). No panel or [illegible] detached house (4 bedrooms), garage, garden, etc., to rent. Good up-to-date Hospital and scope for Surgery. Premium 1½ years' purchase.

10 NEW ZEALAND.—Practice of £1,500 p.a. in Country Township in North Island. Visits range from 10/6 to £3 13s. 6d. Well-situated house (4 bedrooms, bathroom, etc.), and half acre of garden, for sale. Good private Hospital, with scope for Surgery. Premium £1,250.

11 LONDON, S.E. — Practice over £800 p.a. in thickly populated district close to the City. Panel 1,200/1,300. Well-situated house (4 bedrooms, bathroom, etc.), to rent. Great scope. Premium 2 years' purchase.

12 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main thoroughfare for sale. Scope for panel and midwifery. Premium £1,200.

13 LONDON, W.—Good middle-class Practice over £850 p.a. in outlying residential suburb. No panel. Nice compact house (4 bedrooms), with fair-sized garden to rent. Good scope. Premium £1,100.

14 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

15 W. OF ENGLAND.—Partnership in Practice over £3,000 p.a., in pleasant Country Town, under 130 miles from London. Young keen Partner, preferably with the F.R.C.S., who has held Hospital appointments. Premium for a two-fifths or one-half share 2 years' purchase.

16 ISLE OF MAN.—Practice in small watering-place. Receipts 1930, £861. Double-fronted house in best road (7 bedrooms, etc.), garage and large garden, for sale. Educational facilities. Excellent scope. Premium £700.

17 LONDON, S.W.—Good middle-class Practice (General and Ophthalmic) in pleasant suburb. Receipts average nearly £1,350 p.a. (over £350 from Eye work). Corner house (5 bedrooms), garage and garden, for sale. Scope for panel and midwifery if desired. Premium £1,600.

18 S. WALES. — Partnership in Practice about £4,000 p.a. in good Town with Hospital. Panel over 3,000. Half share (or smaller) at 2 years' purchase. Partner should have F.R.C.S. as there is plenty of Surgery.

19 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

20 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

21 LONDON, N.—Practice of about £700 p.a. in suburban district. Panel 727. Small house (3 bedrooms, consulting and waiting rooms) for sale. Price £600. Scope for increase. Premium £900.

22 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

23 S. COAST.—Partnership after preliminary Assistantship in well-established Practice in Seaside Resort. Share worth £700 p.a. at first to suitable man after six months. Premium 2 years' purchase. Considerable scope and excellent opportunity for young man.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair 1782, 1783

Practices and Partnerships for Disposal (continued).

24 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

25 ITALY. — Partnership in easily worked, good-class Practice of £1,400 p.a. in world-renowned Mediterranean Sea Coast Town. Established over fifty years. Fees chiefly 21/- (permanent residents less). Vendor purposes retiring from general practice in the near future, and his charmingly situated apartment would be available if wanted. No midwifery. No language difficulty. Premium 1½ years' purchase. Vendor well known to Bureau.

26 S. MIDLANDS. — Practice over £750 in first-rate County Town. Small panel. Suitable house for sale at £1,200. Good Hospital. Scope. Premium 1½ years' purchase.

27 N.E. COAST.—Partnership in increasing Practice over £4,800 in Seaport Town. Panel 2,500. Incoming Partner should be married and have held H.S. and H.P. appointments. One-fourth share at first at 1½ years' purchase.

28 S. MIDLANDS. — Partnership (after preliminary Assistantship) in Practice about £3,000 p.a. in small Country Town. Panel nearly 2,000. Applicant must be English or Scotch, a good Anaesthetist and experienced in Midwifery. Share worth about £700/£800 p.a. at 2 years' purchase.

29 LONDON, N.—Cash and Panel Practice of £1,300 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

30 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

31 MIDLANDS. — Partnership in Practice over £3,300 p.a. in a good town. Panel about 1,000. Modern up-to-date Hospital. Four-twelfths share at 2 years' purchase. Preliminary Assistantship if desired.

32 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

33 DEATH VACANCY.—Staffs.—Practice of over £1,100 p.a. in manufacturing town. No panel or midwifery. Semi-detached 8-roomed house, with garage, for sale or rent. Scope for great increase.

34 LONDON, W. — Small good-class non-dispensing PRACTICE of about £450 p.a., in West Kensington. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

35 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

36 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

37 LONDON, W. — Partnership in Practice about £2,000 p.a. in suburban area. Panel about 1,650. Well-situated house (6 bedrooms), garage, and small garden, to rent. Scope. Premium two-fifth share 2 years' purchase.

38 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

39 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a in growing and pleasant residential district. Choice of residence for sale Good scope. Prem. £1,200.

40 EASTERN COUNTIES.—Country Practice nearly £1,200 p.a., easy reach of two good towns. Panel 759. Small house (5 bedrooms), garage, and garden, to rent. Premium 1½ years' purchase.

41 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

42 CHESHIRE. — Chiefly non-dispensing PRACTICE of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

43 MIDLANDS.—Partnership in Practice of between £1,800/£2,000 p.a. in a beautiful district in a hunting centre. Panel about 1,000. Good house, with 5 bed and dressing rooms, garage and one acre garden, for sale. Smaller one might be obtained. Premium one-third share 2 years' purchase. Public School or University man preferred.

44 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

45 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

46 NOTTINGHAMSHIRE.—Country Practice of nearly £1,100 p.a. Panel 700. Good house (6 bedrooms), garage, and 1½ acres garden, to rent. Great scope. Premium 1½ years' purchase.

47 LONDON, E.C.—Partnership (with Succession) in steadily increasing Practice of about £1,200 p.a. in the City. Majority of consultations £1 1s Excellent consulting rooms. Premium one-half share 2 years' purchase.

48 EAST COAST.—Partnership in non-panel Practice in favourite watering-place. Partner should be young and with Hospital experience. Share of about £1,000 p.a. at 2 years' purchase. Preliminary Assistantship.

49 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a., at 1½ years' pur.

50 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 550. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

51 KENT.—Country Practice about £650 p.a. in beautiful district. Panel about 700. No house, but surgery and waiting room to rent. Capable of much increase. Moderate prem.

52 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase with ultimate succession.

53 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

54 WITHIN 50 MILES OF LONDON.—PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate county town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P. appointments. Preliminary assistantship.

55 CHESHIRE.—Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

56 S. DEVON. — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House, containing 5/6 bedrooms, for sale. Prem. one-half share £1,320, include drugs, etc. Work very light.

57 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden for sale. Scope. Premium 1½ years' purchase

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). Post free 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. LARGE WESTERN CITY.—Very old-established good middle and industrial class PRACTICE, averaging about £1,500 p.a., including panel of 1,249 and an appointment worth about £450 p.a. Fees 3/6 upwards. No midwifery, but large scope if desired. Low expenses. Suitable house, with good professional accommodation, 2 reception, 4 bedrooms, etc. Price for freehold £1,700, part on mortgage. Premium £2,025.
2. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.
3. WEST MIDLANDS.—Within seven miles of County Town.—Old-estab. unopposed Country PRACTICE, in pretty district, averaging nearly £2,400 p.a., including appt. over £100 and panel upwards of 1,000. Railway station. Very nice house and garden, with tennis court. Price (copyhold) £1,000, £500 on mortgage. Premium 1½ years' purchase, payable as arranged. Sport of all kinds and exceptionally good educational facilities.
4. DEATH VACANCY.—YORKS.—Village PRACTICE near large town. Old-established mixed-class Practice averaging £1,200 p.a., including panel of 950. Fees from 3/6, with medicine extra. Suitable house, with 3 reception, 4 bedrooms, bathroom, etc. Electric light. Small garden. Rent £56 p.a. Premium £1,000, payable £700 down and balance by instalments. Locum in charge.
5. SOUTH OF ENGLAND.—Pleasant Town, near Sea Coast.—Very old-established partly Surgical PRACTICE, averaging £2,433 p.a. (last year £2,516, of which £760 was derived from operative work), including appt. £170 and panel of 500. Nursing Home, centrally situated and well fitted up, which is also used for operations. Price £2,000. House, with ample accommodation, in 1½ acres of ground, commanding magnificent views. Price £2,000. Mortgage arranged on both. Premium 1½ years' purchase, partly by instals. Successor should also have knowledge of Eye, Ear, Nose, and Throat work.
6. LONDON, EAST. — Old-established good middle and working-class PRACTICE, averaging approximately £1,750 p.a., including panel of 2,300. Visits 2/6 and 3/6. No appointments. Suitable house, with 2 reception, 3 bedrooms, and professional rooms; in excellent condition. Rent on lease £100 p.a. Premium £3,000.
7. WITHIN 20 MILES OF LON[illegible]-class PRACTICE, in small town amidst [illegible] Cash receipts average about £1,700 p.a., [illegible] panel of over 1,000. Good house, with am[illegible] garden. Price, freehold, £2,500. Premium [illegible] educational facilities and sport of all kinds.
8. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,124, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £51 p.a. Sport of all kinds. Premium 1½ years' purchase.
9. SOUTH WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. *Premium £1,300.*
10. WITHIN 100 MILES OF LONDON (NORTH).—PARTNERSHIP.—The two-sevenths share (with option to third and eventually half) producing about £1,000 p.a. is offered in very old-established Practice, averaging about £3,500 p.a., including panel of 2,500. Situated in pleasant town, with pop of 2,000. Ingoing partner should be unmarried (about 25 to 30) until suitable house available. Premium 2 years' purchase. Short preliminary assistantship.
11. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
12. PARTNERSHIP.—SURREY.—Attractive residential district within 40 miles. A one half share, with ultimate succession, is offered in a good mixed Practice, averaging about £1,500 p.a., but capable of large increase. Panel of over 1,000. Fees 3/6 to 21/-. Suitable house, with 3 reception, 3 bedrooms, etc. Good garden. Price for freehold £1,500, £1,000 on mortgage. Premium 1½ years' purchase.
13. NORTH WALES.—Very old-established chiefly middle-class PRACTICE, producing over £800 p.a. Panel of 600. Visits from 2/5, with medicine extra. Very low expenses. House contains 2 reception, 6 bedrooms, etc., and has all modern conveniences. Garden. Garage. Rent on lease £60 p.a. Sport of all kinds and schools. Ample scope for increase. Premium 1 year's purchase.
14. SOUTH COAST TOWN.—Rapidly increasing PRACTICE producing for last 12 months over £400. No panel. Visits 5/- up. Suitable house, with 2 reception, 3 bedrooms, etc. Rent on lease £130. Prem. £600.
15. [illegible] TOWN.—Old-established better-class PRAC[illegible]p.a. and offering good scope. Panel of 500. situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.
16. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share *guaranteed to produce £600 p.a. is offered to a suitable man* keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope. Panel of over 1,400. Fees from 3/6. Suitable house can be secured. Premium 2 years' purchase.
17. CHESHIRE.—Coast Town, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down.
18. *SOUTH COAST.—FAVOURITE HEALTH RESORT.*—Well-established mixed class PRACTICE, offering good scope. Average gross cash receipts over £700 p.a., including panel of 720. Very good house, with 2 reception, 5 bedrooms, etc. Nice garden. To be sold, or might be let for a time. Premium 1½ years' purchase.
19. YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one-half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle-class Practice. Income for the past twelve months approximately £4,000. Small select panel of 430. One appointment worth nearly £650 p.a. Fees 3/6 upwards. Opposition not strong. Suitable house can be bought or leased. Very good educational and sporting facilities. Premium 2 years' purchase.
20. MANCHESTER.—Chiefly working-class PRACTICE. Average income £1,000, including panel of 1,000. Moderate expenses. Corner house, with 3 reception, 8 bedrooms, etc. Garage. Rent on lease £65 p.a. Premium £1,500 or near offer.
21. LANCS.—PARTNERSHIP.—A one-fourth share to commence (with increase up to one-*half later) is offered in* a very old-established good middle-class Practice producing for the last twelve months over £4,700 p.a. Panel of 2,730. Appts. worth nearly £200 p.a. Visits 2/6 to 12/6. Not much midwifery from 2 to 3 gns. Suitable house obtainable, but, if single, purchaser can reside with Vendor, who is a bachelor. Premium 2 years' purchase.
22. CAMBS.—PARTNERSHIP.—A one-half share is offered in a sound mixed-class Practice, producing last year nearly £2,000. Panel of 765. Situated in pleasant agricultural district; with good sporting facilities. Fees 5/- to 21/-. Suitable house can be rented at £75 p.a. Premium 2 years' purchase.
23. SOUTH-WESTERN COUNTY.—Near the Sea.—Old-established easily worked country PRACTICE, in beautiful district, within easy reach of Market Town, averaging £1,100 p.a., including appts. and panel producing £450. Exceptionally attractive house, in over 3 acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £3,000, part on mortgage. Premium £1,650. Sport of all kinds and schools within reach.
24. SURREY.—In a beautiful residential district within 40 miles of London (good train service) a small mixed-class PRACTICE worth about £600 p.a., and offering scope. Select panel of 200. Charming house, in very pretty grounds, with ample accommodation. Price, freehold, £3,500. Premium 1½ [illegible] half-
25. BORDERS OF NORFOLK AND [illegible] d un-share (with succession in 2 to [illegible] opposed Practice, in pleasant village, near two good towns. Income for last 12 months £1,992, including panel of 1,000, and appts. worth about £150. Fees 2/6 to 10/6. House contains 3 reception, 6 bedrooms, etc. Sport of all kinds. Premium 2 years' purchase.
26. ITALIAN RIVIERA.—SEASON PRACTICE.—Old-established and held by Vendor for the past six years. Average income about £400 p.a. Fees 10/- to 20/- approximately. Suitable furnished flat, with one large reception room, consulting room, 4 bedrooms, etc. Rent on lease £140 p.a. Premium £500.
27. MANCHESTER DISTRICT.—Old-established middle and working-class PRACTICE, worth last year about £700 p.a., including panel of 614 and capable of increase. Expenses small. Well-situated house, with six rooms in addition to professional accommodation. Large garden. Price for freehold £850. Moderate premium accepted.
28. LINCOLNSHIRE COAST.—Well-established mixed-class PRACTICE averaging £2,749 p.a. (last year £2,868) including panel of over 1,700. Fees 3/6 to 21/-. Mid. from 2 gns. (about 70 cases yearly). Newly built modern house, with special professional accom., central heating, etc. Garden. Garage. Price, freehold, £2,300, part on mortgage. Good sport and schools within reach. Prem. 1½ years' pur.
29. MIDDLESEX.—Rapidly developing district, within 20 miles.—PARTNERSHIP.—A one-half share in an old-estab. good middle-class Practice, averaging for the past two years over £3,500 p.a. Panel of 1,100 and appts. bring in £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
30. KENT.—Country PRACTICE near Coast.—Old-established mixed-class Practice, averaging about £1,100 p.a. Panel of nearly 400. Fees 3/6 upwards. Convenient house, with 3 reception, 6 bedrooms, etc. Good garden. Price £1,650, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

Who is your Patient?

A MAN or woman? Adult or child? A very necessary question when you prescribe a remedy for constipation—unless it is Agarol Brand Compound the original mineral oil and agar-agar emulsion with phenolphthalein. Then you need to give thought only to the dose. And that is simple. Begin with a tablespoonful for adults and a teaspoonful for children, at bedtime. Reduce the dose as improvement takes place.

No excess of mineral oil to make adjustments of the dose necessary. An emulsion as fine as it can be made, that mixes thoroughly with the intestinal contents, carries unabsorbable moisture to them and makes evacuation easy and painless.

Besides, it *gently stimulates* peristalsis, and thereby makes the result certain and the re-education of the bowel function possible.

One tablespoonful at bedtime —is the adult dose

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

AGAROL BRAND COMPOUND *for Constipation*

FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C. 1.

Prepared by WILLIAM R. WARNER & CO., INC. *Manufacturing Pharmacists Since 1856.*

HORMOTONE
BRAND

in disorders of the

CATAMENIA

and the

MENOPAUSE

Hormotone supplies the physiological stimulus to the endocrine glands, whose functional activity determines the normal catamenial flow.

When these internal secretions begin to fail at the period of the menopause, Hormotone acts both by substitution and homostimulation.

Dose: One or two tablets three times daily.

G. W. CARNRICK CO.

2-24, Mt. Pleasant Avenue,
NEWARK, NEW JERSEY.
Dependable Gland Products.

London Agents: BROOKS & WARBURTON Ltd., 232-240, Vauxhall Bridge Rd., S.W.1

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3657 SATURDAY, FEBRUARY 7, 1931 Price 1/3

PARKE, DAVIS & CO.

ADRENALIN

The Product of Unique Experience

PARKE, DAVIS & Co. introduced Adrenalin to the medical profession in 1901.

During the thirty years that have elapsed, they have manufactured it continuously, and their long experience has convinced them that natural Adrenalin possesses many advantages over the synthetic product.

Adrenalin (P., D. & Co.)—the original and well-tried preparation—is extracted from the medullary portion of selected adrenal glands. The isolated substance is then standardised by both physiological and chemical methods to secure full activity of the finished preparations.

Medical men can make sure of obtaining an Adrenalin that is potent, uniform in action, and reliable by specifying "P., D. & Co.".

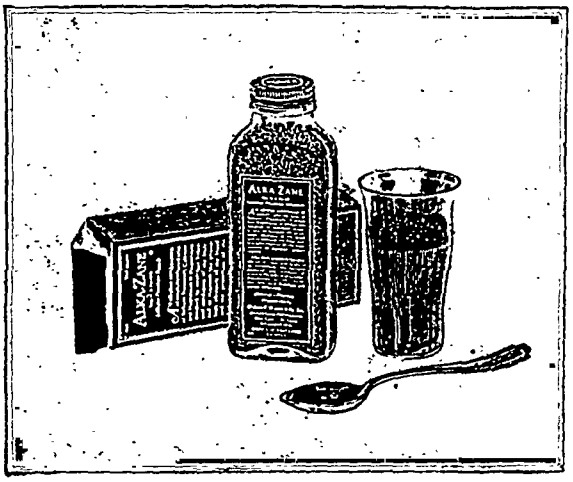
Full particulars of Adrenalin (P., D. & Co.) and its uses in medicine will be supplied on request. Adrenalin Chloride Solution, P., D. & Co., is supplied in bottles and ampoules. Hypodermic Tablets, Inhalant, Lozenges, [illegible] etc., and Adrephine (Adrenalin Compound) are also available.

PARKE, DAVIS & CO., BEAK STREET, LONDON, W.1.

Inc. U.S.A.: Liability Ltd. *Laboratories: Hounslow, Midd'sex.*

D

In Hyperchlorhydria



A pleasant, effervescent granular preparation composed of carefully selected salts of Sodium, Potassium, Calcium and Magnesium in physiologically correct proportions.

and other conditions of gastric over-acidity, Alka-Zane will afford prompt relief from distressing symptoms and restore normal alkaline balance.

Diuretic and antacid, Alka-Zane is indicated wherever the alkali reserves are unduly depleted, as in intestinal disturbances, rheumatic affections and certain anaphylactic manifestations.

ALKA-ZANE

Literature and samples to physicians on request.

Francis Newbery & Sons, Ltd.,
31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC.,
Manufacturing Pharmacists Since 1856

British Medical Journal

CONTENTS

FEBRUARY 7, 1931

ORIGINAL ARTICLES

Quantitative Management of Contraction for "Lowest-level". Co-ordination. By Sir CHARLES SHERRINGTON, O.M., G.B.E., M.D., F.R.S. 207

Fracture of the Skull in Childhood. By JOHN T. MORRISON, F.R.C.S., and MIRIAM ROSKIN, M.B., Ch.B. 212

A Simple Method for Deciding Pneumococcal "Type." By RICHARD R. ARMSTRONG, M.D., F.R.C.P. 214

The Enigma of the Chilblain. By RUPERT HALLAM, M.D. 215

Removal of Tonsils and Adenoids in the Out-patient Department. By J. ARNOLD JONES, M.B., F.R.C.S.Ed. 217

Epilepsy and Pregnancy. By J. A. STRUTHERS, M.D., M.R.C.P. 218

Treatment of Advanced Intestinal Obstruction or Strangulation. By D. C. CORRY, M.D., F.R.C.S. 219

MEMORANDA

Serum Anaphylaxis. By W. S. BRINDLE, M.B., Ch.B.; and R. E. JACKSON, M.B., Ch.B. 220

Labour and Mitral Stenosis with Incompetence. By ALEC B. WALKER, M.D., M.R.C.P., and A. CAMERON EWING, M.B., Ch.B. 221

A Fatal Case of Poisoning by Phenylcinchoninic Acid. By WARREN MORRIS, M.R.C.S., L.R.C.P. 221

CLINICAL PROCEEDINGS

CALCUTTA BRANCH:
Pathology and Treatment of Sprue ... 222
Hydatidiform Mole 222

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE:
Sugar in the Diet of the School Child 222
ABERDEEN MEDICO-CHIRURGICAL SOCIETY:
Alkali Treatment of Nephritis 223
ROYAL MICROSCOPICAL SOCIETY 224

REVIEWS

Deep X-Ray Therapy in Cancer 224
[illegible] 225
226
226
The Animal Mind 226
Notes on Books 227

LEADING ARTICLES

ANALYSIS OF SPINAL REFLEXES 228

THE POSITION OF MEDICAL OFFICERS OF HEALTH 229

THE WEEK

Fractures of the Femur and Pelvis 230
The Intervertebral Discs 230
The *Bulletin of Hygiene* 231
Rickets and Oral Sepsis 232
The Society of Apothecaries 232
Sir Andrew Balfour 233

GENERAL ARTICLES AND NEWS

The Psychological Factor in Delinquency. A Joint Discussion 233

Nova et Vetera: The Eyesight of the Brontës. By C. MABEL EDGERLEY, L.R.C.P. & S. 235

PREPARATIONS AND APPLIANCES. (Illustrated) 227

MEDICAL NOTES IN PARLIAMENT:
Shortage of R.A.M.C. Officers 243

MEDICAL NEWS 251

LOCAL NEWS

INDIA—
Progress of Madras Hospitals 235
Malaria as a cause of Infantile Mortality 236
King Edward VII Hospital, Bombay 236

ENGLAND AND WALES—
Dinner [illegible] 236
West [illegible] 236
New [illegible] nd Health Centre 236
L.C.C. Public Health Staff 237

SCOTLAND—
Health in Schools 237
Retirement 237
Edinburgh [illegible] 237
Earl Haig [illegible] 239
Appointment Officer 238
Development of Veterinary Art 238
Milk for School Children 238

THE SERVICES

Naval Medical Compassionate Fund ... 244
Deaths in the Services 244
(*For Naval, Military, and Air Force Appointments see* SUPPLEMENT)

OBITUARY

Sir Andrew Balfour, M.D., F.R.C.P. (With Portrait) 245
Archibald Leitch, M.D. (With Portrait) 247
John Edward Gemmell, M.B., C.M. 248
William Bradshaw Ainger, F.R.C.S. ... 249
James Lawson, M.B., C.M. 249

CORRESPONDENCE

The Outlook [illegible] 238
Sir R. W. [illegible]
G. Lissant [illegible]
M.D.; and [illegible] Walters, M.D. 238
Treatment of Circulatory Failure. By John Eason, M.D., F.R.C.P.Ed. 240
Treatment of Varicose Veins. By Sir Leonard Hill, M.B., F.R.S. 240
Subphrenic Abscess. By C. Jennings Marshall, M.D., F.R.C.S. 241
Cataract Operation in Extreme Old Age. By A. J. Ballantyne, M.D.; and W. B. Inglis Pollock, M.D. 241
Familial Incidence of Cancer. By Griffith Evans, D.M., F.R.C.S. 241
Septicæmia from Minor Wounds. By Ian Fraser, M.Ch., F.R.C.S. 242
The "Deep Pool" Bath. By John Sainsbury, M.B. 242
Meinicke Clarification Reaction. By G. Bousfield, M.D. 242
Hospital Policy. By J. Armstrong, M.D., F.R.C.S.I. 242
Combined Tuberculosis and Orthopaedic Clinics. By Charles J. Marsh, M.R.C.S. 243

UNIVERSITIES AND COLLEGES

University of Cambridge 250
University of London 250
Royal College of Physicians of London 250
Conjoint Board in Scotland 250
Society of Apothecaries of London ... 250

LETTERS AND ANSWERS

Hystero-epilepsy? 252
Treatment of Obesity 252
Income Tax 252
Snake-bite in India 252
Umbilicus as Source of Infection 252

VACANCIES 252

(*See also page 43 of* SUPPLEMENT)

The SUPPLEMENT contains:

BRITISH MEDICAL ASSOCIATION:
Proceedings of Council.
WHOLE-TIME MEDICAL OFFICERS OF HEALTH: Ministry of Health Memorandum.
CURRENT NOTES:
Katherine Bishop Harman Prize, 1932.
Middlemore Prize, 1932.
Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. President: Sir HERBERT WATERHOUSE, F.R.C.S. Entrance Fee, 10/-

No entrance fee to those joining within 12 months of registration. Assets exceed £50,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Cassell & Co., Ltd.
Birkett, G. E.—Radium Therapy. . 5
Bruce & Dilling—Materia Medica 5
Carson, H. W.—Operative Surgery.. 5
Choyce & Beattie—System of Surg.. 5
Gould, A. P.—Surgical Diagnosis 5
Herman's Difficult Labour.. . . 5
Horder & Gow—
[illegible] .. 5
[illegible] .. 5
[illegible] . 5
[illegible] m 5
[illegible] 5
Treves, F.—
Handbook of Surg. Operations.. 5
Surgical Applied Anatomy.. . 5

Churchill, J. & A.
Books on the Eye.. 4

Harrison & Sons, Ltd.
Miles, E. W.—Cancer of Rectum.. , 4

Lewis, H. K. & Co. Ltd.
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 3
[illegible] 4
[illegible] 4
[illegible] 3
[illegible] 3
[illegible] m 3
[illegible] 3
Murrell, W.—Poisoning 3
[illegible] 3
[illegible] 3
[illegible] . 3
[illegible] .. 3
[illegible] . 3

Oxford Medical Publications
Elliot, R. H.—
[illegible] 4
[illegible] 4
[illegible] 4

ASSURANCE COMPANIES—
Century Insurance Company . .. 57
Medical Insurance Agency..... 34

BANKS—
Westminster Bank 38

BATHS, SPAS, &c.—
Bridge of Allan Spa 46
Trefriw Chalybeate Wells 46

BRASS NAME PLATES, &c.—
Cooke's Name Plates 4
Ford's Name Plates 40
Herd, S. J. & A.—Name Plates ... 4
Lewis & Co. Ltd.—Name Plates..... 4
Osborne, F. & Co.—Name Plates..... 33

SURGICAL APPLIANCES—
Burroughs Wellcome & Co.—
'Paroleine' Atomiser 31
[illegible] 36
[illegible] 7
[illegible] rii
[illegible] 4
[illegible] 38
[illegible] 39
[illegible] 35
[illegible] 10
[illegible] 39
[illegible] 56
[illegible] 4
[illegible] 40
[illegible] 6
[illegible] 39
[illegible] 8

MOTOR CARS, TYRES, &c.—
Lodge Sparking Plugs .. . 39
Mann Egerton & Co., Ltd.—
Motors... 7,40
Second-hand Motors for Sale 56

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Azoule' Solution A.B.A.... 33
Cremor Alkalinus 32
'Iodolysin' 14
American Apothecaries Co.—
'Salvitae' 12
Armour & Co.—Glandol Products .. 23
Boots Products 21
British Drug Houses Ltd.—
Radiostoleum 15
Burro
'P 31
Crook 26
Curso
Reguiol 14
Dimol Laboratories—Dimol Snuff.. 20
Evans Sons Lescher & Webb Ltd —
Sodium Morrhuate 27
Gibbs Dentifrice . 17
Hough, Hoseason & Co., Ltd.—
Formasal & Arthritone.. 33
Kaylene Ltd.—Kaylene-ol 17
Kerol Ltd.—Capsules 41
Lobica Laboratories—Taxol ... 30
Marshall's Lysol 17
Martindale, W.—
'Cravulac' 14,35
[illegible] 19
[illegible] 18
[illegible] 23
Newbery & Sons, Ltd.—
[illegible] C . . r ii
[illegible] 25
[illegible] 16
[illegible] 15
[illegible] cri
[illegible] 13
Petrolagar Laboratories Ltd.—
Petrolagar 28
Saccharin Corporation Ltd.—
Novocain 22
Schering Ltd.—Teramon.. 40
Thomson, R.—Cod-Liver Oil Cream 18
Wander, Ltd.—'Cristolax' 12

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee 40
Beefex Ltd.—Beefex 13
Benger's Food 29
[illegible] 23
[illegible]
[illegible]

HOSPITAL, &c., FURNITURE—
Lawson Tait—Bedsteads 40

MINERAL WATERS—
Rubinat Llorach..... 4

PRINTING & STATIONERY—
Anderson & Son—Account Forms 38
Taylor's Typewriters..... 38

TAILORING & UNDERCLOTHING—
[illegible] 4
[illegible] 56
[illegible] 39
[illegible] 39
[illegible] 38

TOBACCO & CIGARETTES—
Player's No. 3 36

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. ... 55

VACCINES & CULTURE MEDIA—
Genatosan Ltd.—
Anti-Coryza Vaccine ... 24
Heinemann, W.—Vaccine Lymph 38
Laboratories of Path. & Pub Hlth. 40

X-RAY & ELECTRO-MEDICAL APPARATUS—
[illegible] 4
[illegible] 9
[illegible] 37
[illegible] 11

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 53

HOSPITAL, &c., VACANCIES—
Aberdeen Royal Infirmary. 50
All Saint's Hospital, ... 52
Barry Urban District Council 52
[illegible] 52
[illegible] 53
[illegible] 53
[illegible] 51
[illegible] 51
[illegible] 52
[illegible] 52
[illegible] 53
[illegible] 50
Derby County. 51
[illegible]
[illegible]
[illegible]

LEWIS'S PUBLICATIONS

READY NEXT WEEK. *ENTIRELY RE-WRITTEN.*

With 49 Coloured Illustrations on 20 Plates, and 123 Figures in the Text.
Pp. xvi + 562. Demy 8vo, **35s.** net, postage 1s.

DISEASES OF THE TONGUE

By W. G. SPENCER, M.S., F.R.C.S., Consulting Surgeon, Westminster Hospital, and STANFORD CADE, F.R.C.S., Assistant Surgeon, Westminster Hospital; Surgeon, Mt. Vernon Hospital.

Being the Third Edition of Butlin's "Diseases of the Tongue."

After careful consideration, the Authors decided that, although the progress made in the forty-five years since Butlin's book first appeared necessitated its entire re-writing, they felt that no better foundation for a book on Diseases of the Tongue could be found than the work of Henry Butlin. They have endeavoured, therefore, to preserve the identity, while introducing the new work on the various subjects which have been brought into relation with diseases of the tongue.

Stoddart's MIND AND ITS DISORDERS.
By W. H. B. STODDART, M.D. Fifth Edition. With 11 Plates (6 Coloured) and 76 other Illustrations. Demy 8vo. 21s. net, postage 9d.
"... a comprehensive and challenging text-book."
—BRITISH MEDICAL JOURNAL.

Kettle's PATHOLOGY OF TUMOURS.
By E. H. KETTLE, M.D., B.S.Lond. Second Edition. 159 Illustrations. Demy 8vo. 12s. 6d. net, postage 9d.
"... even better than before."—BRITISH MEDICAL JOURNAL.

Rea's AFFECTIONS OF THE EYE IN GENERAL PRACTICE.
By R. LINDSAY REA, M.D., F.R.C.S. With 7 Coloured Plates and 35 other Illustrations Demy 8vo. 10s. 6d. net, postage 6d.
"The general practitioner ... will find it supplies his needs in good measure."—THE LANCET

Swanzy's DISEASES OF THE EYE AND THEIR TREATMENT.
Revised and Edited by LOUIS WERNER, M.B., F.R.C.S.I., etc. Thirteenth Edition. With 9 Coloured Plates and 278 Text Illustrations. Demy 8vo. 21s. net, postage 9d.
"... one of the best and most convenient treatises of its kind."
—BRITISH MEDICAL JOURNAL.

Fitzwilliams' RADIUM AND CANCER (Curietherapy).
By D. C. L. FITZWILLIAMS, M.D., F.R.C.S. With 4 Coloured Plates and 68 other Illustrations. Demy 8vo. 12s. 6d. net, postage 6d.
"... the book is of distinct value."—GLASGOW MEDICAL JOURNAL.

Monrad-Krohn's CLINICAL EXAMINATION OF THE NERVOUS SYSTEM.
By G. H. MONRAD-KROHN, M.D.Oslo, F.R.C.P.Lond., M.R.C.S.Eng. Fifth Edition, with 57 Illustrations. Crown 8vo. 7s. 6d. net, postage 6d.
"... handy, practical, and concise."
—JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE.

EIGHTH EDITION. With 91 Illustrations in the text and 2 Plates. Demy 8vo. 21s. net, postage 9d.

HYGIENE AND PUBLIC HEALTH (PARKES and KENWOOD)

Revised by HENRY R. KENWOOD, C.M.G., M.B., F.R.S.Edin., D.P.H.Lond., Emeritus Professor of Hygiene and Public Health in the University of London, etc.; and HAROLD KERR, O.B.E., M.A.Dunelm, M.D.Edin., D.P.H. Camb., Professor of Hygiene and Public Health in the University of Durham, etc.
"... a quarry of concise information valuable to students and practical workers, a bargain at the price asked for it."—BRIT. MED. JOURN.

Douthwaite's TREATMENT OF ASTHMA.
By A. H. DOUTHWAITE, M.D., F.R.C.P.Lond. Crown 8vo. 7s. 6d. net, postage 5d.
"... should be read and re-read."—THE MEDICAL OFFICER.

Brockbank's DIAGNOSIS AND TREATMENT OF HEART DISEASE.
By E. M. BROCKBANK, M.D.Vict., F.R.C.P. Sixth Edition, revised and enlarged, 33 Illustrations, including 3 plates. Crown 8vo. 7s. 6d. net, postage 5d.
"... this useful little book."—THE PRACTITIONER.

Brockbank's INCAPACITY OR DISABLEMENT IN ITS MEDICAL ASPECTS.
By E. M. BROCKBANK, M.D.Vict., F.R.C.P. Demy 8vo. 7s. 6d. net, postage 6d.
"... will be specially useful for practitioners."
—WEST LONDON MEDICAL JOURNAL.

Mackenzie's ACTION OF MUSCLES: Including Muscle Rest and Muscle Re-Education.
By Sir COLIN MACKENZIE, M.D., F.R.C.S. Second Edition, with 100 Illustrations. Demy 8vo. 12s. 6d. net, postage 6d.
"It is impossible to recommend the book too strongly."
—JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

Boyd's DIET AND CARE OF THE SURGICAL CASE.
By REYNOLD H. BOYD, M.B., Ch.B.(N.Z.), F.R.C.S.Edin. With an Introduction by C. C. CHOYCE, F.R.C.S. Crown 8vo. 5s. net, postage 4d.
"... a very practical little book."—QUEEN'S MEDICAL MAGAZINE.

Murrell's WHAT TO DO IN CASES OF POISONING.
By WILLIAM MURRELL, M.D., F.R.C.P. Thirteenth Edition. Revised by P. HAMILL, M.D., D.Sc., F.R.C.P. Royal 32mo. 4s. 6d. net, post. 3d.
"A handy and reliable reference in poisoning cases of all kinds."
—GLASGOW MEDICAL JOURNAL.

**** *Complete CATALOGUE of publications post free on application.*

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1
Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

By Lt.-Col. ROBERT HENRY ELLIOT, M.D., B.S.Lond., F.R.C.S.Eng., I.M.S.(rtd.).

A TREATISE ON GLAUCOMA.
Second Edition. Revised and Enlarged, 1922. With 215 Illustrations, 30s. net.

TROPICAL OPHTHALMOLOGY
7 Plates and 117 Illus. 31s. 6d. net. Spanish and French Eds., 1922. Full German Abstract.

THE CARE OF EYE CASES
FOR NURSES, PRACTITIONERS & STUDENTS.
With 135 Illustrations. 12s. 6d. net.
Chinese Edition.
THE OXFORD MEDICAL PUBLICATIONS.

GLAUCOMA:
FOR THE GENERAL PRACTITIONER.
With 23 Illustrations. 4s. net.

COUCHING FOR CATARACT.
With 45 Illustrations. 7s. 6d. net.
H. K. LEWIS & CO., LTD.

BOOKS ON THE EYE.

DUKE-ELDER'S RECENT ADVANCES IN OPHTHALMOLOGY. 2nd Ed. 114 Illus. 12s. 6d.
DUKE-ELDER'S PRACTICE OF REFRACTION. 208 Illus. 12s. 6d.
PARSONS' DISEASES OF THE EYE. 6th Ed. 369 Illus. 18s.
NEAME'S HANDBOOK OF OPHTHALMOLOGY. 235 Illus. 12s. 6d.
MOORE'S MEDICAL OPHTHALMOLOGY. 2nd Ed. 100 Illus. 18s
KOBY'S SLIT-LAMP MICROSCOPY OF THE LIVING EYE. 2nd Ed. 104 Illus. 10s. 6d.
GOULDEN'S REFRACTION OF THE EYE. 180 Illus. 10s. 6d.
WHITING'S OPHTHAL. NURSING. 51 Illus. 5s.
HARTRIDGE'S REFRACTION OF EYE. 16th Ed. 110 Illus. 7s. 6d.
HARTRIDGE'S OPHTHALMOSCOPE. 6th Ed. 69 Illus. 6s. 6d.
FERGUS' OPHTHAL. 2nd Ed. 17 Illus. 3s. 6d.
ALEXANDER'S OPHTHALMOSCOPY AND SKIASCOPY. 31 Illus. 5s.
HARDWICKE'S SIGHT TESTING MADE EASY. 4th Ed. 12 Illus. 5s.

LONDON: J. & A. CHURCHILL,
40, Gloucester Place, Portman Square, W.1.

CANCER OF THE RECTUM
ITS PATHOLOGY, SYMPTOMATOLOGY, AND TREATMENT.
BY
W. ERNEST MILES, F.R.C.S.,
Surgeon Emeritus (with beds) to the Cancer Hospital; Surgeon to the Gordon Hospital for Diseases of the Rectum, etc.
80 pp. and 33 plates. Bound cloth.
Price 7s. 6d. net, post free 7s. 10d.
"It is the best exposition of the subject with which we are acquainted."
—*British Journal of Surgery.*
"Deserves to rank as a classic in the literature dealing with cancer of the rectum."
—*Bulletin of the Johns Hopkins Hospital.*
"Perhaps no surgeon of to-day has had a greater experience in treating cancer of the rectum."—*Surgery, Gynecology, and Obstetrics.*

HARRISON & SONS, LTD.,
44, ST. MARTIN'S LANE, LONDON, W.C.2.

NAME PLATES
FOR THE PROFESSION.
Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.
Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.
With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE.
COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

BRASS NAME PLATES.
BRONZE PLATES (ENAMEL LETTERS).
SKETCH & ESTIMATE UPON REQUEST.
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

NATURAL APERIENT MINERAL WATER
OF
RUBINAT LLORACH
(Hydragogue, Purgative, and Cholagogue.)

The official analysis shows in each litre about 1601.321 grains of **Anhydrous Salts**, of which are **Sulp. Soda** 1485.368 grains, and **Sulp. Magnesia** 50.301 grains.

Prescribed in cases of Gall-stones, Liver Disease, and threatened Appendicitis, Constipation associated with Gout, Hepatic Dyspepsia, Gastric Fever, and generally in Abdominal Obstruction.

DOSE.
Wineglassful fasting; can be increased according to temperament. Effect is more rapid if followed by a cup of hot tea.
NO GASTRIC IRRITATION. NO ALTERATION IN DIET REQUIRED.

"A moderately powerful stimulant of the liver, and a powerful stimulant of the intestine.

Greater Comfort for your Patients.
"The Rose Corset-Belt"
which has set a new standard and proved so effectual in all abdominal cases where support is required. The X-rays have shown the actual uplift.
Each Corset-Belt is cut and fitted to individual requirements, and the patient is kept under observation until every satisfaction is given to both patient and doctor.
I have also invented an improved Colotomy Belt for both male and female patients.
My work is recommended by eminent members of the medical profession, and the following hospitals: St. Bartholomew's Hospital, Metropolitan, Charing Cross, Middlesex, London Temperance.
MADAME ROSE, 97, Mortimer St., Regent St., W.1. LANGHAM 1575.

FOR DEAFNESS
Doctors use and recommend Ardente
because it fulfils its claims.
309, Oxford St., London, W.1.
Midway between Oxford Circus & Bond St.
Mayfair 1380/1718.

NAME PLATES
IN BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

BURBERRYS SALE
The great annual opportunity to purchase
OVERCOATS, SUITS & WEATHERPROOFS
well-made from the best quality materials, at a little above or below
HALF-PRICE
SALE CATALOGUE
detailing thousands of bargains for men, women, and children, sent on mention of "B.M.J."

BURBERRYS LTD. (Dept. 47) HAYMARKET S.W.1

CASSELL AND COMPANY, LTD.

NEW WORK. NOW READY.

RADIUM THERAPY: PRINCIPLES AND PRACTICE

By **G. E. BIRKETT**, M.C., B.A.Cantab., M.R.C.S.Eng.,

Honorary Radiologist, Manchester and District Radium Institute and Christie Hospital for Cancer.

The technique Dr. Birkett describes is for the most part that employed at the Manchester and District Radium Institute, but other methods are also discussed. The book may be commended to all who seek the newest lights on Radium Therapy. It is abundantly illustrated in colour and black-and-white.

Royal 8vo. 196 pages. With 6 Colour and 13 Half-tone Plates, and 52 Text-figures. **17s. 6d.** net.

SICK CHILDREN: DIAGNOSIS AND TREATMENT

A Manual for Students and Practitioners

By **DONALD PATERSON**, B.A.Manitoba, M.D.Edin., F.R.C.P.Lond.

"A concise and well-illustrated volume, in which material of the utmost importance to the student and practitioner is clearly set out and admirably indexed."—BRITISH MEDICAL JOURNAL.

Crown 8vo. 542 pages. With 16 Half-tone Plates and 85 Text-figures. **16s.** net.

The Student's Handbook of Surgical Operations.

By **Sir FREDERICK TREVES**, Bart. *Fifth Edition.* Revised by **CECIL P. G. WAKELEY**, F.R.C.S.Eng., F.R.S.Edin. Illustrated. **10s. 6d.** net.

Clinical Methods.

By **ROBERT HUTCHISON**, M.D.Edin., F.R.C.P.Lond., and **DONALD HUNTER**, M.D., F.R.C.P.Lond. *Ninth Edition.* Illustrated. **12s. 6d.** net.

The Essentials of Medical Diagnosis.

By **Sir THOMAS HORDER**, Bart., K.C.V.O., M.D., F.R.C.P.Lond., and **A. E. GOW**, M.D., F.R.C.P.Lond. Illustrated. **16s.** net.

Materia Medica and Therapeutics.

By **J. MITCHELL BRUCE**, C.V.O., M.A., LL.D. Aberd., M.D., F.R.C.P.Lond., and Prof. **WALTER J. DILLING**, M.B., Ch.B.Aberd. *Thirteenth Edition.* Illustrated. **10s. 6d.** net.

Diseases of the Nose and Throat.

By **Sir StCLAIR THOMSON**, M.D., F.R.C.P. Lond., F.R.C.S.Eng. *Third Edition.* Illustrated. **45s.** net.

Diseases of the Nervous System.

By **H. CAMPBELL THOMSON**, M.D., F.R.C.P. Lond., and **GEORGE RIDDOCH**, M.D.Aberd., F.R.C.P.Lond. *Fourth Edition.* Illustrated. **16s.** net.

A System of Surgery.

Edited by Prof. **CHOYCE**, C.M.G., C.B.E., B.Sc., M.D., F.R.C.S.Eng. Pathological Editor, Prof. **J. MARTIN BEATTIE**, M.A., C.M., M.D. *Second Edition.* Three Volumes. Illustrated. **£6** net the set.

Modern Operative Surgery.

By Twenty-four Leading Surgeons.

Edited by **H. W. CARSON**, F.R.C.S.Eng. Two Volumes. Illustrated. **£3 3s.** net the set.

Manson's Tropical Diseases.

Edited by **PHILIP MANSON-BAHR**, D.S.O., M.A., M.D., D.T.M. & H.Cantab., F.R.C.P.Lond. *Ninth Edition.* Illustrated. **31s. 6d.** net.

Elements of Surgical Diagnosis.

By **Sir ALFRED PEARCE GOULD.** *Seventh Edition.* Revised by **ERIC PEARCE GOULD**, M.D., M.Ch.Oxon., F.R.C.S.Eng. Illustrated. **12s. 6d.** net.

Surgical Applied Anatomy.

By **Sir FREDERICK TREVES**, Bart. *Eighth Edition.* Revised by Prof. **CHOYCE**, C.M.G., C.B.E., B.Sc., M.D., F.R.C.S.Eng. Illustrated. **14s.** net.

Herman's Difficult Labour.

Seventh Edition. Revised by **CARLTON OLDFIELD**, M.D., F.R.C.P.Lond., F.R.C.S.Eng. Illustrated. **16s.** net.

CASSELL & CO., LTD., LA BELLE SAUVAGE, LONDON, E.C.4

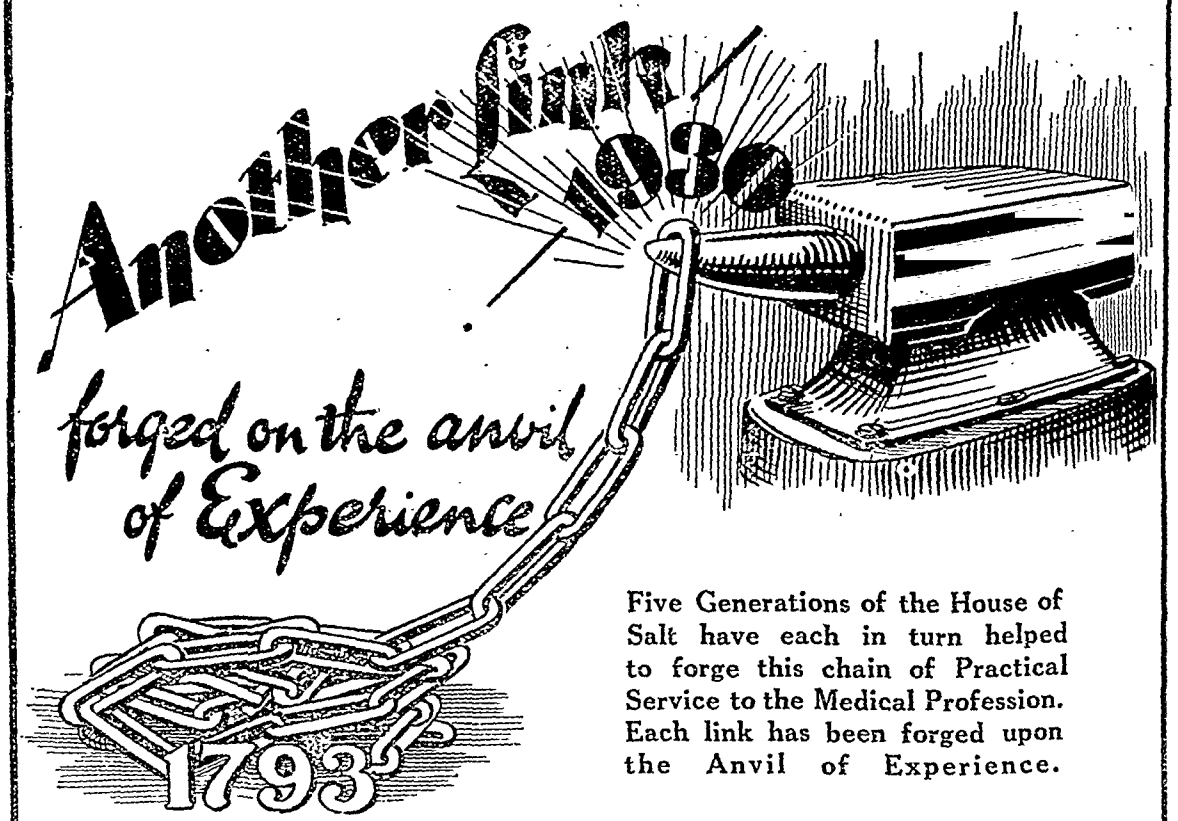
SURGICAL SERVICE
SALTAIR

SALTAIR SURGICAL SERVICE

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, *if not found suitable* within fourteen days from date of supply."

Salt and Son Ltd.



Five Generations of the House of Salt have each in turn helped to forge this chain of Practical Service to the Medical Profession. Each link has been forged upon the Anvil of Experience.

It is thanks to their unswerving endeavours that "Salt's" to-day enjoy the reputation, throughout the Medical Profession, of being in the foremost rank as Manufacturers of Surgical Appliances, and of being the most reliable source of supply.

Our Guarantee itself stands surety for the High Standard of all our Products, which are made individually for each patient with the strictest attention to the smallest detail in the prescription of the attendant practitioner.

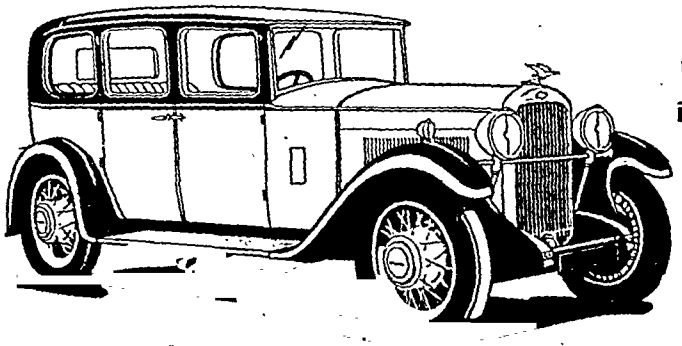
'Phone (Birmingham): Midland 5455. *'Phone (London): Museum 3845.*

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT ESTABLISHED 1793

The Medical Man will find our Special SERVICE SECURITY 1898 *Services extremely helpful and valuable*

Three Remarkable Bargains



(1)

HUMBER 1931 Model SNIPE SALOON

Second-hand, but as New, with very small mileage.

A unique offer

£395

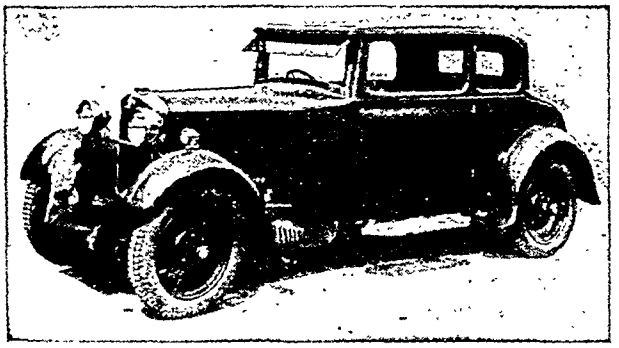
(2)

SUNBEAM 16 h.p. M.E. COUPE

Shop Soiled only, but otherwise New and unused.

Only one available,

£575



(3)

VAUXHALL CADET SALOON

Second-hand, but indistinguishable from New **£235**

• • •

SPECIAL DEFERRED TERMS TO MEDICAL MEN

Immediate Delivery

also of

AUSTIN
HUMBER
MORRIS
VAUXHALL
SUNBEAM
DAIMLER
ETC.

•

EXCHANGES

•

SUPER-EXCELLENT SERVICE

OVER **300** NEW AND USED CARS IN STOCK

MANN EGERTON & Co LTD

West End Showrooms: 156, NEW BOND STREET, W.1. *Gerrard 9060*
Super Service Works: CHURCH ST., EDGWARE RD. *Padd. 9011*
Also Norwich · Ipswich · Bury St. Edmunds · Lowestoft. *Five Minutes Marble Arch*

Comfortable Post-Operative Support for Your Surgical Patient.

Danger of nephroptosis following the removal of a large abdominal tumour probably indicates careful support for your patient.

Ruptured appendix with drainage places such a heavy tax upon the vitality of your patient that you may wish to recommend the wearing of an abdominal support during convalescence.

Or a sensitive scar after a gall-bladder operation may need the protection of a special support, with laparotomy pad.

After any abdominal operation, a Spencer supporting corset or abdominal belt gives your patient great comfort and sense of security. The support can be made of light as well as of firm material. It can be soft and pliable for comfort. But because each Spencer support is especially designed for the person who will wear it, it will give the support that you want your patient to have.

This is a Supporting Corset with the front opened to show the inner belt which supports the abdomen. Adjustment of the belt is made from the outside of the support.

The Spencer Corsetière will call at your surgery or at your patient's home to take the necessary measurements, and to get your special instructions about the case in hand. Spencer corsets and supports are never sold in shops.

If there is no Corsetière in your vicinity write direct to us.

We issue booklets on the use of Spencer Supports for the relief of sacro-iliac strain, hernia, enteroptosis, movable kidney, and for maternity and post-partum wear. We will gladly send you any of them in which you are interested.

SPENCER

TRADE REJUVENO MARK

FOUNDATION GARMENTS AND SURGICAL SUPPORTS

PATENTED

Booklets Listed below gladly sent on request.

SPENCER CORSETS, LTD., 94, 96 and 98, Regent Street, Piccadilly Circus, LONDON, W.1.

SPECIAL LONDON SERVICE. Expert Fitters at your immediate Service.

Telephone: Gerrard 0876.

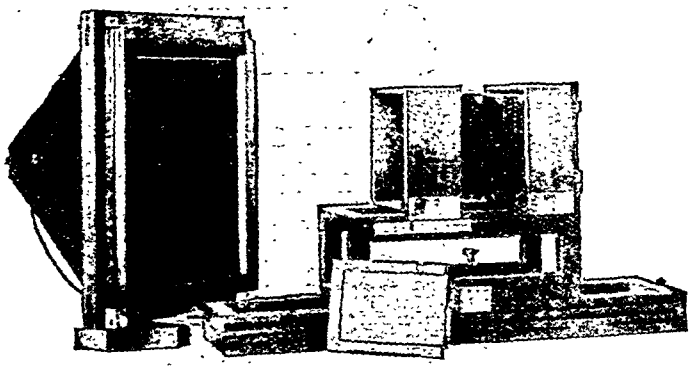
Manufactory: SPENCER HOUSE, Britannia Road, BANBURY, Oxon.

Please send me your booklet on the use of Spencer Supports for (check the subjects in which you are interested) Hernia, Sacro-iliac Strain, Enteroptosis and Intestinal Stasis, Movable Kidney, Pregnancy, and Postpartum Support. We will gladly send you any or all of them.

Name..... *Address*.....

Associate Houses: Rock Island, Quebec, Canada; New Haven and New York, U.S.A.

"Kodak" X-Ray Reduction Camera



A simple and solidly built camera. Reduces negatives of any size up to 17 x 14 ins.

Suitable for making bromide prints or transparencies of $6\frac{1}{2}$ x $4\frac{3}{4}$ size or smaller, and lantern slides.

An automatic focussing scale makes the "Kodak" Reduction Camera exceedingly simple to operate.

Kodak Limited, (Medical Dept.)
Kodak House, Kingsway,
London, W.C.2.

SPECIAL NOTICE

Owing to a greatly increased demand for

London Hospital

CATGUT & NEEDLES

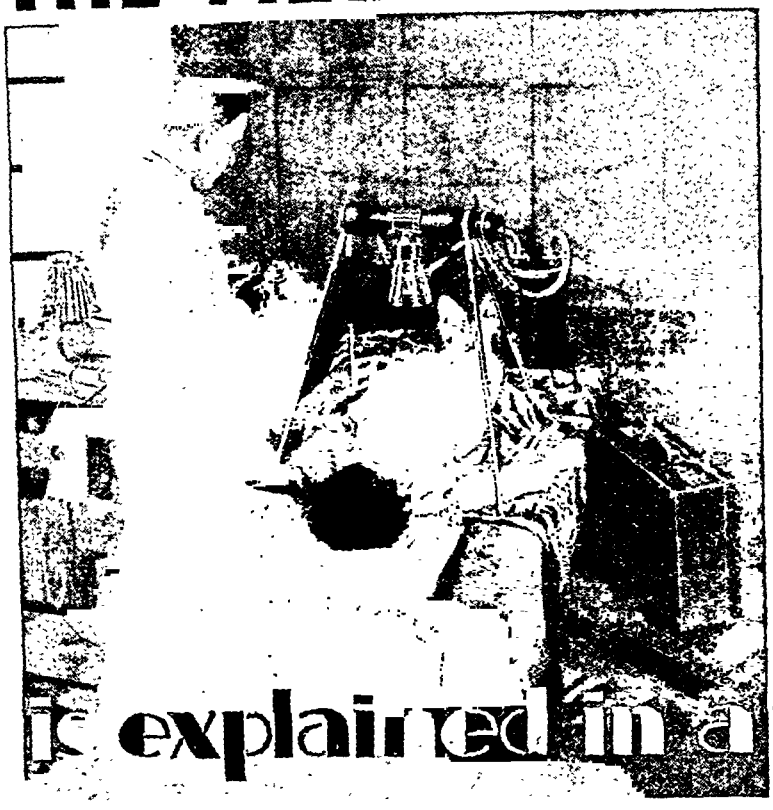
some surgeons and hospitals may have experienced difficulty in obtaining supplies from the leading surgical and instrument houses

This is to announce that we have taken steps to increase our output and are now in a position to meet the greatest demand without delay——

Insist on London Hospital CERTIFIED Catgut and Eyeless Needles

THE LONDON HOSPITAL
(Ligature Dept.)
LONDON, E.1

THE 'METALIX-PORTABLE



explained in a few words

The illustration shows the "Metalix-Portable" being used in a patient's home to make a radiogram of the pelvis—on a full size (12" x 15") film. The outfit is connected to an electric light socket, the back of the time-switch consulted to obtain the correct exposure time, the button depressed, and an excellent picture assured.

Should the patient touch any part of the outfit during the exposure no harm could possibly result, whilst the doctor is equally well protected against both high tension and unwanted radiation.

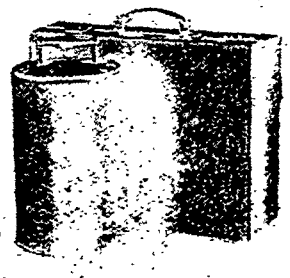
With equal facility and safety, visual screen examinations can be made, the screen image often being sufficient for the purpose of diagnosis.

The "Metalix-Portable" is no longer new; for over two years a steadily increasing number of general practitioners have become "Metalix-Portable" users and enthusiasts. It is now a recognised item of equipment of the progressive medical man.

A publication containing full facts about the "Metalix-Portable," with specimen radiograms and convincing medical testimony, will be sent on request.

Price of complete "Metalix-Portable" outfit for operation on standard A.C. voltages, £138 . 0 . 0. For D.C. voltages, £25 . 0 . 0 extra.

Packed as shown here, the "Metalix-Portable" is carried with the utmost ease.



PHILIPS METALIX-PORTABLE

PHILIPS LAMPS LTD. (X-Ray Dept.), PHILIPS HOUSE, 145, CHARING CROSS ROAD, LONDON, W.C.2.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to

COATES & COOPER,
41, Gt. Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.

Two sizes, 4/6 and 7/-.

Salvitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co, New York.

In Infancy

WHETHER the child be breast-fed or bottle-fed, constipation is often a troublesome feature. Castor oil and other purgatives, or aperients, while securing a prompt action of the bowels, possess certain definite disadvantages with which the practitioner is fully acquainted.

"Cristolax," a combination of 50% of the purest medicinal paraffin of correct viscosity and 50% "Wander" Dry Malt Extract, is of special value for infants, particularly for those who are artificially fed.

One teaspoonful dissolved in three feeds a day, no matter whether they consist of milk or infants' food, renders the feeds more easily digestible, prevents the formation of hard indigestible clots, and keeps the bowels in a regular and sweet condition.

"Cristolax" is also an admirable preparation for the nursing mother, both during gestation and the lying-in period. Its use ensures regular and adequate defecation without griping, straining, or harmful effect upon the child.

MARCUS AURELIUS AS AN AROAL BROTHER

'CRISTOLAX'

BRAND
MALT EXTRACT WITH PARAFFIN
Lubricant-Laxative-Nutrient-Digestive

A supply for Clinical trial sent free on request.

Of all Pharmacists, in bottles at 3/6 & 2/- each.

M 226 A. WANDER, LTD., 184, QUEEN'S GATE, LONDON, S.W.7.

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.
KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.
Telephone: GLADSTONE 1071 (2 lines). *Telegrams*: KAYLOIDOL, CRICKLE, LONDON.

READ THIS—

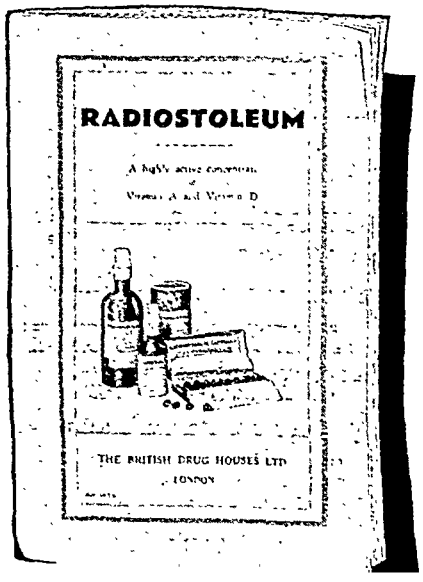
AND GIVE

"I use your Ointment extensively for cases of Blepharitis of the eyelids, for Psoriasis, and for all skin diseases accompanied by itching. I always prescribe it with confidence. A bath at night with 15% Soap is certain relief for all forms of Pruritus. I use the same soap myself in the surgery for my hands preparatory to operating. I likewise use and frequently prescribe your shaving soap for patients suffering from Furunculosis or Acne of the face."

SPHAGNOL A TRIAL

SEND FOR FREE SAMPLE.

Peat Products (Sphagnol) Ltd. (Dept. B 44), 21, Bush Lane, London, E.C.4



This brochure
contains interesting information on

RADIOSTOLEUM

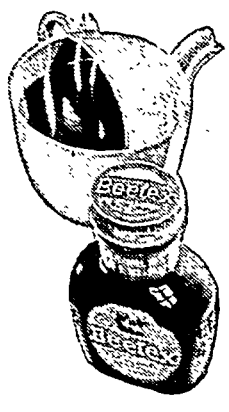
(Vitamins A and D)

the well-known anti-infective agent possessing remarkable ability to build up resistance against colds, influenza, pneumonia and other diseases of the respiratory tract.

A copy will be sent to any physician on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Rstm/107



Beefex

The SUPERIOR STIMULANT

We shall be pleased to send a sample bottle of this superior and valuable Beef concentrate to any Medical Man.

HIGH Medical Authority, after an independent test, reports that Beefex is a genuine Beef Extract of high quality and purity and is superior to others. It is invaluable in cases of weakness, exhaustion, or malnutrition, and appeals to invalids of all ages by reason of its delicate flavour.

BEEFEX LIMITED, BEEFEX HOUSE, LONDON, E.C.1.

"IODOLYSIN"

(TRADE MARK)

A Powerful Fibrolytic Agent

Gives strikingly successful results in many cases of rheumatoid arthritis and allied arthropathies.

Also employed with advantage for the removal of all other forms of pathological fibrous tissue.

It is a chemical combination of Iodine and Thiosinamin with these special features:

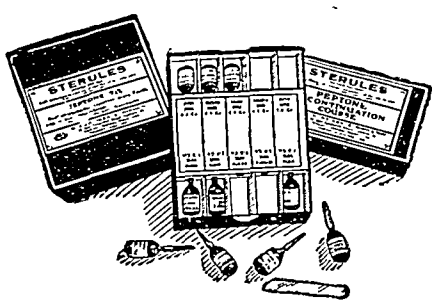
READY SOLUBILITY IN WATER. WELL TOLERATED.
ABSENCE OF LOCAL REACTION ON INJECTION.

"Iodolysin" is supplied in ampoules for hypodermic injection; in capsules for oral administration, or as an ointment or paint for local application.

Free Clinical Sample and Literature on request.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: 3201 Bishopsgate (10 lines) Telegrams: "Greenburys Edo London"



PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic œdema, cyclic vomiting, periodic diarrhœa, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Leaflet on application.

W. MARTINDALE (MANUFACTURING CHEMIST) **12, New Cavendish Street, London, W.1**

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON." Telephone Nos.: LANGHAM 2440 and 2441.

The Ideal Laxative
REGULOL
REGD.

"REGULOL" IS AVAILABLE IN TWO FORMS: "PLAIN" or "COMPOUND." The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient

CUXSON, GERRARD & Co., Ltd.

Oldbury, *Birmingham.*

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

SAMPLE 1-lb. JAR FREE ON REQUEST.

Please indicate whether Plain or Compound is required.

(This offer is limited to the British Isles.)

IMPROVED
DAY AND NIGHT SERVICE
TO
THE MEDICAL PROFESSION
FOR
OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPÔT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1
(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, **CLAPHAM ROAD, S.W.9**

MALNUTRITION and MARASMUS

Mellin's Food when given in conjunction with cow's milk and water produces an immediate gain in weight in fermentative dyspepsia and in wasting disorders of early infancy. For the prematurely born infant Mellin's Food proves invaluable.

As is well known, sugars exhibit varying tendencies to fermentation in the digestive organs. Milk sugar ferments most rapidly, less rapidly cane sugar, and maltose still more slowly, and the high percentage of dextro-maltose in Mellin's Food accounts for its usefulness in all such cases of malnutrition.

Mellin's Food

The booklet "Modified Milk in Infant Feeding" deals fully with the use of Mellin's Food in cases of malnutrition, and will be gladly sent together with samples to Members of the Medical Profession.

MELLIN'S FOOD LTD., LONDON, S.E.15.

Symptomatic relief in 5 minutes

THE symptoms of common cold—congestion, discharge and obstructed breathing—are frequently distressing. From the patient's point of view, they constitute the essence of the annoyance from which he is seeking immediate relief.

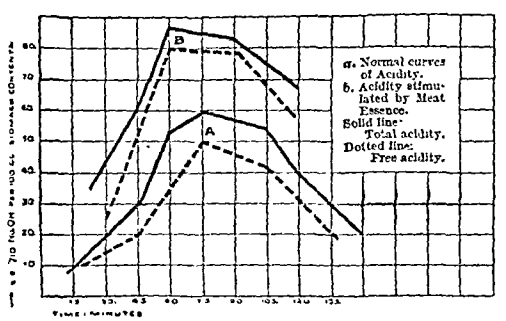
Rapidity of action is characteristic of Mistol. Consisting of menthol, camphor, eucalyptol, and chlorbutol in a light oily solution that spreads promptly to all parts of the nasal mucosa, it relieves congestion, reduces discharge and clears the nasal passages within five minutes.

This symptomatic improvement also benefits the pathological state and tends to shorten the duration of the cold. Venous stasis in the mucous membrane is corrected, hyperemia diminished, and over-activity of the secreting glands checked. Repeated instillations of Mistol promote a more rapid return to normal conditions within the nares.

The formula of Mistol is the result of long and careful research, suggested primarily by prescriptions used for many years by leading rhinologists.

Mistol
Reg. Trade Mark
MADE BY THE MAKERS OF NUJOL
Nujol Laboratories:
128 Albert St., Camden Town, N.W.1.

Conserves the patient's energy— no strain on the digestive system when these essences are taken



Graph showing acidity found when meat essences are taken

BRAND'S
ESSENCES OF BEEF
OR CHICKEN

When the appetite needs stimulus, and the body needs to be invigorated without demands on the digestive system, Brand's Essences of Beef or Chicken have been found to be indispensable. Recent scientific tests have shown that these essences are assimilated by the digestive organs forty minutes quicker than ordinary foods and without the formation of any residue.

In convalescence and in all cases of intestinal disturbances, whether the lesion is catarrh or cancer; in states of exhaustion when the patient's recovery is hampered by anorexia; in specific fevers and in all disorders associated with pyrexia; in the post-influenzal state and before and after operations, these Essences supply energy and prepare the system to accept and digest a more solid diet.

Hygienically prepared by an *exclusive* process from the finest freshly-killed English meats, Brand's Essences of Beef or Chicken are suave and non-irritant in action. For these reasons 99 doctors out of every 100 recently interviewed, recommend them. Samples will be gladly sent on receipt of a professional card. Brand & Co. Ltd., Dept. F 22, Mayfair Works, South Lambeth Road, London, S.W.8.

Proverbs Up-to-date No 2

PREVENTION IS BETTER THAN CURE

An excellent maxim — and one that holds good for such conditions as *are* curable. Unfortunately Dental Caries is not, so that *Prevention* is the only satisfactory method of combating this affection.

In this connection, it must be remembered that the Dentist is a surgeon, who is called upon, more often than not, to remove diseased and useless tissues; which are replaced by appropriate artificial substitutes. It is in the mission of preservation and prevention that Gibbs co-operate with the Dentist.

"Visit your Dentist twice a year, and use Gibbs Dentifrice twice a day" is a phrase reiterated in Gibbs nation-wide advertising. The vital function of the Dentist in the plan of preventive dentistry is never left in doubt; and the twice daily use of Gibbs Dentifrice is urged as the best way to consolidate his good work. Gibbs Dentifrice has for many years won the approval of leading Medical Authorities. It provides a cleansing agent which removes all harmful deposits — quickly and surely — whilst bringing out the natural beauty of the teeth by safe polishing.

GIBBS DENTOZONE

A Peroxide Mouth Wash in Powder form. A new Preparation by Gibbs that has met with instant success. Gibbs Dentozone produces Oxygen in the mouth, which has a wonderfully efficient cleansing and antiseptic effect; and definitely purifies the breath. Although intended for twice daily household use, Gibbs Dentozone provides an excellent and safe mouth wash for use following extractions.

Gibbs Dentifrice

BRITISH MADE

Literature, propaganda material, kinematograph films, leaflets, etc., as well as samples, are always freely at your disposal. Address: Dental Dept. 2 W X, D. & W. Gibbs Ltd., London, E.1.

GD/Del/2a

NURSES, DOCTORS HOSPITALS, CLINICS

use MARSHALL'S LYSOL

The preference shown to MARSHALL'S Lysol by the medical profession is not an accidental one. It is not merely a matter of old-established custom . . . It is a matter of experience and knowledge: of reliance placed on an antiseptic that has never betrayed a trust. MARSHALL'S Lysol is SAFE. It is a germicide and antiseptic of *proven* worth . . . harmless to tissue when used in the correct dilution.

MARSHALL'S Lysol is made to the original Lysol formula and specification. Every bottle is tested for purity and strength. Only the finest grade chemicals are used. Sample will be sent upon request to members of the medical and nursing professions. Lysol Ltd., Raynes Park, London, S.W.1.

SAFE

royds 14

COD-LIVER OIL in its most palatable and easily assimilated form is the CREAM prepared by Thomson of Elgin.

It is readily acceptable to children and adults.

Free from the difficulties of taking, usually associated with Cod-Liver Oil preparations.

Contains 50% recently refined Cod-Liver Oil of high vitamin content.

Maximum vitamin efficiency ensured by freshness of preparation every week.

Fresh eggs used in the making enhance nutrient value.

The Lancet, January 4th, 1930, says: "We can recommend this preparation."

Bottles 4/-, 7/-, and 10/-, post free by return.

Full particulars on application.

R. THOMSON, Chemists, 21, Abbey Street, ELGIN.

London Agents:

Messrs. SQUIRE & SONS, Chemists to H.M. the King, 413, OXFORD STREET.

Medisoap

MIDGLEY'S MEDICATED SOAP Regd

The word MEDISOAP is a registered trade-mark indicating the pure soap base made and scientifically medicated by CHARLES MIDGLEY, LTD., according to published formulae. This method of skin medication has been brought into favour by the ease with which applications can be made and the certainty of absorption through regularity of use by the patient.

A PRESCRIBER'S INDEX

relative to the comprehensive range of Medisoaps is available to members of the medical profession on application to EVANS' BIOLOGICAL INSTITUTE, RUNCORN.

Medisoap Depots all over the country.

Sole Makers:

ACNE

As an adjuvant in the treatment of this condition there are a number of Medisoap formulae recommended by many practitioners, and patients prefer this treatment to the disfiguring effects of ointments.

MEDISOAP No. 18, containing Naphthol 2½% and Sulphur 10%, used with success in Acne Vulgaris.

MEDISOAP No. 39, containing Ichthamol 5%, Ac. Salicyl 2½%, recommended in Acne Rosacea.

MEDISOAP No. 15, containing Ichthamol 5%, Pix Liquida 5%, is another popular formula.

For further particulars see *"Prescriber's Index."*

CHARLES MIDGLEY, LTD. Medicated Soap Specialists MANCHESTER

Associated with EVANS SONS LESCHER & WEBB, LTD., Liverpool, London, and Dublin.

Trade Mark **'GARDENAL'** BRAND

PHENOBARBITAL

For the Routine Treatment of

EPILEPSY

"Gardenal" is a completely reliable, non-narcotic hypnotic of unvarying therapeutic efficiency. It is a highly efficient sedative in epilepsy, and is widely employed in other nervous disorders such as chorea, migraine, eclampsia, neurasthenia, pertussis, etc.

Write for a copy of descriptive leaflet and clinical trial sample

Supplied in powder and tablet form

Prepared in the Laboratories of

MAY & BAKER LTD. BATTERSEA, LONDON, S.W.11

Telegrams: Bismuth, London. Telephone: Battersea 1813 (6 lines)

MEASLES

AND

WHOOPING COUGH

The danger of these disorders is often in their far-reaching secondary effects.

The convalescent stage calls for special reparative nutrition. Virol has a marked effect upon the conservation of the tissues, repairing the waste and restoring the equilibrium of a healthy metabolism.

VIROL

More than 3,000 Hospitals, Sanatoria, and Infant Clinics use Virol regularly.

IN JARS, 1/3, 2/- & 3/9; ½-gall., 15/-. VIROL LTD., EALING, LONDON, W.5.

A PINCH OF SNUFF

during the INFLUENZA SEASON

taken before and after examination of pulmonary cases is suggested to the Medical Profession as

THE BEST PREVENTION

to invasion by infecting germs in the nose and naso-pharynx.

DIMOL SNUFF

LABORATORY TESTS: Dimol Snuff has a coefficient equivalent to 30% pure phenol—that is, it is *as active as a bactericide as pure phenol diluted with twice its volume of water*—a strength of *phenol* of course quite intolerable in the respiratory tract.

Dimol Snuff diluted with 10 times its bulk of mucus will kill:

Pneumococci in 30 seconds
B. influenzae in 30 seconds
M. catarrhalis in 35 seconds
Streptococci in 40 seconds

Prices and particulars will be sent on application to

DIMOL LABORATORIES, LTD., 40, LUDGATE HILL, LONDON, E.C.4.

MONSOL BRAND

LIQUID

Monsol Capsules, keratin-coated, for intestinal disinfection.

Monsol Ointment

Monsol Throat Pastilles.

Monsol Dental Cream.

Monsol Medicated Soap.

Monsol Pessaries.

The efficiency of a germicide depends on the ratio of its germicidal power to its destructive or irritant action on living tissue. The higher this ratio the greater the effective concentration in which it can be employed—hence the greater its efficiency.

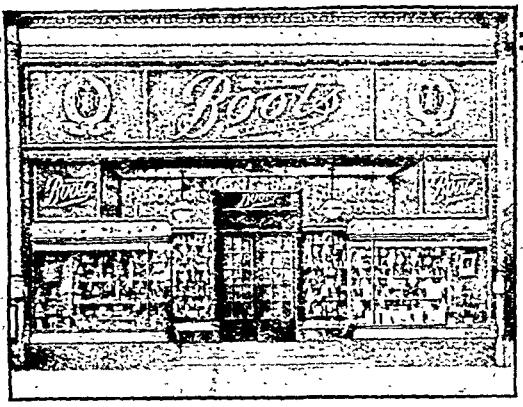
It has been demonstrated by many years' clinical and research work that this ratio is higher for Monsol than for any known germicide of its class.

This fact, in conjunction with its selective action on the bacteria that cause sepsis, explains its universal use in gynaecology and general medical practice throughout the world.

MONSOL IS *THE SAFE* GERMICIDE.

Manufacturers:

THE MOND STAFFORDSHIRE REFINING CO., LTD.,
ABBEY HOUSE, LONDON, S.W.1.



One of the Shops that never close—
BOOTS THE CHEMISTS, Criterion Buildings, Piccadilly Circus, London, W.1.

The following branches of Boots The Chemists are

ALWAYS OPEN DAY & NIGHT

LONDON
Piccadilly Circus, W.1 (Tels.: Regent 4761-2)

BIRMINGHAM
52, New Street (Tel.: Midland 5657)

EDINBURGH
48, Shandwick Place (Tel.: Edinburgh 27849)

GLASGOW
BOOTS CORNER,
Union Street & Argyle Street (Tel.: Cent. 8562)

LIVERPOOL
9, Ranelagh Place (Tel.: Royal 2286)

NEWCASTLE-ON-TYNE
67-69, Grainger Street (Tel.: 24960)

MANCHESTER
1, Oxford Street (Tel.: City 3775)

NOTTINGHAM
12, Wheeler Gate (Tel.: 40851)

PLYMOUTH
100a, Old Town Street (Tel.: 953)

A FULL SERVICE

IT is the aim of Boots The Chemists that each of their branches shall offer a full pharmaceutical service.

Many of the larger branches have specially organised Surgical Departments staffed by hospital trained, fully certified nurses, whose professional experience enables them to render a particularly valuable form of service to medical men.

Depôts have been established in every part of the country for the prompt supply of Oxygen.

In many large centres of population a central branch maintains a 24-hour service, where, without excessive demands upon the staff, a full and reliable pharmaceutical service under qualified control is available day and night.

The Boots Chemists

Pharmaceutical Service

AIMS AT MEETING
EVERY NEED

Issued by BOOTS PURE DRUG CO. LTD., NOTTINGHAM.

BOVRIL

The restorative and vitalising elements of Beef are concentrated in BOVRIL, the quick and safe stimulant.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

REMOVAL OF GOITRE.

Typical Case.

C. C. H., male, aged 46 years.

Diagnosis: Toxic colloid goitre.

Operation: Partial lobectomy.

Anaesthesia: Local infiltration and cervical block. 120 c.c. of a 0.5 per cent. Novocain-Adrenaline solution were used.

Operation: Classical subdermal infiltration and cervical block was made. 60 c.c. of 0.5 per cent. Novocain-Adrenaline solution were introduced subdermally and 30 c.c. were used on each side for blocking the cervical nerves. A large intrathoracic colloid goitre was removed from the left and a small adenoma from the right.—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

A List of

GLANOID MEDICINAL PRODUCTS OF ANIMAL ORIGIN

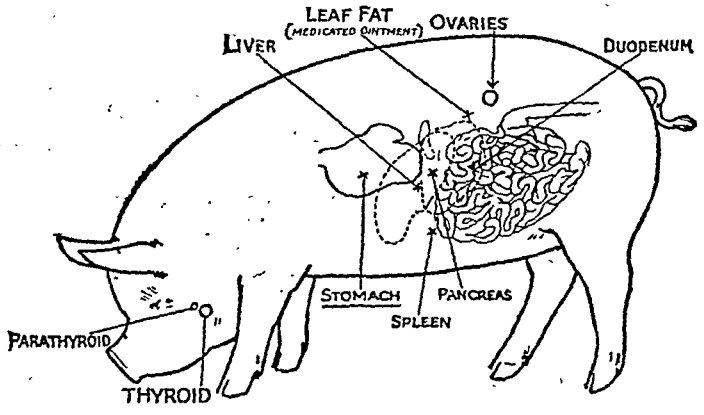
Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
*Catgut**
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
*Pituitary, W. G.**
" *Ant. Lobe**
" *Post. Lobe**
" *Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
" *Co.*
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

*Literature available on request.

GLANOID

BRAND

HOG STOMACH SUBSTANCE



WE PREPARE DESICCATED HOG STOMACH SUBSTANCE

in POWDER and TABLETS

For use in the Treatment of Pernicious Anaemia

Hog Stomach Substance has been found of benefit in the treatment of Pernicious Anaemia as an alternative to Liver Therapy, but we do not suggest "Hog Stomach Substance" will achieve the same outstanding results given by "Glanoid Concentrated Fluid Extract of LIVER."

LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

Alternative Methods in Prophylaxis and Treatment of

CORYZA

DETOXICATED ANTI-CORYZA VACCINE. This Vaccine has been used with great success for several years. Its outstanding feature is the absence of reaction, which makes it especially useful for hyper-sensitive patients.

ORDINARY ANTI-CORYZA VACCINE. Some Practitioners consider that a slight reaction has definite therapeutic value, and this type of Vaccine has been prepared to meet their requirements. It has the advantage of very low price.

ANTI-CORYZA VACCINE SPRAY (For local application to the nose and throat). For patients who object to Vaccine treatment by subcutaneous injection, and for children, this Local Immunity Product is particularly indicated. An additional convenience is that frequent attendances by the patient for injections are unnecessary.

Additional information regarding the above products will gladly be supplied to any Practitioner who writes to The Vaccine Department, Genatosan Ltd., Loughborough, Leicestershire.

"The Greatest Contribution to the Cause of Health Education ever made by a Commercial Firm"

—*Medical Opinion.*

"THERE are so many publications which one is advised to have as a desk book that to apply that term to any work is almost sufficient to blast its career. In 'What to Do if it's Catching,' however, that remarkable compilation issued by Newton, Chambers & Co., Ltd., of 'IZAL' fame, we, as medical officers of health, have indeed a desk book of the most helpful nature in the control of infectious disease.

When one appreciates the great difficulty of giving explicit rules regarding the isolation of cases treated at home, the easiness with which some point is forgotten, either in giving the instructions or carrying them out, 'What to Do if it's Catching' is to the medical officer, and the family involved, a veritable chart in their sea of trouble. This is only one example of the merits with which this book is filled.

In my opinion this is the greatest contribution to the cause of health education ever made by a commercial firm."

———, M.D., D.Sc., Ch.B., D.P.H.,
Medical Officer of Health,
County Borough.

FREE

A special complimentary copy will be sent free to Doctors on request. Please address to Newton, Chambers & Co., Ltd., Dept. M12, Thorncliffe, Sheffield.

"What to Do if it's Catching" has been compiled and published in co-operation with eminent Medical and Health Authorities by Newton, Chambers & Co., Ltd., proprietors of Izal, the disinfectant most used by Public Health Authorities throughout the world. It is a compendium of information written in simple language giving the public directions for preventing the spread of infectious illness in the house and in the district.

IZAL is the disinfectant most used by Public Health Authorities throughout the world.

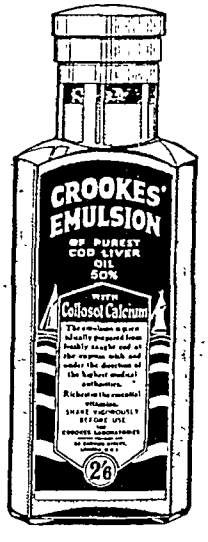
A new Collosol Product

CROOKES'
EMULSION WITH COLLOSOL CALCIUM

Special attention is called to this valuable addition to the range of Collosols.

The emulsion itself contains 50% cod liver oil, from livers of cod freshly caught in British waters, and expressed actually on board the trawler, so that otherwise harmful putrefactive processes do not impair the vitamin content.

This vitamin value is verified by laboratory assay, which gives 19/20 blue Lovibond units, or nearly twice as high as that of ordinary cod liver oil.



The combination of Crookes Emulsion with Collosol Calcium is the outcome of the general acceptance that vitamin D affects absorption, deposition and excretion of calcium. Such indications as Rickets are due to an alteration in the absorption of the latter element, and it is obvious that the effects of vitamin D present in Crookes Emulsion will be greatly enhanced by the readily absorbable form of Collosol Calcium.

As thyroid secretions control iodine metabolism, and insulin controls glucose metabolism, so is vitamin D control responsible for the fate of calcium in the body.

Sample supplies obtainable on application will enable practitioners to confirm, from a clinical standpoint, the great value of Crookes Emulsion with Collosol Calcium.

Issued in bottles, 6 ozs. 2/6, 12 ozs. 4/-

THE CROOKES LABORATORIES, 22 CHENIES STREET, LONDON, W.C. 1

ALSO AT NEW YORK AND BOMBAY

(*Æsculapius*)

SODIUM MORRHUATE
in the injection treatment of
VARICOSE VEINS

Sodium Morrhuate is now widely recommended as one of the most suitable solutions for the sclerosing of varicose veins. When properly prepared it is non-toxic and safe, the risk of periphlebitis and necrosis being negligible. Its effects are rapid and practically painless.

EVANS'
SODIUM MORRHUATE
SOLUTION 5 per cent.

adjusted to a suitable pH, containing the chemical advantage of purity with minimum clinical inconvenience, is specially prepared for intravenous use.

Issued in Boxes of six ampoules 0.5 c.c., 1 c.c., and 2 c.c. Also in 5 c.c., 10 c.c., and 30 c.c. Rubber-capped Bottles.

Prepared at
Evans' Biological Institute,
Higher Runcorn, Cheshire.

EVANS SONS LESCHER & WEBB Ltd.

LIVERPOOL 56 Hanover St. DUBLIN LONDON 50 Bartholomew Close

THE BUSINESS MAN

In many cases he gives the least care to his most valuable asset his health. Working at high tension, he expects medical attention on the same basis. Earnest and serious talk is necessary to make him realise the importance to his health of bowel education and the avoidance of all purgatives and emulsions containing such drugs.

Prescribe 'Petrolagar' Brand Paraffin Emulsion.

Petrolagar Laboratories Limited,
Braydon Road, London, N.16.

Petrolagar

Gratifying results attend its use

Benger's Food—the adjustable diet.

The "LANCET" describes it as "Mr. Benger's admirable preparation."

Owing to the presence of the natural enzymes of digestion (*Amylopsin* and *Trypsin*), and its method of preparation for a patient, the extent of self-digestion of Benger's Food and the milk with which it is mixed *can be regulated to suit the digestive powers of the patient.*

Benger's Food is prepared with fresh cows' milk. It forms a dainty cream which becomes the easier of digestion the longer it is allowed to stand after mixing. The process may be arrested at any time by simply bringing the mixture to the boil. (A useful average time for standing is 15 minutes).

Patients ordinarily unable to digest milk can take this mixture satisfactorily, as the Benger's food so softens the casein that when under the influence of the gastric juice it forms into minute flocculi instead of a heavy curd.

Benger's Food is of the highest nutrient value and is not found to pall, even when taken over long periods.

A Physician's Sample will be sent post free to any member of the Medical Profession making application to the Proprietors—

BENGER'S FOOD, LTD., Otter Works, MANCHESTER.

Branch Offices—NEW YORK (U.S.A.): 90, Beekman St.
SYDNEY (N.S.W.): 350, George St.
CAPE TOWN (S.A.): P.O. Box 573.

Benger's Food in sealed tins is on sale throughout the world by chemists, etc.

BENGER'S Food

PHYSIOLOGICAL TREATMENT OF CONSTIPATION

COMPOSED OF

EXTRACT OF THE INTESTINAL GLANDS

which strengthens the glandular secretions of the organs.

BILIARY EXTRACT

which regulates the secretion of the bile.

AGAR-AGAR

which rehydrates the contents of the intestines.

LACTIC FERMENTS

which reduce bacterial action in the intestines.

IN TABLET FORM.

ITS USE DOES NOT LEAD TO HABIT

LABORATOIRES LOBICA,

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

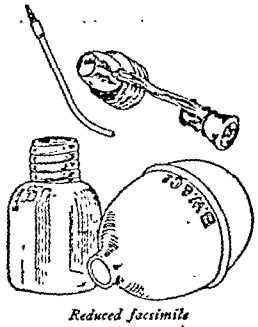
CONTINENTAL LABORATORIES Ltd., 30, Marsham St., London, S.W.1

Taxolabs, Sowest, London. Victoria 2041.

PERSIAN SERIES

For use in
Naso-Pharyngeal Medication

'PAROLEINE' ATOMISER
(Trade Mark)



Reduced facsimile

'PAROLEINE' ATOMISER
6/- *each*

Provides a convenient and efficient means of spraying the nose, throat and upper respiratory passages

This Atomiser produces a fine Spray and ensures an even and thorough application over the whole affected area

TRADE 'PAROLEINE' MARK SPRAY COMPOUND

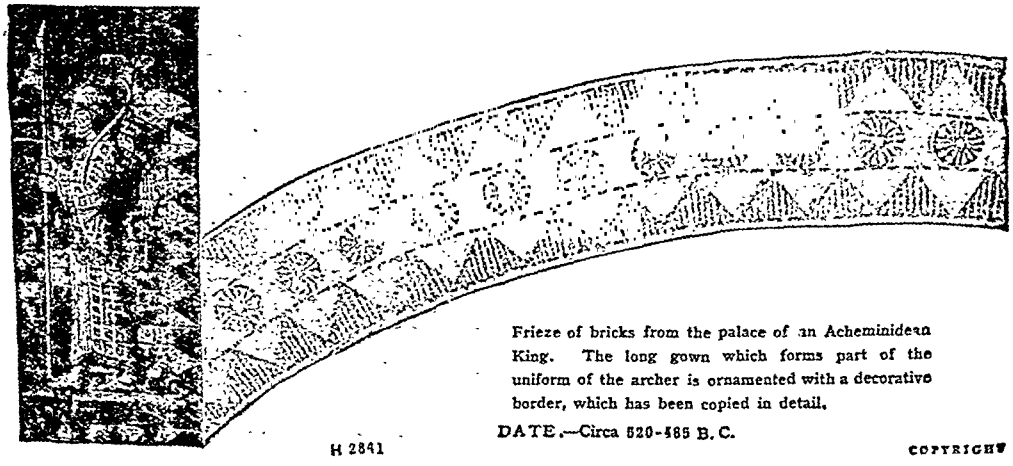
For use with the Atomiser

℞
Menthol, gr. 5 Chlorbutol, gr. 6
'Eucalyptia,' min. 15 'Paroleine,' ad fl. oz. 1

Bottles of 1 *fl. oz.*, 1/- *each*
„ „ 16 *fl. oz.*, 8/- *each*

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES



Frieze of bricks from the palace of an Acheminidean King. The long gown which forms part of the uniform of the archer is ornamented with a decorative border, which has been copied in detail.
DATE.—Circa 520-465 B.C.

H 2841

COPYRIGHT

"Azoule" Solution A.B.A. TRADE MARK

IN PRURITUS ANI

Accumulating experience confirms the remarkable effect of the new local anæsthetic **'Azoule' Solution A.B.A. in Pruritus Ani and Anal Fissure** (see B.M.J., Aug. 30, 1930). Outstanding features of this product are its prolonged local anæsthetic effect which lasts as long as ten days and its non-toxicity.

Wherever prolonged local anæsthesia is required 'Azoule' Solution A.B.A. is the agent of choice.

Other references: B.M.J., June 15, 1929, p. 1070. B.M.J., June 28, 1930.

'Azoule' Solution A.B.A. is supplied in 2 c.c. ampoules. Boxes of 6 and 12 at 5/6 and 10/-

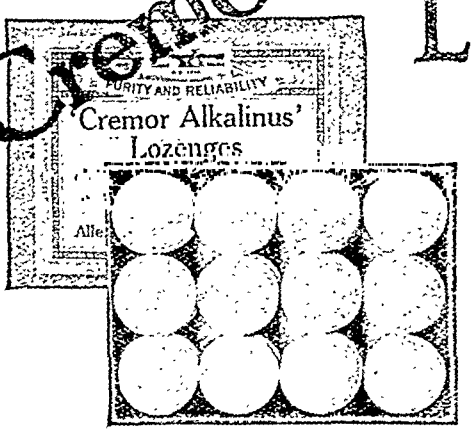
Descriptive literature on request.

Allen & Hanburys Ltd., London, E. 2.

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

Cremor Alkalinus

LOZENGES



Trial sample will be sent to all members of the medical profession on application.

Made from **Cremor Alkalinus "A. & H."** Formula C

Sod. Bicarb.	3 parts
Mag. Carb.	8 „
Calcium Carb.	12 „

Each lozenge contains 15 grains.

Two lozenges equal the normal dose.

In flat boxes of 36 lozenges (for the pocket)

In glass stoppered bottles containing 2 lbs., or about 600 lozenges.

Allen & Hanburys Ltd., London, E. 2

Telephone: Bishopsgate 3201 (10 lines). Telegrams "Greenburys Edo London."

Hughlings Jackson Lecture

ON

QUANTITATIVE MANAGEMENT OF CONTRACTION FOR "LOWEST-LEVEL" CO-ORDINATION

BY

SIR CHARLES SHERRINGTON, O.M., M.D., F.R.S.
WAYNFLETE PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF OXFORD

[After some prefatory remarks in reference to the commemorative occasion, the lecturer proceeded]

There, at that lowest level, and at its simplest, is the old-fashioned if time-honoured entity, the motor centre. I hesitate to invite recontemplation of it, it is such oft-worn ground, but in light of some fresh detail it seems to accrete endowment. With it, an initial problem and nowhere more essential, is quantitative adjustment.

MOTOR-UNITS

Sampled by afferent stimulation, the motor centre soon reveals that every reflex fractionates its muscle. The fractionation is not pushed so far as separate muscle-fibres. Soleus has 30,000 muscle-fibres, and the long extensor of the digits 55,000[1]; but nervous co-ordination, as Hughlings Jackson has said, is "based on the anterior horn cell." That cell by its motor nerve-fibre innervates a whole packet of muscle-fibres, 150 and more. This packet of muscle-fibres together with its motor nerve-fibre constitutes what has been for short called a "motor-unit." It is with these units that reflex fractionation deals. It gives numbers not unmanageable—soleus (cat) consists of 230, extensor longus of 330, medial gastrocnemius 500.[2] Such motor-units yield a contraction-wave of 2.5 g., and even of 8 g. A coarse unit, it would seem, to grade with. The more since its contraction runs on the "all or nothing" plan, so that to grade the strength of the stimulus of the contraction-wave is not a means of grading the strength of the contraction-wave itself. The contraction-wave is in so far a fixed quantity independent of the strength of its stimulus. In reflex action, however, we know that the single contraction-wave as an isolated event scarcely happens. What happens, of course, is the overlapping succession of the contraction-waves to form tetanus. This tetanus, when once the mechanical fusion of the component waves is complete, yields in its turn a tension value fixed, in so far that no increase of strength or rate of stimulus will change it further. Such fixity of value for the tetanized motor-unit allows reflexes which can ensure it, to be tested for their share of a given muscle.[3] In this way it is found that in the limb no afferent nerve possesses the whole of any one muscle, and that every afferent nerve has some reflex share in practically every muscle.

The motor-units which make up tibialis anticus (cat) number some 360, and its spinal motor-horn cells are in effect the expanded receptive central ends of these motor-units. Some of the motor-units are larger than others, and to these attach doubtless the larger motor-horn cells. The overlap of central terminals on these large cells, if their density on the cell surface is as elsewhere, must be specially extensive, so that the large motor-units will be the more widely at call and the more often in play. Of the 360 motor-units thus making tibialis anticus the internal saphenous nerve under faradization can tetanize some 110, the popliteal 290, a dorsal digital 125, and so on. That most at least of the motor-units are fully tetanized is shown by the fact that when submitted to additional excitation they show no additional contraction. Motor-units and their motoneurones thus fully tetanized are classed as "maximally" excited, or, in brief, "maximals." We may suppose the central terminals of these afferent nerves to play directly upon the motoneurones, since in the case of this relatively simple reflex, present work discounts the invariable mediation of an internuncial neurone between afferent root and ventral horn cell.

When we find in an experiment that full tetanic stimulation, say, of a plantar nerve tetanizes 180 of the 360 motor-units and stops at that, may we suppose that the anatomical limit of the number of motoneurones reachable by the afferent has been attained? Hardly, for the number thus found may, within limits, fluctuate quite rapidly within the course of an experiment.[4] A slight subconvulsive dose of strychnine will enlarge it, perhaps 25 per cent. Conversely, with spinal shock it shrinks; and so on.

The temporary upper limit represents, therefore, not the anatomical total which the nerve can reach, but some, often large, proportion of that total, a proportion circumscribed by functional condition. And there is abundant evidence that besides those motoneurones which the afferent nerve thus excites, there are others, a subliminal fringe,[3 5] which it acts on but fails to bring to discharge. The proof of this is that an excitation similarly subliminal from another source when brought to bear concurrently on this subliminal fringe does bring it to discharge. We see that part of the explanation of the variation in the number of motor-units a given afferent nerve at different times will excite may lie in subliminal excitation from some other reflex or central source being in action or not on some of the motoneurones at the time.

At the opposite extreme from the subliminal fringe there obtains what we may perhaps term "supramaximal" excitement, a subclass of maximal. By combining tetanizing excitations, say, via two different afferent nerves, the excitement of some motoneurones can be brought to "supramaximal" in the sense of more than sufficient for full tetanic contraction of the muscle-fibres of their units. This is detectable by "occlusion" of contraction[4]; and it commonly happens under faradic stimulation of even a single afferent nerve because of central overlap between its constituent fibres.

GRADES OF EXCITEMENT IN THE MOTOR CENTRE

Therefore among the reflexly excited units of the motoneurone pool there obtain, and often at the same time, three different grades of excitement—*subliminal, maximal,* and, if we distinguish it from maximal, *supramaximal.* What then of the gap between maximal and subliminal? Three years ago Adrian and Bronk[6] on the one hand, and on the other Denny-Brown,[7] by different methods and independently, succeeded in observing reflex firing in the individual motor-unit. They found rates ranging down to 6 per second and 7.5 per second in slow extensor muscles, and down to 15 per second in the motor phrenic. Now these rates are not sufficient to secure in the muscle-fibres a complete tetanus; they are not of maximal grade, in the sense we use that term. They are *subtetanic* in the sense of being incompetent for full tetanus. Different rates, faster and slower, of subtetanic grade were observed to occur concurrently among motor-units firing at the same time in the same muscle.[7] The rates did not correspond with the rate of the break-shock series applied to the afferent nerve.[7 8] These examples were taken from crossed reflexes; there exists there, of course, the circumstance that an internuncial neurone mediates between the afferent nerve-fibre and the ventral horn cell. In the simple flexion reflex the central connexion is more direct, and there the rate of firing of the motor-unit shows much closer correspondence with that of the repetitive stimulus, at least in some of the motor-units and if the repetitive

stimulus be not too quick and strong. But the motor-unit here is prone to fire more than once in response to a single centripetal volley[9] delivered by a single stimulus. This repetitive after-discharge is still greater in some crossed reflexes, and may reach extraordinary proportions. The point is that the firing of the motor-unit does not necessarily agree closely in all cases with impulse volleys entering from the afferent nerve.

Turning from artificial stimulation to natural, we know now, thanks to the discoveries of Adrian and his collaborators, that natural stimulation—for instance, pressure on the foot[10]—will, no less than does the artificial faradic stimulus, develop its reflex by means of impulse-showers, but these are far more diversely arranged. The trains of centripetal impulses engendered by such "natural" stimulations are not only of different rates among themselves, but vary in regularity, and differ in different fibres with heights of frequency related to intensity of the stimulation at different sense organs, and with different periods of crescendo and of adaptation and fatigue. It will resemble a noise rather than a musical note. This complex stream, pouring upon internuncial neurones or directly upon the motoneurone pool, proceeds, however, from a truly functionally related set of receptors. As compared with the centripetal stream sent in by the faradic stimulus to the bared nerve, the natural will have impulses less synchronized and in more dissimilar individual trains. It will exert consequently richer inequality of excitation on the motoneurone pool. In general correspondence with this—though, since the firing of the individual motor-unit may not closely agree with that of the afferent fibre, particular correspondence there need not be—there will result considerable diversity in the firing of the motor-units, and the more so that grade of excitement of the motoneurone governs rate of firing of the motor-unit. The rate of firing of the muscle-fibre can be taken as a guide to the rate of excitation of the motoneurone. The quicker the firing the greater the rate of excitation. Thus, in the phrenic nerve the individual motor-fibre fires more rapidly the stronger the inspiratory action[6]; in the extensor motor-unit firing steadily, weak inhibition[7] by an inhibitory afferent slacks the firing until withdrawal of the inhibition, when the former quicker rate returns.

Clearly in reflex actions, and especially in the more natural and less simple of them, a whole gamut of excitements will obtain in the motoneurone pool. Besides the "maximal" (including "supramaximal") and "subliminal" classes of motoneurone excitement earlier referred to as obtaining together in the reflexly excited motoneurone pool, there will alongside of them be intermediate grades which, since they produce imperfect tetani—*subtetani*—in their muscle-fibres, may be termed *subtetanic*. Where in the motoneurone pool the grade of excitement is greatest is where the successive arrival of converging impulses is quickest and thickest.

ADJUSTMENT OF EXCITEMENT

If we reduce the stimulation of the afferent nerve fewer fibres in it are excited; the field and density of the exciting central terminals are reduced. Supposing we picture the reflexly excited motoneurone pool of a muscle and imagine such a withdrawal of excitation so as to reduce existing excitements by a given, say the just subliminal, amount. We may sample this withdrawal for its effect motor-unit by motor-unit along the scale of excitation of the chart. One consequence is that the total excited field somewhat shrinks. The old subliminal fringe drops out of action altogether, to be replaced by another, in this case not less plentiful, recruited from "subtetanics." All along the firing line firing somewhat slackens. Units well up in the "maximal" class continue to give the same contraction-tension as before; other "maximals" lower down degrade into the subtetanic class, and yield less tension. In the subtetanic class all slip lower, yielding individually less tension, and some cease to discharge, entering the subliminal fringe. In records where two motor-units are firing, one somewhat faster than the other, it can be seen that if the faster slacken somewhat its slower companion may disappear altogether—that is, cease firing. On weak reflex excitation causing the remaining one to quicken again, its companion which had stopped reappears, starting firing again. The waxing and waning affect the two in the same direction, and what will slow one will stop the other. Sometimes, however, one will persist unaltered while another stops.

The total result is a decrease of contraction, which is traceable to several factors. A question rises. Do the motor-units composing a single muscle undergo adjustment concurrently in opposite directions? Are some accelerated while others are slackened? Under certain conditions, rather artificial, this can be observed. Such combination is perhaps more likely with "higher-level" co-ordinations, such as Dr. Blake Pritchard has been investigating, than with the "lowest-level" adjustments I am concerned with now. Though even here there can occur quite fractional inhibitions.

As regards weak reflexes, since a central excitation field reduced to its minimum is entirely subliminal,[11] [12] clearly in weak reflexes the subliminal fringe will constitute a larger proportion of the excited field; and this has been often observed.

As regards strong reflexes, in them excitement of the "maximal" class embraces in certain exceptional examples the motor-units of a whole muscle.[4] Often in strong reflexes "maximal" motor-units are plentiful enough to include all of the motor-units engaged by a weaker reflex; this latter's contraction-tension can then be entirely concealed by the former's.

We have to distinguish, therefore, in our type motor-centre of a muscle certain broad classes in the grades of excitement of the motor-units. Grouping together what was termed above the supramaximal with the maximal so as to make one class—namely, maximal—we have then the three broad classes: subliminal, subtetanic, and maximal. Of these each contributes to active adjustment of the reflex contraction, and each somewhat in its own way.

SUBLIMINALS, SUBTETANICS, AND MAXIMALS

The subliminal fringe group adjusts mainly on the basis of extensity, increasing or diminishing the total number of motoneurones. It, so to say, mediates between excitation and the quiescent pool outside. It also feeds the supraliminal field. Its relation to this latter is sometimes illustrated under conditions strikingly simple. Thus, to take a particular case,[13] two similar volleys are fired into a flexion centre in quick succession. The first excites a reflex twitch in 70 motor-units. The second, following quickly, finds those 70 motoneurones refractory because they have just fired. But in 45 other motoneurones which the first volley excited, though not to the extent of firing them, the second volley finds still some subliminal excitement left by the first, and, itself subliminal for them, yet adds an increment of excitement sufficient for their firing. The myograph gauges their number from their contraction. The exciting volleys are then strengthened, so as each singly to fire 180 motor-units instead of 70. But these two stronger volleys in sequence discover little fringe. Therefore evidently the 45 subliminals of the weaker reflex must have become some of the 180 supraliminals of the stronger. In such an experiment, the summation being confined to two stimuli, opportunity for revealing the whole fringe is small. Temporal summation by its mere iteration possesses powers less limited than spatial summation can attain alone.

Subliminal fringe is absent in some strong reflexes, at least as concerns a particular muscle. That is not to say it is absent altogether, for a reflex employs concurrently several synergic muscles each with opportunity for fringe.[14] Subliminal reflexes converging with allied effect on the same muscle can produce large quantities of contraction (Eccles and Granit[15]).

The large fringes of weak reflexes are an effective factor in co-ordinative liaison and combination between such reflexes, and between them and others. Thus, nothing is more frequent than in the course of an experiment with, for instance, the ankle extensor attached to the myograph, to see, if head and neck be passively turned into the so-called favourable position, the same limb-stimulus evoke a much greater reflex than before, although the new posture of head and neck itself may have evoked no reflex from the muscle. It facilitated by means of subliminal fringe, on which summation built when the local reflex was repeated.

Thus again with Rademaker's[16] supporting reaction from the sole of the foot and soleus postural stretch-reflex. Also with Bremer's[17] cerebellar influences upon the extensor reflex of the limb; and these remind us that there can be inhibitory fringe as well, and that the withdrawal can give Hughlings Jackson's "release"; a theme so luminously treated of by Sir Henry Head. It is mainly by subliminal fringes of motoneurone excitation that the higher nervous centres exert the postural adaptations which are as necessary to the animal as is posture itself.

The "Subtetanics" Group.—An important attribute of these is that they effect grading of the reflex contraction in their motor-units by so spacing the successive contraction-waves that the integrated tension falls variously short of full tetanic. The shortage is of course greater the slower the wave-succession, and the scale of grading becomes progressively less open as full tetanus is approached. A given increment of frequency of firing of the motor-unit represents less increment of contraction-tension value in proportion as the frequency of firing in the motor-unit is already high, until at last it represents no increment at all (occlusion).[4] I suppose, therefore, the weak reflex will contain more tremor, but I do not know that myographically. The subtetanic contraction is of course tremulous. With a power-unit like that of gastrocnemius, which averages a contraction-wave of some 8 g., its tremulous contraction must threaten the steadiness of the whole muscle. But lessening such defect is the circumstance that the various subtetanized units are out of phase one with another. It may well be a specific office of co-ordination to keep them out of phase. If a number of the subtetanic units once get into step with each other, tremor must become gross. Denny-Brown has brought forward,[7] and supported from his experiments, an interpretation on this basis of the clonus readily induced in the decerebrate rigidity of the laboratory. Clonus there, he says, is simply the tonic asynchronous discharge of the units thrown into synchronism. The tonic stretch-reflex of the laboratory can exhibit in the firing of its units all shades of transition between asynchronism and complete synchronism, and it can be made to pass from one to the other reversibly by suitable conditions of initial pose (Viets),[18] and, as Pritchard[19] has particularly shown, of tension. Conducive to the position taken by Denny-Brown[20] was his identification of the "silent period" of the galvanometer string following a knee-jerk as being inhibition of proprioceptive source evoked by the jerk itself from its own muscle. This inhibition damps the discharge of the jerk down in effect to one centrifugal impulse. In clonus not only do the motor-units get into step as regards contraction, but their getting into step and their keeping in step is accentuated by their proprioceptive inhibitions getting into step likewise. Their beats in the clonus are punctuated by their proprioceptive self-inhibitions, forming a vicious circle keeping them in step. Inherent in the operation of the subtetanic motor-units is besides tremor some waste work, an uneconomy which has been dealt with by Bronk.[21] Can we be sure that nature is in love with economy? In this instance the uneconomy seems more than offset by the advantage gained in delicacy and range of means of grading reflex contraction strength.

The "Maximals" Group.—In weak reflexes—for instance, in weak postural reflexes—there may be no "maximals" at all. A weak tonic postural reflex of soleus (cat), favourable to isolated examination of single motor-units, not rarely fails to exhibit a single unit firing in other than subtetanus. On the other hand, in strong reflexes there may be none but "maximals" in the entire motoneurone pool of a whole muscle, as driven in laboratory experiment. Though this is quite exceptional. In the "maximals" group each unit yields its maximal contraction. Motor-units added mean added contraction, and removed mean contraction lessened. All additional excitement received here lays aside its mechanical equivalent. That is to say, "occlusion" occurs here, and is therefore prominent in strong reflexes. It is the "maximals" group which by its growth limits more and more the further increase of the reflex muscular response. It brings into the relation between increase of reflex contraction and increase of reflex stimulation some resemblance to the approximately logarithmic ratio between increment of sensation and increment of stimulus. The maximals are economical in a sense, because contraction-tension is maintained at a smaller expenditure of energy in a stronger contraction than a weaker.

THE MOTOR CENTRE AS A SUMMATION APPARATUS

I would not pursue the subject to tiresome length. It arrives at this: that the motor centre—to use that old but expressive term—is more than a mere relay on the way out to its muscle, more than a mere passive place of assembly for motor-impulses directed thither. It is a central instrument which deals with those impulses actively, and adjusts *actively* the contraction-strength of its reflexes; it works on the basis of the "central summation process."[11 12] Driven and fed by centripetal impulses, it submits them to the summation process. It is in short a "summation-mechanism." It operates on the individual motoneurone by intensity-summation; it exerts a whole scale of grades of excitement on it. It also, it is true, operates partly on the basis of extensity-changes, since it varies the number of motoneurones it engages. But since central impulses in order to excite a motor-unit must be summated, the central mechanism is ultimately wholly a summation apparatus. One secret of its co-ordinative power lies in its ability to summate with almost negligible time-lag shifting fringes and mobile shades of excitation that meet and overlap upon it. These join and disjoin, expand and shrink, as afferent channels leading from various sources come into or drop out of action; and each and every time the central apparatus subjects them to or releases them from its summation. It is an apparatus developing a greater range of intensities both upward and downward than the muscle-fibres which it operates can with their tension follow. If this seem wasteful of central nervous energy, we may remember that additional excitation exerted on a motor-unit, already driven "maximally" for tetanic contraction, is not necessarily wasted. That surplus remains still a contribution to co-ordination, because further excitation offers a further resistance to inhibition;[11 31] just as an added inhibition in the case of an already quiescent neurone, although in one sense wasted, is a further protection (which

co-ordination may need) against excitation. In times of crisis the dilemma lies between strong actions, and the very strength of the action taken may serve to safeguard it from extrinsic interruption.

CONCEALED REFLEXES

Quantitative adjustment of amount of contraction seems to first thought a function purely quantitative. Yet because strengths of contraction may affect and shift the scope of an act, contraction-strength can acquire a value which is qualitative. The laboratory plan of obtaining reflexes by direct stimulation of bared afferent nerve is for some purposes excellent. But it is an artificiality, and certain reflex artificialities derive from it; among them this, that each large afferent nerve presents a dominant reflex which may conceal other reflexes. This dominance is itself a compromise, although often an overwhelming one, between conflicting reflexes. To display natural reflexes thus submerged we have to turn to localized stimuli natural for them. In this way can be traced the otherwise concealed ipsilateral extension reflex of the limb, and its broad quantitative course can then be followed. It activates the great extensors of the limbs. It enters into that complex of reflexes which works the limb as a tool for standing and locomotion.

[After dealing with this point at some length, the lecturer then proceeded]

REFLEX POSTURE

The importance of posture is alluded to sometimes by saying that it is the starting point and the end point for every movement. But, as Ramsay Hunt remarks, reflex posture "accompanies movement like a shadow."[22] Stanley Cobb[23] writes that they "coalesce and often cannot be separated"; illustrating that well is an example of reflex posture familiar in the laboratory. In cat and dog, the brain having been entirely removed, the scratch reflex is easily evoked. A minute localized stimulus, applied for instance behind the ear, provokes scratching from the same hind foot. A stigmatic electrode, in the form of a tiny gilt pin, such as entomologists use, inserted perhaps a millimetre deep into the skin among the hairs, conveys a faradic current barely strong enough to be felt when applied to one's tongue. This stimulus—a make-believe flea—excites the reflex, probably via nerve-endings round the hairs, for after removal of the hairs the reflex is difficult to get. The co-ordination of the reflex, although the preparation is merely spinal, is extensive. The limb is flexed, bringing the foot toward the ear. The digits perform a regularly rhythmic combing movement: there is a similarly rhythmed extension of ankle; the rhythm at ankle involves alternate contraction of extensors and flexors; each beat consists of a short tetanic contraction followed by a pause of quiescence; there is similarly timed but slighter rhythmic flexion of knee. Alongside this, and just as much a part of the reflex, is maintenance of a flexed posture[24] of the limb as a whole; moreover, the body is kept steadily incurved to the stimulus side, the neck deviated, and the head partly turned back, so that the foot more readily may reach it. All these latter are quite steady reflex postures. Some of the muscles engaged in the rhythmic movement are engaged in posture as well as in movement, posture and phasic contraction together in the same muscle. The co-ordination instances the way in which posture not merely alternates with movement, but accompanies it "like a shadow."

In this spinal condition of the reflex its co-ordination presents two defects. The scratching foot, although it may get near to the faradized skin-point, does not actually reach it; it scratches in the air. Further, scratching movement, which is not wanted until the limb has moved to the place, begins first of all.

The field of muscles engaged by the reflex is wide, and that is characteristic of all tolerably perfect reflexes. When giving isolated consideration to the great extensor muscles of the limbs and following their grades of reaction in the reflexes of standing and running, the concomitant reflexes which contribute likewise to the standing, etc., of the limb are omitted in order to simplify. Similarly, a chart, illustrating a reflexly excited motor centre, pictures the motoneurone pool of a single muscle; whereas even the simplest flexion reflex excites several muscles. Lorente di Nó,[25] recording graphically the contractions of the individual eye muscles, shows that every labyrinth-reflex acting on the eyes employs the whole twelve muscles. With the flexion reflex of the limb excited from any afferent nerve of the limb the flexion is plurimuscular from the threshold up. Thus, with a small digital nerve at minimal stimulus the muscular response starts simultaneously in the ankle-flexors and knee-flexors together, and so on. From the point of view of the spinal reflex, motor-units of a muscle have motor-units in another and even distant muscle closer akin reflexly to themselves than are most of the remaining motor-units of their own muscle. The simplest spinal reflex thinks, so to say, in movements, not in muscles.

CENTRAL REFLEX RHYTHM

Hence the tiny stimulated skin spot in the spinal scratch reflex brings into action a whole array of muscles. In the spinal cat—of course, a wholly insentient preparation—they can be freely laid bare and examined naked in their activity. Without exhaustive search we soon reach 36;[21] 19 in rhythmic action at five beats a second, 17 in steady, that is postural, action. The rhythmic beating in the rhythmic ones is not a "subtetanus"—that is, not a series of twitches: each beat is a brief tetanus followed by a pause of quiescence, often long enough for complete relaxation from the tetanic contractions. The rhythm is not generated in the skin nerve-ending—the hair-endings—for it occurs on faradizing the afferent nerve itself, and indeed quite easily by electrical stimulation applied to the cut cross-surface of the top of the spinal cord itself.[26] Nor is it a rhythm developed, as was suggested above for clonus by a retropulsive effect from the operating muscles themselves; that is clear because the reflex persists after the whole of the scratching limb has been desensitized by severance of its posterior nerve-roots. The rhythm is clearly of central origin, with its seat in the hind-limb region of the cord.

The scratch reflex has of course merely a type interest. It does not stand alone in its unexpected degree of independence of local peripheral reflex guidance. Several of these central lower mechanisms, and even some seemingly higher ones, exhibit a similar feature.

It is surprising to find the movements—for instance, those of arm and hand—evoked by stimulating the motor area of the cerebral cortex not obviously impaired by complete desensitization of the limb itself. For willed movements the upset of them in every respect, except perhaps power, following on complete desensitization of the limb, is extreme. The limb is practically useless, for prehension quite so. The animal quickly treats it as useless, or indeed as worse than useless; it attempts to get rid of it by destroying it. Yet, when the motor cortex is examined by stimulation, not only does it evoke in the de-afferented arm and hand its customary movements as readily as usual, but those movements reveal no obvious departure from their usual co-ordination either as compared with experience of them in normal monkeys or with the movements evoked by corresponding cortical stimulation in the opposite normal fellow limb. It seemed so to Mott and myself[27] in our observations now long since. It has seemed so again to Dr. Denny-Brown and myself, applying recent myographic and galvanometric technique to samples of some of the muscles under cortical activa-

tion. Therefore, wild inco-ordination under willed action, and little or none under the action of the directly stimulated motor cortex. One may relate this contrast to the probably very direct play of the pyramidal tract upon the motoneurones.[28 29] The contrast is at least a caveat against accepting the movement excited electrically from the motor cortex as a close homologue of a willed one. It seems as unimpaired by desensitizing its limb as is the spinal scratch reflex itself.

REFLEX STEPPING

The same thing is met with in the stepping reflex, and to such an extent that Graham Brown[30] argues, from his observations, that the stepping is a centrally initiated and executed cyclic reflex essentially independent of—although modifiable by—peripheral stimuli. It certainly often occurs quite in absence of all plantar or foot stimuli—for instance, in the air or with all four feet wholly desensitized. The stepping reflex, like the scratching reflex, can be excited by weak stigmatic unipolar faradization from the cut cross-face of the spinal cord[26] at a tiny area in the lateral column, the stepping being, for instance, in the hind limb, and the point stimulated at the top of the cord, the preparation being decapitated. The weak faradic stimulus excites in the hind limb of the same side stepping which from walking becomes running as the stimulus is made less weak. There tends to be the accompaniment of feebler stepping by the opposite hind limb; and this crossed accompaniment agrees in rate with that of the fellow limb, but is oppositely timed so that it alternates in phase with it, as in natural locomotion. By arranging two electric circuits two stigmatic electrodes can be used with separately adjustable strength of stimulation. If then the right and left points are stimulated concurrently on the cut face of the top of the cord a subliminal stimulation of one is found to become effective on applying a subliminal stimulus to the other. Galloping can be obtained by stimulating the two points concurrently with somewhat stronger stimuli. The stepping point lies in the deep dorsal part of the lateral column. If while the stepping is in progress under excitation of this point a weak stigmatic faradization be applied to the ventral part of the ventrolateral column of the same side the stepping at once slows down or stops. Stimulation at this point when the dorsolateral point is not being stimulated will give extension of the same side hind limb. The dorsal point I mentioned as the "stepping" point; the ventral point might be called the "standing" point. As yet I have examined it only at the above-mentioned level. The right and left ventral column points when concurrently stimulated reinforce each other. The observations occur equally well with the stepping limb suspended—that is, with the proprioceptive stimuli in the stepping limbs quite otherwise than when the limb is bearing superincumbent weight, also quite without plantar stimuli, the feet being in the air. This complex cyclic act with the various timings of its sequence, as initiated and maintained by excitation of a slender descending intraspinal channel from above, seems strangely independent of guidance or support from local centripetal factors in the limb itself. Stimulation at the stepping point in the lateral column starts the limb stepping and keeps it going practically at what pace it likes. Stimulation of the antagonistic descending path slows the stepping, and if stronger stops it and changes it into standing. All this just as well with the limb merely hanging in the air. With stepping and standing as incompatible opposites for the limb, this instance, where the reaction deals with the limb on large lines and suppresses one of the incompatible acts to bring in the other, offers analogy to reciprocal innervation. It gives, further, an illustration of a feature of co-ordination on which I have perhaps with wearisome insistence dealt with elsewhere—namely, that for a muscle or a muscle-group to be contracting does not exclude the being under inhibition. If we glance back, for instance, at our picture of the excited motor centre, and take it a stage further by inserting some inhibition, we see at once that the inhibition, counteracting according to its degree less or more of the excitation, can slacken or stop the firing of some or all of the discharging motoneurones. Only in the extreme grade which stops all the motor-units will the inhibition reveal itself as a complete absence of contraction of the muscle or muscle-group.

CONCLUSION

But I must not detain you longer. The present seems to me a time of unusual promise for neurological investigation both in the clinic and in the laboratory; a time which for that reason calls for close liaison between them. For such liaison to be effectual the two have to lie near at hand one to another. The laboratory, in a word, has to be on the spot. Apropos of this, if I dare think aloud, there is a reflection which is natural on this occasion. Where in all the world could be a more fitting point for such liaison, for such contact, than at the institution which, with its noble tradition of teaching and research, holds with peculiar claim within its portal the bust of the great master to whom our lecture to-day seeks to pay commemorative tribute, Hughlings Jackson?

I have dealt very imperfectly with a small bit of a large problem. I have kept too much within the purely experimental laboratory. The smallness of the piece is disheartening. The problem itself has the interest that large as it is—to speak *more Hibernico*—it is larger still. Hughlings Jackson in his writings turns back and forth between muscular co-ordination and mental experience as if for him they were but aspects of a single theme. It may be that to decipher how nerve manages muscle is to decipher how nerve manages itself. If so, not without significance may be what we have just glimpsed: that there are in the nervous system heights of excitation and depths of inhibition higher and deeper and with grades of adjustment ampler than muscle despite all its subtleties can commensurately express.

REFERENCES

1 Clark, D. A.: *Journ. of Phys.*, 1930, lxx, Proc. Physiol. Soc., xviii.
2 Eccles and Sherrington: *Proc. Roy. Soc.*, 1930, B.106, 326.
3 Cooper, Denny-Brown, and Sherrington. Ibid., 1926, 100, 448.
4 Idem: Ibid., 1927, 101, 262.
5 Denny-Brown and Sherrington: *Journ. of Phys.*, 1928, lxvi, 175.
6 Adrian and Bronk: Ibid., 1928, lxvi, 81.
7 Denny-Brown: *Proc. Roy. Soc.*, 1929, B.104, 252.
8 Pritchard, E. Blake: *Brain*, 1929, lii, 510.
9 Sherrington: *Proc. Roy. Soc.*, 1921, B.97, 366.
10 Adrian and Umrath: *Journ. of Phys.*, 1929, lxviii, 254.
11 [illegible] *Soc.*, 1929, B.105, 332.
12 *Journ. of Phys.*, 1930, lxix, 1.
13 B., in press.
14 Ibid., 1926, 100, 258.
15 *rn. of Phys.*, 1929, lxvii, 97.
16 Rademaker: *Proc. Akad. Wetensch.*, Amsterdam, 1926, xxx.
17 Bremer, F.: *Arch. Internat. d. Phys.*, Bruxelles, 1922, xix, 189; and Bremer and Ley: *Bull. de l'Acad. Roy. d. Méd. Belgique*, 1927, 60.
18 Viets, H.: *Brain*, 1920, xliii, 269.
19 Pritchard, E. Blake: Ibid., 1930.
20 Denny-Brown: *Proc. Roy. Soc.*, 1928, B.103, 321.
21 Bronk: *Journ. of Phys.*, 1930, lxix, 306.
22 Ramsay Hunt: *Arch. Neurol. and Psychiat.*, 1923, x, 37.
23 Cobb, Stanley: *Physiol. Rev.*, 1925, v, 518.
24 Sherrington: *Quart. Journ. of Exp. Physiol.*, 1910, iii, 213.
25 Lorente de Nó: *Trav. laborat. biol.*, Madrid, 1928, xxiii, 259.
26 Roaf and Sherrington: *Quart. Journ. of Exp. Physiol.*, 1910, iii, 230.
27 Mott and Sherrington: *Proc. Roy. Soc.*, 1895, 57, 481.
28 Leyton and Sherrington: *Quart. Journ. of Exp. Physiol.*, 1917, xi, 135.
29 Cooper and Denny-Brown: *Proc. Roy. Soc.*, 1927, B.102, 222.
30 Graham Brown, T.: Ibid., 1913, 86, 140; *Journ. of Physiol.*, 1914, xlviii, 18.
31 Forbes, A., Davis, M., and Lambert, E.: *Amer. Journ. of Physiol.*, 1930, xcv, 142.

FRACTURE OF THE SKULL IN CHILDHOOD*

BY

JOHN T. MORRISON, O.B.E., F.R.C.S.

HONORARY SURGEON, ROYAL SOUTHERN HOSPITAL; HONORARY ASSISTANT SURGEON, ROYAL LIVERPOOL CHILDREN'S HOSPITAL

AND

MIRIAM ROSKIN, M.B., CH.B.

CASUALTY OFFICER, ROYAL LIVERPOOL CHILDREN'S HOSPITAL

Children are so often in trouble as the combined result of youthful spirits, naughtiness, and inexperience, that a knowledge of the consequences of their everyday injuries should be the subject of careful inquiry. In the matter of head injuries the opportunity has occurred of studying a series at the Royal Liverpool Children's Hospital. The findings are of interest, not only from the academic point of view, but also from that of the general practitioner in his daily round, and in certain medico-legal aspects. We have not tried to deal with the subject in any exhaustive or systematic fashion, but have dwelt, as fully as the material at our disposal seemed to justify, upon those points which are not in accordance with accepted teaching, or upon which opinion has not yet crystallized. In many instances the statements in the literature are exceedingly confusing and often contradictory.

Frequency of Fractured Skull

The period covered by the present survey is approximately two years. During this time fifty-seven cases of fractured skull have been admitted to the City Branch of the Children's Hospital. In a corresponding period at the Royal Southern Hospital, with roughly twice as many beds, only twenty-five adult cases were dealt with. Further, in the course of the same two years the city coroner (Dr. G. Cecil Mort, whom we have to thank for his courtesy and assistance) held inquests on thirty-nine children under 12 in whom death was caused by fracture of the skull. Of this series our own ten fatal cases no doubt form part. It would appear that the elasticity of the growing bone, which is credited with saving so many youngsters from serious injury, is by no means so adequate a safeguard as has been supposed. At any rate the cases in which it has failed to protect the child—often a very young child—from fracture of the skull are not uncommon at a busy children's hospital. The youngest in this series was only 1 month old. Obstetrical fractures have not been included.

Fractures of the Base

In the past it has been accepted that "basal fractures are unusual in children."[1] Kirmisson[2] says: "In children we very rarely see fractures of the petrous part of the temporal bone and symptomatic bleeding from the ear." Very possibly these injuries are increasing in number with the growing frequency of motor accidents. In this series there are no fewer than twenty-two (38.6 per cent.) in whom the diagnosis of "fractured base" was made either upon the evidence of the escape of blood or cerebro-spinal fluid from mouth, nose, or ears, or from *x*-ray examination. In the hands of competent observers these grounds are adequate. Radiography, although of the greatest assistance, gave positive findings in sixteen cases only. In two the report was "doubtful." In four it was "negative," but in one of these the presence of a basal fracture was definitely proved post mortem.

* A paper read before a meeting of the Denbigh and Flint Division of the British Medical Association.

Causes of Fractured Skull

It is regrettable, though hardly to be wondered at, that twenty-four out of the fifty-seven cases were the result of injuries by motor vehicles, while out of the fatal cases investigated by the coroner 87 per cent. were due to the same type of trauma. The causes of the remainder make motley reading. Sometimes the children arrive at hospital grossly shocked and bleeding from mouth or ears. Sometimes they are only brought up some days later with vague complaints or with a local bruise or haematoma. Without *x*-ray evidence no one would dare diagnose the extensive fractures that are sometimes found. Relatively slight injuries are capable of giving rise to fractures of the skull in childhood. In one case no history of trauma could be elicited. The following table reveals the very serious results that sometimes follow what appear to be minor accidents. Of necessity the term "relatively slight" is an elastic one, but it is obvious that in many instances the injuries are only such as are not uncommon in ordinary households.

No. of Case	Age	Nature of Accident	Symptoms on Admission	Local Signs	X-ray Report
5	3 mo.	Mother fell with baby against bedpost	Nil	Depression palpable	No *x* ray
18	11 yrs.	Fell down "a few" steps	Dazed, headache.	Bleeding from ear	Fracture, occipital.
22	4½ yrs.	Fell off table some days before admission	Headache	Oedema	Crack, occipital
31	7 mo.	Fell down five or six steps	Nil	Slight bleeding, nose; oedema over eyes	No *x* ray P.M. fractured skull.
40	13 mo.	Fell out of pram some days before admission	Nil	Haematoma	Crack, parietal
41	6 yrs	Fell off 6 ft. wall day before admission	Two hours unconscious; vomited; headache.	Tenderness	Crack, occipital
42	6 yrs.	No history of trauma	Headache, drowsy; vomiting.	Haematoma	Fracture, parietal
47	11 yrs.	Ran into tight rope and fell back	Shock	Nil	Crack, parietal
48	7 mo.	Mother fell with baby	Nil	Oedema and tenderness	Very extensive fracture.
50	6 yrs.	Fell down some steps	Very drowsy	Nil	Fracture, occipital.
51	1 mo.	Fell off bed	Nil	Haematoma	Extensive fracture.
52	17 mo.	Fell, and mother fell over him, two days before admission	Nil	Haematoma	Fracture, occipital
53	7 yrs.	Fell off a wall	Nil	Swelling, forehead; subconjunctival haemorrhage	Crack, frontal
57	—	Knocked down by bicycle three days before admission	Persistent vomiting	Nil	Linear fracture

Chief Symptoms and Signs

The cardinal symptoms in these cases are three—namely:

1. Vomiting.
2. Impairment of consciousness.
3. Bleeding from mouth, nose, or ears. In a few, cerebro-spinal fluid was also found to be escaping.

Vomiting occurred in practically three-quarters of the cases (77 per cent.). It was sometimes very persistent. In a few instances it was only after the lapse of a day or two that it began to be troublesome. Where fracture of the skull was absent, but where concussion or unexplained shock suggested the possibility of that diagnosis,

the percentage of cases with vomiting was appreciably lower—namely, 48 per cent. instead of 77 per cent.

Second in point of frequency comes impairment of consciousness; it was recorded in 66 per cent. of our fracture cases. During the same period seventy-four patients were admitted suffering from this symptom in whom no fracture was found. In other words, out of 112 patients suffering from some degree of impairment of consciousness about one-third (33.9 per cent.) proved to have fractures of the skull. The symptom varied from a transient dazed state to deep coma. It probably occurs much more frequently than is reported, because many of the patients are babies or young children, in whom minor manifestations of this condition are not appreciated by the lay observers present at the time of the accident. In 71 per cent. of fracture cases showing impairment of consciousness there was associated vomiting or else bleeding from mouth, nose, or ears to help to confirm the diagnosis.

There remain nineteen cases in which no impairment of consciousness was actually recorded. The leading signs and symptoms in these nineteen may be tabulated as follows:

Vomiting and bleeding from mouth, nose, or ears ...	8
Vomiting and local signs of injury to head	2
Palpable depression of the skull	2
Local oedema and tenderness only	7

It will be seen, then, that in the majority of cases (fifty out of fifty-seven), the history of trauma involving or possibly involving the head being given, where fracture of the skull has occurred, symptoms are present which in the light of the present investigation are strongly suggestive, if not diagnostic, of that lesion. In association with one or more of the three cardinal symptoms, local signs are of the greatest significance.

Mortality

The general mortality in the fifty-seven cases was nearly 18 per cent., but when the twenty-two cases of basal fracture are considered by themselves it is found that the death rate leaps up to the very grave proportion of one in three (32 per cent.). The immediate cause of death is set out in the following table:

Irremediable brain damage	6
Meningitis	3
Brain damage and sepsis	1

Of the first group the average stay in hospital before death was a matter of a few hours only, and such cases must be regarded as hopeless on account of the severity of the primary injury. The meningitis cases are those in which a fracture of the base was followed by an infection from the nasopharynx or the associated air passages, and a generalized spread to the meninges. The organism recovered by lumbar puncture was the pneumococcus in all cases, complicated in one individual by the presence of a streptococcus. In one of the pneumococcal cases there was a scarlatiniform rash thirty-six hours after the accident. It is possible, of course, that this was a pure coincidence, and that the child had been on the point of developing scarlet fever when the injury occurred. The trauma was relatively slight, and it was noted on admission that the child appeared lively and well. In one or two such cases of pneumococcal meningitis following unsuspected basal fracture we have seen recovery take place, but not within the present series. In the meningitis cases death occurred on the third, fourth, and ninth days respectively. No instance was seen of the late formation of an intracranial abscess. The patient whose death was attributed to brain damage and sepsis was very grossly injured. There was laceration of the dura and ultimately a *hernia cerebri*. He did not come directly under our control, and no primary operation was done. It is very doubtful, however, whether in any case he would have survived.

Treatment

All cases of head injury should be regarded as possible cases of fracture of the skull. The suspicion should also arise in children seen suffering from shock not otherwise adequately explained. During the period under review 181 such cases have been admitted, and of these, fifty-seven —that is, more than 31 per cent.—were found to have bone damage to the skull. It has been our practice to keep these fracture patients recumbent for ten days to a fortnight, and to advise mental quiet and physical rest for a further week, even in the milder cases. In all cases of fracture of the base of the skull our findings would suggest the advisability of a dose of antipneumococcal serum—and possibly antistreptococcal serum also—as early as may be after the injury.

Where an open wound exists early operation is imperative after treatment has successfully coped with the primary shock. Local anaesthesia is the method of choice, even in small children. Operation was performed in four cases. In three there was a compound fracture of the vault with depression of fragments; in one a large depression without open wound. Our methods are as follows: after infiltration of the subcutaneous tissues right down to the pericranium with 1/2 per cent. novocain and 1 in 1,000 adrenaline (mviii ad ʒj), the edges of the wound are excised down to bone. The exposed bone is then painted with iodine. A small trephine may now be necessary, but in most cases it is possible to nibble away with fine gouge forceps an overhanging edge till access is gained to the under surface of the depressed fragment, which can then be elevated. Even fragments completely separated may be preserved. They contribute materially later on to the soundness of the skull. In no case in this small group did such fragments interfere with primary healing. In all four, convalescence was uninterrupted and recovery complete. Drainage was not required. In one case transferred from another institution it was found that a scalp wound over a small depressed fracture had been sutured without any operative cleansing. It was grossly infected, and the child was dangerously ill. The wound was opened up and antistreptococcal serum given, fortunately with excellent results. For those cases where a small depression exists, perhaps as large as the tip of the little finger, operation has not been considered necessary in the absence of an external wound. It is the routine practice to elevate the head of the bed, and when symptoms of increasing intracranial pressure ensue in the shape of slowing pulse and increasing drowsiness, attempts are made to counteract them by rectal injections of 10 per cent. salt solution. If this fails pressure is relieved by lumbar puncture, repeated if necessary. It is appreciated by us that the effect of this is only temporary, but we believe that extensive operations designed to give more permanent relief are not justifiable.*

Prognosis

This question is naturally of the greatest importance, quite apart from its increasing significance from a medico-legal point of view. In many quarters it is taken for granted that the chances of unpleasant sequels after head injuries in children are very small. In others the prospects of grave mental defects and epilepsy are altogether unduly stressed. A careful "follow-up" of our patients has shown that in approximately 50 per cent. of

* In the thirteen consecutive cases treated since the writing of this paper no single death has occurred. Included in this number have been four fractures of the base and three depressed fractures of the vault, two of the latter being compound.

the thirty-three whom we have been able to trace there have been departures from normal ; thirteen were stated to suffer from headaches, and of these, four also showed signs of increased nervousness in the shape of twitching, starting when spoken to, or speech defects. One was described as " very excitable." In one case the child's behaviour was found to have deteriorated, and one was said to be less intelligent. Two children suffered from unilateral facial paralysis following the accident, but in both cases recovery took place, in one completely in two months, but in the other slight drooping of the eyelid remained after nine months. In two some deafness occurred.

In an admirable paper devoted to this subject Beckman[3] tells us that all such patients recover within two years, with the exception of perhaps 5 per cent. Nevertheless the unexpectedly high percentage of unpleasant sequels emphasizes the importance of prolonged rest. Beckman makes no reference to the development of epilepsy, and apart from convulsions noted shortly after the infliction of grave brain injury, and usually speedily fatal, we have seen no evidence in children of this complication. It must occur very rarely.

Conclusions

1. Fracture of the skull occurs in childhood much more frequently than is supposed.

2. It often results from apparently trivial injuries.

3. Fracture of the base is not uncommon, and is of very grave significance.

4. Sepsis must be forestalled by operative cleansing in compound fractures of the vault and by the prophylactic use of serum in fractures of the base.

5. Medical measures should be taken to prevent undue increase of intracranial pressure.

6. In view of the proportion of sequels prolonged rest is indicated.

REFERENCES

[1] Fraser: *Surgery of Childhood*, i, 510.
[2] Kirmisson: *Handbook of the Surgery of Children*, p. 331.
[3] Beckman: *Annals of Surgery*, lxxvii, 355.

A SWIFT AND SIMPLE METHOD FOR DECIDING PNEUMOCOCCAL "TYPE"

BY

RICHARD R. ARMSTRONG, M.D., F.R.C.P.

(From the Research Laboratory, St. Bartholomew's Hospital)

Increasing attention has been paid during the past year to the treatment of lobar pneumonia by concentrated antipneumococcal serums.[1] The serum available from American sources (Parke, Davis and Co., and Lederle) is divalent and effective against the pneumococcal Types I and II. A supply of Type I antiserum will probably soon become generally available from the Wellcome Research Laboratories. I am at present engaged on the treatment of selected severe cases of lobar pneumonia with each of these serums.

While there is some doubt about the usefulness of Type II serum, there is good reason to consider the Type I serum of real therapeutic value. In these circumstances, the determination of the type of pneumococcus responsible for a given case of lobar pneumonia becomes a matter of urgency, first in the interests of the patient and, secondly, to avoid waste of the very costly serum.

A swift and simple method for deciding pneumococcal type is as follows. Type may be ascertained within four hours from the time of collecting sputum, or lung puncture fluid when sputum is not immediately available; other pathological material containing virulent pneumococci may, likewise, be used.

A suitable sample of sputum is chosen and emulsified in a watch-glass with an equal volume of broth. Half a cubic centimetre of the emulsion is inoculated into the peritoneal cavity of a mouse. Four hours later the peritoneal contents are sampled by aspiration in the following manner. The mouse is grasped by the scruff between the finger and thumb of the left hand ; at the same time the animal's tail is firmly held against the inner side of the palm of the hand by the third and fourth fingers. The abdomen is thus conveniently exposed and explored by means of a 1 c.cm. Record syringe with fine No. 18 rustless steel needle attached. The barrel of the syringe should be held by the third and fourth fingers of the right hand against the palm, and the plunger lifted by the right thumb and index.

Four droplets of the peritoneal exudate thus obtained are expressed on to slides, appropriately marked with grease pencil to correspond with the three chief pneumococcal types and control ; the droplets are at once mixed with a platinum loopful of Types I, II, and III agglutinating serums and rabbits' normal serum. The drops are covered with cover-slips as soon as mixed, and examined at once under the microscope, using a No. 4 ocular 1/6 inch objective with plane mirror reflector, the condensor being removed. Focusing is facilitated by the grease pencil marks on the slide.

The immediate result, in the case of a positive reaction, is a conspicuous increase in size of the pneumococci, due to conjugation of coccus and homologous antibody. Brownian movement is retarded, and the pneumococci become very apparent as lanceolate bodies, surrounded by a clear, highly refractive capsular zone. Agglutination soon follows, but is accelerated if the slide is warmed on the floor of the 37° C. incubator for three to five minutes, and then again examined.

The end-result of the reaction is the aggregation of masses of agglutinated pneumococci and leucocytes ; the pneumococci, sensitized by conjugation with the antibodies, are chemotactic to the phagocytes and polymorphs present in the peritoneal exudate. This characteristic reaction is seen only when virulent pneumococci are effective, belonging to the recognized serological types. The result, at times, may be a little obscured by the presence of undigested debris from the sputum, if exploration of the mouse's peritoneum is attempted too soon or the initial dose of sputum is too large. The rate at which the peritoneal cavity deals with this foreign material varies somewhat in different specimens of sputum.

The test may be carried out with equal facility at any interval exceeding three to four hours, which period, generally speaking, represents the minimum time required for sufficient multiplication of the virulent pneumococci injected and digestion of the sputum.

The agglutinating serums used have a titre of 1 in 40, and are prepared by immunization of rabbits with representative type strains, isolated from recent cases of adult lobar pneumonia. The precaution of identifying both strains and serums by agglutination and absorption tests against the standard Rockefeller types has been observed always. Macroscopic agglutination has invariably confirmed the results of microscopic tests. The microscopic method is not only simpler and more rapid, but also considerably more delicate than the macroscopic, besides being economical of serum. The advantages are such that I now use this method alone.

I make no claim that the method described here is original ; the object of this communication is to make it widely known. The subject is reviewed by A. B. Sabin,[2] to whom the credit is due of applying rapid methods of typing pneumococci. Sabin's procedure is very similar

to that described, save that the specific agglutinating serums are diluted to eliminate coagglutinins and that smears of the mixed pneumococcal exudate and serum are made on slides, dried and stained. Sabin's method therefore sacrifices the opportunity of observing the striking and entirely characteristic change in the appearance of the cocci which follows conjugation with the specific antibody-bearing protein; and, further, his method introduces additional manipulations in the preparation, drying, and staining of the films. Neufeld, twenty years ago, applied the microscopic method to typing pneumococci, but was dissatisfied with the results he obtained with Type III. In my experience, however, no difficulty has arisen so far with this organism or with material from cases of Type III pneumonia. In any event the results with Types I and II are decisive, and are the key to early treatment.

The experiments described here have been carried out with the assistance of the Medical Research Council.

REFERENCES

[1] Vide Glasgow and Edinburgh reports, *Lancet*, December 27th, 1930.

[2] Sabin: *Journ. Infect. Dis.*, 1930, xlvi, p. 469.

THE ENIGMA OF THE CHILBLAIN

BY

RUPERT HALLAM, M.D.

PHYSICIAN, SKIN DEPARTMENT, ROYAL INFIRMARY, SHEFFIELD

The discomforts and disabilities caused by chilblains during the winter are very real, although non-sufferers may regard the complaint as trifling. We have but a fragmentary knowledge of the subject; it is known that cold is the exciting cause, but how one individual escapes and another suffers has never been determined. Consequently it is improbable that efficient means of prevention will be found until more is known of the etiology and pathology of the condition.

The Etiology of Chilblains

Perniosis is essentially an affliction of youth, as the following analysis of 100 consecutive cases shows:

Age	Number of Cases
0–10	54
10–20	29
20–30	4
30–40	5
40–50	4
50–60	3
60–70	1

From the above it is evident that after a period of years an immunity is acquired. Certain persons are free in their early years, but suffer in middle age; strange to say, however, chilblains are seldom met with in the aged, even when serious organic disease is present.

A histological examination in the early stages shows that there is a rapid degeneration of the small vessels, accompanied by perivascular infiltration. There is not a mere transudation of serum, as some writers would have us believe, but a sudden and severe damage affecting the vessels of the papillary layer of the cutis. Attempts to produce a chilblain experimentally by the application of solid carbon dioxide, injection of histamine, etc., have failed. In a susceptible individual a chilblain commences to make its appearance about eighteen hours after exposure to cold of the requisite severity. Should the temperature remain low little alteration in the state of the chilblain ensues, but a change of wind bringing a warmer atmosphere produces a rapid amelioration of the symptoms, and the chilblain disappears with surprising rapidity. Change of environment may also produce a striking alteration in individual susceptibility. These facts are of importance, for it is not unlikely that they explain the reputation of many of the so-called cures for chilblains.

Chilblains Associated with Other Diseases

In order to investigate some of these suggestions, I endeavoured to ascertain the relative frequency of chilblains in certain diseases of known etiology, and also to determine the incidence in various social states. A more detailed account of these inquiries has been given in a previous communication.[1] The incidence of chilblains among patients attending the casualty department of the Sheffield Royal Infirmary compared favourably with that of others in more affluent circumstances. On the other hand, statistics obtained from the medical out-patient department and from the tuberculosis dispensary in the same city indicate that the incidence rises with a disturbance of the general health, as shown below.

	Percentage Affected with Chilblains
1,000 casualty patients	5·3
1,000 medical patients	9·2
1,000 tuberculosis patients	13·2

The figures in the last group are of particular interest; for some writers, among them Darier,[2] allege that the chilblain is actually a tuberculide. Although the above figures give some support to this theory, it is probably more accurate to assume that tuberculosis and some other diseases which impair the general health are predisposing causes. An analysis of 1,275 patients attending the medical out-patient department affords some interesting comparisons. Taking first the abnormalities of the circulatory system, 14 of my series had various degrees of arterio-sclerosis, yet in no instance was there a history of concomitant chilblains. On the other hand, of 86 suffering from some form of heart disease there was a record of recent chilblains in 15—that is, 17.4 per cent. From these figures it appears that a gross defect in the arterial wall may exist without materially diminishing the vitality of the capillary. The frequency with which chilblains are met with in disorders of the heart may be accounted for by the lessened propulsion force, and consequent slowing of the blood stream, interfering in some way with the nutrition of the superficial vessels. An examination of patients suffering from some definite imperfection of an endocrine gland is instructive. Among the 1,275 patients referred to 12 were suffering from myxoedema, but none suffered from chilblains; 24 were under treatment for exophthalmic goitre, of whom 3 had had chilblains since the onset of hyperthyroidism; this appears to show conclusively that chilblains are not necessarily associated with excess of thyroid secretion.

"Chilblain Circulation"

Most observers will agree that many chilblain subjects exhibit some peculiarity of the peripheral circulation in winter time. This was confirmed by an investigation of 100 cases of chilblains, for of this number 51 showed an apparently abnormal circulation in the hands and feet. It must be admitted that the records are of little intrinsic value, for it is impossible to define what is meant by normal blood supply. Under varying conditions the subjects might show different responses to heat and cold; furthermore, it is incorrect to assume that the peripheral circulation is necessarily normal because it appears to be

so clinically. Of the 51 cases showing clinical manifestations of variation of the circulation from the normal, the most obvious signs were cold hands and feet, accompanied by cyanosis of the hands and the lower third of the legs—a state of the peripheral circulation which is not infrequently referred to as the "chilblain circulation." What is the pathology of the abnormal response to cold? A histological examination of the skin from such a cold blue hand, even where there are no chilblains, shows some thickening of the walls of the smaller vessels. It is agreed that cyanosis and coldness indicate a slowing of the blood stream. Krogh[3] states that the temperature of the skin is primarily determined by the rate of blood flow, which in turn depends on the state of contraction of the arteries and arterioles. As the shade of the skin is controlled by the state of the subpapillary venous plexus and capillaries, it is obvious that these small vessels must be dilated in perceptible cyanosis. This is confirmed by an examination with the capillary microscope, a method of observation which is unfortunately very limited, for, excepting in the nail folds and lip, it is not possible to see more than a small section of a capillary loop. On examining a pronounced case of this type of cyanosis, the investigator almost instinctively presses the dorsum of the cold blue hand, which fills in slowly from the periphery like a closing diaphragm. In the individual with hands of normal colour, however, the white patch reddens from below as well as from the periphery. The only reasonable explanation of this interesting phenomenon is that first there is a closure of the arterioles, and secondly a return flow of blood from the neighbouring superficial venules. Spalteholz pointed out that there are no valves in these venules, consequently there is no obstruction to the return along them; but the blood cannot reach the venules from the veins in the deeper layers owing to the presence of valves. Again, if the ulnar half of the hand is immersed in hot water it gradually becomes red, whereas the non-immersed portion retains the original cyanotic colour. The line of demarcation is very sharply defined, indicating that the large arteries are not involved. It appears, therefore, that the cyanosis and colour is accounted for by a constriction of the arterioles, together with a dilatation of the capillaries and subpapillary venous plexus. Although this type of circulation is frequently encountered in patients who are subject to chilblains, it is certain that this peculiar pathological change alone will not produce a chilblain, even with an accompanying exposure to cold, for in the syndrome known as acrocyanosis an extreme degree of cyanosis and coldness of the extremities may exist without the slightest evidence of a chilblain. At the same time, it must be admitted that a high percentage of acrocyanotics do suffer from chilblains. Again, in Raynaud's disease, which Lewis[4] has shown to be a spasmodic arrest of the circulation due to a contraction of the digital arteries, chilblains are not commonly met with. The etiology of the chilblain is therefore still obscure. It appears that there must be an unknown and independent factor producing a change in the wall of the smaller cuticular vessels, in addition to the factor which causes slowing of the blood stream. This change in the vessels is necessary before the exposure to cold is able to damage the tissues, for in normal skin, as Lewis[5] has pointed out, even after the skin has been sufficiently frozen to form a wheal, the capillaries are afterwards found to be intact.

Biochemical Investigation

The anticipation that biochemical investigation would advance our knowledge on the subject has, unfortunately, not been realized. In view of the fact that calcium salts inhibit the transudation of serum through the capillary walls, and as a result also of belief in the existence of a diminished coagulability of the blood in chilblain subjects, calcium therapy has been singularly popular for many years. It is significant, however, that Percival and Stewart[6] find the serum calcium normal as regards both quantity and quality; moreover, these workers also ascertained that the ingestion of calcium salts in quantities usually prescribed does not appreciably raise the amount of serum calcium.

The Blood in Perniosis

My investigations of the blood in both chilblain subjects and acrocyanotics does not support the contention that the coagulation time is delayed. The method of estimation adopted was that of Dale and Laidlaw. The first drop of blood was always selected, and the test was repeated three times. The tubes were immersed in water at 37° C. The following table shows the average time.

Blood Coagulation Time

Ten chilblain patients: 2 min. 16 sec., 2 min. 36 sec., 2 min. 10 sec., 2 min. 26 sec., 2 min. 6 sec., 2 min. 29 sec., 2 min. 9 sec., 2 min. 7 sec., 2 min. 10 sec., 2 min. 3 sec.

Ten acrocyanotic patients: 1 min. 58 sec., 2 min. 18 sec., 2 min. 15 sec., 2 min. 2 sec., 2 min. 52 sec., 2 min. 8 sec., 2 min. 27 sec., 2 min. 38 sec., 2 min. 31 sec., 2 min. 5 sec.

Six normal controls: 2 min. 18 sec., 2 min. 10 sec., 1 min. 55 sec., 2 min. 19 sec., 2 min. 8 sec., 2 min. 11 sec.

Taking into consideration the work of Percival and Stewart, as well as the above, it is doubtful whether there is an adequate reason for the belief in a calcium deficiency.

In consequence of the recently acquired knowledge relating to the influence of vitamin D on the development of bone and teeth in youth, and also of the important function of the accessory food factors in the prevention of disease, it is important to know whether changes in the peripheral vessels may be attributed to a deficiency of one or more constituents of the diet. It has been found, however, that in some groups of school children having an average diet, the incidence of chilblains compares favourably with others having an added amount of vitamins A and D, and it can be stated definitely that some apparently healthy children who have had a generous diet over a long period, containing more than a sufficiency of calcium, with additional amounts of vitamins A and D, may acquire chilblains on exposure to cold. It has also been noted that the incidence of chilblains in a group of London elementary school children (100) exposed to a carbon arc light during the winter was no less than in control groups.

CONCLUSIONS

In conclusion, I submit that the pathology of the chilblain is complex and still imperfectly understood. The actual lesion is not due to a mere transudation through the capillary wall, for the superficial vessels of the susceptible individual are the subject of a pathological change, which enables sudden lowering of the temperature to act with great intensity, destroying the endothelium of the peripheral vessels *en masse*. Among the predisposing causes are hereditary weakness, lowered resistance due to tuberculosis, and other toxaemias.

REFERENCES

1. Hallam, R.: Etiology and Pathology of Chilblains, *Transactions* of the Eighth International Congress of Dermatology, Copenhagen, 1930.
2. Darier: *Précis de Dermatologie*, 1923.
3. Krogh: *The Anatomy and Physiology of the Capillaries*, 1922.
4. Lewis: *Heart*, xv, No. 1.
5. Idem: *The Blood Vessels of the Human Skin and their Responses.*
6. Percival and Stewart: *Brit. Journ. Derm. and Syph.*, 1927.

REMOVAL OF TONSILS AND ADENOIDS IN THE OUT-PATIENT DEPARTMENT

BY

J. ARNOLD JONES, O.B.E., M.B., F.R.C.S.ED.

SURGEON IN CHARGE, EAR, NOSE, AND THROAT DEPARTMENT, ROYAL MANCHESTER CHILDREN'S HOSPITAL; SURGEON, ST. JOHN'S EAR AND THROAT HOSPITAL, MANCHESTER

At the Annual Meeting of the British Medical Association held in Manchester in July, 1929, I opened a discussion in the Section of Diseases of Children on "Tonsils and adenoids: their medical and surgical aspects."[1] At the end of the meeting a resolution was passed by the Section condemning the operations for the removal of tonsils and adenoids in out-patient departments, and advocating a period in hospital, after the performance of such operations, of at least forty-eight hours. This was followed by much correspondence in the *British Medical Journal* vigorously supporting the resolution,

From my own experience of these operations, going back for a quarter of a century, my strong impression was that they could well be performed in the out-patient department, provided certain definite precautions were taken. It seemed to me unjustifiable to embark upon a large expenditure of money, which the treatment of such cases as in-patients would entail, unless more definite evidence of the need for reform was forthcoming, especially having regard to the present scarcity of money and the many infinitely more pressing needs that existed.

Among the impassioned opinions advanced by correspondents many dogmatic statements were made, but there was almost a total lack of real evidence one way or the other. Mr. E. Watson-Williams gave definite statistics in an article[2] to support his contentions, but the figures were not large, and the precautions taken omitted the most important one of sending the patients home in an ambulance.

In these circumstances Dr. Lapage and I suggested further inquiry, and I proposed that all surgeons interested should keep a careful record of cases for a year.

My record at the Royal Manchester Children's Hospital is here set down in tabular form. In drawing up the table I have followed the methods of Mr. Watson-Williams, whose record is placed below for comparison.

Table showing Number of Cases and Morbidity

	179 In-patients, August, 1929, to August, 1930		914 Out-patients, August, 1929, to August, 1930	
	Number	Per cent.	Number	Per cent.
Definite morbidity	0		7	0.7
Serious morbidity	3	1.6	5	0.5
Mortality	0		0	
Total morbidity	3	1.6	12	1.2

Mr. E. Watson-Williams's Table

	100 In-patients, March, 1918, to June, 1920	239 Out-patients 1919	
	Number	Number	Per cent.
Definite morbidity	1	7	2.9
Serious morbidity	0	3	1.3
Mortality	0	1	0.4
Total morbidity	1	11	4.6

The out-patient statistics have been very carefully compiled, every one of the 914 patients operated upon having been accounted for. This has involved a great deal of trouble, and I am deeply indebted to Dr. Fisher, Sister Macmurtry, and Miss Pilling (inspector N.S.P.C.C.) for their able and willing help. As many of the in-patients lived at a considerable distance away, the response to inquiry was meagre, not half of those operated upon being accounted for. The in-patient morbidity, therefore, may well be higher than indicated in the table. It will be observed that the percentage of total morbidity is higher among in-patients than out-patients, and that serious morbidity is three times as great. There was no mortality.

The precautions taken in the case of out-patients were as follows.

1. The cases were selected from, roughly, a five-mile radius of the hospital.
2. No "chest" or "heart" cases were included.
3. The older children were reserved for hospital.
4. No operations were performed if the weather was inclement—if east winds, fogs, or extreme cold prevailed. (During the period of this inquiry there were eight such occasions.)
5. The patients lay on couches in recovery rooms for three or four hours attended by a nurse.
6. They were examined by a medical officer before being sent home.
7. *They were sent home in the hospital ambulance.*
8. If the medical officer had any doubt about their condition, they were detained in hospital.
9. The parents were provided with printed directions as to after-treatment.

Mr. E. Watson-Williams, writing in the *British Medical Journal*,[3] says:

"Nine years ago you published my statistical evidence of the greater risks run by 'out-patient' *opérés*. . . . Despite the precautions advised by Mr. Arnold Jones—which, by the way, have long been universal practice—each year brought confirmatory evidence."

Now, to my mind, the most important precaution of all—namely, the sending home of patients in an ambulance, has not "long been universal practice." I have failed to find it mentioned by anyone; indeed, Mr. E. Watson-Williams implies in his paper[2] that after recovery from operation the patients are handed over to their parents, who are instructed on no account to let them walk. I cannot help thinking that if these patients had been sent home in an ambulance our figures might have more closely approximated.

These statistics, which cover only a single year with a mild winter, are but a contribution to a much larger inquiry; no final conclusions can be drawn from them. This much, however, can be said, that for one whole year these operations have been performed in the climatic conditions prevailing in the middle of one of the largest provincial towns (with the precautions previously referred to) and that the morbidity rate at the most has been no higher among out-patients than in-patients, and that the total rate has not been high.

CONCLUSION

As far as available *evidence* goes at present, apart from mere opinions based on impressions, I think it is fair to say that no case has yet been made out for insisting, or trying to insist, that these operations should not be performed upon out-patients. The alternative—that the authorities should provide the necessary bed accommodation for these cases—would entail a large expenditure of money, which would have to be found at the expense of other and more urgent surgical and medical needs.

With our present knowledge I am firmly convinced that, *with proper precautions*, the operation for removal of tonsils and adenoids can be performed on out-patients with as little risk as upon in-patients.

REFERENCES

[1] Jones, J. Arnold: *British Medical Journal*, 1929, ii, 337.
[2] Watson-Williams, E.: Ibid., 1920, ii, 887.
[3] Idem: Ibid., 1929, ii, 783.

EPILEPSY AND PREGNANCY

BY

By J. A. STRUTHERS, M.D., M.R.C.P.

CASUALTY PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL; PHYSICIAN TO THE WILLESDEN GENERAL HOSPITAL

The following cases are examples of a condition which appears to be sufficiently uncommon to merit notice.

Mrs. A. B. was seized with what was at first taken to be a series of very severe eclamptic convulsions starting ten days after the birth, at full term, of her first and only child (a stillborn male) in October, 1928. The description given by her husband was that she twitched all over and frothed at the mouth, and that she became unconscious and remained so almost continuously for four days, during which time there were frequent twitchings and convulsions, accompanied at times by the passage of urine and faeces. For the last month before delivery she had been confined to bed on account of albuminuria. Apart from this there was no history of previous illness; her husband also was healthy. Five months later, and again at intervals of seven and three months, she had further fits. During this time she had been treated with bromides. The omission of this drug shortly before she attended hospital in June, 1930, was followed by the occurrence of further fits, which were similar to the first, but not so severe, and lasting only a few minutes.

The only point of interest in the family history was that the father, who was still alive, had suffered from asthma as long as the patient could remember. Her mother and one brother were alive and well; the patient had never had any other brothers or sisters. There was no abnormality to record in the menstrual history. Physical examination failed to reveal any condition pointing to the presence of a cerebral tumour or other organic disease. Neither albumin nor sugar was detected in the urine. The blood pressure was 130/80. Wassermann and sigma reactions of the blood were negative.

In the second case, the patient was aged 28 when she had the first fit, in January, 1924. She was then six months pregnant with her first child. Whilst she was walking she had a sudden loss of power, preceded by numbness and accompanied by twitching in the left arm and leg. This lasted, she estimated, about three minutes, after which she was able to walk again. A few days later she had a "fit" during the night. On this occasion she "struggled violently," bit her tongue, was incontinent of urine, and later on suffered from a severe headache. During the remainder of the pregnancy the attacks of twitching and loss of power—always in the left leg and arm—increased in frequency up to three or four per day. The labour was normal, but fits continued afterwards with varying frequency. In June, 1926, just before admission to hospital, the frequency of the local fits was once every ten minutes of the day.

Examination in this case also failed to reveal evidence of organic disease. The cerebro-spinal fluid was normal, as also were the visual fields and retinae. The Wassermann and sigma reactions were negative. There was no history of any serious illness in either the patient or her family. During the subsequent four and a half years in which the patient has been watched and treated with bromides, fits have occurred from time to time, and have usually been left-sided.

The third case is similar. The patient in this instance was aged 26 when first seen, and had two children—a girl aged 2 years and 4 months, and a boy aged 7 months. During each pregnancy she had a single convulsion accompanied by unconsciousness, and without doubt, from the description of those who saw it, an epileptic attack. There was no past history of such attacks or of petit mal, but she had suffered from headache and severe symptoms of neurasthenia since an attack of "feverish illness" at the age of 18. There was a history of "concussion" at the age of 13. Physical examination when she was first seen in consultation proved negative, as also had previous examinations and exhaustive investigations, except that the uterus had been found to be retroverted. Throughout the following five months, during which she led a normal life, there were no attacks, but then she had a typical epileptic attack, followed during the next two months by several more, always occurring at night. She was almost unconscious of them, but in the morning she had recollections of a bad nightmare, which disturbed her considerably. The question of cerebral tumour was considered, but no evidence was found to support that diagnosis. There was one further attack in the following month, but during the seventeen months for which the case has been subsequently followed there have been no more attacks, in spite of the fact that no luminal or bromide has been administered in the last twelve months. Her general condition is that she is easily tired; and there are symptoms of intestinal dyspepsia. Menstruation has been irregular since it first commenced, the periods being often ten to fourteen days late and lasting six or seven days, but the loss appears to be normal and there is no dysmenorrhoea. The patient's mother has suffered from the severest form of migraine.

Similar examples previously recorded include those mentioned by Gowers,[1] who found ten in his series of 3,000 cases of epilepsy (52 per cent. females and 48 per cent. males) in which the onset was associated with pregnancy. In five of these cases the onset was before parturition and in five soon after. In one of the former group the attacks occurred during each of five successive pregnancies, but only during sleep. They then became constant, and occurred also during the day. Muskens[2] quotes the case of a woman who had her first epileptic fit, at the age of 32, in the sixth month of her first pregnancy; this caused a miscarriage. For some time afterwards she had attacks every four weeks, and later pregnancies were often accompanied by fits. After the climacteric she had epileptic fits and syncopal attacks. This patient's father suffered from severe headaches, and her sister was an epileptic. Toulouse and Marchand[3] mention two cases, out of a series of 350, in which the epileptic attacks started during pregnancy—in one at the third month of the first, and in the other at the fifth month of the third—and persisted thereafter. They also mention cases recorded by others in which the "epileptic attacks" ceased with the end of pregnancy. These included one of a woman who had eight children—five male and three female—in whom a pregnancy with a male child was accompanied by fits. In this type it seems at least probable that the attacks were eclamptic in nature. Aldren Turner[4] and Féré,[5] it is true, consider eclampsia to be an acute form of epilepsy, and present a large number of cases in support of their opinion. This raises further important questions, and if, as seems probable from the recent work of Theobald,[6] this proposition should be established, still further support will be given to Collier's[7] view that epilepsy should be classed as a metabolic dyscrasia.

I am indebted to Professor F. R. Fraser and Dr. Geoffrey Evans for permission to publish particulars of the second and third cases respectively, as these were under their care.

REFERENCES

[1] Gowers, Sir William R.: *Epilepsy and other Convulsive Diseases*. London, 1901.
[2] Muskens, L. J. J.: *Epilepsy*. London, 1928.
[3] Toulouse and Marchand: Puerperalité et Epilepsie, *Gazette des Hôpitaux*, 1925, ii, 1661.
[4] Turner, W. Aldren: *Epilepsy*. London, 1907.
[5] Féré, Ch.: *Epilepsie et les Epileptiques*. Paris, 1890.
[6] Theobald, G. W.: The Causation of Eclampsia, *Lancet*, 1930, i, 1115.
[7] Collier, James: Lumleian Lectures, 1928.

TREATMENT OF ADVANCED CASES OF INTESTINAL OBSTRUCTION OR STRANGULATION*

BY

D. C. CORRY, M.D., F.R.C.S.

ASSISTANT SURGEON, RADCLIFFE INFIRMARY

A clinician on being taken to see a case of acute intestinal obstruction inquires if regurgitant vomiting has commenced. For he knows that before regurgitant vomiting sets in the patient has a good chance of surviving, but that once it is established the prognosis is grave. By the time the vomit has become faecal the prognosis is bad.

Patients suffering from advanced intestinal obstruction are liable to die from known and appreciated risks, such as the inhalation of vomit during anaesthesia, or the perforation of a damaged bowel into the peritoneal cavity. But they are also liable to die suddenly and unexpectedly. To account for these unexplained deaths two theories have been put forward. The first is that death is caused by toxins, either chemical or bacterial, produced in the obstructed bowel. The second is that death is due to the loss of water and electrolytes from vomiting.[1] [2] It is chiefly the effects of the loss of water in an advanced case that I wish to discuss.

DEHYDRATION IN INTESTINAL OBSTRUCTION

The dehydration of intestinal obstruction is comparable to that seen in cholera, where water loss is universally acknowledged to be a contributory cause of death. Lawrence[3] has recently drawn attention to water loss as being the cause of non-recovery in diabetic coma.

In cholera the fluid is lost in the stool, in diabetes in the urine, and in intestinal obstruction in the vomit. The fluid loss from gastric secretion alone may reach six litres in twenty-four hours.[4]

In the dehydration of these three diseases the following conditions are common to them all. Lawrence drew attention to their presence in diabetic coma and in cholera, and called them the "dehydration complex."

1. Tissue depletion of fluid.
2. Low blood volume and pressure.
3. Scanty secretion of urine.
4. High blood urea.
5. Low blood chloride.

All these conditions of the dehydration complex are present in an advanced state of intestinal obstruction.

1. The tissue shortage of water can be seen by the dry tongue, the thirst, the dry skin, the shrunken features—hollowed eyes and low ocular tension.

2. The pulse is usually rapid, but always of a low tension and volume.

3. The decreased secretion of urine has been described[5] as one of the diagnostic features of small intestine obstruction. That anuria is an occasional symptom of intestinal obstruction was brought home to me by the following case.

A man, aged 35, was admitted to Ancoats Hospital, with a history of anuria for four days, vomiting, pain in the back. According to a blood urea estimation, done under the impression that it was a case of calculus, anuria was 250 +. The patient died that night, and necropsy revealed a volvulus of the small intestine. The kidneys appeared healthy.

In the oliguria of intestinal obstruction there is usually a trace of albumin, and in some cases renal casts and blood.

4. Tileston and Comfort,[6] in an investigation of the blood ureas in a series of diseases, found that in intestinal obstruction the blood urea was far higher than in any other disease, except those affecting the kidneys. The following case reported by Leslie Smith and Heritage[7] indicates the high level the blood urea may reach, and yet on recovery the kidneys may apparently be normal.

A man, aged 28, was admitted in a comatose condition to Ancoats Hospital. The history of his illness, obtained from his relatives, began five days previously with colicky pain round the umbilicus. His bowels had not opened for three days, and vomiting had occurred for the same period. On his admission the vomit was faeculent. The abdomen was distended, visible peristalsis being seen. Blood urea was 240. The urine was dark and showed a few casts. Later, cerebro-spinal fluid urea was 350. The comatose condition seemed so profound that death was considered imminent, and operative intervention useless. Improvement took place after intravenous saline had been given, and Mr. Hughes operated. The obstruction was caused by a band four feet above the ileo-caecal valve, division of which resulted in the patient's return to consciousness the following morning. Blood urea five days later was 40; fourteen days later, 21. The urine contained no albumin or casts.

The high blood urea observed when the patient has begun to vomit is not due to the failure of the kidney to excrete this, as the urine passed contains a high concentration of urea. It is due presumably to increased destruction of tissue protein. Later, when casts appear in the urine, there must be a definite nephritis (? toxic), and this is shown by the failure of the kidneys in renal dye tests.[8]

5. The decreased blood chloride of intestinal obstruction is especially stressed by Haden and Orr.[9] They endeavour to correlate the blood chloride findings with the prognosis. The normal limits of blood chloride may be taken as between 0.27 and 0.32. They consider that the prognosis becomes worse and worse in proportion to the fall of the blood chloride below 0.26. As treatment they advocate giving 500 c.cm. of 5 per cent. saline morning and evening. Exactly what causes the fall in the blood chloride is a matter for conjecture. Some chloride is lost in the vomit, yet Haden and Orr found that a fall of chlorides occurred in the experimentally obstructed rabbit, which does not vomit. Yet in the rabbit the lost chloride might well be in the dilated stomach and duodenum.

A clinical symptom in intestinal obstruction, which may be due to the fall of the blood chlorides, is the cramp that occurs in the calf muscles of some of these patients. Is this similar to the cramp of stokers who lose salt from sweating?

That death occurs earlier in high intestinal obstruction than in low obstruction can be ascribed partly to the earlier onset of vomiting in high obstruction and subsequent loss of fluid. In low obstruction of the ileum Wilkie[2] was able to show by animal experiment that the fluid secreted into the afferent bowel is re-absorbed by the bowel higher up. Similarly the lack of symptoms in colonic obstruction could be ascribed to the well-known powers of the colon in absorbing fluid.

From these observations I consider that the severe dehydration seen in intestinal obstruction shows all the points of the dehydration complex seen in cholera or severe diabetic coma.

TOXAEMIA OF INTESTINAL OBSTRUCTION

In regard to the toxaemia of intestinal obstruction, Whipple[10] isolated and obstructed a loop of dog's duodenum. An extract from the occluded loop, when injected intraperitoneally into another dog, caused it to die vomiting, with symptoms resembling intestinal obstruction. This toxin, which Whipple considered to be a proteose, could be heated to 70° C. without losing its efficacy.

A certain amount of evidence has been brought against this proteose toxin of Whipple. Magnus Alsleben[11] found

* A paper read to the Oxford Clinical Club.

normal duodenal secretion to have the same effect. In a series of experiments Wilkie[2] found the duodenal toxin to be harmless to normal intestinal mucosa. Williams[12] suggests that these proteose toxins are produced by heating the duodenal contents to 70° C., as was done by Whipple in their preparation. If prepared by filtration and centrifuging, they are non-toxic. I will not discuss at present whether the toxin is a bacterial one produced by *B. welchii*, but state that there is good experimental evidence to encourage the use of anti-gas serum.

TREATMENT

The above considerations have caused me since May, 1929, to treat my severe cases of intestinal obstruction by giving 2½ to 3½ pints of intravenous saline during operation, which is rather a larger quantity than is generally advocated in such cases. I have used normal saline, as it is convenient, and it seems to me that it is essentially fluids that these patients require. There might be something to be said in favour of 1.2 per cent. saline with traces of other salts as used by Rogers in treating cholera patients. The 5 per cent saline of Haden and Orr certainly gives them salt, but he gives them less than a pint of fluid at a time. In the intravenous saline I give *B. welchii* antitoxin.

The operations are done under local anaesthesia. On return to the ward a continuous rectal saline and glucose is given by the Murphy drip method at the rate of a pint an hour. A dehydrated case will absorb another three or five pints during the night. On return to the ward 20 units of *B. welchii* antitoxin are given intramuscularly, and morning and evening till the bowels open. I have been agreeably surprised at the general condition of these patients next day.

NOTES ON ADVANCED CASES

Case 1.—A female, aged 29, was seen on May 2nd, 1929, with a right inguinal hernia, which had been strangulated for seven days. The skin over the hernia was red and shiny. Faecal vomiting was present. Using novocain as a local anaesthetic I operated, and in incising the skin found pockets of pus in the subcutaneous fat, but no gas. (A culture of this pus grew *B. welchii*.) The sac contained 8 inches of gangrenous small intestine, which was removed by resection; thereafter lateral anastomosis was done, and the peritoneum was drained. Three pints of saline with 50 c.cm. of *B. welchii* antitoxin were given intravenously during the operation, at the rate of one pint every ten to fifteen minutes. A rectal saline of 50 c.cm. *B. welchii* antitoxin was given intramuscularly in the first twenty-four hours, and a similar dose during the second twenty-four hours, following operation. The patient was very fit the morning after operation, and the bowels were open on the third day. The wound was granulating satisfactorily eighteen days after the operation, when the patient, who had had previous mental treatment, became cataleptic, and was transferred to a mental institution.

Case 2.—On August 25th, 1929, a female, aged 70, was seen on account of a right femoral hernia, which had been strangulated for three days. Vomiting was regurgitant and faeculent. At the operation, which was performed under local novocain anaesthesia and by the method of inguinal approach, a loop of strangulated small intestine was found to be viable. During the operation three pints of normal saline and 40 c.cm. of *B. welchii* antitoxin were given. The after-treatment was carried out as described above. Recovery was uninterrupted.

Case 3.—On October 27th, 1929, I operated on a male, aged 56, who had had a strangulated right femoral hernia for five days, and who was suffering from faeculent vomiting. Spinal stovaine was used, and the operation was carried out by the method of inguinal approach. A strangulated knuckle of bowel was found; it was gangrenous along the line of constriction. Resection and lateral anastomosis was done; 2½ pints of intravenous saline were given during the operation, with 50 c.cm. *B. welchii* antitoxin. The after-treatment was carried out as described above, and recovery was uninterrupted.

Case 4.—On December 3rd, 1929, a female, aged 72, was seen by me on account of a right femoral hernia, which had been strangulated for three days. She was having regurgitant vomiting. Using the method of inguinal approach, and employing novocain locally, I operated, and found that the sac contained 4 inches of gangrenous small intestine; I resected 8 inches, and then did a lateral anastomosis. During the operation three pints of normal saline and 40 c.cm. anti-gas serum were given; the routine of after-treatment followed the usual lines. There was some suppuration in the subcutaneous tissues, which were incised on the tenth day. The recovery was otherwise uneventful.

Case 5.—A female, aged 66, suffering from a right femoral hernia which had been strangulated for two days, was operated on by me on June 16th, 1930. Novocain was used as a local anaesthetic, and I chose the method of inguinal approach. Prior to the operation the patient was suffering from regurgitant and faeculent vomiting, but I found that the small intestine, though strangulated, was viable. During the operation 3 to 3½ pints of normal saline and 40 c.cm. *B. welchii* antitoxin were given. The after-treatment was as described above, and recovery was uninterrupted.

SUMMARY

Attention is drawn to the dehydration of intestinal obstruction similar to that stressed by Lawrence in diabetic coma, and by Rogers in cholera. All three diseases show tissue shortage of water, high blood urea, low blood chlorides. Large quantities of intravenous saline (2½ to 3½ pints) associated with *B. welchii* antitoxin can be given advantageously during the operation for intestinal obstruction, followed by rectal saline and glucose after operation.

REFERENCES

[1] Hartwell, Hognet, and Beckman: *Amer. Journ. Med. Sci.*, 1912, cxliii, 357.
[2] Wilkie: *British Medical Journal*, 1913, ii, 1064.
[3] Lawrence, R. D.: Ibid., 1930, i, 690.
[4] Brown, Easterman: *Arch. Int. Med.*, 1923, xxxii, 425.
[5] Erichsen: *Science and Art of Surgery*, 1853, 781.
[6] Tileston, W., and Comfort, C. W.: *Arch. Int. Med.*, 1914, xiv, 620.
[7] Smith, Leslie, and Heritage: *Lancet*, 1929, i, 416.
[8] McQuarrie and Whipple: *Journ. Exper. Med.*, 1919, xxix, 397.
[9] Haden, R. L., and Orr: *Annals of Surgery*, March, 1929, 93.
[10] Whipple, Stone, and Bernheim: *Journ. Exper. Med.*, 1914, xix, 144.
[11] Alsleben, Magnus: *Hofmeister's Beitr.*, 1904, vi, 502.
[12] Williams, B. W.: *Brit. Journ. of Surg.*, 1926, xiv, 295.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

SERUM ANAPHYLAXIS

In view of the widespread use of serum in the treatment of various diseases, the two following cases are of importance.

A boy, aged 16, suffering from pyaemia, was receiving, with other treatment, intravenous doses of antistreptococcal serum. He had six of these without any untoward effect. While receiving the seventh dose he suddenly began to cry out that he could not get his breath, and exhibited all the signs and symptoms of anaphylaxis. The previous dose of serum had been given only three days before, and the make of serum used was the same throughout.

The other case is that of a woman, aged 30, suffering from suspected puerperal septicaemia. She had six doses of serum, and while receiving the seventh dose she exhibited the classical signs of anaphylaxis. The previous dose of serum had been given only two days before, and the make of serum used was constant.

In each case the serum was being given intravenously, and the symptoms commenced before the needle had been withdrawn from the vein. Both patients responded very well to adrenaline, and recovered completely in a short time.

These cases are of great interest in that the interval between the two last doses of serum was three days in one case, and two days in the other. Every textbook leads one to believe that serum given in doses at intervals

of less than ten days is perfectly safe. Evidently this is not so. It would seem to be a wise precaution always to have adrenaline ready for administration in every case when serum is given.

Our thanks are due to Dr. H. H. MacWilliam for permission to publish these cases.

W. S. BRINDLE,
R. E. JACKSON,
Assistant Medical Officers,
Walton Infirmary.

Liverpool.

LABOUR AND MITRAL STENOSIS WITH INCOMPETENCE

Mitral stenosis, one of the graver of the chronic valvular lesions, is almost always accompanied by a degree of incompetence. That the strain of pregnancy and labour has an adverse effect on the prognosis of valvular disease is recognized. Fatal terminations are not unknown, but auricular fibrillation or tricuspid incompetence and progressive cardiac failure are more likely to supervene when the disease affects the mitral valve. The case here recorded illustrates an unusual complication arising during labour in a woman suffering from mitral stenosis.

Mrs. A., aged 35, had an attack of acute rheumatic fever when 9 years of age. There was no history of any other serious illness. Her four previous pregnancies and labours had been uneventful, and there had been no symptoms of cardiac insufficiency. This (her fifth) had also been normal. On September 7th, 1930, at 9 a.m., the first definite labour pains were noticed. The position was left occipito-anterior, pulse regular in time and force, rate 80 per minute. Cardiac dullness was increased, especially to the right, the right border being 2½ inches from the middle line. Auscultation revealed mitral stenosis and incompetence. On September 8th, at 12.30 a.m., the patient delivered herself of a healthy female child weighing 12¾ lb. Labour had therefore lasted fifteen and a half hours, the slight delay being due to the large child. The pulse had remained at 80 beats per minute until one hour before delivery, when it was last recorded. Just after delivery of the placenta, a few minutes following the birth of the child, the patient suddenly became blanched, but a few seconds later regained her normal good colour. Similar rapid alterations in colour were observed during the succeeding ten minutes, and at the same time there was considerable loss of blood, amounting to a haemorrhage. The pulse rate was 32 per minute, was regular in time, and of good force. With pressure on the fundus the bleeding was controlled and the patient looked better. An hour and a half later the pulse rate was 42 per minute, with a similar heart rate and regular rhythm. Twelve hours later heart and pulse were regular in rhythm, and their rates 40 beats per minute.

On September 9th the heart rate was 40 and the pulse rate 40; both regular. Respirations were 20 per minute. The patient was feeling well. On September 10th the heart and pulse rates were as above, but the respirations had increased from 20 to 64 per minute. The patient complained of slight cough, but otherwise felt very comfortable. On questioning, haemoptysis was stated to be present, and on examination there was dullness of the right apex, with increased vocal resonance and very faint breath sounds. A diagnosis of pulmonary infarction was made: The temperature throughout never rose higher than 99° on the fifth and again on the seventh day. On the fifth day mild auricular fibrillation set in. This was controlled with digitalis, and the patient's convalescence was thereafter uneventful. The area of infarction cleared up, and the patient was able to get up on the twenty-fourth day after confinement.

The chief points of interest are:

1. The physical strain and effort of a hard labour in a patient suffering from rheumatic infection of the heart precipitated an attack of heart-block of a severe degree. Although the onset was ushered in with alarming symptoms the attack proved to be temporary.

2. The infarction of the right apex, due most probably to a small intracardiac thrombus from the right auricle or ventricle. Most infarcts are found in the lower lobes.

3. The absence of marked symptoms pointing to infarction apart from the increased respiratory rate and slight cough. Haemoptysis had to be inquired for.

ALEC B. WALKER, M.D., M.R.C.P.
A. CAMERON EWING, M.B., CH.B.

Newtongrange, Midlothian.

A FATAL CASE OF POISONING BY PHENYLCINCHONINIC ACID

Several fatal cases of poisoning by phenylcinchoninic acid have been recorded, and the following may therefore be of interest.

A man, aged 60, consulted me on account of feeling ill and being jaundiced. He had never had a severe illness, but had lived a large part of his life in the East, and had had malaria, though not badly. He was a moderate drinker.

His pulse was slow, his temperature was subnormal, and he presented a slight icteric tinge. The tongue was a little furred, and there was anorexia and nausea. The liver edge was just palpable.

On a diagnosis of catarrhal jaundice, I placed him on small doses of alkalis and the usual diet. Three days later he was worse; his tongue was very dirty, vomiting was very troublesome, and his stools were clay-coloured; the jaundice was much deeper. After much questioning, I discovered that he had been taking phenylcinchoninic acid (on the advice of a non-medical friend whom he had met in India two months before) for what he thought was gout. He had taken 45 grains a day for a maximum of four days; he then rested three days, and resumed. This had been going on continuously for the two and a half months preceding his illness.

Two days after this he became drowsy, his pulse rose, and I sent him to a nursing home. His stools were now normal in appearance. Van den Bergh's test gave a direct positive result, with forty units of bilirubin—about eighty times the normal amount—in the indirect reaction. Next day the jaundice was intense, the drowsiness increased, and his pulse was 100. His urine then contained albumin and the urea content was 1.65; no leucine or tyrosine crystals were seen, and it was strongly alkaline. Ehrlich's diazo reaction produced a reddish-brown coloration, and Schlesinger's test for urobilin was negative. The fair amount of urea, and the absence of leucine and tyrosine was then of good omen, but the clinical picture of intense toxic jaundice was very disquieting. At this time the left lobe of the liver, which had been enlarged, ceased to be palpable. There was no abdominal tenderness. Two days later he became comatose. I replaced two pints of his blood with normal saline solution, which roused him for a little while, but he relapsed and died twenty-four hours later.

The post-mortem examination revealed as follows: The body was well nourished, and there was a right inguinal hernia. The stomach and duodenum showed signs of a severe catarrhal condition of the mucous membrane, but there was no ulcer or growth. The pancreas seemed normal, but the spleen was enlarged, and there were yellowish patches over it. The liver was somewhat shrunken, soft, and friable, and covered with yellow areas of necrosis. The gall-bladder was normal, with no stone. Microscopical section of the liver showed intense cloudy swelling, with fragmentation and focal necrosis at the periphery of the lobules. Death was due to acute hepatitis, which in the absence of any other exciting cause must be attributed to the drug. The amount taken was not much in excess of that commonly prescribed, nor is the period over which it was taken exceedingly out of the way.

Possibly the chronic hepatitis attributed to those who have spent much time in the Tropics rendered his liver cells less resistant to the toxic action of the drug—supposing that it acts directly, and not by means of the gastro-duodenitis which it produces. The rapid progress of the case to a fatal issue is also perhaps noteworthy.

I am indebted to Dr. R. Waterhouse for his opinion and pathological work in this case.

Bath. WARREN MORRIS, M.R.C.S., L.R.C.P.

British Medical Association

CLINICAL AND SCIENTIFIC PROCEEDINGS

CALCUTTA BRANCH

A clinical meeting of the Calcutta Branch was held on December 12th, 1930, in the lecture theatre of the School of Tropical Medicine and Hygiene, Calcutta, with Lieut.-Colonel V. B. GREEN-ARMYTAGE in the chair.

PATHOLOGY AND TREATMENT OF SPRUE

Lieut.-Colonel H. W. ACTON, I.M.S., in a paper on the pathology and treatment of sprue, pointed out that sprue was not a disease entity, but a syndrome occurring as an end-stage in dysenteric infection. The sprue syndrome had certain fairly constant features. It occurred as a rule in the Tropics or sub-Tropics; its manifestations were evidence of derangement of the gastro-intestinal tract; it was more common in Europeans than in Indians, and it was occasionally a house disease; there were also typical tongue symptoms and characteristic stools. The different guises under which the syndrome might appear clinically were next considered. (1) The so-called acholic diarrhoea; this was seen especially in children between the ages of 5 and 12 years. Tongue signs and symptoms were usually absent, anaemia might or might not be present, and the patient passed one or two large pasty stools in the twenty-four hours. A case seen by the lecturer presented an appearance similar to that of Hirschsprung's disease. (2) A certain proportion of cases labelled hill-diarrhoea were really manifestations of the sprue or pre-sprue syndrome. (3) The frank sprue case, with typical sore tongue, Addisonian-like anaemia, and gastric or intestinal lesions; this type of case was seen typically in adult Europeans, and was due, as the speaker subsequently pointed out, to streptococcal embolization. Owing to differences in digestive metabolism this type of case was not seen in the Indian, in whom asthenic diarrhoea was the prominent feature. (4) Cases with almost exclusively tongue symptoms—tropical aphthae so called.

In the course of a brief account of his bacteriological studies on the sprue syndrome Colonel Acton said that, during the early or pre-sprue state, bacilli of the dysentery group (Flexner, Shiga, Y, or Strong) were frequently detected in the stools. Atypical phage-mutants, such as *Bact. pseudo-carolinus*, giving aberrant biochemical and serological reactions, were also common. In the fully developed sprue stage the stool was large, pale, and acid in reaction. It contained numerous fatty-acid crystals, yeasts, and haemolytic non-lactose-fermenting streptococci, but no flagellate protozoa, and very seldom any typical members of the dysentery group. The invasion of the blood stream by these streptococci and the subsequent formation of bacterial emboli were, in the speaker's opinion, the essential causes of the signs and symptoms of well-developed sprue. Gas-forming aerobes were also frequently detected, and there appeared to be, in addition, a group of organisms capable of producing leucobases; plating on Sabouraud's medium revealed monilia in many cases. Radiological investigations indicated that bowel stasis was constantly present in well-marked cases. This stasis was due to the action of toxins on the muscle of the bowel wall, together with atony due to lack of absorption. It was manifested at three points—in the caecum, in the transverse colon, and in the descending colon.

Colonel Acton prefaced his remarks on treatment with a brief historical survey. Not so many years ago the only treatment known was to send the patient home for a prolonged holiday—essentially a counsel of despair. Yellow santonin and streptococcic vaccines each had their day, to be followed in turn by the strawberry cure, treatment by calcium and parathyroid extract, liver extract, and ventriculin treatment, and finally by bacteriophage. In the speaker's opinion residence in hospital was essential for the successful treatment of a well-developed case of sprue. Carbohydrates should be cut out of the diet, which in the early stage should consist mainly of soups and eggs. An exclusively milk diet was unsuitable, as patients rapidly become nauseated. Bacteriophage treatment had, as a rule, given disappointing results in the lecturer's hands. Autogenous vaccines are successful in certain cases; where anaemia was marked, liver extract, about 7 oz. per diem, was useful. Transfusion was, on the whole, contraindicated, except to hasten convalescence; certain cases did well under parathyroid and calcium therapy. In gastric cases ventriculin appeared to be markedly beneficial, and optochin was indicated as a local treatment in cases with marked tongue lesions.

In the discussion which followed, the CHAIRMAN dealt briefly with his experience of the sprue syndrome as it affected the course of pregnancy. In the last year he had seen five cases of sprue complicated by pregnancy; on delivery all the infants showed bony deformities, and this, in his opinion, was more than a coincidence. Dr. SHAHA said that he had had good results in one case on a milk regime. Dr. GUPTA referred to the marked wasting and the megaloblastic changes seen in sprue. Dr. COLTMAN expressed the opinion that fats caused a definite increase in the diarrhoeic symptoms. He thought that many of the cases of so-called coeliac disease seen in children in England were really examples of the sprue syndrome. Colonel KIRWAN suggested that many inflammatory conditions of the eye (keratitis, cyclitis, iriditis, and choroiditis) were really due to intestinal infections, despite the fact that bacteriological examination of the stool was very often inconclusive.

HYDATIDIFORM MOLE

The CHAIRMAN (Colonel Green-Armytage) showed a small series of specimens of gynaecological interest. The most remarkable of these (demonstrated by permission of Dr. Subodh Mitra) was a perfect example of chorion-epithelioma following on a hydatidiform mole in which the corpus luteum cysts were beautifully demonstrated. In his remarks on the treatment of this condition the Chairman emphasized that modern gynaecological opinion on the Continent and in England coincided in the view that the diagnosis of hydatidiform mole should be followed by immediate hysterotomy, and if the wall of the uterus was invaded, by hysterectomy. This dictum was based on the observation that no fewer than 18 per cent. of all cases of hydatidiform mole became malignant and a further 36 per cent. died of sepsis. Colonel Green-Armytage then dealt briefly with the important work of Zondek and Aschheim in Germany and of Evans and Simpson in England, on the formation of corpus luteum cysts. He urged the necessity for a more extensive use of the Zondek-Aschheim test, particularly as an aid to the diagnosis of hydatidiform mole and in the differential diagnosis of ectopic pregnancy from ovarian cyst.

Reports of Societies

SUGAR IN THE DIET OF THE SCHOOL CHILD

A meeting of the Section of Odontology of the Royal Society of Medicine was held on January 26th, with Mr. CARL SCHELLING in the chair.

Mr. J. E. CURNOCK read a memorandum on a cyst of unusual size which had involved the whole of one mandible, from the symphysis to the ascending ramus, and had obliterated the sigmoid notch. The patient had been edentulous for fourteen years before the appearance of the cyst, which contained no tooth and was not multilocular. The whole of the right half of the jaw was removed by Mr. Norman C. Lake, and the patient did well, but unfortunately died from melanotic sarcoma some months later.

Mr. G. T. HANKEY described a case of replantation of the upper central incisors of a schoolboy, aged 13; the operation had been unsuccessful owing to rapid absorption of both roots. The paper was discussed by Mr. J. G. TURNER, Mr. H. H. KENSHOLL, and Mr. G. C. FRIEND, and it was agreed that an organism responsible

for a chronic low-grade sepsis must have been introduced when the teeth were replanted.

Dr. A. A. OSMAN read a paper on the importance of sugar in the diet of the school child. The predilection on the part of children for sugary foodstuffs, he said, probably indicated a physiological need. Members of the dental profession were responsible for the campaign against the giving of sugar and sweets to children because of the possibility of injury to the teeth, but it was likely that some children, in consequence, suffered from a relative sugar starvation. The activity of the child and his enormous energy output made a readily assimilable and combustible form of fuel necessary. Immediate needs were best met by monosaccharides and disaccharides, the use of the polysaccharides, such as the starches, being to replenish at leisure. The science of dietetics was at present in its infancy, and Pembrey's dictum should be recalled: "Instinct is a good guide, and is in advance of the knowledge current at any time." The major symptoms of sugar deprivation included cyclical vomiting, or so-called bilious attacks; convulsions or other symptoms comparable to those produced by an overdose of insulin were fortunately rare. Cyclical vomiting usually occurred in the "nervous child"; the exciting factors were mental fatigue and excitement, infection, and physical exhaustion. In the majority of cases it was possible to prevent such attacks altogether if sufficient sugar were added to the diet. The minor symptoms of sugar deprivation could be summed up in the word "fatigue." The child was pale, tired, drooping, listless, and was brought to hospital for anaemia, headaches, flabbiness, fainting attacks, constipation, "growing pains," or asthma. In many cases these symptoms had been aggravated by the giving of extra milk. From a considerable experience he had no hesitation in saying that an insufficient utilization of sugar, either actually or in relation to the amount of fat consumed, was the most common cause of most of these symptoms, and in a majority of cases they cleared up on increasing the allowance of sugar in the diet. Much had been written of acidosis in relation to cyclical vomiting. Acidosis might be defined as decrease in the normal alkali reserve of the blood, however produced; a true acid intoxication rarely occurred. Ketosis arose when, owing to imperfect oxidation of fats, the ketone bodies, oxybutyric acid, diacetic acid, and acetone were formed, and was the condition found at the height of an attack of cyclical vomiting. But in the majority of cases of "debility" in children there was no ketosis, though there was diminution of the alkali reserve. Neither ketosis nor hypoglycaemia was a constant finding in these subnormal children, but when the sugar in the diet was increased it was generally found that the acidosis disappeared. Sugar could be given with advantage in the form of glucose, because it could be prescribed as a medicine. Lemonade or tea containing two or three teaspoonfuls of sugar to each cup, bread-and-butter sandwiches of Demarara sugar, plenty of syrup, honey and jam, and boiled sweets, could be given with success. It was advisable to limit fat and milk somewhat.

Mr. F. W. BRODERICK expressed the opinion that the main cause of dental caries was acidosis; there was no fear that caries would be increased by giving sugar—in fact, the opposite was to be expected. Mr. W. A. BULLEID shared Dr. Osman's view. It was inconceivable that pure sugar, which was highly soluble, could remain long in contact with the teeth under the steady flow of saliva. Moreover, he had found that the child who was always sick with excitement at parties could be cured of his disability by a prophylactic dose of barley sugar the night before.

Dr. KINGSTON BARTON thought that sugar should not be given to the child in the form of accessory sweets, but should be included in the diet, and Dr. R. P. GARROW asked what was implied by the phrase "extra milk," as used by Dr. Osman. Mr. A. T. PITTS agreed with Dr. Kingston Barton that the sugar should not be given to the child as sweets, which might be eaten at all hours of the day, and were particularly harmful if taken at bedtime. Mr. R. C. RIX referred to the recent work on the ketogenic diet used to control epilepsy, and asked whether Dr. Osman had ever observed the converse—namely, the development of fits in children previously free from them, on increasing the sugar in the diet. Dr. E. W. FISH said that probably some underlying factor determined the development of dental caries. Fermentable carbohydrate was present in everyone's diet, but some developed caries while others did not. A tendency to caries was hereditary, and the lesions always appeared at contact points, in permeable faults in the enamel. Where there was a permeable fault the tooth would sooner or later rot, and though caries was aided and abetted by sugar it would only mean that it occurred in these school holidays instead of next—not a very serious matter. Mr. J. G. TURNER referred to the possibility of debility in children being due to nasal sinusitis and its complications.

In replying, Dr. OSMAN said that by extra milk he meant the glass given at 11 o'clock in the morning at some schools; the average child could deal with it, but children of the type he described could not, unless it was balanced by a sufficient quantity of sugar. He had seen two cases in which apparent attacks of epilepsy had arisen following an increase of sugar diet, but among several thousands of children this represented a very small incidence, though it was a point to bear in mind.

ALKALI TREATMENT OF NEPHRITIS

At a meeting of the Aberdeen Medico-Chirurgical Society held on January 15th, with the president, Dr. HENRY PETERKIN, in the chair, Dr. W. F. CROLL described the course of a case of mixed nephritis, in which, he said, the main interest lay in the excellent diuretic response to the administration of alkali.

The patient, an unmarried woman, aged 42, was admitted to his wards on June 17th, 1930. She complained of backache, swelling of the face, trunk, and limbs, and of scantiness of urine. The symptoms commenced with swelling of the lower eyelids six weeks prior to admission. Headaches had been troublesome, and she also complained of shortness of breath, slight nose bleeding, and blurring of the vision. The family history was excellent, and the patient had no previous illness, apart from what she described as abscesses of the legs three weeks before the onset of the present complaint, lesions which might have been of some etiological significance. On admission there was marked pallor and great oedema of the whole body. The pulse rate was 92, respiratory rate 22, temperature 98.6° F., blood pressure 110/80, blood urea 32 mg. per cent., urea concentration 1.9 per cent. The urine was cloudy, acid, with specific gravity 1011 to 1022, and contained 0.7 per cent. of albumin and only a trace of chloride. The centrifuge deposit contained casts, pus cells, and a few red blood cells. The eye grounds showed no evidence of renal or vascular disease.

The patient was put on a milk diet. She grew rapidly worse, and for a few days was critically ill. The oedema increased, and it looked as if she were to be drowned in her own fluid. The conjunctivae even showed marked oedema. The amount of urine passed during the first week was 84 ounces. One week after admission an Epstein diet was prescribed, consisting of fish, lean meat, lean ham, white of egg, lentils, oysters, peas, rice, oatmeal, bananas. Fluids were restricted to two pints, and salt was excluded. Almost immediately there was a decided improvement. The daily volume of urine increased and the oedema

diminished. Three weeks later urea was given (15 grams thrice daily) as a further stimulant to diuresis, but, having no effect, it was discontinued. Six injections of novasurol were then given at intervals of three or four days, but there was no marked response. Nephritin was tried next in a dosage of two tablets four times daily. There was at first an increase in the urinary output, but this was followed by a decided fall, which more than counterbalanced the initial increase. Furthermore, the amount of albumin passed was greater. It was then decided to try the effect of alkali administration, as advocated by Osman.

Dr. Croll said that some decrease in the plasma bicarbonate appeared to be the rule in all cases of chronic nephritis, and that Osman recommended the administration of alkali in the form of equal parts of potassium citrate and sodium bicarbonate by mouth, in amounts sufficient to maintain the plasma bicarbonate at normal level. The carbon dioxide combining power of the plasma in the present case was 42 volumes per cent., a value somewhat below normal. The dose of alkali given was actually much smaller than that used by Osman. At first the patient took 50 grains of alkali thrice daily, and four days later the dose was doubled. The response could be described as dramatic. The volume of urine increased, and in six weeks the body weight was reduced from 161 to 108 pounds, and the patient was now well and active. Dr. Croll said that the mode of action of the alkali was somewhat obscure, but that, according to Fischer, the colloid proteins of the body cells had the property of absorbing or parting with water in response to alterations in the reaction of the surrounding medium. In nephritis there was a move to the acid side and a reduction of the plasma bicarbonate owing to the retention of phosphates. Fischer regarded the oliguria and albuminuria as being directly due to the swelling or oedema of the kidney cells. The oedema of the tissues he considered to be due to the associated acidosis, occurring independently of the renal lesion.

In the discussion that followed this paper Sir ASHLEY MACKINTOSH said that he had found great value in the use of urea as a diuretic in cases of this type.

Dr. J. ROSS MACKENZIE delivered an address on the convulsions occurring during surgical anaesthesia, and Sir JOHN MARNOCH described the history and appearance of a case of traumatic aneurysm of the plantar artery.

The annual general meeting of the Royal Microscopical Society for the election of officers and council was held at B.M.A. House, Tavistock Square, on January 21st, when Professor R. RUGGLES GATES was re-elected president. In his presidential address, after reviewing certain aspects of the history of the society showing its importance in the development of biology, and citing some of the eminent scientific men who had taken part in its work, Professor Gates discussed adaptations in cell structure. He cited various cases of complicated structures in the protozoa, and referred to the widespread occurrence of cilia in many animal and plant cells. The mechanism of mitosis or nuclear division was treated as an adaptive mechanism which originated very early in evolution, and had made possible the multicellular structure of higher organisms, at the same time serving to perpetuate many of the differences arising through variation. The capillitium in Mycetozoa and puffballs, the elaters of liverworts and of Equisetum, were discussed as examples of evolutionary adaptation, arriving at the same goal by different paths. The development of the spiral markings in wood cells was explained, and the long coiled suspensors of conifer embryos were treated as a study in adaptation and over-specialization through competition between the young embryos and the principle of developmental selection. The frequency of parallel mutations in the evolutionary development of many cell structures was emphasized, and it was shown that the principles of adaptation in cell structures were the same as in the development of adaptations in the organism as a whole.

Reviews

DEEP *X*-RAY THERAPY IN CANCER

The report entitled *Deep X-Ray Therapy in Malignant Disease*[1] is, as the author, Dr. WALTER M. LEVITT, states in his preface, a detailed account of an investigation carried out in the radiotherapeutic research department of St. Bartholomew's Hospital, under the direction of the hospital's Cancer Research Committee. The investigation covers a period of five years and deals with the treatment of malignant disease, in some cases by deep *x*-ray therapy alone and in others by a combined *x*-ray and radium therapy. The cases were chosen by members of the staff of the hospital, and after consultation with the radiologist; no case was admitted for *x*-ray treatment in the radiotherapeutic research department if there was evidence that the disease had become generalized.

The cases were restricted at first to four groups, but at a later date two more groups were added. These groups were as follows: malignant disease of (1) breast, (2) uterus, (3) upper air passages, (4) oesophagus, (5) rectum, and (6) thyroid. The term "malignant disease" included "any new growth which proved on microscopical examination to be a malignant tumour." The apparatus used is described in detail, as is also the technique employed in the treatment of cases in the various groups. The changes in these, which of necessity took place in five years, are noted; but, briefly stated, the cases were treated by *x* rays produced by a constant high-tension current of 185 to 196 kilovolts. The biological unit skin dose (U.S.D.) was adopted, this being defined as

> "that dose of *x* rays which, when applied in one sitting lasting from half to one hour, to the normal abdominal skin of a healthy adult, with a port of entry of 64 sq. cm., will produce a bright red erythema without vesication after an interval of twenty-one days, followed by pigmentation and desquamation."

To determine this dose in terms of a physical unit the Friedrich "e" unit was used; the dose as estimated in physical units, necessary to produce the U.S.D., varied from 123e to 220e, in accordance with the current used and the filtration employed. Here we may remark, parenthetically, that it seems rather a pity, as time went on, not to have adopted the "r" unit, which is now the recognized international standard of dosage. After a trial of the intensive single dose technique, which had already been discarded by the majority of radiologists, the divided or split dose technique was adopted. The interval between the doses was fixed at twenty-four hours. In practice, the number of fractions into which the dose was divided varied from 6 to 15. The duration of treatment was determined by the rate of growth of the tumour.

Other sections describe the management of cases during and after treatment, and the constitutional effects of treatment. Section V gives the results; and these are fairly and honestly stated. The breast cases, 43 in number, were all inoperable. Of these patients 20 died within the first year after treatment; but in November, 1929, 6 were alive and apparently free from the disease. Varying degrees of improvement were noted in 18 patients, several being able to perform a moderate amount of work for over a year. Considering the nature of the cases treated, the results were as good as anyone could reasonably expect. The "uterus group" comprised 60 cases, of which 48 were cancer of the cervix and 9 were cancer of the body of the uterus. The great majority of the cases treated showed some improvement, and 26 for

[1] *Deep X-Ray Therapy in Malignant Disease.* By Walter M. Levitt, M.B., D.M.R.E. With an introduction by Sir Thomas Horder, Bt., M.D. London: J. Murray. 1930. (Pp. xiv + 128; 10 figures. 10s. 6d. net.)

a time became "completely free from evidence of the disease." Of the patients treated, 26 are dead, 21 alive but with signs of the disease, and 13 alive with no evidence of growth present. The number of cases treated is of course too small, and the time that has elapsed too short, for a comparison of the results with those of other workers in this field. The most important group of cases, in point of numbers and originality of technique, was the "upper air passages." Of 170 cases, 141 were cancer, and in nearly all the cases the diagnosis was confirmed histologically; 27 of these patients are alive, "with no evidence of growth present." The method of treatment appears to be an excellent one, deserving an extended trial. So far as the rectal, oesophageal, and thyroid groups are concerned, the numbers are small and nothing new is to be recorded.

The report is a straightforward account of a limited number of cases of malignant disease treated mainly by "deep x rays." The author does not attach much importance to the "blood count," stating that "no prognostic significance can be attached to the blood counts"; this is a subject upon which little work has been done, but recent research work shows that the haematologist can furnish us with much valuable information which aids both in prognosis and in diagnosis. The conclusions are fair and not overdrawn. A useful index is provided. This report will not only be of value to the radiologist, but will also serve as a textbook on deep x-ray therapy for those who are studying with a view to a diploma in radiology.

FRANCIS GALTON

The first 137 pages of the third volume of *The Life, Letters and Labours of Francis Galton*[1] are devoted to the origin and growth of the calculus of correlations, with special reference to its application to the study of inheritance. The next 80 pages describe Galton's work on personal identification. The remaining 222 pages describe the last decade of Galton's life, which he dedicated to watching over, nourishing, and protecting his favourite intellectual child, eugenics. This volume includes many letters, but a further collection of more intimate personal letters forms a slimmer companion volume. In the preface, Professor KARL PEARSON anticipates criticisms of the scale of his undertaking.

> I have written my account because I loved my friend, and had sufficient knowledge to understand his aims and the meaning of his life for the science of the future. I have had to give up much of my time during the past twenty years to labour which lay outside my proper field, and that very fact induced me from the start to say, that if I spend my heritage in writing a biography it shall be done to satisfy myself and without regard to traditional standards, to the needs of publishers or to the tastes of the reading public. I will paint my portrait of a size and colouring to please myself, and disregard at each stage circulation, sale, or profit. Biography is thankless work, but at least one can get delight in writing it, if one writes exactly as one chooses and without regard to the outside world!

The apologia is disarming, and certainly in the matter of mere length none is needed, for every year almost as voluminous biographies are compiled of soldiers and politicians whose names will have been forgotten when the work of the great man here commemorated is familiar to all educated persons. Perhaps the plan, rather than the extent of the work, *is* open to objection from the point of view of literary art. The greatest biographical artists, such as Boswell and Sir George Trevelyan, have so used their material that the personality of their subject is always in focus; his writings have only been introduced with the object of throwing light upon his personality.

Professor Pearson has provided a complete exposition of, and commentary upon, nearly all Galton's scientific publications. The first two chapters of the present volume, for instance, might have been published with very little alteration as separate monographs upon the development of the theory and practice of statistical correlation, and upon the scientific use of finger prints as means of identification and classification. The general reader who, without being either very ignorant or very dull, finds some of the technical description hard to follow, will be apt to lose sight of Galton in his work; a result of which Galton himself would have heartily approved, but which is not conducive to literary satisfaction. But Professor Pearson, although (his prefatory disclaimer notwithstanding) a considerable literary artist, did not set out to produce a mere work of art, but a record of great scientific achievement, and, both in the body of the work and in the appendix of letters, has provided ample materials from which another great writer, less interested than Professor Pearson in Galton the man of science, and as interested as Professor Pearson in Galton the lovable human being, can prepare a more impressionist picture. Even if no such artist appears, the most casual of readers of these volumes can reconstruct a sufficiently delightful personality. Galton is revealed to us both as a lovable human being and as an amateur of science, an amateur not in the disparaging sense usually now attaching to the word, but in the sense in which the Greeks were amateurs—that is, men interested in all things and inspired with the faith that man's reason can solve all problems. No doubt the scientific thinker of 2,000 years ago needed a higher courage to adopt that position than a son of the nineteenth century, but at least the Greeks did not have to overcome the fear of being despised by "professionals."

Galton had a harder task than his cousin, for, after all, Charles Darwin did make himself "respectable" in the eyes of professional men of science by his specialist labours on barnacles before he attempted to shake their prejudices. Galton's courage led him into a field beset with mathematical difficulties, and his genius enabled him to accomplish more there than any properly accredited specialists. Professor Pearson gives many illustrations of the way in which Galton, already past the ordinary prime of life, and using quite simple mathematical tools, reached good approximations to the solutions of problems of a horrifying complexity. Small blame to the old hero if at times he was a little impatient of mathematical refinements. But "old hero" is an incorrect phrase; Galton never was old, he retained to the end the courage and enthusiasm of a boy and a boy's faith in the triumph of reason. It was so clear to him that eugenics must be the way of social salvation, that he never doubted that faith would triumph. Perhaps this indicates a necessary defect of his qualities; a lack of sympathy with unreason which is not the same thing as stupidity. On page 115 of this volume there is an interesting example in a comment on Wordsworth. It is clear that although Galton, a pioneer in so many fields, also anticipated modern students of the unconscious, he would have had but little sympathy with their point of view. But in his relation to individuals Galton was a man endowed with the most exquisite tact and power of sympathetic appreciation. The relation between him and his two greatest disciples, W. F. R. Weldon and his biographer, displayed in the letters which are the most charming part of this biography, is as touching as anything in the history of human friendships. The relations of Johannes Müller to du Bois Reymond and Helmholtz

[1] *The Life, Letters and Labours of Francis Galton.* By Karl Pearson. Vols. iii(*a*) and iii(*b*). London: Cambridge University Press. 1930. (Pp. xii + 673; illustrated. 69s. net the two volumes.)

and of Helmholtz himself to Hertz were similar. The octogenarian Galton retained the spirit of a boy, but it was mellowed with the wisdom of a man worldly-wise in the best sense of the term. One can easily understand how deep an affection he inspired.

INTESTINAL TUBERCULOSIS

Dr. LAWRASON BROWN and Mr. HOMER SAMPSON are to be congratulated on the pioneer work they have done on the *x*-ray diagnosis and the treatment of tuberculous ulceration of the intestine, of which they give a full account in the second edition of their book *Intestinal Tuberculosis*.[3] It is very valuable work indeed, and all those who treat pulmonary tuberculosis must make themselves acquainted with it. The reviewer's duty is presumably to tell his readers what the book under discussion is like as a book rather than to criticize in detail the subject-matter. And so in this case he must say that *Intestinal Tuberculosis*, as a book, is unworthy of the fine work which prompted the authors to write it. All the information is there, but it is a tedious task extracting it. The book has no crispness. For instance, the authors have made an exhaustive study of all the modern literature on the subject, and as leading experts they could have given an authoritative and critical digest thereof instead of a bewildering welter of other people's opinions and findings. Their own results, too, are obscured by endless pseudo-statistics on the "percentage" system which, in nearly every instance, could have been replaced with advantage by unsupported authoritative statements. But awkward though the book is, their work on intestinal tuberculosis is so good that with a sigh of resignation the interested physician will have to sit himself down and tackle it.

TREATMENT OF SYPHILIS

Professor A. SÉZARY claims that his book on the Treatment of Syphilis[4] has been written primarily for the student, but it should find more favour with the practising syphilologist, for it contains nearly all the information necessary for the treatment of syphilis in all its stages. The various remedies are reviewed, together with the indications for them—their doses, actions, accidents, and contraindications. The author divides his treatment, especially of primary and secondary syphilis, into two parts: the "attack," which lasts a year, and "consolidation," which extends over a period of three years. This is essentially in agreement with British practice, and is eminently sound, as also is his plan of giving arsenobenzene and bismuth concurrently rather than one following the other. A particularly good section is that on "Faults to avoid," including among others the danger of commencing treatment without being absolutely certain of the diagnosis, waiting too long before commencing treatment, giving too small doses of the drug or spacing them too widely, employing only one remedy at a time when one might use two (for example, arsenobenzene and bismuth or mercury), omitting the "consolidation" treatment, or neglecting signs of intolerance. In an excellent chapter on preventive treatment the author very wisely recommends that if more than fifteen days have elapsed after probable infection one should wait and watch before commencing treatment.

Omissions are few, but more space might have been allotted to jaundice and exfoliative dermatitis, two of the syphilologist's greatest causes of worry. More importance might have been accorded to the use of potassium iodide, and further explanation of the use—and abuse—of the Wassermann reaction and its interpretation, but these are small faults in an admirable little book. Many very sound pieces of advice and information are included—such as the best times to examine the cerebro-spinal fluid, the necessity of doing a Wassermann test before commencing treatment, how a Wassermann reaction may wobble between positive and negative at short intervals, and the wisdom of avoiding excess of alcohol and tobacco. Congenital syphilis is extremely well dealt with, especially the treatment of the potential mother, and this section brings to an end a book which can confidently be recommended.

DIET IN DIABETES

Dr. SANSUM has been one of the most insistent teachers of the necessity for making the diabetic diet approximate, by the aid of insulin, as nearly as possible to a normal diet. The monograph, of which he is joint author, on *The Treatment of Diabetes Mellitus with Higher Carbohydrate Diets*[5] is not a plea for administering higher proportions of carbohydrate than normal, but only a timely protest against the prevalent notion that diabetics are benefited by taking undue proportions of fat and protein in their diet. Sansum observes that, on the contrary, diabetics suffer many disadvantages from the excess of fat and protein to which they are still too often condemned. Insulin enables the diabetic to live on a diet which contains the same proportion of carbohydrate to fats and protein as the healthy person might take. This book will help the practitioner to choose and balance the diets of his diabetic patients so that they will enjoy the variety and profit immensely by the sensible amounts of carbohydrate which are permitted. It is a sound and readable little volume.

THE ANIMAL MIND

To those who, approximately thirty years ago, found inspiration and delight in the books of Professor C. LLOYD MORGAN in the realm of the then infant science of comparative psychology, the publication of his latest volume, entitled *The Animal Mind*,[6] will be very welcome; and to those who have entered the world since the issue of *Animal Life and Intelligence* in 1890, *Habit and Instinct* in 1896, and *Animal Behaviour* in 1900—whether or no they have read those books in the libraries in which they may still be found—this new volume should prove equally delightful and stimulating. The works named are now out of print, and others by the same author in kindred fields need some revision in the light of fast-developing knowledge and ideas. So, instead of issuing new editions, Professor Lloyd Morgan has taken much of the material of these books, and has completely reset it in this sequel, which may be said to "take up the running" by presenting it in new form after the work of a generation, which has to-day resulted in a different attitude towards biology, evolution, and psychology alike. The book is full of interest for the whole body of "gentle readers" to whom it is addressed, and is an entirely admirable example of clear definition of terms, of logical exposition, and of true and exact scientific method. Of course, it exemplifies its author's views and beliefs as to "emergent evolution," and as to the

[3] *Intestinal Tuberculosis*. By Lawrason Brown, M.D., and Homer L. Sampson. Second edition, thoroughly revised. Trudeau Foundation Studies. London: Baillière, Tindall and Cox. 1930. (Pp. xiv + 376; 122 figures, 2 plates. 22s. 6d. net.)

[4] *Le Traitement de la Syphilis*. Par A. Sézary. Collection des Initiations Médicales. Paris: Masson et Cie. 1930. (Pp. viii + 198. 16 fr.)

[5] *The Treatment of Diabetes Mellitus with Higher Carbohydrate Diets*. By W. D. Sansum, M.S., M.D., F.A.C.P., Percival Allen Gray, Ph.D., M.D., and Ruth Bowden, B.S. London: A. and C. Black, Ltd. 1930. (Pp. vi + 309. 6s.)

[6] *The Animal Mind*. By C. Lloyd Morgan, F.R.S. London: E. Arnold and Co. 1930. (Pp. xii + 275; 2 illustrations. 12s. 6d. net.)

parallelism of body-story and mind-story within the story of the organism as a whole; but where he strays, very properly and attractively, from science into philosophy, Professor Morgan is always careful to draw attention to the fact that he has done so. The book is, indeed, a masterly interpretation of observed animal behaviour, whether anecdotal or experimental, on a scientific as opposed to a dramatic basis. It is very interesting reading, and the results of the argument and the method by which they are arrived at should prove truly educational to the non-expert reader for whom the volume is intended.

NOTES ON BOOKS

Dr. LAEMMER, the author of a practical little work on diathermy in diseases of the alimentary tract,[7] claims that the use of diathermy in this field has a value which is only just beginning to be realized. For example, he has found it capable of relieving functional spasm of the oesophagus, mild gastritis, persistent vomiting, the pain of gastric and duodenal ulcer, colitis, constipation, and diarrhoea, as well as post-operative peritoneal adhesions. Diathermy has also been used with success in cases of hepatic insufficiency, painful congestion of the liver and in early stages of cirrhosis, in certain cases of gall-stones, and in chronic cholecystitis. Dr. Laemmer gives precise instructions for the administration of diathermy, and has suggested a method of treatment which is likely to give at least symptomatic relief in a number of affections where it is often badly wanted and difficult to procure by other therapeutic measures.

In *The Mystery and Lore of Monsters*,[8] with accounts of some giants, dwarfs, and pygmies, Mr. C. J. S. THOMPSON enters on a vast field, which his extensive and peculiar knowledge has furnished with many strange instances and some familiar ones. His is not a pathological or teratological study, but rather a record of what has been observed, or at least believed, about "the anthropophagi and men whose heads do grow beneath their shoulders." He gives reproductions of old cuts purporting to show these and other malformations and monstrosities, not forgetting the great sea serpent, whose appearances have become more and more rare *pari passu* with the retreat of the whale towards the South Pole. The records of giants, dwarfs, and prodigies who have been shown for gain is a long and sad one. We agree with Mr. Thompson that the exhibition for gain of human monsters should be forbidden, and the unfortunate subjects sheltered by the State. But the desire to see and wonder at such beings is deep-seated. When Stephano, in *The Tempest*, discovered Caliban and Trinculo, and took them for a monster of the isle with four legs, his first thought was to "recover him and keep him tame" and sell him for a show. The first part of this book is devoted to monsters, many of which are purely imaginary, such as the "Monster of Horrible Aspect" of Lycosthenes of 1557, but including attached twins and embryos. In the second part, on giants, dwarfs, and prodigies, we come nearer to actuality, for there are skeletons of a number of those described by Mr. Thompson in the Museum of the Royal College of Surgeons. From these and from such records as can be trusted it seems that the limits of adult length lie between two and eight feet. Caroline Crachiami, whose skeleton stands by that of Byrne O'Brien in the Hunterian Museum, was only nine years old when she died, so that her case is excluded. Whether any giant has exceeded eight feet seems doubtful. The skeleton of O'Brien measures 7 feet 8¾ inches, so that allowing for the soft parts his body cannot have exceeded 8 feet. We have come to the conclusion, after a study of this book, that it is better to be a dwarf than a giant, and that the middle height is preferable to both. According to the showman in *The Old Curiosity Shop*, the last years of giants are miserable. They go groggy at the knees, and, secluded from public view in caravans, are condemned to wait upon the dwarfs, most of whom are bad tempered.

Dr. FRANCIS BACH'S recent Chadwick Lecture on *Rheumatism: Its Significance in Youth and Middle Age*,[9] is now published in pamphlet form, together with part of a paper entitled "On acute rheumatism as a manifestation of rheumatic fever," read at the International Congress on the Rheumatic Diseases, held at Liège.

[7] *La Diathermie dans des Affections du Tube Digestif.* Par Marcel Laemmer. Médecine et Chirurgie Pratiques. Paris: Masson et Cie. 1930. (Pp. 98; 16 figures. 12 fr.)

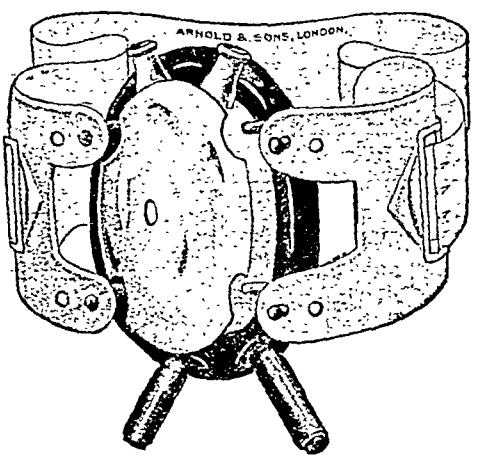
[8] *The Mystery and Lore of Monsters.* By C. J. S. Thompson, M.B.E. With a foreword by Sir D'Arcy Power, K.B.E., F.R.C.S. London: Williams and Norgate, Ltd. 1930. (Pp. 256; illustrated. 15s. net.)

[9] *Rheumatism: Its Significance in Youth and Middle Age.* By Francis Bach, D.M.Oxford. London: P. S. King and Son, Ltd. 1930. (Pp. 68; 3 figures. 2s.)

PREPARATIONS AND APPLIANCES

PADS FOR SUPRAPUBIC BOX

Mr. FRANK HARVEY, F.R.C.S. (London, W.1), writes: Messrs. John Bell and Croyden (Arnold and Sons) have made at my suggestion a modification of the rubber pads which I introduced about three years ago to fit the Hamilton-Irvine



suprapubic box. These pads are made of sponge rubber, with a plain rubber flange that fits over the lower projecting rim of the suprapubic box, making it more comfortable for the patient, and also a better "watertight" joint. It has been found, however, by experience, that an excess of urine tends to collect in the suprapubic box, and this difficulty has been overcome by fitting tubes, which pass through the sponge rubber pad.

In practice it is advisable to use the Hamilton-Irvine box without any "pads" for the first twenty-four hours after a prostatectomy, as large clots will not pass through the small tubes of the new-type pad. The Hamilton-Irvine box is placed in the reverse position (see illustration) when the pad is used.

PEPTALAC

Peptalac is an interesting new departure in dried foods. It is prepared from full-cream milk and wheat flour, each of which has been subjected separately to the action of pancreatic enzymes. The digested mixture is then dried to powder form. The simple addition of hot water to the powder gives a milk food in which a large proportion of the starch and proteins has been broken down to simpler forms. The trouble in arranging for peptonization of milk in the home is well known, for it is always difficult to get this done, and the efficacy of the digestion is usually very doubtful. "Peptalac" therefore represents a great simplification in the preparation of peptonized foods, and should prove popular with both the medical and the nursing professions. The makers (Cow and Gate Ltd., Guildford) give the following analysis of their product:

	Per cent.
Fat	22.5
Proteins	19.0
Digested proteins	8.0
Lactose	31.0
Starch and other converted carbohydrates	10.0
Mineral matter	6.5
Moisture	3.0

British Medical Journal

SATURDAY, FEBRUARY 7th, 1931

ANALYSIS OF SPINAL REFLEXES

The spinal reflex arcs, when isolated from the undoubtedly more complex cortical and subcortical regions of the brain, can still perform the fundamental reflex functions of which posture, progression, the scratch reflex, and the defence (flexion) reflex are examples. The study of these reflexes has provided most of our knowledge of the mechanism of the lower levels of the nervous system, and through this most of cerebral function is interpreted. In his Hughlings Jackson Lecture, printed in our opening pages to-day, Sir Charles Sherrington summarizes his more recent contributions to the conception of the mechanisms of activity of spinal reflexes.

The scientific analysis of motor reflexes begins with muscular function, for motor activity is used as the indicator of the reflex processes taking place. By new methods of investigation it is now possible to turn from analysis of the reflex movements to investigation of the numbers and situation of motor nerve cells involved, and, with these data, to seek further back in the reflex arc and to explore the combinations of excitation and inhibition which are in activity in various reflexes. Further still, with established data on motor discharge it has been possible to investigate the means by which afferent pathways, conveying stimuli from the sense organs to the central nervous system, can produce and vary finely co-ordinated movement and posture. Each motor nerve fibre is derived from one motor nerve cell (anterior horn cell or "motoneurone") and innervates a group of about 150 muscle fibres. The cell, its fibre, and the dependent muscle fibre group, act always as a whole, "the motor-unit," since discharge of the nerve cell necessarily implies contraction of all the muscle fibre group. It has been shown that the motor nerve cell (motoneurone) functions by discharging nerve impulses down the nerve fibre, either one at a time or in rhythmical series of impulses at variable rates up to eighty a second or more. Therefore the muscle fibres of each motor-unit may vary in activity from a twitch or series of unfused twitches (subtetanus) to a fused motor tetanus (maximal contraction). Each muscle is the executive implement of hundreds of such motor-units, and therefore variation in amount of contraction is possible in either of two ways. One is by alteration in the rate of discharge of the individual motor-units—that is, from twitch to unfused subtetanus to maximal contraction—and in reflexes this is studied by recording the action currents in nerve and muscle. Secondly, there is variation by change in the number of motor-units discharging at any one moment, and this is recorded by the isometric myograph (muscle tension recorder).

Of the aggregate of motor-units of any muscle (referred to as the "motoneurone pool" or "centre" for that muscle), one reflex causes one group or "fraction" to discharge, and another causes another fraction to discharge. The fractions usually overlap to varying extents, each of the overlapped motor-units being discharged by one of two or more reflexes. In this way the individual muscles are "fractionated," and thus, taking for instance the flexor muscles of a limb, a certain stimulus which produces flexion of the limb causes the discharge of a fraction of the motor-units in each flexor muscle. Another stimulus, which also produces flexion of the limb, likewise needs only a fraction of the units of each flexor muscle to produce its effect, but in this case uses a different group in each muscle. The fractions may include some units common to both reflexes, or, in other words, some units where both reflexes overlap, and these overlapped units are termed "occluded" units, for when already taking part in one reflex they are occluded from the other reflex. Thus the motor-units in a muscle can be labelled as belonging to this or that fraction, and can be recognized when they come into contraction by the relationship they bear to selected test reflexes.

The motor-units defined in this manner have been used to examine the processes of excitation and inhibition. These "plus" and "minus" processes in any single motor-unit result from impulses arriving by branches of large numbers of afferent pathways, and are in the nature of states existing in the region where the motoneurone has the afferent channel linked to it, a region called the synapse. Such a state lasts a finite but relatively short period, during which a certain amount of excitation can add itself to a state of excitation already at the synapse, or can "neutralize" a certain amount of inhibition. According to present ideas it is only when the sum of the excitatory states reaches a certain level, or threshold, that the motoneurone begins to discharge impulses, and so causes the motor-unit to evidence contraction. Below this threshold level the state of excitation of the motoneurone is "subliminal," and no contraction occurs; above the threshold level it is submaximal or maximal, according to the rate at which the neurone is provoked to discharge. It is found that besides the reflex fraction of a muscle provoked to discharge in a given reflex there are large numbers of motor-units provoked at the same time to a subliminal state by the same afferent impulse stream. This extra fraction in a subliminal state is termed the "subliminal fringe," and the term "fraction" is limited to the units actually discharging. Since the subliminal fringe is readily thrown into contraction by the overlap of any other subliminal fringe produced from another source, these units become the deciding factor in the niceties of co-ordination between different reflexes.

Every afferent nerve is composed of a bundle of nerve fibres, each derived from one or more sensory nerve end-organs, and each fibre branches widely at its central end to come into functional relationship with

enormous numbers of motor-units. One afferent fibre alone probably can never provoke discharge in any of these units, but fibres of like function from neighbouring end-organs overlap to such a degree that their concurrent function will cause discharge. The subliminal excitatory effect of one afferent source on a motoneurone can only sum with a similar effect from another source during the very small fraction of a second for which it lasts, and therefore the relative time of arrival of afferent impulses in the central nervous system adds a further complicating factor to the already complex distribution of latent effects. In some reflexes the timing of the afferent impulses determines the quality of the reflex. For instance, a large muscle twitch, the tendon jerk, can be produced by a sharp tap which provokes an afferent impulse from a number of stretch receptor organs in the muscle at the same moment, while sustained stretch of the same muscle produces only a feeble contraction (muscle tone), or no contraction at all. In the tendon jerk the central arrival of an impulse in many afferent fibres at the same time (synchronous afferent volley) can cause a great many more motor-units to discharge than the straggling series of waves arriving by the same fibres in response to sustained or slowly increased stretch.

The analysis of reflexes by these quantitative methods foreshadows a great advance in the experimental investigation of the action of therapeutic agents upon the nervous system and also explains many obscure clinical phenomena. The return of the knee-jerk in a tabetic patient, following a hemiplegia, is an example of the subliminal fringe converted to a discharging fraction by the addition of a fringe of tonic excitation from brain-stem centres (spasticity). Above all, with a better knowledge of the mechanism of nerve processes comes a better understanding of the exact place at which particular effects can be produced, and this is vital for advance in very many urgent problems in neuropathology and treatment. One has only to consider the bizarre phenomena of post-encephalitic states to realize how great these problems are. Sir Charles Sherrington's lecture is worthy of Hughlings Jackson, alike in philosophy and in vision, and we foresee the commencement of the application of quantitative physiology to clinical neurology with as fruitful results as Hughlings Jackson obtained from the application of qualitative physiology to cerebral and spinal localization.

THE POSITION OF MEDICAL OFFICERS OF HEALTH

Among essential conditions for the proper performance of the work of a medical officer of health are these: that he should not be liable to be faced with a position in which his action in regard to the health interests of the community he serves may conflict with his regard for the interest of any individual to whom he stands in the relation of private medical attendant; and that his tenure of office should not be in any degree at the mercy of anyone whose private advantage may be affected by the advice he tenders, or the action he recommends, on matters of public health. It is mainly for these reasons that not only the British Medical Association, but also the Ministry of Health, and its predecessor the Local Government Board, have for many years held that a medical officer of health should have reasonable security of tenure in his office, and that the post itself should be a whole-time appointment, or, to use the words of the Local Government Act, 1929, "that every medical officer of health shall be restricted by the terms of his employment from engaging in private practice as a medical practitioner." The admirable work done over a long period of years by part-time medical officers of health is gratefully recognized, and in all its pronouncements on this subject (especially at the Representative Meeting in 1911) the interests of existing holders of such part-time appointments have been regarded, and safeguarded, by the Association. Partly in consequence of this, the movement for the substitution of whole-time for part-time medical officers of health has progressed even more slowly than was anticipated; and the desirability of a much more rapid rate of advance in this direction found expression in the evidence given by Sir Arthur Robinson before the Royal Commission on Local Government, in the second report of that Commission, and in Section 58 of the Local Government Act, 1929, which was based on that report.

A further reason for the establishment of this principle, and for immediate action to give it practical effect, is to be found in the greatly enlarged duties and responsibilities which have of late years been placed upon public health authorities, mental health authorities, education authorities, and maternity and child welfare authorities, and upon their medical officers. These new duties have accumulated so fast that the continuing existence of a large number of very small sanitary authorities has become increasingly inconvenient, and a new type of medical officer of health, of much wider experience, both professional and administrative, is required if the work is to be well done. This is one reason why the public health service ought to be regarded as a single whole, and not as a series of disconnected localized arrangements, so that, while full use is made of part-time local medical practitioners in clinical work, administrative experience in departmental work may count for promotion, and the higher offices in the service be appropriately filled.

The Local Government Act, 1929, which adds still wider responsibilities to those of medical officers of health, carries the matter much further. The section above referred to provides that every medical officer of health hereafter appointed shall be precluded from engaging in private practice. The conditions under which this part of the Act is to be brought into effect, and the methods by which its objects can be secured, are the subjects of a memorandum just issued by the Ministry of Health to the councils of counties and of county districts. The contents of the memorandum

are noted and explained in an article on page 42 of this issue of the *Supplement*. It is important that all medical officers of health, all members of the public health service, and all members of public health local authorities should familiarize themselves with Section 58 of the Act, and with this memorandum setting forth the methods by which the provisions of that section may be carried into effect, for they will lead to numerous changes in the appointment of medical officers during the next few years. It is particularly important to note the various forms which combined appointments may take. There can be no doubt that the circumstances of county districts differ so widely that any one of the methods set forth in the memorandum might be both convenient and legitimate in certain cases, but there are indications that the Ministry's opinion as to the method to be preferred is not the same as the opinion of the British Medical Association and of the Society of Medical Officers of Health. The Association and the Society favour the method of combining adjacent districts so that one medical officer of health may be appointed to the combined district, or the same person appointed to the office by each of the districts concerned; while the Ministry appears to emphasize the advantages of appointing as district medical officer of health one who at the same time holds the post of an assistant medical officer to the county council under the county medical officer of health. With regard to the latter method it need only be said here that the divided responsibility and loyalty, the differing security of tenure of the offices held, and the difficulty of adjusting salary, expenses, and conditions of service, constitute grave disadvantages from which the alternative method is practically free.

FRACTURES OF THE FEMUR AND PELVIS

A useful and extended review of this subject was published recently by Dr. H. Earle Conwell of Fairfield, Alabama.[1] The regrettably large number of such injuries in America makes this study desirable. In this series of eighty-five cases, affecting eighty-six femurs, thirty-six of the children were injured by motor vehicles. The author describes and discusses various methods of treatment, quoting various authorities, and sums up, after saying that the literature is "unlimited," by classifying methods as: (*a*) those by plaster cast only; (*b*) those by plaster cast and extension by means of adhesive strapping, callipers, or Steinman's pin; and (*c*) by suspension and extension. All give excellent results, but (*c*) is the most popular. Treatment by open reduction should be the last resort, and is usually not necessary. Plaster casts give better results in the very young child than in the older, but plaster casts with extension give better results in the older child. Up to the age of 10 or 11 suspension and extension give better results than plaster casts with or without extension. Every case of fractured femur should be considered an emergency and treated immediately. Reduction should be done under anaesthesia. Conservation of muscle and of joint movements is of great importance, and physiotherapy is consequently advisable. Good alignment is essential, and, next in importance, bone approximation. It is definitely concluded that compensatory lengthening does take place, as also correction of poor alignment, but chiefly in patients before the age of 8 years. Finally, the extension and suspension method is by far the most comfortable, and facilitates examination, dressings (in case of compound fracture), and the use of radiant light (sic), hot baths, and active and passive movement. The same author, in association with Dr. Lloyd Noland,[2] chief surgeon to the Tennessee Coal, Iron, and Railroad Company, has published an interesting study of 125 cases of fracture of the pelvis treated in the course of eight years with a mortality of twenty, including six deaths from severe associated injuries. A cursory survey of the statistics gives some interesting information. For instance, it is illuminating to find that 71 out of the 125 fractures were sustained in industrial occupations, while 54 so-called "civilian" cases were no doubt mostly caused by motor vehicles. From the year 1920 to 1923 women had supplied only 10 per cent. of these fractures, whereas in the five years 1923–28 they formed nearly half of the cases, indicating probably, not an increase of rashness or decrease in skill, but a much increased use of motor vehicles by women. A rather unexpected conclusion come to by the writers is that in the motor car accidents pelvic fractures in women "were definitely caused by trauma of less severity than that producing such features in men." At first sight it is difficult to explain this difference, for although the long bones of the female are generally more slender than those of the male, it might be expected that the pelvis, which plays such an important part in reproduction, would be accordingly resistant. As in fracture of the long bones so in those of the pelvis, it has been found that although anatomical correction of displacement of bone may have been imperfect, functional results have been good. The overhead pelvic suspension frame was used in all these cases with satisfaction. As for that frequent complication, injury of the urethra or bladder, early drainage and suture have given encouraging results.

THE INTERVERTEBRAL DISCS

The results of work done since 1926 with the aid of a British Medical Association research grant are incorporated in an article on the intervertebral discs, by Mr. N. Ross Smith of Bournemouth, in the current number of the *British Journal of Surgery*.[1] Mr. Ross Smith examined, macroscopically and microscopically, discs from the thoracic and lumbar regions of the spines of fifty-seven persons, whose ages at death ranged from 1 to 86 years. Observations were thus made on the mode of nutrition, the normal and pathological anatomy, and the state of the discs in successive age-periods. Further, a series of skiagrams was collected showing the normal and various abnormal appearances of the discs. In the study of the normal anatomy, the discs were seen to be composed of three parts, histologically distinct—namely, the central

[1] Acute Fractures of the Shaft of the Femur in Children. By H. Earle Conwell, M.D., F.A.C.S. Reprinted from the *Journal of Bone and Joint Surgery*, July, 1929.

[1] Acute Fractures of the Pelvis: Treatment and Results of 125 Cases. By Lloyd Noland, M.D., and H. Earle Conwell, M.D. Reprinted from the *Journal of the American Medical Association*, January 18th, 1930.

[2] *British Journal of Surgery*, 1931, xviii, No. 71, 358.

reticulo-gelatinous nucleus pulposus, the peripheral fibro-cartilaginous annulus fibrosus, and the upper and lower hyaline cartilaginous plates applied against the cancellous tissue of the vertebral bodies. Confirmatory of Luschka's observation of a central cavity in the disc, there was noted in microscopical sections of young healthy discs a space in the nucleus pulposus, the wall of which resembled synovial membrane and gave off villi. In contradiction of the generally held view that the discs are nourished merely by diffusion currents from the spongiosa of the vertebrae, channels containing blood cells were seen and traced from the spongiosa through the cartilaginous plates between the fibres of the annulus into the nucleus pulposus. In the plates, these were lined by a single layer of elongated cells, and both red and white blood corpuscles were seen in the lumen; but in the annulus and nucleus no cellular lining was seen, and white corpuscles alone were present. The state of the discs in different age-periods varied considerably. In the first decade the discs were biconvex, highly compressible and elastic, having a clear, white, finely fibrous annulus, thin translucent bluish-white cartilaginous plates, and a colourless, amorphous, gelatinous nucleus, sharply defined from the annulus. In the two following decades little change was noted, except some coarsening of the annular fibres and whitening and toughening of the nucleus from early fibrosis. In subsequent decades most of the specimens were increasingly coarsened, and the seat of pathological change, resulting in diminished elasticity, flattening, discoloration, and hardening or softening. But in a few subjects, even as late as the eighth decade, discs were seen little changed from the state in young subjects. The highest incidence of change was in the period 50–70 years. The changes were more frequent and severe in males. They were as common and severe in the thoracic as in the lumbar discs; but the discs in the two regions were not always affected simultaneously or to the same degree. The pathological changes observed were fibrous, cartilaginous, calcareous, bony, fatty, necrotic, and liquefactive. Increase in coarseness and amount of the fibrous tissue was a marked change in most specimens, as was increase in the number and size of grouping of the cartilage cells in the nucleus and annulus; but the relative amounts of fibrous and cartilaginous tissue varied widely. In the nucleus the fibrous tissue tended to assume a whorled form; in the plates, fibres transformed the matrix. Cartilage cells were seen in clumps of several cells, or in great masses forming nodules; these were noted in all parts of the disc, and were often atrophied, necrosed and liquefied with formation of ragged cavities, or calcified. Central calcification of a disc was not observed histologically, nor was complete bony transformation; but ossification of the external layers of the annulus and the anterior longitudinal ligament was present in one specimen. Deposition of fat in the fibro-areolar tissue of the nucleus was common. The following *x*-ray appearances were noted: (1) normal—a clear, biconvex space, sharply defined above and below by the even edges of the vertebral bodies; (2) thinning and flattening; (3) peripheral calcification; (4) central calcification; (5) obliteration by ossification; (6) diminished transparency with evidence of subacute inflammation of the adjoining vertebrae; (7) thinning, flattening, and diminished transparency with vertebral osteochondritis; (8) abnormal biconvexity with rarefying lesions of the vertebral body, such as osteoporosis, osteomalacia, carcinoma, and compressed fracture. From the observations outlined above, and from study of the literature, Mr. Ross Smith draws the following conclusions: The discs are rudimentary universal diarthrodial joints, highly important for the flexibility of the spine, and acting also as buffers between the vertebrae. The mode of nutrition is by blood channels derived from the vertebral spongiosa. Fibrous, cartilaginous, calcareous, bony, fatty, necrotic, and liquefactive changes are present in the discs of most individuals after the age of 30 years. A change noted radiologically is central calcification, termed "calcinosis intervertebralis." Inflammatory lesions have been seen in influenza and typhoid fever. Osteochondritis of the spine is an affection of the discs as well as of the vertebrae. Some reciprocal adaptability exists between the discs and the vertebrae when either are diseased. There is some relationship between affections of the discs and certain other diseases, notably arterio-sclerosis, osteoporosis, osteochondritis, and chronic rheumatic arthritis. The discs when healthy accentuate the effects of rarefying lesions of the vertebral bodies. Changes in the consistency and elasticity of the discs are responsible for much of the loss of suppleness of the body in middle and old age; these must be reckoned a cause of back pain and stiffness, and may account partly for the symptoms in spondylitis deformans and other chronic affections of the spine. Lastly, diagnosis of lesions of the discs depends on *x*-ray examination, the appearances being as enumerated above.

THE "BULLETIN OF HYGIENE"

It is an almost inevitable consequence of the present rapid expansion in scientific research that most workers find it frankly impossible to keep abreast of the growing volume of literature. As a result there is often a lamentable ignorance among workers in specialized departments of what their colleagues in other countries are doing. Not only does this involve much unnecessary duplication of work and the publication of articles that add nothing to existing knowledge, but it leads to a narrowness of vision which places a serious handicap on anyone who is endeavouring to solve the major problems of his subject. Meetings of learned societies and international congresses may supply a partial remedy for this state of affairs, but they are clearly insufficient and demand more time and expenditure than most people are able to afford. The most promising solution seems to lie in the publication of journals devoted to abstracts of current literature. Provided the field covered is sufficiently wide, and the papers to be summarized are selected with real care, there is every reason why such journals should prove of very real value to the research worker. The *Bulletin of Hygiene*,[1] which is now entering on its sixth year, was founded with this express object in view. It embraces a wide sphere, containing signed abstracts and reviews of publications on all branches of public health and preventive medicine. Periodicals and reports from all parts of the world are surveyed;

[1] Published by the Bureau of Hygiene and Tropical Diseases, Keppel Street, Gower Street, London, W.C.1.

and though attention is directed mainly to publications in English, French, and German, an effort is made to notice the more important papers in other languages. In order to render its contents even more useful, the *Bulletin* has now decided to rearrange its subject-matter in such a way that it is possible to run rapidly through the abstracts on any given branch of preventive medicine, and, by the authors' index which is provided, to pick out abstracts of papers by any worker whose contributions it is desired to follow. The *Bulletin* is published monthly at half a crown; the January issue contains 120 pages, and the subscription for the whole year is one guinea. This journal is in its own field unique; it is not as well known as it ought to be; and it deserves much wider support from the medical profession than it has hitherto received. We hope that in the future its real value will be appreciated, and that it will meet with the recognition to which its very capable management entitles it.

RICKETS AND ORAL SEPSIS

An inquiry by a committee of the Board of Education into the association of rickets and dental disease with adenoids and enlarged tonsils was the outcome of a previous investigation made by Dr. G. C. M. M'Gonigle in 1927. The report of Dr. M'Gonigle had demonstrated a close association, in children of school age, between certain slight bony abnormalities and the incidence of enlarged tonsils and mouth breathing. In the present investigation[1] nearly 1,500 unselected children, aged 5 years, were examined for bony deformities by three medical officers, Dr. J. N. Dobbie, Dr. E. J. Boome, and Dr. D. G. Leys, working independently; the examination of the nasopharynx was made by Dr. Wells, chief aurist to the London County Council, and of the teeth by Mrs. Mellanby. Nine bony abnormalities were included as indicative of rickets, and the number of these displayed by each child was taken as a standard of the degree of rickets present, although it was realized that a single sign in a relatively severe form might be more significant than two or three signs present to a less marked extent. The conclusions to be drawn from the findings of the observers are interesting but not dramatic. Adenoids, for example, were found with equal frequency among children free from rickets and among those showing one or more bony signs, and the incidence of adenoids, either mild or severe, did not increase with the number of bone changes present. On the other hand, severe adenoids occurred more frequently among children with two or more bony signs than among those free from rickets; and the highest incidence of severe adenoids was among 242 children showing four or more bone changes. The incidence of dental caries in 1,177 cases showed a small but steady increase from 4.62 per cent. in children without adenoids to 4.86 per cent. in children with adenoids severely infected. It was also found that caries and dental hypoplasia were more extensive in those children whose tonsils were septic, and the incidence and extent of caries increased with the severity of the septic condition. The committee concludes that dental and tonsillar sepsis may have a common cause, or that the tonsillar condition may be secondary to that of the teeth. As might be expected, a definite association was revealed between defects of the temporary dentition and rickets; the severity of both caries and hypoplasia increased fairly steadily with the degree of rickets, the incidence of caries rising from 92 to 96.6 per cent. If the bone signs may be regarded as an indication of deficiency of vitamin D in the diet, it appears that extensive enlargement of the pharyngeal tonsil occurs with somewhat greater frequency among children showing such signs of deficiency as rickets and dental disease than among others. But recent work goes to show that a sufficiency of vitamin A—which is closely associated in the diet with vitamin D—is necessary for the maintenance of a healthy condition of the mucous membranes. It seems as though a deficiency of these two fat-soluble vitamins may be responsible for the incidence of both rickets and adenoids, or at least that such a deficiency is one of the factors tending to produce an overgrowth of adenoid tissue. The investigation, though providing no overwhelming evidence in favour of the association of rickets and adenoids, has indicated an interesting line of inquiry. The fact that adenoids occur at least as commonly in better-class schools as in those of the poorest class suggests a discrepancy in the theory of a deficiency of fat-soluble vitamins responsible for both conditions. But the members of the committee believe that other factors, as yet unexplored, may mask the influence of vitamins, and may be active in affecting all classes alike.

[1] Board of Education. Committee on Adenoids and Enlarged Tonsils. Second Interim Report. The Association of Rickets and Dental Disease with Adenoids and Enlarged Tonsils. London: H.M. Stationery Office. 1931. (6d. net.)

THE SOCIETY OF APOTHECARIES

In the fine old oak-panelled hall of the Society of Apothecaries of London a large company assembled at a livery dinner which was held on January 27th to meet the Lord Mayor, Sir William Phené Neal, and the Sheriffs. The Master, Lieut.-Colonel C. T. Samman, was in the chair, and was supported by the wardens, Colonel E. C. Freeman and Dr. Cecil Wall. After the usual loyal and patriotic toasts had been honoured, the Master, in a brief speech, proposed the health of the Lord Mayor, Sheriffs, and the Corporation of the City of London, reminding the company that it was three years since they had been honoured by the presence of these dignitaries at a livery dinner. In reply, the Lord Mayor, remarking on the antiquity of their surroundings, made the suggestion that the portraits of historical personages which were so prominently displayed might be hung elsewhere without loss of beauty, in order to show up the grandeur of the oak panelling. The diploma of the Society (*honoris causa*) was presented to Sir John Lynn-Thomas, F.R.C.S., who, in reply, interested his hearers by a description of his early days of apprenticeship to an old-fashioned apothecary. Although he went to the London Hospital at a later date, his first experiences of medical practice were in a little Welsh village, where he was taught the principles of bloodless surgery. Dr. Henry S. Wellcome was presented for the Honorary Freedom of the Society by Professor W. E. Dixon, F.R.S., who referred to him as a great medical and social benefactor, his name a household word all over the world, his patriotism during the war an example to everybody. In reply, Dr. Wellcome reviewed some of the advances of medical science in his time, and

said that the war had taught lessons of undoubted value for the days of peace. As a memorial to their uncle, the late Dr. George Wilks (Past Master), Dr. G. W. Cock, on behalf of the Misses Lepard, handed over an early eighteenth century coffee-pot and several pepper casters, which had formerly been in the possession of the Society. Dr. Bramley Taylor accepted the gift for the Society. The health of the guests was proposed by Dr. Cecil Wall and was responded to by Earl Russell.

SIR ANDREW BALFOUR

Sir Andrew Balfour, of whom a memoir appears at page 245, was a valued worker for the British Medical Association. He held office as vice-president of the Section of Tropical Medicine at the Annual Meeting at Birmingham in 1911, and as president of the corresponding Section at Edinburgh in 1927. He was a member of the Post-Graduate Committee in 1925, and of the Ship Surgeons Post-Graduate Training Committee appointed in 1929. On behalf of the Association he compiled a *Guide to Courses and Qualifications in Public Health and Tropical Medicine and Hygiene*, and last year he delivered the Sir Charles Hastings Lecture, taking as his subject "Health and Empire."

We regret to record the death, at the age of 77, of Sir A. Garrod Thomas, M.D., LL.D., consulting physician, Royal Gwent Hospital, Newport, and formerly member of Parliament for South Monmouthshire.

THE PSYCHOLOGICAL FACTOR IN DELINQUENCY

A JOINT DISCUSSION

On January 23rd a meeting was held at the Friends Meeting House in London. The chair was taken by Dr. ISABEL WILSON, who explained that the Committee on Psychological Medicine of the Medical Women's Federation had, at a recent meeting in Lincoln, discussed the subject of delinquency. As a result of that discussion it had seemed reasonable to arrange for a meeting between the committee and certain probation officers who were interested in a psychological course given for them at the Tavistock Clinic.

Dr. MARY BARKAS said that there were two points that she would like to hear discussed: What was being done? and, What ought to be done for the different types of case with which probation officers had to deal? A certain proportion of cases were sent to remand homes or put into supervised occupations; a considerable number did quite well under those conditions. Psychiatrists found that the difficulty with their patients was often mainly one of environment, and nervous disorder might disappear if the environment were adjusted. There had been much dispute about the problem of the existence of moral deficiency. Dr. Barkas thought that there were certain types of high-grade defectives with a good general intelligence whose capacity for developing wisdom and judgement did not reach beyond the stage of reward and punishment. She would like to hear the opinion of probation officers on how these cases responded to the various methods of treatment. They seldom benefited much from individual intensive psychotherapy. It seemed that some adjustment of the reward and punishment mechanism was what would lead them towards the best citizenship of which they were capable. A second difficult type was the psychopathic or neurotic delinquent suffering from obsessions, compulsions, anxiety, or morbid fear. These definitely responded to treatment if it was available. But if they were to be treated they needed to be in some protected environment while the treatment was going on. Dr. Barkas wanted to know how far probation officers found that there was a lack of facilities of this kind. There were very few places where a child could be sent for this sort of treatment.

The Magistrate's Difficulties

Mrs. RACKHAM (Cambridge) said that in looking back over ten years on the Bench, one of the things by which she was most struck was the contrast between the court as a machine for finding out whether the prisoner was guilty or not, and the court as a machine for finding out anything at all about the prisoner. In the first capacity it was very good—not perfect, but as a rule it found out the truth. But—and a very big "but" it was—it was a very ineffective instrument indeed when it came to knowing anything about the prisoner, especially about his mind; why he did what he was charged with, whether he was likely to do it again, and how to prevent him from doing it again. Magistrates found it very difficult to know in what cases to seek expert information. They could not tell from the look of the prisoner—nobody looked his best in the dock—and unless he presented an imbecile appearance the magistrates did not know whether he was a mental case or not. When was the best time to call for a mental report? It was agreed that this was after the case had been proved and before sentence was passed. At that point it was possible to obtain the prisoner's record and sometimes to gather useful information from items in it, such as the school standard reached and any history of institutional care. In that case there must be a remand, which could not be for more than eight days. The question therefore arose: Where was the examination to be made? A prisoner over 16 years of age could only be remanded to prison—a very unsuitable place for a mental examination. To be sent to prison on remand was a great shock, especially for anyone who had not been there before. The surroundings might be equally bad in the home, where the relatives might be hostile to the whole idea of examination. There was a very great need for some more suitable place to send cases on remand. There were homes for children under 16, but these were very often at the police station or at a Poor Law institution, neither of which was ideal for the purpose. The Departmental Committee on Young Offenders had urged this as one of the most urgently needed reforms in our penal system.

The next question was: Who was to make the examination? There was a difficulty in securing a mental specialist. If the remand was to prison, the obvious person to make the examination was the prison medical officer or police surgeon, who, in a small place, would be a general practitioner of the town, who had not necessarily given time to this special work and who was likely to think that all that was required of him was a report whether or not the prisoner was certifiable under the Mental Deficiency or Lunacy Acts. A further complication was the question of fees. Many magistrates would think that the police surgeon ought to take this sort of case in the course of his duty without any extra fees. Having gone to the trouble and expense of getting a report the magistrate did not know how to act on it. There might be no local facilities whatever for treatment. If the child was to be taken to a child guidance clinic there must be somewhere for it to live while it was attending. Against all these difficulties there was the alternative and obvious way of proceeding to penalty, which was perfectly simple and involved no trouble or expense. The temptation was very great.

The committee on offences against children and young persons had found cases in which a man had been sent to prison for the same kind of sexual offence ten, thirteen, and fifteen times, with an occasional flogging thrown in. It was all wasteful and futile. Such cases made one

despair of the present system. From every point of view it was essential to find some better and more scientific way of dealing with problems of that sort. Another difficulty was that all magistrates did not yet grasp the importance of this kind of mental work. They were apt to misunderstand it, and on the one side to regard it as an attempt to shut people up for the rest of their lives, which they did not deserve, and on the other side as an attempt to undermine and weaken man's responsibility.

MRS. STORMONT (probation officer, Great Marlborough Street Police Station) spoke on types of delinquent, and described her work with shoplifters and prostitutes.

Interrelation of Magistrate, Doctor, and Probation Officer

Mr. CHINN (probation officer, Birmingham) said that there was great need for co-operation between magistrate, doctor, and probation officer in the treatment of delinquency, but it would be difficult to give evidence of existing co-operation. A growing concern for the right treatment of delinquency was apparent, particularly in juveniles and young persons. There was, however, a wide diversity of opinion as to what constituted right treatment. There was on the one hand a small minority of advanced opinion concerned with the scientific application of expert knowledge to the problem of the reformation of the delinquent, and, on the other hand, traditional repressive measures were widely used. In between these two extremes were several experiments, more or less developed, the aim of which was the reformation of the delinquent. Probation represented the community's attempt to reform the offender by a process of re-education in his own environment. Such a process would depend for its success on the co-ordinated contributions of what might be called the "healing" forces of the community, which would include the magistrate, the doctor, and the probation officer, and it would have to be used with discrimination. Probation should never be used without first taking into account the personal and environmental history of the offender and his physical and mental condition. That meant that no person should be placed on probation without a preliminary investigation being made, and only then after careful consideration of his suitability for that kind of treatment. There was a fairly general lack of understanding of the true meaning of probation, and in many provincial districts its use was very limited. There was still an impression in the minds of some magistrates that probation might be all very well for children and young persons, but that it was useless applying it to adults. Preliminary social investigations and medical histories were available in some juvenile courts in the large cities, but rarely, if ever, was an adequate investigation made in adult cases. It was even exceptional for investigations to be made in children's cases; apart from one or two of the large cities, children were tried and dealt with forthwith. No provision was made for medical help, and it was sometimes difficult to obtain expert advice. The only method open to the court needing medical advice was often to remand the offender in custody for an examination by the local prison medical officer. But even where this was done the quality of the advice given might detract from its value, and the court soon lost confidence in unsatisfactory reports. There were certain local prisons, listed as observation centres and having mental experts on their staffs, which might be used by specified areas. Such centres were more often employed by the large towns than the rural districts, and their scope was limited. The period of observation was bound to be short. The doctor's report might contain an accurate diagnosis of the offender's mental condition, but it rarely contained a practical recommendation, and no provision was made for treatment. Treatment, of a sort, might be obtained from the Poor Law authority if the offender was destitute or could be made to appear so, and certain obvious cases could be dealt with in the county mental hospitals. There was evidence that the administration of the Mental Deficiency Act was far from satisfactory in many counties. The number of mental experts qualified to give advice and treatment seemed to be surprisingly small, and they were seldom available outside the large cities. He would go further and say that very few mental experts realized how valuable their contributions could be in the treatment of delinquency. They too often confined themselves to a diagnosis. It was of little value to a probation officer—however gratifying—to receive from a doctor in the form of a report a summary of his own notes on the case. The probation officer wanted to know not only what was the matter with the offender, but also what he was to do about it. He should be able to look to the expert for constructive advice and treatment. If the reformative material available was to be used wisely and effectively it was essential to realize the interdependence of the court, the doctor, and the probation officer. There was therefore an urgent need for co-operation, and for all concerned to learn each other's language. The magistrate should understand the importance of treating the offender as an individual; the doctor by practical advice and recommendations should endeavour to make his contribution effective; and the probation officer, by working in close co-operation with both, should gain the necessary knowledge, not only to recognize cases of mental disorder, but intelligently to interpret the findings of the doctor.

The Clinic for the Delinquent Child

Dr. FLORENCE STACEY-CLEMINSON (Hull) asked whether a clinic for children would not be better started from the educational side as a school clinic, to which the courts could send children, rather than in connexion with the children's court. The children would not then be branded. Hull was trying to get the education authority to set up a clinic, but there were financial difficulties. At present, cases were sent to the psychologist attached to University College, but there was no definite clinic.

Mr. CHINN said that there was as yet no place in Birmingham to send children to for psychological treatment, but it was hoped that one would soon be started by the education authority. It was much better for an outside authority to conduct this than for the court to have its own clinic.

Dr. WILLIAM MOODIE said that neither the court nor the school authority was the proper body to conduct a clinic; the work should be done by someone entirely separate from both. It could not be done by any one individual, either psychologist, doctor, or social worker. These people must be available both separately and together, and they must co-operate. The doctor knew a certain amount, but not everything. A doctor with a general medical training was not capable of giving an opinion on a mental case, even a simple one. The required training was quite beyond the limits of the medical curriculum. Even with a special training he was not capable of giving an opinion on special educational problems, for the background of the educational problem was education. Every child was an individual and at the same time a school child, and had two aspects. One could be dealt with by the doctor, the other must be dealt with by the educational psychologist. In his work at the child guidance clinic he had found that the great bulk of delinquency resulted from environmental causes and not from a cause intrinsic in the individual. This introduced a third type of investigation: skilled social environmental investigation. What really seemed to matter was the environmental factor, and by manipulating the environment and the education it was possible to alter the behaviour in the desired direction. He wished to stress the point that the examination of delinquents was not purely a medical question.

A number of probation officers and magistrates took part in the subsequent discussion, and contributed their personal experiences. There was very general agreement on the need for increased co-operation between magistrate, probation officer, and doctor, and for the education of public opinion on the very important problem of the psychological aspect of delinquency.

Nova et Vetera

THE EYESIGHT OF THE BRONTËS

Recently my attention was drawn to some spectacles in the Parsonage Museum, Haworth, which had belonged to the Brontës. I took them to Mr. Read of the optical department of Messrs. Reynolds and Branson (Leeds), who kindly examined them for me. The quotations are from Clement K. Shorter's *The Brontës : Life and Letters*, published by J. M. Dent and Sons, Ltd.

Charlotte Brontë showed early signs of myopia. Mary Taylor, a schoolfellow at Miss Wooler's, Roehead, says: "She could not see the ball at games. When a book was given her, she dropped her head over it till her nose nearly touched it, and when she was told to hold her head up, up went the book after it, still close to her nose." This was in 1831, when Charlotte was 15 years old. In July, 1848, Charlotte and Anne paid a visit to London, in order to correct some misstatements regarding the authorship of the different novels. They were taken to the opera by Mr. Smith of Messrs. Smith and Elder, publishers. Charlotte writes regarding the people there: "They must have thought us queer, quizzical-looking beings, especially me with my spectacles." Mrs. Gaskell writes, *circa* September, 1853: "Charlotte Brontë cannot see well, and does little besides knitting. The way she weakened her eyesight was this, when she was about sixteen, she copied copper-plate engravings out of annuals." We can conclude that the following belonged to Charlotte:

1. Steel spectacles with twin pinsides.
   Right −7.5D. Left −7.5D.
2. Silver gilt single square reading glass with twisted handle.
   −7.5D.
3. Reading glass, folding joint, double glasses in dark tortoise-shell frame [this pattern was in use from 1835 on].
   Right −10D. Left −10D.

Patrick Branwell Brontë also wore spectacles, as we see from a silhouette portrait of him. The following pair was probably his:

Spectacles. Silver rims, sliding sides, pebble glass.
Right plano. Left −4D.

The first mention of the Rev. Patrick Brontë's sight is in Emily's diary for July 30th, 1845: "Papa has a complaint in his eyes." In August, 1846, Charlotte writes: "In a fortnight I hope to go with papa to Manchester to have his eyes couched. Emily and I made a pilgrimage there a week ago, to search out an operator, and we found one in the person of Mr. Wilson. If he judges the cataract ripe, we shall remain, if not, papa must remain in darkness a while longer." Mr. Wilson, M.R.C.S., was honorary surgeon to the Manchester Infirmary from 1826 to 1855. She writes on August 21st from Manchester: "Mr. Wilson pronounced papa's eyes quite ready for operation." On August 26th: "The operation is over; Mr. Wilson performed it. The affair lasted precisely a quarter of an hour; it was not the simple operation of couching, but the more complicated one of extracting the cataract. I was in the room all the time." On September 13th: "Papa thinks his own progress rather slow." They returned to Haworth on September 28th. In November of that year she writes: "Now to see Papa walk about independently, read, write, etc., is indeed a joyful change." Six years later (April 12th, 1852) she refers to it again: "My father was seventy at the time he underwent an operation; he could not believe that at his age and with his want of robust strength it would succeed. A day seldom passes that he does not express gratitude and pleasure at the restoration of that inestimable privilege of vision whose loss he once knew." The last reference is dated March 18th, 1854. She writes: "My dear father's vision is not perfectly clear, but he can read, write, and walk about, and he preaches twice every Sunday."

There are five pairs of spectacles that we concluded must have belonged to the Rev. Mr. Brontë:

1. Silver rims (date mark 1809).
   Right +1.5D. Left glass missing.
2. Short loop end sides, round eyes, diameter 33 millimetres.
   Right +5D. Left +5D.
3. Loop end, silver frame, with blue tinted glasses.
   Both +5D.
4. Steel pair, double hinged.
   Right +6.5D. Left +6.5D.
5. Silver, sliding side.
   Right +5D. Left +13D.

No. 5 makes it evident that the left eye *only* was operated on for cataract.

C. MABEL EDGERLEY,
L.R.C.P. and S.,
Menston, near Leeds. Honorary Secretary, Bronte Society.

India

Progress of Madras Hospitals

At the end of 1929 there were 1,128 medical institutions at work in the Presidency of Madras—namely, 188 State-public "institutions and 29 "State-special" institutions; 756 municipal, local fund, and rural institutions; 34 private ones, which were aided, and 68 which were not; and 53 railway dispensaries. The number of dispensaries increased during the year by thirty-nine. With a view to improving the facilities for medical relief the Government took over the administration of twelve local fund and municipal hospitals and dispensaries, in addition to the 106 medical institutions similarly "provincialized" in 1928. In his annual report for 1929, Major-General C. A. Sprawson, I.M.S., surgeon-general to the Government of Madras, remarks that the efficiency of subsidized dispensaries varies considerably according to the medical officer in charge. There are three itinerant dispensaries in the Presidency, and medical officers in charge of regular dispensaries which do not provide enough work to engage their whole time, pay visits to neighbouring villages on specified days in the week to deal with the sick poor. The total number of patients treated for leprosy during the year was 16,552. As the result of the leprosy survey work, new clinics have been opened in four places, and there is an increasing demand for the supply of leprosy experts to various districts. It is proposed to appoint a leprosy propaganda officer to travel through the Presidency, and co-operate with the local medical authorities in establishing clinics and educating the public. Honorary medical officers have been appointed in all district headquarters hospitals and Government hospitals in the mufassal. In some districts there are medical libraries, and the number of books available for circulation has been increased during the year. Major-General Megaw, I.M.S., has introduced a method of testing the strength of quinine solutions at dispensaries during inspection. When first brought into operation this unexpected check revealed widespread fraud by compounders, and exposed the fact that in many cases patients were getting only a portion of the dose prescribed; a considerable improvement has been noticeable in this respect—at any rate, during the times of inspection. In his annual report of the Government General Hospital, Madras, for 1929, the superintendent, Lieut.-Colonel E. W. C. Bradfield, I.M.S., calls attention to the fact that there has been a satisfactory reduction in the cost of treating patients. Although during the last ten years there has been a steady rise in the number of cases of injuries, due probably to the greater prevalence of motor transport, evidence is obtainable from the figures that traffic control is improving and diminishing these risks. The training of

medical students continues, but it is noted that there is an increasing tendency to overload the curriculum with lectures and laboratory classes at the expense of important clinical subjects, particularly in the third year. The classes are, moreover, still handicapped by the small size of the temporary lecture hall in the out-patient department; this difficulty will continue until progress can be made in the enlargement and rearrangement of the hospital. Improvements in the venereal clinic have enabled it to undertake first-class work, and to make a serious attempt to tackle the problem of venereal diseases in Madras.

Malaria as a Cause of Infantile Mortality

A considerable portion of the annual report for 1929, by Dr. J. S. Nerurker, executive health officer for Bombay, is devoted to the incidence of malaria and its sequels in that city. While he recognizes that the figures obtained from medical practitioners as the result of an inquiry cannot be too strictly relied upon, owing to the frequent transfer of patients, yet it seems to be clear that malaria is widely prevalent. He remarks that the high rates of infantile mortality in various races resident in Bombay, among the richer as well as the poorer classes, suggest that some additional adverse factor must be present, beyond the poverty and the maternal ignorance about health which are chiefly responsible for high mortalities in Western countries. Dr. Nerurker believes that this factor, which seems to affect all classes, is probably malaria, but he adds that the practice of soothing babies by the administration of opium still continues extensively among the more ignorant portions of the population. With a view to detecting conditions prejudicial to the life of infants, home visits are paid by the municipal district nurses, and cases of sickness among women and children are promptly dealt with. Inquiry is made at these visits about the condition of newborn infants, and instruction is given to the women with regard to the care and rearing of children. Confinements are attended, help is provided during the lying-in period, and assistance is rendered by maternity homes, infant milk depots, and welfare centres. As the result of these measures the infant mortality in Bombay has been decreasing, but it is pointed out that it is difficult to bring about further improvements owing to the fact that the overwhelming majority of the infantile deaths under 1 year are not certified by medical practitioners.

King Edward VII Memorial Hospital, Bombay

The importance of further co-ordination of institutional medical treatment in Bombay is emphasized by the report of the King Edward VII Memorial Hospital for the year 1929–30. Both in the wards and in the out-patient departments there has been very serious congestion, and despite the fact that nearly 1,000 new beds have been made available in Bombay during the last five years the demand for further hospital accommodation is increasing. An arrangement has been made between the Corporation and the committee of the Helpless Beggars' Camp by which unclaimed and helpless patients may be transferred to the care of this organization. Early cases of pulmonary tuberculosis are now sent to the Turner Sanatorium, and patients suffering from advanced stages to the Maratha Hospital. Part of the overcrowding in the Memorial Hospital is due to the number of fracture cases which occupy the beds for several weeks at a time. It is suggested that a convalescent home is urgently needed for such patients, even if no more than thirty beds are thereby freed. Another urgent necessity is the provision of an infirmary for the chronic and nervous cases. As regards the congestion in the out-patient department, it is hoped to build shortly a separate casualty department and to extend the surgical dressing section.

England and Wales

Dinner to Sir Marriott Cooke

Sir Marriott Cooke, K.B.E., M.B., whose office as Commissioner of the Board of Control terminated on the coming into operation of the Mental Treatment Act on the first day of this year, was entertained at dinner by his late colleagues on January 26th at the Café Royal, London. Sir Marriott Cooke joined the Lunacy Commission in 1898, became in 1913 a Commissioner of the Board of Control, of which he was chairman during the years 1916–18, and continued as an unpaid Commissioner after his retirement in 1921. The object of the dinner was to mark the affectionate esteem in which his late colleagues hold him, and their sense of his devotion to the cause of those suffering from mental disorder during his many years of public service—a period which, including the period spent as medical superintendent of the mental hospitals at Devizes and Powick, extended to fifty-six years.

West London Hospital Extension Scheme

The West London Hospital is proposing to celebrate its seventy-fifth anniversary by large extensions, including the building of a new wing with separate rooms for 100 paying patients. After consultation with the medical and surgical staff, whose generous spirit in the matter is acknowledged by the chairman, Sir William Wells, the board has decided that patients will be admitted to the private rooms at an inclusive rate, seven guineas a week being the minimum. This rate will include the provision of medical and surgical treatment, specialist services, and drugs, as well as nursing and maintenance. It is anticipated that, including the twenty-six private beds which the hospital already possesses, at least 1,300 paying patients will be accommodated every year. Prospective patients, it is believed, will regard it as a great advantage to learn beforehand the amount of *liability*. The provision of a paying wing is not the only scheme on foot. The whole frontage of the hospital is to be rebuilt, and there the administrative offices and certain other departments are to be accommodated, while the general wards which have overlooked the main road at Hammersmith are to be removed to a quieter position. The hospital possesses the land necessary for the extensions, but from £150,000 to £200,000 will be needed to complete the scheme, and at a festival dinner to be held at the Guildhall on May 12th it is hoped to raise £50,000 as an instalment sufficient to allow an immediate start on the work. The paying beds are expected to be self-supporting, and they may, indeed, provide a surplus, which will be devoted to the upkeep of the free beds. The West London Hospital has an average of 4,000 in-patients a year and 40,000 out-patients, and costs £55,000 to maintain, towards which the endowment and thank-offering and almoner receipts amount only to £18,000.

New Woolwich Housing Estate and Health Centre

On February 14th the Minister of Health is to cut the first sod of the new housing estate of the Woolwich Borough Council, situated at Eltham, and open a new health centre which has been erected by the council on its present housing estate, adjacent to the new site. The present estate consists of 2,186 houses, but as this is not sufficient to meet the demands for new housing accommodation, a further property of 275 acres has been secured, upon which it will be possible to erect 2,200 houses, the average density thus being eight to the acre, including provision for open spaces. The new health centre, which is situated in an open part of the present housing estate, is said to be the first in London of a type specially

designed and equipped to provide also for school medical service, thereby linking up in one building the medical supervision of the school child with the care of the child of pre-school age. The building has been constructed to deal expeditiously with large numbers, and rooms for dental work and the treatment of minor ailments can be used when necessary for the twofold purpose of the school and of the welfare services. The borough of Woolwich has already seven welfare centres, which in one year had a total of 52,079 attendances.

London County Council Public Health Staff

The London County Council has been reorganizing and strengthening the staff of its public health department. In view of the steady growth in the work of the tuberculosis section, and its large increase as a result of the transfer of functions under the Local Government Act, certain rearrangements have been made, and the head of the section has been given increased emolument. The officer engaged upon the supervision of the scheme for the treatment of children suffering from diseases of the ear is to be made a principal assistant medical officer at the normal salary of £950, rising by £50 annually to £1,250 a year. Attention has also been given to the staffing arrangements consequent upon the decision that the work of medical examiner shall be performed in the public health department. It is pointed out that it is essential that this work shall be undertaken by a highly experienced officer, possessed of considerable clinical skill, and competent on occasion, when legal actions arise, to support his opinion against that of eminent members of the profession. The proper rank for this position is considered to be that of principal assistant medical officer. A year ago the council created several positions of area medical officer, but left them for the time being unfilled. In June last it was decided that one of the positions should be filled, and now, in view of the great pressure of work in connexion with the general hospitals, it is recommended that another position be filled. The salary which the position carries is £1,700 a year.

The Mental Hospitals Committee of the London County Council has made a special grant of £150 from the accumulated interest on the Maudsley Hospital bequest account for certain research work, for six months in the first instance, with a view to a standardization of tests to differentiate at the onset of mental illness between patients destined ultimately to become chronic cases and those suffering from transient conditions. A medical officer has also been detailed for twelve months for research work upon post-encephalitic cases and the administration of special treatment to such cases at West Park Mental Hospital and the Manor, Epsom. Another assistant officer has been detailed, at Claybury Mental Hospital, for research work on the respiratory reflexes.

Scotland

Health in Schools

Under the auspices of the Glasgow Branch of the Educational Institute of Scotland an address on public health and the school was delivered, on January 29th, by Dr. A. S. M. Macgregor, medical officer of health for Glasgow, who mentioned that school medical inspection and treatment was started about twenty years ago in an attempt to deal with defects among children. From being concerned with minor defects and malnutrition, this service had gradually expanded to include the care of crippled, rheumatic, and delicate children, for whom large subsidiary services now existed. These efforts had resulted in a steady improvement in the general health of the school child. Defects had lessened materially in degree—for example, the majority of the defects now registered as slight would have been ignored in the early days of school inspection, while there were fewer actual cripples. The principle underlying the association between preventive medicine and education was to secure a clear conception of the rudiments of health, and to apply these to school life as far as possible. The real guardians of health were those who controlled systems of education, who built schools, and who arranged curricula; above all, those who taught and guided children. Public health depended more and more on the training received in the schools.

Retirement of Edinburgh Professor

At a meeting of the University Court of Edinburgh University on January 26th, it was intimated that Professor Arthur Robinson, M.D., intended to retire from the chair of anatomy at the end of the current academical year. After graduating M.B., C.M. with honours at Edinburgh University in 1883, Professor Robinson became a demonstrator of anatomy under Sir William Turner in Edinburgh, and shortly afterwards took up a position in the anatomical department of Owens College, Manchester. He was awarded a gold medal for his thesis when he proceeded M.D. in 1890, and he later became a Fellow of the Colleges of Surgeons of both Edinburgh and England. In 1896 he was appointed lecturer in anatomy in the Middlesex Hospital Medical School, and in 1900 professor of anatomy at King's College, London. Four years later he was elected to the chair of anatomy in the University of Birmingham, and in 1909 he was appointed professor of anatomy at Edinburgh. Professor Robinson early turned his attention to the study of mammalian embryology, and was awarded the Neill Prize for 1925–27 for his work in this subject. He has written and edited several books on human anatomy, and has contributed extensively to scientific journals.

Edinburgh Royal Infirmary

A committee, appointed by the court of contributors to the Edinburgh Royal Infirmary, has issued its comments on the annual report of the managers of that institution. The managers view with some concern the increasing number of persons awaiting admission to the wards, which in the past year amounted on the average to 2,851, and they consider that the difficulties can be overcome only when the proposed expansion of the infirmary has been accomplished. It is pointed out that motor accidents were responsible for 446 cases treated in the infirmary, excluding a large number treated as out-patients. The cost of maintaining the infirmary was £151,765 in the past year, compared with about £60,000 in pre-war years. Of the annual revenue about 20 per cent. is stated to be derived from interest on invested capital; about 47 per cent. from voluntary contributions; about 11 per cent. from payments by patients and revenue from students' fees; the remaining 22 per cent. had to be met by legacies. Of the various sources of revenue, it is considered that contributions from voluntary sources can be most easily increased, and that legacies should be regarded as a means of building up a capital reserve. In this connexion the increased annual expense which will follow the expansion of the institution is referred to. The average cost per bed during the past year was £155—an increase of about £5 on that of the previous year. This sum included £48 for provisions, bedding, and general equipment; £23 for nursing and service; £30 for medical and surgical expenditure; £11 for radiological services; £23 for overhead charges; £10 for management; and £9 for taxes, insurance, etc. The arrangements for

incorporating the Maternity and Simpson Memorial Hospital with the Royal Infirmary have now been completed, and the site of George Watson's College will be available for the contemplated extension at the autumn term of the present year. It is stated that some years must elapse, however, before the extension can be carried out. In view of the large capital expenditure required and the fact that the Royal Infirmary can be used as a national radium centre for Edinburgh, approved by the National Radium Commission, the managers have decided to abandon the scheme of reconstructing Beechmount House as a radium institute. During the present year Lady Findlay has been appointed permanent chairman of the board.

At a meeting of the General Court of Contributors to the Royal Infirmary in Edinburgh on January 26th Lord Provost Whitson, who presided, mentioned that an early pronouncement would be made in regard to the question of paying patients. Referring to the proposed extension of the Infirmary he said that another effort to raise funds was being organized, and that this was intended to appeal to the small subscriber.

Earl Haig Memorial Hospital

A new maternity home for Hawick and district was opened on January 16th by the Duke of Roxburghe. The inception of the home dates from 1927, when a sum of £2,000 was given by Mr. Norman W. Grieve to establish a maternity home for the town and district on condition that it should be dedicated to the memory of Field Marshal Earl Haig. For this purpose premises already used by the local nursing association and for the provision of maternity service and child welfare were taken over and adapted. Treasurer Fisher (Hawick), chairman of the Public Health and Public Assistance Committee of the county, who presided, remarked that this was the first ceremonial gathering of the new County Council of Roxburgh. In declaring the building open, the Duke of Roxburghe said that the home was the first-fruit of the amalgamation between the burgh and county authorities, and that it had been rendered possible by the generous support of Mr. Grieve.

Appointment of Regional Medical Officer

The Department of Health for Scotland has appointed Dr. James L. Halliday to be one of its regional medical officers (medical referees). Dr. Halliday is an M.D. of Glasgow University and holds the D.P.H. From 1922 to 1924 he was assistant resident physician at Ruchill Fever Hospital and Sanatorium; from 1924 to 1926 clinical officer in the Glasgow Public Health Department; and from 1926 to 1929 medical officer for the Southern Division of Glasgow. At present he is senior assistant in the Public Health Department of Glasgow Corporation.

Development of Veterinary Art

In an address on the establishment and development of veterinary education, delivered on January 22nd to the Edinburgh University Agricultural Society, Dr. J. Russell Greig, director of the Moredun Animal Diseases Research Institute, said that the legal code of Hammurabi, dated about 2100 B.C., contained references to the treatment of oxen and asses and to the amount of the veterinary's fees. The art was mentioned in the writings of Hippocrates, Aristotle, and later Roman authors, and the Romans had regular veterinary practitioners in the service of the legions, known as veterinarii. In *Hippiatrika* the veterinary knowledge of the Byzantine Empire was gathered together by Constant VII, and in 1530 this work was printed by order of Francis I of France. Veterinary schools and hospitals for sick horses were established at Lyons and at Paris after the middle of the eighteenth century. Sainbel, a Frenchman, founded a school in London in 1793, which was attended by William Dick, an Edinburgh farrier. Dick subsequently began a course of lectures in Edinburgh with four students, and was appointed a lecturer in 1821 when the Highland Society provided a grant of £50. It was from this modest beginning that the Royal (Dick) College—now one of the foremost veterinary schools in the world—had developed. Organized veterinary research, as distinct from education, had come into being within the last ten years, and collaboration between the veterinary and medical professions was rapidly becoming more intimate. Veterinary science was proving an integral part both of agriculture and of comparative medicine.

Milk for School Children

The Education Committee of Edinburgh Town Council on January 26th approved of an experimental scheme for the supply of milk to school children. A report by the medical officer of health and the education officer pointed out that any scheme adopted under the Act of 1930 had to be framed in accordance with certain restrictions. They recommended, therefore, that as an experiment the necessitous children on the free food roll of the infant departments of two representative schools in congested districts should be supplied, free of charge, with one-third of a pint of milk each during the forenoon interval, and that the other children in these departments should receive the same quantity on payment by their parents of the cost of the milk. The milk would be delivered in sealed bottles of one-third pint capacity, and straws would be provided for drinking it. The quality of milk used will be Grade A (tuberculin tested), and the cost to parents will be one penny a bottle.

Correspondence

THE OUTLOOK ON TUBERCULOSIS

SIR,—I note that you have been favoured by several letters on the subject of my recent lecture. The remarkable widening of outlook on tuberculosis which has occurred during the past fifty years as the result of intensive clinical, pathological, and experimental work has had practical consequences in the adoption in Great Britain of the National Tuberculosis Scheme. The scheme, which is comprehensive in scope and of general applicability, now functions more or less effectively throughout the land. Notwithstanding the difficult times we have passed through since its institution, and the evident inequality of machinery and personnel in different parts of the country, satisfactory results have been obtained. Everything considered, it may be said with justice that the antituberculosis scheme of Great Britain covers the ground and meets the varying issues more completely than methods which have been introduced elsewhere. It was not the purpose of the lecture to discuss the elements of the scheme. These are sufficiently known to all. The object was to draw attention to the further laps on the road, and to show that these were well in view and, in fact, had been amply tested for the purposes of general traffic.

In commenting on the lecture, your correspondents have inclined towards the one-corner view. As happens not infrequently, they appear to have read into the words conceptions other than those of the writer, and have proceeded to criticize the position. I would respectfully disclaim responsibility for this. A sympathetic correspondent urges that "a new orientation is needed," and invites me "to give the necessary lead." I had hoped,

Sir, that the lecture gave more than a lead. I had hoped that the emphatic negative given to the question, "Have we reached finality?" and the development of the subject in the subsequent pages would have been readily recognized as constructive. Those pages, read in connexion with previous proposals by me, notably in the *Journal* of March 24th, 1923 (p. 493), contain, as it seems to me, an unanswerable plea in favour of the systematic watch for, and determination of, the fact and date of initial infection (tuberculization) in every child. The further point is pressed that the object of this systematic determination is to render possible the adoption of measures for anticipatory detuberculization. Because of the predominant part played by tuberculosis epidemiologically, the principle underlying anticipatory detuberculization is that the fact of tuberculization entails the thoughtful interpretation of any aberration from perfect health during the further life of the child, and the studied endeavour to maintain resistance by every available means, *including, when it seems desirable, the use of* tuberculin as an immunizing agent. The value of tuberculin, and the methods of anticipatory application, are especially developed in the earlier paper.

During each academic year some two hundred undergraduates are taught by me to believe that the cause of the accumulation of pronounced and incurable cases of tuberculosis of every form, which so heavily overweights the antituberculosis scheme, is neglect of those fundamental considerations. The student is enjoined that it should be a primary duty of the family doctor—or his equivalent—to watch for the fact and date of tuberculization as something likely to occur and readily determinable, and, following such determination, to keep the fact in view throughout the further life-history of the individual in order that, if indications of progressive tuberculization supervene, they may timeously be met by measures of detuberculization.—I am, etc.,

University of Edinburgh, Jan. 31st. R. W. PHILIP.

SIR,—In the interesting letter by Dr. D. J. Gair Johnston of Birkenhead in your issue of January 24th there appears the following sentence:

"Again, the general practitioner, *who should receive every* encouragement to familiarize himself with the earliest signs of tuberculous infection, not merely tuberculous disease, is persistently kept in the background in this as in all other branches of preventive medicine."

This statement of Dr. Johnston's is not true for Lancashire, and, from my own experience, other parts of England. If I may be allowed to give concrete proof in respect of the former area, I quote a letter sent to every medical practitioner in the administrative county of Lancaster by the clerk of the county council in which the following paragraph, amongst others, appeared:

"The Tuberculosis Committee desire me to thank the general practitioners for their co-operation in the past, as the success which has so far been achieved under the scheme would not have been possible without their help; and they are anxious that such assistance should be continued and further improved in the future, particularly in regard to the reference of cases or suspected cases of tuberculosis to the tuberculosis officer at the dispensary so that any necessary treatment available under the scheme may be commenced whilst the patient is in the early stage of the disease. The tuberculosis officer will always be pleased to meet you in consultation in regard to any case of difficulty or doubt."

In 1929, 86 per cent. of new cases were sent, *before* statutory notification, to the tuberculosis officers for an opinion as to diagnosis. Further, in that year there were 982 personal consultations between general practitioners and tuberculosis officers.—I am, etc.,

Preston, Jan. 27th. G. LISSANT COX, Central Tuberculosis Officer.

SIR,—Dr. John Gibbens, in his letter published on January 24th (p. 156), assails the weak spot in the defence when he says:

"The earlier the age at which a positive reaction is found, the more likely one is to find the adult that is disseminating the infection. It is mainly through the early detection of these adults that reduction in the incidence of tuberculosis in childhood will eventually occur."

How fares it with these adults? Possibly they are suffering from some mild "chronic bronchitis" of long duration; or "asthma with bronchitis"; or they may even have had that strange disease "double pneumonia three times"! If tuberculosis is not detected in the child at an early age, the erring parent who is resistant possibly continues at work till the age of 50, 60, or 70, and dies of "chronic bronchitis and broncho-pneumonia"—the unrecognized cause of a more acute form of pulmonary tuberculosis in the children when they are about 20 or 25, or even of tuberculous meningitis in the grandchildren. In such circumstances the family cease to notice the cough of the parent, but the children crawling along the floors encounter the tubercle bacilli, which enter by the usual channels. Air-borne disease or infection by milk are of collateral interest in such a household.

By notification the patient is conducted to the parting of the ways. Outside criticism may give us some index to our shortcomings. In his "Campaign against Tuberculosis in England" (1930, *Jahresbericht Tuberkulose-forschung*), Dr. E. Stolkind, in a review of the notifications for 1928, points out that "these numbers are found to be the lowest recorded for thirteen years," and says:

"In my opinion the number who died from pulmonary tuberculosis should actually be much higher, as so often death from this disease is put down to chronic bronchitis. There is no other country where so many deaths are notified as being from chronic bronchitis."

In the present state of civilization, it would at times seem wellnigh an outrage to notify a parent as suffering from doubtful pulmonary tuberculosis.

Bronchial discharge of any duration should always be suspect. In spite of the endeavours of many eminent men the public receive but little enlightenment on things that matter, because the truth has often such an unpleasant flavour. The public accepts its medical education from novelists. The Victorian novelists who entertained the mothers of the race depicted consumption as an interesting disease, with a central figure, the heroine, who patiently awaited the inexorable laws of fate as she "declined" day by day. Sometimes the end was hastened by a clean but dramatic haemorrhage. Melodrama flies from the more disagreeable facts. Even the press still applauds the consumptive marriage *in extremis*, and the public and the clergy add their blessing.

The real history of the disease and the collateral chest complaints of other members of the family are not paraded to the specialist; it is the family practitioner who knows, or should know, what the position of affairs really is.—I am, etc.,

Middlesbrough, Jan. 24th. J. M. MACPHAIL.

SIR,—In reading the correspondence provoked by Sir Robert Philip's recent lecture, it appears to me that we—or at all events the lay public—are in danger of forgetting certain essential facts. Owing to misunderstood propaganda there are a number of fallacies still current which have an important bearing upon the possibilities of control. Among these are the following:

1. That all tuberculous individuals are equally infective.
2. That infection is the sole cause of tuberculosis, whereas we all know that in the majority this is fostered or precipitated by non-tuberculous causes—largely such as the medical

officer of health and the sanatorium doctor or tuberculosis officer have been busily combating.

3. That infection with the tubercle bacillus always causes tuberculosis, whereas we know that most of those we meet are infected with tubercle but will never suffer from the disease.

4. That in the absence of tuberculous infection we should all be immune from the disease, whereas immunity is only possible through infection or specific inoculation, or by inheritance from those who have acquired immunity through infection. Generally speaking, exposure to tuberculous infection is hurtful, harmless, or even beneficial, according to the mode of infection and circumstances of the case. For illustrations see results at Papworth and at reputable sanatoriums. If at some future time there should be only an occasional source of infection, prophylactic injections would be of the first importance. At present general prophylactic inoculation might easily lead to the neglect of some of the other causes of tuberculous breakdown, and to waste of public money, quite apart from the doubt as to the harmlessness of the available vaccines.

5. That the early case of pulmonary tuberculosis always needs the shortest course of curative treatment, whereas the essential points are the teachability and character of the patient; we all know of early cases which, in spite of everything we can do, progress steadily to a fatal end.

In the last resort, immunity and recovery alike depend on constitutional resistance, not on infection, although the conditions of life and methods of treatment naturally have a great influence.—I am, etc.,

Farnham, Surrey, Jan. 31st. F. R. WALTERS.

TREATMENT OF CIRCULATORY FAILURE

SIR,—I read with interest the abstract of Professor Ritchie's address in your issue of January 31st (p. 195), in which he deals with the subject of acute circulatory failure. He states that the most frequent form of this condition observed by the medical practitioner is toxaemic shock, which may develop in acute infectious diseases, and especially in acute pneumonia. Professor Ritchie then proceeds to a description of the clinical facts in support of his belief that acute cardiac failure in pneumonia is often a direct sequel of failure at the periphery. With this hypothesis I am in entire agreement, but it seems to me strange that, in describing the treatment of the condition, Professor Ritchie, while mentioning such remedies as oxygen, carbon dioxide, the subcutaneous injection of strychnine, etc., omits any reference to those anti-shock measures which are really efficacious.

In the treatment of all types of shock, whether due to trauma, toxaemia, haemorrhage, or anhydraemia, I believe there is urgent need to adopt measures to increase blood volume. To realize that the severe weakness and fall in blood pressure in pneumonia is not necessarily or usually due to intrinsic cardiac failure, but is due to vasomotor collapse, should lead to the adoption of vigorous anti-shock treatment. Even though such treatment might embarrass a heart which is failing owing to intrinsic changes, it may be safely used in toxaemic shock to help the patient through the critical phase during which immune substances are being elaborated. The first step in the treatment is the intravenous administration of 50 c.cm. of a 50 per cent. solution of dextrose. The hypertonic dextrose solution rapidly draws fluid from the tissues into the blood vessels, and temporarily adjusts the blood volume to the capacity of the vascular bed. This method is most useful in medical shock of toxic origin, but the results are not so satisfactory in the anhydraemic shock of diabetic ketosis, because here the already dehydrated tissues cannot give up a satisfactory contribution of fluid to the blood stream. The above treatment usually requires to be supplemented soon after by giving 500 to 1,000 c.cm. of saline or glucose-saline solution into a vein, as recommended by Janeway in 1907 for treatment in infectious disease. This measure for controlling shock in pneumonia has not, in my opinion, been sufficiently exploited.

All administration for the treatment of shock, excepting such as may be additionally given by mouth, should be intravenous rather than subcutaneous or intramuscular. The extremely sluggish and greatly restricted peripheral circulation renders absorption by the subcutaneous route so slow that it may be regarded as practically closed. The use of vaso-constrictors, such as epinephrin, is not helpful, and may be dangerous, as they merely tend further to constrict blood vessels already contracted, to the disadvantage of the capillary circulation.

The ideal treatment of shock is, of course, blood transfusion, and the blood of any patient likely to develop shock should be grouped early in order to have a suitable donor in readiness.—I am, etc.,

Edinburgh, Jan. 31st. JOHN EASON.

TREATMENT OF VARICOSE VEINS

SIR,—Dr. Twiston Davies writes in the *Journal* of January 31st of tissue fluids of the lower limb "stagnant by virtue of (*a*) gravity, (*b*) 120 mm. Hg of arterial pressure, and (*c*) 48 inches of blood in the superficial veins (less any surplus capacity in the deep veins)." He is obviously considering a patient in the standing posture. The meaning of the phrase in parenthesis is obscure to me.

Measurements which I made many years ago showed that the arterial pressure in the leg is greater than that in the arm by a pressure which is equal to the height of the vertical column of blood which separates the two points of measurement. The increase of arterial pressure through gravity balances, then, any increase in venous pressure due to gravity, supposing such pertains, and the pressure in the arteries, produced by the heart, makes the blood circulate. The pressure due to gravity, which in the standing posture is equal to a column of blood as high as the man, tends, however, to dilate the capillaries and veins in the legs, and to increase transudation of tissue fluid. This tendency is counteracted normally by the skin and connective tissue which limit expansion, and by movements of the muscles which express blood upwards past the valves in the veins. Every structure in the body is arranged so as to make this expressive action effectual.

Movements and change of posture are, then, of first importance for keeping up the circulation and preventing stagnation, with consequent deficiency of oxygen and loss of healthy condition of the tissues. Varicose veins and ulcers result from long-continued standing or sitting required in certain occupations, the effect of which—that is, production of stagnation—is enhanced by poor nutrition. I have produced striking improvement in varicose ulcers by putting patients in an oxygen bed tent and letting them breathe this gas for many hours a day. By pulling tight the bandage, as recommended by Dr. Davies, the support is given which the skin and tissues have lost, and the blood is once more made to circulate effectually, particularly as the patient is ordered to get up and told to walk about. One can realize the important influence of muscular movements on the circulation by placing one foot on a chair while standing, and observing the blanching effect on the veins of the dorsal surface of the foot produced by raising the heel up and down. By such means, with the help of the valves in the veins, the capillary pressure can be kept as low in the feet as in the upper parts of the body. In the abdominal organs the respiratory movements and the contractions of the alimentary canal and the spleen have the "sponge-squeezing" effect, and are most important for preventing

stagnation. The deep breathing and muscular contractions of the abdominal wall produced by exercise provide a natural massage, the importance of which cannot be overrated.—I am, etc.,

London, Jan. 31st. LEONARD HILL.

SUBPHRENIC ABSCESS

SIR,—The valuable article in the current issue on subphrenic abscess, by Messrs. R. P. Rowlands and W. D. Doherty, leads me to point out what I have felt for a very long time—that the term "subphrenic abscess" refers to but one aspect or termination of a very much commoner process than is usually allowed—namely, subphrenic infection. This results from the usually accepted causes, but is also, in a mild degree, a fairly frequent complication of epigastric operations such as splenectomy, gastric resections, and cholecystectomies in which oozing from adhesions prevents us from leaving the bone-dry field which is our ideal; biliary extravasation is another cause which one found too frequent before one discarded the practice of tying a tube to the ligature on the cystic duct. There is no doubt that considerable amounts of extravasated fluids can be absorbed without infection occurring here; but in most cases, from the nature of the operation, infection is inevitable.

The symptoms of subphrenic infection are very clear, and of course they are the early symptoms of subphrenic abscess. Phrenic shoulder pain is practically constant, though transient; the patient will refer to stiffness in his neck, etc., but the surgeon must be very wary about this symptom. There is rise of temperature and pulse rate, and the patient looks "toxic." Rigidity and tenderness are often present at the costal margin. Pleural effusion is early; not the effusion that is capable of demonstration by percussion, etc. (*pace* the physicians!), but a slight serous fluid shown by a hypodermic needle. It may be observed that the development of a pleural effusion in an abdominal case that is "going wrong" is practically a certain indication of subphrenic trouble. Finally, if one has not too much confidence in one's clinical observations, the moral support of a leucocyte count may be obtained.

In view of the fact that a great many such infections recover without abscess formation, the practice of "cooking" such cases has obviously much to commend it; nevertheless the cases should be recognized early, and I submit that the diagnosis of subphrenic cellulitis or peritonitis is one that is capable of being made with confidence. Once it is made, a competent clinician should be able to determine whether and when resolution is taking place, just as he should in a case of appendicitis or cellulitis of the thigh. It should not be necessary to wait for radiographic evidence of diaphragmatic displacement, etc. With regard to the conclusions as to treatment put forward in the article, one must express complete agreement.—I am, etc.,

London, W.1, Feb. 1st. C. JENNINGS MARSHALL.

CATARACT OPERATION IN EXTREME OLD AGE

SIR,—As an addendum to the article by Lieut.-Colonel R. H. Elliot on cataract operation in extreme old age in your issue of January 24th, perhaps I may refer to the following case. In 1916 I extracted a cataract from an old lady of 93, with needling two months later. In 1926 her niece reported to me that she was still alive and well, at the age of 103, and reading to her companion, whose vision was defective. She lived till she was nearly 106, enjoying most of her faculties until within a month or two of her death. This case seems to illustrate the success with which the operation can be performed in extreme old age, as indicated by Colonel Elliot.

His further point, that in cataract cases in the seventies and eighties the duration of life sometimes seems to be shortened by the shock and other disturbances incident to the cataract operation, has also been my experience, as it no doubt is that of other ophthalmic surgeons.—I am, etc.,

Glasgow, Jan. 29th. A. J. BALLANTYNE.

SIR,—Lieut.-Colonel R. H. Elliot's article reminds me of my oldest patient for cataract operation. She celebrated her ninetieth birthday in the nursing home, and refused to allow a "keyhole" operation, as she called it. I therefore removed her cataract extracapsular through the pupil on June 30th, 1921, and did an anterior division operation, owing to her advanced age, on the eighteenth day after her first operation. On the day she left she told me that she had a walk with her husband in the evening, and could see all the vessels in the Forth. That was before she got her glasses, which she received a month later; with them she reached 6/6 and Jaeger No. 1, the smallest reading type. She returned to see me two years later, and said that she could not see with her glasses; on examination I found numerous scratches on the thick cataract glass caused by their being pushed into a metal chatelaine. She would not believe it until she felt them with her nails. She lived until she was 99 and was greatly pleased with the result of her operation, because for five years previous to it she had had to be fed and clothed, being quite blind from double cataract.—I am, etc.,

Glasgow, Jan. 29th. W. B. INGLIS POLLOCK.

FAMILIAL INCIDENCE OF CANCER

SIR,—I appreciate the points made by Mr. Lockhart-Mummery and Dr. Ludford. The former emphasizes the difficulty of establishing the exact nature of the tumour, but a growth which produces the signs of carcinoma and finally destroys the patient should be accepted as malignant, and malignancy is here more important than exact microscopical character. It is agreed that carcinoma may supervene on adenoma, but adenoma may itself follow chronic inflammation. Turnbull and Worthington, in discussing primary carcinoma of the liver, give the successive stages as cirrhosis, regeneration nodule, adenoma, carcinoma nodule.

With a principle of this kind as a guide the study of cancer families at once becomes important, for both the cancerous and non-cancerous members will be found to suffer from a variety of complaints which have a common feature in that they are chronic degenerations. For instance, mother and daughter have carcinoma; they and all the remaining brothers and sisters are thin, anaemic, and have partial stationary cataract. Again, a drunken father dies of ruptured umbilical veins, a son dies at 47 of carcinoma of the stomach, a daughter dies of the same disease seven years after hemiplegia, while the remaining son dies of ruptured aortic aneurysm. The important thing is the family diathesis, which produces an abnormal incidence of cancer, and the early results of a study on these lines persuade me that there is an infective agent awaiting discovery which, in the majority, is met by typical reactions with atrophy and degeneration, but in the minority the long struggle ends in metaplasia and malignancy.

So far the indications are that a common agent is the *Spirochaeta pallida*, which, owing to the chronicity of its attack, its power of exciting tissue proliferation, and its heritability, is well qualified to be suspect. It does

not die when the Wassermann reaction becomes negative, as clinicians incline to believe, but rather achieves symbiosis, and produces a type of family prone to malignant disease.—I am, etc.,

Caernarvon, Feb. 1st. GRIFFITH EVANS.

SEPTICAEMIA FROM MINOR WOUNDS

SIR,—When general septicaemia follows a minor superficial wound and a fatal result ensues, one cannot but be impressed with the tragedy of the case and the futility of the measures which we at present employ. Without going into great detail, two recent cases under my care appear to illustrate this.

Case A.—An apparently healthy man, aged 25, 14 stone in weight, sustained a scratch to his calf. He was seen three days afterwards, with a temperature of 104° F.; immediate treatment was instituted (antistreptococcal serum, etc.). He died four to five days later with a temperature of 110°. The wound on his leg had then healed. There was slight redness over the lymphatic area, no enlarged glands in the groin, no pain in the leg. One or two blisters appeared which, when the cuticle came away, left small, round, flat ulcers.

Case B.—An apparently healthy muscular man of 29, about 12 stone in weight, with a wound about two inches long above the patella, not involving the joint or the suprapatellar bursa. The wound was cleaned and sutured, and antitetanic serum was injected. Two days later the temperature was 103°, and the pulse 136. General antiseptic measures were started at once. The temperature fluctuated from 102.5° to 98.4°, and the patient died on the sixth day, presumably of heart failure. There had been no rigor. The lymphatic area was oedematous and brawny. Blisters appeared, and the skin overlying them broke. The glands in the inguinal region were not affected. The patient complained of considerable pain in the leg.

The measures adopted in the two cases included the following. *General:* (1) Normal horse serum; (2) antistreptococcal serum—various makers' serums were tried so that a large number of types of streptococci might be got, with the hope that the particular organisms at fault in this case might be included; (3) antiscarlatinal serum; (4) intravenous mercurochrome; (5) disulphamine. *Locally:* (1) Glycerin and ichthyol; (2) fomentations; (3) urea crystals; (4) Bier's hyperaemia. In the second case I made an incision down to the muscle, encircling about one-third of the limb on the anterior and medial aspect of the thigh, near the groin, with the object of cutting the lymphatics and preventing them from emptying their contents into the general system.

The question of amputation arises in these cases, and the surgeon is almost always in doubt, except at the very beginning and at the end. At the beginning he feels that no good would be done, and that serums, etc., should first be given a chance; at the end he feels that the limb should come off, but that the condition of the patient would not allow it. It is during the time between that the question really arises and should be answered, and the operation undertaken if it is to do any good at all.

I have written this note merely to ask questions, and in the hope that, if any discussion follows, some useful clinical help will result.

1. Would an ordinary blood transfusion be of any help in such a case?

2. Would an immune blood transfusion be better? (The donor is given an injection of vaccine made from the patient's organism, and consequently, it is said, his blood is richer in the specific antibodies which are most particularly required in this case.)

3. Would a vaccine be of any help? In both cases the patients died in less than a week, which does not give much time for preparing vaccines, etc. In the second case the lymphatics were all cut across, and yet this appeared to do no good. There were no glands in the groin. Is it that the injection was not travelling by the lymphatics? If not, why was there a red line along their track? And if it was not going by the lymphatics, why was there no enlargement of the groin glands?

Da Costain's lymphaticostomy for general peritonitis, in which he cut the thoracic duct at the neck, was proved to be a failure—in fact, the fluid that drained away was in some cases shown to be sterile and non-toxic. This is now explicable in view of the more recent work of Williams on the origin of the toxaemia of these cases arising not from outside the bowel, but rather from the *B. welchii* growing in the alkaline regions of the small intestine. Apparently lymphaticotomy in these cases is useless also.—I am, etc.,

Belfast, Jan. 19th. IAN FRASER, M.Ch., F.R.C.S.

THE "DEEP POOL" BATHS

SIR,—I should like to add my testimony to that of Dr. W. S. C. Copeman (January 24th, p. 158) with regard to the importance of "deep pool" baths in the re-education of muscle. I had the opportunity of supervising a large number of cases of paralysis and paresis of muscles due to spinal injuries at the Ministry of Pensions Hospital, Church Lane, Tooting. In addition to the advantages of warm water in relieving muscle spasm, etc., the mental effect on the patient of being able to float, and (with the support of an attendant) to assume an erect posture, is of incalculable value. Unfortunately, the Ministry saw fit to leave the building, and thereby a most valuable adjuvant to physical treatment was abandoned.—I am, etc.,

London, W.1, Jan. 30th. JOHN SAINSBURY.

MEINICKE CLARIFICATION REACTION

SIR,—With reference to Dr. David Prentice's article on the Meinicke clarification reaction in your issue of January 24th, I have done a number of the microscopical tests, but was struck by the frequency of the non-specific pseudo-positive results which I obtained. Definite positive serums were easily picked out, but there is an intermediate range of results which had to be read as positive (faint) which were definitely negative to the Wassermann and other tests. These non-specific results were very prone to appear when serums were not perfectly fresh or when one or two stray red blood cells were present in the serum.

The value of the rapid and simple test is not to be discounted, but I have found the Sachs-Witebski, a recent introduction at Heidelberg, much more reliable and even easier in performance than the Meinicke. The agreement of the Sachs-Witebski with Wassermann results has proved extremely close in my hands.—I am, etc.,

London, S.E.5, Jan. 29th. G. BOUSFIELD.

HOSPITAL POLICY

SIR,—For the complete elucidation of even the simplest of diseases, and especially for the earlier diagnosis of grave diseases, a more and more elaborate diagnostic equipment is becoming necessary. It is true, too, that for the efficient treatment of all disease an increasingly elaborate therapeutic equipment is nowadays required. For these as well as other reasons diagnosis and treatment of disease are becoming more and more institutional. It is true everywhere that a greater number of sick people are going into hospital than used to be the case. It is manifest that every medical practitioner, be he specialist or in general practice, must take an increasing interest in hospital work, and as a corollary to this there ought to be a workable hospital policy. Since 80 to 85 per cent. of hospital patients are of the insured class, for whose treatment under the National Health Insurance Act the general practitioner is responsible and is paid by the State, it

would seem reasonable that the Hospital Policy should be devised to suit the general practitioner as well as the specialist. The fact that general practitioners are ten times as numerous as the specialists would also seem to give them a claim to reasonable consideration.

The British Medical Association Hospital Policy has had a tremendous lot of work and thought expended on it, is full of useful detailed information and advice, but even in Great Britain I am afraid it is to a large extent a dead letter. Why is this? My opinion is that the Policy is too much one for consultants and specialists, and does not sufficiently cater for the general practitioners. The idea of a base hospital with clearing-house attached, and fed by a complete ambulance service, seems to me to infer that the general practitioner is not capable of making a diagnosis of anything but the simplest of diseases, and, if a diagnosis be made, is not capable of carrying out any active treatment more elaborate than the administration of a purge or the application of a poultice. Furthermore, it is well to remember that hospitals are run for the good of the patients and not for the convenience of specialists; and it is the comfort and convenience and happiness of the patients that should be the first consideration. My feeling, therefore, is that instead of centralizing the good class work in a base hospital it would be infinitely better in every way to decentralize it. Give the outlying hospitals up-to-date equipment and encourage the outlying men to undertake more advanced work, which, indeed, though handicapped in many ways, many of them are already doing. The result of this decentralization policy would, in my opinion, be good for the patients and for the medical profession at large, as well as good for the nation.

The centralization of good class work in a base hospital is in my opinion the first great mistake of the B.M.A. Hospital Policy. The second great mistake is the struggle to retain the moribund voluntary hospital system. The fundamental idea of that system is its dependence upon the charity of the public and of the medical profession for its support. The public who formerly gave of their charity to the hospitals are, in many cases, not in a financial position to do so any longer. The financial position of many of the voluntary hospitals, and the violent efforts that have been necessary of late years, even to the extent of lotteries, to keep them afloat at all, show that the upkeep of hospitals by voluntary effort is rapidly becoming a thing of the past. Yet the hospital service is an absolutely essential service. Now it is becoming increasingly recognized that the health and welfare of the worker is a matter of national importance. The social services include ante-natal clinics, maternity and child welfare work, national health insurance, the Workmen's Compensation Act, unemployment benefit, old age pensions, etc., and the cost of these per head of the population had risen from 14s. in 1914 to 91s. in 1928.

Of the voluntary hospital patients 80 to 85 per cent. are of the insured class, who have demanded as their right and have got the franchise, all the social services above mentioned, and a large say in the control of the industries of the country, and are consequently no longer entitled to charity. I believe that in other ways the effort to retain the voluntary principle is becoming a menace to proper hospital development. For all these reasons I am of opinion that the voluntary hospital system should be discontinued. Why not make the hospital work a national service, as has been so successfully done in Sweden and Denmark? It is quite manifest from reports that those countries have decentralized much of the hospital work, and that their State hospitals are vastly superior to our voluntary hospitals. The substitution of State hospitals for the present system would of course mean that all medical practitioners, whether specialist or general, would be adequately paid for their hospital work. In any hospital system it should be arranged that as many as possible, if not all, of the general practitioners should take an active part in the hospital work.—I am, etc.,

Ballymena, Jan. 29th. J. ARMSTRONG.

COMBINED TUBERCULOSIS AND ORTHOPAEDIC CLINICS

SIR,—May I be allowed to call attention to a practice that seems to prevail in certain districts in connexion with tuberculosis and orthopaedic clinics?

In this neighbourhood a tuberculosis clinic is held on Tuesdays which is attended by all classes of tuberculous patients, pulmonary and surgical, of all ages. When the clinic is ended the building is shut up, and the following morning the same waiting room, dressing rooms, and consulting rooms are occupied by numerous orthopaedic patients, many of whom are naturally in anything but robust health. The medical practitioners in the district have united in sending to the medical officer of health a communication calling attention to the risk which they consider is being incurred by the orthopaedic patients; but his reply indicates "that there is no cause whatever for alarm and that the general practice is being adopted here, and there is no possibility of considering the use of other premises."

I should be glad to know whether the general body of the profession approves of such a practice as above described, and if it is generally agreed that the orthopaedic patients are running no risk under such conditions. —I am, etc.,

Yeovil, Jan 30th. CHARLES J. MARSH.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

In the House of Commons this week the Representation of the People Bill was read a second time by 295 to 230. Sir E. Graham-Little and other University members spoke against it.

The Parliamentary Medical Committee met on February 3rd and recorded its regret at the death of Dr. Ethel Bentham. Dr. Howard Jones, medical officer of health for Newport (Mon.) addressed the committee on marine hygiene. At the instance of the Public Health Advisory Committee of the Labour party, the Parliamentary Medical Committee was asked to consider a draft Proprietary Medicines Bill, and decided to refer the subject to a future meeting. The question of the establishment of a Rheumatic Advisory Committee was also raised.

Shortage of R.A.M.C. Officers

Mr. SHAW, in reply to Dr. Fremantle on February 3rd, said that, excluding quartermasters, the establishment of officers of the Royal Army Medical Corps (Regular Army) was 863. The number of officers at present in the corps was 741, of whom 684 were regular officers, and the remaining 57 temporary commissioned officers and retired officers employed to mitigate the shortage. There was no establishment for officers holding temporary commissions; twenty-five vacancies for regular commissions in the corps were offered last month, but only five candidates came forward. The number of applicants for temporary commissions was very small.

Dr. FREMANTLE: Does the right hon. gentleman realize that that means that the Army is temporarily unfitted to take the field at the present time? Mr. SHAW: I recognize that the shortage of medical officers is grave, and that subject has been receiving very earnest consideration. Dr. FREMANTLE: The same answer has been given by successive Secretaries of State for War in this House.

Small-pox in London

Mr. GREENWOOD told Admiral Beamish, on January 29th, that the weekly notifications of small-pox in London had been at about the same level for the last three months, though they were lower than in the corresponding period of last year. Relatively to the population, the incidence of small-pox had recently been higher in London than in England and Wales as a whole. Replying to a further question, Mr. Greenwood said that the large majority of the cases of small-pox in recent London outbreaks were persons in whom no evidence was found of vaccination prior to infection. Of the remainder, some were vaccinated during the incubation period of small-pox, but too late to prevent the occurrence of the disease, and others had been vaccinated only in infancy. The latter were almost entirely adults, and included no person under the age of 11 years.

Pensions

On February 2nd Mr F. O. ROBERTS informed Dr. Morris-Jones that the power conferred by Article 4 of the Royal Warrant was exercised only when the Minister's medical advisers were satisfied that treatment which was necessary in the pensioners' interests had been unreasonably refused. No statutory rights as to increase of pension or, in case of the pensioners' death, to widows' or dependants' claims, could be created by an award made under special sanction. That did not prevent the Ministry from dealing with any later developments on their merits, and, indeed, the increased award was clear evidence of its readiness to take an equitable view of unforeseen contingencies.

Housing

Replying to Mr. Mills and others on January 29th, Mr. GREENWOOD said he had received from local authorities in England and Wales ninety-five resolutions declaring areas to be clearance areas within the meaning of Section 1 of the Housing Act, 1930. Resolutions had been passed declaring seventeen areas in London, occupied by 2,174 persons, to be clearance areas under the same Act. These resolutions did not require his confirmation. In addition, one improvement scheme under the old legislation, involving provision of rehousing accommodation for 2,632 persons, was confirmed after January 1st, 1929. Schemes resulting in the displacement of 400 persons during the next five years would be undertaken by the borough council of Kensington, which had already passed resolutions declaring two areas, involving 275 persons, to be clearance areas.

Replying to Major Glyn on January 29th, Mr. GREENWOOD said that returns of houses erected without State assistance were obtained only for half-yearly periods. The last year for which complete figures could be given ended September 30th, 1930, when 161,699 houses of a rateable value not exceeding £78 (or £105 in the Metropolitan Police district) were completed in England and Wales, of which 51,324 were erected with State assistance and 110,375 without State assistance.

Venereal Disease

In reply to Dr. Fremantle, on January 29th, Mr. GREENWOOD said that he had received representations from one voluntary association regarding the need for further propaganda by local authorities on the subject of venereal diseases. Surveys of the health services of local authorities now being made by inspectors of his Department included investigation of the educational measures undertaken in each area on health questions, including venereal diseases. If it appeared in any case that this was being neglected, prompt action would be taken. Until the surveys were completed it would not be possible to say in how many areas no propaganda on this subject was being undertaken.

Meat Inspection.—On January 29th Mr. GREENWOOD said that if any evidence was found, on inspection in this country, of the presence of caseous lymphadenitis in any portion of mutton and lamb, the whole piece should be condemned. He was not aware of any ports in England or Wales at which this recommendation was not put into operation, and he could not make any statement about further measure of control of imported severed parts of mutton and lamb.

Mental Disease.—Replying to Mr. Kinley on January 29th, Mr. GREENWOOD stated that research work was done in public mental hospitals, and particulars were published in the medical press from time to time and in the report of the Board of Control every year. He hoped that, with the co-operation of the local authorities, the services of medical officers in public mental hospitals might become available as consultants on out-patient treatment and other developments under the Mental Treatment Act.

Notes in Brief

The Home Secretary does not propose at present to take any action on the report of the Select Committee on Capital Punishment.

Mr. W. Adamson states that there are now more than fifty day nurseries and child gardens in Scotland, accommodating about 1,500 children, maintained or aided under maternity and child welfare schemes.

On February 3rd Miss Lawrence told Mr. Lambert that no bacterial standard was laid down for milk products as such, whether of home production or imported.

The Services

NAVAL MEDICAL COMPASSIONATE FUND

A quarterly meeting of the directors of the Naval Medical Compassionate Fund was held on January 28th, when Surgeon Vice-Admiral Sir Arthur Gaskell, K.C.B., O.B.E., K.H.S., Medical Director-General of the Navy, was in the chair. The sum of £90 was distributed among the several applicants.

DEATHS IN THE SERVICES

Colonel Hubert Oliver Browne Browne-Mason, D.S.O., R.A.M.C. (ret.), died at Cheltenham on December 9th, 1930, aged 58. He was born at Exeter on November 29th, 1872, was educated at St. Mary's, and took the M.R.C.S. and L.R.C.P.Lond. in 1896. He entered the R.A.M.C. as lieutenant on January 28th, 1898, passing first into Netley, and became lieutenant-colonel in the long war promotion list of March 1st, 1915, and colonel in 1922. He retired on December 26th, 1925. He served in the war of 1914-18 in Mesopotamia, took part in the first advance on Baghdad and in the siege of Kut, and was taken prisoner when Kut surrendered, but was released a few months later. He was mentioned in dispatches, in the *London Gazette* of April 5th, July 13th, and October 19th, 1916, and was given the D.S.O. in 1916. In 1924 he was appointed one of the honorary surgeons to the Viceroy of India.

Lieut.-Colonel Alexander Haldane Stokes, R.A.M.C. (ret.), died at Bedford on November 19th, 1930, aged 87. He was born on October 9th, 1843, and was educated at Trinity College, Dublin, where he graduated as M.B. and B.Ch. in 1868, and as M.D. in 1869. Entering the Army as assistant surgeon on October 1st, 1868, he became surgeon on March 2nd, 1873, when the rank of assistant surgeon was abolished, and surgeon major after twelve years' service, retiring on October 8th, 1890. After retirement he was employed at Sandown, Isle of Wight, from May 6th, 1891, to October 31st, 1907. He served in South Africa in 1881, in the Transvaal campaign in the first Boer war, when he was in charge of a base hospital, and was mentioned in dispatches; and in the Sudan campaign of 1885, at Suakin, when he received the Egyptian medal, with a clasp, and the Khedive's bronze star. While the old regimental system was still in force he served in the 44th Foot, now the 1st Battalion of the Essex Regiment.

Major Baman Das Basu, Bombay Medical Service (ret.), died in India on September 23rd, 1930, aged 63. He was born on March 24th, 1867, at Lahore, was educated at Lahore University and Guy's Hospital, and took the L.S.A. in 1888 and the M.R.C.S. in 1889. Entering the Indian Medical Service as surgeon on January 31st, 1891, he became major after twelve years' service, and retired on May 1st, 1908. He served in the Sudan, in the Dongola campaign of 1896, receiving the Egyptian medal and the Khedive's bronze star; and in the North-West Frontier of India campaigns of 1897-98, on the Malakand, in Buner, and in the action of Tanga Pass, receiving the frontier medal with a clasp. He was the author of many books: *The Study of Indigenous Drugs*, 1893; *The Plague in India*, 1905; *The Dietetic Treatment of Diabetes*, 1909, a very successful work, which reached its thirteenth edition in 1923; *The Story of Satara*, 1923; *The History of Education in India*; *Colonization of India by Europeans*; and, with K. R. Kirtikar, *Indian Medicinal Plants*, two vols., 1926.

Obituary

SIR ANDREW BALFOUR, K.C.M.G., C.B., LL.D.

M.D., D.Sc., F.R.C.P.LOND. AND ED., D.P.H.

Andrew Balfour has passed away at a time when the world can least afford to lose him. His loss will be acutely felt, not only in this country, but in the United States and abroad generally, for he was a man of a thousand friends. At the time of his death he was director of the London School of Hygiene and Tropical Medicine and an active member of innumerable committees, so that his passing makes a gap which will be filled with great difficulty, as he had come to represent a force of the first magnitude in the medical educational service of this country.

Andrew Balfour, the son of a well-known practitioner, was born in Edinburgh on March 21st, 1873. Educated at George Watson's College and the University of Edinburgh, he soon proved himself to be imbued with the *ingenuum pervervidum Scotorum*, a spirit to which he himself often referred as characteristic of the youth of his day. After graduating M.B., C.M. at Edinburgh in 1894, he joined his father in medical practice, but it soon became apparent that his inclinations were towards rather the prevention than the cure of disease. Having decided to devote himself to public health, he entered Cambridge University in 1895, and took the D.P.H. of that university in 1897. After performing research work under Kanthack on typhoid fever, he went for a period to Strasbourg. He graduated M.D.Edinburgh in the following year, his thesis on the toxicity of dyestuffs, with special reference to river pollution, being adjudged worthy of a gold medal. He followed this up by gaining the B.Sc. in public health.

The outbreak of the South African war found him serving as a civil surgeon in the Transvaal. From 1900 to 1901 he was on duty in the pestilential typhoid camp of Pretoria, where he himself suffered from a severe attack of the disease. Having obtained the South African medal with three clasps he returned to England, and, coming under the influence of Patrick Manson, became an ardent student of tropical medicine.

Balfour's next step on his onward career came with his appointment in 1902 as director of the Wellcome Tropical Research Laboratory, and medical officer of health at Khartum. Two years later he was appointed sanitary adviser to the Sudan Government. Here he formed a close friendship with Lord Cromer, Lord Kitchener, Sir Reginald Wingate, and other great men of that day. His career in Khartum lasted altogether eleven years, and it is safe to assert that this was the turning point of his career; he soon became known as "Balfour of Khartum." The amount of work he performed in organizing the health service of that city was stupendous. He succeeded in transforming the dusty, ill-kept, insanitary mud huts of the Khalifa into a model town, and banished malaria entirely from its precincts. His scientific output at this time was no less remarkable, and can be read in the four magnificent, scholarly, and well-illustrated reports of the Wellcome Tropical Research Laboratory, which appeared from 1904 to 1911. In the latter year he issued, in collaboration with Major R. G. Archibald, his second review of the recent advances in tropical medicine; this volume of 416 pages to some extent anticipated the work of the Tropical Diseases Bureau, which was founded in 1912, and of which he afterwards became sectional editor and member of the managing committee. It is recorded that so perfect were his antimalarial measures in Khartum that a fine of 10s. was instituted for every live insect which could be demonstrated in the European quarters of the city, and that he himself was forced to impose the first fine on himself when his inspectors found a single mosquito in his own residence. Among many measures which must be placed to his credit at this period was the institution of a floating laboratory, a gift from Dr. H. S. Wellcome to the Sudan Government, in which he and his colleagues explored the upper reaches of the Nile. This may be taken as the period of his greatest scientific activity. His best work was done on the blood, for he realized that many of the faults in stained blood films were due to fallacies and contaminations. His work on spirochaetosis is still regarded as a classic. A great believer in the granular phase of these organisms, both in the blood of birds and of man, and in its subsequent development in the tick, he picturesquely figured the spirochaetes as shedding granules like "drops of water from a dog's tail."

In 1913 Balfour returned to London to found the Wellcome Bureau of Scientific Research, and to organize the nucleus of what afterwards became the Wellcome Museum of Medical Science. In that year, too, he undertook an extensive tour of South American countries and of the West Indies, upon which he published a valuable and well-illustrated report.

The outbreak of war found him in uniform again, first in France in 1915, and later as lieutenant-colonel, a member of the medical advisory committee in Mudros, Salonica, and Egypt. In 1917 the activities of this committee, of which he had then become the president, were moved to Mesopotamia, where he worked indefatigably for a year. Returning to England, he was later appointed scientific adviser to the Inspecting Surgeon General, B.E.F., East Africa, and after many arduous months spent in what is now Tanganyika Territory, and Uganda, he reached Egypt in the early part of 1918, and immediately undertook the reorganization of the health service of that country, being appointed president of the Public Health Commission. The value of his services to the Army and to the British cause during these strenuous years of

war is difficult to estimate. He did an enormous amount of good work in co-ordinating scientific effort, and in devising new methods of sanitation. He constituted himself the chief enemy of the house-fly, by pointing out the damage caused by "the filthy feet of faecal feeding flies"—a catch-phrase of his own. His last services during the world war were in Palestine, which he visited at the request of General Allenby, in order to report upon the antimalaria methods which proved to be so successful during the latter part of 1918. The beginning of 1919 found him at work at the Wellcome Bureau of Scientific Research, where he organized the museum with typical energy, originality, and enthusiasm. His life was enlivened at this period by visits, in 1921 to Mauritius, and in 1923 to Bermuda. As a result of these visits he issued several sanitary reports upon which action has been taken, and which have resulted in benefit to the health of the islands concerned.

The appointment of Balfour in 1923 to the directorship of the London School of Hygiene and Tropical Medicine met with general approval on all sides, for it was realized that a man with imagination, tact, and discretion had been secured, one of wide experience of men and affairs in many lands. For the last seven years his time and energy had been absorbed in organizing the new School. In order to aid him in this stupendous task, and to gain an insight into American educational methods, he first paid a visit to the United States, including the Rockefeller Institute. Returning to London he supervised and inspected almost every detail in the structure of the great new building, whose magnitude can only be realized by those who have seen it. The intensity of his labours at this time brought on a nervous breakdown in 1929, from which he appeared to recover. During recent years it had been felt by his friends that he could not well add to his already Herculean labours, so he was urged not to increase his activities, and on this account he was unable to deliver the FitzPatrick Lectures.

Of honours Balfour had quite rightly a good share. In 1907 he received the Imperial Ottoman Order of the Osmanieh of the 4th Class. He was created C.M.G. in 1912, C.B. in 1918, and K.C.M.G. in 1930. He was D.Sc. and LL.D. Edinburgh, LL.D. of Johns Hopkins and Rochester Universities, U.S.A., Fellow of the Royal Colleges of Physicians of London and Edinburgh, Cragg's Research Prizeman in Tropical Medicine, 1905, President of the Royal Society of Tropical Medicine and Hygiene, 1925-27, a member of the Colonial Advisory Medical and Sanitary and Research Committees, and of the Army Pathological Advisory Committee. He received the Mary Kingsley Medal of Liverpool in 1920.

Of his more permanent contributions to medical literature the following may be mentioned: *Public Health and Preventive Medicine*, 1902 (with C. J. Lewis); *Memoranda of Medical Diseases in Tropical and Sub-Tropical Areas*, which passed through two editions, 1916; *War against Tropical Disease*, 1920; (with Campenhout, Martin, and Bagshawe) *Reports to the Health Committee of the League of Nations on Tuberculosis and Sleeping Sickness in Equatorial Africa*, 1923; (with H. H. Scott) a volume for the British Empire Exhibition, *Health Problems of the Empire*, 1924. He also wrote the fine section on "Personal Hygiene in the Tropics and Minor Tropical Sanitation" in the first volume of Byam and Archibald's *Practice of Medicine in the Tropics*. He was also the author of innumerable articles and addresses on tropical medicine and public health subjects.

Early in his career Balfour achieved quite a considerable fame as a novelist, and thereby added to his somewhat slender stipend. Of his novels, the following may be mentioned: *By Stroke of Sword* (1897), *To Arms* (1898), *Vengeance is Mine* (1899), *Cashiered and other War Stories* (1902), and *The Golden Kingdom* (1903), the last of which is considered to be by far the most successful, and is founded upon his scientific knowledge of sleeping sickness. He was also known as an amateur actor of very considerable talent and originality. As a sportsman Andrew Balfour will always be remembered by the general public. He was noted as a boxer, and as a Rugby footballer of the first rank, playing for both Edinburgh and Cambridge, obtaining his "blue" at the latter university. He won his international cap for Scotland in 1896, and again in 1897. During recent years he took a great interest in the London Scottish Football Club, was on the selection committee of the Scottish Rugby Union, and, during the present season, was its president. In other branches of sport he held his own, and was an ardent big-game shot.

Of his personal attainments it may be said that Andrew Balfour will be missed as a "white man" in scientific, sporting, and Army circles. He had myriads of friends, and made no enemies; he was described by an old friend as a "rock of a man," handsome of mien and fine of figure. A staunch friend, modest to a fault, generous in thought and action, a popular speaker with a wealth of imagination and wit, he was verily a gentle and most gallant knight. As a raconteur he was well known, often "roaring like a bull" (as he himself put it) at his own jokes. Rarely, if ever, can devotion to his calling have been excelled. He undertook the Sisyphean labours of making reference for his private use of all the current literature on hygiene and tropical medicine in all languages of the world, working often far into the night, till he broke down.

Sir Andrew Balfour married in 1902, and leaves a widow and two sons, the elder of whom is studying for the medical profession. P. H. M-B.

Dr. WILLIAM HUNTER, C.B., writes: "The dearest man, the kindest friend, the most unvarying in doing courtesies" whom it has been my happiness to know; a man endowed with great gifts, of tireless energy, and unbounded enthusiasm in his life's work, now cut short when it was at its fullest maturity, crowned with the recognition it so richly deserved. Such are among the first thoughts personal to himself aroused by the loss which the whole profession has sustained in the death of Andrew Balfour. Among the qualities of his character which became well known to me during my association with him on war service in the Eastern areas of the Dardanelles, Salonica, Egypt, Palestine, and Mesopotamia, as one of my colleagues on the Advisory Committee of which I was president, there was none more pronounced than his intensely practical interest in all the clinical problems presented in his work. I always recall how keenly he would turn his thoughts and interest from camp matters to any suggestion of alleged remedies in current medical literature. When he himself "went down" to paratyphoid in the Dardanelles (at the same time as I "went down" to dysentery), he spent a temporary convalescence at home by writing an extremely helpful and instructive handbook on tropical diseases, full of hints regarding treatment. These practical qualities had been evidenced in his career from the very first in the great work of sanitation and prevention which he initiated at Khartum and continued in his later war services in Mesopotamia and East Africa. It was this aspect of his character, added to the more scientific interests with which he was inspired, that held out so fine a prospect of further service in his appointment as director of the London School of Hygiene and Tropical Medicine. He had a world-wide view of his whole subject, and his loss can only be fully appraised by his fellow workers in that branch of medicine.

ARCHIBALD LEITCH, M.D.

Director of the Cancer Hospital Research Institute; Professor of Experimental Pathology, University of London

The death of Professor Archibald Leitch on January 27th, at the early age of 53, was the result of an affection of the heart of some years' duration, which had rapidly become more serious in the last few months. He was a native of the Island of Bute, and was educated at Rothesay Academy, where he was prominent as an oarsman and sprinter. He liked to recall that in the interval between school and college, when he had no other means of seeing the world, he crossed the Atlantic in the capacity of cabin-boy. He entered as a student at the University of Glasgow, where he held the Duncan Bursary in arts and the Paterson Bursary in natural philosophy and mathematics, and gained the Black medal for physics and the Dobbie-Smith gold medal for original research in botany, while in later life he was awarded the Bellahouston gold medal for his research work. He was president of the University Liberal Club, and remained throughout life a wholly unrepentant Free Trader; he had many stories to tell of the methods of rectorial elections. He graduated in medicine in 1902. His connexion with the investigation of cancer began soon after qualification, when he was appointed house-surgeon at the Cancer Hospital, London. He went from there in 1905 to the Middlesex Hospital Cancer Research Laboratories, which at that time were very active in many new lines of investigation under a recently appointed chief, Dr. (now Professor) Lazarus-Barlow. He then spent some years in Dundee as director of the Caird Research Laboratory, where he carried out many experiments on immunization against inoculated tumours. He returned to the Cancer Hospital in 1912, when he was appointed pathologist; after the war he became director of the Research Institute, and there his best-known work on cancer was done. Soon after the outbreak of war he obtained a commission in the R.A.M.C., Territorial Force, serving in France with one of the field ambulances of the 58th Division, and later with the 63rd Casualty Clearing Station; finally he was the officer in charge of a mobile bacteriological laboratory in the Fifth Army area.

In 1922 Leitch demonstrated the cancer-producing power of shale oil, and thus showed where to seek for the cause of the cancer of the skin which is prevalent in cotton mule-spinners. In the succeeding years he showed that some petroleums are likewise carcinogenic. He found also experimentally that such cancers may arise after the application of the cancer-producing agent has ceased, and thus threw light upon those cases in man where an occupational cancer appears long after the work to which it is to be attributed has been given up. He was successful in repeating Kazama's experiments on the production of tumours in the gall-bladder of the guinea-pig by the insertion of foreign bodies. He carried out a good deal of work on the Rous tumour and on the tumours produced in fowls by the inoculation of tar and embryo pulp, and at the time of his last illness he was engaged in experiments in chemotherapy. Throughout his association with cancer research he was convinced that the most important thing was the investigation of every means of producing cancer which could be used experimentally, and thought that in the long run this would prove the surest means of gaining control of the disease.

His critical judgement was very acute, and was often applied with good effect to alleged discoveries. The value of his opinion in questions relating to cancer was due in large part to the fact that he was a good morbid anatomist and an exceptionally sound pathological histologist—qualifications which even nowadays are not out of date in cancer research. He was very well aware that every theory of cancer, however brilliant (for example, the view that a cancer arises from a single abnormal cell), must somehow make itself compatible with what one can see in any ordinary microscopical section. Leitch liked to acknowledge his debt to his teacher in botany, Professor Bower, for training in the difficult art of impartial observation, and in the discipline of not seeing things that are not there. His long experience of the difficulties of cancer research in the days before the experimental production of cancer in animals led him to express generous admiration for the work of Fibiger, and it was perhaps due in part to Leitch's advocacy that Fibiger, during the short remainder of his life, received fitting appreciation as a discoverer of the first rank.

Leitch was fond of relating stories, and had quite exceptional powers of mimicry. His presentation of what had occurred at a committee meeting was often extremely vivid, and contained a great deal of matter not to be found in the minutes. Anyone who had heard him enact a lecture by Lord Kelvin on the propagation of sound, illustrated by calculations not free from error upon a prodigiously wide blackboard, could never forget the humour of it. He worked for the British Empire Cancer Campaign in many capacities; he was a member of the Grand Council, of the Management Committee of the *Cancer Review*, and of the Investigation Committee, and served this last, and the Scientific Advisory Committee, as honorary secretary during the past year, until he was incapacitated by illness. He was an able member of any committee, and was apt to have an admirably clear grasp of the weak points of his opponent's case. He edited for the Campaign the valuable report of the International Conference on Cancer in London in July, 1928. He represented the Cancer Hospital at many international conferences, and found great enjoyment in these meetings. He was an enthusiastic member of the Leeuwenhoek Vereeniging, an international society of cancer research workers; the very name of this body was due to a timely

suggestion of his own, whereby certain differences of opinion about the priority of the French or of the German language were circumvented. He was a corresponding member of the Association française pour l'Étude du Cancer, and an honorary member of the Deutsches Zentralkomitee zur Erforschung und Bekämpfung der Krebskrankheit, and general secretary of the International Cancer Committee. He was consulted by authorities in many parts of the world about schemes of cancer research. Leitch was vice-president of the Section of Pathology when the British Medical Association held its annual meeting in Glasgow in 1922 and of the Section of Occupational Diseases at the Manchester meeting of 1929. He was also a member of the Research and Laboratory Workers' Subcommittee in 1919–21, and gave valued help to the *British Medical Journal* on many occasions, more particularly when the *Epitome* was revived after the war. He leaves a widow, a son who is studying medicine at Merton College, Oxford, and three daughters. In the spring of 1930 he was deeply distressed by the death of his colleague and close friend Dr. H. J. B. Fry. Anyone who knew Leitch well will have little doubt that the anxiety and sorrow arising from Fry's fatal illness may have played some part in hastening the last failure of his own strength.

Mr. W. ERNEST MILES, F.R.C.S., writes:

It is sad to know that Archibald Leitch henceforth will no longer be found in his accustomed place in the laboratory of the Cancer Hospital Research Institute, for death has claimed an earnest worker and a valued friend, whose wonderful personality now remains only as a memory. My association with Leitch began as far back as 1903, when he was appointed house-surgeon to the Cancer Hospital, and during the years that have since passed acquaintance ripened into lasting friendship. Although at first he fostered the idea of becoming a surgeon, the wealth of pathological material that lay at his hand attracted him to the study of the pathology of malignant disease. During the two years of his residence at the hospital his spare time was spent in the pathological laboratory and in the post-mortem room, thus laying the foundation of the brilliant achievements in cancer research which have earned for him the reputation that will endure as a permanent monument to his industry.

Archie Leitch, for he was so known to all his friends, was a man of unswerving loyalty and rectitude, and a tower of strength in council, whose expressed opinions were always the outcome of well-considered judgement. Endowed with an acutely critical mind, he accepted nothing that could not be proved by the demonstrable facts of pathology. He held strong views, and had the moral courage to express them strongly. "Fortiter in re" was his motto, particularly in debate, and woe to the adversary who had omitted to confirm his facts or was guilty of loose thinking or careless composition. His criticisms were in the main destructive, but nearly always right, for he was a ruthless dissector of ill-founded theories or imperfectly planned experiments. The Cancer Hospital, which he served so well, and its Research Institute, which by his genius and his industry he had placed in the foremost rank of centres for experimental research, have suffered an irreparable loss, and his colleagues there and I mourn an intimate and personal friend.

Dr. J. A. MURRAY, F.R.S., writes:

The death of Professor Leitch removes an interesting personality from the domain of cancer research in this country. His association with the subject comprised the whole of his scientific life in London, Dundee, and again in London at the Cancer Hospital. While in Dundee he made valuable contributions to the problems of immunity to transplantable tumours, and to the pathology of the curious multiple tumours of the rabbit's uterus. His most valuable work fell in the post-war period, and dealt with the problems of experimental carcinogenesis. Especially important were his demonstrations of the production of skin cancer in mice by arsenious acid, and the fact that the carcinogenic action of tar was not dependent on the arsenic content of the tar. Of fundamental importance was his observation that carcinoma might develop after cessation of tarring before proliferative changes had appeared. The late supervention of occupational cancer in individuals who had left the incriminated occupation for many years was thus clearly brought within the range of direct irritative causation and compensation. This practical application of his results, and the related problems of mule-spinners' cancer, occupied Leitch in later years to the exclusion of the further prosecution of the theoretical implications and avenues of development opened up by them.

Professor C. H. BROWNING, F.R.S., writes:

British pathology has suffered a great loss from the early death of Archibald Leitch, and those who knew him well realize that they are the poorer by a loyal and generous friend. In his work, as in all other affairs of life, he had a horror of shams, and the keen criticism to which he subjected his own efforts was turned also upon those of others. So it may come about that by some he will be remembered chiefly as a pertinacious and pungent controversialist. But when at times the expression of his objections appeared to be severe the aim was always directed upon what he conceived to be self-deception and the dangers to the cause of truth attendant thereon. His criticisms never bore the slightest trace of personal feeling. Leitch's work was inspired by an intense desire to lessen human suffering. Had circumstances been favourable at an early stage of his career surgery would have been the richer by an able exponent of its art and science. Thus when he turned to cancer research he firmly held in view the aid which advances in knowledge could afford, especially to the surgeon; for he strongly believed that the surgeon must long remain the most essential factor in dealing with cancer in the patient. From this aspect his share in the investigation of the paths of lymphatic spread of cancer will remain a contribution of the highest value. But not merely was he a specialist in cancer research; his interest in the problems of pathology and infection was universal, and equalled only by the soundness of his knowledge and judgement.

JOHN EDWARD GEMMELL, M.B., C.M.

Consulting Surgeon to the Hospital for Women, Shaw Street, and to the Liverpool Maternity Hospital.

By the death of Dr. J. E. Gemmell on January 24th, at the age of 67, Liverpool lost a faithful and notable son, and the members of the medical profession in the neighbourhood a greatly respected and dear friend and counsellor.

A native of Liverpool, Dr. Gemmell's early education was received at the Institute and College in that city, and after qualifying as L.S.A. in 1884 he proceeded to take the degree of M.B., C.M. at Edinburgh University in 1885. Scottish by descent, and with many Scottish traits in his outlook on and conduct of life, his interest in all things Scottish was marked. Throughout his active life he was a hard, conscientious worker, and though success came to him in no mean measure, he never allowed any diminution in meticulous attention to detail of all kinds. After graduation he acted as demonstrator in pathology and Holt tutorial scholar in physiology and

pathology at University College, Liverpool, and later was appointed honorary assistant surgeon to the Hospital for Women. Now fully embarked on his life-work as gynaecologist and obstetrician, he became lecturer in clinical gynaecology at the University, and full surgeon at the Maternity Hospital, as well as at the Hospital for Women. During his periods of service at these institutions he gave of his best to them in skilled work, particularly during the war. When, towards the close of his normal period of active service, the suggestion of hospital amalgamation arose, and he was requested to remain for an extra two years, he worked whole-heartedly in many directions towards advancing the scheme, and contributed in large measure to its success. In addition to contributions to medical journals, he frequently took part in discussions at the Liverpool Medical Institution and the North of England Obstetrical and Gynaecological Society. To the Liverpool Medical Institution, of which he was for two years president, he was a munificent donor, as well as being an enthusiastic supporter. He was twice elected chairman of the North of England Obstetrical and Gynaecological Society, and he was an examiner for the Central Midwives Board.

For long he was associated as surgeon with the Royal Naval Artillery Volunteers, and later the Royal Naval Volunteers. During the war he was sadly stricken. Of three sons on active service he lost two. Loyally proud and sad of the record, and irreparably wounded, he yet maintained much of that buoyancy and bonhomie which so characterized him throughout life. His was no narrow outlook on his specialty or on his profession; Gemmell's interest was in people, things, countries. Thus, in his latter years, as he neared the close of a full life, and saw his only remaining son, who had fought as a combatant in the war and had risen to command the Liverpool Scottish, ready to carry on in his stead, he loved to take long periods of travel in distant countries. To his widow and son whole-hearted sympathy is extended from a very wide circle of friends.

A. D. F.

Dr. G. F. RAWDON SMITH writes:

The death of Dr. John Gemmell has robbed the medical profession of Liverpool of one whom it will be impossible exactly to replace. As a clinical teacher few could surpass him, and I remember now hints he gave us as students in practical obstetrics—hints which cannot be found in any of the text-books. As a consultant one could always rely on an absolutely sound opinion, and as an operating surgeon he was hard to beat. At the end of the war some American doctors, who were making a round of British hospitals, told me that they came back to Liverpool to see Gemmell, whose technique, they considered, surpassed that of anyone in his particular line. As chairman of committee he was most delightful to serve under, for, while he had the faculty of getting the business through, he never annoyed anybody in his manner of doing so. His time of office as president of the Liverpool Medical Institution will always be a memorial to him, and his work on the committees of hospitals with which he was connected cannot well be overrated. In the theatre, where I worked with him for many years, I have never seen him ruffled in temper; to work with him was a genuine pleasure, and all his colleagues and nurses were really distressed when the time came for his retirement. But, after all, it was as a man that John Gemmell endeared himself to all of us. His never-failing help to anyone in trouble, his wise counsel, and his genial manner, formed a combination too rarely found. In addition to his professional work, his interest in music, the drama, and travel completed a delightful personality.

A surgical colleague sends the following tribute:

John Gemmell's whole career was marked by simplicity and vigour, and his temperament was in every way fitted to that career. He was a man whose advice was often sought by his medical friends, not only on matters immediately connected with his specialty, but on any general problems and difficulties which might beset them. He was looked upon as a wise and sane man, always ready to help, and for the last thirty years and more his assistance in every problem, individual and general, has been freely placed at the disposal of his contemporaries and of the younger generation. There are many who found him a tower of strength; herein lay his particular distinction. The new Maternity Hospital and the Women's Hospital now building are two public works which he did a great deal to create; his private benefactions were innumerable.

A very wide circle of friends, within the profession and outside, has heard with sorrow of the death, on January 24th, of Mr. WILLIAM BRADSHAW AINGER, F.R.C.S., at his home in Cadogan Place, S.W. He was born at Dunedin in 1878, received his early education at Christ's College, Christchurch, and left New Zealand to study medicine at St. Bartholomew's Hospital, qualifying with the diplomas M.R.C.S., L.R.C.P. in 1902. After a year's house-surgeoncy at the Metropolitan Hospital he made many voyages as medical officer to passenger ships on different lines, and then studied in Paris and in London for the Fellowship of the Royal College of Surgeons of England, which he obtained in 1910. For the next few years he practised in Sloane Street with steadily growing success, and held part-time posts as clinical assistant at St. Bartholomew's and other hospitals. On the outbreak of war he received a commission as Captain R.A.M.C. (T.F.), and went to France in the autumn of 1914, serving for many months as surgeon with the No. 2 Red Cross Hospital at Rouen. After a period of duty in London as medical officer to King Edward VII Hospital for Officers he returned to France early in 1918, and worked in base hospitals at Etaples until demobilization in 1919. Thenceforward his whole time and energies were devoted to general practice of a very exacting kind in Knightsbridge and the other districts around Hyde Park. The success Ainger achieved was in proportion to his character and ability. He was a highly accomplished all-round practitioner, full of resource, swift in reaching an opinion, and as prompt in action; a man who inspired confidence and trust. For some years past he had fought against ill-health with a courage so well concealed that only his intimates knew the effort it cost him to get through the day's task. An old friend writes: "Bill" Ainger was the most unselfish of men, with a rare gift of sympathy which endeared him to all his patients and colleagues. Of no one is it truer to say that he had a genius for friendship; he entered whole-heartedly into the lives of his friends, sharing their troubles and smoothing out their differences, with never a thought for his own advantage. He was a most delightful companion. The combination of quick wits and strong common sense with loyalty and loving kindness won him a place by itself in all our hearts.

We regret to announce the death of Dr. JAMES LAWSON of Dunecht, one of the oldest medical practitioners in Aberdeenshire. Dr. Lawson graduated M.A. in 1878, and M.B., C.M. in 1881, at the University of Aberdeen. At the time of his death he was in his seventy-third year, and had been in retirement only a few months. He practised for nearly half a century in the vicinity of his birthplace. His medical studies were made possible only by strenuous endeavour, for during several sessions he walked daily to Aberdeen, a distance of over six miles, and returned in the afternoon to take his share in the work of the farm before commencing his studies in the evening. His powerful physique and his intellectual

gifts enabled him to overcome all difficulties, and he retained to the end his habits of simple living and of hard work. By dint of early rising and constant reading he not only kept himself in an unusual way in touch with modern medical and general literature, but was throughout his life a keen student of natural science, and particularly of botany. His devotion to his work and to his library left him with little time or inclination for outside pursuits. He was a man of sterling character who did not make friendships lightly, but to those who knew him well he was a staunch companion. He gave freely of his skill and advice to his patients without thought of financial reward. He was laid to rest in the churchyard of Echt under the shadow of the hills he loved so well, and the large gathering of mourners bore evidence to the esteem and affection in which he was held by all classes of the community.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

E. G. Fearnsides Scholarship

The Vice-Chancellor gives notice that this scholarship, which is for clinical research on the organic diseases of the nervous system, is open to members of the University or of Girton College or Newnham College who are graduates or titular graduates in medicine, or to graduates or titular graduates in arts who have passed Part II of the Natural Sciences Tripos. (For conditions see *Ordinances*, p. 540.) Applications must be sent to the Registrary before June 20th, 1931.

UNIVERSITY OF LONDON

Sir George Newman, K.C.B., and Mr. Arthur Edmunds, senior surgeon to King's College Hospital, have been appointed Fellows of King's College.

The Julius Mickle Fellowship has been awarded to Dr. C. H. Andrewes for 1931 for his research work on viruses.

LONDON SCHOOL OF MEDICINE FOR WOMEN

Miss Elizabeth Bolton, M.D., B.S., has accepted the honorary office of Dean of the London (Royal Free Hospital) School of Medicine for Women, on the resignation of Lady Barrett.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

A meeting of the Royal College of Physicians was held on January 29th, when the President, Sir John Rose Bradford, Bt., was in the chair.

Representation of People Bill

The College passed a resolution expressing strong disapproval of the proposal contained in the Representation of the People Bill to abolish university franchise and university representation.

Appointments

Dr. J. A. Arkwright was elected an examiner in tropical medicine and hygiene, and the President announced that the Censors' Board had appointed Dr. James S. Collier to deliver the FitzPatrick Lectures in November.

The following Fellows were appointed representatives of the College: Sir John Rose Bradford, at the centenary celebrations of the British Association for the Advancement of Science in September next; Dr. H. H. Dale, at the Faraday celebrations at the Royal Institution of Great Britain in September; Dr. F. G. Chandler, at the seventh annual conference of the National Association for the Prevention of Tuberculosis at Margate in June; Dr. S. Monckton Copeman, at the congress of the Royal Sanitary Institute at Glasgow in July; and Dr. J. L. Birley, at the second biennial conference of the National Council for Mental Hygiene, London, in May.

Membership

The following were elected Members of the College:

Gilbert Cleary Babington, M.D., Kenneth Vernon Bailey, *M.C.*, M.D., William George Barnard, L.R.C.P., Andrew Russell Buchanan, M.D., George Douglas Gordon Campbell, M.B., Frederick Russell Chisholm, M.D., George Alexander Davidson, M.D., Derek Ernest Denny-Brown, M.B., Carl Hercules Fouché, M.B., John Lewis Franklin, M.B., Mohammad Mohammad Gaafar, [illegible]phenson Hall, L.R.C.P., Percy Ellis [illegible] R.C.P., Sydney Walpole Hardwick, [illegible] Hoyle, M.B., Stanley George James, M.B., Florence Heath Johnson, M.B., Austin Braybrooke Kettle, M.B., Norman Murdoch Matheson, M.B., Louis Mirvish, M.B., William Eric Marcus Mitchell, *M.C.*, M.B., Geoffrey Charles Pether, M.B., Datla Satyanarayana Raju, M.B., George Harold Robertson, M.D., Stephen John Scurlock, *M.C.*, M.D., Gwladys Victoria Smallpeice, M.D., Laurence Alfred Howard Snowball, M.B., Edward Samuel Stern, L.R.C.P., Samuel Sappy Suzman, L.R.C.P., Percy Stanley Tomlinson, D.S.O., L.R.C.P., Ernest Rohan Williams, M.B.

Licences

Licences to practise physic were granted to the following:

J. E. Abell, I. S. Acres, F. P. Adams, †S. S. Ahluwalia, N. W. Alexander, S. Amir-ud-Din, A. T. Andreasen, Gwendolen E. Austin, H. B. Barker, C. C. Beresford, C. E. Bevan, B. N. Bhandari, K. Biden-Steele, E. T. Blacklee, J. F. E. Bloss, L. T. Bond, J. D. Bright-Richards, K. C. Buck, J. T. Cahill, H. Canwarden, A. B. Carter, †W. N. Chalmers, M. H. Churchill, A. R. Clarke, G. M. Conder, J. S. Cotman, J. L. S. Coulter, S. T. Cowan, H. E. B. Curjel, A. Cursham, R. D. Darley, Jane A. Davies, R. R. Davies, F. M. Day, C. G. Eastwood, J. M. Erskine-Young, C. F. Evans, Mary Evans, B. E. Fernando, E. D. FitzPatrick, J. S. B. Forde, R. J. Furlong, J. R. Gilmour, R. W. Graham-Campbell, E. B. Grogono, Rachel Gubbay, N. Harburn, H. E. Harding, Florence R. Hart, Joan E. Harwood, F. T. J. Holiday, G. N. Humphreys, J. T. Irving, D. W. James, N. R. Jeffery, V. S. John, E. Johnson, E. Jones, L. R. Jordan, Henrica A. Kellgren, J. A. Kersley, T. C. Lansdale, S. Lefcovitch, C. S. Lewis, A. H. Loudoun, †Marjorie Low, G. G. Ludgater, †Marjorie N. Lunn, J. O. McCarter, S. F. Marshall, R. W. Maxwell, W. A. Mirza, E. D. Morgan, J. E. L. Morris, Lois M. Munro, Emilata Nawalkishore, †Ethelwyn M. Newham, †D. Ockman, M. J. O'Donnell, J. W. Oliver, Doris Onions, J. A. R. O'Regan, F. L. L. Patrick, H. C. Pickering, J. H. Pierre, Winifred M. Pitkin, W. H. Poole, S. Rajapaksa, T. P. V. Rao, G. J. Roberts, H. W. Rodgers, L. Rose, P. M. G. Russell, J. D. Scott, T. D. Shahani, Elwyth M. Sharples, I. Sherman, C. H. Sherwood, R. H. D. Short, M. I. Silverton, R. N. C. Smith, L. R. C. South, S. K. Squires, A. M. Stewart-Wallace, N. V. Storr, Mary Sutcliffe, R. B. Sutcliffe, T. R. Swarup, W. A. F. Taylor, W. S. Terry, O. Thomas, W. E. Thomas, W. J. Tindall, J. F. Todd, V. H. Tompkins, R. L. H. Townsend, D. Trimble, R. S. Trueman, N. A. Vernon, F. L. Wheaton, A. G. W. Whitfield, R. C. W. Whitling, R. Wilkinson, Anne E. Williams-James, D. Wilson, Edna M. Wilson, T. D. G. Wilson.

† M.R.C.S. previously granted.

Diplomas

The following diplomas were granted, jointly with the Royal College of Surgeons:

PUBLIC HEALTH.—S. D. Ahuja, Mary E. Appleby, R. Behari, F. W. Bradley, E. L. Carter, Elizabeth Cooper, W. L. S. Cox, J. Fenton, A. Golombek, F. Grundy, M. L. Gulatee, W. Gunn, Josephine M. Howells, L. R. Kapur, Margaret S. Mackay, L. M. J. A. Pilot, S. T. Seccombe, W. E. Tyndall, K. K. Wood.

PSYCHOLOGICAL MEDICINE.—W. R. Ashby, E. P. Bovie, T. P. Curran, B. Das, J. B. Dedman, G. H. Fraser, B. K. Lal, W. Lambert, S. J. Laverty, T. W. Robbins, junr., T. G. Short, May I. Wallace.

LARYNGOLOGY AND OTOLOGY.—A. L. Bryant, E. J. G. Glass, A. S. Hatch, H. B. Lieberman, M. L. Poston, D. I. Rees, W. J. Roche, G. C. Snell, Nettie H. Stein, J. D. Wicht, R. N. Wilcox.

Lectures

Surgeon Captain S. F. Dudley, R.N., will deliver the Milroy Lectures on February 26th and March 3rd and 5th, at 5 p.m., on "Some lessons of the distribution of infectious disease in the Royal Navy"; Dr. Macdonald Critchley the Goulstonian Lectures on March 10th, 12th, and 17th, on "The neurology of old age"; and Sir William Willcox the Lumleian Lectures on March 19th, 24th, and 26th, on "Toxic jaundice."

CONJOINT BOARD IN SCOTLAND

The following candidates, out of eighty-one who entered, have been approved at the examination indicated, and have been granted the diploma of L.R.C.P.Ed., L.R.C.S.Ed., L.R.F.P. and S.Glas.:

J. L. Razdan, B. Meyerowitz, F. Nafi, M. J. Liebenberg, J. Cochran, H. W. C. Robertson, E. E. Smithers, A. R. Rasaiah, A. E. Carrol, T. W. Gregory, Wai-Ming Tso, J. C. Blok, C. L. Tessensohn, N. Shapiro, R. Morton, J. D. Blaine, A. A. MacDougall, H. Michaelson.

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated:

SURGERY.—G. C. Brown, W. G. Kingston, S. H. Thaler, S. M. R. Tuteur.

MEDICINE.—A. J. P. Coetzee, D. R. Rigg, R. Schauder.

FORENSIC MEDICINE, HYGIENE, AND INSANITY.—A. J. P. Coetzee, C. L. Ferguson, W. R. Packenham, D. R. Rigg.

MIDWIFERY.—G. C. Brown, A. E. Mathews, A. W. Toussaint.

Medical News

On the occasion of the tenth anniversary of the Polish Society of Oto-Laryngology Sir StClair Thomson was elected an Honorary Member.

A public meeting, under the auspices of the Aberdeen Division of the British Medical Association, will be held in the Cowdray Hall, Aberdeen, on Wednesday, February 11th, at 8.15 p.m., when Sir Robert Bolam will deliver an address on "The hospital and the doctor in a national medical service." Dr. Thomas Fraser will take the chair.

A special discussion on mental symptoms associated with brain tumours has been arranged for a joint meeting of the Sections of Neurology and Psychiatry of the Royal Society of Medicine to be held on Thursday, February 12th, at 8.30 p.m.

The next meeting of the Chelsea Clinical Society will be held at the Hotel Rembrandt, on Tuesday, February 17th, when Dr. W. Langdon Brown will open a discussion on the treatment of glandular deficiencies. Dinner at 7.30.

The annual dinner of the Glasgow and Aberdeen Universities, North-East of England Club, will be held on Thursday, February 12th, at 7 o'clock, at the Station Hotel, Newcastle-on-Tyne. Graduates of Glasgow and Aberdeen Universities will be welcomed, and tickets may be obtained from Dr. J. Y. T. Greig, Armstrong College, Newcastle-on-Tyne.

The annual general meeting of the Medical Officers of Schools' Association will be held at 11, Chandos Street, W.1, on Friday, February 20th, at 5 p.m. After the conclusion of business Dr. W. J. O'Donovan will read a paper on impetigo in day schools and public schools.

The Pharmaceutical Society of Great Britain will hold a conversazione at 17, Bloomsbury Square, W.C., on Tuesday, February 10th, from 7 to 10 p.m. The whole of the society's premises will be thrown open to visitors, and there will be exhibits in the museums, library and school, and in the research and pharmacological laboratories.

A joint meeting of the Manchester Medical Society and the Liverpool Medical Institution will be held in the Medical School of the University of Manchester, on March 5th, at 5 p.m. Mr. Geoffrey Jefferson will read a paper on the surgery of the pituitary body, Dr. H. T. Ashby will discuss the treatment of pulmonary tuberculosis in children by sanocrysin, and Mr. J. B. Macalpine will speak on some points in the diagnosis of ureteric stone. At a joint meeting of the Manchester Medical Society with the Pathological Society of Manchester, to take place on April 15th, Dr. Arthur J. Hall will give an address on epidemic encephalitis.

A meeting of the National Council for Mental Hygiene will be held at 11, Chandos Street, W., on Thursday, February 12th, at 5.15 p.m., under the chairmanship of Sir Squire Sprigge, when Mrs. Neville Rolfe will read a paper on modern marriage and its problems.

A meeting of the London Jewish Hospital Medical Society, Stepney Green, E., will be held on Thursday, February 12th, at 3.30 p.m. Mr. Somerville Hastings, F.R.C.S., M.P., will give an address on the trend of medical practice. Visitors will be welcomed.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-Graduate Courses, published in the *Supplement* at page 44. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1. The list of special courses arranged for 1931 is now available.

The following post-graduate courses will be held in Berlin during March and April, under the joint auspices of the Berlin University medical faculty and the German organization for international courses. From March 2nd to 7th there will be a series of lectures and demonstrations on various clinical problems viewed from the standpoint of the latest pathological and anatomical findings. A course in the practical aspects of diagnosis and therapeutics will continue from March 9th to 21st; this will be followed by a special series of demonstrations on radiodiagnosis and radiotherapy from March 22nd to 29th. A surgical course will be held from April 13th to 18th. Additional information about these courses may be obtained from the secretary of the international courses in Berlin, Kaiserin Friedrich Haus, Luisenplatz 2–4, Berlin, N.W.6.

As will be seen from an announcement in the advertisement columns, applications to participate in the Government grant for scientific investigations for 1931 must be sent to the Royal Society by March 31st. They must be made on forms to be obtained from the Clerk to the Government Grant Committee, Royal Society, Burlington House, London, W.1.

The National Opotherapeutic Institute of Pisa, founded by Professor Achille Sclavo, whose death was announced in the *Journal* of December 27th, 1930, will award an Achille Sclavo prize of 4,000 lire, and a consolation prize of 1,000 lire, for the best monograph on the present state of endocrinology, physiopathology, and clinical medicine. Competitors should send their work, which should be in print or typescript, to the director of the institute, Via Contesa Matilde 27, Pisa, by December 31st, 1931.

The centenary of the birth of François Sigismond Jaccoud, who died in 1913, was celebrated at a meeting of the Académie de Médecine on December 9th, 1930, when eulogies of him were delivered by the president, Professor Ménétrier, and the general secretary, Professor Achard. Jaccoud was professor of clinical medicine in the Paris faculty, author of a textbook of medicine, of which seven editions were published, of a remarkable work on the curability and treatment of pulmonary phthisis, and of clinical lectures delivered at the Pitie and Charité Hospitals, and translations of Graves's clinical lectures.

In the advertisement columns of the *Journal* this week will be found details of the regulations for the award of the second Garton prize and medal, which were instituted by the Grand Council of the British Empire Cancer Campaign in order to encourage investigations into the nature, causes, prevention, and treatment of cancer. The subject on which contributions are now invited relates to the biological effects and mode of action of radiations upon malignant and other cells. The award will be made early in 1934; the dissertations must be received by the honorary secretary of the British Empire Cancer Campaign not later than December 31st, 1933.

Under the will of the late Sir Otto Beit, £290,000 is left to his executors for distribution to charities and scientific institutions, including £50,000 to King Edward's Hospital Fund, £10,000 each to Guy's, the London, and St. George's Hospitals, £5,000 to the Homoeopathic Hospital, £2,500 each to the Children's Sanatorium at Holt and the Seaford Convalescent Home, £25,000 to the Imperial College of Science and Technology, £10,000 each to the Royal Society, the University of Cape Town, and the University of Witwatersrand, and £5,000 to the Strangeways Research Hospital at Cambridge.

Dr. Eva Louise Roberts, of the Inner Temple, was called to the Bar on January 26th.

Dr. Edwin Smith, coroner for the western district of London, has appointed Dr. W. H. L. McCarthy and Dr. F. T. Grey, barristers-at-law, to act as his deputy and assistant deputy respectively; and Mr. S. Ingleby Oddie, coroner for the central district, has appointed Mr. P. B. Skeels as his assistant deputy.

Dr. Demoor has been elected president of the Royal Academy of Medicine of Belgium for 1931.

The twenty-third Dutch Congress of Natural Science and Medicine will be held at Delft from April 7th to 9th.

A severe epidemic of diphtheria has recently occurred in Belgrade, causing the death of 104 children in two days.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Artificial Breast

"G.P." (London, N.W.) wishes to know of a really satisfactory form of artificial breast for the use of a young woman after amputation, and where it can be obtained.

Hystero-Epilepsy?

Dr. R. MACDONALD LADELL (Birmingham) writes: Dr. Crabtree describes in the *Journal* of January 24th (p. 163) a case in which psychological treatment is indicated. His patient apparently suffers from a self-induced hynotic trance, and treatment by analysis under hypnosis is possibly the correct line. One could then ascertain the real meaning of the manifestations, which are somewhat unusual and extremely interesting from a psychological standpoint.

Treatment of Obesity

Dr. B. A. M. HENDERSON (West Hartlepool) writes: In reply to "A. S.," I would suggest the treatment of a famous medical man recently commemorated in the *British Medical Journal* and make the patient literally "walk it off." She should take steady long walks of two hours or so without a pause, and at other times be kept "on the run," constantly hurrying about. This was probably her mode of life when she was quite slender, and there should be very little sitting about. She should take no sweets of any kind, no alcohol, no confectionery or puddings, and hardly any bread. Dry wheat or rye biscuits should take the place of bread. Meals should be as small as possible, and only three in the twenty-four hours. A fast day once or twice a week, with only tea and dry toast, would be a good plan.

Income Tax

Assessment on Partnership

"PARTNERSHIP" inquires how one member in a two-handed practice should return his earnings for super-tax purposes. For example, should he return his fraction (one-half) of the firm's assessment? The housing, car expenses, etc., are not identical for the two partners.

*** In such cases the income tax assessment is really the aggregate of the partners' liabilities, calculated by deducting their own expenses from their shares of the amounts credited to them out of the partnership account. The best method is to ask the inspector of taxes—assuming that he has been supplied with the detailed figures—to divide the assessment, and to check his division to see that due regard has been paid to the difference in car expenses, etc. If some such steps are not taken the result may, of course, be that too much surtax will be assessed on any partner liable to that tax.

LETTERS, NOTES, ETC.

Snake-bite in India

Mr. H. HARCOURT, I.C.S. (ret.), writes: In the second commission of the recent Assembly of the League of Nations the Indian delegate asked for the study of serums for use against snake-bite. The request was a very proper one. Between nineteen and twenty thousand persons die yearly in British India of snake-bite. How many are bitten and recover no one can say. Available statistics of fatal cases only are based on reports made to district magistrates through the police. These fatalities are unevenly distributed throughout India; Bihar, with a population of 34,000,000, having the highest yearly average of rather over 4,500. It is curious that the subject has never excited much interest either here or even in India. Our Indian brethren are disposed to accept the casualties in a needless spirit of submission. And the mischief occurs almost wholly in the hot weather, when visitors have disappeared from the scene, and Governments have departed to the hills. Moreover, high though the total figure is, it is scattered among half a million villages. And to a large extent the concentration of sufferers in centres of treatment is quite impossible. Time is the essence of any treatment that can hope to be successful, and travel along village paths in India is a slow business, especially at night, and it is at night that these cases mostly occur. I am aware that good work has been done in India by Lamb and others along the lines desired by the Indian delegate; but the fact that the mortality figures remain fairly constant suggests that much remains to be done. It is interesting to note how much more successfully the problem has been tackled in Brazil. In June, 1927, the *Times* published a special Brazil number in which it devoted over two columns to the work of the Butantan snake farm and to the serum there produced, and from there distributed throughout Brazil. It was noted that, whereas in the State of Sao Paulo snake-bite was formerly responsible for 3 out of every 1,000 deaths, it is now responsible for less than 1 per 1,000. No doubt India's problem is more difficult than that of Brazil. There is a greater variety of snakes in India, and many of them, unlike those in Brazil, are of the colubrine type, which kill more rapidly than the viperine. To get a single serum applicable to all types of snake poison is likely to prove very difficult, and yet, without that, efficient treatment is hardly practicable. It might be possible through existing dispensaries and perhaps through village notables of intelligence to bring a single serum within prompt reach of victims in selected areas at least; but more than that is too much to expect. More often than not the particular type of snake that has offended is not known, and for any but experts to make a selection among different serums is out of the question.

The Umbilicus as a Source of Infection

Dr. G. G. COOPER (London, W.C.) writes: In the report of the Department of Health for Scotland on Puerperal Fever (*British Medical Journal*, January 31st, p. 191) I notice no reference is made to the cleansing and disinfection of the umbilicus as prophylactic treatment. I give two examples in my experience: (1) In 1923 I acted as locumtenent in a county hospital, and, in the case of a woman who had had an abdominal operation, the wound became septic. I had the umbilicus, which was deep and unclean, properly cleaned out and disinfected with tincture of iodine, and the operation wound soon cleared up. (2) I treated (while acting as medical officer in the French Foreign Legion) an officer who had developed an inflamed oedematous swelling round the umbilicus. I applied hot fomentations at regular intervals. A plug (1/2 in. to 3/4 in. long) of evil-smelling concretion came away from the umbilicus, and the condition returned to normal in a few days. I asked the officer if he had ever cleaned out the umbilicus, and he said he had never thought of it. This umbilical "plug" no doubt contained bacteria of various kinds, and perhaps had been developing during his whole lifetime. The inference seems obvious. Surgical technique is essential in conducting a confinement. We must not forget to clean out thoroughly and disinfect, at intervals during the pregnancy, the umbilicus, be it deep or shallow.

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 48, 49, 50, 51, 55, 56, and 57 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 52, 53, and 54.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 43.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

120 Unusual Cases of Priapism

M. HUHNER (*Med. Journ. and Record*, December 3rd, 1930, p. 521) records six unusual cases of priapism in which the common causes were absent, there being no symptoms of venereal disease, traumatism, leukaemia, alcoholism, spinal disease, or cerebral neoplasm. All the cases had persisted for many years in spite of various treatments, but in two instances good results followed epidural injections. The first patient remained well for eleven years after two epidural injections of 60 c.cm. of normal saline solution with intervals of twenty days between each. During these years he was able to indulge in normal coitus, and his wife gave birth to a healthy child. The symptoms then returned, but he remained quite free after another epidural injection. In the second case the symptoms had existed for eleven years, but ceased immediately after an epidural injection of novocain in 60 c.cm. of saline solution, followed a week later by another injection containing novocain 10 c.cm. in 80 c.cm. of saline solution. The author attributes the improvement directly to the epidural injections.

121 Convulsions in Disseminated Sclerosis

C. B. RICH (*Canadian Med. Assoc. Journ.*, December, 1930, p. 820) reports a case of a severe convulsive attack in a married woman, aged 26, in whom signs of disseminated sclerosis had previously been detected. The patient was very pale and foamed at the mouth; there were spasmodic contractions of the limbs, face, and eyelids, more marked on the left side. The corneal reflexes were absent. The convulsions were controlled with difficulty by chloroform and morphine, leaving the patient deeply comatose, with very slow, shallow respirations. She was irrational during the next few days, and had no control over the urine or faeces. A week later she had regained control, and could speak rationally, but the speech was "scanning," and there was a syndrome of nystagmus, intention tremor, absence of the left biceps jerk, loss of abdominal reflexes, indefinite plantar response, and definite weakness in the right leg. Six weeks later all the reflexes had returned; the nystagmus and the intention tremor were hardly noticeable, and the patient walked unsupported, though with a slight limp. The Wassermann reactions of the blood and spinal fluid were negative; the colloidal gold reaction was 4555541000, and the globulin reaction (Pandy) was positive. Rich comments on the rarity of such convulsions in disseminated sclerosis, and suggests that in the delicate, highly strung, and probably unstable nervous system the interaction of nerve cells in some section was interrupted, causing a slight trophic disturbance, and a consequent vicious circle.

122 A Rubella Epidemic

M. O. BELSON (*New England Journ. of Med.*, November 27th, 1930, p. 1076) states that, during the first five months of 1930, 118 cases of rubella were reported from Charlestown, a section of the city of Boston, as compared with only one case during the whole of 1929. The characteristic features of the epidemic were as follows. It was remarkably mild. There was an almost complete absence of catarrhal symptoms preceding the eruption. In 35 out of 36 cases seen by Belson the eruption was the first symptom, and was not accompanied by itching or followed by desquamation. The eruption was most pronounced on the extremities and disappeared within twenty-four to seventy-two hours. In four cases a rash was seen on the palate. Enlargement of the posterior cervical glands was present in every case. The temperature was normal in 60 per cent., and in the remainder the rise of temperature ranged from 0.2° to 1° F., with one exception, in which it rose to 100° F. There were no complications.

123 Uraemic Meningitis

E. BOEGNER (*Thèse de Paris*, 1930, No. 317) maintains that meningeal reactions are more frequent in the course of uraemia than was formerly supposed. They are often absolutely latent, and systematic lumbar puncture in every case of nervous uraemia is required in order to detect them. The clinical phenomena are apt to vary considerably; in some cases the meningitis is discovered only by lumbar puncture, while in others the symptoms are definite and resemble those of the acute type. They may either supervene as a complication of nephritis, or appear at the same time as the renal symptoms. Their pathogenesis has been a matter of dispute. By some they have been regarded as exclusively toxic, and by others as infective in nature, but in many cases both causes are probably responsible, anatomical lesions of the meninges in chronic nephritis favouring the localization of intoxication or infection of the nervous system. A toxic origin for the meningeal symptoms should not be admitted until a complete cytological, bacteriological, and clinical examination has been made of the cerebro-spinal fluid.

Surgery

124 Cancer Developing in Burn Scars

N. TREVES and G. T. PACK (*Surg., Gynécol. and Obstet.*, December, 1930, p. 749) record a study of 28 cases of carcinoma developing in burn scars, all of which fulfilled Ewing's postulates. Malignant degeneration of scars is due to the surface extent and depth of the burn; the nature of the exciting agent, its capacity for heat absorption, and degree of temperature with the duration of contact are also factors. These tumours may be divided into acute wound and chronic scar cancers; the former develop within a year, and are more common in older subjects with atrophic, keratotic skins. The age of the scar is a more important factor than that of the individual. This history of scar cancer conforms to the general histogenesis of epitheliomata; this point is discussed in detail. These neoplasms appear in those parts of the head and face, and of the extremities most subject to burns. The authors have noted that many developed in regions where ordinary epitheliomata are infrequent—namely, the arm, elbow, groin, and popliteal space. Scar cancers on the head and face are the more serious since a radical operation is precluded. Irradiation, especially with heavily filtered radium at a distance, should be the first treatment; if this is not available, a wide local excision or cauterization may suffice. Curetting is inadvisable. The extent of an operation, if necessary, will depend on the location and extent of the lesion. Local excision of well-developed scar cancers is unsuccessful and dangerous. As a prophylactic measure, the adequate treatment of burns (early skin-grafting and radical excision of the scar) is emphasized.

125 Primary Tumours of the Heart

R. LERICHE and R. BAUER (*Arch. des Mal. du Cœur*, October, 1930, p. 645) describe a case of primary new growth of the heart and review the literature. These neoplasms are very rare, and many recorded cases have probably been instances of secondary tumours or of organized pedunculated thrombi. According to their site of origin, cardiac growths may be classified as valvular, intracardiac, and mural. The valve most frequently affected is the tricuspid, the growths being fibromata or myxomata. Intracardiac neoplasms are usually attached to the wall of the left auricle, and may be pedunculated or sessile; ultimately they may fill the cavity completely. Histologically they resemble the valvular growths. Neoplasms in the myocardium vary considerably in their size

and situation, but most often involve the left auricle. They are always solitary, but metastases may be observed in the neighbouring muscle; when they are large the great vessels or the valves may be interfered with, while interruption of the bundle of His has been observed from this cause. These tumours are generally sarcomata or rhabdomyomata. Clinically, valvular neoplasms may give signs of interference with the functions of the affected valve, while a growth in one of the chambers of the heart or in its wall may cause no symptoms or signs. Dyspnoea, intrathoracic pain, and haemorrhagic pleural effusion are the manifestations that have been most frequently observed. In the author's case a woman, aged 53, complained of dry cough and pain in the right side of the chest. There was dullness over the right side, but no significant signs were found in the heart. Radioscopy showed a dense rounded shadow corresponding to the area of dullness, and calcified at its upper border, which extended downward from the level of the second rib. Operation was undertaken for a dermoid cyst, but at necropsy a sarcoma was found originating in the right auricle and involving about two-thirds of the heart.

126 Trauma and Appendicitis

F. EICKEN (*Zentralbl. f. Chir.*, December 13th, 1930, p. 3095), who records an illustrative case, agrees with Lutz, who only admits that appendicitis is traumatic when traumatic changes are found at the operation, such as laceration of the serous membrane or haemorrhage into the layers of the appendix, or at least in the immediate vicinity. Eicken also requires that there should be undoubted microscopical evidence of an external injury. If such conditions are fulfilled the number of cases of traumatic appendicitis must be extraordinarily small. Sprengel, indeed, maintains that there is no connexion between trauma and appendicitis. Eicken's patient was a man, aged 27, who after hitting the right side of the abdomen against a gymnasium pole developed symptoms of appendicitis. On operation a small haematoma was found in the rectus sheath, but there was no peritoneal exudation, and the appendix was normal. Recovery was uneventful.

Therapeutics

127 Milk Injections in Erysipelas

For the local treatment of facial erysipelas, J. CHALIER (*Journ. de Méd. de Lyon*, December 5th, 1930, p. 713) employs only moist alcohol dressings, care being taken to protect the eyes. For general treatment, antistreptococcal serum has undoubtedly given good results, but Chalier strongly advocates the use of injections of milk, basing his opinion on the results obtained in over 1,000 cases. There followed a lowering of the temperature and a marked improvement in the general symptoms, especially in the nervous signs and delirium. The local effect is equally striking, and in many cases a distinct amelioration is noted after the first injection. The first doses are the most active; if these produce no effect, subsequent injections will probably prove useless. In favourable cases cure is obtained in two to four days; the average duration of the disease, however, is six days. Early treatment is of great importance. If injections are begun on the first day, the disease rarely lasts more than four days; if they are postponed to the fourth or sixth day, the treatment is of slight benefit. This method is said to be of great value in preventing the occurrence of exacerbations, and in forestalling or minimizing suppuration. Chalier remarks, however, that when the limbs are affected the results have been less favourable. A few cures have been obtained in erysipelas of the newborn, an almost invariably fatal malady. He uses filtered milk, boiled in a water bath for about twenty minutes. The adult dose is 10 c.cm., and this is given daily; three injections usually suffice, four being rarely needed. In children the dose ranges, according to age, from 2 to 5 c.cm.; in the newborn 0.5 to 1.5 c.cm. are given. The injections may be subcutaneous or intramuscular, the former being preferable. They cause local tenderness and redness, which readily yield to hot, moist applications. A transient, slight rise of temperature usually ensues, and occasionally headache, nausea, and lassitude. No severe effects such as anaphylactic shock have been observed. Contraindications are tuberculosis and cachectic states, uncompensated cardiopathies, nephritis, and alcoholic hepatitis. Well-compensated cardiac valvular disease and the albuminuria of erysipelas are not contraindications. Pulmonary complications are said to benefit from the injections.

128 Treatment of Peptic Ulcer

J. MEYER and L. B. KARTOON (*Arch. Int. Med.*, November, 1930, p. 768) investigated the effects of intravenous injections of foreign protein upon peptic ulcer in eleven patients in whom the clinical diagnosis was arrived at from an analysis of the history, symptoms, and such physical signs as localized tenderness, positive radiograms, and analyses of the gastric content and stools. Except for meat, the patients were on general hard diet and were allowed to be up. In addition to a routine Ewald test meal, a control fractional gastric analysis was made in the case of each patient, and on the following day an intravenous foreign protein injection of from 500 to 800 million gonococcus or typhoid vaccine was given. Five or six injections of the same doses were given at intervals of from five to seven days if the initial reaction was severe, but, if mild, the doses were increased to 1,000 million, 1,500 million, and up to 2,400 million. From twenty-four to forty-eight hours after each injection fractional gastric analyses and *x*-ray examinations were made before the first and after the last injections, with analyses of the stools throughout the whole observations. The gastric acidity was decreased in five patients, unchanged in four, and increased in one. The relief from pain accompanying treatment appeared to be independent of changes in acidity. The authors believe this to be due to the diminution in gastric tonus and contractions which followed the injections, and they think that the increased vascularity in the stomach and capillary bed near the ulcer is the important factor in such relief. They consider that the rhythmic pain in ulcer is due to rhythmic variations in the vascular bed in and around the ulcer, associated with digestive peristaltic activity. They add that, from the point of view of treatment for peptic ulcer, such non-specific protein can only be regarded as an adjunct to other methods.

129 M. LOEPER and M. DEBRAY (*Bull. Soc. de Thér.*, October, 1930, p. 232) record 17 cases of peptic ulcer, consisting of 2 ulcers of the lesser curvature, 7 pyloro-duodenal ulcers, 7 purely duodenal ulcers, and one case of periduodenitis, treated by subcutaneous injections of pepsin (0.1 gram) combined with sodium benzoate. In almost every instance the pain and vomiting ceased between the fourth and seventh injections. Radiological examination performed ten days after the termination of a series of injections showed a cessation of the spasm, improvement in the passage of food from the stomach to the duodenum, and a diminution of hyperkinesis. Two other patients, suffering from cancer of the stomach and cancer of the pancreas respectively, derived scarcely any benefit from this treatment, which is an example of combined protein and endocrine therapy.

130 Diet in Catarrhal Jaundice

P. CHEVALIER (*Bull. Soc. de Thér.*, November 12th, 1930, p. 268) deprecates a milk diet in catarrhal jaundice, but recommends that as soon as the stage of fever and gastric intolerance has passed, and the patient has regained his appetite, he should receive underdone meat such as roast beef or ham, accompanied by vegetables and fruit (cooked or raw). Bread and alcoholic drinks should be forbidden, but water should be given freely. A meat diet, while having no action on the jaundice itself, considerably improves the general condition, so that the patient recovers his health before the jaundice disappears.

Radiology and Electrology

131 Radiological Diagnosis of Scirrhous Gastric Cancer

L. TURANO (*Il Policlinico*, Sez. Med., October 1st, 1930, p. 469) reports six cases of gastric disease illustrating points in the radiological diagnosis of scirrhous cancer. The most suggestive signs of this condition are a small high stomach which is sometimes funnel-shaped, retention of food in the supracardial portion of the oesophagus, very rapid emptying of the stomach and filling of the duodenum and small intestine, and the absence of peristalsis. The patients are usually of advanced age, with slow onset of symptoms; pain, wasting, anorexia, feeling of emptiness in the stomach, and constipation are the most common. As a rule, palpitation of the stomach reveals nothing abnormal. In all these cases the radiological findings must be correlated with the clinical history and symptoms. In the differential diagnosis the other possibilities include gastric syphilis, plastic linitis, tuberculosis, contraction due to corrosive poisoning, and spasm. Special attention is paid by Turano to gastric syphilis, and reference is made to 87 cases collected from the Mayo Clinic. Three main types of gastric scirrhus are described—prepyloric, median, and total—corresponding to the different parts of the stomach affected. The author's case was of the second type, in a man aged 35. The operation revealed diffuse infiltration of the stomach but no sign of ulcer, and nothing more was done. Six months later the patient reported himself as being very well; he had put on 10 kilos in weight.

132 Encephalography in Fixed Lesions of the Brain

B. CROTHERS, E. C. VOGT, and R. C. ELEY (*Amer. Journ. Dis. Child.*, August, 1930, p. 227) consider that encephalography—the removal of cerebro-spinal fluid and its replacement by air—is a justifiable procedure for topical diagnosis and prognosis in cases where trauma or infection of the nervous system has resulted in cerebral damage. Reaction is the rule. During the injection, pallor, sweating, and vomiting are common, and rather alarming collapse is not rare. Pyrexia, with stiffness of the neck and a positive Kernig sign, suggesting meningeal irritation, begin a few hours afterwards, and last in some cases for several days. The authors have had only one death, and think that there is no likelihood of the symptoms being made worse. An absolute contraindication is increase of the intracranial pressure. The authors favour the ordinary lumbar puncture route, with the child sitting up; frequently repeated small doses of morphine until extreme drowsiness supervenes, followed by careful local anaesthesia, is probably the best preparation. They use one needle with Ayer's manometer and a three-way stopcock. The pressure is observed immediately after the introduction of the needle, and at intervals during the whole procedure; it is kept throughout at a lower level than at the beginning, and left at 100 mm. of fluid or lower. The fluid is allowed to drain slowly until 5 c.cm. have been withdrawn; 5 c.cm. of air are then introduced gently from a glass syringe. The pressure is checked and the process repeated; varying amounts of air, 20 c.cm. to 50 c.cm., are needed. The child usually remains quiet with a reasonably steady pulse and good colour, but pallor, irregular respiration, profuse sweating, and vomiting are not unusual, and give rise to some anxiety. For radiography the authors use an ordinary Potter-Bucky diaphragm with a horizontal table. With the patient in the prone position, they take right and left lateral stereoscopic films, shifting lengthwise to the patient at a distance of 25 inches (63.5 cm.). The patient is then placed on the back for the antero-posterior view. The head is turned from side to side, beginning with an angle of about 60 degrees, but gradually diminishing the arc till the face is directly up; this equalizes the remaining fluid and air in the ventricles. A single straight antero-posterior exposure is then made. After this the patient is turned face downwards, and a postero-anterior film is taken which outlines the posterior horns. The authors classify the film showing unusual distribution of air into four groups: (1) reasonably symmetrical dilatation of the ventricles—generally due to a deficiency of brain tissue; (2) marked asymmetry of ventricles, presumably from unilateral atrophy (the displacement of the intracranial contents is towards rather than away from the enlarged ventricle—a vital point in cases of tumour); (3) evidence suggesting deepened subarachnoid spaces dependent on cortical atrophy; and (4) absence of air in the ventricles—due to some unknown factor or to faulty technique.

133 Radiation Treatment of Polycythaemia Vera

G. T. PACK and Ll. F. CRAVER (*Amer. Journ. Med. Sci.*, November, 1930, p. 609) state that in polycythaemia with splenomegaly (originally described by Vaquez) irradiation is pre-eminently the mode of treatment—a view based on the character of the pathological process. The disease seems to be due to chronic overproduction of the erythrocytes, rather than to their delayed destruction or prolongation of life. The stimulus or cause of this condition is unknown, but its chief seat of action is the bone marrow, in which there is increased erythroblastic activity; this hyperblastic bone marrow is radio-sensitive. Erythraemia is analogous to myelogenous leukaemia, in which disease irradiation is the most satisfactory treatment. Both maladies occur during the same age periods, pursue the same chronic fatal course, and in each certain transitional forms exist. The authors believe that physical agents (radium and *x* rays) are superior to chemical ones in treating diseases characterized by excessive activity of bone marrow, the results, though temporary, being of longer duration. Since the spleen must be intact and functional, splenectomy is contraindicated in erythraemia. Venesection affords symptomatic relief, but may possibly stimulate the marrow dangerously to increased activity. Treatment must be directed to the bone marrow rather than the spleen, and sufficient irradiation must be given to inhibit or depress, but not destroy, erythropoiesis; the dosage depends on the severity of the illness. Both short and long bones are treated, the latter receiving most attention, especially if painful. No treatment is given to the head (to avoid alopecia) or to the pelvic bones in young women and men (to avoid damaging the gonads). Exactness in dosage is essential, and three to six exposures are given weekly. Sometimes three series are necessary, and these may be given at intervals of three to six months, depending on the response to treatment. Irradiation in polycythaemia does not cause the toxaemia which frequently follows its use in myelogenous leukaemia. The plethora is relieved, the general health improved, and life is prolonged by radiotherapy, but this measure is not capable of preventing a fatal termination. Four illustrative cases are recorded.

Obstetrics and Gynaecology

134 Early Diagnosis of Uterine Carcinoma

T. HEYNEMANN (*Med. Welt*, October 25th, 1930, p. 1541) urges full investigation of every case of abnormal uterine haemorrhage lest palliative treatment preclude the early diagnosis of cancer. Examination of the cervix should include inspection, since if the tumour is already palpable the condition is no longer limited to the uterus. Destruction of tissue and ulceration are practically diagnostic of carcinoma; erosion and swelling appear earlier, but may be due to other causes. Any destruction of tissue, swelling, tumour formation, or localized increase in vascularity should be investigated histologically. If on pressure with a sound any such suspicious area breaks down it should be considered malignant; if not, the diagnosis is doubtful. Leucoplakia is often a precursor of carcinoma. Diagnosis of early carcinoma of the cervical canal is difficult, since the only sign apart from haemorrhage may be swelling of the os. Carcinoma of the body is more favourable in respect of diagnosis and treatment; pain is an early symptom, but haemorrhage may be late. Any obstinate discharge in an elderly woman is suspicious, as is also irregular haemorrhage after the menopause where no cause can be found in the cervix. The necessary curettage in such cases must not be delayed.

135 Suppuration in Ovarian Cysts

V. RICHE and G. FAYOT (*Paris Méd.*, December 20th, 1930, p. 545) discuss the etiology, symptomatology, and treatment of suppurating ovarian cysts. Haematogenous infection is held to be very rare, except in the case of typhoid and paratyphoid fever. In 2 out of 7 cases treated by the authors the intestine was undoubtedly the primary cause of the infection, both cysts being intimately related to suppuration of the appendix. In 3 other cases the uterus was the infecting agency, and in the 2 remaining cases no cause was definitely determinable, though intestinal adhesions were discovered at the operations. The clinical history always begins with the onset of suppuration; in 6 out of the 7 cases the existence of any tumour was unsuspected until infection supervened. The condition was acute in 5 cases, pain, pyrexia, and signs of a peritoneal reaction being prominent manifestations. In the two chronic cases the onset was insidious, there being little or no pain, and very little constitutional disturbance. The authors commend the operative procedure of Mikulicz—extirpation in one stage, with abdominal drainage.

136 Chorion-Epithelioma without External Haemorrhage

D. v. RAISZ (*Zentralbl. f. Gynäk.*, November 15th, 1930, p. 2887) has found records of only four cases of chorion-epithelioma without utero-vaginal bleeding. He describes the case of a woman, aged 34, whose second pregnancy terminated spontaneously in the expulsion of a hydatidiform mole at four and a half months. Two years later three curettings were performed on account of irregular haemorrhage, but the microscopical findings were negative. More than two years of amenorrhoea followed. Sudden onset of abdominal pain, succeeded by rigors, and the discovery of a pelvic tumour, led to a diagnosis of internal haemorrhage from a ruptured ectopic gestation, with suppuration of the pelvic haematoma. An operation was deferred on account of the patient's poor condition and of the appearance of a purulent vaginal discharge, but was judged necessary seventeen days later, when it was found that a large chorion-epithelioma of the uterus had perforated and extended to the bladder. The amenorrhoea is explained as being due to the repeated curettings and to the fact that the chorion-epithelioma was originally intramural. The true pathology of the case was suspected, shortly before the operation, from the finding of a positive Zondek-Aschheim reaction in the urine. The case presents further evidence of the value of Aschheim's suggestion that this test should be performed at regular intervals in those patients who have given birth to a hydatidiform mole ; it is then likely to show the earliest sign of chorion-epithelioma.

Pathology

137 Haemolytic Anaemias

C. CASANO (*Arch. Path. e Clin. Med.*, November, 1930, p. 5), believing that many of the different pathological pictures of haemolytic anaemias represent transitional forms, and should not be regarded as clinical entities, has attempted to show their mutual relations. He describes in detail the clinical histories of twelve cases. The author considers that the haemolytic factor is a common denominator of an extensive group of morbid states which comprises haemolytic icterus, hypertrophic hepatitis with splenomegaly, Banti's disease, splenic anaemia, and pernicious anaemia; this group can be classed into subgroups according to the nature and degree of the excessive haemolysis occurring in these conditions. Pernicious anaemia (Biermer), which is primarily an affection of the bone marrow with an excessive destruction of constitutionally imperfect red cells, is to be distinguished from the other haemolytic anaemias and pernicious anaemia splenomegaly (Strümpell), where the spleen takes a more active share in the production of haemolysin and red cell destruction. Banti's disease, and splenic anaemia resulting from inhibition of erythropoiesis by the spleen, are regarded as a separate group. In explaining the etiological affinities of these syndromes, the abnormal activities of the splenic and extrasplenic reticulocytic systems are regarded as associated with constitutional debility.

138 Multiplicity of Antigens in B. anthracis

According to A. SORDELLI and V. DEULOFEU (*C. R. Soc. de Biologie*, December 12th, 1930, p. 721) agar cultures of *B. anthracis* contain a precipitinogen which is soluble in distilled water or saline solution, and which is precipitated by alcohol-sodium acetate. When purified by repeated precipitation it reacts like a carbohydrate, failing to give the biuret or Millon reaction, but yielding an intense Molisch reaction, and actively reducing copper salts after preliminary hydrolysis with weak sulphuric acid. Even when diluted 1 in 1,000,000 it gives a precipitin reaction with an anti-anthrax serum. Agar cultures of *B. anthracis* likewise contain a substance capable of fixing complement and soluble in distilled water or saline solution; it does not appear to be identical with the precipitinogen. The complement-fixing antigen is largely destroyed by treatment with acetone or with 96 per cent. alcohol, while the precipitating antigen is not markedly affected. The two antigens can be separated by saturating an extract of anthrax bacilli with ammonium sulphate; the precipitate, which is soluble in water, fixes complement, but has no precipitating power. On the other hand, repeated treatment of an extract of the bacilli with alcohol-sodium acetate yields a body which, as described above, has a high precipitating power, but which is unable to fix complement. The authors conclude, therefore, that there are at least two different antigens in *B. anthracis*.

139 Silicosis and Tuberculosis

In a discussion of the nature and sequels of silicosis T. H. BELT (*Canadian Med. Assoc. Journ.*, December, 1930, p. 802) expresses the view that it is not the fibrosis of silicotic lungs which favours the tuberculous infection, but simply the presence of siliceous dust. He records three cases in the early stages of silicosis, with much dust in the lungs but no appreciable degree of fibrosis; each of the three patients died with massive bilateral caseous tuberculous involvement. Silica does not stimulate the growth *in vitro* of tubercle bacilli, but *in vivo* its action in promoting a fatal type of tuberculosis is admitted. It has been suggested that the silica may surround the bacilli with a sheath of devitalized tissue, into which phagocytes do not readily penetrate, or that it may stimulate bacillary reproduction. Others have thought that by virtue of its colloidal properties silica absorbs antibodies, and so protects the organisms. Belt remarks that this dust, being ubiquitous, may perhaps play some part in bringing about tuberculous infection in ordinary life.

140 Experimental Uraemia

A. G. CHIARIELLO (*Rinascenza Medica*, October 1st, 1930, p. 471) has produced uraemia in dogs by simultaneous bilateral ligature of the ureters. Before the operation two determinations of the electrolytic equilibrium of the blood were made on separate days, and these were repeated every day after the operation, which was followed by rapid impairment of the general condition, with prostration, disinclination for food, and in some cases, a few hours before death, by short tonic and clonic convulsions. The animals survived rather over 48 hours, dying usually between the second and third days. The determination of calcium, magnesium, and sodium was made by the micro-method of Conderelli; chlorine by Bang's method modified by Conderelli; inorganic phosphorus by the method of Bell and Doisy; and potassium by the method of Kramer and Disdal modified by Conderelli. The results showed that there is no constant change in the amounts of chlorine, phosphorus, or magnesium, but that there is a slight decrease of calcium, an increase of sodium, and a remarkable increase of potassium. The author considers that the uraemic syndrome following the operation is not explained by these alterations of electrolytic equilibrium, and that the "hyperpotassiemie" is to be regarded as a reaction of the organism common to all toxic conditions rather than a specific fact of the uraemic syndrome.

What shall I prescribe?

WHEN CONFRONTED WITH A DIFFICULT CASE OF OSTEO OR RHEUMATOID-ARTHRITIS IT IS INDEED COMFORTING TO KNOW THAT QUICK AND LASTING RELIEF CAN BE OBTAINED FROM THE ADMINISTRATION OF ELIX. FORMASAL AND TAB. ARTHRITONE.

[THE POPULARITY OF THESE PREPARATIONS IN RHEUMATIC CONDITIONS IS DUE SOLELY TO THE GOOD RESULTS OBTAINED.]

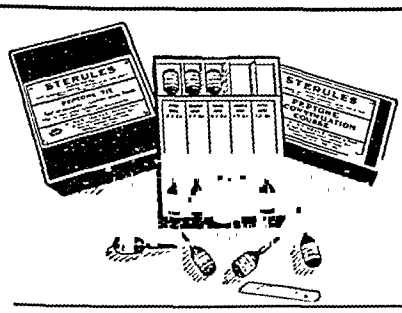
PRACTITIONERS HAVE TAKEN THE TROUBLE TO WRITE AND TELL US OF THE WONDERFUL EFFECTS THAT THESE PREPARATIONS HAVE IN CASES WHERE ALL OTHER FORMS OF MEDICATION HAVE BEEN OF NO AVAIL.

ELIXIR FORMASAL
1 PINT **6/3**
SMALLER AND LARGER SIZES ISSUED

TAB. ARTHRITONE
250, **8/2**
SMALLER AND LARGER SIZES ISSUED

HOUGH, HOSEASON & CO. LTD.

PHARMACEUTICAL SPECIALISTS TO THE MEDICAL PROFESSION - MANCHESTER.



"STERULES"

(Registered Trade Mark)

FOR

Hypodermic, Intramuscular, Intravenous, and other forms of Injection.

(Care should be taken to prevent confusion as to use in each instance)

ARSENIC AND IRON *(intram.), successful in the treatment of anæmia*, Nos. 1 and 2 ... ... Box of 10 3 6
Either form with Strychnine, 1/60 grain .. ... Box of 10 4 0

CALCIUM CHLORIDE, *hæmostatic and in calcium therapy.* 1 grain in 1 c c. and other strengths ... ... Box of 10 4 6

EMETINE HCl. *(hypod., intrav. or intram.).* ¼ *and* ⅓ grain, 4/6; ½ gr., 5/6; 1 gr. 10/0
In amœbic dysentery, often in conjunction with Auremetine.

GLUCOSE SOLUTION, *Conc., for producing 1 pint of 5% solution for intravenous feeding* ... ... Each 2/6

GUAIACOL, IODINE AND CAMPHOR, *in rheumatoid arthritis.* Box of 10 5/6

GUM SOLUTION, *Conc. (intrav.), for surgical shock* ... Each 2/6

HYDRARG. SALICYL-ARSENATE, *in syphilis*, 1 grain. Box of 10 5/6

INDIGO-CARMINE *(intrav.). Renal indicator.* 1%, 5 c.c. 5/6; 10 c.c. Box of 10 7/6

MANGANESE BUTYRATE *(intram.), in furunculosis, boils, etc.*, 1% 1 c c. Box of 10 4/6

PEPTONE FOR ASTHMA, *series of 10 graded doses, intravenous and intramuscular. (See special leaflet.)* ... ... Box of 10 7/6

PHENOLSULPHONEPHTHALEIN, 6 mgr., *for Kidney Test* Box of 10 7/6

PITUITARY (Infundibular) *(intram.)*, ½ c c., 6/0; 1 c.c. Box of 10 10 0

QUININE-URETHANE, *in varicose veins* ... 2 c.c. Box of 10 5 0

SODIUM CACODYLATE, 1 grain *in* Nucleinic Acid Solution 1 c c, *in Septicæmia* ... ... Box of 10 5/6

SODIUM NUCLEINATE *(hypod. and intram.), in acute fevers, pneumonia, etc.* .. .. 5%, 1 c.c Box of 10 3 6

SODIUM THIOSULPHATE, 0.45 and 0.6 gm , in 5 c c. *Intrav. in Arsenical and Mercurial poisoning* ... ... Box of 10 6 6

STOVAINE-GLUCOSE, aa., 5%, 1 c c., 6/6 ... 2 c.c. Box of 10 10 0

THIOSINAMIN COMP. *(intram., hypod. or intrav.), for keloid, scar tissue, etc.*, 1 c.c., 5/6 ... ... 2·5 c c. Box of 10 7 6

"STERULES" to special formulæ, any size up to 100 c.c., are prepared promptly.

Further list on application. You may rely on immediate attention to postal enquiries. Please mention the *B.M.J.* when replying.

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, LONDON, W.1.
Telegraphic Address: "MARTINDALE, CHEMIST, LONDON." Telephone No.: LANGHAM 2440

THE

MEDICAL INSURANCE AGENCY

has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the **Insurance of Cars.**

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, Sickness (Permanent Contracts), &c., Insurances under comprehensive policies, giving full protection.

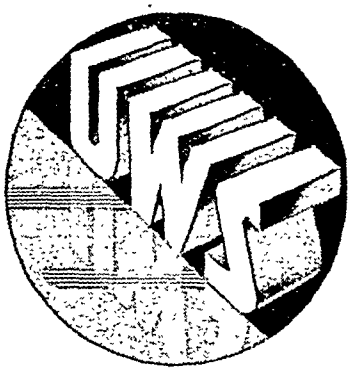
What the Agency has done for the Profession:

Saved by way of Rebates on Premiums - - over £42,500
Contributed to the Medical Charities - - - over £25,500

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

THE MOST SATISFACTORY METHOD OF ENSURING A SOFT WATER SUPPLY



It is a fact of considerable significance that 'Permutit' Water Softening Plants are to-day to be found in over 15,000 homes, and in the leading hospitals, clubs and hotels. No chemicals are used in the 'Permutit' System. This plant provides a soft water which is healthful and palatable to drink, at a moderate initial outlay and an infinitesimal running cost. The plant can be fitted without any alteration to existing arrangements.

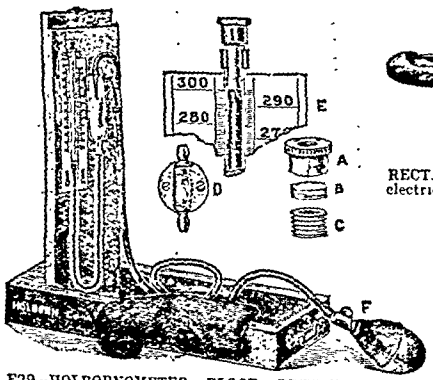
Special Booklet Sent Free on Request
"Soft Water in the Home," an illustrated sixty-four page booklet, will gladly be sent to any doctor upon request.

'PERMUTIT' REGD
WATER SOFTENER

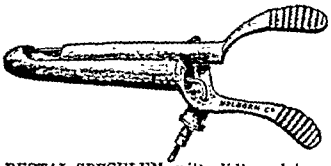
UNITED WATER SOFTENERS LTD., ALDWYCH HOUSE, LONDON, W.C.2

THE HOLBORN SURGICAL INSTRUMENT CO., LTD.,

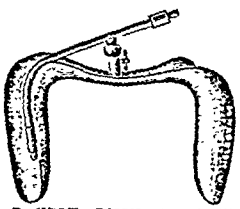
26, THAVIES INN, LONDON, E.C.1 Tel. No.: Central 5096.



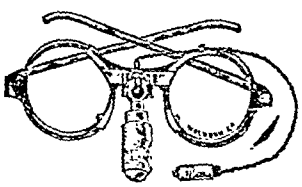
E29—HOLBORNOMETER BLOOD PRESSURE APPARATUS, with wide column and unspillable tube in polished oak case £4 10 0.
Details on application.



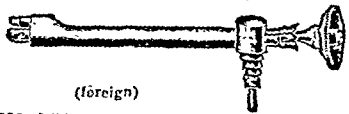
RECTAL SPECULUM, with sliding plate and electric attachment fitting battery handle. £1 7 6.



SIMS' DOUBLE DUCKBILL SPECULUM, with electric attachment on ball-and-socket fitting. 25/-.

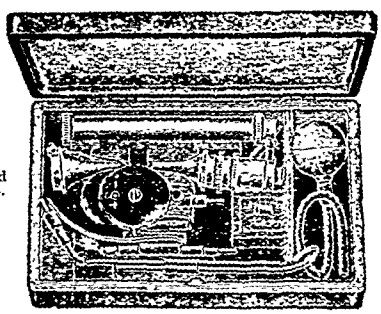


H94—"SPECLITE," with special filament bulb, Ever Ready Battery in case with screw fitting, £1 7 6. Leather case, 7/6 extra.



(foreign)

B298—BECK'S LARYNGO - PHARYNGOSCOPE, £3 15 0.
With nickel-plated battery handle and spare lamp in case £5 5 0.
The single lamp gives a brilliant illumination of the cavity and renders obsolete the double-lamp type of pharyngoscope. The telescope shows a large clear field, so that the entire side of the pharyngeal vault can be examined at one time.



H75A

H75A—DIAGNOSTIC OUTFIT consisting of Wappler Auriscope with three Specular, May Ophthalmoscope, Nasal Speculum fitting Auriscope body, Laryngeal Mirror and Tongue Depressor with light attachments all fitting battery handle, complete, in case with three spare lamps and Suction Ball, £8 0 0.

H75B—DITTO. Without Tongue Depressor, £7 5 0.

H75C—Combined Set, AURISCOPE and OPHTHALMOSCOPE, best quality, with spare lamps, complete in case, £5 5 0.

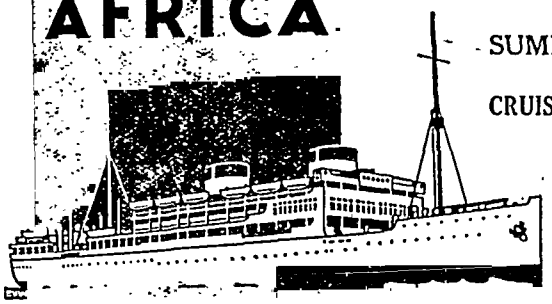
H75—MAY'S OPHTHALMOSCOPE, best quality, with handle and spare lamp, in leather case, £3 3 0.

The above are supplied with medium-size handle, black or nickel-plated.

H76—WAPPLER MODEL AURISCOPE, with 3 specular and small handle, in case, 52/6. DITTO, with medium handle and spare lamp, £2 18 0.

AURISCOPE and one speculum, with Ever Ready Torch handle, £1 7 6.

SOUTH AFRICA



SPECIAL TOUR TO SOUTH AFRICA
By R.M.S. "Kenilworth Castle." From Southampton 24th July, 1931.
Reduced Return Fares.

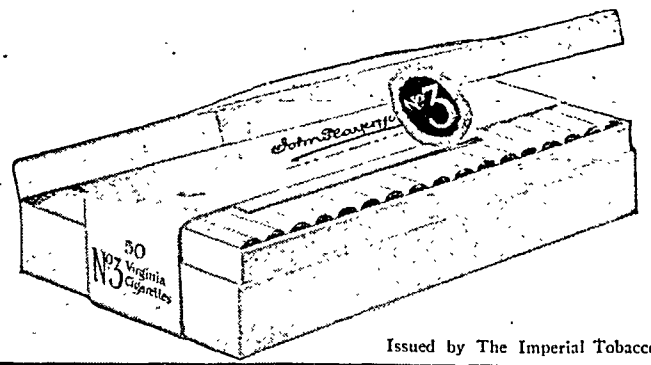
SUMMER TOURS TO MADEIRA or CANARY ISLES
at Reduced Return Fares.

CRUISES TO ANTWERP, ROTTERDAM, HAMBURG and back.
Fortnightly from London. 13-14 days.

UNION-CASTLE LINE
Write for full particulars to:—
Head Office: 3, Fenchurch St., London, E.C.3.
West End Agency: 125, Pall Mall, S.W.1.

PLAYER'S No. 3

Made from a delightful blend of specially selected fine Old Virginia Tobacco



10 for 8D
20 for 1/4
50 for 3/3
100 for 6/4
WITH OR WITHOUT CORK TIPS

EXTRA QUALITY VIRGINIA

Issued by The Imperial Tobacco Company (of Great Britain and Ireland), Ltd. 3733

CAMP
TRADE MARK

PHYSIOLOGICAL and SURGICAL SUPPORTS

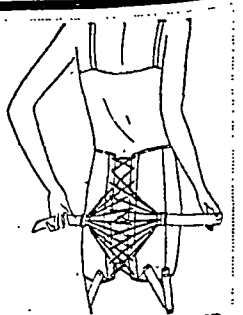
A New and Growing Field of Service

APPROVED by eminent Physicians and Surgeons

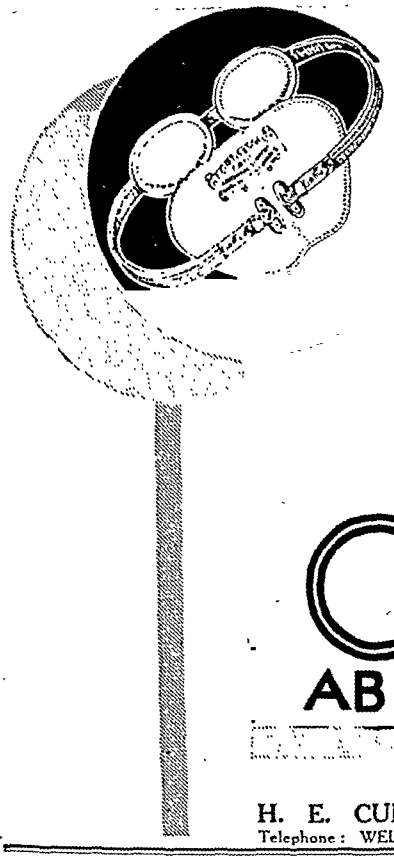
Camp Supports are widely used in the treatment of
SACRO-ILIAC SPRAIN, PTOSIS, HERNIA, MATERNITY and POST-OPERATIVE SUPPORT

Illustrated CAMP MANUAL *free on request to:—*

CAMPOIRETTE Ltd., 252, REGENT ST., LONDON, W.1



THE CAMP PATENTED Adjustment—instantaneous and simple in action.



Comfortable and Correct Support

Assured to all sufferers from abdominal ptosis who wear the Curtis Abdominal Support, Model No. 1. The principle of this support—that of anterior posterior support—has been proved by scientific research to be the most efficient. There is no circumferential pressure, hence the wearer's freedom of movement is in no way restricted. There is no cramping or binding of the hips. It is light in weight, and easy to apply. There are no complicated fastenings.

IN USE IN MOST OF THE LONDON HOSPITALS.

CURTIS
ABDOMINAL SUPPORT

Sole Manufacturers of the Curtis Appliances:—

H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.

Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

BUY BRITISH AND SAVE 33⅓% IMPORTATION TAX.

The field for Diathermy Current applications is rapidly increasing

DIATHERMY
MEDICAL AND SURGICAL

EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available:—

FOR SURGERY

e.g.: Surgical cutting by High Frequency indulations or coagulation.

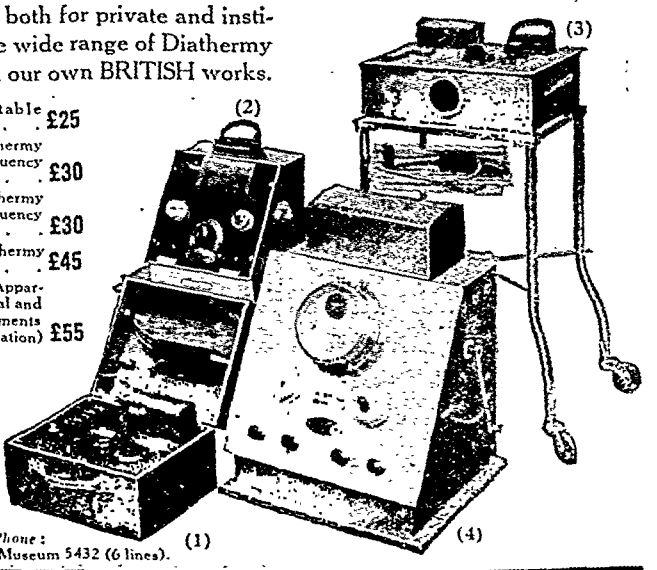
FOR THE PHYSICIAN

for treatment purposes only.

also

FOR BOTH SURGICAL and MEDICAL.

No. 1.	"EMESAY" Portable Diathermy	£25
No. 2.	"AMAZON" Diathermy and High Frequency Current Apparatus	£30
No. 3.	"MERIDIAN" Diathermy and High Frequency Current Apparatus	£30
No. 4.	"EQUATOR" Diathermy Apparatus	£45
No. 5.	"MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation)	£55



Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

MEDICAL SUPPLY ASSOCIATION, LTD.

167-185, Gray's Inn Road, London, W.C.1.

ACTUAL BRITISH MAKERS.

Phone: Museum 5432 (6 lines).

RE-INFORCING THE ABDOMINAL MUSCLES WITHOUT UNDUE PRESSURE!

For those disorders of the abdomen that call for external support, Domen Abdominal Belts have very definite advantages. They give adequate support to the abdomen without setting up pressure to aggravate the patient's condition. And whether it is pregnancy or umbilical hernia, prolapsus uteri, or simply general support, there is a Domen Belt designed specifically for that condition. Domen Belts fit well, sit comfortably and do not get out of place. They leave the patient free and without embarrassment. Full particulars will be forwarded on receipt of your card or a telephoned request.

DOMEN BELTS CO. LTD.

26, SLOANE STREET, LONDON Tel.: Sloane 3524

THE POSTAL ACCOUNT

It is often supposed that to live a long way from the nearest branch of a bank, or to be constantly unable to go to the bank in person, is a handicap to the enjoyment of the full advantages which, it is admitted, a banking account offers. Perhaps it is assumed that to conduct an account by post involves 'more letter writing', or is costly, or is not welcomed by the Bank. It is the aim of the Westminster Bank to dispel such misconceptions by a leaflet entitled *The Postal Account*, which explains the convenience of the method, and offers some clear suggestions.

The Secretary of the Bank will be pleased to send a copy on application

WESTMINSTER BANK LIMITED

HEAD OFFICE: 41 LOTHBURY, LONDON, E.C.2

Doctors' A/c Forms a Speciality

Printed in Best Style

Account Forms Letterheads, Cards., etc.

Samples Sent.

R. ANDERSON & SON

Also Testimonials, Applications, and Qualifications for Medical Posts.

Samples Sent.

1 HILL PLACE EDINBURGH

POCKET MONEY ADDING MACHINES 15/- post free

TAYLOR'S TYPEWRITERS

SELL, HIRE, HIRE PURCHASE EXCHANGE BUY

Desks, Tables & Chairs, Est. 1884.

Write for Bargain List 32.

'Phone—Holborn 3793.

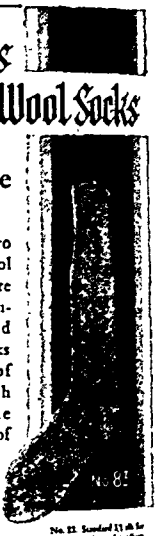
BUY A BIJOU FOR 5/- per week.

THE BIJOU

The best portable Writer Complete in Travelling Case, from £9 9s.

74, CHANCERY LANE (Holborn End), W.C.2

Two Steeples St. Wolstan Wool Socks



Always the same quality

When you buy Two Steeples St. Wolstan Wool Socks you can be sure always of the same high-grade quality time and time again. These socks are the production of highly skilled English Stockingers and the St. Wolstan Wool is of one regular quality, the richest long staple pure botany obtainable.

Write for descriptive booklet containing actual patterns of the various styles of St. Wolstan Wool Socks and Underwear.

DEPT. 4, TWO STEEPLES LTD. WIGSTON, LEICESTERSHIRE

J. H. HAMILTON & CO. LTD.

21, SAVILE ROW, LONDON, W.1.

Established 1850.

"SPECIALITE" LOUNGE COAT & VEST

Black or Grey

£7 : 7 : 0

STRIPED CASHMERE TROUSERS

£3 : 3 : 0

Patterns and self-measurement form on application.

'Phone: Regent 4572.

VACCINE LYMPH

(REBMAN'S PURE ASEPTIC CALF LYMPH) for reliability and normal reaction.

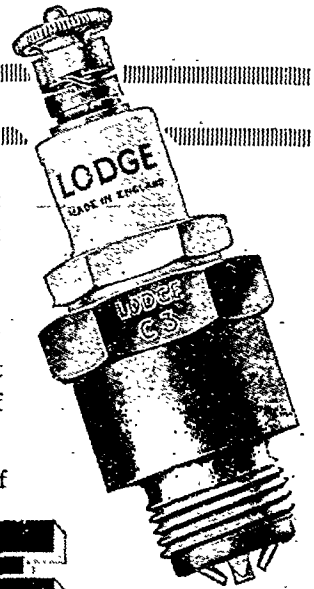
Prepared under Swiss Government control in accordance with the requirements of the Therapeutic Substances Regulations, 1927. As Supplied to the Bacteriological Department, Guy's Hospital, London.

Price: 9d. per small tube (6 for 3/9).

Sole Agents:

WILLIAM HEINEMANN (Medical Books), Ltd., 99, Gt. Russell St., London, W.C.1.

Telephone: MUSEUM 0878. *Telegrams:* SUNLOCKS, LONDON.



Every engine has a definite limit to its possible output and the best sparking plug in the world cannot improve the output beyond that limit, but it is surprising how many engines are run below their best performance owing to the use of unsuitable plugs.

Until you have tried a new set of

LODGE

SPARKING PLUGS

you cannot be sure that you are getting the best results out of your engine.

They can be bought at all good garages.

LODGE PLUGS LTD., RUGBY.

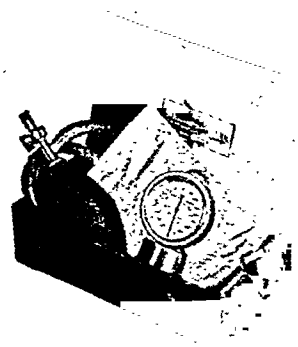
LODGE C3
the plug for most English and Continental engines.
5/-
everywhere
in sealed metal box (red).

As necessary as a Stethoscope

The present-day physician can ill afford to dispense with a sphygmomanometer as part of his visiting equipment. Many of the greatest medical minds of to-day advocate blood pressure tests as a guide to the eventual diagnosis.

The question of portability is easily solved by the S. & M. Portable type of Sphyg. as illustrated. This instrument—including Patent Arm Sleeve and Inflating Bulb with Control Valve—is contained in a leather carrying case 7 in. long, 4 in. wide by 3 in. deep.

Write for full details and prices.



Every genuine instrument bears the trade-mark "Tycos" engraved on the dial.

Obtainable from all reputable Instrument Dealers.

Tycos

SHORT & MASON LTD

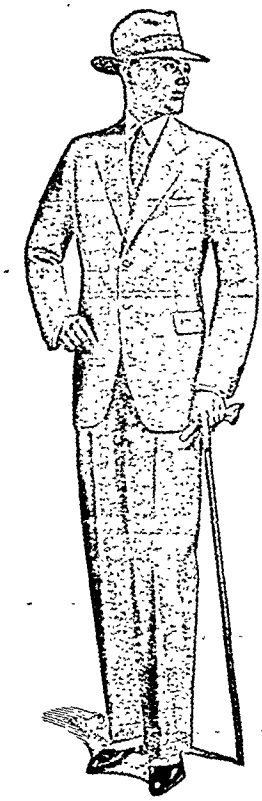
ANEROID WORKS, WALTHAMSTOW, E.17.
Showrooms: 45/50, HOLBORN VIADUCT, E.C.1.
Publishers of *"Blood Pressure Simplified,"* 4s. 6d. net.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE. Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

STUDINGTON
HAND-MADE SUITS



embody the highest attributes of the tailoring art. They are cut in that distinctive fashion which attracts attention while seeming to avoid it.

The materials are exclusive and of superb quality, and while you pay a little more you readily recognise the economics of Studington clothes.

LOUNGE SUITS FROM 7 GNS.

Call or write for patterns and new Catalogue sent post free.

STUDINGTON
51 CONDUIT STREET, BOND STREET W.
WESTMINSTER, LONDON, S.W.1.

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 123, Douglas Street, Glasgow, C.2.

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
27, EASTCASTLE ST., LONDON, W.1.

BY APPOINTMENT To H.M. The KING

Gaymer's CYDER

GAYMER'S will welcome Visitors at their Stand, A. 149, Food and Beverages Section, BRITISH INDUSTRIES FAIR, Olympia, February 16-27th.

WM. GAYMER & SON, LTD., ATTLEBOROUGH, NORFOLK.

BANTAM Coffee

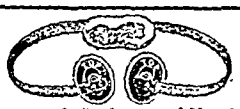
Pure groundless coffee in powder form which dissolves instantly when hot water or milk is added. No preparation is necessary. A little Bantam Coffee added to hot milk makes a very palatable beverage and a welcome change to persons who must take milk regularly. Bantam Coffee is prepared from a blend of selected Empire-grown beans, and has been awarded the Certificate of the Institute of Hygiene. Economical in use. A 2/- tin will yield 50 cups of delicious coffee. From Grocers or Post Free from

DEPT. 30, BANTAM PRODUCTS LTD., BANTAM WORKS, LEEDS.

Veramon
TRADE MARK

"It is the one analgesic I use personally."
——, M.D.

SCHERING LTD., 3, Lloyd's Avenue, London, E.C.3



If you have a difficult case of Hernia send your patient to be properly fitted with a
SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency. Perfect freedom of movement.
The most scientific truss ever devised.

SALMON ODY LTD.
Highly recommended by the Medical Profession
7, NEW OXFORD STREET, LONDON, W.C.1
Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS
The best Medical authorities are agreed [illegible] ...ious ...orts ... feet, weak insteps, or rheumatic pains, 15/6 per pair. Metatarsal 18/6 per pair. State size of footwear when ordering.

Estab. 120 year

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.
Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

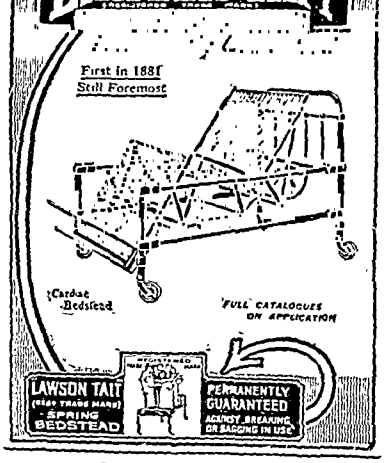
B. ACIDOPHILUS INTESTINALIS
Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA
Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

A Bedstead for Every Purpose

LAWSON TAIT



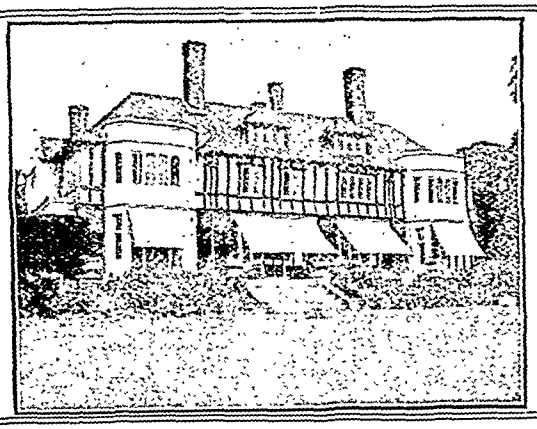
BRASS and BRONZE
NAME PLATES
by the Actual Maker. Send for List.
FORD, 37, Palace Rd., Bromley, Kent.

BARGAINS in
USED CARS
for Medical Men

1930 WOLSELEY 12 h.p. "Hornet" Saloon; in excellent order . . £135
1929 CITROEN 6-cyl. Sportsman's Coupe, seating 4; good luggage accommodation; practically new condition £110
1929 AUSTIN 16 h.p. 6 cyl. 4-door Fabric Saloon; carefully used and in splendid order. Bargain £185
1929 AUSTIN 16 h.p. "Mann Egerton" Doctor's 4-seater Coupe; sunshine roof; exceptional order. Bargain £195

EXCHANGES. DEFERRED TERMS.
MANN EGERTON & Co., Ltd.
156, New Bond St., W.1. Tel.: Gerrard 9060.
Consulting Engineers to Medical Insurance Agency.

KEROL CAPSULES



FOR SALE.

OLD SHOREHAM, SUSSEX

(5 miles from Brighton)

This most desirable Modern Residence, standing on high ground on the South Downs and facing South, within a mile of the Sea. Very suitable for a Convalescent or Nerve Home.

Main drainage and water, private electric plant, central heating. Beautiful grounds extending to about 20 acres if required, or less.

Apply for full particulars to:—

E. R. HARRISON,

BUCKINGHAM PARK, OLD SHOREHAM, SUSSEX.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E. Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

DEGANWY,

Caernarvonshire. "The Grindelwald of Wales!"

REST HOME for tired or Convalescent Gentlepeople. Men and Women. Sea and Mountain air. Dry and sunny. Waters from the Trefriw Chalybeate Wells.
For further particulars apply to:
Mrs. C. HERBERT ROBERTS,
"Talavon," DEGANWY, North Wales.
Teleg.: "Rest, Deganwy." Tel.: 28 Deganwy.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.

Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.
Station: Clapham Common Tube. *Telephone:* Brixton 0494. Apply, Miss THWAITES.

MAJORCA: Dr. GILBERT SCOTT'S CONVALESCENT HOME

PALMA DE MALLORCA, SPAIN

Doctor highly recommends small NURSING HOME for bedridden patient. Companionable nurse—no isolation. Private room from 2½ gns. weekly. — Miss DAY, "Carmona," Tankerton Road, Tankerton.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. *Both voluntary and* patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLESTON, Resident Physicians.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Mental or Nervous allied disorders of Habit. All types of cases are received Voluntary Boarders. Bracing hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

BOURNEMOUTH HYDRO,

with Vita-glass [illegible] cony
on
Every kind
Every kind ight.
Every kind
Every kind of Diet.
[illegible] Lift.
Tele. 341.
SMYTH, M.D.,
Physicians: L. T. ROSE-HUTCHINSON, M.D.

Upton Lodge Nursing Home,

BIRCHINGTON, THANET.

All types of cases taken; special care for aged; shelters in garden; charming comfort, home; nr. sea Terms mod.—MISS ROBERTSON, Matron.

SUNNY MALVERN.

The most beautiful and health-giving Spa. HOME for Gentlefolks under Medical supervision.—BEVAN, New Court, Colwall, Malvern.

HOTEL ANNONCIATA,

MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.
Dry, bracing mountain air, semi-tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods.
Easy access to Town. Up-to-date comfortable Hotel, moderate charges.
Under French and English Management.
Teleg.: Annonciata, Menton. *Teleph.*: 1.06.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.
All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.
IDEAL HEALTH RESORT.
Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

GRAMPIAN SANATORIUM,

KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 ft. above sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms £4 6s. 8d. to £6 6s. *inclusive p.w.* Med. Supt.—FELIX SAVY, M.D.
For particulars apply to the Secretary.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

Vacancy for a Permanent or Convalescent PATIENT, in a fully equipped and staffed NURSING HOME, in a sheltered locality of the North Cornish Coast. Terms on application.—Address, No. 859, B.M. House, Tavistock Square, W.C.1.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in-Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-therapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS *Telephone*: Newport Pagnell 121.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

The MAUDSLEY HOSPITAL
DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: (*a*) 189 beds (both sexes) in wards or separate rooms. (*b*) 13 private rooms (for ladies) with special sitting room, garden, and dietary.

TERMS:

(*a*) £5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.

(*b*) £6 6s. a week.

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Resident Supt.
Telephone: No. 7 Barnwood.

BOURNEMOUTH.
West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

Hospital for MENTAL
branch Glan-y-Don,
eatment and care of
e UPPER and MID-
Boarders received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 481 GATLEY.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

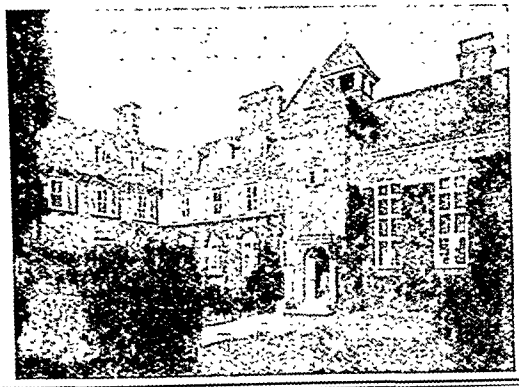
KINGSDOWN HOUSE
BOX, near BATH.
For the CARE and TREATMENT of NERVOUS and MENTAL DISORDERS in BOTH SEXES.

Separate accommodation for Voluntary Boarders of the Female Sex. Applications received at the above or at 17, Belmont, Bath, by—
Dr. H. C. MACBRYAN or
Medical Superintendents.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"



STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281. Matron: Mrs. Ellen Allfrey, S.R.N.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle, Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone:* RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of ground. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements. Weekly Dances and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actinotherapy, Electrical Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone:* NORTH 0838.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Patients or Boarders may visit by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—**WOODBRIDGE, SUFFOLK.**

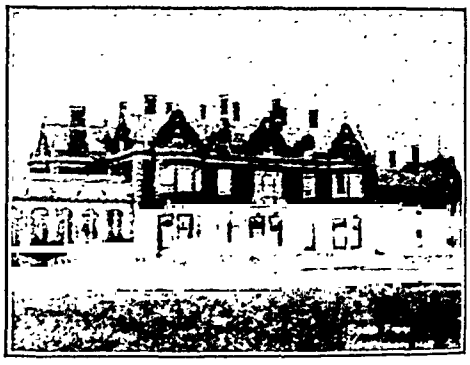
Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16.
(Toll Call from London.)



RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham, as carried on for the last twenty years, is available. Booklet and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: The Norwood Sanatorium, Limited.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone:* PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

FENSTANTON,

CHRISTCHURCH ROAD,

STREATHAM HILL, S.W.2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2234.) Apply J. H. EARLS, M.D., Resident Physician. Telephone: Streatham 8430.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

EPILEPSY.

Owing to extensions there are at present a few Vacancies at the

DAVID LEWIS COLONY

for Ladies and Gentlemen who have Epilepsy, but are of good intelligence and sound mind.

Colony life gives to most people who have epilepsy the best chance of happiness and contentment.

Apply to the Medical Superintendent,

The David Lewis Colony, Warford, Alderley Edge.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.

Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams:* "Masters," Chislehurst

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No.: Batheaston 8189.

THE GRANGE,

near ROTHERHAM.

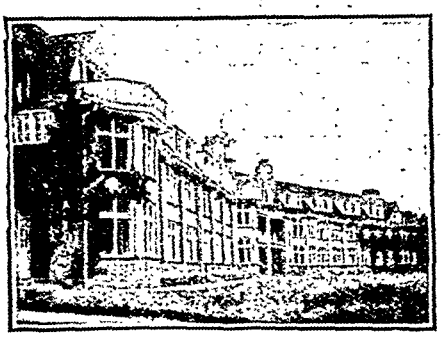
A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

EAST ANGLIAN SANATORIUM.



This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus, etc., apply to the SECRETARY, East Anglian Sanatorium, Nayland, near Colchester. *Tel. and Telegrams:* NAYLAND 1.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.

Medical Director: **David Lawson, M.D., F.R.S.E.**

FULLY EQUIPPED WITH **EVERY MODERN APPLIANCE** FOR THE DIAGNOSIS AND **TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.**

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. **Fees 4, 5, and 6 guineas per week.**

Physicians: **ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.**

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams:* Nordrach, Blagdon. *Telephone:* Blagdon 25.

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Mile[illegible]ough pine-clad hills, with sea and mountain views. Modern treatment, including [illegible]EUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special [illegible]herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4½ hours from London. Resident Physicians: Dennison Pickering, M.D (Cantab.), R. M. Bremner, M.B., M.R.C.S., L.R.C.P.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physician: ARTHUR H. HOFFMAN, M.D. St. Andrews, GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

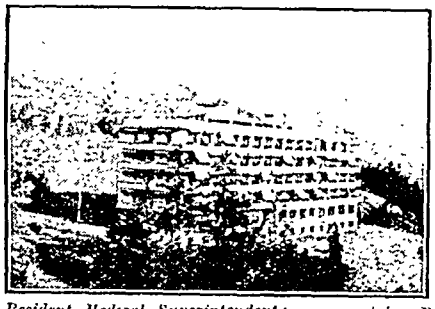
BRIDGE of ALLAN SPA
Stirlingshire

"BRIDGE OF ALLAN has a triple qualification for assured success, viz.: Great natural advantages in climate, scenery, and associations; the exceptional chemical composition of its waters; and fine, up-to-date equipment."
—An eminent Medical Authority.

The Allan Water and Spa Hotel adjoins the Spa.

For tariff and full particulars apply SPA DIRECTOR

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

VICTORIA SANATORIUM : : DAVOS
SWITZERLAND

(BRITISH SANATORIUM), 5,200 feet above sea-level.

ALTERED AND MODERNISED IN SUMMER 1930.

Terms from £5 . 12 . 0 per week.

Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

UNIVERSITY EXAMINATION POSTAL INSTITUTION
17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary* 1906-30	162
	Final	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-29 (Completed Exam.)	286
F.R.C.S.(Edin.),	1918-29	43
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.
M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Second and Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.) *CONTENTS*:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women. Hints for writing theses. Medical Prospectus gratis along with list of [illegible] the Principal, [illegible] ted Lion Sq., LBORN 6313.)

University of Leeds.

POST-G[illegible] OBSTETRICS AND [illegible] IE LEEDS

(108 Beds.)

Registered Medical Practitioners are admitted to the Hospital Practice, comprising Ante-natal, Labour and Isolation Departments, for periods of 2—4 weeks.

For particulars as to vacancies at the University Obstetrics Students' Hostel, adjoining the Hospital, apply to the DEAN, School of Medicine, Leeds.

June 21st, 1930.

BRITISH EMPIRE CANCER CAMPAIGN

announces that a Prize, consisting of a Medal, together with an honorarium of £500, will be awarded to the person, or group of persons, submitting the Essay embodying the results of original investigations which, in the opinion of the Judges appointed by the Grand Council of the British Empire Cancer Campaign, *is the best contribution towards* The Biological Effects and Mode of Action of Radiations upon Malignant and other Cells.

Candidates, who may be of either sex, must be British subjects domiciled in the British Empire. All Essays must be delivered at the offices of the British Empire Cancer Campaign not later than December 31st, 1933. A copy of the complete rules and regulations relating to the Prize can be obtained on application to the Secretary, The British Empire Cancer Campaign, 12, Grosvenor Crescent, Hyde Park Corner, London, S.W.1.

The Tavistock Square Clinic for Functional Nervous Disorders, 51, Tavistock Square, W.C.1.

A SHORT COURSE

of Lectures on

FUNCTIONAL NERVOUS DISORDERS

FOR PRACTITIONERS AND MEDICAL STUDENTS

will be given at the Clinic beginning February 9th, 1931.

For particulars of the Course apply to the Hon. Lecture Secretary at the Clinic.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

CONJOINT BOARD EXAMINATIONS

Candidates taking the First, Second, or Final Conjoint Examination in March and April, 1931, should make sure of passing at the first attempt by enrolling for the short intensive Revision Courses of the College.

POSTAL, ORAL, PRACTICAL, CLINICAL COURSES. MICROSCOPE AND MUSEUM WORK.

Highly qualified Tutors with accurate knowledge of the special features of these examinations.

Write at once for booklet, "How to Pass the Conjoint Board Examinations." Sent free on application.

Address: The Secretary, MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1.

LONDON HOSPITAL MEDICAL COLLEGE.

F.R.C.S.

A COURSE OF INSTRUCTION for the Final Fellowship Examination will begin on Monday, March 2nd.

Fees: (exclusive of Operative Surgery) 20 guineas. Operative Surgery 5 guineas.

A separate entry can be made for all Classes other than those of a strictly Clinical character.

End, E.1.

UNIVERSITY OF LONDON. KING'S COLLEGE.

PRIMARY F.R.C.S.

A Course in ANATOMY and PHYSIOLOGY, in preparation for the JUNE EXAMINATION, will commence on TUESDAY, FEBRUARY 17th, 1931, and will continue until the date of the examination, with the exception of two weeks' vacation at Easter.

Fee for the Course: Twenty Guineas.

Applications for admission to the Course should be addressed to the Dean of the Medical Faculty, King's College, Strand, W.C.2, from whom further particulars may be obtained.

UNIVERSITY OF OXFORD.

DIPLOMA IN OPHTHALMOLOGY.

The next Examination begins on June 22nd, 1931. The two months' Course of Instruction starts on April 27th, 1931.

For further information apply to—

P. H. ADAMS,
6, Holywell, Oxford. Margaret Ogilvie Reader in Ophthalmology.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment [illegible]."—"Times."
"[illegible]."—"Lancet."
and perfectly

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/6 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims
Chemistry, Physics, and Biology Labs.
MANCHESTER TUTORIAL COLLEGE,
337, Oxford Road, Manchester.

Rossall School. — Some twelve Open SCHOLARSHIPS for boys between the ages of 12 and 14, on March 1st next, value from £90 a year downwards, will be awarded by Examination, beginning March 3rd, 1931. Boys examined at Rossall and in London.—Apply, THE BURSAR, Rossall School, Fleetwood.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.

Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above School, commencing Monday, March 2nd, 1931.

The Course will be repeated on subsequent dates.

Copy of the syllabus and full particulars may be obtained on application.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees should be given

J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

Society of Apothecaries of LONDON.

MASTERY OF MIDWIFERY EXAMINATION.

The next Examination will take place on Monday, May 18th, 1931, and following days. For regulations apply to—

THE REGISTRAR.

EPSOM COLLEGE.

APPLICATIONS for the ADMISSION of CANDIDATES for PENSIONERSHIPS, FOUNDATION SCHOLARSHIPS, and an ANNUITY at the next election must reach the office by the morning of February 18th.

An EXAMINATION will take place in due course for the admission of a boy as a COUNCIL EXHIBITIONER. The fee payable is £75 a year, instead of the usual fee of £135. Candidates must be the sons of such duly qualified Medical Men as shall, in the opinion of the Council, be among the less fortunate members of their profession. Applications must reach the office by the morning of February 18th.

J. BERNARD LAMB, Secretary.

Office: 49, Bedford Square, W.C.1.
February 2nd, 1931.

LONDON SCHOOL OF DERMATOLOGY.

St. John's Hospital for Diseases of the Skin,

Leicester Square, W.C.2.

Conducted by the Honorary Staff of the Hospital, together with the Physicians in charge of the Dermatological Departments of the London Teaching Hospitals. Lectures and Demonstrations every Tuesday and Thursday, at 5 p.m., from October to March, and four times weekly during May. Clinics daily at 2 p.m. and 6 p.m., Saturdays, 2 p.m. only. Pathological Laboratory for Instruction or Research work.

For further particulars, fees, etc., apply to J. E. M. WIGLEY, M.B., Dean.

Examining Board in England

BY THE
ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE
ROYAL COLLEGE OF SURGEONS OF ENGLAND.

PRE-MEDICAL EXAMINATION.

This Examination will commence on Tuesday, *March* 24th, 1931.

SECOND EXAMINATION (OLD REGULATIONS).

This Examination will commence on Thursday, March 26th, 1931.

FIRST EXAMINATION (NEW REGULATIONS).

This Examination will commence on Thursday, March 26th, 1931.

FINAL EXAMINATION.

This Examination will commence on Monday, April 13th, 1931.

DIPLOMA IN GYNAECOLOGY AND OBSTETRICS.

This examination will commence on Thursday, April 30th, 1931.

Candidates who have completed the prescribed courses, and who desire to present themselves for examination, must forward the necessary schedule or schedules, through the post, to the Examination Hall, Queen Square, London, W.C.1, twenty-one days before the Examination commences.

HORACE H. REW,
February 2nd, 1931. Secretary.

The University of Liverpool.

By Invitation of the Council, Senate, and Faculty of Medicine,
DR. MURK JANSEN
(of the University of Leyden, Holland),
will deliver the Lady Jones Lecture in Orthopaedic Surgery, 1931, on
"THE SCIENTIFIC AND SOCIAL ASPECTS OF ORTHOPAEDICS,"
on TUESDAY, FEBRUARY 17th, 1931, at 4 p.m., in the Surgical Theatre of the Medical School.

The Lecture, which will be illustrated with Lantern Slides, is open only to Medical Practitioners.

EDWARD CAREY, Registrar.

Guy's Hospital Medical School,

London Bridge, S.E.1.

FINAL F.R.C.S. COURSE.

A Course of Instruction in preparation for the Final Examination for the Fellowship of the Royal College of Surgeons of England will commence on February 18th.

Reduced School Fees for

Daughters of Medical Men. Write Headmistress, who is opening a Third House for her Boarders. — Address, No. 937, B.M.A. House, Tavistock Square, W.C.1.

Beit Memorial Fellowships for MEDICAL RESEARCH.

Sir Alfred Beit, Bart., has been appointed a Trustee in place of his father the late Sir Otto Beit, the founder of the Trust.

Sir John Rose Bradford, Bart., K.C.M.G., C.B., C.B.E., F.R.S., President of the Royal College of Physicians, has been appointed a Trustee in place of the Earl of Clarendon, who has resigned on taking up the appointment of Governor-General of South Africa.

Sir James K. Fowler, K.C.V.O., C.M.G., M.D., who has been a member of the Advisory Board and Honorary Secretary since the foundation of the Trust in 1909, has resigned, but continues as before to be one of the Trustees.

Professor T. R. Elliott, M.D., C.B.E., D.S.O., F.R.S., a member of the Advisory Board, has been appointed Honorary Secretary.

Professor J. C. G. Ledingham, C.M.G., F.R.S., Director of the Lister Institute, has been appointed a member of the Advisory Board.

Sir Charles Martin, C.M.G., F.R.S., formerly Director of the Lister Institute, and since the foundation of the Trust a member of the Advisory Board, has resigned on proceeding to take up an appointment in Australia.

The present Trustees are:—
Sir James K. Fowler, K.C.V.O., C.M.G., M.D.
The Right Hon. W. Ormsby-Gore, M.P.
The Right Hon. The Earl of Onslow.
The Baron Rayleigh, F.R.S.
Dr. Edwin Deller, Principal of the University of London.
Sir John Rose Bradford, Bart., K.C.M.G., C.B., F.R.S., M.D.
Sir Alfred Beit, Bart.

All correspondence of candidates and Fellows should in future be addressed to the Honorary Secretary, Beit Memorial Fellowships for Medical Research, University College Hospital Medical School, Gower Street, London, W.C.1.

Indian Research Fund Association

Wanted, a competent trained ENTOMOLOGIST able to undertake independent enquiries on Malaria in the field or laboratory. Appointment will be made on basis of three-yearly contract subject to one year's probation. Salary Rs.1,500 per mensem, rising by Rs.100 increments to Rs.1,700 in last year of contract (equivalent at present rate of exchange to £1,350—£1,530 per annum), with usual departmental travelling allowance and halting allowance; salary to start from date of landing in India. Free passages out and home, 1st class B, P. & O. or equivalent, at end of contract or period of employment; return passage also paid if first year's probation not satisfactory. Usual service conditions regarding leave—i.e., one month's leave with full pay after eleven months' service or equivalent proportion, cumulative, with usual casual leave not exceeding 15 days in the year. Suitable men would have every prospect of continued employment by the Association after period of contract on terms to be agreed.

Congenial employment is offered for man keen on Research with equal status and conditions of life to those of service members of Bacteriological Department, the terms of the agreement excluding pension but granting higher pay than that drawn by all but most senior service members.

The present holder of this post is also an applicant, and is eligible for appointment.

Applications, stating qualifications and experience, with copies of relevant testimonials, must reach the Secretary, Indian Research Fund Association, Simla, India, by March 31st, 1931, at the latest.

Royal Society.

GOVERNMENT GRANT FOR SCIENTIFIC INVESTIGATIONS.

Applications for the year 1931 must be received at the offices of the Royal Society not later than March 31st next, and must be made on printed forms to be obtained from the Clerk to the Government Grant Committee, Royal Society, Burlington House, London, W.1.

The Gloucestershire Royal INFIRMARY AND EYE INSTITUTION, GLOUCESTER.

(153 Beds—4 Residents.)

Applications are invited for the post of *SECOND HOUSE SURGEON (male)*. Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned.

F. J. SYMONS,
January 29th, 1931. Secretary.

Nottinghamshire County Council

RANSOM SANATORIUM.

APPOINTMENT OF MEDICAL SUPERINTENDENT.

The Nottinghamshire County Council invite applications from duly qualified and registered Medical Practitioners for the appointment of Medical Superintendent at the County Sanatorium, Sherwood Forest (130 beds, 50 male, 40 female, and 40 children).

The salary attaching to the position will be £650 per annum, with emoluments valued at £100 (furnished married quarters, fuel, light, water), rising by biennial increments of £50 to £838 with emoluments, and the appointment will be terminable on three months' notice.

The person appointed will reside at the Sanatorium and, subject to the general direction and control of the County Medical Officer of Health, he will be required to take full responsibility for the administration of the Sanatorium, the supervision of the Staff, and the treatment of patients.

The appointment is an established post under the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination.

Forms of application, details of duties, and qualifications for the appointment may be obtained upon application at my office at the undermentioned address, and applications, with copies of not more than three recent testimonials, must be addressed to the County Medical Officer, Shire Hall, Nottingham, not later than Thursday, February 12th.

K. TWEEDALE MEABY,
Clerk of the County Council.

County House,
Nottingham.
January, 1931.

Nottinghamshire County Council

EDUCATION COMMITTEE.

ASSISTANT SCHOOL MEDICAL OFFICER (Male).

Applications are invited from duly qualified and registered Medical Practitioners for the post of Assistant School Medical Officer.

Candidates must possess a Diploma in Public Health and have had at least three years' experience since qualification. Knowledge of Refractions and Mental Deficiency will be deemed additional qualifications.

The officer appointed will be required to devote his whole time to the duties of the office. He will be a member of the staff of the County Medical Officer, will work under his control and direction, and will be required to reside in a part of the County to be approved by him and to carry out such duties as may be prescribed.

The salary will be at the rate of £500 per annum, rising by annual increments of £25 to £700, with travelling allowances in accordance with the County Council's Scale.

The engagement will be terminable by three months' notice on either side.

The appointment is an established post under the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination.

Forms of application may be obtained from the undersigned and should be returned, accompanied by copies of not more than three recent testimonials, to the County Medical Officer, The Shire Hall, Nottingham, on or before Feb. 18th.

K. TWEEDALE MEABY,
Clerk of the County Council.

Shire Hall,
Nottingham.

Bedfordshire County Council.

DEPUTY COUNTY MEDICAL OFFICER OF HEALTH AND SENIOR ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from duly qualified and registered male Medical Practitioners for the above appointment. Applicants must possess a Diploma of Public Health, and have had at least 5 years' experience in the Medical Inspection of School Children.

The salary for the appointment will be £750 per annum, together with a travelling allowance of £170 per annum.

If the person appointed possesses experience in the modern methods of the diagnosis and treatment of venereal diseases, he would be eligible for an appointment in this branch of the Council's Medical Service.

Applications, endorsed "Deputy County Medical Officer," setting out qualifications, experience, etc., with copies of not less than three recent testimonials, to be delivered to the undersigned not later than February 14th, 1931.

J. B. GRAHAM,
Clerk of the County Council.

Shire Hall,
Bedford.
January, 1931.

Nottinghamshire County Council

APPOINTMENT OF SCHOOL DENTIST (Male).

Applications are invited for the appointment of a Whole-time School Dentist, at a salary of £500 per annum, rising after completion of two years' satisfactory service by increments of £25 annually to a maximum of £550. Travelling expenses will be paid in addition according to the Scale approved by the County Council.

Candidates must be fully qualified and registered Dental Surgeons, and the person appointed will be required to perform such duties as may be from time to time prescribed by the County Education Committee, and to devote his whole time to the duties of the office. He will be a member of the Staff and act under the control and direction of the County Medical Officer of Health, and required to reside in a part of the County to be approved by the Education Committee.

The appointment will be terminable by three months' notice on either side.

The successful candidate will be required to pass a medical examination.

The appointment is an established post under the Local Government and Other Officers Superannuation Act, 1922.

Applications on the prescribed form (which may be obtained on application to me), accompanied by copies of not more than three recent testimonials, should be forwarded to the County Medical Officer, Shire Hall, Nottingham, not later than February 18th.

K. TWEEDALE MEABY,
Clerk of the County Council.

Shire Hall,
Nottingham.
January, 1931.

Surrey County Council.

ASSISTANT MEDICAL OFFICER.

Applications are invited for the appointment of a Male Assistant Medical Officer. Candidates must possess a qualification in Public Health, and have had experience in the medical inspection of school children, maternity and child welfare, and the treatment of tuberculosis and venereal diseases. The officer appointed will be required to undertake such other Public Health duties as may be allocated to him. He will be on the staff of the County Medical Officer of Health, must reside in the County, and devote his whole time to the work. Salary £600 per annum, rising by annual increments of £20 to £700 per annum. Travelling expenses in accordance with the Council's scale will be allowed.

The appointment will be subject to the approval of the Minister of Health, to the provisions of the Local Government, and Other Officers Superannuation Act, 1922, and to the Standing Orders of the Council, which provide, inter alia, that appointments may be determined at any time by three months' notice.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be made on the prescribed form, and sent to the County Medical Officer of Health, County Hall, Kingston-upon-Thames, from whom copies of the application form may be obtained, and to whom any enquiries relating to the appointment should be addressed.

Last day of receipt of applications, Wednesday, February 18th. Canvassing, directly or indirectly, will disqualify.

DUDLEY AUKLAND,
Clerk of the County Council.

County Hall,
Kingston-on-Thames.
January 27th, 1931.

Kent County Council.

MENTAL DEFICIENCY.

LEYBOURNE GRANGE.

APPOINTMENT OF RESIDENT MEDICAL SUPERINTENDENT.

Applications are invited for the position of Resident Medical Superintendent of the Institution for Mental Defectives to be opened at Leybourne Grange, near Maidstone. The Institution will accommodate 94 female defectives of the higher grades and will form the nucleus of a colony for mental defectives.

Candidates must not be more than 45 years of age, must be male registered Medical Practitioners, and must have had previous experience in the institutional care and treatment of mental defectives.

The salary will be £700 per annum, rising by annual increments of £25 per annum to £1,000 per annum. The emoluments will consist of an unfurnished house, lighting, fuel, water, garden produce, and laundry for self and family, and will be valued for pension purposes at £300 per annum.

Forms of application, with further particulars, can be obtained from the undersigned, and must be completed and returned to him not later than February 21st.

W. L. PLATTS,
Clerk of the Kent County Council.

Sessions House, Maidstone.
January 27th, 1931.

City of Birmingham.

ERDINGTON HOUSE.

RESIDENT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners, male, with experience in the special duties to be performed, for the appointment of Medical Officer (whole time) of the Erdington House Poor Law Institution and its Annexe, Witton Hall, and of the Erdington Children's Homes.

The Institution and Annexe has accommodation for 1,980 patients, of whom approximately 1,000 are mental patients, some being certified for detention under the Lunacy Act, others under the Mental Deficiency Acts. About 250 are in sick wards, the remainder being aged and infirm, ordinary house cases, etc. The Children's Homes (grouped) have accommodation for 379. The Medical Staff comprises the Medical Officer and two resident Assistants, one male and one female.

The total salary for the appointment is £850 per annum, together with furnished house, rations, lighting, heating, laundry, and attendance, the emoluments being valued for superannuation purposes at £250 per annum. The whole is subject to superannuation deductions.

The gentleman appointed may be required to perform the duties of Public Vaccinator in respect of the two Institutions, but any fees from this source, as well as fees under the Lunacy Acts, and all other fees or payments received by the Officer are required to be paid into the Corporation funds.

The appointment will be subject to satisfactory medical examination.

Applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, should be sent to the undersigned on or before Wednesday, February 11th.

Council House, F. H. C. WILTSHIRE,
Birmingham. Town Clerk.
January 26th, 1931.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

BOOTH HALL HOSPITAL.

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER.

The Public Health Committee invites applications for the appointment of Woman Assistant Medical Officer at the Booth Hall Hospital for Children (750 beds), Charlestown Rd., Blackley, Manchester.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous Hospital experience.

The Hospital is a recognized Training School for Nurses and is equipped with all modern Hospital requirements.

Salary £250 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made, in the first instance, for a period of six months. The successful candidate, however, will be eligible for re-appointment for a further period of six months at the end of that period.

Every application, stating fully the training, qualifications, and experience of the candidate, and her age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Officer, Booth Hall Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Friday, February 13th.

The candidate appointed will be required to commence duty as soon as possible after appointment, to devote the whole of her time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

Town Hall, F. E. WARBRECK HOWELL,
Manchester. January 30th, 1931. Town Clerk.

The King Edward VII Welsh NATIONAL MEMORIAL ASSOCIATION.

Applications are invited from duly registered Medical Practitioners (male) for the post of THIRD ASSISTANT RESIDENT MEDICAL OFFICER at the NORTH WALES SANATORIUM, LLANGWYFAN, near Denbigh. (256 beds for pulmonary and non-pulmonary cases.)

Salary £250 per annum, plus full maintenance, etc., the appointment being limited to one year.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should reach the undersigned not later than February 12th.

Memorial Offices, D. A. POWELL,
Westgate Street, Principal Medical
Cardiff. Officer.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A RESIDENT MEDICAL SUPERINTENDENT is required on March 9th.

Gentlemen are invited to send in their application to the Secretary, before 12 o'clock on Monday, March 2nd, accompanied by copies of not more than three testimonials given specially for the purpose.

The appointment is made for one year, but may be held, subject to re-election, for a period of three years.

Salary £300 per annum, with board-residence in the Hospital, £10 allowance for laundry, and £18 18s. for the purpose of providing a substitute during annual leave.

Candidates must be unmarried and possess a legal qualification to practice, and must have held a responsible Hospital appointment at a General Hospital.

All candidates must be in attendance on Wednesday, March 4th, at 4.45 p.m. precisely, to appear before the Joint Committee, if required.

Forms of application and copies of the Rules may be obtained from the Secretary at the Hospital.

By Order of the Board of Management,
JAMES McKAY,
February, 1931. Secretary.

Cumberland and Westmorland
MENTAL HOSPITAL, GARLANDS, CARLISLE.

JUNIOR ASSISTANT MEDICAL OFFICER required.

Applicants must be registered Practitioners, male, unmarried, not over 30. Salary £350 per annum, rising by four annual instalments of £25 to £450, together with the usual emoluments, valued for the purpose of the A.O.S. Act at £100 per annum. £50 additional will be given on obtaining the D.P.M. The appointment to be subject to two months' notice on either side. The successful candidate to be free to take up duty shortly after March 1st.

Applications, stating age, qualifications, religion, etc., together with copies of three recent testimonials, to reach the undermentioned not later than February 19th.

The MEDICAL SUPERINTENDENT.

Hull Royal Infirmary.
SUTTON BRANCH.

The above Branch has been recently opened and is a self-contained modern General Hospital of 100 Beds. *There are two Resident posts.*

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum, plus board, residence, and laundry. The appointment will be for six months in the first instance, and will be terminable by one month's notice on either side.

Applications, stating age, qualifications, and nationality, and with copies of testimonials, *should be sent to the undersigned.*

Hull Royal Infirmary, R. J. CARLESS,
Hull. House Governor.
January 31st, 1931.

North Staffordshire Royal
INFIRMARY, STOKE-ON-TRENT.
(A General Hospital of 346 Beds.)

APPOINTMENT OF HOUSE SURGEON.

The Committee invite applications for the post of House Surgeon. Salary at the rate of £150 per annum, with board, residence, and laundry. Previous Surgical Hospital experience necessary. The appointment will be made for a period of twelve months. Applications, with copies of two recent testimonials, to be forwarded at once.

W. STEVENSON,
Sec. and House Governor.
January 24th, 1931.

Aberdeen Royal Infirmary.
The Board of Directors invite applications for the post of HONORARY ASSISTANT MEDICAL ELECTRICIAN AND RADIOLOGIST. Six copies of applications and testimonials should be lodged not later than Wednesday, February 18th.

JOHN A. McCONACHIE,
230, Union Street, Acting Clerk &
Aberdeen. Treasurer.
January 30th, 1931.

Bedford County Hospital.
(122 Beds.)

ASSISTANT HOUSE SURGEON (male), fully qualified, unmarried, required for a term of not less than six months, commencing February 26th. Salary £130, with board, lodging, and laundry.

Applications, stating age, nationality, qualifications, together with three recent testimonials, to be sent to the Hon. Secretary, Hon. Medical Staff Committee, as soon as possible.

Manchester Royal Infirmary.
CENTRAL BRANCH, ROBY STREET, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite applications for the *above appointment.*

Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for twelve months commencing forthwith—four months as Junior at £100 per annum, four months as Assistant at £100 per annum, and four months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m on Thursday, February 12th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

Derbyshire Royal Infirmary,
DERBY.
(General Hospital—346 Beds.)

Applications are invited for the following posts:

HOUSE SURGEON for General Surgery.
HOUSE SURGEON for General Surgery and Ear, Throat, and Nose.
OPHTHALMIC HOUSE SURGEON.

Candidates must be qualified and registered under the Medical Acts.

The appointments are for 12 months.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with copies of testimonials, to be sent to the undersigned not later than *February 13th.*

Duties will commence on March 1st.

WALTER BANKS,
Jan. 26th, 1931. Supt. & Secretary.

Hospital Convalescent Home,
SWANLEY, KENT.

There will be a vacancy for a RESIDENT MEDICAL OFFICER (female) on April 1st.

The duration of the appointment is for six months, and may be extended for a further six months. Salary at the rate of £200, with quarters and full board.

There is a certain amount of active Medical and Surgical work to be undertaken, and candidates should have held a recent resident post in *a General Hospital.*

Applications, addressed to the Secretary, Hospital Convalescent Home, 18, Walbrook, London, E.C.4, should be submitted on or before Friday, February 27th.

CHARLES M. POWER, Secretary.

David Lewis Northern Hospital,
LIVERPOOL.

Applications are invited for the undermentioned posts:

One HOUSE SURGEON.
Two HOUSE PHYSICIANS

The appointments will be tenable for six months from April 1st. The salary attached to each post is £100 per annum, together with board and residence.

Applications, with copies of testimonials, to be sent to the undersigned on or before Saturday, February 21st.

THORNBURROW GIBSON, M.A.,
January 27th, 1931. Secretary-Supt.

The Prince of Wales's General
HOSPITAL, LONDON, N.15.

Applications are invited for the post of HONORARY SURGICAL REGISTRAR (Honorarium of £100 per annum).

Candidates must be Graduates in Medicine of a British University, or a Fellow or Member of the Royal College of Surgeons.

Applications, accompanied by three recent testimonials, to be sent on or before Saturday, February 28th, to—

J. C. BURDETT, Director.

The Metropolitan Ear, Nose, and
THROAT HOSPITAL
(1838) (Incorporated), Fitzroy Square, W.1.

CLINICAL ASSISTANT.

Applications are invited and should be forwarded, with not more than three testimonials, to the undersigned.

L. L. PHILLIPS, Secretary.

The Princess Mary Maternity
HOSPITAL, Jubilee Road, NEWCASTLE-UPON-TYNE.

RESIDENT MEDICAL OFFICER (male) required for six months from March 1st.
For details apply House Governor.

The Royal Hospital,
WOLVERHAMPTON.
(Incorporated under Charter.)

HOUSE SURGEON required immediately, for Ear, Throat, and Nose Department.

The Hospital contains 240 beds, includes the usual special departments, and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical practice.

Candidates must be registered under the Medical Acts and unmarried.

The appointment is for six months. Salary at the rate of £100 per annum; board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded to the undersigned forthwith.

W. H. HARPER,
Wolverhampton. House Governor.
February 2nd, 1931.

Radcliffe Infirmary and County
HOSPITAL, OXFORD.

RESIDENT MEDICAL POSTS.

Applications are invited for the following posts, which will become vacant on April 1st:

Three HOUSE SURGEONS.
HOUSE PHYSICIAN.
OBSTETRIC HOUSE PHYSICIAN.

Appointments for six months, except post of House Physician, which is for nine months, with salaries at the rate of £120 per annum, with board, *etc.*

Candidates must be male and qualified.

Applications, with four copies of three testimonials, to be sent to the undersigned on or before Monday, February 23rd.

A. G. E. SANCTUARY,
Administrator.

East London Hospital for
CHILDREN & DISPENSARY FOR WOMEN, *Shadwell, E.1.*

The Board of Management invite applications for the *post of* SURGEON to the Nose, Throat, and Ear Department, to attend one day a week.

By Section 6, Sub-Section 19 and 20, of the Constitutions of the Hospital, every Surgeon *shall be a Fellow of the Royal College of Surgeons of England.*

Applications, with copies of testimonials, should be addressed to the undersigned and delivered to the Hospital on or before Saturday, February 14th.

By Order of the Board of Management,
W. M. WILCOX,
Secretary.

Nottingham Hospital for Women
HOUSE SURGEON (female or male) required to commence duties on March 15th. Appointment for period of not less than six months. Salary at the rate of £150 per annum, with board, residence, and laundry. Previous Hospital experience essential.

Applications, stating age, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the Secretary, Mr. A. L. MORELL, Burton Buildings, Parliament Street, Nottingham, not later than February 21st.

Margate and District General
HOSPITAL. (80 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) to commence duties on March 2nd next. Twelve months' engagement (renewable).

Salary £125 per annum, with board and laundry.

Applications, accompanied by copies of testimonials, should be sent to the Secretary, Medical Committee, at the Hospital, as early as possible.

Royal Hampshire County
HOSPITAL, WINCHESTER.

SENIOR RESIDENT MEDICAL OFFICER.

Applications are invited from fully qualified men for the above post, vacant on March 1st. Salary £200 per annum, with board, residence, and laundry. Candidates, who must be of British nationality, should make application at once to the undersigned, enclosing copies of three testimonials.

HERBERT MASLEN, Secretary.

Royal Southern Hospital,
LIVERPOOL.

Wanted, One HOUSE SURGEON.

The salary for this appointment is £60 per annum, including board and residence.

The appointment will be for six months, duties commencing as from April 1st.

Applications and copies of testimonials to be sent to the undersigned at once.

ALLEN NALDRETT,
Superintendent & Secretary.

Metropolitan Borough of Poplar.

MATERNITY AND CHILD WELFARE CLINICS.

MEDICAL OFFICER (PART-TIME).

Applications are invited for the engagement of a Part-time Medical Officer for five of the Council's Maternity and Child Welfare Clinics (2 Ante-natal and 3 Infant Consultation), held on the following days:—Monday, afternoon; Wednesday, forenoon and afternoon; Friday, forenoon and afternoon.

The person to be engaged must be a registered Medical Practitioner who, prior to April 1st, 1930, has held the appointment of Medical Officer of an Ante-natal Clinic with the approval of the Minister of Health, or who subsequent to qualification has had at least three years' experience in the practice of his or her profession, and special experience of practical midwifery and ante-natal work.

The rate of remuneration will be one and a half guineas per session.

Applications, stating age last birthday, qualifications, and experience, and accompanied by copies of not more than three recent testimonials, must be forwarded in envelope marked "Medical Officer," so as to reach the undersigned not later than 9 a.m. on Thursday, February 12th next.

Canvassing members or officers of the Council, in any form, will disqualify.

H. E. DENNIS,
Town Clerk.

Council Offices,
Poplar, E.14.
January 27th, 1931.

City of Birmingham Education Committee.

APPOINTMENT OF DIRECTOR OF CHILD GUIDANCE CLINIC AND SPECIAL SCHOOLS MEDICAL OFFICER.

The Birmingham Education Committee intend shortly to appoint a full-time Medical Officer to act in the following capacities:

(1) Special Schools Medical Officer;
(2) Director of the Child Guidance Clinic to be established in the near future.

Candidates should be fully qualified Medical Practitioners, have good experience in the treatment of diseases of children, and special knowledge of Psychological Medicine.

The salary offered is from £600 to £700 per annum, according to qualifications and experience.

A Fellowship will be available if necessary to enable the successful candidate to train in Child Guidance work.

The terms of the appointment may be subject to alteration at the end of three years.

Canvassing, direct or indirect, will be regarded as a disqualification.

Further information as to the conditions of appointment may be obtained from the Chief Education Officer, Education Office, Council House, Margaret Street, Birmingham, to whom all applications should be addressed.

Applications for appointment should give full particulars as to age, training, and qualifications, and should be posted in time to reach the Chief Education Officer by February 21st.

Education House, Birmingham.
Council House, Birmingham.
January 21st, 1931.

Tavistock Square Clinic for Functional Nervous Disorders,

51, Tavistock Square, W.C.1.

Applications are invited for the post of a second DIAGNOSTIC PHYSICIAN (male) to the above Clinic.

Candidates should be Fellows or Members of the Royal College of Physicians of London, and should have some special interest in the Psychoneuroses, though the Physician appointed will not be expected to carry out treatment.

Applications should be delivered before Monday, February 23rd, to the undersigned, from whom further particulars of the appointment and the honorarium offered may be obtained.

D. G. POOLE,
Secretary.

51, Tavistock Sq., W.C.1.

London Hospital, E.1.

Applications are invited for the post of SURGICAL FIRST ASSISTANT AND REGISTRAR.

Candidates must be Fellows of the Royal College of Surgeons. The salary is £300 per annum, which is paid by the Hospital and Medical College jointly. The appointment is for one year, but is renewable annually, on application, for two further periods of one year.

Applications should arrive at the Hospital not later than by the first post of Monday, February 16th.

Further particulars may be obtained from the House Governor.

A. G. ELLIOTT, House Governor.

Administrative County of London.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the undermentioned positions. The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendent, and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the Council. The successful candidates will be required to live in the Hospital.

ST. BENEDICT'S HOSPITAL, Church Lane, Tooting, S.W.17.—ASSISTANT MEDICAL OFFICER (woman). Salary £250 a year, together with board, lodging, and laundry. Candidates must have held a resident appointment in a General Hospital. Appointment is for one year only. The appointment will be for one year. The appointment contract of service.

LEWISHAM HOSPITAL, High St., Lewisham.—HOUSE PHYSICIAN. Salary £80 a year, together with board, lodging, and washing. Accommodation only for the person appointed. Appointment is for six months only in the first instance, but may be extended for a further period not exceeding six months.

The salary and conditions of appointment in each case are provisional and subject to review by the Council.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 42), The County Hall, Westminster Bridge, S.E.1, and must be returned by February 20th. Canvassing disqualifies.

Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the Hospital.

MONTAGU H. COX,
Clerk of the London County Council.

County of Derby.

APPOINTMENT OF DEPUTY COUNTY MEDICAL OFFICER OF HEALTH.

Applications are invited from registered Medical Practitioners (male) for the appointment of Deputy County Medical Officer of Health. Candidates must possess a Diploma in Public Health and must have had administrative experience in Public Health.

Candidates must not be over 45 years of age, and the officer appointed must reside in the County and devote his whole time to the work.

The appointment, which will be terminable by three months' notice on either side, will be an established post for the purposes of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination.

Salary £840 per annum, rising by annual increments of £30 to £960 per annum.

Applications, stating age, qualifications, and experience, together with copies of not more than three recent testimonials, should be sent to the undersigned not later than Feb. 23rd.

W. M. ASH,
New County Offices, County Medical Officer.
Derby.
January 30th, 1931.

Gloucestershire Joint Committee for Tuberculosis.

STANDISH HOUSE SANATORIUM, STONEHOUSE, GLOS.

Applications are invited from registered Medical Men for the post of JUNIOR ASSISTANT MEDICAL OFFICER at the above Institution. No previous professional experience is necessary. There are at present 250 beds, including men, women, and children. There is an Orthopaedic block.

The salary is £250 per annum, with board, furnished apartments, and laundry in addition. The appointment is for six months (with possibility of extension for a further period of six months) and will be terminable within that period by one month's notice on either side.

Applications, stating qualifications and age, and accompanied by copies of three recent testimonials, should be received not later than the morning of Saturday, February 14th.

E. T. GARDOM,
Shire Hall, Clerk of the Joint
Gloucester. Committee.
January 22nd, 1931.

Bristol Royal Infirmary.

Applications are invited for the post of RADIUM OFFICER (non-resident). Salary at the rate of £600 per annum. Candidates, who must be qualified and registered, to send in their applications, stating age, and giving particulars of experience, together with copies of not more than four testimonials, to the undersigned.

ELLIS C. SMITH, F.C.I.S.,
Secretary & House Governor.

Metropolitan Hospital,

Kingsland Road, E.8.

The Committee of Management are prepared to receive applications for the appointment of a PHYSICIAN, who will be Junior member of the Medical Staff. Candidates must be Members of the Royal College of Physicians of London and Graduates in Medicine of a University recognised by the Medical Council, and not engaged in general practice.

Candidates will be required to call upon Members of the Staff.

Twenty applications, complete with copies of recent testimonials, must reach the undersigned (from whom further particulars may be obtained) not later than first post on Monday, March 2nd.

HERBERT F. RUTHERFORD.
Secretary & House Governor.

The Queen's Hospital for Children, Hackney Road, London, E.2.

The Committee invite applications for the post of SECOND SURGEON for the Ear, Nose, and Throat Department, with charge of beds. Attendance required on Tuesday mornings. An honorarium to cover travelling expenses will be paid. Candidates must be Fellows by examination of the Royal College of Surgeons, England.

Applications, which may be printed or typewritten, with copies of three recent testimonials, should be sent on or before February 24th to the undersigned, from whom further particulars may be obtained.

CHARLES H. BESSELL,
Secretary.

February 2nd, 1931.

South Devon and East Cornwall Hospital, Plymouth. (240 Beds.)

Applications are invited for the post of:

RESIDENT ANAESTHETIST AND HOUSE SURGEON to the Special Departments. (Woman.)

Salary £100 per annum, with board, residence, and laundry. Appointment is tenable for six months and is subject to renewal. Candidates must be registered under the Medical Acts.

Applications, stating age and qualifications, together with copies of recent testimonials, to reach the undersigned by February 20th.

ARTHUR R. CASH,
General Supt. & Secretary.

February 2nd, 1931.

West Riding Mental Hospital, Wakefield.

Vacancy for JUNIOR ASSISTANT MEDICAL OFFICER (male) Post-graduate Medical or Surgical experience essential. Experience of Mental work not necessary. Junior Officers who decide to specialise in Mental Diseases receive complete training for the Diploma in Lunacy, on gaining this are eligible for promotion to senior rank (with married man's privileges). Salary £400, rising by £25 per annum to £500 (and on promotion to £800), together with apartments, board, washing, and attendance, valued for superannuation purposes at £120.

Applications to be sent immediately to the Medical Director.

Cheshire County Council.

WRENBURY HALL TUBERCULOSIS TRAINING COLONY.

Applications are invited for the appointment of RESIDENT HOUSE PHYSICIAN at the above Institution. The appointment is for one year only, at a salary of £250 per annum, together with board and residence, and particulars of application, and Form of application, and particulars of appointment, to be obtained from the undersigned.

REGINALD POTTS,
Clerk of the County Council.

County Offices,
Northgate Street, Chester.
February 3rd, 1931.

City and County of Newcastle-upon-Tyne.

NEWCASTLE GENERAL HOSPITAL.

HOUSE PHYSICIAN (Male).

Applications are invited for the above post. The salary for the appointment, which is tenable for six months, is at the rate of £100 per annum, with board, lodgings, etc. Applications, stating ages and qualifications, together with copies of not more than three recent testimonials, to be addressed to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne.

City of Coventry.

MUNICIPAL HOSPITAL.

The Public Health Committee invite applications from duly registered Medical Practitioners for the appointment of a Second ASSISTANT MEDICAL OFFICER at the above Hospital, which is a modern General Hospital of 300 beds. The Hospital includes Medical, Surgical, Obstetric, and Children's wards, and possesses up-to-date theatre and X-ray plant.

The appointment will be for a period of one year. Two months' notice of intended resignation will be required.

The salary will be at the rate of £250 per annum, with usual residential emoluments, or a payment of £100 per annum in lieu. The officer appointed will be required to pay to the Corporation any fees received in connection with his official work.

Applications, accompanied by copies of three recent testimonials, should reach the undersigned on or before Tuesday, February 17th.

Forms of application are available on request.

A. MASSEY, M.D.,
Medical Officer of Health.

The Council House,
Coventry. February 2nd, 1931.

Manchester Victoria Memorial

JEWISH HOSPITAL,
CHEETHAM, MANCHESTER.
(Non-Sectarian.)

Applications are invited for the post of JUNIOR HOUSE SURGEON (male). The appointment is for six months. Salary at the rate of £125 per annum, with board, residence, and laundry. Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned not later than February 16th.

FRED. BARNES,
Superintendent & Secretary.

Seamen's Hospital Society,

GREENWICH.

HOUSE SURGEON (male) required at TILBURY HOSPITAL, ESSEX, for six months from March 1st. Salary £150 per annum, with board, residence, and laundry. Good opportunities for minor Surgery.

Applications, with copies of three testimonials, to be sent in by February 23rd to the undersigned.

R. E. V. BAX, Secretary.
Seamen's Hospital Society, Greenwich.
January 31st, 1931.

Chester Royal Infirmary.

(211 Beds.)

Wanted, HOUSE SURGEON (male) to the Ear, Nose, and Throat Department, to commence duties March 1st. Salary £150 per annum, with board, lodging, and washing. Large department and good opportunities for experience. Candidates must be doubly qualified and registered. Application list closes on Feb. 21st.

Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P.,
Hon. Supt. of the Resident Medical Staff.

The Liverpool Eye and Ear

INFIRMARY, MYRTLE STREET.

Applications are invited for the position of OPHTHALMIC HOUSE SURGEON to the above Institution. Salary £100 per annum, with board and lodging.

Applications, stating age and qualifications, together with not more than three recent testimonials, should be sent to CHAS. W. WRIGHT, Esq., 9, Harrington Street, Liverpool, by midday, Tuesday, February 17th.

Coventry and Warwickshire

HOSPITAL. (307 Beds.)

RESIDENT HOUSE PHYSICIAN (male) wanted. Salary £160 p.a., with board, lodging, and attendance provided. Candidates must be duly qualified and registered.

Applications, stating age, and enclosing copies of recent testimonials, should be sent to the undersigned on or before February 17th.

(Miss) R. HOOPER, Secretary.

The Sheffield Royal Hospital.

(340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum, also RESIDENT ANÆSTHETIST, salary £80 per annum, rising to £100 in six months, to commence duties at once (males). Board, residence, and laundry. There are twelve Resident Medical Officers. Applications should be forwarded at once to—

W. H. BOOTH,
January 5th, 1931. Supt. & Secretary.

Barry Urban District Council.

SURGICAL HOSPITAL.

HOUSE SURGEON (Male).

Applications are invited for the above appointment.

Candidates must be duly qualified and registered. Salary £200 per annum, with board and lodging.

Preference will be given to a candidate with previous experience, especially in the administration of Anæsthetics.

The successful candidate must devote the whole of his time to the duties of his office and to assist the Medical Staff, and act under the supervision of the Medical Superintendent, who is also Medical Officer of Health and School Medical Officer.

The appointment will be for a period of six months, to be renewed, if thought fit, for another period of six months, but not for any subsequent period.

The successful candidate will be required to commence duties immediately.

Applications, stating age, qualifications, positions held, with copies of three recent testimonials, to be sent to Dr. P. W. KENT, Medical Superintendent, Public Health Office, Barry.

(Signed) T. D. HOWELLS,
February 3rd, 1931. Clerk.

Tunbridge Wells and Counties

GENERAL HOSPITAL.
(100 Beds—2 Residents.)

Applications are invited for the post of HOUSE SURGEON (male). Salary £160 per annum, with board, residence, and laundry. The appointment is for twelve months.

Applications, stating age, qualifications, and experience, and accompanied by three recent testimonials, should be sent to the undersigned on or before February 16th.

P. E. WINDO, Secretary.

Belgrave Hospital for Children

(Incorporated), 1, Clapham Road, S.W.9.

The Committee of Management invite applications for the post of ASSISTANT SURGEON. Candidates (men) must be Fellows of the Royal College of Surgeons of England.

There is an honorarium of fifty guineas per annum attached to the post.

Applications, with copies of testimonials, must be delivered to the undersigned by 10 a.m. on Saturday, February 28th, from whom further information may be obtained.

By Order,
THOMAS CLAPHAM, Secretary.

Kent and Canterbury Hospital,

CANTERBURY.

HOUSE SURGEON (male) required. Six months' appointment. Salary at the rate of £125 per annum, plus board, residence, and laundry.

Applications, accompanied by copies of testimonials, should be forwarded to the undersigned.

W. T. SOUTHWOOD,
Superintendent & Secretary.

The Royal National Hospital for

CONSUMPTION AND DISEASES OF THE CHEST, VENTNOR, ISLE OF WIGHT.

A male ASSISTANT RESIDENT MEDICAL OFFICER required for six months, to take up duties at an early date.

Salary £300 per annum, with residence and board in the Hospital. Candidates must be recently doubly qualified, registered, and unmarried, and be desirous of undertaking the [illegible] own handwriting, [illegible] with one copy [illegible] should be sent to the Medical Superintendent, Royal National Hospital for Consumption, Ventnor, I.O.W., at once.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.
HOUSE SURGEON in charge of Male Wards.
HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHAR[illegible] March 1st.
[illegible]FICER.
Gen[illegible]overnor.

Beckett Hospital & Dispensary,

BARNSLEY. (152 Beds.)

Applications are invited for the undermentioned posts:

CASUALTY OFFICER to take charge of injuries and fractures. Capability to perform emergency operations a recommendation. Ophthalmology desirable.

HOUSE PHYSICIAN. Preference will be given to applicants who have held previous Hospital posts, and having Pathological experience.

Salaries are £250 and £200 per annum respectively, with board, residence, and laundry.

Applications, together with testimonials, should be sent to the undersigned immediately.

ARTHUR L. BOURNE,
Secretary-Superintendent.

Weston-super-Mare General

HOSPITAL. (80 Beds.)

HOUSE SURGEON.

Applications are invited for the post of Resident House Surgeon at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry. Duties to commence March 31st next.

Applications, stating age and qualifications, and enclosing copies of testimonials, should be addressed to the undersigned.

LESLIE J. FURSLAND, Secretary.

All Saints' Hospital (for Genito-

URINARY DISEASES.
In-patient Dept., 91, Finchley Road, N.W.8.
Out-patient Dept. and Secretary's Office: 49/55, Vauxhall Bridge Road, S.W.1.

Applications are invited for the post of HONORARY ASSISTANT SURGEON. Candidates must be Fellows of the Royal College of Surgeons of England, Ireland, or Scotland, and solely engaged in consulting surgical practice.

Applications, with copies of recent testimonials, to be sent in on or before February 11th to the undersigned, from whom particulars of the duties, etc., can be obtained.

D. H. EADE, Secretary.

Ingham Infirmary,

SOUTH SHIELDS. (124 Beds.)

Wanted, HOUSE SURGEON (male). Salary £150 per annum, with residence, board, and washing. No out-visiting. Candidates must hold registered qualifications in Medicine and Surgery. The appointment will be terminable by one month's notice.

Applications, stating age, and accompanied by copies (which will not be returned) of recent testimonials, to be sent to the undersigned, from whom further particulars may be obtained.

JOHN POTTER, Secretary.

Whitehaven and West Cumber-

LAND HOSPITAL, WHITEHAVEN.
(90 Beds.)

Wanted by the middle of March, JUNIOR HOUSE SURGEON (male). Salary £100 per annum, including board, residence, and laundry. Twelve months' appointment. After six months as Junior an opportunity is given of becoming Senior for the second six months at the rate of £150 per annum.

Applications, stating age, nationality, etc., together with copies of three testimonials, to be sent to the Secretary, endorsed "House Surgeon," at once.

R. HIGGINS, Secretary.

Birmingham and Midland Eye

HOSPITAL.

Applications are invited from duly qualified Medical Practitioners for the post of RESIDENT SURGICAL OFFICER, which will become vacant on or about March 20th.

The Resident Staff also consists of two House Surgeons, and, in the event of one of these being promoted, applicants should state whether they will be willing to accept the appointment of House Surgeon at a salary of £110 per annum.

Applications, with testimonials and evidence of registration, must be received not later than Monday, February 16th.

Church Street, C. A. MASON,
Birmingham. General Superintendent.

Lowestoft and North Suffolk

HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required at once. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.).*	**PUBLIC HEALTH.**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	PLYMOUTH EDUCATION AUTHORITY. *(Deputy Assistant Medical Officer.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

February 4th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Bristol City and County Mental HOSPITAL.

THIRD ASSISTANT MEDICAL OFFICER required. Candidates must be duly qualified and registered, and preference will be given to candidates with previous Mental Hospital experience and in possession of a Diploma in Psychological Medicine. Salary £350, rising by annual increments of £25 to £450 per annum; £50 extra if in possession of the D.P.M.; with emoluments valued at £150. The appointment is subject to the Asylums Officers Superannuation Act, 1909. Forms of application may be obtained from the Medical Supt., The Mental Hospital, Fishponds, Bristol, on or before Wednesday, February 11th.

JOSIAH GREEN,
Clerk to the Visiting Committee.

The Council House, Bristol.
January 30th, 1931.

County of London.

The LONDON COUNTY COUNCIL invites applications for appointment as Eighth ASSISTANT MEDICAL OFFICER (man) in the Mental Hospitals Service. Candidates must be under 35 years of age and be registered to practise both in Medicine and Surgery in England. Salary £445 a year, rising to £570. No emoluments. Charges for board, lodging, etc. (at present £2 9s. a week), if required to be resident. Pensionable under Asylums Officers Superannuation Act, 1909. Application form, giving full particulars, obtainable from Chief Officer, Mental Hospitals Department, L.C.C., Artillery House, Artillery Row, S.W.1. Applications must be received by February 26th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.

West Bromwich and District GENERAL HOSPITAL. (130 Beds.)

Applications are invited for the posts of (1) HOUSE SURGEON; (2) HOUSE PHYSICIAN; and (3) CASUALTY HOUSE SURGEON (males).

Candidates must be doubly qualified and unmarried. Salaries at the rate of £200 per annum, with board, residence, and laundry.

The appointments are for six months, and the candidates appointed will be required to take up their duties on March 1st next.

Applications, stating age and qualifications, with copies of recent testimonials, should be sent to the undersigned on or before Feb. 11th.

By Order,
FRANK I. HANCOCK,
Secretary & Supt.

Edward Street, West Bromwich.

Liverpool Hahnemann Hospital, HOPE STREET.

Wanted, a LOCUM TENENS HOUSE SURGEON to the above Hospital, for one month, possibly longer.

Successful applicant should be able to take up appointment on February 18th.

Salary at the rate of £100 per annum.

Duties include casualties, assisting at operations, and occasional anaesthetics.

Apply, stating age, sex, nationality, and enclosing copies of testimonials, to the Registrar.

Birmingham and Midland HOSPITAL FOR WOMEN.

HOUSE SURGEON (man or woman) wanted for six months from April 1st. Salary to be at the rate of £75 per annum. Applications, with full particulars and copies of testimonials, to be sent to HUGH C. ASTON, 45, Newhall Street, not later than February 23rd.

West Bromwich and District GENERAL HOSPITAL.

APPOINTMENT OF HONORARY PHYSICIAN. APPOINTMENT OF HONORARY SURGEON.

The Committee of Selection will, on Monday, March 2nd, proceed to the appointments of an Honorary Physician and an Honorary Surgeon.

Candidates are requested to send their applications and testimonials and evidence of their degree and diploma to the Honorary Secretary, ERIC BACHE, Esq., LL.B., Lombard House, West Bromwich, on or before February 23rd.

The By-laws provide: "That every Honorary Physician shall be a registered Graduate in Medicine of a recognised University or a Fellow or Member of Royal College of Physicians in the United Kingdom, and every Honorary Surgeon shall be a registered Graduate in Surgery of a recognised University or a Fellow or Member of Royal College of Surgeons in the United Kingdom, and that appointments shall be for a period not exceeding five years."

Mr. A. L. BODLEY, Honorary Surgeon, who retires in accordance with the By-laws, being eligible, offers himself for re-election.

By Order,
F. I. HANCOCK,
Secretary & Superintendent.

Royal Northern Infirmary, INVERNESS. (150 Beds.)

HOUSE SURGEON wanted to commence duties on March 1st. The appointment is for six months. Salary is at the rate of £100 a year, with board, residence, and washing.

Applications, stating age, qualifications, etc., with copies of recent testimonials, should be sent not later than February 17th to ROBERT GILBERT, Hon. Secretary, 20, Church Street, Inverness.

(Appointments continued on p. 57.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQ., LONDON, W.C.1.

T/A: ARTICULATE, WESTCENT, LONDON. *Tel.*: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s. Each Additional Line, 1s. 6d.

(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted. — Assistant, outdoor, male, British, for private, panel, and industrial Practice, Yorkshire. Salary £300 a year, with rooms, board, lights, fires, and attendance. Some previous experience desirable. Usual *bond, no view* to Partnership, but continuous employment *for* suitable single man under 30.—Apply, CHAS. F. THACKRAY, Park Street, Leeds.

Wanted immediately. — Male ASSISTANT, indoor, British, *for mixed* industrial and country Practice in County Durham. Salary £300 per annum, with early increase if suitable. Motor cycle kept, or allowance for car.—Address, No. 867, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately.—Experienced, well-qualified, part-time, outdoor ASSISTANT (British) in residential Health Resort near University City. View Junior Partnership and succession. Suit man reading for higher degree. Essential parties, with photo. —No. 865, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.--Assistantship, London area, good-class Practice, by woman, *M.B., B.S*, five years' experience *hospital*, private, and panel practice, and Post-graduate work.—Address, No. 770, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, a second indoor M nd private Practice n pleasant City. A and Eye work desirable. Own car an advantage.—Add., No. 860, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Assistantship (temp.) or long LOCUM, *by M.B., B.Ch.*, B.A.O., aged 29, single, abstainer. Three years' hospital experience. Experienced in panel and private practice. *Free now.*—Address, No. 932, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistantship, preferably London area, good-class practice by *Woman Doctor*, M.D., B.S.(Lond.), aged 28. 2½ years' good hospital experience. Special experience Midwifery.—Address, No. 934, B.M.A. House, Tavistock Square, W.C.1.

Wanted by M.B., B.Chir. (male), ex H.P., *Children's H.P., and C.O.*, 2 years' experience G.P.), ASSISTANTSHIP with view in South Coast Town, Sussex preferred.—Address, No. 878, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant, Newcastle-on-Tyne, either (1) single, indoor, salary £300; or (2) *married*, outdoor, salary £400, plus house free of rent and rates. Prospects later for suitable man. — Address, No. 942, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, Mining Practice, in open district, *County Durham*. Salary £400 per annum, with furnished house. *Good prospects.*—Address, No. 935, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, indoor, Country town in Scotland. Protestant. *No dispensing.* Able to cycle and drive car. No view.—Address, No. 931, B.M.A. House, Tavistock Square, W.C.1.

Wanted for Liverpool.—Assistant (indoor), panel and private Practice. Good *salary suitable man.*—Address, with photo, age, nationality, testimonials, etc., No. 859, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, *outdoor* ASSISTANT, Country Town Practice, North Wales. *Work light.* Able to drive car.—Address, No. 881, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor *ASSISTANTS for* Town and Country Practices, with and without view. *Good salaries.* State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Outdoor Assistant-SHIP, London area, by M.B., F.R.C.S.E., act. 33, married. Experienced hospital and G.P. *Own car.*—*Address, No. 880, B.M.A. House, Tavistock Square, W.C.1.*

Wanted by M.B., F.R.C.S. (England), ASSISTANTSHIP, *preferably* with view to Partnership, in town where there is a *hospital and scope for surgery.*—Address, No. 936, *B.M.A. House, Tavistock Sq., W.C.1.*

Wanted. — Indoor Assistant, with view to Partnership. British, male. Industrial and Country *Practice.* Salary £300 p.a. Midlands. With car preferred.—*Address*, No. 883, B.M.A. House, Tavistock Sq., W.C.1.

Assistantship wanted by well-qualified woman, aged 29. Experienced hospital and general practice. Keen. Anywhere, suitable conditions. London *preferred.* Testimonials, etc.—Address, No. 771, B.M.A. House, Tavistock Square, W.C.1.

Assistant urgently required. Married or single. To live at Branch. Industrial town, *N. of Eng.* Prospects for suitable man. Usual *bond.* Salary £350.—Address, No. 939, B.M.A. House, Tavistock Sq., W.C.1.

Doctor (Lady), had retired, but is obliged to take up work again, would ASSIST *in Practice, South* of London. Small fee, but no midwifery or night work.—*Address*, No. 938, B.M.A. House, Tavistock Sq., W.C.1.

London, growing suburb. — Wanted immediately, male ASSISTANT, with view to PARTNERSHIP. *Married man preferred*; Fellowship man would find *good scope for surgery*; Post-graduate experience essential. Non-dispensing, non-panel *Practice.* Receipts about £3,000 p.a.—Address, No. 866, B.M.A. *House*, Tavistock Square, W.C.1.

M.B., B.S., married, aged 25, 18 months G.P., desires Outdoor ASSISTANTSHIP, with or without view. Town preferred but *not essential.* Car and capital available. — Address, No. 864, B.M.A. House, Tavistock Square, W.C.1.

LOCUMS.

FOR LOCUM TENENS APPLY TO PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: *Temple* Bar 9011.
After Office Hours: Epsom 9142.

Wanted.—Locums or Assistant-SHIP by Conjoint man, aged 28; 3 yrs.' exp. G.P., panel and private; hard-working, well received. *Free now* for coming season.—Add., No. 927, B.M.A. House, Tavistock Sq., W.C.1.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, *Tel.* ADELPHI, W.C.2. TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams:
"REASIDE," TUBERCLE, WESTRAND, LONDON."

Wanted by M.B., B.Ch. (woman), LOCUM or ASSISTANTSHIP. Five years' *experience panel* and private practice. Well received. Used to sole charge. *Now free.* 'Phone: Sydenham 0727.—Address, No. 834, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

Wanted. — State Registered NURSE for general district nursing. Salary £65, rising to £80. Uniform and fares found.—Apply, Superintendent, North London District Nursing Association, 6, Canonbury Place, N.1.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Competent lady shorthand typist, aged 21 (shorthand R.S.A. 140), desires POST; experienced private, secretarial, medical, Public Health work; accustomed responsibility. Highest refs. Please allow 7 days for reply. —No. 853, B.M.A. House, Tavistock Sq., W.C.1.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, [illegible] BUREAU FOR E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Fully qualified S.R.N., aged 25 years (free end of March), seeks appointment as NURSE-SECRETARY to Physician. Well educated. Shorthand and typing.—Write, S.Y., c/o J. W. VICKERS & CO., LTD., 24, Austin Friars, E.C.2.

Lady Dispenser-Bookkeeper, age 26 (Hall), requires POST. 6 years' experience, with knowledge of Electrical Treatments and X-Ray work. Excellent testimonials.—HILDA NOTTINGHAM, Bedern, Weedon Road, Northampton.

Lady Dispenser required; practically no bookkeeping; must be experienced. Large private Practice, county town.—Address full particulars to No. 871, B.M.A. *House*, Tavistock Square, W.C.1.

Lady Secretary - Receptionist desires POSITION to Doctor. Excellent shorthand, typing, keeping of records, etc. Good knowledge of medical terms. Interview any day, preferably after 5.30 p.m.—Address, No. 877, B.M.A. House, Tavistock Sq., W.C.1.

Ophthalmic Surgeon, West of England, offers HOSPITALITY to Ophthalmic Surgeon and wife for month from April 16th in return for attending to urgent work only. — Address, No. 855, B.M.A. House, Tavistock Square, W.C.1.

Responsible *Position sought by* a doctor's widow (young). Trustworthy, good organiser, tactful. Could run house and act as receptionist, etc. Town or country.—Address, No. 873, B.M.A. House, Tavistock *Square*, W.C.1.

Testimonials Duplicated per return of post. Prices per testimonial—*12 copies* 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

Qualified Chemist (B.Sc.Lond.), with Biochemistry subsidiary subject and certificate in Bacteriology, requires POST, either for routine or research work. 4 years' previous exper. Full parties. and refers. on application.—No. 651, B.M.A. House, Tavistock Square, W.C.1.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Two Sisters, experienced in Housekeeping, Administrative, Surgical, and Theatre work, desire to take CHARGE of Surgeon's Nursing Home, in London or Southern Counties. — Address, No. 941, B.M.A. House, Tavistock Square, W.C.1.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted, early in June, Partnership or PRACTICE. Minimum £1,200. South Coast or Southern Counties essential. Good panel. Advertiser 45, with 20 years' experience of all classes of practice. Prefer rent house (5 bedrooms). Capital available.—Add., No. 872, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by M.D., B.Ch., B.A.O. PARTNERSHIP or ASSISTANTSHIP, with early view. 28 years, married, 4½ years' Hosp and G.P. exper.; ex H.S., H.P., and R.M.O. Would work up new district. Keen. Free now.—No. 943, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Partner in Country Practice in Cheshire. Cottage Hospital. 2/5 share of £2,700 at 1½ years' purchase. Panel 1,400. House to rent at £40. Some capital essential. Ex H.S. and G.P. experience preferred. — Address, No. 874, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Partner, Half Share, London, East. Panel about 1,700. Total income has been about £1,800 p.a. Good prospects. Premium £1,800.—Address, No. 925, B.M.A. House, Tavistock Sq., W.C.1, or 'phone East 6485.

Wanted. — Surgical Partner in West Country county town. Fellowship desirable. — Address, No. 923, B.M.A. House, Tavistock Square, W.C.1.

Lancs Town. — Partnership (3 months' preliminary Assistantship at £300 per annum) in large panel Practice. Receipts £1,700. Panel £1,200. Price 1/3 share £900, or 2/5 £1,200, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Liverpool. — Partnership (1/3 share) cash and panel Practice, 2 years' purchase. Suit young and energetic single man. Small capital required or by arrangement.—Address, No. 857, B.M.A. House, Tavistock Square, W.C.1.

Norfolk.—Large Town.—Quarter Share of old-established non-panel PRACTICE. Total receipts £4,500 p.a. Rooms available for Partner. Premium for share 2 years' purchase.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Partnership in good middle-class old-established Practice, London, S.W., rapidly increasing. One-third share producing about £1,800 at 2 years' purchase. Modern house available to rent in excel. locality and position. Exp., well qualified man required. —No. 856, B.M.A. House, Tavistock Sq., W.C.1.

Partnership. — North Wales.— 1/3 Share offered in an old-established Practice. Several appointments; visits 3/6 upwards. Income approximately £2,000 p.a. Panel between 1,700—1,800. Premium £800. —No. 926, B.M.A. House, Tavistock Sq., W.C.1.

Partnership for Sale in Woman's Practice in the South. Cottage Hospital and good appointments. Short preliminary Assistantship.—Address, No. 852, B.M.A. House, Tavistock Square, W.C.1.

Shropshire.—Half Share of well-established PRACTICE. Total receipts average over £2,000 p.a., panel 1,100. Good house available, rent £60. Premium for share £2,000.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

PRACTICES.

Wanted.—London (any part).— Mixed PRACTICE. Income £1,000 or more p.a., 50 per cent. at least from panel. House to rent. Full particulars in confidence. —Address, No. 674, B.M.A. House, Tavistock Square, W.C.1.

Wanted by M.B., B.S., D.P.H. (semi-invalid, aet. 50), easily worked PRACTICE, not over £1,000 p.a. Good panel preferred, little or no midwifery or night work. South of Thames. — Address, No. 940, B.M.A. House, Tavistock Square, W.C.1.

Wanted, in good-sized Lancashire Town, a mixed PRACTICE of £1,200 up, with scope, by M.D.Edin.; experienced. Good house essential. Capital available. —Address, No. 862, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once. — Unopposed Country PRACTICE, £1,100—£1,500. Panel 700 to 1,000. Ample capital. Detached house and good garden essential. — Address, "B.M.P.S.," 26, Langham Street, W.1.

Birmingham.—Residential growing NUCLEUS. £125 a year. Panel over 100. Premium £100, down £25, balance by instals. Great scope for whole-time energetic doctor. Any nationality. Rent 30/- p.w. clear. —No. 869, B.M.A. House, Tavistock Sq., W.C.1.

Colliery and Country Nucleus for Sale in Yorkshire. Suit single man. Panel 260. Scope. Club £10 per month. Good opening for hard worker. £300 quick sale. Cheap.—Address, No. 929, B.M.A. House, Tavistock Square, W.C.1.

Death Vacancy. — West Riding Town. Audited receipts average £1,115. Panel about 900. Good house. Reasonable rent. Premium £750.—Apply, 2580, REYNOLDS AND BRANSON, LTD., Briggate, Leeds.

Eastern Suburb. — Old-estab. cash and panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by arrangement.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

For Sale. — £250 cash or offer. Excellent NUCLEUS, S.E., near New Kent Road, good working-class. Good scope, young Doctor. Panel assured between 300 to 500 in six months. Rent £1; Surgery with 4 rooms. Part premium considered.
Address, No. 928, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—South-West England. —Mixed PRACTICE, with appointments. Average income about £1,200. Panel 750. Excellent scope for surgery. Price 1½ years' purchase. Convenient freehold house, with small garden. Price £1,200.—Address, No. 760. B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Old-established PRACTICE in Manchester residential district, averaging £660 p.a. Small select panel. House, 3 reception, 5 bedrooms, garden, and garage, £70 p.a. Premium 1½ years' purchase.—Add., No. 882, B.M.A. House, Tavistock Sq., W.C.1.

Good-class non-panel Practice.— Purely residential district, 10 miles London. Over £300 last six months. Rapid increase certain. Price £800. Fine corner house, freehold, best position, £2,750.—Address, No 875, B.M.A. House Tavistock Sq., W.C.1.

Lancs Town.—Old-established.— Good house, rapidly growing district, garage, upon which bond can be arranged. Price £1,500, or house and Practice £2,200, part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

LADY DOCTORS ONLY.

London, N.W.6. — Small PRACTICE for Sale. Panel just under 500. Nice-class Private Practice, and both on the increase. The prospects for a lady in this neighbourhood are good. Prem. mod. No agents.—No 879, B.M.A. House, Tavistock Sq., W.C.1.

London, N.W. (near Cricklewood).—Old-established PRACTICE. Receipts about £500 p.a., panel 450. Rent £70 p.a. Suit lady or gent. Premium £650, including new surgery furniture. — Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Manchester.—Old-established.— Nice house, gardens, £60. Receipts (including panel £135) over £600. Great scope. Price £1,000 or near offer (to include fittings, drugs, linoleum coverings, and good debts £600), part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

Medical Woman's Practice in industrial Town 30 miles from London. Small, but capable of increase. Panel 200. House for sale or rent. — Address, No. 863, B.M.A. House, Tavistock Square, W.C.1.

Nucleus of Practice and Nursing HOME for Disposal on account of ill health. Kent, 13 miles from London. Growing neighbourhood; high, charming country.—C/o BM/LK2F.

Scotland.—East Coast Town.— For Sale.—Lady Doctor's private, panel, and dispensing PRACTICE. Average cash receipts £1,400, with excellent house and garage upon which bond can be arranged. Premium for Practice 1 year's purchase.—Add., No. 861, B.M.A. House, Tavistock Sq., W.C.1.

Shrewsbury (in or near).— Wanted, well-established mixed PRACTICE, by experienced Practitioner. Income about £1,500. Would consider Partnership with early succession. — Address, No. 672, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

Very good Practice to sell in Surrey, within 10 miles of London. Average income £2,500. Panel nearly 1,300. Buyer must have ample cash. Introduction could commence June. No agents.—Address, No. 553, B.M.A. House, Tavistock Square, W.C.1.

X-Rays.—Nucleus of a Branch PRACTICE for Sale in Kent. Scope for increase. Accept cost of equipment, £450. Particulars to bona-fide applications only.—Address, No. 870, B.M.A. House, Tavistock Square, W.C.1.

X-Ray Practice. — For Sale owing to ill health. Receipts average £950 Low price for quick sale. Vendor holds honorary Hospital appointment.—Address, No. 554, B.M.A. House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

ADMIRABLY SUITED FOR INSTITUTIONAL PURPOSES.

ON THE SUSSEX COAST.

High up, facing the Sea Lovely views.

An Imposing and Commodious RESIDENCE, standing in matured grounds; suite of reception rooms, about 36 single bedrooms, several double bedrooms, and complete offices; central heating in every room; electric light; main drainage; company's water; shady garden with good tennis court; spacious verandah.

Highly recommended.

FOR SALE FREEHOLD.

Price and further details from the Sole Agents, HAMPTON AND SONS, 20, St. James's Sq., S.W.1.

Blackpool.—Suitable in position, adaptation of premises and good centre in desirable neighbourhood for Medical Practitioner, No. 44, Buchanan Street. Cheap for quick sale. — Apply, 44, Buchanan Street, Blackpool.

DOCTORS ATTENDING POST-GRADUATE COURSES.

A beautifully appointed HOUSE offers ACCOMMODATION, overlooking (and with access to) quiet private square, within easy reach, by 'bus and tubes, to all parts. Bed-sitting rooms from 35/- single. Double from 3 gns. Inclusive of breakfast, e.l., service, c.h.w., and bath.—10, Porchester Square, W.2. Park 6015.

AVAILABLE IMMEDIATELY.

Berkeley Square (adjoining).—Excellent Ground Floor CONSULTING ROOM to be Let in Dental Surgeon's Flat, with use of waiting room, etc. Exceptionally light. Strongly recommended by the Agents:—RALPH PAY & TAYLOR, 3, Mount St., W.1. Telephone No.: Grosvenor 1032.

Consultant wishes to be taken as PAYING GUEST. London or near. Would be willing to give occasional help in good-class Practice. — Address, No. 876, B.M.A. House, Tavistock Square, W.C.1.

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & Co., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Doctor's wife has three or four nice ROOMS to LET furnished, in good district, 25 mins. Victoria and City. Close to three stations. Nice house, all conveniences. Near plenty of sport, shops, etc.—Address, No. 851, B.M.A. House, Tavistock Square, W.C.1.

EXCELLENT OPENING FOR MEDICAL PRACTITIONER in large, well-populated Wirral (Cheshire) district in which large building developments are rapidly progressing.

For Sale. — Modern Freehold Detached HOUSE, standing in 2,800 square yards ground fully laid out; commanding position MAIN ROAD FRONTAGE; contains lounge hall, drawing room, dining room, 6 bedrooms, all domestic conveniences. Built under Architect's supervision.—Write, Box H84, LEE & NIGHTINGALE, Liverpool.

For Sale.—Desirable Stone-built RESIDENCE, double-fronted, at corner, Derby Place, 152, Shear Brow, Blackburn; also Dwelling House adjoining, situated 1, Oozebooth Terrace. Quick poss'n. Suitable site for Medical Man.—Apply, 191, Revidge Road, Blackburn.

For Sale. — Corner House, eminently suitable for Doctor; 3 recep.; garage for 2 cars; side entrance; 187, Walm Lane, N.W.2. Viewed by arrangement.—Willesden 2861.

Harley Street (North End).—CONSULTING ROOM to Let in Surgeon's house. Rent £300 per annum.—Address, No. 868, B.M.A. House, Tavistock Square, W.C.1.

Harold Wood. — Ideal detached RESIDENCE suitable for Doctor, sale or let; double-fronted, 3 recep., 5 bed., frontage 80 feet; large garden; central position opposite station. No resident Doctor. Excellent opportunity.—WILLATS, Harold Wood, Essex.

SUITABLE NURSING HOME

Hendon. — High and healthy situation in quiet private road. Commodious detached RESIDENCE. 8 bedrooms, 2 bathrooms, 3 reception, large conservatory. Excellent domestic offices Central heating. Price only £4,500, freehold.—ERNEST OWERS, LTD., Estate Offices, Golders Green, N.W.11.

Near Harley St. — Bedroom to Let. Breakfasts supplied. Rent 30/- per week. Also part-time use of Consulting Room. £50 per annum. — Address, No. 930, B.M.A. House, Tavistock Square, W.C.1.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 253, B.M.A. House, Tavistock Square, W.C.1.

Queensferry (Chester).—Corner HOUSE, known as "Oaklands," eight rooms and garage, two entrances, and all modern conveniences. Suitable for Medical Practice. Tenanted by the late Dr. Craddock. —FOSTER, "Edenhurst," Queensferry, Chester.

IDEAL FOR DOCTOR OR DENTIST.

Splendid Entrance Floor, comprising two exceptionally large rooms, bathroom, kitchen. Independent hot water system. Fine busy position, actually in main Maida Vale. Rent only £150 per annum. Strongly recommended by SNELL & Co., 47, Maida Vale, W.9. Cunningham 1181 (4 lines).

Substantial Residence, Surgery accommodation available, combining unique opportunity to establish successful PRACTICE in populous South Staffordshire district with varied industries. Further housing schemes in progress. Price most reasonable. Easy terms, with possession, to the right man. Absolutely no risk.—INSTONE & INSTONE, 57, Victoria Street, Wolverhampton.

To Let in Surgeon's house in best part of Consultants' area.—CONSULTING ROOM (ground floor) and Maisonette; six rooms, kitchen, pantry, 2 baths, 2 w.c. Garage. Moderate rent.—Address, No. 854, B.M.A. House, Tavistock Square, W.C.1.

NERVE AND CONVALESCENT HOME.

To Sell or Let as a going concern, NERVE and CONVALESCENT HOME in Fifeshire, with highly successful business carried on for many years. Modern house in own grounds, 17 bedrooms. Owner retiring. Early occupation. Excellent opportunity for Medical Practitioner or capable Matron. — For further particulars apply to Messrs. SCOTT & PATERSON, C.A., 5, Coates Crescent, Edinburgh.

To Let.—Queen Anne St., W.—PART-TIME CONSULTING ROOM, use waiting room services, from £40 per annum. —Address, No. 924, B.M.A. House, Tavistock Square, W.C.1.

£550 cash, £1,150 mortgage.—Doctor's HOUSE (over 20 years), profl. centre, Clifton, Bristol. 4 recep., 8 bed., bath., gas fires, elec. light power, garden, use of tennis courts. — Address, No. 933, B.M.A. House, Tavistock Square, W.C.1.

127, Harley Street.—Large well-lit ground floor CONSULTING ROOM, with excellent attendance and joint use of beautifully furnished waiting room. £300 per annum.—Apply the Secretary, Welbeck 7840.

Covers for Binding

Vols I and II of the BRITISH MEDICAL JOURNAL for 1930 and previous years can be had, price 2s. 6d., by parcel post 2s. 10d. each.

Remittances must accompany all orders. Apply at the office, B.M.A. House, Tavistock Square, W.C.1.

MISCELLANEOUS SALES, etc.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

The Princess Louise Kensington HOSPITAL FOR CHILDREN, St. Quintin Avenue, North Kensington, W.10, is in need of a SKELETON, wired and in box, for lecturing purposes. The gift of one would be greatly appreciated and would meet a real need.

U.V.R. Apparatus. — Two HANOVIA STANDARD LAMPS, Quartz Burners, for 200—220 v. D.C. £16 ea. Also Two Hanovia Sollux Standard Lamps compl. £10 10s. ea. All slightly used and greatly red. in price.—P. J. WILLIAMS, 39, Shaftesbury Avenue, W.1.

Radium Surplus

to Specialist's requirements for disposal at Cost, or near.

18.17 mgrms. of ra. el. contained in 6 Platinum needles, active length 4.8 cms., cost £11 10 0 per mgrm.

20.01 mgrms. of ra. el. contained in 10 Platinum needles, active length 3.2 cms., cost £11 10 0 per mgrm.

20.02 mgrms. of ra. el. contained in 10 Platinum needles, active length 3.2 cms., cost £11 10 0 per mgrm. £669 5 11

Containers.

20 Platinum needles @ £4 10 0 each 90 0 0
6 Platinum needles @ £6 0 0 each 36 0 0
All 0.5 mms. thickness of wall £795 5 11

Address No. 1000, c/o B.M.J., B.M.A. House, Tavistock Sq., London, W.C.1.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. .149, CHEAPSIDE, E.C.2.

Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS,
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659. Write for Tax Guide, Free.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom:* 97, Swinderby Road, Wembley.

Immediate. — Battersea District MATERNITY.—GOODWILL for Sale (after 38 years). Price £300. 400 confinement cases yearly. Good house. Rent £72.—Apply, Dr. ANNIE MCCALL, 165, Clapham Road, London.

St. Bartholomew's Hospital.

APPOINTMENT OF DENTAL HOUSE SURGEON.

Applications are invited for the office of House Surgeon to the Dental Department.

Candidates must hold a registrable Dental qualification. A Medical qualification in addition is desirable but not essential.

Appointment will be made for six or twelve months from May 1st.

The salary attaching to the office is £80 per annum (non-resident).

Applications must be left with the undersigned on or before Saturday, February 21st.

THOMAS HAYES,
Clerk to the Governors.

January 29th, 1931.

The Royal Liverpool Children's HOSPITAL.

The Committee invite applications for the post of SECOND RESIDENT MEDICAL OFFICER at the HESWALL BRANCH of the Institution. Salary at the rate of £120 per annum. The appointment will be for a period of six months.

Applications, with copies of recent testimonials, to be sent to the Secretary, Royal Liverpool Children's Hospital, Myrtle Street, Liverpool, on or before Monday, February 16th.

The Royal Liverpool Children's HOSPITAL.

There will be vacancies on April 1st next for TWO RESIDENT HOUSE PHYSICIANS and TWO RESIDENT HOUSE SURGEONS at the CITY BRANCH, Myrtle Street. The appointments will be for a period of six months. Salary in each case at the rate of £100 per annum.

Applications, with copies of recent testimonials, to be sent to the Secretary, Royal Liverpool Children's Hospital, Myrtle Street, Liverpool, on or before Monday, February 16th.

The Royal Liverpool Children's HOSPITAL.

The Committee invite applications from Graduates, with previous Hospital experience, for the post of RESIDENT MEDICAL OFFICER at the HESWALL BRANCH of the Institution, vacant on April 1st next. Salary at the rate of £180 per annum. The appointment will be for a period of six months.

Applications, with copies of recent testimonials, to be sent to the Secretary, Royal Liverpool Children's Hospital, Myrtle Street, Liverpool, on or before Monday, February 16th.

Royal Northern Hospital,

Holloway, London, N.

A vacancy occurs for a SURGEON (Honorary) in charge of th Applications are Candidates r oyal College of Surgeons of England.

Particulars of the office and details with regard to the submission of testimonials, etc., may be obtained from the undersigned, to whom applications should be sent not later than February 13th.

GILBERT G. PANTER, Secretary.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,

The oldest Medical Agency in Manchester.

6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 8932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

THE

NEW MENTAL NURSES CO-OPERATION,

139, Edgware Road, Marble Arch, W.

Specially trained Nurses for Mental and Nerve cases. (All Nurses are insured under the Employers Liability Act, 1906.) Apply the Supt.

Telegrams: "Pyreneurse, Padd., Lond." *Telephone:* No. 6165 Padd.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,

(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 5/6 to 21/-. No dispensing. Small panel.—No. 8799.

West Riding.—£1,030 p.a., increasing. Panel 400. Appts. £45. Fees 5/6 to 10/6 and up. Midy. 5 to 7 gns. Small modern house to rent or on mortgage.—No. 8797.

S. Midland. — Country. — £480 and scope to young man. Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. Premium only £300.—No. 8796.

West of England Town.—£1,100 plus appts. worth £400. Panel 1,240. No midy. taken. Visits 4/- to 10/6. House, with 2 surg. and waiting rooms, 4 bed., etc. —No. 8786.

Yorks.—Death Vacancy.—£1,000 or more. Panel 950. Not much midy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. £600 down, bal. deferred.—No. 8795.

Surrey.—Death Vacancy.—About £750 or more. Panel 130 and scope. Visits 5/6 up. Large house, smaller available. Excellent opening.—No. 8794.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No midy. Fees 5/6 to 10/6. House to rent. —No. 8791.

Kent. — Outer Suburb.—About £900 p.a. Scope. Panel over 900. Appt. £100. Visits 3/6 to 21/-. Good house and garden. Good schools.—No. 8789.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

Home County.—Assy., with view to Partnership in 3 months. About £3,000 p.a. Ample scope. Panel 1,950, increasing. Visits 3/6 to 10/6.—No. 8784.

Outlying London Suburb.—X-Ray and Electrical. £500, with scope. House, 6 bed., on lease.—No. 8785.

London Suburb, S.W. — About £1,100. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 5/6 up. House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London Suburb, S.W. — £2,800. Old-estab. General Practice. Panel 1,250. Detached house (7 bed.) and garden.—No. 8778.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £25. Prem. £800, incl. furn.—No. 8766.

Favourite South Coast Resort.—Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 5/6 to £1 1s. Large house and garden. Smaller ones available.—No. 8750.

South Coast. — Within 60 miles. Over £1,000, increasing rapidly. Panel 500. Clinic £50. Fees 5/6 to 12/6. Good house, 4 bed., etc.—No. 8742.

Surrey. — Rapidly increasing PRACTICE. Receipts over £830. Panel 580. Excellent house, 8 bed., with large garden, to rent.—No. 8741.

S. W. County near Coast.—Dispensing PRACTICE over £2,000 p.a., chiefly agricultural. Visits 5/- up. Surgery 2/6 up. 1,100 panel.—No 8728.

SPECIAL NOTICE.

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

CAVENDISH NURSES (Male and Female)

Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, *Oxford Rd.*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*

TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas

TELEGRAMS:
Tactcar, London. Surgical, Glasgow.
Tactcar, Manchester. Tactcar, Dublin.

ST. LUKE'S HOSPITAL

FOR MENTAL DISORDERS.

Private Nursing Staff Department.

Trained Nurses for Mental and Nervous Cases can be had immediately.

Apply to Lady Superintendent,
19, Nottingham Place, London, W.1.
Telephone: Mayfair 5420.

Northern Branch.—Apply, Lady Superintendent, 57, Clarendon Rd., Leeds. 'Phone: Leeds 26155.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES

MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION

(In conjunction with the MALE NURSES' ASSOCIATION),

29, York St., Baker St., London, W.1.

Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

THE CENTURY INSURANCE COMPANY LTD.,

7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS TO PURCHASE A PRACTICE OR PARTNERSHIP

NO GUARANTORS REQUIRED. REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054. / RIVERSIDE 1254. *(Night Calls.)*

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

HOME COUNTIES (NORTH). — PARTNERSHIP after PRELIMINARY ASSISTANTSHIP, three to six months, in old-established middle-class Practice. Receipts average £3,500. Panel nearly 1,200. Suitable house to rent (6 bed.) at £83 p.a. Garden. Fees 5/- up. Mids. 3 gns. up. Two appointments. Excellent educational facilities. 1/3 share is offered, with view to half share, at 2 years' purchase. Suitable to well-qualified man, preferably married, with Hospital experience and good at Anaesthetics.

LONDON, W.10.—Cash and Panel PRACTICE, situated in middle and working-class locality. Suitable accommodation available to rent at £76 p.a., inclusive. Fees 2/6 up. Midwifery 2 gns. up. Panel 300. Books audited. Receipts £385. Premium £600, or near offer.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three Hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640, or near offer. Partnership considered.

DEVON (SOUTH)—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Hospital. Scope for surgery. Good schools. Premium for 1/3 share £2,030. Terms considered to right man.

BERKS.—Town PRACTICE within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery (scope). Suitable house available. Premium 1½ years' purchase.

KENT.—Country Town PRACTICE, situated under 40 miles from London. Population 10,000, increasing. Receipts approximately £2,000 p.a. Panel 1,200. Fees 2/6 upwards. Good-sized house (6 bedrooms). Large garden. Garage. To rent on lease at £80 2s. p.a. Scope. Premium £3,000 cash.

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

MIDDLESEX.—Good-class non-dispensing and non-panel PRACTICE. Scope for Surgery. House to rent on lease at £120 p.a. (4 bedrooms). Garage. Garden. (May be purchased for £1,500.) Receipts £1,000 p.a. Fees 5/- upwards. Good schools, golf, tennis, etc. Prem. £1,500.

SURREY.—PARTNERSHIP in busy town in close proximity to London. Receipts approximately £1,000 p.a. (increasing rapidly). Panel nearly 1,000. Premium for half share £1,500.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approximately £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

SHROPSHIRE.—Country Town PRACTICE, unopposed. Modern house, with every convenience, to rent at £100 p.a. (11 rooms.) Large garden (3 acres). Receipts over £1,000 p.a. Panel 500. Visits 8/6 up. Consultations 5/- up. Midwifery £2 2s. up. Three appointments. Premium 1½ years' purchase.

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional accommodation consists of three rooms, centrally situated, held on agreement at £100 p.a. Receipts approximately £530. Fees 2/-. Panel 430. Premium £650, cash. Scope for further development.

WE HAVE SEVERAL SMALL PRACTICES in and around LONDON with incomes varying from £100—£400 p.a., with or without panel. Details in full on request.

BEDS.—PARTNERSHIP after PRELIMINARY ASSISTANTSHIP if desired in well-established mixed Practice. Receipts over £1,300 p.a. Panel nearly 1,800. Fees 2/6 up. Mids. 2 gns. up, not encouraged. Good educational facilities. Premium for 3/4 share, with possible view to succession, 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

THE
WESTERN MEDICAL AGENCY
(DR. K. H. BENNETT, DR. W. J. PARAMORE.)
PHOENIX CHAMBERS
22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.
PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. PEMBROKESHIRE.—Pleasant Seaside Town. —Good mixed PRACTICE. £1,000 p.a. Panel 750. Good scope. All sports. Excellent house to buy or rent. Premium £1,500.
2. SOUTH WALES.—In one of the most prosperous large towns in Wales. Good type of Practice. Receipts £1,000 p.a. Panel 700. Excellent house in best street (billiard room, 7 bedrooms, etc.). Price £3,000 for house and Practice. Accountant's certificate.
3. WEST OF ENGLAND CITY.—PARTNERSHIP.—Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Prem 1½ years. Choice of resid.
4. WELSH BORDER.—PARTNERSHIP.—Large Country Town. One-third Share of Partnership, bringing in £830 p.a. Mostly panel and contract work. Panel 2,600. Fees 2/6 to 7/6. Car not essential. House to rent £78 p.a. 5 bedrooms. Tennis court, etc. All sports. Good schools, hospitals. Prem. £950.
5. WEST OF ENGLAND.—NUCLEUS in large town. Receipts average £200 p.a. Rapidly growing dist. Good prospects. Prem. £200. Suit keen man wishing to work up Practice.
6. VILLAGE PRACTICE.—MIDLANDS.—Within 50 miles of London. Receipts last year £483. Good house to rent. Prem. £300, quick sale.
7. SOUTH WALES.—Old-established good mixed PRACTICE, about £1,300 p.a. Panel 1,300. Large proportion contract work. Opposition weak. Good house to rent, £60 p.a. Good scope for increase. Premium £1,550.
8. NORTH WALES.—Good mixed PRACTICE in Hospital town, returning £800 p.a. Panel £300 p.a. Working knowledge of Welsh essential. Excellent house on lease, rent £65 p.a. Prem. £800, on very easy terms.

FINANCIAL ASSISTANCE CAN BE ARRANGED FOR THE PURCHASE OF PRACTICES AND PARTNERSHIPS.
FULL PARTICULARS ON APPLICATION.

ESTABLISHED 1877.
LEE & MARTIN, LTD.,
The Birmingham Medical Agency,
71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.
FOR DISPOSAL.

1. NORTH OF ENGLAND.—Panel, Private, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appts. £350. Good house to rent. Considerable scope for energetic man.
2. BIRMINGHAM. — Well-estab. PRACTICE. Receipts average £931 p.a. Panel 1,420. Ample scope for right man. Nice house (5 beds.). Garden and garage.
3. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years Receipts over £700; panel 550, both increasing. Appts. about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transferable. Good house, garage, and all conveniences.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. [illegible]
7. [illegible] creasing. Panel 1,450. Appointments worth about £95. Good house to rent.
8. MIDLANDS. — COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 3873.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.
No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. IN AN ATTRACTIVE residential locality, with limited opposition, within an hour's run (S. of London), PRACTICE of about £800, with panel of 500. Good scope for active junior. Premium £1,200. Purchase of Vendor's freehold a condition of sale.
2. PRACTICE of about £1,200, situate in an attractive industrial country district within an hour's run of Paddington. Rapidly incr. Good educat. and shopping facilities. Panel £300. Small, convenient mod. res., garden and garage, on lease. Premium £1,650.
3. LONDON, N. — Old-estab. Panel and Cash PRACTICE of £1,100—£1,200 in open thriving district. Panel 1,100. Midwy refused. Rent £70. Vendor retiring from profession will give an introd. of 12 months, and the investment is well suited to any active young Doctor, as there is ample scope.
4. YORKS COAST.—Unopposed PRACTICE in pleasant locality. Av. inc. £1,000, incl. panel of £470 and appts. Capital house, gard., gar., at £55. Price, quick sale, only £800.
5. DEVON.—Good middle-class PRACTICE of over £2,000 a year in attractive Town on the Coast. Select panel of 1,500. Figs. cert. by Accountant. Efficient intro. given.
6. LONDON SUBURB, W. — PARTNERSHIP in an old-established middle-class Practice. A Share worth £800 p.a. at 2 years' purchase. Panel 1,600. Good modern residence, garden, and garage, at £100. Easily worked, but offering scope for extension.
7. HANTS. — Country PRACTICE in pleasant residential locality. Income about £750, including panel and appts. Cap. f'hd. res., garden, and all conveniences. Prem. £1,050. Capital sporting and social facilities.
8. REQUIRED in London or other large town (pref. Midland or South) a PRACTICE of £2,500 with good panel and family resid. Money no object if investment is suitable.
9. REQUIRED by Two Young Medicos, PRACTICE of £1,700—£2,000, with good panel, in outer London circle, within 30 miles. Details in confidence.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

LARGE LANCS TOWN.—Old-established PRACTICE. Cash receipts 1930, £1,581. Panel 1,300. Appointments (transferable) £175. Good house, 2 reception, 4 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 235.

NORTH-WEST COAST.—SEASIDE RESORT.—Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 550. Excellent freehold house in good position facing Sea. 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No. 234.

LIVERPOOL (near).—PARTNERSHIP in excellent middle-class Practice. Average cash receipts £2,194 p.a. Panel over 1,000. Good scope. Nice house, 2 reception, 4 bedrooms. Garage and garden. Rent £70 p.a. Premium 1/2 share 1½ years' purchase.—No. 228.

NEAR NORTH-EAST COAST.—SEASIDE RESORT.—Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £800 for quick sale.—No. 220.

DEATH VACANCY.—LANCS COUNTRY TOWN.—Average cash receipts £848 p.a. Panel 1,003. Scope. Excellent house, 2 reception, 4 bedrooms. Garage and large garden. Rent £65 p.a. Premium 1 year's purchase.—No. 216.

SCOTLAND.—26 miles from Edinburgh.—Industrial PRACTICE. Cash receipts last year £1,016. Panel 1,094. House to rent at £28 p.a. Premium £1,500.—No. 217.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

NORTH WALES.—RAPIDLY GROWING SEASIDE TOWN.—PRACTICE. Average cash receipts £627 p.a. Panel £123. Excellent modern house (freehold), 2 reception, 6 bedrooms. Garage. Garden. Electric light. Premium—Practice and house—£1,550.—No. 225.

ISLE OF MAN.—SEASIDE TOWN.—Old-estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—No. 173.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Rent £90 p.a. Premium £1,500.—No. 222.

LIVERPOOL.—NUCLEUS in Industrial district. Average cash receipts £500 p.a. Panel 200. Tremendous scope. Surgery rent 30/- per week clear. Premium £600 or near offer.—No. 227.

CHESHIRE TOWN, near MANCHESTER.—PRACTICE. Average cash receipts £838. Panel 800. Much scope. Good house, 2 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 159.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Premium—Practice—1½ years' purchase.—No. 194.

CHESHIRE.—Coast Town near Liverpool.—Old-estab. middle-class PRACTICE. Cash receipts last year £1,134. Excellent house, 2 reception, 6 bedrooms. Garage and garden. Premium—Practice—1½ years' purchase. Vendor retiring.—No. 189.

ISLE OF MAN.—Seaside Resort.—PRACTICE. Cash receipts 1930, £861. Panel. Good house, 3 reception, 7 bedrooms. Garage and garden. Premium—Practice—£700 (or near offer).—No. 224.

NEAR MANCHESTER.—Sound old-established PRACTICE. Average cash receipts £1,440. Panel 1,100. Excellent house, 2 reception, 6 bedrooms. Garage. Premium 1½ years' purchase.—No. 233.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium—Practice—£1,600.—No. 195.

LIVERPOOL (Near).—Old-estab. middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

MANCHESTER.—INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

NORTH WALES.—Country Town near Sea.—PRACTICE. Cash receipts £700 p.a. Panel £300 p.a. Good detached house. Garage and garden. Rent £65 p.a. Premium for quick sale 1 year's purchase.—No. 219.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE.—Average cash receipts £745. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 2 years' purchase.—No. 197.

CHESHIRE TOWN, near MANCHESTER. Middle-class PRACTICE, established 4 years. Cash receipts 1929, £720. Much scope. Modern detached house, 2 reception, 4 bedrooms. Garage and large garden. Premium—Practice and house—£2,500, part on mortgage.—No. 153.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £700. Panel 614. Good house, 2 reception, 3 bedrooms. Garage and garden. Premium—best offer.—No. 116.

MANCHESTER SUBURB.—Old-estab. PRACTICE. Average cash receipts £600 p.a. Panel 360. Scope. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium 1½ years' purchase. Vendor retiring.—No. 191.

SHEFFIELD.—NUCLEUS in growing district. Cash receipts £490. Panel 400. Rent of Surgery £52 p.a. Tremendous scope. Premium—best cash offer.—No. 218.

LANCS TOWN, near MANCHESTER.—PRACTICE. Average cash receipts £751. Panel 430. Much scope. Excellent house to rent, 6 bedrooms, large garden, and garage. Premium for quick sale £500.—No. 216.

NEAR MANCHESTER.—Residential district.—PRACTICE. Cash receipts last year £540. Small panel. Excellent house, 2 reception, 5 bedrooms. Garden and garage. Premium—Practice and house—£2,250.—No. 202.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 DEATH VACANCY.—Staffs.—Practice of over £1,100 p.a. in manufacturing town. No panel or midwifery. Semi-detached 8-roomed house, with garage, for sale or rent. Scope for great increase.

2 S. COAST. — Practice about £1,200 p.a. in Popular Resort. Panel between 700/800. No midwifery or night work. House (5 bedrooms) to rent. Premium 1½ years' purchase.

3 N. DEVON.—Country Practice about £1,000 p.a. in attractive Agricultural and Sporting District. Panel 330. House (7 bed and dressing rooms and attics), garage, and about half an acre of garden, to rent. Well-equipped Hospital. Premium £1,500.

4 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

5 HIGH-CLASS NURSING HOME (held by Medical Man) in delightful Country District (500 ft. above sea-level) within 35 miles of London. Receipts over £5,000 p.a. Net profits between £1,000/£1,200 p.a. Beautiful house, with extensive grounds, etc., to rent. Premium for goodwill £1,500.

6 UNIVERSITY CITY within 120 miles of London. Practice averaging £1,500 p.a., including valuable appointment and a panel of 1,250. House (4 bedrooms), with garage and garden, for sale. Scope. Premium £2,025.

7 SURREY.—Partnership in non-dispensing PRACTICE of £3,200 p.a., in residential Town. Panel over 4,000. House with 6 bedrooms. Partner should be aged 30/40, and experienced in anaesthetics. Premium two-fifths share 2 yrs.' purchase.

8 ESSEX.—Good middle-class Practice nearly £1,900 p.a., in outlying suburban district close to Epping Forest. Panel 440. Very good residence (4 bedrooms), garage, and large garden, to rent on lease. Sport. Premium 1½ years' pur.

9 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice averaging £4,225 p.a. in residential town and Health Resort. Panel 800. Very good educational facilities. One-sixth share gradually increasing to one-half in three years. Premium 2 years' purchase.

10 S. OF ENGLAND. — Progressive Seaport Town. Steadily increasing PRACTICE of about £800 p.a., including panel of 200 and club. Semi-detached house (5 bedrooms) in residential part, with garden and garage, for sale. Great scope. Premium £1,200.

11 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

12 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

13 LONDON, N.W.—Good middle and better-class non-dispensing PRACTICE in residential district. Receipts about £1,000 p.a. (about half from Surgical work). No panel or appointments. Excellent detached house (4 bedrooms), garage, garden, etc., to rent. Good up-to-date Hospital and scope for Surgery. Premium 1½ years' purchase.

14 NEW ZEALAND.—Practice of £1,500 p.a. in Country Township in North Island. Visits range from 10/6 to £3 13s. 6d. Well-situated house (4 bedrooms, bathroom, etc.), and half acre of garden, for sale. Good private Hospital, with scope for Surgery. Premium £1,250.

15 LONDON, S.E. — Practice over £800 p.a. in thickly populated district close to the City. Panel 1,200/1,500. Well-situated house (4 bedrooms, bathroom, etc.), to rent. Great scope. Premium 2 years' purchase.

16 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main thoroughfare for sale. Scope for panel and midwifery. Premium £1,200.

17 LONDON, W.—Good middle-class Practice over £850 p.a. in outlying residential suburb. No panel. Nice compact house (4 bedrooms), with fair-sized garden to rent. Good scope. Premium £1,100.

18 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

19 W. OF ENGLAND.—Partnership in Practice over £3,000 p.a., in pleasant Country Town, under 130 miles from London. Young keen Partner, preferably with the F.R.C.S., who has held Hospital appointments. Premium for a two fifths or one-half share 2 years' purchase.

20 ISLE OF MAN.—Practice in small watering-place. Receipts 1930, £861. Double-fronted house in best road (7 bedrooms, etc.), garage and large garden, for sale. Educational facilities. Excellent scope. Premium £700.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

21 LONDON, S.W.—Good middle-class PRACTICE (General and Ophthalmic) in pleasant suburb. Receipts average nearly £1,350 p.a. (over £350 from Eye work). Corner house (5 bedrooms), garage and garden, for sale. Scope for panel and midwifery if desired. Premium £1,600.

22 S. WALES. — Partnership in Practice about £4,000 p.a. in good Town with Hospital. Panel over 3,000. Half share (or smaller) at 2 years' purchase. Partner should have F.R.C.S. as there is plenty of Surgery.

23 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

24 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

25 LONDON, N.—Practice of about £700 p.a. in suburban district. Panel 727. Small house (3 bedrooms, consulting and waiting rooms) for sale. Price £600. Scope for increase. Premium £900.

26 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

27 S. COAST.—Partnership after preliminary Assistantship in well-established Practice in Seaside Resort. Share worth £1,000 p.a. to suitable man after six months. Premium 2 years' purchase. Considerable scope and excellent opportunity for young man.

28 ISLE OF MAN.—N[illegible] P[illegible]ctice in small Seaside Town. Receipt[illegible] £350 from panel). Nice compact hou[illegible]en, for sale. Sport. Premium £1,200, or offer.

29 S. MIDLANDS. — Practice over £750 in first-rate County Town. Small panel. Suitable house for sale at £1,200. Good Hospital. Scope. Premium 1½ years' purchase.

30 N.E. COAST.—Partnership in increasing Practice over £4,800 in Seaport Town. Panel 2,500. Incoming Partner should be married and have held H.S. and H.P. appointments. One-fourth share at first at 1½ years' purchase.

31 S. MIDLANDS. — Partnership (after preliminary Assistantship) in Practice about £3,000 p.a. in small Country Town. Panel nearly 2,000. Applicant must be English or Scotch, a good Anaesthetist and experienced in Midwifery. Share worth about £700/£800 p.a. at 2 years' purchase.

32 LONDON, N.—Cash and Panel Practice of £1,500 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

33 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

34 MIDLANDS. — Partnership in Practice over £3,500 p.a. in a good town. Panel about 1,000. Modern up-to-date Hospital. Four-twelfths share at 2 years' purchase. Preliminary Assistantship if desired.

35 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

36 KENSINGTON. — Small good-class non-dispensing PRACTICE of about £450 p.a. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

37 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

38 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

39 LONDON, W. — Partnership in Practice about £2,000 p.a. in suburban area. Panel about 1,650. Well-situated house (6 bedrooms), garage, and small garden, to rent. Scope. Premium two-fifth share 2 years' purchase.

40 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

41 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a in growing and pleasant residential district. Choice of residence for sale. Good scope. Prem. £1,200.

42 EASTERN COUNTIES.—Country Practice nearly £1,200 p.a., easy reach of two good towns. Panel 759. Small house (5 bedrooms), garage, and garden, to rent. Premium 1½ years' purchase.

43 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

44 CHESHIRE. — Chiefly non-dispensing PRACTICE of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

45 MIDLANDS.—Partnership in Practice of between £1,800/£2,000 p.a. in a beautiful district in a hunting centre. Panel about 1,000. Good house, with 5 bed and dressing rooms, garage and one acre garden, for sale. Smaller one might be obtained. Premium one-third share 2 years' purchase. Public School or University man preferred.

46 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

47 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

48 NOTTINGHAMSHIRE.—Country Practice of nearly £1,100 p.a. Panel 700. Good house (6 bedrooms), garage, and 1½ acres garden, to rent. Great scope. Premium 1½ years' purchase.

49 LONDON, E.C.—Partnership (with Succession) in steadily increasing Practice of about £1,200 p.a. in the City. Majority of consultations £1 1s. Excellent consulting rooms. Premium one-half share 2 years' purchase.

50 EAST COAST.—Partnership in non-panel Practice in favou[illegible]ier should be young and with Hospital [illegible]ut £1,000 p.a. at 2 years' purchase.

51 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a., at 1½ years' pur.

52 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc, and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

53 KENT.—Country Practice about £650 p.a. in beautiful district. Panel about 700. No house, but surgery and waiting room to rent. Capable of much increase. Moderate prem.

54 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase with ultimate succession.

55 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). Post free 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. NORTH MIDLANDS (about 100 miles from London).—PARTNERSHIP.—In pleasant town, pop. 20,000, a share producing—to commence with—£1,000 p.a. in very old-established Practice averaging £3,500, including panel of 2,500, with option of further shares up to one-half. Premium 2 years' purchase Ingoing partner should be under 30. Short preliminary assistantship.
2. YORKS.—FAVOURITE RESIDENTIAL TOWN.—PARTNERSHIP.—A third partner is required to take over a one-sixth share (with increase later) in a very well-estab[illegible] averaging over £4,000 p.a. Well-equipped [illegible]e for surgery. Premium 2 years' purchas[illegible] of 6 to 12 *months.*
3. NORTH DEVON.—Very old-established unopposed Country PRACTICE, situated in a beautiful district, and producing last year £1,000, including panel and appts. worth about £300. Excellent residence (3 reception, 6 bedrooms, bathroom, etc.), in about 1/2 an acre of garden, with tennis court, garage. Rent on lease £60 p.a. Premium £1,500. Good hunting, shooting, and fishing.
4. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.
5. NORTH WALES.—COAST TOWN.—Mixed-class PRACTICE producing last year £550, including panel of 235, and an appt. worth £42. Fees 5/- to 7/6. House contains 2 reception, 5 bedrooms, etc. Small garden. Price £1,200, £1,000 on mortgage, or would be let. Premium £400.
6. LARGE WESTERN CITY. — Very old-established good middle and industrial class PRACTICE, averaging about £1,500 p.a., including panel of 1,249 and an appointment worth about £450 p.a. Fees 3/6 upwards. No midwifery, but large scope if desired. Suitable house, with good professional accommodation, 2 reception, 4 bedrooms, etc. Price for freehold £1,700, part on mortgage. Premium £2,025.
7. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.
8. WEST MIDLANDS.—Within seven miles of County Town.—Old-estab. unopposed Country PRACTICE, in pretty district, averaging nearly £2,400 p.a., including appt. over £100 and panel upwards of 1,000. Railway station. Very nice house and garden, with tennis court. Price (copyhold) £1,000, £500 on mortgage. Premium 1½ years' purchase, payable as arranged. Sport of all kinds and exceptionally good educational facilities.
9. DEATH VACANCY.—YORKS.—Village PRACTICE near large town. Old-established mixed-class Practice averaging £1,200 p.a., including panel of 950. Fees from 3/6, with medicine extra. Suitable house, with 3 reception, 4 bedrooms, bathroom, etc. Electric light. Small garden. Rent £56 p.a. Premium £1,000, payable £700 down and balance by instalments. Locum in charge.
10. SOUTH OF ENGLAND.—Pleasant Town, near Sea Coast.—Very old-established partly Surgical PRACTICE, averaging £2,433 p.a. (last year £2,516, of which £760 was derived from operative work), including appt. £170 and panel of 500. Nursing Home, centrally situated and well fitted up, which is also used for operations. Price £2,000. House, with ample accommodation, in 1½ acres of ground, commanding magnificent views. Price £2,000. Mortgage arranged on both. Premium 1½ years' purchase, partly by instals. Successor should also have knowledge of Eye, Ear, Nose, and Throat work.
11. WITHIN 20 MILES OF LONDON [illegible]xed-class PRACTICE, in small town amidst [illegible] Cash receipts average about £1,700 p.a., [illegible] panel of over 1,000. Good house, with amp[illegible] garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.
12. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,124, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.
13. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.
14. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
15. SOUTH COAST TOWN.—Rapidly increasing PRACTICE, producing for last 12 months over £400. No panel. Visits 5/- up. *Suitable house,* with 2 reception, 3 bedrooms, etc. Rent on lease £130. Prem. £600.
16. [illegible] TOWN.—Old-established better-class PRAC[illegible] p.a. and offering good scope. Panel of 500. [illegible] situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.
17. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope. Panel of over 1,400. Fees from 3/6. Suitable house can be secured. Premium 2 years' purchase.
18. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down.
19. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900, including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Garden. Garage. Price for freehold £2,300, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
20. LANCS.—PARTNERSHIP.—A one-fourth share to commence (with increase up to one-half later) is offered in a very old-established good middle-class Practice producing for the last twelve months over £4,700 p.a. Panel of 2,730. Appts. worth nearly £200 p.a. Visits 2/6 to 12/6. Not much midwifery from 2 to 3 gns. Suitable house obtainable, but, if single, purchaser can reside with Vendor, who is a bachelor. Premium 2 years' purchase.
21. WITHIN 20 MILES OF LONDON (West).—Rapidly developing district. —PARTNERSHIP.—A one-half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100, and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.

WANTED TO PURCHASE.

1. WITHIN ABOUT 40 MILES OF LONDON.—Preferably South or South-West.—Good mixed-class PRACTICE in residential district. Income £1,500 to £2,000. Nice house, with about 6 bedrooms. Capital available £4,000.
2. LONDON SUBURB.—Not East.—PRACTICE with substantial panel bringing in about £1,000 to £1,500 p.a. Small convenient house, pref. on rental.
3. SURREY or HANTS, or Outlying Suburb, particularly Purley or Croydon area.—Good mixed-class PRACTICE producing about £2,000 p.a., with panel of 1,500 to 2,000. Near good schools. Nice house, with garden. Rent or purchase. Ample capital.
4. SOUTH OF ENGLAND.—East of Plymouth, and preferably near coast.—Income about £1,000 p.a., with suitable house on rental, or might purchase.
5. HOME COUNTIES, or SOUTH OF ENGLAND.—Better-class PRACTICE, bringing in £2,000 p.a. or less if scope. House, with 6 bedrooms and good garden essential. Ample capital.
6. WITHIN EASY REACH OF LONDON, with good train service.—Preferably non-dispensing PRACTICE. Income from £1,000 to £1,500 p.a. House must be in good condition, with 6 to 8 bedrooms.
7. SOUTH-WESTERN COUNTY.—Country PRACTICE, pref. unopposed. Income from £1,400. House, with 5 to 6 bedrooms, and separate surgery accommodation. Within reach of good girls' school and trout fishing.
8. NEAR LONDON.—(Within about 30 miles).—Small country town.—Income £1,700 to £2,000. Suitable for two friends. House on *rental preferred.*
9. LONDON SUBURB.—Sound mixed-class PRACTICE, producing from £1,500 to £2,000 a year, with good panel backing. Ample capital.

ASSISTANTS REQUIRED.

(1) LONDON, S.W.—Outdoor, with view to early Partnership. Unfurnished house available. (2) EAST LONDON.—Indoor, £300 p.a. Pref. English or Scotch. (3) SOUTH WALES.—Indoor, £300, or outdoor if preferred. (4) ESSEX.—Outdoor, £450 to £500 p.a. View to Partnership later. Must be experienced and a good worker. Scotch preferred. (5) KENT.—Outdoor for three or four months. £400 p.a., with use of car. (6) KENT.—Indoor, with view to Partnership.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SCIENTIFIC ENZYME DIGESTION

RICH SELECTED ENGLISH MILK
Pancreatised

SELECTED ENGLISH WHEAT
Dextrinised and Pancreatised

PREDIGESTED MILK
(25% Protein Conversion)

PREDIGESTED WHEAT
(25% Starch Conversion)

Powdered by the
COW & GATE
Improved
Roller Process

Peptalac REGD.
THE NEW INSTANT PREDIGESTED FOOD

Predigestion of starch *and* milk is guaranteed and is effected under the most exact scientific conditions in our laboratories before powdering. This means that when required for use it can be immediately and simply prepared by the *mere* addition of hot water. The C. & G. Improved Roller Process is used ensuring retention of the full mineral and vitamin content with freedom from pathogenic organisms.

PEPTALAC is indicated in all those cases where the powers of the digestive tract are insufficient to deal with that amount of food necessary for maintaining health—for nursing mothers with weak digestions, in ante- and post-operative surgical cases, in achlorhydria, peptic ulceration, cancer of the alimentary tract, in all forms of convalescence and in old age.

SEND THE COUPON FOR Cow & Gate Milkfood FREE CLINICAL SAMPLE

Name.....

Address.....

B.M.J. 7/2/31

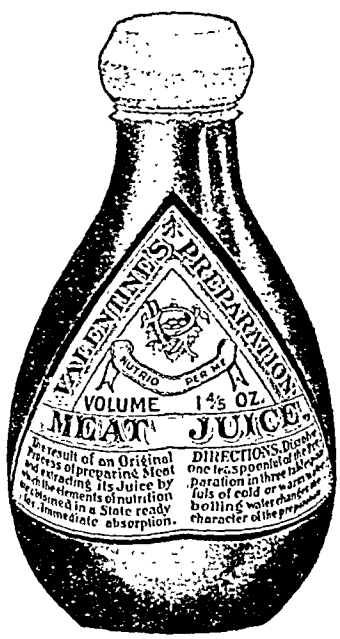
COW & GATE LTD. GUILDFORD, SURREY

Valentine's Meat-Juice

In the **Gastric Form of Influenza** and its **Debility,** in **Typhoid** and **Acute Pneumonia,** in the **Exhaustion** of **Phthisis** and **Pulmonary Diseases, Valentine's Meat-Juice Sustains** and **Strengthens**

When Other Food Fails

THE quickness and power with which VALENTINE'S MEAT-JUICE acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.



Physicians are invited to send for brochures containing clinical reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

Richmond, Virginia, U. S. A.

WB 301

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3658 SATURDAY, FEBRUARY 14, 1931 Price 1/3

HEPATEX
WITH IRON

For cases of stubborn Secondary Anaemia

This combination is most effective when a specially powerful stimulation of the blood regenerating organs is desirable. In the treatment of the Secondary Anaemias it is much superior to Liver alone or the ordinary iron preparations. It is readily assimilated and does not give rise to disagreeable after-effects. A small dosage suffices, one fluid drachm containing one grain of iron and the equivalent of 2 ozs. of fresh liver.

Issued in 2 oz. bottles.

Prepared at Evans' Biological Institute, Runcorn.

EVANS SONS LESCHER & WEBB LTD.
LIVERPOOL DUBLIN LONDON

Always prescribe PERSIAN SERIES

TRADE 'KEPLER' MARK

COD LIVER OIL WITH MALT EXTRACT

for Vitamin deficiency in patients of all ages

A delicious combination of cod liver oil of exceptional quality and malt extract prepared from the finest malted English barley.

Provides Vitamins A, B and D in their natural form and association.

Reduced facsimile

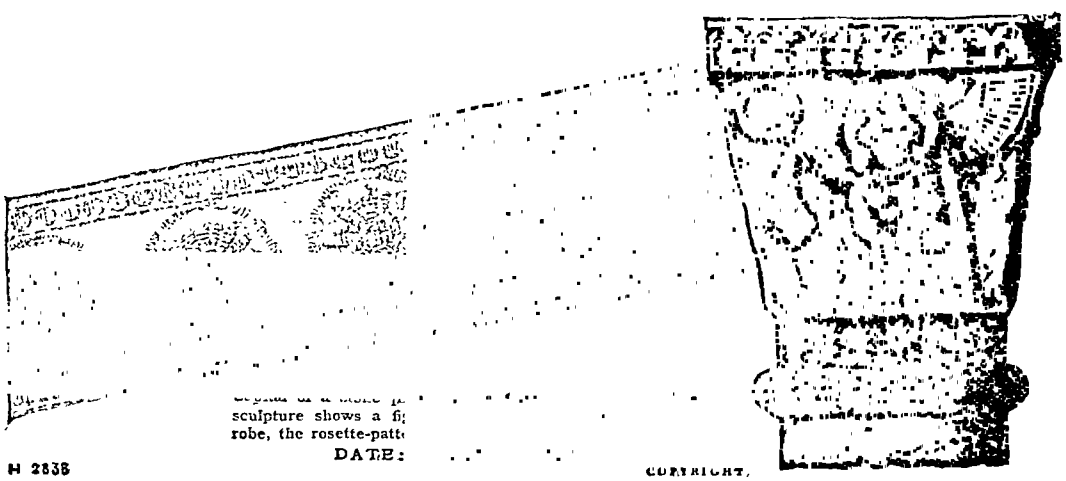
Prices in London to the Medical Profession—
2/6 and 4/7 per bottle

BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES



sculpture shows a fi
robe, the rosette-patt
DATE:

H 2838

COPYRIGHT.

British Medical Journal

CONTENTS

FEBRUARY 14, 1931

ORIGINAL ARTICLES

Mortality in Acute Appendicular Disease. By D. P. D. WILKIE, M.Ch., F.R.C.S. (*Illustrated*) 253

The Familial Influence in Gastric Function. By FRANK L. APPERLY, M.D., D.Sc., and JOAN H. NORRIS, M.Sc. (With Chart) 255

The Incision for Appendicectomy. By A. H. SOUTHAM, M.D., M.Ch. F.R.C.S. 258

A Method of Blood Transfusion with Special Reference to Children. By DENIS BROWNE, F.R.C.S. (Illustrated) 259

Meckel's Diverticulum as the Cause of Acute Symptoms. By A. HARVARD BAKER, M.B., Ch.B. 262

Gonococcal Rhinitis in an Infant. By HAMILTON KIRKLAND, M.B., Ch.M., and R. V. STORER, M.R.C.S., L.R.C.P. 263

Rupture of the Pancreas. By JAMES D. GRAY, M.D., and JOHN C. HODGSON, M.D. 264

MEMORANDA

An Unusual Abdominal Injury. By D. M. SUTHERLAND, M.D., F.R.C.S.... 264

Congenital Absence of Left Half of Diaphragm. By TREVOR HOEY, M.B. 265

REPORTS OF SOCIETIES

MEDICAL SOCIETY OF LONDON: Choice of an Anaesthetic 265

ROYAL SOCIETY OF MEDICINE: Intravenous Use of Germicides..... 267
European Women and Children in the Tropics 268

MANCHESTER MEDICAL SOCIETY: Pain in the Lower Abdomen 269

ROYAL ACADEMY OF MEDICINE IN IRELAND: Laryngology 270

NEWCASTLE-UPON-TYNE AND NORTHERN COUNTIES MEDICAL SOCIETY..... 270

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION 270

REVIEWS

Radium Therapy 271
Diagnosis of Mental Deficiency..... 271
Urticaria 271
The Clinical Clerks' Guide to Wisdom 272
Mothercraft in India 272
Notes on Books 272

LEADING ARTICLES

A STUDY IN NUTRITION 274
TUBERCULOSIS OF THE EAR: FRONTAL SINUSITIS 275
RECURRENT SHOULDER DISLOCATION ... 275

THE WEEK

Indian Medical Service 276
Atmospheric Pollution and Pulmonary Diseases 277
Acute Yellow Atrophy of the Liver..... 277
The Census of 1931 278
Taxation of Learned Societies 278
Mortality from Influenza and Pneumonia in American Cities..... 279
Harveian Society Centenary 279

GENERAL ARTICLES AND NEWS

Nova et Vetera: A Map of Seventeenth-Century England 280

Pharmacy and Poisons Bill. Attitude of the Pharmaceutical Society..... 280

PREPARATIONS AND APPLIANCES. (Illustrated) 273

MEDICAL NOTES IN PARLIAMENT 291

MEDICAL NEWS 292

LOCAL NEWS

SCOTLAND—
New St. Andrews Professor 281
Glasgow Western Infirmary 281
Notification of Mental Defect..... 281
David Elder Infirmary, Govan 282
The Peking Skull 282

ENGLAND AND WALES—
Dr. Griffith Evans of Bangor 282
The Rise of Tropical Medicine 282
The Board of Control 282
Epsom College 282

OBITUARY

Sir A. Garrod Thomas, LL.D., M.D. ... 288
G. E. Birkett, *M.C.*, M.R.C.S..... 288
A. G. R. Foulerton, F.R.C.S., D.P.H. ... 289
John D. Marshall, M.B..... 290
Richard Lewis, L.R.C.P. 290
Forrest Brechin, M.B. 290
George Clowe Crichton, M.D. 290
Robert T. Herron, M.D..... 290
Professor Paul Trendelenburg 291

MEDICO-LEGAL

First Aid in Street Accidents..... 292

CORRESPONDENCE

X-Ray Therapy in Malignant Disease of the Lung. By Ff. Roberts, M.D..... 283
Septicaemia from Minor Wounds. By *M. H.* Gordon, M.D., F.R.S..... 283
The Problem of Aniridia. By John D'Ewart, M.B. 284
Treatment of Varicose Ulceration. By *H. G. Adamson*, M.D., F.R.C.P..... 284
The Enigma of the Chilblain. By T. Izod Bennett, M.D., F.R.C.P..... 285
Glycerin as a Surgical Dressing. By T. H. C. Benians, F.R.C.S. 285
Treatment of Ethmoiditis. By W. Barrie Brownlie, M.D.; and E. A. Peters, M.D., F.R.C.S. 285
Pregnancy Following Irradiation. By Douglas P. Murphy, M.D..... 286
Cataract Operation in Extreme Old Age. By A. E. J. Lister, F.R.C.S. ... 286
The University Franchise. By Sir E. Graham-Little, M.D., M.P. 285
London Clinic and Nursing Home. By H. Moreland McCrea, M.D., and others 288

UNIVERSITIES AND COLLEGES

University of Cambridge 292
Conjoint Board in England 292
Royal College of Physicians of Edinburgh 292
Royal College of Physicians of Ireland 292
British College of Obstetricians and *Gynaecologists* 292

LETTERS AND ANSWERS

Treatment of Obesity 293
[illegible] 294
[illegible] 294
[illegible] 294
[illegible] 294
Painless Labour 294
Bradshaw's Continental Handbook..... 294

VACANCIES 294

(*See also page* 51 *of* SUPPLEMENT)

The SUPPLEMENT contains:

Hospital Development. By Sir RICHARD LUCE, K.C.M.G., C.B., F.R.C.S.

CURRENT NOTES:
Subscriptions for 1931.
Middlemore Prize, 1932.

Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., P.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners: to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-. Telephone: REGENT 0511.

Those who join within one year of Registration are exempt from Entrance Fee.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Churchill, J. & A.
Arvedson— 5
5
Gil 5
Hewlett, D. J.— 5
5
5
5
5
5
5
5
Rowlands & Turner—
The Operations of Surgery 5
Sma l, J.—Pocket Lens Plant Lore 5
Stead's Elementary Physics 5
Tottenham, R. E.—Midwifery 5

Constable & Co., Ltd.
Warburg, O.—
Metabolism of Tumours 4

Lewis, H. K. & Co. Ltd.
Martindale, W. H.—Pharmacopoeia 4

Saunders, W. B. Co., Ltd.
Andrews' Skin Diseases 3
3
3
3

Wright & Sons, Ltd.
Turner, A. L.—
Diseases of the Nose, etc 4
Tidy, H. L.—Symptomatology 4

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 53

ASSURANCE COMPANIES—
London Med. Protection Society 1
Medical Insurance Agency 57
Med. Sickness, Annuity, &c. 40

BRASS NAME PLATES, &c.—
43
43
43
43

SURGICAL APPLIANCES—
Bell & Croyden—
Lithotomy Supports 43
Coles & Co.—Spiral Spring Truss 43
Cuxson, Gerrard & Co., Ltd.—
34
35
36
43
34
56
34
35
43
13
Collender's Splints 36
Wostenholm, G.—Doctor's Knives 10

FOOD PREPARATIONS—
43
12
12
32
25
24
8
21
15
19
25

TOBACCO & CIGARETTES—
Player's Navy Cut 40

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Bynd' Hepol 31
Cod-Liver Oil 31
Insulin 'A.B.' 18
Vapo-Cresolene 4
Alliance Drug & Chemical Co.—
Price List 42
32
Bayer Products Ltd.—'Luminal' 29
Bell & Croyden—Preparations 37
Boots Products 14,16
British Drug Houses Ltd.—
Caprokol 23
Gauter Siccata B.D.H. 13
18
15
Clayton Aniline Co., Ltd.—
Percaine 'Ciba' Cover iii
Cranbora Ltd.—Odol 19
Denver Chemical Mfg. Co.—
Antiphlogistine 22
Duncan Flockhart & Co.—
Nasal Creams 20
Evans Sons Lescher & Webb Ltd.—
Hepatex Cover i
Throat Pastilles 21
Hewlett & Son, Ltd.— 41
23
38
18
41
May & Baker, Ltd.—'Soneryl' 15
Newbery & Sons, Ltd.—
Agarol 33
Reed & Carnrick—Nephritin 17
39
iv
37
23
38
20
17

HOUSE AGENTS—
Bedford & Co. 55
Elliott, Son & Boyton 56

MINERAL WATERS—
Ingram & Royle, Ltd.—
Vichy-Celestins 41

MOTOR CARS, TYRES, &c.—
Rover Company Limited—Cars 7
Second-hand Motors for Sale 56

PRINTING & STATIONERY—
43
43
43

TAILORING & UNDERCLOTHING—
43
56
43
42

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 54

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub. Hlth. 43
Roberts & Co.—Vaccine Lymph 4

WINES & SPIRITS—
Anderson Dobson & Co. Ltd.—
Ackerman-Laurance 39

X-RAY & ELECTRO-MEDICAL APPARATUS—
11
9
9
Diathermy Apparatus 10

HOSPITAL, &c., VACANCIES—
56
52
51
51
50
51
53
52
56
53
53
49
51
50
59
53
50
50
53
51
56
1
1
2
2
2
2
2
2
2
2
2
2
2
2
Leeds University 48
Leicester City Mental Hospital 50
Liverpool Eye & Ear Infirmary 52
57
51
51
57
50
52
49
51
52
52
53
1

HOTELS & HEALTH RESORTS—
Hotel Annonciata 47

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 45
Peebles Hydro 47
Ruthin Castle, North Wales 45
Smedley's Hydro, Matlock 46

INEBRIETY—
Albion House, Beverley, E. Yorks. 45
Bay Mount, Paignton 46
C
D
E
Old Elm House, Chislehurst 46

SANATORIA—
47
47
47
48
47
47

HOMES & ASYLUMS—
Bailbrook House, Bath 45
Burnwood House, Gloucester 44
Bethlem Royal Hospital, Kent 45
45
45
45
45
44
44
44
Clarence Lodge, Clapham Park 45
Coppice, Nottingham 44
Court Hall, Kenton, Exeter 44
45
45
44
45
47
45
45
45
45
45
44
45
45
44
45
44
44
45

BATHS, SPAS, &c.—
Pistany Spa, Czechoslovakia 43

HOSPITAL, &c., FURNITURE—
Furniture, &c., Depositories, Ltd.—
Second-hand Furniture 42
Ward, Ltd.—Invalid Chairs 42

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital 49
Ltd. 49

SCHOOLS, &c.—
Rossall School, Fleetwood 49
Taunton School, Taunton 49

TUTORS & LECTURERS—
43

TRANSFER AGENTS—
62
59 62,61
58
57
57
Needes, H. 58
Peacock & Hadley, Ltd. 54 58
The Medical Agency 54 57
Turner, P., Ltd. 54 57
Western Medical Agency, Bristol 58

ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant 54
Dispensers, Medical Posts, &c. 54
Locums Wanted and Vacant 54
Partnerships Wanted and Vacant 54 55
Practices Wanted and Vacant 55

NURSING INSTITUTES—
Cavendish Nurses 57
Nurses' Association 57
St. Luke's Hospital 57

MISCELLANEOUS—
55
56
56
49
48
6

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

NEW SAUNDERS BOOKS

KAPLAN'S RADIATION THERAPY

This new book is practical from beginning to end. It records the great store of first-hand information gained by Dr. Kaplan at the largest municipal hospital in the United States. Here Dr. Kaplan receives annually 2,000 or more cases to be treated by some form of radiation therapy. This is the only modern work in English. Dr. Kaplan devotes his entire book to stating briefly the established principles of the treatment and then detailing extensively the application of these principles to cases. He explains those methods which he has found resultful in treating thousands of patients. He gives the technique he uses; he sounds warning notes; and he gives an Index of Diseases and their Treatment wherein are stated for quick reference the dosage, frequency, precautions, care as applied to individual diseases.

Octavo of 354 pages, with 227 illustrations. By IRA I. KAPLAN, M.D., Director, Division of Cancer, Department of Hospitals, New York City. With a special chapter on *Applied X-ray Physics*, by CARL B. BRAESTRUP, B.Sc., P.E., Radiation Physicist, Division of Cancer, Department of Hospitals, New York City. Cloth, 27s. 6d. net.

WEBSTER'S LEGAL MEDICINE

Dr. Webster has included all legal aspects of medicine, all those problems which reach courts of law and which concern physicians, attorneys, jurists, district attorneys, life, health and accident insurance adjusters. Causes of death, the identity of the living and the dead, the results of wounds and injuries of all kinds, life and accident insurance, mental incompetence from various sources, malingering, legitimacy, abortion and infanticide, impotence, sterility, unnatural sexual offences, marriage, divorce, malpractice are a few of the subjects here presented with authority. There is a large section on Toxicology.

Octavo of 862 pages, illustrated. By RALPH W. WEBSTER, M.D., Clinical Professor of Medicine (Medical Jurisprudence), Rush Medical College, Chicago. Cloth, 37s. 6d. net.

CURTIS' GYNECOLOGY

Dr. Curtis gives first a thorough presentation of infectious processes: Then he presents a study of tumors of the uterus and of the ovary, displacements, relaxations and disturbances of function. Following this are two large divisions devoted to gynecologic diseases and symptom-complexes. Diagnostic procedures and technique are described in detail. There are indications for therapy, special considerations, non-surgical methods, surgical technique, radiotherapy, diathermy, and after-treatment. The final section of the book discusses history-taking and examination, appendix and urinary tract in their relations to gynecology; spinal anesthesia; dietetic considerations; transfusion. Most of the 222 illustrations are the work of Tom Jones.

Octavo volume of 380 pages, with 222 illustrations. By ARTHUR H. CURTIS, M.D., Professor and Head of the Department of Obstetrics and Gynecology, Northwestern University Medical School. Cloth, 24s. net.

ANDREWS' SKIN DISEASES

Dr. Andrews draws sharp, clinical word-pictures. He sweeps away the usual diagnostic difficulties. He interprets signs and symptoms. He leaves nothing untold. He tells you how to select the proper method, how to apply it. He explains the principles underlying the treatment. He tells you how to manage the case. He gives you internal therapy as well as local treatment. He gives you formulas for powders, lotions, salves, ointments, and literally hundreds of prescriptions lifted from his own practice. He details dietetic measures, giving menus, recipes, foods to be avoided as well as those to be taken. The sections on X-ray Therapy, Supersoft X-rays (W-rays, Grenz-rays), Radium Therapy, Ultra-violet Light, and Surgical Diathermy, covering 150 pages, are complete and practical.

Octavo volume of 1,095 pages, with 988 illustrations. By GEORGE C. ANDREWS, M.D., Associate Professor of Dermatology, College of Physicians and Surgeons (Columbia University), New York City. Cloth, 55s. net.

CECIL'S MEDICINE

For this brand new edition the entire book had to be reset, because the 135 eminent contributors were given *carte blanche* in the revision of their articles. The new (2nd) edition represents to-day's approved practice. In addition to the hundreds of changes throughout the book, there are entirely new chapters on tularemia, snake venom poisoning, atelectasis of the lungs, creeping eruption, oroya fever, brucella abortus infections, essential hypertension, agranulocytic angina, and arthritis. In his selection of authors, Dr. Cecil was particularly fortunate. Most of them are teachers in medical schools, and their authoritative presentations are in a form specially acceptable to all those interested in the study and application of medical knowledge.

By 135 American Authors. Edited by RUSSELL L. CECIL, M.D., Assistant Professor of Clinical Medicine, Cornell University Medical School. Octavo of 1,592 pages, illustrated. Cloth, 40s. net.

W. B. SAUNDERS COMPANY LTD., 9, HENRIETTA ST., LONDON, W.C.2.

THE METABOLISM OF TUMOURS

Investigations from the Kaiser Wilhelm Institute for Biology, Berlin-Dahlem

Edited by

OTTO WARBURG

Lancet:—". . . the translation is excellent, and the English edition will make a strong appeal to all those who wish to use the manometric technique in the study of chemical reactions, since its theory and practice are described in great detail."

British Medical Journal:—"The researches have added an important detail to our knowledge of the peculiar features of tumour growth—a valuable acquisition, since it opens up a new avenue of approach in the study of the causation of tumours."

Translated by FRANK DICKENS, M.A., Ph.D.

Illustrated. *40s. net.*

CONSTABLE

10 & 12 Orange Street Leicester Square WC2

SECOND EDITION. Fully Revised. Demy 8vo. 464 *pp. With* 234 *Text Illustrations and* 12 *Plates* (8 *in colour).* 20s. *net. Postage* 9d.

DISEASES OF THE

NOSE, THROAT & EAR

Edited by A. LOGAN TURNER,

M.D., LL.D., F.R.C.S.E.,

Consulting Surgeon, Ear and Throat Department, Royal Infirmary, Edinburgh.

With the collaboration of J. S. FRASER, M.B., F.R.C.S.E., W. T. GARDINER, M.C., M.B., F.R.C.S.E., J. D. LITHGOW, M.B., F.R.C.S.E., G. EWART MARTIN, M.B., F.R.C.S.E., and DOUGLAS GUTHRIE, M.D., F.R.C.S.E.

"There is no other book which includes laryngology and otology with such success."—BRITISH MEDICAL JOURNAL.

"May confidently be recommended."—LANCET.

With 130 *Illustrations (some in colour). Sup. Roy.* 8vo. 722 *pp. Bevelled Boards.* £2 2*s. net. Postage* 1*s.*

AN INDEX OF

SYMPTOMATOLOGY

Edited by H. LETHEBY TIDY,

M.A., M.D., B.Ch.(Oxon.), F.R.C.P.(Lond.).

Physician, St. Thomas's Hospital; Consulting Physician, Royal Northern Hospital.

In conjunction with 25 Representative Contributors.

"Should help considerably in the solution of difficult diagnostic problems . . . a volume worthy of the series to which it belongs."—BRITISH MEDICAL JOURNAL.

"Each article has been written by an expert, and could hardly be made more lucid or concise."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

THE

EXTRA PHARMACOPOEIA

By W. HARRISON MARTINDALE, Ph.D.

Nineteenth Edition.

Vol. I, 27/6 net; postage 6d.
Vol. II, 22/6 net; postage 4d.
Complete Work (2 Volumes) 50/- net, post free.

In Two Volumes.

Vol. I (1928) deals chiefly with Treatment, giving the important issues as to CLINICAL USE of all modern CHEMICALS and DRUGS, characters, dosage, methods of prescribing, etc.

Vol. II (1929) COMPLETES THE SET. It is concerned with INVESTIGATIONS, EXPERIMENTAL RESEARCH, DIAGNOSIS, and a large amount of new matter in medicine and allied sciences.

BRIT. MED. JOURN., Nov. 2nd, 1929, says: "*Has a well-established reputation as a most useful and convenient work of reference.*" LANCET, Nov. 2nd, 1929, says: "*A clear and authoritative publication of the highest value.*"

An up-to-date Book for everything on the Therapeutic Use of Drugs. It embodies the Latest and Most Varied Information on Chemistry, Pharmacy, Therapy, and numerous other subjects.

LONDON: H. K. LEWIS & CO. LTD., 136, Gower Street, W.C.1

FOR SUCCESSFUL VACCINATION USE

CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens to H.M. the King* 76, NEW BOND STREET, LONDON, W.1

Telephone: Mayfair 4173—4.

Vapo-Cresolene Est. 1879

Sold by all Chemists

Write for descriptive Booklet No. 29.

ASTHMA

There are certain types of chron[illegible] relief of their paroxysms. While adrenaline [illegible] st be given hypodermically, and its action is [illegible] (specially prepared cresols of coal tar) vapo[illegible] night will give the desired relief. The patien[illegible] -eathes the medicated air of the bedroom.

This antiseptic vapour is particularly effective in bronchial ailments accompanied with cough and difficult breathing—as bronchitis, whooping cough, spasmodic croup.

ALLEN & HANBURYS, LTD. :: :: Lombard Street, London, E.C.3.

J. & A. CHURCHILL

THREE NEW BOOKS

102 Illustrations. 10s. 6d. Postage 6d.

A HANDBOOK OF MIDWIFERY

By R. E. TOTTENHAM, M.B., B.Ch., B.A.O., Prof. of Obst. and Gynaec., Hong-Kong University.

25 Illustrations. 5s. Postage 3d.

POCKET LENS PLANT LORE

By JAMES SMALL, D.Sc., Ph.C., F.I.S., Professor of Botany, Queen's University, Belfast.

48 Illustrations in Black, Red, and Blue. 10s. 6d. Postage 5d.

BACKACHE

By J. B. MENNELL, M.D., Medical Officer, Physico-Therapeutic Dept., St. Thomas's Hospital.

By Prof. R. T. HEWLETT
King's College, London.

BACTERIOLOGY

EIGHTH EDITION. 38 Plates, 63 Text-figs. 18s. Post. 9d.

PATHOLOGY General and Special

FIFTH EDITION. 48 Plates, 12 Text-figs. 18s. Post. 9d.

PREVENTIVE MEDICINE

12 Charts, 5 diagrams. 18s. Postage 9d.

99 Illustrations. 15s. Postage 9d.

AN ELEMENTARY TEXTBOOK OF GENERAL MICROBOLOGY

By WARD GILTNER, Professor of Bacteriology and Hygiene, Michigan State College.

SECOND EDITION. 104 Illustrations. 15s. Postage 9d.

KOBY'S SLIT-LAMP MICROSCOPY OF THE LIVING EYE

Translated by CHARLES GOULDEN, O.B.E., F.R.C.S.; and CLARA LOMAS HARRIS, M.B.

16th EDITION. 110 Illustrations. 7s. 6d. Post. 6d.

HARTRIDGE'S REFRACTION OF THE EYE

6th ED. 4 Plates, 65 Text-figs. 6s. 6d. Post. 6d.

HARTRIDGE ON THE OPHTHALMOSCOPE

THIRD EDITION. 23s. Postage 9d.

LANG AND MEYERS' GERMAN-ENGLISH MEDICAL DICTIONARY

40 Illustrations. 12s. 6d. Postage 6d.

THE HAIR: Its Care, Diseases and Treatment

By W. J. O'DONOVAN, O.B.E., M.D., M.R.C.P., Physician, Skin Dept., London Hospital.

By R. P. ROWLANDS and PHILIP TURNER
Surgeons to Guy's Hospital.

THE OPERATIONS OF SURGERY

7th Edition.

900 Illustrations, 43 in Colour. Two Volumes. 70s. Postage 1s. 3d.

THIRD EDITION. 291 Illustrations. 10s. 6d. Postage 9d.

STEAD'S ELEMENTARY PHYSICS FOR MEDICAL STUDENTS

By G. STEAD, M.A.Camb., University Lecturer in Physics as applied to Medical Radiology.

176 Illustrations. £2 2s. Postage 1s.

MATTHES' DIFFERENTIAL DIAGNOSIS OF INTERNAL MEDICINE

Translation of 4th German Edition, with extensive additions by I. W. HELD, M.D., and M. H. GROSS, M.D.

"The work should prove of the greatest possible use in practice . . . a very mine of information and of inestimable service to the practising physician."—IRISH JOURNAL OF MEDICAL SCIENCE.

106 Illustrations. 10s. 6d. Postage 6d.

MAYNEORD'S PHYSICS OF X-RAY THERAPY

By W. V. MAYNEORD, M.Sc., Physicist to the Radio-therapeutic Dept. of the Cancer Hospital (Free), London.

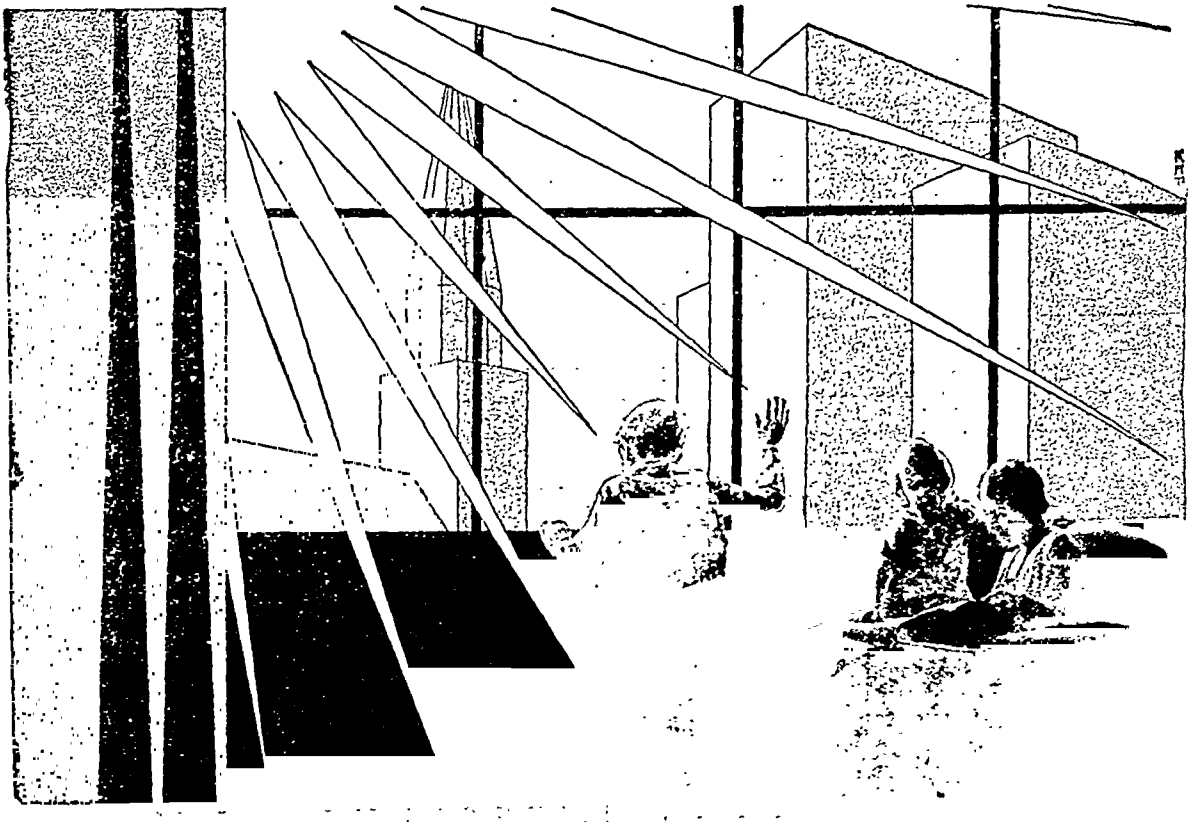
Translated and Edited by MINA L. DOBBIE, M.D., B.Ch., Med. Officer, Chelsea Coll. of Physical Education.
131 Illustrations. 12s. 6d. Postage 6d.

ARVEDSON'S TECHNIQUE OF SWEDISH MEDICAL GYMNASTICS AND MASSAGE

THIRD EDITION. 8s. 6d. Postage 4d.

ARVEDSON'S MEDICAL GYMNASTICS AND MASSAGE IN GENERAL PRACTICE

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1



SCARCELY MORE THAN TWICE THE PRICE

of ordinary window-glass

The question of cost has often proved an obstacle against the acceptance of new methods. Before a steady demand had been created for "Vita" Glass prices were necessarily high.

But the new stabilised prices open up vast possibilities for the use of windows that admit health as well as light. "Vita" Glass now costs scarcely more than twice the price of ordinary window-glass but it converts windows into channels of health instead of shutters against it. Its properties are guaranteed permanent. Over 300 hospitals and nearly 200 schools are now fitted with "Vita" Glass. Employers are using it more and more in offices and factories and it is being fitted daily in private houses all over the country. Write for full particulars to the "Vita" Glass Marketing Board, 9 Crown Glass Works, St. Helens, Lancashire.

"Vita" Glass is obtainable through local Glass Merchants, Plumbers, Glaziers and Builders

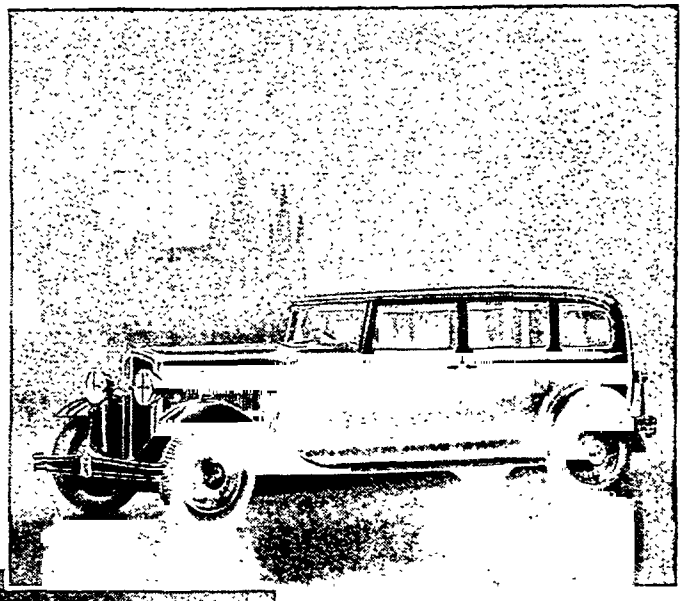
"VITA" GLASS

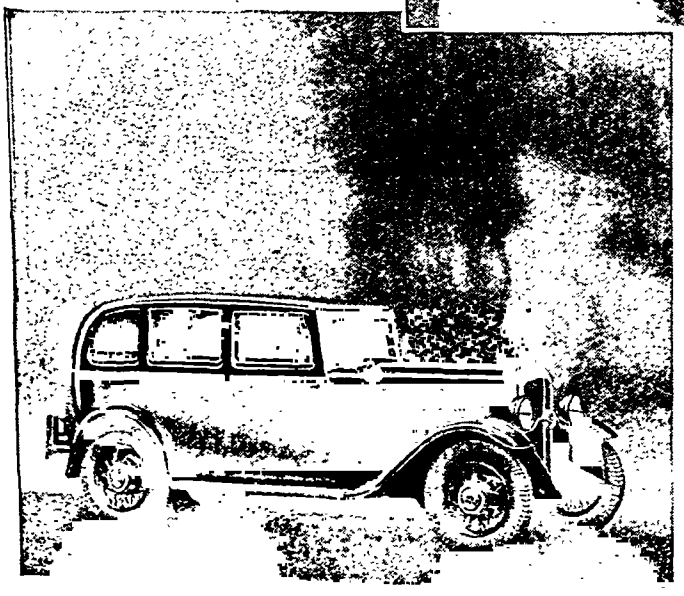
V.318

"Vita" is the registered Trade Mark of Pilkington Brothers, Limited, St. Helens.

Rover offer a range of cars for every phase of medical service

FROM the distinguished Meteor Limousine to the popular Rover Family Ten there is a Rover model that can, and does, serve every phase of a doctor's duties. The Limousine for the Consultant, securing privacy for the conference en route with colleagues: the Two Litre Six or Light Twenty for the scattered and difficult country districts: the Family Ten for easy manipulation in mean and narrow city streets and in congested traffic—and in each power grade a matchless performance.





WE illustrate two models. The top one is the Meteor Limousine—it has a drop down division that can be closed for professional purposes and opened on social occasions. It costs only £548 and gives dignity, power, and comfort at extremely low cost. The illustration left is the Rover Family Ten offering exceptional passenger accommodation, well sprung and comfortable so that an emergency run with patients requiring almost 'stretcher' length can be easily arranged. It will achieve 60 miles per hour, has run 2,147·2 miles for £5 under official observation. Brief particulars of the price are supplied on the left.

Rover Family Ten—from £189 | Rover Light Twenty—from £358

Rover Two Litre—from £298 | Rover Meteor—from £398

Rover Meteor Limousine £548

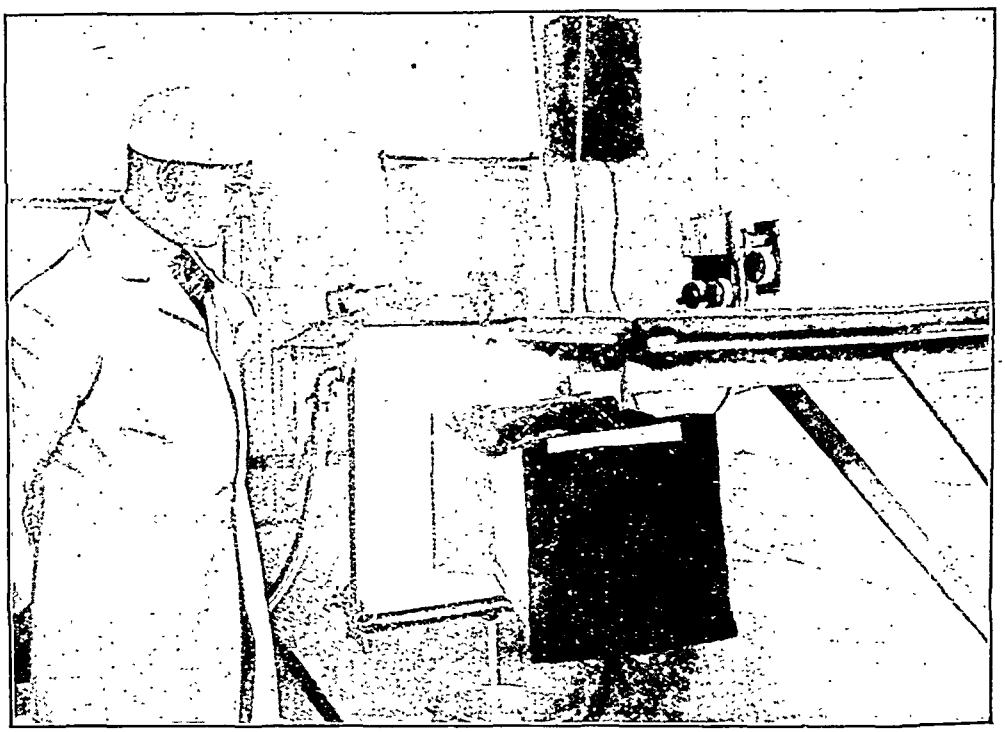
ROVER

The Rover Co. Ltd., Meteor Works, Coventry

Send for Illustrated List

Guaranteed by the maker for Two Years, supervised by the seller for Two Years

MICKLEFIELD IRRADIATED MILK



TREATING THE MILK

By this Process—

(1) VITAMIN A AND NATURAL FLAVOUR ARE PRESERVED.
(2) VITAMIN D CONTENT IS INCREASED 1,800 PER CENT., OR TEN TIMES THAT OF ANY OTHER IRRADIATED MILK.

One pint equivalent in Vitamin D to 600 drops or 12 grammes of average Cod-Liver Oil.

A ten weeks' test recently conducted at the Infants' School, Rickmansworth, under the supervision of the Medical Officer of Health, gave the following results:—

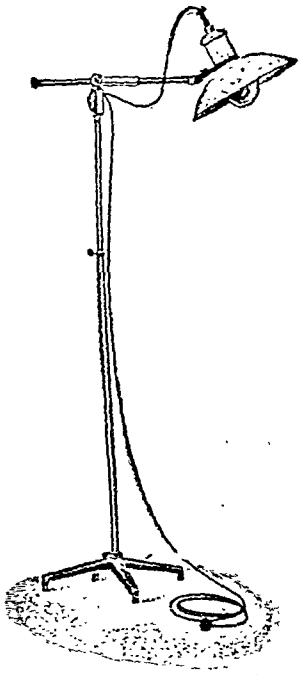
(1) 18 children (controls) had their usual ordinary milk.
(2) 29 ,, 1/3-pint of Grade A (T.T.) milk five days a week.
(3) 30 ,, ,, Micklefield ,, ,, ,,

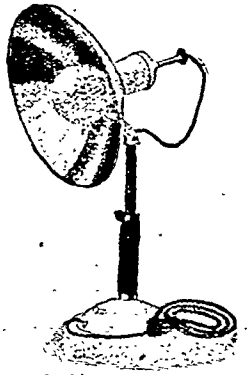
(1) Average increase in height '605-in. (2) Average increase in weight 9.72 ozs. more than (1).
(2) ,, ,, ,, '610-in. (3) ,, ,, ,, 10.9 ozs. more than (1).
(3) ,, ,, ,, '744-in.

Full particulars appeared in an article in the LANCET, January 18, 1930, p. 127, et seq., a reprint of which will be sent post free on request.

The milk is delivered every week-day in London; elsewhere by arrangement.

Write to J. O. HICKMAN, MICKLEFIELD GREEN, RICKMANSWORTH.





Price £8 10 0 Price £6 10 0
Complete with bulb.

NERON VITALUX

The Sunlight Generator

HEAT, LIGHT, ULTRA-VIOLET

The discovery of U.-V. Glass "A" with the highest degree of permeability of all glasses permeable to U.-V. Rays has resulted in the production of a NEW LAMP giving a radiation equivalent to natural July Sunlight.

An indication as to some of its uses:

Rachitis prophylaxis, tubercular cervical glands, surgical and cutaneous tuberculosis, neuralgia, rheumatism (neuritis, myalgia), catarrhal diseases (colds), inflammation of the lungs (pleurisy), treatment of wounds, etc.

Extract from letter recently received from a doctor:
"The lamp is giving me thorough satisfaction, being a great improvement on the carbon arc lamp I was using, owing to the absence of fumes and greater ease of working, as well as giving a more satisfactory spectrum."

A SUSPENSION MODEL is available for Group treatment. Plans prepared free of cost for Hospital Sun Rooms.

NERON VITALUX LAMPS ARE BEING INSTALLED IN VARIOUS HOSPITALS, Etc.

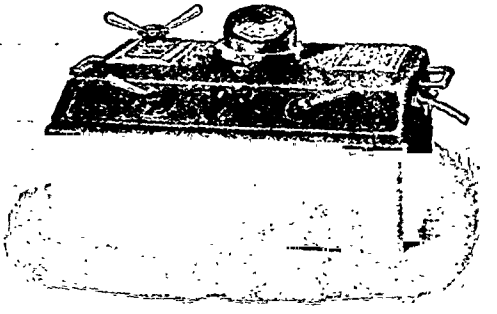
A NEW SURGICAL DIATHERMY UNIT

(ELECTRO-SURGERY)

The introduction of the New Surgical Models of Siemens Thermoflux Diathermy Apparatus permits of hitherto unattainable success in certain operations.
Haemorrhage is minimised.
Post-operative pain and metastasis reduced.
The largest and smallest surgical operations are possible with a Thermoflux Unit.

May we demonstrate to you how it is possible in one machine to control with simplicity the cutting current for every variety of tissue?

Ask for a copy of a new brochure with technical data now in the press, free to all surgeons.



There is a Thermoflux Diathermy Unit for every surgical and medical purpose.

Surgical: Thermoflux A, for small operations, £30; K, high power portable, £55; M, for major operations, £80.

Combined Surgical and Medical Diathermy: Thermoflux C.K, a powerful portable unit for all-round purposes, £40.

Special Medical Units: Thermoflux C, £37 10s.; D2, £47 10s.; D4, £50 (treats 4 patients simultaneously); G, high power unit, 4 circuits, £85.

RECENT INSTALLATIONS INCLUDE—
ST. THOMAS'S HOSPITAL, ST. GEORGE'S HOSPITAL, MIDDLESEX HOSPITAL, BRITISH RED CROSS CLINICS, Etc.

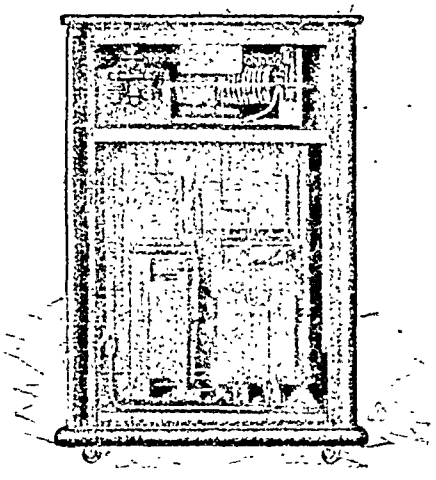
The General Radiological & Surgical Apparatus Co. Ltd.

204-206, Great Portland Street, London, W.1

'Phone: Museum 1719 and 8326. Showrooms: FIRST FLOOR. 'Grams: Equispital, Wesdo, London.

Agents for Scotland:
THE MEDICAL SUPPLY ASSOCIATION LTD.,
10/13, Teviot Place,
EDINBURGH.

Agents for Ireland:
THE IRISH RADIOLOGICAL & SURGICAL SUPPLY CO., LTD.,
7, Lower Pembroke Street, DUBLIN.



"HOLWAY" DIATHERMY APPARATUS
showing internal construction.

N. AND W.

SPECIALITIES

APPARATUS for RADIOLOGY and PHYSIOTHERAPY

Newton & Wright Ltd

471-3, HORNSEY ROAD, LONDON, N.19

Telephone: Archway 2621 (3 lines)

The I·XL STAINLESS STEEL

PHYSICIAN'S POCKET KNIFE

A pleasure to own and delightful to use.

Polished Buffalo Horn Handle

4/-

Each

No 7222.—*This is a Knife we have made for nearly 100 years. Its description appears in one of our old pattern books dated 1858, and was probably copied from an older one.*

ORIGINALLY designed for the Physician, this knife, by virtue of its long, useful, highly polished blade, now made of Stainless Steel, is to-day being used most extensively as a Fruit Knife—in fact, no better knife could be found for this purpose. It is also most useful for opening letters, cutting the leaves of a book, sharpening pencils, and many more purposes which a good knife can serve. The Nickel Silver cap on the end can be used on sealing-wax, or for pressing down tobacco in the pipe. The Physician will still find the long blade of this knife extremely useful for its original purpose—that of taking powder from broad-necked bottles.

There is an I·XL stockist in every district, but as this is a knife designed mainly for Physicians, and there is not a large sale, we are not asking our dealers to stock it.

If you wish for one of the knives, send us Postal Order for 4/-, and we will send it to you through our local dealer.

Before buying Cutlery, fill in the Coupon, place a halfpenny stamp on the envelope and post to-day. →

OUR GUARANTEE

We are sure you will like the knife, but if for any reason you are not entirely satisfied, please return the knife to us within 7 days, and we will promptly refund your money in full.

To GEORGE WOSTENHOLM & SON Ltd., 105, WELLINGTON STREET, SHEFFIELD. Please send me free of charge your new 28-page Catalogue of the celebrated I·XL Cutlery, illustrating and describing a wide range of Pocket Knives, Table Knives, Razors, Scissors, Carvers, and the wonderful I·XL Saw-edged Bread, Salad and Grape Fruit Knives, with the name of the Dealer in my district who sells I·XL Cutlery.

Name .....

Address .....

The Latest Prospectus . .

on actinotherapy equipment

Copies FREE *on request*

THE VARIOUS MODELS OF HANOVIA QUARTZ LAMPS

FOR ACTINOTHERAPY

HANOVIA ALPINE SUN for general radiation. Administered to individual patients lying or standing.

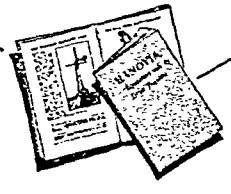
THE KROMAYER LAMP for local or orificial treatment.

JESIONEK QUARTZ LAMP for the treatment of groups of patients, in hospitals, clinics, etc.

THE PORTABLE HOMESUN LAMP for use in hospital wards or the patient's home, where roborant treatment is indicated.
This lamp is intended only for tonic purposes.

FOR LUMINOUS HEAT THERAPY

THE SOLLUX LAMPS for luminous heat therapy. Also frequently used in conjunction with Hanovia Quartz Lamps.



Send for this TO-DAY

THE new prospectus issued by the Hanovia Company on equipment for light therapy is a most up-to-date and complete catalogue on the subject.

In its pages will be found a detailed presentation covering the full range of equipment for light therapy—32 pages of descriptive matter.

In addition to the fullest description of this comprehensive range, details will be found of the Reference Library containing reports, papers, and text-books now in the Company's possession. (A free distribution of over 100 reprints listed under their appropriate headings is also offered for the use of the Medical Profession.)

For those not already familiar with actinotherapy, a short outline of its history and scope has been drawn up, followed by quotations from representative opinions on the subject. The book concludes with a full description of the general service rendered by the Company to the Medical Profession.

In view of the growing importance of actinotherapy, you should not be without this new free book. A copy will be sent to you upon request to the address below. Enquiries should be marked Dept. 9.

This Coupon is for your convenience

THE BRITISH HANOVIA QUARTZ LAMP CO. LTD., Slough, Bucks (Dept. 9)

Please send me a copy of Hanovia's new free Prospectus, and a full list of over 100 free reprints on actinotherapy.

Name _____

Address _____

A.9 _____

167,000 HANOVIA Quartz Lamps in use the world over.

HANOVIA

Actinotherapy Equipment Specialists.

THE BRITISH HANOVIA QUARTZ LAMP CO. LTD., SLOUGH, BUCKS.

London Office: 3, VICTORIA STREET, S.W.1

Equipment and service also through all electro-medical dealers.

304A

IN THE POST-INFLUENZAL STATE . . .

BY APPOINTMENT

these essences supply energy—prepare patients for solid diet

In all states of exhaustion, particularly when the patient's recovery is retarded by anorexia, Brand's Essences of Beef or Chicken supply energy and stimulate the system without strain to the digestive organs.

Scientific tests have shown that these essences are assimilated forty minutes quicker than ordinary foods and without the formation of residue. Suave and non-irritant in action, they can be safely recommended in all cases of intestinal disturbances, in specific fevers and in all disorders associated with pyrexia. Before and after operations and in convalescence they are indispensable.

99 out of every 100 doctors recently interviewed recommend Brand's Essences of Beef or Chicken to their patients.

Hygienically prepared from the finest freshly killed English meats by an exclusive process, they are entirely void of preservatives or colouring matter and are deliciously palatable and easy to swallow.

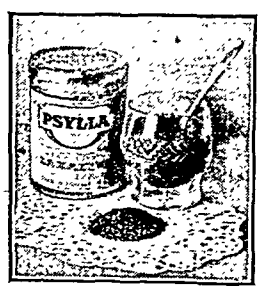
Samples will be sent on receipt of a professional card.—Brand & Co. Ltd., Dept. F.23, Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S

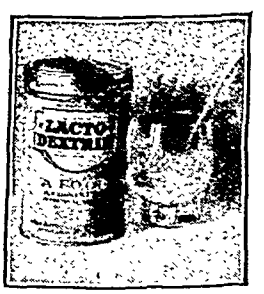
ESSENCES OF BEEF OR CHICKEN

TWO NEW PREPARATIONS

Vide THE LANCET, Jan. 10th, 1931.



"PSYLLA (psyllium) seed; LACTO-DEXTRIN (Battle Creek Food Company, Mich., U.S.A., Distributing Agents, Coates & Cooper, 41, Great Tower Street, London).—This company have sent us specimens of their laxative agent, Psylla, and their preparation, Lacto-Dextrin, for use in intestinal toxaemia. Psyllium seeds when immersed in water yield a mucilaginous substance which is able to take up relatively large quantities of water to form a gelatinous mass. They become in this way a useful lubricant, while the emollient character of the mass renders it of special service in Fissure or Haemorrhoids. The same firm has received favourable reports from the clinical use of their combination of lactose and dextrin."—*Lancet*, Jan. 10th, 1931.



Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, 41, Great Tower Street, London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA *(Psyllium Seed)*

LACTO-DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

Elastoplast

BRITISH MADE

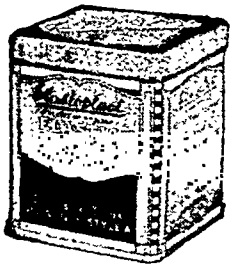
Patent No. 253,527.

THE ORIGINAL ELASTIC PLASTER BANDAGE

(STRETCHES DOUBLE LENGTH)

As used in the permanent cure of Varicose Ulcers, Varicose Veins, and for general Surgical and Orthopaedic purposes at most Hospitals. With continuous pressure from **Elastoplast,** Varicose Ulcers, no matter how severe, painful, or long-standing, heal at a steady average rate of one square inch per week. *Vide:—*

Proceedings of the Royal Society of Medicine, May, 1930. Vol. 23, No. 7. Page 1032.
The Clinical Journal, 3/12/1930.
The British Medical Journal, 13/12/1930. 3 articles, pp. 996, 998, and 1000.

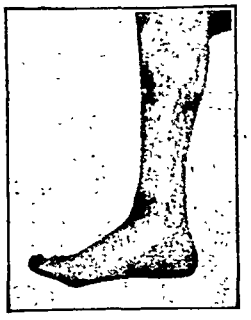


One introductory trial set, with full details of method of treatment, will be sent, upon receipt of P.O. value 2/6, by the Manufacturers—

T. J. SMITH & NEPHEW LTD. (Dept. BM2),
Surgical Dressings Manufacturers,
HULL, LONDON, MANCHESTER, GLASGOW.

London Office: 42, TAVISTOCK SQ., W.C.1.
Obtainable through all Surgical Supply Houses.

Photograph shows Ulcer of 25 years' duration. Woman patient. Age 63.



After 18 weeks' ambulatory treatment with Elastoplast applications. Bandages used—15.

For the Treatment of

Pernicious Anaemia

As a result of the discovery that the administration of stomach tissue produces a rapid remission in pernicious anaemia, the need has arisen for a reliable desiccated stomach preparation suitable for human administration.

The issue of Gaster Siccata B.D.H. supplies this need. Gaster Siccata B.D.H. is entirely British, and it bears the B.D.H. guarantee of purity and therapeutic activity; moreover, it is simple in use and practically tasteless.

It is issued in neatly-packed aluminium tubes (each containing 10 grams) in boxes of 3 and of 6 tubes at 4/6 and 9/- per box respectively.

Announcing the issue of

Gaster Siccata B.D.H.
(desiccated stomach)

for the treatment of
Pernicious Anaemia

GASTER SICCATA B.D.H.

Literature and clinical sample on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

GSII

Sanatogen Strengthens but does not Irritate

The value of Sanatogen as a tonic food lies in its ready absorption. Even the weakest stomach can easily digest Sanatogen. For this reason Prof. Ewald of Berlin University, amongst others, has frequently given it in typhoid fever and reports that it is promptly absorbed during the febrile period with apparently the same ease as under normal conditions.

Writing in *"The Medical Press and Circular,"* a leading authority says:

"Sanatogen is readily absorbed by the stomach and has an immediate and remarkable effect, shown by a steady increase of body-weight and of muscular strength and energy."

SANATOGEN

CASEIN-SODIUM GLYCEROPHOSPHATE

Samples and literature will gladly be sent on application to

GENATOSAN LTD., LOUGHBOROUGH, LEICESTERSHIRE

BOOTS PRODUCTS

OBTAINABLE THROUGH ALL BRANCHES OF

The Boots Chemists

WHOLESALE AND EXPORT DEPARTMENT.

BOOTS PURE DRUG Co. Ltd.,

NOTTINGHAM, ENGLAND.

Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

Regesan

Fruit Saline

A simple and safe preparation containing the natural fruit acid of the grape, controlled by antacids and other ingredients to assist nature as correctives for the stomach, liver and bowels.

As it contains no sugar it can be prescribed in those cases where the presence of sugar is contra-indicated.

SONERYL

TRADE MARK

Powerful Hypnotic and Analgesic

An agent which has the double advantage of relieving pain and inducing sleep is invaluable in everyday practice.

"Soneryl" adequately meets this need and is widely employed for insomnia, whether arising from painful affections or febrile or nervous states.

"Soneryl" produces no after-effects nor does it lead to habit formation.

Supplied in tablets for oral use and ampoules for intravenous or subcutaneous injection

Write for descriptive literature and sample

Telephone: BATTERSEA 1813 (6 lines)
Telegrams: BISMUTH, LONDON

Prepared in the Laboratories of
MAY & BAKER LTD.
BATTERSEA LONDON, S.W.11

Over 12,000 Doctors now obtain their own supplies of Ty.phoo tea from us.

a Physician writes re....

FLATULENCE AFTER TEA

Copy of M.0208.

"Since you brought 'Ty.phoo' tea to my notice I have drunk no other kind, and I know that I have no flatulence now.

I have prescribed it to my **dyspeptic patients,** who all find benefit from its use."

WE print here one of the many Medical testimonials we are constantly receiving as to the undoubted value to dyspeptics of the pure natural "leaf-edge" tea in which we specialise.

Ask Sumner's Ty.phoo Tea Ltd., Dept. B/MD, Birmingham,

for a free sample of "Ty.phoo" natural leaf-edge tea and full particulars.

TRY "Ty.phoo" TEA in Indigestion.

The Reason Why

Magnesia-Oil (Musterole Brand) escapes every disadvantage of ordinary Laxatives—from uncertainty of action to irritation is because it is an *intimate* association of the Purest Magnesia, with Pure Liquid Paraffin in an almost incredible state of Ultra-Superfine Division—which state greatly magnifies therapeutic action and excludes all undesirable secondary effects.

ITS POINTS

On the Negative Side

It doesn't "leak"
It doesn't "repeat"
It doesn't "irritate"
It doesn't form Concretions
It doesn't deteriorate
It doesn't form a Drug-habit
It doesn't cause distension

On the Positive Side

It corrects acidity
It adsorbs Toxins
It softens the Faeces
It empties the Colon
It rests the Bowel Muscles
It suits Patients of all ages
It is pleasant to take

Chief Indications—

CONSTIPATION of Pregnancy, Infancy and Age
FLATULENCE.....ACID ERUCTATIONS
NAUSEA.....VOMITING
HYPEREMESIS.....TOXÆMIAS
HYPERACIDITY.....DYSPEPSIA
SIMPLE AND ULCERATIVE COLITIS, ETC.

M-O
MAGNESIA-OIL
(Musterole Brand)
A generous Clinical Sample and Literature on receipt of your professional card.

THOS. CHRISTY & CO., 4-12 OLD SWAN LANE, LONDON, E.C.4

BOOTS PRODUCTS
OBTAINABLE THROUGH ALL BRANCHES OF
The Boots Chemists

WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG Co. Ltd.,
NOTTINGHAM, ENGLAND.
Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

Sulphostab (BOOTS)

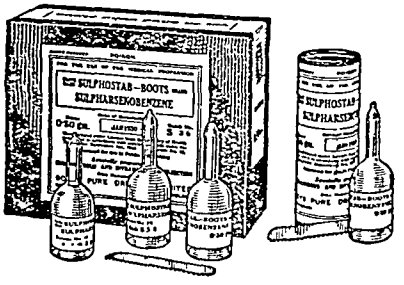
DIOXYDIAMINOARSENOBENZOL SODIUM FORMALDEHYDE BISULPHITE

SPECIALLY prepared for subcutaneous and intramuscular injection in the treatment of Syphilis and other spirochætal diseases. It is practically painless in use, and its high therapeutic activity has been fully demonstrated. Exhaustive clinical trials, both with children and adults, have proved highly satisfactory. **Approved by the Ministry of Health** for use in Public Institutions. Manufactured under Licence No. 19 and biologically tested under approved arrangements.

Obtainable in hermetically-sealed ampoules in the following doses:

0·025 gm. 0·050 gm.
0·075 gm. 0·10 gm.
0·15 gm. 0·20 gm.
0·30 gm. 0·45 gm.
0·60 gm.

Supplied in single ampoules or in boxes of ten ampoules.



R AND C

Specially indicated in

NEPHRITIS - URÆMIA - ECLAMPSIA - ALBUMINURIA

and allied conditions.

PROMPT and proper diagnosis of kidney conditions is necessary in cases of Bright's disease and all types of renal disorders. In nine cases out of ten the administration of a specific capable of producing real results in compensating for the loss of kidney function is also necessary.

For more than a quarter of a century Nephritin has been a sheet anchor to physicians in treating such disorders. Nephritin Tablets induce a marked increase in nitrogenous waste elimination. They reactivate the cells of the kidney, increase urinary secretion, and induce a greater output of urea.

Given in sufficient dosage these tablets produce marked results, and restoration to normal is quickly stimulated. They are invaluable also as a prophylactic in renal complications of infectious diseases and during pregnancy. The tablets are composed of the hormones of the normal kidney as they appear in nature—*absolutely unaltered.*

Samples and Descriptive Literature from Sole Distributing Agents for U.K. and Irish Free State: COATES & COOPER, 41, Great Tower Street, London, E.C.3.

Nephritin

TRADE MARK BRAND

DIURETIC RE-ZYME TABLETS

Manufactured by

REED AND CARNRICK

Pioneers in Endocrine Therapy

Jersey City, New Jersey.

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative, "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,

184, Queen's Gate, London, S.W.7.

Alasil

M 275

INSULIN 'A.B.'

TRADE A B MARK

80 Units per c.c.

Insulin 'A.B.' is now available in a concentration of 80 units per c.c., or four times the normal strength, for the convenience of large dose administration.

Supplied in three strengths:

20 units per c.c. Packed in bottles containing:
5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing:
5 c.c. (200 units or 20 doses) 4/- each

80 units per c.c. Packed in bottles containing:
5 c.c. (400 units) 8/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession.

Joint Licencees and Manufacturers:

Allen & Hanburys Ltd. Bethnal Green, London, E.2

The British Drug Houses Ltd. Graham Street, London, N.1

A RATIONAL TREATMENT FOR COUNTERACTING ALL THE USUAL CAUSES OF CONSTIPATION

TABLETS

REGULATES THE FLOW OF BILE, STIMULATES PERISTALSIS, AND NEUTRALIZES INTESTINAL PUTREFACTION

LACTOBYL IS DIGESTED & DISINTERGRATED IN THE ALKALINE SMALL INTESTINE

Prepared by:

LABORATOIRES LOBICA

46, Avenue des Ternes, PARIS (17e)

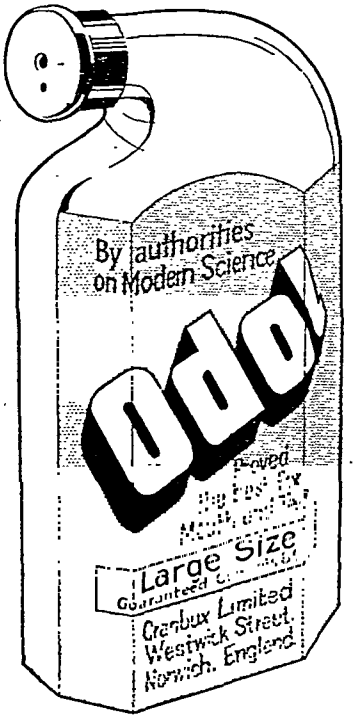
Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd.,
30 Marsham St., London, S.W.1.

Where a Gargle is indicated Odol can be prescribed with confidence - - - - -

ODOL mouth-wash is especially adaptable in cases of tonsillitis or any affection of the throat where a gargle is indicated. Odol possesses unique germicidal power and healing properties. Indeed, it has been proved by experiment that Odol will destroy Bacillus Typhosus within 30 seconds if used at a strength of 4%. Odol is harmless to the mucous membrane. It is non-toxic and can be used by children with safety.

Samples and literature will gladly be sent to any member of the medical profession on application to Cranbux Ltd., of Norwich.



ANTI-ACID NON-CAUSTIC NON-TOXIC

Aldrych

Valentine's Meat-Juice

In **Vomiting** of **Pregnancy**, in the **Exhaustion** following **Hemorrhage** or **Prolonged Labor**, and before and after **Abdominal Operations** the **Ease** of **Assimilation** and **Power** of **Valentine's Meat-Juice** to **Restore** and **Strengthen** has been **Demonstrated** in

Hospitals for Women.

The quickness and power with which **Valentine's Meat-Juice** acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB95

Influenza and Capillary Tone

Another influenza epidemic finds us still without a specific preventive or a specific remedy. Fortunately, both the incidence and the course of the disease can be favourably modified by the observance of such rules as medical experience teaches.

It is essential to maintain vigorous metabolism and healthy capillary tone, whilst avoiding undue cold and damp. Adequate stimulation of the sensory nerve-fibrils of the skin, also, is of supreme importance in keeping the body's resisting power at its highest, and in increasing its recovery-capacity. For these purposes THERMOGENE has been found by many medical men and their patients to be convenient, cleanly and effective.

Thermogene is a carefully prepared pure cotton wadding, remarkably soft and fleecy, freed from dust and other impurities, and impregnated with skin-stimulating vegetable essences.

THERMOGENE

MEDICATED WADDING

A full-size box of Thermogene, with an interesting booklet on Surface Therapy, will be sent FREE to any medical man who is unfamilar with Thermogene and its many uses in practice.

The Thermogene Co., Ltd., Queen's Road, Hayward's Heath, Sussex.

NASAL CREAMS

DUNCAN'S Nasal Creams are put out in Elastic Gelatine Capsules suitable for applying a medicament to the higher nasal passages. The following different kinds of creams are offered:

ALKALINE

ANTISEPTIC

ASTRINGENT

IODISED

SEDATIVE

STIMULANT

SAMPLE AND PRICES ON APPLICATION.

DUNCAN, FLOCKHART & CO., Edinburgh and London

LONDON - - - 155-157, FARRINGDON ROAD, E.C.1.

HORLICK'S MALTED MILK

A VALUABLE ADDITION to a diet at any time—especially so during the winter months. At this season of the year, the lack of stamina and diminished resistance to infection, so closely related to errors in nutrition, most conspicuously manifest themselves. It is therefore, all the more necessary that care should be taken to ensure that patients shall be given a diet which will satisfy their energy needs, lessen fatigue, prevent tissue waste and build up a reserve. HORLICK'S, a well-balanced food, with its easily digested protein, its readily assimilated fat and mixed carbohydrate—lactose, maltose and dextrin, and adequate vitamin content, promotes physical and mental fitness, increases resistance to infection and restores vitality. To combat Influenza, Pneumonia and other complaints so common in winter, HORLICK'S can be prescribed with confidence.

EVANS' THROAT Pastilles

MADE BY

EVANS SONS LESCHER & WEBB Ltd.

56, Hanover Street, LIVERPOOL and LONDON

THROAT THERAPY.

Evans' Pastilles are prepared to a formula of the Liverpool Throat Hospital. Their action is soothing and demulcent, the formula being carefully balanced with both these objects in view. Evans' Pastilles relieve harshness and irritation and maintain their effect for some time after the pastille has dissolved.

Sold in 1/- tins or in bulk for dispensing.

A physician's sample will be gladly sent on request.

The beneficial effects of physical therapy in the rheumatic group of diseases are due mainly to influence on circulation, particularly on the capillary beds.

ANTIPHLOGISTINE

Neuritis and Fibrositis

dressings are very valuable in the treatment of neuritis and fibrositis in the neighborhood of the brachial and cervical plexuses. ■ They have the great advantage of supplying continuous moist heat, and they can be easily molded to the affected part. ■ Intensive hyperæmia can thus be produced at any particular spot with all its beneficial effects.

EXOSMOTIC

HYPERÆMIC

ANALGESIC

DECONGESTIVE

Write for sample and literature

THE DENVER CHEMICAL MFG. COMPANY

(Inc. U.S.A. Liability Ltd.)

LONDON, E.3.

CAPROKOL

The results achieved in cases which have resisted all other forms of treatment—the immediate soothing effect which is more than mere transitory relief but is actually the precursor of the ultimate removal of the offending infection, and the final disappearance of the unpleasant symptoms which are associated inevitably with such infections—testify unequivocally to the remarkable value of 'Caprokol' in the treatment of urinary tract infections.

Quick Relief
from
Unpleasant Symptoms

Eventual Sterilisation
of the
Urinary Tract

In Capsules and in Solution

Literature on request

Sole Selling Agents:

THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Cap/33

Post-Influenzal Depression

is partly a direct effect of influenzal toxins, but is largely due to toxaemia arising from the debilitated digestive tract.

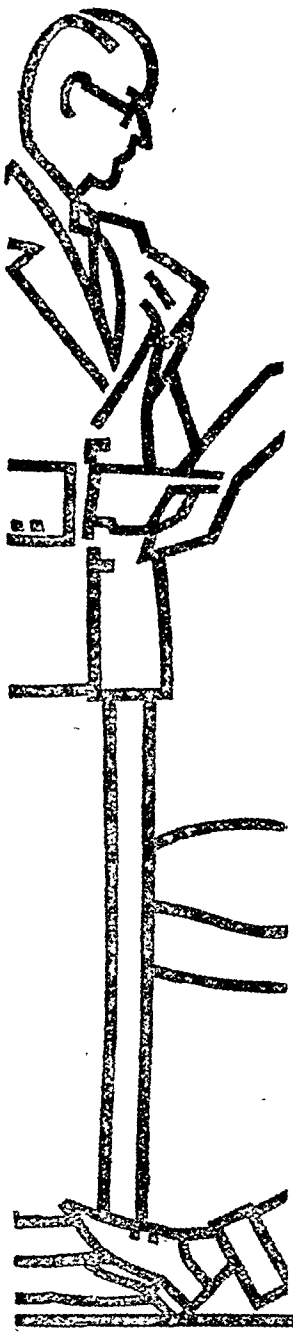
Kaylene-ol

prevents intestinal toxaemia and thus shortens convalescence and enables the patient to resist secondary infection.

Literature and supply for clinical trial obtainable from the Manufacturers:

KAYLENE LIMITED,
Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone— GLADSTONE 1071 (2 lines).
Telegrams— KAYLOIDOL, CRICKLE, LONDON.
Cables— KAYLOIDOL, LONDON.
Code— BENTLEY'S.



when you forbid a patient caffein please hasten to add—

When a patient's face falls at your order to avoid caffein, please hasten to add a word of cheer.

Console the patient with the fact that, in forbidding caffein, you are not forbidding the satisfying flavour of coffee. Remind the patient that he can still drink H.A.G. Coffee—genuine, delicious coffee with the effects of caffein minimized.

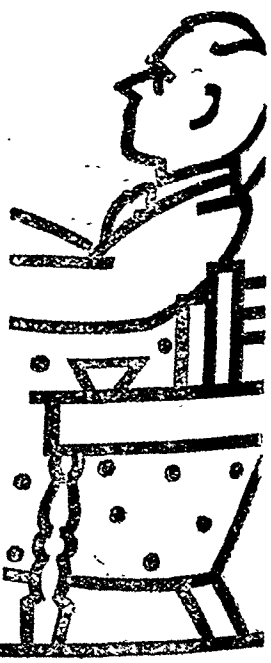
There is, however, another reason besides your own benevolence for recommending H.A.G. Coffee. By letting your patient enjoy the rich and satisfying flavour of H.A.G. Coffee, you remove all temptation to drink caffein-containing coffee on the sly.

Rich in flavour—tempting in aroma

H.A.G. Coffee is real coffee—a superior blend of the choicest Central and South American coffees. The decaffeination process takes place *before* the coffee beans are roasted. This leaves intact all the mellow flavour and fragrance that make coffee "the beloved beverage." Coffee experts recognise that no other blend is finer.

H.A.G. Coffee is under the Independent Control of The Institute of Hygiene and British Analytical Control.

Your grocer stocks H.A.G. Coffee—ground or in the bean and in vacuum tins that preserve its freshness and its fragrance. Or send the coupon below for a liberal sample tin of H.A.G. Coffee. With it we shall be pleased to send a copy of "Some Observations of the Action of Caffein," a more complete discussion of H.A.G. Coffee. Send the coupon now.



H.A.G.

GENUINE = DELICIOUS

COFFEE

WITH THE EFFECTS OF CAFFEIN MINIMIZED

H.A.G. COFFEE COMPANY,
40 Theobald's Road, W.C.1

Please send me free of charge a liberal sample of H.A.G. Coffee—also the booklet "Some Observations of the Action of Caffein."

Name _____

Address _____

B.M.J.I.

THE TUBERCULOSIS DANGER!

It has been stated in Parliament that *over two thousand children die every year through tuberculous milk.* How many children who survive grow up weaklings through the taint of bovine tuberculosis? This hardly bears thinking about. Cow & Gate Milk Food is guaranteed absolutely free from tuberculosis and other pathogenic organisms.

Read the following extract from the Presidential Address at the Royal Sanitary Institute Congress at Margate, it is of vital significance to the medical and nursing professions:

'The loss on the agricultural and veterinary side of 52,222 bovines during the three years 1926, 1927, 1928, slaughtered under the Tuberculosis Order of 1925, and at least twice that number not reported but otherwise disposed of, the estimate that 40 per cent. of the cows of our dairy herds producing milk for human consumption are tuberculous, are circumstances in themselves that demand immediate attention. But when to this is added the fact that in England 31.5 per cent. of tuberculosis in children up to 15 years is of bovine origin, and deaths from tuberculosis in children up to 5 years is 29.5 per cent. of bovine origin, that 57 per cent. of cervical adenitis in the same ages is of bovine origin, that 33 per cent. of bone and joint tuberculosis in children under 5 years and 24 per cent. in children from 5 to 10 years is of bovine origin, that in Scotland it is recorded that in certain hospitals in Edinburgh as much as 90.3 per cent. of cervical adenitis and 61.2 per cent. of bone and joint tuberculosis in children up to 12 years is of bovine origin, it is high time that this grave condition and this very serious menace to public health should be mended and ended. It is no credit to us as scientists and protectors of public health that such a state of affairs should be permitted to continue, or even to exist.'

-IS SAFE!

Another remark made at the meeting was as follows:

'It would be better to have no milk supplied at all than to feed children on diseased milk as is being done at present.'

Cow & Gate Milk Food

COW & GATE MILK FOOD

is prepared by our Special Improved Roller Process employing a short heat treatment which destroys all disease organisms but leaves the natural vitamins unimpaired. It is a basic milk food which can be modified by the profession as they desire to suit each and every case.

WRITE FOR PARTICULARS OF OUR SPECIAL MILK FOODS FOR DIFFICULT INFANT CASES

Dept. 20 COW & GATE LTD., GUILDFORD, SURREY

MEASLES
and
WHOOPING COUGH

The danger of these disorders is often in their far-reaching secondary effects.

During Convalescence from Measles there is a very special liability to tuberculosis invasion, many victims subsequently succumbing to Tuberculosis, Broncho-Pneumonia or Surgical Tuberculosis, and there is the same liability to Broncho-Pneumonia from Whooping Cough.

Virol is composed of Bone Marrow, Glycerine Extract of Red Bone Marrow, Malt Extract, Eggs, Lemon Syrup and Salts of Lime and Iron.

The Vitamins are present in Virol in its manufactured state.

Phagocytosis

The raising of the patient's powers of resistance is therefore important. Virol has been proved to increase the phagocytosic action of the leucocytes against the germs of Tuberculosis.

The convalescent stage calls for special reparative nutrition. Virol has a marked effect upon the conservation of the tissues, repairing the waste and restoring the equilibrium of a healthy metabolism.

VIROL

More than 3,000 Hospitals, Sanatoria, and Infant Clinics use Virol regularly.

IN JARS, 1/3, 2/- & 3/9. VIROL LTD., EALING, LONDON, W.5.

Introduction to the Medical Profession of

REG. TRADE MARK

Feen-a-mint

The Chewing Laxative

In these days when the number of remedies for constipation is legion, and when almost the whole field of materia medica has been explored, some justification is necessary for bringing yet another laxative to the notice of the Medical Profession.

The laxative is Feen-a-mint, and it carries its own justification—as a trial will readily and most satisfactorily demonstrate.

Feen-a-mint is added to the therapeusis of constipation because it embraces the very desiderata of treatment often lacking in many so-called remedies.

The composition of Feen-a-mint is simple (the active principle being the well-known phenolphthalein but its *presentation* is a matter of great importance, and one which secures very complete therapeutic results.

In Feen-a-mint, phenolphthalein — in a state of remarkably fine division—is incorporated into a resinous gum base.

This product is intended for thorough mastication by the patient—which further aids sub-division and even distribution on the walls and contents of the intestine, with resulting peristaltic waves—free from griping and without irritation to the intestinal or urinary tracts.

The defæcation from Feen-a-mint is easy and satisfactory, whilst the re-action is the comfort arising from a completely emptied colon.

In a word—Feen-a-mint is the Ideal Laxative because it really ensures evacuation without secondary effects of any kind. It is very agreeable to the palate.

INDICATIONS

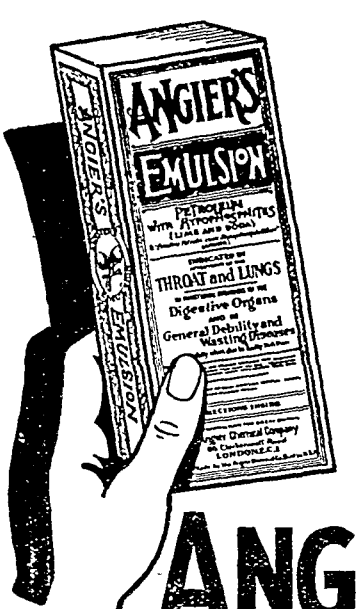
CONSTIPATION of all types at all ages. As an eliminant of toxins in pregnancy where other anti-constipative measures have failed.

Prescribing Note :—Feen-a-mint is not therapeutically incompatible with any drug or treatment, and further it is not absorbed.

★ SAMPLE OFFER—*Free of all charge or obligation, clinical samples will be sent on request.*

FEEN-A-MINT PRODUCTS LTD., 1 BUSH HOUSE, LONDON, W.C.2

FOR CHILDREN IN BRONCHITIS, WHOOPING COUGH, MEASLES & SCARLET FEVER



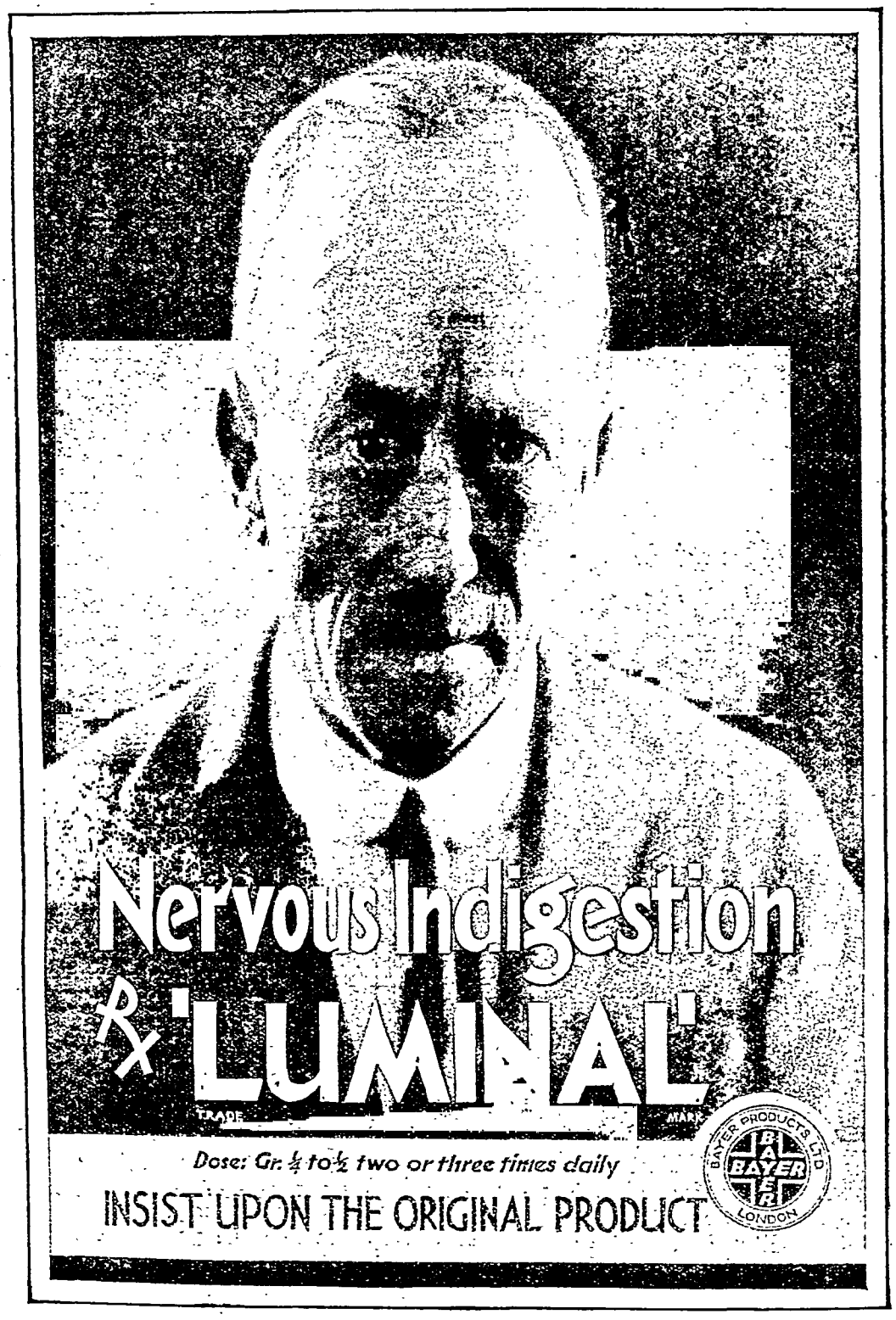
Angier's Emulsion is one of the most useful and dependable remedies at the command of the physician for the treatment of the various inflammatory and bacterial affections of children. Its soothing, inflammation-allaying properties and its general tonic effects are of first importance in these ailments, while its pleasant, cream-like flavour and ready miscibility with milk make it easy of administration even to the youngest infants.

In many of the wasting diseases of childhood a sensitive irritable stomach and intestines preclude proper nourishment. Under the administration of Angier's Emulsion these organs become pacified and retentive, digestion is strengthened, and the assimilation of food is normal and complete. We confidently urge its trial in marasmus, scrofulosis, inherited tuberculosis, anæmia, and in the malnutrition associated with acute infectious disease.

ANGIER'S Emulsion

Free Samples to the Medical Profession

THE ANGIER CHEMICAL COMPANY, LTD., 86 CLERKENWELL RD., LONDON, E.C.1


Nervous Indigestion
℞ 'LUMINAL'
TRADE MARK
Dose: Gr. ¼ to ½ two or three times daily
INSIST UPON THE ORIGINAL PRODUCT
BAYER PRODUCTS LTD
BAYER
LONDON

AMYL NITRITE "STERULES"

(MARTINDALE—Regd. T.M. & Design)

IN BOXES OF 12 "STERULES"

Containing 1, 2, 3, 4, 5, 6, or 10 minims (0.05, 0.1, 0.2, 0.25, 0.3, 0.35, or 0.6 c.c. approx.), the usual dose being 3 minims (0.2 c.c.).

For relieving ANGINA PECTORIS, SPASMODIC ASTHMA, MIGRAINE, POST-PARTUM HAEMORRHAGE, HAEMOPTYSIS, to ward off EPILEPTIC ATTACKS, etc., and as an ANTIDOTE to CHLOROFORM. Largely employed in threatened FAINTING and COLLAPSE, and as a RESTORATIVE after GAS in DENTAL OPERATIONS.

Abstracts from the medical literature:

ANGINA PECTORIS: "The best remedy. To lower blood pressure has a more rapid action than any other drug, and is useful in cutting short the paroxysms of pain." —L., ii/05, 325; ii/06, 1255.
"Gave prompt relief in the more pronounced attacks." —B.M.J., ii/06, 304.
"In all spasmodic affections, such as angina pectoris, one of the best remedies."—B.M.J., i/09, 934.
"The nitrites are indispensable."—B.M.J., ii/09, 1122.
"The quickest means of relieving the acute pains." —L., ii/08, 1132.
"Fear of death entirely disappeared."—L., ii/09, 572.
"No drug can compare with Amyl Nitrite."—L., i/09, 240; L., ii/05, 812.

INTRATHORACIC ANEURISM: "For the acute anginal attacks Amyl Nitrite inhalation, followed by internal use of Nitroglycerin or Erythrol Nitrate, is generally efficacious."—L., i/13, 948.

ASTHMA: "In most cases the reduction in blood pressure relieves."—B.M.J., ii/11, 1327.

POST-PARTUM HAEMORRHAGE: "Immediately stopped; no further trouble followed."—B.M.J., ii/06, 1125.

HAEMOPTYSIS: "With few exceptions, promptly effective. Secures peace of mind to sufferers." —L., i/08, 130.
"Some convincing cases in which it saved life." —L., i/07, 939.
"Amyl Nitrite the drug par excellence: acts better the quicker it is used."—Edin. Med. JT., 1904; L., ii/04, 522, 942, 1446; B.M.J.E., i/06, 79.
"In severe haemoptysis—rupture of an atheromatous pulmonary vessel—free use satisfactory."—B.M.J., i/06, 917.

SEA-SICKNESS: Very useful; inhalation repeated every 2 or 3 hours if necessary.

CHLOROFORM SYNCOPE: The quickest means of restoring the heart's action.

PLEASE SPECIFY MARTINDALE'S AMYL NITRITE "STERULES".

We also supply other vasodilators, e.g.:

MANNITOL NITRATE TABLETS: 1 gr.

ERYTHROL NITRATE TABLETS: ½, ¼, and 1 gr.

W. MARTINDALE,

12, NEW CAVENDISH ST., LONDON, W.1.

'Phone: Langham 2440. 'Grams: Martindale, Chemist, London.

A Liver Preparation your Patients will enjoy

'Byno' Hepol Registered.

'Byno' Trade Mark

For Pernicious Anæmia and Sprue

'Byno' Hepol is a solution of Liver Extract 'A. & H.' in 'Bynin' Liquid Malt.

Supplied in 4 oz. and 10 oz. bottles

The presence of the malt extract assists the digestion and assimilation of the liver which renders its continued use less prone to produce nausea.

Three tablespoonfuls of 'Byno' Hepol are equivalent to eight ounces of fresh mammalian liver, the amount usually ordered to be taken daily in the treatment of pernicious anæmia.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

The "Allenburys" "Perfected"

Cod-Liver Oil

Cod-Liver Oil is the richest available natural source of the fat soluble growth-promoting and anti-infective vitamin *A* and the antirachitic vitamin *D*.

The "Allenburys" "Perfected" Cod-Liver Oil is examined biologically and certified fully active with regard to Vitamins *A* and *D*.

Vitamin A—Examined by the Antimony Trichloride Test it gives a colour equal to 9 Blue Units.

Vitamin D—Guaranteed minimum activity of 100 units per gramme (British Standard).

In amber bottles for protection against light at 1/3, 2/6, 4/6 and 8/6.

Descriptive literature and a clinical sample will be sent post free on application.

Allen & Hanburys Ltd. London

Telephone: 3201 Bishopsgate (10 lines) Telegrams: "Greenburys Edo London."

CANADA—Lindsay, Ont. UNITED STATES—41 Maiden Lane, New York City.

Vitamin "D" Potency

of

CADBURY'S MILK CHOCOLATE

This well-known chocolate contains 1 unit of anti-rachitic activity per gram.

Made in the Factory in a Garden, Bournville.

LABORATOIRES ROBERT & CARRIÈRE

A. TABART, PHARMACIEN

37, Rue de Bourgogne, PARIS (VII^e)

Biocholine

CHOLINE HYDROCHLORIDE (R. & C.) FOR INJECTION

(Prepared according to the investigations of Prof. Carles and Dr. Leuret.)

THE BIOLOGICAL BASIS OF RESISTANCE TO

TUBERCULOSIS

References:—Bulletin de l'Académie de Medecine, Feb. 18th, 1930.
Journal de Med. de Bordeaux et du Sud-Ouest, March 10th, 1930.
(Epitome, B.M.J., May 10th, 1930.)

Ampoules of 1 c.c. Boxes of 10, 25, 50, and 100 Ampoules.

Supplied at special prices to Hospitals and Sanatoria.

Literature and Samples on request.

THE ANGLO-FRENCH DRUG Co., Ltd.

238a, Gray's Inn Road, LONDON, W.C.1

Observations
ON
MORTALITY IN ACUTE APPENDICULAR DISEASE*

BY
D. P. D. WILKIE, M.Ch., F.R.C.S.
PROFESSOR OF SURGERY, UNIVERSITY OF EDINBURGH

I make no apology for taking up a subject which has been dealt with repeatedly in recent years. We are faced with the fact that despite improved education, the greater appreciation by the public of the dangers of the disease, the extended hospital facilities, the vastly improved transport service, and the increased number of capable operating surgeons, the death rate in acute appendicular disease is as high to-day as it was twenty years ago. There can be no doubt that early operation is now practised the country over to a degree greatly exceeding that of two decades ago. How are we, then, to reconcile our advocacy of early operation with this persistently high mortality? To my mind the explanation is clear, and permits of no doubt—namely, that the majority of the patients now operated on early are of the class which did not contribute to the mortality, while in the dangerous and fatal type of case operation occurs little, if at all, earlier than it occurred twenty years ago.

Why is it that this type escapes early diagnosis and thus early operation? It is here that I join issue with the teachers of pathology and of surgery. The fundamental facts of the pathology of the acute diseases of the appendix are not presented to-day, either in the textbooks or, so far as I can gather, in lectures, with greater clearness than they were before the early changes in these diseases had been described. By attempting to group all cases as examples of "appendicitis"—that is, an inflammation of the appendix—it is necessary for the teacher to qualify every statement, both in regard to pathological changes and clinical symptoms, in such a way that the subject is shrouded in difficulties and uncertainties, which make for hesitation and delay in diagnosis.

At the Annual Meeting of the Association in 1914 I brought forward clinical and experimental evidence in support of a plea for the recognition of two primary acute diseases of the appendix: (1) acute inflammation of its wall—appendicitis; and (2) acute obstruction of its lumen—a closed-loop intestinal obstruction.† These two diseases differ essentially in their pathology, their clinical symptoms, and, above all, in their danger to life. The profession, and particularly the teachers in the profession, have been slow to appreciate this fundamental distinction, which is, I consider, a primary requisite for correct and early diagnosis.

THE RESPONSIBILITY OF DIAGNOSIS

This falls mainly on the general practitioner, and for him it is all-important to have a clear picture of the early pathology of acute affections of the appendix.

Appendicitis

Inflammation of the wall of the appendix is of common occurrence, and may be the sequel to a blood-borne infection—as when it follows a tonsillitis—or to an intestinal catarrh. It is characterized by a turgid swelling of the wall of the appendix, frequently some ulceration of its lining mucosa, and, in some cases, by a plastic and occasionally suppurative local peritonitis. Clinically its onset is, relatively speaking, a gradual one, characterized by nausea, pain, and constitutional disturbances in the shape of fever, accelerated pulse rate, dirty tongue, and usually constipation, but occasionally diarrhoea. It is seldom a fatal disease unless complicated by an obstructive factor, by the sudden perforation of an ulcer due to a concretion, by a secondary intestinal obstruction, which is rare, or by an ill-timed operation.

Acute Appendicular Obstruction

This is a very fatal form of intestinal obstruction, because it is of the closed-loop variety which tends to early gangrene (Fig. 1). If we would but realize that

FIG. 1.—Obstructed appendix full of faecal matter; tension gangrene.

a sudden and complete obstruction of the lumen of an appendix, containing faecal matter, will, from the pressure of decomposing content, inevitably lead to tension gangrene within from six to twenty-four hours, and that gangrene will be followed by perforation, with the escape of stinking faecal content into the free and unprepared peritoneal cavity, we would regard the recognition of the onset of such an obstruction as one of the most important and responsible duties of a medical practitioner.

Is there, then, a clinical picture typical of this disease distinct and differing from that of appendicitis? Most assuredly there is. Here is the actual history of a case.

A boy, aged 14, who had previously enjoyed good health, except for occasional colicky pains in the abdomen, went to bed at night, apparently in his usual health. At 2 a.m. he awoke and cried out, complaining of severe colic, and vomited. He indicated to his mother that the pain was worst just above the umbilicus, but spread right across the abdomen. A hot cloth was applied to the abdomen, and in twenty minutes the pain had practically disappeared and the boy fell asleep. At 4.30 a.m. he was again wakened by a return of the severe colic, and again vomited. Heat was again applied, and the doctor was called. When seen at 7 a.m. by the doctor the boy volunteered that the pain had almost gone. *His pulse and temperature were normal,* but his face looked slightly drawn, and there was a slight rigidity of the right rectus muscle in its lower part, and a little tenderness.

The doctor advised a continuance of the hot applications, nothing but water by the mouth, and promised to return two hours later. At 8.30 a.m., and shortly before the doctor returned, the boy had another attack of colic and vomited. When examined at 9 a.m. he was again comfortable; his pulse and temperature were still normal, but his facial expression was slightly anxious, and the rigidity and tenderness in the right lower quadrant of the abdomen were still present, although not pronounced. Removal to hospital was recommended, and the boy was admitted with the doctor's card bearing the diagnosis "acute appendicular obstruction."

When seen in hospital at 10.30 a.m. his condition had not altered, except that his pulse rate was now 90; his temperature was still normal. The abdomen was opened at 11 a.m. A large appendix, tensely distended and stippled with greenish points of commencing gangrene, was carefully delivered through the wound and removed without bursting. The abdomen was closed without drainage. The proximal end of the appendix, for half an inch, appeared normal. Just beyond this, a concretion could be felt impacted. On opening the appendix about two drachms of stinking fluid faecal matter escaped from the part distal to the impacted concretion, and the mucosa of this part was dark green in colour and gangrenous.

* A British Medical Association Lecture (abridged) delivered to the Darlington Division on November 20th, 1930.

† I have since learned that Van Zwalenberg of Riverside, California, and Campbell of Belfast had come to similar conclusions.

In this case, owing to an intelligent appreciation of the pathology of the condition, the medical man hurried the boy to hospital and thereby saved his life. Had he temporized and waited for the constitutional signs of inflammation, the appendix would have burst, spilling fluid faecal matter into the free peritoneal cavity and determining a fatal peritonitis (Fig. 2).

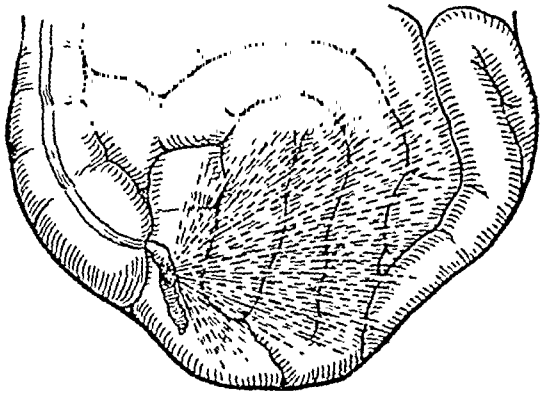


FIG. 2.—Rupture of obstructed appendix into the free peritoneal cavity.

Appendicitis is a misnomer for this condition; it is a form of intestinal obstruction, and gives rise to the signs and symptoms to be expected when a coil of bowel or a cul-de-sac, such as the appendix, containing faecal matter, becomes suddenly obstructed. The case cited above exemplifies the condition in its purest form. There are, however, cases in which, in the course of a true appendicitis, the obstructive factor supervenes and adds the new danger of tension within the lumen to inflammation of the wall. In such cases the obstructive factor may determine gangrene and perforation, but with less danger to life than in the primary obstruction, for the obvious reason that the primary inflammation has called forth a plastic peritonitis, and, when finally perforation does occur, it is into an area of the peritoneum more or less walled off by adhesions of omentum and intestinal coils.

If we analyse the mortality in the light of the pathology above described, we find that well over 90 per cent. of the deaths occur in the obstructed cases, usually designated as cases of "gangrenous perforated appendix." It is certainly true that in many cases the medical man is not called in until the gangrene and perforation have occurred, the trouble having been regarded as intestinal colic, and treated by what turned out to be nothing less than a lethal dose of castor oil. It is therefore necessary to teach the public the danger signals, and particularly the significance of recurring colic. But how can we expect the public to learn a lesson which is not yet taught in most medical schools?

In reading over the papers published during the past few years on the mortality from "acute appendicitis" I find no mention of appendicular obstruction or its significance, from either the pathological or the clinical standpoint.

THE RESPONSIBILITY OF THE OPERATING SURGEON

While the mortality in acute appendicular disease is attributable, for the most part, to delay in diagnosing and dealing with the obstructive type of case, the responsibility does not end with diagnosis. There are certain principles which should guide our operative practice in regard to:

1. When to operate and when not to operate.
2. How to avoid doing harm while doing good.
3. Management of complications.

When to Operate

All are agreed that when a diagnosis of acute disease of the appendix has been made within forty-eight hours of the onset of symptoms, immediate operation is advisable; in the obstructive case it is imperative. Where the diagnosis is made between the second and fourth days after onset, where signs of a spreading peritonitis are present, and where perforation has in all probability occurred, operation is surely indicated. Where the patient is seen four or five days after the onset, however, and has a palpable lump, but relatively little constitutional disturbance, immediate operation is unquestionably meddlesome. Nature has coped with the initial dangers, and resolution is proceeding quietly. If the surgeon blunders in, breaks down organizing adhesions and causes haemorrhage, obstructive intestinal complications not infrequently supervene, and a patient who was recovering falls a victim to ill-timed surgery. Honesty in reflection will bring to the minds of most surgeons cases of this order which they would willingly forget.

Those who state that there is no stage at which one should not operate may be skilful mechanicians; they are not surgical pathologists. Similarly, in the type of case seen seven or eight days after onset, where a diffuse peritonitis has occurred, and where the abdomen is distended and tympanitic but the pulse rate is slow, we can recognize a more or less successful reaction to a widespread peritoneal infection. The original focus now plays a minor part. In such cases there may be a large pelvic abscess which demands evacuation by as direct a route as can be found. Gross disturbance of intestinal coils, in order to discover the now buried and innocuous appendix, is surely not only meddlesome but entirely unwarranted.

In both the types of case just mentioned, conservative treatment, under careful observation, on the lines laid down by Ochsner, while tedious, is undoubtedly logical and sound in principle. McNeill Love and Hamilton Bailey in this country have recently emphasized these points. In America a greater discrimination and more thoughtful study of these cases have clarified the issue and confirmed the view that there is a time not to operate as well as a time when it is reprehensible to delay operation.

Minimizing the Harmful Effects of Operation

A certain degree of trauma and exposure of fresh surfaces to infection is inevitable in any operation for a deep-seated infective focus. A small incision is not the means by which to avoid trauma. The first criterion must ever be an adequate exposure of the appendix. This is especially important in the obstructive type of case where the distended and gangrenous organ may burst unless freed and brought to the surface in full vision of the operator. Even should twenty minutes be taken to free and deliver such an appendix unruptured, the time will have been well spent. Care, and not speed, is the essential in such cases.

Where a walled-off abscess is found in the right iliac region or pelvis, the appendix should be removed only if it is accessible without gross disturbance of adhesions. A patient will rarely die when an abscess has been drained; he may readily be precipitated into a dangerous condition if a determined operator feels it incumbent on him to remove the appendix regardless of Nature's barriers.

The peritoneum has a wonderful capacity for dealing with infection; not so the abdominal wall. For many years I was struck by the fact that after operations for a perforated appendix with peritonitis, where the peritoneum had been drained, the patients were seriously ill for several days, during which little or nothing came

from the drain. About the fourth or fifth day the general condition of the patients improved, and some foul discharge came away alongside, and not through, the drain; came, in fact, from the abdominal wall. In such cases the edges of the wound felt indurated and were tender, and, if stitches were taken out, foul sloughy material escaped. Anaerobic infection had been locked up in the abdominal wall, and had led to necrosis of fat, aponeurosis, and muscle. It was this that had accounted for the pronounced post-operative constitutional symptoms. Surely it must be that this added abdominal wall infection in some cases turns the scale between recovery and death.

Since adopting the plan of leaving the abdominal wound open, packing with gauze, in which is incorporated a small Carrel tube (Fig. 3), through which small quantities

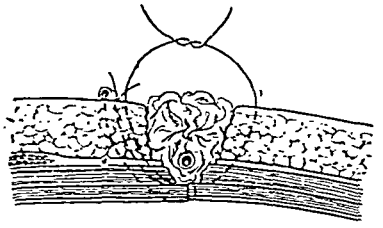


FIG. 3.—Open treatment of abdominal wound. Carrel tube seen on section in deeper layers of gauze packing.

of hydrogen peroxide are injected every few hours, I have found that sloughing is obviated, constitutional symptoms are absent, and healing is not delayed. Post-operative hernia is also less common, as no muscle or aponeurosis is lost by necrosis. The avoidance of all catgut sutures, and the use of the silkworm-gut looped suture for peritoneum and muscle, leaves no dead organic material in the wound as pabulum for bacteria (Fig. 4).

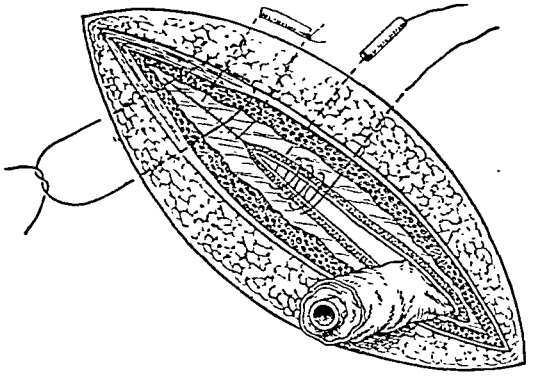


FIG. 4.—Method of using "looped sutures" of silkworm-gut in place of catgut for closure of deeper layers of wound.

In stout subjects the open treatment of the abdominal wound is especially necessary, as anaerobic infection is tolerated badly.

Post-operative Intestinal Obstruction

This accounts for a number of deaths in patients who have successfully dealt with the peritoneal infection. Where the obstruction is organic in nature and due to a binding down of lower ileal coils to the appendix bed, the patient will complain of some peristaltic pains associated with his distension and vomiting. In such cases, following gastric lavage, a tube enterostomy, or an ileo-colostomy, must be undertaken without delay, and the chloride loss from vomiting must be made good by subcutaneous saline infusions. Where, with distension, there is no clinical evidence of ineffective peristalsis, and paresis of the gut exists, continuous gastric drainage through a duodenal tube, the intravenous injection of 30 c.cm. of 5 per cent. sodium chloride solution, to replace loss of chlorides and stimulate peristaltic contraction, the application of heat to the abdomen, and the use of pituitrin, may excite peristalsis. Enterostomy has a limited value in this type, but permits of feeding and the replacement of loss of fluid and salt.

The Value of Caecostomy

In a strictly limited number of cases, where at operation a grossly distended caecum is found, a valvular tube caecostomy is unquestionably indicated. The comfort which this gives, the ready supply of fluid, and the absence of flatulent distension, make this a valuable addition to an appendix operation in selected cases.

CONCLUSIONS

1. The mortality from "appendicitis" remains as high as it was twenty years ago, because, while facilities for treatment have improved, diagnosis in the fatal type of case has not.

2. There is now very strong evidence that the fatal cases of acute appendicular disease are primarily cases of obstruction and not inflammation of the appendix. It is necessary to distinguish between these two types of acute disease, the clinical symptoms and essential pathology of which differ widely. The obstructive cases must be regarded and treated as belonging to the same category of urgency as internal strangulation of the intestine.

3. Free exposure at operation is essential in the obstructive cases.

4. While immediate operation is expedient in the early stages of appendicitis, delay is advisable in the resolving case, the danger of operation being greater than that of expectancy.

5. Where a large localized abscess is present, simple drainage with minimal disturbance is the safest line of treatment.

6. In cases with perforation and peritonitis, infection of the abdominal wound may be an important factor in determining a fatal issue. Open treatment of the wound is therefore advisable.

7. Post-operative obstruction accounts for a number of deaths. A timely enterostomy or ileo-colostomy may prove a life-saving measure.

THE FAMILIAL INFLUENCE IN GASTRIC FUNCTION

BY

FRANK L. APPERLY, M.A., M.D., D.Sc.

AND

JOAN H. NORRIS, M.Sc.

(From the Macleod Research Laboratory, Pathology Department, University of Melbourne)

In the course of some recent investigations into the question of heredity in gastric cancer we had occasion to examine, by means of the fractional test meal, the chemical and motor functions of the stomach in several members of each of a number of families. During this investigation we were struck by the frequency with which members of the same family gave closely similar results. This has been commented upon by several writers, notably Hurst,[1] who has on several occasions observed that duodenal ulcer with its accompanying "type" of stomach tends to run in families. The same has been noted with regard to achlorhydria and, to a less extent, "gastric diathesis." In 1923 one of us,[2] showed two instances of the close resemblance in the test-meal charts of parent and child. Since then we have collected two

more examples of the parent-and-child association, and, as shown in Group V, the similarity is seen in three out of these four cases.

Criteria of the Diathesis

In judging similarity of test-meal charts we have used three criteria—namely, emptying time (or where this is more than 1¾ hours, the volume of gastric contents recovered at that time), the shape of the curve, and the acidity. For purposes of classification we have divided these three criteria as follows:

1. *Emptying Time.*—(*a*) Rapid—stomach empty before 1½ hours; (*b*) normal; (*c*) delayed—more than 30 c.cm. found in the stomach at 1¾ hours.

2. *The Shape of the Curve.*—(*a*) Climbing or steadily rising; (*b*) flat; (*c*) falling—that is, a rise in the curve followed by a definite fall.

3. *Acidity.*—(*a*) Hyperchlorhydria (free acidity over 45); (*b*) normal; (*c*) hypochlorhydria (free acid present, but below 15); (*d*) achlorhydria.

In Table A are shown the gastric emptying times of healthy students, compiled—for comparison with the present series—from the combined figures of Bennett and Ryle,[3] Baird, Campbell, and Hern,[4] and Apperly and Semmens.[5] Our divisions of the acidity values are based on Bennett and Ryle's graphs of acidity curves of healthy students.[3]

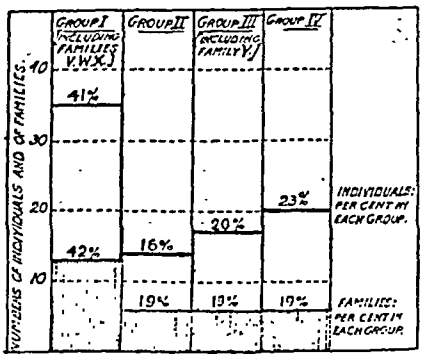
TABLE A.—*Rate of Emptying of the Gruel Meal*
(Figures given as percentages)

Observers	Average Emptying Time (Hours)	Stomach contains no Starch at (Hours)					
		0–1	1¼	1½	1¾	2	2+
Bennett and Ryle (100 men)	1.9	6	3	7	13	17	54
Baird, Campbell, and Hern (57 men) ...	2 1	5	7	14	9	17	48
Apperly and Semmens (53 men)	—	2	9	11	25	17	36
Above groups combined (210 men)	—	5	6	10	15	17	47

In the present series two or more members of 31 families comprising 86 individuals are examined and divided into four groups according to whether all members exhibit similarity in all three criteria, or only two or one, or in none. In the fifth group are four parents and their children.

In Group I (comprising 10 families—29 individuals) there is close resemblance in the three criteria in all members examined of each family. These similarities are more obvious when the figures are plotted together on the same chart. In Group II (6 families—14 individuals) there is complete resemblance in the test-meal charts of all members of each family in two of the three criteria, or the majority of members exhibit complete similarity. In Group III (5 families—15 individuals) these resemblances extend to only one of our criteria, and in Group IV (6 families—20 individuals) to none.

While it is difficult or impossible to express these results completely by a graph, that shown below will suffice.



It will be seen that nearly half the number of all individuals examined (41 per cent.) belonged to families all members of which showed a complete resemblance to each other as regards their test-meal charts in all three criteria.

GROUP I.—*Families in which the Test-meal Charts of all Members examined are Similar in All Three Criteria*
(10 families—29 individuals)

Family	Sex	Age	Free HCl at (Hours) ¼	½	¾	1	1¼	1½	1¾	Emptying Time in Hours	Volume Left at 1¾ Hours (c.cm.)	Acidity	Description of Acid Curve	Points of Resemblance
A	M	28	0	4	8	9	11	7	2		80	Hypochlorhydria	Flat	Slow emptying, low flat acidity curves
	F	26	0	0	0	6	4	8	10		110	"	"	
	F	25	0	0	0	0	0	0	5		75	"	"	
	F	22	0	2	7	9	9	11	12		65	"	"	
	F	20	0	0	11	12	13	13	13		75	"	"	
B	F	31	4	8	20	25				1		Normal	Climbing	Rapidly emptying, sharply rising, normal acidity curves
	F	21	13	22	37	42				1		"	"	
	M	29	0	8	10	20	47			1¼		"	"	
C	M	25	0	4	9	0	13	18	27		5	Normal	Climbing	Normally emptying, steadily rising, normal acidity curves
	M	22	11	18	21	24	25	31	42		25	"	"	
D	M	60	0	0	0	0				1		Achlorhydria	—	Rapidly emptying; achlorhydria
	F	52	0	0	0	0	0			1¼		"		
	F	44	0	0	0	0				1		"		
	M	42	0	0	0	0	0			1¼		"		
E	M	46	0	0	0	0	0	0		1¾		Achlorhydria	—	Fairly rapid emptying; achlorhydria
	F	43	0	0	0	0	0	0		1½		"		
F	F	25	0	0	6	12				1		Hypochlorhydria	Low rising curve	Very rapid emptying; hypochlorhydria
	F	23	0	0	6	7				1		"	"	
	F	21	0	0	13					¾		"	"	
G	M	33	11	19	25	31	43	41		1¾		High normal	Falling curve	Fairly rapid emptying, normal acidity, and falling curve
	M	32	10	17	28	34	26	28		1½		"	"	
H	M	24	9	14	16	14	14	11	16		30	Hypochlorhydria	Low flat curves	Normal emptying rate, low flat hypochlorhydria curves
	M	18	4	6	12	14	12	24		1¾		"	"	
	M	17	0	4	4	7	4	9		1½		"	"	
	M	16	0	0	0	0	0	8	14		25	"	"	
I	M	29	0	6	26	44				1		High normal	Climbing curves	Rapidly emptying, high normal climbing curves
	M	25	0	10	20	32	42			1¼		"	"	
J	M	35	0	3	6	9	13	19		1¾		Hypochlorhydria	Low climbing to flat	Fairly rapid emptying, flat hypochlorhydria curves
	M	33	0	5	6	7	7	8		1½		"	"	

GROUP II.—*Families in which the Test-meal Charts of all Members examined are Similar in Two of the Three Criteria, or in which the Majority of Members are Completely Similar (6 families—14 individuals)*

Family	Sex	Age	Free HCl at (Hours) ½	⅓	¾	1	1¼	1½	1¾	Emptying Time in Hours or Volume Left at 1¾ Hours (c.cm.)	Acidity	Description of Acid Curve	Points of Resemblance and Difference
K	F	25	0	10	18	18	21	35	34	95	Normal	Climbing	Normal to delayed emptying; curves rise fairly rapidly; one hyperchlorhydria
	F	22	13	13	29	25	27	27	28	110	"	"	
	M	17	6	21	43	52	49	42	42	10	Hyperchlorhydria	Falling	
L	M	50	0	0	0	0	0			1¼	Achlorhydria	—	Rapidly emptying, low acid curves; achlorhydria in one
	F	35	0	0	9	12	9			1¼	Hypochlorhydria	Flat	
M	F	20	0	11	12	15	17	16	17	10	Normal	Flat	Normal acidity and shape of curve; one delayed emptying
	M	18	4	20	25	28	29	24	24	155	"	"	
N	F	38	0	0	2	4	0	0		1½	Hypochlorhydria	Flat	Very low hypochlorhydria, with flat curves; one delayed emptying
	F	35	0	0	2	3	4	2	0	75	"	"	
O	M	28	0	0	3	8	14*			?	Hypochlorhydria	Low Climbing	Hypochlorhydria, low climbing curve; emptying time undetermined
	M	21	0	8	12	12	13*			?	"		
P	M	38	0	5	6	10	12	14	19	10	Hypochlorhydria	Low climbing	Normal emptying with low acidity; one achlorhydria
	F	29	0	3	5	5	6	0		1½	"	Flat	
	F	32	0	0	0	0	0	0		1½	Achlorhydria	—	

* Test here suspended.

GROUP III.—*Families in which the Test-meal Charts of all Members examined are Similar in One of the Three Criteria (5 families—15 individuals)*

Family	Sex	Age	Free HCl at (Hours) ½	⅓	¾	1	1¼	1½	1¾	Emptying Time in Hours or Volume Left at 1¾ Hours (c.cm.)	Acidity	Description of Acid Curve	Points of Resemblance and Difference
Q	M	21	4	5	16	26	35	58	59	30	Hyperchlorhydria	Climbing	All delayed emptying but differing acidities
	M	20	7	15	20	15	17	19	23	130	Normal	Flat	
	M	18	0	0	6	8	0	0	0	80	Hypochlorhydria	"	
R	M	32	5	17	20					¾	Normal	Climbing	Extremely rapid emptying
	F	30	0	0						¾	Achlorhydria	—	
S	M	35	0	0	0	18	18	20		1½	Normal	Slow climbing	Two normal acidity and fairly quick emptying; two achylia and very rapid emptying
	F	30	8	14	18	18	15	27		1½	"	"	
	F	34	0	0	0	0				1	Achlorhydria	—	
	M	31	0	0						½	"	—	
T	M	46	0	0	0	0				1	Achlorhydria	—	All rapidly emptying, two with climbing curves
	M	42	10	28	33	52				1	Hyperchlorhydria	Climbing	
	M	40	0	14	19	28	29			1½	Normal	"	
U	M	30	0	7	21	24	30	37	44	40	Normal	Climbing	All rather delayed emptying
	F	32	0	5	15	18	23	16	17	15	"	Falling	
	F	28	0	0	0	0	0	0	0	60	Achlorhydria	—	

GROUP IV.—*Families in which the Members examined show no, or few, Resemblances in their Test-meal Charts (6 families—20 individuals)*

Six family groups, composed of 5, 4, 3, 3, 3, and 2 members respectively.

GROUP V.—*Parents and Children (4 families—8 individuals)*

Family	Relation	Age	Free HCl at (Hours) ½	⅓	¾	1	1¼	1½	1¾	Emptying Time in Hours or Volume Left in 1¾ Hours (c.cm.)	Acidity	Description of Acid Curve	Points of Resemblance and Difference
V	Mother	58	15	27	53	95				1	Hyperchlorhydria	Rapidly climbing	Rapidly climbing and emptying with hyperchlorhydria
	Son	36	6	15	32	56				1	"		
W	Father*	?								?	Achlorhydria		Achlorhydria
	Son	30	0	0	0	0	0	0		1½	"		
X	Mother	?	0	0	0	0				1	Achlorhydria		Rapid emptying with achlorhydria
	Son	22	0	0	0	0	0	0		1½	"		
Y	Father†	65								?	Achlorhydria		Different acidity and emptying time
	Daughter	28	0	8	13	15	12	12	19	25	Hypochlorhydria	Falling	

* According to the son, who is a medical man, the father died of pernicious anaemia, a condition invariably, or almost invariably, associated with achlorhydria.

† The father, a patient of one of us (F. L. A.), died of pernicious anaemia.

In some of the other groups, although this complete resemblance did not extend to all members, there were nevertheless pairs in a few of the larger families which were similar in all, or in nearly all, respects. Occasionally, where two distinct types appear in a family, possibly some resemble one parent and some the other. Although the above evidence strongly supports Hurst's contention that gastric types run in families (gastric diathesis) obviously the matter could be proved only by examining all members of several families over two or three generations while each member was still comparatively young and before gastritic or senile changes had occurred. Gastric function might prove to be hereditary in a Mendelian sense. To carry out such a set of observations would be almost impossible, owing to the difficulty of finding and persuading all members to undergo the tests, though until this is done we are hardly justified in using the term "familial" and in drawing other than tentative con-

clusions from our observations. A careful examination of our figures, however, would make it appear probable that such a relationship does exist.

Discussion

That gastric acidity, the form of the acidity curve, and the emptying time of the stomach should be similar in the various members of a family would not be surprising in view of previous observations. Apperly and Semmens[6 7] have shown that these characters depend largely on the tonus and activity of the gastric musculature and on certain chemical constituents of the blood. Further, the relationship of these characteristics to the ratio of pulmonary surface to body weight, and therefore ultimately to the build of the body and its constitution generally, lends further support to the hypothesis that they express family characteristics.

The marked resemblance in the test-meal charts in a large number of cases is, however, from another point of view rather unexpected. When we remember that in all instances the subjects were experiencing a test-meal experiment for the first time, with all grades of psychic disturbances consequential to the examination, the results seem to show that such influences count for much less than we have been taught to believe, unless we assume that all members of each family reacted psychically in the same manner. In actual fact this was not so, marked differences in psychic reaction being noted among the several members of the same family. It has indeed long been our view that temporary psychic disturbances have little appreciable effect on either the general form and magnitude of the acidity curve or on the emptying time of the stomach.

Conclusions

It has been asserted by various writers that the several varieties of normal gastric function are often inherited characteristics. We have investigated this question in a series of 31 families comprising 86 individuals, and our results support these statements.

REFERENCES

[1] Hurst: *Lancet*, 1922, ii, 1369; Ibid., 1923, i, 111.
[2] Apperly: *Supplement to Med. Journ. of Australia (Transactions of Congress)*, March, 1924, 83.
[3] Bennett and Ryle: *Guy's Hospital Reports*, 1921, lxxi, 286.
[4] Baird, Campbell, and Hern: Ibid., 1924, lxxiv, 339.
[5] Apperly and Semmens: *Med. Journ. of Australia*, August, 1928, 237.
[6] Idem: Ibid., August, 1928, 226.
[7] Idem: Ibid., August, 1929, 193.

THE INCISION FOR APPENDICECTOMY

BY

A. H. SOUTHAM, M.D., M.CH.OXON.
F.R.C.S.ENG.

HONORARY ASSISTANT SURGEON, MANCHESTER ROYAL INFIRMARY; LECTURER IN OPERATIVE SURGERY, MANCHESTER UNIVERSITY

Injury to a nerve is always an accident of some gravity, and injuries to the nerves of the abdominal wall are more common than is perhaps generally recognized. As a result of such injuries, atrophy of muscle is apt to follow, leading to some functional interference and incapacity.

The problem which is the best incision for the removal of the acutely inflamed appendix is constantly exercising the minds of surgeons. In a paper[1] published in 1924, in which an account was given of the after-results of the different types of abdominal incisions in general use, it was pointed out that a right inguinal hernia sometimes followed the McBurney muscle-splitting incision after operation in cases of acute appendicitis. Since that date several more cases showing this complication have been seen, enabling further observations to be made on this subject.

Incidence

It is difficult to give any accurate estimate of the frequency of the appearance of a right inguinal hernia following the use of the gridiron incision, as cases of this nature are seldom recorded, and it is doubtful if the connexion between the appendix operation and the subsequent appearance of the hernia is often recognized. The following figures are of some interest.

Roberts[2] states that the City of London Truss Society meets with twelve to twenty cases of this kind a year following the gridiron incision, and that he has never seen a hernia which occurred after the rectus incision. Griffiths[3] records ten examples in 100 consecutive cases of hernia, nine following the McBurney incision and one the Battle incision. In the latter case there was a large sac of the infantile type, the patient being probably predisposed to hernial formation. In describing the McBurney incision Romanis and Mitchiner[4] state that care must be taken not to damage the ilio-inguinal nerve, as this results in post-operative inguinal hernia—a complication seen in some 30 per cent. of cases. The hernia may appear at any time from a few months to a few years after operation; six months is about the usual period.

Etiology

In the paper already referred to it was pointed out that the hernia probably resulted from some injury inflicted on the ilio-inguinal nerve during the operation for the removal of the appendix.

It will be recalled that the ilio-inguinal and ilio-hypogastric nerves are branches of the lumbar plexus, and supply the muscles of the flank. The former runs forward on the iliacus and pierces the transversalis abdominis muscle near the anterior part of the iliac crest, and lies between the transversalis and internal oblique muscles. A short distance in front of the anterior superior iliac spine it passes through the internal oblique and then, descending in the inguinal canal, becomes superficial, after emerging through the external abdominal ring to supply the skin over Scarpa's triangle and the root of the penis. During its course the ilio-inguinal nerve gives muscular branches to the muscles below the anterior superior iliac spine. It is at the point where the nerve lies internal to the anterior superior iliac spine that it is liable to be damaged. This may take place when the muscle fibres of the internal oblique and transversalis are being split in making the incision, or the nerve may be included in the sutures when closing the wound, or, again, it may be involved in scar tissue at a later date, particularly in cases of abscess where drainage has been necessary. The nerve lesion results in paralysis of the muscles and the conjoined tendon round the internal abdominal ring and in the subsequent appearance of an inguinal hernia.

In three recent cases of right inguinal hernia following the muscle-splitting incision, where a second operation was undertaken for the radical cure of the hernia, the opportunity was taken to excise a portion of the ilio-inguinal nerve as it lay in the inguinal canal. On removal the three nerves were kindly examined by Professor J. S. B. Stopford, who reports as follows:

> All three nerves showed partial degeneration. The proportion of degenerate fibres varied in the three specimens; in two about half the fibres were affected, whilst in the other only about one-third. There was no evidence of interstitial changes, and the histological findings were consistent with those succeeding compression of a nerve by such things as scar tissue.

Comment

The choice of incision in a case of acute appendicitis merits the serious consideration of every surgeon. The view here taken is that in the McBurney muscle-splitting

incision the ilio-inguinal nerve is liable to injury, and is sometimes followed by the appearance of a post-operative right inguinal hernia.

The paramedian incision with outward displacement of the rectus muscle has the advantage that it can be safely extended to any length; this is undoubtedly the best incision for general exploration of the abdominal cavity where the diagnosis is in doubt and good access is required. In many cases, however, this incision will be found to be at some distance from the site of infection and will necessitate very careful packing off of the small intestine to avoid the risk of soiling the general peritoneal cavity when an abscess is present. For these reasons there is much to be said in favour of a lateral incision.

In typical cases of acute appendicitis localized to the right iliac fossa and in young patients, Battle's pararectal incision with inward displacement of the rectus muscle is regarded as being very satisfactory. This incision gives adequate exposure in such cases with the minimum disturbance of the inflamed parts; and as the nerves can be seen and readily avoided it rarely leads to any subsequent weakness of the abdominal wall. No case of inguinal hernia following the use of Battle's incision during a number of years has so far been encountered.

REFERENCES

[1] Southam: *British Medical Journal*, 1924, i, 513.
[2] Roberts: *Lancet*, 1919, ii, 1169.
[3] Griffiths: Ibid., 1919, ii, 1026.
[4] Romanis and Mitchiner: *Theory and Practice of Surgery*, 1930.

A METHOD OF BLOOD TRANSFUSION WITH SPECIAL REFERENCE TO CHILDREN

BY

DENIS BROWNE, F.R.C.S.

SURGEON TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET

When a transfusion is given by an expert to an adult the best method is probably the direct transfer of unaltered blood,[1] [2] but this requires a sleight of hand that can only be acquired by constant practice, and a speed of flow that is dangerous to small recipients. Consequently, the indirect method described in this paper may be found useful both in transfusions given by the relatively inexpert, and in those given to children.

If I state the requirements of a satisfactory apparatus, it will be seen, without discussing other methods, why I have added a new one to their vast number. It should be capable of a very high pressure, but with complete control of every drop injected; it should be practically unbreakable and free from danger of spilling its contents. It should be easy to assemble, to transport, and to sterilize; and, most important of all, it should be workable by one man.

Physiological Dangers

Besides mechanical difficulties, however, there are physiological dangers in transfusion, and these should be outlined before the points of the technique can be assessed. The chief are:

1. Incompatibility of red cells and opposite serums—the most serious of all.[3] [4]

2. Incompatibility of white cells. A very interesting line of research, especially in regard to immunity.[5]

3. Sensitization of the recipient to the blood of a particular donor.[6]

4. Changes in the reactions of previously tested bloods. All these four dangers can be eliminated by direct cross matching, and by it alone.

5. Too large an injection. It is not easy to collect enough blood to harm an adult by overdosage, but it is very different with a child.[7] The safe limit is about 10 c.cm. to the pound, and if this seems small it should be remembered that for the average man it would mean two and a half pints.

6. Too rapid an injection. The circulatory system has a marvellous power of varying its capacity to suit circumstances, but it cannot do this instantaneously, and an amount of blood that would be harmless were its injection spread over twenty minutes, may produce death from distension of the heart if injected in five. As there is no reason to suppose that a baby makes the necessary adjustments more quickly than an adult, a full injection should take the same time in any case, irrespective of the actual amount given; so that a five-pound baby receives its 50 c.cm. drop by drop during twenty minutes at least. Apart from mechanical considerations it is possible that biochemical adjustments to the foreign blood may occur and need time for their consummation. The work of Cruchet,[8] even if we do not follow him to all his conclusions, is extraordinarily interesting in its suggestion that the rate of injection is the most important single factor in transfusion troubles. Finally, it is obvious that, should there be any incompatibility, the slower the injection the less the likelihood of getting in a dangerous dose before the signs of trouble declare themselves. The following notes on a child of 7 weeks illustrate this point:

August 8th, 1927: Admitted suffering from pyloric stenosis. Rammstedt's operation.

August 12th: After doing well, developed enteritis and became rapidly worse.

August 17th: Very collapsed and dehydrated. Blood transfusion by air pressure, and the whole dose of 60 c.cm. injected in about five minutes. Immediately afterwards the child died, the heart apparently stopping before the breathing. Post mortem, the heart was dilated and full of blood.

I have no doubt at all that in this case the cause of death was too rapid an inflow. Since then I have transfused many babies in just as weak a state, but I have made the injection far more slowly and have had no such trouble. I do not think that works on transfusion have given sufficient warning on this point. For instance, many advise a rate of transfer of 100 c.cm. a minute or more[9] without any caution against applying this speed to small children. When one considers that this might mean, in a 5 lb. baby, the equivalent of giving an adult three pints in thirty seconds, it seems reasonable to moderate it. Carlton, also,[10] when advocating Lindeman's[11] method, in which the blood is injected as fast as three workers can fill, empty, and clean syringes, advises that infants showing signs of cardiac distress should be put in a hot bath, while blood is withdrawn from the longitudinal sinus and adrenaline injected. Without pausing to discuss these restoratory measures, their mention does seem an admission that trouble in the very small is liable to occur.

7. Too cold an injection. A very common cause of reactions.[12] [13]

8. Products of digestion in the blood of the donor.[14]

9. Changes in the blood due to the time it remains outside the body.

10. Changes in the blood due to contact with foreign substances.[15]

11. Changes in the blood due to trauma to it.

12. Dried blood in the apparatus from previous use.

13. Unsuitable water in the citrate solution.[16]

14. Citrate poisoning. Many rather biased papers have been written both to prove that this occurs[17] and to prove that it does not.[18] My own opinion is that properly prepared citrate is quite harmless, and it should be remembered that before any one of the fourteen points given above can be proved responsible for a reaction, the other

thirteen must be definitely eliminated. Citrate has also been accused of spoiling the defensive powers of transfused blood,[19] and defended against this charge.[20 21] However, even if there should be a lessening of what is assumed to be the bactericidal power of the blood *in vitro*, it has yet to be proved that this persists *in vivo* after the citrate has been removed by the recipient's kidneys. In any case, it is clinically certain that citrated blood does transfer resistance to infection, whatever that may depend on.

15. Local damage to the recipient. Injection into the longitudinal sinus introduces an unnecessary risk of irremediable damage. I know of two cases of permanent damage to the Rolandic area caused by it. Injection into the peritoneal cavity can only be excused by the incapacity of the operator to put the blood into a vein.[22 23]

16. Injection of air into a vein.

17. Infection of either party to the transfer.[24 25]

I have purposely made the most of these dangers, but the list is more formidable in appearance than reality. To recognize most of the perils is to avoid them.

Testing the Bloods

A box fitted in the syringe case contains pipettes, test tubes, wooden sticks for stirring the blood, Hagedorn needles for pricking the skin, a white glazed tile on which to examine the bloods, a grease pencil for writing on it, a lens to magnify the reactions, a bottle of normal saline, and a bottle of spirit. The Moss grouping is a very useful indication of what the reactions of bloods are likely to be, but before every transfusion it should be determined what the reaction actually is. For this about 2 c.cm. of each blood is needed, and in many cases that of the recipient can be obtained from an operation wound, an injury, or a placenta. Two drops are picked up with a pipette and blown into 5 c.cm. of saline, and the rest is allowed to clot or is centrifuged in order to separate the serum. Then a drop of each serum is mixed with each opposite solution of corpuscles on a patch of the tile that has been isolated and labelled by the grease pencil, and the mixture watched for any clumping of the red cells. The dilution of the donor's blood makes the reactions easy to interpret by preventing rouleau formation, and if agglutination occurs it results in a very characteristic "cayenne pepper" appearance of red granules in the clear serum. If possible, twenty minutes should be allowed to elapse before it is decided that the bloods are compatible, but it is usually possible to make out the result in the first five minutes after they are mixed.

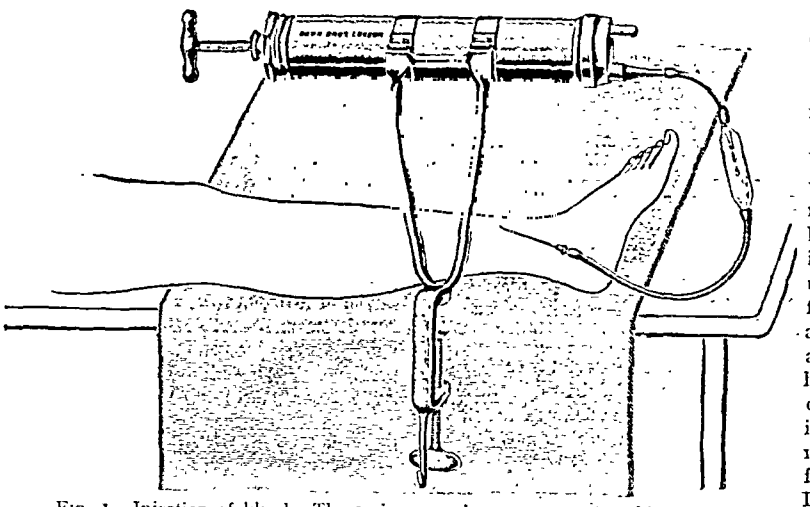


FIG. 1.—Injection of blood. The syringe can be on a separate table, or turned the other way.

TRANSFUSION

The apparatus consists of a metal syringe of a pint (600 c.cm.) capacity as described by Macintosh,[26] with the addition to the piston rod of a screw that can be thrown into or out of action by a small nut. When the syringe is full of incompressible fluid a slight forward turn of the screw will produce a very high pressure inside it, which can be changed to zero, and then to a negative pressure by equally slight turns the other way. When fluid alone is in the barrel it will only be driven out while the screw is actually being turned; but the whole character of the action is changed by the admission of air, which can become compressed and continue forcing out the contents while the piston is still. Consequently care must be taken to prevent this. On the side of the syringe are two lugs, by means of which it can be fixed to its stand (Fig. 1). This stand is an essential part of the apparatus, and clamps to any table in such a way that it will hold the syringe either horizontally for the delivery of blood or vertically for the collection of it, with a steadiness and safety beyond the powers of the most careful assistant. Instead of the glass nozzle of the original Macintosh model, which was extremely fragile and gave no indication of the flow of blood, there is a metal nozzle on the detachable forward end of the syringe, with a recess in its base in which a small piece of gauze can be packed if it is thought necessary to filter the blood, and to the end of this a Lauries's dropper, which acts as an air-lock and sight feed, is connected by two inches of rubber tubing. This tubing is of a special sort, with a smooth bore of 2½ mm., and walls almost as thick. Its small bore ensures that the flow of fluid through it is rapid, and so the risk of coagulation when drawing off the blood is lessened, while its thick walls minimize the loss of heat. Incidentally, it has the very useful quality of fitting the nozzle of a Record syringe, and though I have had the utmost difficulty in obtaining it, it is one of the most generally useful types of tubing I know. Another twelve inches of it lead from the Lauries's dropper to the introducing needle. This is either sharp, with a special short bevel for use when it is possible to thrust it into a vein through the skin, or carefully blunted at the end so as to be useful as a cannula when the vein has to be exposed. The ordinary intravenous cannula is far too large for a small child.

For withdrawing the blood I think the needle should have a "sclerectomy" point, with the walls bevelled inwards, and should certainly be no larger than size 14. It is connected to a foot of the special tubing, the other end of which is held by a small clip which screws on to the edge of the barrel of the syringe during withdrawal. The needle and tube should be rinsed through with citrate before use, and the flow of the blood through the small unchanging bore is so rapid that I have never had any trouble from clotting. The citrate is carried dry in sterilized ampoules of 2 grams each. One of these is broken into 100 c.cm. of *freshly* distilled water to give a 2 per cent. solution, 10 c.cm. of which is added to each 100 c.cm. of blood, and the remainder used for rinsing the tubes. If fresh distilled water cannot be got, boiled London tap water is perfectly satisfactory.

Withdrawal of the Blood

The stand is screwed on to a table over a sterile towel, as shown in Figure 4, and on to its hook the syringe (which has been thoroughly lubricated inside with liquid paraffin) is hung by whichever of its lugs leaves the top

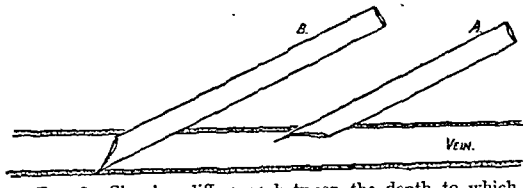


FIG. 2.—Showing difference between the depth to which the point must penetrate to get the entire orifice of the needle within the vein. A, with opening down, and B, with opening up.

in the most convenient position. Its piston is fixed at a position corresponding to the amount of blood required, and a suitable amount of citrate is poured into it. The usual cause of failure to tap the blood is the transfixion of both walls of the vein, and the best guard against this, as can be found by experimenting on a thin piece of tubing, is to put in the needle with the opening downwards (Fig. 2). If the opening is downwards it is also less liable to be blocked by the collapse of the vein's walls (Fig. 3). As the blood flows it is gently stirred into the citrate with the wooden rod supplied, and when enough has been collected the top is screwed on to the syringe, which is then removed from the hook. After all air has been driven out by screwing in the piston the injection tubing and needle is attached, and the syringe is set horizontally on the stand, where it is kept warm by covering it with cloths wrung out of hot water till it is needed.

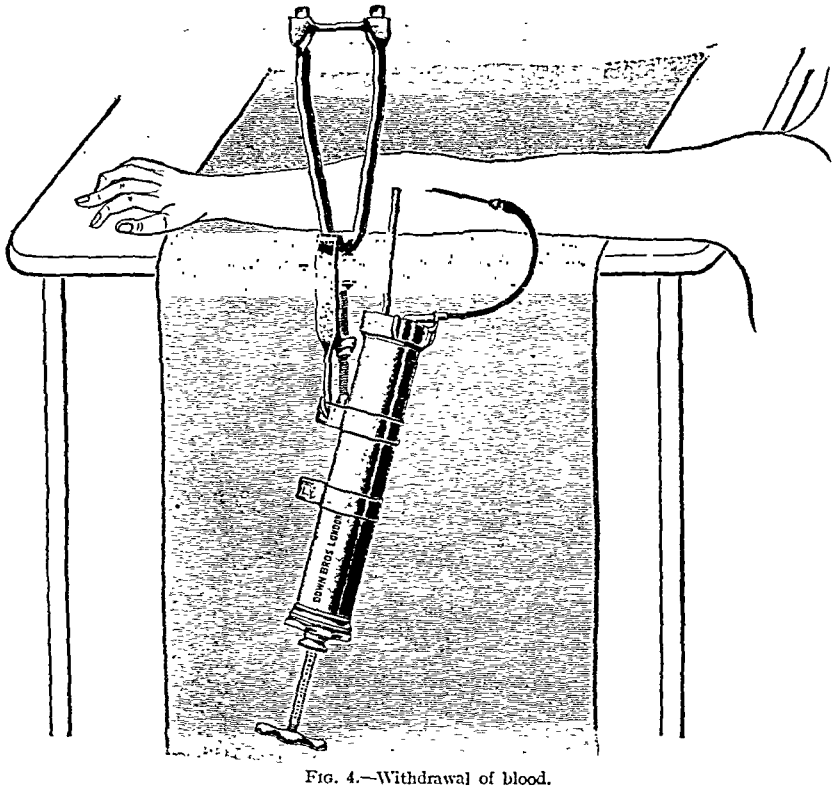


FIG. 4.—Withdrawal of blood.

Injection of the Blood

I agree with Robertson[27] that the best place for this is the internal saphenous vein where it crosses the lower end of the tibia. The patient cannot watch the operation, and the great veins through which the injection must pass

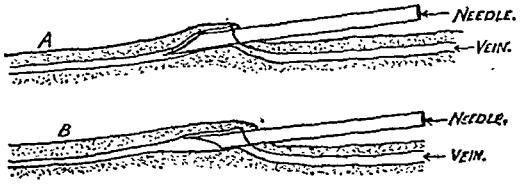


FIG. 3.—Showing way in which the collapse of the superficial wall of the vein occludes the opening if this is upwards (A), but not if it is downwards (B).

act as a safeguard against flooding the right auricle. If a vein is punctured through the skin a negative pressure should be kept in the syringe when the needle is buried, and then blood will rise in the air-lock as soon as tapped.

Indications

The range of these is becoming much more widely admitted, but a short review of them may be of interest, together with brief notes on a few of the more uncommon cases I have met with.

In spite of the universal admission that transfusion is the best treatment for haemorrhage and shock, many lives are still being lost and many recoveries made unnecessarily difficult for lack of it. Before any severe operation (including childbirth) it is a useful precaution to have a donor ready. Apart from the saving of time there is a saving in mental stress to all concerned if the possibility of a transfusion has been discussed beforehand. Again, in the Army a man's blood group might join his religion as a possibly useful piece of information on his identity disc. It is uncomfortable to many of us to think of those of our friends who might have been alive to-day had we had to-day's knowledge sixteen years ago; and for use in the field I do not know of any method which I would prefer to the one here described.

In the leukaemias, myelogenous and lymphatic, it can only delay the inevitable end; but this delay may be of great personal importance to the patient. In pernicious anaemia it may be of great use in strengthening the patient till he can take advantage of other treatment, while in haemophilia, though its aid is transient, it is the best remedy that can be given. Haemorrhage of the newly born may often be cured by the simpler method of injecting blood subcutaneously, but though this will end the bleeding it does not make good the loss already suffered. Transfusion does both, and should be used if the baby is in any danger of death. In acute secondary

anaemias[29] its results may be brilliant, as the following case will show:

D. R., female, aged 7, was quite healthy till ten days before admission, when she had what was apparently an acute tonsillitis with swelling of the cervical lymph glands. Her parents had noticed her to be very pale for three days. On admission she was very collapsed, and had a waxy pallor. The blood count showed red corpuscles 680,000 per c.mm., white corpuscles 33,000 per c.mm., polymorphs 75 per cent. A transfusion of 500 c.cm. was given. She made a steady recovery, was discharged fit three months later, and is now perfectly well, two years after the onset of the disease.

I am not sure that chronic infections do not provide the largest field for the use of transfusion. In low-grade septicaemias, empyemas, and similar conditions it may often make the difference between life and death, especially in children. However, it must be admitted that it is impossible to give absolute proof that the improvement seen after it would not have occurred without it.

In acute infections the general opinion seems against transfusion. I have had no experience of its action, and should welcome any information about it.

It often does very definite good in athrepsia and malnutrition of infants, as in the case given below.

G. G., male, aged 3 weeks. Admitted suffering from pyloric stenosis. Weight 5 lb., "big baby at birth," passing blood per rectum, and looking absolutely moribund. Transfusion 50 c.cm., Rammstedt's operation under local anaesthesia twelve hours later; uninterrupted recovery.

Transfusion seems the logical treatment for coal-gas poisoning, to replace the haemoglobin that has been put out of action by the CO, and in burns it helps both in the early shock and in the later toxaemia. Nephritis is usually given as a contraindication to it, but I have had two extremely interesting cases in which it seemed to avert certain death from uraemia. I give the histories without attempting to draw definite conclusions from them.

B. W., male, aged 10. September 6th: Admission, suffering from acute haemorrhagic nephritis. Blood and casts in urine, with large amount of albumin; blood urea 160 mg. to 100 c.cm. October 6th: Going downhill in spite of treatment; urinary output diminishing; vomiting; blood urea 250; transfusion 500 c.cm. October 10th: Much improved; passing more urine, with less blood and albumin in it; blood urea 140. October 31st: Blood urea 60. November 5th: Septic tonsils removed, as being probably the cause of the nephritis; "flare-up" of the nephritis, with blood urea rising to 120. January 1st, 1929: Sent out much improved; blood urea 40.

E. R., female, aged 7. May 2nd, 1927: Admission, suffering from acute haemorrhagic nephritis. Improved under treatment and was sent to country branch of hospital. August 9th: readmitted in uraemic coma; unconscious, dusky, and apparently dying; blood urea 122 mg. to 100 c.cm. Blood was withdrawn to the amount of 200 c.cm., and a transfusion of 500 c.cm. was performed. The effect was almost biblical, as she recovered consciousness on the operating table, and returned to the ward talking cheerfully. August 30th: blood urea 56. The patient was sent out much improved.

I have been able to find very little work on this subject,[28] and of course the action of the transfusion was not a simple dilution.

My thanks are due to the honorary staff of the Hospital for Sick Children, Great Ormond Street, for their encouragement in the work on which this paper is founded, and for permission to publish the cases described; and also to Dr. Aaron Signy for his advice and aid in the very important department of blood matching.

The instruments described have been made by Messrs. Down Bros., Ltd.

REFERENCES

[1] Unger, L. S.: *Journ. Amer. Med. Assoc.*, 1915, lxiv, 582.
[2] Blain, A. W.: *Annals of Surgery*, 1929, lxxxix, 917.
[3] Gutherie, C. G., and Huck, J. G.: *Bull. Johns Hopkins Hosp.*, 1923, xxxiv, 37.
[4] Sidbury, J. B.: *Journ. Amer. Med. Assoc.*, 1927, lxxxix, 855
[5] Doan, C. A.: Ibid., 1926, lxxxvi, 1593.
[6] Boughton, T. H.: *Journ. Lab. and Clin. Med.*, 1920, v, 597.
[7] Cherry, T. H., and Langrock, E. G.: *Journ. Amer. Med. Assoc.*, 1916, lxvi, 626.
[8] Cruchet, R.: *Journ. de physiol. et de path. gén.*, 1926, xxiii, 80.
[9] Brines, O. A.: *Arch. of Surg.*, 1926, xii, 124.
[10] Carlton, H.: *Lancet*, 1926, ii, 850.
[11] Lindeman, E.: *Amer. Journ. Dis. Child.*, 1913, vi, 38.
[12] Lindsay, J. W., Rice, E. C., and Selinger, M.A.: *Journ. Amer. Med. Assoc.*, 1929, xcii, 291.
[13] Shera, G.: *British Medical Journal*, 1930, i, 903.
[14] Brem, W. V., Zeiler, A. H., and Hammack, R. W.: *Amer. Journ. Med. Sci.*, 1928, clxxv, 96.
[15] Busman, G. J.: *Journ. Lab. and Clin. Med.*, 1920, v, 693.
[16] Seibert, F. B.: *Amer. Journ. Physiol.*, 1925, lxxi, 621.
[17] Unger, G. J.: *Journ. Amer. Med. Assoc.*, 1921, lxxi, 207.
[18] Lewisohn, R.: *Boston Med. and Surg. Journ.*, 1924, cxc, 733.
[19] Colebrook, L., and Storer, E. G.: *Lancet*, 1923, ii, 1341.
[20] Mellon, R. R., Hastings, W. S., and Casey, G. V.: *Journ. Amer. Med. Assoc.*, 1922, lxxix, 1678.
[21] Cheer, S. N.: *Journ. of Immunol.*, 1930, xviii, 187.
[22] Floyd, M. L.: *Amer. Journ. Dis. Child.*, 1929, xxxvii, 1097.
[23] McKhann, C. F.: *Boston Med. and Surg. Journ.*, 1926, cxcv, 1241.
[24] Rosenthal, G.: *Bull. et Mém. Soc. Méd. de Paris*, 1929, xvi, 381.
[25] Aubertin, C., and Fleury, J.: *Bull. et Mém. Soc. Méd. des Hôp. de Paris*, 1930, liv, 69.
[26] Macintosh, R. R.: *Lancet*, 1927, ii, 22.
[27] Robertson, B.: *Toronto Arch. of Surg.*, 1924, ix, 1.
[28] Martin: *Siglo Méd.*, 1924, lxxiii, 615.
[29] Lazarus, S. D.: *Amer. Journ. Dis. Child.*, 1930, xl, 1063.

MECKEL'S DIVERTICULUM AS THE CAUSE OF ACUTE SYMPTOMS

BY

A. HARVARD BAKER, M.B., CH.B.

RESIDENT SURGICAL OFFICER, STOCKPORT INFIRMARY

During a series of 105 laparotomies, performed for various conditions during the three months June, July, and August, 1930, at the Stockport Infirmary, four cases were operated on by me which showed various forms of Meckel's diverticulum. In two of these, acute symptoms were caused, and in view of the comparative rarity of such cases some details may be of interest.

CASE I

A labourer, aged 52, was admitted at 11.55 p.m., on June 9th, with severe gnawing pain around the umbilicus. The onset had been sudden at 4 p.m. on the day of admission, but the man had remained at work for one and a half hours; since leaving it he had vomited three times. The bowels had moved at midday; they were usually regular. There was no pain in the back or shoulders, no urinary trouble, and no history of previous indigestion.

The patient was collapsed and covered with cold perspiration, his temperature being 97° F., and his pulse 80. The tongue was coated and dry. The abdomen was tender in the right hypochondrium and just below the umbilicus. Both recti were rigid. A rectal examination was negative.

An operation was performed at 1 a.m. on June 10th, a right rectus slide incision being made. Much free sanious fluid escaped, and coils of strangulated gut presented. On close inspection a Meckel's diverticulum, arising from the antemesenteric border of the gut, was found to be strangulated through a hole in the mesentery of another loop of gut. The portion of bowel bearing the diverticulum was tightly constricting a large loop of bowel, compressing its mesentery. This loop was drawn so tight that the strangulating bowel was only of the diameter of a pencil. The diverticulum was excised between clamps, but even then it was found impossible to reduce the strangulation until the constricting loop of bowel had been similarly divided. After reducing it the involved bowel was still blackened, and there was no sign of pulsation in its mesentery, into which considerable haemorrhagic effusion had taken place. Resection of three feet of intestine was therefore performed, with end-to-end anastomosis, and the abdomen was closed

with the introduction of a sheet-rubber drain of the abdominal wall. The diverticulum was about 3 inches in length, and had a clear opening of about 1/2 inch diameter into the intestinal lumen. It presented itself as a blackish oval cyst on the upper leaf of the mesentery. Its contents consisted of blood-stained fluid.

There was considerable vomiting for the first few days. Continuous rectal saline injections and two doses of anti-gas gangrene serum were given. The patient improved, and on June 16th was very comfortable; but two days later the wound broke down, with discharge of intestinal contents. Acute right parotitis developed on June 20th, and the patient went rapidly downhill, but lingered on till June 30th, when he died.

CASE II

A man, aged 30, was admitted at 11.30 p.m. on June 14th with severe pain in the pit of the stomach, which had come on suddenly at 8 a.m. just as he got out of bed; it was very severe and doubled him up, but it was intermittent. There was no vomiting, but some nausea, and no definite history of indigestion; there had been vague pains for a few weeks, which had been relieved by walking about.

His temperature was 100°, and the pulse 92. The tongue was slightly furred, and the abdomen rigid, tenderness being most marked in the epigastrium and the right and left hypochondrium.

An operation was performed on June 15th on the suspicion of perforated duodenal ulcer, the right rectus slide incision being employed. Clear fluid was present, and distended coils of small intestine presented in the wound. A Meckel's diverticulum 2½ inches in length and 1/2 inch in diameter was found, arising just below the antemesenteric border. The distal end was conical, and from the tip arose a fibrous cord about 3 inches long, the other end of which was attached near the root of the mesentery on the lower leaf. Over this cord a loop of bowel was kinked, the proximal part being slightly congested. The cord was divided between forceps, and the diverticulum was excised, the stump being invaginated by a purse-string suture since there was no tendency to stricture of the intestine. Appendicectomy was performed, and the wound was sutured in layers. Convalescence was uneventful, and he was discharged on June 29th.

CASE III

A man, aged 60, was admitted on August 14th at 12.15 a.m. There had been a sudden onset of severe abdominal pain the previous evening; it was situated at first low down on the left side, but spread over the abdomen. No vomiting had occurred, and the bowels had been opened the previous morning; there was no history of the passage of blood or mucus, nor of indigestion.

The patient was collapsed and sweating; the temperature was 98°, and the pulse 80. The tongue was clean. The abdomen was very rigid, especially in the upper half. There was no loss of the liver dullness.

The abdomen was opened, and a perforated gastric ulcer was discovered in the pyloric region of the stomach. There was some extravasation of stomach contents. The ulcer was sutured, and covered with a flap of omentum. Before closing the abdomen, a coil of intestine was noticed, bearing a Meckel's diverticulum, which was of almost the same diameter as the bowel, and about 1½ inches long. Its lumen was uniform and the end was not pointed or conical.

CASE IV

A married woman, aged 25, was admitted at midnight on August 15th. Pain had commenced about the middle of the previous day in the sides and the lower abdomen, and was colicky in nature. She had vomited twice on the morning of admission, and this temporarily relieved the pain. The bowels had not opened for two or three days. Micturition was normal, and menstruation regular; there had been some pain, but no intermenstrual discharge. The last period had ended one week before admission. There had been an attack of similar pain eleven years previously; the patient was ill for about six weeks, being relieved by enemata.

On admission, general tenderness and rigidity of the lower abdomen was present, especially in the right iliac fossa. The temperature was 100°, and the pulse 120; the tongue was moist and clean. Rectal examination revealed some faecal masses, and tenderness especially on the right side.

At operation, at 1 a.m. on August 16th, no causal lesion was found, but the caecum was large and ptosed, and the colon contained faecal masses. While examining the small intestine a relic of Meckel's diverticulum was found in its usual situation, about 2 feet proximal to the ileo-caecal valve. This showed as a bulbous dilatation of the intestine just distal to a slight constriction. There was, however, no distension above the constriction, and it was not thought that the lesion was causing any symptoms. Appendicectomy, therefore, was performed, but no operative treatment of the rudimentary diverticulum was undertaken. The patient made a satisfactory recovery.

I am indebted to Mr. J. T. Bailey, under whom the cases were admitted, for admission to publish details of Cases II, III, and IV, and to Mr. A. W. Berry for permission to publish Case I.

GONOCOCCAL RHINITIS IN AN INFANT

BY

HAMILTON KIRKLAND, M.B., CH.M.

ASSISTANT AURAL SURGEON, SYDNEY AND ST. VINCENT'S HOSPITALS

AND

ROBERT V. STORER, M.R.C.S., L.R.C.P.

SYDNEY, AUSTRALIA

We are reporting this case, first, because a perusal of the literature on gonococcal infections and diseases of the nose revealed practically no mention of the condition, and, secondly, on account of the interesting parental history, which resulted in its diagnosis.

A man, aged 42, consulted Dr. T. Spiers Kirkland in February, 1929, about deafness. A toxic focus was considered as the cause, and in view of a history of gonorrhoea the patient was referred to one of us (R. V. S.) for investigation. Examination revealed two hard sensitive nodules in the prostate. The prostatic fluid contained numerous pus cells. No gonococci were detected. Urethroscopic examination showed numerous infected Littré's follicles. The Neisserian infection reaction of the blood serum was negative. The urine was clear and contained no albumin, sugar, pus, or threads. A diagnosis was made of chronic prostatitis and Littritis, and appropriate treatment was instituted.

The patient had had gonorrhoea two years before marriage, but believed himself cured. He had been married eleven years, and had three healthy children, aged 10½, 9, and 6½ years respectively. There had been extramarital intercourse on one occasion only, four years ago, and on the following day a drop of yellow discharge had appeared. This disappeared without treatment. On no other occasion since marriage had there been any indication of uncured disease. His wife had an intermittent vaginal discharge which attracted notice after her first confinement.

While the husband was undergoing treatment for his prostatic condition his wife was confined, and soon after birth the infant developed a "cold," which did not react to the usual domestic treatment. As a matter of interest the husband was given two glass slides and asked to bring in smears of the nasal discharge for examination. Stained by the pyronin method, one smear showed numerous pus cells, staphylococci, and typical gonococci. The other smear was submitted to a pathologist, who reported as follows: "Numerous pus cells, Gram-positive cocci, and groups of Gram-negative diplococci, often intracellular and morphologically indistinguishable from gonococci, were present."

The baby, then aged 1 month, was seen (H. K.) on April 24th, 1929, with a history of unilateral (right) nasal discharge since birth. According to the mother this was most profuse in the early morning, and was yellowish in colour and sometimes blood-stained. The baby experienced difficulty in breathing while feeding, and was seized with fits of coughing at intervals. No discharge or foreign body was visible in the anterior nares. Conjunctivae were normal. The nasal mucous membrane was only slightly inflamed. On the next day a swab was obtained covered with thick yellow pus. A smear

was examined, and gonococci were found to be present. No Klebs-Loeffler bacilli were detected.

The condition was treated at first with mild antiseptic drops and subsequently with argyrol. At the end of a month the discharge had quite ceased.

COMMENT

This case presents many interesting features of clinical and sociological importance.

1. Gonococcal rhinitis may easily be overlooked as the true cause of a coryza. The bacteriological diagnosis is made difficult by the similarity of the *Micrococcus catarrhalis*, which is also Gram-negative and sometimes occurs in pairs, but is never intracellular.

2. The prophylactic instillation of drops into the baby's eyes at birth undoubtedly averted an attack of ophthalmia.

3. Inquiry into the history of the labour revealed a prolonged third stage, predisposing probably to the inoculation of the infant's nasal mucous membrane with infective vaginal secretion.

4. The diagnosis of gonococcal infection in married women presents many difficulties, but its possibility as the cause of a vaginal discharge should always be considered. When the infection is transmitted by a male with chronic gonorrhoea the urethra is seldom affected, and symptoms of mild endocervitis may alone develop. These may be attributed to a cervical laceration.

5. A thorough examination of the male genital tract before marriage is of paramount importance to exclude the possibility of latent disease.

6. The gonococcus retains its virulence for years in the glands of the prostate, seminal vesicles, and Littré's follicles, and a negative blood serum reaction does not exclude the possibility of a gonococcal focus. The best single routine test of cure is examination of the prostatic fluid for pus cells.*

The foregoing presents ample opportunity for criticism and discussion, and comment from our colleagues would be welcomed.

RUPTURE OF THE PANCREAS

BY

JAMES D. GRAY, M.D.Glas. AND JOHN C. HODGSON, M.D.Ed.

The rarity of this lesion encourages us to publish the following case.

The patient, a man aged 20, while playing football, was charged by another player and fell to the ground with his opponent on top of him. The latter's knee hit him on the abdomen. He attempted to carry on but failed.

He was seen by one of us within fifteen minutes of the accident, and presented the following typical picture of shock. He was pale and anxious, with beads of sweat on his brow, but he was quite conscious and intelligent. The lips and ears were pallid; the skin was cold and clammy, and of greyish hue. Pulse rate was 108 per minute and feeble; temperature was 97° F. Respirations were thoracic, sighing and irregular. He complained of severe abdominal pain, chiefly in the area under the umbilicus. The whole abdomen showed an absolute board-like rigidity, and his knees were drawn up to a marked degree.

He was treated by heat, and sent in to Ashford Hospital for operation with a provisional diagnosis of ruptured viscus. When seen in hospital by both of us an hour later his condition had considerably improved. Muscular rigidity was almost negligible, pulse rate 92 per minute and quite strong; temperature 97·6°; and respirations 20 per minute and regular. We decided to leave him under observation. Two hours later, however, his condition had changed. Pulse rate was still 92 per minute and strong, but he again looked haggard and anxious, and his abdomen showed muscular rigidity, most marked in the right hypochondrium. It was decided to operate at once.

A right paramedian incision was made, and the first thing evident was extensive fat necrosis, chiefly in the mesentery and omentum. Greenish-yellow areas were seen, varying in size from a pin-point to areas half an inch in diameter, these latter having an appearance not unlike gas gangrene. In addition, there was a large extravasation of blood under the peritoneal coat of the whole ascending colon and caecum. It was found impossible to stitch the pancreas, so drainage tubes were inserted and the abdomen closed. No wound was found in any other viscus.

The following morning the patient seemed somewhat better. His pulse rate was 96 per minute, temperature 98°, respirations variable. There was a copious greenish serous discharge from the drainage tubes. In the afternoon incessant vomiting of dark foul-smelling material set in, and he complained of tenesmus of the bladder. Twenty-four hours after the operation his heart began to fail, and he died forty hours after the accident.

Even during the operation his pulse was slow, and at no time till cardiac failure set in did it exceed 96 per minute.

Post-mortem examination revealed: (1) A tear of the pancreas anterior to the vertebral column; there the pancreas was changed into a dark haemorrhagic slough. (2) Extensive fat necrosis, especially in the omentum and mesentery. (3) A haematoma under the peritoneal coat of the ascending colon and caecum, but this was not so marked as during life. (4) Multiple adhesions of a fairly firm nature. (5) No free blood in the peritoneal cavity. (6) No tear of any other organ or of the gastro-hepatic omentum, and no bruise of the anterior abdominal wall.

REMARKS

The following points in this case seem noteworthy.

The Form of Violence.—This cannot be compared with that of most published cases—for example, a crush between the buffers of a train or a heavy fall of earth. The opponent's knee must have been applied directly over the vertebral column, when the muscles were quite lax, and the pancreas crushed across the backbone. It is strange that rupture of no other organ was found.

Muscular Rigidity.—Rigidity was present a quarter of an hour after the lesion and passed off only to recur. The textbook pancreatic lesion gives muscular rigidity as slight or absent. Is it possible that very early in the picture of a pancreatic lesion muscular rigidity does occur, and has already passed off when the patient comes under observation?

Pulse and Temperature.—The pulse was slow, and the temperature subnormal in this case. This is the rule in pancreatic lesions.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

AN UNUSUAL ABDOMINAL INJURY

Mr. C. H. Fagge, in his paper entitled "A plea for the earlier diagnosis of abdominal emergencies" (January 10th, p. 50), laid emphasis on the importance of the pulse rate in diagnosis. The following history of a case of abdominal injury may be of interest.

A man, aged 56, was admitted into the Stockport Infirmary in April, 1930, suffering from a penetrating wound of the abdomen. He had been transfixed by an iron bar about 4 feet in length and 1 inch in diameter. The bar entered the anterior abdominal wall 2 inches below the right costal margin and 2 inches from the middle line. It emerged behind, just above the crest of the right ilium at the outer border of the erector spinae muscle. The patient himself extracted the bar. On admission to the hospital he complained of pain at the site of the anterior wound. The pulse rate was 76, and the temperature 98° F., and there did not appear to be much shock. The tenderness was superficial, and the rigidity diminished with gentle local pressure, unlike the rigidity due to peritoneal irritation. There was no loss of

* The technique of this test is described in Storer's *Youth and Disease*, third edition, p. 122.

liver dullness, and no clinical evidence of a ruptured viscus. In spite of the fact that penetration of the peritoneal cavity must have taken place, it was decided to await symptoms, a half-hourly pulse record being charted. The local tenderness persisted for several days, but the pulse rate remained regular and normal. The only complication was an attack of bronchitis eleven days after the accident. X-ray examination eliminated the possibility of subphrenic abscess, and the condition soon subsided. The wounds healed quickly, and laparotomy did not turn out to be necessary.

In this case it was obvious that the peritoneal cavity had been traversed, and it seemed extraordinary that damage of a viscus had not been produced. The clinical sign of most value in determining treatment here was the condition of the pulse, the rate and tension of which remained normal until the temporary attack of bronchitis developed.

Manchester. D. M. SUTHERLAND, M.D., F.R.C.S.

CONGENITAL ABSENCE OF LEFT HALF OF DIAPHRAGM

Congenital absence of the left half of the diaphragm is a rare condition, and a report of the following case may be of interest.

A multipara gave birth to a full-time male child weighing 6½ lb. The labour was precipitate, and the baby was born before the arrival of a nurse. The mother stated that the child moved and made inspiratory efforts, but did not long survive after birth.

On post-mortem examination I found there was a complete absence of the left half of the diaphragm. The left side of the thorax was occupied by coils of small intestine, liver, and the left lung, which was quite unexpanded. The left parietal pleura and peritoneum formed an uninterrupted membrane. The heart was displaced to the right side, and the right lung was partially expanded. No other abnormality was found.

Congenital absence of the left half of the diaphragm is not incompatible with life. Cases have been recorded of individuals with this condition living to adult life. In one case recorded by LeWald[1] the patient was able to indulge in athletics, and was a successful entrant in a five-mile relay race.

Petersfield, Hants. TREVOR HOEY.

Reports of Societies

THE CHOICE OF AN ANAESTHETIC

At the meeting of the Medical Society of London on February 9th, with Dr. R. A. YOUNG, president, in the chair, the subject for discussion was the choice of an anaesthetic.

Dr. I. W. MAGILL, in opening, said that anaesthesia had done much to assist the progress of surgery, but for a long period it was enough for the surgeon if the patient was presented fully anaesthetized, and no inquiry was made as to method. Well-tried agents like chloroform and ether would produce good operative conditions, but their wholesale use was not always the best for the patient. Both were toxic, they did nothing to spare the patient the distressing anticipation of events prior to operation, induction was not pleasant, and recovery was attended by nausea and discomfort, so that the circumstances of the anaesthesia were often more dreaded than the operation itself. Turning to other anaesthetics, Mr. Magill said that nitrous oxide and oxygen anaesthesia was declared to be capable of producing abdominal relaxation, but unless the patient underwent a secondary saturation which amounted to a considerable degree of asphyxia, or was placed on preliminary medication to a more or less dangerous degree, this was not possible. Ethylene was more satisfactory, gave better relaxation, and could be used with as much as 20 or 30 per cent. of oxygen. He had found it particularly useful in thoracoplasty. The smell, however, was a disadvantage, and the risk of explosion also limited its use. It was in respect to the basal hypnotics that most progress had been made. Adequate basal hypnosis protected the patient from psychic shock, and diminished or eliminated post-operative nausea and vomiting. Of the various basal narcotics he found paraldehyde the most suitable for children. Of the derivatives of barbituric acid he had most experience of nembutal, though he would not wish it to be understood that he placed this above avertin in every case. With regard to spinal anaesthesia, much hostile criticism directed against stovaine should have been directed against faulty technique. At the Mayo Clinic spinal anaesthesia with novocain was the favourite method. The choice of anaesthetic must depend to some extent on the temperament of the patient. The general practitioner was frequently averse to the use of any new form of anaesthetic. The choice was largely dictated also by the nature of the operation. For abdominal sections he used spinal anaesthesia if the patient was able to stand a moderate fall of blood pressure. In exophthalmic goitre he gave an adequate basal hypnosis carefully gauged in accordance with the patient's condition, then local anaesthesia, with gas and oxygen held in reserve in case general anaesthesia was necessary. In operations on the nose performed under general anaesthesia, he believed the safest method to be intratracheal intubation; only by that means could an absolutely free airway be guaranteed.

Sir FRANCIS SHIPWAY spoke of the disadvantages of deep ether, especially the liability to bronchial complications. He believed that spinal anaesthesia should be more used in abdominal operations; it was safe, and the results after operation were extremely good. There were two or three drugs which afforded great satisfaction to the patient and to the surgeon. He did not want to draw any comparison between avertin and nembutal; he had not had enough experience of the latter to say much about it, but he believed that it had a great future. Whether it should be given by the mouth or intravenously was open to discussion. Avertin was always given by the mouth, and this he thought to be an extraordinarily valuable drug; he preferred it to paraldehyde—which he thought now rather out of date—for children. It was perfectly wonderful what could be done with this drug. Quite a number of children who had had operations for removal of tonsils or of the appendix were walking about to-day without ever knowing that they had undergone an operation. At a later stage in the discussion he said that he did not want to leave the impression that he thought basal hypnotics should be used as a routine.

Dr. C. F. HADFIELD thought that Sir Francis Shipway had spoken far too strongly of pulmonary complications following administration of ether. At the hospital at which the speaker worked, if there was any pulmonary complication he was sure to hear of it, and as far as he remembered during many years' experience, only one patient had died of a pulmonary complication after ether, and that was at a time when half the people in the ward had influenza, and the operating surgeon himself was affected. Dr. Featherstone in Birmingham some time ago analysed thousands of cases and found no

[1] LeWald, L. T.: *Arch. Surg.*, January, 1927, xiv, 322 (Part 2).

evidence whatever that there were more complications after ether than after other anaesthetics. The basal hypnotics were extremely useful, but a little erratic in their action. He recalled a patient who had undergone two operations for exophthalmic goitre with avertin; on the first occasion the avertin was very effective, on the second it seemed to have no effect at all.

Mr. C. HAMBLEN THOMAS said that in operations involving the upper air passages paraldehyde was easier than avertin. With paraldehyde the patient was in a sleepy, indolent condition; with avertin there was some struggling. Dr. GEOFFREY MARSHALL supported Sir Francis Shipway in his dislike of ether and chloroform; these were primitive methods of inducing unconsciousness. During the war he kept careful records of patients operated on for wounds of the abdomen, and certainly there was a large proportion of cases of serious bronchitis following open ether. He thought that in future patients would demand that they should be put to sleep in bed. But important as was the choice of the anaesthetic, he would add, speaking as one who was neither an anaesthetist nor a surgeon, that even more important was the choice of the anaesthetist. Dr. A. W. MATTHEW confessed that he was rather afraid of the basal hypnotics because of the question of idiosyncrasy, and of the fact that if these substances were got in they could not be got out. Their administration meant that a drastic poison was being given, to begin with, and on the top of this gas and oxygen or some other anaesthetic might have to be given. He believed that pre-anaesthetic terror was sometimes misunderstood. The real mental strain was not in facing the immediate prospect of an operation within a matter of hours, but in awaiting it over a long period of days or weeks. Sir JAMES DUNDAS-GRANT had found avertin serve excellently in an operation to remove cancerous growths from the larynx and to implant radon seeds, but he had discovered that there was a great disinclination to give this anaesthetic among those who had the choice. If avertin anaesthesia could be robbed of its dangers it would be one of the greatest blessings to surgery.

Mr. ARTHUR EDMUNDS, who confessed that he had done a whole afternoon's operations that day on patients who were under ether, said that he was very much in favour of gas and oxygen. It was not true to say that abdominal operations could not be properly carried out with gas and oxygen, together with perhaps a little ether to start with. He admitted that relaxation was not perfect; that was the drawback. He shared a little of the shyness which had been expressed regarding a dose of anaesthetic which had to be injected, but no doubt ultimately a reasonable method of using these drugs would be worked out. He was glad from the evidence of the present discussion to find that anaesthetists recognized the importance of the psychical or emotional aspect. Mr. ZACHARY COPE, speaking as one who himself had had chloroform and ether by the open mask, said that the experience was quite tolerable, and he did not have any unpleasant effects afterwards. The new drugs might have a great value provided they were judiciously used. Dr. Magill's method of putting the tube down the nose and larynx had resulted, in his experience, in perfect relaxation, and with that method the amount of anaesthetic needed was extremely small. He did not believe that the new anaesthetics would displace the older ones, as Sir Francis Shipway had suggested, but they would establish themselves in a limited field.

Dr. JENNER HOSKIN said that with intratracheal anaesthesia a free airway could be given and much less anaesthetic was needed. With regard to avertin, this was used extensively at his hospital for thyroid cases. One patient, not a serious case, did not come round after the anaesthetic. In the United States of America he understood that sacral anaesthesia was being used for prostate cases, and was supposed not to cause the amount of shock involved in spinal anaesthesia. Dr. FRANKIS T. EVANS said that pre-anaesthetic terror was a very real thing. Patients suffered during the induction period from the fear that they were going to be suffocated. If he ever had to have an anaesthetic he would be glad indeed to have avertin. Mr. H. B. BUTLER described certain cases of strangulated hernia, in which the strangulation had persisted for more than a week before operation. Some of the patients were quite pulseless, and in one case the operation was done without an anaesthetic being given. The patient recovered, and had been entirely insensible of what had taken place. In another case in which a large hernia was reduced the abdomen was infiltrated with novocain. Mr. C. HOPE CARLTON said that regional anaesthesia, as seen in Paris, was not very efficient. At one clinic there most of the patients whose operations he witnessed were only partially "under." At the Mayo Clinic, on the other hand, regional anaesthesia was successfully practised for prostatic cases, and was also found to have great value in vaginal hysterectomy and in incisions of the rectum. In hernias it was also used, but, he thought, without much success. It was well to remember, before giving a wide application to the Mayo experience, that the bulk of the patients at that clinic were of the Nordic or Swedish type, had lived an open-air life, and were very healthy and tolerant of pain. He did not know whether the same procedure would have similar results with the Latin type.

Sir WILLIAM WILLCOX, speaking of basal anaesthesia from the toxicological point of view, said that the disadvantage of the basal anaesthetics was their toxic properties. Luminal was one of the most poisonous of the barbituric group; he had seen a number of fatal cases of poisoning with it. Nembutal was one of the quickly acting barbituric acid compounds, the effect of which was more transient than in the case of most of them, but he urged the necessity of great caution in its use and great care in its dosage. If a broncho-pneumonia supervened upon the administration of this anaesthetic, no treatment for it was of any avail. There was a good deal of idiosyncrasy with regard to these drugs. The useful dose would be one which produced a blunting of the sensibilities rather than coma. If coma were produced with nembutal the danger zone was reached. Avertin was a narcotic, like chloroform or ether, but rather more toxic than these, and it was necessary here also to be careful, because one might have patients who, after what was apparently a normal dose as calculated by the individual weight, went into a deep coma lasting many hours and causing great anxiety. With regard to Dr. Hadfield's point about the erratic action of avertin, it was probable that during the interval between the two operations the liver had regenerated, and the regenerated liver was more resistant to avertin on the second occasion.

Dr. PARRY PRICE spoke of 350 avertin administrations without any death, although there had been one or two rather serious cases of collapse. Avertin was especially useful in ophthalmic surgery. With regard to pulmonary complications after anaesthetics, he often wondered whether these did not arise more from mouth sepsis than from ether. Mr. J. L. JOYCE spoke on co-operation between the surgeon and the anaesthetist, and also mentioned one case which had had five administrations of avertin, and every time the anaesthesia appeared to be deeper and the sleep longer.

Dr. MAGILL, in response to a request by the PRESIDENT to say something about the choice of an anaesthetic in regard to the organ or system primarily involved, said

that in the surgery of the brain and spinal cord he employed intratracheal nitrous oxide and oxygen with a minimal amount of ether; as the operation proceeded the ether could be cut out. For operations involving the chest in the tuberculous subject, if the duration was short, as in the resection of one or two ribs, it could be done under local anaesthesia, but for the big operations he preferred ethylene, and for abdominal work spinal anaesthesia.

THE INTRAVENOUS USE OF GERMICIDES

A special discussion on the indications for, and the intravenous use of, germicides took place at a combined meeting of the Sections of Surgery and Pathology of the Royal Society of Medicine on February 4th. Mr. C. H. FAGGE, president of the Section of Surgery, occupied the chair.

Mr. V. ZACHARY COPE began by defining a germ as any pathological micro-organism, whether protozoal or bacterial, and a germicide as any substance of known and fixed chemical composition which would kill germs either directly by contact with them or indirectly by unfavourably affecting their environment in the body. The indications for the intravenous use of germicides depended upon their proved or presumed value. In the case of widespread infections the intravenous route was ideal, provided that the drug was efficacious; and had no serious deleterious action on the body. In all cases the efficacy of the drug must finally be judged on clinical evidence. Intravenous therapy had been more successful with the protozoa than with the bacteria. The effects of compounds of arsenic upon the spirochaetes of syphilis, framboesia, and relapsing fever, of antimonial compounds on the Leishman-Donovan body, or emetine hydrochloride on the *Entamoeba histolytica*, and of quinine on the malarial parasite, were sufficiently striking. Bacterial diseases did not so readily respond to the intravenous injection of germicides. Clinical evidence supported the intravenous injection of salvarsan in cases of anthrax, but rejected the use of optochin in pneumococcal pneumonia. Sanocrysin appeared to have an indirect effect on some cases of tuberculosis. Some compounds of chaulmoogric and hydnocarpic acids had proved their worth in leprosy. A reliable drug for intravenous use in the treatment of severe septic infection had not yet been found. Most antiseptics appeared to be harmful when injected into the veins. Mercurochrome had been strongly recommended, but opinion as to its value was variable. The work of Professor Fleming had proved that whatever beneficial effect these germicides had must be indirect. Speaking as a clinician, Mr. Cope said that he often felt the force of the criticisms made against clinicians by those who said that they too readily adopted methods of treatment based upon insecure scientific foundations. Both surgeons and physicians were too ready to try a remedy because it was new rather than because it had good credentials, and to believe that the presumed remedy had cured when cure was the result.

Professor ALEXANDER FLEMING defined a germicide as a substance which entered into destructive combination with a microbe. It was not legitimate to claim as germicides substances which *per se* did not kill microbes, but which when injected intravenously were reputed to undergo or produce some mysterious change by which the bacteria were destroyed. A germicide could only be effective in destroying microbes in the blood stream if it was possible with safety to obtain in the circulating blood a concentration of the chemical lethal to the microbes, and to maintain such a concentration sufficiently long for the microbes to be destroyed. There were tests by which it was possible to ascertain with a considerable degree of accuracy the bactericidal power of blood or serum, and by such tests it could be shown whether or not a chemical injected would enhance such power. It was obvious that any germicide injected intravenously would be at its maximum concentration in the blood immediately after the injection, and before it had had time to be removed from the circulation. It followed, therefore, that the maximum germicidal effect should be manifest in the first few minutes after the injection. Many germicides which had been recommended for intravenous injection had been tested, but almost all had failed to fulfil the two requirements he had just instanced. With most germicides the amounts recommended for intravenous injection did not, when diluted in the blood, give a concentration which was lethal to microbes. In some cases sufficient germicide could be injected to produce a lethal concentration, but the chemical disappeared from the blood with such rapidity that it was impossible that it could have had any bactericidal effect. Professor Fleming proceeded to show a number of diagrams to illustrate the failure of various drugs. He showed that with sanocrysin in the dilution of 1 in 2,500 in human blood, tubercle grew just as well as when none of the substance was present. Flavine killed the ordinary pyogenic microbe, but the effect on the leucocytes was just about ten times as great. The only hopeful example in Professor Fleming's series was novarsenobillon in the presence of *Strep. haemolyticus*. He added that he did not wish to be entirely destructive, and he referred to the undoubted bactericidal power, as tested on rabbit's blood, of common salt.

Mr. P. H. MITCHINER did not believe that a germicidal action could be obtained from any chemical in the blood. When it was considered that chemical antiseptics injected intravenously had to be given in such strength as to have an optimum lethal action on the micro-organism, and yet not to impair the defensive action of the leucocytes or other tissue cells, it must be admitted that they could not hope to get any direct germicidal action by the intravenous injection of such substances. He was fairly certain that in the majority of instances the intravenous injection of germicides, so-called, was more harmful than beneficial to the patients in cases of septicaemia. No criterion was available in any individual case as to the dosage of germicide which was likely to produce the most beneficial result, and he would even go so far as to say that in the same patient at different stages of the septicaemic infection different doses were necessary to produce an optimum result. Test-tube experiments were of no value at all in estimating the action of bactericides on micro-organisms in the human body. A dose lethal to a micro-organism in a test tube might permit that organism to grow very much better in the blood than if no antiseptic had been added. He mentioned the work of some of his colleagues in other departments of St. Thomas's. Colonel Harrison, in the venereal diseases department, had told him that the intravenous injection of arsenical compounds in syphilis produced the definite disappearance of the spirochaete, but he did not claim a direct germicidal action, and it appeared that it was customary to have all patients who had been treated with a full course of neosalvarsan back in a year's time, when a large proportion of the cases showed a positive Wassermann reaction. In the tuberculosis department, on the basis of an experiment with twenty cases treated with sanocrysin, the results were reported absolutely negative. With regard to septicaemias, he felt strongly that in some cases the substance injected had nothing whatever to do with the recovery of the patient. He attributed the results to increased germicidal power of the body tissues due to protein shock. The injection of the substance, if it did any good at all, did it by altering the balance of resistance in the body tissues by some means about which he knew nothing. The clinical

indications for the injection of these so-called germicides were: (1) failure of the patient to react to general antiseptic treatment, and (2) absence of leucocytosis in the blood count.

Mr. T. H. C. BENIANS said that for practical purposes the discussion might be limited to the treatment of streptococcic and staphylococcic septicaemias. When organisms were in the body they had, dead or alive, to be assimilated by natural processes, and this raised the question how far it was worth while taking liberties with body cells, remembering that body cells were in the main far more permeable than bacteria. At one end of the scale was the acute toxic infection with no pyogenic reaction; at the other a slow pyaemia with marked thrombosis, embolism, and pus formation. The organisms in the first type were usually not multiplying freely; they were fragile, and subject to lysis by the blood and tissues: the picture was one of acute toxaemia. Some form of antitoxic treatment rather than disinfection was needed. In the second type the patient did not die from bacterial toxins, but of the vigorous pyogenic reaction. Here the difficulty was to get at the bacteria on account of the mechanical conditions, and some control over this excessive reaction was indicated. It was in the various grades of infection and reaction that lay between these extremes that germicidal treatment might be of avail, and where it might be worth while balancing the question of injury to the bacteria with that of injury to the phagocytic tissues.

Dr. L. P. GARROD related particulars of some experiments to determine in what concentration certain drugs would kill or inhibit *Strep. pyogenes* in the presence of blood. Eusol had no action whatever. Acriflavine had a much greater inhibitory than bactericidal effect. Mercurochrome had no bactericidal action in the concentrations employed, though at 1 in 100 it had a small degree of inhibitory action. He believed that the reason why mercurochrome was looked upon as so effective was because the discoverers of the drug—Young, White, and Swartz—made their experiments on urine, which gave an erroneous idea as to its efficacy in killing *Staph. aureus*. Mercurochrome was a very weak germicide indeed.

Dr. G. M. FINDLAY said that the more differentiated the parasite the more easily was it got rid of in the body. Protozoal diseases were fairly easily eradicated, but bacterial diseases were almost unaffected by chemotherapeutic agents, and ultra-microscopic viruses were entirely unaffected. He discussed the possibility of association between the chemotherapeutic drug and immune bodies. Dr. BOUSFIELD pointed out that a more efficient type of serum was now available than was the case five years ago, and he thought that against the rather pessimistic note struck in that discussion, the fact that the destruction of *Strep. haemolyticus* could now be approached with some success ought to be placed on record. Dr. JULIUS BURNFORD said that Dr. Benians had put forward a very broad-minded view that much of the work on germicidal agents ought not to be relegated to the laboratory worker. It was forgotten that many of the results obtained in medicine, even in its present scientific state, were entirely empirical, and he confessed himself disappointed that the discussion had not elicited more of the experience of clinicians, empirical though it might be. While a certain amount of scepticism was perhaps necessary, repeated treatments with a drug that was at least harmless to the patient furnished the hope that a germicide might be found which would do much good in certain infections.

Professor FLEMING, in a brief reply, expressed the view that clinical experiment in estimating the value of a germicide was useless, while Mr. ZACHARY COPE contested this view, and also refused to accept the opinion that the only way whereby an agent could kill a microbe was by combining with it. He believed that the search for an indirect effect or reaction brought about by the germicide was a very hopeful line to take, and that future investigation would show that drugs could kill bacteria, not only by combining with them, but in other ways.

EUROPEAN WOMEN AND CHILDREN IN THE TROPICS

At a combined meeting of the Sections of Tropical Diseases and for the Study of Disease in Children, on February 5th, with Dr. GORDON THOMSON in the chair, the subject for discussion was "The adaptation of European women and children to tropical climates."

Dr. A. R. NELIGAN pointed out that the European in the Tropics might need to adapt himself to the conditions for a very long period, if not for life, and to that end family life was an important factor, especially in preventing or diminishing home-sickness. An equable temperament and a natural adaptability, such as Scots possessed in a high degree, also went a long way. Young children in the Tropics required more sleep than in Europe, and their lives should be kept as free from excitement as possible. It was important to have a European nurse, who, however, should be carefully tested before going out. Many of the complaints made with regard to the Tropics arose, not so much from climatic difficulties, as from altered social and sanitary conditions. In children living in the Tropics the heat-regulating centre was easily disturbed; they grew rapidly, weight was usually below the European level, and there was also a rapid development of intelligence, tending to precocity.

Dr. ALDO CASTELLANI, K.C.M.G. (Hon.), said that the climate of the lowlands of the Tropics was not very suitable for the majority of Europeans; they were not as healthy there as in their accustomed environment. An exceptional few, however, were better in the Tropics than in Europe. The effects of tropical climate were definitely more marked in women than in men, especially in relation to the nervous system. The average European woman in the Tropics looked debilitated and pale, and was more "nervy" than the average man; she needed more frequent changes to the hills, or to Europe. The incidence of serious disease, however, was less among women, probably because the greater range of movement of men exposed them more to bacterial and protozoal infections. Babies up to 18 months, or even more, stood the hot climate well, but after 10 years of age children—boys especially—did less well; usually they were sexually precocious. Children should be sent home at not a later age than 10, and their return to the hot climate should be postponed until they were at least 20. Very few European women in the Tropics could nurse their babies for more than a few weeks. The climacteric, also, was more trying for European women there, and neurasthenia more likely to result.

Dr. H. S. STANNUS said that the advent of European women in the Tropics was a potent factor in raising the general standard of health in the community in which they were placed, thanks to the enlightened domestic and social regime they instituted. He proceeded to discuss the meteorological and other factors in which the Tropics chiefly differed from more temperate climes, and also touched on the effects of glare, ultra-violet radiation, and the causes and effects of pigmentation. Dr. G. W. BRAY thought that it was at present beyond the power of the European to adapt himself to tropical climates if that implied the wholesale immigration of white men and women, their maintenance in the same state of physical vitality, their retention of ordinary mental and moral

standards, and their ability to reproduce and transmit like characteristics to the next generation. With all the hygienic advances which had been made, little progress could be reported with regard to the neurasthenic complex, which still figured highly in the statistics in respect to officials invalided home. A psychological drawback was not only the loneliness in comparison with home conditions, but the proximity to races having an inferior outlook and standard of living. For the preservation of their health European women should engage in healthy pursuits, and return to the homeland at regular intervals. More careful housing and dieting should be aimed at, less club life, and less alcohol, and to these ends the influence of an intelligent wife was very helpful.

Dr. Hugh Thursfield thought that the factors mentioned in regard to the social aspect of the Tropics were also true of some temperate regions—as, for example, the Western portions of Canada—except that there the Europeans were not in proximity to a subservient race. Mr. A. F. MacCallan spoke from his experience of Egypt, especially on the effect on the eyes of summer glare. He also said that it was necessary to forbid native maids and nurses to touch European children because of the great risk of infection with trachoma. Dr. J. B. Christopherson pointed out that many of the disabilities of the Tropics, especially in the matter of dress and hygiene, had been minimized or overcome by missionary women. It was important that women should have something to occupy them, mentally and physically. Dr. K. Edmundson spoke of the trying conditions in those parts of the Tropics where six months of dry heat was followed by the same period of moist heat. Women and children could not live for more than a year continuously in such climates. Dr. S. T. Theobald said that the white woman in the Tropics was apt to suffer from late nights, ennui, and excessive alcohol. Some people could live and enjoy good health in any part of the Tropics.

PAIN IN THE LOWER ABDOMEN

At a meeting of the Manchester Medical Society, held on January 14th, with the president, Mr. Howson-Ray, in the chair, Dr. W. Fletcher Shaw read a paper on lower abdominal pain. He pointed out that this common symptom in women might be produced by a number of different conditions—medical, surgical, or gynaecological—and it was therefore necessary to keep all these in mind when investigating a case. Unless a diagnosis was made and the true cause of pain discovered patients might be subjected to a useless operation. He pointed out that the gynaecological conditions which most commonly produced this chronic aching pain were lax pelvic floor and pelvic adhesions; other conditions were fibroids, ovarian cysts, carcinoma cervicis, chronic cervicitis, malignant ovaries, endometriomata, prolapsed ovary, retroflexion of uterus, endocrine irregularity, chronic endometritis, subinvolution, varicocele, polypi, and carcinoma of the body of uteri. Many patients were mothers of young families, and were worn out mentally and physically with their responsibilities; this was often much more important than a minor pathological lesion, and in such cases a complete rest and holiday away from the family did more good than an operation.

Dr. Frank E. Tylecote remarked on certain conditions causing lower abdominal pain which did not, at first at any rate, require the surgeon. He mentioned such lesser maladies as constipation, haemorrhoids, abdominal fibrositis, and pain from adenitis caused by superficial irritation from a focus of sepsis in the leg, and stated that he found it worth while to inspect the lower limbs in doubtful cases of lower abdominal pain. Statements made by patients that they were not constipated should not be accepted without confirmation, and in cases of diarrhoea the existence of loose stools due to irritation by a scybalous mass should be remembered. Constipation and haemorrhoids were common causes of abdominal pain, while an overloaded colon might give much discomfort, pain, toxaemia, and occasionally considerable pyrexia. In cases of suspected malignant disease of the descending colon or rectum a single rectal examination or a single barium enema might fail to disclose the condition, and sigmoidoscopy might not show a growth which was present. If a doubt persisted, the examinations should be done again. Endothelioma of the peritoneum was a condition which might cause very severe lower abdominal pain at a time when physical signs might still be very indefinite, but ascites would soon follow. Enteroptosis was a common cause of the symptom under discussion, but the appearance of the abdomen in the erect posture would often suggest the diagnosis, while visceroptotic pain had well-recognized characteristics. Abdominal influenza might begin with diarrhoea without vomiting, but with collapse, although it was oftener thought of as a diagnosis when both vomiting and diarrhoea were present. He mentioned a case of a youth in whom there was much melaena, great collapse, and a typical influenza tongue and throat; improvement did not begin until large doses of salicylates were given. Intestinal crises associated with Henoch's purpura, with angioneurotic oedema, with tabes dorsalis—the so-called "enterospasm"—and even with minute embolic formations in the course of a case of septic endocarditis, should never be forgotten. Abdominal Hodgkin's disease in its early stages was most likely to be confused with other causes of abdominal pain, but in its later stages abdominal pain might occur from deposits in the vertebrae. Abdominal herpes zoster might be preceded as well as followed by most intense abdominal pain. The best early guide to the diagnosis was the well-localized distribution of the pain. In the consideration of lower abdominal pain typhoid fever should not be forgotten, and the watch for perforation was always an anxious feature of this disease. Entire loss of abdominal movement was the best sign, but complaint of pain on micturition he had known more than once to be the first indication of this complication.

Mr. Philip R. Wrigley pointed out that pain in the lower abdomen might be due to an extra-abdominal lesion affecting the eleventh and twelfth dorsal and first lumbar nerves in any part of their course, and instanced a case of perinephritis, in which for a considerable time the dominating symptoms were pain in the right iliac fossa and agonizing pain in front of the knee. He suggested that the character of the pain, whether it radiated, remained localized, or partook of the nature of renal, biliary, or intestinal colic, was often of value in determining its cause. He discussed the relation of pain to food, and to function of bowels and urinary tract, and mentioned the differential diagnosis between appendicular lesions, renal and ureteric calculi, tuberculosis of the mesenteric glands, and some other lesions. He uttered a warning against appendicectomy without careful investigation, and emphasized the fact that the cause of pain in the right iliac fossa was often to be found in the left iliac fossa, this being due to distension of caecum secondary to obstruction in the sigmoid colon from carcinoma or diverticulitis. He was not quite convinced that visceroptosis *per se* was a cause of abdominal pain; he believed that the pain felt by these patients was due to some associated condition such as infection or constipation, or to some independent affection, quoting cases in support of his view.

LARYNGOLOGY

A meeting of the Section of Laryngology and Otology of the Royal Academy of Medicine in Ireland was held on January 16th, with the president, Sir ROBERT WOODS, in the chair.

Dr. T. G. WILSON showed a case of bilateral abductor paralysis of the vocal cords. For eighteen months the patient had had a carcinomatous growth of the laryngo-pharynx, which had been treated by deep *x* rays with, at first, a considerable degree of success. Three months ago he had suddenly developed bilateral abductor paralysis for which immediate tracheotomy was performed. Dr. Wilson showed water-colours on the epidiascope illustrating the case at various stages. Dr. KEOGH said that it was easy to see how toxic influences could affect the nerve centre for the abductor muscles in the floor of the fourth ventricle, and how one bundle of fibres in the recurrent nerve could be influenced by pressure. He pointed out the parallel between the abductor muscles and flexor muscles generally.

Dr. PATRICK DEMPSEY showed a case of laryngo-fissure for epithelioma of the vocal cord. The patient, a female aged 73, complained of hoarseness, which had existed for three months. Laryngological examination showed that the middle third of the right vocal cord was occupied by a pale warty-looking growth. The appearance was typical of epithelioma, and a portion removed by the direct method for microscopical examination was pronounced to be squamous-celled carcinoma. Laryngo-fissure was performed a few days later, a portion of the right arytenoid being removed in the effort to get well behind the growth. There was very little haemorrhage during the operation, but one hour afterwards blood was freely coughed up both from the mouth and through the tracheotomy tube, which had been left in position. Dyspnoea was urgent, and the entire wound had to be opened up. Bleeding was found to be coming from the arytenoid cut surface, and was arrested with some difficulty by forceps. The thyroid was again approximated and the neck wound closed, the tracheotomy tube being retained for twenty-four hours. Convalescence was uninterrupted, and now, eight weeks later, the interior of the larynx appeared quite healed.

The PRESIDENT demonstrated a splint which he had devised for use in the operation of septal resection, and explained the method of its application. He said that the splint should be left in position for twenty-four hours after the operation. Its use obviated the necessity of plugging the nasal cavities, and in consequence diminished very much the discomfort previously felt by patients during the twenty-four hours following the operation. The splint consisted of two circular leaden plaques about 1 inch in diameter, which were placed on either side of the septal flaps and connected by a stitch through their centres.

Dr. T. O. GRAHAM showed a retrosternal goitre removed by operation from a man aged 54 years. The patient had a history of seven months' dyspnoea and inspiratory stridor. A diagnosis of calcified retrosternal thyroid enlargement was made by *x* rays. The extension was removed through a transverse incision above the manubrium sterni. The growth, which was about the size of a cricket ball, was easily shelled out of its loosely attached capsule. Immediate and complete relief of symptoms followed the operation.

The PRESIDENT read a paper entitled "A retrospect of laryngology." He said that, in general, laryngology was still in its infancy. The invention of the laryngoscope in 1855 by Garcia had thrown a flood of light on conditions previously only guessed at. In the course of a long and interesting paper, Sir Robert Woods mentioned many of the fantastic theories of disease which were held in the early days of the specialty. Gout and tobacco were the favourite scapegoats for conditions the causes of which were not understood, and therapeutics were confined to the local application of astringents and caustics. He traced the evolution of many operations, such as those for the removal of adenoids and for the relief of empyema of the maxillary antrum, and described the introduction of many therapeutic agencies such as diphtheria antitoxin and salvarsan, which were at first severely criticized, but were now generally admitted to be of great value. There were still many conditions in which further investigation was required—for example, ulcerative diseases of the nose, of which the classification might not yet be complete. Further division might be required in the classification of malignant granulomata of the nose, first described by himself in 1921. Here was a disease pursuing a well-marked and deadly course, clinically unique, and yet its only histological feature consisted in the formation of granulation tissue which might well come from a wound in the process of ordinary healing.

At a meeting of the Newcastle-upon-Tyne and Northern Counties Medical Society on January 8th, with Mr. T. A. HINDMARSH in the chair, a discussion on artificial pneumothorax was opened by Dr. T. C. HUNTER and Dr. W. H. DICKINSON, the former giving a brief history of the operation and a survey of the more salient features of the technique. Pleural shock and other complications were dealt with at length. Numerous slides and *x*-ray films were exhibited, notably those showing adhesions preventing complete collapse of cavities. The importance of earlier operation was emphasized. Dr. Dickinson reviewed more particularly the practical points in the selection of cases, and discussed the technique, duration, and results of collapse therapy. He gave a demonstration of the apparatus used by him, and insisted upon the necessity of radiological control before and during treatment. In addition, he recounted some of his experiences with the method in non-tuberculous diseases of the lungs—for example, bronchiectasis and pulmonary abscess—and mentioned its usefulness in the diagnosis of obscure chest conditions. He emphasized the value of artificial pneumothorax to patients suffering from repeated and severe haemoptyses, and expressed the opinion that complete cures could only be expected in reasonably early cases free from serious complications, notably abdominal tuberculosis. A discussion followed in which many members took part.

At a meeting of the London Association of the Medical Women's Federation on January 27th, with the president, Dr. LETITIA FAIRFIELD, in the chair, Miss MILDRED WARDE read a paper on the uses and limitations of operations on the ear. After dealing with several minor surgical conditions, Miss Warde said that in acute otitis media paracentesis was indicated as soon as the drum showed bulging; the incision should be vertical, behind the handle of the malleus, and should reach to the floor of the meatus. There was considerable risk that only a small part of the diamond-shaped knife would actually perforate the tympanum; the operation should be repeated if necessary. In acute mastoid inflammation signs and symptoms might be equivocal when the mastoid cells were full of pus. If no focus could be found in the naso-pharynx, operation should be advised in cases of treated, but persistent, nasal discharge lasting over a fortnight. In dealing with chronic discharging ears, the speaker recommended, in cases of marginal perforations with granulations, the radical mastoid operation when dead bone was present; otherwise the conservative methods of cleansing, and the application of caustics, were satisfactory. In cases of acute labyrinthitis sedative treatment was best, but meningitis was a dangerous complication resulting from the presence of a dead labyrinth. She stressed that labyrinthine function should always be tested before a mastoid operation was performed. Replying to questions, Miss Warde favoured ionization in the treatment of chronic ear discharge in children, and mentioned that it was essential to have every part of the ear full of lotion in order to produce an absolutely sterile cavity by coagulation of the whole surface layer.

Reviews

RADIUM THERAPY

Dr. G. E. BIRKETT, in his *Radium Therapy: Principles and Practice*,[1] has embodied the result of the extensive experience he gained during the last few years as radiologist to the Manchester and District Radium Institute. The work he has done there is widely known, and he writes as one of the leading authorities on the treatment of cancer of the tongue and mouth, a subject to which a considerable part of the book is naturally devoted. His book traverses necessarily, very much the same ground as that published by Mr. Stanford Cade in 1929, and is conceived on much the same plan. Radium therapy is, however, still in a fluid state, and we may with profit read a new authoritative pronouncement on the subject at least once every two years. By a very sad coincidence Dr. Birkett (as recorded elsewhere) has died at the early age of 37, within a few weeks of the publication of this account of his methods and experience.

The author describes first the general principles of radium therapy and the protection of radium workers. He has some interesting remarks on the selection of patients for radium treatment, and deprecates both indiscriminate treatment of hopeless cases and indiscriminate biopsies of all malignant tumours. The first leads to disappointment and discredits the method; the second is biologically unsound, so that it is better, if necessary, to make a small percentage of errors in diagnosis. There is a short chapter on radium burns and radium necrosis, which is one of the chief dangers of unskilled treatment. The longest chapter (44 pages) deals with the treatment of buccal carcinoma. Dr. Birkett agrees with other observers that some of the most rewarding work can be done in this region, and he himself has obtained some 45 per cent. of five-year cures. He still advocates thorough block dissection of the neck as the best treatment for the secondary glands.

Dr. Birkett's experience of the use of radium in other parts of the body is not so large, and he refers extensively to the work of others, so that a useful review is obtained of the methods employed and the results obtained in all parts of the world. In the treatment of carcinoma of the breast he favours implantation of needles in the axilla through a wide incision, though other workers have not thought this to be necessary. The later chapters deal with carcinoma of the cervix, which is treated at Manchester by both cavitary application and implantation; carcinoma of the rectum, where results have been disappointing; epithelioma of the skin; and rodent ulcer, where results are good; and urogenital carcinoma, where results are still uncertain. Sarcomata, cerebral tumour, and a few others are dealt with very briefly. The book is well and simply written, there is a good index, and the illustrations are excellent.

DIAGNOSIS OF MENTAL DEFICIENCY

As stated in the preface, Dr. HERD'S book on *The Diagnosis of Mental Deficiency*[2] is not intended to be a complete textbook, nor to cover the subject in all its aspects. It is therefore perhaps necessary to point out that, for diagnostic purposes, defectives fall into two groups, each being defined by a separate Act of Parliament. The first group consists of children between the ages of 7 and 16 years; they are defined by the Education Act, and diagnosis and certification are needed to secure their admission to special schools. With these the general practitioner, as such, has nothing to do, the duty being performed by a specially appointed medical officer of the Education Authority. The second group consists in the main of those children and adults who are below and beyond these ages; these come within the provisions of the Mental Deficiency Acts, and the general practitioner is frequently consulted regarding them. This book is written from the point of view of the school medical officer, and, whilst dealing to some extent with the second group, it is mainly concerned with the diagnosis of children of school age.

After a brief but readable outline of the psychology and mental development of the child, the major part of the book is concerned with an account of the various tests made use of in diagnosis. The author rightly insists upon the fact that an accurate diagnosis can only be arrived at after consideration of many data, and that the importance of the mental ratio is very apt to be greatly overestimated. In addition to this he gives a good deal of general information which cannot fail to be of value to the newly appointed school medical officer, and from this aspect it should prove a useful publication. One is left with a feeling of regret that Dr. Herd did not confine himself to this section of the subject, for when he ventures into the wider realm of those defectives who come within the purview of the Mental Deficiency Acts he is on less sure ground, and his account is too sketchy to be of real service to the general practitioner. A special chapter is devoted to moral defect; but it is doubtful whether it will be of assistance in clarifying our concept of this difficult subject. The author doubts whether defect of that department of the intellect known as "wisdom" occurs in the moral defective. But the essential characteristic of these persons is that they persist in their misconduct in spite of repeated punishment and of disadvantages which would be obvious to a person of normal intelligence. It seems impossible to regard such persistence as merely due to an imperfect development of the higher social or moral sentiments without any involvement of some factors of the intellect. It is, indeed, the presence of such an intellectual defect which distinguishes the curable criminal and psychopathic delinquent from the absolutely incurable moral defective.

URTICARIA

That baffling disease urticaria is the subject of an interesting volume[3] by Dr. E. JOLTRAIN, a physician proud to acknowledge himself a pupil of the late Professor Widal, to whom the book is dedicated and of whose life and career an account is given by way of preface. Dr. Joltrain furnishes a complete description of the various clinical varieties of urticaria, not forgetting the lichen urticatus or strophulus of infants, a condition not exactly identical with urticaria as found in adults, though without doubt a closely allied phenomenon. As might be expected from his intimate association with Widal, the author attaches great importance to the phenomenon known as haemoclastic shock. This phenomenon, first described by Widal in connexion with paroxysmal haemoglobinuria, is marked by three characteristics—namely, a sudden leucopenia, an increase in the blood coagulation time, and an appreciable fall in blood pressure. Similar events also occur at the onset of an urticarial attack, and they also are caused by the injection of certain peptones, so Joltrain regards urticaria as a shock or anaphylactic phenomenon due to the liberation of some similar substance either derived from food or

[1] *Radium Therapy: Principles and Practice.* By G. E. Birkett, M.C., M.R.C.S. London: Cassell and Co., Ltd. 1931. (Pp. x + 186; 52 figures, 19 plates. 17s. 6d. net.)

[2] *The Diagnosis of Mental Deficiency.* By Henry Herd, M.B., Ch.B.Ed. London: Hodder and Stoughton. 1930. (Pp. xi + 272; 33 figures. 12s. 6d. net.)

[3] *Les Urticaires.* Par Édouard Joltrain. Paris: G. Doin et Cie. 1930. (Pp. iv + 417; 8 figures, 8 plates. 40 fr.)

produced in the course of a slightly deranged metabolism. Hence, travelling by a somewhat different route, the author arrives at the same conclusion as other observers, that urticaria is one of the manifestations of allergy.

The chapter on therapeutics is adequate, and includes all methods of treatment which have any claim to efficacy in the control of urticaria. When the condition can be shown to be due to any specific poison, whether of food or other origin, treatment is comparatively easy, and consists either in avoidance of the *fons et origo mali* or in specific desensitization; when, however, there is a general sensibility the problem is much more difficult. The methods recommended consist either in the regulated ingestion of small quantities of peptone, intravenous injections of small quantities of a strong solution of sodium bicarbonate (a method not without its disadvantages) or of magnesium hyposulphite. Dr. Joltrain mentions also the procedures of autohaemotherapy, blood transfusion, serotherapy, and other methods which have been tried. But the problem of the successful treatment of urticaria still remains unsolved.

As a summary of the present state of our knowledge of the disease this book is well worth reading.

THE CLINICAL CLERKS' GUIDE TO WISDOM

Dr. GEOFFREY BOURNE'S *Introduction to Medical History and Case Taking*[4] is an example of how much the text of a book may surpass its title; for it contains, in addition, much sound instruction on diagnosis, prognosis, and treatment. The first half of the title is indeed a little ambiguous, as it is nearly the same as the whole title of Lieut.-Colonel F. H. Garrison's wonderful book on the history of medicine. Gracefully dedicated to his former teacher Dr. J. H. Drysdale, this guide-book for medical clerks reflects much of the logical influence which "stimulated a quarter of a century of student education" at St. Bartholomew's Hospital. After describing how to take the history of a case, and showing the difficulties in obtaining a correct statement from an unskilled observer, and concisely setting out the details of how systematically to examine a patient's physical signs, the author proceeds to what is the best part of an admirable and somewhat unusual book—diagnosis. At the present time laboratory tests bulk so large, especially to students with little confidence in their powers of physical diagnosis, that the chapter on the place of laboratory methods in diagnosis is most appropriate, for it critically discusses their value and limitations. The book is written with an epigrammatic touch and in an attractive style by no means universal in books on this subject; thus the estimate given of diagnostic clinics under the leadership of a "diagnostician" aptly quotes Macheath's dictum in *The Beggar's Opera*, "few purses can support the expense of dying like a gentleman." There is a refreshing freedom from dogmatism in the illustrative cases quoted, and there is a useful and full record of a case describing the procedure adopted in formulating the diagnosis. The final sections on prognosis and treatment are similarly characterized by broad-minded wisdom.

MOTHERCRAFT IN INDIA

In his preface to *The Expectant Mother and Her Baby*,[5] Dr. BODH RAJ CHOPRA states that his book is intended "to minimize the appalling waste of human life caused through infant mortality, which still remains one of the saddest features of the present day life of India. . . ." He has addressed his information to the Indian mother in particular, and the chapters are set out clearly and simply; the subject-matter is practical, covering the care of the expectant mother and of the newborn infant, breast-feeding, wet-nursing and artificial feeding, common ailments of infancy, and the care of the mentally deficient child. The aim of the whole book is to focus the mother's faith in common-sense measures rather than superstitions, and in the family doctor as opposed to the local wizard. Read carefully, and followed, his sound advice should have an enormous influence on the care of children in the East, but it is doubtful whether one volume can play more than a small part in breaking down the superstition of centuries; even so, its value is obvious. The arrangement of the book is easily followed, but occasionally two paragraphs on the same subject are divorced by other matter, so that a certain amount of repetition becomes necessary. The chapter on artificial feeding deals with the question of obtaining clean milk, and with the relative advantages of cow's, goat's, and ass's milk; the importance of fruit juice in the diet of the artificially fed infant is emphasized, but there is no reference to the use of cod-liver oil; rickets, however, Dr. Chopra finds, is less common in India than in European countries. In an early chapter certain precepts are quoted from Charak, a sage of ancient India, which, as Dr. Chopra remarks, "may not appeal to modern scientists, but . . . deserve to be closely analysed and examined before a final verdict may be pronounced upon them." Most of these precepts are concerned with the diet of the mother, and the warnings are undeniably sound, although the reasons given are more often impressive than accurate. No amount of analysis, however, appears to justify the alarming statement that "a woman who is fond of pork brings forth a child that is of bloody eyes, or that becomes subject to asthma, or that has hair exceedingly hard." Altogether more acceptable to the modern mind is another of Charak's observations: "A woman who drinks spirituous liquors brings forth a child that becomes always thirsty and has a mind destitute of firmness."

NOTES ON BOOKS

It is apt to be forgotten that a considerable area of the United States is tropical or subtropical, and that many of the diseases which the physician in this country scarcely ever sees—hookworm, malaria, pellagra, sprue, and so on—are endemic there and sometimes very serious. Dr. ALFRED C. REED has now provided the American physician with a handy textbook[6] dealing with these diseases, which are generally considered exotic, but which, in these modern days of swift transport, may at any time come within the purview of the practitioner in any part of the continent. Diseases never encountered in America are not discussed, and those confined to South America are only reviewed in their essential features. The volume should usefully fulfil its intended function; but its value outside North America is limited by the restrictions imposed upon it by the author.

The proceedings of the Fourteenth Northern Congress for Internal Medicine,[7] held at Helsingfors from June 28th to 30th, 1929, have recently been published as Supplement XXXIV of *Acta Medica Scandinavica*, under the editorship of the general secretary, Dr. E. HISINGER-JÄGERSKIÖLD. The congress consisted of physicians from Denmark, Norway, Sweden, and Finland, but as is the rule of the *Acta Medica Scandinavica*, their communications are published in English, French, or German. The

[4] *An Introduction to Medical History and Case Taking.* By Geoffrey Bourne, M.D., F.R.C.P. Edinburgh: E. and S. Livingstone. 1931. (Pp. xii + 195; 7 figures. 5s. net.)

[5] *The Expectant Mother and Her Baby.* By Bodh Raj Chopra, M.B., Ch.B.Ed. Edinburgh: W. Green and Sons, Ltd. (Pp. xvi + 148. 8s. 6d. net.)

[6] *Tropical Medicine in the United States.* By Alfred C. Reed, M.D. London: J. B. Lippincott Company. 1930. (Pp. viii + 410; 58 figures. 25s. net.)

[7] *Verhandlungen des vierzehnten nordischen Kongresses für innere Medizin*, zu Helsingfors, 28-30 Juni, 1929. Herausgegeben von Dozent Dr. Med. E. Hisinger-Jägerskiold. *Acta Medica Scandinavica*, Supplementum XXXIV. Helsingfors: Mercator. 1930. (Pp. xv + 390; illustrated.)

subjects chosen for discussion included the treatment of arthritis, the diagnosis of myocarditis, pernicious anaemia, the determination of blood sugar, treatment of diabetes, metabolism of school children, and goitre in Finland.

The publication of the *Trial of George Chapman*,[8] edited by H. L. ADAM, recalls some instructive examples of failure to diagnose antimonial poisoning. In 1903 Severin Klosowski, *alias* George Chapman, was found guilty at the Central Criminal Court of the murder of Maud Marsh. As the trial has considerable medico-legal interest it is worth outlining the main circumstances of the case. The woman was first seen by a doctor on October 10th, 1902, when she complained of great pain in the abdomen, vomiting, and diarrhoea. It was thought that she might be suffering from gastro-enteritis. A diagnosis of peritonitis had previously been made at Guy's Hospital. On her condition becoming worse another doctor was called in for consultation, and examination suggested that the symptoms were caused by an acute irritant poison, probably ptomaine. Later, on the same day, it occurred to one of the doctors that the symptoms might be due to repeated doses of arsenic, but the patient died the following day, before this opinion was expressed. Chemical analysis of the viscera showed traces of arsenic, and Chapman was arrested on October 25th. Subsequent analyses of various parts of the body proved conclusively that death had resulted from impure antimony containing arsenic. The amount was estimated at more than 20 grains. Police investigations then disclosed that two other women with whom Chapman had lived had died in similar circumstances, and their bodies were exhumed. Although five years had elapsed since the burial of Spink, his first victim, the body was remarkably well preserved; "the face and head were those of a woman who might have been coffined that day." Analysis revealed that antimony had permeated the muscles of the thigh. Death had been certified as due to phthisis. The body of Bessie Taylor, whose symptoms had been diagnosed by different doctors as hysteria, cancer, and uterine disease, was also well preserved. Antimony found in the viscera amounted to over 29 grains. The death certificate recorded intestinal obstruction, vomiting, and exhaustion. In his summing-up Mr. Justice Grantham remarked that it was the duty of a practitioner to consider the possibility of other causes when a natural disease failed to react to known remedies.

In a paper read before the International Congress of Malariology at Algiers last May, and published as a Supplement to the *Rivista di Malariologia*, Professor A. MISSIROLI gives an interesting account of the antimalarial campaign in Italy by drainage of the soil followed by intensive cultivation. Special reference is made to Rome and the delta of the Tiber, which includes Ostia, Isola, Sacra, and Maccarese.

The Health Resorts Section of the current *Medical Directory*, edited by Dr. R. FORTESCUE FOX and published as *An Annual Guide to the Spas and Marine Health Resorts of Great Britain and Ireland and New Zealand*,[9] gives up-to-date information about these watering places, their climates, and clinical indications. Lists of hydros, hotels, etc., are appended.

The Minutes of the Dental Board of the United Kingdom and of its Various Committees for the year 1930 have been published[10] with ten appendices, which include reports of the Dental Health Education Committee and of the Examination, Education and Research Committee. The *General Index*[11] to the minutes of the Dental Board from 1921 to 1930, relating to volumes i to ix, has also been issued.

[8] *Trial of George Chapman.* Edited by Hargrave L. Adam. Notable British Trials. Edinburgh and London: W. Hodge and Co., Ltd. 1930. (Pp. x + 223; 11 plates. 10s. 6d. net.)

[9] *An Annual Guide to the Spas and Marine Health Resorts of Great Britain and Ireland and New Zealand.* By R. Fortescue Fox, M.D., F.R.C.P., F.R.Met.S. London: J. and A. Churchill. 1931. (Pp. 46; illustrated. 1s.)

[10] London: Constable and Co., Ltd. 1931.

[11] Idem.

PREPARATIONS AND APPLIANCES

SELF-RETAINING GAG AND TONGUE TRACTOR

Dr. W. T. MILTON (London) writes: The gag shown in Figure 1 is the outcome of a remark made by Mr. A. M. Zamora with regard to the advisability of sending patients back to bed efficiently gagged after operations on the nose and throat. It occurred to me that none of the gags in general use were of a type suited to this purpose, in that they were mostly furnished with projecting handles, which, when in contact with the pillow or bedclothes, would tend to dislodge the gag. Furthermore, they could not be spared from the operating theatre. The gag which Messrs. Down Bros. have very successfully made for me obviates these difficulties. It is constructed of endless spring wire, fitting closely around the mouth, with finger plates and dental props in one. The advantages claimed are: (1) ease and quickness of introduction and withdrawal with one hand; (2) the gag is self-retaining

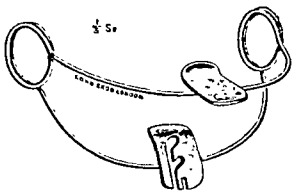


FIG. 1.

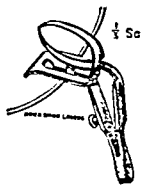


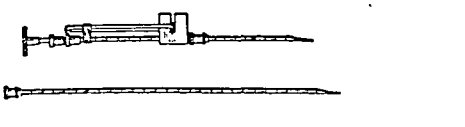
FIG. 2.

and is not easily dislodged; (3) the mouth aperture is sufficiently wide to permit of a generous airway, and to allow swabbing of blood and mucus, and not wide enough to cause any respiratory embarrassment; (4) there are no projections likely to catch on the bedclothes, inasmuch as the finger plates are central and the lateral springs lie flat against the cheeks. I have also found the gag very useful during the administration of anaesthetics in other than throat cases, particularly in those edentulous subjects whose flapping lips and cheeks so often hamper the anaesthetist. When used in this way the distance between the finger plates constitutes a helpful indicator as to the degree of muscular relaxation. With deep anaesthesia and fully relaxed musculature the finger plates are at their maximum distance apart, which distance gradually diminishes as the masseter muscles come into action once more with a lessening depth of anaesthesia.

Messrs. Down Bros. have also made for me a tongue tractor (Fig. 2) for use in conjunction with the gag. This, when anchored in the slot cut in one of the finger plates, is self-retaining. To obtain the maximum effect the tongue is secured in the clip and the latter drawn forward sufficiently to allow the narrowed neck of the clip to be slipped into the central slot. Lesser degrees of traction can be secured by engaging the stud on the under surface of the body of the clip in either the central slot or one of the deeper ones. I fancy that this gag may prove a useful addition to the midwifery bag for service in those very frequent cases where the practitioner has to rely on the services of the nurse or midwife for the maintenance of anaesthesia.

A RADON SEED INTRODUCER

Dr. R. T. BRAIN (Skin Department, London Hospital) writes: The instrument illustrated was designed primarily for



the hypodermic implantation of the small metal tubes 1 cm. by 0.11 cm. known as radon seeds. It has a miniature magazine of machine-gun type, which automatically feeds the seeds into the lumen of the introducing needle by means of a spring arm. Needles of different lengths, marked in centimetres, can be screwed on to the magazine mechanism, so that the introducer is equally serviceable to the surgeon. The magazine illustrated holds six seeds, and the capacity is suitable for skin work. Larger magazines can be supplied to order. The instrument may be obtained from the Medical Supply Association, Ltd., 167-185, Gray's Inn Road, W.C.1.

British Medical Journal

SATURDAY, FEBRUARY 14th, 1931

A STUDY IN NUTRITION

It used to be said that half the world never knew how the other half lived. It may be a sign of the times that each half is now, in various ways, being given an opportunity of enlarging its knowledge in respect of its neighbours. If one such opportunity is to be seized, the report by Professor E. P. Cathcart and Dr. A. M. T. Murray on an inquiry into the diet of 154 families of St. Andrews should be read. It has just been issued by the Medical Research Council.[1] A scrutiny of other people's larders and housekeeping arrangements may not be altogether edifying or pleasant; it may provoke envy or a certain discomfort, and for that reason it is, as a rule, discouraged. Nevertheless, it is good sometimes to take stock of the situation of our fellows as well as of our own. If we happen to be interested in the theory of dietetics, it is profitable to see how the ordinary person puts dietetics into practice. We may be able to give him good advice; on the other hand, we may find it desirable to modify our theory. Professor Cathcart and Dr. Murray have, as it were, focused a camera on a vertical slice of society and have preserved for us a picture showing the family commissariat at all stages of the social scale. There is, perhaps, nothing very new or very startling to be seen in the picture, now that it is developed and printed. The care and labour involved in the development, the effort to get the negative as sharp as possible and yet avoid all "touching up," can be appreciated only by those who have themselves been engaged on similar work. One or two important points, however, stand out clearly from the picture, and at least one consideration emerges that will prove of importance to future workers.

The population under review embraced occupations (and therefore economic levels) from "professional" to "unemployed." It was found, as had been disclosed by earlier investigations, that the less money the family had with which to purchase food, the more advantageously was it laid out as regards return of caloric value and protein per penny spent. Thus, the professional man whose family spends 18s. 3d. per man per week on food buys calories at 121.2 to the penny, while the "unemployed" who spends 6s. 1¾d. buys them at 201.2. It should be explained, perhaps, at this stage, that all the figures are worked out on a basis of "man value." Various investigators have constructed tables in which the food requirements for various ages of both sexes are worked out on the basis of 1.0 for a man. An adult woman thus stands, according to Lusk, at 0.83, a child between the ages of 6 and 10 years at 0.60, and so on. As a matter of fact, the authors find reason to doubt the accuracy of the figures at present generally accepted, and, on the basis of data which they have collected, they present an alternative scale in which the coefficient for an adult woman is considerably lower (0.70). On the other hand, that for a growing child is rather higher.

Another point that emerges from this study, as from others, is the manner in which, when times are bad, every effort is made to prevent the lowering of the father's diet. This results, as the figures clearly show, in the breadwinner eating very definitely at the expense of the rest of the family, particularly at that of the wife. How far this state of things is the outcome of conscious and deliberate arrangement it is difficult to say; it is equally difficult to deny its logic. Obviously, the earning power of the head of the family must be kept up at all costs or things can only go from bad to worse. The realization that such arrangements, conscious or unconscious, are necessary on the part of any large number of persons is salutory, if not altogether pleasant, for such of us as are in danger of forgetting about the other half of the world and its way of living.

A subject for special comment by the authors is the relatively high caloric intake—the "luxus" consumption, as it is called—on the part of the well-to-do. The well-to-do, in point of fact, do not get fatter than other people, and this extra consumption is ascribed chiefly to the deliberate taking of exercise, and their consequently improved physical condition. It is pointed out that, on the law of surface area, that part of the population which possesses the best physique will have the highest standard metabolism. It is also suggested that deliberate "exercise" is often more exhausting than are pursuits usually regarded as hard manual labour. With regard to the poorer families, the authors emphasize the very great influence of the "good" and "bad" housekeeper respectively on the standard of living. A fact that stands out very clearly—and is, indeed, singled out for remark in the preface—is the high consumption of fat by all the sections studied. Much more fat is eaten than is to be expected from the hitherto accepted figures for the usual distribution of foodstuffs in the diet. The matter is of considerable interest, and makes us anxious to see similar studies undertaken in other parts of the country. We should like to compare these Scottish figures with those obtained, say, in Berkshire and in Cornwall.

There can be no doubt about the interest and importance of studies such as these; and their interest and importance will increase as they are multiplied, and made to cover wider and more diverse areas of the country, so that comparisons can be drawn and statistical conclusions made more reliable. The plan adopted of studying a vertical slice of the population covering all levels of income clearly has many advantages over that of confining attention to a horizontal layer—one particular trade or occupation.

[1] Medical Research Council Special Report Series, No. 151. London: H.M. Stationery Office. 1931. (1s. net.)

TUBERCULOSIS OF THE EAR: FRONTAL SINUSITIS

The Sections of Otology and Laryngology of the Royal Society of Medicine met in the morning and afternoon of February 6th. In the morning the subject for discussion was tuberculosis of the ear. Mr. F. C. Ormerod and Sir StClair Thomson gave detailed accounts of their experience of this manifestation of tuberculous disease at the Brompton Hospital and at King Edward VII Sanatorium, Midhurst, respectively. The disease seen in adults in these circumstances differs from the primary aural tuberculosis of childhood, a condition characterized by a profuse watery discharge, enlarged cervical glands, and sometimes facial paralysis, and only amenable to very radical surgical treatment. Both speakers were agreed that the incidence of tuberculous otitis media is something under 2 per cent. in phthisical patients. Such patients almost invariably have tubercle bacilli in the sputum, but it is not always easy to find them in the aural discharge. Deafness is an early symptom, and there is a remarkable absence of pain, fever, or profuse discharge. In cases arising under the conditions mentioned it has been possible to observe the onset of the disease before perforation of the tympanic membrane has occurred. There is no congestion or tension, but the membrane loses its normal pearly appearance and becomes dull and sodden. No paracentesis is required and perforation occurs painlessly. The multiple perforations, which have been considered so characteristic, are exceptional. When they do occur two may be observed to coalesce and form one large perforation, leading in the end to total destruction of the membrane. Exfoliation of the ossicles, facial paralysis, and extensive caries of the temporal bone are scarcely ever seen under the conditions in which these observations were made, and only simple treatment is required. The ravages which result when children are attacked, and which were also described by Politzer in patients who had died from phthisis, do not seem to occur. Although not in itself often fatal, the condition is nevertheless serious, because it indicates either a low resistance or a severe infection, or both. In a proportion of the patients the larynx has already been attacked and the majority have succumbed to the pulmonary disease within three years.

In the afternoon the Section of Laryngology discussed the treatment of frontal sinusitis. Many patients were exhibited, and they served to show that there is no general agreement about the best method of operation. The Killian "bridge" operation, however, appears to have been abandoned. Dr. J. S. Fraser and Mr. J. P. Stewart gave a careful statistical survey of several groups of cases observed in Edinburgh over a long period of years. The conclusion seemed inevitable that when external operation is required the best and safest results are obtained by a complete obliteration of the sinus, although the cosmetic effects are some disadvantage. Mr. Howarth, however, has shown that a less radical operation for drainage of the sinus can produce uniformly satisfactory results, and he described his operation, which consists in removing the floor of the frontal sinus and converting the ethmoidal cells and frontal sinus into a single cavity which can drain freely into the nose. This operation has found many supporters during the last ten years, and has been further improved by lining the new fronto-nasal duct with a Thiersh graft. Mr. Douglas Harmer exhibited a number of patients who had been treated for frontal sinusitis by intubation, and gave an analysis of sixty-three cases. A small incision is made below the inner end of the eyebrow and the sinus is opened above the supra-orbital ridge. A soft rubber catheter, to intubate the infundibulum, is drawn up from below through the nose and anchored externally on the forehead. In cases of chronic sinusitis the patient must wear the tube for several months, but it can be replaced at intervals by one of a larger size, so that a process of gradual dilatation is induced. The method is designed to provide free drainage and ventilation both externally an internally; and to dilate the fronto-nasal duct without damaging its lining membrane. In the patients exhibited there was a remarkable absence of scarring and deformity. The discussion, however, showed that there is still no settled opinion on the relative merits of intranasal and external operations. Nevertheless, the swing towards intranasal operations seems to have reached its limit, and the time is approaching when each case will be treated by the appropriate operation and not according to the prejudice of the party to which the operator happens to belong. At present rhinologists are still divided into "intranasalists" and "externists."

RECURRENT DISLOCATION OF THE SHOULDER

There is an old therapeutic maxim of two words: "Tolle causam!" It conveys excellent advice, but unfortunately the cause of a malady cannot be removed for certain until it has been identified. In the case of recurrent dislocation of the shoulder there is no consensus of opinion about its cause, and it is therefore not surprising to find that the methods advocated and employed for its cure are various, and their results uncertain. Last June Dr. Melvin S. Henderson of the Mayo Clinic, Rochester, read a paper before the Orthopaedic Section of the American Medical Association[1] on the results of treatment of habitual dislocation of the shoulder, especially by the teno-suspension operation, in which he was able to report excellent results. In the admirable report on this subject by Dr. Tavernier of Lyons, which we summarized sixteen months ago,[2] the pathological anatomy as far as it is known was fully described, and elongation of the coracoid process recommended as the best remedial operation.

Broadly speaking, the liability to recurrent dislocation without violent trauma has been ascribed to congenital bone defect, to laxity of capsule, or to injury

[1] *Journ. Amer. Med. Assoc.*, November 29th, 1930, p. 1653.
[2] *British Medical Journal*, October 18th, 1929, p. 732.

of the glenoid cavity, including detachment of the capsule and glenoid ligaments. Each operator, according to his own view of the pathology, has advocated an operative proceeding designed to remedy the supposed defect, and most operators have been able to claim good end-results in a certain number of cases. Dr. Melvin Henderson tabulates forty operations on thirty-seven patients, twenty-four of which resulted in cures, and among which the ten cases of teno-suspension were all successful. This operation, as described by him, consists in excising a strip of the tendon of the peroneus longus muscle amounting to half of its width, and with it forming a new ligament of the shoulder-joint attached through drill holes in the acromion process and the head of the humerus, thus forming a suspensory ligament which does not hinder abduction but prevents undue descent of the head of the humerus. These results, though only yet observable on a small number of cases, are most encouraging, for the operation is safe and comparatively simple; but Tavernier has reported equally striking results from the coracoid operation of Oudard, a proceeding devised with a different objective. Henderson states his belief "that the large majority of habitual dislocations is due to laxness of the anterior inferior portion of the capsule," but he frankly admits that when performing capsulorrhaphy he has been unable to demonstrate such laxity. He adds this significant statement: "It is difficult to produce a dislocation by passive motion in a case of habitual anterior dislocation, even when the patient is anaesthetized. I have tried to do it in a number of instances and succeeded only once. Voluntary muscular action is necessary, such as takes place when the shoulder assumes the position of forward abduction, a weak part in the capsule permitting the head to luxate."

We may be permitted to suggest that the *causa causans* of habitual dislocation is irregular or ill-co-ordinated and violent muscular action taking effect on a weakened joint apparatus. The occurrence of the lesion in epileptic seizures points to this conclusion. Those operations which have hitherto been successful act by preventing extreme ranges of movement. Among these, teno-suspension as described by Dr. Melvin Henderson appears to be simpler, less liable to complications, and more effective than operations on the bones and muscles as hitherto practised.

THE INDIAN MEDICAL SERVICE

The proposals of the recent Round Table Conference with regard to the Indian Medical Service seem to have passed almost unnoticed amid the sweeping changes in Indian government so closely discussed for nine weeks at St. James's Palace. Indeed, the I.M.S. scarcely came into the picture, save for a few observations in the Committee on the Services, which was charged with the consideration of the five or six civil services in India. Some of the Indian speakers took occasion to point out what they considered to be anomalies in the Indian Medical Service, and pleaded for the separation of the military from the civil side, the recruitment for the former to be partly in Great Britain and partly in India, but the recruitment for the latter to be wholly in India. It was also, we understand, the strong view of those who took this line that the control of the Provincial Governments over the medical service should be not less complete than over the other branches of the civil administration. One prominent Bombay representative, while admitting that during the ten years since the previous reforms the position of Indians has improved, declared the point of irritation to be the order of the Government that there must be in certain districts, acting as civil servants, European members of the Indian Medical Service. The view of some of the Indian delegates was that the Government was doing right to ensure that qualified medical practitioners were available—by whom, apparently, were meant men with European qualifications—but that there should be no distinction between Indians and Europeans. The European qualification was desirable, but not necessarily the European practitioner. The Government, they said, would be able to meet all its requirements, if necessary, from members of the Indian medical profession holding European qualifications, including the highest qualifications obtainable in this country; numbers of such men were available in many parts of India, only too willing to do Government work. It is the distinction, not between a Bombay degree and a London degree, but between a brown skin and a white, which wounds the Indian amour-propre. The report on the Services, presented to the main conference by Sir William Jowitt, the chairman of the committee, was only a summary of the views which had been expressed. It stated the committee's opinion to be that, subject to the maintenance of the rights and safeguards of all persons appointed before the new constitution comes into force, there should in future be no civil branch of the I.M.S., and that no civil appointments, under the Government of India or the Provincial Governments, should in future be listed as reserved for Europeans as such. It was further laid down that the civil medical service should be recruited through the public service commissions, operating either on behalf of the Government of India or the Governments of the Provinces, and that these commissions, like their respective Governments, should bear in mind the requirements of the Army and of British officials in India, and take steps to recruit a fair and adequate number of European medical men to the civil medical services. It was also suggested that the Provincial Governments, in selecting their European doctors, should give preference to those members of the I.M.S. who had undertaken a period of service in the Army. Two members of the committee, Lord Zetland and Sir Edgar Wood, expressed a fear—and their riders were added to the report—that under the scheme proposed neither the Provincial Governments nor the I.M.S. would secure European medical officers of the type required; these two members preferred that the present arrangement should continue until Indianization, both in the Indian Army and in the Civil Services, had proceeded further. One provision laid down was that in all the Services, including the I.M.S., there should be suitable safeguards embodied in the new constitution for the payment of pensions and provident funds, and that steps should be taken to reassure existing members of the Services, so that they might continue to serve with loyalty and efficiency for their normal term.

ATMOSPHERIC POLLUTION AND PULMONARY DISEASES

Although the inquiry into the cause of the sixty-three deaths which occurred during the first three days of last December in part of the Meuse Valley has not yet been completed, a correspondent in Belgium has supplied certain details which have an obvious bearing on the incident. He points out first that the majority of those who died were elderly, and in many cases were already suffering from cardiac and pulmonary disorders. Some local medical authorities at the time, and later, held the view that the deaths were thus not altogether surprising, in view of the bitter cold and the misty atmosphere, but Professor Nolf, president of the Belgian Red Cross Society, declared emphatically that in his opinion the fog as such, and even if of an unusually low temperature, could not possibly have caused so abrupt and localized a mortality. This opinion has now received support from other quarters. A point which has been overlooked by many commentators is the surprisingly short interval between the onset of the first acute respiratory embarrassment and the subsequent death, a phenomenon suggesting poisoning rather than cardiac or pulmonary depression. Post-mortem examinations were made at once in several cases, but the results were not published until recently, when an interim report of the commission of inquiry revealed the not unexpected fact that the victims' lungs showed irritative changes consistent with the inhalation of sulphur dioxide—a gas which had been suspected by some from the very first. The sudden disappearance of the fog on the fourth day prevented any analysis from being made, but laboratory researches have been in progress, consisting of the preparation of artificial fume-laden fogs, and the observation of their effects on animals. Professor Firket, president of the commission of inquiry, in his determination to secure that the fullest possible light should be thrown on the disaster, invited Professor Storm van Leeuwen of Leyden to make a special investigation, and the results of this are detailed in the *Münchener medizinische Wochenschrift* of January 9th. The body of evidence now made public suggests that a continual stream of factory fumes was prevented by the fog from escaping from the district; its concentration in the atmosphere steadily increased, therefore, and eventually the limit of human tolerance was reached in some cases. Liège, enveloped at the same time in a dense and extremely cold fog, escaped such a mortality altogether, while the factory village of Engis suffered severely. Professor van Leeuwen, in his closely argued report, shows how the climatological conditions in that small area at that time promoted the increasing accumulation of irritant gases in the air; he cites the precedent of 1911, when a similar though less disastrous incident occurred. He adds, appropriately, that such fatal consequences do not accompany the frequent icy winter fogs of Holland, and that even in ordinary weather the fumes in the air in the Meuse Valley can be perceived by the nose, while the landscape shows abundant signs of their destructive action. The final report of the commission will be awaited with interest, and the possibility of a similar occurrence in comparable districts elsewhere is naturally receiving consideration by public health authorities. For many years it has been urged that there is need of a much stricter control over the smoke and fumes emerging from factory chimneys; the lesson of the deaths in the Meuse Valley may conceivably have a wider application.

ACUTE YELLOW ATROPHY OF THE LIVER

This very fatal disease, which recent British writers (Rolleston and McNee) would prefer to call by the more accurate term "acute necrosis of the liver," continues to be an etiological puzzle. Its incidence has always been peculiar; while as a rule single cases occur at rare intervals to disturb and distress the family doctor, occasional outbreaks of almost epidemic proportions are not unknown. This has been particularly true since the war years, and has affected several European countries, but Great Britain has fortunately escaped. Germany was the first country to take stock of outbreaks of this disease in several widely separated towns, and all sorts of war and post-war conditions were at first blamed. But that the increased incidence of the disease is not confined to nations directly involved in hostilities is shown by the recent monograph[1] of Bergstrand of Stockholm, which, although published in the German language, is concerned with a striking outbreak of the disease in Sweden. Acute yellow atrophy of the liver had been gradually increasing in frequency in Sweden from 1914 onwards, but in 1927 a sudden outburst occurred, resulting in eighty-four deaths throughout Sweden during that year. Forty-two cases were met with in Stockholm alone. The peak of the epidemic was in July, and this seasonal incidence has often been noted before. In 1928 only eighteen cases occurred throughout Sweden up to July, and no recurrence of the diseases in epidemic form has been reported since then. In considering the possible causes of these outbreaks of acute yellow atrophy only one point of importance emerges. The real epidemic is always one of so-called catarrhal jaundice (infective hepatitis), and out of many cases of this kind an odd one progresses to the serious and fatal termination. Indeed, as Bergstrand states, all the evidence points to catarrhal jaundice and acute yellow atrophy being simply different forms of the same hepatic disease. The initial symptoms of the two conditions are well shown by Bergstrand's tables to be identical, and for a week or two there is nothing to indicate to the physician that he is not dealing with a simple case of catarrhal jaundice. Then suddenly the outlook changes, and the signs of total hepatic insufficiency appear—vomiting, delirium, and collapse. Bergstrand, like others before him, was early convinced of the infective nature of the disease, but, like others also, his bacteriological researches yielded nothing. The moral to us in Great Britain is plain. Outbreaks of catarrhal jaundice are common enough, particularly in schools, but fortunately we have been spared so far the epidemic occurrence of acute liver atrophy. In view of what has occurred abroad, it is obvious that epidemic catarrhal jaundice is a condition which must never be taken too lightly, and the liver cells must be protected so far as possible from severe damage by the only remedy at present known to us—the administration of an adequate amount of glucose daily.

[1] *Über die Akute und Chronische Gelbe Leberatrophie.* Von Dr. Hilding Bergstrand. Leipzig: G. Thieme. 1930. (Pp. 114; 68 figures, 2 plates. M.14.)

THE CENSUS OF 1931

In view of the approaching census, which will be taken on April 26th, the Registrar-General, Mr. S. P. Vivian, invited a number of newspaper representatives to meet him last week with a view to explaining the arrangements. Mr. Vivian, who also presided over the census of 1921, is more fortunate than his five predecessors in that, with the growth of popular education, the filling up of a census form should now be within the powers of any citizen. But a period of ten years separating the censuses is too long to permit of any recollection or experience being carried over, or the formation of a "census habit," and so the public has to be carefully instructed every time. It is possible, however, that the capacity of the public has been underrated in the past. It was feared in 1921, for example, that an intelligible and detailed classification of occupations would be unobtainable, but the public were asked to state their occupations in the terms commonly employed in their workshops and places of business, and the results proved not to be disappointing. Some curious tendencies to error manifest themselves in the census returns. One is due to the habit of people of stating their age in round figures, saying that it is 25, for example, when it is anywhere between 24 and 26. Actuarial investigation has shown that by reason of this tendency there is a "heaping up" at the round figures, so that the age of the population is slightly distorted, a fact which may not be unimportant from the point of view of insurance life tables. There is also a tendency not to include newborn infants, perhaps on the supposition that a person who is as yet without a name is one in whom the Registrar-General can take no interest. At all events, the tests applied at Somerset House in previous censuses have shown that a certain number of infants escape enumeration. A provisional report on the results of the census will be issued within two months of the date of enumeration, and the census figures will be published both in county and in national tables. In the county parts will be recorded the housing statistics, while occupational and industrial figures will be given in national tables, though these will be subdivided to show local distribution. Owing partly to the situation created by the Local Government Act, 1929, whereby the allocation of Exchequer grants to local authorities is made on a population basis, a census will, in future, be taken quinquennially. A quinquennial census will have its reaction on the scope of each census, for no one would suggest that the census need be taken twice in ten years with the same degree of detail. Therefore some inquiries are omitted from the impending census, but a new inquiry has been inserted—namely, with regard to permanent residence. Hitherto the "residence" has been that in which the person happened to be lodging on the Sunday night when the census was taken, and every effort has been made to take the census at a time of year and day of week when the people might be expected to be in their own homes. But with the growth of locomotion and the change of social habit, it has become difficult to get a reflection of the nation in residence. If the answers to the question as to permanent abode disclose in many areas wide differences between the distribution in the area and the true resident population, it will be necessary in future to follow the plan employed in many Continental censuses and adopt a resident basis. It is expected that the distribution of the population will show great changes as compared with the census of 1921. These are due to the housing activities of local authorities, the effect of declining industries in depleting the population of certain industrial towns, and the movement back to country from town, as a result of the establishment of factories in rural areas.

TAXATION OF LEARNED SOCIETIES

Recent correspondence on this subject in the *Times* has called attention to the fine line of distinction which seems to be drawn between liable and non-liable societies, and a few comments by way of explanation may not be out of place. The question is, of course, ultimately governed by the statutes as construed by the courts, and the provision into which a society must bring itself to be able to obtain exemption from income tax on its invested funds is so framed as to include societies established for "charitable purposes only." The important words are "charitable" and "only." The meaning applied to the former is a wide one, and has been paraphrased as "beneficial to the community"; it includes such purposes as the spread of religion, the advancement of learning, relief of poverty, and so on; accordingly, the incomes of such bodies as the hospitals, the universities, and the various missionary bodies, are entitled to exemption. On the other hand, the word "only" is obviously very restrictive in its scope, and has been so construed. Until recent years the old-established and well-known learned societies seem to have enjoyed the exemption, but the Board of Inland Revenue contested the claims of various bodies, with the result that in 1928 and 1929 a series of decisions were given in certain test cases, and the present position is ruled thereby. One of the earliest of these cases was that of the General Medical Council, coupled with that of the English Branch Council. It was contended that the statutory nature of their constitution and duties, the important service to the public provided by the maintenance of the *Medical Register*, the publishing of the *British Pharmacopoeia*, and its other activities, brought the Council's income within the statutory exemption. The Court of Appeal held that the Council was not established for charitable purposes only, and was not entitled to exemption. That case was followed by those of the General Nursing Council for Scotland, the Midland Counties Institution of Engineers, and the Geologists' Association, and in each case the claim was refused by the courts. The fundamental difficulty is that where a number of persons mutually combine to explore and discuss professional questions, some advantage is almost sure to accrue to them individually, even though the main—possibly in its origin the sole—purpose of the co-operation is the advancement of knowledge in some special field; and the questions that at once present themselves are, first, does that consideration impose a bar to exemption on all learned societies, and, secondly, if not, how is the line of demarcation to be drawn? The former question appears to be answered by a dictum in the judgement given in the case of the Midland Counties Institution of Engineers: "The question that emerges in all these cases is: Is there so much

personal benefit to the members, intellectual or professional, as to be incapable of being disregarded?" But just how to measure that quantum of personal benefit is a matter on which there is little direct judicial guidance, except, perhaps, that close connexion with a particular profession seems to weight the scales heavily against any society seeking to claim the exemption. This may perhaps explain why the Royal Society is understood to enjoy an exemption denied to the General Medical Council. The influential signatories to a recent letter to the *Times* suggest that the exemption should be extended by legislation "to all societies and institutions whose position and whose work accomplished are recognized as having attained some definite standard of value to the community." Any such expressions would presumably include the Law Society, the leading bodies of dentists, accountants, and other professional men, and might, in these times of unemployment, conceivably be held to include industrial associations which have advanced the interests of British trade at home or abroad. In fact, the question seems to be one on which a precise form of words is unlikely to be devised to meet the views of those who wish to see the exemption widened to the slight extent necessary to cover the cases which have been the subject of judicial decision without being stretched unreasonably. It must be almost universally regretted, for the moderate extension desired would cost the Exchequer but little in tax, and by relieving the societies concerned of a very real burden, would enable them to do greater service to the community. One point should perhaps be made clear. Such societies are not liable to account for income tax on the subscriptions received, but many professional and trade societies voluntarily pay income tax year by year on the unexpended amount of the subscriptions, so that their members may treat the subscriptions which they pay as admissible deductions in computing their own individual liabilities.

MORTALITY FROM INFLUENZA AND PNEUMONIA IN AMERICAN CITIES

A report recently issued by the United States Public Health Service deals with influenza and pneumonia mortality in the fifty cities of the United States that had a population of 100,000 or more in 1910. For thirty-five of these cities, with an aggregate population of nearly 25 million, the numbers of deaths from influenza and pneumonia by weeks are available from September, 1918, onwards. Deaths for the country as a whole are not available by weeks, and so these data for this large group of cities have considerable significance. To supplement them, monthly influenza and pneumonia death rates have been computed for the same cities for the years 1910–18. Since 1915 there have occurred ten distinct periods, each of eight to thirty-one weeks' duration, in which the mortality from influenza and pneumonia in this group of widely separated cities was so greatly increased as to denote epidemic conditions. Minor epidemics prior to the 1918 pandemic occurred in January, 1916 and 1917, and April, 1918, with a very slight rise in the mortality in April, 1915, also. It is customary in the United States to think of the epidemic of 1918 as happening in the autumn, and the enormous peak which occurred in the middle of October has no parallel in any other recorded epidemic. But in addition to this peak, the epidemic stretched out over a period of thirty-one weeks, from September 15th, 1918, to April 19th, 1919, and even as late as the latter part of January, 1920, the mortality from influenza and pneumonia in excess of the expected rates for that season of the year was greater than the excess mortality during the epidemic of 1929. In the early months of 1920 a very sharp epidemic took place, with excess mortality greater than during any other epidemic since the 1918 epidemic. In February, 1922 and 1923, March, 1926, and January, 1929, other epidemics occurred, and in May of 1928 there was a slight rise in the influenza mortality, which extended to many sections of the country. The combined excess mortality from influenza and pneumonia in these six epidemics following the pandemic of 1918 was only about one-half of that of 1918–19.

HARVEIAN SOCIETY CENTENARY

The centenary of the Harveian Society of London is to be celebrated in June, and the following programme has been arranged. The opening meeting, at which an oration will be delivered by Dr. Raymond Crawfurd, will be held on June 11th at St. Bartholomew's Hospital, with Sir Thomas Horder, Bt., in the chair. Ladies will be invited, and it is also proposed to ask delegates from all the medical societies in London and the surrounding districts; after the oration tea will be served and an exhibition of Harvey relics opened. On June 12th the Buckston Browne dinner will be held at the Grocers' Hall, with H.R.H. Prince Arthur of Connaught as the principal guest. On June 13th there will be a pilgrimage to Hempstead Church, Essex, where William Harvey is buried. A short service, conducted by the Bishop of Colchester, is to be held at 12 noon, and on the return journey it is proposed to visit Rolls Park, Chigwell, where Harvey lived at one time. The present owner, Lady Lloyd, has very kindly consented to entertain any members and friends of the society. After tea Sir D'Arcy Power will give a short address on William Harvey's association with Rolls Park.

The disastrous earthquake in New Zealand has aroused world-wide sympathy. It is reported that sanitary conditions, as regards both water supply and sewerage, no longer give rise to anxiety at Napier and Hastings. The Governor-General, Lord Bledisloe, has visited the stricken area, and in a cable to the Secretary of State for the Dominions he says that "medical and relief services have been organized admirably and are working smoothly." The well-equipped field hospital near Napier has evacuated the most serious casualties to other hospitals in North Island. Essential supplies are fairly adequate.

A special joint meeting of the Society for the Study of Inebriety and the Section of Psychiatry of the Royal Society of Medicine will be held at 1, Wimpole Street, W.1, on Tuesday, March 10th, at 8.30 p.m. A discussion on the prevention and treatment of drug addiction (excluding alcoholism) will be opened by Dr. William Brown, Dr. Macdonald Critchley, Dr. E. Mapother, and Dr. F. G. Laughton Scott.

Nova et Vetera

A MAP OF SEVENTEENTH-CENTURY ENGLAND

In his address at the inaugural meeting of the British Medical Association at Worcester in 1832 Sir Charles Hastings spoke of the recently improved facilities of communication between distant towns, both personally and by letter, so that the distance at which members might reside from one another "will oppose but a slight barrier to our undertaking." No doubt he had in mind the improvement of high roads as well as of vehicles, and the organization of the stage coach service. Yet to us, nearly a century later, the means of communication seem to have been terribly slow, just as the velocity of 1931 will probably seem to be snail-like in 2031. In 1832 the stage coach system was at its best, soon to be ruined by railways; yet, even so, the fastest of the regular coach services seldom exceeded nine miles an hour, including stoppages. In "The British Almanac of the Society for the Diffusion of Useful Knowledge" for 1834 there is a list of "Mail Coach Routes Direct from London" which gives the length and the time taken for each stage. From this we learn that the Ludlow and Worcester coach covered the distance of 115 miles from the "Bull and Mouth," London, to Worcester in thirteen hours seventeen minutes, at a rate of rather more than eight and a half miles an hour, including stoppages. It is true that the mail to Edinburgh achieved an average speed of over nine and a half miles an hour, and that in 1824 one of the Bath coaches performed the journey of over 108 miles in eleven minutes less than nine hours, but "the proprietor of the coach very properly admonished the coachman, and cautioned him never again to attempt the same degree of speed" (*Times*, September 3rd, 1824).

Not very long before Hastings spoke the main roads of England were in a condition much inferior to those of the Roman occupation, during which great highways such as the Watling and the Ermine Street were kept in first-rate order. At that period a young army surgeon of the Tungrian Cohort served on the Wall with such distinction as to earn the monumental stone which is now in the Museum of Newcastle-on-Tyne. The system of Roman roads was well shown in the Ordnance Survey map of Roman Britain which was published a few years ago. This is now succeeded by a map of seventeenth-century England.[1] Attached to the map is an introduction describing the general appearance of the England of those days, by Professor G. M. Trevelyan; and Dr. J. E. Morris has contributed a brief outline of the Civil War.

As Professor Trevelyan points out, the Roman roads had almost entirely disappeared, or had degenerated into mere trackways, and the inland traffic of the country was carried on mostly by saddle and pack-horses. Readers of Pepys will remember that his journeys between London and Huntingdonshire or Cambridge were performed on horseback, and how bitterly he complained of the badness of the ways. The killed and wounded of the Civil War in England were probably fewer than are now the victims of road accidents, but their transport must have been infinitely worse, seeing that only springless carts and pack-horses were available. Indeed, little more than extemporized transport was provided for the wounded by European armies until the Franco-Prussian war.

[1] A Map of Seventeenth-Century England, with Description, Chronological Tables, and a Map of London circa 1660. Scale: 16 miles to one inch. Published by the Ordnance Survey, Southampton.

This map and the accompanying one of London does great credit to the officers of the Ordnance Survey and their enthusiastic voluntary helpers. If not strictly a medical document, it must interest our profession particularly, seeing how many miles of the roads of the country are traversed by them daily.

E. M. L.

THE PHARMACY AND POISONS BILL

ATTITUDE OF THE PHARMACEUTICAL SOCIETY

[FROM A CORRESPONDENT]

The Pharmacy and Poisons Bill, read for the first time in the House of Lords on December 17th, 1930, seeks to amend the existing Acts in many respects. The important changes are, however, comparatively few. The Bill makes membership of the Pharmaceutical Society synonymous with registration as a pharmacist, and imposes an annual registration fee: at present there is no compulsory fee, and membership is voluntary. Chemists' shops are to be registered on payment of an annual fee, the amounts of the personal and shop registration fees being fixed by the society. Provision is made for the appointment by the society of a number of pharmacist inspectors. For disciplinary purposes the Bill creates a statutory committee, to be composed of four persons elected by the council of the society and a chairman having practical legal experience appointed by the Privy Council. This committee has power to remove pharmacists from the register after conviction on a criminal charge or for misconduct, and to remove shops from the register of shops. At present the Privy Council has power of removal but it cannot reinstate, and the power has therefore not been exercised. Another committee created by the Bill is the Poisons Board, an advisory committee to the Home Secretary, which is to consist of fourteen members appointed by various bodies. Five pharmaceutical representatives are to be appointed by the Pharmaceutical Society, the medical representatives being appointed by the General Medical Council and the Royal Colleges of Physicians of London and Edinburgh. A power of appointing four additional representatives, presumably to meet claims to representation not provided for in the Bill, is vested in the Home Secretary. The duties of the Poisons Board are to prepare and submit for the approval of the Home Secretary a Poisons List, which is to take the place of the present Poison Schedule, and to advise him upon the rules to be made under the Act. The Poisons List is to be divided into two parts, the first being concerned with poisons which may be sold only by chemists, and the second with those which may be sold by a class of "listed sellers" created by the Bill. These correspond to the licensed sellers of agricultural poisons, except that a number of poisonous substances—for example, spirit of salt—which are now saleable by any trader, will, under the Bill, become saleable only by these "listed sellers." A further distinction is made in the method of application. At present licensed sellers are required to advertise their application for a licence in local newspapers, and the local authority, before granting a licence, must take into consideration whether the existing facilities for the sale of those poisons are sufficient, and must hear any objections from the police or from existing sellers. This machinery is swept away by the Bill, which requires a local authority to "list" every applicant unless it has some objection to him personally or to his premises. Among the details of the Bill may be mentioned a provision whereby the manufacture of pharmaceutical preparations containing poisons is to be effected under proper supervision, and another requiring that any medicine containing a poison, by whomsoever dispensed, must be labelled with the name and address of the supplier.

THE PHARMACEUTICAL SOCIETY'S AMENDMENTS

The society is not satisfied with the Bill in its present form, and is seeking amendments. Its principal objection is that the Bill makes only a half-hearted attempt to deal with the practice of pharmacy as distinct from

transactions in poisons. Dispensing of medicines containing poisons is dealt with, but not dispensing in general, inseparable though the two things are in practice. The society therefore places at the head of its proposals the requirement that all dispensing in shops should be confined to chemists' shops. In hospitals it proposes that dispensing shall be carried out by, or under the supervision of, a pharmacist, power being given to the Secretary of State to relax those provisions in the case of hospitals where the amount of work to be done, or other consideration, does not warrant them. The dispensing for such institutions must then be carried out by, or under the supervision of, a medical practitioner. Elsewhere than in shops or hospitals (in doctors' surgeries, for example), dispensing is to be done by, or under the supervision of, a medical practitioner. The other provisions of the Bill, relating to the practice of pharmacy, are broadly acceptable to the society. That all pharmacists should be members is a just recognition of the principle that it should not be left to a section of the craft to pay for benefits shared by all. Similarly, the introduction of disciplinary control by means of the Statutory Committee is a needed reform. The registration of shops on payment of a fee, and inspection by statutory inspectors, is not an innovation which pharmacists in business can be expected to welcome, but it has been accepted by the society and endorsed by a meeting of delegates of the society's branches as a preferable alternative to State inspection, and as a recognition of the right of the profession to impose its own control upon its members in the conduct of their professional work.

The creation of a Poisons Board follows closely upon the lines of the society's evidence before the committee responsible for the Bill. There are, however, a number of the proposals in the clauses of the Bill dealing with poisons to which the society will propose amendments. In particular there is no provision limiting the class of poisons which may be sold by unqualified traders, the "listed sellers" of the Bill. The society maintains that the sale of poisons for medical purposes should take place only through the medium of the trained and qualified pharmacist. It therefore proposes to limit the poisons which may be sold by unqualified traders by words which, following the precedent of the present section governing the sale of agricultural and horticultural poisons, will have this effect.

The other provision of the Bill governing the sale of poisons to which the society takes exception will probably be widely criticized—namely, that which requires local authorities to place the name of any applicant upon the list unless they have some objection to him personally or to his place of business. The effect of this clause would seem to be that any reputable trader may, by application, obtain permission to sell any of the poisons included in the second part of the list. At present such poisons as arsenical sheep dips and arsenical weed-killer are in this class, and the result will be to multiply beyond all necessity the number of channels through which these poisons may reach the public. It is certain that the police, the local authorities, and even the manufacturers of the poisons themselves, will not approve of these possibilities of unrestricted sale, with all the chances of accidental, if not criminal, poisoning which they offer. It is therefore less the concern of the Pharmaceutical Society than of the community as a whole that the Bill should be amended to secure that local authorities should have discretion to refuse applications where adequate facilities are already available.

Scotland

New St. Andrews Professor

The University Court of St. Andrews University has appointed Dr. Daniel Fowler Cappell, at present lecturer in pathological histology in the University of Glasgow, to be professor of pathology in the University of St. Andrews, in succession to Professor Sutherland, who retired at the end of the last academical year. He has also been appointed to the associated post of pathologist to the Royal Infirmary, Dundee. After a distinguished career as a student Dr. Cappell graduated M.B., Ch.B. with honours at Glasgow in 1921. Two years later he became assistant to Professor Muir, and assistant pathologist to the Western Infirmary. In 1928 he was appointed lecturer in pathological histology in Glasgow University, and last year graduated M.D. with honours, being awarded a gold medal for his thesis. Dr. Cappell has contributed extensively to the literature of his subject.

Glasgow Western Infirmary

The annual meeting of contributors to the Glasgow Western Infirmary was held on February 6th under the presidency of Lord Provost Kelly, who remarked that the Western Infirmary, which had been established fifty-six years ago, was regarded as one of the best managed and most up-to-date hospitals in the country. Colonel J. A. Roxburgh said that the institution had had a good year, although there was a decrease in the annual general subscriptions and in those from employees. The Western Infirmary had been selected as the radium centre for Glasgow and the South-West of Scotland, and it was hoped that real progress would be made in the treatment of malignant disease. Referring to the Road Traffic Act, 1930, he said that hospitals treating injuries caused by motor accidents were entitled to remuneration up to a maximum of £25 for each case, and that endeavours were being made to arrange with insurance companies that the hospitals would recover with the minimum of trouble what was due to them.

Notification of Mental Defect

A circular has been issued by the Secretary of the Scottish Education Department to education authorities, drawing attention to the provisions of the Education Authorities (Scotland) Mental Deficiency (Notification) Regulations, 1930. It is pointed out that an education authority that has made provision for mentally defective children, either in special schools or classes, or in institutions or under guardianship, must keep under special observation mentally defective children over the age of 15½ years with a view to determining whether any of these children would benefit by being sent to an institution. In such an event the education authority must notify the General Board of Control for Scotland, notice being given before the mentally defective child attains the age of 16 years. Thereafter it is the duty of the town or county council to take over the care and supervision of such children, as was previously done by the parish council. The circular draws attention to the fact that these provisions afford opportunity for much closer co-operation and more frequent consultation than was possible between education authorities and parish councils, and that the question whether a child is capable of receiving benefit from instruction in a special school or class can now be made the subject of joint consideration by the committees responsible for its care. It is suggested that the procedure adopted should enable the committee responsible for the further care of the mentally defective over the age of 16 to keep under observation all mentally defective children passing out of the hands of the education committee, whether or not they are recommended for institutional treatment or guardianship. Copies of the regulations and circular may be obtained from H.M. Stationery Office, George Street, Edinburgh, price 1d. each.

David Elder Infirmary, Govan

A paragraph in the *Journal* of January 3rd (p. 30) referred to an experiment that was about to be made at the David Elder Infirmary, Govan, with a ward for the use of patients who, while unable to pay for treatment in a nursing home, were willing to contribute towards their maintenance in the hospital. This new cubicle ward, which is the gift of Colonel J. A. Roxburgh, LL.D., chairman of the board of managers of the Western Infirmary, was formally opened on January 30th, under the presidency of Sir Henry Mechan. In the course of an address Colonel Roxburgh said that the difficulty was to know exactly what these patients were able to pay and what kind of accommodation was necessary. While some other institutions in Glasgow were providing special wards for paying patients, he had wondered if it was not possible to treat these persons along with the ordinary patients, who already had the benefit of the best available medical, surgical, and nursing skill, and the advantage of the most up-to-date equipment. If they were asked to pay anything, he thought they must have a measure of privacy, which, after all, differentiated the nursing home from the hospital ward. The present experiment was being made in the hope that, if it proved successful, other wards of the same kind would be added. No fixed sum was being charged at present, but all patients were expected to pay something. They would receive the same surgical and nursing attention as was given to the other patients in the Infirmary. Sir Henry Mechan referred to the generosity of Colonel Roxburgh, who, he said, had defrayed the whole cost of building and equipping the new wing. The extension is divided by partitions and curtains into seven cubicles, each of which has a bed, a locker, a chair, and a wireless receiving apparatus. Cubicles can be made entirely self-contained, so that patients may have complete privacy. One of the features of the building, which has a southern aspect, is a veranda in front large enough to accommodate beds.

The Peking Skull

A lecture on the Peking skull was delivered by Professor G. Elliot Smith in the anatomy department of Edinburgh University on January 30th, under the auspices of the William Ramsay Henderson Trust, which exists for the purpose of advancing the knowledge of brain physiology. Professor Elliot Smith described the fossil remains of early Pleistocene man which he examined in Peking as the most significant and illuminating example of early man that had yet been discovered. His earlier lecture on the same subject was summarized in the *British Medical Journal* of January 24th.

England and Wales

Dr. Griffith Evans of Bangor

The freedom of the city of Bangor has been conferred on Dr. Griffith Evans, who is in his ninety-sixth year and has been a member of the British Medical Association since 1874. Before graduating M.D. of McGill University, Montreal, Dr. Evans was a veterinary surgeon in the Army. It may be recalled that he discovered in India that surra, a disease of horses, mules, camels, and cattle, was caused by a trypanosome to which the name *Trypanosoma evansi* was subsequently given. He was awarded the Mary Kingsley medal of the Liverpool School of Tropical Medicine for devotion to science. At a public ceremony in Bangor Dr. Griffith Evans was represented by his daughter, and the mayor afterwards visited Dr. Evans at his bedside and handed him a casket containing the freedom.

The Rise of Tropical Medicine

A public lecture on "The dawn of tropical medicine," being an account of the life and work of Sir Patrick Manson, was delivered by Dr. Philip Manson-Bahr at the opening of the ninetieth course of study at the London School of Hygiene and Tropical Medicine on February 3rd. The chair was taken by Sir Harry Goschen, who paid a high tribute to the late Sir Andrew Balfour, one of Manson's earliest students, a man of sterling character, simplicity, and directness of purpose, who worked with consuming energy and high sense of duty for the task to which he had put his hand when accepting the post of director of the school. Dr. Manson-Bahr, in the course of his lecture, said that Patrick Manson, to whom the London School of Hygiene and Tropical Medicine owed its inception, was one of the most original and outstanding medical personalities of the last century. Not only did he himself make many lasting discoveries in the field of medicine; but he laid the foundations of the science of tropical medicine, and to a great extent revolutionized the health conditions in tropical countries. Small wonder, then, that his name was held in sacred remembrance and that he had joined that glorious company in which figured Pasteur, Lister, and Koch. It was in 1875 that Manson first saw the microscopic embryo filaria in the blood of the local Chinese, and it was in the elucidation of the life-history of this parasite that he first achieved fame. After a busy interlude of seven years in Hong-Kong he returned to England and continued a study of the parasites of the blood, in which he made many striking discoveries. In 1892 he began to study malaria seriously, and, after many ingenious observations, was able to deduce the probable life-history of the malaria parasite from what he had already ascertained to be the case in the filaria. In 1894 he formulated his mosquito-malaria hypothesis and became associated with Ronald Ross, and this collaboration resulted in verification of the complete cycle of the malaria parasite in the anopheles mosquito in 1898. In 1897 Manson was appointed medical adviser to the Colonial Office, and became intimately associated with Joseph Chamberlain in schemes for the betterment of health conditions in the Colonies. The first outcome of this was the foundation in 1899 of the London School of Tropical Medicine. In 1920 the school moved to Endsleigh Gardens, where it was housed with the Hospital for Tropical Diseases. Nine years later it was transferred to its present magnificent home, and the hospital had been repaired, enlarged, and reorganized to meet the new conditions. All this and more also did Manson accomplish, so that out of his life and example there had arisen the Mansonian tradition which infused all workers in the school.

The Board of Control

Pursuant to the provisions of Section 11 of the Mental Treatment Act, 1930, the Board of Control, with the approval of the Minister of Health, has appointed the following to be Commissioners: A. E. Evans, M.B., D.P.H., S. E. Gill, M.D., D.P.H., E. O. Lewis, D.Sc., L.R.C.P., J. W. W. Adamson, M.D., Surgeon Rear-Admiral J. F. Hall, C.M.G., K.H.S., R.N.(ret.), Surgeon Rear-Admiral E. T. Meagher, R.N.(ret.), at present Medical Inspectors; and Mr. C. F. Penton, barrister-at-law, Miss I. M. C. Duncan, B.A., LL.B., barrister-at-law, Surgeon Captain H. C. Devas, R.N.(ret.), Miss I. G. H. Wilson, M.D., D.P.M., and Miss R. Darwin (part-time).

Epsom College

We learn that the building of the school sanatorium at Epsom College is progressing apace, and that it is likely to be completed in July. This will enable the existing sanatorium to be transformed into an additional

boarding house by next September term. Room will thus be available for another twenty-five boarders, which will lessen by that amount, at any rate, the number of applications for residence as boarders that have had to be declined recently. With this addition the number of boys at the college will be 450.

Correspondence

X-RAY THERAPY IN MALIGNANT DISEASE OF THE LUNG

SIR,—In your issue of January 24th Mr. Tudor Edwards states that deep *x*-ray therapy "has proved very disappointing for primary malignant lung tumours, and I have yet to see a patient who has benefited thereby." This remarkable statement cannot be allowed to pass without comment. One can only conclude that Mr. Edwards's experience of *x*-ray therapy in this condition is either very limited or very unfortunate. I for one have had cases in which there has been undoubted material benefit as regards alleviation of symptoms and prolongation of life, and other radiologists have had similar experience. In Germany, where there is very little radium, *x*-ray therapy is being carried on with considerable success on a large scale.

Mr. Edwards goes on to say: "Unless other methods fail I am disinclined to recommend this treatment to my patients at the present time." Personally, I should have thought that in malignant disease of the lung the opinion of a surgeon should be limited to the question of surgical intervention, and that the advisability of *x*-ray therapy might more properly be left to the physician and radiologist. A surgeon recently stated in your columns in another connexion that "*x*-ray therapy had been disappointing to surgeons." Why "to surgeons"? Have the results of surgery invariably been gratifying to radiologists? Radiologists are not in the habit of criticizing surgery, and they expect the same of surgeons with regard to *x*-ray therapy. If surgeons must go outside their proper sphere their opinions should at least be restrained and well informed.

While happily the great majority of surgeons do not take the view of which I complain, recent contributions to the *Journal* have made it clear that a certain number of surgeons adopt towards *x*-ray therapy a contemptuous and patronizing attitude which sometimes amounts to actual hostility, and it is remarkable that these are the very men whose enthusiasm for radium, provided that this means "surgery of access," knows no bounds. Mr. Edwards sweeps aside all forms of radium and *x*-ray therapy except those in which the surgeon participates. This attitude is, to say the least, unbalanced, and shows an imperfect appreciation of the nature of electromagnetic radiation.

Radiologists will join with others in congratulating Mr. Edwards on his success in what must be an extremely difficult branch of surgery. In view of the technical difficulties involved, the surprising thing, as Dr. Johnson said of the dog walking on its hind legs, is that he can do it at all. Radiologists will be the first to admit that no amount of radiotherapy, whether in the form of radium or *x* rays, can be as effective as the removal of a tumour. But after all, Mr. Edwards numbers his cases in which he has had any measure of success on the fingers of one hand, out of a total of 118. Is he therefore in a position to throw stones at others, to condemn with unbounded confidence a form of treatment with which he is not concerned and with which he has clearly very little acquaintance?

The way is long and arduous. Nothing is more necessary at the present day than that those who employ different methods should show towards one another, not an attitude of narrow parochialism, but a spirit of generous co-operation, understanding, and encouragement.—I am, etc.,

Cambridge, Feb. 2nd. FF. ROBERTS.

SEPTICAEMIA FROM MINOR WOUNDS

SIR,—Although no mention is made of the result of a bacteriological examination, there can be little doubt that the two tragic cases reported in your issue of February 7th (p. 242) by Mr. Ian Fraser were due to *Streptococcus pyogenes*—a diagnosis with which he evidently agrees, because he employed antistreptococcus serum. As Mr. Fraser invites suggestions, I am writing to propose that in the next case he should try sensitized vaccine of *Strep. pyogenes*, and that he should be sure to give it in sufficient dose.

From the bacteriological point of view, cases of acute infection by *Strep. pyogenes* are perhaps the most important and tragic of all those admitted to a general hospital. During the five years immediately preceding the war I had the privilege of acting in close collaboration with the junior staff of St. Bartholomew's in investigating such cases, and as a result formed the opinion that these patients can be classified roughly into three groups according to the degree of their resistance to the streptococcus. Group I are instances of fulminating septicaemia, and rapidly succumb whatever the treatment adopted. Group II appear to be almost, if not quite, as ill as Group I when admitted, but a large proportion recover, mainly, no doubt, as the result of treatment. Group III, on the other hand, have a much stronger natural resistance. The infection remains localized, and these patients can recover without any special treatment at all.

At the time these cases were being observed I was under the impression that there were in all probability several different kinds of *Strep. pyogenes* concerned in them. This view I no longer hold, because, on resumption of hospital work after the war, a special serological survey of these haemolytic streptococci was undertaken on behalf of the Medical Research Council. The result was reported in the *British Medical Journal* of April 30th, 1921. Out of 114 examples of haemolytic streptococci collected from hospital cases of all sorts, and submitted to scrutiny by the absorption of agglutinin test, no fewer than 107 conformed to one and the same serological type. The haemolytic streptococci from cases of puerperal sepsis appeared to be identical with those from cases of ordinary sepsis. The name *Strep. pyogenes*, therefore, would seem to be a just one for this micro-organism.

With regard to specific treatment, it is probable on general grounds that this will be successful in proportion as it approximates to the natural process of recovery, and here, unfortunately, there are still considerable gaps in our knowledge. The opinion formed by me in assisting to deal with the cases referred to was that neither vaccine nor any serum then available could be relied upon *per se* materially to promote recovery in really severe cases. The defects of serum and vaccine, however, seemed to be remedied to a considerable extent by combining the essential features of both in the form of sensitized vaccine after the manner suggested by Besredka. Such a vaccine can be prepared without much trouble in the following way. Surface cultures of *Strep. pyogenes* are made on half a dozen agar plates, the medium being enriched with serum before being poured. The growth on these plates after one day at 37° C. is washed off in saline, and heated for thirty minutes to 65° C. The number of cocci per cubic centimetre of the suspension is then determined by a

simple turbidity test, and an amount of it containing approximately 25,000 million cocci is diluted to 5 c.cm. with saline and put into a centrifugé tube, to which 5 c.cm. of antistreptococcus serum is added, and the mixture well shaken. It is essential that the serum contains agglutinin for the streptococcus, and the stronger it is in this antibody the better. After standing overnight, either at room temperature or at 37° C., the cocci should all be agglutinated and collected in flocculi at the foot of the tube, the fluid above being clear. The tube is then centrifuged for five minutes, after which the fluid is removed and replaced by saline; the deposit is shaken up in this, and again centrifuged out. The saline washing is then removed, and the sensitized cocci once again taken up in fresh saline containing 0.5 per cent. of phenol, and transferred to one or more vaccine bottles with rubber covers.

After a sterility test, the sensitized vaccine prepared in this way is given subcutaneously. The doses administered have been 100 million, 250 million, 500 million, 1,000 million, 2,000 million, 4,000 million, etc., at intervals of twenty-four hours, according to the progress of the case. Provided that it has been properly sensitized, the vaccine produces no reaction. The effective dose is found by observing the general condition of the patient and the temperature chart. In a recent case a patient suffering from severe infection by *Strep. pyogenes* had been given considerable amounts of serum, including the antitoxic serum, without benefit. Improvement in that instance began when the dose of sensitized vaccine reached 4,000 million, and ultimately he made a good recovery. It is important in severe cases that the treatment should be continued for a few days after improvement sets in.—I am, etc.,

London, W.C.1, Feb. 7th. M. H. GORDON.

THE PROBLEM OF ANIRIDIA

SIR,—Cases of aniridia are so rare as to make the following worth placing on record.

A patient, aged 8 months, admitted as a case of gastro-enteritis, was found to have aniridia. The condition of the infant was pitiable, even the subdued light of the ward causing acute discomfort. The pink retinal reflex obvious at the first glance made one think the child was an albino. The mother also had the defect, and reported that out of her eight children, four, two boys and two girls, had the same condition. Neither her father nor mother, nor any other member of either family, was known to be affected. The mother can just see shapes and distinguish colours. The sequence of affected children was first, fourth, sixth, and eighth.

If, as is suggested, aniridia is a recessive Mendelian factor, these cases would meet the requirements of the theory on the supposition that the father is heterozygous. The mother's explanation, however, is that her own defect is in answer to her mother's prayer that her husband should have a great shock, to lead him to bring his conduct into line with her requirements. Thus the mother's suggestion is that the defect has arisen *per saltum* in herself.

The condition, especially as it concerns this family, is of interest not only on account of the hopeless outlook for the patients themselves, but also with regard to the economic importance of the defect, none of the sufferers being capable of earning a livelihood in the ordinary way, and therefore becoming burdens on the community all their lives. The boys may become miners, but what are the girls to do? Yet more important still is the future of the eight children as regards progeny—a matter on which there is at present much loose thinking. The courses open appear to be: (*a*) Our present method —to leave things to take their own course—which is silly. (*b*) To allow them to marry, but advise them to have no children—which is as idealistic as futile. (*c*) To allow marriage, but provide contraceptive literature and the requisite appliances, as suggested by many societies and clinics—which proves a failure. (*d*) To segregate for life —so deliciously bureaucratic. (*e*) To sterilize them, and allow them to marry or not at will—which is so simple and effective as to be anathema to most.

Is the sufferer to have any choice in this matter? At present he can please himself which he chooses, except the last. Surely it is time views on such matters should cease to be so nebulous and the products of prejudice rather than reason, and that the medical profession should give a definite lead.—I am, etc.,

Manchester, Feb. 4th. J. D'EWART.

TREATMENT OF VARICOSE ULCERATION

SIR,—Undeterred by Mr. Davies's rebuke in his letter in your issue of January 31st, I would like to repeat that the method which he proclaims to be entirely new and original is indeed on exactly the same principle as that of the firm bandaging recommended from time to time by various writers during the last two hundred and fifty years. Mr. Davies is evidently unfamiliar with the writings of those who have formerly advocated treatment upon this principle of counteracting the effects of gravitation by means of equable pressure, and of thus reducing the oedema and curing the ulcer while the patient is still walking about.

So early as 1676 Richard Wiseman, Sergeant Chirurgeon to King Charles the Second, in his *Chirurgical Treatises* records cases of varicose ulcer which were cured by first reducing the swelling by having the leg "rowled up with a Compress and Bandage from Foot to Gartering," and then continuing the treatment with a "laced-stocking." Michael Underwood, M.D., in a *Treatise on Ulcers of the Leg* (1783), laments the fact that "compression by firm bandaging is as a general practice so much out of fashion, though once in great esteem with eminent surgeons, and particularly Wiseman, whose contrivance the laced-stocking seems to have been." He pleads for the treatment of these ulcers without rest and confinement, but with tight bandaging. Thomas Whately, surgeon, in *Practical observations on the cure of Wounds and Ulcers of the Legs, without rest* (1799), a work of 352 pages, with records of 167 cases cured, refers to the method of Wiseman and of Underwood, and regrets that the system has been brought into discredit because the principle of general and equable pressure has not been properly carried out. Again and again he insists upon the necessity for firm pressure, and that the bandage cannot perform its designed office unless it be so applied as to make the necessary pressure from knee to toes: "In almost all these cases, before the cure is attempted, the leg is more or less enlarged by swelling; and as this swelling is entirely removed by compression it readily allows the skin to approximate on the healing of the ulcer." Thomas Hunt, to whose small book I referred in my letter of December 27th, repeats the same tale: treatment to be ambulatory, effect of gravitation to be overcome by firm bandaging, failures due to inadequate application of bandage.

I have no desire to discredit the Dickson Wright method, nor do I doubt the good results (54 cases; 31 cured, I improved, 22 still under treatment="100 per cent. results"!), but I maintain that equally good results can be obtained with the simple flannel bandage properly applied. It seems to me that the older method carries out the principle of firm support or pressure in an even more scientific manner, because by the daily reapplication

of the bandage the pressure is repeatedly adjusted to the gradual shrinkage of the swollen leg, whereas however tightly the elastoplast bandage may be applied in the first instance, since it remains on for a week, such continually increasing pressure cannot be efficiently maintained.—I am, etc.,

London, W.1, Feb. 5th. H. G. ADAMSON.

THE ENIGMA OF THE CHILBLAIN

SIR,—The article on this subject by Dr. Rupert Hallam in your issue of February 7th contains many data of scientific interest. I venture, however, to challenge his third sentence, which reads: "It is improbable that efficient means of prevention will be found until more is known of the etiology and pathology of the condition." If Dr. Hallam will visit the Continent as a layman, he will find that in climatic and other etiological conditions varying in but a minor degree from those existent in England, the chilblain is a rarity. Among well-to-do women in France, Switzerland, Germany, and Holland, chilblains are practically unknown, and English ladies accustomed to suffer every winter from chilblains in this country are surprised to discover, if they have occasion to pass a winter abroad, that they escape from this troublesome disorder.

I suggest to Dr. Hallam that however important inborn factors governing nutrition, circulation, and metabolism may be, the all-important factor in the production of chilblains is the shibboleth of the virtue of cold bedrooms which has come to us from our Victorian forebears. To come down to breakfast with frozen hands and feet, and to thaw them before a glowing fire, or to enter an arctic bed and place the numbed feet against a burning hot-water bottle, are sure ways of contracting this complaint.

Trench foot, which caused incapacity in thousands of soldiers during the late war, was not a matter of metabolism, latent tuberculosis, or inherent vasomotor defect; it was preventable by discipline and common sense. Chilblains are preventable by common sense and discipline of a less exacting nature than that which ancestral tradition still inflicts upon us.—I am, etc.,

London, W.1, Feb. 7th. T. IZOD BENNETT.

GLYCERIN AS A SURGICAL DRESSING

SIR,—I should like to add to the recent letters in the *Journal* something which may throw further light on the value of glycerin as an antiseptic. In 1914 (*Lancet*, December 5th) I wrote a short note on the use of glycerin in bromidrosis, showing how bacterial growth was controlled and fetor prevented. In 1919 (*Journal of Laryngology*, xxxiv, 9), in conjunction with Mr. C. H. Hayton, I described how the treatment was extended to ozoena by local application of glycerin and glucose, and proved its effectiveness. In an extended investigation of the rationale of this method of treatment we came to the conclusion that the fetor arose as the result of tryptic fermentation, and it was characteristically produced in pure cultures of Perez bacillus in broth. On the addition of glycerin and glucose to broth cultures of *Staphylococcus albus* and Perez bacillus, although the bacillus grew freely, the fetor did not appear, and the medium became acid in reaction. The presumption was that the acid reaction had inhibited the tryptic bacterial digestion, and had prevented the formation of end-products of the skatol and indol class. Further, it is probable that the products of bacterial growth on a medium containing a fermentable substance of the type of sugar or glycerin are, in general, less toxic than those grown on a purely protein one (no doubt the resulting acidity has something to do with this), though I would not like to assert this in every case. Arguing on these postulates, I was able to get the casualty house-surgeons at the Prince of Wales's Hospital (Dr. J. Young in 1919 and Dr. M. Y. Paget in 1924) to treat a series of recent wounds with a mixture of 10 per cent. glycerin, 60 per cent. commercial liquid glucose, and 30 per cent. water. The wounds were taken as they came to the casualty department, and without cleaning up, except with soap and water, the mixture was put straight on, covered with lint and mackintosh, bound up, and usually left for three days, after which a dry dressing with boric acid powder was substituted.

I do not remember an acute septic condition resulting in any of these cases until we ambitiously tried the method in a severe complicated fracture with mangling of the forearm and ingrained dirt; this case certainly did go septic, but cleared up in due course. A marked feature of many of the wounds treated in this way was the one noted by Dr. Kyle in his earlier cases. For some days the tissues over an area of an inch or more around the wound remained puffy and oedematous, but not red or inflamed. The wounds were by no means always sterile; cultures showed that they were healing in some cases in the presence of a considerable bacterial flora, mostly saprophytic, but often *Staph. aureus* and *albus* were present, and occasionally streptococci. The bulk of these cases were wounds and lacerations of the hand, and the treatment seemed best adapted to relatively superficial lesions with loss of tissue and ingrained dirt. In all, I should think upwards of 100 cases were treated in this manner. Although all cases did not heal by first intention we were satisfied that there was far less real sepsis than usually results when vigorous antiseptic measures are adopted. The resultant scars were soft and supple.

One would not recommend this as a standard method of treatment for all wounds, since many other factors than antisepsis have to be considered in dealing with various types of injury. I merely put it on record to show the antiseptic power of these substances used as a dressing on dirty wounds. This power may be attributed probably both to the hygroscopic properties of the glycerin and glucose, and to the fact that these substances in solution in the tissue juices can follow the bacteria into the tissues, probably diminishing the toxic effects of their growth. We tried this method in a number of old ulcers and suppurating wounds, but without the least effect; but we did not treat active boils or carbuncles in the way described by Dr. Kyle.—I am, etc.,

London, W.1, Jan. 29th. T. H. C. BENIANS.

TREATMENT OF ETHMOIDITIS

SIR,—I entirely agree with the remarks of Mr. J. B. Horgan in his letter (January 31st, p. 200) regarding the treatment of nasal sinusitis. His fifth point is very important—namely, to leave the middle turbinal till the end of the operation and then to remove, if any, only as much as is advisable by a graduated turbinectomy, cutting through, with a snare, the part severed from the line of attachment, without any wrenching. When I use a curette to exenterate the ethmoid, like Mr. Horgan I also work from behind forwards and downwards, although I have never performed his operation through the antrum.

The above points were strongly impressed on my mind by the late W. S. Syme. Although Syme was regarded as one of the foremost advocates of radical operative procedure in connexion with nasal sinusitis, he recognized that the middle turbinal should be treated with the greatest respect in these cases. Personally I have found

that any cases giving rise to anxiety thirty-six hours after the operation in the matter of severe headaches, epistaxis, rise of temperature, etc., have nearly always been associated with removal in part, or in whole, of the middle turbinal. For this reason I also do not perform Sluder's operation.—I am, etc.,

Blackpool, Feb. 5th. W. BARRIE BROWNLIE.

SIR,—In your issue of January 24th (p. 158), Mr. O'Malley refers to my paper, "A safe method of dealing with ethmoiditis," and I hasten to explain that I regard the whole method as essential—namely, (1) a radiographic examination is made; (2) the frontal sinus is drained if shown to be infected; (3) as a routine operation the middle turbinal is removed, and the maxillary antra and sphenoidal sinuses, the main inferior cisterns of the ethmoidal system, are permanently drained. Only as a secondary operation under local anaesthesia should other polypi be removed and closed cells opened if causing trouble. I believe that removal of the ethmoid mass in bulk, as practised in Sluder's operation, has caused many fatalities, has often failed to open closed cells, or has resulted in a dry nose.

I do not think that Mr. Horgan's remarks (*Journal*, January 31st, p. 200) have helped me much, though I have read his longer paper on the subject. In summarizing the whole story he omits radiography, which I cannot but think would help him in the diagnosis and recognition of the presence of a frontal sinus. Again, he objects to the removal of a middle terminal with Luc's forceps as encroaching upon the dangerous area, but in paragraph 7 allows this to be exceptionally carried out at the end of the operation with scissors and snare. Yet in ethmoiditis the obstruction of which the patient complains is due to polypoid masses of degenerated middle turbinal, and till these are removed the patient cannot breathe through the nose, nor can the surgeon obtain a view of the interior. Surely the dangerous area lies above the attachment of the middle turbinal. In paragraph 3 he insists on an *à froid* condition of the sinus prior to operation. It would certainly be dangerous to leave an acute frontal sinus undrained, though wise to do nothing more than secure drainage.—I am, etc.,

London, W.1, Feb. 7th. E. A. PETERS.

PREGNANCY FOLLOWING IRRADIATION

SIR,—In the *British Medical Journal* of July 26th, 1930 (p. 156), under the heading "Radium treatment of menorrhagia," the records of University College Hospital are quoted regarding the health of children born subsequent to such treatment. The article continues:

"As far as is known, only two of the patients have become pregnant after radium treatment; one gave birth at full term to a male child with double inguinal hernia, the other miscarried. These experiences and evidence derived from animal experiment suggest that the children of parents thus irradiated will be physically and mentally abnormal, and there are serious grounds for the view that young patients should not be treated by irradiation unless they are given doses large enough to produce sterility."

Recently the Gynecean Hospital Institute of Gynecologic Research of the University of Pennsylvania undertook an investigation dealing with the health of children born following maternal pelvic radium or roentgen irradiation. This investigation led to the following conclusions:

1. That irradiation of a growing human embryo is extremely likely to result in the birth of a defective child.

2. That treatment prior to conception will have no influence whatever upon the development or later health of any subsequent child, conceived following irradiation.

In order to substantiate these two statements, in so far as that may be possible, I am enclosing a group of reprints dealing with the problem, published by the Gynecean Hospital Institute.—I am, etc.,

DOUGLAS P. MURPHY, M.D., F.A.C.S.

University of Pennsylvania, Jan. 24th.

*** The reprints forwarded by Dr. Murphy may be read at the Library of the British Medical Association.

CATARACT OPERATION IN EXTREME OLD AGE

SIR,—Some years ago, in India, an extremely old-looking Sikh came to me with cataract. When I asked his age he said it was 100 years. Knowing how utterly unreliable statements about age so often are in certain patients in India, and of the tendency in some parts for old men to exaggerate their years, we went closely into the question as to how he knew his age. He told us that he had fought against the British in the Sikh wars, and gave his age at the time. We were satisfied that it tallied with what he claimed to be. I had no doubt as to his having been a soldier. Indians usually age more rapidly than Europeans, but the Sikhs are a strong race. Having read about Colonel Elliot's old lady of 96 (*Journal*, January 24th, p. 132) I am confirmed in my opinion that this man was a centenarian. I may add that his age was given during the ordinary routine questioning, and he did not seem to be particularly proud of it; he was a simple villager, and I could see no reason for his wishing to deceive me.

I extracted one of his cataracts in the capsule by Smith's method. The cornea was one of the thinnest I have ever incised, but the course of the case was uneventful. I should be very interested to hear if any other operator in North India has come across a centenarian in his cataract work.—I am, etc.,

A. E. J. LISTER, M.B., B.S.,

Clifton, Bristol, Feb. 7th. F.R.C.S.

THE UNIVERSITY FRANCHISE

SIR,—The Representation of the People (No. 2) Bill came before the House of Commons yesterday, with its clause abolishing University Franchise. The introducer of the Bill, the Home Secretary, in his comments upon this part of the Bill, clearly showed the real motive of the clause. He said that the university electorate is so small that twelve members were returned by some 120,000 voters, and he went on to say that "it will not do in these days when, say, we have an average constituency of 60,000 electors for one member, to give a round dozen of members, in the main Tory members, to 120,000 electors." It is thus nakedly stated by the introducer of the Bill that the motive in this clause is to remove from Parliament certain members because they are mainly opposed to the Government in power. This action was foreseen by Lecky thirty years ago, when he wrote of university representation:

"According to any sane theory of representation no form of representation could be more wise. Its abolition would not have very extensive consequences, but it would at least expel from Parliament a small class of members who represent in an eminent degree intelligence and knowledge diffused throughout the country; who, from the manner of their election, are almost certain to be men of political purity and independent character, and who, for that very reason, are especially obnoxious to the more unscrupulous type of demagogue. Their expulsion would be a considerable party advantage to one faction in the State, and it is therefore likely to be steadily pursued."

The precedent thus made might have serious consequences if the principle comes to be adopted that whenever a party in power finds a class of members obnoxious

to itself it can, by exercise of its parliamentary majority, simply expel those members.

The present attack upon the university representation is all the more remarkable when one reflects that as recently as 1918, in the framing of the Franchise Act of that year, university representation, far from being abolished, was actually increased as the result of a long, careful, and above all disinterested consideration of the whole question of the franchise. The Act of 1918 carried out, for the most part faithfully, and in regard to university franchise with complete fidelity, the recommendations of the Speaker's Conference, which all through 1917 had gone into the whole question. That conference was composed of representative members of all parties. It issued an agreed report which was a compromise between contending interests offered to and accepted by the House of Commons as such. In the second reading debate Sir Herbert Samuel, speaking for the Liberal members of that conference, of which he had been one, very clearly expressed the position (Hansard, volume 93, 1917). He said:

"The retention of University Representation is to my mind most regrettable. . . . But this is a compromise Bill, and however much some of us may dislike some of these provisions, we accept them frankly and without dispute or controversy, because we know that others who hold opposite views have also given up points to which they attached importance, and it is only by a general surrender here and there of things which each of us regard as not necessarily essential that it is possible to secure that general agreement by which alone a measure of this character can be carried."

Now the Liberal party, only twelve years after this solemn agreement was reached, treats it as a "scrap of paper." Of course there is no intention or effort to restore those provisions alluded to by Sir Herbert Samuel which other parties to the agreement gave up in return for the retention of university representation. There could be no more flagrant breach of the immemorial instinct of Englishmen to "play the game" than is offered by this cynical disavowal of a pact only twelve years old.

Public opinion, I think, is likely to take notice of these circumstances, and the medical profession is peculiarly able to influence public opinion. The Bill will doubtless pass its second reading to-night, in accordance with the bargain which has been made between the Liberal and Labour benches, but there is clearly considerable dissatisfaction and some dismay among Labour members at the explosion of public opinion that has taken place upon this particular matter, and there is some prospect that this clause may be rejected in committee. Happily the Bill will go before a committee of the whole House, and will thus be fought out upon the floor of the Chamber, and not in the fastnesses of rooms "upstairs." In these circumstances public opinion can make itself felt throughout the committee stage, and it is with the object of enlisting the support of the *British Medical Journal* and of inviting it to take its share in moulding that opinion that I write this letter.—I am, etc.,

House of Commons, Feb. 3rd. E. GRAHAM-LITTLE.

THE LONDON CLINIC AND NURSING HOME

SIR,—The building of the London Clinic is now nearing completion, and the Executive Committee of the Medical Advisory Board consider that the time has come to explain its objects and ideals more fully, and to give some details of the means by which it is hoped that they may be achieved.

It has long been realized, both by the medical profession and by the lay public, that the modern developments of medicine necessitate wider facilities for the investigation and treatment of disease than are at present available for the general public. There is probably no city in the world which presents such a contrast in the provision it makes for illness as does the city of London. On the one hand, there are the voluntary hospitals, unrivalled as monuments of charity, where the poor have at their absolute disposal every resource that modern medicine can provide or surgery devise. On the other hand, those whose circumstances or whose pride remove them from the hospital class have often to be satisfied with makeshift accommodation, and are excluded from the resources in equipment and co-ordination which are the foundation of the work of our hospitals.

Modern specialist treatment can be carried out only in a building specially adapted for the investigation and treatment of disease, organized on modern lines, and provided with adequate laboratories and *x*-ray equipment. The need for such a building containing rooms to suit all classes of paying patients is so obvious that one would have thought little difficulty would be experienced in finding the money for its erection. Yet this has taken twelve years of difficult negotiation to achieve. Faced with the dilemma that, on the one hand, there is a strong feeling against the financing of nursing homes by medical men, whilst on the other no financial group was prepared to take a financial risk which medical men refused to share, a solution agreeable to both parties was at last reached. A company was formed to put up a building consisting of a nursing home, for the finance of which the company would be responsible, and a number of consulting rooms, the lease of which the medical men might purchase without any breach of medical ethics. This arrangement assured the company of satisfactory medical support without involving medical men in financial responsibility for their affairs.

The building, which is rapidly approaching completion, is situated on the south side of the Marylebone Road, bounded on the west by Devonshire Place and on the east by Harley Street. Special care has been taken to protect the patients from noise and vibration. The steel uprights which support the building are embedded in a system of padding which ensures a complete absence of all vibration. The patients' rooms face not on the Marylebone Road, but on the south, south-east, and south-west frontages, where they enjoy a wide outlook and are entirely protected from noise. The building is so high that many of the rooms enjoy a view extending across London to the hills of Kent.

The building has been designed with the utmost care, and in constant consultation with expert medical opinion. In order to obtain the very latest information on modern hospital equipment and organization, a committee of the directors of the company and the members of the Medical Group visited all the most modern hospitals in Sweden, Denmark, Holland, and Paris, as well as others in France, Germany, and America, and we are convinced that this clinic will set an entirely new standard in design and equipment. A wide range of accommodation between small single rooms and private suites will meet the varying requirements of patients, but in every instance the standard of comfort will be the highest attainable, and special attention has been paid to those small amenities which mean so much when one is ill. The kitchens will be on the most modern lines, and in view of its increasing medical importance a special diet kitchen under expert control has been installed.

An outstanding feature is the provision made for maternity cases and for children. For the former a separate floor has been specially equipped, with arrangements which ensure absolute quiet and privacy, and a special nursing staff will be reserved exclusively for these

patients. The children will be accommodated in a separate wing, so arranged that each child can, if necessary, be accompanied by its own family nurse, while a large solarium, opening directly on the south side of this wing, will give every possible opportunity for fresh air and sunshine.

As regards the staffing of the hospital, two features will add greatly to the comfort of the patient: the nursing staff will be sufficiently large to supply special nurses—usually a costly item—at a very low charge; and there will be two resident medical officers who can be called upon at any moment of emergency. In regard to the latter, it must be clearly understood that these resident medical officers will in no way usurp the authority of the patient's own medical adviser. It is an essential part of our conception that the patient should still remain in contact with his regular doctor, for we consider this of the utmost importance for the continuity of treatment. The building will thus be a large nursing home open to the medical profession of the whole country, equipped and staffed with all the resources of a modern hospital.

In addition, it is proposed to develop within the group of medical men who occupy the consulting rooms a plan of combined work, so that patients of moderate means may be saved the multiple consultations, involving so much expenditure of time and money, which often make the elucidation of their malady such a costly process. Such service of mutual assistance between the members of the staff is universal in our voluntary hospitals, and there is no single feature of their organization which is of greater value to the patient. The development of such a service for those who are just outside the hospital clientele is by no means an easy matter, and will demand very careful consideration. We have no doubt, however, of the necessity for such a service, and its provision will be one of our earliest objects. By such a service, backed by rooms at the lowest charge which is economically possible, we shall effectively bridge the present gulf between the poor and the wealthy. We would, however, reiterate that this service, in common with all the other services of the clinic, is available to patients solely through their medical advisers. A wide experience has convinced us that to make use of specialists' services except in a consultative capacity is a definite disadvantage to the patient, whose interests are best served by the closest possible co-operation between those who have charge of his health.

This is the first real effort in this country to extend the advantages of an organized specialist service to those who are excluded from the services of charity. It will provide suites of rooms offering a convenience and a comfort never before attempted, whilst more modest accommodation will be available at the lowest rates compatible with efficient treatment and service. The dreams of the group of medical men who are responsible for its initiation have only been brought to fruition by years of laborious effort. It is their earnest desire that this building should be freely open to the whole of their medical brethren, and that it should bring within the reach of patients of every class advantages which have not hitherto been generally available.—We are, etc.,

H. MORELAND MCCREA
Chairman
G. LENTHAL CHEATLE
Vice-Chairman
A. P. BEDDARD
W. ROWLEY BRISTOW
WALTER HOWARTH
H. S. SOUTTAR
A. J. WALTON
Executive Committee to the Medical Advisory Board.

London, W., Feb. 9th.

Obituary

SIR A. GARROD THOMAS, LL.D., M.D.

Consulting Physician, Royal Gwent Hospital, Newport

Sir A. Garrod Thomas, whose death on January 30th we recorded briefly last week, was born in Cardiganshire on October 5th, 1853. He received his early education at Milford Haven and spoke nothing but Welsh until he reached his teens. After studying medicine at the University of Edinburgh, and subsequently in Berlin and Vienna, he graduated M.B., C.M.Ed. in 1876, and after taking the M.R.C.S.Eng. diploma proceeded to the M.D. two years later. While at Edinburgh he was a pupil of Lord Lister, whose work made an ineffaceable impression on his outlook. On becoming physician to the old Newport Infirmary in 1895, he realized the need for a better building, and he and his wife took a prominent part in the campaign for erecting and equipping the Royal Gwent Hospital; they started the fund by contributing £5,000. For many years he served on the honorary medical staff, and in 1904 became chairman of the board. On retirement from the active staff he was appointed consulting physician. To mark the completion of twenty-five years as chairman of the hospital he was presented with a bronze bust of himself, which is to remain in the hospital in perpetuity; a replica of the bust was installed in the Newport Museum last December.

Sir Garrod Thomas took great interest in local affairs, and his public spirit and generosity were recognized throughout South Wales. For three years he was a member of the Newport School Board, and served for eight years as a member of the town council. He was a justice of the peace for the counties of Cardiganshire and Monmouthshire and for the county borough of Newport. In 1900–1 he held office as high sheriff for Cardiganshire, and was appointed by the late Duke of Beaufort a deputy lieutenant for Monmouthshire. The honour of knighthood was conferred upon him in 1912. On the occasion of the Annual Meeting of the British Medical Association in Swansea in 1903 he was vice-president of the Section of Diseases of Children, and he had been president of the South Wales and Monmouthshire Branch. Sir Garrod Thomas was a liberal in politics, and was elected to the House of Commons as member for South Monmouthshire in 1917; he, however, did not seek re-election to Parliament when the county was subdivided under the Act of 1918. He was also senior vice-president of University College of Wales, Aberystwyth, and the honorary degree of LL.D.Wales was bestowed upon him in 1922. He is survived by one son and two daughters.

GEORGE EDMONDSON BIRKETT, *M.C.*, M.R.C.S.

Director, Manchester and District Radium Institute

We regret to announce the death, at the early age of 37, of Dr. G. E. Birkett, which occurred on February 5th, and very unexpectedly even to his closest friends.

He was the son of George Birkett of Morecambe, and was born on November 26th, 1893. Educated at Lancaster Grammar School, he proceeded, with a scholarship, to Trinity Hall, Cambridge, where he took the natural science course with the B.A. degree in 1915. He then joined the Navy as surgeon probationer, continuing until ordered by the War Office to become qualified as soon as possible. He chose the Manchester Medical School, which he entered in 1916, obtaining the M.R.C.S. and L.R.C.P. diplomas in 1917. He then joined the R.A.M.C., and was sent to France. He was invalided home with pneumonia, but recovered well and returned to the front. There, in

1918, at St. Quentin, whilst carrying a wounded soldier to shelter, he was hit by a bullet in the lower part of the back. He received the Military Cross for this gallant action. An immediate laminectomy was performed abroad, and he was passed home to St. Thomas's Hospital, where he remained for over a year, undergoing subsequent operations. An injury to the cauda equina left him badly and permanently crippled in the use of his legs, and only allowed him to walk with great difficulty, and with the aid of a strong stick. In addition, he was subject to periodic spasms of intense neuralgic pain in the lower extremities.

In January, 1921, he was able to take on the duties of a house-physician in the Manchester Royal Infirmary, and at the expiry of the term of service he decided to take up the laboratory side of medicine. He became demonstrator in pathology in Manchester University, and pathological registrar at the Royal Infirmary in 1921. Here he showed himself to be a man of original thought and method, and proved to be a most capable and attractive teacher; clear, didactic, and just the type a student loves. In 1924 he became attached to the Manchester and District Radium Institute as pathologist, and the next year he was appointed acting director during long leave of the director, whom he eventually succeeded in 1926. In addition to his institutional work, Birkett acted as consultant over a wide area. He paid regular visits to Rochdale, Chester, Wrexham, and even as far away as Bangor to advise about the uses of the metal. He was attached to the staff of the Manchester Christie Cancer Hospital, and what pleased him greatly was that he was asked to be a member of the permanent advisory council of the new Mount Vernon Hospital. He was also an active and valuable member of the Manchester Committee on Cancer. His sound clinical sense and his wide experience of cancer, especially as it affected the skin, made his opinion on any doubtful case very valuable.

Birkett was of a nature that did not court publicity. He said little about the excellent work and the great needs of his own institute, contenting himself with his annual report. His best work in radium therapy was on the treatment of cancer of the tongue, mouth, and pharynx, and in this he obtained very great success with extraordinarily little disfigurement or disablement of the tongue. These results were achieved, not only with early cases, but with others that no surgeon would think of treating by excision or dissection. Birkett published several papers in scientific journals on the uses of radium, and a review of his latest monograph appears in the present issue of the *Journal*. Most of this book was prepared while the author was far from well, and its production is another instance of his doggedness. He was very much respected by the committee of the Institute, both for his personal merits and for his constant fight against physical odds. His early death is a great loss to them, and to cancer study and treatment, for his achievements gave promise of even greater relief to sufferers.

"W. H. H." sends the following appreciation:

Dr. Birkett's work as pathological registrar to the Manchester Royal Infirmary was an excellent training for what proved to be his life's work. His knowledge of the histology of malignant disease, on which he concentrated under the late Dr. Powell White, was extraordinary. The absence of any real surgical training was an accident which he himself deplored more than anyone, and this failing at times led him to exaggerate the value of surgery, which is a state of mind extremely rare in anyone enthusiastic in the development of a rival method of treatment. It guided him, however, along a sane course into unbiased judgement. Although radium has been investigated for medical purposes for over twenty years, he had been engaged in radium treatment for only six, and consequently the deductions from his work will have to be made by his successors. His mind was wholeheartedly in the subject. Handicapped by a deficiency in radium element, he was driven to the exploitation of emanation, in the use of which he possibly had few equals. It is probable, however, that during his last few months, when the National Radium Trust augmented his supply, his appreciation of the value of the element as against emanation was increasing. The simplicity of his thoughts helped him greatly in this empirical subject. He would never in any way consider dosage as such. Using the maximum amount of radium necessary to kill the malignant cell without even nearly approaching the danger line of necrosis, he concentrated on uniformity of distribution. In order to secure this he would move his needles to another site at the end of four or five days. He advocated needles, and deprecated the use of seeds. His radium supplies were too limited to use surface application extensively, and hence probably arose his great belief in the ultimate use of a modified bomb. Probably no one has produced better results in the buccal cavity, and his publications on the subject must have rescued primary cancer of the tongue from the hands of the surgeon. He realized to the full the limitations of radium. Insisting that the axillary glands in cancer of the breast could not be properly treated, particularly in stout subjects, by the blind insertion of radium needles, he invariably practised the open operation, with division of the lower part of the pectoralis major, so that he might accurately insert his needles into and around the glands themselves. As an earnest opponent of biopsy he diminished the value of his results; here, as elsewhere, he was thinking always of the good of his patient rather than of his statistics. His system of records and follow-up work was most thorough, and the knowledge gained therefrom was probably more responsible than any other factor for his successes. The amount of work he dragged from his, at times, painful body was truly remarkable, and his recent book, the preparation of which undoubtedly hastened his end, forms but a small part of his views on the value of radium. He realized that we are merely on the threshold of radium therapy, and we know that progress in this department will be retarded by his early death.

A. G. R. FOULERTON, O.B.E., F.R.C.S., D.P.H.

Consulting Medical Officer, East Sussex County Council

We regret to record the death of Mr. A. G. R. Foulerton, which took place rather suddenly at his home in London on February 2nd.

Alexander Grant Russell Foulerton was born at Exeter, the son of a Navy captain, in 1863. After studying medicine at St. Bartholomew's he qualified with the diplomas M.R.C.S., L.R.C.P. in 1884 and obtained the F.R.C.S. in 1895. In 1899 he was appointed bacteriologist to the Middlesex Hospital, and later became director of the cancer research and clinical laboratories there. In 1901 he was appointed medical officer of health for East Sussex, from which post he retired under the age limit in 1928, when the county council showed its appreciation of his services by appointing him honorary consulting officer.

When the European war broke out he was commissioned as a captain in the R.A.M.C., and after some service as surgeon to a home military hospital, was appointed D.A.D.M.S. to the principal sanitary officer of the British Expeditionary Force in France. In 1916 he was transferred to the hygiene department of the Royal Army Medical College, serving as sanitary adviser to the War Office. Here, except for a brief period with the U.S.

Expeditionary Force in Alsace, he continued until his retirement from the Army in 1919 with the rank of major.

Foulerton's authority and experience in bacteriology was widely appreciated, and he held various teaching appointments. At the time of his death he was lecturer in the public health department of University College, London, and lecturer on hygiene to the London School of Medicine for Women. He served as examiner in public health to the University of London and the Royal Colleges, and he had been Milroy lecturer to the Royal College of Physicians, his subject being "Tuberculosis and the streptotrichoses." He contributed a number of papers on pathological and public health subjects to textbooks and medical journals, and was joint editor of the *Review of Bacteriology*. At the Annual Meeting of the British Medical Association at Ipswich in 1900 he was honorary secretary of the Section of Pathology, and was vice-president of that Section at the Annual Meeting at Sheffield in 1908.

One great interest of his, outside his fields of technical work, was the London and Counties Medical Protection Society. He was one of the first members of that body, and after a period of service as auditor, he became, in 1895, its honorary financial secretary. The society's work and membership became so extensive that the post could no longer be an honorary one, and in 1905 Foulerton became financial secretary and vice-president, and was reappointed year after year until his death. The testimony of his fellow officers and members of council is that he was a charming colleague, also that he had a business capacity not often found in conjunction with high scientific attainments, and, further, that he had the keenest desire to help the working practitioner in his everyday perplexities and occasional misfortunes.

The funeral took place at Golder's Green Crematorium on February 5th.

The death took place at Bolton, on January 24th, of Dr. JOHN D. MARSHALL, who had been in failing health for over a year. Born in 1878, he received his early education at Bolton High School, and afterwards went to Manchester University, where he graduated M.B. with honours in 1905. In the following year he qualified M.R.C.S.Eng. and L.R.C.P.Lond., and later went to the Manchester Royal Infirmary as house-surgeon, and to St. Mary's Hospital, Manchester, as house-physician. Then for two years he was resident medical officer at the Victoria Hospital for Children, London. Returning to Bolton in 1908, he began practice, and soon became firmly established there. He made a special study of phthisis, and when the Wilkinson Sanatorium at Astley Bridge was opened he was appointed medical officer, a position which he held until forced to resign last year on account of his health. Dr. Marshall's Army record was a distinguished one. He was regimental medical officer with the Suffolk Regiment in France, and took part in many important engagements, once being seriously wounded. He was twice mentioned in dispatches, and was awarded the D.S.O. After the war Dr. Marshall resumed practice in Bolton, and was for some time president of the Bolton Medical Society. He had little leisure, and in 1929 his health broke down, forcing him to give up practice at the end of the year. Dr. Marshall's sympathetic and genial personality will be much missed in Bolton, and although a man of few words, his individuality gained for him the devotion of all his patients. He was a member of the British Medical Association for more than twenty years. He leaves a widow and two children.

Dr. RICHARD LEWIS, deputy medical officer of health and school medical officer for Carnarvonshire, died in Liverpool on January 23rd. He obtained the Scottish triple qualification in 1902, and the Diploma of Public Health in 1912. Not long after qualification he went on a voyage as ship surgeon, and during his appointment had to deal with an outbreak of yellow fever on the Amazon, in which he was successful. He served in the Army, both at home and in France, for practically the whole of the war period, and in the influenza epidemic of 1918 he seriously undermined his health by overwork at a military camp. His public duties were conscientiously carried out, and his skill as a diagnostician was well known. He was especially fond of children, and had an instinctive understanding of the child mind. He will be missed by a very wide circle, for he was a man who won great affection for his loyalty and his understanding. His was an admirable character, and his passing leaves a blank, not only where his own work was concerned, but also in the lives of his many friends. He had long been a member of the British Medical Association.

We regret to announce the death of Dr. FORREST BRECHIN of Renfrew, which occurred suddenly on January 27th in Glasgow. Educated at Glasgow High School and Glasgow University, he obtained the M.B. and Ch.B. degrees in 1904, and later took the Diploma of Public Health of Liverpool. After graduation he was appointed house-surgeon at Southport Infirmary, and later acted as assistant at Coatbridge. About twenty years ago Dr. Brechin took up practice in Renfrew, where he rapidly built up an extensive connexion, and where, owing to his striking personality, his common sense, and his high ideals, he was universally popular. He was an active member of the British Medical Association, and of the Renfrewshire Panel Committee, of which he was secretary. He was also medical officer of health for the borough of Renfrew, medical officer to the post office, and police surgeon. Dr. Brechin will be very much missed, especially for the warm and sympathetic nature which lay beneath a somewhat reserved exterior. His life was an inspiration and an example to all, and his loss is mourned throughout the district. He leaves a widow and one daughter.

Dr. GEORGE CLOWE CRICHTON, who died at Herne Bay on January 23rd in his eighty-fifth year, had a long record of work as a general practitioner, both in Twickenham and in Kensington. Graduating M.B., and L.R.C.S. at Edinburgh in 1875, he became house-surgeon at the Lancaster Infirmary, and after a short assistantship began his work in Twickenham, where he remained for about twenty years, being honorary medical officer of St. John's Hospital and medical officer of Twickenham Provident Dispensary. He was always proud of the fact that he was one of Lister's pupils at Edinburgh University, and it was he who introduced the methods of that famous surgeon to St. John's Hospital. When he went to Kensington he soon acquired a large practice. He was much beloved by his patients, particularly by children. Several years ago he retired to Herne Bay. For many years he was a member of the British Medical Association, and also of the old Therapeutical Society and of other scientific bodies. He was twice married, and leaves one son and one daughter.

By the recent death of Dr. ROBERT T. HERRON, Armagh has lost one of its most distinguished citizens. Born in 1864, he was educated at the Royal School, Armagh, and qualified L.R.C.S.I. in 1883, and L.M. in 1885. In 1904 he became M.R.C.P.Ed., and in 1905 M.D.Durham. He also obtained the D.P.H. of the Irish Conjoint Board in 1910. He had a strenuous medical, military, and athletic life. His Army record included service in South Africa from 1901 to 1902, for which he received the medal with four clasps, and in the great war he was mentioned in dispatches, retiring with the rank of major. His civilian activities were numerous; he was surgeon to the Armagh board of guardians, the prison, the military depot, Macan Asylum for the Blind, and Shiels's Institution. Dr. Herron took a great interest in the antituberculosis

campaign in Ireland, and gave lectures in many parts of the country. As a sportsman he was well known. In early life Rugby football was his favourite recreation, and for several seasons he acted as captain of the Armagh XV. Hunting and walking were also sports which interested him, and socially he was very popular. He was an active member of the Portadown and West Down Division of the British Medical Association. The funeral took place at St. Mark's Churchyard, Armagh, and was largely attended.

Dr. PAUL TRENDELENBURG, professor of pharmacology in the University of Berlin, died on February 4th, after a long illness, borne with great fortitude. Paul Trendelenburg was one of the best-known pharmacologists in Germany, and a man of great personal charm, whose loss will be greatly regretted by many friends whom he made when at Freiburg im Breisgau before the war and also in the various appointments he has held since.

The following well-known medical men have recently died: Dr. CARL GUTMANN, director of the dermatological department of the Wiesbaden Municipal Hospital; Professor SOMA BECK, director of the dermatological clinic at Fünfkirchen; Dr. PUIG, a prominent Paris stomatologist; and Dr. JUAN ALBA CARRERA, formerly assistant professor of toxicology at Buenos Ayres.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons spent two days this week on agricultural legislation, and two days discussing national economy and unemployment. A Prohibition Bill was the first order for Friday.

Bills

The Hospitals (Relief from Rating) Bill, introduced by Mr. Llewellyn Jones and supported by Dr. Fremantle, was down for second reading on February 6th, but was not reached. The prospect of its discussion this session is now small.

A Sentence of Death (Expectant Mothers) Bill, "to prohibit the passing of sentence of death upon expectant mothers and for other purposes connected therewith," was presented on February 4th by Miss Picton-Turbervill and read a first time. Its backers include Mr. Somerville Hastings.

Notice of presentation of a Bill for the registration of osteopaths was given for February 11th in the House of Commons.

National Health Insurance

Answering Mr. Womersley, on February 5th, Miss LAWRENCE said the subcommittee of the Approved Societies Consultative Council had not yet completed consideration of the question of ophthalmic benefit. She added that Mr. Greenwood had no evidence that the operation of Section 25, para. 5 (*b*), of the National Health Insurance (Additional Benefits) Regulations, 1930, had resulted in unsuitable ophthalmic treatment or apparatus being provided for insured persons. A society had authority, if it had good reason for doing so, to withhold consent to a member obtaining glasses from an optician who was not a member of an organization recognized by that society.

In a reply to Mr. Freeman, on February 5th, Miss LAWRENCE said that, so far as Mr. Greenwood knew, no hospital was included in any list of persons supplying drugs, medicines, and appliances under the National Health Insurance Acts.

On February 5th Miss LAWRENCE told Sir Kingsley Wood that Mr. Greenwood had decided to revoke Clause 4 (4) of the terms of service of insurance chemists, which covered the prohibition of the payment of co-operative dividends on national health insurance prescriptions. The representative bodies concerned had been informed.

Red Cross Rheumatism Clinic

There has, Miss LAWRENCE told Mr. Graham White on February 5th, been a steady and gratifying increase in the work of the British Red Cross Clinic for Rheumatic Diseases at Peto Place. To assess the results obtained would be premature. Mr. Greenwood would give careful attention to proposals made for extending the treatment of rheumatism. The Ministry would like to watch the experiment a little longer before acquainting local authorities with its results.

Local Health Services.—Dr. Fremantle was told, on February 5th, by Miss LAWRENCE that the initial surveys by Ministry of Health officers of the health services of local authorities would be completed in about two years' time. Dr. FREMANTLE asked if no action could be taken till then. Miss LAWRENCE said she would not go so far as that.

Tuberculosis.—Dr. FREMANTLE asked, on February 5th, when the Minister of Health would publish the memorandum on human and bovine tuberculosis, promised a year ago. Miss LAWRENCE said the memorandum was being printed, and would be published at an early date.

Deaths from Small-pox.—Mr. GREENWOOD stated, on February 4th, that the number of deaths of children under 2 years of age registered in England and Wales during 1930 in respect of which small-pox was mentioned on the medical certificate was seven. During the same period there was registered in England and Wales the death of one child under 2 years in respect of which vaccination was mentioned on the medical certificate. This death was classified to "pyaemia." Mr. GREENWOOD, replying to Mr. Freeman on February 10th, said that only six deaths from small-pox were recorded as having occurred among London patients in 1929. All these patients were unvaccinated. In two cases no cause of death other than small-pox was mentioned on the death certificate.

Disposal of London Refuse.—Miss LAWRENCE, in reply to a question by Dr. Fremantle, told the House, on February 5th, that Mr. Greenwood had received a report from the Standing Joint Committee that eleven metropolitan sanitary authorities favoured centralization in the disposal of house, trade, and street refuse from London, but eighteen were against it. To introduce legislation this session was impracticable, but the question would receive the Minister's further attention.

R.A.F. Invalidity Rates.—Mr. MONTAGUE, replying on February 3rd to Mr. Hore-Belisha, said that, during the year 1930, 174 airmen were invalided from the Royal Air Force, and in 16 cases the invaliding disability was considered to be attributable to the conditions of service. During the same period 22 airmen suffering from consumption were invalided, of whom 9 were accepted as attributable. Sixteen disability pensions were awarded during the year, and pensions in respect of service were awarded in 5 other disability cases.

Telephone Charges.—On February 9th Mr. LEES SMITH, replying to Sir W. Brass, said he regretted that in the application of telephone rates he could not discriminate between doctors and nurses and subscribers engaged in other businesses or professions. He could not state what would be the cost of reducing the business rate to that of the residential rate for such subscribers, but it would be large and increasing.

Health of Merchant Seamen.—Mr. W. GRAHAM, replying to Mr. Hastings and Dr. Morris-Jones on February 10th, said that the advice of the Interdepartmental Committee on the Health of the Mercantile Marine on the various questions referred to it from time to time by the Board of Trade or the Ministry of Health, was submitted to the Departments as the committee's consideration of each subject was completed, and no general report was published. The inquiry into seamen's mortality statistics was proceeding satisfactorily, but would take some time to complete. The question of crew spaces had been engaging the special attention of the Board of Trade, of the Joint Committee of the Board of Trade and Ministry of Health, and of the Shipping Federation. Draft instructions to surveyors had been placed before the Merchant Shipping Advisory Committee, and he hoped soon to be able to make a statement on the subject.

Medico-Legal

FIRST AID IN STREET ACCIDENTS

I. C.C. REPLY TO A JURY RIDER

In a recent trial for manslaughter at the Central Criminal Court the jury adder a rider, which was endorsed by the judge (Mr. Justice Charles), reflecting upon the ambulance service of London. An ambulance had been called to an accident case at Greenwich, where a woman had been knocked down by a motor cyclist. She appeared to be suffering from concussion, and had scalp and face wounds, and while the attendant was bandaging the wounds as she lay in the roadway a motor car was driven through the onlookers, caught the patient, and carried her for several yards, one wheel going over her body. She died two hours after admission to hospital. The driver was charged with manslaughter, but was acquitted, and the jury said there was negligence on the part of the ambulance authorities, while the judge said that it was a wrong practice to bandage people in the middle of the road; the injured person should be removed to the pavement. Sir William Willcox, who had been called on behalf of the defendant, had given a similar opinion in the witness-box.

The Central Public Health Committee of the London County Council now states that the opinion of the judge and jury, and of Sir William Willcox, is not supported by medical opinion generally or by those who have experience of, or are responsible for, ambulance services. It maintains that a principle in first aid is that the person apparently seriously injured should be allowed to remain in the place where he has fallen until he has been examined by a doctor or a person skilled in first aid. It is held to be extremely dangerous to move a patient who has sustained severe head or spinal injuries before first aid has been given, and in this case a local practitioner who saw the deceased after the first accident was of the opinion that she ought not to be moved. Representatives of the Order of St. John and the British Red Cross Society have expressed to the committee the same general views and advice that the patient should not be moved until first aid has been given appears in the textbooks of both bodies. It is added that the number of street accident cases dealt with by the Council's ambulance service in 1930 was 34,529, that this method has been employed ever since the ambulance service was started, and that the case under review is the first of its kind which has occurred. Notwithstanding the opinion of the judge and jury, and of Sir William Willcox as expert witness, it is proposed to keep to the established practice, which is in accord with up-to-date medical opinion and the advice of the Council's own officers; it is considered that it would be highly dangerous to issue an instruction to the ambulance staff that injured persons are not to be treated where they fall.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE.

At a congregation held on February 6th the following medical degrees were conferred:

M.D.—*S. D. Sturton.

M.B., B.CHIR.—W. G. Oakley, T. C. Stevenson.

M.B.—A. W. Williams.

* By proxy.

CONJOINT BOARD IN ENGLAND

The following candidates, having now passed the final examination in pathology, medicine, surgery, and midwifery, and having complied with the regulations of the board, are eligible to receive the diplomas of Licentiate of the Royal College of Physicians and of Member of the Royal College of Surgeons:

K. Alman-Vtcherachnia, W. Aukin, W. S. Baxter, H. W. Benham, A. I. P. Brown, A. L. Climer, P. Cohen, M. K. Cusack, D. M. Dean, W. F. T. George, J. B. Great Rex, W. H. Hargreaves, R. Herring, D. T. Ishmael, B. W. Knight, G. A. M. Lintott, Muriel H. E. Long, D. G. Macdonald, W. F. McGladdery, G. D. McLean, G. W. May, D. Nagarajan, C. E. S. Oxley, H. J. C. Page, C. F. Price, E. T. Renbom, B. Rubinsky, H. Silverberg, D. O. C. Simpson.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

A quarterly meeting of the College was held on February 3rd, when the president, Sir Norman Walker, was in the chair. Dr. William Archibald Mein (Bournemouth), Dr. Agnes Rose Macgregor (Edinburgh), and Dr. James Davidson (Edinburgh) were introduced and took their seats as Fellows. Dr. Ernest Watt (Edinburgh) and Dr. George Matheson Cullen (Edinburgh) were elected Fellows. Dr. H. C. Elder (Edinburgh) received a certificate of qualification to lecture in tuberculosis.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

Dr. G. Bewley has been nominated for the professorship of preventive medicine and medical jurisprudence in the Schools of Surgery, Royal College of Surgeons in Ireland.

Professor V. M. Synge has been appointed supplement examiner in medicine.

The following, having passed the necessary examination, have been admitted members of the college: J. F. Cunningham and P. T. J. O'Farrell.

BRITISH COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

The quarterly meeting of the council was held in London on January 24th. The president (Professor W. Blair Bell) was in the chair.

The president handed over to the College, in the name of his wife, the seal of the college, and from himself a set of dies for printing the Arms of the College (1) in colour, (2) in monochrome, (3) for plain printing.

The report of the Examination Committee on a number of applications for membership of the College was adopted, and the recommendations of the Fellowship Committee regarding promotions from Membership to the Fellowship were accepted.

Subcommittees were appointed to consider various matters connected with a maternity service for the country, and with the education of medical students in obstetrics and gynaecology, in accordance with resolutions of a special council meeting held previously.

Medical News

The next quarterly meeting of the Medico-Psychological Association will be held at B.M.A. House, Tavistock Square, W.C.1, on Wednesday, February 25th; Dr. T. Saxty Good will take the chair at 2.30 p.m. A paper on the utility of the psychiatric out-patient clinic will be read by Dr. Ian Skottowe, and, if time permits, Dr. Norman Phillips will read a paper on mental disorders associated with pernicious anaemia.

A meeting of the Medico-Legal Society will be held at 11, Chandos Street, W.1, on Thursday, February 26th, at 8.30 p.m. Mr. Robert Churchill will read a paper on the forensic examination of firearms and projectiles. A discussion will follow.

At the next meeting of the Royal Microscopical Society, to be held at B.M.A. House, Tavistock Square, W.C., on Wednesday, February 18th, at 5.30 p.m., Professor Robert Chambers of New York will deliver a communication on "The nature of the living cell," with demonstration by micro-dissection, micro-injection, and cinematograph.

The nineteenth annual series of Chadwick Lectures will open on Tuesday, February 24th, at 8 o'clock, at the Royal Sanitary Institute, Buckingham Palace Road, when Mr. E. A. Elsby, B.Sc., will discuss the problem of silicosis as an industrial disease, under the chairmanship of Sir William J. Collins, M.D. The spring programme will include also a lecture by Professor Major Greenwood on "Nerves and the public health," in which "nervous" illnesses will be considered in relation to industrial lost time and the work of the Industrial Health Research Board. All Chadwick Lectures are free, and no tickets are required. Further information as to dates and subjects may be had from Mrs. Aubrey Richardson at the offices of the Trust, 204, Abbey House, Westminster.

A special two weeks' post-graduate course in orthopaedic surgery will be held at the Royal National Orthopaedic Hospital, Great Portland Street, W.1, from March 9th to 21st.

A radium symposium will be held by the British Institute of Radiology (incorporated with the Röntgen Society) in the Reid-Knox Memorial Hall of the Institute on February 19th, at 8.30 p.m. Papers will be read by Mr. C. E. S. Phillips, on the preparation of radium salts for therapeutic use; by Professor E. N. da C. Andrade, on a model to illustrate the passage of an alpha particle in the neighbourhood of an atomic nucleus; by Dr. Roy Ward, on some aspects of radium therapy; and by Dr. A. Burrows, on the organization of the radium and *x*-ray cancer service in Australia. The fifth medical meeting of members for this session will be held on February 20th, at 5 p.m., when further papers will be read, chiefly by Liverpool workers.

The second of the series of monthly clinical demonstrations for medical practitioners will be given at the Hospital for Epilepsy and Paralysis, Maida Vale, W.9, on Thursday, February 26th, at 3 o'clock, when Dr. F. L. Golla will demonstrate. Tea will be provided, and those intending to be present are asked to send a card to the secretary.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-Graduate Courses, published in the *Supplement* at page 52. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1. The list of special courses arranged for 1931 is now available.

A new operating theatre, equipped with all modern appliances, has been opened at King Edward VII Hospital, Windsor. The equipment has been given by Sir Joseph Skevington, the senior surgeon, and his brother, in memory of their sister, Miss Kate Skevington, who for many years took an active interest in the institution.

Among the subjects to be discussed by the Illuminating Engineering Society at its next meeting, in the Lecture Theatre at the Home Office Industrial Museum, Horseferry Road, S.W., on Wednesday, February 18th, at 6.30 p.m., is the relation between intensity of illumination and visual capacity.

The Wellcome Foundation Ltd. is about to erect a new medical and chemical research building in London at the corner of Gordon Street and Euston Road on the site, 225 ft. by 135 ft., now partly occupied by its Bureau of Scientific Research. During many years the Foundation has maintained medical and chemical research laboratories, but recent developments have made it necessary to co-ordinate and extend these activities. The new building will furnish the additional accommodation required, and be provided with the most modern research equipment. Mr. Septimus Warwick, F.R.I.B.A., is the architect.

In the seventh annual report of the Ella Sachs Plotz Foundation for the Advancement of Scientific Investigation, it is announced that seventy-eight applications for grants were received by the trustees in 1930, sixty-two coming from twelve different countries in Europe and Asia, and the remaining sixteen from the United States. The total number of grants made during the year was twenty-five, twenty-one being awarded to scientists of countries outside the United States. Among the investigators who have been assisted in the current year is Dr. George Barger of Edinburgh, for chemical work on the alkaloids of ergot. Special attention was paid again in 1930 to the general subject of nephritis. Applications for grants during the year 1930–31 should be sent, before May 1st, to Dr. J. C. Aub, The Collis P. Huntington Memorial Hospital, 695, Huntington Avenue, Boston, Massachusetts. At present researches likely to be favoured in respect of grants are those directed towards the solution of problems in medicine and surgery, or allied branches of science. Grants may be used for the purchase of apparatus and supplies for special investigations, or for the payment of unusual incidental expenses.

The issue of the *Urologic and Cutaneous Review* for January contains an interesting historical survey of the development of modern urological instruments by Dr. Leo Burger, professor of surgery at Los Angeles.

The following three tours have been arranged by the Bureau of International Medical Foreign Travel, Biberstrasse II, Vienna, from which further information can be obtained. (1) March 19th. Visit to the Italian and French Riviera and Algeria, including Venice, Milan, Genoa, San Remo, Bordighera, Ventimiglia, Mentone, where a visit will be paid to Dr. Voronoff's ape farm, Monte Carlo, Juan les Pins, Cannes, Marseilles, Algiers, Biskra, and Touggourt. (2) March 19th. Continuation of first tour to Spain and Morocco, with return journey through Paris, where visits will be paid to the Institut Pasteur and Mme Curie's Röntgen department, Strasbourg, Munich, Salzburg, and Vienna. (3) Tour from Bremen, on April 30th, to the United States, with visits to Vanderbilt and Bellevue Hospitals, New York; Pennsylvania University, Philadelphia; Walter Hospital, Washington; and University of Chicago.

Dr. Edward Scripture, professor of experimental phonetics in Vienna, has been elected a member of the International Society of Experimental Phonetics.

The millenary of the Arabian physician and anatomist Abou Bekir el Razi, commonly known as Rhazes, was celebrated recently at the Palais D'Orsay, Paris, at a meeting organized by the Association of North African Mussulman Students in France, and presided over by Professor Ménétrier, president of the Académie de Médecine, and Dr. Laignel-Lavastine, secretary of the International Society of the History of Medicine.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Treatment of Sciatica

BM/SRHH writes: Could anyone who has used the injection of quinine and urea hydrochloride solution for sciatica say whether the method is successful, as claimed by Hertzler in the *American Journal of Surgery*, October, 1926?

A Fixative for the Hair

"D." asks: Can any reader recommend a toilet fixative for the hair which will not promote dandruff?

Treatment of Obesity

"W. F. C." writes, in reply to "A. S." (January 31st, p. 205): All obese persons will lose weight on a properly constructed diet, properly carried out. Glandular defects need to be repaired. When weight is not lost under treatment an error has occurred, either in the construction of the diet or, more probably, in its application. I suggest

that "A. S." should place the patient under medical observation for a week, in bed and with strict supervision of diet, glandular treatment, etc. The error will then be discovered.

Natural Labour after Caesarean Section

Dr. CHAMANLAL M. MEHTA (Hospital for Women, Bombay) writes:—In reply to the query by "W. M." (November 22nd, 1930, p. 891), I bring to your notice the following case: Mrs K. B., now aged 27, was confined normally of a 5 lb. 4 oz. baby in 1922. Her second child was delivered in December, 1923, by a Caesarean section, for the reason given as relative disproportion of foetal head and pelvis; the child weighed 6½ lb., and was healthy. She was confined by me for her third, fourth, and fifth babies absolutely normally, with no deviation of any kind in the progress of labour, in September, 1926, July, 1928, and September, 1929, the children's weight at birth being 5½ lb., 6½ lb., and 7 lb. The uterus has stood the strain well. Pelvic measurements are normal.

Dr. C. FIRTH PETTINGER (Newcastle, New South Wales) writes: I have had two cases of natural labour, with living babies, following Caesarean section which I had performed previously, once for placenta praevia, once for eclampsia. One of these patients is again almost at full term, and hopes for a natural delivery; the other has twice been delivered naturally of living babies since the operation.

Income Tax

Request for Excessive Payment

"North" sent in his declaration of untaxed income in good time last year, but the local inspector pressed for figures to be sent in by a qualified accountant. This was done, and the gross liability was agreed finally at £30 less than the amount originally returned. This, however, took time, so that the complete statement of total income was not sent in until after an estimated assessment had been made. The inspector now requests, through the accountant, that the tax charged by the existing assessment should be paid and any excess claimed afterwards—by repayment if necessary.

*** We think that the inspector's attitude is definitely incorrect and would not be supported by his headquarters. "North" should, in our opinion, decline to pay more than is due after the assessment has been corrected, and would be justified in referring the matter to Somerset House in the event of the inspector adhering to his present position.

Purchase of Share of Practice

"K. C." has bought a share of a practice, and is paying off the capital sum involved in instalments of £400 per annum, plus interest at 5 per cent. He asks: "Am I liable to income tax for the annual repayments?"

*** He is liable to account for income tax on the amount of his share of the partnership profits, and in doing so cannot deduct either the annual repayments or the interest. As regards the former, it represents a "capital" transaction; the money received is not income to the recipient, and cannot be treated as a deductible expense by the payer. The interest is on a somewhat different footing. It is income of the recipient, but the payer is liable to account to the revenue for the amount of income tax thereon, but has the right of recouping himself by deducting tax from the interest when he pays it.

LETTERS, NOTES, ETC.

Glycerin in Midwifery

Dr. P. G. PRESTON (Nairobi) writes: I was much interested in Dr. Mackinnon's letter (*Journal*, December 6th) on "Glycerin in midwifery." When a house-surgeon I had the care of a certain number of cases of puerperal sepsis with torn perineum, and used glauramine and glycerin. I noted then that the hygroscopic effect of this mixture was that of reducing the oedema of the damaged parts. In one case the patient had large oedematous haemorrhoids, which subsided with the dressing; after this I used it regularly, and later on, when house-surgeon in a general hospital, I used a glycerin dressing on all cases of prolapsed oedematous haemorrhoids. Since coming out here I have made a regular habit of treating immediately all cases in which the perineum has been torn, no matter how small or large the tear, with a dressing of acriflavine in glycerin (1 in 500), and I am pleased to say I have had remarkably good results, the cases showing little or no sepsis, and healing up quite well and quickly. I agree that this kind of dressing does seem to inhibit the growth of bacteria and to have a soothing effect. I was however a little surprised to hear that glycerin alone apparently acts as a germicide, and for this reason I have always added such an antiseptic as glauramine or acriflavine.

The Common Cold

Dr. L. H. BOOTH (Sturminster Marshall) writes: Comment, which combined scepticism with hope, was made in an annotation in the *Journal* of January 24th with regard to further recent investigations into the origin of the common cold. I believe it to be true that the common cold is primarily an acute inflammation following an irritation: in my ignorance I am unable to find valid reason why such inflammation should be caused by any one specific organism or filterable virus—any more than inflammation of mucous membranes elsewhere in the body is caused by only one specific agent. If it is not erroneous to argue that a cold is an inflammation, it would seem to be not unreasonable to infer that the process is essentially an effort on the part of Nature to get rid of a toxin—of classification variable—and subsequently to proceed to repair of the damage done. If that be so, I submit, in all reverence, that it is a matter for which we should thank God, just as also we should render thanks for the activity of other protective glands elsewhere. In my limited experience it has appeared evident that people who live habitually and continually in fresh air do but seldom acquire the symptoms of a common cold, be their nasopharyngeal flora what they may. When such symptoms do arise they are generally concomitant with others when resisting powers, including liver functions, are upset by another ailment. I believe that much could be done—perhaps is being done—by way of education to minimize the incidence of the common cold, by including in lectures on bodily hygiene, and teaching in school clinics, as well as in the home, the dutiful art of blowing the nose correctly, regularly, and at appropriate times, just as the need for the establishment of the habit of other bodily attentions is taught.

Painless Labour

Dr. C. J. DE VERE SHORTT (Liverpool) writes: A primipara, aged 19, engaged me for her confinement, due on December 25th, 1930. Six weeks before this date I was called in to see her on account of acute abdominal pain, which was localized to the epigastrium. There was no sign of dilatation of the os. Three days later she had recovered, but had developed a general pruritus, which did not respond to treatment. On December 9th she consulted me on account of the irritation, and I took the opportunity of examining her bimanually. I found the os half dilated, but she said she had no pain. I sent her home, and on visiting her next morning found she had had a good night's sleep and no pain. The os by this time was almost fully dilated. At about 11.45 a.m. dilatation was complete, and I delivered the child by forceps. The patient had an uneventful puerperium; four days after the birth of the baby the pruritus disappeared. Some years ago I had a similar case in which, however, there was a dull ache in the groins, not only when the uterus contracted, but during the whole time the os was dilating. To me the question of interest is: Is there a toxaemia present which causes anaesthesia of the nerve supply to the uterus, or is the condition merely one of Nature's freaks? Both patients were of the type that could not stand much pain.

Bradshaw's Continental Handbook

In 1847 George Bradshaw, a Manchester printer who had founded the well-known railway guide, began to publish a Continental Bradshaw. This consisted at first of a few pages of foreign time-table information, which was produced as a single volume, containing both time-table and descriptive pages, until 1914. When publication recommenced after the war these descriptive pages formed a supplement to the time-tables. The supplement is now issued independently at 3s. 6d., under the title of *Bradshaw's Continental Handbook for Travellers through Europe, etc.* All European countries come under its purview, and the "etc." includes such places as Algeria, Tunisia, Morocco, Egypt, the Sudan, and Palestine. It includes also a directory of bathing resorts and spas.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 49, 50, 51, 52, 53, and 57 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 54, 55, and 56.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 51.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

141 Erythema Nodosum and Pulmonary Tuberculosis

H. d'U. A. ENGELSGAARD (*Tidsskrift f. d. Norske Laegefor.*, December 1st, 1930, p. 1311) has investigated the records of Lyster Sanatorium from 1914 to 1929, and has found that among the 4,991 patients treated there for chronic pulmonary tuberculosis during this period there were 155, or 3.01 per cent., who gave a history of erythema nodosum, the diagnosis of which had been made by a doctor. In the earlier years no systematic inquiry had been made for such a history, and when such an inquiry was undertaken during 1929 it was found that as many as 21, or 5.9 per cent., of the 356 patients admitted this year gave a history of erythema nodosum. Of the 155, only 31 were males—a ratio of 1 to 4. The average age at which the erythema occurred was 21; there were only 21 under the age of 15, and only 20 over the age of 30. As many as 82 stated that they had tuberculous parents or brothers or sisters, and in most of these cases the patients were in contact with their sick relatives when the erythema appeared. In as many as 55 cases the pulmonary tuberculosis became clinically manifest within three months of the outbreak of the erythema; and in 75 cases (including the 55 already mentioned) there was an interval of less than a year between the outbreak of the erythema and of the first clinical manifestations of pulmonary tuberculosis. No fewer than 120 of these 155 patients were already in the second or third stage (Turban-Gerhardt) of the disease, and 84 were sputum-positive. It would therefore seem that among the patients with a history of erythema nodosum the severity of the subsequent pulmonary tuberculosis was on the average relatively great. Only in 6 cases, or 3.2 per cent., was there a history of rheumatic fever.

142 Abdominal Symptoms in Acute Rheumatism

J. J. J. GIRALDI (*Arch. Dis. in Child.*, December, 1930, p. 379) records six cases to illustrate the point that digestive disturbances precede the onset of acute rheumatism more frequently than is generally realized. He believes that this implies a peritoneal reaction to the infection. The abdominal symptoms may be so serious as to suggest the need of a surgical operation, but he holds that there is no justificaton at present for such a term as "rheumatic appendicitis," although an acute appendicular inflammation may be simulated. Acute peritonitis at the onset of an attack of acute rheumatism is, he believes, a very rare phenomenon, but there is not infrequently in such cases evidence of the invasion of the peritoneum by the rheumatic virus. Giraldi concludes that these abdominal manifestations are worthy of closer consideration than they have yet received, since they may throw some light on to the pathogenesis of this infection. The presumed immunity of the peritoneum to infection is, he adds, more apparent than real.

143 Syphilis in Morbus Cordis

A. S. WARTHIN (*Amer. Heart Journ.*, December, 1930, p. 163) believes that syphilis plays a more important part in the production of coronary disease than has hitherto been recognized. Among 1,675 necropsies on individuals over the age of 25 during the last twenty years, he has found that 408 males and 86 females showed microscopical lesions of active latent syphilis. These consisted of perivascular infiltrations of lymphocytes and plasma cells around small vessels, with obliteration of the arterioles and resultant fibrosis. Such lesions involved the aorta in 90 per cent. of cases, and rather less frequently the meninges, testis, and heart. Active syphilitic lesions of the larger coronary branches were infrequent, and it was only rarely that occlusion of the vessel, thrombosis, or infarction followed. On the other hand, comparison between the latent syphilitic and non-syphilitic groups showed in the former a greater frequency of arteriosclerosis, occlusion, and thrombosis of the coronary vessels; the incidence of angina pectoris and myocardial infarction was also higher among patients suffering from latent syphilis. The author concludes that syphilis predisposes secondarily to coronary and aortic sclerosis. Comparing the syphilitic and non-syphilitic necropsies, sudden cardiac death appeared five times more often in the former than in the latter group. In the majority of cases such sudden death was the result of cardiac insufficiency and dilatation. This had resulted from a slight diffuse interstitial myocarditis which had led to myocardial fibrosis.

144 Varicella with Blood Picture simulating Leukaemia

D. GOLDMAN (*Amer. Journ. Dis. Child.*, December, 1930, p. 1282) records the case of a boy, aged 3, who on the second day of chicken-pox had a blood count of 76,750 leucocytes per c.mm., 89 per cent. of which were lymphocytes. The smear closely resembled that of lymphatic leukaemia, the difference being that only 2.5 per cent. of the cells were the larger less mature forms, most of them being of the small lymphocyte group. The tonsils were somewhat enlarged, and there was slight generalized adenopathy. The chicken-pox lesions on the body were larger, and remained pustular somewhat longer than usual. Mild diarrhoea persisted through the acute stage and until the fourth week. At the height of the disease the temperature was 102.8°. A fortnight after admission the white cells numbered 79,350, and the lymphocyte percentage was 86.5. The urine and stools were normal, the Wassermann reaction was negative, and no enlarged glands were found in the mediastinum on *x*-ray examination. Thirty-three days after the onset, when the total white blood count and the differential count had returned to normal, vaccination was performed, but no lymphocytic reaction reappeared in the blood; the injection of typhoid vaccine also failed to produce any change. Although leukaemia-like blood pictures are frequently seen in whooping-cough, no similar observations have been recorded previously in varicella.

Surgery

145 The Diagnosis and Frequency of Tuberculosis of the Knee

H. SUNDT (*Tidsskrift f. d. Norske Laegefor.*, January 15th, 1931, p. 73) reviews 310 cases of disease of the knee admitted to the coast hospital at Stavern since 1911. Tuberculosis was diagnosed in 205 (66.1 per cent.), while the remainder were classed as non-tuberculous. While the ratio of tuberculous to non-tuberculous cases was thus 2 to 1 for the whole of the nineteen-year period, it was 1 to 1 during the last four years; of 95 patients admitted between July 1st, 1926, and June 30th, 1930, 48 were diagnosed as tuberculous and 47 as non-tuberculous. While this change in the relative numbers of tuberculous and non-tuberculous cases may have been partly determined by the fact that more adults were admitted to the hospital during the four-year period, the most important factor in the recognition of an increasing proportion of non-tuberculous cases was the greater frequency with which the knees were explored by operative means. During the whole of the nineteen-year period 131 patients underwent a therapeutic or a diagnostic operation, and as many as 116 of these patients were operated on after July, 1919. During this latter eleven-year period the microscopical examination eliminated many cases which would have been labelled as tuberculous on the strength of a post-operative macroscopical examination. The author considers that, as far as adults are concerned, there

should be no hesitation in performing exploratory arthrotomy in doubtful cases; even in the case of children such an operation may be justifiable. An exploratory excision has saved many a patient at the Stavern Hospital from years of conservative treatment for tuberculosis and from the depressing effects of such a diagnosis. Among the 205 patients found to be suffering from non-tuberculous diseases of the knee during the nineteen years under review, there were as many as 55 to whose disease no name could be put. There were 21 cases of syphilis, 11 of arthritis deformans, 7 of osteomyelitis, 3 of haemophilia, 3 of osteochondritis dissecans, 2 of hysteria, and one each of chondrosarcoma gigantocellulare genus, xantho-fibro-sarcoma, and chondropathia patellae.

146 Mixed Renal Tumours in Infancy and Childhood

Reporting 17 cases of malignant renal tumours in infants and children, H. L. KRETSCHMER and W. G. HIBBS (*Surg., Gynecol. and Obstet.*, January, 1931, p. 1) state that the true nature of the neoplasm was not recognized either at operation or at the first histological examination. While the kidney is not the only organ to be affected by malignancy in children, it is the most frequent site, and the commonest type is the mixed tumour of Wilms. The embryonal structure of these tumours is their most distinguishing feature, with a variety of tissue of abortive renal elements. Extensions and metastases are exceptional unless the original tumour is large. Regional involvement by extension is the usual method of growth. Sex is not often of diagnostic value, though in the present series 14 were males. The eldest child was 6½ years old and the youngest 3 months. The duration of onset varied from six days to twelve months. Pain in the region of the tumour was present in five cases. Frequency of urination was noted in only one instance, and haematuria, so common in adults, was never observed. Fever was present in nine cases. In ten the growth was on the left side (the reverse of the usual site), and in two there was bilateral involvement, an extremely rare occurrence. In every instance the tumour was palpable, and secondary anaemia was definitely present. The authors find that the diagnostic problem does not differ from that in adults. Cystoscopy and ureteral catheterization should be performed in all cases in order to obtain a pyelogram and to determine the function of the opposite kidney. The authors emphasize the importance of ensuring the presence and healthy functioning of a second kidney before performing nephrectomy, and give a warning about the possibility of bilateral involvement.

147 Adenocarcinomatous Growths of the Bladder

R. C. BEGG (*Brit. Journ. of Surg.*, January, 1931, p. 422) points out that colloid adenocarcinomata, resembling rectal growths may arise as primary tumours in the muscular wall of the upper part of the bladder, and that there is a general tendency for neoplasms in this region to assume the form of colloidal cancer. Primitive cells of the urachus are always present in the muscular wall at the bladder apex and, when active, form tumours of the intestinal type. Adenomatous and various kinds of cystic formations are commonly found in connexion with the lower end of the urachus, and show various degrees of close relationship to the colloid cancers. Begg concludes that all tumours of the bladder apex must be assumed to be of urachal origin from the point of view of treatment unless they can be proved to be otherwise. Radical operation is essential, comprising the removal of the umbilicus and of all the tissues between it and the bladder, as well as of a large portion of the vesical wall.

148 Thrombosis of the Axillary Vein

J. WULSTEN (*Zentralbl. f. Chir.*, January 10th, 1931, p. 72), who records an illustrative case, states that autochthonous thrombosis of the axillary vein is extremely rare. The first German case was reported by Schrötter in 1884, and the first French case by Meslay in 1894. No further cases were described until 1921, when Holländer recorded three more, though he stated that their causation was not clear. The principal factors in the production of axillary thrombosis appear to be, first, slowing and weakening of the circulation; secondly, infection; thirdly, damage to the endothelium; and, fourthly, change in the composition of the blood. Each of the factors may occur alone, but infection is indispensable for the formation of thrombosis. Treatment consists in rest of the limb. Wulsten's patient was a servant-girl, aged 17, who developed thrombosis of the left axillary vein due to hard work on a washing day and infection of an excoriation on the ring finger. Two months after the onset the patient had a violent attack of pain in the left hypochondrium with dyspnoea, suggesting pulmonary or splenic embolism, but these symptoms subsided in a week, and recovery took place under conservative treatment, although five months after the onset the patient's left arm was still larger than the right, and she was unable to do heavy work.

Therapeutics

149 The Prophylactic Value of Salicylates in Rheumatic Manifestations

C. B. LEECH (*Journ. Amer. Med. Assoc.*, September 27th, 1930, p. 932) has endeavoured to provide statistical evidence of the value of salicylates as a preventive of the recurrence of rheumatic disorders. To 67 children with potential heart disease and inactive rheumatic heart disease were given daily 20 grains of acetylsalicylic acid for a period of six months. The control group contained 79 children with similar potential and acquired rheumatic heart lesions. Fewer recurrences of chorea were noted in the experimental than in the control group. The control children did not do so well as the others in respect of gain in body weight, improvement in the heart rate, general bodily comfort, and actual physical capacity as judged by the functional classification based on ability to carry on normal activities without discomfort. Improvement in comfort seemed to play a part in allowing a more satisfactory gain in body weight. Almost without exception the children with recurrences of chorea lost weight before the recurrence, or only gained slightly. Apparently a child who gains weight normally is unlikely to develop chorea. Thus, by increasing the physical comfort of the child, and by facilitating gain in weight, the drug appears to reduce the incidence of attacks of chorea. The number of rheumatic recurrences in this series was too small, and the time too short, to allow accumulation of evidence in regard to any possible effect in preventing endocarditis as a sequel of chorea or other rheumatic manifestation. Leech concludes that his analysis shows that there is a definite advantage in giving daily rations of salicylates to children who represent actual or potential instances of rheumatic heart disease.

150 The Diet in Pulmonary Tuberculosis

J. OLSEN (*Ugeskrift for Laeger*, December 18th, 1930, p. 1194) has treated twenty-four cases of pulmonary tuberculosis on the following principles. The weakened organism should not be burdened with more food than is absolutely necessary; the dietary is therefore reduced to about 28–30 calories per kilo body weight. No trace of albumin in excess of the patient's needs should be given; his diet is therefore made as vegetarian as possible, the only animal foods allowed being butter, whipped cream, and buttermilk. The consumption of albumin is thus reduced to about 0.5 gram per kilo body weight, and the metabolism is diminished to the lowest possible limits. The motions are rendered as odourless as possible. The functions of the skin are promoted by means of heat and, when available, artificial light. The author treats his advanced cases by rest in bed, the patient being given on the first day as much boiled water flavoured with lemons as he likes, but nothing to eat. On the second day he may eat as much oatmeal gruel as he likes. On the third day this dietary is supplemented with oatmeal porridge and two slices of buttered toast. The menu is gradually increased till at the end of about a week he is receiving a sufficient supply of calories and proteins. Potatoes,

carrots, beans, and various other vegetables are given, also a little fruit. The patient drinks the juice of one lemon daily. Flavouring agents, tea, and coffee are strictly rationed, and milk, eggs, fish, and meat are forbidden. The author admits that in such a capricious disease as tuberculosis the many successes achieved among his twenty-four patients do not *per se* establish his case, which is that asepsis should replace antisepsis in medicine as it has done in surgery.

151 Treatment of Chorea

J. D. PILCHER and H. J. GERSTENBERGER (*Amer. Journ. Dis. Child.*, December 1930, p. 1239) report the occurrence of fever and a rash in the majority of children treated for chorea with phenyl-ethyl-hydantoin, a drug introduced in Germany about 1918 as a hypnotic and general sedative. In chorea the drug is administered in doses of from 0.1 to 0.15 gram (1½ to 2¼ grains) three times a day, in the case of patients up to 14 years old. Fever develops after six to nine days, rising gradually to 102°–104° F. a few days later, at which time a morbilliform rash appears, fading gradually in a few days as the temperature returns to normal. Severe cases react better than mild ones, and improvement usually follows promptly. Those cases that do not react are not appreciably benefited as a rule. It has been suggested that the reaction is of the nature of protein shock. Complications usually consist of irritation of the mucous membranes and more rarely of the urinary tract with blood in the urine; in one case there was an exudation into the lungs, causing a condition resembling pneumonia. These complications have not proved serious in children.

Anaesthetics

152 Percaine in Dental Operations

M. MELCHIOR (*Ugeskrift for Laeger*, November 20th, 1930, p. 1079) traces the development of local anaesthetics since the introduction of cocaine in 1884. He remarks that, with one exception, all the substitutes for cocaine which have been introduced since then have shared the same fate: great praise at first, followed by a waning reputation ending in oblivion. The one exception—novocain, introduced in 1905—has maintained its prestige. Percaine, introduced in 1929, has enjoyed the early enthusiasm of its predecessors. Various authorities in dentistry have praised the intensity and duration (up to several hours) of its action, but warning voices have already been raised with regard to its alleged toxicity, and its tendency to induce dilatation of blood vessels with consequent post-operative haemorrhage. After quoting the investigations of various authorities, the author refers to his own, which included a series of dental extractions effected on one side under percaine and on the opposite side and corresponding tooth under novocain. Percaine was first given in solutions of 0.5 to 1 per 1,000, but this strength was found to be totally inadequate. With a 2 per 1,000 solution of percaine, satisfactory anaesthesia was induced in only 7 out of a series of 12 cases, in five of which its action was only moderately successful, and in one of which it failed altogether. On the other hand, a 2 per cent. solution of novocain gave a more complete and reliable anaesthesia, and in but one case in this series was its action only moderately effective. The complete anaesthesia lasted about the same time, but the subsequent partial anaesthesia continued considerably longer in the percaine than in the novocain field of operation.

153 Infiltration Anaesthesia in Fractures

C. O. RICE (*Med. Journ. and Record*, November 5th, 1930, p. 423) advocates the employment of infiltration anaesthesia in the reduction of fractures, its only contraindication being the presence of infection or in compound fractures. Muscular relaxation as complete as under deep surgical anaesthesia can be obtained by infiltration with a local anaesthetic into the fracture gap so that the torn edges of the endosteum and periosteum become impregnated. By using a 1 per cent. procaine-adrenaline solution it was found that the period of anaesthesia was prolonged from four to ten times by the presence of adrenaline, and by slowly infiltrating ahead of the needle the pain associated with the process is minimized. Should anaesthesia and relaxation fail to occur after injecting from 5 to 10 c.cm. of the solution into the fracture gap, the periosteum of the proximal fragment is then infiltrated around its entire circumference. Whenever manipulation is undertaken to reduce a fracture this method of anaesthesia is preferable, as it is also if remanipulation of the fragments becomes necessary; better alignment can be obtained because the fragments can be adjusted under radioscopy. The method does not give rise to any untoward effects, nor does it interfere with healing.

154 Combination Anaesthesia

F. L. GRANDSTAFF (*Amer. Journ. of Surg.*, November, 1930, p. 300) records the result of 200 surgical cases in which complete or partial unconsciousness was produced by intravenous sodium iso-amyl-ethyl-barbituric acid (sodium amytal). The maximum dosage was 1 grain per 10 lb. of body weight, but allowances were made for certain factors such as temperature, thyroid dysfunction, age, cachexia, dehydration, and pre-operative medication. It was also found that patients with hypertension and arterio-sclerosis reacted more quickly to sodium amytal than others with a normal blood pressure, while alcoholics required the maximum dosage. The average dose required for laparotomy was 11 to 13 grains. Pre-operative treatment included 10 grains of chlorbutanol by mouth the night before, and again two hours before the operation, while morphine sulphate, with or without atropine sulphate, was given subcutaneously to all adult patients half an hour before the operation. A 10 per cent. solution of sodium amytal was injected intravenously, not more rapidly than 1 c.cm. per minute, and a supplementary anaesthesia of nitrous oxide and oxygen was afforded. The advantages of this form of anaesthesia were the diminishing of psychic trauma, and the reduction in quantity of inhalation anaesthetic required. Post-operative complaints of nausea and vomiting were absent in 95 per cent. of cases, and paresis of the intestinal tract, with flatulence, appeared to be less than with inhalation anaesthesia alone.

Obstetrics and Gynaecology

155 A Hormone Test for Early Pregnancy

Friedman has demonstrated that intravenous injection of 5 c.cm. of urine from a pregnant woman into a rabbit provokes ovulation as in a mouse subjected to the Aschheim-Zondek test, with this advantage, that in the former animal ovulation occurs within 24 hours, while in the latter it takes 100 hours. The results were so striking that P. F. SCHNEIDER (*Surg., Gynecol. and Obstet.*, January, 1931, p. 56) has employed this test in 100 cases to determine its clinical value. The factors involved in the test are enumerated. Into the marginal ear vein of a female rabbit, 12 to 14 weeks old, is injected from 5 to 7 c.cm. of the first morning urine passed by the woman being tested. The rabbit is killed 24 to 30 hours after the injection, and an immediate diagnosis is afforded by inspection of the ovaries. If the reaction is negative, these are found to be small and to be showing no change; if positive, one to fourteen corpora haemorrhagica and lutea are found in each ovary. Sometimes a positive result has been obtained in twelve hours. Schneider concludes that his results prove that the test is positive very early in pregnancy. It is simple, accurate, and can be completed within 24 hours; perfecting of the technique may reduce this time to 8 to 12 hours. The conditions from which early pregnancy can be differentiated by this test are mentioned. The rapid disappearance of the hormone after delivery, and the persistence of the reaction following incomplete abortion or foetal death, indicate its possible value in diagnosing retained decidual tissue after labour or incomplete abortion.

156 **Induction of Labour**

L. C. L. AVERILL (*New Zealand Med. Journ.*, December, 1930, p. 361) commends the induction of labour in New Zealand, where he thinks the children tend to be oversized. He considers quinine and pituitrin induction practically free from danger to the mother when properly conducted. It is especially advisable in cases of threatened disproportion in primiparae where the head remains floating at term. If the cervix is firm and well formed he uses the usual 0.5 c.cm. doses of B. P. Watson, but if it is soft and almost taken up before labour begins he gives 4-minim doses half-hourly for eight doses. Immediately any pains begin the injections are stopped. Averill believes that there is very little likelihood of the child being endangered.

157 **Changes in the Ureter during Pregnancy**

Dilatation of the ureter during pregnancy has been found at necropsy and operation, and thought to be concerned in the etiology of eclampsia. P. SCHUMACHER (*Arch. f. Gynäk.*, October 24th, 1930, p. 28), investigating by pyelography after the intravenous injection of uroselectan the anatomy of the ureter in physiological conditions in a hundred pregnant subjects, found that from the fifth month onwards there is invariably present a dilatation and diminution of tone in one or both ureters: both in 83, the right only in 15, and the left only in 2. This dilatation, which reaches a diameter of 2 to 2.5 cm., affects the abdominal portion only of the ureter, and by the eighth month is combined in four out of five cases with backward and outward displacement, and in the same proportion with kinking, either below the renal pelvis or at the junction of the upper and middle (abdominal) thirds.

158 **Trial Labour in Contracted Pelvis**

BROUHA (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, November, 1930, p. 739) reports a hundred trial labours in patients whose pelvic contraction was such that the antero-posterior diameter of the inlet ranged from 9.5 to 8 cm. In about one-half of the cases Caesarean section was avoided; the maternal mortality was *nil*, the foetal 4 per cent. The patients entered hospital as soon as labour commenced. Vaginal examination was made when the membranes ruptured (in order that prolapse of the cord, forbidding further expectant treatment, might be excluded), or at a cervical dilatation of 4-5 cm. When this was attained the membranes were artificially ruptured to shorten labour. With a conjugate of 95 cm. about one-fourth, and with one of 9 cm. nearly one-half, of the patients had eventually to have Caesarean section. PERY and MANGÉ (*ibid.*, p. 661) describe a case illustrating a danger of trial labour in contracted pelvis. The conjugate was very slightly reduced, the sacral promontory being just accessible, but the foetus weighed 4.85 kilos. The patient, a 1-para aged 20, had been fourteen hours in labour when Caesarean section revealed an unsuspected tear in the lower uterine segment; this proved to be so friable that hysterectomy had to be performed.

Pathology

159 **Immunology of Scarlet Fever**

W. R. F. COLLIS and A. G. WATKINS (*Arch. of Dis. in Childh.*, December, 1930, p. 441) report a case of scarlet fever in a boy, aged 2, which indicates that this infection is not a simple toxin-antitoxin phenomenon, and that the Dick test should be regarded merely as an indication of the presence of antitoxin in the patient's serum, and not as a guide to the general immunity of the patient to the specific streptococcus of the disease. Although the rash was quite transient, and none of the graver toxic symptoms of the scarlet fever syndrome supervened, yet the patient succumbed to a generalized septicaemic involvement of the spleen, lungs, kidneys, and serous cavities by the specific haemolytic streptococcus. The Dick reaction was negative at a time when it would have been expected to be positive. The authors distinguish two immunological states in scarlet fever: the specific toxic state, producing the usual exanthem, and those septic phenomena, such as pharyngitis, adenitis, otitis, and septicaemia, which are due to the specific organism. H. J. Parish and C. C. Okell have established the fact by animal experiments that the presence of antitoxin in the blood does not avert subsequent septicaemia. J. V. Cooke has shown that 90 per cent. of infants under the age of 6 months give a negative Dick reaction, and the present authors define this as the first or "pre-sensitive" stage; then comes a second or "hypersensitive" stage (Dick-positive); and finally, in older children and adults, whether they have had scarlet fever or not, a third "post-sensitive" stage, when there is sufficient antitoxin in the blood. The rash, vomiting, and pyrexia of scarlet fever would thus represent a hypersensitive response on the part of the patient to the specific toxin of the scarlatinal type of haemolytic streptococcus, rather than a general reaction to an infection with the organism itself. In the present case the child would appear to have reached the third or "post-sensitive" stage, his serum containing enough antitoxin to give a negative reaction to the Dick test, and to prevent the development of all the clinical symptoms of scarlet fever except the transient rash. The antitoxin did not, however, arrest the multiplication of the streptococcus in the blood, or avert the subsequent death from septicaemia complicated by acute nephritis.

160 **Allergy and the Acid-Base Balance**

Without disparaging the sensitization hypothesis of allergy, H. BECKMAN (*Journ. Amer. Med. Assoc.*, November 22nd, 1930, p. 1582) suggests that there may be an intimate connexion between allergy and the acid-base balance, and brings forward considerations which support this view. Diabetic patients, acidotic individuals, do not usually suffer from allergic diseases. Starvation, a cause of acidosis, appears to militate against allergy conditions, as also does pregnancy, during which the alkali reserve is sometimes much lowered. Other acidotic phenomena, such as acute pyrexia and the effects of sea voyages or sojourning at high altitudes, are also found to operate against allergic manifestations. Another argument cited is that the combination of whisky and acetylsalicylic acid, which causes a relative acidosis, is often effective in asthma. Beckman has found the administration of nitrohydrochloric acid to be curative in hay fever, and he suggests that ketogenic feeding should be tried in a carefully controlled series of asthma and hay fever cases. He believes that in the production of the allergic state other factors are concerned than sensitization alone.

161 **Asbestosis Bodies in the Sputum**

F. W. SIMSON and A. S. STRACHAN (*Journ. Path. and Bact.*, January, 1931, p. 1) report a series of examinations of the sputa of fifty workers in an asbestos mill, some of whom had also been exposed to this dust in other occupations. In forty-eight of these patients asbestosis bodies were found; they were as easily demonstrated by examining thick films directly as by the antiformin concentration method. In the absence of bronchial complications the sputum was always mucoid, and might even resemble egg albumen. In none of the sputa were tubercle bacilli demonstrated. A study of the intracellular asbestosis bodies in these cases suggested that they had been formed by the deposition on asbestos fibre of an iron-containing substance elaborated by the cell. The authors remark that it is obvious that the presence of these bodies in the sputum does not necessarily imply the existence of pulmonary fibrosis, although it does seem to indicate a reaction on the part of the alveolar epithelium. The stages in their development are as follows. The fibre becomes coated with a pale greenish-yellow or golden-yellow substance, which gives a prussian-blue reaction. This coating may be uniform, except at the extremities, where there is a bulbous enlargement. The deposit increases, and segmentation appears in some of the bodies; later the segmentation becomes deeper, and complete fracture of the fibre may occur with formation of the "crustacean" type of body.

What about taste?

MANY patients still believe innocently that the medicine must be bitter to be efficacious.

Agarol Brand Compound the original mineral oil and agar-agar emulsion with phenolphthalein, is for that up to date generation that wants its medicines in the proverbial "sugar coating."

No excuses are needed for its taste any more than for its effectiveness. Agarol Brand Compound is exceptionally palatable without artificial flavouring. It *flows freely* from the bottle, and can be mixed with any liquid or soft food.

Just enough mineral oil to carry unabsorbable moisture to the intestinal contents, keep them soft, and so make evacuation easy and painless. By *gentle stimulation* of peristalsis, Agarol Brand Compound makes the result certain; and aids in re-establishing regular habits.

One tablespoonful at bedtime —is the adult dose

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

AGAROL BRAND COMPOUND *for Constipation*

FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC., *Manufacturing Pharmacists Since 1856.*

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.)

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

'CELLANBAND'

✻ DESCRIPTIVE LITERATURE is available UPON REQUEST.

SAMPLE BANDAGE 1/- post free

CUXSON, GERRARD & CO. LTD. *OLDBURY, near BIRMINGHAM*

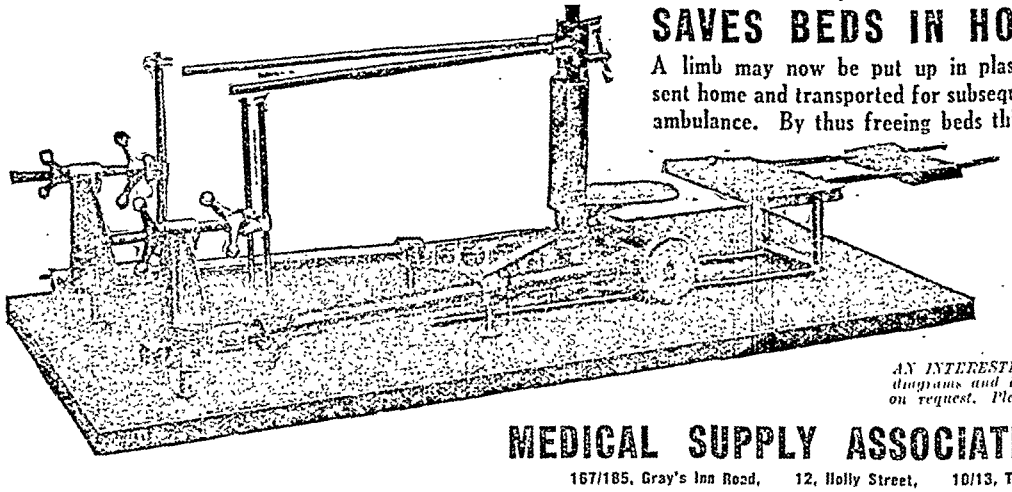
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

167/185, Gray's Inn Road, LONDON, W.C.1. 12, Holly Street, SHEFFIELD. 10/13, Teviot Place, EDINBURGH.

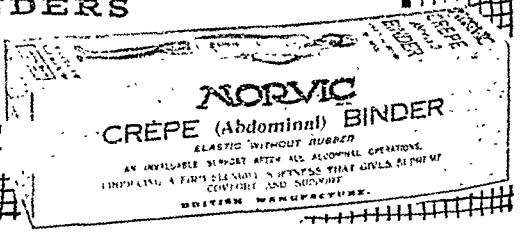
London Telephone: Terminus 5432 (6 lines).

Recommend NORVIC Reg'd. CRÊPE BINDERS

As used by the leading hospitals and highly recommended by the medical profession. Invaluable in maternity and in all cases where flexibility and support are needed.

6' wide 4/6 8' wide 6/-
11' wide 8/3

Stocked by all the leading Chemists and Druggists: Boots 904 branches; Timothy White, Ltd.; Taylors Drug Stores; and Parkes Chemists, Ltd.



SAFE
SCIENTIFIC
SATISFACTORY

SALTAIR
SURGICAL
SERVICE

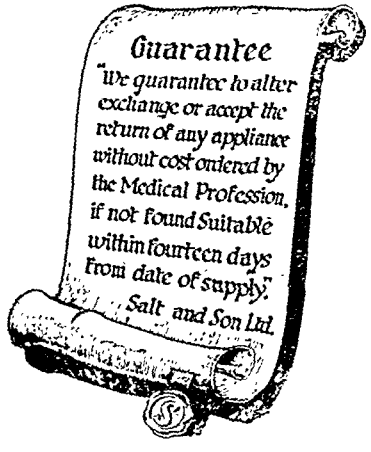
Upon Reflection

it is obvious that 138 years' close co-operation with the Medical Profession gives

The House of Salt

that prestige which their policy of Surgical Specialisation holds to-day with the Medical Profession.

To enable us to keep in close touch with requirements of modern times, we cordially invite all Medical Men to co-operate with us in experimenting in new designs in Surgical Appliances—**at OUR expense.**

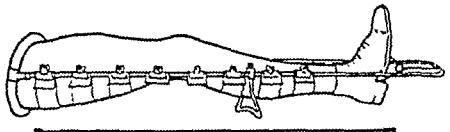


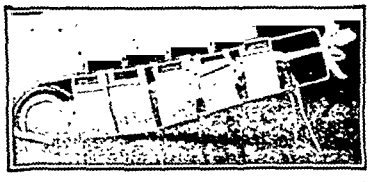
'Phone (B'ham): Mid. 5455. *'Phone (London): Museum 3845.*

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT. ESTABLISHED 1793.

The most modern method of accurate extension and safe-transport is provided by





COLLENDER'S SPLINTS

(Patented in the leading countries of the world.)

An evolution of the Thomas splint, preserving all its advantages with many improvements.
Invaluable for Hospital, Emergency, and District Surgeons' work. Indispensable for Mines, Ranches, Lumber Camps, Railways, Shipping Cos., and all places remote from surgical aid. Made of Duralumin, untarnishable, light, and of great tensile strength. All parts interchangeable. Complete splints constructed in a few minutes for limbs of any dimensions. Sufficient members to accommodate ten fractures simultaneously. Supplied in strong fitted case.

Write for full descriptive booklet, post free.

WATSON BAKER COMPANY, WEST END LANE, BARNET, HERTS, ENGLAND

DEAF DOCTORS

AND DEAF PATIENTS

have proved "ARDENTE" a boon—a Heart Specialist whose work is so dependent on his hearing writes: *"'Ardente' is a godsend to me";* without "ARDENTE" he is, to all intents and purposes, "stone" deaf; with "ARDENTE" he carries on his work—what better testimony to "ARDENTE" merit?

Mr. Dent makes a Stethoscope specially for deaf Doctors—the only one of its kind, which is widely used and praised. Doctors whose work lies amongst the deaf prefer to prescribe "ARDENTE" because they know that "ARDENTE" is the only individual method in the whole deaf world (no mass production way can ever succeed with human disabilities) and they know what "ARDENTE" service stands for to the deaf. Many doctors who are deaf use "ARDENTE."

"ARDENTE" is entirely different and uncopyable and succeeds in widely differing cases. A full range covers the needs of those suffering from varying forms and degrees of deafness and tinnitus. Minutely adjusted to the requirements of the case for young, middle-aged, or old, and so sensitive as to have the desired effect even in middle-ear and nerve cases, bringing into action and stimulating the auditory system, enabling it to function naturally and saving atrophy. "ARDENTE" can be used or not at will, and is sold under guarantee.

"ARDENTE" is the choice of Doctor and patient—only after test and hearing, or from prescription or particulars, is "ARDENTE" fitted, toned, tried, adjusted, supplied, and serviced.

Tests and demonstrations given at Doctors', patients' or our addresses, without fee or obligation.

Mr R.H.DENT'S **ArdenTE** FOR DEAF EARS

309, OXFORD STREET, LONDON, W.1

(Midway between Oxford Circus & Bond Street). *Telephone:* MAYFAIR 1380/1718.

9, Duke Street, CARDIFF.
118, New Street, BIRMINGHAM.
27, King Street, MANCHESTER.
37, Jameson Street, HULL.
271, High Street, EXETER.
64, Park Street, BRISTOL.
23, Blackett Street, NEWCASTLE.
206, Sauchiehall Street, GLASGOW.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.

"VARIBAN" REGD.

Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove.

SUPPLIED IN WIDTHS

2"	2½"	3"
1/7	1/9	2/-

— EACH —

When stretched measure six yards (approximately)

Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc.

Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SAMPLE 3 in. "VARIBAN" Elastic Plaster Bandage SENT POST FREE on receipt of P.O. for 2/3

SOLE MANUFACTURERS:

CUXSON, GERRARD & Co. Ltd. Manufacturing Chemists **OLDBURY, Nr. Birmingham**

ESTABLISHED since 1796.

NEW PREPARATIONS
OF THERAPEUTIC VALUE
By SAVORY & MOORE, LTD.

Products Supported by a Reputation of over 130 years.

FRUCTOLE CASCARA. An active preparation containing the full therapeutic value of Cascara Sagrada, without its bitter principle, combined with a pleasantly flavoured fruit base. An ideal Tonic Laxative.
In 2 oz., 4 oz., 8 oz., and 16 oz. bottles.

FRUCTOLE of SENNA PODS. A natural Vegetable Laxative containing Savory & Moore's specially prepared Liquid Extract of Senna. This preparation is free from the griping tendency which many Senna preparations are liable to produce.
In 2 oz. and 4 oz. bottles.

LIVER EXTRACT (Bell). A standardised highly concentrated preparation of full activity. Each maximum dose is equivalent to 8 ounces of Fresh Liver.
In 4 oz., 8 oz., and 16 oz. bottles.

ARSENIATED LIVER EXTRACT (Bell) combines with Liquid Extract of Liver valuable organic salts of Arsenic. For the treatment of Anaemia.
In 4 oz., 8 oz., and 16 oz. bottles.

VITAMIN EXTRACT of MALT and COD LIVER OIL (Toffee Flavour). A guaranteed product tested to a standard of Diastatic Power and Protein Content. High content of essential Vitamins A, B and D.
In 1 lb., 2 lb., and 4 lb. Jars.

Savory & Moore's Preparations are accepted by the entire Medical Profession as being representative of the highest quality and of greatest purity. An effective system of Analytical Control ensures that every constituent and every process in manufacture is of a standard only associated with the best of products.

SERVICE. No effort is spared to meet the varied requirements of the Profession.

Qualified Staff in attendance to meet urgent calls

DAY and NIGHT
at
50-52, WIGMORE STREET.

SAVORY & MOORE, Ltd.,
Chemists to The King,
143, NEW BOND STREET,

JOHN BELL & CROYDEN,
Pharmaceutical Chemists,
50-52, WIGMORE STREET,

LONDON, W.1.

RHEUMATOID ARTHRITIS

UNDER this name, several conditions which are ætiologically distinct are doubtless grouped together, and we are still far from a solution of the cause of the disease.

It is obviously impossible to restore in any marked degree mobility to the joints of the hopelessly crippled, but in the early stages much may be done to retard or stop the progress of the disease.

An eminent surgeon has directed attention to the rôle of chronic intestinal stasis and alimentary toxæmia in the production of the disease, and has emphasised the need for intestinal disinfection.

For this purpose nothing surpasses the use of Kerol Capsules. Kerol is a potent and non-toxic germicide which is unabsorbed from the intestine, so that the whole of its germicidal power is exerted upon the contents of the bowel.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

Kerol Capsules

KEROL LTD.,
Ravens Lane
Berkhamsted
England

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is contra-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A anacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Kliniek (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ROYAL LONDON OPHTHALMIC HOSPITAL.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.
THE LONDON HOSPITAL.
WALTHAMSTOW HOSPITAL.
BRADFORD EYE AND EAR HOSPITAL.
BIRKENHEAD GENERAL HOSPITAL.
BURNLEY VICTORIA HOSPITAL.
HARTLEPOOL HOSPITAL.
HUDDERSFIELD ROYAL INFIRMARY.
HUDDERSFIELD ROYAL HOSPITAL.
KENT COUNTY OPHTHALMIC HOSPITAL, MAIDSTONE.
NEWPORT, ROYAL GWENT HOSPITAL.
AL VICTORIA INFIRMARY.
LIVERPOOL.
TAL.
OSPITAL.
IRMARY.
OSPITAL, BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8095.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

ACKERMAN-LAURANCE

"Brut-Royal"
and
"Dry-Royal"

"may be recommended with every confidence. By reason of the very low "content of sugar these wines are "specially suitable for persons with a "rheumatic or gouty tendency."

(Vide Report: Institute of Hygiene, Feb. 1927)

Obtainable everywhere

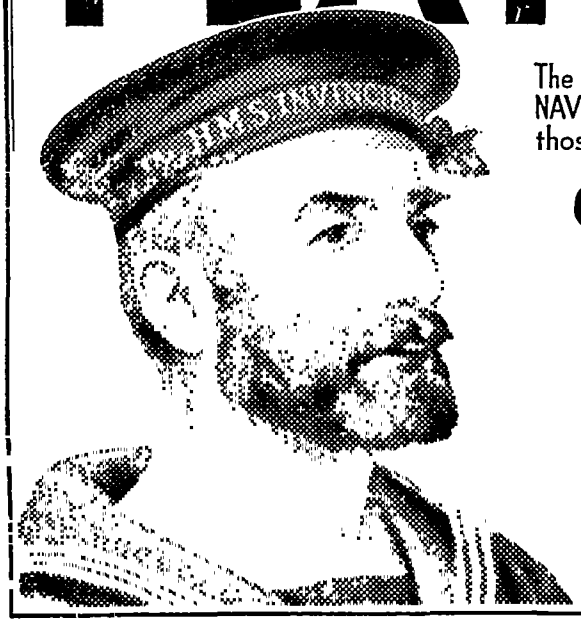
Per bottle - - 9/-
Per half-bottle - - 4/9
Per quarter-bottle - 2/6

General Agents (Wholesale only) for U.K. and Colonies

ANDERSON DOBSON & CO., LTD.
13, COOPER'S ROW, LONDON, E.C.3

A useful attachment for U.K. Telephone, holding Memo Block, sent post free on application.

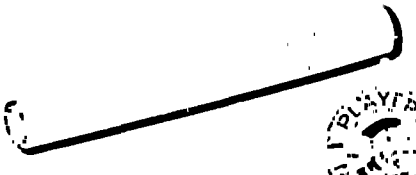
PLAYER'S



The INCREASING DEMAND for PLAYER'S NAVY CUT CIGARETTES proves that those who smoke for pleasure prefer

Quality and quantity

IN THE CIGARETTES



10 for 6D 20 for 11½D

PERMANENT ALL SICKNESS AND ACCIDENT INSURANCE

FOR MEDICAL MEN AT THE LOWEST RATES

The following specimen rates show the cost of each guinea per week payable during total incapacity arising from any form of Sickness or Accident, except those due to the wilful misconduct of the insured.

The full sum insured is payable for the first 26 weeks, and thereafter half that amount so long as the total incapacity lasts, up to the age of 65.

Age 25, £1 : 12 : 8	Age 35, £2 : 1 : 0
„ 30, £1 : 16 : 5	„ 40, £2 : 6 : 7

A Reversionary Bonus of 15/- per guinea per annum was declared on these Policies at the last valuation.

SICKNESS FUND exceeds £370,000

Write for full particulars and Booklet "B. 17" to the Manager and Secretary,

The MEDICAL SICKNESS, ANNUITY, & LIFE ASSURANCE SOCIETY, Ltd.

300, HIGH HOLBORN, LONDON, W.C.1.

This preparation is now obtainable in 5-oz. bottles.

"MIST. PEPSINAE CO. c. BISMUTHO"

(HEWLETT'S).

COMPOSITION.—Pepsin, Bismuth, Sol. Opii Purif., Hydrocyanic Acid (P.B.), Tinct. Nux Vomica, &c.
An elegant preparation, miscible with water, invaluable in Gastric Catarrh, Pyrosis, Carcinoma, and all forms of Atonic and Irritative Dyspepsia.

DOSE: HALF TO ONE FLUID DRACHM DILUTED.

Packed for dispensing only, in 5, 10, 22, 40, and 90-oz Bottles. PRICE IN ENGLAND 12/6 per lb.
This preparation is also supplied "sine Opio," the dose and price remaining the same.

INTRODUCED AND PREPARED ONLY BY

C. J. HEWLETT & SON, Ltd., 35 to 42, Charlotte Street, LONDON, E.C.2.

THE FRENCH NATURAL MINERAL WATER

VICHY-CELESTINS

And the other State Springs of Vichy
(Property of the FRENCH STATE)

FERMENTATIVE DYSPEPSIA.

When the secretion is vitiated in quality, and the motricity of the stomach weakens, that organ dilates, and the gastric stagnation allows the micro-organisms of many ferments to develop. Quite a series of acids are then to be met with (butyric, lactic, acetic, etc.), which not only irritate the mucosa, but further, after their passage into the intestine, become absorbed by the lymphatics and swept into the circulation. **Vichy-Celestins,** by its slightly stimulating action, clears out the stomach, and this avoids stagnation and consequent fermentation. As, in addition to doing this, it modifies stomachal metabolism, the secretions return little by little to their normal physiological condition.

CAUTION.—Each bottle from the STATE SPRINGS bears a neck label with the word "VICHY-ETAT" and the name of the SOLE AGENTS:

INGRAM & ROYLE, LIMITED,

Bangor Wharf, 45, Belvedere Road - - - - - - - London, S.E.1

And at LIVERPOOL and BRISTOL.

Samples free to Members of the Medical Profession.

"STERULES" *Regd.*

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

Telegrams: "MARTINDALE, CHEMIST, LONDON." Telephone: LANGHAM 2440.

ALLIANCE DRUG & CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C.3.

Telephone: ROYAL 5885.

Tel. Address: "NALTROY," BILGATE, LONDON.

Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulæ as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon Acid @ 2/6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.
Lassar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Lin. Belladon. Meth., 6 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/8 lb.
Chloroform Pur., 8 lb. @ 3/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero-Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosph. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillæ, B.P., 7 lb. @ 8d. lb.
Sennæ, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Bland's (Sugar-coated), gr. 5	3/10
Nitroglycerini, B.P., gr. 1-50th	5/-
Perchloride of Mercury (Coloured)	15/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000.	
Thyroid Gland, gr. 5	12/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.

	B.P.	Aquos.		B.P.	Aquos.
Belladon.	4/3	1/6	Hyoscyam.	4/3	2/4
Benzoin Co.	4/7	—	Nucis. Vom.	3/10	1/4
Camph. Co.	5/-	1/6	Opii	5/3	4/3
Card. Co.	2/6	1/6	Quin. Ammon.	5/3	—
Gentianæ Co.	2/8	1/6	Rhei Co.	2/8	1/9

Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichtamolis, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

* Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

ANTIQUE AND MODERN
HIGH-CLASS SECOND-HAND
FURNITURE
FOR IMMEDIATE DISPOSAL.

THE ENTIRE VALUABLE CONTENTS OF SEVERAL NOTABLE MANSIONS, Town and Country Residences, Flats, etc., removed for convenience of sale, including many important items from the following collections.

LANSDOWN HOUSE.
THE PRINCESS PALEY (Paley Palace).
SIR FREDERICK CHARLES HOLIDAY (Decd.).
MARY ANNA DUCHESS OF ABERCORN (Decd.).
THE THIRD EARL OF DURHAM (Decd.).

THE MAGNIFICENT BEDROOM AP[illegible] 500 Complete Finely Figured and Black Lacquer, Painted and Figured Satinwood, Fine Oak, ranging in price from £4 10s. to 250 Guineas per suite, many of which originally cost prer double, including a special offer of 36 only Club Bedroom Suites in Solid Oak, with Bedsteads complete, £4 10s. set.

GENUINE ANTIQUE FOUR-POST BEDSTEADS, Tallboy and shaped front Chests, Sofa Tables, Corner and other Washstands, Toilet Mirrors, and numerous Dressing Tables, Bow-front Wardrobes, etc. Several Fitted Gentlemen's Wardrobes offered at £4 each.

5,000 CARPETS AND RUGS, including fine Persian, Turkey, Wilton, Axminster, Chinese, and Aubusson, including a large salvage stock now being offered at remarkable bargain prices. A quantity of fine Pile Carpet at 2s. 9d. per yard, together with a large number of Seamless Squares in various designs and colourings from 21s. each.

750 SETTEES AND LOUNGE EASY CHAIRS, some covered Morocco Leather, Tapestry, rich Silk, Hide, etc., removed from a large West End Club and Hotel. A large quantity covered Plain Art Repp, all being of excellent quality and in all cases equal to new. Small Lounge Easy Chairs offered at 21s. each, several in Real Hide, £3 3s. each. Large Club Lounge Chairs, £4 17s. 6d. to 12 gns. Well-made softly-spring Chesterfield Settees, 3 gns.; and a large quantity of Chesterfield Settees with Loose Pillow Backs and Seats, ranging from £7 15s. to 25 gns.

THE MAGNIFICENT DINING ROOMS [illegible] ed HALLS com[illegible] of all periods, Early Tudor, Queen Anne, Chippendale, Hepplewhite, Adams, and Sheraton, in Oak, Mahogany, and Walnut. Complete Dining Room Suites, comprising Sideboard, Set of Chairs, and Dining Tables, being offered for 10 Guineas set, whilst the more elaborate suites range from 25 Guineas to 300 Guineas. Many of these exquisite sets having cost over treble the price now asked to clear. Special attention is called to a quantity of Cottage Wheelback Chairs offered at 6s. 9d. each.

A LARGE NUMBER OF PIANOFORTES by eminent makers, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, important collection of Statuary, Pictures, Silver and Sheffield Plate, quantity of fine old Cut Glass, Bed and Table Linen, a large quantity of Office Furniture, including Iron Safes, Roll-top Desks, Pedestal Desks, Bookcases, etc., etc.

PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F.) POST FREE.

ON SALE DAILY, 9 till 7. Any item may be purchased separately, and can remain warehoused free for 12 months or delivered to any part.

SETTLEME[illegible] E
ARRANGE

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.

(By Royal Appointment to H.M. the King of Spain.)

PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1.

(Within Ten minutes of West End.)

'Phone: North 3580.

STUDINGTON
HAND-MADE SUITS

embody the highest attributes of the tailoring art. They are cut in that distinctive fashion which attracts attention while seeming to avoid it. The materials are exclusive and of superb quality, and while you pay a little more you readily recognise the economics of Studington clothes.

LOUNGE SUITS FROM 7 GNS.

Call or write for patterns and new Catalogue sent post free.

STUD. M[illegible]GTON

WESTMINSTER, LONDON, S.W.1.

JOHN WARD LTD

TOTTENHAM COURT ROAD, LONDON.

BANTAM Coffee

Economical in use.

Pure groundless coffee in powder form which dissolves instantly when hot water or milk is added. No preparation is necessary. A little Bantam Coffee added to hot milk makes a very palatable beverage and a welcome change to persons who must take milk regularly. Bantam Coffee is prepared from a blend of selected Empire-grown beans, and has been awarded the Certificate of the Institute of Hygiene. A 2/- tin will yield 50 cups of delicious coffee. From Grocers or Post Free from

DEPT. 30, BANTAM PRODUCTS LTD., BANTAM WORKS, LEEDS.

Samples for Testing will gladly be sent on request.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

FREQUENT MICTURITION.

"YBWET"

NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 123, Douglas Street, Glasgow, C.2.

NAME PLATES

IN BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd., *Medical and Scientific Stationers*, 136, GOWER STREET, LONDON, W.C.1.

A Gentleman Always Looks Well Dressed In Savile Row Clothes.

NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.—DAVIES & SON, LESLEY & ROBERTS, SCHOLTE, &c. OVERCOATS, LOUNGE, DRESS, SPORTS SUITS, &c., 4 to 9 Gns. *Alterations on Premises.*

REGENT DRESS CO., Piccadilly Mansions, 17, Shaftesbury Avenue, Piccadilly Circus, W.1. (Next door to Cafe Monico.) Gerrard 7611 Ladies' Department on First Floor.

BRONZE NAME PLATES

Cream enamelled lettering, no cleaning required

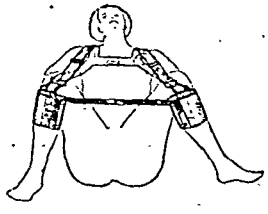
BRASS NAME PLATES

Museum 2264. *Send for Book* 18.

F. OSBORNE & Co., Ltd. 27, EASTCASTLE ST., LONDON, W.1.

Baron's

New Lithotomy Support



consists of bands of webbing and collapsible metal support, giving Complete Flexion at Hip and Knee with separation and abduction of legs (as illustrated). Compact, collapsible, and easily carried in midwifery bag.

Price 29/6

May be obtained from

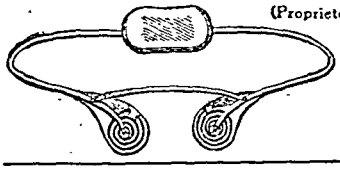
JOHN BELL & CROYDEN,

50-52, Wigmore Street, London, W.1,

and all the leading Surgical Instrument Houses.

Wholesale Distributors: EDWARD DOHERTY & SONS, 700-710, Seven Sisters Road, N.15.

WM. COLES & CO.



(Proprietor—A. E. GRAY)

TRUSS SPECIALISTS.

Inventors of

THE SPIRAL SPRING TRUSS.

22, Panton St., Haymarket, S.W.1.

(Removed from 5, Sackville Street, Piccadilly.)

Telephone—2207 Gerrard.

NAME PLATES

FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.

Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.

With fastenings ready for fixing.

SEND FOR ILLUSTRATED CATALOGUE.

COOKE'S (Finsbury) Ltd. Signs Dept.

FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

POCKET MONEY ADDING MACHINES 15/- post free

TAYLOR'S TYPEWRITERS

Desks, Tables & Chairs.

Est. 1884.

Write for Bargain List 52. 'Phone—Holborn 3793.

BUY A BIJOU FOR 5/- per week.

THE BIJOU

The best portable Writer Complete in Travelling Case, from £9 9s.

74, CHANCERY LANE (Holborn End), W.C.2

SEND for our NEW SAMPLES of the very BEST STATIONERY, Etc.

HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

BRASS NAME PLATES.

BRONZE PLATES (ENAMEL LETTERS). SKETCH & ESTIMATE UPON REQUEST.

S. J. & A. HERD, 30, CLERKENWELL ROAD, E.C.1.

BURBERRYS SALE

The great annual opportunity to purchase

OVERCOATS, SUITS & WEATHERPROOFS

well-made from the best quality materials, at a little above or below

HALF-PRICE

SALE CATALOGUE detailing thousands of bargains for men, women, and children, sent on mention of "B.M.J."

BURBERRYS LTD. (Dept. 47) HAYMARKET S.W.1

Doctors' Afc Forms a Speciality

Printed in Best Style.

Account Forms Letterheads, Cards, etc.,

Samples Sent

R ANDERSON & SON

Also Testimonials, Applications, and Qualifications for Medical Posts.

Samples Sent

1 HILL PLACE EDINBURGH

Tycos

MANUFACTURED by SHORT & MASON LTD. WALTHAMSTOW LONDON, E.17.

SPHYGMOMANOMETERS

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-therapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport Pagnell 121.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in-Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Clifden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P. *Telephone*: Teignmouth 289.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*

A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received. For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 481 GATLEY.

BOURNEMOUTH.
West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

HINDHEAD.
850 feet above sea-level.
STONYCREST NURSING HOME
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle, Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.
Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Patients or Boarders may visit by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received.
Twenty acres of ... Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements ... other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes.
X-ray and ... Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept.
Chapel. Se... t James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. ... may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARRISON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

MATLOCK

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.
BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone:* PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Mainline 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.

The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY
ECCLESFIELD, ASHFORD, MIDDLESEX.

(Also private address to secure secrecy.) Telephone: 158.

Beautiful large Residential Home, with 50 acres of park land, attached to R.C. Convent, and under the care of the Sisters. Established 1899. Most successful MEDICAL and PSYCHOLOGICAL TREATMENT for LADIES. Every home comfort, and bright happy social amusements. Splendid results proved by the numbers of former patients who return to the Home for holiday visits. *Medical Superintendent:* J. YOUNG SCOTT, M.B., Ch.B., and J. KENNEDY.

INEBRIETY
DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—
F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 26 RICKMANSWORTH.

SHAFTESBURY HOUSE,
FORMBY-BY-THE-SEA, nr. LIVERPOOL.

For the care and treatment of a limited number of Ladies and Gentlemen suffering from NERVOUS or MENTAL breakdown. Voluntary Boarders received. Psycho therapy in suitable cases if desired. Terms moderate. Apply, RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

ALCOHOLISM & OTHER DRUG HABITS.
THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams:* "Masters," Chislehurst.

THE GRANGE,
near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No.: Batheaston 8189.

ST. ALBANS, HERTS.
(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital.
Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

BROOKE HOUSE,
CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

STRETTON HOUSE,
Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.

Prospectus from Secretary. *Tele.* 341.

Resident } W. JOHNSON SMYTH, M.D.
Physicians: } L. T. ROSE-HUTCHINSON, M.D.

ALCOHOLISM
DRUG ADDICTION & NEURASTHENIA
CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 241.

BOREATTON PARK,
BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

CLARENCE LODGE,
CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone:* Brixton 0494. Apply, MISS THWAITES.

HOME FOR FEEBLE-MINDED,
BRUNTON HOUSE, LANCASTER.

This well-appointed private establishment overlooks Morecambe Bay, and possesses extensive gardens and grounds, with tennis and croquet lawns. Varied scholastic and manual instruction. Individual attention given by experienced staff under Lady Matron. For terms apply, Dr. W. H. COUPLAND, Med. Supt.

THE MOAT HOUSE,
TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.

Resident Physician: CEDRIC W. BOWER.

Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

ALCOHOLISM AND DRUG HABITS.
ALBION HOUSE.
BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone:* 2703.

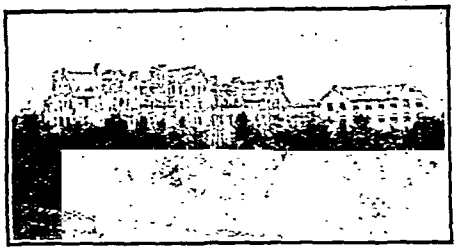
MAJORCA: Dr. GILBERT SCOTT'S CONVALESCENT HOME
PALMA DE MALLORCA, SPAIN

Grove House, All Stretton,
Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

Patients received, Chronics, etc., from 3½ guineas. Every comfort and attention. Pleasant situation.—NURSE JACKSON, 14, The Grove, Moordown, Bournemouth.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

EAST ANGLIAN SANATORIUM.

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus, etc., apply to the SECRETARY, East Anglian Sanatorium, Nayland, near Colchester. *Tel. and Telegrams*: NAYLAND 1.

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

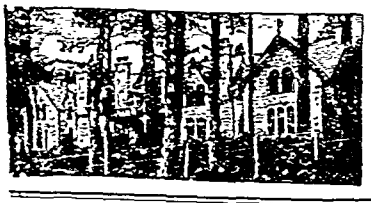
THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."



KINGUSSIE, N.B.
THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1931. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 6s. 8d. to £6 6s per week inclusive, no extras.

MEDICAL SUPT.: FELIX SAVY, M.D. *For particulars apply to the Secretary.*

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.
All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.
IDEAL HEALTH RESORT.
Electric Light. Central Heating. Electric Lift. three Billiard Tables, Ball Room, Winter Garden, Swimming Bath. Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

SUNNY MALVERN.

The most beautiful and health-giving Spa. HOME for Gentlefolks under Medical supervision.—BEVAN, New Court, Colwall, Malvern.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St 25 min.—Apply, Dr. HAYNES.

HOTEL ANNONCIATA,
MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.
Dry, bracing mountain air, semi-tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods.
Easy access to Town. Up-to-date comfortable Hotel, moderate charges.
Under French and English Management.
Teleg.: Annonciata, Menton. *Teleph.*: 1.06.

THE TREATMENT OF GOUT

PISTANY

RADIO-ACTIVE MUD PACKS

PISTANY SPA REPRESENTATION,
38, Sackville Street, W.1. Tel. Gerrard 1238.

Pistany (Czechoslovakia) offers the most effective treatment for the cure of gout.

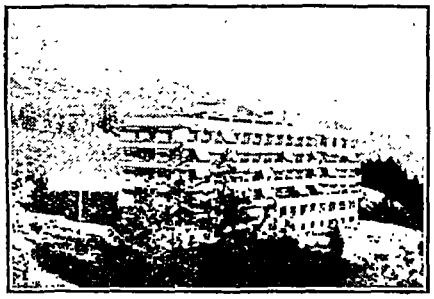
Special provision is made for the diet of gouty patients in the hotels.

In mild cases a few weeks suffice to relieve the condition but the need for prolonged intermittent treatment often makes a course with Pistany Mud Cubes or Compresses at home, under the patient's own doctor's supervision indispensable for a complete cure.

The method of application is safe and inexpensive for Pistany's sulphur Mud is inert and sterile of mineral content and keeps indefinitely.

Send for interesting Medical and Tourist literature.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"P[illegible] of s[illegible] effective. —"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/8 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims.
Chemistry, Physics, and Biology Labs.
MANCHESTER TUTORIAL COLLEGE,
327, Oxford Road, Manchester.

Royal Society.

GOVERNMENT GRANT FOR SCIENTIFIC INVESTIGATIONS.

Applications for the year 1931 must be received at the offices of the Royal Society not later than March 31st next, and must be made on printed forms to be obtained from the Clerk to the Government Grant Committee, Royal Soci[illegible].

[illegible] twelve Open SCHOLARSHIPS for boys between the ages of 12 and 14, on March 1st next, value from £90 a year downwards, will be awarded by Examination, beginning March 3rd, 1931. Boys examined at Rossall and in London.—Apply, THE BURSAR, Rossall School, Fleetwood.

Reduced School Fees for Daughters of Medical Men. Write Headmistress, who is opening a Third House for her Boarders. — Address, No. 937, B.M.A. House, Tavistock Square, W.C.1.

LONDON HOSPITAL MEDICAL COLLEGE.

F.R.C.S.

A COURSE OF INSTRUCTION for the Final Fellowship Examination will begin on Monday, March 2nd.

Fees: (exclusive of Operative Surgery) 20 guineas. Operative Surgery 5 guineas.

A separate entry can be made for all Classes other than those of a strictly Clinical character. (Men students only are eligible for admission.)

Further particulars may be obtained from Professor WILLIAM WRIGHT M.B., D.Sc., F.R.C.S., Dean, London Hospital Medical College, Mile End, E.1.

POST-GRADUATE COURSE IN ORTHOPAEDIC SURGERY.

A Special Two Weeks' Course will be held at the ROYAL NATIONAL ORTHOPAEDIC HOSPITAL from March 9th to March 21st, 1931.

Lectures and Demonstrations will be given, and those taking the Course will have access to operations and the practice of the Hospital.

Application should be made to the Secretary of the Hospital, 234, Gt. Portland St., W.1, or to the Secretary, Fellowship of Medicine, 1, Wimpole Street, London, W.1.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BENIANS, F.R.C.S., Dean.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5 for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30) 336
M.S.(Lond.), 1901-30 (including 4 Gold Medallists) 21
M.B.,B.S.(Lond.), *Final* 1906-30 (Completed Exam.) 269
F.R.C.S.(Eng.), *Primary* 1906-30 162
Final 161
M.R.C.P.(Lond.), 1914-30 192
D.P.H. (Various) 1906-29 286
F.R.C.S.(Edin.), 1918-29 (Completed Exam.) 43
M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.) 467
M.D.(Dur.) (Practitioners) 1906-30 38
M.D. Various. By Thesis. Numerous successes.

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Second and Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women. Hints for writing theses.

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6513.)

UNIVERSITY OF LONDON, KING'S COLLEGE.

PRIMARY F.R.C.S.

A Course in ANATOMY and PHYSIOLOGY, in preparation for the JUNE EXAMINATION, will commence on TUESDAY, FEBRUARY 17th, 1931, and will continue until the date of the examination, with the exception of two weeks' vacation at Easter.

Fee for the Course: Twenty Guineas.

Applications for admission to the Course should be addressed to the Dean of the Medical Faculty, King's College, Strand, W.C.2, from whom further particulars may be obtained.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

University of Leeds.

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY.

The Council will shortly proceed to the appointment of a LECTURER IN PATHOLOGY, at a salary of £500 a year. It is essential that candidates should hold a registrable Medical qualification. Further particulars may be obtained from the Registrar, The University, Leeds, who will receive applications for the appointment up to March 2nd.

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £8 8s. for 10 lessons.—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

THE CLINICAL RESEARCH ASSOCIATION, LTD.

WATERGATE HOUSE, ADELPHI, W.C.2. *(Close to Charing Cross Station.)*

A COMPLETE LABORATORY SERVICE.

The Consulting Rooms and Laboratories of this Association (established in 1894) are available for all Medical Practitioners desiring Laboratory assistance in the investigation and diagnosis of cases under their care. All necessary apparatus and full instructions for collecting pathogenic material, or for the personal attendance of Patients at the Consulting Rooms of the Association, will be forwarded immediately on application.

CARDIOGRAPHIC AND X-RAY EXAMINATIONS. ALSO NURSING HOME ACCOMMODATION ARRANGED.

Telephone: TEMPLE BAR 8993 (5 Lines). Telegrams: "TUBERCLE, WESTRAND, LONDON." W. J. CURRY, Secretary.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,500 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.

Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above School, commencing Monday, March 2nd, 1931.

The Course will be repeated on subsequent dates.

Copy of the syllabus and full particulars may be obtained on application.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

Royal College of Surgeons of ENGLAND.

ELECTION TO COURT OF EXAMINERS.

Notice is hereby given that the Council, on March 12th next, will proceed to the election of a Member of the Court of Examiners, the retiring Examiner being eligible.

Fellows of the College desirous of becoming candidates for the office must make application in writing to the Secretary, on or before Wednesday, March 4th.

S. FORREST COWELL,
February 14th, 1931. Secretary.

University of London.

A Course of Two Lectures (illustrated by lantern slides) on "*The National Diet*" will be given by Professor E. P. CATHCART, C.B.E., F.R.S. (Regius Professor of Physiology in the University of Glasgow), at the LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Keppel Street, Gower Street, W.C.1, on February 23rd and 24th, at 6 p.m. At the first Lecture the Chair will be taken by Sir WALTER M. FLETCHER, K.B.E., C.B., F.R.S., Secretary of the Medical Research Council. Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

The East London Hospital for CHILDREN, Shadwell, E.1.

There will be a DEMONSTRATION of CLINICAL CASES on Wednesday, February 18th, at 4.30 p.m., to which you are cordially invited. Tea at 4 p.m.

Cheltenham General and Eye HOSPITALS.

The Board of Management invite applications for the post of HOUSE SURGEON (male) at the General Hospital, which will be vacant on March 31st.

Candidates must be unmarried, and have a registered qualification in Medicine and Surgery.

Salary £200 p.a., with board, lodging, and laundry.

Applications, with copies of testimonials, to be sent in sealed envelopes, marked "House Surgeon," to the undersigned not later than the 21st instant.

J. CUMMING SMITH, F.C.I.S.,
The General Hospital, Secretary.
Cheltenham, February 10th, 1931.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

F.R.C.S. ENGLAND

PRIMARY and FINAL.
May and June 1931 Examinations.

You can pass these examinations at the first attempt by enrolling for the unique Courses of Postal and Oral Coaching by Specialist Tutors. Free Guide and all particulars on application.

M.R.C.P. LONDON

Courses are now commencing for the M.R.C.P. London, April 1931, examination by Tutors acquainted with the special character and features of this examination. Highly successful results.

Write for free booklet, "The M.R.C.P. and How to Obtain It," to the Secretary, Medical Correspondence College, 19, Welbeck Street, W.1.

City and County of Newcastle-UPON-TYNE.

NEWCASTLE GENERAL HOSPITAL.

HOUSE PHYSICIAN (Male).

Applications are invited for the above post. The salary for the appointment, which is tenable for six months, is at the rate of £100 per annum, with board, lodgings, etc. Applications, stating age and qualifications, together with copies of not more than three recent testimonials, to be addressed to the Medical Officer of Health Town Hall, Newcastle-upon-Tyne

East Suffolk and Ipswich HOSPITAL, IPSWICH.

(265 Beds—7 Residents)

Wanted, Two HOUSE SURGEONS (male, British). One with experience in Ear, Nose, and Throat work. Salary at the rate of £120 per annum. Board, residence, and laundry. Previous experience essential.

Applications, stating age, qualifications, and experience, and accompanied by three recent testimonials, to be sent to the undersigned.

ARTHUR GRIFFITHS,
Secretary.
The Hospital,
Ipswich. February 14th, 1931.

Cardiff Royal Infirmary.

Associated with Welsh National School of Medicine.

... the under-
... nit.
... ical Unit, is
... arch 20th.
... annum, with
board-residence.

The post of Ophthalmic House Surgeon is tenable for six months, and the salary is at the rate of £75 per annum, with board-residence. Candidates must have experience of Refractions. This post is open to ladies.

Application forms may be had from the undersigned, and should be returned, with copies of three recent testimonials, on or before February 28th. In the case of the Ophthalmic House Surgeon, applications should be returned at the earliest date, as the appointment commences immediately.

R. ARMSTRONG,
February 9th, 1931. Medical Supt.

Cumberland and Westmorland

MENTAL HOSPITAL, GARLANDS, CARLISLE.

JUNIOR ASSISTANT MEDICAL OFFICER required.

Applicants must be registered Practitioners, male, unmarried, not over 30. Salary £350 per annum, rising by four annual instalments of £25 to £450, together with the usual emoluments, valued for the purpose of the A.O.S. Act at £100 per annum. £50 additional will be given on obtaining the D.P.M. The appointment to be subject to two months' notice on either side. The successful candidate to be free to take up duty shortly after March 1st.

Applications, stating age, qualifications, religion, etc., together with copies of three recent testimonials, to reach the undermentioned not later than February 19th

The MEDICAL SUPERINTENDENT.

Queen Charlotte's Maternity

HOSPITAL, Marylebone Road, N.W.1.

ASSISTANT RESIDENT MEDICAL OFFICER (male) required to commence duty on April 1st. Applicants must be registered. Appointment for three months. On completion of this appointment the selected candidate will be expected to proceed to the post of Senior Resident Medical Officer (for three months) on the recommendation of the Medical Staff. The salary of the Assistant Resident Medical Officer is at the rate of £80 per annum, and of the Senior Resident Medical Officer £100 per annum, with board, residence, and washing allowance (4/- weekly).

Applications, with copies (not originals) of not more than three testimonials, should be sent to the Secretary by February 28th.

Canvassing is prohibited.

ARTHUR WATTS, Secretary.

Queen Charlotte's Maternity

HOSPITAL, Marylebone Road, N.W.1.

DISTRICT RESIDENT MEDICAL OFFICER (male or female) required to commence duty on April 1st. Applicants must be registered. The appointment is for six months. The salary is at the rate of £80 per annum, with board, residence, and washing allowance (4/- weekly).

Applications, with copies (not originals) of not more than three testimonials, should be sent to the Secretary by February 28th.

Canvassing is prohibited.

ARTHUR WATTS, Secretary.

Belgrave Hospital for Children

(Incorporated), 1, Clapham Road, S.W.9.

The Committee of Management invite applications for the post of ASSISTANT SURGEON. Candidates (men) must be Fellows of the Royal College of Surgeons of England.

There is an honorarium of fifty guineas per annum attached to the post.

Applications, with copies of testimonials, must be delivered to the undersigned by 10 a.m. on Saturday, February 28th, from whom further information may be obtained.

By Order,
THOMAS CLAPHAM, Secretary.

Chester Royal Infirmary.

(211 Beds.)

Wanted, HOUSE SURGEON (male) to the Ear, Nose, and Throat Department, to commence duties March 1st. Salary £150 per annum, with board, lodging, and washing. Large department and good opportunities for experience. Candidates must be doubly qualified and registered. Application list closes on Feb. 21st.

Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P.,
Hon. Supt. of the Resident Medical Staff.

City Mental Hospital,

HUMBERSTONE, LEICESTER.

SECOND ASSISTANT RESIDENT MEDICAL OFFICER. (Single, under 30.)

Applications are invited for the above post.

Salary £450 a year, rising by annual increments of £50 to £550, together with board, lodging, washing, and attendance, valued for purposes of superannuation at £100 per annum.

Candidates must hold a Diploma in Psychological Medicine, and have held a resident House appointment in a recognized Teaching Hospital for at least six months.

Preference will be given to those holding a University degree.

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, marked "A.M.O.," giving particulars of experience and copies of not more than three testimonials (ad hoc), to be sent to the Medical Superintendent.

Metropolitan Hospital,

Kingsland Road, E.8.

The Committee of Management are prepared to receive applications for the appointment of a PHYSICIAN (male), who will be Junior member of the Medical Staff. Candidates must be Members of the Royal College of Physicians of London and Graduates in Medicine of a University recognised by the Medical Council, and not engaged in general practice.

Candidates will be required to call upon Members of the Staff.

Twenty applications, complete with copies of recent testimonials, must reach the undersigned (from whom further particulars may be obtained) not later than first post on Monday, March 2nd.

HERBERT F. RUTHERFORD,
Secretary & House Governor.

Peterborough and District

MEMORIAL HOSPITAL.
(154 Beds and Out-patient Department.)

RESIDENT HOUSE SURGEON required.

Applications are invited from fully qualified male Practitioners for the above post.

Salary £135 per annum, with board, residence, and laundry.

Appointments will be for a minimum period of six months.

Applications, stating age, qualifications, and experience, with copies of recent testimonials, to be sent to the undersigned, from whom further particulars may be obtained.

FRANK A. C. TAYLOR,
Secretary-Superintendent.

St. Bartholomew's Hospital.

APPOINTMENT OF DENTAL HOUSE SURGEON.

Applications are invited for the office of House Surgeon to the Dental Department.

Candidates must hold a registrable Dental qualification. A Medical qualification in addition is desirable but not essential.

Appointment will be made for six or twelve months from May 1st.

The salary attaching to the office is £80 per annum (non-resident).

Applications must be left with the undersigned on or before Saturday, February 21st.

THOMAS HAYES,
Clerk to the
January 29th, 1931. Governors.

Cumberland Infirmary, Carlisle.

... vacant on April 1st,
... male. Previous ex-
... in each case at the
... board, residence, etc.
(1) Second ...
(2) HOUSE ... epart-
ments. (By ...

Applications, ...ies of not more than four testimonials, must be received by first post on Wednesday, February 25th, by the undersigned, who will supply further particulars if desired

Separate applications required for each post.

J. G. HOWITT,
February 9th, 1931. Secretary.

City of London Maternity

HOSPITAL, City Road, E.C.1.

Applications invited from fully qualified candidates for post of ASSISTANT RESIDENT MEDICAL OFFICER, vacant April 1st. Three months' appointment at £80 p.a. If appointee satisfactory, he fills the Senior post for three months at £100 p.a., and board, residence, and laundry.

Twenty copies of application and of each testimonial should reach the undersigned by March 7th.

RALPH B. CANNINGS, Secretary.

The Royal Infirmary of

EDINBURGH. (1,010 Beds.)

The Board of Managers invite applications for the post of LADY SUPERINTENDENT OF NURSES, which will become vacant on Oct. 1st. Candidates must be fully trained nurses and have had nursing administrative experience, preferably in a teaching hospital.

The post will be pensionable under the Federated Superannuation Scheme for Nurses and Hospital Officers (Contributory).

Applications, accompanied by recent testimonials (not exceeding four in number), should be sent to the undersigned not later than March 16th.

Thirty copies of both the application and testimonials will be required.

Further particulars as to the duties attached to the post will be supplied on application.

By Order of the Board of Managers,
HENRY MAW,
Feb. 2nd, 1931. Secretary & Treasurer.

Radcliffe Infirmary and County

HOSPITAL, OXFORD.

RESIDENT MEDICAL POSTS.

Applications are invited for the following posts, which will become vacant on April 1st:

Three HOUSE SURGEONS.
HOUSE PHYSICIAN.
OBSTETRIC HOUSE PHYSICIAN.

Appointments for six months, except post of House Physician, which is for nine months, with salaries at the rate of £120 per annum, with board, etc.

Candidates must be male and qualified.

Applications, with four copies of three testimonials, to be sent to the undersigned on or before Monday, February 23rd.

A. G. E. SANCTUARY,
Administrator.

Gravesend and North Kent

HOSPITAL. (100 Beds.)

JUNIOR HOUSE SURGEON.

The Committee of Management invite applications from fully qualified men for the above post, which is of twelve months' duration.

Salary at the rate of £100 p.a. first six months, £150 p.a. second six months, plus board, lodging, washing, and certain fees as perquisites.

The successful candidate will be required to commence duties about March 21st.

Applications, with one copy of three recent testimonials, to be sent to the undersigned immediately.

C. E. CHAPMAN, Secretary.

South Devon and East Cornwall

HOSPITAL, PLYMOUTH. (240 Beds)

Applications are invited for the post of: RESIDENT ANAESTHETIST AND HOUSE SURGEON to the Special Departments. (Woman.)

Salary £100 per annum, with board, residence, and laundry. Appointment is tenable for six months and is subject to renewal. Candidates must be registered under the Medical Acts.

Applications, stating age and qualifications, together with copies of recent testimonials, to reach the undersigned by February 20th.

ARTHUR R. CASH,
General Supt. & Secretary.
February 2nd, 1931.

The Queen's Hospital for

CHILDREN, Hackney Road, London, E.2.

The Committee invite applications for the post of SECOND SURGEON for the Ear, Nose, and Throat Department, with charge of beds. Attendance required on Tuesday mornings. An honorarium to cover travelling expenses will be paid. Candidates must be Fellows by examination of the Royal College of Surgeons, England.

Applications, with copies of three recent testimonials, which may be printed or typewritten, should be sent on or before February 24th to the undersigned, from whom further particulars may be obtained.

CHARLES H. BESSELL,
February 2nd, 1931. Secretary.

The Royal Portsmouth Hospital,

PORTSMOUTH.
(Five Resident Medical Officers.)

THIRD HOUSE SURGEON, male (qualified), required to commence on March 7th. Salary at the rate of £130 per annum, with board, etc. Six months' appointment. Eligible on completion of term for appointment to other resident posts.

Application, stating age, nationality, etc., and copies of three recent testimonials, to be sent to the undersigned on or before February 24th, from whom all particulars can be obtained.

B. WAGSTAFF, Secretary.

County Council of Durham.

EDUCATION DEPARTMENT.

ASSISTANT SCHOOL MEDICAL OFFICER.

The County Education Committee invite applications for the post of Assistant Medical Officer, to act under the School Medical Officer in connection with the inspection of school children, and such other duties as may be required by the Education Committee. Commencing salary £500 per annum (providing the candidate has had not less than three years' *Post-Graduate experience*), *rising by* annual increments of £25 to £700 per annum, together with travelling expenses according to the County Scale. The successful candidate will be required to devote his (her) whole time to the duties of the office, and reside in or near the district to which he (she) will be attached at a place to be approved by the Education Committee. The appointment will be subject to three calendar months' notice on either side, expiring on the last day of any calendar month. Applicants must have had experience in the work of school medical inspection, and preference will be given to candidates who:

(a) Have had experience in the work of School Clinics.
(b) Have been accustomed to make special reports on Mentally Defective, Physically Defective, Epileptic, and other Defective Children.

The possession of a Diploma in Public Health is desirable, though not essential.

Copies of not more than three recent testimonials are required.

Canvassing, directly or indirectly, is prohibited, and will disqualify.

A deduction of 5 per cent. will be made from the salary in accordance with the Local Government and Other Officers Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to passing the County Council's medical examination in connection therewith.

Forms of application, to be returned not later than Saturday, February 28th, may be obtained from the Director of Education, Shire Hall, Durham, on receipt of stamped addressed envelope.

Shire Hall, Durham. THOS. B. TILLEY, Director of Education.
February 9th, 1931.

City of Birmingham Education COMMITTEE.

APPOINTMENT OF DIRECTOR OF CHILD GUIDANCE CLINIC AND SPECIAL SCHOOLS MEDICAL OFFICER.

The Birmingham Education Committee intend shortly to appoint a full-time Medical Officer to act in the following capacities:

(1) Special Schools Medical Officer;
(2) Director of the Child Guidance Clinic to be established in the near future.

Candidates should be fully qualified Medical Practitioners, have good experience in the treatment of diseases of children, and special knowledge of Psychological Medicine.

The salary offered is from £600 to £700 per annum, according to qualifications and experience.

A Fellowship will be available if necessary to enable the successful candidate to train in Child Guidance work.

The terms of the appointment may be subject to alteration at the end of three years.

Canvassing, direct or indirect, will be regarded as a disqualification.

Further information as to the conditions of the appointment may be obtained from the Chief Education Officer, Education Office, Council House, Margaret Street, Birmingham, to whom all applications should be addressed. Applications for appointment should give full particulars as to age, training, and qualifications, and should be posted in time to reach the Chief Education Officer by February 21st.

Education Department,
Council House, Birmingham.
January 21st, 1931.

Liverpool Stanley Hospital, STANLEY ROAD, LIVERPOOL.

There will be vacancies on April 1st next for One Male HOUSE PHYSICIAN, Two Male HOUSE SURGEONS, and One Female HOUSE GYNAECOLOGICAL SURGEON. Salary in each case at rate of £100 per annum, with board, laundry, etc. Candidates must be on the Medical Register, and submit their applications, with copies of three recent testimonials, addressed to the undersigned, by February 27th.

E. W. OSBORN, Secretary.

Lowestoft and North Suffolk HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required at once. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

Metropolitan Borough of WOOLWICH.

[illegible] d from registered [illegible] the appointment of [illegible] OFFICER in the Public Health Department.

The appointment is a whole-time one, and the officer appointed will be required to carry out, under the supervision of the Medical Officer of Health, such duties under the Council's Maternity and Child Welfare Scheme, and the Council's Tuberculosis Scheme, as may be required from time to time by the Council. Applicants must have had adequate experience in these duties.

The appointment, which will be during the pleasure of the Council, is subject to the approval of the Ministry of Health and the London County Council, to the By-laws and Regulations of the Borough Council, and to termination by one month's notice on either side.

The salary, which will include all fees and emoluments, will be £600 per annum, rising, subject to the approval of the Minister of Health, by annual increments of £25 to £700. *No bonus will be paid.*

Applications, on a form to be obtained from the Medical Officer of Health, Town Hall, Woolwich, S.E.18, and accompanied by copies of not more than three recent testimonials, must be received by me not later than the first post on March 5th, in an envelope endorsed "Assistant Medical Officer."

Canvassing, either directly or indirectly, any member or officer of the Council, will disqualify.

By Order,
Town Hall, Woolwich, S.E.18. ARTHUR B. BRYCESON, Town Clerk.
February, 1931.

Barry Urban District Council.

SURGICAL HOSPITAL.

HOUSE SURGEON (Male).

Applications are invited for the above appointment.

Candidates must be duly qualified and registered. Salary £200 per annum, with board and lodging.

Preference will be given to a candidate with previous experience, especially in the administration of Anaesthetics.

The successful candidate must devote the whole of his time to the duties of his office and to assist the Medical Staff, and act under the supervision of the Medical Superintendent, who is also Medical Officer of Health and School Medical Officer.

The appointment will be for a period of six months, to be renewed, if thought fit, for another period of six months, but not for any subsequent period.

The successful candidate will be required to commence duties immediately.

Applications, stating age, qualifications, positions held, with copies of three recent testimonials, to be sent to Dr. P. W. KENT, Medical Superintendent, Public Health Office, Barry.

(Signed) T. D. HOWELLS,
Clerk.
February 3rd, 1931.

Cheshire County Council.

WRENBURY HALL TUBERCULOSIS TRAINING COLONY.

Applications are invited for the appointment of RESIDENT HOUSE PHYSICIAN at the above Institution. The appointment is for one year only, at a salary of £250 per annum, together with board and residence, etc.

Form of application, and particulars of appointment, to be obtained from the undersigned.

REGINALD POTTS,
Clerk of the County Council.
County Offices,
Northgate Street, Chester.
February 3rd, 1931.

St. Thomas's Hospital.

VACANCY.

There is a vacancy in the post of CHIEF ASSISTANT to the Throat Department. Candidates must be registered Practitioners and Fellows of the Royal College of Surgeons, England.

Applications, giving full academic career and testimonials, should be sent to the Secretary of the Hospital on or before the 23rd instant.

Stannington Sanatorium for CHILDREN.

(310 Beds—Medical and Surgical Tuberculosis.)

Wanted, JUNIOR RESIDENT MEDICAL OFFICER (female). The appointment will be for a period of six months, with salary at the rate of £100 per annum.

Applications, with copies of testimonials, should reach the Medical Superintendent, Stannington Sanatorium, Clifton, Morpeth, Northumberland, not later than February 28th.

City of Edinburgh.

PUBLIC HEALTH DEPARTMENT.

MENTAL SERVICES.

The Corporation of Edinburgh invite applications from duly qualified persons for the appointment of a MEDICAL OFFICER to have charge of the Mental Health Services of the Corporation. The Medical Officer will act as Superintendent of the Mental Hospital of the Corporation known as Bangour Village.

Salary from £1,000 to £1,250, with free house, coal, and light, and a non-pensionable allowance of £100 per annum for a motor car.

A Memorandum specifying the terms of appointment and outlining the duties to be performed may be obtained on application to the Subscriber.

Applications, stating age, qualifications, and full particulars of present and past experience, should be lodged with the Subscriber not later than February 28th.

City Chambers, Edinburgh. A. GRIERSON, Town Clerk.
February 6th, 1931.

County of Derby.

APPOINTMENT OF DEPUTY COUNTY MEDICAL OFFICER OF HEALTH.

Applications are invited from registered Medical Practitioners (male) for the appointment of Deputy County Medical Officer of Health. Candidates must possess a Diploma in Public Health and must have had administrative experience in Public Health.

Candidates must not be over 45 years of age, and the officer appointed must reside in the County and devote his whole time to the work.

The appointment, which will be terminable by three months' notice on either side, will be an established post for the purposes of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination.

Salary £840 per annum, rising by annual increments of £30 to £960 per annum.

Applications, stating age, qualifications, and experience, together with copies of not more than three recent testimonials, should be sent to the undersigned not later than Feb. 23rd.

New County Offices, Derby. W. M. ASH, County Medical Officer.
January 30th, 1931.

Metropolitan Borough of LAMBETH.

The Lambeth Metropolitan Borough Council has decided to appoint Two CONSULTING OBSTETRICIANS under the Maternity and Child Welfare Act, 1918. No salary is attached to these appointments, but a fee of Four Guineas will be paid for each case to which a consultant is called, such fee to be inclusive of travelling expenses. Applications, in an envelope marked "Medical," should be sent before February 21st to the Town Clerk, Lambeth Town Hall, Brixton Hill, S.W.2.

North Staffordshire Royal INFIRMARY, STOKE-ON-TRENT.

(A General Hospital of 346 Beds.)

APPOINTMENT OF HOUSE SURGEON.

The Committee invite applications for the post of House Surgeon. Salary at the rate of £150 per annum, with board, residence, and laundry. Previous Surgical Hospital experience necessary. The appointment will be made for a period of twelve months. Applications, with copies of two recent testimonials, to be forwarded at once.

W. STEVENSON,
Sec. and House Governor.
January 24th, 1931.

Bedford County Hospital. (122 Beds.)

ASSISTANT HOUSE SURGEON (male), fully qualified, unmarried, required for a term of not less than six months, commencing February 26th. Salary £130, with board, lodging, and laundry.

Applications, stating age, nationality, qualifications, together with three recent testimonials, to be sent to the Hon. Secretary, Hon. Medical Staff Committee, as soon as possible.

The Sheffield Royal Hospital. (340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum, also RESIDENT ANAESTHETIST, salary £80 per annum, rising to £100 in six months, to commence duties at once (males). Board, residence, and laundry. There are twelve Resident Medical Officers. Applications should be forwarded at once to—

W. H. BOOTH,
January 5th, 1931. Supt. & Secretary.

County Borough of Oldham.

BOUNDARY PARK MUNICIPAL HOSPITAL.

RESIDENT ASSISTANT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners for the post of a Woman Assistant Resident Medical Officer. Salary £200 per annum, with board, residence, and laundry. Candidates should be unmarried.

The appointment will, in the first instance, be for a period of six months. The successful applicant, however, will be eligible for re-appointment for a further period of six months. The Hospital comprises 355 beds, with facilities for gaining experience in Medicine, Surgery, Midwifery, and Diseases of Children.

Applications, on forms to be obtained from the undersigned, endorsed "Resident Assistant Medical Officer," should be sent to the Medical Officer of Health, Town Hall, Oldham, and should be received not later than Feb. 23rd.

JAMES B. WILKINSON, M.D., D.P.H.,
Medical Officer of Health.

Town Hall, Oldham.
February 9th, 1931.

Whitehaven and West Cumberland Hospital, Whitehaven.

(90 Beds.)

Wanted by the middle of March, JUNIOR HOUSE SURGEON (male). Salary £100 per annum, including board, residence, and laundry. Twelve months' appointment. After six months as Junior an opportunity is given of becoming Senior for the second six months at the rate of £150 per annum.

Applications, stating age, nationality, etc., together with copies of three testimonials, to be sent to the Secretary, endorsed "House Surgeon," at once.

R. HIGGINS, Secretary.

Wrexham & East Denbighshire War Memorial Hospital.

(109 Beds.)

The Elective Committee invite applications for the post of HONORARY ASSISTANT PHYSICIAN AND SURGEON, with special reference to Ear, Nose, and Throat work.

Applications, stating age, qualifications, with copies (only) of not more than three testimonials, to be sent to the undersigned not later than first post Friday, February 20th.

LESLIE SPENCER,
February 5th, 1931. Secretary.

Ancoats Hospital, Manchester.

RESIDENT MEDICAL OFFICER required to commence duty on March 1st

Appointment for six months. Salary at the rate of £150 per annum, with board, residence, etc. Previous experience in similar position necessary

Applications, stating age, qualifications, experience, and full particulars, to be forwarded to the undersigned on or before the 24th inst., together with copies of three recent testimonials.

By Order of the Board,
HERBERT J. DAFFORNE,
General Supt. & Secretary.

Nottingham Hospital for Women

HOUSE SURGEON (female or male) required to commence duties on March 15th. Appointment for period of not less than six months. Salary at the rate of £150 per annum, with board, residence, and laundry. Previous Hospital experience essential.

Applications, stating age, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the Secretary, Mr. A. L. MORELL, Burton Buildings, Parliament Street, Nottingham, not later than February 21st.

Queen's Hospital for Children,

Hackney Road, London, E.2.

CASUALTY OFFICER required on March 23rd. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials, on or before February 18th.

CHARLES H. BESSELL,
February 3rd, 1931. Secretary.

The Queen's Hospital for

CHILDREN, Hackney Road, London E.2.

CLINICAL ASSISTANT required in the Orthopaedic Department. Attendance every Thursday at 1.30 p.m. Lunch provided. Honorarium of 5s. per attendance to cover expenses

Applications, stating age, qualifications, and experience, should be addressed to the undersigned, and should be delivered on or before February 28th.

CHARLES H. BESSELL,
February 9th, 1931. Secretary.

Princess Elizabeth Orthopaedic Hospital, Exeter.

The Devonian Association for Cripples' Aid invite applications for the post of ORTHOPAEDIC SURGEON to the above-mentioned Hospital, which will become vacant on or about September 1st. Salary £600 per annum. The appointed officer will be allowed to engage in private practice.

A candidate must be a Fellow of one of the Royal Colleges of Surgeons of England, Ireland, or Edinburgh, or a Master of Surgery of one of the Universities of Oxford, Cambridge, or London, and have had previous experience in Orthopaedic Surgery.

Applications, together with three copies of recent testimonials, should be sent to the undersigned (from whom full particulars can be obtained) by April 15th.

R. S. LANG, Hon. Secretary.
Devonian Association for Cripples' Aid,
Princess Elizabeth Orthopaedic Hospital,
Buckerell Hore, Exeter.

The Salvation Army,

THE MOTHERS' HOSPITAL,
Lower Clapton Road, Clapton, E.5.

OBSTETRIC REGISTRAR.

Applications are invited from Medical Women for the above appointment. The appointment will be made in the first place for one year, with a possibility of renewal for a second year.

Preference will be given to candidates holding the Diploma of F.R.C.S.Eng.

A small honorarium is attached to the post.

Intending candidates should forward their applications, together with copies of three testimonials, on or before February 24th to the undersigned, from whom particulars of the appointment may be obtained.

EDGAR DIBDEN, Secretary.

Southampton Children's Hospital

& DISPENSARY FOR WOMEN. (45 Beds).

The Board of Management invite applications for the post of RESIDENT MEDICAL OFFICER (lady). Appointment for six months. To commence duties early in April. Salary at the rate of £100 per annum, with board, residence, and laundry.

Applications, stating age, and accompanied by copies of testimonials, to be sent to the undersigned, from whom further particulars may be obtained.

ELLA K. MATTHEWS, Secretary.

General Infirmary, Salisbury.

(General Hospital—161 Beds.)

Two HOUSE SURGEONS and One HOUSE PHYSICIAN (male) required, to commence duty as soon as possible.

Candidates must be unmarried, fully qualified, and registered. Salary £150, with board, etc

Applications, with copies of testimonials, to be sent to the House Governor and Secretary, from whom a copy of the Rules may be obtained on application.

St. Thomas's Hospital.

VACANCY.

The appointment of a RESIDENT ASSISTANT PHYSICIAN.

Candidates must be registered Practitioners of Medicine, and Members or Licentiates of the College of Physicians of London.

Applications, with full details of academic career and testimonials, to be forwarded to Lt.-Col. A. P. B. IRWIN, Secretary, not later than February 27th.

St. Thomas's Hospital.

VACANCY.

The appointment of RESIDENT ASSISTANT SURGEON.

Candidates must be registered Medical Practitioners and Fellows of the Royal College of Surgeons, England.

Applications, with full details of academic career and testimonials, to be forwarded to Lt.-Col. A. P. B. IRWIN, Secretary, not later than February 27th.

Great Yarmouth General Hospital

(72 Beds.)

Applications are invited for the post of JUNIOR HOUSE SURGEON (male and unmarried). Salary at the rate of £140 per annum, with board, residence, and laundry.

The successful candidate will be expected to commence duties immediately.

Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned.

FRANK JENNINGS,
Secretary.

Miller General Hospital,

Greenwich Road, S.E.10.

Applications are invited for the combined post of RESIDENT SURGICAL OFFICER and REGISTRAR (the senior of six resident posts). Salary £250 per annum. Candidates (male) must be unmarried. Board, residence, and laundry are provided. Duties to commence on April 1st next. Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary as soon as possible.

February 10th, 1931.

The Royal Waterloo Hospital for

CHILDREN AND WOMEN,
Waterloo Road, S.E.1. (127 Beds.)

The Board of Governors invite applications for the appointment of ASSISTANT DENTAL SURGEON. Candidates must possess the degree L.D.S., and will be required to attend sessions at the Hospital on Tuesday and Saturday mornings. Honorarium Twenty-five guineas per annum. A Clinical Assistant with two years' service is a candidate for the post. Application, with copies of not more than three testimonials, should be sent to the undersigned not later than February 20th.

J. H. TEASDALE, Secretary.

Golden Square Throat, Nose, and

EAR HOSPITAL, London, W.1.

Applications are invited for the post of HON. ASSISTANT SURGEON to the Golden Square Throat, Nose, and Ear Hospital. Candidates should be Fellows of the Royal College of Surgeons of England, and they are requested to call upon the present members of the Honorary Staff.

Applications, stating age, qualifications, and experience, and enclosing copies of three recent testimonials, should be received by the undersigned on or before Saturday, March 7th.

F. P. CARROLL,
Secretary-Superintendent.

The Gloucestershire Royal

INFIRMARY AND EYE INSTITUTION,
GLOUCESTER.
(153 Beds—4 Residents.)

Applications are invited for the post of SECOND HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned.

F. J. SYMONS,
January 29th, 1931. Secretary.

The Liverpool Eye and Ear

INFIRMARY, MYRTLE STREET.

Applications are invited for the position of OPHTHALMIC HOUSE SURGEON to the above Institution. Salary £100 per annum, with board and lodging

Applications, stating age and qualifications, together with not more than three recent testimonials, should be sent to CHAS. W. WRIGHT, Esq., 9, Harrington Street, Liverpool, by midday, Tuesday, February 17th.

Seamen's Hospital Society,

GREENWICH.

HOUSE SURGEON (male) required at TILBURY HOSPITAL, ESSEX, for six months from March 1st. Salary £150 per annum, with board, residence, and laundry. Good opportunities for minor Surgery.

Applications, with copies of three testimonials, to be sent in by February 23rd to the undersigned.

R. E. V. BAX, Secretary.
Seamen's Hospital Society, Greenwich.
January 31st, 1931.

The General Hospital,

BIRMINGHAM.

Applications are invited for the following Resident Appointment from March 15th:

HOUSE PHYSICIAN. Salary £70 per annum.

Applications, giving full details of qualifications, and accompanied by testimonials (if desired), should reach the undersigned by February 23rd.

A. H. LEANEY,
House Governor

Sutton and Cheam Hospital,

SUTTON, SURREY.

Applications are invited for the post of HONORARY RADIOLOGIST to the New Hospital, which will be opened in the Autumn.

Apply, the Secretary, Sutton and Cheam Hospital, from whom further particulars can be obtained.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH.**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer—Male.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	PLYMOUTH EDUCATION AUTHORITY. *(Deputy Assistant Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	WELLINGTON, NEW ZEALAND. *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

February 11th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.

HOUSE SURGEON in charge of Male Wards.

HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

David Lewis Northern Hospital,
LIVERPOOL.

Applications are invited for the undermentioned posts:

One HOUSE SURGEON.

Two HOUSE PHYSICIANS

The appointments will be tenable for six months from April 1st. The salary attached to each post is £100 per annum, together with board and residence.

Applications, with copies of testimonials, to be sent to the undersigned on or before Saturday, February 21st.

THORNBURROW GIBSON, M.A.,
January 27th, 1931. Secretary-Supt.

Swansea General and Eye
HOSPITAL. (316 Beds.)

CASUALTY OFFICER required. Gentleman, single. Salary £200, with board, residence, and laundry. Duties to commence March 1st. Candidates must have had previous hospital experience.

Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary-Superintendent.

Hull Royal Infirmary.
SUTTON BRANCH.

The above Branch has been recently opened and is a self-contained modern General Hospital of 100 Beds. There are two Resident posts.

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum, plus board, residence, and laundry. The appointment will be for six months in the first instance, and will be terminable by one month's notice on either side.

Applications, stating age, qualifications, and nationality, and with copies of testimonials, should be sent to the undersigned.

Hull Royal Infirmary, R. J. CARLESS,
Hull. House Governor.
January 31st, 1931.

Birmingham and Midland Eye
HOSPITAL.

Applications are invited from duly qualified Medical Practitioners for the post of RESIDENT SURGICAL OFFICER, which will become vacant on or about March 20th.

The Resident Staff also consists of two House Surgeons, and, in the event of one of these being promoted, applicants should state whether they will be willing to accept the appointment of House Surgeon at a salary of £110 per annum.

Applications, with testimonials and evidence of registration, must be received not later than Monday, February 16th.

Church Street, C. A. MASON,
Birmingham. General Superintendent.

Bristol Royal Infirmary.

Applications are invited for the post of RADIUM OFFICER (non-resident). Salary at the rate of £600 per annum. Candidates, who must be qualified and registered, to send in their applications, stating age, and giving particulars of experience, together with copies of not more than four testimonials, to the undersigned.

ELLIS C. SMITH, F.C.I.S.,
Secretary & House Governor.

Weston-super-Mare General
HOSPITAL. (80 Beds.)

HOUSE SURGEON.

Applications are invited for the post of Resident House Surgeon at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry. Duties to commence March 31st next.

Applications, stating age and qualifications, and enclosing copies of testimonials, should be addressed to the undersigned.

LESLIE J. FURSLAND, Secretary.

University College Hospital,
Gower Street, W.C.1.

Applications are invited for the honorary post of SURGEON to University College Hospital in the Ear, Nose, and Throat Department (Royal Ear Hospital).

Applications, accompanied by evidence of fitness for the post, must reach the Secretary, from whom further particulars can be obtained, by first post on Monday, March 2nd.

Weymouth & District Hospital,
WEYMOUTH.

Wanted at once, HOUSE SURGEON, male (European). Salary £180 per annum, with board, residence, and laundry. Applications, stating age, qualifications, and copies of testimonials, to be sent to the undersigned not later than February 16th.

MORRIS LODGE, Hon. Secretary.

Coventry and Warwickshire
HOSPITAL. (307 Beds.)

RESIDENT HOUSE PHYSICIAN (male) wanted. Salary £160 p.a., with board, lodging, and attendance provided. Candidates must be duly qualified and registered.

Applications, stating age, and enclosing copies of recent testimonials, should be sent to the undersigned on or before February 17th.

(35×8) R. HOOPER, Secretary.

(Appointments continued on p. 56.)

ASSISTANCIES.

Wanted. — Assistantship, with view, free about March 18th. M.R.C.S., L.R.C.P., M.A.Cantab., aged 31; experienced Anaesthetics, Midwifery. Appointments: H.S., H.P., Senior Resident. Residential district preferred, not North. Own car.—Address, No. 1006, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistantship, preferably London area, good-class practice by Woman Doctor, M.D., B.S.(Lond.), aged 28. 2½ years' good hospital experience. Special experience Midwifery. — Address, No. 1007, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant, with view Salary about £300 and house. Mixed Practice, industrial area, Staffordshire. Income £1,800. Panel 2,200. Scope for increase.—Address, No. 1021, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately.—Experienced, well-qualified, part-time, outdoor ASSISTANT (British) in residential Health Resort near University City. View Junior Partnership and succession. Suit man reading for higher degree. Essential partics. with photo. —No. 865, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Indoor Assistant, male, single, British, to take Charge of Branch Surgery. G.P. experience essential. Usual bond. Salary £300, with extras. Small car necessary. References and photograph.—No. 1106, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistant of experience to manage Branch Surgery in West Wales, experienced in minor Surgery and Midwifery Little night work. Salary £325, indoor, or £425 outdoor.—Address, No. 1109, B.M.A. House, Tavistock Square, W.C.1..

Wanted. — Assistant (lady), panel and private Practice. Dispensing. Able to drive car preferred. London suburb. Good personality, keen, capable. Able to take full charge—Address, No 1012, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship, with view, by Scot, M.B., Ch.B. (Glasgow), aet. 28, married. 2½ years' G.P., all branches. Own car.—Address, No. 1036, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, indoor, for non-panel, non-dispensing Practice. Car provided. Salary £300. Usual bond.—Address, with references, No. 1035, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Lady Assistant, outdoor. Work light. Suit recently qualified. Send photo. State essential particulars. — Address, No. 1037, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, indoor male ASSISTANT in General Practice in London Work light. Usual bond. State full particulars.—Address, No. 1011, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted immediately, Assistant, outdoor, Industrial Practice. £400 per annum, with rooms British, must be active, motor cycle useful. Healthy district.—Apply, DR. STUBBINS, Ystalyfera, Swansea.

Wanted. — Outdoor Assistant for panel Practice in North Yorkshire Town Two partners, each young and active. Salary £450, and half midwifery.—Address, No 1101. B.M.A. House, Tavistock Sq., W.C.1

Assistantship, outdoor, required by M.B., in Practice where some Surgery is done Four years' experience general practice. Experience in Anaesthetics Good references. —Address, No 1018, B.M.A. House, Tavistock Square, W.C.1.

Male Assistant wanted, some experience Hospital or G.P. Dispenser kept and car provided. Salary £400, outdoor. Good rooms at reasonable cost. Begin work middle of March.—Address, stating all essential particulars and enclose recent testimonial, No. 1110, B.M.A. House, Tavistock Square, W.C.1.

Assistant wanted, single, live at Branch. Salary £300 and all found.—Address, stating age, etc., No. 1105, B.M.A. House, Tavistock Square, W.C.1.

London, growing suburb. — Wanted immediately, male ASSISTANT, with view to PARTNERSHIP. Married man preferred; Fellowship man would find good scope for surgery; Post-graduate experience essential. Non-dispensing, non-panel Practice. Receipts about £3,000 p.a.—Address, No. 866, B.M.A. House, Tavistock Square, W.C.1.

Pathological and Bacteriological LABORATORY ASSISTANTS ASSOCIATION.—*Pathologists* and *Bacteriologists* requiring SKILLED CERTIFICATED LABORATORY ASSISTANTS are invited to communicate with H. GOODING, Hon. Sec., "Moelfre," 10, Holbeck Grove, Victoria Park, Manchester. No fees.

Woman Medical (M.B.Glasg.), keen and physically strong, will be glad to hear of ASSISTANTSHIP, with view to Partnership, in Country Practice, Yorkshire or Lancashire preferred. Well versed in Hospital routine work, Ophthalmology and general practice Children and midw'y of special interest. —No. 1022, B.M.A. House, Tavistock Sq., W.C.1.

LOCUMS.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Wanted.—Locums or Assistantship (outdoor), by well-qualified Medical Woman, excell. testimonials, 5 yrs.' experience. Accustomed sole charge and dispensing. London or S. of England pref., but will go anywhere. —No. 1034, B.M.A. House, Tavistock Sq., W.C.1.

Locum Tenens. — Medical Man needs EMPLOYMENT. Days, Evenings, Week-ends, etc. Very moderate terms.—Address, No. 1009, B.M.A. House, Tavistock Sq., W.C.1.

Reliable Locum for week-ends; would suit Post-Graduate. Easy work. Good pay if suitable.—Add., No. 1013, B.M.A. House, Tavistock Square, W.C.1.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or phone (Park 0969), Secretary, 7, Westbourne Park Road, W 2.

A widow (refined) seeks position as CARETAKER or HOUSEKEEPER for Surgery. Nominal salary for unfurnished accommodation for herself and daughter (out all day).—Apply, CARTER, 9, Anerley Park Rd., S.E.20.

Dispenser (lady) desires Re-ENGAGEMENT with Doctor. Apothecaries' Hall certificate. Experience in dispens- work. Free now. t preferred.—Miss Road, Watford.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, ensers, and , or 'phone BUREAU FOR , E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Lady Dispenser (Hall) requires POST with Doctor. Town or country. Is experienced and has good references. Free now. —E. H., 53, Felbrigge Road, Seven Kings, Essex.

Experienced G.P., now living at Southampton, would be glad of PART-TIME WORK for Doctors. Southampton or neighbourhood. — Address, No. 1020, B.M.A. House, Tavistock Square, W.C.1.

Gentleman, 33, desires appointment as SECRETARY. Correspondence, books, and all duties. Willing to drive car. All references exchanged. Interview essential. —LONGDEN, 396, Princes Gardens, West Acton, W.3. Tel.: Ealing 5957.

Lady Secretary - Receptionist desires POSITION with Doctor or Dentist. Shorthand, typing, knowledge of bookkeeping. Interview any time. — M. VERNEY-HARRIS, "Whitehall," Great Wakering, Southend-on-Sea, Essex.

Lady, young, requires position as SECRETARY, Receptionist, etc., to Doctor, W.1 district. Five years' secretarial experience. Excellent references. — Write, ADVERTISER, 58, Brondesbury Park, N.W.6, or 'phone Willesden 3969.

Lady Dispenser, qualified, requires POST or LOCUM. Excellent testimonials.—Miss F. EALES, Littleworth, Green's Norton, Towcester.

Masseuse, young, experienced hospital and private work, medical, electricity, remedial exercises, light, etc., wants PART-TIME work with Doctor or Institution. Speaks French. Own car.—Address, No. 1033, B.M.A. House, Tavistock Square, W.C.1.

Medical or Scientific work required, preferably in London, by Hons. Grad. Edin. Good recent refs. (G.P.) available. Highest scientific recommendations. Experienced motorist; protected; 32. Part or whole time. Two weeks to three months.—Address, No. 1014, B.M.A. House, Tavistock Square, W.C.1.

M.S.R., 20 years' experience, seeks a CHANGE. Expert photographer. Part-time preferred.—M.S.R., 105, Lillington Street, Pimlico, S.W.1.

Part-time work required by London man, aged 28, while reading for D.P.H. 3 years' experience private and panel. Own car.—Address, No. 1025, B.M.A. House, Tavistock Square, W.C.1.

Qualified Chemist (B.Sc.Lond.), with Biochemistry subsidiary subject and certificate in Bacteriology, requires POST, either for routine or research work. 4 years' previous exper. Full partics. and refers. on application — No. 651, B.M.A. House, Tavistock Square, W.C.1.

Syria. — Doctor required to take CHARGE of small QUAKER MISSIONARY HOSPITAL on the LEBANON. Friend preferred, but not essential. — Apply, FRIENDS SERVICE COUNCIL, Friends House, Euston Road, London, N.W.1.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

TYPEWRITING.

Medical, Law, Scientific, and all literary work undertaken by expert at reasonable rates. Prompt and accurate. Highly recommended. — Mrs. V. D. LONG, Bungalow, Wreningham, Norwich.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted, early in June, Partnership or PRACTICE. Minimum £1,200. South Coast or Southern Counties essential. Good panel. Advertiser 45, with 20 years' experience of all classes of practice. Prefer rent house (5 bedrooms). Capital available.—Add., No. 872, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Partnership or Practice, preferably former, in Hove or Brighton. — Address, No. 1029, B.M.A. House, Tavistock Square, W.C.1.

Home County, within 50 miles. —A ONE-FOURTH SHARE, with increase to Half, is for disposal in an old-established General PRACTICE producing £5,000 per annum. Premium 2 years' purchase. Would suit well-qualified and energetic man about 30, preferably married. Good house available. There will be a vacancy on the staff of the County Hospital open to the incoming man if well-qualified. — Address, No. 1026, B.M.A. House, Tavistock Square, W.C.1.

Partnership in good middle-class old-established Practice, London, S.W., rapidly increasing. One-third share producing about £1,800 at 2 years' purchase. Modern house available to rent in excel. locality and position. Exp., well qualified man required. —No. 856, B.M.A. House, Tavistock Sq., W.C.1.

Partnership, view succession in good mixed Practice, North-East Coast. Share (1/3) worth £750 at 2 years' purchase. Excellent scope for increase. Suit well-qualified man. — Address, No. 1027, B.M.A. House, Tavistock Square, W.C.1.

Partner wanted to purchase 1/3 SHARE sound PRACTICE (Mersey side) £2,200—£2,400. Small panel. Option of tenancy or purchase of one of two houses both owned in the Practice. Well qualified young man preferred. — Address, No. 1008, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted.—Having on my register at present several hundred applicants for PRACTICES and PARTNERSHIPS, many of them with ample capital to invest in any suitable Practice, I shall be pleased to hear, in strict confidence, from any Practitioners who are contemplating a change. — Reply, in confidence, to PERCIVAL TURNER, LTD., 4 & 5, Adam Street, Adelphi, Strand, London, W.C.2.

Wanted in Midlands, South of England, or suburb of London, by an experienced married Graduate, a good general mixed PRACTICE of £2,000 a year or more, with panel. Birmingham district specially desired. Can negotiate at once. Capital £3,000.—Details in confidence to 32.2, c/o PERCIVAL TURNER, LTD., 4 & 5, Adam St, Adelphi, Strand, W.C.2.

Wanted in Surrey, Berks, Hamp., or South Devon, by experienced Practitioner, old-established middle-class Town PRACTICE, with income of £2,000 or more and panel of 1,500. Good freehold house, with good garden, to purchase. Good schools essential. — Address, No. 1005, B.M.A. House, Tavistock Square, W.C.1.

Wanted by M.R.C.S., L.R.C.P., D.P.H., middle-age, a PRACTICE with panel and appointments, £1000—£1,200. Pref. South of England, with house to rent, if possible. — Address, No. 1108, B.M.A. House, Tavistock Square, W.C.1.

Wanted, end of June, in pleasant non-industrial district, mixed-class PRACTICE about £1,500—£1,900, with fair panel. Capital available.—Address, No. 1010, B.M.A. House, Tavistock Square, W.C.1.

Wanted in Hants, Sussex, or Surrey, PRACTICE £700—£1,000, Nucleus with scope, or Partnership with early succession. Capital available. Replies confidential. — Address, No. 1032, B.M.A. House, Tavistock Square, W.C.1.

Wanted, Sussex, Surrey, Hants, Dorset, near coast, PROPOSITION, £1,000 upwards, by experienced M.B. (1918). References. Ample capital.—Address, No. 1031, B.M.A House, Tavistock Square, W.C.1.

Wanted.—Practice, with scope. Income £1,100—£1,500. Substantial panel. Ample cash available. — Address, No. 1004, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—West of England.— Private and panel PRACTICE in large town; panel 1,754. Convenient house, garden, garage. In Vendor's hands 34 years. Price 1½ years' purchase. — Address, No. 1015, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Old-established Colliery PRACTICE.—Address, No. 1104, B.M.A. House, Tavistock Square, W.C.1.

Isle of Man. — Unopposed. — Lovely district. Nice house, large garden and garage, rented with ultimate purchase. Receipts £800, much scope. Panel £140, increasing. Easily worked. Golf, boating. Price £700, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Lancs Town. — Old-established. Receipts £2,500; panel 1,850. Excellent scope surgery. Appointment £120. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, S.E. — Old-established PRACTICE for immediate sale, owing to Vendor's ill health. Low working expenses. Scope for development. Premium £250.—Add., No. 1019, B.M.A. House, Tavistock Sq., W.C.1.

Medical Practice for Sale.— Sound old-established Practice near Glasgow for Sale. Large panel and private connection.—Full particulars from THOS. ARMSTRONG, Writer, 166, Buchanan Street, Glasgow.

Medical Practice in Scotland, town or country, wanted by M.B., Ch.B. Income £800 to £1,200; good house and garden, lease preferred. — ROBERT FLEMING, S.S.C., 21, Hill Street, Edinburgh.

Northern University Town.— Good mixed PRACTICE for sale. Average receipts £2,200. Much scope. Excellent house, with professional rooms and garage. Price of Practice 1½ years' purchase.—Address, No. 1028, B.M.A. House, Tavistock Square, W.C.1.

North Midlands.—For Sale.— Vendor retiring.—Old-established Country PRACTICE. Receipts last 5 years average £1,365 (audited). Panel 950. Other appointments £280 p.a. Premium £1,500. House, 4 reception, 6/7 bedrooms, electric light, cottage, garage, large garden, tennis lawn. Price £1,250, with land £1,550.—Address, No. 1030, B.M.A. House, Tavistock Square, W.C.1.

Scotland.—East Coast Town.— For Sale.—Lady Doctor's private, panel, and dispensing PRACTICE. Average cash receipts £1,400, with excellent house and garage upon which bond can be arranged. Premium for Practice 1 year's purchase.—Add., No. 861, B.M.A. House, Tavistock Sq., W.C.1.

Scotland. — Wanted.—Practice in good-sized Town. Income £1,500 to £2,000. Good panel essential. Capital available. Full particulars in confidence.—Address, No. 1107, B.M.A. House, Tavistock Sq., W.C.1.

Shrewsbury (in or near).— Wanted, well-established mixed PRACTICE, by experienced Practitioner. Income about £1,500. Would consider Partnership with early succession. — Address, No. 672, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

V.D. Practice (or share) wanted to purchase by Specialist, in or near London. — Address, No. 1103, B.M.A. House, Tavistock Square, W.C.1.

V.D. Specialist in West End wishes to add to own Practice by purchasing further V.D. CONNECTION or similar Nucleus. — Address, No. 1001, B.M.A. House, Tavistock Square, W.C.1.

X-Rays.—Nucleus of a Branch PRACTICE for Sale in Kent. Scope for increase. Accept cost of equipment, £450. Particulars to bona-fide applications only.—Address, No. 1024, B.M.A. House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

Consulting Rooms to Let.— Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & CO., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Consultant wishes to be taken as PAYING GUEST. London or near. Would be willing to give occasional help in good-class Practice. — Address, No. 876, B.M.A. House, Tavistock Square, W.C.1.

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.),
Surveyors, Auctioneers, and Estate Agents,
10, WIGMORE STREET,
CAVENDISH SQUARE, W.1.
SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS
In Harley Street and leading Medical Positions.
Telephone: Langham 3927 and 3928.

Doctor's wife has three or four nice ROOMS to LET furnished, in good district, 25 mins. Victoria and City. Close to three stations. Nice house, all conveniences. Near plenty of sport, shops, etc.—Address, No. 851. B.M.A. House, Tavistock Square, W.C.1.

Glasgow.—Consulting Room and WAITING ROOM to Let in professional house, Charing Cross. Specialist or G.P. Reasonable rent, to incl. attend. and electricity. Telephone on prem. Living accom. if desired.—No. 1003, B.M.A. House, Tavistock Sq., W.C.1.

Gordon Square, W.C. — Unfur- NISHED MAISONETTE. £150 per annum. Also Ground Floor FLAT; furnished or unfurnished.—Address, No. 1023, B.M.A. House, Tavistock Square, W.C.1.

Herne Bay (facing sea and at West End).—Ideal position for Doctor or Dentist.—Detached FREEHOLD HOUSE of 5 bedrooms, bathroom, 3 reception rooms, and offices. Every modern convenience. Garage. Tennis lawn and pavilion. Extra plot included. Price for quick sale £2,500. Or house, with small garden, could be sold for £1,400.—Apply, CHESTERTON & SONS, 79, Queen Street, E.C.4. 'Phone: Central 6251.

Leytonstone, 10, Gainsborough Road.—Admirably placed for a Doctor or other professional man, within a few yards of the main road. Well-planned double-fronted RESIDENCE, all on two floors. Three reception rooms, 5 bed., bathroom, usual offices. For Sale privately, or by Auction, February 26th.—PETTY, SON & PRESTWICH, Auctioneers, Leytonstone.

Loughton.—Attractive Detached RESIDENCE. Suit Doctor. Steadily growing district. Three reception rooms, three large, five small, bedrooms, large kitchen, usual offices, bathroom, garage. Frontage nearly 150 feet. Nice garden. Freehold. — Address, No. 1016, B.M.A. House, Tavistock Square, W.C.1.

Near Harley St. — Bedroom to Let. Breakfasts supplied. Rent 30/- per week. Also part-time use of Consulting Room. *£50 per annum.* — *Address, No. 930, B.M.A.* House, Tavistock Square. W.C.1.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 253, B.M.A. House, Tavistock Square, W.C.1.

FINCHLEY, CHURCH END, N.3.

Suitable for a Doctor or Dentist. —A semi-det. prominent Corner RESIDENCE, on 4 cross roads, contg. 5 bedrooms, bathroom, 2 reception rooms, kitchen, and scullery. Large garden, ample room for garage. Fitted modern conveniences. — For particulars, apply G. CHALHOUN, 59, Gresham St., E.C.2. 'Phone: Metropolitan 1729.

To Let. — 32, Weymouth St., W.1.—Share (ground floor) CONSULTING ROOM, £100 p.a., with plate, and separate Consulting Room £200 p.a. Use of beautifully furnished waiting room and excellent attendance.—Apply, Secretary. Welbeck 1691.

To Let. — Mayfair.—Part-time CONSULTING ROOM, ground floor. Use of waiting room. Attendance.—Address, No. 1017, B.M.A. House, Tavistock Square, W.C.1.

Wanstead, "Southville," Cam- bridge Park.—Admirably placed for professional purposes, on main 'bus route, 7 miles Bank of England. Substantial detached Freehold RESIDENCE, standing in well-stocked garden, with fine garage acc. 3 recep., 5 principal bed., bath., spacious dom. offices. For sale priv., or by Auction, Feb. 26th, by order of EXORS.—PETTY, SON & PRESTWICH, Auctioneers, Leytonstone.

Whole or Part-time Consulting ROOM to Let corner of Harley Street, with use of X-ray apparatus if desired. Also transferable Hospital appointment. £200 per annum, duties light; London district.—Address, No. 1102, B.M.A. House, Tavistock Sq., W.C.1.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.

Telephone: 3204 MAYFAIR.

NERVE AND CONVALESCENT HOME.

To Sell or Let as a going concern, NERVE and CONVALESCENT HOME in Fifeshire, with highly successful business carried on for many years. Modern house in own grounds. 17 bedrooms. Owner retiring. Early occupation. Excellent opportunity for Medical Practitioner or capable Matron. — For further particulars apply to Messrs. SCOTT & PATERSON, C.A., 5, Coates Crescent, Edinburgh.

127, Harley Street.—Large well-lit ground floor CONSULTING ROOM, with excellent attendance and joint use of beautifully furnished waiting room. £300 per annum.—Apply the Secretary, Welbeck 7840.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS " £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.

THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self measurement Form or Pattern Garments

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS,
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659. Write for Tax Guide, Free.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

For Sale, 1930 Ear Aid Apparatus, 15 gns. model. Reasonable offer. — Mr. AYLEN, 11, Cornflower Terrace, Dunstan Road, E. Dulwich.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Essell" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

X-Ray Apparatus wanted. —*Medical Practitioner, working in slum* area of large Northern City, urgently requires above. — Please forward particulars in first *instance to No. 1002, B.M.A. House, Tavistock* Square, W.C.1.

APPOINTMENTS.—Contd.

City of Stoke-on-Trent.

ASSISTANT MEDICAL OFFICER (Male).

Applications are invited for the appointment of Second Assistant Resident Medical Officer at the London Road Institution, near Newcastle, Staffs.

The remuneration assigned to such office is £250 per annum, with board and residence. The period of the appointment will be limited to one year, subject to termination by one month's notice on either side. The Institution accommodates about 1,000 inmates, including 600 in Hospital (which is recognised as a major training school for nurses) and 150 in Mental Wards. The medical service to the adjacent Children's Homes is performed by the Institution Resident Staff, who also are required to lecture to Nurses.

Applications, accompanied by copies of not more than three testimonials of recent date, should be [illegible] t later than first [illegible]stant. Applicants [illegible] qualifications or [illegible] when taken, and experience since qualifying. Preference will be given to those who have had experience in any of the following subjects, viz.: Anaesthetics, Obstetrics, Pathology, and Radiography.

E. B. SHARPLEY, Town Clerk.

Public Assistance Offices,
High Street, Stoke-on-Trent.
February 10th, 1931.

City of Dundee.

Applications are invited for the appointment of male ASSISTANT MEDICAL OFFICER OF HEALTH.

Salary £600 per annum, rising by £25 per annum to £700 per annum.

Candidates must be registered Medical Practitioners and possess a diploma in Public Health.

Forms of application and particulars of appointment may be obtained from the Medical Officer of Health, 17, West Bell Street, Dundee, [illegible] pplication forms, along [illegible] recent testimonials, must [illegible] on or before Friday, February 27th.

W. H. BLYTH MARTIN,
City Chambers, Town Clerk.
Dundee. February 9th, 1931.

The Prince of Wales's General HOSPITAL, LONDON, N.15.

Applications are invited for the post of HONORARY SURGICAL REGISTRAR (Honorarium of £100 per annum).

Candidates must be Graduates in Medicine of a British University, or a Fellow or Member of the Royal College of Surgeons.

Applications, accompanied by three recent testimonials, to be sent on or before Saturday, February 28th, to—J. C. BURDETT, Director.

The Glasgow Eye Infirmary.

The Directors invite applications from registered Medical Practitioners for the post of RESIDENT ASSISTANT HOUSE SURGEON. Salary £150 per annum, with apartments and board. The post is now vacant.

Applications, with 10 copies of testimonials, should be lodged with the undersigned by 17th instant.

WM. M. MOORE,
171, West Regent Street, Secretary.
Glasgow, C.2. February 6th, 1931.

Royal South Hants and SOUTHAMPTON HOSPITAL.

CASUALTY OFFICER required. Six months' engagement. Salary £120 per annum, with rooms, board, and laundry. Applications, stating age, to be sent to the undersigned, together with copies of testimonials (limited to five) as soon as possible.

HY. TRUSSON, Secretary.

Metropolitan Borough of Poplar.

MALE ASSISTANT MEDICAL OFFICER OF HEALTH (TUBERCULOSIS SECTION).

The Council of the Metropolitan Borough of Poplar invite applications for the above post from duly qualified and registered male Medical Practitioners who are specially qualified in the diagnosis and treatment of Tuberculosis, and not over 40 years of age.

The person appointed will assist the Tuberculosis Officer, and, when necessary, carry out other duties in the Public Health Department under the direction of the Medical Officer of Health, and devote his whole time to the services of the Council.

Applicants should have:

(1) At least three years' experience in the practice of his profession; (2) spent in general clinical work a period of not less than 18 months, of which not less than six months have been spent in a hospital as a resident officer in charge of beds occupied by general medical and surgical cases; and (3) received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis.

A Diploma in Public Health *is desirable.*

The commencing salary will be at the rate of £600 per annum, rising by four annual increments of £25 to £700 per annum.

The successful candidate will be required to pass a medical examination, and to contribute to the Council's Superannuation Fund.

Forms of application may be obtained from my office, and must be returned, together with a letter of application and copies of three recent testimonials, in envelope endorsed "Male Assistant Medical Officer of Health," not later than Friday, February 27th instant.

Canvassing members or officers of the Council, in any form, will disqualify.

Council Offices, H. E. DENNIS,
Poplar, E.14. Town Clerk.
February 10th, 1931.

Kent County Mental Hospital.

MAIDSTONE.

ASSISTANT MEDICAL OFFICER (male) required. Commencing salary, inclusive of emoluments, £509 per annum, rising to £609 per annum. Excellent facilities for attending lectures for the Diploma in Psychological Medicine, and an additional £50 per annum for that *Diploma.*

The appointment is pensionable under the Asylums Officers Superannuation Act, 1909.

Candidates must be fully qualified, single, and not more than 30 years of age.

Applications, giving full particulars, with *copies of three recent* testimonials, and endorsed "A.M.O." on envelope, should be sent to the Medical Superintendent of the Hospital at an early date.

City of Bradford.

MUNICIPAL GENERAL HOSPITAL, ST. LUKE'S

HOUSE PHYSICIANS and HOUSE SURGEONS required.

Salary in each case £200 per annum, plus board and lodgings.

These appointments are for six months, renewable for a further period of six months.

Application forms may be *obtained from the* Medical Officer of Health, Town Hall, Bradford, *and should* be returned to him not later than February 28th.

Town Hall, N. L. FLEMING,
Bradford. *Town* Clerk.
February 9th, 1931.

Scunthorpe and District War MEMORIAL HOSPITAL.

Applications are invited for the post of a Second Resident (male) as HOUSE PHYSICIAN, to take up *duties about* the end of March. Salary at the rate of £150 per annum, *with* board, residence, and laundry. Candidates, who must possess registered qualifications, should forward *applications*, stating age, nationality, etc., together with copies of recent testimonials, to the *undersigned* not later than Saturday, February 28th.

ARTHUR E. MAW, Secretary.

Aberdeen Royal Infirmary.

The Board of Directors invite applications for the [illegible] ASSISTANT MEDICAL [illegible]. Six copies should be [illegible] February 18th.

JOHN A. McCONACHIE, Clerk & Acting Treasurer.
230, Union Street,
Aberdeen.
January 30th, 1931.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A RESIDENT MEDICAL SUPERINTENDENT is required on March 9th.

Gentlemen are invited to send in their application to the Secretary, before 12 o'clock on Monday, March 2nd, accompanied by copies of not more than three testimonials given specially for the purpose.

The appointment is made for one year, but may be held, subject to re-election, for a period of three years.

Salary £300 per annum, with board-residence in the Hospital, £10 allowance for laundry, and £18 18s. for the purpose of providing a substitute during annual leave.

Candidates must be unmarried and possess a legal qualification to practice, and must have held a responsible Hospital appointment at a General Hospital.

All candidates must be in attendance on Wednesday, March 4th, at 4.45 p.m. precisely, to appear before the Joint Committee, if required.

Forms of application and copies of the Rules may be obtained from the Secretary at the Hospital.

By Order of the Board of Management,
JAMES MCKAY,
February, 1931. Secretary.

Hospital Convalescent Home,
SWANLEY, KENT.

There will be a vacancy for a RESIDENT MEDICAL OFFICER (female) on April 1st.

The duration of the appointment is for SIX months, and may be extended for a further SIX months. Salary at the rate of £200, with quarters and full board.

There is a certain amount of active Medical and Surgical work to be undertaken, and candidates should have held a recent resident post in a General Hospital.

Applications, addressed to the Secretary, Hospital Convalescent Home, 18, Walbrook, London E.C.4, should be submitted on or before Friday, February 27th.

CHARLES M. POWER, Secretary.

Ingham Infirmary,
SOUTH SHIELDS. (124 Beds.)

Wanted, HOUSE SURGEON (male). Salary £150 per annum, with residence, board, and washing. No out-visiting. Candidates must hold registered qualifications in Medicine and Surgery. The appointment will be terminable by one month's notice.

Applications, stating age, and accompanied by copies (which will not be returned) of recent testimonials, to be sent to the undersigned, from whom further particulars may be obtained.

JOHN POTTER, Secretary.

Liverpool Hahnemann Hospital,
HOPE STREET.

Wanted, a LOCUM TENENS HOUSE SURGEON to the above Hospital, for one month, possibly longer.

Successful applicant should be able to take up appointment on February 18th.

Salary at the rate of £100 per annum.

Duties include casualties, assisting at operations, and occasional anaesthetics.

Apply, stating age, sex, nationality, and enclosing copies of testimonials, to the Registrar.

Margate and District General
HOSPITAL. (80 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) to commence duties on March 2nd next. Twelve months' engagement (renewable).

Salary £125 per annum, with board and laundry.

Applications, accompanied by copies of testimonials, should be sent to the Secretary, Medical Committee, at the Hospital, as early as possible.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 5932 CITY.

TRANSFERS and PARTNERSHIPS and Investig
ASSISTANTS
PRACTICES

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 5873.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

N. Industrial City. — £645. Panel 900. Appointment over £100. Visits 3/6 up. Maternity discouraged, can be had. Small house £500, or £40 p.a. Car not essential. £1,000.—No. 8803.

S.W. County. — Country. — £1,000. Panel brings £240. Visits 3/6—10/6. Large house and garden. £60 p.a. £1,500.—No. 8800.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 3/6 to 21/-. No dispensing. Small panel.—No. 8799.

West Riding.—£1,030 p.a., increasing. Panel 400. Appts. £45. Fees 3/6 to 10/6 and up. Midy. 3 to 7 gns. Small modern house to rent or on mortgage.—No. 8797.

S. Midland. — Country. — £480 and scope to young man. Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. Premium only £300.—No. 8796.

West of England Town.—£1,100 plus appts. worth £400. Panel 1,240. No midy. taken. Visits 4/- to 10/6. House, with 2 surg. and wait. rooms, 4 bed., etc.—No. 8786.

Yorks.—Death Vacancy.—£1,000 or more Panel 950. Not much midy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. £600 down, bal. deferred.—No. 8795.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No midy. Fees 3/6 to 10/6. House to rent. —No. 8791.

Kent. — Outer Suburb.—About £900 p.a. Scope. Panel over 900. Appt. £100. Visits 3/6 to 21/-. Good house and garden. Good schools.—No. 8789.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

Outlying London Suburb.— X-Ray and Electrical. £500, with scope. House, 6 bed., on lease.—No. 8783.

London Suburb, S.W. — About £1,100. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 3/6 up. House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London Suburb, S.W. — £2,800. Old-estab. General Practice. Panel 1,250. Detached house (7 bed.) and garden.—No. 8766.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £25. Prem. £800, incl. furn.—No. 8766.

Favourite South Coast Resort.— Average £2,500. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 3/6 to £1 1s. Large house and garden. Smaller ones available.—No. 8750.

South Coast. — Within 60 miles. Over £1,000, increasing rapidly. Panel 500. Clinic £50. Fees 3/6 to 12/6. Good house, 4 bed., etc.—No. 8742.

Surrey. — Rapidly increasing PRACTICE. Receipts over £830. Panel 580. Excellent house, 8 bed., with large garden, to rent.—No. 8741.

S.W. County near Coast.—Dispensing PRACTICE over £2,000 p.a., chiefly agricultural. Visits 5/- up. Surgery 2/6 up. 1,100 panel.—No. 8728.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER*: 176, *Oxford Rd*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines). Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

ST. LUKE'S HOSPITAL
FOR MENTAL DISORDERS.
Private Nursing Staff Department.
Trained Nurses for Mental and Nervous Cases can be had immediately.
Apply to Lady Superintendent,
19, Nottingham Place, London, W.1.
Telephone: Mayfair 5420.
Northern Branch.—Apply, Lady Superintendent, 57, Clarendon Rd., Leeds. 'Phone: Leeds 26165.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT
The
Medical Insurance Agency
(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls.*) *Telegrams:* "REASIDE, TUBERCLE, WESTRAND, LONDON."

KENT.—Within easy reach of London. — Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Premium £1,300. Excellent scope for energetic man.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for surgery. Premium 1/3 share, with view to larger share, £1,300.

LIVERPOOL (near).—Mixed G.P.—Medium-sized house, with large garden. Branch Surgery. Receipts £2,500. Panel 2,600. Fees 2/6 up. Scope for Surgery if desired. Premium 1½ years' purchase.

LONDON, E.13.—NUCLEUS working-class PRACTICE (mostly cash), situated in thickly populated locality. House to rent at £60 p.a. (*part sub-let at £26* p.a.). Receipts approximately £350. Panel 400. Fees 1/6 up. Mids. 2—3 gns. Premium £400.

DEVON (SOUTH).—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Hospital. Scope for surgery. Good schools. Premium for 1/3 share £2,030. Terms considered to right man.

BERKS.—Town PRACTICE within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery (scope). Suitable house available. Premium 1½ years' purchase.

KENT.—Country Town PRACTICE, situated under 40 miles from London. Population 10,000, increasing. Receipts approximately £2,000 p.a. Panel 1,200. Fees 2/6 upwards. Good-sized house (6 bedrooms). Large garden. Garage. To rent on lease at £80 2s. p.a. Scope. Premium £3,000 cash.

MIDDLESEX.—Good-class non-dispensing and non-panel PRACTICE. Scope for Surgery. House to rent on lease at £120 p.a. (4 bedrooms). Garage. Garden. (May be purchased for £1,500.) Receipts £1,000 p.a. Fees 5/- upwards. Good schools, golf, tennis, etc. Prem. £1,500.

LONDON, W.10.—Cash and Panel PRACTICE, situated in middle and working-class locality. Suitable accommodation available to rent at £76 p.a., inclusive. Fees 2/6 up. Midwifery 2 gns. up. Panel 300. Books audited. Receipts £385. Premium £600, or near offer.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approximately £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three Hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640, or near offer. Partnership considered.

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional accommodation consists of three rooms, centrally situated, held on agreement at £100 p.a. Receipts approximately £530. Fees 2/-. Panel 430. Premium £650, cash. Scope for further development.

HOME COUNTIES (NORTH). — PARTNERSHIP *after* PRELIMINARY ASSISTANTSHIP, three to six months, in old-established middle-class Practice. Receipts average £3,500. Panel nearly 1,200. Suitable house to rent (6 beds) at £83 p.a. Garden. Fees 5/- up. Mids. 3 gns. up. Two appointments. Excellent educational facilities. 1/3 share is offered, with view to half share, at 2 years' purchase. Suitable to well-qualified man, preferably married, with Hospital experience and good at Anaesthetics.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency,

71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone:* 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. NORTH OF ENGLAND. — Panel, Private, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appts. £350. Good house to rent. Considerable scope for energetic man.
2. MANCHESTER (Suburb).—Lock-up Surgery. Industrial PRACTICE. Receipts £350. Panel 600, and increasing. Excellent scope.
3. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transferable. Good house, garage, and all conveniences.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Coun[illegible] 2/5 share, wit[illegible] and ultimate [illegible] £1,146 p.a. P[illegible] worth about £250. Good fees and house.
7. LANCASHIRE.—Old-estab. Panel and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth £95. Good house to rent.
8. MIDLANDS. — COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London. *Telephone:* Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. LONDON, S.E. (15 *mins.* Charing Cross).—Old-established middle and working-class PRACTICE. Receipts average £950 a year, panel 800. Large house and garden, rent £115, part sub-let. Prem. £1,500. Good scope.
2. SCOTLAND.—Large Town.—Well-established PRACTICE. Receipts over £2,000 p.a., panel 1,816. Very good house, rent £78 p.a. Prem. 1½ years, part payable by instals.
3. OUTLYING RESIDENTIAL SUBURB, rapidly growing (10 mins. Baker Street). — Well-established non-panel PRACTICE. Receipts £1,000 a year. Rent £120, nice house. Premium £1,500. Suit anyone fond of surgery.
4. LONDON, E.—Cash PRACTICE. Receipts last 9 months £750, scope for panel. Suit lady or gent. House, rent £2 per week, part sub-let. Premium £1,250, payable £500 down, balance as arranged.
5. LONDON, E. (near Liverpool Street).—Mixed-class PRACTICE. Receipts last year £530, including panel 605. Premises 32/6 weekly. Premium £750 or near offer.
6. NEAR CAMBERWELL GREEN.—Well-established Cash and Panel PRACTICE. Receipts last 12 months £1,900, panel 1,052. House, rent to be arranged, lease granted. Premium £3,200.
7. SHROPSHIRE. — Old-established unopposed PRACTICE. Receipts over £1,000 p.a. Panel about 800. House on lease, rent £100. Premium 1½ years' purchase, easy terms arranged. Early sale essential.
8. LONDON, E. — Old-established Cash PRACTICE, with small panel. Receipts last year nearly £600. Living accommodation and surgery, rent £85. Vendor retiring. Premium £875. Suit Lady Doctor.
9. ESSEX.—Seaside Town.—Well-estab. mixed-class PRACTICE. Receipts average £560 p.a., including panel 250. Nice house on lease, rent £65 p.a. Premium £700 for quick sale.

No charge to purchasers or for enquiries.

THE

WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)

PHOENIX CHAMBERS,

22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. SOUTH DEVON. — PARTNERSHIP. — Half share in old-estab. Country PRACTICE, net over £1,300 p.a. Good house for sale, other [illegible] nr. sea. Scope.
2. [illegible] Seaside Town. £1,000 p.a. sports. Excellent house to buy or rent. Premium £1,500.
3. WEST OF ENGLAND CITY. — PARTNERSHIP.—Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Prem. 1½ years. Choice of resid.
4. WELSH BORDER.—PARTNERSHIP.—Large Country Town. One-third Share of Partnership, bringing in £830 p.a. Mostly panel and contract work. Panel 2,600. Fees 2/6 to 7/6. Car not essential. House to rent £78 p.a. 5 bedrooms. Tennis court, etc. All sports. Good schools. Premium £950.
5. WEST OF ENGLAND.—NUCLEUS in large town. Receipts average £200 p.a. Rapidly growing dist. Good prospects. Prem. £200. Suit keen man wishing to work up Practice.
6. SOUTH WALES.—In one of the most prosperous large towns in Wales.—Good type of PRACTICE. Receipts £1,000 p.a. Panel 700. Excellent house in best street (billiard room, 7 bedrooms, etc.). Price £3,000 for house and Practice. Accountant's certificate.
7. NORTH WALES.—Good mixed PRACTICE in Hospital town, returning £800 p.a. Panel £300 p.a. Working knowledge of Welsh essential. Excellent house on lease, rent £65 p.a. Prem. £800, on very easy terms.
8. SOUTH WALES.—Old-established good mixed PRACTICE, about £1,300 p.a. Panel 1,300. Large proportion contract work. Opposition weak. Good house to rent, £60 p.a. Good scope for increase. Premium £1,550.

FINANCIAL ASSISTANCE can be arranged for the PURCHASE of PRACTICES and PARTNERSHIPS. Full particulars on application.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

MANCHESTER. — INDUSTRIAL PRACTICE. — Average cash receipts £1,020 p.a. Panel 1,535. Great scope. Good house in residential district, 2 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 237.

LARGE LANCS TOWN.—Old-established PRACTICE. Cash receipts 1930, £1,581. Panel 1,300. Appointments (transferable) £175. Good house, 2 reception, 4 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 235.

LIVERPOOL (near).—PARTNERSHIP in excellent middle-class Practice. Average cash receipts £2,194 p.a. Panel over 1,000. Good scope. Nice house, 2 reception, 4 bedrooms. Garage and garden. Rent £70 p.a. Premium 1/2 share 1½ years' purchase. —No. 228.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

NORTH-WEST COAST. — SEASIDE RESORT. — Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 550. Excellent freehold house in good position facing Sea, 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

DEATH VACANCY.—Cheshire Town, near Manchester.—Average cash receipts £838 p.a. Panel 800. Scope. Good house, 2 reception, 6 bedrooms. Garage and garden. Premium, best offer.—No. 240.

NORTH WALES.—RAPIDLY GROWING SEASIDE TOWN.—PRACTICE. Average cash receipts £627 p.a. Panel £123. Excellent modern house (freehold), 2 reception, 6 bedrooms. Garage. Garden. Electric light. Premium—Practice and house—£1,550. —No. 223.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £652 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Premium—Practice—1½ years' purchase. —No. 194.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast")

LIVERPOOL.—NUCLEUS in Industrial district. Average cash receipts £500 p.a. Panel 200. Tremendous scope. Surgery rent 30/- per week clear. Premium £600 or near offer. —No. 227.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium—Practice — £1,600. —No. 195.

ISLE OF MAN.—Seaside Resort.—PRACTICE. Cash receipts 1930, £861. Panel. Good house, 3 reception, 7 bedrooms. Garage and garden. Premium—Practice—£700 (or near offer).—No. 224.

NEAR NORTH-EAST COAST.—SEASIDE RESORT.—Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £800 for quick sale.—No. 220.

ISLE OF MAN.—SEASIDE TOWN.—Old estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium —Practice and house—any reasonable offer.—No. 175.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Rent £90 p.a. Premium £1,500.—No. 222.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No. 234.

DEATH VACANCY.—LANCS COUNTRY TOWN.—Average cash receipts £848 p.a. Panel 1,003. Scope. Excellent house, 2 reception, 4 bedrooms. Garage and large garden. Rent £65 p.a. Premium 1 year's purchase.—No. 215.

LIVERPOOL (Near).—Old-estab. middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE.—Average cash receipts £745. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 2 years' purchase.—No. 197.

MANCHESTER.—INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

NORTH WALES.—Country Town near Sea.—PRACTICE. Cash receipts £700 p.a. Panel £300 p.a. Good detached house. Garage and garden. Rent £65 p.a. Premium for quick sale 1 year's purchase.—No. 219.

SHEFFIELD.—NUCLEUS in growing district. Cash receipts £490. Panel 400. Rent of Surgery £52 p.a. Tremendous scope. Premium—best cash offer.—No. 218.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880.)

12, Stratford Place,

Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair 1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 MIDLANDS. — Partnership in Practice over £3,300 p.a. in a good town. Panel about 1,000. Modern up-to-date Hospital. Four-twelfths share at 1½ years' purchase. Preliminary Assistantship if desired.

2 SOUTH OF ENGLAND.—Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one-fourth share, £1,750. Preliminary Assistantship.

3 YORKSHIRE (N.R.). — Assistantship with view to Partnership in good-class Country Practice. Fees 5/- to £1 1s. Share worth about £750 p.a., with considerable scope. Cottage Hospital.

4 BRECONSHIRE. — Partnership in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

5 WITHIN 50 MILES OF LONDON.— PARTNERSHIP in Practice averaging over £3,600 p.a. in first-rate County Town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P. appointments. Preliminary Assistantship.

6 CHESHIRE.—Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

7 S. DEVON. — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House, containing 5/6 bedrooms, for sale. Prem. one-half share £1,320, include drugs, etc. Work very light.

8 S. MIDLANDS.—Practice averaging over £1,200 p.a in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

9 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

10 S. COAST. — Practice about £1,200 p.a. in Popular Resort. Panel between 700/800. No midwifery or night work. House (5 bedrooms) to rent. Premium 1½ years' purchase.

11 N. DEVON.—Country Practice about £1,000 p.a. in attractive Agricultural and Sporting District. Panel 350. House (7 bed and dressing rooms and attics), garage, and about half an acre of garden, to rent. Well-equipped Hospital. Premium £1,500.

12 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

13 HIGH-CLASS NURSING HOME (held by Medical Man) in delightful Country District (500 ft. above sea-level) within 35 miles of London. Receipts over £5,000 p.a. Net profits between £1,000/£1,200 p.a. Beautiful house, with extensive grounds, etc., to rent. Premium for goodwill £1,500.

14 UNIVERSITY CITY within 120 miles of London. Practice averaging £1,500 p.a., including valuable appointment and a panel of 1,250. House (4 bedrooms), with garage and garden, for sale. Scope. Premium £2,025.

15 SURREY.—Partnership in non-dispensing PRACTICE of £3,200 p.a., in residential Town. Panel over 4,000. House with 5 bedrooms. Partner should be aged 30/40, and experienced in anaesthetics. Premium two-fifths share 2 yrs.' purchase.

16 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice averaging £4,225 p.a. in residential town and Health Resort. Panel 800. Very good educational facilities. One-sixth share gradually increasing to one-half in three years. Premium 2 years' purchase.

17 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

18 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

19 LONDON, N.W.—Good middle and better-class non-dispensing PRACTICE in residential district. Receipts about £1,000 p.a. (about half from Surgical work). No panel or appointments. Excellent detached house (4 bedrooms), garage, garden, etc., to rent. Good up-to-date Hospital and scope for Surgery. Premium 1½ years' purchase.

20 NEW ZEALAND.—Practice of £1,500 p.a. in Country Township in North Island. Visits range from 10/6 to £3 13s. 6d. Well-situated house (4 bedrooms, bathroom, etc.), and half acre of garden, for sale. Good private Hospital, with scope for Surgery. Premium £1,250.

21 LONDON, S.E. — Practice over £800 p.a. in thickly populated district close to the City. Panel 1,200/1,300. Well-situated house (4 bedrooms, bathroom, etc.), to rent. Great scope. Premium 2 years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

22 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main thoroughfare for sale. Scope for panel and midwifery. Premium £1,200.

23 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. *Premium* 1½ years' purchase.

24 W. OF ENGLAND.—Partnership in Practice over £3,000 p.a., in pleasant Country Town, under 130 miles from London. Young keen Partner, preferably with the F.R.C.S., who has held Hospital appointments. Premium for a two-fifths or one-half share 2 years' purchase.

25 ISLE OF MAN.—Practice in small watering-place. Receipts 1930, £861. Double-fronted house in best road (7 bedrooms, etc.), garage and large garden, for sale. Educational facilities. Excellent scope. Premium £700.

26 LONDON, S.W.—Good middle-class PRACTICE (General and Ophthalmic) in pleasant suburb. Receipts average nearly £1,350 p.a. (over £350 from Eye work). Corner house (5 bedrooms), garage and garden, for sale. Scope for panel and midwifery if desired Premium £1,600.

27 S. WALES. — Partnership in Practice about £4,000 p.a. in good Town with Hospital. Panel over 3,000. Half share (or smaller) at 2 years' purchase. Partner should have F.R.C.S. as there is plenty of Surgery.

28 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

29 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

30 LONDON, N.—Practice of about £700 p.a. in suburban district. Panel 727. Small house (3 bedrooms, consulting and waiting rooms) for sale. Price £600. Scope for increase. Premium £900.

31 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

32 S. COAST.—Partnership after preliminary Assistantship in well-established Practice in Seaside Resort. Share worth £1,000 p.a. to suitable man after six months. Premium 2 years' purchase. Considerable scope and excellent opportunity for young man.

33 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

34 S. MIDLANDS. — Practice over £750 in first-rate County Town. Small panel. Suitable house for sale at £1,200. Good Hospital. Scope. Premium 1½ years' purchase.

35 N.E. COAST.—Partnership in increasing Practice over £4,800 in Seaport Town. Panel 2,500. Incoming Partner should be married and have held H.S. and H.P. appointments. One-fourth share at first at 1½ years' purchase.

36 LONDON, N.—Cash and Panel Practice of £1,300 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

37 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. *Partner must be a* Surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

38 LANCASHIRE. — Increasing Practice in *rapidly* growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

39 KENSINGTON. — Small good-class non-dispensing PRACTICE of about £450 p.a. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. *Premium £500.*

40 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £800 p.a. at 2 years' purchase.

41 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

42 LONDON, W. — Partnership in Practice about £2,000 p.a. in suburban area. Panel about 1,650. Well-situated house (6 bedrooms), garage, and small garden, to rent. Scope. Premium two-fifth share 2 years' purchase.

43 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

44 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a in growing and pleasant residential district. Choice of residence for sale. Good scope. Prem. £1,200.

45 EASTERN COUNTIES.—Country Practice nearly £1,200 p.a., easy reach of two good towns. Panel 759. Small house (5 bedrooms), garage, and garden, to rent. Premium 1½ years' purchase.

46 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

47 CHESHIRE. — Chiefly non-dispensing PRACTICE of nearly £600 p.a. in residential town. Panel 100. New, semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

48 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

49 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

50 NOTTINGHAMSHIRE.—Country Practice of nearly £1,100 p.a. Panel 700. Good house (6 bedrooms), garage, and 1½ acres garden, to rent. Great scope. Premium 1½ years' purchase.

51 LONDON, E.C.—Partnership (with Succession) in steadily increasing Practice of about £1,200 p.a. in the City. Majority of consultations £1 1s. Excellent consulting rooms. Premium one-half share 2 years' purchase.

52 EAST COAST.—Partnership in non-panel Practice in favou[illegible] ier should be young and with Hospital [illegible] ut £1,000 p.a. at 2 years' purchase.

53 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a., at 1½ years' pur.

54 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

55 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase with ultimate succession.

56 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

"*MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS*" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES
who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. SOUTH MIDLANDS.—COUNTY TOWN.—PARTNERSHIP.—A one-half share is offered in an exceptionally sound good middle and working-class Practice, averaging over £2,900 p.a., including panel bringing in over £700 p.a. Suitable house, with 2 reception, 4 bedrooms, etc., and professional rooms. Small but secluded garden. Rent on lease £75 p.a. Sport of all kinds, and first-rate schools. Premium 2 years' purchase. Ingoing partner should be English or Scotch.

2. PARTNERSHIP.—MIDLANDS.—Prosperous Town within 80 miles of London—A one-third or five-twelfths share is for disposal owing to the retirement of the second of three partners in a very good mixed-class Practice. Average gross cash receipts £3,300 p.a., including panel of 1,000. Fees from 2/6 to 25/-, medicine extra. Premium only 1½ years' purchase for quick sale, owing to ill health.

3. SUSSEX.—FAVOURITE TOWN.—A one-half share in a good-class non-panel rapidly increasing PRACTICE, at present producing about £1,200 p.a. Fees 10/6 upwards. Small house or flat, with garage, available, on rental. Premium £1,200.

4. NORTH MIDLANDS (about 100 miles from London).—PARTNERSHIP.—In pleasant town, pop. 20,000, a share producing—to commence with—£1,000 p.a. in very old-established Practice averaging £3,500, including panel of 2,500, with option of further shares up to one-half. Premium 2 years' purchase. Ingoing partner should be under 30. Short preliminary assistantship.

5. YORKS.—FAVOURITE RESIDENTIAL TOWN. — PARTNERSHIP.—A third partner is required to take over a one-sixth share (with increase later) in a very well-estab. non-dispensing Practice, averaging over £4,000 p.a. Well-equipped Hospital, affording good scope for surgery. Premium 2 years' purchase. Preliminary assistantship of 6 to 12 *months*.

6. NORTH DEVON.—Very old-established unopposed Country PRACTICE, situated in a beautiful district, and producing last year £1,000, including panel and appts. worth about £300. Excellent residence (3 reception, 6 bedrooms, bathroom, etc.), in about 1/2 an acre of garden, with tennis court, garage. Rent on lease £60 p.a. Premium £1,500. Good hunting, shooting, and fishing.

7. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.

8. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.

9. PARTNERSHIP.—Prosperous Lancashire Town.—A one-fourth share (and up to one-half later) is for disposal owing to the retirement of one of two partners through ill health. Very sound Practice, steadily increasing. Gross cash receipts for last year £4,730. Panel of 2,730, and appts. worth about £200 p.a. Suitable house available. Premium £2,200, to include share of book debts.

10. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.

11. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500. £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.

12. DEATH VACANCY.—YORKS.—Village PRACTICE near large town. Old-established mixed-class Practice averaging £1,200 p.a., including panel of 950. Fees from 3/6, with medicine extra. Suitable house, with 3 reception, 4 bedrooms, bathroom, etc. Electric light. Small garden. Rent £56 p.a. Premium £1,000, payable £700 down and balance by instalments. Locum in charge.

13. SOUTH OF ENGLAND.—Pleasant Town, near Sea Coast.—Very old-established partly Surgical PRACTICE, averaging £2,433 p.a. (last year £2,516, of which £760 was derived from operative work), including appt. £170 and panel of 500. Nursing Home, centrally situated and well fitted up, which is also used for operations. Price £2,000. House, with ample accommodation, in 1½ acres of ground, commanding magnificent views. Price £2,000. Mortgage arranged on both. Premium 1½ years' purchase, partly by instals. Successor should also have knowledge of Eye, Ear, Nose, and Throat work.

14. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts average about £1,700 p.a., including appt. £70 and panel of over 1,000. Good house, with ample accommodation. Small garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.

15. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,167, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.

16. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.

17. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.

18. [illegible] TOWN.—Old-established better-class PRACTICE, [illegible] p.a. and offering good scope. Panel of 500. [illegible] situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.

19. SOUTH COAST TOWN.—Rapidly increasing PRACTICE, producing over £500 p.a. No panel. Visits 5/- up. Suitable house, with 2 reception, 3 bedrooms, etc. Rent on lease £130. Premium £750.

20. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope. Panel of over 1,400. Fees from 3/6. Suitable house can be secured. Premium 2 years' purchase.

21. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down.

22. WITHIN 20 MILES OF LONDON (West).—Rapidly developing district. —PARTNERSHIP.—A one half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100, and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.

WANTED TO PURCHASE.

1. WITHIN ABOUT 40 MILES OF LONDON.—Preferably South or South-West.—Good mixed-class PRACTICE in residential district. Income £1,500 to £2,000. Nice house, with about 6 bedrooms. Capital available £4,000.

2. LONDON SUBURB.—Not East.—PRACTICE with substantial panel bringing in about £1,000 to £1,500 p.a. Small convenient house, pref. on rental.

3. SURREY or HANTS, or Outlying Suburb, particularly Purley or Croydon area.—Good mixed-class PRACTICE producing about £2,000 p.a., with panel of 1,500 to 2,000. Near good schools. Nice house, with garden. Rent or purchase. Ample capital.

4. SOUTH OF ENGLAND.—East of Plymouth, and preferably near coast.—Income about £1,000 p.a., with suitable house on rental, or might purchase.

5. HOME COUNTIES, or SOUTH OF ENGLAND.—Better-class PRACTICE, bringing in £2,000 p.a. or less if scope. House, with 5 bedrooms and good garden essential. Ample capital.

6. WITHIN EASY REACH OF LONDON, with good train service.—Preferably non-dispensing PRACTICE. Income from £1,000 to £1,500 p.a. House must be in good condition, with 6 to 8 bedrooms.

7. SOUTH-WESTERN COUNTY.—Country PRACTICE, pref. unopposed. Income from £1,400. House, with 5 to 6 bedrooms, and separate surgery accommodation. Within reach of good girls' school and trout fishing.

8. NEAR LONDON.—(Within about 30 miles).—Small country town.—Income £1,700 to £2,000. Suitable for two friends. House on rental preferred.

9. LONDON SUBURB.—Sound mixed-class PRACTICE, producing from £1,500 to £2,000 a year, with good panel backing. Ample capital.

ASSISTANTS REQUIRED.

(1) LONDON, S.W.—Outdoor, with view to early Partnership. Unfurnished house available. (2) SOUTH WALES.—Indoor, £300, or outdoor if preferred. (3) ESSEX.—Outdoor, £450 to £500 p.a. View to Partnership later. Must be experienced and a good worker. Scotch preferred (4) KENT.—Indoor, with view to Partnership.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association at their Office, Tavistock Square, in the Parish of [illegible]

PERCAINE "CIBA"

Trade Mark. Registered

The New Local Anæsthetic for Regional, Infiltration, Surface and Spinal Anæsthesia

Acts in extreme dilution (0·5—2 : 1000).
Produces anæsthesia of unattained intensity and duration.
Not a narcotic. Economical in use.
Belongs chemically to a class entirely different from cocaine and its derivatives.

Vide *British Medical Journal*, March 15, 1930, pp. 488-9, and 495-6, and April 5, 1930, pp. 669-70. *The Lancet*, March 15, 1930, pp. 573-4 and 587. *British Journal of Anæsthesia*, April & July, 1930. *Proceedings of the Royal Society of Medicine*; May, 1930, pp. 919-928. *British Journal of Urology*, June, 1930; pp. 129, 130 and 179.

Packages available:

Percaine Crystals.
1 grm. and 5 grm.

Percaine Tablets
(for the preparation of solutions).
Tubes of 20 × 0·05 grm. Tubes of 10 × 0·1 grm.

Percaine Ampoules.

Boxes of 5 × 5 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 2 : 1000 (with Adrenalin).
Boxes of 12 × 2·0 c.c. Solution 1 : 1500, for Spinal Anæsthesia.

THE CLAYTON ANILINE Co. Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1
Telephones: Hop 6954, 6955. Pharmaceutical Department. Telegrams: Cibadyes Boroh London

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark

The first line of Body Defense assured through

"CHEMICAL TISSUE FOODS"

combined with the dynamic action of strychnine and quinine

Samples on request

Fellows Medical Mfg. Co., Inc.
26 Christopher Street
New York City

DEMINERALIZATION
CONVALESCENCE
MUSCULAR ATONY
NEURASTHENIA
PREGNANCY
DEBILITY

The "FOOD" TONIC

POTASSIUM
MANGANESE
PHOSPHORUS
CALCIUM
SODIUM
IRON

CALCIUM-SANDOZ

$(C_6H_{11}O_7)_2Ca.$

Unique Advantages:

1.—It is effective. It supplies the physiologically active calcium ion.

2.—It shows distinct superiority in all modes of administration.

ORALLY: It is well absorbed. It is easily administered and does not upset the digestive tract.

INTRAVENOUSLY: It is better tolerated than calcium chloride. The acid-base factor is eliminated.

INTRAMUSCULARLY: It is painless and non-irritating. It is the only calcium salt which can be so administered in adequate doses.

3.—It enables physicians to adequately meet the requirements of any given case.

BY VEIN, for acute need.
BY MUSCLE, to secure intense and prolonged action.
BY MOUTH, for prolonged administration, to meet an increased demand by the organism.

4.—It is completely sufficient in itself as a therapeutic agent.

CALCIUM-SANDOZ is supplied in

Ampoules containing a 10% sterile solution for intravenous or intramuscular injection.
2 c.c. size: Boxes of 10 ampoules.
5 c.c. size: Boxes of 2 and 10 ampoules.
10 c.c. size: Boxes of 1, 5, and 20 ampoules.

Powder for oral administration.—Cartons of 2, 4, and 16 ounces.

Tablets for oral administration.—Each tablet contains 25 grains of calcium gluconate and is especially adapted for division into three parts. Boxes of 30 and 150 tablets. Cartons containing 12 boxes of 30 tablets.

AGENCY:—
THE SANDOZ CHEMICAL WORKS
PHARMACEUTICAL DEPT.
5, WIGMORE STREET, LONDON, W.1.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3659 SATURDAY, FEBRUARY 21, 1931 Price 1/3

"Pitibulin" Trade Mark

Denotes Unvarying Pituitary Extract

Conforming to the requirements of the Therapeutic Substances Regulations, 1927, "Pitibulin" is prepared according to the official standards, its activity being expressed in terms of the accepted unit.

"Pitibulin" maintains the stringently high criteria of therapeutic efficiency, safety in use and stability, self-imposed by its manufacturers—qualities which have given it its high place in the esteem of physicians.

It has made a reputation among the Profession as the Pituitary Extract which can be relied on in emergency.

"Pitibulin" is supplied in boxes of 6 and 12 ampoules containing 2·5, 5 and 10 units per ampoule.

Literature giving fuller particulars of the therapeutic applications of "Pitibulin" will be sent on request.

Allen & Hanburys Ltd.,

Telephone: Bishopsgate 3201 (10 lines)

London, E.2.

Telegrams: "Greenburys Edo London"

AMYL NITRITE "STERULES"

(MARTINDALE—Regtd. T.M. & Design)

IN BOXES OF 12 "STERULES"

Containing 1, 2, 3, 4, 5, 6, or 10 minima (0.05, 0.1, 0.2, 0.25, 0.3, 0.35, or 0.6 c.c. approx.), the usual dose being 3 minims (0.2 c.c.).

For relieving ANGINA PECTORIS, SPASMODIC ASTHMA, MIGRAINE, POST-PARTUM HAEMORRHAGE, HAEMOPTYSIS, to ward off EPILEPTIC ATTACKS, etc., and as an ANTIDOTE to CHLOROFORM. Largely employed in threatened FAINTING and COLLAPSE, and as a RESTORATIVE after GAS in DENTAL OPERATIONS.

Abstracts from the medical literature:

ANGINA PECTORIS: "The best remedy. To lower blood pressure has a more rapid action than any other drug, and is useful in cutting short the paroxysms of pain." —L., ii/05, 325; ii/06, 1335.
"Gave prompt relief in the more pronounced attacks." —B.M.J., ii/06, 304.
"In all spasmodic affections, such as angina pectoris, one of the best remedies."—B.M.J., i/09, 994.
"The nitrites are indispensable."—B.M.J., ii/09, 1122.
"The quickest means of relieving the acute pains." —L., ii/08, 1132.
"Fear of death entirely disappeared."—L., ii/09, 572.
"No drug can compare with Amyl Nitrite."—L., i/09, 240; L., ii/05, 812.

INTRATHORACIC ANEURISM: "For the acute anginal attacks Amyl Nitrite inhalation, followed by internal use of Nitroglycerin or Erythrol Nitrate, is generally efficacious."—L., i/13, 948.

ASTHMA: "In most cases the reduction in blood pressure relieves."—B.M.J., ii/11, 1327.

POST-PARTUM HAEMORRHAGE: "Immediately stopped; no further trouble followed."—B.M.J., ii/06, 1125.

HAEMOPTYSIS: "With few exceptions, promptly effective. Secures peace of mind to sufferers." —L., i/03, 130.
"Some convincing cases in which it saved life." —L., i/07, 939.
"Amyl Nitrite the drug par excellence; acts better the quicker it is used."—Edin. Med. Jl., 1901; L., ii/04, 522, 942, 1446; B.M.J.E., i/06, 79.
"In severe haemoptysis—rupture of an atheromatous pulmonary vessel—free use satisfactory."—B.M.J., i/06, 917.

SEA-SICKNESS: Very useful; inhalation repeated every 2 or 3 hours if necessary.

CHLOROFORM SYNCOPE: The quickest means of restoring the heart's action.

PLEASE SPECIFY **MARTINDALE'S AMYL NITRITE "STERULES"**

We also supply other vasodilators, e.g.:

MANNITOL NITRATE TABLETS: 1 gr.

ERYTHROL NITRATE TABLETS: ½, ¼, and 1 gr.

W. MARTINDALE,

12, NEW CAVENDISH ST., LONDON, W.1.

Phone: Langham 2440. 'Grams: Martindale, Chemist, London.

British Medical Journal

CONTENTS

FEBRUARY 21, 1931

ORIGINAL ARTICLES

The Domain of Orthopaedic Surgery. By Sir ROBERT JONES, Bt., K.B.E., Ch.M., F.R.C.S. 295

A Case of Pituitary Tumour. By C. C. ELLIOTT, M.D., B.S., and DAVID P. MARAIS, M.D., F.R.C.P.Ed. (Illustrated) 297

Manipulative Reduction of Crush Fractures of the Spine. By R. WATSON JONES, M.Ch., F.R.C.S. (Illustrated) 300

Clinical Value of a New Reflex in Chorea. By G. ARBOUR STEPHENS, M.D. (Illustrated) 303

Pyuria and Bacilluria in Children. By J. N. CUMINGS, M.B., M.R.C.P. ... 305

Therapeutic Evaluation in the Treatment of Syphilis. By E. TYTLER BURKE, M.B., Ch.B. 306

MEMORANDA

Fractured Neck of the Femur Treated by Injection of Blood. By E. W. RICHES, M.S., F.R.C.S. 308

Hodgkin's Disease with Unusual Onset. By R. G. COOKE, M.D. 308

Fishbones in the Appendix. By M. CLAYTON-MITCHELL, L.R.C.P.&S. 309

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE:
- High Carbohydrate Diet in Diabetes 309
- Mental Symptoms Associated with Brain Tumours 310

ABERDEEN MEDICO-CHIRURGICAL SOCIETY:
- Injection Treatment of Varicose Veins 312

REVIEWS

Vitamin D 312
Surgical Applied Anatomy 312
Skin Grafting 313
Psychotherapy 313
Malformations of the Jaws and Teeth... 313
Notes on Books 314

UNIVERSITIES AND COLLEGES

University of Oxford 332
University of Cambridge 332
University of London 332
University of Glasgow 332
Royal College of Surgeons of England... 332

LEADING ARTICLES

THE PRIMARY SCHOOL CHILD 317
UNIVERSITY REPRESENTATION IN PARLIAMENT 318
DOMAIN OF ORTHOPAEDIC SURGERY 319

THE WEEK

An Institute for Surgical Research 320
Thallium and its Risks 320
New X-Ray Unit for Ambulance Work 321
Drug Control in India 321
National Council for Mental Hygiene... 321
"Ginger Paralysis" 322
Paratyphoid Fever in Essex 322
The Banting Research Foundation 322

GENERAL ARTICLES AND NEWS

Recent Methods of Sewage Treatment. Paper by WILLIAM BUTLER, M.B. ... 315

Drug Control in India. By J. C. DAVID, M.B., B.S. 316

HEALTH OF THE ARMY IN 1929 323

PREPARATIONS AND APPLIANCES. (Illustrated) 314

MEDICAL NOTES IN PARLIAMENT:
- The Milk Supply 333
- Osteopathy 333
- 334
- 334
- 334

MEDICAL NEWS 335

LOCAL NEWS

IRELAND—
- Prevention of Influenza 323
- M.O.H. for County Dublin 323
- Medical School Inspection in Northern Ireland 324

SCOTLAND—
- Records of Insured Hospital Patients 324
- Glasgow Royal Infirmary 324
- Crichton Royal Institution, Dumfries 325
- Certified Patient's Old Age Pension... 325

ENGLAND AND WALES—
- The Registrar-General's Statistical Review for 1929 325
- Moorfields Dinner 326
- Royal Medical Benevolent Fund Guild 326
- Society of Radiographers 325

OBITUARY

Richard Muir 331

THE SERVICES

Deaths in the Services 331

CORRESPONDENCE

Obstetrical Education of the Undergraduate. By Professor E. Essen-Möller, M.D. 326

X-Ray Therapy in Malignant Disease of the Lung. By Maurice Davidson, M.D., F.R.C.P.; and James Maxwell, M.D. 327

The Incision for Appendicectomy. By R. J. McNeill Love, M.S., F.R.C.S. ... 328

Mortality of Acute Appendicitis. By H. H. Rayner, F.R.C.S.; and L. F. Beccle, M.B., B.S. 328

The Enigma of the Chilblain. By Sir Leonard Hill, M.B., F.R.S.; and Leonard Williams, M.D. 329

Treatment of Varicose Ulceration. By G. H. Colt, F.R.C.S.; H. Haldin-Davis, M.D., F.R.C.S.; A. Dickson Wright, M.S., F.R.C.S.; and J. H. Twiston Davies, M.B. 329

Ethyl Chloride by the Closed Method. By C. B. Dale, M.R.C.S. 330

Avertin Anaesthesia. By Sir Francis E. Shipway, M.D. 330

Future of the R.A.M.C. By J. G. McNaught, M.D. 330

London Clinic and Nursing Home. By Eric Pearce Gould, M.Ch., F.R.C.S.... 331

LETTERS AND ANSWERS

Treatment of Sciatica 336
Treatment of Syphilis 336
Hypodermic Injection 336
Glycerin as a Surgical Dressing 336
Teeth at Birth 336
Unofficial Aunts 336
The British Industries Fair 336

VACANCIES 336

(See also page 59 of SUPPLEMENT)

The SUPPLEMENT contains:

Report of Council on the Problem of the Out-Patient.

CURRENT NOTES:
- The New Zealand Disaster.
- Scholarships and Grants.

PROPOSED PHYSICAL MEDICINE GROUP.

CORRESPONDENCE:
- The Association in Australia.

Association Notices; National Insurance; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. President: Sir HERBERT WATERHOUSE, F.R.C.S. Entrance Fee, 10/-

No entrance fee to those joining within 12 months of registration. Assets exceed £55,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Arnold & Co.
Cowan, & Ritchie—
Diseases of the Heart 4
Garrod, Batten & Thursfield—
Diseases of Children..... 4
Hutchison, R.—
Diseases of Children..... 4
Miller, H. C.—Insomnia ... 4
Ross, T. A.—Common Neuroses . 4
Walton, A. J.—Surgical Dyspepsias 4
Wilson, S. A. K.—
Modern Problems in Neurology 4

Bailliere, Tindall & Cox.
Bigger's Handbook of Bacteriology 5
Buchanan's Dissection Guide.. .. 5
Buchanan's Manual of Anatomy ... 5
Cheesman, J. E.—
[illegible] 5
[illegible] 5
[illegible] 5
Irwin, W. K.—Urinary Surgery. .. 4
Jellett & Madill's Midwifery .. 5
Langdon Brown's Physiological
Principles in Treatment 5
May & Worth's Diseases of the Eye. . . 5
Rose & Carless' Surgery. .. 5
Solomons' Handbook of Gynaecol.. 5

Churchill, J. & A.
Sequeira, J. H.—
Diseases of the Skin 4

Harrison & Sons, Ltd.
Miles, W. E.—
Cancer of the Rectum..... 4

Lewis, H. K. & Co. Ltd.
Brockbank & Ramsbottom's Clinical
Examination of the Lungs 4
Fifield, L. R.—
Infections of the Hand 4
Minor Surgery..... 4
Forsdike's Sterility in Women 4
Goodall's Textbook of Infectious
Diseases.. 4
Lindsay's Medical Axioms, etc..... 4

Saunders, W. B. Co., Ltd.
Andrews' Diseases of the Skin 3

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 53

ASSURANCE COMPANIES—
Brit. Med. Protection Society..... 12
Century Insurance Company 57

BATHS, SPAS, &c.—
Belle Vue Spa, Trefriw, N. Wales. 32
Bridge of Allan Spa 43
Trefriw Chalybeate Wells 46

BOOTMAKERS, &c.—
Dowie & Marshall—Bootmakers..... 40

BRASS NAME PLATES, &c.—
Cooke's Name Plates 40
[illegible] 38
40
13
39

DISPENSING BOTTLES, &c.—
United Glass Bottle Manufrs. Ltd.—
Sterilized Bottles 35

SURGICAL APPLIANCES—
Allen & Hanburys Ltd.—
'Suda' Bath and 'Studa' Chair 11
Curtis & Son—Supports 34
[illegible] 10
[illegible] 38
[illegible] 8
[illegible] 39
[illegible] 10
[illegible] 10
[illegible] 10
[illegible] 56
Instruments, Osteology, etc. 36
Rose, Madame— Corset Belt' .. 36
Salmon Ody—Surgical Appliances 36
Salt's Surgical Service 6,7
Short & Mason—
Tycos Sphygmomanometers . .. 38
Thermega Ltd.—Electric Pads 8

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Pitibulin' ..... Cover i
'Umbrose' 20
American Apothecaries Co.—
'Salvitae' 16
Armour & Co.—Glanoid Products 30
Boots Products 23,24
Bristol-Myers Co.—'Sal Hepatica' 39
British Drug Houses Ltd.—
[illegible] 25
[illegible] 31
[illegible] 33
Dimol Laboratories—Pulverettes.... 21
Fairchild Bros. & Foster—
'Panopepton' 28
Ferris & Co., Ltd.—Preparations..... 28
Glaxo Laboratories—
Ostelin & Ostomalt 33
[illegible]
Opocalcium 19
Marshall's Lysol 15
Martindale, W.—
'Sterules' ..... Cover ii, 37
May & Baker, Ltd.—'Soneryl' 24
Mond Staffordshire Refining Co.—
Monsol 21
[illegible]
19
22
17
40
37
Novocain 17
37
26
37

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee 40
Benger's Food .. 27
[illegible] 1
[illegible]
[illegible] 10
Wander, Ltd.—Ovaltine 25

MOTOR CARS, TYRES, &c.—
[illegible] 12
13
13
56

TOBACCO & CIGARETTES—
Player's Navy Cut 14

PRINTING & STATIONERY—
Anderson & Son—Account Forms 4
Taylor's Typewriters.. 38

TAILORING & UNDERCLOTHING—
Hall, H.—Medical Service Dress .. 56
Hamilton & Co., Ltd.—Tailors..... 38
Miller & Co. Ltd.—Tailors 56
Studd & Millington—Tailors.. 39

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 55

VACCINES & CULTURE MEDIA—
Allen & Hanburys—
Vaccines & Sera 29
Laboratories of Path. & Pub. Hlth. 36

X-RAY & ELECTRO-MEDICAL APPARATUS—
[illegible] 1
[illegible]
[illegible] 37

HOTELS & HEALTH RESORTS—
Hotel Annonciata 44

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 46
Peebles Hydro 46
Ruthin Castle, North Wales. 43
Smedley's Hydro, Matlock 44

HOSPITAL, &c., VACANCIES—
Acton Hospital, W.3 51
Ancoats Hospital, Manchester..... 51
Birmingham City 55
Birmingham Medical Mission 51
[illegible] 50
[illegible] 59
[illegible] 50
[illegible] 50
[illegible] 16
[illegible] 51
[illegible] 51
[illegible] 53
[illegible] 51
[illegible] 50
[illegible] 53
[illegible] 51
[illegible] 51
[illegible] 49
[illegible] 51
[illegible] 51
[illegible] 56
[illegible] 52
[illegible] 51
[illegible] 49
[illegible] 52
[illegible] 52
[illegible] 56
[illegible] 52
[illegible] 56
[illegible] 52
Jewish Maternity Hospital, E.1 52
[illegible] 48
[illegible] 51
[illegible] 56
[illegible] 52
[illegible] 52
[illegible] 49
[illegible] 52
[illegible] 50
[illegible] 49
[illegible] 49
[illegible] 52
[illegible] 48
[illegible] 49
[illegible] 50
[illegible] 59
[illegible] 53
[illegible] 48
[illegible] 52
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
Reigate Borough ..
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] Hospital, W.C.2 52
St. Thomas's Hospital 53
Salford Royal Hospital 49
[illegible]
[illegible]
[illegible]
[illegible] Royal Hospital 50
Sutton & Cheam Hospital, Surrey... 53
Swansea General & Eye Hospital.... 53
Tunbridge Wells General Hosp. .. 48
Wallasey Victoria Central Hospital 48
West [illegible]
West [illegible]
W[illegible]
[illegible] 53
[illegible] 57
[illegible] 56
[illegible] 50

INEBRIETY—
Albion House, Beverley, E. Yorks. 41
Bay Mount, Paignton 41
Caldecote Hall, Nuneaton 41,42
Dalrymple House, Rickmansworth 41
'Old Hill House,' Chislehurst .. 41
Rendlesham Hall, Woodbridge 41

SANATORIA—
[illegible] 45
[illegible] 45
[illegible] 46
[illegible] 45
[illegible] 44
[illegible] 45
[illegible] 45
[illegible] 45
[illegible] 46

SCHOOLS, &c.—
Paton—Schools for Girls & Boys... .. 47
Rossall School, Fleetwood 45
Taunton School, Taunton 47

HOMES & ASYLUMS—
Bailbrook House, Bath 51
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
Court Hall, Kenton, Exeter..... 42
'Dunley Hill' Nursing Home..... 35
Fenstanton, Streatham Hill..... 42
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

NEW **ANDREWS'** *NEW*

DISEASES OF THE SKIN

HIGH PRAISE from the MEDICAL PRESS

BRITISH MEDICAL JOURNAL

Amid the flood of textbooks of dermatology which have appeared within the last few years that by Dr. G. C. ANDREWS *of New York, "* Diseases of the Skin," *stands out. It is certainly among the best. While it is of ample size adequately to deal with the subject, the author maintains the proper proportions between what it is important for all students and practitioners to know about the essentials of cutaneous medicine and those quaint and interesting rarities which appeal almost exclusively to the specialist, whose attitude towards them often resembles that of the collector of postage stamps towards unique specimens of the philatelic art. Dr. Andrews has brought his account of the subject thoroughly up to date, and in doing so has taken immense pains. There is no better evidence of this than the vast bibliography appended to each chapter, which shows how thoroughly he and his assistants, whose help he generously aknowledges in the preface, have searched the whole of dermatological literature for all that might be useful in this* magnum opus.

A special word of commendation must be accorded to the illustrations, which are both numerous and excellent. In the volume of just over 1,000 pages there are nearly a thousand illustrations, for the most part excellently reproduced from clinical photographs, but there are also many diagrams explaining various points of technique, which will be found most useful. The whole volume is excellently got up, and, considering the amount of matter contained in it, remains moderate in size and easy to handle. We commend it with confidence both to general practitioners and to specialists.

BRITISH JOURNAL OF DERMATOLOGY AND SYPHILIS

There might appear to be very little room for another textbook of skin diseases, but we think that Prof. ANDREWS *has certainly justified the publication of his new volume. The features of the book which appeal to the present reviewer are the very large number of excellent photographs with which it is illustrated, the readable manner in which it is written, the prominence given to treatment, including detailed descriptions of the use of the various forms of radiation therapy (including super-soft or "grenz" X-rays and "surgical" diathermy), and the extensive bibliographies of recent references which conclude each chapter. The type and general get-up of the book are excellent.*

THE LANCET

This new textbook is noteworthy for the wealth and excellence of its photographic records of typical cases, and for that reason especially will rank as a valuable contribution towards the literature of the subject. Its purpose is entirely practical. No less than 130 pages are devoted to the description and treatment of syphilis. Here the reader will derive profit from a study of the clinical illustrations, for examples are included of most of the typical cutaneous manifestations which, as a result of early diagnosis and the rapid effects of salvarsan therapy, can rarely nowadays be demonstrated on patients. Much space is devoted to treatment, and the student should note the line diagrams on p. 725, which purport to explain the occasional extravenous leak after an apparently successful entry of the vein. This section would have been benefited by the inclusion of tabulated systems of routine treatment, with which in other subjects the volume abounds.

There can be no doubt that this book is a contribution of the first rank to the practical aspects of dermatology. It is in part highly technical, and for that reason will attract the trained dermatologist or intending specialist, while the many excellent illustrations will be of great help to the practitioner with dermatological leanings.

INDIAN MEDICAL GAZETTE

We consider that the author has fully carried out the intention that he set out to do when writing this book. He has written this book and embellished it beautifully with photographs, so that it will serve a very useful purpose, and he has kept down the text to reasonable limits and not entered into lengthy and controversial discussions. The book moreover has a very large bibliography which should be valuable to the consultant. There are no coloured illustrations; this enhances the value of the book, as very few coloured plates are really capable of properly depicting these lesions, and by saving expense in this way he has been able to give us this large collection of clinical material. This book on dermatology is one of the best books that has ever been published on the subject.

Octavo volume of 1,095 pages, with 988 illustrations. By GEORGE C. ANDREWS, M.D., Associate Professor of Dermatology, College of Physicians and Surgeons (Columbia University), New York City. Cloth, 55s. net.

ADD YOUR NAME AND POST THIS ORDER FORM TO-DAY

W. B. SAUNDERS COMPANY LTD., 9, HENRIETTA ST., LONDON, W.C.2

Please send me Andrews' Diseases of the Skin and charge my account 55s.

Name _____ Address _____

From EDWARD ARNOLD & CO.'S List

ENLARGED (SIXTH) EDITION. *READY MARCH 5th.*

LECTURES ON

DISEASES OF CHILDREN

By ROBERT HUTCHISON, M.D.Edin., F.R.C.P.

Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street.

Sixth Edition. Completely revised, with additional Lectures. viii + 476 pages. 104 illustrations. 21s. net.

"As an introduction to the subject, pride of place must be given to Dr. HUTCHISON'S *Lectures on Diseases of Children*. It is written from his experience and touched with his own style and wisdom. It has the advantage of making the subject appear easy—almost too easy. Thus it is brief, easy to read, and the author says what he means."—*From a critical survey of paediatric literature in the* NEWCASTLE MEDICAL JOURNAL.

INSOMNIA
An Outline for the Practitioner

By H. CRICHTON MILLER, M.D., Hon. Director, Tavistock Square Clinic, London. 10s. 6d. net.

"The work is to be cordially recommended. It serves as an admirable introduction and up-to-date review of a difficult subject."—LANCET.

MODERN PROBLEMS IN NEUROLOGY

By S. A. KINNIER WILSON, M.D., B.Sc., F.R.C.P., Physician for Out-patients, National Hospital, Queen Square; Neurologist to King's College Hospital. viii + 364 pages, 56 illustrations. 21s. net.

THE COMMON NEUROSES:
Their Treatment by Psychotherapy

By T. A. ROSS, M.D., F.R.C.P.Ed., Medical Director, Cassel Hospital for Functional Nervous Disorders. xii + 256 pages. 12s. 6d. net.

Garrod, Batten & Thursfield's

DISEASES OF CHILDREN

Second Edition, with Contributions by 36 Authors. Edited by HUGH THURSFIELD, D.M., M.A., F.R.C.P., and DONALD PATERSON, M.D., F.R.C.P., Physicians to the Hospital for Sick Children, London. xii + 1,106 pages. 205 illustrations. 45s. net.

Text-book of the

SURGICAL DYSPEPSIAS

By A. J. WALTON, M.S., F.R.C.S., Surgeon to the London Hospital. New (Second) Edition. Revised and reset. xii + 720 pages, 238 illustrations. 42s. net.

DISEASES OF THE HEART

By JOHN COWAN, M.D., D.Sc., F.R.F.P.S., Physician to the Royal Infirmary, Glasgow, etc., and W. T. RITCHIE, M.D., F.R.C.P.E., F.R.S.E., Physician to the Royal Infirmary, Edinburgh, etc. Second Edition. xvi + 596 pp. 321 illus. 30s. net.

LONDON: EDWARD ARNOLD & CO., 41-43, MADDOX STREET, W.1

LEWIS'S PUBLICATIONS

Goodall's TEXTBOOK OF INFECTIOUS DISEASES.

By E. W. GOODALL, O.B.E., M.D., B.S.Lond. Being the Third Edition of Goodall & Washbourn's "Manual of Infectious Diseases." With 26 Plates (6 Coloured), 15 Diagrams, and 34 Charts. Demy 8vo. 30s. net; post. 9d.
"Well up to date and of value."—BRITISH MEDICAL JOURNAL.

Lindsay's MEDICAL AXIOMS, APHORISMS, AND CLINICAL MEMORANDA.

By J. A. LINDSAY, M.A., M.D., F.R.C.P. Second Impression. Crown 8vo. 6s. net; postage 4d.
"... a happy hunting ground and source of reference."
—BRITISH MEDICAL JOURNAL.

Brockbank and Ramsbottom's CLINICAL EXAMINATION OF THE LUNGS.

By E. M. BROCKBANK, M.D.Vict., F.R.C.P., and A. RAMSBOTTOM, M.D.Vict., F.R.C.P. Second Ed., with Illus. Crown 8vo. 5s. net; post. 4d.
"... compact little handbook."—BRITISH MEDICAL JOURNAL.

Forsdike's STERILITY IN WOMEN: Diagnosis and Treatment.

By S. FORSDIKE, M.D., B.S.Lond., F.R.C.S.Eng. and Edin. With 25 Illustrations, including 17 Plates. 9s. net; postage 5d.
"... easy to read and follow and compels attention."
WEST LONDON MEDICAL JOURNAL.

Fifield's MINOR SURGERY.

By L. R. FIFIELD, F.R.C.S. With 273 Illustrations. Crown 8vo. 12s. 6d. net; postage 6d.
"... the book contains much useful information."—BRIT. MED. JOUR.

BY THE SAME AUTHOR.

INFECTIONS OF THE HAND.

With numerous Illustrations in Plates and the Text (including 2 Coloured). Crown 8vo. 9s. net; postage 5d.
"... an important contribution ... excels on the clinical side."
—BRITISH MEDICAL JOURNAL.

*** Complete CATALOGUE of publications post free on application.*

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1

Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

"Should be in the possession of every medical man."—*Glasgow Medical Journal.*

URINARY SURGERY
A HANDBOOK FOR THE GENERAL PRACTITIONER

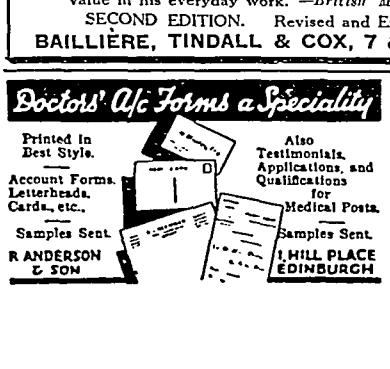
By W. K. IRWIN, M.D., F.R.C.S.,

Assistant Surgeon, St. Paul's Hospital for Genito-Urinary Diseases.

¶ "Clearly written . . . furnishes the practitioner with information of great practical value in his everyday work."—*British Medical Journal.*

SECOND EDITION. Revised and Enlarged. Price 10s. 6d. (postage 6d.).

BAILLIÈRE, TINDALL & COX, 7 & 8, Henrietta St., London, W.C.2.



4th EDITION. 56 Coloured Plates. 309 Text-figures. 42s. Postage 9d.

DISEASES OF THE SKIN

By J. H. SEQUEIRA, M.D., F.R.C.P., F.R.C.S

"A lucid summary of the best dermatological teaching of the present day."—BRIT. MED. JOUR.

London: J. & A. CHURCHILL,
40, Gloucester Place, Portman Square, W.1.

CANCER OF THE RECTUM
ITS PATHOLOGY, SYMPTOMATOLOGY, AND TREATMENT.

BY

W. ERNEST MILES, F.R.C.S.,

Surgeon Emeritus (with beds) to the Cancer Hospital; Surgeon to the Gordon Hospital for Diseases of the Rectum, etc.

80 pp. and 33 plates. Bound cloth.
Price 7s. 6d. net, post free 7s. 10d.

"It is the best exposition of the subject with which we are acquainted."
—*British Journal of Surgery.*

"Deserves to rank as a classic in the literature dealing with cancer of the rectum."
—*Bulletin of the Johns Hopkins Hospital.*

"Perhaps no surgeon of to-day has had a greater experience in treating cancer of the rectum."—*Surgery, Gynecology, and Obstetrics.*

HARRISON & SONS, LTD.,
44, ST. MARTIN'S LANE, LONDON, W.C.2.

BAILLIÈRE, TINDALL & COX'S

RECENT PUBLICATIONS

"The new Editors have upheld the traditions of one of the finest single-volume text-books of surgery in the world."—*Lancet*, Sept. 27th, 1930.

13TH ED. ROSE & CARLESS' SURGERY 13TH ED.

By CECIL P. G. WAKELEY, F.R.C.S., and JOHN B. HUNTER, F.R.C.S.

Special Contributors:—

W. E. CARNEGIE DICKSON; V. E. NEGUS; N. BISHOP HARMAN; EARDLEY HOLLAND; C. F. HADFIELD; Sir FRANK POWELL CONNOR; H. GRAHAM HODGSON.

Size 9½ × 6½. Pp. xiii + 1,592, with 664 Illustrations, 19 Coloured Plates, and a Radiographic Supplement of 43 Radiograms. Price 30s.

SECOND EDITION. (*nearly ready.*)

HADFIELD'S PRACTICAL ANAESTHETICS

Thoroughly revised and much enlarged.

Pp. xii + 344, with 32 Illustrations. Price 7s. 6d.

SIXTH EDITION.

LANGDON BROWN'S PHYSIOLOGICAL PRINCIPLES IN TREATMENT

With the collaboration of R. HILTON, M.A., M.B., M.R.C.P., Assistant Physician, St. Bartholomew's Hospital.

Pp. x + 464. Price 10s. 6d.

"The most exhaustive treatise on Midwifery produced in these Islands."—BRITISH MEDICAL JOURNAL.

4TH ED. JELLETT & MADILL'S MIDWIFERY 4TH ED.

"A reasoned survey of modern obstetrics which few can afford to disregard."—IRISH JOURNAL OF MEDICAL SCIENCE.

FOURTH EDITION. Size 9½ × 5½. Pp. xii + 1,281, with 570 Illustrations. Price 25s.

SECOND EDITION.

SOLOMONS' HANDBOOK OF GYNAECOLOGY

"It is clearly written and presents sound teaching."
—BRITISH MEDICAL JOURNAL.

Pp. xii + 330, with 2 Coloured Plates + 217 Figures Price 12s.

SECOND EDITION.

BIGGER'S HANDBOOK OF BACTERIOLOGY

"Accurate and adequate for the student's purposes."—LANCET.

Pp. xvi + 452, with 5 Coloured Plates + 82 other Figures. Price 12s. 6d.

Re-Issue in Two Volumes. FIFTH EDITION.

BUCHANAN'S MANUAL OF ANATOMY

Pp. xvi + 1,702 with 810 Illustrations, plain and in colour. Price 35s.

"It contains more than enough to get a man through any examination."—ST. BARTHOLOMEW'S HOSP. JOURN.

BUCHANAN'S DISSECTION GUIDE

Edited by E. BARCLAY-SMITH, M.D., R. H. ROBBINS, M.D., J. E. FRAZER, F.R.C.S.

Demy 8vo. Pp. viii + 302. Price 10s. 6d. If the 3 Volumes are ordered together the price is 42s.

SIXTH EDITION.

MAY & WORTH'S DISEASES OF THE EYE

"A practical and reliable guide."—GUY'S HOSP. GAZ.

Pp. x + 464, 23 Coloured Plates and 337 Figures. Price 15s.

FOURTEENTH EDITION.

GREEN'S MANUAL OF PATHOLOGY

"Students of all grades will find this work will meet their wants."
—LANCET.

Pp. viii + 634, 9 Coloured Plates + 261 Figs. Price 21s.

"The best and most convenient substitute for the body."—BRITISH JOURNAL OF SURGERY.

BAILLIÈRE'S SYNTHETIC ANATOMY. By J. E. CHEESMAN.

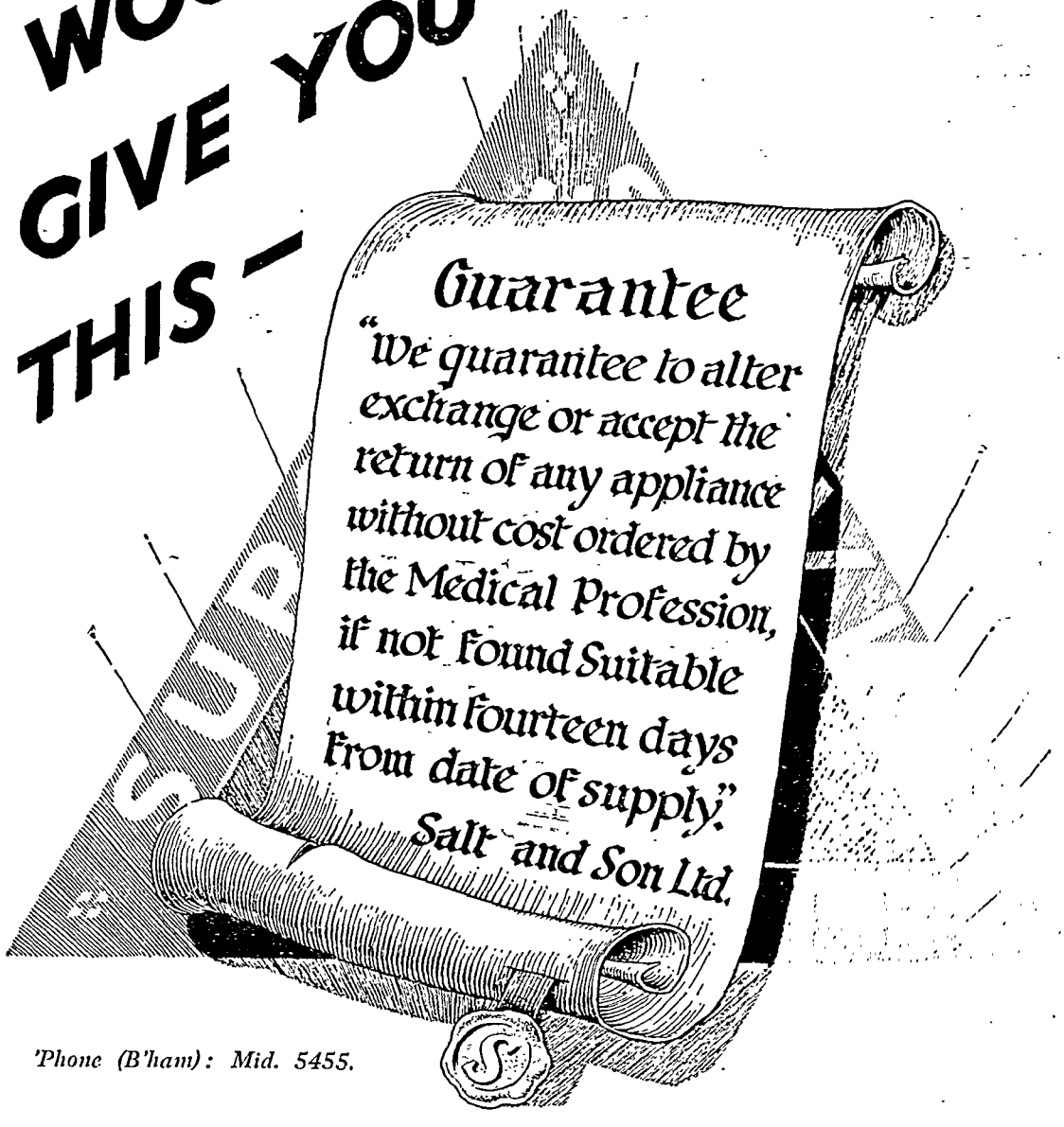
Now Ready. Part VII (Thorax) and VIII (Abdomen). These two parts together form the complete trunk.

Price 3s. each; postage 2d.

BAILLIÈRE, TINDALL & COX, 7 & 8, Henrietta Street, London, W.C.2

WE WOULD NOT GIVE YOU THIS —

The Medical Profession has been prescribing Saltair Surgical Appliances for the last 138 years. This fact alone is a sufficient testimonial to the excellence of our products.

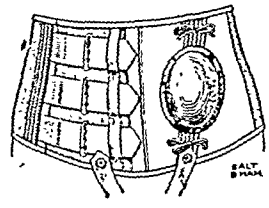


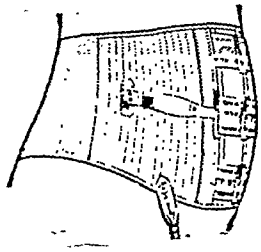
'Phone (B'ham): Mid. 5455.

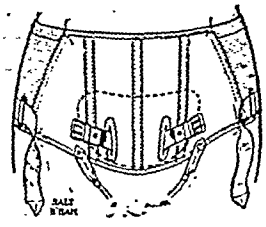
SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

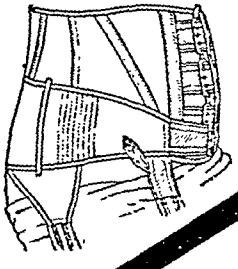
COPYRIGHT.

WERE WE NOT SURE OF THESE —









& ALL OTHER SURGICAL APPLIANCES MANUFACTURED BY US IN OUR OWN FACTORY

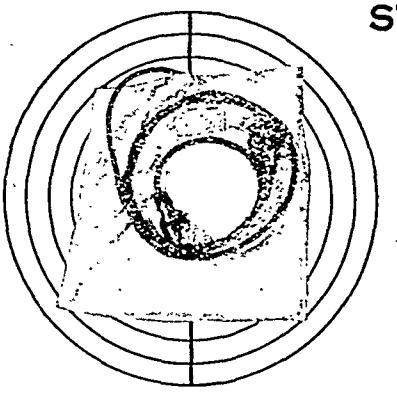
Saltair Surgical Service enables the Practitioner to procure the exact type of Appliance prescribed.

London Consulting Rooms:
"OAKLEY HOUSE"
14-18, Bloomsbury Street, W.C.1
Female Fitters in attendance Monday to Saturday midday. Orthopaedic Mechanician Wednesdays only.
By appointment only.

'Phone (London): Museum 3845.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

ESTABLISHED 1793.



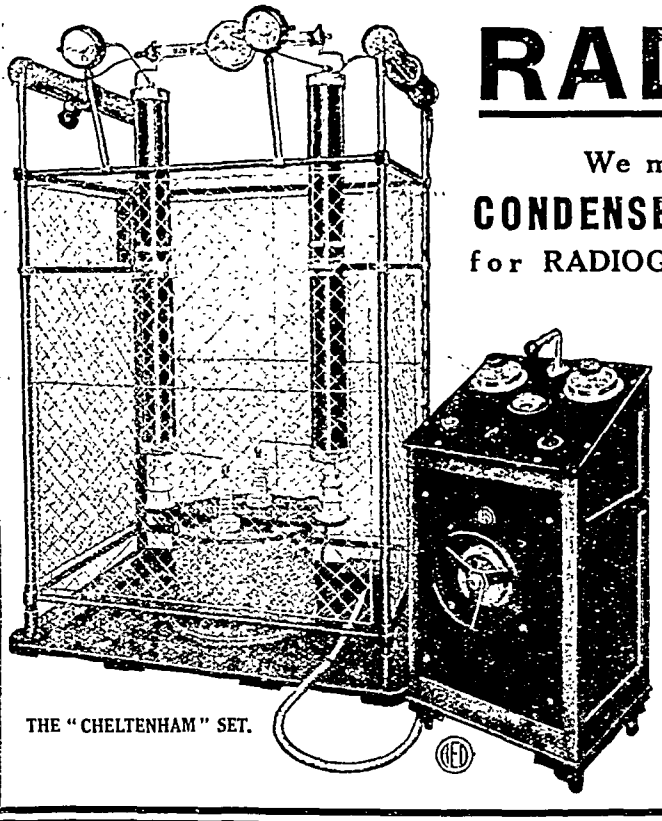
STEADY CONTINUOUS WARMTH APPLIED LOCALLY

To Relieve Rheumatic Pains, Chills, etc., and all such Ailments.

The THERMEGA ELECTRIC PAD takes the place of a hot water bottle in all cases where the local application of heat is prescribed. The heat obtained is instantaneous, constant, and easily regulated as desired. The THERMEGA pad, no larger than an ordinary hot water bottle, is handy and practical for use while travelling. It can be used from any lamp-socket or wall plug at any voltage (100-250). The average cost of current is only 1d. an hour (at 6d. a unit). A special Thermostat control maintains a level temperature and makes overheating impossible.
Ask for demonstration and particulars. Sold by all the big stores, chemists, and electrical dealers, or direct from

THERMEGA LIMITED

53, VICTORIA STREET, LONDON, S.W.1.



THE "CHELTENHAM" SET.

RADIOLOGY

We manufacture a full range of

CONDENSER DISCHARGE APPARATUS

for RADIOGRAPHY and RADIOTHERAPY.

Output between wide limits.
Perfectly silent in operation.
No revolving parts.
Absolute efficiency.

Descriptive Catalogue Section from the Sole Makers:

A. E. DEAN & CO.

Manufacturers of X-Ray and Electro-Medical Apparatus of the Highest Grade.

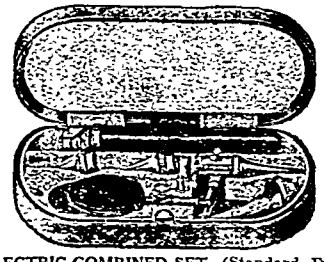
LEIGH PLACE, BROOKE STREET, HOLBORN, LONDON, E.C.1.

Showrooms: 14, BALDWIN'S GARDENS—adjoining.

AGENTS FOR MIDLANDS:
WATSON & GLOVER, 2, Easy Row, BIRMINGHAM.

NEW ZEALAND AGENTS:
H. COONEY & SON, The Esplanade, Kohimarama, AUCKLAND.

SURGICAL INSTRUMENTS, FURNITURE AND SUNDRIES.



ELECTRIC COMBINED SET (Standard Ever Ready Battery in handle). Comprising: May Ophthalmoscope and Auriscope with 3 specula, tongue spatula, and spare lamp in plush-lined case, as illustrated. OUR PRICE £3.15.0
Same set, without tongue spatula £3.10.0

OUTSTANDING BARGAINS IN
SURGICAL EQUIPMENT AND INSTRUMENTS.

SPECIAL OFFER OF GOVERNMENT SURPLUS STERILIZER DRUMS, Schimmelbusch Pattern, with Sliding Hip Bands, for use with High Pressure Sterilizers. THESE DRUMS are heavily plated on SOLID COPPER, made by the most noted British Makers and supplied by them to H.M. ADMIRALTY.
Each Drum is in new condition, and guaranteed by us.
SIZES AVAILABLE SUBJECT TO REMAINING UNSOLD.

Diameter.	Height.	Price, each.
15 ins.	11 ins.	40/-
7 ins	14 ins	20/-

PACKED AND DELIVERED FREE BRITISH ISLES.

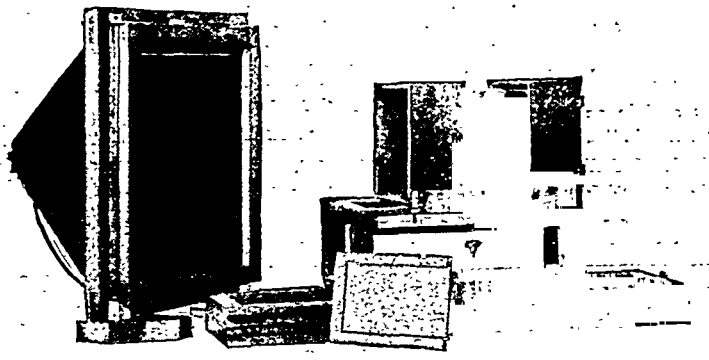
CATHETERS, Metal, Nickel-plated, Solid Ends, Aseptic Eyes. Sets of 13, sizes 0 to 12, in handsome mahogany cases. GOVERNMENT SURPLUS. Price per set 25/-
Complete Catalogue of all Government Surplus Surgical Instruments, Appliances and Equipment free on application.
All goods definitely guaranteed and on the slightest dissatisfaction can be returned.

ELECTRIC COMBINED SET, consisting of ope with 3 um, tongue attachment, Lamp. lined case. £5 15.0

A. FLEMING & CO. (Dept. B.J.), 39, Victoria Street, LONDON, S.W.1.

Telephone: Victoria 4677.
Telegrams: Estlonrus, London.

"Kodak" X-Ray Reduction Camera



A simple and solidly built camera. Reduces negatives of any size up to 17 x 14 ins.

Suitable for making bromide prints or transparencies of $6\frac{1}{2}$ x $4\frac{3}{4}$ size or smaller, and lantern slides.

An automatic focussing scale makes the "Kodak" Reduction Camera exceedingly simple to operate.

Kodak Limited, (Medical Dept.)
Kodak House, Kingsway,
London, W.C.2.

THREE RELIABLE PRODUCTIONS

1 "VARIBAN" REGD.
Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove.

SUPPLIED IN WIDTHS

2"	2½"	3"
1/7	1/9	2/-

— EACH —

When stretched measure six yards (approximately)

Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc.

Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SAMPLE 3 in. "VARIBAN" Elastic Plaster Bandage SENT POST FREE on receipt of P.O. for 2/3

2 PASTE-BANDAGES
in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

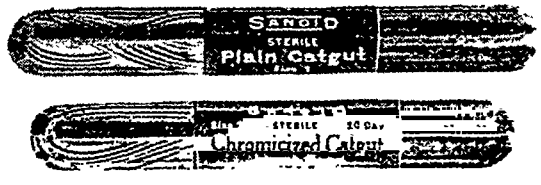
(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.)

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

'CELLANBAND'

DESCRIPTIVE LITERATURE AVAILABLE ON REQUEST. SAMPLE BANDAGE 1/- Post Free

3 *Exceptional Flexibility*



Tensile Strength & Smooth Surface are prominent Features of

"SANOID"
TUBES OF STERILE LIGATURES

which are prepared in accordance with the Therapeutic Substances (Catgut) Regulations, 1930.

LICENCE No. 40 PRICE 9/- PER DOZ. TUBES

Distributors to the Medical Profession:—

The MEDICAL SUPPLY ASSOCIATION Ltd.
167-185, GRAY'S INN ROAD, LONDON, W.C.1
Also at 10/13, TEVIOT PLACE, EDINBURGH, *AND* 6/12, HOLLY STREET, SHEFFIELD
Sole Manufacturers: CUXSON, GERRARD & CO. LTD., Manufacturing Chemists, OLDBURY, BIRMINGHAM

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting.

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS

arranged for Doctors and Patients.

Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

MR R.H.DENT'S

Ardente

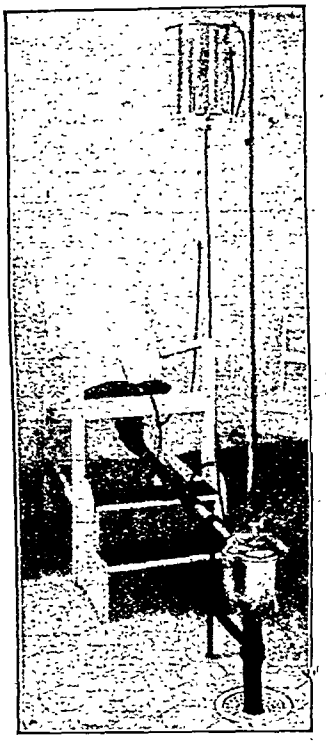
FOR DEAF EARS

309, OXFORD ST., LONDON, W.1.

Tel.: Mayfair 1380/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.

206, Sauchiehall Street, GLASGOW.
23, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.



THE 'STUDA' CHAIR

for

INTESTINAL LAVAGE

The latest and most hygienic method of thoroughly cleansing the lower portion of the alimentary tract.

It exercises and re-educates the muscles of defaecation.

It is unattended by risk, and simple to administer. There is absolutely no odour.

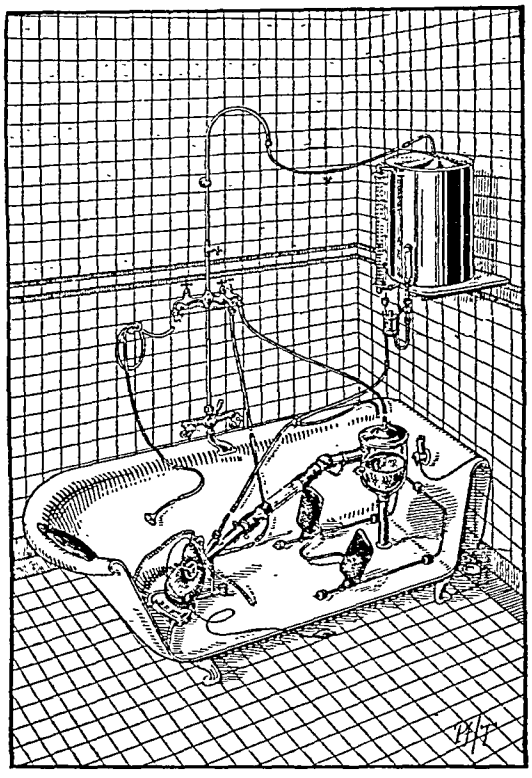
This method obviates undressing and is especially valuable in private practice.

THE 'SUDA' BATH

for

SUBAQUEOUS INTESTINAL LAVAGE

The hydrostatic pressure of the bath counteracts the internal pressure of the irrigating fluid, enabling the treatment to be given without any distension or discomfort. It is simple in operation and exceedingly efficacious.



INDICATIONS FOR TREATMENT.

Constipation (atonic and spastic); Catarrhal Colitis (chronic); Pyelitis and Cystitis (acute and chronic); Removal of ureteric calculi (as revealed by radiograms); Dysentery and Sprue; Cholecystitis; Dyspepsia; Chronic Auto-intoxication; certain metabolic disorders; Vaginitis and Leucorrhoea; Menstrual disorders associated with constipation; in surgical cases preparatory to X-ray examination or abdominal operation; certain chronic eye diseases; certain skin disorders, such as urticaria and serum rashes, etc.

These baths are made abroad and for some years have been successfully used on the Continent in the treatment of the above.

Sole Agents:—

ALLEN & HANBURYS Ltd., 48, Wigmore St., London, W.1

Telegrams: "Orthopedic Wesdo London." Telephones: 3903 Welbeck (4 lines).

The Collection of Overdue Accounts

WITHOUT OFFENCE

MEMBER'S STATEMENT:

Devon, 5/12/30.

Dear Sir,

Thanks for cheque received yesterday.

I should like to say how very pleased I am with the results of your endeavours to collect my outstanding accounts.

You have certainly been successful in obtaining payment of numerous accounts, to collect which all my previous efforts have been of no avail.

In view of the prevailing colossal unemployment and money-shortage, I think the results reflect the very greatest credit on you and your obviously very capable staff.

Yours faithfully,

THE BULK OF THE ACCOUNTS REFERRED TO IN THE ABOVE TESTIMONIAL WERE OVER SIX YEARS OLD.

Your visiting card marked "B" in an envelope will produce our Prospectus.

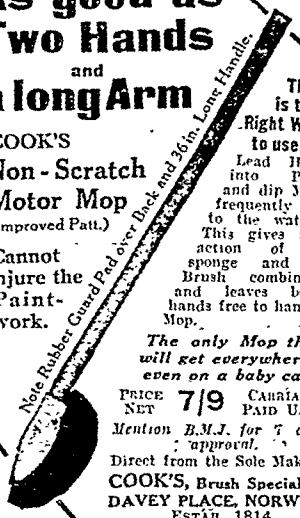
The
BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S., Ltd.) *ESTABLISHED 1891*
26, LANGHAM STREET, PORTLAND PLACE, LONDON, W.1
'Phones: LANGHAM 1411-2
Secretary: N. RUTHERFORD WATSON

All Medical Institutions and Nursing Homes are included in our scope.

As good as Two Hands and a long Arm

COOK'S
Non-Scratch Motor Mop
(Improved Patt.)

Cannot injure the Paint-work.



This is the Right Way to use it. Lead Hose into Pail and dip Mop frequently into the water. This gives the action of a sponge and a Brush combined, and leaves both hands free to handle Mop.

The only Mop that will get everywhere—even on a baby car!

PRICE NET **7/9** CARRIAGE PAID U.K.

Mention B.M.J. for 7 days' approval.

Direct from the Sole Makers:
COOK'S, Brush Specialists,
DAVEY PLACE, NORWICH
ESTAB. 1814.

NAME PLATES
IN BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

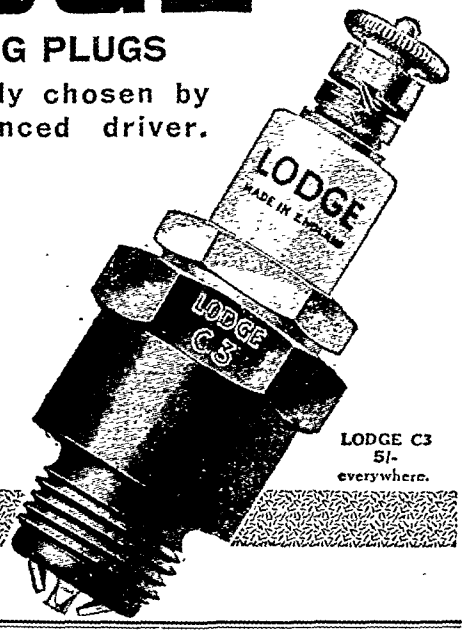
Experto crede

LODGE

SPARKING PLUGS

are invariably chosen by the experienced driver.

Sold at all good garages.



LODGE PLUGS, LTD.—RUGBY

LODGE C3
5/-
everywhere.

Now is the Time to Equip Your Chauffeur.

GAMAGES

HOLBORN

GREAT 53rd ANNIVERSARY SALE

Begins FEBRUARY 23rd.

This sale coming on the threshold of Spring makes a special appeal to all employers who are going to equip their chauffeurs for the brighter days ahead. Never before have we been able to effect such startling reductions on our high class liveries.

CHAUFFEURS WATERPROOF COATS

These Coats are cut specially for driving. Made from double texture Paramatta, blue only. Double-breasted as illustrated. 34 to 42 inches chest.

SALE PRICE **26/9** Usually 42/-

CHAUFFEURS' BLUE SERGE SUITS

Comprising Double-breasted Jacket, Vest, and Trousers, made from a good weight Navy Blue Ribbed Serge. This suit combines neatness with style, and can be purchased Ready for Service.

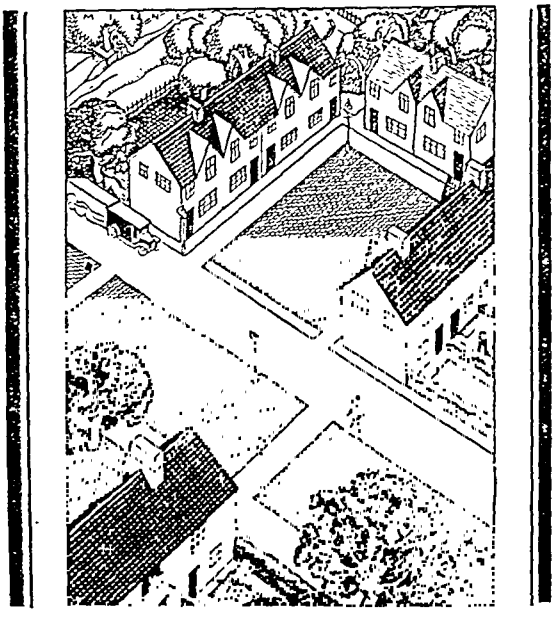
Usual Price 75/-.
SALE PRICE **59/6**

GAMAGES, HOLBORN, LONDON, E.C.1.

Telephone: Holborn 8484.

THE LATEST . . . .

NEW HOUSING ESTATES HAVE GAS FOR WATER HEATING



What method of water heating is most up-to-date—best suited to serve your home? The question is answered by the following facts. In nine new housing estates in the area of one gas company alone there are over 5,000 houses and over 500 flats. **All are having gas for water heating.** Gas to give really hot water for every need. Gas to save labour, cut out delays, banish uncertainty. There is a modern gas water heater to suit every type of dwelling.

GAS

THE FUEL OF THE PRESENT
THE FUEL OF THE FUTURE

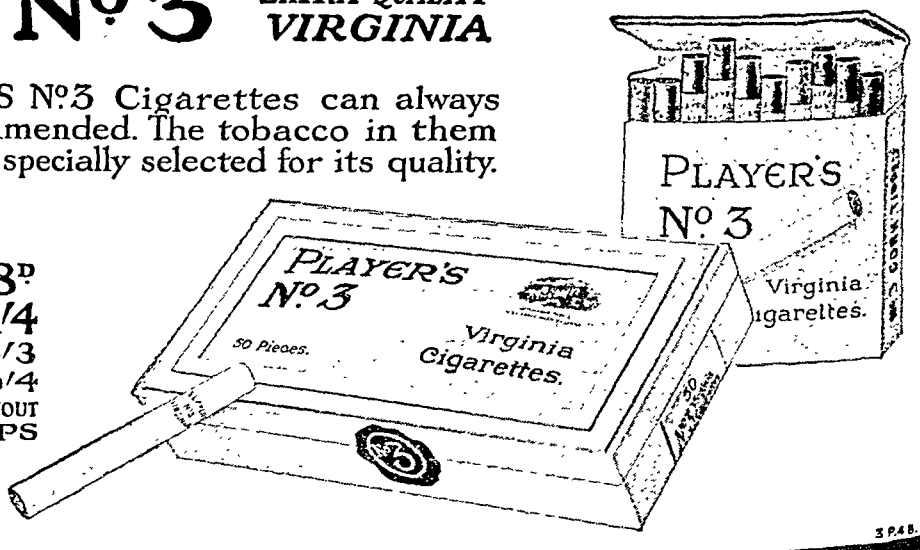
The B.C.G.A., ... representing the British Gas Industry, is at your service for free advice and help on any use of gas.

THE BRITISH COMMERCIAL GAS ASSOCIATION, 28, GROSVENOR GARDENS, LONDON, S.W.1.

PLAYER'S
Nº 3 *EXTRA QUALITY VIRGINIA*

PLAYER'S Nº3 Cigarettes can always be recommended. The tobacco in them has been specially selected for its quality.

10 *for* 8ᵈ
20 *for* 1/4
50 *for* 3/3
100 *for* 6/4
WITH OR WITHOUT CORK TIPS



3 P 48.

.... made to the original formula

MARSHALL'S LYSOL

The surgeon whose instruments are sterilised in a dilution of MARSHALL'S Lysol uses them with absolute confidence. The physician who knows his nurses use it in dressings and antiseptic work has an easy mind, where the dread of 'infection' need never intrude.

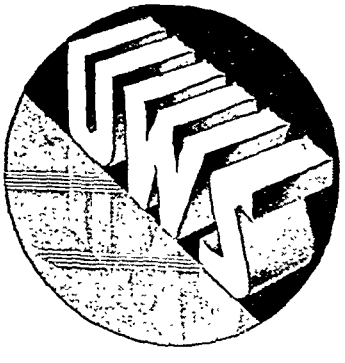
MARSHALL'S Lysol is made to the original Lysol formula and specification. Every bottle is tested for purity and strength.

Samples will be sent upon request to members of the medical and nursing professions.

Lysol Ltd., Raynes Park, S.W.20

SAFE

THE MOST SATISFACTORY METHOD OF ENSURING A SOFT WATER SUPPLY



Special Booklet Sent Free on Request
"Soft Water in the Home," an illustrated sixty-four page booklet, will gladly be sent to any doctor upon request.

It is a fact of considerable significance that 'Permutit' Water Softening Plants are to-day to be found in over 15,000 homes, and in the leading hospitals, clubs and hotels. No chemicals are used in the 'Permutit' System. This plant provides a soft water which is healthful and palatable to drink, at a moderate initial outlay and an infinitesimal running cost. The plant can be fitted without any alteration to existing arrangements.

'PERMUTIT' REGD

WATER SOFTENER

UNITED WATER SOFTENERS LTD., ALDWYCH HOUSE, LONDON, W.C.2

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to
COATES & COOPER,
41, Gt. Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.
Two sizes, 4/6 and 7/-.

Salvitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co, New York.

Valentine's Meat-Juice

"For a Tired Stomach"

In **Phthisis, Pneumonia, Influenza** and other **Wasting, Acute** or **Febrile Diseases, When Other Food Fails** and it is **Essential** to **Aid** the **Digestion** and **Sustain** the **Exhausted Patient, Valentine's Meat-Juice** demonstrates its **Ease** of **Assimilation** and **Power** to **Restore** and **Strengthen.**

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 97

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.
KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.
Telephone: GLADSTONE 1071 (2 lines). *Telegrams*: KAYLOIDOL, CRICKLE, LONDON.

CREOLIN

(MEDICAL)

Indicated for Use in Varicose Ulcers

CASE REPORTS have shown Creolin to be of marked value as a dressing for varicose ulcers. Whilst displaying adequate germicidal properties Creolin at the same time exerts a powerful stimulating action which induces regeneration of the surrounding tissues. The Creolin dressing is best applied by steeping ordinary surgeon's lint in a dilution of 1 part of Creolin to 300 parts of water. Creolin is a *Liquid Antisepticus* of high germicidal strength combined with low toxicity prepared from highly refined coal tar oils: R.W. co-efficient 18-20.

Testing samples and full particulars sent on application to :—

Pearson's Antiseptic Co., Ltd., 61, Mark Lane, London, E.C.3.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

EXCISION OF LARYNGEAL POLYPI.

Typical Case.

C. H., female, aged 23 years.

Diagnosis: Laryngeal polypi; tracheotomy.

Operation: Laryngotomy, excision of polypi, laryngectomy.

Anaesthesia: Local infiltration block.

First Operation: Classical infiltration block was made. Larynx was opened in the mid-line in front and a number of polypi removed, using scissors, curette, and cautery. A rubber tube was placed in the larynx and allowed to remain. The incision was closed with drainage. The patient had relief for some time and could even breathe through the normal channels, but within three months the granulation-like masses began to appear once more about the tracheal opening and laryngectomy was decided upon.

Second Operation:

Anaesthesia: A wide infiltration was made, using 90 c.c. of a 0.5 per cent. Novocain-Adrenaline solution. The incision was made and the trachea divided just above the original tracheotomy wound. 10 cm. of the anterior wall of the oesophagus was removed with the larynx. A considerable portion of the thyroid gland was also removed with the mass. The wound was drained extensively, the skin being closed with silkworm sutures. The patient's pulse and colour did not change during operation. The anaesthesia was ideal. This patient has remained well to date. —EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole-Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

What shall I prescribe?

WHEN CONFRONTED WITH A DIFFICULT CASE OF OSTEO OR RHEUMATOID-ARTHRITIS IT IS INDEED COMFORTING TO KNOW THAT QUICK AND LASTING RELIEF CAN BE OBTAINED FROM THE ADMINISTRATION OF ELIX. FORMASAL AND TAB. ARTHRITONE.

THE POPULARITY OF THESE PREPARATIONS IN RHEUMATIC CONDITIONS IS DUE SOLELY TO THE GOOD RESULTS OBTAINED.

PRACTITIONERS HAVE TAKEN THE TROUBLE TO WRITE AND TELL US OF THE WONDERFUL EFFECTS THAT THESE PREPARATIONS HAVE IN CASES WHERE ALL OTHER FORMS OF MEDICATION HAVE BEEN OF NO AVAIL.

ELIXIR FORMASAL
1 PINT **6/3**
SMALLER AND LARGER SIZES ISSUED

TAB. ARTHRITONE
250, **8/2**
SMALLER AND LARGER SIZES ISSUED

HOUGH, HOSEASON & CO. LTD.
PHARMACEUTICAL SPECIALISTS TO THE MEDICAL PROFESSION - MANCHESTER.

MEASLES
AND
WHOOPING COUGH

The danger of these disorders is often in their far-reaching secondary effects.

The convalescent stage calls for special reparative nutrition. Virol has a marked effect upon the conservation of the tissues, repairing the waste and restoring the equilibrium of a healthy metabolism.

VIROL

More than 3,000 Hospitals, Sanatoria, and Infant Clinics use Virol regularly.

IN JARS, 1 3, 2/- & 3/9 ; ½-gall., 15/-. VIROL LTD., EALING, LONDON, W.5.

REMINERALISATION
POLYOPOTHERAPY

The oldest and most active of recalcifying agents in endocrino-mineral combination

—•—

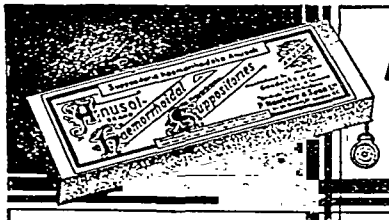
OPOCALCIUM

In Tablets and Granules

—•—

Manufacturers
LABORATOIRES de l'OPOCALCIUM
121, Avenue Gambetta
PARIS

Distributors
CONTINENTAL LABORATORIES Ltd.
30, Marsham St., London, S.W.1
TAXOLABS, SOWEST, LONDON VICTORIA 2041



Removing one burden of pregnancy

Haemorrhoids not infrequently add to the discomforts of pregnancy. Whether caused by pressure from the gravid uterus, or previously existent, they are aggravated by this condition.

Anusol BRAND Haemorrhoidal Suppositories

afford prompt relief from the pain, they allay the inflammation and control haemorrhage.

In pregnancy, indeed, Anusol Brand Suppositories find their most important field of usefulness.

A trial of Anusol Brand Suppositories will prove a satisfying experience. May we send you a liberal trial package?

British Distributors:
FRANCIS NEWBERY & SONS, Ltd.,
31-33, Banner Street, London, E.C.1.
Manufactured by GOEDECKE & CO., LEIPZIG (Germany)

"UMBROSE"

(Registered Trade Mark)

(Shadow Meal)

A SPECIALLY PREPARED BARIUM MEAL FOR X-RAY DIAGNOSIS

Its high degree of opacity ensures perfect shadow definition on the X-Ray plate.

Other special features:

Freedom from toxicity, exceptional fineness and palatability. It may be simply and quickly prepared in the X-Ray room.

"Umbrose" (Shadow Meal) is prepared in three sizes as follows

No. 1 contains 2 oz. $BaSO_4$ No. 2 contains 4 oz. $BaSO_4$
No 3 contains 6 ozs. $BaSO_4$

Fully descriptive literature on "Umbrose" will be gladly sent on request.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: 3201 Bishopsgate (10 lines) Telegrams: "Greenburys Edo London"

Vitamin Deficiency?

Put them on

BEMAX

THE NATURAL VITAMIN TONIC FOOD

Bemax was prepared to provide a food rich in natural vitamins, which, added to the normal diet, would restore a balanced metabolism, and so create a condition in which remedial measures by the physician would be assured of the fullest success in all ailments due to deficiency of Vitamins A, B and E.

Laboratory reports on Bemax and clinical sample for personal trial will be sent to any medical man on receipt of his professional card.

THE BEMAX LABORATORIES, 23, UPPER MALL, LONDON, W.6.

Dimol

"T" (TONIC) PULVERETTES

prepared to the following formula:—

Dimethylomethoxyphenol	gr. 1
Acid Arsen.	gr. 1/50
Ext. Nuc. Vom.	gr. 1/4

The value of a nerve and general tonic combined with a non-toxic intestinal bactericide of high potency is so apparent that we feel certain it will be of the greatest service in all cases of toxic degeneration with an intestinal focus, and associated with anaemia and diminished vitality of the neurones and endocrine glands.

Medical men are invited to try them personally if run down or over-worked.

"I think Dimol 'T' is the most useful and best preparation of its kind on the market." ....., M.D.

London, W.1
14th Nov., 1930.

DIMOL LABORATORIES LTD., 40, LUDGATE HILL, E.C.4

Distributing Agents:

SANGERS LTD., 258, Euston Road, LONDON, N.W.1

Of Interest to all Obstetricians . . . .

MONSOL BRAND

MEDICATED SOAP

The importance in Medical practice, and particularly in Midwifery, of sterilizing the hands in order to prevent extrinsic infection has been recently stressed, and it has been shown that washing the hands with a good soap, followed by immersion in a non-irritant but powerful germicide, such as Monsol Liquid, is one of the best means of obtaining sterility.

Monsol Medicated Soap contains 5% of the active principle of Monsol, the germicide which has such a powerful selective action on streptococci, and is therefore powerfully antiseptic. Owing to its absolutely neutral soap base, however, Monsol Medicated Soap does not roughen the hands but keeps even the most delicate skin soft and supple.

8d. per tablet from Chemists everywhere.

MONSOL IS THE SAFE GERMICIDE.

Monsol Liquid— the powerful safe germicide.

Monsol Capsules— keratin-coated, for intestinal disinfection.

Monsol Ointment.

Monsol Throat Pastilles.

Monsol Dental Cream.

Monsol Pessaries.

Manufacturers:

THE MOND STAFFORDSHIRE REFINING CO., LTD.,
ABBEY HOUSE, LONDON, S.W.1.

When children have *coryza* watch the middle ear

MOST cases of otitis media in children result from extension of a common cold or the coryza associated with influenza or the exanthemata. Unless the primary inflammation in the rhinopharynx is treated vigorously, there is always the danger that the infection may travel through the Eustachian tube and into the middle ear cavity.

Pediatrists and otologists alike urge the necessity of watching the middle ear in all cases of coryza in children. By advising frequent nasal instillations of a light oily solution containing menthol, eucalyptol, camphor and chlorbutol—Mistol—it is believed that many cases of otitis media can be prevented or even checked in their beginning.

The use of Mistol is effective treatment for all conditions of nasal congestion. Its anticongestive and stimulating ingredients are contained in a light oil possessing the most favourable properties for spreading on and clinging to the nasal mucosa, so that the preparation reaches every part and is not readily washed away by accumulated secretions.

Mistol assures greater comfort for little coryza patients and also protection for their ears. It may be diluted one-half with Nujol, for infants, and proportionately for children

Mistol
REG. TRADE MARK
MADE BY THE MAKERS OF NUJOL
Nujol Laboratories:
128 Albert Street, Camden Town, N.W.1

WHEN THE PATIENT'S RECOVERY IS HAMPERED BY ANOREXIA . . .

these essences supply stimulus and energy without strain to the digestive system . . .

BECAUSE they are suave and non-irritant in action; because recent scientific tests have shown that they can be assimilated by the digestive organs forty minutes quicker than ordinary foods and without the formation of any residue, Brand's Essences of Beef or Chicken have come to be a preferred invalid food.

99 out of every 100 doctors, recently interviewed, recommend them in cases of intestinal disturbances, in states of exhaustion, in specific fevers, in all disorders associated with pyrexia, and before and after operations.

To-day doctors everywhere are finding these Essences indispensable in the post-influenzal state because they supply energy quickly and prepare the system to accept a more solid diet.

Brand's Essences of Beef or Chicken are prepared by an exclusive process from the finest freshly killed English meats without the addition of colouring matter or preservatives. Patients welcome them because they are delicious to taste and easy to swallow.

Samples will be gladly sent on receipt of a professional card.

Brand & Co., Ltd., Dept. F.24, Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S
ESSENCES OF BEEF OR CHICKEN

BOTOL

LARYNGEAL NARCOTIC

We regret that numbers of doctors in returning to us request cards for samples of BOTOL have omitted to give their names and addresses.

Will those doctors who have written for samples and have not received them please notify us to that effect, when we will have pleasure in forwarding a free sample of this new and remarkable preparation.

CONTINENTAL LABORATORIES, LTD.

30, MARSHAM STREET, LONDON, S.W.1

TELEGRAMS: TAXOLABS SOWEST, LONDON TELEPHONE: VICTORIA 2041

Full size trial sample free to any medical practitioner, in British Isles, on application by postcard to Boots the Chemists, Station Street, Nottingham.

OBTAINABLE FROM BRANCHES OF

The Boots Chemists

Over 900 Branches in Great Britain

REGETHERM POULTICE

CLEAN & CONVENIENT IN USE

More certain in action than the old-fashioned poultice

The healing action of Regetherm Antiphlogistic Poultice is governed by its ability to prolong and maintain an even degree of heat over a lengthy period. Moreover, the ingredients are so balanced that this action does not set up any counter-irritation, but allays pain, ensures an even circulation through the congested areas, and thus induces natural and pain-free rest.

The Medical Profession will appreciate the fact that the action of Regetherm Poultice is much superior to that of fomentations or linseed poultices, and can be relied upon as an efficient aid in the treatment of all types of inflammation—whether local and superficial, or of deep-seated origin.

PRICE 2/- PER 1-lb. TIN

(NOTE THE WEIGHT).

SPECIAL DISCOUNT TO THE MEDICAL PROFESSION.

BOOTS PURE DRUG CO. LTD., NOTTINGHAM.

SONERYL

TRADE MARK

Powerful Hypnotic and Analgesic

An agent which has the double advantage of relieving pain and inducing sleep is invaluable in everyday practice.

"Soneryl" adequately meets this need and is widely employed for insomnia, whether arising from painful affections or febrile or nervous states.

"Soneryl" produces no after-effects nor does it lead to habit formation.

Supplied in tablets for oral use and ampoules for intravenous or subcutaneous injection

Prepared in the Laboratories of

MAY & BAKER LTD.

BATTERSEA LONDON, S.W.11

Write for descriptive literature and sample

Telephone: BATTERSEA 1813 (6 lines)
Telegrams: BISMUTH, LONDON

BOOTS PRODUCTS

OBTAINABLE THROUGH ALL BRANCHES OF

The Boots Chemists

Liver Extract (BOOTS)

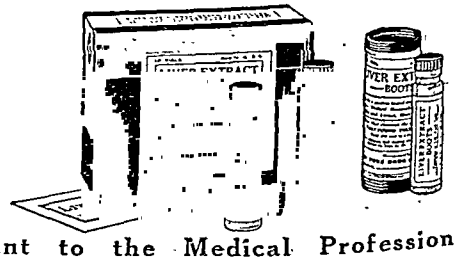
A HIGHLY concentrated EXTRACT OF FRESH LIVER specially prepared for the treatment of PERNICIOUS ANÆMIA. Liver Extract (Boots) is made by a process tested and proved efficient by the Medical Research Council.

—(See B.M.J. and Lancet, March 10th, 1928).

Supplied in vials each equivalent to ½-lb. Fresh Liver

SINGLE VIAL 3/-

BOX OF TEN 30/-



Special Discount to the Medical Profession

WHOLESALE AND EXPORT DEPARTMENT,

BOOTS PURE DRUG Co. Ltd.,

NOTTINGHAM, ENGLAND.

Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

OVALTINE

FOR THE AGED

"Ovaltine" is delicious sustenance for old people. It sustains life ideally by giving tone to the tissues and promoting the healthy activity of the bodily functions.

"Ovaltine" provides complete nourishment in easily assimilable form. Its use greatly increases the nourishing value of other foods. The digestibility of milk, for instance, so largely used in old age, is increased two-fold by adding "Ovaltine" to it, while the starch in the cereals is converted into easily assimilated malt sugar by the enzyme diastase which "Ovaltine" contains in abundance.

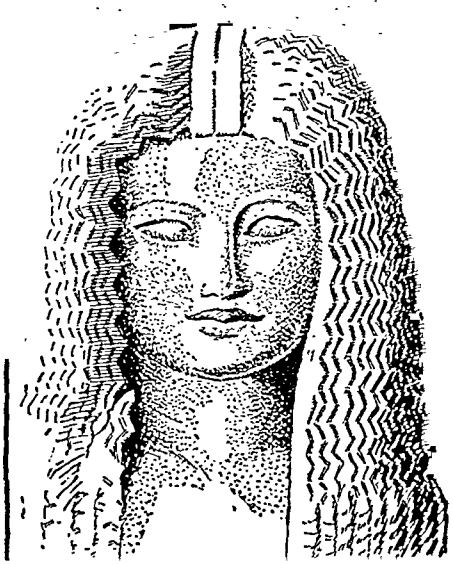
"Ovaltine" is purin-free. Its use, therefore, neither aggravates, nor favours the accumulation of uric acid in the system, nor leads to kidney disorder or gout. The tendency to constipation, so common in old age, is avoided by the use of "Ovaltine."

"Ovaltine" replaces to great advantage the usual meal-time beverages, tea and coffee, which are valueless as sources of nourishment and often contraindicated in senility.

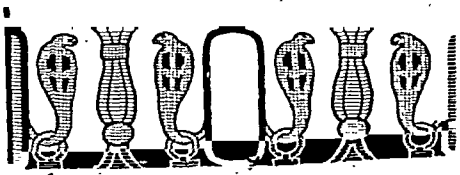
A liberal supply for clinical trial sent free on request.

A. WANDER, Ltd., 184, Queen's Gate, S.W.7.

M 246. Works: KING'S LANGLEY, HERTS.



Head of a Priestess of the XVIIIth Dynasty (Egyptian).



MALNUTRITION and MARASMUS

Mellin's Food has met with very remarkable success in the treatment of infants of retarded development due to nutritional disorders. Infants in this condition need a food substance that is assimilated quickly and one that may be taken in comparatively large amounts.

The carbohydrate maltose, which is the principal sugar in Mellin's Food, is a food substance that offers the greatest assistance in the adjustment of the diet because it yields immediately available nutrition and can be at once utilised to furnish the necessary heat and energy.

Mellin's Food

"MODIFIED MILK IN INFANT FEEDING"

The above-named booklet of 64 pages, which gives further information regarding the use of Mellin's Food in cases of malnutrition, will be gladly sent to Members of the Medical Profession.

MELLIN'S FOOD LTD., LONDON, S.E.15.

Bismuth-Formic-Iodide Compound

Mulford B-F-I

Supplied in 2 sizes in sprinkler-top tins.

Bismuth-Formic-Iodide Compound, now well known as "B-F-I", is a medicated dusting powder possessing soothing, astringent and antipruritic properties. It is a safe, dry dressing that promotes healing and has been widely used for thirty years by physicians and in hospitals.

B-F-I has the capacity for absorbing fluid from the surface, thereby exerting a drying action. It does not cake or form hard crusts, which would only add to the irritation. B-F-I is, therefore, the ideal dusting powder for use wherever excoriation and a weeping surface occurs.

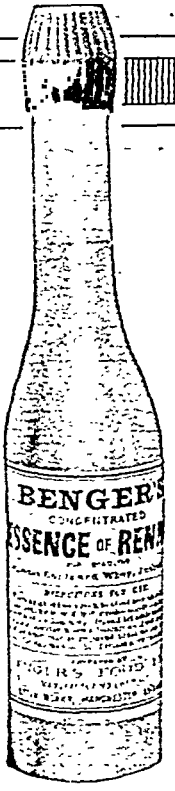
This compound has been found very satisfactory and effective in treating superficial wounds, eczema, impetigo, pemphigus, ulcers, burns, abscesses, vaccination area, bed or fever sores, chafing, abrasions and similar skin irritations.

SHARP & DOHME LTD.,

associated with

H. K. MULFORD CO.

252, REGENT STREET, OXFORD CIRCUS, LONDON, W.1. *Tel.: Regent 2567.* 85101



ESSENCE of RENNET

CONCENTRATED (BENGER).

(Curdling Fluid)

Originally prepared at the request of a prominent physician, this highly concentrated essence is of especial value in Infant and Invalid Feeding. As it is concentrated it is much quicker in its effect than most other preparations of Rennet. Whey prepared with Benger's Essence of Rennet is of the greatest value in the treatment of diarrhœa, vomiting, etc.; it can be employed with confidence and will yield good results. Junket can be made more quickly and at a lower cost by using Benger's Essence of Rennet than by any other method.

In 1/- and 1/9 bottles.
Larger sizes for hospitals, etc., use.

LIQUOR PEPTICUS

(BENGER).

"A digestive agent of extraordinary power."
Sir William Roberts, M.D., F.R.S.

Benger's Liquor Pepticus, is a concentrated and highly active fluid pepsin in acid solution which acts particularly upon meat, eggs and other proteid foods.

The best results from the use of Liquor Pepticus are obtained when it is prescribed alone. Should the prescriber wish to combine medicaments of a tonic nature, it will be recollected that those which are free from astringency and alkalinity should be selected.

In 4, 8 and 16-oz. bottles.
Prices: 3/6, 6/6 and 12/6.

BENGER'S FOOD, LTD., — Otter Works, — — MANCHESTER.

NEW YORK (U.S.A.): 90, Beekman Street. SYDNEY (N.S.W.): 350, George Street CAPE TOWN (S.A.): P.O. Box 573.

M.142

BENGER'S Food

Trade 'PANOPEPTON' Mark

PANOPEPTON

THE FOOD FOR THE SICK.

The entire nutritive constituents of beef and wheat in a soluble and freely absorbable form.

A nourishing, restorative, stimulant liquid food of incomparable value for the nutrition of the sick.

A food which is compatible with every form of medical treatment.

Supplied in 12-oz. bottles.

Originated and Manufactured by
Fairchild Bros. & Foster (Inc. N.Y.)
NEW YORK and 65, Holborn Viaduct, London, E.C.1.

Agents:
Burroughs Wellcome & Co.,
LONDON, SYDNEY, and CAPE TOWN.

UNG. SEDRESOL (Ferris).

A Valuable Sedative Antiseptic and Healing Ointment.

UNG. SEDRESOL is a combination of the products obtained by the destructive distillation of the wood and bark of the *Betula alba* in combination with Oxide of Zinc and Antiseptics.

UNG. SEDRESOL is supplied to the Medical Profession at the following prices:—
¼-lb. Jars, 1/8 each; ½-lb. Jars, 3/- each; 1-lb. Jars, 5/9 each; 2-lb. Jars, 11/- each; 4-lb. Jars, 21/- each. *(Empty Jars allowed for on return.)*

SEDRESOL DRY DRESSING (Ferris).

A useful surgical dusting powder for cases in which it is not desirable to apply ointments. Sedative, healing, analgesic, stimulating.
Price: 4-oz. tins, 1/6 each; ½-lb. tins, 2/4 each; 1-lb. tins, 4/- each.

SEDRESOL SOAP (Ferris).

A pure superfatted soap for the skin containing the same medication as Ung. Sedresol.
Price: 10d. per tablet, 9/6 per dozen. 30/- per dozen boxes of 3 tablets.

(The word "Sedresol" is registered under the Trade Marks Act and is the sole property of Ferris & Co., Ltd.)

FERRIS & COMPANY, Ltd.

BRISTOL

Wholesale and Export Druggists and Manufacturing Chemists.

The Lister Institute

OF PREVENTIVE MEDICINE

Therapeutic Substances Act, 1925
Manufacturing Licence No. 9

Vaccines and Sera

Anti-Meningococcus Serum In phials of 10, 15 and 30 c.c.
Concentrated Diphtheria Antitoxin In phials of 500 to 10,000 units.
Compound Influenza Vaccine In phials containing 330 and 660 million organisms per c.c.
Compound Catarrhal Vaccine In phials containing 235, 470, 940 and 1,880 million organisms per c.c.
Micrococcus Catarrhalis Vaccine In phials containing 25, 50, 100 and 250 million organisms per c.c.
Concentrated Tetanus Antitoxin In phials of 1,000 to 40,000 units (=500 to 20,000 U.S.A. units).
Anti-Streptococcus Serum In phials of 10 and 25 c.c.
Vaccine Lymph

A descriptive pamphlet, issued under the Authority of the Governing Body of the Lister Institute, will be sent on request.

Sole Agents:

Allen & Hanburys Ltd., London

Telephone: Mayfair 2216 (three lines)
Telegrams: "Vereburys, Wesdo, London."

A List of

GLANOID MEDICINAL PRODUCTS OF ANIMAL ORIGIN

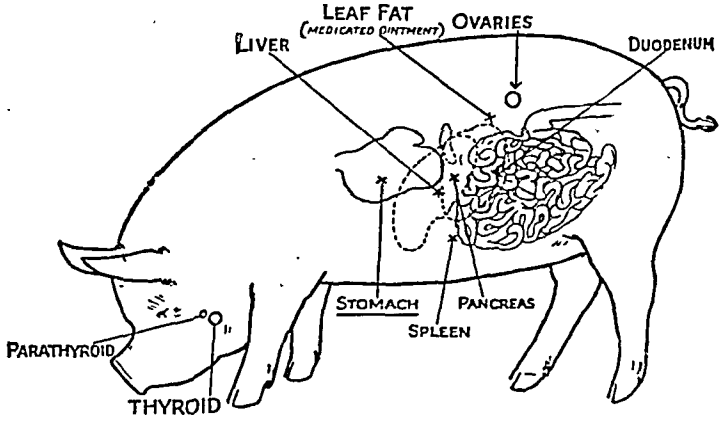
Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
*Catgut**
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
*Pituitary, W. G.**
*,, Ant. Lobe**
*,, Post. Lobe**
*,, Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
,, Co
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

*Literature available on request.

GLANOID

BRAND

HOG STOMACH SUBSTANCE



WE PREPARE DESICCATED HOG STOMACH SUBSTANCE

in POWDER and TABLETS

For use in the Treatment of Pernicious Anaemia

Hog Stomach Substance has been found of benefit in the treatment of Pernicious Anaemia as an alternative to Liver Therapy, but we do not suggest "Hog Stomach Substance" will achieve the same outstanding results given by "Glanoid Concentrated Fluid Extract of LIVER."

LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

PERSIAN SERIES

TRADE MARK 'NEO-INFUNDIN' BRAND

Oxytocic Principle of Pituitary Posterior Lobe

10 *International Units per c.c.*

For Obstetrical Use

Obtained by fractionation from 'Infundin' Pituitary (Posterior Lobe) Extract.

Practically free from the pressor principle.

Provides the oxytocic effect of 'Infundin' without risk of the vasomotor phenomenon known as "pituitary shock."

The absence of the pressor principle makes 'NEO-INFUNDIN' suitable for use in obstetrical cases with raised blood-pressure.

(See special literature, free on request)

TRADE MARK 'HYPOLOID' BRAND 'NEO-INFUNDIN' TRADE MARK

0·5 *c.c. and* 1 *c.c.*

Boxes of 6 *hermetically-sealed containers,* 5/- *and* 7/6 *per box*

BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W. 1

Associated Houses:

NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN
BOMBAY SHANGHAI BUENOS AIRES

Robed figure, showing elaborate Persian embroidery of the Sassanian period. Gems and pearls were probably freely used. Portions of the design are reproduced as a decoration.

Date: circa 240-600 A.D.

H 2843

COPYRIGHT

BELLE VUE SPA

TREFRIW, NORTH WALES

BELLE VUE SPA HOTEL AND NURSING WING

BELLE VUE SPA. BATH AND TREATMENT ROOM

A Summer and Winter Resort for the treatment of Anaemia, Arthritis, etc. Belle Vue Spa Chalybeate Waters, one of the strongest pure Iron Waters in the world. Wonderful results obtained, as shown by Haemoglobin Tests and by the Hoefftcke Ambulatory Extension Treatment for crippling Arthritis of the hip and knee.

UNDER MEDICAL SUPERVISION.

Apply Secretary: BELLE VUE SPA, TREFRIW, NORTH WALES.

Telegrams: "Bellevue, Trefriw." Telephone: 60 Llanrwst.

or C. A. HOEFFTCKE, 7, Harley Street, London, W.1.

An Address
ON THE
DOMAIN OF ORTHOPAEDIC SURGERY*

BY
SIR ROBERT JONES, BART., K.B.E., C.B.
F.R.C.S.

It is not my intention to trace this special branch of medicine from earliest times—although such an exercise must have a chastening effect. Our very remote forefathers had philosophical minds, and often practical vision. When, with all the air of a discoverer, we descant upon the value of the sun and open-air hospitals it is a little humiliating to find that the followers of Aesculapius built a temple of healing to the honour of their master, and that the design of the open-air ward was almost identical with our most recent buildings, with free access to sun and air. I wrote an article some years ago on the conservative treatment of club-foot. It might have been copied from Hippocrates, who, with a wealth of detail, had anticipated all I had to say. When we realize the magnitude of this supreme ancient we must feel humble. He enriched surgery in all its branches; but we shall best remember him as a pioneer of extension in the treatment of fractures, as a teacher of passive hyperaemia, as an authority on congenital dislocation of the hip, and on the correction of club-foot—and all this 400 years before Christ.

Some years ago I was engaged as a witness in a medico-legal case. One of the issues referred to the method of reduction which should be employed in a case of dislocation of the head of the humerus with fracture of the surgical neck. Many distinguished surgeons in 1906 did not know of such an injury. They were much astonished to hear that fifty years before the Christian era Pasicrates (quoted by Malgaigne), in describing the injury, stated that he preferred to reduce the dislocation and then to allow union of the humerus. Aristion, on the contrary, endeavoured so to arrange traction that it would act upon both head and shaft simultaneously. Heliodorus supported the contention of Pasicrates. It is of profound interest to realize that in olden times, just as to-day, schools existed, one in favour of immediate reduction and the other in favour of allowing the shaft to unite before dealing with the displaced humeral head; and so it is always.

THE GROWTH OF ORTHOPAEDIC SCIENCE

The term "orthopaedic" was first used by the distinguished Nicholas Andry (1650–1742), professor of medicine of the University of Paris. He wrote an interesting book on the prevention of deformities, and was a great apostle of posture and body mechanics, a branch of work which has been so enriched to-day by Joel Goldthwait of Boston. It is not a satisfactory term, but so far, out of the many suggested, none accurately connotes the group of cases it is supposed to cover. We must, however, come to some clear understanding as to what the definition includes. There was a time when orthopaedic surgery included a comparatively small group of cases. Lateral curvature, flat feet, rachitic distortions, club feet, and a few other congenital conditions represented the list. Apart from tenotomies and an occasional osteotomy, no other operations were indicated. The use of the knife was almost a reproach, and only followed a failure in mechanical effort. How different it is to-day, when some of the most difficult operations in the domain of surgery are included under the definition "orthopaedic"! During the great war I had to direct—on behalf of the British Government—what was known as military orthopaedic surgery, and this involved a statement of what groups of cases ought to be included under the term.

This definition developed into:

1. Fractures—recent, malunited, and ununited.
2. Deformities of the extremities and spine.
3. Diseases, derangements, and disabilities of the joints, including the spine.
4. Injuries of peripheral nerves.

It purposely covered a very large area of surgery, and could only make an appeal to the highest type of young surgeon, as it required an advanced standard of training and exceptional ability. Unless this broad definition were substantially agreed to, advance would be checked and a lower standard of orthopaedic surgery would inevitably arise. We must not recognize as an orthopaedic surgeon anyone who is unable to hold his own in any procedure—operative or otherwise—which his art requires of him. In certain countries orthopaedic surgeons confine their specialty to children. In England we always include the adult in our definition. The same principles applicable to the treatment of the child are also applicable to the adult, and age limit seems to us to be an artificial boundary line.

This war-time definition is now accepted in Great Britain as appropriate in civil life, and no difficulties arise. At first it was felt to include too much, and the surgeon who had not specialized feared a depletion of his teaching material. Once it was understood, however, that it was the orthopaedic surgeon alone who had limitations placed upon him, and that the general surgeon was not limited in his scope by a definition of any sort, all difficulties disappeared. At the outbreak of war the field of orthopaedic surgery was limited to a handful of specialists; where they were not available the cases were often treated by surgeons—not especially interested—in hospitals inefficiently equipped. There was quite inadequate accommodation for prolonged treatment, and no immediate prospect of engaging on a national campaign on the lines of prevention, early discovery, treatment, and after-care. The heavy casualties of 1914 onwards brought appalling facts directly to everyone. The treatment of fractures at the front, because of the conditions, resulted in a high mortality. There was no proper provision at home for the long-treatment essential in certain crippling conditions beyond the general hospitals, already crowded, and in which evacuation had to be rapid. Consequently in both these instances patients either died in the war area or, being evacuated from the hospitals too soon, relapsed and developed permanent deformities. The solution of these problems, which in peace time would have been slow, became so vital and urgent during the war that within a short time the rapid advance of the orthopaedic surgeon was assured. What might have taken a quarter of a century was accomplished in three years. At the front it was decided that casualties within the recognized definition of orthopaedic, as passed by the War Office, should be grouped in orthopaedic centres on their arrival home. In Great Britain centres for proper orthopaedic treatment were accordingly organized, and specially equipped and staffed hospitals for the treatment of fractures were started at the front. The daily spectacle of deformity brought an entirely new and universal sense of the pitiful case of the cripple. A severe counterpoise to the traditional spirit of indifference was produced in all sections of society by the sight of their own flesh and blood stricken with deformity. The contrast was two-edged. The shrinking from the cripple diminished, but inversely the cripple saw that deformity held something which might even prove heroic. That was the psychological contribution of the war towards deformity. But the common experience of complete recovery of function produced a profound realization of the cripple as made, not born, and also as curable. Such an impression so universally received wrought an immense change.

* Presidential address to the International Society of Orthopaedic Surgery, Paris, October, 1930.

THE SCOPE OF ORTHOPAEDICS

It is to the lesson of the war that we owe the wider sense of the importance of adequate means of cure. Out of that profound shattering experience has come the practice in time of peace. The orthopaedic centres were evidence of a system of handling orthopaedic cases, which has been followed since the military beds were evacuated. The temporary necessities of war thus became the permanent accessories of peace. But the war contributed more than hospitals. It formed a training ground of a large number of specialists whose influence was henceforth to compose the wonderful chapter of organization which is now rapidly taking place. In a few years orthopaedic surgery passed from a small branch—with vaguely defined boundaries—into a very comprehensive sphere. Nurses trained in the military orthopaedic centres had learned the lessons that they continued to practise with the crippled in times of peace. Another signal service rendered by war was a thorough understanding and mutual appreciation between those surgeons of our own specialty and surgeons whose work had mainly been carried on in other departments. I think I am correct in saying that only very friendly feelings exist to-day between the so-called general surgeon and the orthopaedic surgeon. In proof of this the Association of British Surgeons and the British Orthopaedic Association have on two occasions selected the same president. This feeling of comradeship and complete understanding should be encouraged; it is a great asset to future progress.

An important lesson learned during the war was the psychological and physical value of work. It was a common thing in our hospitals to find our men attending the various departments for electricity or massage and for the rest of the day sitting nursing their arms or legs. The atmosphere was one of apathy and discontent. We therefore introduced curative workshops there. They proved invaluable as an aid in the recovery of both mind and body. They acted *directly* when the work done gave exercise to the injured limb, and were employed in restoring co-ordinate movements; for instance, a screw-driver was used to supinate the arm and a saw to exercise the shoulder. The *indirect* method was equally productive; a man with a stiff ankle was set to planing, and as he became interested in the work he unconsciously used the ankle. Productive work has a human interest completely absent in mechanical contrivances, such as Zander's apparatus. These methods developed during the war are now part of standardized orthopaedic equipment. They are employed in a scheme of vocational treatment as well as training.

THE SUCCESSFUL ORTHOPAEDIC SURGEON

Most of us have responsibilities to fulfil in the matter of surgical education, and I hope we are all agreed that, before specializing, every surgeon must have a sound practical training in general surgery. An ideal specialist is the general surgeon who concentrates upon a special branch of his art, and not he who becomes a specialist with but little knowledge of surgery as a whole. Most of our French colleagues, who have done so much to advance orthopaedic surgery, still retain their title of general surgeon and practise other branches of their profession. Some of the greatest advances in bone surgery have been made by the general surgeon—for example, Ollier of Lyons and Macewen of Glasgow. There is little in a name. A surgeon is judged good or bad from an orthopaedic point of view by the results of his efforts to correct disability, and not by what he calls himself. His surgery is based on the recognition of definite principles of treatment which lead to the restoration of function—not merely to the correction of deformity. It strives for function rather than for form, but it is more content if it can secure excellence in both. It is conservative and constructive, but it desires to take the most direct road to function—be it by knife, by hand, or by mechanical device. General surgery and orthopaedic surgery should never be divorced. They should move hand in hand to their mutual advantage. Great as our surgical triumphs have been in the past we realize we are only just emerging from darkness. The future is full of promise; its many and intricate problems will not be beyond our power to solve, and we must therefore welcome among us the young, well-trained, and flexible mind, however revolutionary, in order to give us food for reflection and interest in our proceedings.

In my own career I have derived my greatest inspiration from a friendly and close association with the younger generation, especially those who are but little influenced by tradition. They often correct or modify our sometimes crusted views, or by clash of intellect encourage introspection and force us to revise our premisses. Often they merely strengthen us in our views. Truth never shines so brightly as when contrasted with error. As leaders in orthopaedic surgery we should endeavour by every available means to eradicate those diseases which give rise to deformity. It is our duty to ourselves and to humanity. Leaders in a preventive crusade are a greater national asset than mere masters of surgical technique. And what a glorious work! It spreads a spirit of sacrifice and binds together in comradeship with us the official mind, the nurses, and countless voluntary lay workers.

Take, for instance, two diseases—tuberculosis and rickets—which are roughly responsible for half of our cripples. Largely owing to recent research we have sufficient evidence to enable us to state with authority that rickets is wholly preventable. The tragic supply of material in Vienna and elsewhere, as the result of the great war, has furnished us with heartrending evidence, which should move the nations to concerted action. In such noble work our profession should take the lead. We know enough now about tuberculosis to enable us to predict that within a generation it could be stamped out if concerted action were taken. Dirty milk and personal contact are our main enemies, and our objective must be to conquer them. Much is being done, but not nearly enough, to ensure a clean milk supply for our children. We must remember the chain is not stronger than its weakest link, and disease will continue to spread unless the bacillus is absent from all milk or destroyed before milk is supplied to the child. This cannot be effected by voluntary agency alone. The crusade should be directed to the extermination of the disease in cattle, over 20 per cent. of which are infected in Great Britain. When we deal with the human bacillus we ought to be able to evolve a barrier against contact between a child and an infective tuberculous patient. There are difficulties, but they should not prove insuperable. We can make a good beginning by preventing that common tragedy—the evacuation of patients from our sanatoriums who are sent out to die in their homes and, in consequence, spread infection among their families. The human bacillus could be largely eliminated if the authorities insisted upon the proper care and isolation of the consumptive. In Great Britain alone 50,000 die every year from tuberculosis.

ROUTINE AND TREATMENT

We are all anxious, for reasons which are obvious, to have our cases brought to us early, and each nation doubtless has its own methods of securing this. In England —recognizing the evils of foul air, late access, and want of continuity of treatment—we are building a chain of open-air orthopaedic hospitals in various parts of the country, staffed by surgeons and nurses with special orthopaedic training. These hospitals are definitely country hospitals with open-air wards. We recognize, especially

in the care of crippled children, that fresh air and sunlight form an essential basis for treatment. We can safely prophesy that the time will soon come when the town hospital for children will be looked upon as an anachronism. These country hospitals are responsible for the treatment, education, and training of cripples drawn from large adjacent areas. Around the hospital are grouped after-care clinics to which children are brought after being evacuated from the hospital beds, while other cases are seen which require admission for operation or prolonged treatment. These clinics, with their nurses, are periodically visited by surgeons from the hospital, and in this way continuity of treatment is assured and relapse prevented. This network of clinics has resulted in a marked diminution of those gross deformities which are caused by neglect. We hope before very long to see this scheme functioning over all parts of the British Isles.

Despite all that can be done for children by preventive methods we can never hope to be without the cripple problem. The menace of transport is ever increasing, while there is but little corresponding expansion in hospital accommodation. The adult industrial cripple has been neglected in England until lately. Other countries, notably America, are alive to the importance of this problem. There, schemes for rehabilitation are quickly developing. The Federal Board of the United States shows that, up to 1926, 24,000 disabled persons had been restored to work at an average cost of £50 per head. In America alone 84,000 are disabled vocationally every year. This great work relieves the State of a heavy financial burden, apart from the moral aspect of the problem. It is essentially humane and economical.

While we are all deeply interested in the work of our own nation we are very apt to be ignorant of the activities of our neighbours. Nothing can prove of greater value than international meetings in familiarizing us with the activities in which we are interested all the world over. A too rigid nationalism has its grave defects. We are all the better for early access to the literature and work of the several countries, and this is especially so in the cause of the cripple. Brackett of Boston has suggested that there should be a central bureau of information at Geneva, attached to the League of Nations. It should act as a centre for collecting and distributing information regarding cripples in all civilized countries. It should cover preventive treatment and training, and should include methods of dealing with those injured in industry. Such a source of information would be a great service to all of us. It would unite the nations in a common quest.

A CASE OF PITUITARY TUMOUR

BY

C. C. ELLIOTT, M.D., B.S.

SURGEON, SOMERSET HOSPITAL, CAPETOWN, AND LECTURER IN CLINICAL SURGERY, UNIVERSITY OF CAPETOWN

AND

DAVID P. MARAIS, M.D., F.R.C.P.ED.

PHYSICIAN, SOMERSET HOSPITAL, CAPETOWN, AND LECTURER IN CLINICAL MEDICINE, UNIVERSITY OF CAPETOWN

The subject of this report is a professional man now 50 years of age. He was first seen about seven years ago by one of us (D. P. M.) in consultation with his family attendant. The particular interest in the case lies, in the first place, in the curious onset, and secondly, in the pathological cause, the removal of which eliminated in large part the original symptoms.

SIGNS AND SYMPTOMS

The earliest symptoms arose some twelve months prior to the consultation. The patient's partner had noticed a marked slacking-off in his work. Although he attended office punctually and regularly he accomplished very little real work, spending most of his time behind closed doors, writing voluminously, and destroying at the end of the day the results of all his labour. He took little interest in his profession, but when asked his opinion seemed as alert and as sound as usual. On rare occasions a letter missed destruction, and several were gradually collected. In one of these the patient styled himself a knight, and wrote about the millions he was investing. The theme was usually suggested by a business letter or a consultation. Thus, following a consultation on mining matters, his subsequent letters dilated upon the millions paid by this mine, all earned by himself; after a professional conversation about shipping he wrote to his son, still a schoolboy, about his yacht, giving it the name of a liner previously discussed, and describing his wanderings across the Seven Seas. In other respects—in conversation, intelligence, and in conduct—he appeared to be his normal self.

When first examined the patient was a heavily built man, 71¼ inches in height and weighing 203 lb., with large features and a strikingly pallid complexion. The facial characteristics were somewhat prominent supra-orbital ridges and malar eminences, and a heavy lower jaw; there was also some puffiness below the eyes. The hands were large, and showed distinct thickening of the skin—a "solid oedema." The skin of the trunk was smooth and very pallid. There was general loss of hair, the pubic hair being scanty and resembling in its distribution that of the female. The penis was small, as were the testes, which were insensitive to pressure. The patient complained of loss of sexual desire and admitted impotence. Generally the trunk indicated the adipose appearance associated with a pituitary dystrophy. Other symptoms —for example, headache, vomiting, etc.—were strikingly absent. The patient, in fact, had no complaints to make, and only admitted, rather shamefacedly, the indulgence of "day-dreams," as he called them, when he composed his letters.

A systematic examination elicited the following facts. The cardio-vascular system showed little abnormality. Blood pressure was 130/80; pulse rate was 70. Examination of the heart revealed no enlargement or degenerative changes. The blood picture indicated a mild grade of anaemia—4,950,000 red cells per c.mm., and 78 per cent. haemoglobin. A census showed cells of normal size and staining capacity, and a slight relative lymphocytosis.

Occasionally, at irregular intervals, the urine contained a small amount of sugar and a trace of albumin (salicylsulphonic acid test). A glucose tolerance test gave fairly

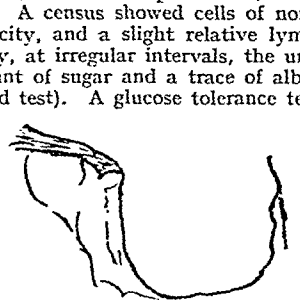


FIG. 1.—Tracing of sella turcica (26 × 25 mm.).

normal values, fasting sugar in one test being 0.0665 mg. per cent. After 50 grams of glucose had been taken the percentages of sugar recorded half-hourly were: 0.0915, 0.125, 0.093, 0.073, 0.0592, with a urine specific gravity of 1032; yet no sugar was excreted. A urea concentration test indicated 3.7 per cent. of urea after the first hour, and 4.1 per cent. after the second hour. The deposit contained no cells or casts, only an excess of phosphates being present. Examination of the eyes disclosed a restriction of the fields of vision. A full examination was made by Dr. A. W. Sichel, whose report is appended. An *x*-ray examination of the skull by Dr. van Rooyen indicated clearly a very much enlarged pituitary fossa measuring 26 by 25 mm. (normal 13 by 8 mm.) (Fig. 1).

The diagnosis arrived at was that of a tumour or enlargement of the pituitary body causing increase in size of the sella turcica and pressure symptoms on the right optic chiasma affecting particularly the right optic tract. The patient was then placed in the hands of Dr. C. C. Elliott, who decided to operate.

OPERATION

On February 2nd, 1924, an osteoplastic flap was turned down over the right frontal region with its base external. The right lobe was elevated in its dura mater. After identifying the lesser wing of the sphenoid, the optic nerve was traced. The dura mater over the sella was then opened, and a purplish tumour was seen. It was spooned out with a blunt spoon. The sella was deep. The flap was replaced without drainage. The patient was conscious the same evening.

PROGRESS NOTES

There was at first paresis of the right internal rectus, and partial ptosis of the right eyelid. The patient was blind in the right eye, but could see with the left. The paresis of the right rectus and eyelid soon improved. During the first few days he was restless and irritable, but rapidly became normal. The wound healed by first intention. On February 20th the patient could read with the left eye. In May he reported that he could do three hours' work a day, walk two miles, see clearly with the left eye, and that he had no "day-dreams."

Having examined him in January, 1925, Dr. Sichel reported that the vision of the left eye was better, although the fields were the same as before. The patient said he had "day-dreams" when he was pressed with work. The hair of the head was much thicker and more luxuriant. He was still impotent. He worked full time at his office. In the interval he had taken pituitary extract regularly. Drs. Marais and Kooy saw him and recommended mixed endocrines.

In 1927 Dr. Sichel reported that the vision was not so acute and that the fields were slightly more constricted. The patient still had occasional "day-dreams." The pubic hair had partly grown, not the axillary, but there was some hair on the arms and the hands. He had still no libido. He could perform all his work.

In 1930 the patient was examined at his home. He still managed his office, but had "day-dreams" when fatigued. There were no further changes in acuity of vision, nor any other symptoms.

COMMENTARY

We have reported this case, having followed it up for over six years after operation. We operated at the right side, because, though the field of vision was more open on that side, the onset of complete blindness was more advanced in that eye, and therefore operative injury to the right optic nerve would not have been so serious. The perimeter charts demonstrate how the field cleared on the other side. Apart from the curious fantasy symptoms, the patient has led a normal and useful life since the operation. Whether the mental symptoms are due to an endocrine defect we do not know.

PROFESSOR BARTLETT'S REPORT

Naked-eye examination of the pituitary tumour showed some fragments of soft friable tissue of a brownish colour. Microscopical examination revealed acinar and intra-acinar papillary, polygonal-celled carcinoma of anterior lobe of the pituitary gland. The cells forming the growth were epithelial, obviously arising from the acinar epithelium. The appearance was very atypical: the acini were much larger than normal, and some of them were dilated, but filled by intra-acinar papillary growth. The cells which filled the acini and covered the papillae were large and polygonal in shape. The nucleus was large, round, or oval; their protoplasm was abundant, faintly eosinophile, and spongy or vacuolated. Cells containing haemotoxyphil granules were extremely rare, but a careful search revealed a few; these were large and occasionally multinucleate. One of the fragments showed colloid spaces of the pars intermedia; another showed tissues of the anterior lobe; in each case there was invasion by growth. A small portion of brain tissue showed no invasion. Fragments of the capsule showed definite invasion. The growth was of a common "adenocarcinoma" type frequently reported in this situation. As usual, most of the cells were "chromophobic"—that is, they did not show granules. The growth was therefore composed of those cells which proliferate in pregnancy. The benign type of this neoplasm is sometimes found after repeated pregnancies, and generally regresses spontaneously.

DR. SICHEL'S REPORT

The patient was referred to me on January 24th, 1924, by Dr. D. P. Marais for a report on the fundi and visual fields. There was a history of enlargement of sella turcica, as shown by *x*-ray examination, and symptoms of pituitary and thyroid involvement. The patient stated that he had had diplopia since May, 1923, especially when reading.

Vision.—Right eye: with a correcting lens of −0.50 spherical and −0.50 cylindrical, axis 90, fingers were seen at 1 metre. Left eye: with −4.50 spherical and −0.50 cylindrical, axis 90, his vision was 5/36.

Pupils.—Equal in size, sluggish response to light both directly and consensually; no obvious response to convergence.

Fundi.—No definite pallor of discs. Examination complicated owing to presence of myopic coni and greyness of lamina cribrosa. No gross pathological changes in retina or choroid.

Fields.—No central scotoma for colours (Figs. 3 and 4). Central vision of right eye appears to be involved—that is, fixation object comes and goes. Tests for diplopia impossible owing to defective image perception in right eye.

Diagnosis.—Examination indicates pressure in direction of arrow (Fig. 2) involving crossed fibres from left eye

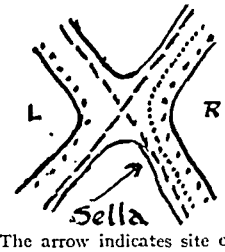


FIG. 2.—The arrow indicates site of pressure.
Crossed fibres: ————————
Uncrossed fibres: - - - - - - - - - - -
Macular fibres: .....

and macular bundle from right eye: uncrossed fibres from right eye not implicated.

Progress Notes.—February 29th, 1924: First examination since operation. Right eye diverges and vision in it is *nil* (no perception of light). Vision left eye with correction = 5/18 partly. Reads J1 with difficulty. Fundi unchanged. See field (Fig. 5). March 5th: Right eye, vision *nil*. Left eye with correction = 5/12 partly. Examination of left visual field by Elliott's scotometer shows sector of blind area extending to about 5 degrees from fixation point. January 5th, 1925: Right eye shows optic atrophy. Left fundus normal. Vision left eye = 5/8 partly. Right eye slightly divergent and has no power to converge. See field (Fig. 6). March 14th, 1927: No further complaint. Has never been able to do much extra reading since operation in spite of improved vision. Vision left eye with correction = 5/12 partly and reads J1 with difficulty, having to make out words one by one. Right pupil reacts very slightly to direct light. Fifth nerves, as indicated by no loss of corneal sensibility, not involved. See field (Fig. 7). October 4th, 1928: Patient advised to return home; he has done more harm to himself by anxiety than can be explained by actual loss of vision. See field (Fig. 8).

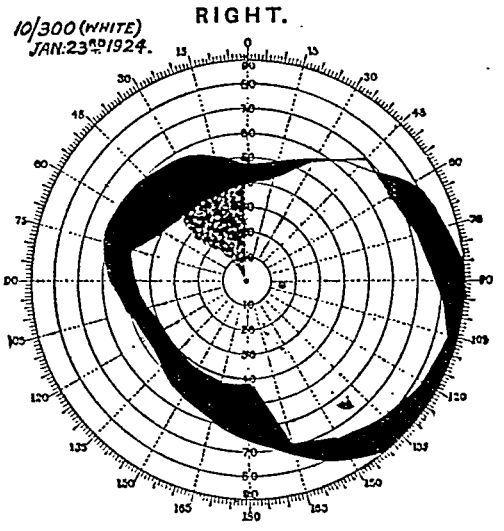


FIG. 3.

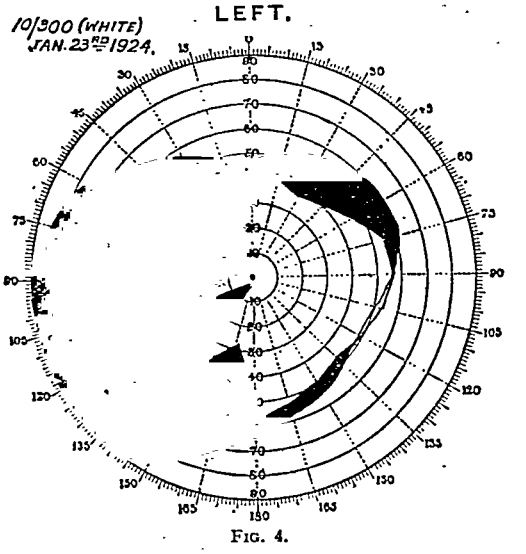


FIG. 4.

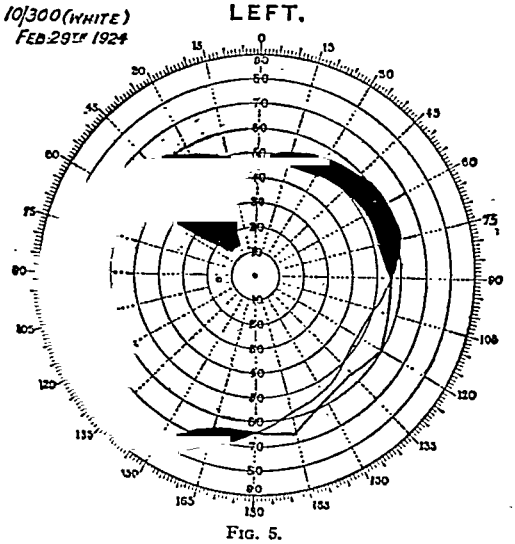


FIG. 5.

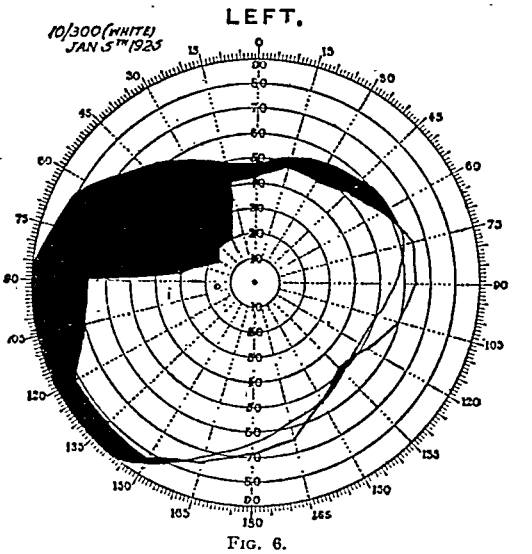


FIG. 6.

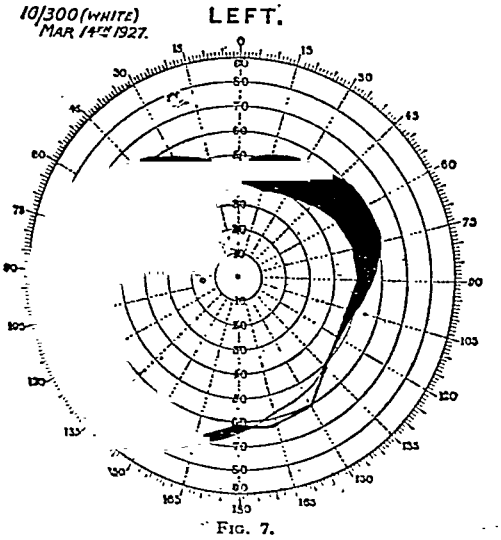


FIG. 7.

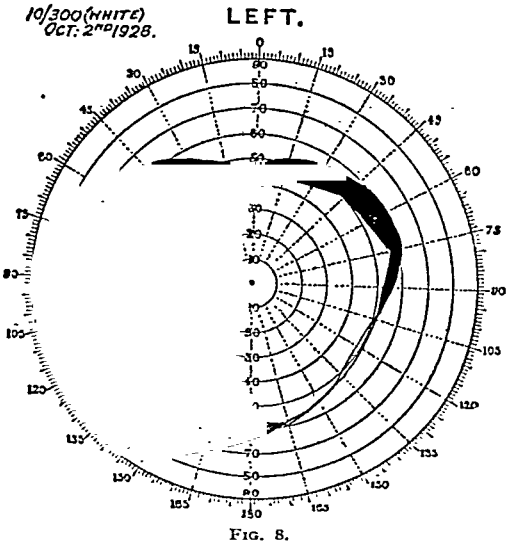


FIG. 8.

MANIPULATIVE REDUCTION OF CRUSH FRACTURES OF THE SPINE*

BY

R. WATSON JONES, M.CH.ORTH., F.R.C.S.ENG.

LECTURER IN ORTHOPAEDIC PATHOLOGY AND CLINICAL ORTHOPAEDICS, LIVERPOOL UNIVERSITY

For at least two thousand years it has been recognized that fractures demand immobilization, and for many hundreds of years methods of reducing fractures have become more and more specialized and more and more successful. It is therefore the more inexplicable that crush fractures of the spine have been neglected, and that an apathy which would have been criticized in the treatment of other injuries has been condoned and even commended. It cannot be said that it is the layman alone who has regarded a broken back as irreparable, and until recent years there appears to have been no systematic attempt to reduce these fractures. The object of this paper is to record—it is believed for the first time—a method of reducing crush fractures of the spine, safe enough and simple enough to be capable of universal application, and of giving successful results in the hands of any practitioner who knows the rudiments of plaster work. It has the value of requiring no anaesthetic, no apparatus, and no skilled assistance, and can be applied as effectively in a private house in the country as in a fully equipped hospital.

RESULTS OF INADEQUATE TREATMENT

The growing risks of industrial life and of life on the highways has led to a remarkable increase in the frequency of this injury. During the last two years I have seen no fewer than sixty-five cases of crush fracture of the spine which have been treated elsewhere by the accepted method of simple recumbency in bed for a few weeks. That these patients are still wandering from surgeon to surgeon and from clinic to clinic is itself evidence that a serious disability usually remains.

The angular deformity of the spine which always appears is often progressive, because there is continued absorption of the unprotected wedge-shaped vertebra. In those cases where, in addition to the crushing of a vertebra, there is forward dislocation of the upper segment, the spine is mechanically unstable, and on several occasions it has been observed that the forward slipping has continued several years after the injury, despite the constant use of a posterior spinal support. But the group of cases which is most important, because, although amenable to successful treatment, it is neglected, is that in which the obvious complication of paraplegia has not arisen, and yet there is an angular kyphotic deformity of greater or less degree. The malalignment of the complex system of spinal joints accounts for the complaint of "weakness of the back," early onset of fatigue after exertion, persistent local aching pain, and sharp pain referred to the chest, abdomen, or lower limbs. It also accounts for the development of osteo-arthritic changes at an unusually early age. These problems are not to be solved by attributing the symptoms to hysteria, by labelling the case "industrial back," and having recourse to county court arbitration. Nor can they be solved by operative fusion of the spine in the late stages. The solution is to treat the case from the outset as a fracture or dislocation in any other region of the body would be treated—namely, by manipulative reduction of the displacement and immobilization until the fracture is consolidated.

* Synopsis read before the annual meeting of the British Orthopaedic Association, London, November 28th, 1930.

RATIONALE OF MANIPULATIVE REDUCTION

We know that the vertebra is crushed by forcible flexion of the spine, and that the kyphotic deformity is one of acute flexion at the level of the injury. It follows that reduction can be effected only by moving the spine in the opposite direction of extension. When the normal limits of hyperextension are reached, weight is taken off the front of the vertebral bodies, the intervertebral spaces are opened anteriorly, the anterior common ligament is put on the stretch, and the tension of the ligament is such that a vertebra crushed into a wedge will be restored to its original shape.

During the last eighteen months several articles have appeared in America describing methods of reduction of compression fractures, but although the methods have been successful in the authors' hands, all of them have been based on manœuvres either too difficult or too dangerous to admit of general application. A general anaesthetic has been regarded as essential, and the operators have insisted on prolonged recumbency after reduction in a plaster bed. The most notable contribution was that of Davis of Erie (Pa.), who described the results in thirteen cases where traction and forcible hyperextension were combined by suspending the anaesthetized patient from the roof of the operating theatre by the heels, in such a way that he was lying face downwards on his upper chest, the lower half of the spine and the lower limbs being in mid-air. A plaster bed in which the patient subsequently lay was made in this position. Herzikoff described a case of reduction in which four strong men had combined to exert traction on the patient's spine. According to one method I saw practised in the United States, after suspending the deeply anaesthetized patient by the Davis method, the operator thrust with the whole of his body weight on the patient's spine "until the bones were felt to crunch."

Such a method is based on an entire misconception of the structure of the vertebral body and of the pathological anatomy of a crush fracture. The cancellous bone of the body of a vertebra is a delicate framework, which rapidly collapses as soon as the enveloping layer of compact bone is fractured. Once the compact layer is broken very little force is necessary to make the vertebra collapse, and an equally small force applied in the opposite direction will open up the cancellous tissue again. Moreover, the interlocking of the segments of a fully extended spine is so close that the trunk above and below the level of fracture provides a pair of unusually powerful levers.

We have, in fact, found in practice that if a patient with a crush fracture of the vertebra, within a few days of the injury, lies prone with hyperextended spine, supported only by his arms at the side of his head and by the front of his thighs and legs, leaving the trunk entirely unsupported, *body weight alone* is sufficient to restore the vertebra to its original shape and give perfect anatomical reduction. Completely successful results have been secured by this very simple method, even ten days after the injury, but the ideal time for reduction is the first day. The method involves no manipulation, no trauma, and no anaesthetic, so that there is no danger of increasing the shock. The shock, in fact, begins to disappear as soon as the plaster is applied, because only then is the patient free from pain, and only then can he be moved in comfort. Not until the plaster is applied is the danger of cord injury avoided, and if there is already paraplegia the only hope of recovery lies in immediate relief of pressure. Moreover, it is the recumbency of the first few days which may precipitate pulmonary congestion and pneumonia, and the sooner it is possible to change the patient's position regularly and frequently the more certainly is pulmonary complication avoided.

METHOD OF REDUCTION

Not only is a general anaesthetic quite unnecessary, but the position required can be maintained much more easily by a conscious than by an anaesthetized patient. Although complaint is made of aching and discomfort in the arms where the weight of the trunk is borne, none of the patients complained of pain in the back, so that we have not thought it necessary to adopt Böhler's suggestion of injecting novocain locally. One-quarter or one-third of a grain of morphine is given half an hour before.

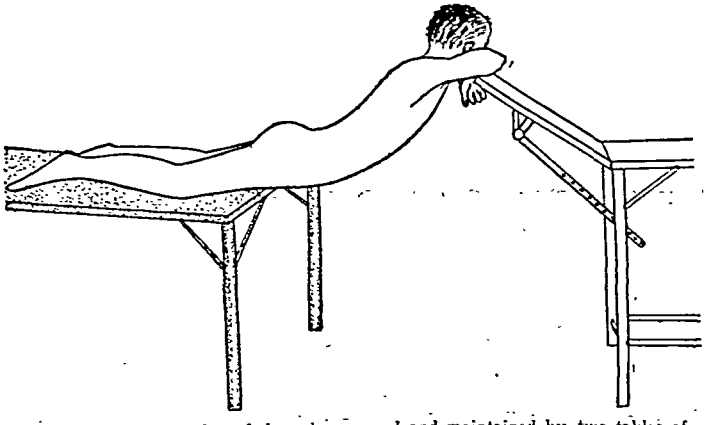


FIG. 1.—Hyperextension of the spine secured and maintained by two tables of different height.

Two tables are arranged end to end, with a space between slightly greater than the length of the patient's trunk. The front table is raised on blocks or chairs so that it is about two feet higher than the other; although not essential, it is an advantage to use an operating table of adjustable height, so that the hyperextension can be attained gradually by screwing up the table after the patient is in position. Throughout treatment, flexion of the spine must be avoided. The patient is therefore lifted *face downwards* on to the lower table, and a double layer of stockinette pulled over the trunk and stitched over the shoulders and beneath the perineum. The spinous processes and the iliac crests may be further protected by small pads of adhesive felt, but it is essential that the plaster should fit very closely; bulky padding with wool or felt is to be avoided. A closely fitting woollen bathing costume is an excellent substitute.

The patient is now assisted into such a position that he is gripping the edge of the higher table with his abducted arms, the head resting on a small pillow. The lower table supports his lower limbs as high as the upper thigh, but between the groins and the neck there is no support. In this position he is unable to prevent his spine from gently sagging into full hyperextension (Fig. 1). The plaster is applied at once, and is well moulded to the curve of the spine, the sacrum, and iliac crests. The rubbing in of layer after layer of plaster gives just sufficient pressure to ensure that the normal limit of hyperextension has been reached; beyond this no manipulation of any sort is employed. The plaster should extend up to the neck, and although it may be cut out below each axilla to allow free arm movement, none must be removed from the front of the thorax (Fig. 2). It extends well over the sacrum and down to the level of the trochanters and symphysis pubis, with a small area cut out over each groin to allow flexion of the hips. If the plaster is a good, closely fitting one it is not necessary, even in lumbar fractures, to include either hip, and we strongly deprecate the suggestion that these patients should remain recumbent in a plaster bed or frame.

AFTER-TREATMENT

As soon as the plaster is dry the patient is encouraged to move about in bed, and is turned frequently to avoid pulmonary congestion. Wasting and hypotonicity of the spinal musculature must be avoided. From the second or third day in uncomplicated cases definite exercises for the erector spinae are practised at regular intervals. The patient should lie prone and lift the head from the bed against resistance. Each lower limb should be lifted with the knee straight by hyperextending the hip. These exercises involve energetic contraction of the erector spinae, and despite the plaster jacket a patient can maintain a better muscular tone in this way than he could if any amount of massage and electrical treatment were possible.

After ten days the patient may get up and walk for increasing intervals. We regard this as a very necessary part of the treatment, not only because it still further assists in maintaining muscular tone, and establishes the free circulation which is essential for rapid union, but because it restores the patient's mentality to normal. The sooner a man is dispossessed of the notion that "his back is broken" and that he "will never walk again," the more certainly is subsequent functional disturbance avoided.

Protection of the vertebra is necessary for four months. If exercises are being constantly practised the plaster should be retained for the whole of this time. After sixteen weeks movements of the spine itself are practised, and if a normal musculature and a normal circulation have been maintained there will be no difficulty in restoring full movement. Manipulation to break down intermuscular adhesions will not, as a rule, be necessary. Within six months he should be capable of resuming his normal occupation.

FIG. 2.—Plaster jacket completed.

RESULTS OF TREATMENT

During a two-year period sixty-five cases of fracture of the vertebral bodies have been seen either privately or in hospital. Manipulative reduction was attempted in seven cases where the injury was of less than one month's duration. In one, of three and a half weeks' duration, paraplegia was present with urinary infection already well established, and the patient died of uraemia four weeks later. The other six men were seen within a few days of the injury, and in each case reduction was completely successful. Anatomical reposition of the compressed vertebra was secured (Figs. 3*a* and 3*b*, and 4*a* and 4*b*), with a normal range of movement. In two cases there was slight ossification of the anterior common ligament with the formation of a symptomless spur, but no osteo-arthritic changes have supervened.

FIRST-AID TREATMENT

All first-aid workers should be taught in the future that a patient with an injured spine must be carried face downwards. No first-aid splintage can be perfectly efficient, and if, as is customary, he is carried by the shoulders and the hips, some degree of sagging between the points of support is almost inevitable. If he is face upwards the spine is flexed, and, however momentary this may be, the deformity must be exaggerated and the risk of injury to the spinal cord greatly increased. If, on the other hand, he is carried face downwards the spine is hyperextended. Not only is no harm done, but it is more than possible that the displacement will be reduced by the time he reaches hospital.

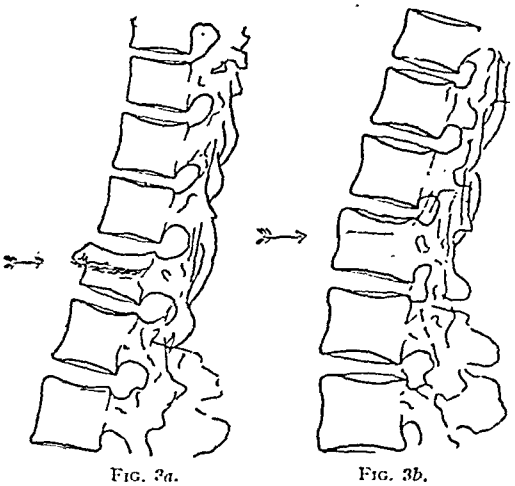


FIG. 3a. FIG. 3b.

FIG. 3a.—Lateral *x*-ray of eight-day-old crush fracture of first lumbar vertebra before reduction. (Case P.P. 1486.)
FIG. 3b.—Lateral *x*-ray of same case as Fig. 3a the day after reduction and plaster.

CONCLUSIONS

The experience of these seven cases has thrown a new light on the condition known as Kümmell's disease of the spine. It has long been recognized that the progressive absorption of the vertebral body which characterizes this disorder is due to trauma, but it has been difficult to explain why the radiogram taken within a short time of the accident has shown no injury, whereas later radiograms have shown very marked absorption. This is now explained, for we have seen that even after a very severe compression simple hyperextension will restore a vertebra so perfectly that in the post-reduction radiogram it is practically impossible to localize the injury. Figure 3b shows a radiogram taken the day after reduction. If in this case there had not been a previous *x*-ray examination, the radiologist would certainly have reported either no bone change or a very trivial injury. Yet Figure 3a, taken twenty-four hours earlier, shows very marked collapse. It is clear that the condition described by Kümmell differs in no respect from any other compression fracture of the spine, except that reduction was spontaneously effected before the first radiogram was taken. When the case with which reduction can be secured is realized, there is no difficulty in recognizing the possibility of spontaneous reduction.

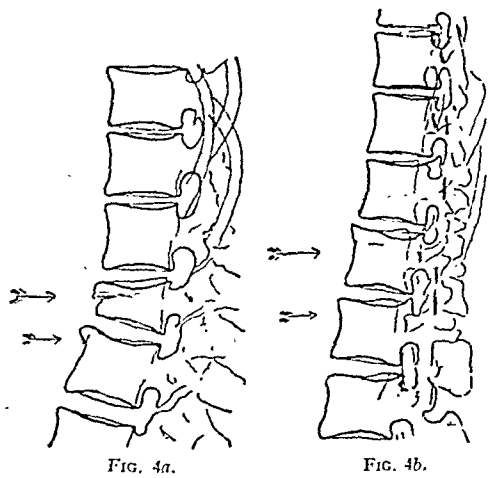


FIG. 4a. FIG. 4b.

FIG. 4a.—Lateral *x*-ray of nine-day-old crush fracture of second lumbar vertebra before reduction. (Case P.P. 1203.)
FIG. 4b.—Lateral *x*-ray of same case as Fig. 4a, showing end-result twelve months after reduction.

The reading of an *x*-ray film of the spine is therefore not to be undertaken lightly. Only the most perfect films can be relied upon, and the slightest sign of injury must be regarded with suspicion. Moreover, the surgeon himself must recognize the possibilities of serious collapse which lie behind apparently insignificant degrees of compression of a vertebra, and such "trivial" injuries must be treated with the respect they deserve.

Summary of Cases of Crush Fracture of the Spine Treated by Reduction and Plaster.

Case No.	Sex	Age	Duration	Localization	Complication	Treatment	Result
P.P. 481	M	33	1 day	12th dorsal	—	Reduction; plaster for 10 weeks	Fracture fully reduced, but some absorption occurred later owing to protection for too short a period. Slight pain. Normal occupa-
P.P. 1203	F	45	9 days	2nd lumbar	—	Reduction; plaster for 4 months	1 5 months.
P.P. 1486	F	59	8 days	1st lumbar	Fractured pelvis	Reduction; plaster	reduction. (Figs. 3a and 3b.)
B.G.H. 1718	M	33	25 days	1st lumbar	Paraplegia; urinary infection	Reduction; plaster	Died 4 weeks later from uraemia
B.G.H. 1744	M	30	5 days	12th dorsal	—	Plaster 3 months; spinal support 6 weeks	Complete recovery. Resumed heavy work in 6 months
L.R.I. 11680	M	23	9 days	1st lumbar	Fracture of tarsus, R. and L.	Plaster and spinal support 6 months	Spine fully recovered. No symptoms
L.R.I. 15146	M	51	1 day	2nd lumbar	Fracture of transverse processes L2 and L3	Plaster 3 months; support 3 months	Perfect result. Drives heavy car all day without symptoms

BIBLIOGRAPHY

Thomson, J. E. M.: A Case of Compression Fracture of the Spine treated by Traction and Forceful Hyperextension, *Journ. Bone and Joint Surg.*, 1928, x, 240.
Davis, A. G.: Fractures of the Spine (Reduction of Crush Fractures), Ibid., 1929, xi, 133.
Herzikoff, S. S.: Fracture-Dislocation of Fourth Lumbar Vertebra with Paralysis; Reduction of Case with Recovery, Ibid., 1930, xii, 156.
Rogers, W. A.: Extension Frame for Reduction of Fracture of Vertebral Body, *Surg., Gynecol. and Obstet.*, 1930, l, 101.
Dunlop, J., and Parker, C. H.: Correction of Compressed Fractures of Vertebrae, *Journ. Amer. Med. Assoc.*, 1930, xciv, 89.
Eikenbarry, C. F.: Compression Fracture of Vertebrae: Suggestions as to Treatment, Ibid., 1928, xci, 1694.
Bradfield, E. W. C.: Compression Fractures of the Spine (Treatment), *Indian Med. Gazette*, 1928, lxiii, 302.

THE CLINICAL VALUE OF A NEW REFLEX IN CHOREA*

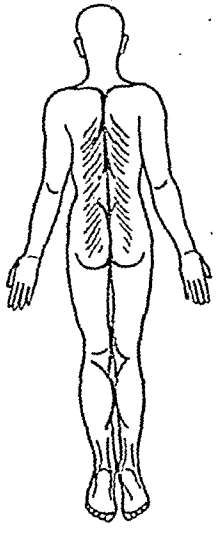
BY

G. ARBOUR STEPHENS, M.D.

CONSULTING CARDIOLOGIST, KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION; SENIOR CONSULTING PHYSICIAN, CARDIGAN AND DISTRICT MEMORIAL HOSPITAL

A boy, aged 9, was sent home from a boarding school because his behaviour was peculiar, and his teachers were unable to manage him. He was brought to me by his mother, who was more concerned about his mentality than about his general health. The school medical officer had noted that his heart was not normal, and for this reason had suggested I should be consulted.

On examination I found his mental condition sound, but sluggish. His heart beat was heaving, and the sounds were abnormal, having a relative value, as estimated by my cardioscope, of 1—¼ instead of 1—1. The boy was restless, and his pupils were widely dilated. His blood pressure by my method was 170/90, the basic pressure being very high. The urine contained no albumin. Over his back, from the third dorsal spine to the buttocks—the shaded area in the figure—there was hyperaesthesia and a marked superficial reflex.



Diagrammatic representation of the dorsal reflex.

It is of importance to note that the parents are butchers, both taking an active part in the shop, and as a consequence the child was somewhat neglected, and had got out of hand. He inherited a strong liking for meat, of which he ate large quantities; he was also fond of condiments. His mother stated that he would eat a pound of sausages at one sitting. One point was that he disliked milk, which contains a high percentage of lime.

THE DORSAL REFLEX

The presence of the dorsal reflex helped me to diagnose without any hesitation that the boy was suffering from chorea. During a recent investigation of this disease the dorsal reflex arrested my attention. The first case in which I observed it was that of a boy, aged 8, who had a red oval patch, about 6 inches long, over the hip-joint on which he had been lying. This patch was hypersensitive, but as the area of this abnormal condition extended higher up the boy's back it was obvious that the redness was due to pressure and not to a trophic lesion. On both sides of the spine hyperaesthesia was found extending as far up as the third dorsal vertebra, and down to and including the area supplied by the second sacral nerve. In addition to hypersensitiveness there was also a marked superficial reflex, the trapezius, latissimus dorsi, and glutei muscles responding readily when the overlying skin was pricked lightly with a pin. The nerve supply of this hypersensitive area is the third to the twelfth dorsal, the lumbar, and the first and second sacral nerves. This reflex can be demonstrated in nearly every child suffering from chorea; it does not seem to be dependent in any way upon heart disturbance, because (1) it occurs in chorea patients whether the heart is affected or not, and (2) it is not found in patients suffering from acute rheumatism with acute carditis.

BASIC PRESSURE AND TOXAEMIA

In the first boy referred to it will be observed especially that the basic pressure was very high. This is a consistent factor in chorea. We define the basic pressure as that pressure left acting on the blood in the brachial artery after the systolic pressure has been stopped by the inflated armlet; my method of estimating it has been previously described.[1] By my method the normal basic pressure is found to be about 50 mm. Hg, but in children suffering from chorea the basic pressure is raised to 70 mm. or upwards. A rise of this sort is due to some toxin probably introduced into the blood. This fact is proved by some experiments I made on men before and after taking glasses of whisky. Furthermore, in spelter furnace-men whose urines contain lead, I have found that the basic pressure rises in a way that seems to correspond with the amount of lead in the urine. The basic pressure can thus be raised by both organic and inorganic poisons, and it is quite justifiable to infer that in chorea this results from a toxaemia.

One effect of a poison on a living cell (such as a white blood corpuscle or an amoeba) is the modification of its surface tension. This is readily demonstrated by adding a trace of chloroform to a slide on which is a living amoeba; the latter takes up the smallest possible space by becoming spherical. When the surface tension is altered, it is found that the osmotic forces are disturbed, and that the intake and output of the corpuscles are greatly modified; in other words, the metabolic processes of the organic unit are completely altered. A particular poison in the blood affects the surface tension of the individual corpuscles, and by so doing produces a metabolic change corresponding exactly to the poison introduced—that is, the antigen is essentially specific. It is important to remember that when the basic pressure is raised, the entrance of the blood into the vasa vasorum becomes more difficult, because the added force tends to compress the mouths of the vasa vasorum, the obstruction being proportional to the increase. Consequently the muscular fibres of the arterial wall are ill-nourished and cannot contract and dilate with a normal response to stimuli. When the arterial wall is affected in this way the supply of blood to the parts or organs is unsatisfactory, functions are seriously disturbed, and, after a period of sufficiently prolonged malnutrition, arteriosclerosis sets in and the condition becomes chronic.

One important point which seems to have been overlooked is that although the basic pressure is taken over the brachial artery, it does not follow that the reading in this part is a figure representative of the basic pressure in the arteries of the lung, heart, brain, or abdominal organs; the basic pressure varies with different parts of the body, whereas the systolic pressure, being that due to the pumping pressure of the heart, must be the same for all parts. The basic pressure is lowest in the lungs and brain, and highest in the coronary vessels, because of the contraction of the powerful heart muscle. It follows, therefore, that with an increased pressure in the coronary arteries the supply of blood to the heart muscles must be unsatisfactory, with the result that the heart muscles contract irregularly and give us the signs we find in toxic conditions of the body. When the amount of blood toxin is considerable, especially in a patient in whom the normal condition of the blood is poor, a slight increase of basic blood pressure will easily bring about some malnutrition of the heart muscles.

I have often pointed out that chorea and acute rheumatism occur in the type of child whose intake of

* A paper read to the Swansea Division of the British Medical Association, December 18th, 1930.

lime-bearing food is low but whose intake of acids is high. The blood of such a child is in a very unstable condition and apt to be upset by the introduction of protein poisons conveyed by the bite of an insect. Proof of this is shown by the early rise of the basic pressure.

BASIC PRESSURE AND CHOREA

It follows from the above statements that in chorea with an increased basic pressure the supply of poor blood to the walls of the cerebral arteries must diminish the blood in the brain. As a result, the brain cells act irregularly and so set up irregular stimuli, producing a corresponding choreic effect on the muscles. This statement is especially applicable to the chorea associated with pregnancy, in which toxic conditions are known to be present in a very pronounced quantity, affecting powerfully both brain and heart.

In order to try to add to the value of the above statements I think it desirable to draw attention to some observations I have made regarding Raynaud's disease. All the cases which I have examined have a relatively high basic blood pressure. This point is important, because if the basic pressure be 50 (which is the normal figure) and if the systolic pressure be only 90 the power to force blood into the vasa vasorum is as difficult as if they were 100 and 190 respectively. My findings in connexion with the inflow of blood into the vasa vasorum and the consequent ill supply of nourishment to the arterial muscular fibres are consistent with the facts put forward by Lewis and Kerr[2] when they state that "undue cooling of the hand failed to bring on an attack" because, as they point out, "the minute vessels of the skin of these patients react, as do those of normal skin, to excessive cold by dilating." In my experience, excessive cold has been sufficiently stimulating to make even these badly nourished arterial walls respond.

The observations of Lewis and Kerr have driven them to the conclusion that there is an abnormality of the vessel wall, and also that the closure of the vessel is not reflex. They therefore confirm my conclusions and, indirectly, my work on the basic blood pressure itself.

It seems to me that one can say that chorea is a sort of Raynaud's disease or "spasm" of the brain arteries, while the cold white fingers of a man with an "alcoholic" nose which is bluish red is also a Raynaud's arterial disturbance. I differ from Lewis and Kerr when they apply the word "spasm" to the state of the vessel in Raynaud's disease, because it suggests a hypercontractability of the muscular fibres of the arterial wall. Such a hypercontractability is not to be expected in a badly nourished muscle, but rather a weakness of its tone. The difference is of great importance. As I have pointed out elsewhere,[3] "To suggest that the diseased muscular fibres of the auricle are capable of developing fresh centres of excitation seems to be contrary to the usual rule regarding dying matter, whereas, on the other hand, the diseased muscular fibres forming the thin wall of the auricle lend themselves to be thrown *passively* into a state of tremor." It is interesting to compare this observation with the action of the heart in acute carditis, in which badly nourished muscular fibres in the wall of the auricle, influenced by raised blood pressure, allow of the onset of a passively produced tremor, usually called "fibrillation."

THE "ENTITY" OF THE SYMPATHETIC SYSTEM

In chorea, the raised basic blood pressure is responsible for a disturbance of the nourishment of one or more parts of the body. A "choreic reflex" is interesting as suggestive of some interference with the blood supply to the afferent parts of the nervous system, especially in the neighbourhood of the mid-brain, and the fact that I have seen this dorsal reflex in a case of encephalitis tends to support my doctrine. The interest of the reflex lies in its extent, since this corresponds with that part of the sympathetic system below the lower cervical ganglion. Here we have, so to speak, an entity of the sympathetic system in close co-operation with the solar plexus and the hypogastric plexus. The parts or organs supplied by this "entity" are those which are so readily affected in all temporary nerve storms (for example, hysteria), when the vascular reactions of the skin of the back and abdominal wall are so very active. It seems to me that this "entity" of the sympathetic acts as a centre for controlling the balance of all the basic blood pressures in various parts of the body, a presumption that is supported by the fact that in Addison's disease, with its low basic blood pressure, the semilunar ganglia are irritated or destroyed. If this suggestion has any value in it, it helps to emphasize the great desirability of having the basic blood pressure taken in all cases, because when it is raised it is certain that the balance of basic pressures is disturbed. At present, however, most medical officers who work for insurance companies hesitate to accept any of the estimations of the basic pressure, knowing that the majority of practitioners find a great difficulty in taking it. Personally, I am convinced that the auscultatory method is fundamentally wrong, both in theory and in practice. We need an objective method which will enable all medical men to make an estimate of the basic pressure quickly, correctly, and easily, because an increase in this pressure means that the body is upset by a poison which has been introduced into or developed in it.

TREATMENT

When we consider treatment there is an additional interest added to the whole problem. We must recognize that the disorders are due to a shortage of calcium in the first instance, and must understand that *until* that shortage of calcium is reduced we cannot hope to get much success. Treatment should therefore consist in giving salts of lime in a way which allows of its ready absorption, because although the calcium may be sufficient in quantity, its form may be very unsatisfactory. Much depends upon whether the lime is merely in solution as an inorganic salt, is combined with some organic base, or is in the colloid form. My experience in a large number of cases of chorea and of acute rheumatism is that calcium lactate given with parathyroid extract tends to lower the basic blood pressure; as the latter falls, the other signs and symptoms quickly diminish. In the more chronic varieties of raised blood pressure due to internally produced toxins the response to calcium and parathyroid is often equally satisfactory.

We know the value of lime in cases of disturbed exudation, and it must surely follow that when the basic blood pressure is raised the exudative processes are seriously affected. This is the condition in many of the urticarias and similar exudative disturbances, so that by working from either end of the argument we come to the conclusion that the exhibition of lime salts with parathyroid is useful in cases of raised basic blood pressure.

Finally we must remember that there is a unity linking up all diseases or disorders of the body, or, as I prefer to express it, "disease is in all cases merely an intensification of a normal process at a point where the pressure has been increased, just as electricity is the intensification of the normal motion of electrons giving rise to a pressure which bursts all restraint."

REFERENCES

[1] Arbour Stephens: *British Medical Journal*, 1930, i, 242.
[2] Lewis and Kerr: Ibid., 1929, ii, 111; 1930, i, 82.
[3] Arbour Stephens: *Practitioner*, May, 1929.

PYURIA AND BACILLURIA IN CHILDREN

BY

J. N. CUMINGS, M.B., M.R.C.P.

(From the Children's Department, King's College Hospital)

This paper consists of two parts, both of which deal primarily with normal children, but some remarks have been added concerning abnormal cases in which the methods developed for investigating the former have been employed.

Cuthbert Dukes[1] has described a method of counting pus cells in urine by which a definite comparison can be made between specimens from several children or between consecutive specimens from one child. He also defines "pyuria," limiting the term in adults to those cases which show more than 100 pus cells per c.mm. He regards figures between 10 and 100 per c.mm. in adults as indicating "excess of leucocytes" and figures below 10 per c.mm. as being within normal limits.[2] He describes a urine as containing so many pus cells per c.mm. instead of so many cells per field of a microscope. There can be no doubt that this method, although it involves a little more trouble, is more accurate. It could be adopted especially in hospitals, and would not be very difficult to carry out in general practice. The method employed in this investigation is a slight modification of that of Cuthbert Dukes, and will first be described.

Method of Counting Pus Cells in Urine

When a fresh specimen of urine has been collected and well mixed, a drop is placed with a pipette on an ordinary counting chamber, such as is used in making a red or white blood corpuscle count. The counting of the pus cells is done as in a white blood corpuscle count, the total number being enumerated in 1/2 or 1 c.cm. In a female child with a vaginal discharge thorough washing must first be carried out around the vulva and urethral orifice with a lotion such as boric acid or normal saline, only the second portion of the specimen being retained.

Results of Investigation

A series of eighty-eight boys was examined, all of whom could be considered as normal, their ages ranging from 7 weeks to 12 years. Of these, eighty-five had no pus cells per c.mm. The other three had 2, 4, and 2 pus cells per c.mm., their ages being 8, 6, and 12 years respectively. Only 3.4 per cent. of healthy boys, therefore, had even the slightest abnormality in the nature of pus cells in their urine.

A series of eighty girls was taken, all of whom appeared to be normal, with ages ranging from 8½ months to 11 years. Of these, thirty-six had no pus cells per c.mm.—that is, 55 per cent. of the girls had a certain number of pus cells present in their urine. The highest count was obtained in a girl, aged 10 years, who had 64 per c.mm.; the next highest was 44; then followed 28, 24, and 22. There were seven between 10 and 22, twelve between 5 and 10, and twenty between 0 and 5. None of these children had any urinary symptoms or vaginal discharge, nor would any of the cases fall within Cuthbert Dukes's definition of "pyuria," but twelve would be classed among the "excess of leucocytes" group, and therefore would be presumably abnormal.

The above figures give some data on which to consider abnormal cases, such as those of children suffering from pyelitis and cystitis.

Cystitis

The details of the following three cases of cystitis show the gradual reduction in the number of pus cells in the urine. Each table indicates the method of treatment and whether the urine was clear or opalescent.

Cystitis, Female, aged 10 years

Date	No. of Cells per c.mm.	Character of Urine	Treatment Adopted
1929			
Dec. 31	3,560	Opalescent	Pot. cit., gr. 200 per diem
1930			
Jan. 1	2,776	Opalescent	
Jan. 8	918	Opalescent	
Jan. 10	18,000	Opalescent	Jan. 9th. Hexamine, gr. 20 per diem
Jan. 11	268	Very slightly opalescent	
Jan. 20	160	Not opalescent, but not quite clear	
Feb. 1	10	Clear	
March 3	2	Clear	

Cystitis, Female, aged 8 years

Date	No. of Cells per c.mm.	Character of Urine	Treatment Adopted
1930			
Jan. 21	7,000	Opalescent	Pot. cit., gr. 80 per diem
Feb. 1	700	Opalescent	Jan. 24th. Hexamine gr. 20 per diem
Feb. 5	11,920	Opalescent	Feb. 5th. Pot. cit., gr. 120 per diem
Feb. 14	28	Clear	Feb. 10th. Pot. cit., gr. 160 per diem
Feb. 17	8	Clear	

Cystitis, Female, aged 2 years

Date	No. of Cells per c.mm.	Character of Urine	Treatment Adopted
1930			
April 16	6,200	Opalescent	April 17th. Hexamine gr. 8 per diem
April 27	600	Opalescent	
May 7	62	Clear	
May 20	8	Clear	

The object in giving the above tables in full is to demonstrate the value of an accurate count, and to indicate how much easier it is to follow the progress of the case by this method.

Pyelitis

Of three patients with pyelitis, one was a male infant aged 6 months, another a boy aged 10 months; the third was a girl aged 2 years. The first two cases have been very resistant to treatment, the number of pus cells having fluctuated from 300 up to 40,000 per c.mm. in both cases, with an average figure of about 2,000. The third case is recorded in the form of a table to show the effect of treatment, which was successful, as the figures indicate.

Pyelitis, Female, aged 2 years

Date	No. of Cells per c.mm.	Character of Urine	Treatment Adopted
1930			
Feb. 17	3,240	Opalescent	Feb. 17th. Pot. cit., gr. 96 per diem
Feb. 19	4,000	Opalescent	
Feb. 22	450	Less opalescent	
Feb. 26	14	Clear	
March 9	14	Clear	
March 13	36	Clear	
March 23	0	Clear	

Pus Cell Count in Other Conditions

A few additional cases of interest will now be mentioned. The first is that of a boy, aged 15 months, who had a septic sore on his foreskin, yet the number of pus cells per c.mm. was only 4. In a girl aged 10 years, suffering from haemorrhagic nephritis, there were 24 pus cells and 300 red blood corpuscles per c.mm. A boy, aged 7 years, with acute nephritis had 10 pus cells and 84 red blood corpuscles per c.mm. Another girl, aged 9½ years, who had just had scarlet fever, was found to have 282 (and on a second occasion 290) pus cells and 16 red blood corpuscles per c.mm. The last case in this series is that of a girl, aged 10 years, who had a vaginal discharge. The urine showed 192 pus cells per c.mm. on the first examination; twelve days later there were 500, but after efficient treatment for eight days the number was only 44—too low for Cuthbert Dukes's definition of "pyuria," but within his figures for "excess of leucocytes."

Numerical Definition of "Pyuria"

The question what figure should be considered to constitute "pyuria," and what figure separates normal from abnormal, is of considerable interest. From the above observations it is suggested that in boys figures of over 10 per c.mm., and in girls over 100 per c.mm., should be regarded as abnormal and of pathological significance—that is, "pyuria." The term "excess of leucocytes" would seem to be superfluous.

Necessity for Microscopical Examination

Another point is whether urine containing the low pathological figures can be recognized with the naked eye, and at what figure definite opalescence occurs. From the above investigations it was seen that figures over 200 per c.mm. represented just opalescent urine, while below that figure the urine was clear. It is a fallacy, therefore, to say that pyuria can be recognized by naked-eye examination of the urine; it requires a microscopical examination to settle this important point.

BACILLURIA IN NORMAL CHILDREN

A series of forty normal children was taken. Two specimens of urine were collected from each child, one in the ordinary manner, the other being obtained by collecting the urine in sterile test tubes after the penis or the vulva had been cleaned with boric acid lotion followed by sterile normal saline. The latter is referred to as the "clean" specimen. Cultures were put up on agar from both specimens, and incubated for twenty-four hours. The nature of the growth, if any, was then investigated, and the results classified in three groups.

Group 1 consisted of those children whose urine was sterile both in the clean and in the ordinary specimens. There were nineteen in this section—thirteen boys and six girls.

Group 2 consisted of fifteen children—five boys and ten girls. The clean specimens were sterile, but the ordinary specimens were contaminated. No organisms, therefore, were present in the urine of the children in this group. Organisms in the ordinary specimens must have been due to external contamination.

Group 3 consisted of four girls and two baby boys. In all *B. coli* were grown from both specimens.

In 90 per cent. of the twenty boys the clean specimens were sterile; if the infants are excluded—and it is very problematic whether it is possible to exclude contamination in these—100 per cent. had no organisms in their urine. The urine was sterile in 80 per cent. of the twenty girls.

Careful study of the three groups reveals that the proportion of girls to boys in each increases from Group 1 to Group 3, and that only in six girls were the ordinary specimens not contaminated. This seems to be strong evidence that in the remaining 20 per cent. organisms were present in the clean specimens owing to some external contamination, and that it is much more difficult to obtain a clean specimen from a female child than from a male child. The fact that there were no boys (excluding infants) from Group 3 also favours this view. One may conclude that the presence of organisms in the urine of a child is abnormal, though it does not necessarily indicate a pathological lesion of the urinary tract.

SUMMARY

1. The presence of leucocytes in the urine of normal children does occur; in boys as many as 10 per c.mm. can be considered as being within normal limits; in girls as many as 100 per c.mm. (the urine having been collected without any precautions). Figures exceeding these should be regarded as having pathological significance.

2. The enumeration of pus cells by the method described above might be more widely adopted, as it forms an accurate means of following the progress of a case from day to day and of comparing one case with another.

3. Bacilluria does not occur in normal children.

My thanks are due to Professor Still for permission to publish particulars about some of these cases, and to Dr. W. P. H. Sheldon for his untiring help throughout these investigations.

REFERENCES

1 Dukes, C.: *British Medical Journal*, 1928, i, 391.
2 Idem: *Proc. Roy. Soc. Med.*, Section of Pathology, March 20th, 1928.

THERAPEUTIC EVALUATION IN THE TREATMENT OF SYPHILIS

BY

E. TYTLER BURKE, D.S.O., M.B., CH.B.

DIRECTOR OF MUNICIPAL CLINIC (V.D.), SALFORD

In estimating the amount of treatment which can be considered adequate for any case of syphilis, at least three elements must be taken into consideration: (1) the nature of the agents used; (2) the dosage given; and (3) the period over which they have been administered.

One syphilologist may find that in primary seronegative syphilis cure can only be brought about by the administration, during a period of thirty-six weeks, of 12.6 grams of an arsenobenzene compound (Ab. C.) plus that of a bismuth preparation in which the metal content amounts to 7.2 grams. Another may claim that by adopting a different principle of treatment, and by using either the same or different agents, cure can be attained in twenty-six weeks by giving 10.35 grams of Ab. C. together with a bismuth preparation in which the total quantity of the element amounts to 1.28 grams. It is not necessary to consider here which of the two methods is correct, or if one is more accurate than the other. What it is desired to point out is that the mode of assessing the amount of therapy administered is unsound, and does not present a true picture of the position.

DOSAGE

The first point to observe is that the Ab. C. dosage is expressed in terms of the actual compound itself (not of the arsenic), whereas that of the bismuth takes cognizance only of the elemental content. Now the therapeutic potency of an arsenical agent in the treatment of syphilis does not vary directly with its arsenic content. Various compounds contain various amounts of the element, from 18 to 22 per cent. or more. The pentavalent arsenicals such as stovarsol and tryparsamide are of lower therapeutic value than the trivalents, although their respective arsenic contents are 27 and 25 per cent. The dosage of Ab. C. is regulated not by the amount of arsenic present,

but by the toxicity of the compound itself, and this again is not in proportion to the quantity of element. The toxic dose of arsenic is 0.12 gram, but the amount of Ab. C. which would require to be given to get that quantity of arsenic into a patient would be more than 7 grams. Yet poisoning can take place from the administration of an amount of Ab. C. very far short of that. Neither the therapeutic potency nor the toxicity of the organic arsenical agents can be expressed in terms of the contained arsenic.

The bismuth preparations show a similar picture with respect to their bismuth contents. The percentage of elemental bismuth may vary from 4 to 60 or more. And here again animal experiment and clinical observation show that therapeutic potency does not depend upon the amount of bismuth present. A preparation with a bismuth content of 50 per cent. may be of considerably lower value as a treponemicide than one with a content of only 20 per cent. Levaditi has recently shown that bivatol, which consists of basic α-carboxethyl-β-methyl nonoate of bismuth dissolved in a fatty vehicle, is easily the most potent bismuth preparation in our armamentarium, though it contains only 4 per cent. of the element. My clinical experience fully bears this out, and shows that bivatol is practically equal in power to an arsenobenzene compound. It seems quite clear that a statement of the amount of bismuth therapy given to a patient is meaningless when expressed in terms of the metal; 5 grams of bismuth administered in one compound may not have so high a therapeutic value as half that amount when given in another combination. Therapeutic value depends upon the "usability" of the contained metal.

STANDARDIZATION

The Medical Advisory Board of the British Social Hygiene Council has urged that some action should be taken to standardize and control bismuth preparations used in the treatment of syphilis. This is necessary, but it does not seem to be yet realized that any attempt at standardization based upon the bismuth content must be futile. I suggest that the only satisfactory way in which standardization can be brought about is by taking into account the chemotherapeutic indices of the various agents. The chemotherapeutic index is expressed as the maximal tolerated dose per kilo divided by the minimal curative dose per kilo. For example, if the former is 0.120 gram and the latter 0.004 gram, the equation would read:

$$\frac{0.120}{0.004} = 30 \approx \text{chemotherapeutic index.}$$

In other words, the minimal curative dose is one-thirtieth of the maximum tolerated dose.

There exists a very clear and direct ratio between the chemotherapeutic index (C.T.I.) of an Ab. C. or a bismuth preparation and its therapeutic value. The various groups of remedial agents may be arranged roughly according to their C.T.I.'s in the following descending order:

Agent	C.T.I.	Efficiency Scale	Therapeutic Value in Units
Ab. C. (Stabilarsan, N.A.B.)	15	100	1
Bivatol	12	75	0.75
Bismuth metal suspension	8	50	0.5
Tryparsamide, etc.	5	31	0.31
Mercury	1	6	0.06

The place of the agent upon the efficiency scale is proportional to the C.T.I., and so likewise is its therapeutic value. Ab. C. being the most potent, its therapeutic value (T.V.) is taken as unity. The others are expressed as decimal parts of it.

Now in the therapy of syphilis regard must be had not only to the amount of drug given, but also to the time within which a certain dosage is administered. There is a *two-dimensional* "*time-quantity*" *factor*, which is of essential importance. It is best, in my view, to look upon the time element as consisting of one week. In that seven-day period one records that a certain number, or fractional parts, of therapeutic units (*T.U.'s*) have been given. It has to be assumed that whatever the amount administered it has been the optimum amount for that seven-day period. Thus if 0.45 gram of stabilarsan is given in one week a dose of 1 T.U. is recorded. Although 0.6 gram may be given the next week, that is also reckoned as 1 T.U. Similarly, in a child or delicate person, 0.15 gram is also 1 T.U. In the Salford Municipal Clinic the agents used are stabilarsan, bivatol, and tryparsamide or stovarsol. As will be seen from the above table, however much or little of stabilarsan, bivatol, or stovarsol is given during a period of seven days, it is reckoned as 1, 0.75, or 0.31 therapeutic unit respectively. The Salford routine course of treatment for a case of sero-negative primary syphilis is, according to the general method of reckoning, stated as follows:

Stabilarsan once weekly for 6 weeks (total 3.45 grams).
Bivatol twice weekly for 4 weeks (total Bi 0.64 gram).
Stabilarsan once weekly for 6 weeks (total 3.45 grams).
Bivatol twice weekly for 4 weeks (total Bi 0.64 gram).
Stabilarsan once weekly for 6 weeks (total 3.45 grams).
Giving a total of 10.35 grams of stabilarsan and 1.28 grams of bismuth metal in 26 weeks.

The above, of course, conveys no idea whatever of the real therapeutic picture, because there is no relationship or comparability between grams of Ab. C. and grams of metallic bismuth so far as curative value is concerned. If, however, we state the treatment in terms of therapeutic units calculated as indicated above, we do get a useful comparison, thus:

Stabilarsan once weekly for 6 weeks (total 6 therapeutic units).
Bivatol twice weekly for 4 weeks (total 3 therapeutic units).
Stabilarsan once weekly for 6 weeks (total 6 therapeutic units).
Bivatol twice weekly for 4 weeks (total 3 therapeutic units).
Stabilarsan once weekly for 6 weeks (total 6 therapeutic units).
Giving a total of 24 therapeutic units (stabilarsan 18, bivatol 6) in 26 weeks.

The number of therapeutic units given in a series of injections is the product of the number of weeks and the unit therapeutic value of the drug in question; thus, a four-week bivatol series is calculated as $4 \times 0.75 = 3$ T.U.

The Salford experience, then, is that the minimum amount of treatment necessary to secure a satisfactory percentage of cures in sero-negative primary syphilis is 24 therapeutic units given in twenty-six weeks.

APPLICATION TO OTHER COURSES

This system of evaluation may be applied to other courses of treatment. In several other treatment centres the minimum prescription for a sero-negative primary case is 12.6 grams of Ab. C. with 7.2 grams of bismuth metal in thirty-six weeks. The Ab. C. is given in two series of ten injections at weekly intervals, with a rest period between series. In this way 20 therapeutic units of Ab. C. are injected. Supposing that a bismuth metal suspension is used, the C.T.I. will be in the region of 8. This preparation would be allotted, therefore, the value of 50 on the efficiency scale, which means a therapeutic value of 0.5 T.U. Nine injections of this bismuth agent are given at weekly intervals concurrently with the Ab. C.—that is, eighteen weeks in

all of bismuth therapy. The total number of therapeutic units of bismuth given will then equal 18 × 0.5—that is, 9 T.U. In this case we have the experience that a total of 29 T.U. must be given to obtain a satisfactory percentage of cures. On account of concurrent administration it is necessary to interrupt the treatment by rest intervals, so that thirty-six weeks are occupied in completing treatment, as against twenty-six at Salford.

The net therapeutic efficiency (N.T.E.) of treatment must take into account the time occupied in attaining cure, and this may be expressed by the equation:

$$\text{N.T.E.} = \frac{\text{Total therapeutic units} \times 100}{\text{Weeks occupied by treatment}}$$

Therefore

$$\text{Salford N.T.E.} = \frac{24 \times 100}{26} = 92$$

Whereas

$$\text{the other N.T.E.} = \frac{29 \times 100}{36} = 81$$

According to this scheme of reckoning there would appear to be a balance of 11 points of net therapeutic efficiency in favour of the Salford method, or, in other words, a saving of time of ten weeks, and of an appreciable quantity of remedial agent (5 T.U.).

It is not, however, my purpose here to open a controversy as to alternating *versus* concurrent treatment. I wish merely to suggest that a standardization of therapeutic values be made along the lines I have indicated; this might well be adopted by the Ministry of Health. Upon some standard animal experimentally infected, it is necessary to work out the chemotherapeutic indices of the various chemical agents. From these one could, in a way which is at present impossible, compare the relative values of different modes of treatment and go far towards settling the vexed question of what constitutes adequacy. Not until some such standardization is adopted will it be possible to check the tremendous amount of inefficient therapy that is now being prescribed in all good faith. I submit the foregoing suggestions as a "preliminary note" in the hope that they may stimulate someone with more competence and greater leisure than I have, to explore the paths indicated. I have here only attempted to enunciate general principles; the various details—mathematical, biochemical, and so on—can only be elucidated and proved by experiment.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

FRACTURED NECK OF THE FEMUR TREATED BY INJECTION OF BLOOD

In an article on union and non-union of fractures[1] Blundell Bankart described a case of typical intracapsular fracture of the neck of the femur successfully treated by injection of blood into the site of the fracture, combined with reduction by skeletal traction. The object of the present note is to place on record another such case treated in the same way with a similar successful result.

A man, aged 34, fell from his bicycle in December, 1929, and was unable to use his left leg. After admission and *x*-ray examination elsewhere he was transferred to the Hospital of St. John and St. Elizabeth with all the signs of an intracapsular fracture of the neck of the left femur. There was considerable external rotation, but little shortening. Twenty-four hours after the accident blood was withdrawn from the median basilic vein and 10 c.cm. injected into the left hip-joint. The limb was then abducted and slung in a Hodgen splint, and an extension of 15 lb. applied to the femur by means of ice-tong callipers inserted under local anaesthesia. Subsequent *x*-ray examination showed a good position, and this extension was maintained for three weeks, when strapping extension of 8½ lb. was substituted. During the whole time the knee was kept movable by means of a knee flexion piece, and massage was given to the hip. A further radiogram six weeks after reduction showed a little new bone formation; all extension was then removed, and massage given to the whole leg for a further fortnight, during which time the patient was fitted with a walking calliper splint. After discharge he was able to return to his work at a lathe wearing the splint; it was finally omitted three months later, when a radiogram showed bony union in good position. All movements at the hip-joint were full and painless; flexion at the knee was possible to more than a right angle, and has increased since the calliper was left off.

[1] Bankart, A. S. B.: *British Medical Journal*, 1930, i, 8.

Commentary

Even in young people these fractures show a tendency to non-union, and by ordinary methods of treatment must be immobilized for a long period. In this case there was both *x*-ray and clinical evidence of union after six weeks.

It is important that the blood should be injected into the joint itself; the average capacity of the adult hip-joint as estimated from a number of cases injected post mortem is 14 c.cm. When the point of the injecting needle is in the right place there is considerable resistance to the injection; in the case described by Bankart I was able to feel the fractured surface.

With a suitably adjusted extension and counterpoise of the leg the patient can remain sitting up in bed throughout the treatment.

The addition of a knee flexion piece from the outset is of considerable help in preventing stiffness of the knee later on.

E. W. RICHES, *M.C.*, M.S., F.R.C.S.
Assistant Surgeon to the Middlesex Hospital and to the Hospital of St. John and St. Elizabeth.

HODGKIN'S DISEASE WITH UNUSUAL ONSET

The following case appears worthy of mention on account of the rather unusual first symptom and of the rapid termination.

T. W. R., aged 47, a well-nourished and previously quite healthy man, noticed in February, 1930, that he was becoming hoarse. As the huskiness did not yield to simple remedies he had several carious teeth extracted. This procedure was followed by some slight enlargement of the glands in the neck. In June he was admitted to the Derby City Hospital as the hoarseness still persisted and the glands in the neck were increasing in size.

On examination, he was well developed and well nourished, but was rather anaemic in appearance. On both sides of the neck were present moderately large masses of discrete glands which had the general characteristics of lymphadenoma. His one complaint was that of hoarseness. Laryngeal examination revealed a nodule situated on the left cord and some general oedematous thickening of both cords, which were movable. No other glands were palpable apart from those in the neck, nor could the spleen be palpated. The Wassermann reaction was negative, and the blood picture showed a secondary anaemia with no marked increase in eosinophils.

A gland was removed from the neck under local anaesthesia, and the pathological report stated: "The gland is destroyed by a cellular tissue with relatively little stroma and large areas of necrosis. The appearances are suggestive of acute Hodgkin's disease." A screen examination of the chest showed a mass irregular in shape in the mediastinum. Some fourteen days after admission discrete glands appeared in both axillae. The glands rapidly increased in size, and ultimately caused extreme oedema of both arms. The patient's condition rapidly grew worse, and he died after just over one month in hospital and barely six months from the appearance of the first symptom. Whilst in hospital, the patient had a temperature of the Pel-Ebstein type.

At the necropsy masses of discrete glands were found on both sides of the neck and in both axillae, but none were present in the groins. A mass of glands of moderate size was situated in the mediastinum and there was some terminal broncho-pneumonia. No enlarged glands were found in the abdominal cavity, and apart from the larynx all the other organs were moderately healthy in appearance. Upon opening the larynx a nodule about the size of a small bean was seen to be present on the left cord, and the surface of the nodule was ulcerated. The pathological report on the cords stated: "The deeper tissues are infiltrated by what appears to be lymphadenoma, and over this ulceration has occurred."

In this case it seems reasonable to assume that the hoarseness was due in the first place to the lymphadenomatous infiltration of the cords in spite of any effect which may have been produced by the pressure of glands. If so, it is rather unusual that this should have been the first symptom complained of, and that it was present before any enlarged glands were noticed by him.

I am indebted to Professor Haswell Wilson for the pathological reports.

R. G. COOKE, M.D.,
Medical Superintendent,
City Hospital, Derby.

FISHBONES IN THE APPENDIX

The following case may be of interest in view of the ever-varying symptoms in connexion with disease of the appendix.

A labourer, aged 40, was admitted to hospital complaining of acute pain on micturition, with vague abdominal pain. He gave a history of having had severe pain on micturition for about two years, also of vague abdominal pains which came on at indefinite intervals of from six weeks to three months and lasted from one to three days; this condition had persisted two years, and the history was confirmed by the district medical officer.

The patient was a well-nourished man, and did not look ill. There was nothing abnormal in the appearance of the abdomen, and palpation revealed no trace of rigidity or tenderness, with the exception of a small area one inch square immediately above the symphysis pubis; this was not constant from day to day. There were no areas of hyperaesthesia to pin-stroke, and both the obturator test and rectal examination proved negative. The patient gave a history of constipation. Examination of the urethra with bougies and the urethroscope showed nothing abnormal; the bladder, urine, and faeces appeared normal, and there was no leucocytosis.

After five days in hospital a severe attack of abdominal pain developed, and the patient lay on his right side with both knees drawn up; he had no temperature, but the pulse had slightly increased. There was no nausea or vomiting then or at any other time, his only complaint being epigastric pain. The usual mild treatment was given for colic, and the attack passed off in about two hours. It was followed, however, one hour and a half later, by a similar attack, which lasted three-quarters of an hour, and again by a third attack two hours later, which persisted for one and a half hours. During each attack there was no rigidity of the abdominal wall, and no tenderness could be elicited anywhere. There was frequent desire to micturate; the bladder emptied each time to the extent of one to three ounces, severe pain being caused thereby.

In spite of the absence of *x*-ray and cystoscopic examinations, I decided to open the abdomen. Through a lower midline incision I examined the abdominal contents, but could detect nothing abnormal. The appendix was then exposed and found to be about 5 inches long; it was slightly thickened at the distal end, and was dilated in three places by concretions. Definite signs of a foreign body were also obtained, and on cutting the appendix open I found eight fishbones, which ranged in length from 0.3 to 2.3 cm. The patient made an uneventful recovery, and there was no return of the colic. The pain on micturition slowly decreased, disappearing finally about the sixth day after operation. He left the hospital on the fourteenth day and has had no further attacks during the two months which have since elapsed.

Permission to report this case has been kindly given by Major Sutherland Richards, *M.C.*, M.D., chief medical and health officer.

MATTHEW CLAYTON-MITCHELL,
Resident Surgeon, Colony Hospital, Grenada,
British West Indies.

Reports of Societies

HIGH CARBOHYDRATE DIET IN DIABETES

At a meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine on February 10th, with Dr. PHILIP HAMILL in the chair, the discussion was devoted to the use of high carbohydrate diet in the treatment of diabetes.

Dr. E. P. POULTON said that the dieting of diabetics had been influenced by three considerations: the scarcity of insulin, the extreme value of fasting, and the belief that it was easier to get a correct balance between insulin and carbohydrate so as to maintain a low blood sugar. Although patients had done well in general under this treatment, it could not be said that there had been any striking amelioration of the disease in many cases, and in children it had, in his experience, been disappointing. In the autumn of 1928 he decided to try a higher carbohydrate diet, and although the attempts were tentatively made at first, there had since been a landslide away from the older strict dieting in favour of a more liberal carbohydrate allowance. Dr. Poulton brought forward twenty-seven cases showing that with this increase the insulin requirement remained very constant. He took the view that those persons who were on insulin could be given higher carbohydrate diets with advantage. Patients felt very much better with them, and some of them had conditions, such as phthisis, in which large amounts of carbohydrate were required. He also showed some modified diet tables which he had worked out.

Dr. R. D. LAWRENCE said that he had used high carbohydrate diets experimentally in certain cases in 1926 and 1927, but he then found extreme difficulty in preventing hypoglycaemia. In these cases about 70 units of insulin and 200 grams of carbohydrate were taken per day. He had now joined everybody else in giving higher carbohydrate diets than formerly, but the allowance he gave was from 70 to 120 grams, and with such a diet most of the patients got all the toast, bread, and fresh fruit they wanted; it was not a normal diet, but it satisfied them, and had no disadvantages.

Dr. T. C. HUNT said that during the time he was working in Vienna he found 165 grams of carbohydrate being given in Professor Falta's clinic, with approximately 100 grams of protein, and was impressed by the results. The object of restricted carbohydrate diet must be to assist pancreatic regeneration. The evidence that high blood sugars actually caused further degeneration of the pancreatic tissues, or that very low blood sugars caused regeneration, was somewhat indefinite. The differences between the results with a very restricted carbohydrate intake and a fairly free one were not so great as might be expected. The higher carbohydrate diet certainly made easier the choice of foods.

Professor J. A. NIXON said that he had been using a higher carbohydrate value in diet since 1922, when he was first able to obtain insulin. From the outset he took the line that the purpose of insulin was to enable patients to use carbohydrate if possible in normal quantities. He had never gone so high as some American observers, but

he had fairly consistently allowed 100 to 150 grams of carbohydrate per day, and, of course, in order to do that it was necessary to give large doses of insulin. His experience, he thought, did not differ greatly from that of other workers. He could not claim that more patients had been able to do without insulin. Every now and then he came across a patient in whom there was some regeneration of the power of using up carbohydrate, but he could not claim any more than just the average improvement. The number of patients who had been able to do without insulin was relatively small. But the thing that did impress him was that the patients stuck to their rules very much better, and had their diet as prescribed. The majority of people in this country were not very big meat-eaters, and they did not want to be "pushed up" in the matter of proteins. With the more adequate amounts of carbohydrate the principal gain was the patient's added contentment. He could not say yet whether these adequate carbohydrate diets were having any marked influence on the condition of the arteries.

Dr. A. P. THOMSON said that anyone who had control of a large out-patient clinic for diabetes must have had certain facts brought to his attention. During the first two years of insulin treatment in his out-patient department he was in the habit of assembling those patients who had obviously broken their dietary rules, and prophesying evil to them. At the end of two years he reviewed the whole of his cases, and in honesty he had to confess that the patients who had disobeyed him had done rather better than those who had obeyed him, and certainly they were a healthier and more cheerful crowd. That was purely a clinical observation; it was not supported by the laboratory findings. He came to the conclusion that it would be wise to try a mass experiment. He reviewed 400 cases of which there were fairly good records for five years, and whose diet had been round about 100 grams of carbohydrates. If the patient was taking roughly that amount, the amount of protein and fat he took had far better be determined by his own appetite. He was convinced that it was now a practical thing to say to the patients that they might take 100 or 120 grams of carbohydrate a day, balance them on insulin, and tell them to determine their own protein and fat. The extraordinary thing was that the blood sugar remained fairly constant. He deprecated too much reliance on laboratory figures; the question was a clinical one. The diabetic was human, and his diet varied according to energy requirements and the kind of life he lived. The extraordinary vicissitudes in the home life of out-patients made a rigid dietary out of the question. Dr. Thomson added that in a straightforward case he had never seen any improvement in tolerance after six months from the onset of the condition. A system of dealing with these patients had been formed which amounted to this, that in an acute patient treated shortly after the onset of the disease a strict regime was enforced; at the end of six months the patient was again assessed, and then placed on an unrestricted diet with adequate carbohydrates. On the adequate carbohydrate diet the physical development of children was very much improved; on the restricted diet they tended to have a bad figure.

Dr. O. LEYTON thought that any standard diet was a medical impertinence. In his diet book the average had been 120 grams of carbohydrate, and he thought the average man was satisfied with that. In the hospital it was only exceptionally possible to arrange matters so that a patient could keep a blood sugar below 1.5 per cent., and among his own hospital patients it was very rare for one to be able to stop taking insulin. He added that in some cases alcohol seemed to act as a deterrent to the regeneration of the pancreas.

Dr. GEORGE GRAHAM said that during the last year he had been increasing the figure for carbohydrate from 50 grams, at which he used to work, to about 100 grams, and he found that these patients were improved. With regard to fat in the diet, he had not worked lower than 100 grams of fat, and it was an open question as to what was the right amount. It was necessary to aim at a balance between the amount of fat and carbohydrate in the diet, and this was going to be difficult, because it would take a long time to discover whether they were doing better on a diet or not. One point was that some of the patients were extraordinarily difficult to keep free from acetone bodies, and this raised the question whether those who had a diet of high carbohydrate value were in greater danger of coma than those on a restricted carbohydrate diet.

Dr. P. J. CAMMIDGE said that insulin might be regarded from two points of view: as a curative agent, or as substitution therapy. For his own part he never expected that insulin was going to cure diabetes. It should be used simply as a means of obtaining as far as possible a normal diet, and the so-called "high" carbohydrate diets were an attempt to get back to the ordinary average condition. The average person's diet consisted of 100 grams of protein, 80 to 100 grams of fat, and 300 to 500 grams of carbohydrate. His personal experience was that a good deal depended upon the ratio between carbohydrate and fat, not only when using insulin, but also in cases where the use of insulin was not necessary. These higher carbohydrate diets were very useful in children, who did well, except in a few cases which had in addition pituitary disturbances, in which event carbohydrate did not act as it did in other children. The nearer the diet of the diabetic could approach to the ordinary average diet, the more satisfactory it was to the patient.

Dr. PAUL WEISS (Bad Homburg) gave some account of Continental work, and distinguished between different sources of carbohydrate, expressing an opinion in favour of additional vegetable and fruit diet, and less bread. The calcium in the vegetable diet was specially valuable for children, though calcium was needed by all diabetics. He added that insulin injections, especially with high carbohydrate diets, should be given strictly to time, preferably every eight hours.

Dr. POULTON, in a brief reply, commented on the unanimity of the opinion that carbohydrate diet should be raised, though there was not the same unanimity as to the extent of the increase.

MENTAL SYMPTOMS ASSOCIATED WITH BRAIN TUMOURS

At a joint meeting of the Sections of Neurology and Psychiatry of the Royal Society of Medicine, on February 12th, with Dr. KINNIER WILSON in the chair, a discussion on mental symptoms associated with brain tumours was opened by Dr. GORDON HOLMES.

It was rare, Dr. Holmes said, for the psychiatrist to find intracranial tumours in patients in mental hospitals, but the neurologist was aware that mental symptoms—frequently transient, sometimes severe—were associated with increased intracranial pressure. Schuster had recorded that among 528 cases of intracranial tumour 323, or 55 per cent., had shown mental changes. The cause of these was uncertain; some observers thought they were due to a diffuse inflammatory reaction in the meninges, but such a reaction was not constantly found, and when present was usually mild. Others believed the mental symptoms depended on cerebral intoxication due to degeneration of the tumour, but the evidence was not sufficient to support this view except in the case of infundibular ("stalk") tumours, which might give rise

to pyrexia and urticaria, or in the case of hydatid cysts. Oedema round the tumour was a common cause of mental disturbance; that apathy and drowsiness might result from impeded drainage of the cerebro-spinal fluid was shown by the relief of these symptoms by decompression or the intravenous injection of hypotonic solutions in certain cases. A few mental symptoms could be referred to given regions of the brain; drowsiness, for example, was associated with lesions of the tubero-infundibular region, certain character changes with the pituitary, and speech disturbances with lesions of the left hemisphere in right-handed persons. Injury to the motor centres giving rise to headache, vomiting, and epileptiform attacks, usually engendered a not unnatural depression in the patient which could hardly be classed as a mental change. Frontal tumours gave rise to mental changes more constantly than tumours in any other site, except the corpus callosum. The frontal lobes were not the seat of the intellect, but their function, as determined by extirpation experiments in animals, was probably the elaboration of mental data. Certain groups of mental symptoms could be distinguished in cases of cerebral tumour. In the first group were found apathy, indifference, passivity, delayed reactions, wandering attention, and amnesia. In the second group the patients showed depression and stupor; they were often incontinent, but were emotionally undisturbed by their condition; they tended to be confused, especially on waking; memory was unreliable. The third group occurred in patients who were restless, showing an irresponsible childishness, a lack of reserve, and a tendency to facetiousness alternating with depression. The fourth group of symptoms resembled those of general paralysis of the insane; the patient evinced a lack of higher control, failing memory, confusion, and paucity of expression. Dr. Holmes quoted case-histories illustrating the mental symptom-complexes which he had described. Although it was not yet possible with accuracy to localize a tumour by means of the mental symptoms he believed that a more intensive study would throw light on the action of the brain as the organ of the mind.

Dr. F. GOLLA said that the evidence in support of a neurological basis for the psychoses was discouraging. In his experience of psychotic patients, cerebral tumour, occurring as a terminal condition—too late to be regarded as a cause of the insanity—was found in 0.23 per cent. of cases; the incidence of cerebral tumour was the same in the sane population. In cases observed at Claybury, the Maudsley, and certain allied hospitals, where cerebral tumour was causally connected with insanity, there was an overwhelming predominance of temporal tumours, nineteen having occurred in this site out of a total of fifty-five. Six were on the left side and associated with aphasia; the remaining patients with temporal tumours were dull, confused, and amnesic. Facetiousness was a symptom in one patient with a parietal tumour, and in another with a frontal tumour; he believed this symptom to be a defensive reaction on the part of a patient who realized he was abnormal. He considered that it was difficult to explain mental symptoms on the ground of increased pressure alone; in his opinion the response of the enfeebled brain was determined by the previous trend of the mind and not by the anatomical site of the lesion.

Dr. RUSSELL BRAIN thought that it was difficult to separate local symptoms from the symptoms of increased intracranial pressure. He quoted several cases, in the first of which the mental changes had been due to hydrocephalus following occlusion by the tumour of the aqueduct of Sylvius, and in which there had been vertigo, diplopia, and stammering. In another patient, a woman with cerebellar tumour, there was a progressive neglect of cleanliness, a tendency to weep, irritability, and visual hallucinations. A third case underwent operation for angioma of the cerebellum, a local anaesthetic being used. As soon as the dura was opened a dramatic change came over the patient, who had previously been completely disorientated; he realized at once that he was in hospital and asked how the operation was progressing, showing that in this case the symptoms subsided with the reduction of intracranial pressure. Dr. Brain considered that mental disturbances were more apt to occur in the middle-aged than in the young, and that they might be associated with vascular changes. The same parts of the brain appeared to be disordered whether the pressure was immediate or remote.

Dr. J. BRANDER had found intracranial tumours to occur in less than 1/2 per cent. of total admissions in a mental hospital. Out of forty-four cases associated with mental symptoms twenty-eight had occurred in men; in cases of long-standing psychosis the development of tumour did not affect the mental state. Where a tumour was responsible for mental symptoms it might often be said that it had only rendered manifest a latent morbid tendency. He quoted several case-histories, in one of which the development of a tumour had precipitated the appearance of Korsakoff's syndrome, and two others in which fugue-like states had arisen, although the tumours were multiple secondary deposits in one case and a single frontal growth in the other. Five cases with naevoid tumours had shown epileptiform attacks, which had been diagnosed as idiopathic. In short, he believed that every variety of mental disturbance might be found, regardless of the site of the tumour.

Dr. N. G. HARRIS mentioned five cases of cerebral tumour found in 365 autopsies which he had performed since June, 1923. Contrary to the finding of Dr. Brander, four of these had occurred in women and only one in a man.

Dr. E. MAPOTHER was sceptical of the localizing value of any mental symptoms in cases of cerebral tumour; he thought there was more likely to be an accentuation of the normal temperament in the majority of patients. Dr. C. P. SYMONDS said he found it more and more difficult to determine any group of symptoms having a localizing value. He thought mental symptoms depended more on the amount of white matter destroyed than on the site. Dr. WORSTER-DROUGHT also doubted whether the tumour had much to do with the type of mental disturbance to which it gave rise. Much depended on the emotional make-up of the patient. Dr. I. FROST said he had been investigating the haemoglobin content of the blood in epileptics and had found a daily fluctuation which could not be explained on the grounds of anaemia. Was it possible, he asked, that naevi such as those described by Dr. Brander might act as reservoirs for the blood in those epileptic patients in which they were present?

The CHAIRMAN said that all neurologists appeared to agree that the localizing value of mental symptoms in cerebral tumour was relatively *nil*. In his opinion the importance lay, not in the position of the tumour, at one end of the brain or the other, but in the degree to which association between the two hemispheres was affected. It should be asked whether the tumour was related either to the corpus callosum or to the inferior longitudinal fasciculus, the two large association systems of the brain. Temporal tumours tended to involve the inferior longitudinal fasciculus, and frontal tumours the corpus callosum. Few patients with cerebral tumours ended their days in asylums, because the tumour was seldom large enough to give rise to a sufficient degree of mental disturbance.

INJECTION TREATMENT OF VARICOSE VEINS

In opening a discussion in the Aberdeen Medico-Chirurgical Society, on February 5th, on the causes of failure in the injection treatment of varicose veins, Mr. G. H. COLT began by briefly reviewing the history of the subject subsequent to Briquet's thesis of 1824; Brodie's description of Trendelenburg's sign over fifty years before it was given a name was mentioned, and the present tendency to confuse the issues by speaking of a negative Trendelenburg when a different and positive phenomenon was meant was deprecated. The introduction and growth of the injection treatment was briefly referred to, and the difficulty was mentioned of finding pathologically similar veins so that the various solutions and methods could be compared. Mere size, or varied degrees of tortuosity or rapid blood stream or intense superior abdominal reflux were all instanced as being unconnected with failure. Kosinski's painstaking anatomical work and Warwick's injection experiments on the cadaver were described and illustrated by the epidiascope. The radiological demonstration of varicosis was considered briefly and illustrated. The commonly accepted causes of varicosity were shown to be probably the chief factors making for recurrence, and if longer intervals (a month or more) were allowed to elapse between area flooding by the controlled method and the patient kept under observation for a year with very occasional further injections if necessary, recurrence, as such, appeared to be very rare. In the first series of 154 cases, of 137 limbs examined one year after cessation of treatment, further varicosity had appeared in 11, and these had been predicted in every case but six, where the skin was oedematous. The second series of limbs was very similar. A total of 1,674 injections had been carefully noted for 629 limbs (2.6 per limb), but until a satisfactory method of classification was universally used it would be impossible to compare results. Three cases in which the results were untoward were fully described. In one (not in either series) a pulmonary embolus had ended life thirty hours after abdominal section and seventeen days after the last injection. It was noteworthy that the patient had just recovered from influenza. In the second a right-sided hemiplegia had occurred in a healthy subject four days after the second injection, and good recovery had taken place. In the third, retrobulbar neuritis began a week after the last injection, and had given rise to a permanent slight dimness of vision in the affected eye. Apart from local necrosis, now becoming rare, the last two complications were the only ones in the total of 383 patients (629 limbs) treated.

At a meeting of the Osler Club on February 13th, Dr. A. P. CAWADIAS gave an address in memory of Dr. J. B. Hurry, entitled "The dynamic and the modern procedure of diagnosis." He said that the basis of the modern dynamic conception of disease was the integration of the human body by the psycho-neuro-endocrinic system. It was through this system that man adapted himself to his environment. Health was the product of perfect adaptation; disease or functional dissociation was the product of imperfect adaptation. Every diseased individual represented a chain of morbid events, with the following four links: external etiological factors, constitutional factors, psycho-neuro-endocrinic syndromes, and organ syndromes. The neo-Hippocratic diagnosis of the person determined the four links of the chain, and viewed the individual as a whole striving towards cure. Sir WILLIAM COLLINS proposed, and Mr. WARREN DAWSON seconded, a vote of thanks to the lecturer. Dr. Hurry's writings were on view, and the visitors included Dr. Hurry's son and daughter, Sir Humphry Rolleston, and Mr. Hastings Gilford.

Reviews

VITAMIN D

The chapter headings of *Ultraviolet Light and Vitamin D in Nutrition*,[1] by KATHARINE BLUNT and RUTH COWAN, promise a great deal; no less, in fact, than that every subject coming legitimately within the scope of this general title will receive attention. This promise is amply fulfilled. Beginning with a discussion of the experimental and statistical evidence for the view that growth may be controlled by biochemical methods, the authors review in succession, and with due regard to historical perspective, the facts and hypotheses relating to the dietary control of bone and tooth development, the antirachitic power of light, the interrelation of vitamin D and light, the physical and biochemical properties of the relevant parts of the spectrum, the metabolism of calcium and phosphorus in the body, the distribution of vitamin D, the activation of foods and ergosterol, the problem of the vitamin D requirements of adults, especially of women during pregnancy and lactation, and the prophylaxis and treatment of rickets. To try to cover so great a variety of topics in a work of little over two hundred pages may seem to be a rash undertaking; but so skilfully have the authors marshalled their facts that their presentation of the subject, terse though it may be, at no point fails to be adequate. The exhaustive references to the literature, a list of which appears at the end of each chapter, would alone serve to make this book invaluable to all workers on the problems with which it is concerned.

It is probable that in planning their work the authors had in mind the needs of the general physician and the dentist rather than of the biochemist actually engaged in investigating the relation of ultra-violet light and vitamin D to nutrition. But so enormous in sheer bulk has become the literature on this subject that even the specialist, who cannot but grudge the time he must spend in searching through innumerable periodicals and transactions of learned societies on the chance of finding a new fact, will be grateful for the authors' faithful and up-to-date summary of all that is valuable in this literature. They help him not only by their clear statements of established facts, but by their suggestive remarks on problems still to be investigated.

The work is well illustrated and sufficiently furnished with graphs and tables. It deserves a very good reception from the medical profession.

SURGICAL APPLIED ANATOMY

Handbooks on surgical applied anatomy have their uses and are appreciated by students, and the *Stepping Stones to Surgery*[2] of Mr. L. BATHE RAWLING will no doubt be much worn by the footsteps of students in time to come. "Holden's Landmarks" was a well-known and much-valued guide to past generations of students and practitioners. With his previous work, *Landmarks and Surface Markings of the Human Body*, Mr. Rawling has carried on the traditions of Holden in the same medical school. He tells us in his preface that this book, based upon lectures delivered at St. Bartholomew's Hospital on clinical applied anatomy, is intended to bridge the gap between anatomy and surgery. It does not profess to

[1] *Ultraviolet Light and Vitamin D in Nutrition*. By Katharine Blunt and Ruth Cowan. The University of Chicago Home Economics Series. Chicago, Illinois: University of Chicago Press; London: Cambridge University Press. 1930. (Pp. xiii + 229; 39 figures. 11s. 6d net.)

[2] *Stepping Stones to Surgery*. By L. Bathe Rawling, M.B., B.Ch., F.R.C.S. London: H. K. Lewis and Co., Ltd. 1930. (Pp. xvi + 228; 97 figures. 12s. 6d. net.)

include all the regions and parts of the human body, but the author hopes to extend its scope in later editions. Stepping stones to surgery must include a good deal of physiology as well as anatomy if they are to be really useful. Accordingly we find a number of physiological considerations discussed here, and we could wish that in his otherwise excellent disquisitions on joints Mr. Rawling had laid more stress on the importance of the muscles in producing and maintaining the stability of various joints, notably of the knee, beyond the statement, that "it derives its strength from the muscles and tendons related to it."

The plan of this book is essentially clinical, an individual case being taken as the text of each chapter and profitable lessons drawn from a discussion of the local anatomy and of the operative measures which may, or may not, be advisable for the relief of the conditions. The advice given is based on large experience, and is likely to prove of the greatest practical value. Perhaps intentionally Mr. Rawling has omitted all affections peculiar to the female sex, except cancer of the breast, the chapter on which is particularly instructive. The illustrations are all the more valuable for being in general somewhat diagrammatic. We note a printer's error in Figure 90, in which the lettering points to two external carotid arteries—one of which obviously should be labelled "Internal Carotid."

SKIN GRAFTING

Technique and Results of Grafting Skin,[3] by Mr. H. KENRICK CHRISTIE, is not, as its title might be thought to imply, a treatise on skin-grafting methods in general, but a handy volume of sixty-seven partly filled pages giving the author's experience in the treatment of a small series of cases. Its aim is to encourage the use by the general surgeon of the simpler forms of skin grafting, and more particularly of the Wolfe graft, in the treatment of chronic ulcers of the lower extremity. Two cases of recent trauma and one of webbed fingers, treated by Thiersch grafting, and one case of haemangioma of the face, treated by a combination of Thiersch and Wolfe grafting, are recorded to indicate the usefulness of similar grafts in other situations. Short chapters are devoted to biological and histological considerations, and the novel suggestion is made that the time may come when it may be possible to keep stock cultures of epithelium for immediate use where skin has been lost.

Instructions are given for the cutting and application of Wolfe and Thiersch grafts and the preparation and transfer of tubed pedicle flaps. No mention is made of the very useful practice of making small punctures in Wolfe grafts to ensure easy egress of blood or serum which may collect under them even in the presence of elaborate pressure dressing. It is difficult to understand why the author, strongly advocating the Stent mould as a means of keeping the full-thickness graft in apposition with its bed, gives preference to other forms of dressing for Thiersch grafts. The erroneous impression is given that the Stent mould, now so commonly used for the latter, has the disadvantage of producing temporary depression of the grafted area. The amount of depression depends surely upon the depth of preliminary excision, whatever form of graft or method of application is employed. It will not be generally agreed that the lower leg and lower thigh are "convenient" sites for the preparation of tubed pedicle flaps, for the skin in these regions is much too limited to allow of closure of the defect produced by the raising of a flap of useful proportions. The author states that one end of a tubed pedicle flap may be divided and implanted after a wait of ten days; such an early shift will often end in failure, and in the one successful case reported later in the work a delay of three weeks was made at this stage.

Case records, illustrated by excellent photographs, occupy two-thirds of the book. These indicate clearly the early results obtained in the treatment of leg ulcers. The author was unable to observe his cases over a long period, but the reports (rather lacking in detail), obtained two years after grafting, suggest that in the majority so treated these good results were maintained. This is contrary to the more usual experience in such cases, initial success being followed, after satisfactory periods of even a year or more, by partial or complete breakdown of the grafted area for no apparent cause other than bad local circulatory conditions, in the presence of which slight trauma is sufficient to set up extensive phlebitis. In this connexion it is surprising to find no mention of treatment of neighbouring varicose veins, an auxiliary therapy which undoubtedly improves the local nutritional conditions and so assists in the establishment of the permanence of the grafts.

The essential point in the technique described is the free excision of the ulcer-bearing area. In so far as Mr. Christie's small book encourages efficiency in this direction by giving the surgeon confidence in his ability to cover the resulting extensive raw surface, it will attain its laudable object.

[3] *Technique and Results of Grafting Skin*. By H. Kenrick Christie, M.S., F.R.C.S. London: H. K. Lewis and Co., Ltd. 1930. (Pp. xii + 67; 35 figures. 7s. 6d. net.)

PSYCHOTHERAPY

Modern Psychotherapy,[4] by Dr. EMANUEL MILLER, may be recommended as an admirable introduction to an involved and difficult subject. The author, who has at his command a lucid and agile literary style, avoids unnecessary technicalities, writes impartially, and makes no excessive claims for the various methods of treatment which are the subject of discussion. Psychotherapy is here concisely defined as any form of healing which has as its object treatment by mental influence. By this definition it is intended to bring home to the student the fact that within the whole range of medicine, in both physical and mental disorders, psychological factors of varying degrees of intensity are involved. As the author observes, whether the case be one of manic-depressive psychosis or the amputation of a limb, a psychological attitude must be adopted not only by the psychiatrist in the one instance, but by the surgeon in the other. The various shades of medical attitude are determined more by the degree in which psychology is involved than by the physical remedies used. In successive chapters the author describes the general principles of psychotherapy; the analytic methods of Freud, Jung, and Adler; methods of suggestion; the applications of psychotherapy in the neuroses, and in drug addiction; early treatment and prevention; and, finally, psychotherapy in organic disease. The book includes a useful glossary of terms not fully defined in the text.

MALFORMATIONS OF THE JAWS AND TEETH

A freely illustrated book on this subject[5] is the joint work of Dr. E. HEREST, who deals with malformations of the jaws, and Professor M. APFELSTAEDT, who deals with malformations of the teeth. The authors' aim has been to cover as much ground as possible while keeping the work within moderate compass, and to arouse fresh

[4] *Modern Psychotherapy*. By Emanuel Miller, M.R.C.S., L.R.C.P., D.T.M. The Modern Treatment Series. London: J. Cape Ltd. 1930. (Pp. 131. 5s. net.)

[5] *Malformations of the Jaws and Teeth*. By Dr. Emil Herlst and Dr. Max Apffelstaedt. Oxford Medical Publications. London: Milford, Oxford University Press. 1930. (Pp. xii + 320; 298 figures. 25s. net.)

interest in teratology. Consequently, descriptive letterpress has been reduced to a minimum. The whole range of malformations, from double formations (adherent twins), through epignathism, etc., to such minute deformations as enamel nodules on the roots of tooth, is considered, and an attempt made to clarify a seemingly incoherent mass of material. In this respect we think the section on malformations of the jaws has achieved the greater success. This opinion, however, is not to be taken as meaning that the second part has less scientific interest. It means rather that the correct placing of so small a thing as, for example, a peg-shaped tooth, is still open to doubt, and that the impartiality with which the authors have quoted all shades of opinion whets curiosity rather than satisfies doubt. The interest of the general body of dental surgeons, indeed, will probably be centred on this latter part of the book, since it includes the abnormalities more commonly met with in daily practice, and indicates the possibility of reducing to order what seems to be but a confused mass of curiosities. For our part we think the few pages devoted to torus palatinus and to paragnathus of particular interest; while Bauer's case of rootless dentition deserves all the attention devoted to it. Hypoplasia of teeth we think inadequately treated, and it may be doubted whether " the fight for space " deserves all the credit it gets in the production of malformations. The authors have drawn freely (and with due acknowledgement) on the works of others to supplement their own by no means inconsiderable experience, and have produced a book which should, as they hope, stimulate others to record and ponder—but especially to record fully and with scrupulous care.

NOTES ON BOOKS

The third edition of BEESLY and JOHNSTON'S *Manual of Surgical Anatomy*[6] was reviewed at some length in our issue of September 17th, 1927 (p. 496). A revised edition has recently appeared, but, apart from the needed correction of two figures of the interior of the knee-joint, we have been unable to detect any change worthy of notice.

In *Recent Advances in Entomology*[7] Dr. IMMS gives a readable and accurate account of some of the modern developments in this branch of zoology. Its contents, however, are mostly outside the scope of medical entomology. The chapters on parasitism and biological control, although referring to parasites of insects and biological control of insects harmful to agriculture and forestry, are not without their human interest, however, because the methods adopted for controlling these groups may ultimately be employed in a similar way against insects harmful to man himself.

In *Athletics in Education*[8] two American professors of physical education develop the view that all forms of athletics have a part in physical education, and condemn " sport for sport's sake " as the worst dilettantism. It is evident that the American attitude towards athletic sports, if this book represents it fairly, differs from that in this country. In adopting British athletics North America seems to have modified them, turning games into a serious business, to the detriment, no doubt, of the games, but tending to produce a high degree of excellence in the players. Originally, athletics in American universities were started by students and frowned on by the authorities ; but now the view is expressed in this book that physical education should not be controlled by the students themselves, and diagrams are given showing an elaborate organization under a director. The authors must not, however, be misrepresented, for they are genuinely anxious to get the best out of athletics in every way. The first hundred pages deal in a general manner with athletics in schools and colleges, the next two hundred pages contain systematic directions about their organization, and a chapter is devoted to their medical control. Finally, there is an annotated bibliography of nearly a hundred pages.

The *Minutes of the General Medical Council and of its Various Committees* for the year 1930 have been published, with twenty-one appendices, in a volume which includes reports of the two sessions of the General Medical Council, of its Executive and Dental Committees, and of the meetings of the English, Scottish, and Irish Branch Councils. The appendices comprise reports of the Public Health, Pharmacopoeia, Education, Examination, Dental Education, and Examination Committees, and a memorandum by the Registrar in regard to the history of the inquiry into the standard of Indian medical degrees. The *General Index* to the Minutes of the Council and of its Executive and Dental Executive Committees, and of the three Branch Councils, from 1903 to 1930, relating to volumes xl to lxvii, follows the plan of the previous issue.

Crime as Destiny,[9] with a foreword by Mr. J. B. S. HALDANE, is a translation of Dr. Johannes Lange's monograph, *Verbrechen als Schicksal*, which was reviewed in these columns on April 27th, 1929 (p. 770).

[6] *A Manual of Surgical Anatomy*. By Lewis Beesly, F.R.C.S.Ed., and T. B. Johnston, M.B., Ch.B. Third edition, revised. Oxford Medical Publications. London: Milford, Oxford University Press. 1930. (Pp. xvi + 563 ; 166 figures. 18s. net.)

[7] *Recent Advances in Entomology*. By A. D. Imms, D.Sc., F.R.S. London: J. and A. Churchill. 1931. (Pp. viii + 374; 84 figures. 12s. 6d.)

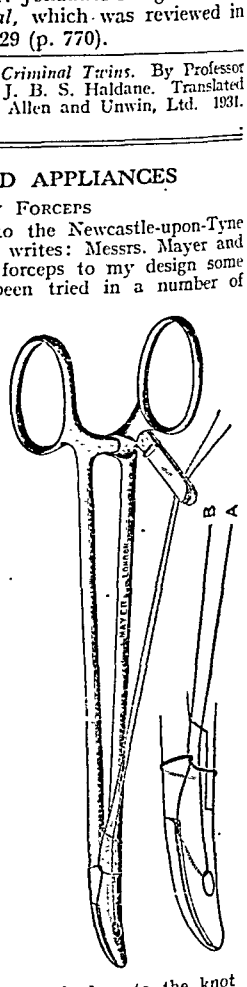
[8] *Athletics in Education*. By Jesse Feiring Williams, M.D., and William Leonard Hughes, A.M. Philadelphia and London: W. B. Saunders Company. 1930. (Pp. 414 ; 60 figures. 14s. net.)

[9] *Crime as Destiny: A Study of Criminal Twins*. By Professor Dr. Johannes Lange. Foreword by J. B. S. Haldane. Translated by Charlotte Haldane. London: G. Allen and Unwin, Ltd. 1931. (Pp. 199; illustrated. 6s. net.)

PREPARATIONS AND APPLIANCES

TONSIL ARTERY FORCEPS

Mr. W. J. HARRISON (surgeon to the Newcastle-upon-Tyne Throat, Nose, and Ear Hospital) writes: Messrs. Mayer and Phelps made some tonsil artery forceps to my design some months ago. They have now been tried in a number of cases, and I find that ligaturing the vessels is made easier and quicker by their use. As the illustration shows, the blades have a well-marked slope from the lock to the tip, which helps the ligature to slip over the end. The slight curve on the flat facilitates picking up the bleeding points in the more inaccessible parts, and by depressing the handles the point can be elevated, which often helps in ligaturing the vessel. There is a fenestration in one blade, and the convex sides of both are sufficiently apart from each other to allow a ligature of No. 3 silk to move freely between them when the forceps are closed. This aperture reaches more closely to the tip than is shown in the illustration.



The illustration shows how one end of the ligature is passed through the fenestration out through the convex side of the blades, and a half-hitch surrounding the forceps and the part A of the ligature made before the two ends are secured in the holder near the handles. This saves the trouble of manipulating the knot down the handles. To tie, both ends are released and the knot tightened and manipulated over the tip, either by the finger, or by the end, B, being grasped close to the knot in straight forceps. When the vessel is secured the forceps are opened and gently withdrawn, thus freeing the part A, when the knot is completed. With ordinary care it is very seldom that the vessel is not firmly secured at the first attempt, wherever situated.

RECENT METHODS OF SEWAGE TREATMENT

PAPER BY DR. WILLIAM BUTLER

At a sessional meeting of the Royal Sanitary Institute, held in London on February 10th, a paper on recent methods of sewage treatment was read by Dr. William Butler, Medical Officer (General Purposes) London County Council. This account of methods of treatment and of the ways in which purification was believed to occur was, he said, based on an investigation, extending over some years, which he had had the privilege of directing. Treatment on land was perhaps the earliest instance of natural purification of sewage. Long before it became purposive it must have occurred, and its early use was but an application of natural occurrence. The biological filters—contact beds, percolating filters, mechanical intermittent sprinklers, etc.—were later devices for intensification, on smaller areas, of natural purification.

Principles of Purification

Two main conditions were recognized as essential in all these various methods of application of natural processes: (1) a plentiful supply of atmospheric oxygen freely dispersed throughout the whole volume of the liquid treated, and (2) exposure under this condition to the humus, coating the aggregates, whether of soil or filter beds. A great stride in intensification of treatment was made when Dr. Fowler dispensed with the aggregates and dispersed the free humus—which became known, unfortunately, as "activated sludge"—throughout the liquid, into which air was directly diffused by pumping. The same kind and degree of purification was obtained as by land treatment or biological filter treatment, but it was possible by this means to deal with a much larger volume of sewage in any given unit of time and space. The change of venue from filtration through soil or solid aggregates to natural purificatory processes conducted exclusively in a liquid medium did not mean change in any essential features of the processes. In the main these were, as they must always be, oxidation of the organic contents of the sewage by "wet combustion" effected by natural agents.

If a crude sewage from which its grosser suspended matters had been gravitationally deposited was mixed with a suitable free humus in the form known as activated sludge and the mixture was well shaken for a few minutes, it would be found that an extraordinary change had in this short time been brought about. The sewage so treated had become inoffensive, and would remain so indefinitely, whether, after decanting from the humus which had been allowed to separate, it was left exposed to the open air, or was sealed in a closed vessel and incubated at 80° F. for several days.

Two important features of the changes were: (*a*) establishment in the treated liquid of nitrogen oxidation, and (*b*) reduction of the colloidal content. While far from being exhaustive, the initiation of these processes appeared to secure a sufficient degree of stability in the resulting inoffensive liquid to permit the continuing oxidizing processes to proceed without the supervention in ordinary circumstances of putrefactive changes. Given a humus capable under suitable conditions of exhibiting rapid oxidizing activity in the medium with which it was intermixed, and at the same time of precipitating from this medium the unstable organic colloidal content, two essential aims in sewage purification had been attained. A humus capable of such activity was a living substance. Its chemical and physical functioning was at once and completely destroyed if by chemical or physical agents it was killed. Success depended upon maintaining the humus in a high state of functional activity, upon sustained and intimate admixture of the sewage and humus throughout the period of contact, upon facilities for maximum absorption of oxygen from the air by constant and rapid change of liquid at the air-sewage interface, upon the use of a sewage from which the grosser suspended matters had been previously deposited, and upon the use of the device for supplementing oxygen absorption by means of the continuously renewed air cushion in the lower channels.

Application of Principles

Different forms of plant in which these principles were applied had been investigated, and there emerged ultimately a double channel in two tiers separated by a septum with intercommunicating ports along which the mixture of sedimented sewage and humus was mechanically propelled. The purpose of this device was, in effect, to interrupt at desired intervals the septum separating the upper from the lower chambers, and to interpose in continuity with the ends of the interrupted septum what were virtually the blades of a propeller so arranged that the respective channels intercommunicated without disturbing the parallelism of the walls of the channels and with continuous separation of the channel contents. By the admission of air to the lower channel near to the commencement of the return flow, and the provision of fillets at either end of the false bottom, a cushion of air was continuously displaced and renewed throughout the course of the false bottom. The device was found, when used in conjunction with air-diffusion tanks for regenerating the humus, to yield results which were a great advance in efficiency on any of the more recent methods of treatment with which they experimented. Upon the evidence submitted to it, the London County Council decided to install a large plant of this type for the treatment of London sewage, and it was now in course of construction at the Southern outfall.

A Physiological Analogy

Concluding, Dr. Butler said that in the form it had assumed in this later development of sewage treatment, a structure had gradually been evolved which functioned in a manner not remotely removed from that of the circulatory and respiratory systems of the higher vertebrates. The circulating fluid propelled along the channels represented, however, not merely the blood, but the tissues. It contained an analogue of the red corpuscles in the living humus, which moved freely in intimate admixture with the circulating medium. If not directly an oxygen carrier like the haemoglobin of the red corpuscles, this humus was yet the agent by which the oxygen of the air was utilized in burning up the waste products contained in sewage liquor. These waste products, mainly the colloids of sewage, were the analogues of those of tissue metabolism, and, when brought into intimate contact with the circulating humus, were removed and ultimately oxidized to a final mineral product. The respiratory apparatus by which the interchange of dissolved gases with those of atmospheric air was effected was less highly organized and differentiated than a mammalian or avian lung. But in the diffusion tanks for reconditioning of the humus, in the exposure to the air at the air-sewage interface of ever-renewed films of deoxygenated liquor in the channels, and above all in the varying pressures to which the gases were subjected, alternately raised in the imprisoned cushion and lowered on release at the portals of the septum, a mechanism might, without straining the analogy, be discovered corresponding to the apparatus by which the biophysical and

biochemical processes of respiration were conducted. That this should be so was in accord with the nature of things; for, after all, the final disintegration of waste organic matter was but a later phase in a process that began in metabolic changes in living tissue. The waste matters eliminated from the living corpuscles were a prey to oxidative chemical processes which, commencing at their birth, were continued through their intra-corporeal journeyings, and terminated only in the final mineralization of complete combustion.

DRUG CONTROL IN INDIA

BY

J. C. DAVID, M.B., B.S.MADRAS

A Drugs Inquiry Committee has been recently appointed by the Government of India with the following terms of reference:

1. To inquire into the extent to which drugs and chemicals of impure quality or defective strength, particularly those recognized by the *British Pharmacopoeia*, are imported, manufactured, or sold in British India, and the necessity in the public interest of controlling such an important manufacture and sale, and to make recommendations.

2. To report how far the recommendations made in (1) may be extended to known and approved medicinal preparations other than those referred to above, and to medicines made from indigenous drugs and chemicals.

3. To inquire into the necessity of legislation to restrict the profession of pharmacy to duly qualified persons, and to make recommendations.

The chairman of this committee is Lieut.-Colonel R. N. Chopra, M.A., M.D., I.M.S., professor of pharmacology at the Calcutta School of Tropical Medicine. Colonel Chopra has been doing pioneer work during the past eight years, carrying on much painstaking and often fruitless research on the indigenous drugs of India, and has been closely studying the problems that come within the purview of the terms of reference of this inquiry. In the course of his presidential address, delivered to the Medical Section of the Indian Science Congress held in Lahore in January, 1927, he advocated legislation in India on the lines of the British Therapeutic Substances Act as a means of protection against the indigenous production of patent and other medicines.

Preparation and Sale of Medicines in India

At present, while in most other countries regulations regarding the preparation and sale of medicines are very strict, no standard of any kind whatever is imposed in India. Many manufacturers in that country produce articles which have a very slight resemblance to the standard or genuine article, so that firms anxious to produce only reputable goods cannot compete. While firms manufacturing pharmaceutical products are increasing in number, few care to have them properly standardized. Some of these preparations have time and again been found by Colonel Chopra to have great variation in their strength. The writer was told by a representative of a well-known firm of manufacturing pharmacists in Madras that it could not afford to have its products biologically assayed because of unhealthy competition. An inquiry by excise authorities into the causes of decreased sale of rectified spirits elicited the fact that in many cases alcohol was not being used in the quantities necessary to produce the standard articles. Large quantities of medicines are sold in tablet form—for example, a 5 grain tablet of quinine was found to consist of only 1 grain of quinine and 4 grains of starch or other inert matter. Here, perhaps, we have the explanation of the so-called "quinine-resistant forms of malaria"! It is not long since Colonel Gidney, I.M.S.(ret.), called attention in the Assembly to the disgraceful traffic in adulterated quinine. Sir P. C. Ray, the well-known Calcutta chemist, once purchased several samples of santonine all over the country and found gross adulteration—in one to the extent of 90 per cent. Not only are galenicals and other pharmacopoeial preparations manufactured by Indian firms, but attempts are being made to prepare some of the biological products, such as gland extracts, vaccines, serums, etc. Moreover, a number of potent organic compounds of antimony have been introduced by some manufacturing firms in Calcutta, and are being used extensively as intravenous injections by practitioners. No control whatsoever is exercised by the State over these potent compounds.

Deterioration of Imported Drugs

With regard to imported drugs, the climatic conditions of India have to be taken into account. Deterioration is an important factor, and the keeping properties of organic arsenicals, insulin, and a number of other potent remedies, when exposed to tropical climates, have not yet been determined. Much work has been done in this direction at the Calcutta School of Tropical Medicine, where facilities also exist for the bio-assay of pharmaceutical products, but few manufacturing concerns take advantage of them under present conditions.

Remedies of Indigenous Systems of Medicine

Another great problem is presented by the remedies—which are legion—of the indigenous "Ayurvedic" and "Unani" systems of medicine. To lay down rules with regard to their purity, etc., while their composition as well as their efficacy is unknown and untried, is impossible. To sift the possibly useful drugs from a host of remedies, to every one of which great curative power is attributed, is indeed a Herculean task. Colonel Chopra and his staff of research workers have been engaged in this subject for the past eight or nine years, but of the drugs investigated by them, barely two, or perhaps three, have so far proved to be of any clinical use. There is little doubt, however, that this is the best method of attacking the problem. The Governments of Bombay and Madras have now established research units for this purpose, the former at the Parel Laboratory, Bombay, and the latter in connexion with the pharmacological department of the Madras Medical College.

Training of Pharmaceutical Chemists

Closely related to these problems is the question of training pharmaceutical chemists. At present, only one institution—namely the Madras Medical College—trains candidates in a two years' course for the Government chemist and druggist diploma. But even this course, meagre as it is, is not popular, and there have been few candidates in recent years. This is not surprising, because anyone, even without any training, may start business as a pharmaceutical chemist, provided he has the small amount of capital necessary to furnish the shop. There is practically no check on this profession except that exercised by the Excise Department in the sale of dangerous drugs, such as morphine and cocaine. The writer computed that out of a total of about one hundred chemists and druggists in Madras city during 1929, barely eight were in any way trained for the profession. A Pharmaceutical Society of India exists, but it cannot be compared to the society in Britain. It is still in its infancy, being the result of the efforts of a few enthusiasts, who are, as yet, like sheep without shepherds.

Under these circumstances it is obvious that the committee has been appointed none too soon.

British Medical Journal

SATURDAY, FEBRUARY 21st, 1931

THE PRIMARY SCHOOL CHILD

On January 15th, 1927, we described and commented upon the report of the Consultative Committee to the Board of Education, entitled *The Education of the Adolescent* (since commonly known as the Hadow Report), which recommended the regrading of public education in two stages: primary education up to the age of 11 years or so, and post-primary education beyond that age in varying types of schools. Our comment was mainly directed to show that education and health are largely but different aspects of the same subject, that the work of the medical profession and the work of the teaching profession and of educational administrators must be intimately associated, and that this should involve a broad acquaintance of each with the aims and problems of the others. If these truths were illustrated by the proposals made at that time and embodied in the Hadow Report, they are even more fully and directly applicable to a consequential report of the Consultative Committee now published under the title of *The Primary School*.[1] Under the new grading, education must be regarded as an organic whole from 5 years of age to 11 without any serious break. Yet it may well have two phases—that in the infant school up to 7 years of age, and that in the junior or primary school from 7 years to 11 years. It is to the question of the propriety of these changes at 7 years and at 11 years, and to the character and conditions of education between these ages, that the present report is mainly directed. Of much medical importance are Chapters II and III (with the corresponding appendices by Dr. H. A. Harris, assistant professor of anatomy, University College, London, and Dr. Cyril Burt, psychologist to the London County Council), on the physical and mental development of children between the ages of 7 and 11; and Chapter VI, on retarded children. Moreover, parts of other chapters have direct medical interest, and the whole report will repay close attention.

In some respects the parts of the report that we have named present a challenge to the clinician as well as to the anatomist, the physiologist, the psychologist, and the teacher, to undertake further observations on the physical and mental condition and growth of children between the ages in question. These matters have been studied fairly extensively and intensively with regard to the very young child and the adolescent, but the ages between have been relatively neglected. Dr. Harris and Dr. Burt here present us with the picture of four types or aspects of growth—the skeletal, the neural, the lymphoid, the genital—though recognizing that these are "at best only crude representations of the complexity of the processes actually involved"; of successive cycles of general growth in children, the "springing-up" periods and the corresponding "filling-out" periods; of four types of child organism, hypersthenic, sthenic, hyposthenic, and asthenic. It is pointed out that mass statistics are apt to prove fallacious in practice; that curves of height and weight give but an imperfect picture of the complex patterns of growth in the different systems of the human body; that, though there is a definite limit to the amount of change that can be impressed on a growing child, the period of consolidation between the ages of 7 and 11 may be regarded as affording the best opportunity for remedying past defects of development, and preparing the organism to meet the demands of puberty. The necessity for great care in submitting boys or girls to heavy or sustained muscular effort is enforced by describing the development of the two sets of composite bones, the scapula and the os innominatum, and by the fact that serious illnesses are recorded on the bones as lines of arrested growth. When growth is resumed after the removal of the harmful conditions these appear as scars on the bone. To urge young children to work hard before they have completely recovered from illness is therefore a grave error.

The rapidity of growth of the brain and the normally great development of the pyramidal outer cell layer of the cortex are noted. When the infant is 2 years old the brain has attained 60 per cent. of its normal size, and by the age of 7 it has almost reached adult size. The pyramidal layer increases in thickness from birth to maturity by more than 50 per cent., but not uniformly in all regions of the brain. These facts make it highly important to study cerebral changes more intensively. Really very little is known about such changes between early childhood and adolescence. It is possible that the laminae of the developing cortex are far more susceptible to malnutrition and disease than is at present admitted, and in particular we need to know whether anatomical age changes are connected with the acquisition of new mental processes and how far such processes, once lost or impaired, can be resumed. The bearing of such researches upon the pedagogical problems of the normal child and upon the classification of, and methods of dealing with, retarded children is obvious, and may be very far-reaching. It seems to be a fact that teachers have somewhat misunderstood the psychology of the child between 7 and 11, and Dr. Burt's memorandum in the report is of fascinating interest, and cannot well be summarized. He deals with sensory capacities, with the working contents of the child's mind, his imagery and ideas, his reasoning, his emotional qualities, and his aesthetic development. Dr. Burt's conclusions with regard to the various forms of reasoning power seem particularly important, but throughout he brings to light a number of general misconceptions, and makes suggestions which ought to be

[1] Board of Education. Report of the Consultative Committee on the Primary School. London: H.M. Stationery Office. 1931. (2s. 6d. net.)

of practical use, not only to the teacher, but to the school doctor and to the private practitioner.

Recent psychological researches, it is said, indicate that as regards innate mental capacity the differences between individual children are unexpectedly wide, and remain fairly constant throughout school life. By the age of 10 they cover a range equivalent to more than ten years of mental growth—that is, the dullest pupils of that age may have a mental age of less than 5, while the most gifted may have a mental age of more than 15. But towards the end of the primary stage a large majority, some 80 per cent., fall within a mental range of about three years. The exceptional children will comprise about 10 per cent. who are unusually bright and about the same proportion who are definitely retarded. The latter may be conveniently classified into three groups: mentally defective, more retarded, less retarded. In the *Journal* of April 27th, 1929, we discussed the report and proposals of the Joint Committee on Mental Deficiency. Though the members of the Consultative Committee are careful to say that they are in agreement with the Joint Committee's proposals, they really seem to differ from them in at least one important respect. They suggest that, instead of dealing with all these retarded children as one group, the mentally defective children and the more retarded children should be taught in special schools, wherever possible; those of the less retarded group being retained in special classes of the primary school. They reinforce, however, the now common demand that no child should have to be medically certified as mentally deficient in order that he may receive the kind of education appropriate to his capacity.

UNIVERSITY REPRESENTATION IN PARLIAMENT

At its last meeting the Council of the British Medical Association passed the following resolution: "While expressing no opinion as to the merits of the Bill as a whole, the Council is opposed to the clause in the Electoral Reform Bill which abolishes the university franchise." The first phrase in this resolution was intended to emphasize the fact that the Association and the Council have no concern with party politics, and cannot properly take any action with a view to influencing the continued existence of any particular Government or the attainment of power or office by any alternative Government. There have, of course, been many occasions on which detailed proposals in Government Bills and other measures before Parliament have been the subject of criticism, opposition, and proposed amendment by the Association in the interest of the public health, of the advancement of science, or even of the medical profession itself when such proposals have been contrary to the public good. This freedom of action, especially where no vital point involving the existence of the Government is concerned, is very valuable. On the present occasion the Council, being appealed to by a committee representative of the universities and of many learned societies, felt that it should support the continuance of university representation in Parliament. Such representation, in times past, has proved to be a very convenient and appropriate channel through which the views of the medical profession have been presented for consideration to Parliament, and this not mainly by members of the profession itself. Without it such opportunities would be severely curtailed and might disappear altogether.

The British system of government rests fundamentally upon public discussion of affairs by representative persons. It is undoubtedly essential to the complete success of such a system that these representations should broadly reflect the opinions of a wide electorate, and should be able adequately to voice all the greater interests of our national life. Many believe that this cannot be securely attained except by means of the device known as proportional representation; and it is admitted that under the present system of constituencies and of voting the House of Commons may be a very imperfect mirror of public opinion. University representation, under this system, provides a useful though subsidiary means of rectifying the mirror. Under present conditions it is true to say that, in territorial constituencies, a candidate of independent mind who is unable to enrol himself as a member of one of the great organized political parties has but a negligible chance of being elected. Yet there are many hundreds of thousands of electors who would desire to have such a representative, and it is only through the university franchise that an approximation to relative independence has been provided for. It is true that the opportunities have not been fully used, but, if continued, there are signs that they will be taken advantage of much more extensively in the future.

Again, an outcome of the present system, though not one it was designed to achieve, is that important trades and industries are able to control the representation of a number of constituencies. Those engaged in, connected with, or dependent upon such industries are largely localized in certain districts. This is not to be deprecated. It is fortunate that in this way the wider interests of those associated with such occupations throughout the country secure attention apart from purely local considerations, and that industrial organizations can thus exercise great influence on public affairs. Apart from university representation there is no such opportunity for the great professions or for scholarship and learning in general. Yet it will scarcely be denied that these should be sure of some modest place, as such, in any assembly which purports to be properly representative. It cannot now be said truthfully that the university electorates consist of very restricted social classes or of those with a narrow and purely favourable experience of life. They certainly do not represent wealth; indeed, they contain a large and rapidly increasing proportion of men and women who received their early education in the public elementary schools. Incidentally, it is one of the minor advantages

of the university franchise that it alone provides a means of representation for a considerable number of those who are engaged abroad in the diplomatic and other national services.

In view of the facts that university representation has existed as part of the English constitution for more than three hundred years without any obvious disadvantage, and that since the war it has been developed and increased by common consent as part of an inter-party agreement, no serious changes in its character appear to be required. There are, however, at least two suggested modifications which might perhaps be considered if they would make the retention of the university franchise more acceptable to some. One of these is that the universities should be combined into a single constituency, with a somewhat reduced total number of members elected by proportional representation. The other is that, if "one man, one vote" is to be erected into a principle, those whose names are on both a local and a university roll of electors should be allowed to exercise only one of these votes at their choice. A change which, in our opinion, and that of many others, is highly desirable, though this cannot be the subject of legislation, is that there should be no attempt at party political organization within such electorates, and that independent choice on non-party grounds should be encouraged.

In accordance with the resolution of the Council, it is desired that those members of the British Medical Association who are convinced that these arguments have weight should inform their parliamentary representative of this fact without delay.

THE DOMAIN OF ORTHOPAEDIC SURGERY

The instructive presidential address by Sir Robert Jones, delivered before the International Society of Orthopaedic Surgery in Paris, and published in our present issue, coming from such a distinguished source, cannot fail to interest surgeons and students of the history of surgery. It combines a brief summary of what is known about orthopaedic surgery in ancient times with a sketch of recent developments, and a kind of apologia for the existence of this special branch of surgery. Hippocrates, Pasicrates, and Heliodorus long ago recorded their knowledge of certain deformities and had ideas about their treatment, yet we can hardly believe that with the means at his disposal even Hippocrates could have treated with success a congenitally dislocated hip. Diagnosis is one thing, successful treatment another. Some passages of Sir Robert Jones's address were obviously intended to inform a Continental audience of what has been, and is being, done in this country, for the triumphant history of the Military Orthopaedic Hospitals (afterwards renamed Special Surgical Hospitals) and the progress of the county schemes for the cure of cripples are well known here, and the latter have been often advocated in our pages. The ground gained in wartime has not been lost in peace. These hospitals provided almost a revelation of what could be done for the treatment of gunshot fractures, the prevention and cure of deformities, and the rehabilitation and training of crippled limbs. The Thomas splint, properly used, proved to be one of the most beneficent life-saving devices ever employed on or near the field of battle. The lessons of the war have not been forgotten, but are applied in our civil hospitals to the problems raised by industrial and locomotive accidents.

As the president pointed out, the practice of orthopaedic surgery is by no means limited to orthopaedic specialists, for in France those who undertake it are also general surgeons, and in the past in this country distinguished general surgeons such as Macewen have contributed to its progress in no small degree. Specialism is not now on its defence as it was at the end of the last century. The vast enlargement of the field of surgery has rendered subdivision necessary and tolerable. A reasonable plea on behalf of some specialties has been that special skill can only be acquired by special experience, and that that experience can only be obtained by concentration of the surgeon's time and attention on the subject. But Sir Robert Jones would have every orthopaedic surgeon not only an all-round practitioner, but a highly skilled operating surgeon; his ideal is the general surgeon who applies himself to a special branch of his art. This is perhaps a counsel of perfection, and its adoption would require a very large number of first-rate general surgeons concentrating on orthopaedics if the treatment of fractures, recent and long-standing, of deformities of the extremities and spine, of diseases, derangements, and disabilities of the joints, including the spine, and of injuries of peripheral nerves, are to be treated orthopaedically. All these conditions were cared for during and after the war in the Special Surgical Hospitals under the direction of Sir Robert Jones.

The eighteenth-century Paris physician Nicolas André from the title of whose book the word "orthopaedic" originated, unwittingly laid a stumbling-block in the way of the layman of inquiring mind, and of the student of surgical nomenclature. Other specialties may have names of Greek derivation of greater length and more syllables, but the layman who asks, "What is ophthalmology?" is easily answered by "Eye surgery," as he who inquires about laryngology is satisfied to be told "Throat surgery"—and so with the other specialties. But unhappily, with orthopaedics the case is different. At one time, as Sir Robert says, it was restricted to the treatment, without open wound, of a few deformities; but even then its definition was difficult, and those who tried to persuade the public that "paedic" had no special reference to the feet and was not formed by a misspelling of a Greek or a Latin word for the foot, got small reward for their pains. All attempts to provide a logical and exact definition of what was included in orthopaedic surgery failed, and attempts to define the present greatly

extended scope in a few words have equally been unsuccessful. Perhaps the nearest to success is that which claims that orthopaedic surgery is "the surgery of the human body, excluding its cavities and the organs of special sense." This at first sight may seem extravagant, but careful consideration will show that it includes nothing that has not been claimed by orthopaedic authorities. So wide-reaching are these claims that we have even heard it suggested that in the not far distant future orthopaedic surgery will become known as "surgery," and the abdomen and the brain and the special senses will become tolerated specialties. However that may be, in the United States there are already signs that the term "orthopaedic" may fall into disuse. A few years ago the *American Journal of Orthopaedic Surgery*, the official organ of the American Orthopaedic Association, changed its name to that of the *Journal of Bone and Joint Surgery*, and some American orthopaedists no longer so describe themselves, but indicate their range of work in some such terms as "Practice limited to surgery of bones, joints, and deformities."

AN INSTITUTE FOR SURGICAL RESEARCH

As briefly recorded in our university and college news this week, the Council of the Royal College of Surgeons of England at its last meeting accepted a munificent offer from Mr. George Buckston Browne, F.R.C.S., to build and endow an institution of surgical biological research, on an estate adjoining Darwin's old home at Downe, in Kent, which, it will be remembered, he gave two years ago to the British Association in custody for the nation. In his letter to Lord Moynihan, President of the College, Mr. Buckston Browne expressed his belief that those who have added, or are adding, to the science and art of surgery, are the greatest of all benefactors to the human race and to the domesticated animal kingdom. Hence, at the end of a long surgical life, he wishes to facilitate the labours of those, particularly young surgeons, who are willing to devote time to surgical observation and research. The institution he has in mind would be an extension of the scheme which the Council has already established by the equipment of laboratories in direct connexion with its Hunterian Museum in Lincoln's Inn Fields. The land offered by him to the College as a gift provides, he believes, an ideal site for a biological farm, where research workers can study living animals, just as John Hunter did at his farm at Earl's Court. "There is ample accommodation and pasturage for animals, and its intimate association with Darwin should provide inspiration for those who desire to follow in the traditions of Hunter." For the time being Mr. Buckston Browne suggests a moderate equipment, just enough for present requirements, and he thinks that the following initial provisions would suffice: (1) three or four laboratories where investigations can be made under the best conditions, or where living animals can be closely observed and cared for; (2) houses for animals; (3) accommodation for the chief attendant—one skilled in laboratory methods; (4) accommodation for a stockman to look after and feed the animals; (5) hostel accommodation for those working in the institution, should they wish to carry on continuous study. The detailed work of examining the results would be carried out in the laboratories of the Royal College of Surgeons, and therefore pathological laboratories at the Downe Institution would be unnecessary. The initial stages of layout and equipment would be directed by the Conservator of the Museum, Sir Arthur Keith. The closing passage of Mr. Buckston Browne's letter runs as follows: "I am prepared to give you £50,000; and I will add further sums from time to time until my gift—including the cost of the land and such interest as may accrue from money lying in your hands—shall altogether amount to £100,000. If this sum be not reached before I die, I shall arrange that my estate makes good the balance due." The Council of the College, deeply impressed with Mr. Buckston Browne's great liberality, resolved, by a unanimous vote, to undertake responsibility for the proposed institution, subject to an approved settlement under a trust deed.

THALLIUM AND ITS RISKS

A very interesting case of thallium poisoning was recently reported by Dr. John Lansbury at a staff meeting of the Mayo Clinic. He was called to see in consultation a lady, aged 38, with severe abdominal pain and a slight maculo-papular eruption. The skin of her legs was warm and scaly, and so rough that it suggested ichthyosis. On the feet were dry calluses, which were beginning to peel. The hair was loose and easily pulled out. Five days later the unhappy patien had become almost bald, except for a thin fring round the margin of the scalp. The body hair als fell out to some extent, but the eyebrows and eyelashe were not affected. Later the pain subsided, the textur and functions of the skin returned to normal, and th hair began to grow again. Struck by the way in whic the skin had been affected, and especially by th remarkable loss of hair, Dr. Lansbury at once suggeste the possibility that this was a case of thallium poisoning and his diagnosis was amply confirmed by the discover that for about five weeks the patient had been usin a depilatory cream on her face. This cosmetic wa analysed and found to contain a large percentage o thallium, but no lead; the absence of lead is noteworth in view of the severe colic from which the patien suffered. The poisonous qualities of thallium have beer known ever since the element was first discovered i 1861, and many attempts to employ it for therapeuti purposes have been associated with accidents to th patient which, until recently, have prevented its accept ance as a remedy, although tentatively tried for severa purposes. These drawbacks have now, it is true, beer so successfully overcome that within recent year many thousands of children have been treated for ring worm of the scalp by the single dose method. It mus be admitted, however, that even this is not withou its dangers, especially to children over the age o 6 years, and a good many cases of poisoning, some fatal, have been recorded; but besides the case mentioned above we have only heard of one other (reported by Ramond) in which thallium, employed in the form of a cream for the treatment of hypertrichosis, has been followed by toxic sequels. The pharmacology of thallium has been investigated by Professor W. E. Dixon, who has pointed out that the chief characteristic

of its action, shared by no other metal, is its effect on the autonomic nervous system. Just as strychnine encourages the passage of reflex action through the spinal cord, so thallium appears to facilitate the passage of stimuli in connexion with the autonomic nervous system. The production of alopecia, which is so remarkable an effect of the administration of thallium, is unique in pharmacology; there is no other substance whatever, the absorption of which can do the same. According to Professor Dixon, thallium rubbed into the skin does not depilate locally; it is only after absorption that the metal affects the hair. If this be so—and there is no reason to doubt it—the employment of thallium in depilatory creams is highly dangerous; for the margin between the depilatory dose and the toxic dose is extremely small, and therefore the employment of thallium for this purpose should be strictly forbidden. The Board of Education has already interdicted its use in the treatment of ringworm in school children.

NEW X-RAY UNIT FOR AMBULANCE WORK

The Home Service Ambulance Committee of the Joint Council of the Order of St. John and the British Red Cross Society recently gave a demonstration, which was attended by representatives of the War Office and the London County Council, of a new high-power mobile *x*-ray unit to meet the demands of the ambulance radiographic service which the committee undertakes. The object of this service is to provide for the radiographic examination of patients who are confined to bed suffering perhaps from some deep fracture or acute condition, which makes it inadvisable for them to be transported to the *x*-ray department of a hospital or to a radiologist's consulting rooms. Many of the smaller hospitals whose finances do not permit of the installation of satisfactory apparatus prefer to take advantage of this service rather than have smaller equipment, which would not meet the demands of the exceptional case. The service is primarily designed for work in and around London, though journeys to the North of England have been undertaken. It is a necessity in any such arrangement that the installation, while mobile, shall be capable of doing work as varied and as accurate as the best stationary equipment. The original unit employed was one built by the Joint War Committee of the Order of St. John and the Red Cross Society for use on the Italian front. It proved to be too cumbersome, and was modified in some respects, but in course of time this type of set—a 16-inch coil installation—became obsolete. Tests were then made with a 30 ma. transformer set, but, although fulfilling the requirement of light weight, it could not on other grounds be justified. It appeared that nothing less than 80 ma. would furnish what was wanted. Such power necessarily implies weight, but various ingenious expedients were resorted to for reducing weight as much as possible. A special alternator was designed, raising the voltage and cycles as high as possible, and effecting a reduction in the iron and copper factors in the transformer. Weight was also reduced by cutting out the usual auto-transformer, and substituting tappings on the primary winding as a means of control. The new apparatus, as explained by Mr. H. T. Ferrier, the radiographer to the committee, is of the transformer type, specially wound to give, in conjunction with the alternator just mentioned, 100 ma. at 75,000 volt peak. It is therefore possible, at distances allowing of no distortion, to produce radiograms of the chest in one-twentieth of a second. By means of an apparatus known as a milliampere second relay, accurate and stabilized results are obtained. The car on which the unit is carried is rather a heavy type of vehicle; when stationary it becomes a miniature generating station, and with the apparatus withdrawn it is a dark-room, fitted with the usual appliances, with electrical resistances for keeping the temperature of solutions constant and the air content under control.

DRUG CONTROL IN INDIA

IN most, if not all, European countries the control of the sale of drugs is accepted as an obvious necessity. Most of our readers will probably be surprised to learn from the note by Dr. J. C. David, published at page 316, that no such control has hitherto been exercised in India, for anyone with sufficient capital to stock a shop has been permitted to sell drugs without reference to training or capacity. Moreover, there has been no system for checking the purity or quality of the drugs sold. It is satisfactory that this state of affairs is to be remedied, and that steps are being taken which will ensure a supply of reliable and unadulterated drugs. The dangers attending lack of control have been forcibly brought out in the evidence submitted to the committee that is now investigating this question in India. In a country where no system of control exists, it is not merely a matter of chance whether drugs of good or bad quality are received, since there is a definite tendency to dump in it any rubbish that is unsaleable elsewhere. Such reforms as Lieut.-Colonel Chopra and his committee may be able to institute will obviously be a great benefit to the public and to the medical profession. It is curious to note that the remedies of the indigenous systems of medicine may form a definite obstacle to the institution of reform. These remedies have remarkable virtues attributed to them—so subtle in most cases that the activity of the drug cannot be measured by any form of scientific test. In this country the old systems of folk-lore remedies have disappeared, but the advertisements of secret remedies still keep us familiar with the magic herbs whose virtues cannot be detected or measured by the methods of medical science.

NATIONAL COUNCIL FOR MENTAL HYGIENE

The National Council for Mental Hygiene, in its report for 1929–30, welcomes the opportunities for the early treatment of mental disorder which are now provided by the Mental Treatment Act, 1930. This Act reduces to a minimum the number of legal obstacles in the way of voluntary treatment, and of temporary treatment for those too ill in mind to seek of themselves the aid of psychological medicine. The council is earnestly desirous that full use should be made of these opportunities. Provision for voluntary treatment is optional under the Act, and the council regards it as its duty to see that such provision is really made by local authorities, and also that the provision for the treatment of non-volitional cases, which is compulsory, is of a suitable nature and likely to achieve its purpose. Although the Act is hailed as a striking advance in legislation, further concessions from Parliament, reflecting a public opinion still more enlightened, will

be necessary before the council can rest content that it has achieved its objective in this matter, and that the practice of psychological medicine has come into its own, relieved of its legal burdens and equal in the sight of the law with other branches of medical science. To this end the council recommends extension of temporary treatment as long as it is likely to benefit the patient, and extension also of the advantages of such treatment to early "unwilling" cases, which class under the Act is left to be dealt with under the principal Act. Attention is specially invited to the forthcoming second Mental Health Conference, which will be held from May 27th to 29th at the Central Hall, Westminster. As in other years, lack of money has been the great drawback to extension of the council's work. At a time of national economic depression it is difficult to obtain funds, but the council's appeal for them is felt to be justified by the need for maintaining a high standard of mental health and efficiency in order to meet the exacting demands of modern civilization.

"GINGER PARALYSIS"

We have previously noted (December 6th, 1930, p. 971) the extraordinary epidemic of paralysis, associated with many deaths, that occurred last year in Tennessee as a result of drinking adulterated ginger extract. The United States Public Health Service now announces that the causative agent has been identified as tri-ortho cresyl phosphate. This chemical was not introduced accidentally, but was added deliberately as an adulterant, probably in the form of technical tri-cresyl phosphate. Only a chemist of considerable ability would have thought of this substance as a cheap flavouring which would imitate the taste of ginger. This reckless experiment produced dire consequences, and the only circumstance that mitigates its guilt is that little or nothing was known about the toxic actions of moderate doses of tri-cresyl phosphate. Furthermore, it is interesting to note that extensive researches were needed to prove its toxic action, for the drug was completely harmless when given by mouth in large doses to monkeys, but produced typical paralysis when injected subcutaneously both in monkeys and in other animals. Apparently the drug is not absorbed from the alimentary canal of monkeys, and the erratic incidence observed in the occurrence of paralysis in those who drank the adulterated ginger extract suggests that there is a great individual difference in the extent of its absorption in human beings. This failure to obtain toxic symptoms in monkeys under conditions that produced them in men shows how difficult it is to prove by animal experiments that a chemical will be harmless when added to articles of human diet, and emphasizes the need for caution in introducing new chemicals into household use.

PARATYPHOID FEVER IN ESSEX

A communiqué issued by the Ministry of Health states that the total number of known cases of paratyphoid fever occurring in Essex between February 1st and 14th was 172, the districts mainly affected being Epping urban, Epping rural, Loughton urban, and the borough of Walthamstow. The infecting organism was *B. paratyphosus* B. The illness in many cases was severe, but the fatality has been relatively low, only four deaths having so far occurred. By arrangement with the London County Council, most of the patients have been treated in the Council's infectious diseases hospitals, but others have been admitted to the London Fever Hospital, the Connaught Hospital at Walthamstow, and the Ilford isolation hospital. Inquiries made by Dr. W. V. Shaw, a medical officer of the Ministry, in consultation with the medical officers of health of the county and of the districts concerned, indicate that the origin of the epidemic was the infection of a particular milk supply at a dairy farm in the Epping rural district. The infection seems to have been introduced by one of the employees on the farm, who, unknown to himself, was suffering from a mild attack of paratyphoid while at work and handling the milk before its distribution. For several days the milk thus infected was consumed by many people in surrounding districts, some of whom have suffered from the disease. At the farm in question all the employees have been examined and those suspected of possibly carrying infection, including the man considered to have been the source of infection, have been removed to hospital, and their places at the farm taken by other workers kept under close medical supervision. The distribution of milk from the farm was discontinued for the time necessary for the premises, milk utensils, etc., to be cleansed and disinfected to the satisfaction of the medical officer of health, and there is now no reason to apprehend further infection of the milk at this farm.

THE BANTING RESEARCH FOUNDATION

The Banting Research Foundation was brought into being in Canada in 1925, when a large sum of money was subscribed to encourage research in medicine and allied subjects throughout the Dominion on broad lines. A portion of the income from the fund is devoted to giving assistance to the investigations comprised under the heading of the Banting and Best Chair of Medical Research, while the remainder is available for individual workers in universities, university hospitals, and elsewhere. In the issue of the *Canadian Medical Association Journal* for January it is announced that the income of the Foundation is now in the neighbourhood of 30,000 dollars, and a list is given of the various recipients of grants, and of the lines of research which they are following.

The centenary meeting of the British Association for the Advancement of Science will be held in London from September 23rd to 30th next, under the presidency of General Smuts. The following Sectional presidents have been appointed: Section A (Mathematical and Physical Sciences), Sir J. J. Thomson; Section B (Chemistry), Sir Harold Hartley; Section C (Geology), Professor J. W. Gregory; Section D (Zoology), Professor E. B. Poulton; Section E (Geography), Sir Halford Mackinder; Section F (Economic Science and Statistics), Professor E. Cannan; Section G (Engineering), Sir J. Alfred Ewing; Section H (Anthropology), Professor A. R. Radcliffe-Brown; Section I (Physiology), Dr. H. H. Dale; Section J (Psychology), Dr. C. S. Myers; Section K (Botany), Professor T. G. Hill; Section L (Educational Science), Sir Charles Grant Robertson; Section M (Agriculture), Sir John Russell. A full preliminary programme will be issued in April. Forms of application for membership may be had from the secretary, British Association, Burlington House, W.1.

HEALTH OF THE ARMY

REPORT FOR THE YEAR 1929

The report[1] on the health of the Army maintains its reputation as a progressive medical annual, and medical officers are to be congratulated on having every year a concise review of the important medical statistics and scientific details connected with disease in the Army. The benefits would be enhanced if all members of the profession serving in the R.A.M.C were supplied with an official copy.

Although the admission rate has risen from 426.2 in 1928 to 468.5 per 1,000 of strength, the rise is insignificant, and is explained by the epidemic of influenza in the home commands during the early months of the year, which caused the ratio per 1,000 of strength for this disease to rise from 8.8 in 1928 to 36.8 in 1929. If the figures for the commoner diseases are examined, it will be seen that diseases of the digestive system, with a ratio of 100.0 per 1,000, diseases of the skin, 23.2, and diseases of the respiratory system, 20.4, show a slight increase over the figures for these diseases in 1928. On the other hand, local and general injuries (52.1), venereal diseases (35.0), and septic conditions (34.7), show a slight decrease. The totals, excluding influenza, show a very slight general rise to 265.4 per 1,000 in 1929, as compared with 261.0 in 1928. Of the ordinary infectious diseases, a slight increase occurs in the admission rate for diphtheria (1.5 per 1,000), enteric fever (1.5), and meningococcal infection (0.2), but the other infectious diseases met with at home and abroad either show a decreased ratio or are absent altogether. The increase in the admission rate for enteric fever is due to the increased incidence in India and Egypt, and is explained by the wider and more thorough employment of scientific methods of investigation, leading to closer co-operation between the ward and the laboratory, and the discovery of mild and abortive typhoid infections. This point is fully dealt with in the section of the report devoted to India. The decrease in the admission rate for malaria and dysentery in 1928 has not been maintained. Malaria shows a ratio per 1,000 of 41.2, as compared with 35.7 in 1928, and dysentery shows 6.5 against 5.8. The increase in both cases is comparatively slight, and may be considered as a normal variation in the yearly rate among troops occupying certain parts of the Empire.

There is a slight increase in the death rate from 2.36 per 1,000 of strength to 2.45, and also in the invaliding rate, 9.06 to 10.10. The principal causes of invaliding were again inflammation of the middle ear and tuberculosis, the former accounting for 260 cases compared with 246 in 1928, and the latter 233 against 207. These two diseases are a constant source of wastage to the Army and expense to the State. According to the report, investigations have been carried out in connexion with them, but it might repay both the Army and the State to continue these investigations and to insist on a more careful examination of all doubtful cases by skilled practitioners or specialists before enlistment.

Section II is interesting. It deals with the special departments of medicine, surgery, hygiene, pathology, dental treatment, and the medical examination of recruits. The reports indicate that there are many opportunities for medical research in the Army, and that a wider range of such work is being carried out, as, for example, on the association of cysticercosis as a possible cause of epilepsy, the investigations into pyrexia of uncertain origin, eye conditions, and the treatment of gonorrhoea. The average duration of treatment of each case of gonorrhoea is approximately three months, but an improvement has been effected by the Woolwich method, which has reduced the time to 48.9 days. The period is, however, still considerable when it is remembered that the soldier patient comes earlier under skilled treatment than the average civilian sufferer. The departmental reports show a tendency to become slightly ill-balanced, as, for example, in the hygiene section, where the inclusion of unnecessary minor details detracts from the general interest, and in the pathology section, which concludes with a list of publications, one entitled "Evacuation Time-Table for Motor Ambulances from A.D.S. to M.D.S."

Section III shows at a glance, by standard statistical tables, the incidence of disease in the different commands. An exception is the chapter on India, and rightly so, since India has always been a field of research among enthusiastic medical officers of both the I.M.S. and the R.A.M.C. There can be no doubt that the improved conditions under which both Europeans and Indians now live and work are intimately associated with the pioneer efforts of both Services. The subsection on India follows in miniature the general scheme of the report. The prevalence of dengue, sand-fly fever, pyrexia of uncertain origin, enteric fever, malaria, and dysentery is discussed at length, and interesting accounts are given of the investigations carried out during the year under review. This is encouraging in view of the fact that the opportunity for research work by many R.A.M.C. officers in that country has been somewhat neglected in late years. It is hoped that their efforts will be continued until the vexed question of pyrexias of uncertain origin and allied fevers is finally determined. A careful study of this part of the report will familiarize officers proceeding to India with the outstanding details of medical work in that country, and will encourage all to visualize the important medical work being done at the present time and the possibilities of research still to be carried out under the most favourable conditions.

It is interesting to note that increased attention is being given to dental treatment in the Army, and to record that close co-operation continues between the medical and dental officers in the treatment of diseases which may have relation to the condition of the teeth or mouth. As already pointed out, diseases of the digestive system are responsible for a high admission ratio in the Army. It is early yet to state what influence dental treatment may have on the incidence of this group of diseases, but it is hoped that this aspect of preventive medicine may be investigated and the results recorded. During the year, 61,109 soldiers, in addition to officers and families, received dental treatment, as compared with 61,738 in 1928.

[1] Report on the Health of the Army for the year 1929. Vol. lxv. London: H.M. Stationery Office. 1931. (3s. net.)

Ireland

Prevention of Influenza

In view of the occurrence of influenza in various parts of the Irish Free State the Department of Local Government and Public Health has addressed a circular to local authorities which states that neither the incidence nor the mortality from this disease need cause anxiety at present. Having regard, however, to the possibility of a recurrence in an epidemic form, the Minister impresses upon sanitary authorities and their medical officers the necessity for taking immediate steps to deal with any threatened outbreak in their districts. The circular suggests that children from infected houses should be warned not to attend school, and that members of households where the disease is present should be advised not to attend cinemas or other crowded places. A number of other precautionary measures are outlined relating to the thorough ventilation of living rooms, the observance of strict cleanliness, and the regular use of a simple gargle. Directions are also given in regard to the nursing of patients, and the disinfection of rooms, clothes, and bedding, when the attack has passed.

Medical Officer of Health for County Dublin

At a recent meeting of the County Dublin Board of Health a scheme was submitted to the Department of Local Government and Public Health for the sanction of the Minister. The main proposals were

the appointment of a county medical officer of health, at a salary of £1,000, inclusive of travelling expenses, and the appointment of Dr. Cuffe, the present tuberculosis officer, to the position of assistant to the county medical officer of health. Other proposals included the appointment of two nurses, to discharge all duties assigned by the Board of Health, after consultation with the medical officer, and the appointment of all the present dispensary district medical officers of health, under the control of the county medical officer concerned, at the same remuneration as at present. The appointment of veterinary inspectors was referred to a subcommittee, to consult with the county council with a view to complete co-ordination of the veterinary services in the county.

Medical School Inspection in Northern Ireland

At a recent meeting of the Coleraine Regional Committee a report was read from medical practitioners of the neighbourhood in reply to a number of questions that had been submitted to them. The report stated that they were unanimously in favour of a dental scheme, but that such a scheme, to be effective, must make provision both for extractions and for fillings. They recommended that school children should be given a midday meal, which should be hot—at least in the winter season. This meal of bread and either milk or broth should be provided to necessitous children free of cost. Proposals were made for opening the schools at a later hour, as they considered that the children were not getting sufficient sleep. They agreed to issue medical certificates to children who were obliged to be absent from school on account of illness, at a flat rate of one shilling each. In cases for which operations for tonsils were recommended, and the parents were neither eligible for free treatment nor able to pay the ordinary fee for the operation, special terms might be arranged through the committee. Statistics in connexion with the medical inspection of children at transferred schools during the year indicated that of a total of 4,651 children on the rolls, 1,012 were found to be defective in health; this figure included 603 cases of defective teeth and 325 cases of nose and throat trouble.

Scotland

Records of Insured Hospital Patients

A meeting of the Scottish Branch of the British Hospitals Association was held in Glasgow on February 11th, at which Colonel J. A. Roxburgh presided. A discussion took place in regard to "Form M.R.," recently issued by the Department of Health to practitioners working under the national health insurance scheme, for use in correspondence with hospitals regarding patients whom they sent for treatment. An explanation of the form was given by Mr. N. F. M'Nicol of the Department of Health, who said that the hospital should be entitled to a note from the practitioner giving some details about the case, and stating why the patient was referred to hospital, while the panel practitioners should also be provided with information from the hospital staff regarding the treatment of the patient. An opportunity had arisen where the department thought it could be helpful, and at the instance of the insurance practitioners this form had been prepared and regulations had been framed which made it incumbent on every panel practitioner, when he sent a patient to hospital, to send with him a statement regarding his present condition. It was suggested that when the patient was discharged from hospital, or when a diagnosis had been made, a member of the medical staff concerned should state what had happened to the patient, and indicate the opinion of the consultant. There were two main general principles behind the form. The department thought it would increase the status of the practitioner if his record of his patients was complete. It also thought that the general practitioner might give a great deal of help in the scientific investigation of the causes of disease, and unless he had the full medical history of his patients this could not be done. A long discussion followed, during which special attention was directed to the great amount of extra clerical work which would be thrown upon the hospitals. It was pointed out by Colonel Thom of the Edinburgh Royal Infirmary that the number of insured patients treated at that hospital in the past year numbered 20,457; such a figure indicated that the adoption of the proposal would mean a large increase in clerical work. Mr. M'Nicol, in reply, admitted that the proposal would involve additional cost, but thought that the department would probably be able to find a sufficient sum from insurance funds to cover the cost of postages.

Glasgow Royal Infirmary

At the annual meeting of the Royal Infirmary of Glasgow Dr. J. Parlane Kinloch, medical officer to the Department of Health for Scotland, in moving the adoption of the report, referred to the erection of an auxiliary hospital to the institution at Canniesburn, Glasgow, whose construction is now being commenced. Funds amounting to £100,000 are available for the scheme. Dr. Kinloch said that this scheme introduced a group of modern ideas in hospital development in three important directions. In the first place, public opinion in regard to hospitals was tending towards a regional development. The teaching hospitals in the four university cities of Scotland would increasingly function as great casualty clearing stations and emergency hospitals, as well as for the treatment of acute remedial conditions. They would serve a whole ring of modern hospitals surrounding these cities, where fresh air, sunshine, and open-air treatment would be available to the fullest extent. In the second place, modern hospital construction on this side of the Atlantic favoured a horizontal type of building, one or two stories high, with a maximum provision of veranda accommodation, as contrasted with the typical American building of vertical design, many stories high. The plans of the Canniesburn Hospital would meet the requirements of Scottish hospital architecture, and would incorporate the whole range of new devices for facilitating administration, preventing infection, and securing the well-being of patients. Further, the directors proposed to provide paying wards, and they contemplated that these might be made available and be maintained under a mutual hospital insurance scheme. Dr. Kinloch predicted that this would be an unqualified success, and that participators in the scheme would receive benefits beyond measure for their premiums. Such a development was envisaged by the hospital clauses of the Local Government Act of 1929, which safeguarded the voluntary hospitals. With the development of a mutual hospital insurance service, they could see the beginning of a really adequate hospital service for Scotland, which would be available not for the poor alone, but for every citizen. He thought that the Canniesburn project merited enthusiastic support.

The report of the Royal Infirmary for the past year states that 127,215 persons received attention at the Infirmary—an increase of 7,251 over the figure for the previous year. The total ordinary revenue was £88,325, while the total ordinary expenditure was £110,924. Receipts, including endowments, amounted to £127,883, with total payments of £113,754, leaving a surplus of £14,129.

Crichton Royal Institution, Dumfries

The annual report of the Crichton Royal Institution for 1930, by Dr. C. C. Easterbrook, physician superintendent, states that there were 1,023 patients on the registers on January 1st, 1930, and the same number at the close of the year. During the year there were 319 admissions, 228 discharges, and 91 deaths; the total number of cases treated was 1,342, including 611 males and 731 females. The average daily number in residence was 1,020. Certified patients on January 1st amounted to 749, while the number of voluntary patients was 274. Voluntary patients under treatment during the year totalled 457; of these only 2 had to be certified. The report describes the year 1930 as "a red letter year for the rate-aided mental invalid." It points out that the Local Government (Scotland) Act of 1929, which transferred the functions of parish councils to the town councils and county councils, introduced much-desired reform in dissociating mental illness from pauperism, and by making the liability for the maintenance of the mental invalid during his treatment a charge on the county or town council rates, thus putting him on exactly the same footing in this respect as fever patients in hospitals for infectious disease and tuberculous patients in sanatoriums. The report also states that the new financial arrangements should promote earlier treatment by enabling the mental patient to go voluntarily to a mental hospital, instead of delaying until he is clearly certifiable as insane, as has been the usual practice in the past, largely because the patient could not obtain the benefit of the lunacy grant unless he became a pauper lunatic. Apart from humanitarian considerations early treatment under the voluntary procedure should prove in the long run an economy to the country by preventing much chronic and incurable mental invalidism. Attention is drawn to the fact that within recent years various parish councils in Scotland have begun to adopt the voluntary procedure, and the hope is expressed that the patients maintained by local authorities will come to mental institutions in future in the same proportion as private patients. The report points out that Scotland was in advance of England in its legislation for the mental invalid until the English Mental Treatment Act of 1930, but Dr. Easterbrook considers that if the Scottish county and town councils freely adopt the voluntary procedure for the admission of rate-aided patients, thus encouraging them to come sooner for treatment, many of the advantages gained for England by the Act of 1930 will be secured for Scotland under the Local Government Act of 1929. Of the 228 patients discharged during the year, 147 were voluntary and 81 certificated. The voluntary cases showed a recovery rate of 39.9 per cent., while 37.1 per cent. were improved.

The Certified Patient's Old Age Pension

In the course of his annual report for 1930, as medical superintendent of the Glengall Hospital, Ayr, Dr. Douglas McRae makes the following remarks on a legal anomaly affecting mental hospital administration: "Nearly a quarter of the admissions (24 per cent.) were over 65 years of age, but the prospect of a State pension seemed to have been an inducement for the relatives to keep the case at home, the patient, instead, becoming a charge on the local ratepayers. That the certified patient's old age pension is not available for his maintenance is a curious anomaly that has no parallel in the case of a person who has some means or has earned a pension for services rendered. In the case of a voluntary patient, however, his old age pension can be employed to meet the cost of treatment in a mental hospital. By such discrimination the 'stigma of certification' has thus received legislative approval! Formerly the stigma of certification had no practical significance except with the emigration authorities, who subject their applicants to a searching inquiry into their family history; and it has long proved a grievance to the criminal, who prefers a short term of imprisonment to a protracted sojourn in a mental hospital."

England and Wales

The Registrar-General's Statistical Review for 1929

The last of the three annual volumes constituting the Registrar-General's Statistical Review for 1929 has now been issued.[1] It contains the official analysis of the vital statistics contained in Parts I (Medical) and II (Civil) issued recently. Special sections are devoted to births, marriages, deaths, stillbirths, estimates of population, vital statistics of Great Britain and Ireland, and meteorology. The population of England and Wales at the middle of the year is estimated at 39,607,000 persons (18,969,000 males and 20,638,000 females). The total is in excess of the 1921 census figure by some 1,720,000 persons, an arithmetical increase of 0.56 per cent. per annum as compared with 0.49 per cent. per annum during the decade 1911–21. The marriage rate was 15.8, or 0.4 per 1,000 population higher than in 1928, and was the highest recorded since 1921, notwithstanding the prevailing economic depression. The birth rate was 16.3, or 0.4 per 1,000 less than in 1928, and was the lowest recorded in this country since the establishment of civil registration. The death rate was equal to 13.4, or 1.7 above that recorded in 1928, and was higher than in any year since the great influenza pandemic of 1918–19. The increase was greatest at the two extremes of life, and lowest among young adults. The first quarter of 1929 was marked by a period of severe weather—the coldest experienced since 1895—and a serious outbreak of influenza, which, with an increase in the deaths from cardiac and respiratory diseases, was chiefly responsible for the high death rate during the quarter. These adverse conditions were also responsible for the increase in the infantile death rate, which rose from 65 in 1928—the lowest hitherto recorded—to 74 per 1,000 live births. A new table (first published for 1928) shows the deaths and death rates from various causes during the first thirty minutes of life, and attention is drawn to the excessive mortality of illegitimate children at this age. The mortality from influenza was the highest experienced in any year since the great epidemic of 1918–19. The deaths ascribed to cancer during 1929 numbered 56,896, the highest number yet recorded for any one year. A table, continued from the previous year, shows the chief sites of cancer in order of frequency and the proportions of deaths for each site; and another shows the reduction in the mortality from diabetes, at ages under 55 years, since the introduction of insulin in 1923. At the later ages the mortality continues to increase, especially among females. Mortality from pernicious anaemia at various age groups from 1921 onwards shows the effects on death rates of the introduction of the new treatment with liver, the mortality being decidedly lower. A table and diagram comparing the consumption of alcohol with death rates from alcoholism and other allied causes from 1871 onwards exhibits the marked decrease of mortality both from alcoholism and from cirrhosis of the liver coincident with the decline in the consumption of alcohol.

[1] *The Registrar-General's Statistical Review of England and Wales for the Year 1929.* (New Annual Series, No. 9.) Text. London: H.M. Stationery Office. 1931. (2s. 6d. net.)

Moorfields Dinner

The annual dinner of past and present students of the Royal London Ophthalmic Hospital was held at the Langham Hotel on February 12th. The chairman was Mr. A. H. H. Sinclair, ophthalmic surgeon to the Edinburgh Royal Infirmary. Among those present were Lieut.-General Sir H. B. Fawcus, D.G.A.M.S., Dr. T. Watts Eden (President of the Royal Society of Medicine), Professors Elliot Smith, Woollard, and Lovatt Evans, Sir Walter Fletcher, Sir William Lister, Sir John Parsons, Mr. Theodore Luling (chairman of the hospital), Mr. J. Herbert Fisher, Mr. Treacher Collins, and Mr. Holmes Spicer. The toast of "The Hospital and Medical School" was proposed by the chairman, and other toasts were proposed by Mr. R. Affleck Greeves and Mr. R. Foster Moore. The Dean, Mr. Charles Goulden, in presenting his report, spoke of the enlargement of the out-patients' department and other improvements that were soon to be put in hand by the board of management, whereby the clinical teaching could be carried out more conveniently. The school accommodation would also be extended, as well as the library and laboratories. The hospital itself had been enlarged during the past year, and there were now wards for private patients—a much-felt need. In the year under review the number of students working at the hospital was 160, of whom 98 were new: The number of lectures given amounted to 409, apart from the usual clinical teaching. In the public examinations many successes were recorded by students of Moorfields.

Royal Medical Benevolent Fund Guild

The women's branch of the Royal Medical Benevolent Fund, commonly known as the Royal Medical Benevolent Fund Guild, is a vital organization. This fact is easily understood when it is known that during the last two years thirty-seven new branches of the Guild have been opened. Yet, even so, there are many important towns without branches, and consequently many doctors' wives who have never heard of the activities of the Guild. We are asked to say that Mrs. Keppel Barrett, chairman of the Branch Organizing Committee, 102, Church Street, Kensington, London, will be most grateful for introductions to doctors' wives in provincial centres; for, if the work of the Guild increases every year, so also in a greater measure does the need of it. The medical profession has suffered with others from the hardness of post-war conditions, while it is common knowledge that the doctor is often the last person to have his bill settled. Further information about the Guild and its work can be obtained from the secretary, Royal Medical Benevolent Fund Guild, Tavistock House, Tavistock Square, London, W.C.

Society of Radiographers

The tenth annual dinner of the Society of Radiographers, held on February 13th, under the chairmanship of Mr. C. L. Winch, was a light-hearted affair; not often is the serious side of an art caricatured so ably as in the mock paper and discussion which was arranged on "The pitfalls of radiography." The guest of the evening, Professor G. Elliot Smith, acknowledged the debt which anatomists owed to radiographers in making possible the study of the living body. His own first contact with *x*-ray work was made in Egypt at the time the mummy of Thothmes IV was discovered. A dispute arose among the archaeologists as to whether this Pharaoh was a young man or a middle-aged man, and the mummy was too well preserved to permit of much anatomical investigation. To introduce an *x*-ray outfit into the museum was shocking to the susceptibilities of those concerned, but a cab was ordered to be at the museum after dark, and in this the ruler of the Egypt of three millenniums ago was transported through the streets of Cairo to a nursing home, where the only *x*-ray apparatus in the country at that time was installed. The outcome of that proceeding was a commission to examine all the royal mummies. Professor Elliot Smith added that a good deal of the information obtained from the fossils of early man recently discovered near Peking was got by means of *x* rays. The radiograms, of which he had received prints only that morning, helped greatly in interpreting the remains. They afforded information, for example, about the internal ear; if the exact position of the semicircular canals were determined, some idea might be gained as to the posture of the individual, and the way he carried his head. Major C. E. S. Phillips, president of the British Institute of Radiology, proposed the health of the Society of Radiographers, and to the toast of "The Visitors," proposed by Dr. Duncan White, there were responses by Dr. A. E. Barclay, Mr. W. E. Schall, and others. Mr. F. Melville, secretary of the society, mentioned that its membership was now 387, whereas ten months ago it was 295. He stated also that last year the society held examinations in Ceylon and at Alexandria.

Correspondence

OBSTETRICAL EDUCATION OF THE UNDERGRADUATE

SIR,—I have been much interested in the discussion about the training of undergraduates in obstetrics and gynaecology which has appeared in the *British Medical Journal*. As the Swedish medical curriculum has been mentioned there, I am perhaps permitted to say a few words concerning that question.

It is quite correct, as Dr. Letheby Tidy points out, that, theoretically, there is no reason why students in Sweden should not complete their medical studies in six and a half years. But, practically, it is almost impossible; in any case, I do not know that it really occurs. The average time for our medical curriculum is eight or nine years; in exceptional cases it has been seven or seven and a half years, due to overlapping in certain courses, especially in Stockholm. The reason for this very long curriculum depends mainly on two circumstances: first, that all our clinical training is compulsory *before* the examination, not *after* it; and secondly, on our system of examination. As Dr. Tidy rightly says, there is no pressure on students to present themselves at a fixed time, and so the time slips easily away. The result is, as I mentioned before, an average curriculum of eight or nine years, as Professor Munro Kerr has stated in his paper.

Concerning the main question about the training in obstetrics and gynaecology, the time in Sweden is four months, and now I am informed that the corresponding training in Glasgow is carried out in three months. There is no doubt but that a satisfactory training can be given in three months too, supposing a sufficient number of confinements or a limited number of students. In Sweden we are satisfied with four months, but there are people here, too, who consider three months quite sufficient. To me, with my experience of thirty years' clinical teaching in this subject, it is difficult to understand how to keep the undergraduates busy for six months with only obstetrics and gynaecology without wasting their time. Certainly I agree fully with Professor Munro Kerr on that point.

There is one other difference between our teaching and the Scottish one which may perhaps be worth mentioning. In our training we insist that the students, before finishing

their four months, shall have personally applied forceps upon a patient. As I understand, this opportunity is not given to the students in Glasgow. There are reasons for both. To us it seems safer that the first forceps should be applied under the direct control of the professor or his first assistant, but Professor Kerr is of course right when insisting that a thorough training in obstetrical operations is possible only by gaining personal experience and profiting by mistakes. Experience in obstetrical operations and complicated obstetrical cases can only be gained by a special training after graduation. Just as it is necessary that the surgeon should receive such training before he practises as a surgeon, so it is necessary that those who are going to undertake obstetric operations should receive a similar training.

In Sweden, the obstetric practice in more populous areas is now mainly carried out in such a way that complicated cases are sent to the obstetrical hospitals, of which we now have a great many, very well equipped. In the country, the general practitioner assists the midwives in complicated cases by applying forceps or performing version; but if it comes to very serious cases—for instance, a rupture of the uterus or a narrow pelvis—those cases, too, are sent to the nearest hospital. Outdoor practice, such as is arranged in certain countries, by the staff of the hospitals who go out to assist midwives in the patient's home, is not very much in use in Sweden.

There are many more points of interest to discuss, but I must limit myself to what I have said. With thanks for your courtesy, I am, etc.,

Lund, Sweden, Feb. 9th. ELIS ESSEN-MÖLLER.

X-RAY THERAPY IN MALIGNANT DISEASE OF THE LUNG

SIR,—It was with the greatest interest and pleasure that I read Dr. Ffrangcon Roberts's admirable letter on this subject in the *Journal* (p. 283). Those of us who have had opportunities of dealing with large numbers of cases of primary malignant disease within the thorax know only too well the limits and disappointments of treatment in this distressing condition; wherefore it is all the more important that we should strive for more co-operation in the spirit of generous understanding for which Dr. Roberts pleads. In response to his restrained and courteous letter I should like once again to express the conviction, which I have had occasion to record elsewhere, as to the undoubted benefit of *x*-ray treatment in primary lung carcinoma.

No one of experience can be optimistic enough to suppose that the results are, at present, anything more than palliative, but surely in a condition such as this it behoves us to omit no detail which may serve to postpone or to diminish the grosser forms of suffering which characterize the later stages of this particular form of malignant disease. That we do thus benefit these patients, and that we do sometimes succeed in prolonging life under conditions more tolerable than would obtain without radiation, is a conclusion which, in company with my radiological colleagues at the Brompton Hospital, I have reached after seeing a very considerable number of cases. I am fully aware that it is extremely difficult in the absence of any definite scientific control accurately to appraise the results of any given therapeutic measure (of this we have ample evidence in the ceaseless appearance of tuberculosis "cures," for example), but I cannot believe that the clinical impressions of those who have carefully watched the progress of many patients ought lightly to be set aside as without significance.

For some years I have endeavoured to urge upon post-graduate students who are taking up the study of diseases of the chest the importance of spending as much time as they can possibly spare in the *x*-ray department, in order to learn the real meaning of co-operation between clinician and radiologist, an ideal which is talked of sententiously by so many clinicians and pursued by so few. It means, of course, no little extra demand upon the time and patience of the clinician; but for the attainment of results in medicine, as in everything else in this world, there is, in my humble opinion, no substitute for the taking of trouble or for the exercise of personal energy.—I am, etc.,

London, W.1, Feb. 14th. MAURICE DAVIDSON.

SIR,—In the *Journal* of February 14th Dr. Ff. Roberts takes Mr. Tudor Edwards to task for his statement that he has yet to see a patient suffering from malignant disease of the lung benefited by *x*-ray therapy. Dr. Roberts is in the fortunate position of having had cases in which there has been "undoubted material benefit as regards alleviation of symptoms and prolongation of life," yet no exact details are supplied as to the number of cases in which this partial success is claimed, and one cannot conclude from his letter that Dr. Roberts's results differ appreciably from those of other radiologists. It must be remembered that intrathoracic surgery is as yet in its infancy, and that there is good reason to hope that the results obtained will show a great improvement in the next few years, whereas *x*-ray therapy is a well-established method of treatment which has had ample opportunity of demonstrating its possibilities in the treatment of intrathoracic malignant disease.

In a paper recently published (*Quart. Journ. Med.*, October, 1930), Nicholson and I reviewed the results of treatment in a series of 16 cases, each treated by more than ten applications of *x* rays. The average duration of life from the onset of the first symptom was 14 months in these cases, compared with an average of 10.9 months in our whole series of 100 cases, and these figures may be compared with those of Kidd, who, in 1883, found the average duration of symptoms to be 13.2 months in a series of similar cases.

From an unbiased point of view the results of *x*-ray treatment in intrathoracic malignant disease may be summarized as follows:

1. In sarcoma, a rare condition and usually mediastinal in origin, there is frequently dramatic improvement for a considerable time, although the prospect of ultimate cure is remote.

2. In bronchial carcinoma, the most common tumour, there are three main groups of cases. In the first and smallest group there is marked clinical improvement, which may last up to three years or even longer, but which, so far as I am aware, is never so complete as to be entitled to the term "cure." The second group comprises the great majority of the cases, in which there is no striking change, or perhaps a temporary alleviation of symptoms, the duration of life being extended by a few weeks or months. The third group, which fortunately is small, consists of cases which are made worse by *x*-ray treatment, either as a result of pronounced local reactions, or of rapid dissemination of the growth to other parts of the body.

As I have previously pointed out, the efforts of both surgeon and radiologist are hampered by the fact that metastases are usually present in inaccessible situations before the patient comes under their care. The essential need to-day is early diagnosis, which, if it could be combined with some reliable general treatment, chemotherapeutic or otherwise, might conceivably revolutionize the prognosis in this, at present, one of the most hopeless varieties of malignant disease.—I am, etc.,

London, W.1, Feb. 15th. JAMES MAXWELL.

THE INCISION FOR APPENDICECTOMY

SIR,—I read with much interest Mr. Southam's article on the incision for appendicectomy in your last issue. I am quite in agreement with him that the right rectus incision is the best for general exploration, but that in cases of acute appendicitis the incision is some distance from infection. Surely this objection is also valid, although to a lesser degree, if Battle's incision is used.

Mr. Southam refers to drainage through "McBurney's" (actually Elliot's) incision, and complains that inguinal hernia may then develop owing to implication of the ilio-inguinal nerve in scar tissue. In the *British Journal of Surgery* (vol. x, No. 40, 1923) I published a paper based on 1,503 cases of acute appendicitis, reviewing the complications following drainage through various incisions. The results showed a much greater incidence of complications following drainage through the gridiron incision than through any other incision. Drainage may be necessary for pelvic or general infection, or for localized infection in the right iliac fossa. In the former case suprapubic drainage is obviously indicated, and in the case of infection of the right iliac fossa a stab wound in the flank is as direct and dependent as possible, and if made obliquely is parallel to the ilio-inguinal nerve. The original wound may then be partly closed, preferably in the manner suggested by Professor Wilkie in your last issue, and the risk of infection and subsequent scar tissue is reduced to a minimum, with consequently little risk of implication of the ilio-inguinal nerve. Furthermore, incisional herniae are seen much more commonly after an infected lower right rectus or Battle's incision than in connexion with a gridiron incision.—I am, etc.,

R. J. MCNEILL LOVE,
London, W.1, Feb. 15th. Surgeon, Royal Northern Hospital.

MORTALITY OF ACUTE APPENDICITIS

SIR,—Professor Wilkie's thoughtful paper (*Journal*, February 14th, p. 253) calls for some criticism, which I know very well he will welcome. He believes that the mortality rate of acute appendicitis has not diminished in the past twenty years, despite the manifold improvements in all matters relating to the treatment of the disease during the same period, and ascribes our failure to reduce the mortality to the want of recognition of the most lethal type (the acute obstructive variety) at a sufficiently early period to permit of operation in the pre-perforation stage, though he observes, as all other surgeons do, that the majority of cases of acute appendicitis do come to the surgeon now much earlier than formerly. While I agree that acute obstruction of the appendix is not yet sufficiently regarded as a distinct type of appendicitis, I doubt very much if in practice the diagnosis of acute appendicitis is delayed on that account. It is generally realized in the profession now that every case of acute appendicitis holds out the possibilities of the gravest peril, and that the only safeguard against these is early diagnosis and operation; the absence of rise in pulse rate, and particularly of the temperature, in the first twelve, or even twenty-four, hours is of little account in arriving at a diagnosis in this period. With the general public the position is very different; the use of the clinical thermometer by parents and school authorities, and the false security engendered by a normal reading, is, in my experience, more responsible for delay in calling in medical advice in this and other acute abdominal diseases than any other factor. If there is one type of appendicitis that is yet apt to be overlooked in its early stages by the profession it is that in which the appendix is pelvic in position, and this, irrespective of the pathological type, remains a trap even for the most experienced practitioner.

Is Professor Wilkie correct in stating that the death rate of acute appendicitis is as high to-day as it was twenty years ago? I venture to assert that he is not. It is true that the Registrar-General's returns show approximately the same number of deaths from appendicitis per million of the population now as those of twenty years ago, but these figures give us no idea of the incidence of the disease during the same period. If we examine the statistics of any large general hospital we shall find, I believe, that the number of acute appendicitis patients has substantially increased during the period in question, while the percentage of deaths has diminished. For example, at the Manchester Royal Infirmary in three years ending 1915, 1,650 cases of acute appendicitis were treated, with a death rate of 12.5 per cent.; in the three years ending 1926, 2,490 cases were treated at the same hospital, with a mortality rate of 6 per cent. It should be pointed out that, during the period quoted, there had been a material increase in the hospital accommodation of the surrounding area, but not in the surgical beds of the hospital concerned. It is fair to assume, therefore, that the actual increase in the number of cases in the district was greater than is shown by these figures. I suggest that the striking decline in the mortality rate shown by the foregoing statistics is in accord with the personal experience of every surgeon who has practised during these years, and therefore may be regarded as representative of a general decline in the case mortality, creditable to the teacher and practitioner alike.—I am, etc.,

Manchester, Feb. 16th. H. H. RAYNER.

SIR,—Professor Wilkie's timely and thought-provoking article on acute appendicular obstruction must earn the gratitude of all medical practitioners.

There can be very few of us who have not at one time or another had the misfortune to observe cases such as he describes without fully appreciating the disastrous result of observation and consequent delay until the diagnosis has suddenly become all too clear, with the rapid onset of general peritonitis, and almost necessarily fatal termination in spite of operative intervention. It is a trap into which many of us have fallen, and I have seen physicians of great experience commit the same error of judgement.

It is perfectly true that ignorance of the fundamental pathology of the condition is largely responsible for this state of affairs, but to my mind a very important reason for the fatal delay is the association of equivocal symptoms and signs with a normal temperature and pulse rate. We have all been taught to look for signs of constitutional disturbance produced by inflammation—for example, an increase of temperature and of pulse rate—and while these have remained normal we have been content to watch and wait, without realizing that to do so is to sit on a volcano!

A cogent reason for the ignorance of students and young practitioners of this condition is its comparative rarity in hospital practice, because it is only after the obstructed appendix has burst, and the classical signs of general peritonitis have supervened, that these cases are sent into hospital. It is the duty of those of our surgeons who are post-graduate teachers to emphasize this most important point, and when the lesson is well learnt, but not until then, is it likely that acute appendicular obstruction will become a familiar and well-recognized condition, with consequent heavy reduction in the mortality therefrom.—I am, etc.,

Dagenham, Feb. 16th. LOUIS F. BECCLE, M.B., B.S.

THE ENIGMA OF THE CHILBLAIN

SIR,—Some years ago I went to give a lecture at a big school in the Midlands, and the head master told me that the system of heating the school rooms by hot-water pipes had completely broken down, but he had carried on, keeping the boys warm enough by extra clothes and exercise. A notable result had been the disappearance of all chilblains, which in previous years had been very common. It is not, then, exposure to cold, but artificial warming of cold extremities, which works the mischief. Artificial light baths are, I find, a most excellent method of treatment.—I am, etc.,

Chalfont St. Peter, Feb. 15th. LEONARD HILL.

SIR,—Dr. Izod Bennett dismisses the enigma of the chilblain with a rather contemptuous gesture, but I can assure him that the question is by no means as simple as he would seem to have us believe. When I saw his name at the foot of the letter in your last issue I hoped we were to be told that the real cause of chilblain was to be sought in the digestive apparatus, to the study and lucid exposition of which he has given so much time and service, and I was disappointed to find that he takes a very different view.

I have for many years been convinced that in some cases at any rate the tendency to chilblain is a metabolic matter. I have suffered from that tendency all my life, and still do so, and I have always found that indiscretions in diet, or worry and anxiety (they always give me dyspepsia), are far more important factors than any other. One of the many curious things about a chilblain is the rapidity with which it will disappear when the metabolic cause is removed. A cholagogue or a day's fast will cure in a few hours a hot, angry, painful swelling, large enough to prevent the wearing of the ordinary boot. I may add that neither calcium internally, nor anything externally, has ever afforded me any relief; also, that I appear to be an exception to Dr. Izod Bennett's rule, inasmuch as being abroad has never protected me against a chilblain on the not infrequent occasions when I have otherwise deserved it.—I am, etc.,

St. James's, S.W.1, Feb. 16th. LEONARD WILLIAMS.

TREATMENT OF VARICOSE ULCERATION

SIR,—Sir Leonard Hill's letter (February 7th, p. 240) on the question of stagnation of tissue fluids in the lower limb is most opportune. Relatively few medical men seem to adopt the at least thirty years old method of applying Unna's paste casings while the patient, including his head, is lying horizontal, and after the affected limb has been raised to an angle of forty-five degrees for twenty minutes. The casing makes an additional skin, which, though inextensible, does not strangulate the foot when the patient resumes the erect attitude. The foot should be included in the casing. This method, in my experience, is better than straining the bandages on in the way described by Dr. Twiston Davies, which is difficult to do evenly, and is apt to produce ridges in the oedematous skin. Either the ready-made impregnated bandages may be used or the paste may be applied with a paint-brush over open-wove bandages, the latter being the better in my experience, and the combination—namely, a thick coat of the paste over three layers of the impregnated bandages—being better still. The greater the degree of oedema the stronger should the casing be.

McPheeters's observations with the fluoroscope (*Surgery, Gynecology and Obstetrics*, July, 1929) are an interesting confirmation of the absolute need for an appreciation of the hydrostatics and hydrodynamics of the problem by all those practising the injection treatment. How many have not observed the swelling of the ankles which occurs for a few weeks after treatment, while the circulation is increasing in the deep veins? In many cases varicose veins begin to cause symptoms and increase when the patient stops pedal-cycling. The saddle carries the weight and reduces the height of the columns of blood. The muscular action pumps the blood through the veins more easily under these conditions and perhaps more actively or tonically than in walking. Certain it is that a return to cycling quickly reduces the oedema, and if a bicycle or tricycle is not to be had the use of a treadle sewing machine three times a day with the fly-wheel braked is excellent.—I am, etc.,

Aberdeen, Feb. 9th. G. H. COLT.

SIR,—There is no doubt that Dr. Adamson is right in his contention that the principle of firm bandaging in varicose ulceration is extremely old. But the system of treatment of varicose ulcers by means of elastoplast, as developed by Mr. Dickson Wright, is not only based on this highly important principle, but also takes advantage of the benefit always afforded to indolent ulcers when they are protected by an occlusive dressing which is only removed at infrequent intervals. This method of treating varicose ulcers is also hallowed by antiquity, for it appears first to have been devised and employed by Thomas Baynton of Bristol about the year 1790. He was the first to treat ulcers by means of a plaster dressing changed only about once a week. He, too, was very successful, although the only plaster at his disposal was home-made lead plaster; but the method fell into desuetude, probably on account of the frequency with which it caused dermatitis. The introduction of modern zinc oxide plaster on a rubber base has made his method far more practicable and diminished the risk of dermatitis, and I myself, who have been interested in varicose ulcers for many years, have often induced them to heal by strapping them with strips of this plaster, changing it only once, or at most twice, a week. But I am sorry to say that in many instances I have failed, because either the patient would not tolerate it or it caused irritation, and in ulcers extending more than two inches round the circumference of the leg it has always been useless. It seems to give the best results in long but somewhat narrow lesions.

The elastoplast bandage combines the application of both these principles—(1) firm pressure, (2) occlusive plaster dressing. Hence I think it is justifiable to consider it a new method of treatment, and certainly the results obtained from its use are far superior to anything previously seen in the treatment of varicose ulcers. Dr. Adamson states that equally good results can be obtained with the simple flannel bandage properly applied, and that it is even more scientific because "by the daily reapplication of the bandage the pressure is repeatedly adjusted to the gradual shrinkage of the swollen leg." Possibly that is true, but who is to reapply the bandage daily? If the patient (or her friends) attempts this scientific operation it is quite certain that the results will be deplorable, and, on the other hand, the daily attendance of the medical practitioner for the purpose, either at the patient's home or in the surgery or out-patient department, is almost always impossible. Now the elastoplast bandage needs only to be applied once weekly, and, owing to the fact that it is made from an elastic fabric, it *does* adjust itself to the gradual shrinkage of the swollen leg, and the diminution in the size and weight of the affected limb is one of the most striking benefits of its application. Another striking fact is that under the elastoplast

bandage the ulcers clean themselves, and quickly lose the offensive odour so often associated with " bad legs."

In my opinion it is not too much to say that the introduction of the elastoplast bandage has revolutionized the treatment of varicose ulcer; it has even been of more benefit than the injection treatment of the varicose veins themselves. The only objection to it is that occasionally it sets up so much cutaneous irritation that generalized dermatitis results; but, luckily, such cases are not frequent, much less frequent than with ordinary zinc oxide plaster.—I am, etc.,

London, W.1, Feb. 15th. H. HALDIN-DAVIS.

SIR,—At the present time the methods of treating all forms of gravitational ulcer resolve themselves into three main groups: (1) those directed at the removal of the effects of gravity when vascular equilibrium does not prevail in the lower part of the leg when in the standing position; (2) local treatment of the ulcer alone; (3) treatment designed to correct a supposed error of calcium metabolism. The first is logical, the second unreasonable, and the third ridiculous.

There are perhaps twenty different ways of applying the first method, of which Wiseman's and Unna's are probably the most used; of the second method there are at least two hundred different variations. The time-hallowed custom of dressing the ulcer dies hard, so that the first method is seldom used alone, some effort generally being made to treat the ulcer with medicaments, the treatment thereby losing greatly in efficacy, as a rule.

Space does not allow me to contrast fully the method originated at St. Mary's Hospital with other supportive measures except in one important respect. I have at the present moment 190 gravitational ulcers under my personal care at St. Mary's Hospital, involving me in two hours' work each week. If I discarded my present routine for that recommended by Dr. Adamson I would be faced with the " daily reapplication " of 190 " flannel bandages." *Res ipsa loquitur.*

The tendency to make this subject controversial is of the greatest value; Dr. Adamson's letters, and the replies they evoke, all emphasize *the* vital point in the treatment, and, moreover, attract attention to what is surely one of the most neglected diseases afflicting mankind.—I am, etc.,

London, W.1, Feb. 13th. A. DICKSON WRIGHT.

SIR,—I am afraid that our paper on this subject must have been very obscure, because I see that further misunderstandings have arisen.

I admit I should have said " 99.37 per cent. successful results," instead of " 100 per cent.," for it will be remembered that out of a total area of 970 sq. cm. of ulcer treated there remained 5 sq. cm. unhealed in one patient. Many of the patients referred to by Dr. Adamson as being still under treatment had had their ulcers healed weeks before, but were still having support for their legs to guard against relapse of the swelling.

The best way to discredit this method of treatment is to say that it is identical with the many bandaging systems which have been devised, and which are now relegated to the dust-heap. As far as I know, Dr. Adamson has never seen our method carried out. I still hope that, in spite of his authoritative criticism, practitioners with these cases on their hands will attempt the Dickson Wright method of treatment.—I am, etc.,

Hove, Feb. 14th. J. H. TWISTON DAVIES.

ETHYL CHLORIDE BY THE CLOSED METHOD

SIR,—At an inquest held on February 6th on the death of a child at the Birmingham School (Tonsil) Clinic, I gave some figures of administrations of ethyl chloride by the closed method. As reported in the *Birmingham Post* these might be taken as referring to anaesthetics in general.

In 1919 I reported in the *British Medical Journal* a series of 40,000 cases in Birmingham without a death, 11,000 of these being my own. Since then I have given ethyl chloride by the same method in over 20,000 cases, most of them at the school clinic, where, in seventeen years, 23,000 operations for the removal of tonsils and adenoids have been performed without a death until the present case. This was a girl of 9, well nourished and apparently healthy. She had been taken to bed after the operation, had recovered reflexes, and taken notice when spoken to, but collapsed suddenly and died immediately. The post-mortem examination made by Professor Haswell Wilson showed a very large thymus and great excess of lymphoid tissue throughout the body.

In view of my earlier communications I feel it right to report this, the only death in my own experience associated with the administration of ethyl chloride by this method.—I am, etc.,

Birmingham, Feb. 9th. C. B. DALE.

AVERTIN ANAESTHESIA

SIR,—The report of my remarks in the discussion at the Medical Society of London (February 14th, p. 265) represents me as saying that " avertin is always given by the mouth." I shall be glad if you will allow me to draw attention to this printer's error, and substitute the word " rectum " for " mouth." As far as I know, avertin is never given by the mouth.—I am, etc.,

London, N.W.1, Feb. 16th. FRANCIS E. SHIPWAY.

*** We much regret the slip.—ED., *B.M.J.*

FUTURE OF THE R.A.M.C.

SIR,—I have just been reading the report of the Proceedings of Council of the British Medical Association with reference to the shortage of officers in the Naval and Military Medical Services. As an officer who has had a long period of service in the R.A.M.C., and who after retirement had ten years' experience of work in a county public health department, I should like to make some comments.

When the present rates of pay and retired pay for the R.A.M.C. were granted the cost of living was about 120 per cent. above pre-war cost. The new rates of pay were a great improvement on the pre-war rates, though the increase was not nearly in proportion to the rise in the cost of living. As regards retired pay, the disproportion was much greater; the increase varied considerably, at some periods of service the new scale of pension being very little more, or even less, than the pre-war rate, and at the best the increase was not more than 25 per cent. above the pre-war scale. This increase has been subject to progressive diminution as the cost of living has fallen. As regards rates of retired pay, medical officers were originally granted an increase far less than the cost-of-living increase, and this very inadequate sum has been considerably whittled down as the cost of living has fallen.

In the Public Health Service salaries are now double to three times what they were before the war, in most cases a superannuation allowance is assured, the salaries are fixed and not subject to a reduction every three years, and the superannuation allowance bears a definite relationship to the salary attained before retiring.

The block of promotion which makes the prospects of many of the R.A.M.C. majors hopeless is something which was not anticipated, and it is sheer bad luck, and not lack of ability, in the majority of cases, which leads to their retirement.

In comparing the prospects of officers in the Naval and Military Medical Services with those of members of the Public Health Service and of the Colonial Medical Services one must remember that, in the R.A.M.C., majors who have been superseded for promotion are retired at twenty-five years' service (age about 50), majors not superseded for promotion and lieutenant-colonels at the age of 55, while members of the Public Health Service can go on till they are 65, if they come under a superannuation scheme, and until no longer fit for duty if they do not. I believe medical officers in the Colonial Services are not retired at so early an age as 55. This is a matter of great importance to young men weighing up the advantages and disadvantages of the respective careers. In the R.A.M.C. there is the by no means improbable prospect of being retired compulsorily at the age of 50, on a pension totally inadequate in the case of a man with a family, and at a stage when the expenses of educating a family are probably at the maximum. At the age of 50 it is no easy matter to start a fresh career.

I shall not say anything about the disadvantages of foreign service, which nowadays means in most cases service in India under conditions by no means as pleasant as in the days gone by. The greater the scarcity of regular officers, the less the amount of home service, and the more frequent and expensive the changes of station. Not only are there very few entrants secured for the R.A.M.C., but a large proportion of those secured resign their commissions in a year or two. There are also many voluntary retirements among more senior officers. Unless something is done, and done soon, to put matters on a better footing, the R.A.M.C. will cease to exist, or will at least be a very different service from the R.A.M.C. of the years before the war. It will be a matter of regret if the British Medical Association, which did so much to assist the R.A.M.C. to attain the standard of efficiency and reach the prestige it then held, is unable to prevent the work of so many years from being undone.—I am, etc.,

J. G. McNAUGHT,
Penzance, Feb. 10th. Lieut.-Colonel R.A.M.C. (ret.)

THE LONDON CLINIC AND NURSING HOME

SIR,—I read with great interest the letter in your issue of February 14th, in which the objects and ideals of the above institution, and "some details of the means by which it is hoped they may be achieved," are set out. Having felt for some time that the best method of attaining the objects in question was the provision of graded accommodation for paying patients in the large voluntary hospitals of London, I am keenly interested in this alternative proposal. I believe that many besides myself would be grateful if the information in the letter referred to were supplemented by answers to the following questions:

1. Will general practitioners be able to admit patients under their own care to rooms in the nursing home section of the London Clinic?
2. What is the proposed minimum charge for a single room, and what services will this cover?
3. What laboratory facilities will be provided in the clinic?
4. Will any consultant be able to admit his patients?
5. What special privileges, if any, will those consultants with consulting rooms on the spot enjoy as regards the nursing home section of the clinic?

—I am, etc.,

London, W.1, Feb. 16th. ERIC PEARCE GOULD.

Obituary

The death occurred, on February 12th, after a long illness in a nursing home in Edinburgh, of Mr. RICHARD MUIR, demonstrator of pathological and bacteriological methods in Edinburgh University. Mr. Muir was well known to many generations of students, and took part in the preparation and illustration of countless pieces of pathological research. Over fifty years ago he was appointed first laboratory boy by Dr. D. J. Hamilton, who was then assistant to Professor Sanders, and engaged in starting the first practical classes in pathology held in Great Britain. Mr. Muir's skill in pathological and bacteriological technique, and in draughtsmanship, added greatly to the efficiency of pathological teaching and to the success of pathological research in the Edinburgh medical school. Ultimately his exceptional ability in this direction was recognized by the University Court, which appointed him a university demonstrator. Outside his laboratory work he took a keen interest in archaeology, art, and music. By helping to found some years ago an association for pathological and bacteriological laboratory assistants he did much to raise both the status and efficiency of these workers.

The following well-known foreign medical men have recently died: Professor CONSTANTIN VON MONAKOW, formerly director of the Nerve Policlinic and Institute of Cerebral Anatomy at Zurich University, founder and editor of the *Schweizer Archiv für Psychiatrie und Neurologie*, joint founder of the Society of German Neurologists and founder of the Swiss Neurological Society, aged 77; Professor EMILE GLEY, professor of general biology at the Collège de France, and formerly president of the Académie de Médecine, aged 73; Dr. PAUL BUSQUET, librarian of the Académie de Médecine and author of several works on the history of medicine; Dr. P. UBALDO FERNANDEZ, professor of puericulture at Buenos Ayres; Dr. ANDRÉ LÉRI, an eminent Paris physician; Professor F. CRONER, a Berlin chemist and bacteriologist; and Dr. EDUARD PIETRZIKOWSKI, extraordinary professor of surgery at the German University of Prague.

The Services

DEATHS IN THE SERVICES

Lieut.-Colonel Samuel Ferguson Bigger, who died at his residence in Bray, co. Wicklow, on February 2nd, was born in Belfast in 1854. He received his medical education in Liverpool, and became a member of the Royal College of Surgeons of England in 1875. Subsequently, during one of his periods of leave, he obtained the M.B. of London University. In 1877 he passed the entrance examination for the Indian Medical Service, obtaining a high place, and was gazetted surgeon in 1878 and attached to the 3rd Punjab Cavalry. His service in India, which was chiefly on the military side, included the Afghan war of 1879–80, in which he took part in the Zaimusht expedition, the operations in the Kuram Valley, and the capture of Zawa (medal). For his work with the Chin-Lushai Expeditionary Force in 1889–90 he was mentioned in dispatches, and received the medal and clasp. He was principal medical officer of the Third Brigade with the Waziristan expedition of 1894 (clasp), and took part in the action of Dargai in the Tirah campaign (mentioned in dispatches, medal with two clasps). While in India he established a considerable reputation as an operating surgeon, particularly in operations for stone and cataract. He was promoted lieutenant-colonel in 1898, and retired from the service in 1903. Since his retirement he had lived at Bray, where he was well known as a chess player and gardener and, in many parts of Ireland (as previously in

India), as a skilled fisherman. He is survived by his widow and two brothers—Colonel F. C. Bigger, I.S.O., and Sir Edward Coey Bigger, M.D.

Lieut.-Colonel Henry Thomson, Madras Medical Service (ret.), died in Edinburgh on December 16th, 1930, aged 73. He was born in Aberdeen on February 1st, 1857, the son of James Thomson of Aberdeen, and was educated in the University in that city, where he graduated as M.B. and C.M. in 1879, and as M.D. in 1908. Entering the Indian Medical Service as surgeon on September 29th, 1883, he became lieutenant-colonel after twenty years' service, was placed on the selected list on October 29th, 1910, and retired on February 1st, 1912. His first ten years' service were spent on military duty. In April, 1891, he entered civil employ as a district surgeon in the Madras Presidency, in 1898 was appointed Durbar physician to the native State of Travancore, and in April, 1906, sanitary commissioner of Madras, holding that post till his retirement. He served in the Burma campaign in 1886-87, taking part in the operations of the 4th and 6th Brigades, and receiving the frontier medal with two clasps. In 1915 he rejoined for service in the war of 1914-18, returned to India, and was reappointed to his former post of sanitary commissioner, Madras, which he held up to 1919.

Universities and Colleges

UNIVERSITY OF OXFORD

At a congregation held on February 14th the following medical degrees were conferred:

D.M.—C. P. Blacker.

B.M.—J. H. Chitty, W. E. S. Merrett, F. Bell.

UNIVERSITY OF CAMBRIDGE

Cessation of Diplomas in Public Health, Hygiene, and Tropical Medicine and Hygiene

The Registrary announces that the University has decided to discontinue the award of Diplomas in Public Health, Hygiene, and Tropical Medicine and Hygiene when the present courses end, and that no further candidates for these diplomas will be accepted.

This notice does not apply to the Diploma in Medical Radiology and Electrology.

UNIVERSITY OF LONDON

At its meeting on February 11th the University Court had before it a letter from the London County Council stating that the Council's block maintenance grant to the University in each of the four academic years 1931-32 to 1934-35 would be £125,000. This figure represents an increase of £20,000 on the Council's grants for the current year, and of £44,000 on the grant to the University and its Colleges in the year 1929-30. An expression of the Court's high appreciation of the support thus accorded to the work of the University has been conveyed to the County Council.

The regulations for the M.B., B.S. examination have been amended by the substitution of the following for the last paragraph under Group II (Red Book, 1930-31, p. 211; Blue Book, September, 1930, p. 263):

> The examination in Obstetrics and Gynaecology will consist of (*a*) a paper of three hours' duration, (*b*) a clinical examination, (*c*) an oral examination, including questions on specimens and appliances.

The date on which the change will become operative will be announced later.

The regulations for the Diploma in Psychological Medicine for the year 1931-32 and subsequently have been amended by the omission from Regulation 4 for the diploma of the words in italics:

> . . . A candidate who enters for both Parts A and B on the same occasion (March-April or October-November), but fails to satisfy the examiners in Part A, is ineligible to proceed to Part B, *and the fee which he has paid in respect of Part B is returned to him;*

and by the addition to Regulation 6 (regarding fees) of the following:

> If a candidate enters for Parts A and B of the examination on the same occasion, but owing to failure in Part A is precluded from sitting for Part B, five guineas of the fee paid in respect of Part B shall be returned to him.

Professor W. W. Jameson has been appointed to represent the University at the forty-second Congress of the Royal Sanitary Institute, to be held in Glasgow next July.

Applications for grants from the Thomas Smythe Hughes and Beaverbrook Medical Research Funds, allocated annually for assisting original medical research, must be sent in between April 1st and May 15th, 1931. Full particulars can be obtained on application to the Academic Registrar.

CHARING CROSS HOSPITAL MEDICAL SCHOOL

An Easter vacation course in applied anatomy and physiology will be held at the Charing Cross Hospital Medical School, W.C.2, from April 13th to April 17th. All the departments of the hospital and medical school will be open to those taking the course, which is intended for undergraduates studying for the examination in anatomy and physiology. The fee for the whole course is one guinea. Further information can be obtained from the dean of the medical school.

LONDON HOSPITAL MEDICAL COLLEGE

The Liddle triennial prize offered in 1929-30 has been awarded to William Evans, M.D., M.R.C.P. The subject of the essay for the prize was "The cause and incidence of duodenal ulcer."

UNIVERSITY OF GLASGOW

Professor A. Hunter has been appointed Dean of the Faculty of Medicine.

The following prizes have been awarded: Bellahouston Gold Medals, D. F. Cappell, E. M. Dunlop. Thomas Logan Memorial Medal and Prize, J. N. Davidson Kelly; *proxime accesserunt*, J. M. Hyslop and J. M. Watt. Macewen Medal in Surgery, W. S. Mack. Captain H. S. Ranken, V.C., Memorial Prize, W. M. Nichols.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A Council meeting was held on February 12th, when the President, Lord Moynihan, was in the chair.

Mr. Victor Bonney was re-elected the representative of the College on the Central Midwives Board for the ensuing year.

Fellowship

The Fellowship of the College was conferred upon Mr. R. W. Reid of St. Thomas's Hospital.

Diplomas

The diploma of Membership was conferred upon 149 candidates who had passed the examinations in medicine, surgery, and midwifery of the Examining Board of England.

Diplomas in Public Health were granted jointly with the Royal College of Physicians to nineteen successful candidates.

[The names of the recipients of the diplomas were printed in our issues of February 7th and 14th, pp. 250 and 292 respectively.]

Proposed Institution of Surgical Biological Research

A letter was read from Mr. G. Buckston Browne, F.R.C.S., offering to give to the College a sum of £50,000, and to add to it from time to time, for the purpose of building and endowing an Institution of Surgical Biological Research, in which surgeons, and particularly young surgeons, would have full opportunity for carrying out their investigations. Mr. Buckston Browne further offered thirteen acres of land at Downe, near Farnborough, Kent, on which the buildings could be erected, and where accommodation could be provided for the needs of the institution. The Council unanimously adopted the following resolution:

> That the Council hereby express their deep sense of Mr. Buckston Browne's great liberality, and on behalf of the College undertake to be responsible for the proposed Institution for Surgical Biological Research, subject to the settlement under a Deed of Trust of conditions satisfactory to the Council and to Mr. Buckston Browne.

Council Election

The President reported that an election of three Fellows into the Council would take place on Thursday, July 2nd next, at 11 a.m., in the vacancies occasioned by the retirement in rotation of Mr. J. Herbert Fisher, Mr. G. E. Gask, and Mr. Graham Simpson; that notice of the election would be given to the Fellows by advertisement and circular on March 6th; that March 16th would be the last day for the nomination of candidates; and that a voting paper would be sent on March 31st to every Fellow of the College whose address was registered at the College.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons this week carried a resolution authorizing a loan of £20,000,000 from the Treasury to the Unemployment Insurance Fund. A Bill to continue the Miners' Welfare Fund was also taken, and Supplementary Estimates for the Colonial and Middle-Eastern Services were put down for discussion. The House of Lords debated the Education (School Attendance) Bill.

Dr. Salter presided at a meeting of the Parliamentary Medical Committee on February 17th. The committee again discussed the proposed consultative committee for rheumatic clinics. It decided to report to Sir George Newman that the best type of consultative committee would be under the control of the Ministry of Health and modelled on the Cancer Committee. The Medical Committee also discussed the heads of a proposed Bill on proprietary medicines, but took no definite decisions. It will consult the British Medical Association on the subject. Recurring to marine hygiene, the committee considered the method of ensuring amenities for the crews on vessels now under construction. Dr. Morris-Jones and Mr. Somerville Hastings were left to put further questions in the House on this subject. Dr. Fremantle drew attention to the shortage of medical personnel in the Army, Navy, and Air Force, but no action was taken.

The Milk Supply

In the House of Lords, on February 10th, Viscount ASTOR called attention to the needs of the dairy industry and the necessity for stimulating the demand for British milk. To do that there must be publicity and propaganda, the cost must be reduced, and the hygienic quality and cleanliness of the milk improved. The Government should do something to encourage the giving of milk to children in the elementary schools. That would help the dairy industry and improve the health of the children. But if the nation was urged to drink more milk there must be a guarantee that the milk was reasonably safe and clean.

Lord MOYNIHAN supported Lord Astor's plea for a larger supply of milk, but, he said, with certain qualifications. Milk was rarely pure and was often contaminated, with the inevitable result that it caused a number of diseases. The supply of milk, therefore, was not the only problem. It was only when there was an acute outbreak of disease that the mind of the people was stimulated. Every day 100 people died from tuberculosis; and £250,000 was spent every day in this country alone on the treatment of tuberculosis, a large proportion of which was preventable. Of the 3,250,000 cows in this country giving milk, over 1,000,000 were tuberculous. What was to be done? A milk supply was very necessary. Were they to slaughter all the cows affected by tuberculosis? If that were done, it would be ineffective, except in so far as the immediate present was concerned. To immunize the animals would be a matter of great difficulty and uncertainty. The problem was whether the present conditions of our milk supply could be improved. One of the first methods was by boiling, which destroyed all organisms; it was easily available, and cost virtually nothing. There were, however, certain disadvantages in boiling; for though the nutritive value of milk was not diminished by it the vitamins were destroyed. The second method that could be adopted to make ordinary milk fit for human consumption was pasteurization; 90 per cent. of the milk in London and Manchester was pasteurized. A great deal depended on the human element in the process. It was essential that the machinery of pasteurization should be constantly supervised, and bacteriological control exercised at every stage. It was most desirable that the milk provided for pasteurization should be as pure as possible. Some inquiry further into the question of the milk supply was necessary, and it might be well if the Government set up a Royal Commission to reconstruct all the knowledge which had so far been obtained about the problem.

The EARL OF RADNOR said that there were no figures to show the amount of disease prevented by the consumption of milk. Milk was a very necessary part of the child's diet, and if it were withdrawn it was probable that the resultant diseases would be far worse than any diseases actually traceable to the consumption of tainted milk.

The EARL OF IVEAGH suggested that the Government should set up a committee of inquiry to bring up to date all the information available about milk. If they believed all that Lord Moynihan said then they would never drink a drop of milk again, at least unless it was boiled. At this moment, scientific opinion on milk was extremely divided. Such an inquiry should consider whether the evidence was for or against pasteurization of milk.

The EARL OF ONSLOW thought that the first thing necessary to increase the consumption of milk was to reduce the costs of production. If anything could be done to simplify the grading of milk it would be a great advantage.

Earl DE LA WARR said that he could not feel that the medical profession were entirely free from blame in this matter. One of the reasons why more clean milk was not produced in this country was the lack of demand. A great deal of Grade A milk to-day was sold as ordinary milk at ordinary prices. If the medical profession would talk a little less about dirty milk and do a little more to encourage the buying of clean milk which was already on the market they would be of more use to the nation as a whole and to the agricultural industry. They would also help the Government if they would decide what they really felt about milk. Before the medical profession came down on the farming industry for not taking certain steps about milk they should really make up their minds what they wanted the farmers to do.

Lord MOYNIHAN: We want you to produce pure milk. Until that is done we suggest that all milk should be pasteurized.

Earl DE LA WARR, continuing, said that he agreed that grade designations of milk were in an unsatisfactory state, but it was a very difficult problem to solve while there was so much disagreement in the industry. If the Minister of Agriculture could have some assurance of general support for a revision of these designations he would be glad to discuss the matter with the producers.

Mr. GREENWOOD, in reply to Mr. Lambert on February 12th, said that under the Imported Milk Regulations, 1926, imported milk must be free from tubercle bacilli. There was not the same risk from the presence of tubercle bacilli in milk products as in milk. Imported products were, in fact, no more likely to be infected than milk products of home manufacture. He would consider whether further measures should be taken to safeguard the public against the risk of tuberculosis from the consumption of milk products. So far as he was aware, the regulations for the control of imported milk were being carried out, but he would be interested to receive any information showing they were not.

Osteopathy Bill

A Registration and Regulation of Osteopathy Bill "to regulate the practice of osteopathy and to prescribe the qualifications of osteopathic practitioners" was read a first time in the House of Commons on February 11th without a division. Mr. W. M. ADAMSON introduced this Bill. He reminded the House that dentists, nurses, and architects—the last in a Bill then before a committee of the House—had asked for the privilege of dealing with their professional problems by their own organizations. His Bill asked a similar privilege for the osteopathic profession, so that they might be brought into line with the medical profession. The objects of the Bill were to establish a Board or Council with authority to regulate the practice of osteopathy in this country and to compile a register of practitioners of a prescribed standard. Osteopathy was a system of health and healing founded upon the fact that the body itself could provide the necessary qualities for health and healing, as long as it was kept in that mechanical adjustment that was essential for hygiene and other necessary conditions. In the United States forty-seven States had granted skilled osteopaths the privileges which this Bill requested.

Dr. FORGAN asked the House not to allow the Bill to be introduced. The conservative attitude of the medical

profession towards new methods had probably been beneficial to the community. Only a rash man would say that every registered medical practitioner had the skill or knowledge which some skilled osteopaths had, and it was unfortunate that some men with a natural bent or a wonderful pair of hands were prohibited from exercising that power for health which they might do if they were recognized. He did not oppose the Bill because there was nothing good in osteopathy, but because it was introduced on behalf of a section of osteopaths who were content with an education and training which would not guarantee that, if recognition were given, serious mistakes might not occur. Osteopathy concerned itself with far more things than the maladjustment of spinal vertebrae, and some osteopaths to-day in this country had four, five, or six years' training in their subject. There were also in almost every village bonesetters, who often did a great deal of harm, and men who had real skill and training should not be classified in the same category as their less fortunate brothers. He hoped the House, on a later occasion, would pass a Bill regularizing the best type of osteopathy.

The Bill, as stated above, was then read a first time. Further progress this session is not expected.

Prohibition Bill

Mr. SCRYMGEOUR moved the second reading of the Liquor Traffic Prohibition Bill in the House of Commons on February 13th. Clause 3 of this Bill provided that: "This Act shall not prejudice or obstruct the manufacture, importation, or sale of alcoholic liquors when intended to be used solely for scientific or industrial purposes. Alcohol, when required for medicinal purposes, shall be supplied only in bottles, labelled 'Poison,' by properly qualified medical practitioners, or by registered chemists. Further, chemists shall supply only on receipt of a medical certificate stating the maximum quantity to be supplied. Such sales shall be subject to the provisions of the Pharmacy Act, 1868."

Sir WILLIAM WAYLAND moved the rejection of the Bill.

Dr. FREMANTLE seconded the amendment to reject. The Bill was impracticable, and would put a brake on efficient measures which were bringing excess to an end. Excessive drinking accounted for 12 per cent. of the admissions to mental hospitals. In periodical inebriates 42 per cent. gave a family history of drink, insanity, or epilepsy. The habit of excessive drinking lowered resistance to disease, and in constant moderation it was liable to impair mental efficiency. Alcohol was the least dangerous of the drug habits because it was an open enemy. Its effects in themselves were deterrent and punitive, leading to preventive measures and restrictive action. Alcohol took little hold of the physically and mentally strong. The number of deaths due to alcohol, as shown by the Registrar-General, was something like 150 in the year; those connected with alcohol were 562, about one-third being in women. The number of such deaths per million inhabitants was 18 before the war, and came down to 2 in 1918. It went up to 6 in 1920, but was now rather under 4 per million inhabitants. Undoubtedly excessive drinking was being reduced very rapidly. In 1900 the arrests for drunkenness thoughout the country were 200,000; in 1928 they were only 60,000. Moderation and self-restriction had steadily increased during the past ten years, and the war had opened people's eyes to the national and personal value of health. A restrictive Bill would be a setback to that tendency.

Mr. LEIF JONES said that it was not easy for the medical profession to be outspoken on the effects of alcohol upon their patients.

Dr. FREMANTLE replied that the effects of alcohol were very difficult to diagnose. Doctors could not honestly certify more deaths as being definitely attributable to alcohol. The question of being under the thumb of patients and their friends had no substantial bearing on the figures.

Mr. SHORT stated that the Government could not give encouragement to the Bill until the Royal Commission on Licensing reported.

Mr. SOMERVILLE HASTINGS said that there were diseases and affections from which people who took alcohol suffered more than did the general population. In affections to which all were prone those who took alcohol suffered more severely and succumbed to a larger extent. Alcohol could be a very useful drug in the treatment of disease as a narcotic and sedative, though less used than formerly. The decrease in drunkenness was a matter for national congratulation, but occasional drunkenness was less serious than the regular taking of what some people would consider a relatively small quantity of alcohol. The Registrar-General showed for the years 1871 to 1929, in a series of curves, four things: deaths from alcohol and associated conditions, deaths from cirrhosis of the liver, deaths of infants from overlying, and the amount of spirits retained for home consumption in this country. All the curves went up and down in the same way; they ran parallel. All the four conditions increased to 1900, and after 1900 they decreased, with a rise about 1920 after the war, and a subsequent fall. The correspondence of the figures with the rise and fall of wages showed that people bought and used alcohol when their circumstances permitted.

The Bill was rejected by 137 to 18.

Shortage of R.A.M.C. Officers

On February 17th Major GLYN asked the Secretary for War whether, as it was necessary to employ 57 temporary and retired officers of the Royal Army Medical Corps, and as there was a deficiency of 124 in the authorized establishment, he would consult with the Admiralty and the Air Ministry to attempt to discover the cause of this shortage of medical officers under the present regulations. Mr. SHAW replied that he had the matter under his personal consideration, and was in close touch with his colleagues in regard to it.

Major GLYN: Is the right hon. gentleman satisfied that the conditions are satisfactory as regards medical officers? Mr. SHAW: No, I am not satisfied that the conditions are satisfactory; but unfortunately the difficulties in the way are not easy to surmount.

Dr. FREMANTLE asked whether this question had not been on the *tapis* for twelve years, and if it was not necessary now to take urgent action to deal with it. Mr. SHAW: There is one word that would solve the whole matter, and that is money; but unfortunately by the provision of money one might do more harm than good in respect to other officers in the Forces who are not medical officers. Dr. FREMANTLE: Does that mean that there is a total impasse? No answer was given to this question.

The Lübeck Tragedy: B.C.G.

Miss LAWRENCE, on February 17th, told Mr. Freeman that the Minister of Health understood that an official report had been made to the German Imperial Health Council concerning the deaths of sixty-seven children at Lübeck early in 1930 following the Calmette treatment of the Pasteur Institute. The council concluded that the deaths were not traceable to the original B.C.G. cultures, but were probably due to some unexplained admixture with virulent tubercle bacilli. The Imperial Council had also confirmed its decision of 1927 that the use of living bacilli, even in an attenuated form, for human prophylaxis was undesirable in the present state of knowledge.

Small-pox.—Replying to Mr. Freeman, on February 12th, Mr. GREENWOOD said that the ages of the seven children under 2 years who were reported to have died from small-pox in 1930 were, in two cases, 8 months, and in the other five cases 3 weeks, 18 days, 13 days, 1 month, and 7 weeks. The diseases, other than small-pox, which appeared on the death certificates were prematurity, jaundice, bronchial pneumonia, broncho-pneumonia, pertussis, and pyaemia.

Vaccination.—In a further reply to Mr. Freeman on February 12th, Mr. GREENWOOD stated that, during the year ended March, 1929, local authorities in England and Wales had expended £191,643 on the administration of the Vaccination Acts. The cost of the Government lymph establishment during the same period, after allowing for receipts from the sale of lymph, was £11,598. He had under consideration the whole question of vaccination, but could not promise to introduce legislation.

Notes in Brief

Mr. Greenwood told Mr. Freeman on February 12th that a health and nutrition advisory committee had been appointed to advise him on the practical application of modern advances in the knowledge of nutrition. He could not entertain the suggestion of appointing a nominee of the national vegetarian societies on this committee.

Medical News

At the invitation of the Metropolitan Counties Branch of the British Medical Association Dr. H. C. Cameron of Guy's Hospital will give the annual address to newly qualified medical practitioners and senior students in the Great Hall of the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, March 10th, at 5.30 p.m. The subject of the address is "Children in hospital and in the home—a contrast; a lecture to young practitioners and senior students going up for the final."

Sir George Newman will deliver four lectures, entitled "Programme of the public service," at Gresham College, Basinghall Street, E.C.2, on February 24th, 25th, 26th, and 27th, at 6 p.m.; admission free.

The 158th anniversary dinner of the Medical Society of London will be held at the Trocadero Restaurant on Friday, March 6th, at 8 o'clock, with the president, Dr. R. A. Young, in the chair.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-Graduate Courses, published in the *Supplement* at page 60. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1. The list of special courses arranged for 1931 is now available.

The University of Sheffield has arranged for a series of post-graduate clinics on the cardio-vascular system from February 20th to April 24th, at 3.30 p.m. The clinics, which will be held at the Royal Hospital and the Jessop Hospital, are free to all qualified medical practitioners.

The post-graduate lectures and demonstrations on medical, surgical, and special subjects given by the honorary staff of the Manchester Royal Infirmary will be resumed on Tuesday, February 24th, when Dr. F. R. Ferguson will discuss disseminated sclerosis. They will be continued on Tuesdays and Fridays (except April 3rd and 10th) till May 19th. All the lectures and demonstrations commence at 4.15 p.m., and are free; tea will be served at 3.45 p.m.

At a meeting of the British Institute of Philosophical Studies, to be held at the Royal Society of Arts, 18, John Street, Adelphi, W.C., on Tuesday, February 24th, at 8.15 p.m., Professor John Macmurray will give a lecture on "Modern civilization and the moral ideal." A course of three lectures, entitled "Biology and social life," will be given by Professor Julian Huxley on Tuesdays, at 5.45 p.m., at University Hall, 14, Gordon Square, beginning on March 3rd.

Under the supervision of Dr. Maurice Chevassu a post-graduate course on diseases of the male genital organs will be held in the Cochin Hospital, 47, Rue du Faubourg-Saint-Jacques, Paris, daily from March 16th to 28th. In addition to numerous lectures and demonstrations there will be facilities for radiological, pathological, and cystoscopic work, and a diploma will be subsequently awarded to those who pass an examination on the subjects dealt with. The fee for the course is 500 francs, and further information may be obtained from Dr. Chevassu, Bacteriological Laboratory, Cochin Hospital, or from the Faculty of Medicine of the University of Paris.

The German Society for Combating Rheumatism has arranged a practical course in rheumatic diseases from March 2nd to 14th. The fee is 100 marks. Applications should be made to the secretary, Dr. Max Hirsch, Stieglitzerstrasse 66, Berlin, W.35.

The Halley Stewart Trust has provided freehold premises at Hampstead for an independent institute, the equipment of which will be shortly completed, where Miss Chevassut's research and the clinical work on disseminated sclerosis and kindred diseases will be continued in collaboration with a physician. The resources of this research institute will be open to all members of the medical profession and to all hospitals. Communications should be addressed to the secretary, Halley Stewart Trust, 30, Chesterford Gardens, N.W.3.

The People's League of Health announces that the Sims Woodhead series of thirteen constructive educational health lectures is being given in the board room of the National Union of Teachers, Hamilton House, Mabledon Place, W.C.1, on Mondays at 6 p.m. from February 16th to May 18th, excepting April 6th.

Dr. F. P. Sturm, aurist and laryngologist, Leigh Infirmary, Lancashire, has been elected an honorary member of "Le Carrefour de Cos."

Dr. Astley V. Clarke has been appointed vice-chairman of University College, Leicester, for the ensuing year.

The King has appointed Major H. J. H. Symons, *M.C.*, I.M.S., to be Vice-Consul at Bushire (with effect from November 6th, 1929), and Captain W. H. Critien, I.M.S., Vice-Consul at Seistan.

The King has confirmed the appointment of Dr. G. C. Strathairn (Director of Health) to be a nominated member of the Council of the Colony of Cyprus for a further period.

Dr. Kenrick Stanton Wise (Surgeon General) has been appointed a member of the Executive Council of the Colony of Trinidad and Tobago.

In 1930 the death rate in Madrid, which was the lowest for the last ten years, was 17.90 per mille, and the birth rate 27 per mille, the number of births exceeding the deaths by 7,503.

The number of medical women in Germany has increased from 82 in 1909 to 2,562 in 1929. In Berlin alone there are 476 women practitioners. In the various German medical faculties there are at present 3,428 female students. Since 1911 the number of female medical students has increased sevenfold, while that of the male students has only doubled. A memorial tablet has recently been affixed to a house in Quedlinburg, which was the birthplace of Dorothea Erxleben, the first German medical woman, who was born in 1715 and who qualified in 1754.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Majorca

"C. M." asks for information about the climate and diseases of Majorca. "Is there any water sanitation such as we understand it in England? Is the climate from October 1st to March 31st an eminently suitable one for patients who suffer from recurring chest colds or rheumatism, and who find the rigours of the Northern climes too severe? Book information is scanty, and it is difficult to give advice without adequate knowledge. The prevalence of both

mosquitos and flies, and in winter occasional cold winds of some severity, give rise to doubts as to the advisability of recommending Majorca as a winter resort for invalids or semi-invalids. Any first-hand information of recent date, with some indication of hotel prices in sterling, would be much appreciated."

Treatment of Sciatica

"G. W. I." writes, in reply to "BM/SRHH" (February 14th, p. 293): I have tried quinine and urea hydrochloride for sciatic pain with unsatisfactory results. Possibly my technique was faulty. But I have injected it for lumbago in a large number of cases, and I have rarely failed to give relief within a few minutes, and (strange to say) the freedom from pain persists.

Treatment of Syphilis

"F. G. V. S." writes: In reply to Dr. A. L. Pirrie's query (January 17th, p. 123) regarding the treatment of a persistent positive Wassermann reaction, I have treated several cases of this kind with intravenous injections of mercurosal (Parke, Davis and Co.). Not only is this preparation of high therapeutic value, but it has the following advantages: (1) there is no reaction, local or general; after an initial dose of 0.05 gram the full dose of 0.1 gram may be administered; (2) the convenient form in which it is supplied—in 5 c.cm. ampoules ready for immediate use. The course consists of twelve injections of 0.1 gram, given at intervals of three or four days. In every case that I have treated in this way a negative Wassermann reaction was obtained after the course. In view of the amount of treatment that Dr. Pirrie's patient has had, if the Wassermann is still positive after a course of mercurosal I should consider the case as one of the very few in which a permanent positive Wassermann reaction persists, and is not necessarily indicative of active syphilis, in which case further treatment would depend upon symptoms. Should Dr. Pirrie decide to try this treatment I should be interested to hear the result of the course.

LETTERS, NOTES, ETC.

Hypodermic Injection

Mr. CHARLES W. CATHCART, F.R.C.S. (Edinburgh), writes: The procedure of hypodermic injection was introduced for the first time in Scotland about the middle of the nineteenth century by Dr. Alexander Wood. The following details are taken from the account recorded in 1855 in the *Edinburgh Medical Journal*, vol. lxxxii. At that time neuralgic pains were treated by blisters and fomentations, but without much benefit. On that account Dr. Wood thought that he might give the patient relief by using a small syringe to inject a solution of morphine, through a hollow needle, down to the painful spot. With this object in view he wrote as follows.

"Having occasion, however, about the end of 1853, to endeavour to remove a naevus by injection with the acid solution of perchloride of iron, I procured one of the elegant little syringes constructed, for this purpose, by Mr. Ferguson of Gilt Spur Street, London. While using this instrument for the naevus, it occurred to me that it might supply the means of bringing some narcotic to bear more directly, than I had hitherto been able to accomplish, on the affected nerve in neuralgia. I resolved to make the attempt, and did not long lack the opportunity. . . . Miss ——, an old lady, who had long laboured under gastric and nervous symptoms, had suffered severely for four days from cervico-brachial neuralgia. This lady had the idiosyncrasy of not being able to take opium. Of this she had warned me, many years before she had first come under my care, and I never prescribed it for her. Under these circumstances I resolved to put in practice the plan which I had so long revolved in my mind. Accordingly, on November 28th, I visited her at 10 p.m. to give the opiate the benefit of the night. Having ascertained that the most tender spot was the post-clavicular point of Valleix, I inserted the syringe within the angle formed by the clavicle and acromion process, and injected twenty drops of a solution of muriate of morphia of a strength of about double that of the officinal preparation. In about ten minutes after the withdrawal of the syringe, the patient began to complain of giddiness and confusion of ideas. In about half an hour the pain had subsided, and I left her in anticipation of a refreshing sleep. I visited her again, about 11 a.m. on the 29th, and was a little annoyed to find that she had never wakened. The breathing also was somewhat deep, and she was roused with difficulty. Under the use of somewhat energetic stimuli, however, these symptoms disappeared, and from that time to this the neuralgia has not returned. In considering the modus operandi of this new application of remedial means, I think the following propositions will guide us to a right conclusion. Medicines when exhibited have usually two effects: (1) the local or topical, (2) the remote effects."

Glycerin as a Surgical Dressing

Dr. A. HAYES SMITH (Bradford) writes: As a contribution to the already lengthy correspondence on this subject, the following extract may be of interest. "Glycerin is a very good disinfectant, and acts extremely well if poured freely upon the dressing every two hours. If applied to wounds in large quantity from the first, it extracts so much water from the necrosed shreds of tissue that no foul smell arises; if decomposition has already set in it acts very slowly as a deodorizer; after three or four days' free application, wounds often become so red and sensitive that the use of it must be stopped." It is from Theodor Billroth's Lectures (vol. i, p. 233, eighth edition), published in 1877. The correspondence has added nothing to the knowledge contained in this paragraph regarding the value of glycerin as a dressing for wounds.

Teeth at Birth

Dr. A. SEGERDAL (Coalville, Leicester) writes: I have no doubt the following case is unusual, though not unique. The mother of a newborn baby noticed on the third or fourth day that it had two lower incisors. As the child was being breast-fed, the teeth began to irritate the mother's breast, and as one of the teeth was loose, I extracted a small decayed stump with a pair of dressing forceps. The other tooth, as it had not erupted much from the gum, I left. However, this tooth soon grew up from the gums and began to irritate the breast, so on the twenty-first day I extracted another loose decayed stump with an ordinary pair of dressing forceps. This second tooth had a longer fang than the first, and was not nearly so loose.

Unofficial Aunts

Mrs. E. W. HARDY writes from 7, Darley Avenue, West Didsbury, Manchester: May I appeal to all medical men and women to bear in mind the "Society of Voluntary Unofficial Aunts"? They stay in the house in charge of children, old people, and invalids, for an hour or two, thus enabling the one in charge to have a little free time. They also take women or children to the dental or other hospitals for treatment, thus helping and saving time and energy for many overworked mothers and daughters. The work is purely voluntary, without payment or subscription. I would ask medical practitioners who sympathize with the aims of the "V.U.A." to mention it in cases where they think we might be of use. An open meeting will be held on March 27th, at 3 p.m., at the above address, when the Lady Mayoress of Manchester will speak. Further particulars may be had from me.

The British Industries Fair

As announced in a recent issue of the *Journal*, the British Industries Fair, organized by the Department of Overseas Trade, is here again, at Olympia, London, until February 27th. Its big catalogue, with an index in nine languages, contains a description of the products of about twelve hundred firms of manufacturers (with eight hundred more showing at the fair simultaneously held in Birmingham). In the chemical section eighteen manufacturing houses are exhibiting analytical and research chemicals; twelve make the staple of their exhibit dyes and intermediates, and fifteen show drugs and pharmaceutical preparations. Medical and surgical instruments and appliances have a section to themselves, though not a large one. Only seven firms are showing *x*-ray and electro-medical apparatus, and a similar number surgical and ophthalmic instruments. But scientific instruments in general account for one of the largest group of exhibits, and in the provision of laboratory equipment and optical devices the British manufacturer is evidently well to the fore.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 48, 49, 50, 51, 52, 53, and 57 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 54, 55, and 56.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 59.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

162 Epidemic Serous Meningitis

E. ECKSTEIN (*Klin. Woch.*, January 3rd, 1931, p. 22) states that in recent years there has been an increase in the number of cases of an affection of the nervous system which does not resemble any of the ordinary forms of cerebro-spinal disease. Clinical examination shows nuchal rigidity and Kernig's sign, but few other symptoms indicating cerebral localization apart from sluggish reaction of the pupil, unequal pupils, squint, and, rarely, facial paresis. On lumbar puncture the pressure is always increased, but the spinal fluid is clear, and only rarely turbid; it is invariably sterile. Gunther has collected 100 cases from the literature between 1908 and 1928. Epidemics of such cases have been observed by Wallgren in 1923; in New York and Boston by Brown and Symmers in 1925; in 1928 by Haessler in Leipzig, and also by Kaneko and Aoki in Japan in the same year. Eckstein himself has seen 13 cases of this kind between May and October, 1930, at the Düsseldorf children's clinic. The epidemic character of the attack is shown by the fact that six patients came from one suburb. The ages of the patients ranged between 10 months and 12 years. In six cases there was considerable increase in the tension of the cerebro-spinal fluid, while in the rest it was only slightly raised. In only two cases was the cell count above normal. Cultures of the fluid were all negative in each case. The whole of the children recovered after showing symptoms of more or less violent headache, vomiting, and, in the severe cases, nuchal rigidity. Apart from lumbar puncture, treatment was purely symptomatic. Eckstein agrees with Stoos in not regarding these cases as examples of poliomyelitis, since no instances of this disease occurred at Düsseldorf in 1930. On the other hand, Eckstein considers that epidemic serous meningitis is either an abortive form of encephalitis or a disease *sui generis*.

163 Sporadic Encephalitis

R. CITRON, R. SEIDMANN, and J. ZAPPERT (*Arch. f. Kinderheilk.*, November 28th, 1930, p. 39) classify 65 cases of encephalitis in children seen in hospital and private practice during the period 1920–29 into the following groups: 19 cases of typical epidemic encephalitis; 4 cases in which it was doubtful whether the diagnosis of epidemic encephalitis was correct or not; and 42 cases of other forms of encephalitis, including convulsive, meningeal, spastic, ataxic, tumour-like, bulbar, and myelitic. The typical cases of epidemic encephalitis continued to appear for some years after the epidemic and then entirely disappeared, no case having come under the authors' observation during the last four years. It is conceivable that the virus of epidemic encephalitis, in addition to causing an extensive epidemic, also has a special affinity for those parts of the brain involvement of which gives rise to the various forms of sporadic encephalitis mentioned. This hypothesis would explain the occurrence of numerous cases of encephalitis after the epidemic had subsided.

164 Lymphogranulomatosis in Children

The nature of lymphogranulomatosis being unknown, P. NOBÉCOURT, R. MARTIN, P. FOULON, R. LIÈGE, and J. STAVROPOULOS (*Ann. de Méd.*, December, 1930, p. 563) report three cases occurring in children, in the hope of elucidating its interrelation with tuberculosis. In two instances very large spleens were found. Since this organ is usually only slightly hypertrophied in lymphogranulomatosis, the finding proves that a marked splenomegaly does not eliminate the possibility of the latter. One patient presented an exceptional symptom, a chyliform pleurisy; guinea-pig inoculation with the effusion produced tuberculosis. Pruritus was not noted, and eosinophilia in the blood and tissues was also absent. These three cases, which are described in detail, exemplified the diagnostic difficulties encountered in certain atypical forms which, resembling the reticulo-endothelioses, can only be related to Sternberg's disease by the occasional appearance of the classical signs, the reticular and endothelial origin of Sternberg cells, the possibility of their mitosis, and the existence of cellular embolisms. The skin reactions are frequently negative to tuberculin (in 82 per cent. of cases) in children with lymphogranulomatosis. The involvement of the reticulo-endothelial tissue, the bacillary dissemination, and the granular cell changes lower the resistance and thus explain the frequent occurrence of associated tuberculosis.

165 Effects of Lead on Vision

F. G. PEDLEY (*Journ. Indust. Hygiene*, December, 1930, p. 359) comments on the effects of lead poisoning on vision, and reports a case of subhyaloid haemorrhage; he gives four other instances of eye involvement discovered among 100 cases of plumbism. He remarks that, since obscure eye disorders may occur in persons without any evidence of lead poisoning, it does not follow that an eye condition in a case of lead poisoning is necessarily due to this metal. Pedley's patient, a worker in lead aged 32, showed definite symptoms of plumbism, and was discharged to work after a month's treatment. Six months later he had an attack of severe pain in his left eye, which went rapidly blind; ophthalmoscopic examination revealed a typical subhyaloid haemorrhage. Six and a half months later the fundus was practically normal; only a few spots of brownish pigmentation were present, and this in spite of the fact that he had returned to work and still showed evidence of lead absorption. Although there were signs of arterial thickening, his blood pressure was normal, and renal function tests were negative. The author adds that the probability, statistically, of the plumbism and the subhyaloid haemorrhage having a causal relationship in this case is very strong, but the mere association of the two disorders does not constitute proof. In the other four cases—two of optic atrophy, one of neuro-retinitis, and one of probable retrobulbar neuritis—there was no positive proof that lead was the agent responsible for the conditions.

Surgery

166 Treatment of Post-Operative Colic due to Flatus

G. JEANNENEY (*Bordeaux Chirugical*, January, 1931, p. 46) calls attention to the fact that, following a reflex post-operative paresis of twenty-four to thirty-six hours during which gas accumulates in the intestines, the return of peristalsis is painful and the gas is expelled only after thirty-six or forty-eight hours. This slow expulsion is due to various causes: reflex intestinal paresis and spasms; absence of desire to defaecate owing to emptiness of the rectum; accumulation of intestinal gases; and the impossibility of efforts of expulsion due to tenderness of the wound. This condition may be prevented by omitting the usual active purgation on the eve of the operation, substituting for it a very light saline purgative two days earlier, or administering a small oily enema on the day before operation. A powder containing agar-agar and pulv. belladonnae promotes the absorption of gas in the large intestine. Rough handling of the intestines during the operation must be avoided. After the operation the abdominal wall should be anaesthetized with applications of a 20 per cent. solution of quinine-urea; drop rectal injections containing traces of laudanum should be given instead of morphine. Thirty hours later, peristalsis should be encouraged by hypodermic injections of pituitary

extract and of hypertonic serum. The very satisfactory results obtained by the serum led Jeanneney to try small enemas of concentrated saline solutions, with equally good results. In fatigued patients, one or two intravenous injections of hypertonic serum are also given. Rectal injections of hypertonic fluid cause a rapid reflex contraction, with relaxation of the sphincters and a quick evacuation of the rectal contents.

167 Low Backache

Discussing the etiology of low backache, C. W. B. LITTLEJOHN (*Journ. of the College of Surgeons of Australasia*, November, 1930, p. 201) calls attention to the number of cases in which it is caused by strains of the lower spinal articulations. The disability is too often prolonged by delay in instituting the appropriate treatment, by toxic absorption, and by the maintenance of a faulty posture. Good results usually follow appropriate treatment, which includes manipulation, postural exercises, the elimination of toxic foci, temporary fixation in plaster, and operative procedures. The author enumerates respectively the chief diagnostic points in sacro-iliac subluxation, sacro-iliac strain and arthritis, lumbo-sacral subluxation or spondylolisthesis, central and lateral lumbo-sacral strain, and transverse arthritis, and indicates the appropriate treatment in each instance. Factors which render this region of the spine particularly liable to injury are the adoption of the erect attitude, with the accompanying evolutionary changes; variation in the anatomical types; and the physical degeneration which accompanies civilization.

168 H. W. MEYERDING (*Journ. of Bone and Joint Surg.*, January, 1931, p. 39) considers subluxation of the lumbar spine a congenital or a traumatic factor in the etiology of pain in the lower part of the back and of deformity. It has been found to occur quite as frequently in men as in women, about 62 per cent. of the cases under review being in men. It may be caused by trauma, obesity, pregnancy, or occupational strain, and in many instances congenital defects, such as variations of the fifth lumbar vertebra and lumbar-sacral joint, were noted. In about 38 per cent. of cases the cause was ascribed to trauma, and the average age was found to be 37. Clinical signs of spondylolisthesis are lordosis with a shortened torso, and limited spinal motion and depression at the fifth lumbar vertebra with prominence of the upper posterior border of the sacrum. The chief symptom is backache, which is relieved by rest and aggravated by work; there may also be referred pain to the hips and legs. Neurological signs are usually paresis and modified sensation, limited as a rule to the fifth lumbar vertebra and the first sacral segment. Stereoscopic or lateral view *x*-ray photographs will aid the diagnosis. Treatment varies according to the condition and circumstances of the patient; in some cases a well-fitted body cast will give security and comfort. Obese patients require a corset with reinforced steel stays, while for those who must continue at work an operation is the most rapid and permanent treatment. This consists of fusion of the third, fourth, and fifth lumbar vertebrae and the upper part of the sacrum, by exposing the spinous processes and the laminae of these parts and using multiple bone grafts.

169 Treatment of Stone in the Solitary Kidney and Ureter

C. P. MATHÉ (*Surg., Gynecol. and Obstet.*, January, 1931, p. 79) states that the treatment of stone in the solitary kidney and ureter comprises many prophylactic measures such as the early removal of unilateral calculi and nephrectomy for calculus pyonephrosis; removal of all foci of infection in other parts of the body; the elimination of stasis in the upper and lower urinary tract; eradication of infection in the remaining kidney; and careful regulation of the diet and the life generally. Five cases are reported emphasizing the importance of the early removal of stone from the solitary kidney before renal insufficiency and advanced infection have set in. Early lithotomy on the solitary kidney and ureter is well tolerated, and followed by practically no shock. Cystoscopically controlled attempts to promote the passage of stones from the solitary renal pelvis or ureter are dangerous, since the stone may obstruct the ureter. In cases of chronic pyelonephritis this obstruction is likely to cause bacterial invasion of the parenchyma with resulting destruction of the kidney, anuria, uraemia, and death. Surgical removal of a stone from the solitary kidney and ureter requires exact technique and keen judgement. Preliminary drainage and lavage should be performed through the ureteral catheter. A wide incision to permit good exposure should be made; the kidney must be handled gently, the blood vessels safeguarded, and the incision in the pelvis and ureter left unsutured in order to ensure drainage. A combined pyelotomy and nephrotomy incision ensures removal of the stone and the tendency to recurrence is minimized. Decapsulation should be performed to avoid post-operative renal congestion.

Therapeutics

170 Treatment of Sprue

A. BASSLER and J. R. LUTZ (*Journ. Amer. Med. Assoc.*, December 27th, 1930, p. 1961) report ten cases of sprue in which gratifying results followed the combined employment of a high liver diet with fruits, vegetables, and milk product additions; transduodenal lavage is also strongly recommended. The correction of bacterial fermentation in the intestines is simultaneously effected, and residence in cool climates is arranged when possible. The authors found that their patients responded even better and more swiftly to liver treatment than is the case in pernicious anaemia, the proportion of ultimate recovery being higher also. They had obtained previously but little success with blood transfusion, injections of iron preparations, and various other forms of dieting. Transduodenal lavages with hypertonic saline solutions containing 9 grams each of sodium sulphate and chloride in a litre of water at 104° F. were used before bedtime to clear out the fermenting residue of the day's meals. As a rule the quantity introduced rarely exceeded 500 c.cm., and as improvement progressed the bulk or frequency of the washings was diminished. When practicable, cod-liver oil was added to the diet, with orange, pineapple, and other fruit juices, also tomatoes, lettuce, and fats.

171 Bacteriophage Therapy in Chancroid

J. J. A. BASSET (*Thèse de Paris*, 1930, No. 383) records seven cases of chancroid treated by injections into the buboes of a mixture of numerous bacteriophage strains which caused lysis of different varieties of streptococci, staphylococci, *B. coli*, *B. typhosus*, *B. paratyphosus*, and all other forms of lytic virus usually employed in laboratories. Compresses containing this mixture were also applied to the chancres. The results were encouraging, inasmuch as cure was obtained in the case of buboes after one to three injections in an average of eight days, whereas the chancres took much longer to heal. No general reactions resulted from the injections, but two patients showed a transient local reaction consisting in an aggravation of the inflammation.

172 Nirvanol in Chorea

O. R. TISDALL (*Arch. of Dis. in Child.*, December, 1930, p. 397) records conclusions based on the treatment of 29 cases of chorea with nirvanol and rest, no other form of medication being employed. The daily dose given by the mouth was 0.3 gram usually, but in 7 cases it was increased to 0.45 gram with no ill effects. Of the 29 cases, 15 completely lost their symptoms within six weeks; there was marked betterment in 9, and failure in 5. Of the 15 "cured" cases, however, 6 relapsed within six years or less, while 9 remained free from chorea permanently. Tisdall concludes, therefore, that nirvanol must not be considered a specific cure for chorea, although in acute forms its immediate results are encouraging. The heart remains unaffected by it. All patients should be confined to bed during the progress of treatment. Exposure to sunlight during the administration of nirvanol has been

reported by Keller to cause serious secondary reactions, but Tisdall found no such risk to be present in two cases in his series. He mentions, however, that a febrile reaction is usually present with a rash about seven to twelve days after the start of the administration; eosinophilia was an almost constant phenomenon, whether there was a noticeable reaction otherwise or not, and leucopenia was fairly common.

Neurology and Psychology

173 Etiology of Epilepsy

On the basis of his personal studies and data from the literature, D. M. OLKON (*Journ. Nerv. and Ment. Dis.*, November, 1930, p. 538) concludes that, in the vast majority of cases, genuine (or true) epilepsy is due to exogenic rather than endogenic influences, and that cerebral capillary haemorrhages are probably etiological factors. A study was made of the capillary systems of 17 infants delivered by Caesarean section, of a large number of others who had been delivered normally, and of many whose birth had been complicated by dystocia and forceps delivery; these last two complications gave rise to distortions of the cutaneous capillaries with capillary haemorrhage, while in the Caesarean section cases no such changes were detected. Even in infants born normally subcutaneous capillary haemorrhages were often present; they corresponded generally to the capillary changes noted in experimental animals. The more protracted and pathological the delivery process, the greater seemed to be the tendency to capillary haemorrhage. Experiments on 18 healthy dogs showed that a convulsion was followed by permanent sequels in the circulatory and respiratory systems. It is generally believed that genuine (or true) epilepsy may be caused by disturbances of metabolism, and that the metabolic derangement of the body and brain sets in early in epileptics. It is accepted that Jacksonian epilepsy is a sequel to cerebral trauma. Since Jacksonian and idiopathic epilepsy do not differ in the sum total of convulsive phenomena, Olkon considers that the latter may likewise be caused by trauma. Trauma, though not definitely observed, as in the Jacksonian type, with precise localization in the brain, is present nevertheless in the capillary system following dystocia and forceps delivery. Olkon suggests, therefore, that brain trauma sustained at birth, with its capillary haemorrhages, though slight, is adequate to give rise to the beginning of a metabolic imbalance in susceptible individuals and thus lead to the convulsive state.

174 Tumours involving the Cauda Equina

I. M. ALLEN (*Journ. Neurol. and Psychopathol.*, October, 1930, p. 111) reviews the clinical features and differential diagnosis of tumours of the cauda equina, the study being confined to those cases in which the presence, nature, and position of the tumour had been established either at operation or necropsy. A successful study of these growths depends on the separation of those in which the cauda equina alone is involved from those in which the conus and structures above it are also affected. The symptomatology of these tumours is described in detail; the importance of pain as the initial symptom is confirmed, and the fact is emphasized that pain in the back may be a more common initial symptom. Sudden and serious involvement of the sphincters at any stage of the disease indicates implication of the conus. Only in well-developed cases is any particular type of symptomatology found. Important points, however, are the asymmetrical character of the clinical findings, and the appearance of changes bilaterally in one or more subjective and objective sensations, motor functions, and reflexes. Diagnostic errors are chiefly made at the onset. Therefore, at this stage it is essential that ordinary clinical investigation be supplemented by special methods, particularly by a detailed examination of the cerebro-spinal fluid. When one or more physical signs are established, their bilateral distribution is suggestive; further investigations may be necessary to confirm the diagnosis and to localize the lesion. The results of treatment at different stages prove that success depends on early diagnosis. Delay in investigation and postponement of surgical measures till a clear clinical picture is present usually means waiting until the case is hopeless. The duration of the disease ranges from 3 months to 20 years from the onset, depending on the character of the tumour and the structures involved. The tendency of these tumours to affect the nerve roots in a haphazard manner is mentioned; the effect of this characteristic renders impossible a study of such neoplasms according to recognized syndromes. The various conditions from which tumours of the cauda equina must be differentiated are enumerated.

175 Juvenile Dementia Paralytica

W. C. MENNINGER (*Journ. Amer. Med. Assoc.*, November 15th, 1930, p. 1499) considers that juvenile dementia paralytica is the interaction of an immature, rapidly developing personality and a slowly progressing infection with early distortion, and later inhibition of development; eventually there is a breaking down of the complete biological unit. The existence of a "preparetic stage" is controverted, and asymptomatic cases are regarded as early dementia paralytica. A series of 40 patients, comprising 15 males and 25 females, is reported. The usual age of onset is between the 10th and 15th years; the duration of the disease ranges from two to ten years, averaging four years, which is longer than in the adult. Though the primary infection (usually syphilitic) may be acquired, all the cases under review were congenital. Most of the patients showed mental and physical retardation, and infantilism was a frequent symptom. Organic changes were more common and pronounced than in the adult; cranial nerve involvement and pupillary changes were greater and convulsions more frequent. Motor symptoms appeared earlier, and focal signs, such as hemiplegias and Jacksonian attacks, were more often obvious. All the cases tended to present the clinical picture of simple extreme dementia. Menninger remarks that the intellectual development depends on the patient's age when the cerebral damage becomes apparent: early, varying grades of feeble-mindedness are present; later, in all cases, deterioration or retrogression to dementia occurs. Treatment is without effect; presumably, the brain is so rapidly invaded, and the damage is so extensive, that the strongest therapeutic agents are ineffective, however relatively early they are employed.

Obstetrics and Gynaecology

176 Dangers of Cervical Caesarean Section

E. ROTTHAUS (*Zentralbl. f. Gynäk.*, January 10th, 1931, p. 89) and K. JÄGER (ibid., p. 94) describe cases illustrating respectively an immediate and a remote danger of transperitoneal cervical Caesarean section. In Rotthaus's case, one of placenta praevia, abundant venous haemorrhage occurred between the bladder and cervix as these were being separated, and proved fatal. Rotthaus recommends that in such circumstances, or when varices are present, the abdominal incision should be extended upwards and a corporeal section performed. In Jäger's patient, six years after cervical Caesarean section for placenta praevia, rupture of the pregnant uterus at term was diagnosed by palpation through the herniated abdominal scar; the classical signs were absent. Catheterization before operation gave issue to pure blood, and a large vesical tear had to be sutured after hysterectomy. The patient recovered. It is pointed out that clinical features of rupture of a "Caesarean scar" are frequently atypical and deceptive—in several cases the diagnosis having been first made at operation some days later; that more than 20 cases of uterine rupture in labour after cervical section have been reported; that this operation entails a special risk of rupture of the bladder as well as of the uterus in subsequent labours; and that during and immediately before these labours specially careful supervision is called for.

177 The Perivaginal Fascia in Nulliparae

B. H. GOFF (*Surg., Gynecol. and Obstet.*, January, 1931, p. 32) records a study of the perivaginal fascia in a nullipara, basing his conclusions on a classification of fascia into two types: the areolar, which surrounds and aids in maintaining the viscera, blood vessels, and nerves in normal positions; and the denser type which sheathes and unites the voluntary muscles. Goff found no fascia in the walls of the vagina, urethra, bladder, and rectum, and none between the anterior vaginal wall and the urethra. A thin layer of areolar fascia lies between the vagina and the bladder, and a similar layer between the posterior vaginal wall and rectum. These vesico-vaginal and recto-vaginal fasciae unite at the sides of the vagina to form the perivaginal fascia, which is part of the intrapelvic fascia. Its areolar character renders its dissection impossible as an individual layer, and its use as such in vaginal plastic operations. If used at all, it must be in conjunction with the overlying vaginal wall. No other fascia is available for use in the surgical correction of cystocele, rectocele, and urethrocele, and the successful treatment of these conditions depends on the utilization of the tissues of the vaginal wall rather than on the use of the fragile fascia which surrounds it. Goff believes that the adoption of the established histology of the tissues in and about the vagina, urethra, bladder, and rectum will lead to a clearer understanding of the problems of the conditions named above.

178 Haemorrhage in Delivery of Hydatidiform Mole

BAUX (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, November, 1930, p. 697) records the case of a 1-para, aged 23, who after four months' amenorrhoea was found to have albuminuria, oedema, and uterine enlargement corresponding to seven months' gestation; foetal parts or sounds were not detected. A diagnosis of hydatidiform mole having been made, it was found impossible on account of severe bleeding to introduce Hegar's sounds or a balloon. Two Krause bougies were passed into the uterus, but the cervix did not dilate, and bleeding from the womb continued to be alarming. Accordingly, Delmas's method of rapid accouchement under spinal anaesthesia was adopted as an alternative to hysterectomy. Full dilatation was rapidly secured digitally without difficulty or haemorrhage, and evacuation of the uterus was easy.

179 Chlorotic Anaemia of Pregnancy

M. B. STRAUSS (*Amer. Journ. of Med. Sci.*, December, 1930, p. 818) records three cases of the "chlorotic" type of pregnancy anaemia. All the patients had a chlorotic blood picture, and complete and persistent achylia gastrica; they responded well to iron therapy, and no other treatment was found necessary. The anaemia was clearly attributable to the pregnancy; the achlorhydria presumably prevented the absorption of adequate amounts of iron from the normal diet, and the additional strain of the pregnancy was more than the body could deal with.

Pathology.

180 The Relationship of Herpes Zoster and Varicella

A. NETTER and A. URBAIN (*Ann. de l'Inst. Pasteur*, January, 1931, p. 17) have for the last ten years been examining, by means of the complement-fixation test, the serum of patients suffering from herpes zoster, using as an antigen the vesicular fluid, or, better still, a suspension of the vesicular crusts. In the first 100 cases examined the serum was found to contain antibodies in 93 per cent. Over 150 cases have now been examined, apparently with similar results. More than half of the cases have been of the secondary type, occurring in the course of various local and general diseases, and intoxications such as arsenical or bismuth poisoning. No fewer than 28 of the patients with secondary zona were tuberculous. From the serological point of view there seems to be no difference between the primary and the secondary type; both lead to the development of specific antibodies reacting with the same antigen. With regard to the relation between herpes zoster and varicella, the authors have now collected over 230 observations on the development of one of these diseases after exposure to the other. The complement-fixation reaction has shown that the serum of patients with chicken-pox reacts to an antigen of zona crusts exactly as it does to an antigen of varicella crusts; conversely, the serum of a zona patient reacts equally well with an antigen of zona and of varicella crusts. This holds true not only for the serum of patients with primary herpes-zoster, but also for those with zoster coming on after encephalitis, vaccination, arsenical poisoning, and so on. The authors therefore conclude that the virus of varicella and of zoster are antigenically alike. The varicella virus appears to be more infective, and to leave behind it more solid immunity than the zona virus; these differences, however, are no greater than those between variola virus and vaccinia virus, which are known to be antigenically the same.

181 Enhancement of Infective Power of Bacteria

M. PIJOAN (*Journ. Exper. Med.*, January, 1931, p. 37) has confirmed and extended the work of Duran-Reynals, who showed the existence in certain organs of a substance that was capable of enhancing the infective power of staphylococci and vaccinia virus. This substance is present in greatest amount in extracts of the testicle and epididymis, but extracts of the kidney, skin, brain, and placenta are active to some extent. Extracts of retina, muscle, and ovary do not modify the infection, whereas those of blood, spleen, and bone marrow may interfere with, and even suppress, the activity of the infective agent. The Reynals factor is not species-specific. In the work now recorded it was found that the addition of testicular extract greatly increased the local lesion produced by the inoculation of numerous species of bacteria into the skin of mice and rats, and not infrequently led to a fatal result. Kidney extract, when tested with staphylococci injected intracutaneously into rabbits, proved to be less active; spleen extract led, on the other hand, to a certain diminution of the lesions, as compared with the Ringer controls. D. C. HOFFMAN (ibid., p. 49) found that the addition of testicular extract to suspensions of herpes virus, vesicular stomatitis virus, Borna virus, and vaccinia virus increased their pathogenic action very markedly. The Reynals factor enhanced the virulence of strong viruses; weak viruses behaved like strong ones. The vesicular stomatitis virus was rendered capable of infecting resistant species such as rabbits, or resistant tissues such as the abdominal skin of guinea-pigs.

182 Nephritis Caused by Trypaflavine

M. LEVRAT and A. BADINAND (*Journ. de Méd. de Lyon*, January 5th, 1931, p. 25) have studied the effects of intravenous injections of trypaflavine in rabbits. Intoxication is characterized by a rise in the blood urea content corresponding to the severity of the renal lesion, and a considerable degree of acute nephritis was invariably found. The uraemia appears to be due to the renal lesions, but it may be caused also by an excess of urea resulting from toxic disintegration of the tissues, especially of the muscles. The authors remark that an exhaustive investigation of the renal function in patients undergoing trypaflavine treatment is indicated, in order to determine whether the experimental results in rabbits are applicable to man; the recent publication of two cases of acute uraemic nephritis during trypaflavine treatment appears to suggest this possibility. Another investigator who used guinea-pigs has found intense glomerulo-nephritis, and in those which survived for a sufficient time there were extensive hepatic lesions. Apparently the toxicity of trypaflavine varies with the degree of purity. Levrat and Badinand find that the toxic effect was delayed, death supervening suddenly after a latent period of from four to seven days. They recommend a preliminary examination of the urine with a test of renal function, and that only moderate doses of trypaflavine should be used. Previous renal lesions may account for toxic symptoms supervening after the injection of moderate doses. Variations in the purity of the product are also important.

THE CONTROLLING FACTOR

OSTELIN
VITAMIN D

Liquid

Vitamin D in tasteless glycerin suspension for administration *"per se"* or for prescribing with other medicaments: should be included in all calcium prescriptions.

DOSE

Children ... ... 1-3 m.
Adults ... ... 3-10.

Tablets

Each tablet contains the vitamin D equivalent of 3 minims of Ostelin Liquid (or fluid drachm of cod-liver oil of maximum potency), together with 2 grams of soluble calcium glycerophosphate.

DOSE

One tablet 3 times a day.

INDICATIONS

"Ostelin" is indicated in the treatment of asthenias, hypotonic conditions, wasting, the anaemias, vasomotor skin disorders, chilblains as a prophylaxis against winter ailments.

VITAMIN D PROMOTES CALCIUM ABSORPTION

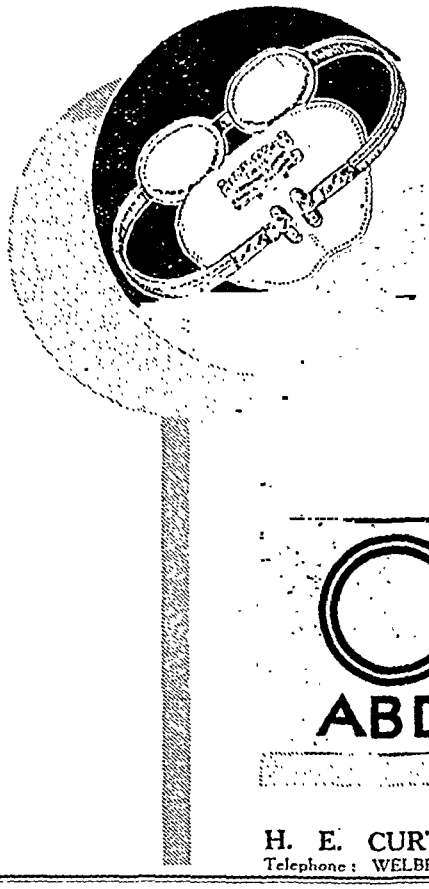
OSTOMALT is proving most useful as a tonic for adults convalescing from gastric or intestinal disorders—cases in which the routine type of tonic would not be tolerated.

OSTOMALT and "tonic" are synonymous. Whether the patient is infant, youth or adult, debilitated, convalescent or merely run-down, OSTOMALT will serve you well.

OSTOMALT

Ostelin Vitamin D, Malt Extract, Orange Juice, together with Calcium Glycerophosphate.

GLAXO LABORATORIES, 56, OSNABURGH STREET, LONDON, N.W.1



Comfortable, and Correct Support

Assured to all sufferers from abdominal ptosis who wear the Curtis Abdominal Support, Model No. 1. The principle of this support—that of anterior posterior support—has been proved by scientific research to be the most efficient. There is no circumferential pressure, hence the wearer's freedom of movement is in no way restricted. There is no cramping or binding of the hips. It is light in weight, and easy to apply. There are no complicated fastenings.

IN USE IN MOST OF THE LONDON HOSPITALS.

CURTIS
ABDOMINAL SUPPORT

Sole Manufacturers of the Curtis Appliances:—
H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.
Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

BUY BRITISH AND SAVE 33⅓% IMPORTATION TAX

DIATHERMY

The field for Diathermy Current applications is rapidly increasing

MEDICAL AND SURGICAL

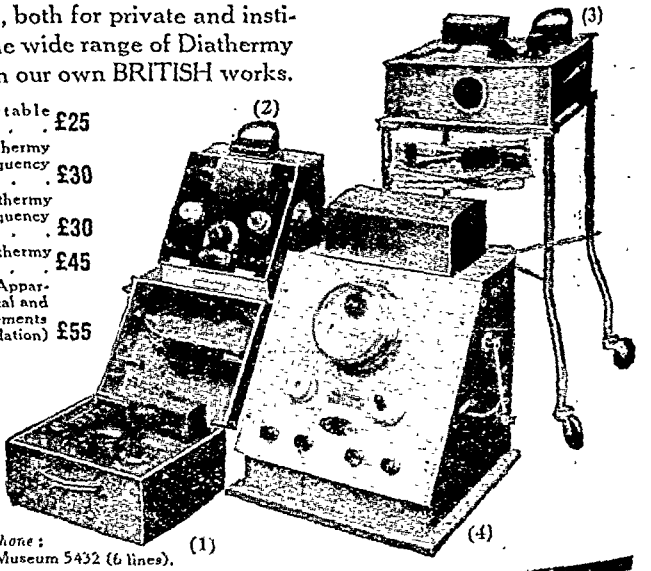
EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available:—

FOR SURGERY
e.g.: Surgical cutting by High Frequency indulations or coagulation.

FOR THE PHYSICIAN
for treatment purposes only.
also
FOR BOTH SURGICAL and MEDICAL.

No. 1. "EMESAY" Portable Diathermy	£25
No. 2. "AMAZON" Diathermy and High Frequency Current Apparatus	£30
No. 3. "MERIDIAN" Diathermy and High Frequency Current Apparatus	£30
No. 4. "EQUATOR" Diathermy Apparatus	£45
No. 5. "MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation)	£55

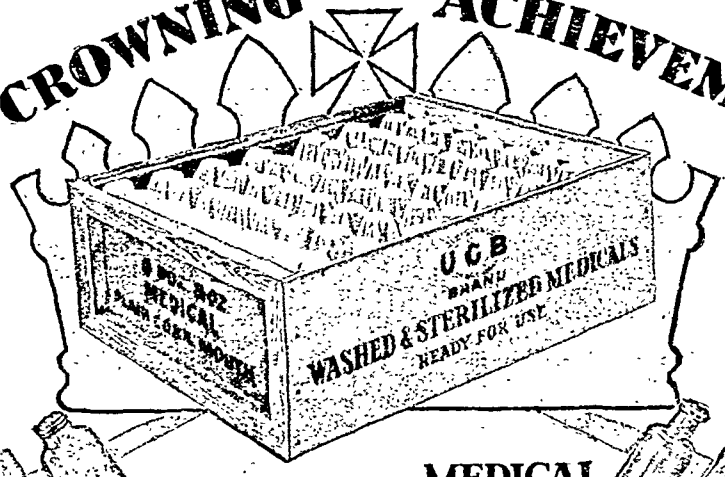


Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

MEDICAL SUPPLY ASSOCIATION, LTD.
167-185, Gray's Inn Road, London, W.C.1.
ACTUAL BRITISH MAKERS.

Phone: Museum 5432 (6 lines).

THE CROWNING ACHIEVEMENT



U.G.B. MEDICAL BOTTLE *Service*

DURING the past ten years at tremendous expense, a very wide range of automatic machine mould equipment has been built up by the U.G.B. to cater for practically every bottle requirement of the Chemist and Dispenser. New and attractive shapes are now being added from time to time.

The Crowning Achievement was the introduction of the "Washed and Sterilised Ready-to-Use Package" which is daily growing in demand.

Only a small percentage of the actual cost of this service is passed on to the customer.

Supplied either for corks or complete with Rustless White Enamelled Screw Caps.

Once you have experienced the value and convenience of this U.G.B. Service you will use nothing else. Try it NOW and be prepared for the WINTER.

Obtainable from all leading Wholesalers.

UNITED GLASS BOTTLE MANUFACTURERS · LIMITED
The largest manufacturers of Glass Bottles in Europe.

Head Offices:
40-43, NORFOLK STREET, STRAND,
LONDON, W.C.2.
'Phone: Temple Bar 6680. 'Grams: 'Unglaboman, Estrand, London.'

If you have a difficult case of Hernia send your patient to be properly fitted with a
SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency. Perfect freedom of movement.
The most scientific truss ever devised.

SALMON ODY
LTD.
Highly recommended by the Medical Profession
7, NEW OXFORD STREET, LONDON, W.C.1
Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS
The best Medical authorities are [illegible] ions
[illegible] orts
feet, weak instops, or rheumatic pains, 15/6 per pair. Metatarsal 18/6 per pair. State size of foot wear when ordering.

Estab. 120 years.

NATURAL APERIENT MINERAL WATER
OF
RUBINAT LLORACH
(Hydragogue, Purgative, and Cholagogue.)

The official analysis shows in each litre about 1601.321 grains of **Anhydrous Salts**, of which are **Sulp. Soda** 1485.368 grains, and **Sulp. Magnesia** 50.301 grains.

Prescribed in cases of Gall-stones, Liver Disease, and threatened Appendicitis, Constipation associated with Gout, Hepatic Dyspepsia, Gastric Fever, and generally in Abdominal Obstruction.

DOSE.
Wineglassful fasting; can be increased according to temperament. Effect is more rapid if followed by a cup of hot tea.
NO GASTRIC IRRITATION. NO ALTERATION IN DIET REQUIRED.

"A moderately powerful stimulant of the liver, and a powerful stimulant of the intestine.

B. MILLER & CO LTD
17 CONDUIT STREET
BOND STREET, LONDON, W.1
TAILORS
Established 1896

LOUNGE SUITS and OVERCOATS *from* £8 : 8 : 0

DINNER SUITS Lined Silk *from* £10 : 10 : 0

A large selection of materials in the newest designs.—Patterns sent on request.

Convenient terms can be arranged.

"The Rose Corset-Belt"
for Accurate Abdominal Support and Comfort
Extract from the "British Medical Journal," Dec. 10th, 1927—
"Visceroptosis is the cause of so much discomfort and ill-health . . . and an ill-fitting or wrongly applied belt or corset may aggravate rather than diminish the subjective effects of this condition. . . . Madame Rose has for many years devoted special attention to this problem, and we have good reason to believe that she has given help and comfort to a considerable number of sufferers. We have received assurances from medical men, who have sent patients to her, that she gives personal attention to each patient, that she takes great care in adapting and adjusting the support to the particular needs of the case."
Refer your Patients also to
MADAME ROSE, 97, Mortimer St., Regent St., W.1. LANGHAM 1575

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.
LABORATORY PRODUCTS
VACCINES
AUTOGENOUS AND STOCK.
Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.
ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.
B. ACIDOPHILUS INTESTINALIS
Live cultures for the treatment of constipation, intestinal putrefaction, etc.
CULTURE MEDIA
Issued in tube and in bulk.
Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE. Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.
MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.
EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel.

SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ½-doz. SOAP TABLETS.

Samples and Literature on Request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.

DISMENOL

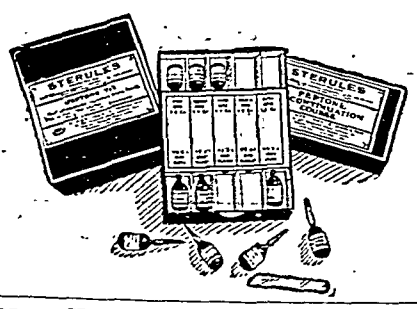
for instantaneous relief of pain in DYSMENORRHOEA

In spasmodic Dysmenorrhoea the primary call is for the elimination of pain, and the physician has a valuable weapon in Dismenol Tablets, which are entirely *free from narcotics.* This product is a sure and safe sedative in all cases of Dysmenorrhoea, possessing anti-spasmodic properties of a remarkable kind. A feeling of general well-being is substituted for the state of lassitude in the patient.

Please write for samples and literature (also formula) to—

ROBERTS & Co., 76, NEW BOND STREET, LONDON, W.1.

Pharmaciens to H.M. the King.



PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic œdema, cyclic vomiting, periodic diarrhœa, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Leaflet on application.

W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON." Telephone Nos.: LANGHAM 2440 and 2441.

Medinal

TRADE MARK

"We are much impressed with the value and usefulness of 'Medinal.'" ——, M.D.

SCHERING LTD., 3, Lloyd's Avenue, London, E.C.3

RE-INFORCING THE ABDOMINAL MUSCLES WITHOUT UNDUE PRESSURE!

For those disorders of the abdomen that call for external support, Domen Abdominal Belts have very definite advantages. They give adequate support to the abdomen without setting up pressure to aggravate the patient's condition. And whether it is pregnancy or umbilical hernia, prolapsus uteri, or simply general support, there is a Domen Belt designed specifically for that condition. Domen Belts fit well, sit comfortably and do not get out of place. They leave the patient free and without embarrassment. Full particulars will be forwarded on receipt of your card or a telephoned request.

DOMEN BELTS Co. LTD.

26, SLOANE STREET, LONDON Tel.: Sloane 3524

BRANDY CALVES' FEET JELLY

Freshly made by our Chef 2/6 a bottle, carriage paid

Dainties for Invalids from

FORTNUM & MASON

182, Piccadilly, W.1 Regent 8040

J. H. HAMILTON & CO. LTD

21, SAVILE ROW, LONDON, W.1.

Established 1850.

"SPECIALITE" LOUNGE COAT & VEST

Black or Grey

£7 : 7 : 0

STRIPED CASHMERE TROUSERS

£3 : 3 : 0

Patterns and self-measurement form on application.

'Phone: Regent 4572.

POCKET MONEY ADDING MACHINES 15/- post free

TAYLOR'S TYPEWRITERS

SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 52.*

'Phone—Holborn 3793.

BUY A BIJOU FOR 5/- per week.

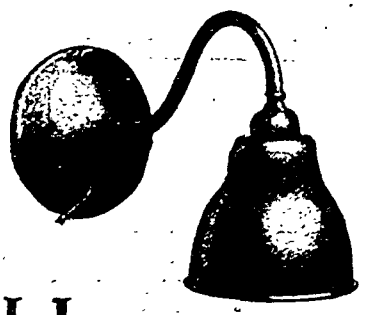
Desks, Tables & Chairs

Est. 1884.

THE BIJOU

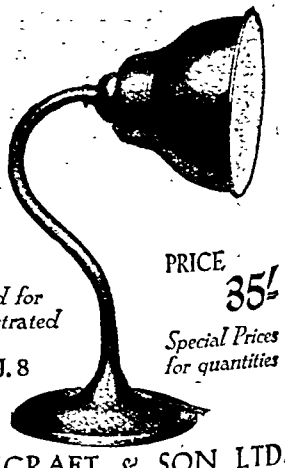
The best portable Writer Complete in Travelling Case, from £9 9s.

74, CHANCERY LANE (Holborn End), W.C.2



HAYCRAFT'S NEW DUAL MEDICAL BRACKET as supplied to the NEW WING of the MIDDLESEX HOSPITAL

¶ Specially designed so that it can be easily detached from the wall and used as an inspection lamp. The large base and balanced design make it equally useful as a standard lamp, as below. ¶ Special bronze finish throughout. Reflector white enamel inside. Wired complete with two yards of circular flex. Registered No. 744671.



Send for Illustrated List J. 8

PRICE 35/-

Special Prices for quantities

HAYCRAFT & SON LTD.

Electrical Engineers, London, S.E.8

BRASS and BRONZE

NAME PLATES

by the Actual Maker. Send for List.

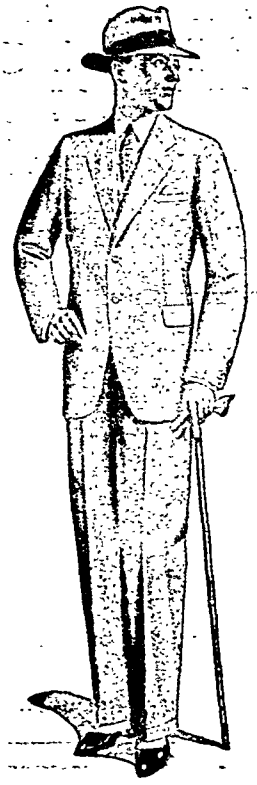
FORD, 37, Palace Rd., Bromley, Kent.

KEROL CAPSULES

MANUFACTURED by SHORT & MASON LTD. WALTHAMSTOW LONDON, E.17.

Tycos SPHYGMOMANOMETERS

STUDINGTON
HAND-MADE SUITS



embody the highest attributes of the tailoring art. They are cut in that distinctive fashion which attracts attention while seeming to avoid it. The materials are exclusive and of superb quality, and while you pay a little more you readily recognise the economics of Studington clothes.

LOUNGE SUITS FROM 7 GNS.

Call or write for patterns and new Catalogue, sent post free.

STUDD & MILLINGTON
SPORTING AND MILITARY TAILORS

67-69, CHANCERY LANE, HOLBORN, W.C.
51, CONDUIT STREET, BOND STREET, W.
81, GRACECHURCH STREET, E.C.
ABBEY HOUSE, VICTORIA STREET, WESTMINSTER, LONDON, S.W.1.

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 123, Douglas Street, Glasgow, C.2.

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

A NON-HABIT FORMING ELIMINANT

Sal Hepatica possesses all the essential qualities of the perfect purgative. Its action is prompt, painless and thorough. It is non-habit-forming, because it contains sodium phosphate which increases bile secretion—thereby avoiding the habit-forming propensities of other laxatives that call for steadily increasing doses. The exhibition of Sal Hepatica is by far the most pleasant and effective means of eliminating all toxic amino acids from your patient's system and ensuring regular defecation. Sal Hepatica is an efficient eliminant, antacid, cholagogue and diuretic.

Samples for clinical trial will be forwarded on request to duly qualified members of the medical profession on application to Bristol Myers Co.

Sal Hepatica contains sodium sulphate, sodium phosphate, sodium chloride and lithia citrate in an effervescent medium.

Sal Hepatica

the proved, medicinal, saline laxative & cholagogue.

BRISTOL-MYERS COMPANY, 112, CHEAPSIDE, LONDON, E.C.2.

"I HAVE FOUND your products to be excellent, especially the ointment, which I proved invaluable in a case of obstinate eczema."

"THE EFFECTS of Sphagnol on chronic psoriasis, senile eczema and piles is beyond belief."

"FOR TENDER SKIN your shaving soap is above praise. I cannot speak too highly of your preparations."

"I USE Sphagnol largely, especially for Dermatitis and Prurigo—with great results."

NOTHING BUT PRAISE FOR SPHAGNOL

PEAT PRODUCTS (SPHAGNOL) LIMITED (DEPT. B 45), 21 BUSH LANE, LONDON. E.C.4

SEND FOR FREE SAMPLE

For the COMMON COLD—the throat and bronchi

Gomenol Syrup, Gomenol Capsules, Gomenol Pastilles

Syrup—capsules—pastilles—all three have Gomenol (the powerful antiseptic so widely used on the Continent) as their base. The principal constituents of Gomenol are Cineol, Pinene, Terpineol, Citrene. Gomenol is an essential oil of great diffusibility: non-toxic, non-irritant, analgesic.

Full particulars, together with reports of medical authorities and evidence of its therapeutic efficacy, are given in a publication which is sent free to the Medical Profession on request to the Sole Distributors, Messrs. Coates & Cooper, 41, Great Tower Street, London, E.C.3.

TRADE MARK

Gomenol

PREVET BRAND.

Gomenol Laboratories, Prevet, 48, Rue des petites Ecuries, Paris, 10me.

BANTAM Coffee

Pure groundless coffee in powder form which dissolves instantly when hot water or milk is added. No preparation is necessary. A little Bantam Coffee added to hot milk makes a very palatable beverage and a welcome change to persons who must take milk regularly. Bantam Coffee is prepared from a blend of selected Empire-grown beans, and has been awarded the Certificate of the Institute of Hygiene. *Economical in use.* A 2/- tin will yield 50 cups of delicious coffee. From Grocers or Post Free from

DEPT. 30, BANTAM PRODUCTS LTD., BANTAM WORKS, LEEDS.

Samples for Testing will gladly be sent on request.

DOWIE & MARSHALL, Ltd., 16, Garrick Street, London, W.C.2

[ESTABLISHED SINCE 1824.] Telephone: TEMPLE BAR 5587.

The instructions of the Profession intelligently carried out.

In addition to the departments for **Ladies and Gentlemen,** special attention is given to provide properly shaped shoes for **Children,** parcels of which can be forwarded on approval to any part of the country. Please send outlines of the feet.

Dowie & Marshall have had great experience in the shoeing treatment of weak ankles and flat feet.

BRASS NAME PLATES.

BRONZE PLATES (ENAMEL LETTERS). SKETCH & ESTIMATE UPON REQUEST.

S. J. & A. HERD,

30, CLERKENWELL ROAD, E.C.1.

NAME PLATES

FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks. | Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks

With fastenings ready for fixing.

SEND FOR ILLUSTRATED CATALOGUE.

COOKE'S (Finsbury) Ltd. Signs Dept.

FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.

Resident Physician: CEDRIC W. BOWER.

Ordinary Terms: Five Guineas per week.

(Including Separate Bedrooms where suitable.)

Interviews in London by appointment.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.

Medical Superintendent: Dr. MCCLINTOCK.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the *Resident* Medical Attendant. Telephone: Tamworth 108.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.: 14 acres of grounds.—*For terms, apply to the Resident* Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

SUNNY MALVERN.

The most beautiful and health-giving Spa. HOME for Gentlefolks under Medical supervision.—BEVAN, New Court, Colwall, Malvern.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—**WOODBRIDGE, SUFFOLK.**

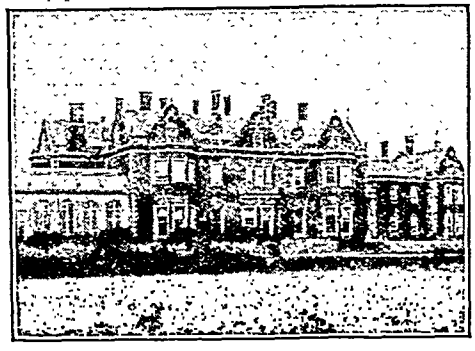
Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16.
(Toll Call from London.)



RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham, as carried on for the last twenty years, is available. Booklet and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: The Norwood Sanatorium, Limited.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone:* PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

'Phone: Chislehurst 451. *Telegrams:* "Masters," Chislehurst.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No.: Batheaston 8189.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

Upton Lodge Nursing Home,

BIRCHINGTON, THANET.

All types of cases taken; special care for aged; shelters in garden; charming comfort. home; nr. sea. Terms mod.—MISS ROBERTSON, Matron.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-therapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport Pagnell 121.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

Phone: 11 Ashton-in-Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

The MAUDSLEY HOSPITAL
DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for T[illegible] of NERVOUS and CHILDREN'S [illegible]

: MEN—Mondays and Tuesdays and Fridays. beds (both sexes) in wards or separate rooms. (*b*) 13 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS:

(*a*) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(*b*) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident* [illegible]

FENSTANTON,
CHRISTCHURCH ROAD,
STREATHAM HILL, S.W.2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nerv[illegible] Separate accommodation for [illegible] Mansion with 12 [illegible] *al Directory*, p. 2[illegible] I.D., Resident Physi[illegible] 8430.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVA[illegible] UPPER and MIDDLE [illegible] received. For [illegible] superintendent [illegible] also be seen [illegible]
Telephone: 481 GATLEY.

HINDHEAD.
850 feet above sea-level.
STONYCREST NURSING HOME
(Registered)
For MEDICAL, SURGICAL AND CONVALESCENT CASES.
RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

CITY OF LONDON MENTAL HOSPITAL
DARTFORD, KENT.

[illegible] ider certificates and [illegible] re received for treat- [illegible] TWO GUINEAS and [illegible] SUPERINTENDENT.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"

STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281. Matron: Mrs. Ellen Allfrey, S.R.N.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle, Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

BOWDEN HOUSE,

HARROW-ON-THE-HILL.

A NURSING HOME OPENED IN 1911 FOR THE INVESTIGATION AND TREATMENT OF FUNCTIONAL NERVOUS DISORDERS OF ALL TYPES.

No cases under certificate. Thorough clinical and pathological examinations. Psychotherapeutic treatment. occupation, and recreation as suited to the individual case.

PARTICULARS FROM THE MEDICAL SUPERINTENDENT. *Telephone and Telegrams:* HARROW 0545

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone:* RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone:* NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.

Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E. Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

THE ROYAL EARLSWOOD INSTITUTION

FOR MENTAL DEFECTIVES, REDHILL, SURREY.

(Formerly the EARLSWOOD ASYLUM.)

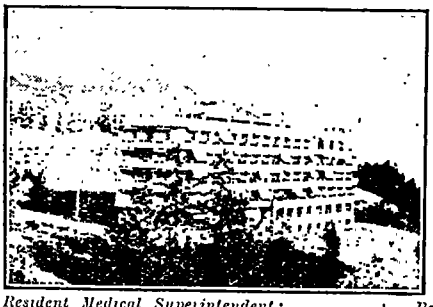
FOR THOSE REQUIRING CONTROL with EXPERT SUPERVISION and needing SPECIAL TRAINING in useful occupations. *SCHOOLS, FARMING, and various TRADE WORKSHOPS.* Inclusive fees from £110 p.a. *THOSE UNABLE TO PAY* admitted by votes of subscribers, with part payment towards cost.

RECREATIONS: ALL outdoor games, EXCELLENT BAND by Male Staff, for Concerts, Dancing, etc.

Apply, THE MEDICAL SUPERINTENDENT, Earlswood, Redhill, Surrey, or to the Secretary, Mr. H. STEPHENS, 14-16, Ludgate Hill, E.C.4.

Telephone: REDHILL 344. *Telephone*: CENTRAL 5297.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for the Alps under and for medi- sun and air. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

"BANKSEA," Dovercourt Bay, ESSEX.

CONVALESCENT HOME FOR GIRLS.

This Home, conducted by the Dominican Sisters, is certified by the Essex County Council under the Ministry of Health.

Beautifully situated on the sea front. Bracing air. Bright and airy dormitories. Central heating. Pleasure Park adjoins Convent grounds. Individual attention. Trained Certificated Nurse. Infectious or Epilepsy cases not received. Terms moderate. Vouchers issued for reduced railway fares. — Apply, MOTHER PRIORESS, Dominican Convent, Dovercourt, Essex.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

HOTEL ANNONCIATA,

MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.

Dry, bracing mountain air, semi tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods. Easy access to Town. Up-to-date comfortable Hotel, moderate charges.

Under French and English Management.

Telcg.: Annonciata, Menton. *Teleph.*: 1.06.

NORMANSFIELD

For Mental Defectives of all ages.

Under private management.

Apply to Dr. Langdon-Down,

Normansfield, Teddington.

MAJORCA: Dr. GILBERT SCOTT'S CONVALESCENT HOME

PALMA DE MALLORCA, SPAIN

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone*: Brixton 0494. Apply, Miss THWAITES.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

HOME FOR DELICATE CHILDREN.

"THE LOG HOUSE," KLOSTERS

GRISONS, SWITZERLAND. 4,000 ft. above sea-level

Inclusive terms from five guineas weekly. No Infectious cases taken. All particulars from Mrs. or Dr. B. HUDSON (above address).

EAST ANGLIAN SANATORIUM.

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

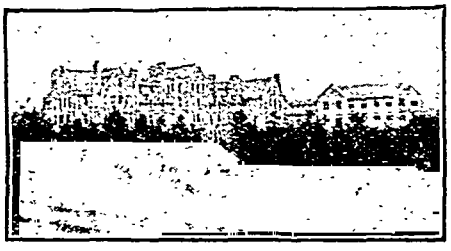
TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus, etc., apply to the SECRETARY, East Anglian Sanatorium, Nayland, near Colchester. *Tel. and Telegrams*: NAYLAND 1.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: **David Lawson, M.D., F.R.S.E.**

FULLY EQUIPPED WITH **EVERY MODERN APPLIANCE** FOR THE DIAGNOSIS AND **TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.**

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. **Fees 4, 5, and 6 guineas per week.**

Physicians: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams*: Nordrach, Blagdon. *Telephone*: Blagdon 23.

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. **Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available,** when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), R. M. Bremner, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone. 20.)

BRIDGE of ALLAN SPA
Stirlingshire

MINERAL WATERS.—Outstanding features: high calcium, bromine, and iodine content.

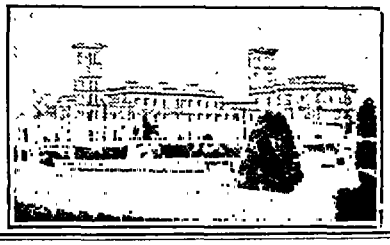
BATHS.—Mineral Water; Foam, Aix, Vichy, and other Douches.

ELECTRICAL DEPARTMENT.—Radiant Heat, Diathermy, Ultra-Violet Ray, Inhalation, &c.

Only certificated staff employed.

ALLAN WATER & SPA HOTEL ADJOINS THE SPA.

For further particulars apply SPA DIRECTOR.



King Edward VII Convalescent Home for Officers of the Navy, Royal Marines, Army, and Air Force.

Massage.
All forms of Electricity.
Ultra-Violet Rays.
Special Dieting.
Golf Course in the Grounds.

TERMS:
4/6 to 6/- per day, inclusive.

Hard Tennis Court.
Squash Racquets.
Badminton.
Sailing.
Bathing, etc.

Officers on the Active List are eligible to travel by rail at Government expense.
For Booklet apply—HOUSE GOVERNOR, OSBORNE HOUSE, EAST COWES, ISLE OF WIGHT.

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

VICTORIA SANATORIUM : : DAVOS
SWITZERLAND

(BRITISH SANATORIUM), 5,200 feet above sea-level.

ALTERED AND MODERNISED IN SUMMER 1930.

Terms from £5 . 12 . 0 per week.

Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.
Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.
Resident Physicians: W. JOHNSON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.
All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation.
Physician in attendance.
IDEAL HEALTH RESORT.
Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

Doctor highly recommends small NURSING HOME for bed-ridden patient. Constant attention, no isolation. Private room from 2½ guineas weekly.—Apply, Miss DAY, "Carmona," Tankerton Road, Tankerton, Kent.

GRAMPIAN SANATORIUM,
KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 850 ft. above sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms £4 6s. 8d. to £6 6s. *inclusive p.w.* Med. Supt.—FELIX SAVY, M.D.
For particulars apply to the Secretary.

SOCIETY OF APOTHECARIES OF LONDON.

MASTERY OF MIDWIFERY.

Examinations will be held beginning Monday, May 18th, and Monday, November 16th, 1931.
For regulations apply to the REGISTRAR, Water Lane, E.C.4.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

POST-GRADUATE COURSE IN ORTHOPAEDIC SURGERY.

A Special Two Weeks' Course will be held at the ROYAL NATIONAL ORTHOPAEDIC HOSPITAL from March 9th to March 21st, 1931.
Lectures and Demonstrations will be given, and those taking the Course will have access to operations and the practice of the Hospital.
Application should be made to the Secretary of the Hospital, 234, Gt. Portland St., W.1, or to the Secretary, Fellowship of Medicine, 1, Wimpole Street, London, W.1.

SOCIETY OF APOTHECARIES OF LONDON.

The Court invites applications for FOUR EXAMINERSHIPS, three in Medicine and Pathology and one in Physiology and Biology, from teachers at recognized Medical Schools.
Applications should be sent in by April 18th, 1931.
Water Lane, Queen Victoria St., E.C.4. R. SILBY LEWIS, Registrar.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims
Chemistry, Physics, and Biology Labs.
...EGE,

Rossall School. — Some twelve Open SCHOLARSHIPS for boys between the ages of 12 and 14, on March 1st next, value from £90 a year downwards, will be awarded by Examination, beginning March 3rd, 1931. Boys examined at Rossall and in London.—Apply, THE BURSAR, Rossall School, Fleetwood.

University of Cambridge.

E. G. FEARNSIDES SCHOLARSHIP FOR CLINICAL RESEARCH ON THE ORGANIC DISEASES OF THE NERVOUS SYSTEM.

This Scholarship is open to Members of the University or of Girton College or Newnham College who are Graduates or Titular Graduates in Medicine, or to Graduates or Titular Graduates in Arts who have passed Part II of the Natural Sciences Tripos.
Applications must be sent to the University Registrary before June 20th.
A. B. RAMSAY, Vice-Chancellor.

UNIVERSITY OF LONDON

OPHTHALMIC HOSPITAL MEDICAL SCHOOL

ROYAL LONDON OPHTHALMIC HOSPITAL

(MOORFIELDS EYE HOSPITAL) CITY ROAD, E.C.1.

NEW TERM BEGINS ON MARCH 2nd.

The SLIT LAMP COURSE will begin on March 2nd. Fee £5 5s.

The complete curriculum is specially adapted to meet the requirements of those reading for the D.O.M.S. and similar Diplomas in Ophthalmology.

For further particulars apply to the Secretary to the Medical School at the Royal London Ophthalmic Hospital, City Road, E.C.1, or to the Dean, CHARLES GOULDEN, O.B.E., M.D., M.Ch., F.R.C.S.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL MEDICAL SCHOOL.

(FOUNDED 1816.)

Telephone: TEMPLE BAR 1457. BROAD STREET, HOLBORN, W.C.2. (Near British Museum Station.)

The Hospital has been rebuilt and has 86 beds, including fourteen private rooms for paying patients. The building has been specially designed for clinical teaching and post-graduate study.

Classes for the D.O.M.S. Examination (Part I and Part II) commence in April.

Out-patients are seen daily at 1 o'clock. Operations are performed at 3 p.m.

Qualified medical practitioners and registered students may join at any time. For particulars apply to the Dean or Secretary at the Hospital.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

CONJOINT BOARD EXAMINATIONS

Candidates taking the First, Second, or Final Conjoint Examination in March and April, 1931, should make sure of passing at the first attempt by enrolling for the short intensive Revision Courses of the College.

POSTAL, ORAL, PRACTICAL, CLINICAL COURSES. MICROSOOPE AND MUSEUM WORK.

Highly qualified Tutors with accurate knowledge of the special features of these examinations.

Write at once for booklet, "How to Pass the Conjoint Board Examinations." Sent free on application.

Address: The Secretary, MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1.

STAMMER, HESITATION, DISORDERS OF THE SPEECH.

CONSULT—

Mr. E. J. MIALL, 39, WELBECK STREET, W.1.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees should be given.

J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE's house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times."
"Thoroughly physiological principles."—"Lancet."
"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/6 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5 for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MED ...HOOL.
practi... ... to Hospital
rical ... and Obstet-
Courses. ... Fortnightly

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.
PRIVATE WARDS for paying patients.
MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

Preliminary Examinations.

The COLLEGE ... Pre-
liminary Examir ... ental
Students in Lon ... entres
in March, June, ... For
Regulations, app ... ge of
Preceptors, Bloor ... t, W.C.1.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.), 1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.), *Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.), *Primary* 1906-30	162
Final	161
M.R.C.P.(Lond.), 1914-30	192
D.P.H. (Various) 1906-30 (*Completed Exam.*)	300
F.R.C.S.(Edin.), 1918-30	46
M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.) (Practitioners) 1906-30	38
M.D. Various. By Thesis. Numerous successes.	
above and also for d for all examinations L.R.C.P., or M.B. of o for D.P.M., D.O.M.S.,	

D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Exam . . . Surgical . . . cial Diplor . . . ien- ings . . . Med . . . of Tutor . . . pal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

University of Leeds.

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY.

The Council will shortly proceed to the appointment of a LECTURER IN PATHOLOGY, at a salary of £500 a year. It is essential that candidates should hold a registrable Medical qualification. Further particulars may be obtained from the Registrar, The University, Leeds, who will receive applications for the appointment up to March 2nd.

University of London.

A Course of Two Lectures (illustrated by lantern slides) on "*The National Diet*" will be given by Professor E. P. CATHCART, C.B.E., F.R.S. (Regius Professor of Physiology in the University of Glasgow), at the LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Keppel Street, Gower Street, W.C.1, on February 23rd and 24th, at 6 p.m. At the first Lecture the Chair will be taken by Sir WALTER M. FLETCHER, K.B.E., C.B., F.R.S., Secretary of the Medical Research Council. Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

National Hospital for Diseases of THE NERVOUS SYSTEM, Queen Square, W.C.1.

SPEECH DEFECTS.

The Board of Management will shortly appoint an HONORARY OFFICER to undertake treatment and re-education of patients suffering from speech defects who have been referred by the Honorary Medical Staff. Attendance on two days each week will be required. Applications should be sent to the undersigned on or before March 6th.

GODFREY H. HAMILTON, Secretary.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

(University of London.)

Tropical Medicine and Hygiene.

The School provides Two Courses yearly, each of 22 weeks. The Autumn Course commences at the end of September, and the Spring Course in February, 1932. Composition fee, to include hire of Microscope, etc., £34 5s.

Diploma in Public Health.

The next Course of study, covering a period of twelve months, commences at the end of September, and is so designed that Students wishing to do so can proceed to the New Academic Diploma instituted by the University of London. The composition fee of 54 guineas covers the cost of the necessary practical work and instruction in Infectious Diseases, etc.

Diploma in Bacteriology.

The Course of study, covering one academic year, commences early in October. Composition fee £47 15s.

Epidemiology and Vital Statistics.

Special three-monthly Advanced Courses. Composition fee £7 7s.

Applications for Prospectuses and for other information should be addressed to the Secretary, Keppel St. (Gower Street), London, W.C.1.

Tancred Studentships.

Shortly after Whitsuntide next the Governors and Trustees propose to elect ONE STUDENT in PHYSIC at GONVILLE and CAIUS COLLEGE, CAMBRIDGE.

Candidates must have been born in England, Scotland or Wales, and be members of the Church of England, unmarried, and within the ages of 17 and 20 years.

The annual stipend is £100.

The last day for sending in petitions is March 10th.

Application for further particulars should be made to Mr. GUY HARGREAVES CHOLMELEY, 28, Lincoln's Inn Fields, Clerk to the Governors and Trustees.

Manchester Royal Infirmary.

POST-GRADUATE LECTURES will be given by Members of the Honorary Staff in Medical, Surgical, and Special Subjects each week on Tuesdays, from February 24th to May 19th (with exception of April 7th). On Fridays from February 27th to May 15th (except April 3rd and 10th), Clinical cases will be shown in the Medical and Surgical wards. All meetings begin at 4.15 p.m. and are free. Details may be obtained from the Secretary for the Post-Graduate Lectures.

Royal College of Physicians.

Surg.-Capt. S. F. DUDLEY, R.N. will deliver the MILROY LECTURES on February 26th, March 3rd and 5th, at 5 o'clock, at the College, Pall Mall East, S.W.1.

Subject: "*Some Lessons of the Distribution of Infectious Disease in the Royal Navy.*"

Any member of the Medical Profession admitted on presentation of card.

By Order of the President,
H. M. BARLOW,
Bedell & Secretary.

Manchester and District Radium INSTITUTE, Nelson St., MANCHESTER.

Required Medical Man, thoroughly experienced in radium work, to act as DIRECTOR of The Radium Institute. Terms and conditions to be obtained from the Hon. Secretary.

Applications to be received not later than March 14th.

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE.

FACULTY OF MEDICAL SCIENCES.

SPECIAL COURSE FOR THE PRIMARY FELLOWSHIP EXAMINATION OF THE ROYAL COLLEGE OF SURGEONS.

Special SHORT COURSES in ANATOMY and PHYSIOLOGY will begin on MONDAY, MARCH 9th, 1931, in preparation for the June Examination.

ANATOMY: J. KINK, M.B., Ch.B., F.R.C.S.E.
PHYSIOLOGY: H. P. GILDING, M.A., B.M., B.Ch.; W. H. NEWTON, M.Sc., M.B., Ch.B.

The Course in Anatomy (including Embryology) is made up of lectures and demonstrations. Students are permitted to use the Dissecting Room and Museum of Anatomy at other times. The Courses in Physiology, Bio-Chemistry, and Histology consist of lectures and demonstrations, together with revision of practical work in those branches of the subject which are of particular importance in Medical Practice.

Full particulars may be obtained on application to—

University College, London. C. O. G. DOUIE, Secretary.
(Gower Street, W.C.1.)

Four Lectures on "Programme OF THE PUBLIC HEALTH SERVICE," illustrated with lantern slides, will be delivered by Sir GEORGE NEWMAN, K.C.B., M.D., D.C.L., on February 24th, 25th, 26th, and 27th, 1931, at GRESHAM COLLEGE, Basinghall Street, E.C.2. The Lectures will commence at 6 o'clock. Admission free.

Royal Manchester Children's HOSPITAL.

Out-patients' Department: Garside Street, MANCHESTER.

Wanted for the Out-patients' Department, Two ASSISTANT MEDICAL OFFICERS, non-resident, salary £150 per annum, who will be appointed for six months.

Candidates must be doubly qualified and on the *Medical Register*. Particulars of the duties can be obtained from the Secretary. The hours of duty are from 9 a.m. till 1 p.m. or until the work of the Dispensary is finished. Patients' attendances number 97,000 per annum. Duties to commence April 1st.

Applications, stating age, and accompanied by copies of not more than three testimonials, to be sent to the undersigned not later than Wednesday, March 4th.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY,
February 11th, 1931. Secretary.

Royal Manchester Children's HOSPITAL,

PENDLEBURY, near MANCHESTER (190 Beds).

Wanted, a RESIDENT MEDICAL OFFICER and a RESIDENT SURGICAL OFFICER, salary £125 per annum, who will be appointed for six months. Duties to commence April 1st.

Candidates must be unmarried, doubly qualified, and duly registered. Previous Hospital experience essential.

Applications, stating age, and accompanied by copies of not more than three testimonials, to be sent to the undersigned not later than Wednesday, March 4th.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY,
February 11th, 1931. Secretary.

The Royal Infirmary, Sunderland

(290 Beds.)

Wanted, SENIOR HOUSE SURGEON (male), salary £200 per annum; also HOUSE SURGEON (male), £140 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Tunbridge Wells and Counties GENERAL HOSPITAL.

(100 Beds—2 Residents.)

Applications are invited for the post of HOUSE SURGEON (male). Salary £160 per annum, with board, residence, and laundry. ... months. ... qualifications, and ... by three recent testimonials, should be sent to the undersigned on or before March 2nd.

P. E. WINDO, Secretary.

Administrative County of LONDON.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the undermentioned positions. The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendent and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the Council. The successful candidates will be required to live in the Hospital.

NEW END HOSPITAL, Hampstead, N.W.3.

(a) SENIOR ASSISTANT MEDICAL OFFICER. Salary £500 a year, together with board, lodging, and washing.

Candidates must have held a resident appointment in a General Hospital, and have had major surgical experience. Preference will be shown to candidates who are Fellows of a Royal College of Surgeons or Masters of Surgery.

(b) ASSISTANT MEDICAL OFFICER. Salary £350 a year, together with board, lodging, and washing.

Candidates must be duly qualified Medical Practitioners of at least one year's standing, and have held a resident appointment for at least six months in a General Hospital.

QUEEN MARY'S HOSPITAL, Sidcup, Kent.

ASSISTANT MEDICAL OFFICER. Salary £250 a year, together with board, lodging, and laundry. Candidates must have held a resident appointment in a General Hospital. The appointment will be for one year only.

The salary and conditions of appointment are provisional, and subject to review by the Council. There is no accommodation for a married man or for a woman in either case.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4 A), The County Hall, Westminster Bridge, S.E.1, and must be returned by March 6th. Candidates should specify the position or positions for which they desire to apply. Canvassing disqualifies. Inquiries for further details as to the nature and scope of the duties, should be addressed to the Medical Superintendent at the Hospital.

MONTAGU H. COX,
Clerk of the County Council.

Westminster Hospital,
Broad Sanctuary, S.W.1.

Applications are invited for the post of OBSTETRIC TUTOR AND REGISTRAR. Gentlemen desirous of becoming candidates must be registered Medical Practitioners not engaged in general practice. An honorarium of £50 per annum is attached to the office, and in addition a grant of £50 per annum is made by the School of Medicine Committee for Tutorial work. Applications (four copies), with four copies of each of three testimonials, should be sent to the undersigned on or before Friday, March 6th.

CHARLES M. POWER, Secretary.

Westminster Hospital,
Broad Sanctuary, S.W.1.

Applications are invited for the office of SURICAL REGISTRAR to this Hospital. Gentlemen desirous of becoming candidates must be Fellows or Members of the Royal College of Surgeons of England. A salary of £150 per annum is attached to the office. Applications (eight copies), with eight copies of each of three testimonials, should be sent to the undersigned not later than Friday, March 6th.

CHARLES M. POWER, Secretary.

Salford Royal Hospital.
(263 Beds.)

Applications are invited for the post of REGISTRAR to the Orthopaedic Department.

Duties will entail attendance on four half-days each week. Salary £100 per annum.

Candidates must be registered under the Medical Acts.

The appointment is for a period of one year.

Forms of application, which may be obtained from the undersigned, must be delivered on or before the 28th instant.

By Order of the Board,
GEORGE RUDDLE.
February 14th, 1931. Gen. Supt. & Sec.

Queen's Hospital for Children,
Hackney Road, London, E.2.

CASUALTY OFFICER required on March 23rd. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials, on or before February 28th.

CHARLES H. BESSELL,
February 3rd, 1931. Acting Secretary.

City of Manchester.
PUBLIC HEALTH DEPARTMENT.

BOOTH HALL HOSPITAL FOR CHILDREN.
(750 Beds.)

APPOINTMENT OF A TEMPORARY ASSISTANT MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Temporary Assistant Medical Officer at the Booth Hall Hospital, Charlestown Road, Blackley, Manchester.

Every applicant must be a registered Medical Practitioner and unmarried.

Previous hospital experience not essential.

The Hospital is a recognised Training School for Nurses, and is equipped with all modern hospital requirements.

Salary £200 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made, in the first instance, for a period of six months. The successful candidate, however, will be eligible for re-appointment for a further period of six months at the end of that period.

" fully the training,
" of the candidate.
three recent testi-

monials, and endorsed on the envelope "Assistant Medical Officer, Booth Hall Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Saturday, February 28th.

The candidate appointed will be required to commence duty as soon as possible after appointment, to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

F. E. WARBRECK HOWELL,
Town Hall, Town Clerk.
Manchester. February 17th, 1931

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A RESIDENT MEDICAL SUPERINTENDENT is required on March 9th.

Gentlemen are invited to send in their application to the Secretary, before 12 o'clock on Monday, March 2nd, accompanied by copies of not more than three testimonials given specially for the purpose.

The appointment is made for one year, but may be held, subject to re-election, for a period of three years.

Salary £300 per annum, with board-residence in the Hospital. £10 allowance for laundry, and £18 18s. for the purpose of providing a substitute during annual leave.

Candidates must be unmarried and possess a legal qualification to practice, and must have held a responsible Hospital appointment at a General Hospital.

All candidates must be in attendance on Wednesday, March 4th, at 4.45 p.m. precisely, to appear before the Joint Committee, if required.

Forms of application and copies of the Rules may be obtained from the Secretary at the Hospital.

By Order of the Board of Management,
JAMES MCKAY,
February, 1931. Secretary.

Scunthorpe and District War MEMORIAL HOSPITAL.

Applications are invited for the post of a Second Resident (male) as HOUSE PHYSICIAN, to take up duties about the end of March. Salary at the rate of £150 per annum, with board, residence, and laundry. Candidates, who must possess registered qualifications, should forward applications, stating age, nationality, etc., together with copies of recent testimonials, to the undersigned not later than Saturday, February 28th.

ARTHUR E. MAW, Secretary.

Manchester Babies' Hospital,
BURNAGE LANE, LEVENSHULME.

Applications are [illegible] post of JUNIOR [illegible] Appointment is [illegible] rate of £50 per annum, with laundry.

Applications, together with copies of testimonials, should be sent to the undersigned, and marked "J.R.M.O.," by Friday, March 6th.

ANGELA LOPEZ, Secretary.

Royal Chest Hospital,
City Road, E.C.1.

CLINICAL ASSISTANT required in the Out-Patient Department on Monday afternoons. Apply to the Secretary.

County Borough of West BROMWICH.

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from duly qualified and registered Medical gentlemen for the above appointment. Applicants must possess a Diploma in Public Health, and have had three years' experience since qualification, with special experience in Diseases of Infants and Children and Infectious Diseases. Knowledge of Tuberculosis, Mental Deficiency, or Ophthalmic work will be deemed additional qualifications. Age not to exceed 35 years.

The officer will be subject to and under the directions of the Medical Officer of Health.

The person appointed will be required to devote the whole of his time to the duties assigned to him by the Council, to live in the Borough, and not to engage in private practice.

Commencing salary £500 per annum, rising by annual increments of £25 to £700 per annum; no bonus.

The engagement, which is subject to the approval of the Minister of Health, will be terminable on the part of the officer by eight weeks' notice.

Applications, stating age, qualifications, past and present appointments, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned not later than the first post on Monday, March 2nd, and should be endorsed "Assistant Medical Officer of Health."

There are no special application forms.

Town Hall, ALFRED WICKHAM.
West Bromwich. Town Clerk.
February 14th, 1931.

Royal Victoria Infirmary,
NEWCASTLE-ON-TYNE.

Applications are invited for the posts of SENIOR MEDICAL OFFICER and Two JUNIOR MEDICAL OFFICERS for the Pay-Bed Section of the Hospital.

Candidates must be registered in Medicine and in Surgery.

The term of appointment is for six months beginning March 1st, and is renewable for a further period.

Salary for Senior Medical Officer £200 per annum, with board and residence, and for the Junior Medical Officers £100 per annum each, with board and residence.

Applications, stating age, experience, and accompanied by three recent testimonials, should be sent not later than Wednesday, February 25th, to the undermentioned, from whom further particulars may be obtained.

S. DUNSTAN,
Feb. 10th, 1931. House Gov. & Sec.

The Royal Gwent Hospital,
NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER, to act as House Surgeon to Out-patients and as House Physician.

Salary £155, with board, lodging, and laundry. Resident Medical Staff 5. Eligible for promotion. Large Out-patient Department.

Applications, stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.

Applications from ladies not entertained.

J. K. MILLWARD,
Secretary-Superintendent.
February 17th, 1931.

Manchester Victoria Memorial JEWISH HOSPITAL,
CHEETHAM, MANCHESTER (Non-sectarian).

Applications are invited for the post of JUNIOR HOUSE SURGEON (male). The appointment is for six months. Salary at the rate of £125 per annum, with board, residence, and laundry. Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned immediately.

FRED BARNES.
Superintendent & Secretary.

Redlands Hospital for Women,
GLASGOW, W.2.

Required, Medical Woman for the post of HOUSE OBSTETRICIAN for two months in the first instance from March 1st. Applications, with copies of three testimonials, to be sent to JANET F. STEEL, Medical Secretary.

General Lying-In Hospital,
York Road, Lambeth, S.E.1.

RESIDENT MEDICAL OFFICER required for April 1st next. Appointment for 3 months. £100 per annum, with board. Applications, with three testimonials, to be sent to the Secretary not later than March 6th.

County Council of Durham.

EDUCATION DEPARTMENT.

ASSISTANT SCHOOL MEDICAL OFFICER.

The County Education Committee invite applications for the post of Assistant Medical Officer, to act under the School Medical Officer in connection with the inspection of school children, and such other duties as may be required by the Education Committee. Commencing salary £500 per annum (providing the candidate has had not less than three years' Post-Graduate experience), rising by annual increments of £25 to £700 per annum, together with travelling expenses according to the County Scale. The successful candidate will be required to devote his (her) whole time to the duties of the office, and reside in or near the district to which he (she) will be attached at a place to be approved by the Education Committee. The appointment will be subject to three calendar months' notice on either side, expiring on the last day of any calendar month. Applicants must have had experience in the work of school medical inspection, and preference will be given to candidates who:

(a) Have had experience in the work of School Clinics.
(b) Have been accustomed to make special reports on Mentally Defective, Physically Defective, Epileptic, and other Defective Children.

The possession of a Diploma in Public Health is desirable, though not essential.

Copies of not more than three recent testimonials are required.

Canvassing, directly or indirectly, is prohibited, and will disqualify.

A deduction of 5 per cent. will be made from the salary in accordance with the Local Government and Other Officers Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to passing the County Council's medical examination in connection therewith.

Forms of application, to be returned not later than Saturday, February 28th, may be obtained from the Director of Education, Shire Hall, Durham, on receipt of stamped addressed envelope.

Shire Hall, Durham. THOS. B. TILLEY, Director of Education.
February 9th, 1931.

Metropolitan Borough of Woolwich.

[illegible] from registered [illegible] the appointment of [illegible] OFFICER in the Public Health Department.

The appointment is a whole-time one, and the officer appointed will be required to carry out, under the supervision of the Medical Officer of Health, such duties under the Council's Maternity and Child Welfare Scheme, and the Council's Tuberculosis Scheme, as may be required from time to time by the Council. Applicants must have had adequate experience in these duties.

The appointment, which will be during the pleasure of the Council, is subject to the approval of the Ministry of Health and the London County Council, to the By-laws and Regulations of the Borough Council, and to termination by one month's notice on either side.

The salary, which will include all fees and emoluments, will be £600 per annum, rising, subject to the approval of the Minister of Health, by annual increments of £25 to £700. No bonus will be paid.

Applications, on a form to be obtained from the Medical Officer of Health, Town Hall, Woolwich, S.E.18, and accompanied by copies of not more than three recent testimonials, must be received by me not later than the first post on March 5th, in an envelope endorsed "Assistant Medical Officer."

Canvassing, either directly or indirectly, any member or officer of the Council, will disqualify.

By Order,
Town Hall, Woolwich, S.E.18. ARTHUR B. BRYCESON, Town Clerk.
February, 1931.

Caithness County Council.

MEDICAL OFFICER wanted for the PARISH OF HALKIRK, to take up duties on March 31st next. The salary includes a payment of £120 per annum, along with free house, from the County Council for services as Local Medical Officer. A grant from the Highlands and Islands (Medical Service) Fund is made by the Department of Health, and considerable private and panel practice may be expected. Further particulars may be obtained from the Subscriber, with whom applications, with six copies of testimonials, should be lodged on or before February 28th next.

County Offices, Wick. JAMES ROBERTSON, County Clerk.
February 12th, 1931.

Borough of Reigate.

MEDICAL OFFICER OF HEALTH, SCHOOL MEDICAL OFFICER, AND MEDICAL OFFICER OF INFANT WELFARE CENTRE.

The Reigate Town Council invites applications from duly qualified persons of not more than 35 years of age, holding a Diploma in Public Health and possessing Municipal or Local Government experience, for the appointment of Medical Officer of Health, School Medical Officer, and Medical Officer of the Infant Welfare Centre for the Borough.

The total commencing salary will be £800 per annum, with an allowance of £40 per annum for travelling and other expenses.

The person appointed will be required to devote his whole time to the duties of his offices, and must reside within the Borough. The duties to be performed are those defined by the Sanitary Officers Order, 1926, made by the Minister of Health, together with any other duties which may from time to time devolve on a Medical Officer of Health by virtue of any present or future Act of Parliament or Orders or Regulations of the Ministry of Health.

He will also be required to act as School Medical Officer and Medical Officer at the Infant Welfare Clinic.

The officer's tenure as Medical Officer of Health will be governed by Section 1 of the Public Health (Officers) Act, 1921.

The Council will provide offices and staff.

Applications, stating age, qualifications, and experience, with copies of three recent testimonials, must be sent, endorsed "Medical Officer," so as to reach me not later than Friday, March 13th next.

Twelve copies of the application and testimonials should also be forwarded for the use of the members of the Committee.

Canvassing in any form is strictly prohibited and will disqualify.

By Order of the Council,
Municipal Buildings, Reigate. ALFRED SMITH, Town Clerk.
February 14th, 1931.

City of Birmingham.

SELLY OAK HOSPITAL.

MALE RADIOGRAPHER.

Applications are invited from fully qualified Radiographers for the above whole-time appointment.

The scale of salary will be £250 per annum, rising, subject to satisfactory service, by annual increments of £20 to a maximum of £350 per annum. The commencing salary will be placed within this scale according to qualifications and experience.

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme, and to the candidate passing a medical examination, and will be subject to one month's notice on either side.

Further particulars of the appointment may be obtained from the Medical Superintendent, R. P. S. KELMAN, Esq., M.B., Ch.B., F.R.C.S. Eng. and Edin.), to whom applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Wednesday, March 11th.

The Council House, Birmingham. F. H. C. WILTSHIRE, Town Clerk.

City of Cardiff.

ISOLATION HOSPITAL.

Applications are invited for the post of RESIDENT ASSISTANT MEDICAL OFFICER (male or female—single). Salary £150 per annum, with board, lodging, and laundry. The appointment will be tenable for twelve months only. Candidates must be fully qualified and registered.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be addressed to the undersigned not later than March 7th.

City Hall, Cardiff. RALPH M. F. PICKEN, Medical Officer of Health.
February, 1931.

City of Bradford.

MUNICIPAL GENERAL HOSPITAL, ST. LUKE'S

HOUSE PHYSICIANS and HOUSE SURGEONS required.

Salary in each case £200 per annum, plus board and lodgings.

These appointments are for six months, renewable for a further period of six months.

Application forms may be obtained from the Medical Officer of Health, Town Hall, Bradford, and should be returned to him not later than February 28th.

Town Hall, Bradford. N. L. FLEMING, Town Clerk.
February 9th, 1931.

Metropolitan Borough of Poplar.

MALE ASSISTANT MEDICAL OFFICER OF HEALTH (TUBERCULOSIS SECTION).

The Council of the Metropolitan Borough of Poplar invite applications for the above post from duly qualified and registered male Medical Practitioners who are specially qualified in the diagnosis and treatment of Tuberculosis, and not over 40 years of age.

The person appointed will assist the Tuberculosis Officer, and, when necessary, carry out other duties in the Public Health Department under the direction of the Medical Officer of Health, and devote his whole time to the services of the Council.

Applicants should have:

(1) At least three years' experience in the practice of his profession; (2) spent in general clinical work a period of not less than 18 months, of which not less than six months have been spent in a hospital as a resident officer in charge of beds occupied by general medical and surgical cases; and (3) received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis.

A Diploma in Public Health is desirable.

The commencing salary will be at the rate of £600 per annum, rising by four annual increments of £25 to £700 per annum.

The successful candidate will be required to pass a medical examination, and to contribute to the Council's Superannuation Fund.

Forms of application may be obtained from my office, and must be returned, together with a letter of application and copies of three recent testimonials, in envelope endorsed "Male Assistant Medical Officer of Health," not later than Friday, February 27th instant.

Canvassing members or officers of the Council, in any form, will disqualify.

Council Offices, Poplar, E.14. H. E. DENNIS, Town Clerk.
February 10th, 1931.

County Council of Middlesex.

DISTRICT MEDICAL OFFICER AND PUBLIC VACCINATOR.

The County Council invites applications from duly qualified Medical Practitioners for the undermentioned appointments:

DISTRICT MEDICAL OFFICER, ISLEWORTH (part of).

Salary £140 per annum, rising by annual increments of £7 10s. to £180 per annum. The officer appointed will be required to carry out his duties in accordance with the Public Assistance Order, 1930, of the Minister of Health, to reside in the district, and to name to the Council some duly qualified Medical Practitioner who will, in the case of his absence or other hindrance to his personal attendance, act in his place.

PUBLIC VACCINATOR, ISLEWORTH (part of).

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination, unless such certificate was required as a condition of obtaining any diploma, licence, or degree which he possesses.

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order, 1930, of the Minister of Health. The contract will provide for the payment of the minimum fees laid down in the Order.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than March 7th.

No special application forms are provided. Envelopes must be endorsed "District Medical Officer" or "Public Vaccinator," as the case may be.

Canvassing, directly or indirectly, will be a disqualification.

Guildhall, Westminster, S.W.1. ERNEST S. W. HART, Clerk of the County Council.
February 10th, 1931.

Margate and District General Hospital. (80 Beds.)

[illegible] invited for the post of [illegible] FICER (male) to commence 2nd next. Twelve months' engagement (renewable).

Salary £125 per annum, with board and laundry.

Applications, accompanied by copies of testimonials, should be sent to the Secretary, Medical Committee, at the Hospital, as early as possible.

Lowestoft and North Suffolk Hospital, Lowestoft.

JUNIOR HOUSE SURGEON (male) required at once. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

County Borough of Darlington.

HEALTH VISITOR.

Applications are invited from properly qualified persons for the appointment of Health Visitor.

The duties are chiefly concerned with Maternity and Child Welfare, and the successful applicant will be required to carry out such duties under the direction of the Medical Officer of Health.

The salary (under the Corporation's Scale) as at present adjusted by reference to the rise or fall in the cost of living is £165 12s. per annum, and is subject to such other conditions of the Scale as are applicable. Additional allowances amounting to £11 per annum in respect of travelling and uniform are made.

The appointment will be subject to the Local Government and Other Officers Superannuation Act, 1922, and the successful applicant will be required to pass a medical examination.

Applications, stating age, qualifications, and experience, must reach the Medical Officer of Health, Feethams, Darlington, not later than Tuesday, March 10th.

Town Clerk's Office, Darlington. H. HOPKINS, Town Clerk.

February, 1931.

City of Edinburgh.

PUBLIC HEALTH DEPARTMENT.

MENTAL SERVICES.

The Corporation of Edinburgh invite applications from duly qualified persons for the appointment of a MEDICAL OFFICER to have charge of the Mental Health Services of the Corporation. The Medical Officer will act as Superintendent of the Mental Hospital of the Corporation known as Bangour Village.

Salary from £1,000 to £1,250, with free house, coal, and light; and a non-pensionable allowance of £100 per annum for a motor car.

A Memorandum specifying the terms of appointment and outlining the duties to be performed may be obtained on application to the Subscriber.

Applications, stating age, qualifications, and full particulars of present and past experience, should be lodged with the Subscriber not later than February 28th.

City Chambers, Edinburgh. A. GRIERSON, Town Clerk.

February 6th, 1931.

Acton Hospital, W.3.

Applications are invited for the appointment of

(a) SENIOR RESIDENT MEDICAL OFFICER (male, unmarried). Salary £150 per annum, with board, residence, and laundry. Duties to commence April 1st.

(b) JUNIOR RESIDENT MEDICAL OFFICER (male, unmarried). Salary £100 per annum, with board, residence, and laundry. Duties to commence July 1st.

Candidates must be fully qualified and registered. Applications, stating age, nationality, and qualifications, together with a copy of three recent testimonials, should reach the Secretary, Acton Hospital, Gunnersbury Lane, W.3, by Tuesday, March 3rd.

Bootle General Hospital,

BOOTLE, LANCS. (100 Beds.)

Applications are invited from Medical Men for the posts of SENIOR RESIDENT MEDICAL OFFICER, with previous Hospital experience, and Two JUNIOR HOUSE SURGEONS, for the six months ending September 30th.

Salaries at the rate of £200 per annum Senior Officer and £150 per annum each Junior Officer, with board, residence, and laundry.

Duties to commence April 1st.

Applications, stating age and qualifications, with copies of testimonials, to be sent to the undersigned on or before March 3rd.

J. A. BEARDSALL, Secretary-Superintendent.

Cumberland Infirmary, Carlisle.

The following posts are vacant on April 1st, six months' appointment, male. Previous experience desirable. Salary in each case at the rate of £155 per annum, board, residence, etc.

(1) Second HOUSE SURGEON.

(2) HOUSE SURGEON to Special Departments. (Eyes, Ear, Nose, and Throat.)

Applications, stating age, etc., with copies of not more than four testimonials, must be received by first post on Wednesday, February 25th, by the undersigned, who will supply further particulars if desired.

Separate applications required for each post.

J. G. HOWITT, Secretary.

February 9th, 1931.

Derbyshire Education Committee

SCHOOL MEDICAL SERVICE.

ASSISTANT SCHOOL DENTIST.

Applications are invited from fully qualified and registered Dental Surgeons for the appointment of a Whole-time Assistant School Dental Officer under Derbyshire Education Committee.

The officer appointed will not be allowed to engage in private or consulting practice, but will be required to devote his or her whole time to the duties of the office, and act under the direction of the School Medical Officer and the Senior Dental Officer.

The appointment will be a designated post under the Local Government and Other Officers Superannuation Act, and the successful candidate will be required to pass a medical examination.

The salary will be at the rate of £450 to £500 per annum, with travelling expenses. Apparatus, premises, etc., are provided by the Committee.

Applications, stating age and full qualifications, and accompanied by copies of three recent testimonials, must be forwarded to the undersigned on or before Monday, March 9th.

No official form of application will be issued.

New County Offices, St. Mary's Gate, Derby. W. M. ASH, School Medical Officer.

February 14th, 1931.

Freemasons Hospital and

NURSING HOME,
237, Fulham Road, Chelsea, S.W.3.

The post of RESIDENT MEDICAL OFFICER (male) will be vacant on April 1st next. Salary at the rate of £250 per annum, with board, residence, and laundry. The appointment is for six months. Candidates must be registered and must have held resident appointments at a General Hospital. The Institution (46 beds) is for paying patients of both sexes of moderate means unable to afford ordinary Nursing Home treatment, etc.

Selected candidates interviewed March 9th.

Applications, stating full particulars, to be sent on or before March 7th next to the Honorary Secretaries, from whom further information may be obtained.

Gravesend and North Kent

HOSPITAL. (100 Beds.)

JUNIOR HOUSE SURGEON.

The Committee of Management invite applications from fully qualified men for the above post, which is of twelve months' duration.

Salary at the rate of £100 p.a. first six months, £150 p.a. second six months, plus board, lodging, washing, and certain fees as perquisites.

The successful candidate will be required to commence duties about March 21st.

Applications, with one copy of three recent testimonials, to be sent to the undersigned immediately.

C. E. CHAPMAN, Secretary.

Golden Square Throat, Nose, and

EAR HOSPITAL, London, W.1.

Applications are invited for the post of HON. ASSISTANT SURGEON to the Golden Square Throat, Nose, and Ear Hospital. Candidates should be Fellows of the Royal College of Surgeons of England, and they are requested to call upon the present members of the Honorary Staff.

Applications, stating age, qualifications, and experience, and enclosing copies of three recent testimonials, should be received by the undersigned on or before Saturday, March 7th.

F. P. CARROLL, Secretary-Superintendent.

Golden Square Throat, Nose, and

EAR HOSPITAL, London, W.1.

HOUSE SURGEON (male) required for April 1st. Salary £100 per annum, with board and lodging. Applications, stating age, qualifications, and experience, together with copies of three testimonials, should reach the undersigned on or before March 7th.

F. P. CARROLL, Secretary-Supt.

Feb. 12th, 1931.

East Suffolk and Ipswich

HOSPITAL.
(265 Beds—7 Residents.)

Wanted, a HOUSE SURGEON and a HOUSE PHYSICIAN (male, British). Salary at the rate of £120 per annum. Board, residence, and laundry. Previous experience essential.

Applications, stating age, qualifications, and experience, and accompanied by three recent testimonials, to be sent to the undersigned.

ARTHUR GRIFFITHS, Secretary.

The Hospital, Ipswich.

Leicester Royal Infirmary.

(420 Beds.)

HOUSE PHYSICIAN.

A vacancy is expected on April 1st for a Second House Physician. Salary at the rate of £125 per annum. Applicants must have held a resident Hospital post or had similar experience of Hospital work. Election about the middle of March.

Applications should be made to the House Governor and Secretary on or before March 3rd.

February 16th, 1931.

Leicester Royal Infirmary.

(420 Beds.)

HOUSE SURGEON AND CASUALTY OFFICER.

Vacancies are expected on April 1st for a House Surgeon and a Casualty Officer. Salaries at the rate of £125 per annum. Applicants must have held a resident Hospital post or had similar experience of Hospital work. Election about the middle of March.

Applications should be made to the House Governor and Secretary on or before March 3rd.

February 16th, 1931.

Royal National Orthopaedic

HOSPITAL,
(Country Branch: Brockley Hill, Stanmore, Middlesex).

Applications are invited for the post of HOUSE SURGEON (male). £150 per annum, with board, quarters, and laundry.

The appointment is for six months commencing April 1st, renewable for a further period of six months on the recommendation of the Medical Board. Applications, accompanied by copies of testimonials, should reach the Secretary at 234, Gt. Portland St., London, W.1, not later than March 11th.

Royal National Orthopaedic

HOSPITAL,
234, Gt. Portland Street, W.1.

Applications are invited for the posts of HOUSE SURGEON (Male, Two). £150 per annum, with board, quarters, and laundry.

The appointments are for six months commencing April 1st, renewable for a further period of six months on the recommendation of the Medical Board. Applications, accompanied by copies of testimonials, should reach the Secretary not later than March 11th.

The Gloucestershire Royal

INFIRMARY AND EYE INSTITUTION,
GLOUCESTER.
(153 Beds—4 Residents.)

Applications are invited for the post of SECOND HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned.

F. J. SYMONS, Secretary.

January 29th, 1931.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a SENIOR HOUSE SURGEON (male or female) for a period of six months as from April 1st. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle, on or before March 14th.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a HOUSE PHYSICIAN (male or female) for a period of six months as from April 1st. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle, on or before March 14th.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female), non-resident, for a period of six months as from April 1st. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle, on or before March 14th.

Hospital Convalescent Home, SWANLEY, KENT.

There will be a vacancy for a RESIDENT MEDICAL OFFICER (female) on April 1st.

The duration of the appointment is for six months, and may be extended for a further six months. Salary at the rate of £200, with quarters and full board.

There is a certain amount of active Medical and Surgical work to be undertaken, and candidates should have held a recent resident post in a General Hospital.

Applications, addressed to the Secretary, Hospital Convalescent Home, 18, Walbrook, London E.C.4, should be submitted on or before Friday, February 27th.

CHARLES M. POWER, Secretary.

Hull Royal Infirmary.

SUTTON BRANCH.

The above Branch has been recently opened and is a self-contained modern General Hospital of 100 Beds. There are two Resident posts.

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum, plus board, residence, and laundry. The appointment will be for six months in the first instance, and will be terminable by one month's notice on either side.

Applications, stating age, qualifications, and nationality, and with copies of testimonials, should be sent to the undersigned.

Hull Royal Infirmary, Hull. R. J. CARLESS, House Governor.

January 31st, 1931.

Hospital of St. Cross, Rugby.

(114 Beds.)

Applications are invited for the post of THIRD RESIDENT MEDICAL OFFICER (male) at the Hospital of St. Cross.

Candidates must be registered Medical Practitioners, and must be prepared to begin duties immediately.

Salary at the rate of £100 per year, with board and residence in the Hospital.

The appointment is for a period of six months only.

Applications, stating age, qualifications, with copies of three recent testimonials, should be sent to me as early as possible.

W. COCKBURN, Supt. & Secretary.

General Infirmary, Salisbury.

(General Hospital—161 Beds)

Two HOUSE SURGEONS and One HOUSE PHYSICIAN (male) required, to commence duty as soon as possible.

Candidates must be unmarried, fully qualified, and registered. Salary £150, with board, etc.

Applications, with copies of testimonials, to be sent to the House Governor and Secretary, from whom a copy of the Rules may be obtained on application.

Kettering and District General HOSPITAL.

Applications are invited for the post of RESIDENT MEDICAL OFFICER. The appointment is for six months, with eligibility for a period of a second six months. Salary £200 per annum, plus certificate fees, etc. Applications, stating age, qualifications, etc., together with copies of three recent testimonials, should reach the undersigned as early as possible.

G. W. JACKSON, Secretary-Superintendent.

Jewish Maternity Hospital, Underwood Street, E.1.

Applications are invited for the post of RESIDENT MEDICAL OFFICER. Duties commence April 1st for a period of six months. Salary at the rate of £50 per annum.

Applications, together with copies of three recent testimonials, to be sent to the undersigned not later than March 10th.

ALICE MODEL, Secretary.

King George Hospital, Ilford

(8 miles from London).

Applications are invited for the appointment of HOUSE SURGEON (male). Salary £100 per annum, with board, residence, etc. Term six months, with eligibility for a further period. Applications should be sent at once to the Secretary.

Norwood and District Cottage HOSPITAL.

Applications are invited for the post of HONORARY SURGEON. They should be sent to the Honorary Secretary at the Hospital, Hermitage Road, Upper Norwood, S.E.19 (in writing), not later than February 28th.

Manchester Northern Hospital FOR WOMEN AND CHILDREN,

Park Place, Cheetham Hill Road, MANCHESTER.

The Committee [illegible] the services of a SE[illegible] and JUNIOR HOUSE [illegible]tified, who are to commence duties on April 1st.

Senior House Surgeon, salary £130 per annum, with board and residence; Junior House Surgeon, salary £100 per annum, with board only.

Applications, stating age and experience, with copies of recent testimonials, to be sent to the Secretary, Mr. JAMES C. DANIELS, 38, Barton Arcade, Manchester, not later than the first post March 2nd.

North Riding Infirmary, MIDDLESBROUGH.

(General Hospital—150 Beds.)

JUNIOR HOUSE SURGEON (male) wanted to take up duties as early as possible.

The appointment will be for a definite period of six months, with salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three testimonials, should be sent forthwith to the undersigned.

N.B.—The successful candidate will be eligible to apply for the Senior House Surgeon's post at the expiration of the above term.

CHARLES POSTGATE, Secretary-Superintendent.

Northampton General Hospital.

(230 Beds.)

There will be vacancies on April 1st next for One HOUSE SURGEON and Two ASSISTANT HOUSE SURGEONS. British nationality. Salary £150 per annum, with board, residence, and laundry.

The successful candidates will be appointed for a period of six months, and will be eligible for re-election for a further period.

Candidates must be duly qualified and registered.

Applications, stating age, sex, qualifications, etc., with copies of testimonials, to reach the undersigned not later than first post on March 4th.

H. ST. JOHN WOOD, Feb 16th, 1931. Secretary-Supt.

Liverpool Stanley Hospital, STANLEY ROAD, LIVERPOOL.

There will be vacancies on April 1st next for One Male HOUSE PHYSICIAN, Two Male HOUSE SURGEONS, and One Female HOUSE GYNAECOLOGICAL SURGEON. Salary in each case at rate of £100 per annum, with board, laundry, etc. Candidates must be on the Medical Register, and submit their applications, with copies of three recent testimonials, addressed to the undersigned, by February 27th.

E. W. OSBORN, Secretary.

London Hospital, E.1.

There is a vacancy for the post of ASSISTANT OBSTETRIC and GYNAECOLOGICAL SURGEON. Candidates must be Fellows of the Royal College of Surgeons, England, or Masters of Surgery of a recognized University.

Applications, with testimonials, should be sent to the House Governor, and should arrive not later than Saturday, March 14th.

ARTHUR G. ELLIOTT, House Governor.

Newark General Hospital

(50 Beds).

Wanted, a fully qualified RESIDENT HOUSE SURGEON (male or female), unmarried. Salary £175 per annum, with board, residence, and laundry. Appointment for six or twelve months if mutually desired. Applications, with copy testimonials, to be sent to W. T. CRAMPTON, Secretary, 27, Kirk Gate, Newark, Notts.

Royal South Hants and SOUTHAMPTON HOSPITAL.

CASUALTY OFFICER required. Six months' engagement. Salary £120 per annum, with rooms, board, and laundry. Applications, stating age, to be sent to the undersigned, together with copies of testimonials (limited to five) as soon as possible.

HY. TRUSSON, Secretary.

Liverpool & Samaritan Hospital FOR WOMEN.

Wanted Two HOUSE SURGEONS for period of six months, commencing April 1st. Salary at rate of £100 per annum. Applications, with testimonials, to be sent to undersigned.

J. ST. G. WILSON. 13, Rodney St., Liverpool.

Princess Elizabeth Orthopaedic HOSPITAL, EXETER.

The Devonian Association for Cripples' Aid invite applications for the post of ORTHOPAEDIC SURGEON to the above-mentioned Hospital, which will become vacant on or about September 1st. Salary £600 per annum. The appointed officer will be allowed to engage in private practice.

A candidate must be a Fellow of one of the Royal Colleges of Surgeons of England, Ireland, or Edinburgh, or a Master of Surgery of one of the Universities of Oxford, Cambridge, or London, and have had previous experience in Orthopaedic Surgery.

Applications, together with three copies of recent testimonials, should be sent to the undersigned (from whom full particulars can be obtained) by April 15th.

R. S. LANG, Hon. Secretary.
Devonian Association for Cripples' Aid, Princess Elizabeth Orthopaedic Hospital, Buckerell Bore, Exeter.

Royal Victoria Infirmary, NEWCASTLE-UPON-TYNE.

Applications are invited for the post of "MORNING LIST" ANAESTHETIST.

Candidates must be registered in Medicine and in Surgery.

The term of appointment is for one year from March 1st, and is renewable for a further period.

The selected candidate is required to attend on two mornings of the week—namely, Wednesday and Saturday.

Salary is at the rate of £100 per annum.

Applications, stating age, experience, and accompanied by three recent testimonials, should be sent to the House Governor and Secretary not later than Saturday, Feb. 28th.

S. DUNSTAN, Feb. 13th, 1931. House Gov. & Sec.

Royal Victoria Infirmary, NEWCASTLE-UPON-TYNE.

Applications are invited for the post of TEMPORARY MEDICAL REGISTRAR.

Candidates must be registered in Medicine and in Surgery.

The appointment is a temporary one for a period of three months commencing March 2nd.

Salary is at the rate of £250 per annum.

Further particulars regarding duties, times of attendance, etc., may be obtained from the House Governor and Secretary, to whom applications, with copies of three testimonials, must be sent not later than Wednesday, Feb. 25th.

S. DUNSTAN, Feb. 13th, 1931. House Gov. & Sec.

Royal Victoria Infirmary, NEWCASTLE-UPON-TYNE.

The House Committee invite applications for the post of RESIDENT ANAESTHETIST.

The term of appointment is for three months from March 1st, and is renewable for a further period.

Rules governing the appointment may be had on application.

The salary is at the rate of £100 per annum, with board and residence.

Applications, stating age, experience, and accompanied by two recent testimonials, should be addressed to the House Governor & Secretary not later than Saturday, February 28th.

S. DUNSTAN, Feb. 13th, 1931. House Gov. & Sec.

Royal [illegible] County

[illegible]

HOUSE PHYSICIAN.

Applications are invited from fully qualified men for the above post, duties to be taken up on March 1st. Six months' appointment. Salary £150 per annum, with board, residence, and laundry. Candidates, who must be of British nationality, should make application at once to the undersigned, enclosing copies of three testimonials.

HERBERT MASLEN, Secretary.

St. John's Hospital for Diseases OF THE SKIN,

49, Leicester Square, W.C.2.

Applications for the post of SENIOR and JUNIOR HONORARY MEDICAL REGISTRARS (male) are invited to be sent to the undersigned on or before Monday, March 2nd.

Applicants must be duly qualified and registered Medical Practitioners. Particulars of the duties can be obtained on application.

There are also vacancies for CLINICAL ASSISTANTS.

LEONARD G. R. TURPIN, Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH.**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer—Male.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	PLYMOUTH EDUCATION AUTHORITY. *(Deputy Assistant Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

February 18th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.

HOUSE SURGEON in charge of Male Wards.

HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for *six months*. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE, General Superintendent.

David Lewis Northern Hospital, LIVERPOOL.

Applications are invited for the undermentioned posts:

One HOUSE SURGEON.

Two HOUSE PHYSICIANS

The appointments will be tenable for six *months from April* 1st. The salary attached to each post is £100 per annum, together with board and residence.

Applications, with copies of testimonials, to be sent to the undersigned on or before Saturday, February 21st.

THORNBURROW GIBSON, M.A., *January 27th*, 1931. Secretary-Supt.

Swansea General and Eye HOSPITAL. (316 Beds.)

CASUALTY OFFICER required, Gentleman, single. Salary £200, with board, residence, and laundry. Duties to commence March 1st. Candidates must have had previous hospital experience.

Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS, Secretary-Superintendent.

The Salvation Army, THE MOTHERS' HOSPITAL, Lower Clapton Road, Clapton, E.5.

OBSTETRIC REGISTRAR.

Applications are invited from Medical Women for the above appointment. The appointment will be made in the first place for one year, with a possibility of renewal for a second year.

Preference will be given to candidates holding the Diploma of F.R.C.S.Eng.

A small honorarium is attached to the post.

Intending candidates should forward their applications, together with copies of three testimonials, on or before February 24th to the undersigned, from whom particulars of the appointment may be obtained.

EDGAR DIBDEN, Secretary.

Miller General Hospital, Greenwich Road, S.E.10.

Applications are invited for the combined post of RESIDENT SURGICAL OFFICER and REGISTRAR (the senior of six resident posts). Salary £250 per annum. Candidates (male) must be unmarried. Board, residence, and laundry are provided. Duties to commence on April 1st

e, nationality, companied by recent testimonials, to be sent to the Secretary as soon as possible.

February 10th, 1931.

Ancoats Hospital, Manchester.

RESIDENT MEDICAL OFFICER required to commence duty on March 1st.

Appointment for six months. Salary at the rate of £150 per annum, with board, residence, etc. Previous experience in similar position necessary.

Applications, stating age, qualifications, experience, and full particulars, to be forwarded to the undersigned on or before the 24th inst., together with copies of three recent testimonials.

By Order of the Board, HERBERT J. DAFFORNE, General Supt. & Secretary.

St. Thomas's Hospital.

VACANCY.

The appointment of a RESIDENT ASSISTANT PHYSICIAN.

Candidates must be registered Practitioners of Medicine and Members or Licentiates of the London.

l details of academic to be forwarded to Secretary, not later than February 27th.

St. Thomas's Hospital.

VACANCY.

There is a vacancy in the post of CHIEF ASSISTANT to the Throat Department. Candidates must be registered Practitioners and Fellows of the Royal College of Surgeons, England.

Applications, giving full academic career and testimonials, should be sent to the Secretary of the Hospital on or before the 23rd instant.

Sutton and Cheam Hospital, SUTTON, SURREY.

Applications are invited for the post of HONORARY RADIOLOGIST to the New Hospital, which will be opened in the Autumn.

Apply, the Secretary, Sutton and Cheam Hospital, from whom further particulars can be obtained.

City Mental Hospital, NOTTINGHAM.

DEPUTY MEDICAL SUPERINTENDENT required at the above Hospital. Salary £650 per annum, rising by £10 per annum to £700, together with unfurnished house, rates and taxes free, valued for A.O.S. purposes at £95. No other emoluments. In addition £50 per annum for D.P.M. and £10 per annum for M.P.C. Applications, with full details particulars, to be sent to the Medical Superintendent.

(Appointments continued on p. 56.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.

T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted at once, outdoor ASSISTANT, male, young, active. Residential Country Town, Cheshire, close to large centres. Able to drive car. Salary £330. Usual bond. Full-time Dispenser kept. Interview. Return expenses paid. Full particulars.—Address, No. 1219, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted immediately. — ASSISTANT, unmarried, for private and panel Practice in Shropshire. British. Usual bond. Salary £350, all found.—Address, No. 1289, B.M.A House, Tavistock Square, W.C.1.

Wanted, March 4th, Assistant, male, British, for general Practice in Midlands. Salary £300, with bonus of £50 at end of year. — Address, No. 1286, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, with view, in growing outlying suburb. Must be English or Scotch, about 30. Man with R.N. and T. experience preferred. Receipts about £3,000. Small panel. Dispenser kept. Immediate scope.—Address, No. 1234, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Woman Assistant outdoor, British, some G.P. experience, for private and panel practice, industrial area, Greater London. Good salary to suitable applicant. — Address, No. 1218, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant in a pleasant agricultural district (small town with hospital), North Wales. Work light. Dispenser kept. Able to drive car.—Address, No. 1236, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Male Assistant, part-time, outdoor. London, N.E. Would suit man reading for higher degree or other. 'Phone Leytonstone 1206, or address No. 1232, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant for new Branch Surgery, near London, working class. Prospects of share on easy terms later. Suit man recently qualified and keen.—Address, No. 1230, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Male Assistant, for general practice. Country Town with small Hospital. Scope for Surgery. Salary (outdoor) £450. Welsh-speaking preferred. Able to drive car.—Address, No. 1231, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Outdoor male ASSISTANT immediately, for industrial Practice. South Wales. Some experience desirable. Accommodation for single man. State age and nationality.—Address, No. 1239, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant for large mixed Practice, Cardiff area.—Address, giving age, experience, and nationality, No. 1220, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Part-time Assistant, few hours daily. S.W. London district. Young man preferred — recently qualified. Duties begin early March. State age, nationality, and full particulars.—Address, No. 1226, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Male Assistant by Indian Doctor in the provinces. Some G.P. experience necessary. State all essential particulars.—Address, No. 1280, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, with view to Partnership, in Cheshire. Must be good surgeon and preferably F.R.C.S.—Address, No. 1212, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, outdoor, male. Panel and private, South Yorkshire. State age and experience.—Address, No. 1210, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, British, outdoor, to take charge of Branch Surgery. Salary £300, with extras. Must be reliable and keen. G.P. experience essential.—Dr. HARE, Durham City.

Wanted. — Part-time ASSISTANTSHIP, General Practice, by Indian Medical Graduate (M.B., B.S., Pb.). Experience 12 months Royal London Ophthalmic Hospital.—Address, No. 1284, B.M.A. House, Tavistock Square, W.C.1.

Wanted, temporarily, male ASSISTANT (indoor). Light Devon Country Practice. Usual bond. State essential particulars.—Address, No. 1281, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship with definite prospects by M.B., Ch.B.(Aberd.), 31, married, no children, own car. Over 5½ years' experience busy extensive general and military practice and Post-graduate. London or near or S. Coast, where chance of hard remunerative work with scope. Keen minor surgery, anaesthetics, and midwifery. Interv.—No. 1201, B.M.A. House, Tavistock Sq., W.C.1.

Assistant, outdoor, required for industrial Practice on East Coast. Furnished house. Good salary. Suitable for man with a Fellowship. Upwards of 100 majors a year.—Address, No. 1228, B.M.A. House, Tavistock Square, W.C.1.

Assistancies. — Practitioners immediately available for ASSISTANTSHIPS, with or without view; preferably aged 25—35; British; are invited to call between the hours of 10 a.m. and 5 p.m.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Jewish Doctor, M.B., 1929, requires ASSISTANTSHIP. Experienced in G.P., private, and panel. Used to sole charge. Well received. Excellent testimonials. Free March 14th.—Address, No. 1214, B.M.A. House, Tavistock Square, W.C.1.

M.D.Cantab., requires Lady ASSISTANT at once, N.W. Seaside Town. Hospital. Small salary, generous percentage on cash increase. Light work. English or Scotch only. — Address, No. 1204, B.M.A. House, Tavistock Square, W.C.1.

Temporary Assistant required three months, small country town near sea, twelve miles from large town. No midwifery; work nominal. Reasonable terms required — Address, No. 1221, B.M.A. House, Tavistock Square, W.C.1.

Woman Medical (M.B.Glasg.), keen and physically strong, will be glad to hear of ASSISTANTSHIP with view to Partnership, in Country Practice, Yorkshire or Lancashire preferred. Well versed in Hospital routine work, Ophthalmology and general practice. Children and midwifery of special interest.—No. 1022, B.M.A. House, Tavistock Sq., W.C.1.

LOCUMS.

Wanted.—Locums or Assistantship (with view) by Medical Woman, L.R.C.P.S., L.M., D.P.H., accustomed sole charge and dispensing. 5 years' experience. London or S. of England pref., but will go anywhere.—No. 1225, B.M.A. House, Tavistock Sq., W.C.1.

South Africa. — Locum Tenens required to take charge of the PRACTICE of a Surgeon Oculist and Aurist from June 1st to December 31st, 1931. Salary 50 to 80 gns. per month.—Further particulars on application to BRITISH MEDICAL BUREAU, 12, Stratford Place, London, W.1.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Salisbury, Bournemouth, Bath, Bristol.—M.D. desires LOCUM engagements, these towns or neighbourhood. Moderate terms.—Address, No. 1224, B.M.A. House, Tavistock Square, W.C.1.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

A qualified Masseuse-Secretary, with Electrical experience, young, well educated, desires DAILY or PART-TIME EXPERIENCE. — Miss HILL, c/o B.M.P.S., 26, Langham Street, W.1.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Dispensing.—For over 30 years we have been training the daughters and other relatives of Doctors as DISPENSERS, and supplied Lady Dispensers to Doctors requiring same.—Apply Mr. J. E. WALDEN, Westminster College, 112, St. George's Rd., Southwark, S.E.1.

Dispenser, etc., male, 42, desires permanent POST. Life experience. Good appearance and active. Excellent references. London or South of England preferred. At liberty now. — "Dispenser," 21, Marchmont Street, W.C.1.

Dispenser (lady) desires RE-ENGAGEMENT with Doctor. Apothecaries' Hall certificate. Experience in dispensing, bookkeeping, and panel work. Free now. London or Watford district preferred.—Miss HARDENBERG, 13, Wellington Road, Watford.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Doctor's Daughter, young, bright, desires post as COMPANION, or would take charge of young children.—Address, No. 1217, B.M.A. House, Tavistock Sq., W.C.1.

Doctor recommends young lady [illegible] presence and Good French B.M.A.

Lady, Receptionist, Bookkeeper, and efficient Typist, requires POST to Doctor; Oculist preferred. London area. Nine years' experience. Highest references. Age 29. Interview any day.—Address, No. 1211, B.M.A. House, Tavistock Square, W.C.1.

Birmingham Medical Mission.

MEDICAL MISSIONARY wanted as Whole time SUPERINTENDENT. Prepared to undertake Religious and Social work in addition to Medical work. Salary £450 per annum. Applications, stating age, experience, and qualifications, to be sent in before March 2nd to the Hon. Secretary of the Mission, Floodgate Street, Birmingham.

Lady Secretary - Receptionist desires POSITION with Doctor or Dentist, ...ty; free March 31st. ...nd record-keeping, etc. ...rms. Interv. any time. Tavistock Sq., W.C.1.

TYPEWRITING.

Medical, Law, Scientific, and all LITERARY WORK undertaken by expert at reasonable rates. Prompt and accurate. Highly recommended.—Mrs. V. D. LONG, Bungalow, Wreningham, Norwich.

Medical Missionary (Man) required immediately by the Church of Scotland Foreign Mission Committee for SHEIKH OTHMAN HOSPITAL, near ADEN; permanent or temporary.—For particulars apply to the Secretary, 121, George Street, Edinburgh.

Occasional evening and week-end WORK could be undertaken by a well-qualified young man in the London area. Three years' hospital experience.—Address, No. 1238, B.M.A. House Tavistock Square, W.C.1.

Syria. — Doctor required to take CHARGE of small QUAKER MISSIONARY HOSPITAL on the LEBANON. Friend preferred, but not essential. — Apply, FRIENDS SERVICE COUNCIL, Friends House, Euston Road, London, N.W.1.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Typewriting.--Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Fellowship man desires non-panel type PARTNERSHIP or PRACTICE in residential healthy district of London or Provinces. Much experience in this type of work, as well as operative work and midwifery. In confidence.—Address, No. 1288, B.M.A. House, Tavistock Square, W.C.1.

Junior Partner required for un-opposed Country Practice in pleasant Market Town in Yorkshire. Receipts over £2,700. 1/3 share at 1½ years, with early increase. Suit active man fond of country pursuits. Refs. req. —No. 1213, B.M.A. House, Tavistock Sq., W.C.1.

Lancs Town. — Partnership (3 months' preliminary Assistantship at £300 per annum) in large panel Practice. Receipts £1,700. Panel £1,200. Price 1/3 share £900, or 2/5 £1,200, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

M.D. requires Partnership in good-class South Country Practice towards end of year. Scope necessary. Present Partnership North. Excellent experience, energetic, 9 years qualified. Shall have to dispose own practice. No agents.—Address, No. 1208, B.M.A. House, Tavistock Square, W.C.1.

Manchester residential suburb.— HALF SHARE PARTNERSHIP, with view to early succession. Receipts £1,800, with much scope for increase. House available. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Partnership.—Middle-class Prac-TICE, Midlands, near Birmingham. Panel 2,100. Receipts £2,200, increasing. One appt. Some scope surgery. Single, exper. man pref. Half share 2 years' purchase. Capital essential. —No. 1287, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by M.B., B.S.Lond., with over 4 years' experience—hospital and general practice—PARTNERSHIP in good middle-class Practice, with income about £1,000 or over. London or South of England preferred. No. 1233, B.M.A. House Tavistock Sq. W.C.1.

Wanted. — Partnership or Prac-TICE, preferably former, in Hove or Brighton. — Address, No. 1029, B.M.A. House, Tavistock Square, W.C.1.

Surrey. — Nice Town, 20 mins. Waterloo.—PARTNER wanted for rapidly increasing PRACTICE. Receipts for last twelve months £1,750, panel 1,000. Excellent chance for active practitioner. Premium arranged.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Salaried Partnership, with view, wanted by man used to good-class practice, and able to introduce a pleasant, new, recuperative treatment especially suitable for patients in Spa or Health Resort. Five guineas a week, outdoor.—Address, No. 1235, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted in Surrey, Berks, Hamp., or South Devon, by experienced Practitioner, old-established middle-class Town PRACTICE, with income of £2,000 or more and panel of 1,500. Good freehold house, with good garden, to purchase. Good schools essential. — Address, No. 1227, B.M.A. House, Tavistock Square, W.C.1.

Wanted by M.B., B.S., D.P.H. (semi-invalid, aet. 50), easily worked PRACTICE, not over £1,000 p.a. Good panel preferred, little or no midwifery or night work. South of Thames. — Address, No. 940, B.M.A. House, Tavistock Square, W.C.1.

Wanted in London or suburbs, good-class PRACTICE. Minimum income £1,000. House or flat to rent if possible. Partnership with early succession considered.—Address, No. 1237, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Middle and working-class PRACTICE for two partners (or two shares in larger firm). £2,500 upwards, substantial panel. Scope for major surgery, with possibility of Hospital appointment. — Address, No. 1225, B.M.A. House, Tavistock Sq., W.C.1.

An excellent (bona-fide) oppor-tunity in a University town (Scotland) is at present available for a well-qualified Practitioner; must be well up in Surgery. The Surgeon whose term of office has expired is desirous to sell his house and retire to the country. In the event of a satisfactory arrangement being come to, the doctor would do everything to introduce the incoming doctor to his appointments and the residue of his practice.

Address, No. 1207, B.M.A. House, Tavistock Square, W.C.1.

E. Lancs.—Pleasant and sociable industrial town.—Old-established, easily worked, general PRACTICE. Panel about 3,000. 2/5 share worth £1,200. Average total receipts over £3,000. Applicant should be interested in general medicine and anaesthetics. Great scope if prepared to take up some eye work. Suitable introduction. Good house and garden. Premium 1½ years' purchase.—Address, No. 1222, B.M.A. House, Tavistock Square, W.C.1.

For Disposal. — Compact easily worked PRACTICE in large town near Glasgow. Panel about 1,500. Income £1,200. Long introd. if neces. House, with garden, for sale or on lease. Prem. 1½ yrs.' pur., part def'd. —No. 1283, B.M.A. House, Tavistock Sq., W.C.1.

Good opportunity to acquire the NUCLEUS of an old-established Practice in South-East London. Premium £250, payable partly by instalments if required. — Address, No. 1282, B.M.A. House, Tavistock Sq., W.C.1.

Kensington.—An opportunity to acquire a panel and private PRACTICE. No Doctor near. Two rooms on ground floor, main road. Or owner would consider selling the whole house, which has eleven rooms, etc.—Apply, HOOKS LTD., 41a, Holland Road, Kensington, W.14. Western 0896.

London, S.E. (15 mins. Charing Cross).—Old-established middle and working-class PRACTICE. Receipts average £950 a year, panel 800. Large house and garden, rent £115, part sub-let. Premium £1,500. Good scope.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

London, S.W.—Well-established cash and panel PRACTICE. Receipts over £2,500 p.a., panel over 2,000. Lock-up Surgery, rent £100. Premium moderate. — Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Medical Man (unmarried), re-tired, or with Practice, offered Home and 5 per cent. on gross income from patients (last year £4,000), in return for INVESTMENT of £2,000 in old-established Nursing Home, near London. — Address, No. 1203, B.M.A. House, Tavistock Square, W.C.1.

North Devon.—A general Prac-TICE situated in delightful country. Cash receipts nearly £1,000 p.a. Panel 330. Charming detached house and gardens for sale or on lease at £60 p.a. Premium 1½ years' purchase. Fullest investigation invited from principals only or their solicitors. Owner requires similar Practice on the South Coast.—Mr. C. S. MOORES, Incorporated Accountant, 15, Bedford Circus, Exeter.

Near Camberwell Green.—Well-established cash and panel PRACTICE. Receipts last 12 months £1,900, panel 1,052. House, rent to be arranged, lease granted. Premium £3,000.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Practices wanted. — London. — Wanted, well-established PRACTICE, situated in residential locality, with medium-sized house to rent (or for sale). Receipts not less than £1,500, with panel of 1,000 up. Ample capital available. — Apply, THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Reynolds & Branson, Ltd., have a number of enquiries for PRACTICES, both in town and country districts. Medical Practitioners wishing to dispose of their Practices are invited to communicate with them.—Apply, 13, Briggate, Leeds.

Scotland.—East Coast Town.— For Sale.—Lady Doctor's private, panel, and dispensing PRACTICE. Average cash receipts £1,400, with excellent house and garage upon which bond can be arranged. Premium for Practice 1 year's purchase.—Add., No. 861, B.M.A. House, Tavistock Sq., W.C.1.

Scotland. — Wanted.—Practice in good-sized Town. Income £1,500 to £2,000. Good panel essential. Capital available. Full particulars in confidence.—Address, No. 1107, B.M.A. House, Tavistock Sq., W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C 2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

HOUSES, CONSULTING ROOMS.

Wanted, Two Rooms in Harley Street, unfurnished, not higher than second floor, use bath, full attendance, where can live and consult, share plate, terms moderate. Alternative suggestions welcome.—No. 1205, B.M.A. House, Tavistock Sq., W.C.1.

Consulting Rooms to Let.— Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & CO., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Consulting Room (adjoining ... use of com-... Appliances, ... Saturday, to qualified Practitioners. — Address, No. 1285, B.M.A. House, Tavistock Square, W.C.1.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — To Doctors and Dentists.—A well-built Detached FREEHOLD HOUSE, large hall, 2 reception rooms, five bedrooms, usual offices, every convenience. In newly developed district, near trams and 'buses. Specially suitable for above. £1,500 or offer.—2, Commonside East, Mitcham.

For Sale, outskirts London, large HOUSE, excellent repair, now well-known Rest Home. Secluded grounds, garage, cottage. Price for lease (20 years). fixtures, fittings, £3,000. Seven permanent patients (fees £50 per week) could remain.—Address, No. 1202, B.M.A. House, Tavistock Square, W.C.1.

SUITABLE FOR NURSING HOME OR INSTITUTE.
STANDING IN ONE AND A QUARTER ACRES.

Finchley, Church End, just off main road.—Commodious Detached RESIDENCE, 15 bedrooms, fitted washbasins (h. and c.), 3 bathrooms, 2 reception rooms, billiard room. *Excellent domestic offices. Garage.* Detached studio. Greenhouses, tennis court, etc. Modernized and redecorated. Central heating. Price, freehold, £7,750.—Sole Agents: ERNEST OWENS, LTD., Estate Offices, Golders Green, N.W.11.

North Harrow (20 mins. by Met. to Town), in an already developed locality. — CORNER RESIDENCE; admirable doctor's position, includ. contents of surgery, only £1,450 f'hd. Can be pur. for £200 down. Splendid opport.—Apply, COLLETTS, 30, Broadway Parade, N. Harrow. 'Phone: Harrow 4172.

Superior non-basement Freehold HOUSE, garden, hard tennis court, garage, conservatory, 13 rooms, 2 bathrooms, etc., £3,000, to include fully furnished billiard room, all fixtures and fittings, etc. Occupied Doctor last 3 years. Suitable semi-retired Doctor or Paying Guests. Best district, S.W.2. —No. 1209, B.M.A. House, Tavistock Sq., W.C.1.

NERVE AND CONVALESCENT HOME.

To Sell or Let as a going concern, NERVE and CONVALESCENT HOME in Fifeshire, with highly successful business carried on for many years. Modern house in own grounds. 17 bedrooms. Owner retiring. Early occupation. Excellent opportunity for Medical Practitioner or capable Matron. — For further particulars apply to Messrs. SCOTT & PATERSON, C.A., 5, Coates Crescent, Edinburgh.

Three Rooms, intercommunica- ing, suitable for Doctor's reception, waiting and consulting rooms; off Piccadilly, close to Mayfair, Ritz, and Berkeley Hotels. Can be seen any time during day by appointment.—No. 1206, B.M.A. House, Tavistock Sq., W.C.1.

127, Harley Street.—Large well- lit ground floor CONSULTING ROOM, with excellent attendance and joint use of beautifully furnished waiting room. £300 per annum.—Apply the Secretary, Welbeck 7840.

16/- each weekly, three sharing Charming unfur. FLAT £125. Three rooms, bathroom, kit. 18/- each larger one. 3 years' lease. Also large fur. rooms in Maisonette, partial board, £3 3s. Frobisher 4156. —No. 1216, B.M.A. House, Tavistock Sq., W.C.1.

MISCELLANEOUS SALES, etc.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY
TAXATION CONSULTANTS,
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659. Write for Tax Guide, Free.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on *request. Extensive list of testimonials available* for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

Medical Surgical Sundries Ltd.
Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom:* 97, Swinderby Road, Wembley.

Wanted. — Second-hand Furni- TURE and FITTINGS for Surgery. —Particulars to B.M./J.D.L., Monomark House, London

For Sale. — Daimler 16 h.p. LANDAULETTE. 1925. 25,000 miles. Perfect order. Owner retiring. Price £200.—Dr. K. COATES, Great Barford, Bedford.

IMPORTANT NOTICE
to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made *from Finest Quality Materials and in the Best* Possible Style, cost no more than mass production ready made clothes.
The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.
JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.
THE Ideal Suit for Professional or Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS ... £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.
Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.
Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.
Governing Director: HARRY HALL.
"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.
Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

APPOINTMENTS.—Contd.

Winsley Sanatorium, near BATH.

The Governors invite applications for the appointment of a whole-time ASSISTANT RESIDENT MEDICAL OFFICER (male). Salary £250, with apartments, board, laundry, etc.
The appointment will be made for a period of twelve months (subject to termination during such period by one calendar month's notice on either side).
Forms of application and particulars of duties can be obtained from the undersigned, to whom all applications should be addressed, accompanied by not more than three recent testimonials, not later than first post March 7th.
T. A. W. CARLISLE,
Winsley Sanatorium, Secretary.
Near Bath. February 14th, 1931.

General Infirmary, Salisbury.

Applications are invited for the appointment of an HONORARY ASSISTANT SURGEON to the above Institution. Applications to be sent to the House Governor and Secretary not later than March 20th.
Canvassing by, or on behalf of, the candidates will disqualify.
By Order of the Committee,
J. G. ELGAR,
House Governor and Secretary.

The Prince of Wales's General HOSPITAL, LONDON, N.15.

Applications are invited for the post of HONORARY SURGICAL REGISTRAR (*Honorarium* of £100 per annum).
Candidates must be Graduates in Medicine of a British University, or a Fellow or Member of the Royal College of Surgeons.
Applications, accompanied by three recent testimonials, to be sent on or before Saturday, February 28th, to—
J. C. BURDETT, Director.

The Queen's Hospital for CHILDREN, Hackney Road, London E.2.

CLINICAL ASSISTANT required in the Orthopaedic Department. Attendance every Thursday at 1.30 p.m. Lunch provided. Honorarium of 5s. per attendance to cover expenses.
Applications, stating age, qualifications, and experience, should be addressed to the undersigned, and should be delivered on or before February 28th.
CHARLES H. BESSELL,
February 9th, 1931. Secretary.

Liverpool Hahnemann Hospital, HOPE STREET.

Applications are invited for the post of ANAESTHETIST to the above Hospital. Hours of attendance:
Surgical Operations. — Alternate Tuesday mornings (9 to 11 a.m.), and Tuesday afternoons (1.30 to 5 p.m.).
Gynaecological Operations.—Thursday (1.30 to 5 p.m.).
Ear, Nose, and Throat.—Friday morning (about 1 hour from 9 a.m.).
Dental.—Thursday morning (about 1 hour by arrangement).
Salary at the rate of £50 per annum, plus fees in private cases (£50 upwards).
Apply, stating age, sex, nationality, and experience, and enclosing copies of testimonials, to the Registrar.

Connaught Hospital, Walthamstow.

SECRETARY required for the above Hospital containing 100 beds, with Out-patient Dept.
Commencing salary £400, rising by annual increments of £20 to £550, with lunch and tea provided. He will be required to devote his whole time to the work, acting under the Director, and carry out the usual duties, including that of Almoner. Previous Hospital experience will be an advantage.
Applications, stating age and qualifications, with two testimonials, should be addressed to the Chairman, Connaught Hospital, Orford Road, Walthamstow, E.17, marked "Secretarial Appointment," on or before February 28th.

King Edward VII Hospital, WINDSOR. (181 Beds.)

RESIDENT MEDICAL OFFICER required to begin duty March 31st. Applicants must be fully qualified women, registered, and have held a resident appointment previously.
Salary at the rate of £200 per annum, with board, residence, and laundry.
HOUSE SURGEON required to begin duty March 31st. Applicants must be fully qualified women, registered, and should have had experience in Ear, Nose, and Throat work.
Salary at the rate of £100 per annum, with board, residence, and laundry.
Applications for either of the above, stating age, qualifications, and experience, accompanied by testimonials, should be sent to the undersigned not later than March 2nd.
A. E. CHURCHER, Secretary.

Great Yarmouth General Hospital (72 Beds.)

Applications are invited for the post of JUNIOR HOUSE SURGEON (male and unmarried). Salary at the rate of £140 per annum, with board, residence, and laundry.
The successful candidate will be expected to commence duties immediately.
Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned.
FRAN JENNINGS,
Secretary.

The Royal Infirmary, DONCASTER. (185 Beds.)

HOUSE SURGEON (male) required. Opportunity for gaining excellent experience. Appointment is for six months, and successful candidate is eligible for re-appointment.
Salary £175 per annum, with board, residence, and laundry. Applications, with full particulars, should be addressed to the undersigned by Wednesday, February 25th.
WALTER R. SMITH,
Secretary-Superintendent.

Kent and Canterbury Hospital, CANTERBURY.

HOUSE SURGEON (male) required. Six months' appointment. Salary at the rate of £125 per annum, plus board, residence, and laundry.
Applications, accompanied by copies of testimonials, should be forwarded to the undersigned.
W. T. SOUTHWOOD,
Superintendent & Secretary.

The Sheffield Royal Hospital. (340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum, also RESIDENT ANAESTHETIST, salary £80 per annum, rising to £100 in six months, to commence duties at once (males). Board, residence, and laundry. There are twelve Resident Medical Officers. Applications should be forwarded at once to—
W. H. BOOTH,
January 5th, 1931. Supt. & Secretary.

The Royal Hospital,
WOLVERHAMPTON.
(Incorporated under Charter.)

HOUSE SURGEON required immediately, for Ear, Throat, and Nose Department.

The Hospital contains 240 beds, includes the usual special departments, and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical practice.

Candidates must be registered under the Medical Acts and unmarried.

The appointment is for six months. Salary at the rate of £100 per annum; board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded to the undersigned forthwith.

W. H. HARPER,
House Governor.

Wolverhampton.
February 2nd, 1931.

West London Hospital,
Hammersmith Road, W.6. (234 Beds.)

Required, One HOUSE PHYSICIAN, Two HOUSE SURGEONS (males), and One RESIDENT ANAESTHETIST for six months from April 1st next, subject to one month's notice on either side. Salary at the rate of £100 per annum, with board, lodging, and laundry allowance. Candidates must be registered under the Medical Act. Applications (which must be made on printed forms obtained from me) must reach me not later than first post on Monday, March 16th. Selected candidates will be required to call upon such Members of the Medical Staff as directed, to be in attendance at a meeting of the Medical Council on Friday, March 27th, at 4 p.m., and the House Committee meeting at 4.45 p.m. the same day, when the appointments will be made.

H. A. MADGE, Secretary.

Weston-super-Mare General HOSPITAL. (80 Beds.)

HOUSE SURGEON.

Applications are invited for the post of Resident House Surgeon at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry. Duties to commence March 31st next.

Applications, stating age and qualifications, and enclosing copies of testimonials, should be addressed to the undersigned.

LESLIE J. FURSLAND, Secretary.

Wallasey Victoria Central HOSPITAL.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry. Candidates chosen would be appointed for six months.

Applications, with copies of recent testimonials, to be sent to the Secretary not later than February 27th.

Messrs. R. SUMNER & Co., Ltd.,
Manufacturing Chemists,
40, HANOVER ST., LIVERPOOL,

PARTNERSHIP for disposal in North Wales. receipts £2,000 per annum, number on panel 1,750. Share for disposal one third.

PRACTICE for disposal in Liverpool, receipts £1,178 per annum, small panel; old-established.

PRACTICE for disposal in North of England town, receipts £1,150 per annum, panel 1,257, old-established. Good opportunity for Roman Catholic.

For further particulars apply to the above.

ESTABLISHED 1668.

PEACOCK & HADLEY, Ltd.,
MEDICAL TRANSFER AGENCY,
19, Craven Street, Strand, W.C.2.
Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 6932 CITY.

TRANSFERS
and Investig
ASSISTANTS
PRACTICES

THE OLDEST AND LEADING MEDICAL AGENCY.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

W of England. — Small Town. Over £1,000. Panel 700. Visits 4/-, 5/-, and mileage. House, 5 bed., 2 reception. Separate surgery and entrance. £60 p.a. 1½ years. £1,000 down.—No. 8805.

N. Industrial City. — £645. Panel 900. Appointment over £100. Visits 3/6 up. Maternity discouraged, can be had. Small house £500, or £40 p.a. Car not essential. £1,000.—No. 8803.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

S.W. County. — Country. — £1,000. Panel brings £240. Visits 3/6—10/6. Large house and garden. £60 p.a. £1,500.—No. 8800.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 3/6 to 21/-. No dispensing. Small panel.—No. 8799.

West Riding.—£1,030 p.a., increasing. Panel 400. Appts. £45. Fees 3/6 to 10/6 and up. Midy. 3 to 7 gns. Small modern house to rent or on mortgage.—No. 8797.

S. Midland. — Country. — £480 and scope to young man. Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. Premium only £300.—No. 8796.

West of England Town.—£1,100 plus appts. worth £400. Panel 1,240. No *midy. taken. Visits 4/- to 10/6.* House, with 2 surg. and wait. rooms, 4 bed., etc.—No. 8786.

Yorks.—Death Vacancy.—£1,000 or more Panel 950. Not much midy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. £600 down, bal. deferred.—No. 8795.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No midy. Fees 3/6 to 10/6. House to rent. —No. 8791.

Kent. — Outer Suburb.—About £900 p.a. Scope. Panel over 900. Appt. £100. Visits 3/6 to 21/-. Good house and garden. Good schools.—No. 8789.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

Outlying London Suburb.— X-Ray and Electrical. £500, with scope. House, 6 bed., on lease.—No. 8783.

London Suburb, S.W. — About £1,100. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 3/6 up. House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London Suburb, S.W. — £2,800. Old-estab. General Practice. Panel 1,250. *Detached house (7 bed.) and garden.*—No. 8758.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £25. Prem. £800, incl. furn.—No. 8766.

Favourite South Coast Resort.— Average £2,500. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 3/6 to £1 1s. Large house and garden. Smaller ones available.—No. 8750.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, Oxford Rd.
GLASGOW: 28, Windsor Terr.
DUBLIN: 23, Upper Baggot St.
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

ST. LUKE'S HOSPITAL
FOR MENTAL DISORDERS.
Private Nursing Staff Department.
Trained Nurses for Mental and Nervous Cases can be had immediately.
Apply to Lady Superintendent,
19, Nottingham Place, London, W.1.
Telephone: Mayfair 6420.
Northern Branch.—Apply, Lady Superintendent, 57, Clarendon Rd., Leeds. 'Phone: Leeds 26165.

THE CENTURY INSURANCE COMPANY LTD.,
7, LEADENHALL STREET,
LONDON, E.C.3.
18, CHARLOTTE SQUARE,
EDINBURGH.

ASSISTS DOCTORS TO PURCHASE A PRACTICE OR PARTNERSHIP

NO GUARANTORS REQUIRED. REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054. RIVERSIDE 1254. *(Night Calls.)* *Telegrams:* "REASIDE, TUBERCLE, WESTRAND, LONDON."

BERKS.—PARTNERSHIP.—Country Town Practice in sporting district. Receipts average nearly £1,150. Panel nearly 600. Fees 2/6 up. Short preliminary Assistantship. 1/3 to 1/2 share for disposal at 1½ years' purchase. Suitable to experienced man, British, aged 27 upwards.

SURREY (near Windsor). — Well-established middle-class PRACTICE. Double-fronted detached house, with charming garden, to rent on lease at £120 p.a., or may be purchased freehold. Receipts over £700 p.a. Panel 220. Fees 2/6 up. Cottage Hospital. Good social life. Good schools. Premium for Practice £900.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

LONDON, E.13. — NUCLEUS working-class PRACTICE (mostly cash), situated in thickly populated locality. House to rent at £60 p.a. (part sub-let at £26 p.a.). Receipts approximately £350. Panel 400. Fees 1/6 up. Mids. 2—3 gns. Premium £400.

DEVON (SOUTH)—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Hospital. Scope for surgery. Good schools. Premium for 1/3 share £2,030. Terms considered to right man.

EAST " " " " in better middle-class Practice. Ten- roc ots nearly £2,000. Fees 3/- up. Up- to- gery. Premium 1/3 share, with view to

LIVERPOOL (near).—Mixed G.P.—Medium-sized house, with large garden. Branch Surgery. Receipts £2,500. Panel 2,600. Fees 2/6 up. Scope for Surgery if desired. Premium 1½ years' purchase.

MIDDLESEX.—Good-class non dispensing and non-panel PRACTICE. Scope for Surgery. House to rent on lease at £120 p.a. (4 bedrooms). Garage. Garden. (May be purchased for £1,500.) Receipts £1,000 p.a. Fees 5/- upwards. Good schools, golf, tennis, etc. Premium £1,500.

LONDON, W.10.—Cash and Panel PRACTICE, situated in middle and working-class locality. Suitable accommodation available to rent at £76 p.a., inclusive. Fees 2/6 up. Midwifery 2 gns. up. Panel 300. Books audited. Receipts £385. Premium £600, or near offer.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approximately £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional accommodation consists of three rooms, centrally situated, held on agreement at £100 p.a. Receipts approximately £530. Fees 2/-. Panel 430. Premium £650, cash. Scope for further development.

BERKS.—Town PRACTICE within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery (scope). Suitable house available. Premium 1½ years' purchase.

KENT.—Within easy reach of London. — Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Premium £1,300. Excellent scope for energetic man.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.

(Temple Bar 3873.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. IN A FAVOURITE TOWN within 50 miles, a mixed-class PRACTICE of £2,200 p.a. for prompt sale owing to illness. Panel 2,600. Convenient residence (7 bedrooms), with garden, can be rented with option to buy. Premium £3,000.
2. LONDON (South).—Panel and Cash PRACTICE returning £2,000 p.a. List 1,200, increasing rapidly. Conven. premises on long lease at £80. Accom. limited. Prem. £3,000.
3. IN AN ATTRACTIVE residential locality, with limited opposition, within an hour's run (S. of London), PRACTICE of about 4,800, with panel of 500. Good scope for active junior. Premium £1,200. Purchase of Vendor's freehold a condition of sale.
4. PRACTICE of about £1,200, situate in an attractive industrial country district within an hour's run of Paddington. Rapidly incr. Good educat. and shopping facilities. Panel £300. Small, convenient mod. res., garden and garage, on lease. Premium £1,650.
5. LONDON SUBURB, W. — PARTNERSHIP in an old-established middle-class Practice. A Share worth £800 p.a. at 2 years' purchase. Panel 1,600. Good modern residence, garden, and garage, at £100. Easily worked, but offering scope for extension.
6. YORKS COAST.—Unopposed PRACTICE in pleasant locality. Av. rec. £1,000, incl. panel of £470 and appts. Capital house, gd., gar., at £55. Price, quick sale, only £800.
7. DEVON.—Good middle-class PRACTICE of over £2,000 a year in attractive Town on the Coast. Select panel of 1,500. Figs. cert. by Accountant. Efficient intro. given.
8. HANTS. — Country PRACTICE in pleasant residential locality. Income about £750, including panel and appts. Cap. f'hd. res., garden, and all conveniences. Prem. £1,050. Capital sporting and social facilities.
9. REQUIRED in good Provincial Town (S. or Mid. pref.) PRACTICE of £2,500—£3,000, with good panel and residence. Generous premium paid for really suitable investment. Details in confidence.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone:* 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS [illegible]

TAX

RELIABLE A[illegible]

PLIED AT SI

FOR DISPOSAL.

1. NORTH OF ENGLAND.—Panel, Private, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appts. £350. Good house to rent. Considerable scope for
2. [illegible] up Surgery. ipts £350.
3. [illegible] cellent scope. PRACTICE. over £700; ner. Appts. Worth about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transferable. Good house, garage, and all conveniences.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts average £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.
7. [illegible] shed and Indus- £2,242, and in- Appointments house to rent.
8. [illegible] OROUGH. — Well- PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

THE

WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)

PHOENIX CHAMBERS, 22, CLARE STREET, BRISTOL.

Telegs.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. SURGEON WANTED.—Excellent opening for young, well-qualified, competent Surgeon, in large Partnership in South-Western Country Town. Great scope. Three months' preliminary Assistantship. Further details on request.
2. SOUTH DEVON. — PARTNERSHIP. — Half share in old-estab. Country PRACTICE, ret. over £1,400 p.a. Good house for sale, other arrangem'ts poss. All sports, nr. sea. Scope.
3. PEMBROKESHIRE.—Pleasant Seaside Town. £1,000 p.a. —Good mixed PRACTICE. Panel 750. Good scope. All sports. Excellent house to buy or rent. Premium £1,500.
4. WEST OF ENGLAND CITY. — PARTNERSHIP.—Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Prem. 1½ years. Choice of resid.
5. NORTH WALES.—Good mixed PRACTICE in Hospital town, returning £800 p.a. Panel £300 p.a. Working knowledge of Welsh essential. Excellent house on lease, rent £65 p.a. Prem. £800, on very easy terms.
6. SOUTH MIDLANDS.—PRACTICE. Receipts last year £480. Pleasant country district. Good house to rent or buy. Plenty of scope for young man. Premium £300.
7. [illegible] good mixed Panel 1,500. Opposition) p.a. Good scope for increase. Premium £1,550.
8. WEST OF ENGLAND.—NUCLEUS in large town. Receipts average £200 p.a. Rapidly growing dist. Good prospects. Prem. £200. Suit keen man wishing to work up Practice.

FINANCIAL ASSISTANCE can be arranged for the PURCHASE of PRACTICES and PARTNERSHIPS. Full particulars on application.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

LARGE LANCS TOWN.—Sound old-established PRACTICE. Cash receipts 1930, £1,581. Panel 1,300. Appointment (transferable) £175. Good house, 2 reception, 4 bedrooms. Garage and garden. Premium—Practice and house—£2,500, part by arrangement.—No. 235.

CHESHIRE COUNTRY TOWN.—Old-established PRACTICE. Cash receipts 1930, £1,098. Panel 713. Local Hospital. Excellent house, 2 reception, 5 bedrooms. Garage, garden, and orchard. Rent £60 p.a. Premium 1½ years' purchase.—No. 241.

LIVERPOOL [illegible] in excellent middle-class Practice. [illegible] 194 p.a. Panel over 1,000. Good scope [illegible] 4 bedrooms. Garage and garden. Rent £70 p.a. Premium 1/2 share 1½ years' purchase. —No. 228.

MANCHESTER. — INDUSTRIAL PRACTICE.—Average cash receipts £1,020 p.a. Panel 1,535. Great scope. Good house in residential district, 2 reception, 5 bedrooms. Premium 1½ years' purchase. —No. 237.

NEAR NORTH-EAST COAST.—SEA-SIDE RESORT.—Country PRACTICE. —Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £800 for quick sale.—No. 220.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential. — Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium —Practice—1½ years' purchase.—No. 234.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

DEATH VACANCY.—Cheshire Town, near Manchester.—Average cash receipts £858 p.a. Panel 800. Scope. Good house, 2 reception, 6 bedrooms. Garage and garden. Premium, best offer.—No. 240.

NORTH-WEST COAST.—SEASIDE RESORT.—Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 550. Excellent freehold house in good position facing Sea, 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Rent £90 p.a. Premium £1,500.—No. 222.

ISLE OF MAN.—SEASIDE TOWN.—Old-estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium —Practice and house—any reasonable offer.—No. 173.

LIVERPOOL (Near).—Old-estab. middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

NORTH WALES.—RAPIDLY GROWING SEASIDE RESORT.—PRACTICE. Average cash receipts £627 p.a. Panel £123. Excellent modern house (freehold) to rent. 2 reception, 6 bedrooms. Garage and garden. Premium—Best offer for quick sale.—No. 223.

LIVERPOOL.—NUCLEUS in Industrial district. Average cash receipts £500 p.a. Panel 200. Tremendous scope. Surgery rent 30/- per week clear. Premium £600 or near offer.—No. 227.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

MANCHESTER. — INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

ISLE OF MAN.—Seaside Resort.—PRACTICE. Cash receipts 1930, £861. Panel. Good house, 3 reception, 7 bedrooms. Garage and garden. Premium—Practice—£700 (or near offer).—No. 224.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE. Average cash receipts £745 p.a. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 197.

NORTH WALES.—Country Town near Sea.—PRACTICE. Cash receipts £700 p.a. Panel £300 p.a. Good detached house. Garage and garden. Rent £65 p.a. Premium for quick sale 1 year's purchase.—No. 219.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium—Practice—£1,600.—No. 195.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Premium—Practice—1½ years' purchase. —No. 194.

SHEFFIELD.—NUCLEUS in growing district. Cash receipts £490. Panel 400. Rent of Surgery £52 p.a. Tremendous scope. Premium—best cash offer.—No. 218.

WANTED IMMEDIATELY —INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. *Good salaries offered. State full particulars.*

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair 1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the **British Medical Bureau** is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the **British Medical Bureau.** Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the **British Medical Bureau** to ensure that only the most **Trustworthy and Reliable** Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the **British Medical Bureau.** A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The **British Medical Bureau** has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 LIVERPOOL.—Middle-class non-dispensing PRACTICE of nearly £1,200 p.a. in residential part. Small panel. Good house to rent. Premium 1½ years' purchase.

2 CHANNEL ISLANDS.—Practice of nearly £1,900 p.a. Good house (6 bedrooms, 4 attics), with large garden, for sale. Excellent climate.

3 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in three-quarters of an acre of ground, with good garden and garage, for sale. Great scope. Premium one-half share 1½ years' purchase.

4 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

5 LONDON, E. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwifery. Six-roomed house to rent. Premium £800, to include drugs, etc.

6 ESSEX.—Practice averaging £370 p.a. in well-populated outlying suburban district. Panel 225. Double-fronted house (4 bedrooms), with nice garden, for sale. Good scope for young energetic man. Premium £450.

7 ISLE OF WIGHT. — Country Practice averaging £750 p.a. Panel over 380. Plenty of sport. Premium 1½ years' purchase.

8 BRITISH WEST INDIES. — X-ray and General PRACTICE in one of the Principal Towns. Receipts about $500 per month. Premium, to include X-ray installation, etc., £700.

9 MIDLANDS. — Partnership in Practice over £3,300 p.a. in a good town. Panel about 1,000. Modern up-to-date Hospital. Four-twelfths share at 1½ years' purchase. Preliminary Assistantship if desired.

10 SOUTH OF ENGLAND.—Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one-fourth share, £1,750. Preliminary Assistantship.

11 YORKSHIRE (N.R.). — Assistantship with view to Partnership in good class Country Practice. Fees 5/- to £1 1s. Share worth about £750 p.a., with considerable scope. Cottage Hospital.

12 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

13 WITHIN 50 MILES OF LONDON.—PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate County Town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P appointments. Preliminary Assistantship.

14 CHESHIRE.—Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

15 S. DEVON. — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House, containing 5/6 bedrooms, for sale. Prem. one-half share £1,320, include drugs, etc. Work very light.

16 S. MIDLANDS.—Practice averaging over £1,200 p.a in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

17 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

18 S. COAST. — Practice about £1,200 p.a. in Popular Resort. Panel between 700/800. No midwifery or night work. House (5 bedrooms) to rent. Premium 1½ years' purchase.

19 N. DEVON.—Country Practice about £1,000 p.a. in attractive Agricultural and Sporting District. Panel 330. House (7 bed and dressing rooms and attics), garage, and about half an acre of garden, to rent. Well-equipped Hospital. Premium £1,500.

20 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

21 HIGH-CLASS NURSING HOME (held by Medical Man) in delightful Country District (500 ft. above sea-level) within 35 miles of London. Receipts over £5,000 p.a. Net profits between £1,000/£1,200 p.a. Beautiful house, with extensive grounds, etc., to rent. Premium for goodwill £1,500.

22 SURREY.—Partnership in non-dispensing PRACTICE of £3,200 p.a., in residential Town. Panel over 4,000. House with 5 bedrooms. Partner should be aged 30/40, and experienced in anaesthetics. *Premium two-fifths share 2 yrs.'* purchase.

23 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice in residential town and Health Resort. Panel 800. After preliminary Assistantship, share gradually increasing to one-half (worth about £1,600 p.a.) at 2 yrs.' purchase.

24 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

25 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

26 LONDON, N.W.—Good middle and better-class non-dispensing PRACTICE in residential district. Receipts about £1,000 p.a. (about half from Surgical work). No panel or appointments. Excellent detached house (4 bedrooms), garage, garden, etc., to rent. Good up-to-date Hospital and scope for Surgery. Premium 1½ years' purchase.

27 NEW ZEALAND.—Practice of £1,500 p.a. in Country Township in North Island. Visits range from 10/6 to £3 13s. 6d. Well-situated house (4 bedrooms, bathroom, etc.), and half acre of garden, for sale. Good private Hospital, with scope for Surgery. Premium £1,250.

28 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main thoroughfare for sale. Scope for panel and midwifery. Premium £1,200.

29 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., *in manufacturing* town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

30 W. OF ENGLAND.—Partnership in Practice over £3,000 p.a., in pleasant Country Town, under 130 miles from London. Young keen Partner, preferably with the F.R.C.S., who has held Hospital appointments. Premium for a two-fifths or one-half share 2 years' purchase.

31 ISLE OF MAN.—Practice in small watering-place. Receipts 1930, £861. Double-fronted house in best road (7 bedrooms, etc.), garage and large garden, for sale. Educational facilities. Excellent scope. Premium £700.

32 LONDON, S.W.—Good middle-class PRACTICE (General and Ophthalmic) in pleasant suburb. Receipts average nearly £1,350 p.a. (over £350 from Eye work). Corner house (5 bedrooms), garage and garden, for sale. Scope for panel and midwifery if desired. *Premium £1,600.*

33 S. WALES. — Partnership in Practice about £4,000 p.a. in good Town with Hospital. Panel over 3,000. Half share (or smaller) at 2 years' purchase. Partner should have F.R.C.S. as there is plenty of Surgery.

34 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

35 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

36 LONDON, N.—Practice of about £700 p.a. in suburban district. Panel 727. Small house (3 bedrooms, consulting and waiting rooms) for sale. Price £600. Scope for increase. Premium £900.

37 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

33 S. COAST.—Partnership after preliminary Assistantship in well-established Practice in Seaside Resort. Share worth £1,000 p.a. to suitable man after six months. Premium 2 years' purchase. Considerable scope and excellent opportunity for young man.

39 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

40 S. MIDLANDS. — Practice over £750 in first-rate County Town. Small panel. Suitable house for sale at £1,200. Good Hospital. Scope. Premium 1½ years' purchase.

41 N.E. COAST.—Partnership in increasing Practice over £4,800 in Seaport Town. Panel 2,500. Incoming Partner should be married and have held H.S. and H.P. appointments. One-fourth share at first at 1½ years' purchase.

42 LONDON, N.—Cash and Panel Practice of £1,300 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

43 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, *as there should be a good surgical outlook. Share worth* about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

44 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

45 KENSINGTON. — Small good-class non-dispensing PRACTICE of about £450 p.a. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

46 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

47 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

48 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

49 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a in growing and pleasant residential district. Choice of residence for sale. Good scope. Prem. £1,200.

50 EASTERN COUNTIES.—Country Practice nearly £1,200 p.a., easy reach of two good towns. Panel 759. Small house (5 bedrooms), garage, and garden, to rent. Premium 1½ years' purchase.

51 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

52 CHESHIRE. — Chiefly non-dispensing PRACTICE of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

53 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

54 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. WITHIN 25 MILES OF LONDON.—GROWING RESIDENTIAL DISTRICT.—Well-established mixed-class PRACTICE, offering good surgical scope if desired. Gross cash receipts for past twelve months £3,184. Panel of 900. Visits 5/- to 21/-. Commodious house with 3 reception, 7 bedrooms, etc.; separate professional accommodation. Rent on lease £150 p.a. Good sporting, social, and educational facilities. Premium £6,000.
2. CHESHIRE.—Pleasant Town.—Good middle and working-class PRACTICE, having large scope. Gross cash receipts for last twelve months £1,098, including panel of 695, and appts. worth about £50. Fees from 3/6. Not much midwifery. Suitable house with 2 reception, 5 bedrooms, etc. Rent on lease £60 p.a. Good sport. Premium 1½ years' purchase, payable £1,000 down, and balance by instalments.
3. WITHIN 15 MILES OF LONDON.—Developing neighbourhood.—PARTNERSHIP.—A one-half share is offered in a steadily increasing PRACTICE owing to the retirement of the senior partner. Gross cash receipts for last twelve months £2,696. Panel of over 1,000. Good house with 3 reception, 6 bedrooms, etc. Nice garden. Price £1,400, part on mortgage. Good sport and schools. Premium 2 years' purchase. Ingoing partner should be married, 35 to 40 years of age, and preferably English or Scotch.
4. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.
5. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase, payable by arrangement. Ill-health reason for sale.
6. SOUTH MIDLANDS.—COUNTY TOWN.—PARTNERSHIP.—A one-half share is offered in an exceptionally sound good middle and working-class Practice, averaging over £2,900 p.a., including panel bringing in over £700 p.a. Suitable house, with 2 reception, 4 bedrooms, etc., and professional rooms. Small but secluded garden. Rent on lease £75 p.a. Sport of all kinds, and first-rate schools. Premium should be English or Scotch.
7. rous Town within 80 miles of share is for disposal owing to the retirement of the second of three partners in a very good mixed-class Practice. Average gross cash receipts £3,300 p.a., including panel of 1,000. Fees from 2/6 to 25/-, medicine extra. Premium only 1½ years' purchase for quick sale, owing to ill health.
8. NORTH MIDLANDS (about 100 miles from London).—PARTNERSHIP.—In pleasant town, pop. 20,000, a share producing—to commence with—£1,000 p.a. in very old-established Practice averaging £3,500, including panel of 2,500, with option of further shares up to one-half. Premium 2 years' purchase Ingoing partner should be under 30. Short preliminary assistantship.
9. YORKS.—FAVOURITE RESIDENTIAL TOWN. — PARTNERSHIP. — A third partner is required to take over a one-sixth share (with increase later) in a very well-estab eraging over £4,000 p.a. Well-equipped e for surgery. Premium 2 years' purchase P of 6 to 12 months.
10. NORTH DEVON.—Very old-established unopposed Country PRACTICE, situated in a beautiful district, and producing last year £940, including panel and appts. worth about £300. Excellent residence (3 reception, 6 bedrooms, bathroom, etc.), in about 1/2 an acre of garden, with tennis court, garage. Rent on lease £60 p.a. Premium £1,500. Good hunting, shooting, and fishing.
11. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.
12. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase
13. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
14. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.
15. DEATH VACANCY.—YORKS.—Village PRACTICE near large town. Old-established mixed-class Practice averaging £1,200 p.a., including panel of 950. Fees from 3/6, with medicine extra. Suitable house, with 3 reception, 4 bedrooms, bathroom, etc. Electric light. Small garden. Rent £56 p.a. Premium £1,000, payable £700 down and balance by instalments. Locum in charge.
16. SOUTH OF ENGLAND.—Pleasant Town, near Sea Coast.—Very old-established partly Surgical PRACTICE, averaging £2,433 p.a. (last year £2,516, of which £760 was derived from operative work), including appt. £170 and panel of 500. Nursing Home, centrally situated and well fitted up, which is also used for operations. Price £2,000. House, with ample accommodation, in 1¼ acres of ground, commanding magnificent views. Price £2,000. Mortgage arranged on both. Premium 1½ years' purchase, partly by instals. Successor should also have knowledge of Eye, Ear, Nose, and Throat work.
17. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts average about £1,700 p.a., including appt. £70 and panel of over 1,000. Good house, with ample accommodation. Small garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.
18. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,157, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.
19. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £639 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.
20. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
21. TOWN.—Old-established better-class PRAC- .a. and offering good scope. Panel of 500. situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.
22. SOUTH COAST TOWN.—Rapidly increasing PRACTICE, producing over £500 p.a. No panel. Visits 5/- up. Suitable house, with 2 reception, 3 bedrooms, etc. Rent on lease £130. Premium £750.
23. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope. Panel of over 1,400. Fees from 3/6. Suitable house can be secured. Premium 2 years' purchase.
24. CHESHIRE—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down.
25. WITHIN 20 MILES OF LONDON (West).—Rapidly developing district. —PARTNERSHIP.—A one-half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100, and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
26. SURREY.—In a beautiful residential district within 40 miles of London (good train service) a small mixed-class PRACTICE worth about £600 p.a., and offering scope. Select panel of 200. Charming house, in very pretty grounds, with ample accommodation. Price, freehold, £3,500. Premium 1½
27. BORDERS OF NORFOLK AND —A half share (with succession in 2 to ixed un- opposed Practice, in pleasant village, near two good towns. Income for last 12 months £1,992, including panel of 1,000, and appts. worth about £150. Fees 2/6 to 10/6. House contains 3 reception, 6 bedrooms, etc. Sport of all kinds. Premium 2 years' purchase.
28. ITALIAN RIVIERA.—SEASON PRACTICE.—Old-established and held by Vendor for the past six years. Average income about £400 p.a. Fees 10/- to 20/ rnished flat, with one large reception bedrooms, etc. Rent on lease £140 p.
29. MANCHESTER niddle and working-class PRACTICE, p.a., including panel of 614 and cap small. Well-situated house, with six rooms in addition to professional accommodation. Large garden. Price for freehold £850. Moderate premium accepted.

ASSISTANTS REQUIRED.—(1) LONDON, S.W.—View to Partnership in 6 months. Must be experienced and good worker. Salary £500. (2) SOUTH DEVON.—Indoor, with view to Partnership. Salary £300. (3) YORKS.—View to Partnership, share producing £750 p.a. (4) KENT.—Indoor. Good Partnership prospects.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at [illegible]

THE TUBERCULOSIS DANGER!

It has been stated in Parliament that *over two thousand children die every year through tuberculous milk.* How many children who survive grow up weaklings through the taint of bovine tuberculosis? This hardly bears thinking about. Cow & Gate Milk Food is guaranteed absolutely free from tuberculosis and other pathogenic organisms.

Read the following extract from the Presidential Address at the Royal Sanitary Institute Congress at Margate, it is of vital significance to the medical and nursing professions:

"The loss on the agricultural and veterinary side of 52,222 bovines during the three years 1926, 1927, 1928, slaughtered under the Tuberculosis Order of 1925, and at least twice that number not reported but otherwise disposed of, the estimate that 40 per cent. of the cows of our dairy herds producing milk for human consumption are tuberculous, are circumstances in themselves that demand immediate attention. But when to this is added the fact that in England 31.5 per cent. of tuberculosis in children up to 15 years is of bovine origin, and deaths from tuberculosis in children up to 5 years is 29.5 per cent. of bovine origin, that 57 per cent. of cervical adenitis in the same ages is of bovine origin, that 33 per cent. of bone and joint tuberculosis in children under 5 years and 24 per cent. in children from 5 to 10 years is of bovine origin, that in Scotland it is recorded that in certain hospitals in Edinburgh as much as 90.3 per cent. of cervical adenitis and 61.2 per cent. of bone and joint tuberculosis in children up to 12 years is of bovine origin, it is high time that this grave condition and this very serious menace to public health should be mended and ended. It is no credit to us as scientists and protectors of public health that such a state of affairs should be permitted to continue, or even to exist."

-IS SAFE!

Another remark made at the meeting was as follows:

"It would be better to have no milk supplied at all than to feed children on diseased milk as is being done at present."

Cow & Gate Milk Food

COW & GATE MILK FOOD

is prepared by our Special Improved Roller Process employing a short heat treatment which destroys all disease organisms but leaves the natural vitamins unimpaired. It is a basic milk food which can be modified by the profession as they desire to suit each and every case.

WRITE FOR PARTICULARS OF OUR SPECIAL MILK FOODS FOR DIFFICULT INFANT CASES

Dept. 20 COW & GATE LTD., GUILDFORD, SURREY *B.M.J., Feb. 21/31.*

The Treatment of

Rheumatism,
Sciatica, Lumbago,
Gout, Neuritis, Arthritis, etc.,

with

AGOTAN

Brand

(PHENYLCINCHONINIC ACID)

Reports from eminent Medical Men show that **AGOTAN** brand Phenylcinchoninic Acid B.P.C. is remarkably successful in the treatment of Rheumatoid conditions due to excess of Uric Acid. Under the influence of **AGOTAN** Uric Acid is eliminated from the blood so rapidly that its deposition in joints, etc., is prevented or much reduced, thus avoiding or quickly removing *local* manifestations.

7½ grain tablets, also powder, and in tubes for local application.

Influenza
and the
Common Cold

The New Quinine Salt QUININE BI-SALICYLO-SALICYLATE known as

QUINISAN
(HOWARDS)

is proving a remarkable remedy.

In many cases the heaviest cold is completely eradicated

WITHIN 36 HOURS.

As regards INFLUENZA, an eminent medical man writes:—

"The effect (of QUINISAN) was so remarkable, that attacks of Influenza which began on the first day with shivering and temperature up to 104° F. and which were treated about midday, only showed a little over 98·6° F. on the following morning and were entirely free from fever and all discomforts by the afternoon. These observations are based on 50 cases.

Quinisan had no unpleasant by-effects and when administered in the first 24 hours is an absolutely reliable remedy for cutting short the attacks."

4 grain tablets in bottles of 25 and 100.

Samples will be sent to any Medical Man on applying to

HOWARDS & SONS LTD. (Est. 1797), ILFORD
(Near LONDON)

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3660 SATURDAY, FEBRUARY 28, 1931 Price 1/3

PERCAINE "CIBA"

Trade Mark Registered

The New Local Anæsthetic for Regional, Infiltration, Surface and Spinal Anæsthesia

Acts in extreme dilution (0·5—2 : 1000).
Produces anæsthesia of unattained intensity and duration.
Not a narcotic. Economical in use.
Belongs chemically to a class entirely different from cocaine and its derivatives.

Vide *British Medical Journal*, March 15, 1930, pp. 488-9, and 495-6, and April 5, 1930, pp. 669-70. *The Lancet*, March 15, 1930, pp. 573-4 and 587. *British Journal of Anæsthesia*, April & July, 1930. *Proceedings of the Royal Society of Medicine*, May, 1930, pp. 919-928. *British Journal of Urology*, June, 1930, pp. 129, 130 and 179.

Packages available :

Percaine Crystals.
1 grm. and 5 grm.

Percaine Tablets
(for the preparation of solutions).
Tubes of 20 × 0·05 grm. Tubes of 10 × 0·1 grm.

Percaine Ampoules.
Boxes of 5 × 5 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 2 : 1000 (with Adrenalin).
Boxes of 12 × 20 c.c. Solution 1 : 1500, for Spinal Anæsthesia.

THE CLAYTON ANILINE Co. Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1
Telephones: Hop 6954, 6955. Pharmaceutical Department. Telegrams: Cibadyes Boroh London

Elastoplast

BRITISH MADE.

Patent No. 253,527.

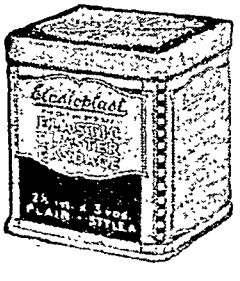
THE ORIGINAL AND FINEST

ELASTIC PLASTER BANDAGES

(STRETCH DOUBLE LENGTH)

As used in the permanent cure of Varicose Ulcers, Varicose Veins, and for general Surgical and Orthopaedic purposes at most Hospitals. With continuous pressure from **Elastoplast,** Varicose Ulcers, no matter how severe, painful, or long-standing, heal at a steady average rate of one square inch per week. *Vide:—*

Proceedings of the Royal Society of Medicine, May, 1930. Vol. 23, No. 7.
The Clinical Journal, 3/12/1930. Page 1032.
The British Medical Journal, 13/12/1930. 3 articles, pp. 996, 998, and 1000.
" " " " 21/2/1931 (Correspondence)



Also

VISCOPASTE—ADHESIVE GELATINE BANDAGES (Unna's Paste Type)

For Varicose Ulcers, Varicose Veins, Eczema, Lymphangitis, Elephantiasis, Oedema after Fractures, &c.

One introductory trial set, with full details of method of treatment, will be sent, upon receipt of P.O. value 2/6, by the Manufacturers—

T. J. SMITH & NEPHEW LTD. (Dept. BM),

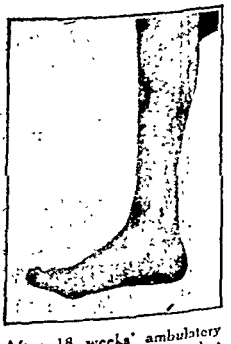
Surgical Dressings Manufacturers,

HULL, LONDON, MANCHESTER, GLASGOW.

London Office: 42, TAVISTOCK SQ., W.C.1.

Obtainable through all Surgical Supply Houses.

Photograph shows Ulcer of 25 years' duration. Woman patient. Age 63.



After 18 weeks' ambulatory treatment with Elastoplast applications. Bandages used—15.

British Medical Journal

CONTENTS

FEBRUARY 28, 1931

ORIGINAL ARTICLES

Classification of Brain Tumours and its Practical Application. By WILDER PENFIELD, M.A., M.D., B.Sc. (With Plate) 337

Some Aspects of Prevention of Tuberculosis in Children. By F. MAURICE MCPHEDRAN, M.D. (With Plate) 342

Diverticula of the Duodenum. By S. GILBERT SCOTT, M.R.C.S., L.R.C.P. (With Plate) 346

Backache in Women: its Significance and Treatment. By CHARLES L. KARK, M.R.C.S., L.R.C.P. 348

Septicaemia and Encephalitis in Relation to Vaccination. By ROBERT PRIEST, M.B., M.R.C.P. 349

MEMORANDA

The Prevention of Puerperal Pyrexia. By S. J. CAMERON, M.B., F.R.F.P.S., and HENRY THOMSON, M.D. 350

An Unusual Type of Diphtheria Carrier. By A. VICTOR NEALE, M.D. 351

Strangulation of Intestine Caused by Meckel's Diverticulum. By J. ALFRED GAYNOR, M.B., F.R.C.S.I. ... 351

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE:
Scabies and Ringworm 351
Physiological Effects of Baths 352

LIVERPOOL MEDICAL INSTITUTION:
Early Diagnosis of Pregnancy..... 353

EDINBURGH OBSTETRICAL SOCIETY:
A Retrospect of Gynaecology 354

ASSOCIATION OF CLINICAL PATHOLOGISTS: Vaccine Therapy 355

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY: Silicosis 355

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY 356

REVIEWS

The Cerebro-spinal Fluid 356
Gastro-duodenal Radiography 356
Surgical Emergencies 357
A Health Centre 357
First Lines on Cancer 358
Biological Data and Beliefs 358
Notes on Books 359

OBITUARY

Sir Robert W. Burnet, M.D., F.R.C.P. 377
Walter C. Stevenson, M.D. 378
Israel Feldman, M.B., B.S. 373

LEADING ARTICLES

IODINE IN RELATION TO GOITRE 361
MEDICAL EDUCATION IN WALES 362

THE WEEK

Pharmacological Laboratories of the Pharmaceutical Society 362
New York Post-Graduate School and Hospital 363
An Index to Physiological Progress..... 363
Acrocyanosis 364
Routine Anaesthesia in Midwifery 364
Osler's Disease and Eponyms..... 365
A New Institute of Medical History ... 365
Sir Charles Hastings Lecture 365

GENERAL ARTICLES AND NEWS

Atmospheric Pollution and Fogs. By Prof. J. S. HALDANE, M.D., F.R.S. ... 366

Royal College of Physicians of Edinburgh. 250th Anniversary. (Illustrated) 360

CEREBRO-SPINAL FEVER: PREVALENCE IN ENGLAND AND WALES 368

"UNIPOLAR AIR." Experimental Work at Frankfort 367

HEALTH OF THE NAVY IN 1929..... 368

HEALTH SERVICES IN LANARK..... 369

PREPARATIONS AND APPLIANCES. (Illustrated) 359

MEDICAL NOTES IN PARLIAMENT:
Cerebro-spinal Fever 379
Asbestosis and Silicosis..... 379

MEDICAL NEWS 380

LOCAL NEWS

SCOTLAND—
[illegible] 370
[illegible] 370
[illegible] 371
Hospitals 371
Dunfermline Hospital 371

ENGLAND AND WALES—
Birmingham University and the Hospitals Centre Project 371
Hunterian Society Annual Dinner ... 372
Central Midwives Board 372
A Hospital Contributory Scheme 372

IRELAND—
Northern Ireland Vital Statistics..... 373
County Down Mental Hospital 373
Enniscorthy Mental Hospital 373

UNIVERSITIES AND COLLEGES

University of Cambridge 378
University of London 378
University of Leeds..... 378
University of Bristol 378
Royal College of Surgeons of England... 378

CORRESPONDENCE

X-Ray Therapy in Malignant Disease of the Lung. By F. G. Chandler, M.D., F.R.C.P. 373

Thallium and its Risks. By Frederick Gardiner, M.D., F.R.C.S.Ed. and G. H. Percival, Ph.D., M.B. 373

Mortality in Acute Appendicular Disease. By J. J. Robb, F.R.C.S.Ed.; and R. B. Blair, F.R.C.S.Ed. 374

The Enigma of the Chilblain. By Arthur J. Hall, M.D., F.R.C.P. 374

Gonococcal Rhinitis. By E. W. Assinder, M.D.; I. N. Orpwood Price, M.R.C.S.; and Eleanor Lowry, M.B. 375

Familial Incidence of Cancer. By Mark Jackson, M.D..... 375

Treatment of Ethmoiditis. By J. B. Horgan, M.B. 376

Antidiabetic Diets. By J. Barcroft Anderson, M.D..... 376

London Clinic and Nursing Home. By William Billington, M.S., F.R.C.S.; and Medical Group Executive Committee, London Clinic..... 376

Medical Reciprocity with France. By Alfred S. Gubb, M.D. 377

THE SERVICES

Deaths in the Services 379
(For Naval, Military, and Air Force Appointments see SUPPLEMENT)

LETTERS AND ANSWERS

Majorca 381
[illegible] 382
[illegible] 382
[illegible] 382
[illegible] 382
[illegible] 382

VACANCIES 382
(See also page 67 of SUPPLEMENT)

The SUPPLEMENT contains:

BRITISH MEDICAL ASSOCIATION:
Annual Meeting, Eastbourne, 1931: Summary of Hotel and Boarding-House Accommodation.

CURRENT NOTES:
Katherine Bishop Harman Prize, 1932.
Middlemore Prize, 1932.
Scholarships and Grants.
Medical Appointments Abroad.

Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., P.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-. Telephone: REGENT 0611.

Those who join within one year of Registration are exempt from Entrance Fee.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Bale, Sons & Danielsson, Ltd.
Beeston, G. N.—Conjoint Finals 4
Sorsby, M.—Cancer and Race 4
Storer, R. V.—Sex and Disease..... 4
Tallaferro, W. H.—
Immunology of Parasitic Infect. 4
Ward, E.—
General Practice 4
Medical Adventure.. 4

Churchill, J. & A.
Hertslet's Skin 3
Johnston, J. H.—Bacteriology, etc. 3
[illegible] 3
[illegible] 3
[illegible] 3
Book of Receipts 3
First Lines in Dispensing 3
Marshall's Microbiology 3
Mennell, J. B.—Backache 3
Moore's Medical Ophthalmology..... 3
Parsons, J. H.—Dis. of the Eye... .. 3
Taylor's Medicine 3
Tottenham, R. E.—
Handbook of Midwifery 3
Ward's Favourite Prescriptions..... 3
Washburn, B. E.—Health Game..... 3
Yorke & Maplestone—
Nematode Parasites..... 3

Constable & Co., Ltd.
Warburg, O.—
The Metabolism of Tumours.. .. 4

Wright & Sons, Ltd.
Turner, A. L.—
Diseases of the Nose, etc... 4
Tidy, H. L.—Symptomatology 4

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS..... 47

ASSURANCE COMPANIES—
London Med. Protection Society..... 1
Medical Insurance Agency 8,50

BRASS NAME PLATES, &c.—
[illegible] 32
[illegible] 35
[illegible] 34

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee 34
Battle Creek Food Co.—
[illegible] 12
[illegible] 18
[illegible] rail
[illegible] 5
[illegible] 18
[illegible] 29
[illegible] 11
[illegible] 22

SURGICAL APPLIANCES—
Arnold & Sons—Surgeons' Instrum. 31
Davis & Geck—Sutures .. .. Cover ii
Dent's 'Ardente' Stethoscope 31
Hawksley & Sons, Ltd.—
[illegible] 6
[illegible] 34
[illegible] 34
[illegible] 32
[illegible] 30
[illegible] 50
[illegible] 31
[illegible] 7
[illegible] 34
Elastoplast .... Cover ii
Watson Baker Co.—
Collender's Splints 30

HOSPITAL, &c., FURNITURE—
[illegible] 35
[illegible] 30
[illegible] 32

CHEMISTS, &c.—
Alliance Drug & Chemical Co.—
Price List 35
Allen & Hanburys Ltd.—
Castor Oil 36
Insulin 'A.B.' 14
Lozenges 25
'Pitibulin' 25
Vaso-Cresolene 4
Benzard, Ltd.—Leo Insulin 28
Boots, Ltd. 23
British Drug Houses Ltd.—
Caprokol 13
Insulin 'A.B.' 14
S.U.P. 36 19
Burroughs Wellcome & Co.—
[illegible] 27
[illegible] or]
[illegible]
Regulol 20
Dimol Laboratories—Dimol Snuff.. 13
Dinneford & Co. Ltd.—Magnesia ... 14
Duncan Flockhart & Co.—
Nasal Creams 10
Evans Sons Lescher & Webb Ltd.—
Collunina 24
Throat Pastilles 19
Fellows' Compound Syrup of Hypophosphites—'Fellows' 15
Hewlett & Son, Ltd.—
Liq. Santal Flav. 21
Hoffmann-La Roche Chem. Works—
Omnopon 16
Hough, Hoseason & Co., Ltd.—
Kaylene Ltd.—Kaylene-ol 21
Kerol Ltd.—Capsules 33
Laboratoires Loblica—Uralysol 11
Martindale, W.—
'Sterulex' 10,26
May & Baker, Ltd.—'Soneryl' 15
Newbery & Sons, Ltd.—
Agarol 56
[illegible] 12
[illegible]
[illegible] 43
[illegible] 46
[illegible] 42
[illegible] 47
[illegible] 47
[illegible] 44
[illegible] 44
[illegible] 43
[illegible] 43
[illegible] 45
[illegible] 45
[illegible] 43
[illegible] 42
[illegible] 1,45
[illegible] 41
[illegible] 46
[illegible] 43
[illegible] 44
[illegible] 44
[illegible] 46
[illegible] 44
[illegible] 43
[illegible] 43
[illegible] 44
[illegible] 43
[illegible] 50
[illegible] 46
[illegible] 44
[illegible] 46
[illegible] 44
[illegible] 50
[illegible] 43
[illegible] 43
[illegible] 47
[illegible] 45
[illegible] 41
[illegible] 43
Wright, Layman & Umney, Ltd.—
Coal Tar Preparations 16

HOUSE AGENTS—
Bedford & Co. 49
Elliott, Son & Boyton 49

MOTOR CARS, TYRES, &c.—
Rover Company Limited—Cars..... 9
Second-hand Motors for Sale 50

PRINTING & STATIONERY—
Anderson & Son—Account Forms 32
[illegible] 35
[illegible] 4
[illegible] 34

TAILORING & UNDERCLOTHING—
Hall, H.—Medical Service Dress ... 49
Keith Bradbury Ltd.—Tailors 34
Miller & Co. Ltd.—Tailors 32
Regent Dress Co.—Tailors 34
Studd & Millington—Tailors..... 35

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub Hlth. 34
Roberts & Co.—Vaccine Lymph..... 34

X-RAY & ELECTRO-MEDICAL APPARATUS—
Gen. Radio. & Surg. Appar. Co.—
Sunlight Generator.. 6

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 40
Peebles Hydro 40
Ruthin Castle, North Wales..... 38
Smedley's Hydro, Matlock 40

INEBRIETY—
Albion House, Beverley, E. Yorks. 36
Bay Mount, Paignton 36
Caldecote Hall, Nuneaton 36,37
Dalrymple House, Rickmansworth 36
'Old Hill House,' Chislehurst..... 35

HOSPITAL, &c., VACANCIES—
[illegible] 7
[illegible] 3
[illegible] 5
[illegible] 9
[illegible] 1
[illegible] 1
[illegible] 5
[illegible] 37
Coppice, Nottingham 37
Court Hall, Kenton, Exeter..... 37
Grange, near Rotherham 35
[illegible] 40
[illegible] 37
[illegible] 37
[illegible] 37

J. & A. CHURCHILL

TAYLOR'S MEDICINE

By E. P. POULTON, M.D., F.R.C.P., and G. PUTNAM SYMONDS, M.D., F.R.C.P., H. W. BARBER, M.B., F.R.C.P., R. D. GILLESPIE, M.D.

TWENTY-FIVE SHILLINGS

FOURTEENTH EDITION. 64 Plates (12 Coloured) and 103 Text-figures.

48 Illustrations in Black, Red, and Blue. 10s. 6d. Postage 5d.

BACKACHE.

By J. B. MENNELL, M.D.

Senior Medical Officer, Physio-Therapeutic Dept., St. Thomas's Hospital.

102 Illustrations. 10s. 6d. Postage 6d.

A HANDBOOK OF MIDWIFERY

By R. E. TOTTENHAM, M.D., B.Ch., B.A.O., Professor of Obstetrics and Gynaecology, Hong-Kong University.

SECOND EDITION. 8 Coloured Plates. 92 Illustrations. 18s. Postage 9d.

MOORE'S MEDICAL OPHTHALMOLOGY

"As a connecting link between the specialized science of ophthalmology and the wider scope of general medicine, it is unsurpassed in our literature for its conciseness and clarity and its wealth of detail."—BRITISH MEDICAL JOURNAL.

SECOND EDITION. 5s. Postage 3d.

WARD'S FAVOURITE PRESCRIPTIONS

Including Dosage Tables and Hints for Treatment of Poisoning.

20 Illustrations. 5s. Postage 4d.

THE HEALTH GAME: A Popular Guide in the Tropics

By B. E. WASHBURN, M.D., Field Director, International Health Division of the Rockefeller Foundation.

SEVENTH EDITION. 36 Illustrations. 3s. 6d. Postage 3d. 7 Editions in 5 years.

THE MOTHERCRAFT MANUAL

Or, THE EXPECTANT AND NURSING MOTHER AND BABY'S FIRST TWO YEARS.

By MABEL LIDDIARD, Matron, Mothercraft Training Society. Introd. by J. S. FAIRBAIRN, F.R.C.S., F.R.C.P.

8 Plates. 10s. 6d. Postage 6d.

HERTSLET'S SKIN—ITS USES IN SIX PHASES

THE COMMUNITY—HEALTHY BODY—PREVENTION OF DISEASE—DIAGNOSIS—TREATMENT—HELIATION.

With Forewords by Prof. LEONARD HILL, F.R.S., and Dr. R. P MACKENZIE.

ELEVENTH EDITION. 10s. 6d. Postage 5d.

BOOK OF 850 PRESCRIPTIONS

With an Index of Diseases and Remedies.

TWELFTH EDITION. 10s. 6d. Postage 6d.

BOOK OF RECEIPTS

Veterinary, Pharmaceutical, Photographic and Domestic,

including the Examination of Urine, Milk, Potable Waters, Sputum, etc.

7s. 6d. Postage 6d.

BOOK OF PHARMACOPOEIAS and UNOFFICIAL FORMULARIES

containing Formularies of British, United States, French, German and Italian Pharmacopoeias, and those from Unofficial Sources, comprising about 5,000 Formularies.

By E. W. LUCAS, C.B.E., F.I.C., and H. B. STEVENS, O.B.E., F.I.C., and C. E. L. LUCAS, A.I.C., F.C.S.

THIRD EDITION. 95 Illustrations. 7s. 6d. Postage 5d.

FIRST LINES IN DISPENSING

5s. Postage 3d.

THE PRINCIPLES OF PRACTICAL BACTERIOLOGY FOR SCIENTIFIC WORKERS

By J. H. JOHNSTON, M.Sc., and R. H. SIMPSON, M.D., M.R.C.P.

Third Edition. 200 Illustrations. 21s. Post. 9d.

Revised and Enlarged by 25 Eminent Contributors.

MARSHALL'S MICROBIOLOGY

A Textbook of Micro-organisms General and Applied.

SIXTH EDITION. 21 Plates, 20 in Colour. 348 Text-figures. 18s. Postage 9d.

DISEASES OF THE EYE

By Sir JOHN HERBERT PARSONS, C.B.E., D.Sc., F.R.C.S., F.R.S., Ophthalmic Surgeon, University College Hospital; Surgeon, Royal London Ophthalmic Hospital.

307 Illustrations. 36s. Postage 9d.

THE NEMATODE PARASITES OF VERTEBRATES

By WARRINGTON YORKE, M.D., and P. A. MAPLESTONE, M.D., D.S.O.

London: 40, Gloucester Place, Portman Square, W.1

THE METABOLISM OF TUMOURS

Investigations from the Kaiser Wilhelm Institute for Biology, Berlin-Dahlem

Edited by

OTTO WARBURG

Lancet:—". . . the translation is excellent, and the English edition will make a strong appeal to all those who wish to use the manometric technique in the study of chemical reactions, since its theory and practice are described in great detail."

British Medical Journal:—"The researches have added an important detail to our knowledge of the peculiar features of tumour growth—a valuable acquisition, since it opens up a new avenue of approach in the study of the causation of tumours."

Translated by FRANK DICKENS, M.A., Ph.D.

Illustrated. *40s. net.*

CONSTABLE

10 & 12 Orange Street Leicester Square WC2

JOHN BALE, SONS & DANIELSSON, Ltd.

SEX AND DISEASE. A Contribution to Sex Education and the Prevention of Venereal Diseases. By ROBERT V. STORER, M.R.C.S. (Eng.), L.R.C.P. (Lond.). With Introduction by J. S. PURDY, D.S.O., M.D., C.M. (Aberd.), D.P.H. (Camb.), F.R.S. (Edin.), F.R.S.I. Revised popular edition. Fourth edition. 4s. 6d.; post free 5s. 0d.

CANCER AND RACE. A Study of the Incidence of Cancer among Jews. Conducted under the auspices of the Jewish Health Organisation of Great Britain. By MAURICE SORSBY, M.D., F.R.C.S.E. With a Preface by Lieut.-Col. F. E. FREMANTLE, M.A., M.D., M.Ch., F.R.C.P., F.R.C.S., D.P.H., M.P. Demy 8vo. 7s. 6d.; post free 8s. 3d.

THE IMMUNOLOGY OF PARASITIC INFECTIONS. By WILLIAM H. TALIAFERRO, Ph.D., Professor of Parasitology, University of Chicago. Illustrated. 25s. net; post free inland 25s. 9d. net; abroad 26s. 6d.

"An important contribution to medical literature and one which should focus the attention of tropical workers in particular on the deficiencies and gaps in present knowledge of this important subject."—LANCET.

"THE CONJOINT FINALS." Being a Reproduction of all the Questio[illegible] from 1911 to 1929 classific[illegible] in the date-order of theii[illegible] M.R.C.S.(Eng.), L.R.C.P. (Lond.). 6s. net; post free inland 6s. 6d.; abroad 6s. 9d.

"The book is intended to provide a sound scheme for general revision, and all students approaching that great crisis in their careers, the Finals, would do well to get hold of a copy."
—CHARING CROSS HOSPITAL GAZETTE.

MEDICAL ADVENTURE. Some Experiences of a General Practitioner. By ERNEST WARD, M.D., F.R.C.S. 8s. 6d. net; post free 9s.

"A remarkable book. It is a record, freely annotated, of a man with a rich experience of many sides of a doctor's life . . . should prove most useful as well as entertaining."—LANCET.

GENERAL PRACTICE. Some Further Experiences. By ERNEST WARD, M.D., F.R.C.S., author of "Medical Adventure," etc. 3s. 6d. net; post free 4s.

"Every page contains the equivalent of years of experience. The book is sure to be of interest to every medical man."—NATURE.

83-91, GREAT TITCHFIELD STREET, LONDON, W.1.

SECOND EDITION. Fully Revised. Demy 8vo. 464 pp. With 234 Text Illustrations and 12 Plates (8 in colour). 20s. net. Postage 9d.

DISEASES OF THE

NOSE, THROAT & EAR

Edited by A. LOGAN TURNER,

M.D., LL.D., F.R.C.S.E.,

Consulting Surgeon, Ear and Throat Department, Royal Infirmary, Edinburgh.

With the collaboration of J. S. FRASER, M.B., F.R.C.S.E., W. T. GARDINER, M.C., M.B., F.R.C.S.E., J. D. LITHGOW, M.B., F.R.C.S.E., G. EWART MARTIN, M.B., F.R.C.S.E., and DOUGLAS GUTHRIE, M.D., F.R.C.S.E.

"There is no other book which includes laryngology and otology with such success."—BRITISH MEDICAL JOURNAL.

"May confidently be recommended."—LANCET.

With 130 Illustrations (some in colour). Sup. Roy. 8vo. 722 pp. Bevelled Boards. £2 2s. net. Postage 1s.

AN INDEX OF

SYMPTOMATOLOGY

Edited by H. LETHEBY TIDY,

M.A., M.D., B.Ch.(Oxon.), F.R.C.P.(Lond.).

Physician, St. Thomas's Hospital; Consulting Physician, Royal Northern Hospital.

In conjunction with 25 Representative Contributors.

"Should help considerably in the solution of difficult diagnostic problems . . . a volume worthy of the series to which it belongs."
—BRITISH MEDICAL JOURNAL.

"Each article has been written by an expert, and could hardly be made more lucid or concise."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

ARE YOU SATISFIED with YOUR BOOK-KEEPING SYSTEM?

LEWIS'S CARD INDEX SYSTEM is the simplest and most practical.

It is an efficient and increasingly popular one.

Sample Cards and Particulars sent post free on application.

H. K. LEWIS & CO. LTD. (MEDICAL STATIONERY DEPT.), 136, Gower Street, London, W.C.1

Vaho-Cresolene Est. 1879

Sold by Chemists

Write for descriptive Booklet No. 29.

WHOOPING COUGH

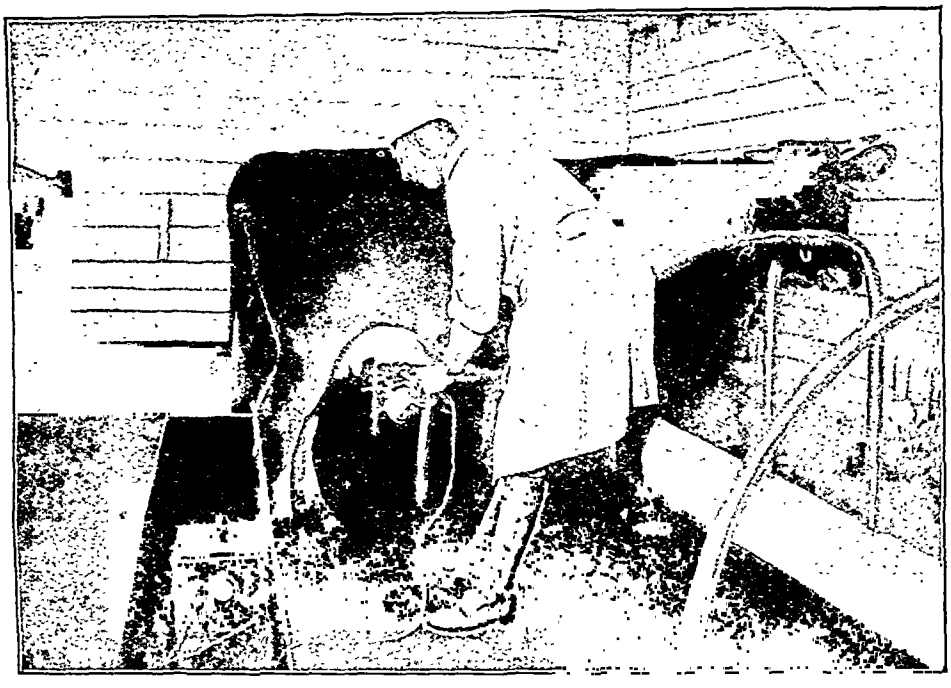
The best practice in the treatment of whooping cough recognizes the importance of keeping the patient out of doors as much as possible. The food should be easily digestible, nourishing, and given a little at frequent intervals.

There are no specifics for this disease. In very young children drugs are administered with difficulty and are of uncertain effect.

Vaporized Cresolene at night will be found a simple and effective means of preventing the paroxysms at that time, thus tending to preserve the strength of the patient, avoid complications, and hasten convalescence.

ALLEN & HANBURYS, LTD. :: :: Lombard Street, London, E.C.3.

MICKLEFIELD IRRADIATED MILK



TREATING THE COW

By this Process—

(1) VITAMIN A AND NATURAL FLAVOUR ARE PRESERVED.
(2) VITAMIN D CONTENT IS INCREASED 1,800 PER CENT., OR TEN TIMES THAT OF ANY OTHER IRRADIATED MILK.

One pint equivalent in Vitamin D to 600 drops or 12 grammes of average Cod-Liver Oil.

A ten weeks' test recently conducted at the Infants' School, Rickmansworth, under the supervision of the Medical Officer of Health, gave the following results:—

(1) 18 children (controls) had their usual ordinary milk.
(2) 29 " 1/3-pint of Grade A (T.T.) milk five days a week.
(3) 30 " " Micklefield " " "

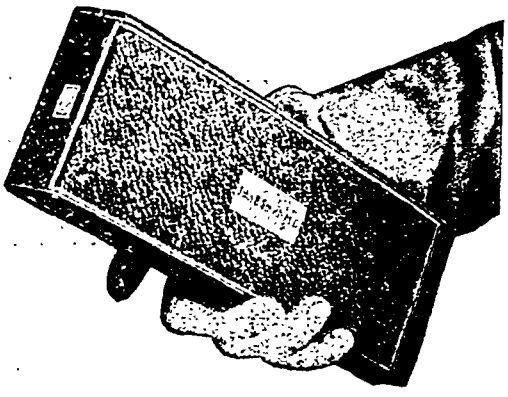
(1) Average increase in height '605-in. (2) Average increase in weight 9.72 ozs. more than (1).
(2) " " " '610-in. (3) " " " 10.9 ozs. more than (1).
(3) " " " '744-in.

Full particulars appeared in an article in the LANCET, January 18, 1930, p. 127, et seq., a reprint of which will be sent post free on request.

The milk is delivered every week-day in London; elsewhere by arrangement.

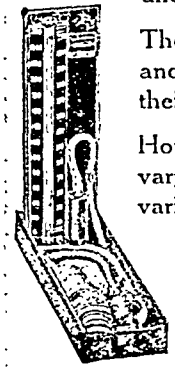
Write to J. O. HICKMAN, MICKLEFIELD GREEN, RICKMANSWORTH.

NEW **KOMPAK** MODEL



Lifetime Baumanometer
STANDARD FOR BLOODPRESSURE

Physicians who use aneroid blood pressure gauges nowadays don't expect them to be accurate to the millimeter, because they understand the nature of such instruments.



They try to establish the degree of variation and make allowance for it when taking their readings.

However, an instrument that concededly does vary may easily show a different degree of variation from one reading to another.

In cases where regular check-up of the patient's blood pressure is necessary, the unvarying accuracy of the Baumanometer is indispensable.

Obtainable from leading Surgical Equipment Houses, or
HAWKSLEY & SONS, Ltd., 83 Wigmore St. London, W. 1.

SMALLEST
LIGHTEST
HANDIEST

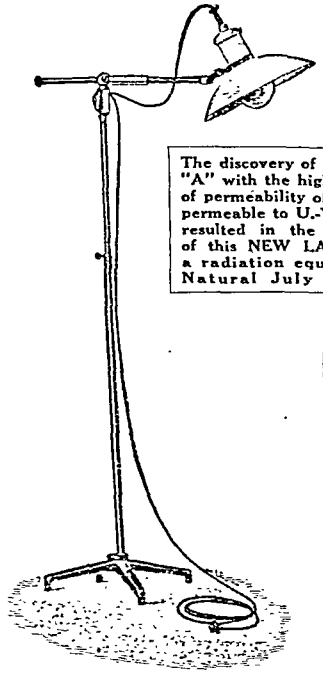
Calibration: 260 mm.
Size: 1⅝" x 3⅞" x 11⅝".
Weight: 30 oz.
Inflation System Self-Contained.
Duralumin case with baked enamel edges.
Genuine Morocco grain leather.
Entire manometer unit chromium plated.
Individual nameplate cast in cover.
Table of clinical averages embossed in case.
Lifetime Guarantee against glass breakage.
Perpetual Guarantee for accuracy.

GRSA

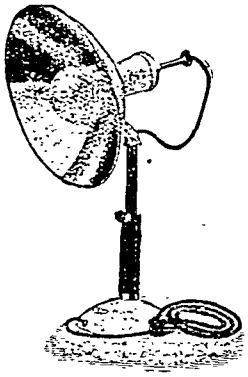
NERON VITALUX

The Sunlight Generator

HEAT, LIGHT, ULTRA-VIOLET



The discovery of U.-V. Glass "A" with the highest degree of permeability of all glasses permeable to U.-V. Rays has resulted in the production of this NEW LAMP giving a radiation equivalent to Natural July Sunlight.



Price £8 10 0

Price £6 10 0
Complete with bulb.

An indication as to some of its uses:

Rachitis prophylaxis, tubercular cervical glands, surgical and cutaneous tuberculosis, neuralgia, rheumatism (neuritis, myalgia), catarrhal diseases (colds), inflammation of the lungs (pleurisy), treatment of wounds, etc.

Extract from letter recently received from a doctor:
"The lamp is giving me thorough satisfaction, being a great improvement on the carbon arc lamp I was using, owing to the absence of fumes and greater ease of working, as well as giving a more satisfactory spectrum."

A SUSPENSION MODEL is available for Group treatment.
Plans prepared free of cost for Hospital Sun Rooms.

THE GENERAL RADIOLOGICAL & SURGICAL APPARATUS CO. LTD.,
204 & 206, Great Portland Street, London, W.1

Telephones: Museum 1719, Museum 8326
Showrooms: FIRST FLOOR
Telegrams: Equispital Westdo London

SURGICAL SERVICE
SALTAIR

SALTAIR SURGICAL SERVICE

Guarantee

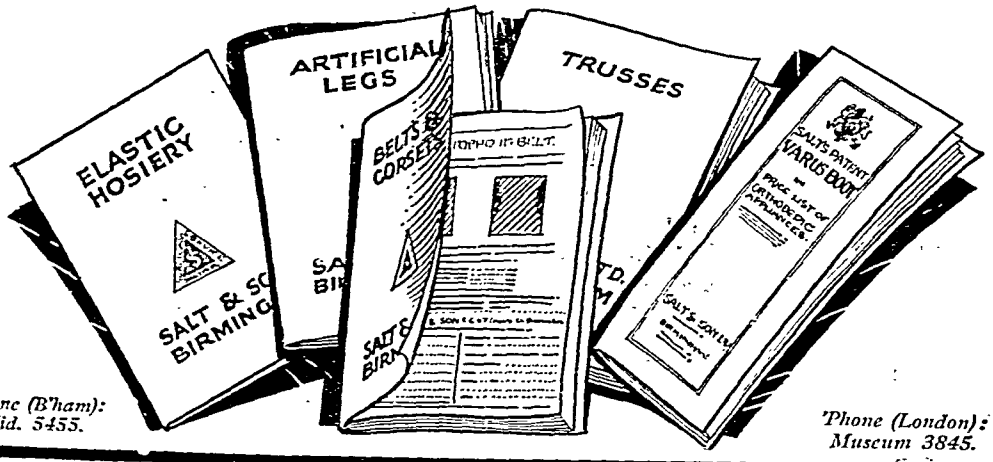
"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

How Saltair Surgical Service assists the Medical Man

Saltair Surgical Service is a thorough Service of incalculable value to Medical Men.

- It enables them to order an appliance which will be specially made to the patient's requirements and to select the quality from a wide range of prices and materials.
- Comprehensive catalogues, embodying simple order forms, enable the Medical Man to prescribe in detail the type of appliance needed to meet the case.
- Finally—should the appliance supplied, for any reason be found unsuitable, it will willingly be accepted back or exchanged under the terms of our famous Guarantee.



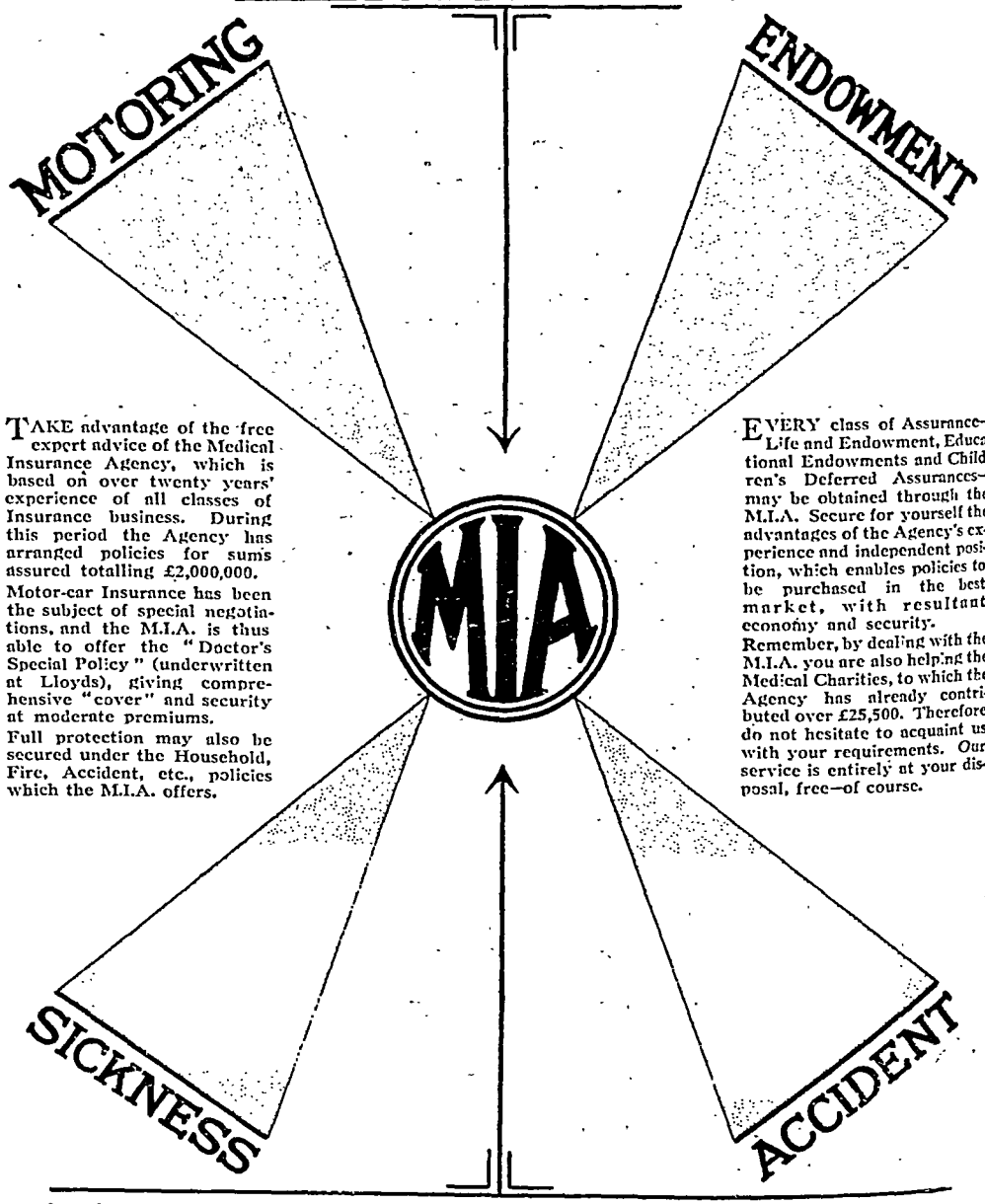
'Phone (B'ham): Mid. 5455.

'Phone (London): Museum 3845.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT. ESTABLISHED 1793.

Insurance



TAKE advantage of the free expert advice of the Medical Insurance Agency, which is based on over twenty years' experience of all classes of Insurance business. During this period the Agency has arranged policies for sums assured totalling £2,000,000.

Motor-car Insurance has been the subject of special negotiations, and the M.I.A. is thus able to offer the "Doctor's Special Policy" (underwritten at Lloyds), giving comprehensive "cover" and security at moderate premiums.

Full protection may also be secured under the Household, Fire, Accident, etc., policies which the M.I.A. offers.

EVERY class of Assurance—Life and Endowment, Educational Endowments and Children's Deferred Assurances—may be obtained through the M.I.A. Secure for yourself the advantages of the Agency's experience and independent position, which enables policies to be purchased in the best market, with resultant economy and security.

Remember, by dealing with the M.I.A. you are also helping the Medical Charities, to which the Agency has already contributed over £25,500. Therefore do not hesitate to acquaint us with your requirements. Our service is entirely at your disposal, free—of course.

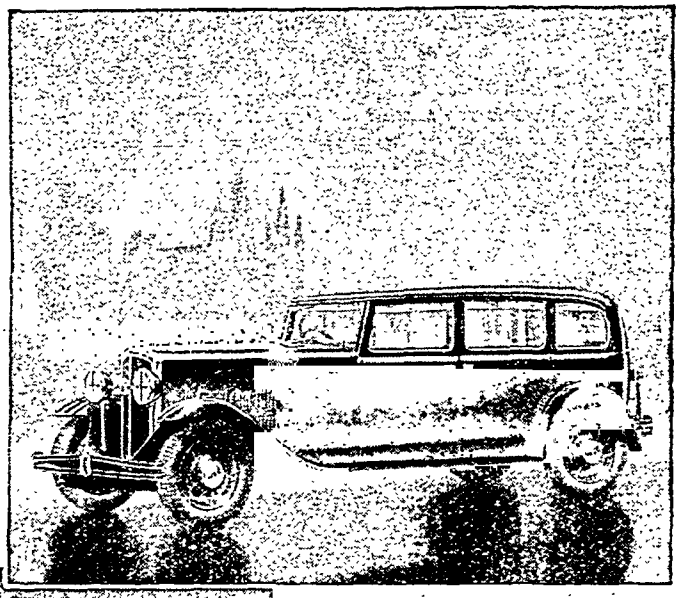
Medical Insurance Agency (LTD).

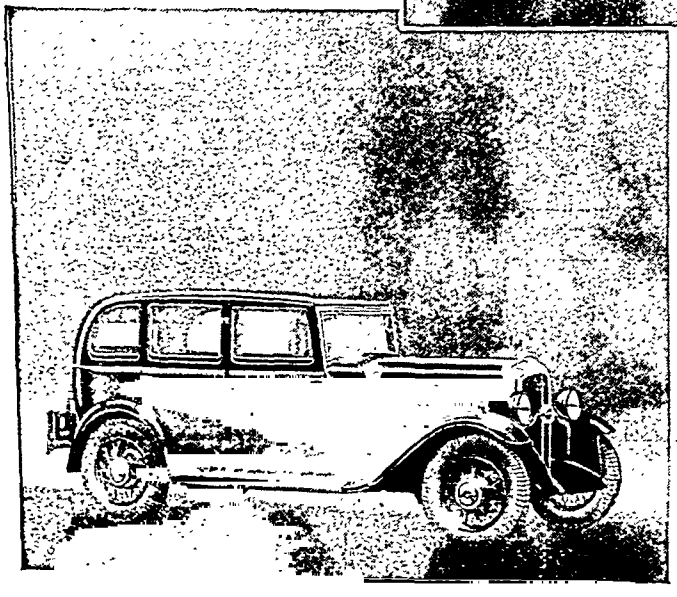
c/o B.M.A House, Tavistock Square, London, W.C.1. &
c/o B.M.A. House, 7. Drumsheugh Gardens, Edinburgh

Which Exists to Protect Your Interests & Save Your Money.

Rover offer a range of cars for every phase of medical service

FROM the distinguished Meteor Limousine to the popular Rover Family Ten there is a Rover model that can, and does, serve every phase of a doctor's duties. The Limousine for the Consultant, securing privacy for the conference en route with colleagues: the Two Litre Six or Light Twenty for the scattered and difficult country districts: the Family Ten for easy manipulation in mean and narrow city streets and in congested traffic—and in each power grade a matchless performance.





WE illustrate two models. The top one is the Meteor Limousine—it has a drop down division that can be closed for professional purposes and opened on social occasions. It costs only £548 and gives dignity, power, and comfort at extremely low cost. The illustration left is the Rover Family Ten offering exceptional passenger accommodation, well sprung and comfortable so that an emergency run with patients requiring almost 'stretcher' length can be easily arranged. It will achieve 60 miles per hour, has run 2,147·2 miles for £5 under official observation. Brief particulars of the price are supplied on the left.

Rover Family Ten—from £189 | Rover Light Twenty—from £358

Rover Two Litre—from £298 | Rover Meteor—from £398

Rover Meteor Limousine £548

ROVER

The Rover Co. Ltd., Meteor Works, Coventry

Send for Illustrated List

Guaranteed by the maker for Two Years, supervised by the seller for Two Years

FOR INTERNAL TREATMENT OF GONORRHOEA, URETHRITIS, AND OTHER AFFECTIONS OF THE GENITO-URINARY TRACT

SANTAL MIDY CAPSULES have been prescribed with uniform success for over thirty years. Distilled from carefully selected Mysore Sandal Wood, the oil is bland and remarkably

FREE FROM THE IRRITANT AND NAUSEATING EFFECTS

which are provoked by many preparations.
There is marked absence of gastric and other disturbances, diarrhoea and skin eruptions. Its mild chemotactic properties permits its administration in relatively large doses without fear of too violent reaction or tolerance.

SANTAL MIDY CAPSULES may be prescribed and relied upon in all stages of Gonorrhoea and in other forms of Urethritis and affections of the Genito-Urinary tract.
The Capsules contain 5 drops, and usually 10 to 12 are given daily in divided doses.

Prepared in the Laboratoire de Pharmacologie Générale, 8, Rue Virienne, Paris, and sold by most Chemists and Wholesale Druggists throughout the World.

U.K. Agents: WILCOX, JOZEAU & Co., 15, Gt. St. Andrew St., W.C.2

SANTAL MIDY

A.K.

NASAL CREAMS

DUNCAN'S Nasal Creams are put out in Elastic Gelatine Capsules suitable for applying a medicament to the higher nasal passages. The following different kinds of creams are offered:

ALKALINE
ANTISEPTIC
ASTRINGENT

Duncan

IODISED
SEDATIVE
STIMULANT

SAMPLE AND PRICES ON APPLICATION.

DUNCAN, FLOCKHART & CO., Edinburgh and London

LONDON - - - 155-157, FARRINGDON ROAD, E.C.1.

"STERULES" Regd.

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

Telegrams: "MARTINDALE, CHEMIST, LONDON."

Telephone: LANGHAM 2440.

TREATMENT
OF THE
RHEUMATIC DIATHESIS
WITH
URALYSOL
TABLETS
GRANULES
Thyminic Acid — Hexamethylene-Tetramine — Lysidin
Prepared by:
LABORATOIRES LOBICA
46, Avenue des Ternes, PARIS (17e)
Distributors in British Isles:
CONTINENTAL LABORATORIES Ltd.
30 MARSHAM St., LONDON, S.W.1.

Valentine's Meat-Juice

In **Debility, Nervous Exhaustion** and **Anaemia,** where **Digestion** is **Impaired** and it is **Essential** to **Conserve** the **Weakened Vital Forces, Valentine's Meat-Juice** demonstrates its **Ease** of **Assimilation** and **Power** to **Restore** and **Strengthen.**

Employed in many Hospitals and Sanitariums and recommended by many leading Physicians and Surgeons throughout the world.

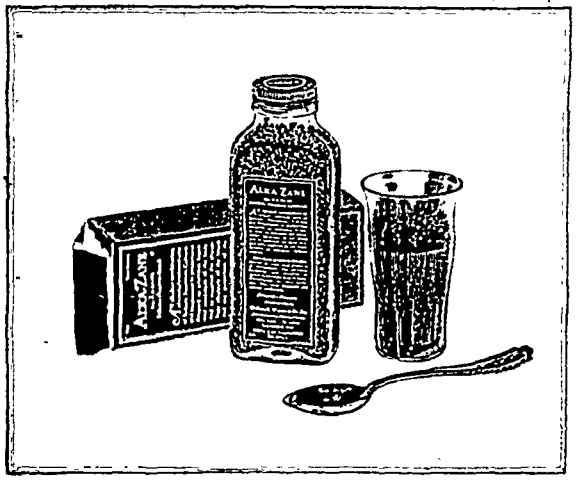
Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 91

Rational Alkaline Medication



A pleasant, effervescent granular preparation composed of carefully selected salts of Sodium, Potassium, Calcium and Magnesium in physiologically correct proportions.

must be adapted to the physiological requirements of the human organism, in order to neutralize excess acid products and restore alkaline balance, without the risk of intoxication.
A trial will promptly convince you of the value of Alka-Zane as antacid, diuretic, and to restore normal alkalinity, in gouty and rheumatic conditions, gastric or intestinal hyperacidity, and in certain skin diseases.

ALKA-ZANE

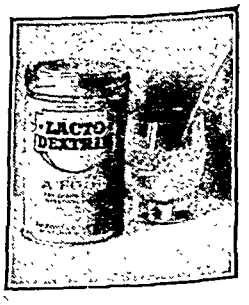
Literature and samples to physicians on request.

Francis Newbery & Sons, Ltd.,
31-33, Banner Street, London, E.C.1.
Prepared by WILLIAM R. WARNER & CO., INC.,
Manufacturing Pharmacists Since 1856.

TWO NEW PREPARATIONS

Vide THE LANCET, Jan. 10th, 1931.

"PSYLLA (psyllium seed); LACTO-DEXTRIN (Battle Creek Food Company, Mich., U.S.A., Distributing Agents, Coates & Cooper, 41, Great Tower Street, London).—This company have sent us specimens of their laxative agent, Psylla, and their preparation, Lacto-Dextrin, for use in intestinal toxaemia. Psyllium seeds when immersed in water yield a mucilaginous substance which is able to take up relatively large quantities of water to form a gelatinous mass. They become in this way a useful lubricant, while the emollient character of the mass renders it of special service in Fissure or Haemorrhoids. The same firm has received favourable reports from the clinical use of their combination of lactose and dextrin."—*Lancet*, Jan. 10th, 1931.



Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, 41, Great Tower Street, London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA
(Psyllium Seed)

LACTO-DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

CAPROKOL

The urinary antiseptic that gives immediate symptomatic relief and continuously disinfects until the whole urinary system becomes sterile is an ideal one for both patient and physician; hence the adoption of Caprokol by numerous practitioners as a matter of routine.

These beneficial effects following the administration of Caprokol in urinary tract infections are the direct outcome of its soothing analgesic action upon the mucosa of the urinary tract, and of its highly-bactericidal character. Moreover, its ease of administration and its freedom from objectionable odour add not a little to its acceptability from the point of view of the patient.

In
Pyelitis
Cystitis
Urethritis
and other
Urinary Tract Infections

Literature on request

Sole Selling Agents:
THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Capl34

CEREBRO-SPINAL MENINGITIS

During epidemics, or seasonal rise of prevalence, many become CARRIERS of the
MENINGOCOCCUS,
the causative agent, in the Nasopharynx.

Disinfection is then the best method of protection from attack.

Of all disinfectants

DIMOL SNUFF

is the most—

CONVENIENT . . . . In powder form in neat pocket containers, available for use at any time, anywhere, without trouble.

EFFICIENT . . . . . Even when diluted with **10 times its bulk** of mucus, Dimol Snuff
KILLS IN 32 SECONDS
the meningococcus, the cause of the condition.

By the nature of the snuff, by which it becomes sticky in the presence of moisture, it adheres to the mucus of the nasopharynx and becomes dissolved. Unlike liquids, the action is therefore long continued.

Prices and particulars will be sent on application to

DIMOL LABORATORIES, LTD., 40, LUDGATE HILL, LONDON, E.C.4.

INSULIN 'A.B.'

TRADE A B MARK

80 Units per c.c.

Insulin 'A.B.' is now available in a concentration of 80 units per c.c., or four times the normal strength, for the convenience of large dose administration.

Supplied in three strengths:

20 units per c.c. Packed in bottles containing:
5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing:
5 c.c. (200 units or 20 doses) 4/- each

80 units per c.c. Packed in bottles containing:
5 c.c. (400 units) 8/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession.

Joint Licencees and Manufacturers:

The British Drug Houses Ltd.
Graham Street, London, N.1

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

A safe and simple antacid which is also a gentle laxative must necessarily be of great value to medical practitioners when administering to ladies and children and all who are constitutionally delicate.

May we, therefore, venture to remind you of

DINNEFORD'S PURE FLUID MAGNESIA

which has been extensively prescribed and used by the Medical Profession for a Century, and is still the best and safest means of administering Magnesia.

When prescribed for the nursery, too, Dinneford's Magnesia has always proved immensely useful as a corrective, and when mixed with infant's food it prevents many of the troubles which are due to acidity, flatulence, etc.

We are confident that you will find in Dinneford's Fluid Magnesia a reliable and safe solution which may be freely used for many ailments, and we would request your kind consideration of its use as occation offers.

Dinneford's Pure Fluid Magnesia possesses antacid and laxative qualities which are incomparably better than those of any of the various preparations of Magnesia, in powder, now being introduced.
It cannot harm the most delicate constitution and is at all times a safe and effective laxative.
Manufactured in London for the past 100 years.

DINNEFORD & Co. LTD.

SONERYL

TRADE MARK

Powerful Hypnotic and Analgesic

An agent which has the double advantage of relieving pain and inducing sleep is invaluable in everyday practice.

"Soneryl" adequately meets this need and is widely employed for insomnia, whether arising from painful affections or febrile or nervous states.

"Soneryl" produces no after-effects nor does it lead to habit formation.

Supplied in tablets for oral use and ampoules for intravenous or subcutaneous injection

Write for descriptive literature and sample

Telephone : BATTERSEA 1813 (6 lines)
Telegrams : BISMUTH, LONDON

Prepared in the Laboratories of

MAY & BAKER LTD.

BATTERSEA LONDON, S.W.11

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark

Clinically tested and proved all over the world

REMINERALIZATION
VITALITY
ENERGY

DEMINERALIZATION
CONVALESCENCE
NEURASTHENIA

SODIUM
CALCIUM
POTASSIUM
MANGANESE AND IRON
STRYCHNINE AND QUININE

FELLOWS MEDICAL MANUFACTURING COMPANY, Inc.
26 Christopher Street, New York City.

'Omnopon' TOTAL OPIUM ALKALOIDS

"The Injectable Opium"

Coughs & Pulmonary affections.
Relief of Pain in Cancer.
Surgery, Gynæcology, etc.

THE HOFFMANN-LA ROCHE CHEMICAL WORKS Ltd., The 'Roche' Laboratories, 51, Bowes Road, London, N.13.

The Medical Profession when prescribing "Liquor Carbonis Detergens" SHOULD ADD THE WORD

Wright's

On receipt of your professional card, a package will be sent containing a sample of each of the following—

Wright's Coal Tar Soap.
Wright's Coal Tar Ointment.
Wright's Lysol.
Wright's Liquor Carbonis Detergens.

Although there is no secrecy as to the composition of Liquor Carbonis Detergens (it is described as "an alcoholic solution of coal tar"), the method of manufacture is unique. Imitations will be found to be produced by simple digestion, usually accompanied by some primitive, perfunctory, and inadequate stirring; whereas, in the case of the genuine product, the intimate contact required, for the complete extraction of all the soluble antiseptic constituents, is attained by a series of complicated processes, involving the use of highly specialized machinery.

WRIGHT, LAYMAN & UMNEY LTD., 66, Park Street, Southwark, S.E.1

ALOCOL

Colloidal Hydroxide of Aluminium

For Chronic Irritations of the Gastric Mucosa

WHEN alkaline therapy is indicated "Alocol" is the preferred form of treatment. Its advantages over the usual oxides and alkalis are manifest. Whilst the preparations in common use give momentary relief to painful symptoms they aggravate the morbid condition. Consequently such remedies are contraindicated, especially in stubborn, chronic cases.

The action of "Alocol" is superior in every way, because it does not merely confine itself to combating the symptoms of the trouble, but attacks the origin itself.

"Alocol" fixes the acid, not by neutralization, but by adsorption. It relieves pain, is slightly astringent, and limits the acid secretions. "Alocol" is always well borne; no harmful secondary action follows its administration, and its therapeutic effect is not diminished with prolonged use.

Complete chemical history of "Alocol," with convincing clinical reports and supply for trial, sent free to physicians on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.
Works: KING'S LANGLEY, HERTFORDSHIRE.

M.230

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative, "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

M 233

PREFERRED BY THE MEDICAL PROFESSION FOR NEARLY A CENTURY

these essences rouse appetite and aid digestion

BRAND'S
ESSENCES
OF BEEF OR CHICKEN

Just on a hundred years ago Brand & Company first introduced their Meat Essences. From that time until now Brand's Essences of Beef or Chicken have achieved fame because of the exclusive process and hygienic conditions under which they are manufactured.

Scientific tests have proved that these Essences are assimilated by the digestive organs 40 minutes quicker than ordinary foods and without the formation of residue.

99 out of every 100 doctors recently interviewed recommend Brand's Essences of Beef or Chicken in cases of intestinal disturbances, in fevers, before and after operations, and particularly in all cases where the patient's recovery is hampered by anorexia.

Brand's Essences are the pure juices of the finest freshly killed English meats, extracted by an exclusive process with no other substance added. Samples will be sent on receipt of a professional card. Dept. F.25, Brand & Co., Ltd., Mayfair Works, Vauxhall, London, S.W.8

HORLICK'S MALTED MILK

A VALUABLE ADDITION to a diet at any time—especially so during the winter months. At this season of the year, the lack of stamina and diminished resistance to infection, so closely related to errors in nutrition, most conspicuously manifest themselves. It is therefore, all the more necessary that care should be taken to ensure that patients shall be given a diet which will satisfy their energy needs, lessen fatigue, prevent tissue waste and build up a reserve. HORLICK'S, a well-balanced food, with its easily digested protein, its readily assimilated fat and mixed carbohydrate—lactose, maltose and dextrin, and adequate vitamin content, promotes physical and mental fitness, increases resistance to infection and restores vitality. To combat Influenza, Pneumonia and other complaints so common in winter, HORLICK'S can be prescribed with confidence.

In Epidemics of

Colds Influenza Pneumonia

Physicians engaged in fighting prevailing epidemics continue to find in S.U.P. 36 a trusty weapon ready at hand and simple to use.

> "I have been very pleased with the effect of S.U.P. 36, and have come to rely upon a definite result—usually a drop of about 2° in the temperature within a few hours of the first dose, with marked increase in the comfort of the patient."

Such an addition to the armamentarium of a busy practitioner is of incalculable value.

Cumulative Evidence continues to testify to the value of

S.U.P. 36

S.U.P. 36

Literature and sample on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

S.U.P. 36/19

EVANS' THROAT *Pastilles*

MADE BY

EVANS SONS LESCHER & WEBB Ltd.

56, Hanover Street, LIVERPOOL and LONDON

THROAT THERAPY.

Evans' Pastilles are prepared to a formula of the Liverpool Throat Hospital. Their action is soothing and demulcent, the formula being carefully balanced with both these objects in view. Evans' Pastilles relieve harshness and irritation and maintain their effect for some time after the pastille has dissolved.

Sold in 1/- tins or in bulk for dispensing.

A physician's sample will be gladly sent on request.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.
WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ROYAL LONDON OPHTHALMIC HOSPITAL.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.
THE LONDON HOSPITAL.
WALTHAMSTOW HOSPITAL.
BRADFORD EYE AND EAR HOSPITAL.
BIRKENHEAD GENERAL HOSPITAL.
BURNLEY VICTORIA HOSPITAL.
HARTLEPOOL HOSPITAL.
HUDDERSFIELD ROYAL INFIRMARY.
HUDDERSFIELD ROYAL HOSPITAL.
KENT COUNTY OPHTHALMIC HOSPITAL, MAIDSTONE.
NEWPORT, ROYAL GWENT HOSPITAL.
NEWCASTLE-ON-TYNE, ROYAL VICTORIA INFIRMARY.
OXFORD EYE HOSPITAL.
ST. PAUL'S EYE HOSPITAL, LIVERPOOL.
HOSPITAL, BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:
THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.
Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

The Ideal Laxative

REGULOL REGD.

"REGULOL" IS AVAILABLE IN TWO FORMS: "PLAIN" or "COMPOUND." The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient

CUXSON, GERRARD & Co., Ltd.
Oldbury, *Birmingham.*

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

SAMPLE 1-lb. JAR FREE ON REQUEST.
Please indicate whether Plain or Compound is required.
(This offer is limited to the British Isles.)

Post-Influenzal Depression

is partly a direct effect of influenzal toxins, but is largely due to toxaemia arising from the debilitated digestive tract.

Kaylene-ol

prevents intestinal toxaemia and thus shortens convalescence and enables the patient to resist secondary infection.

Literature and supply for clinical trial obtainable from the Manufacturers:

KAYLENE LIMITED,

Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone—	*Telegrams*—	*Cables*—	*Code*—
GLADSTONE 1071 (2 lines).	KAYLOIDOL, CRICKLE, LONDON.	KAYLOIDOL, LONDON.	BENTLEY'S.

This preparation is now obtainable in 5-oz. bottles.

"LIQ. SANTAL FLAV. c. BUCHU ET CUBEBA"

(HEWLETT'S).

THE ORIGINAL PREPARATION.

"Experience has shown this preparation to possess the same efficacy as Santal Oil itself. It mixes perfectly with water, and has a taste by no means disagreeable, in which particular it contrasts very favourably with the ordinary mixture it is intended to replace."—PRACTITIONER.

Packed for dispensing only, in 5, 10, 22, 40, and 90-oz. bottles. PRICE IN ENGLAND, 12/6 per lb.

INTRODUCED AND PREPARED ONLY BY

C. J. HEWLETT & SON, Ltd. (WHOLESALE DRUGGISTS), 35 to 42, Charlotte Street, London, E.C.2.

MEASLES
and
WHOOPING COUGH

The danger of these disorders is often in their far-reaching secondary effects.

During Convalescence from Measles there is a very special liability to tuberculosis invasion, many victims subsequently succumbing to Tuberculosis, Broncho-Pneumonia or Surgical Tuberculosis, and there is the same liability to Broncho-Pneumonia from Whooping Cough.

Virol is composed of Bone Marrow, Glycerine Extract of Red Bone Marrow, Malt Extract, Eggs, Lemon Syrup and Salts of Lime and Iron.
The Vitamins are present in Virol in its manufactured state.

Phagocytosis

The raising of the patient's powers of resistance is therefore important. Virol has been proved to increase the phagocytosic action of the leucocytes against the germs of Tuberculosis.

The convalescent stage calls for special reparative nutrition. Virol has a marked effect upon the conservation of the tissues, repairing the waste and restoring the equilibrium of a healthy metabolism.

VIROL

More than 3,000 Hospitals, Sanatoria, and Infant Clinics use Virol regularly.

IN JARS, 1/3, 2/- & 3/9. VIROL LTD., EALING, LONDON, W.5.

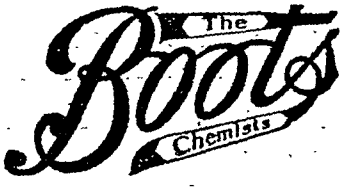
ALWAYS OPEN DAY & NIGHT
52, New Street, Telephone: Midland 5657
BIRMINGHAM

ALWAYS OPEN DAY & NIGHT
Corner of Union St. and Argyle Street, GLASGOW, C.1 Tel.: Cent. 8562

ALWAYS OPEN DAY & NIGHT
Piccadilly Circus, Telephone: Regent 4761-62
LONDON, W.1

DOCTORS AND THEIR WIVES

are welcomed at any retail branch of



ALWAYS OPEN DAY & NIGHT
48, Shandwick Pl., Telephone: Edinburgh 27849
EDINBURGH

ALWAYS OPEN DAY & NIGHT
1, Oxford Street, Telephone: City 3775
MANCHESTER

Special Discount Terms are allowed, details of which are shown in our Current Medical Price List

IF YOU ARE NOT ON OUR MAILING LIST PLEASE SEND A POSTCARD TO:— BOOTS THE CHEMISTS, STATION ST., NOTTINGHAM

ALWAYS OPEN DAY & NIGHT
67-69, Grainger St., Tel.: Cent. 24960
NEWCASTLE-ON-TYNE

ALWAYS OPEN DAY & NIGHT
100a, Old Town St., Telephone: 953
PLYMOUTH

122,371,528 CUSTOMERS,
4,099,543 PRESCRIPTIONS,
50,000 BRITISH SHAREHOLDERS,
17,114 BRITISH EMPLOYEES,
1,550 QUALIFIED CHEMISTS,
170 FULLY TRAINED NURSES,
900 BRANCHES DURING 1930

BOOTS PURE DRUG CO., LTD.

ALWAYS OPEN DAY & NIGHT
9, Ranelagh Place, Telephone: Royal 2286
LIVERPOOL

ALWAYS OPEN DAY & NIGHT
12, Wheeler Gate, Telephone: 40351
NOTTINGHAM

(*Æsculapius*)

Indicated in Hyperacidity and in conditions associated with gastric inefficiency

COLLUMINA

A colloidal aluminium hydroxide

The therapeutic value of Collumina depends upon its ability to absorb the excess acidity of the stomach without giving rise to the unpleasant secondary reactions which often follow the administration of alkalies.

In addition, Collumina acts as a deodorant and is very effective in overcoming fetor of the breath.

Being mildly astringent and non-toxic, it is recommended as a mouth wash or gargle for the relief of congestion of the mucous lining of the mouth and pharynx.

Collumina is pleasantly flavoured and is supplied plain and also combined with bismuth for intestinal colic and diarrhoea.

Issued in 4oz., 8oz., and 16oz. bottles.

Prepared at
Evans' Biological Institute,
Higher Runcorn, Cheshire.

EVANS SONS LESCHER & WEBB Ltd

LIVERPOOL 56 Hanover St. DUBLIN LONDON 50 Bartholomew Close

Cremor Alkalinus LOZENGES

Trial sample will be sent to all members of the medical profession on application.

Made from **Cremor Alkalinus "A. & H."**
Formula C

Sod. Bicarb.	3	parts
Mag. Carb.	8	"
Calcium Carb.	12	"

Each lozenge contains 15 grains.

Two lozenges equal the normal dose.

In flat boxes of 36 lozenges (for the pocket).

In bottles containing 8 ozs. and

In glass stoppered bottles containing 2 lbs., or about 600 lozenges.

Allen & Hanburys Ltd., London, E. 2

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

"Trade **Pitibulin** Mark"

Denotes Unvarying Pituitary Extract

Conforming to the requirements of the Therapeutic Substances Regulations, 1927, "Pitibulin" is prepared according to the official standards, its activity being expressed in terms of the accepted unit.

"Pitibulin" maintains the stringently high criteria of therapeutic efficiency, safety in use and stability, self-imposed by its manufacturers—qualities which have given it its high place in the esteem of physicians.

It has made a reputation among the Profession as the Pituitary Extract which can be relied on in emergency.

"Pitibulin" is supplied in boxes of 6 and 12 ampoules containing 2·5, 5 and 10 units per ampoule.

Literature giving fuller particulars of the therapeutic applications of "Pitibulin" will be sent on request.

Allen & Hanburys Ltd., London, E. 2.

Telephone: Bishopsgate 3201 (10 lines) *Telegrams:* "Greenburys Edo London"

AMYL NITRITE "STERULES"

(MARTINDALE—Regtd. T.M. & Design)

IN BOXES OF 12 "STERULES"

Containing 1, 2, 3, 4, 5, 6, or 10 minims (0.05, 0.1, 0.2, 0.25, 0.3, 0.35, or 0.6 c.c. approx.), the usual dose being 3 minims (0.2 c.c.).

For relieving ANGINA PECTORIS, SPASMODIC ASTHMA, MIGRAINE, POST-PARTUM HAEMORRHAGE, HAEMOPTYSIS, to ward off EPILEPTIC ATTACKS, etc., and as an ANTIDOTE to CHLOROFORM. Largely employed in threatened FAINTING and COLLAPSE, and as a RESTORATIVE after GAS in DENTAL OPERATIONS.

Abstracts from the medical literature:

ANGINA PECTORIS: "The best remedy. To lower blood pressure has a more rapid action than any other drug, and is useful in cutting short the paroxysms of pain." —L., ii/05, 325; ii/06, 1335.
"Gave prompt relief in the more pronounced attacks." —B.M.J., ii/06, 304.
"In all spasmodic affections, such as angina pectoris, one of the best remedies."—B.M.J., i/09, 994.
"The nitrites are indispensable."—B.M.J., ii/09, 1122.
"The quickest means of relieving the acute pains." —L., ii/08, 1132.
"Fear of death entirely disappeared."—L., ii/09, 572.
"No drug can compare with Amyl Nitrite."—L., i/09, 240; L., ii/05, 812.

INTRATHORACIC ANEURISM: "For the acute anginal attacks Amyl Nitrite inhalation, followed by internal use of Nitroglycerin or Erythrol Nitrate, is generally efficacious."—L., i/13, 948.

ASTHMA: "In most cases the reduction in blood pressure relieves."—B.M.J., ii/11, 1327.

POST-PARTUM HAEMORRHAGE: "Immediately stopped; no further trouble followed."—B.M.J., ii/06, 1125.

HAEMOPTYSIS: "With few exceptions, promptly effective. Secures peace of mind to sufferers." —L., i/08, 130.
"Some convincing cases in which it saved life." —L., i/07, 939.
"Amyl Nitrite the drug par excellence; acts better the quicker it is used."—Edin. Med. Jl., 1904; L., ii/04, 522, 942, 1446; B.M.J.E., i/06, 79.
"In severe haemoptysis—rupture of an atheromatous pulmonary vessel—free use satisfactory."—B.M.J., i/06, 917.

SEA-SICKNESS: Very useful; inhalation repeated every 2 or 3 hours if necessary.

CHLOROFORM SYNCOPE: The quickest means of restoring the heart's action.

PLEASE SPECIFY MARTINDALE'S AMYL NITRITE "STERULES"

We also supply other vasodilators, e.g.:

MANNITOL NITRATE TABLETS: 1 gr.

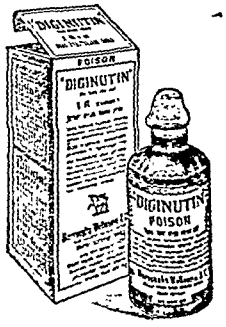
ERYTHROL NITRATE TABLETS: ¼, ½, and 1 gr.

W. MARTINDALE,

12, NEW CAVENDISH ST., LONDON, W.1.

Phone: Langham 2440. 'Grams: Martindale, Chemist, London.

PERSIAN SERIES



Reduced facsimile

When digitalis is indicated prescribe the stable preparation

TRADE 'DIGINUTIN' MARK

For Oral Administration

A solution of the total glucosides of digitalis leaf, physiologically standardised. Biological tests show no loss in activity after storage for twelve months

May be prescribed alone or diluted with water

Prices in London to the Medical Profession:
Bottles of 1 fl. oz., 2/- each, and 8 fl. oz., 12/- each

See Wellcome's Medical Diary, 1931, page 66

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

On the left, figure of a Persian monarch on horseback, from a rock sculpture. The embroidery on the Royal robe is shown above in detail.

H 2840

COPYRIGHT

LEO INSULIN

This insulin is of high purity and guaranteed uniform in strength.

CONTAINS NO PRESERVATIVE.

100 Units per 5 c.c. (each c.c. represents 20 units), 1/6
200 Units per 5 c.c. (each c.c. represents 40 units), 2/10

Usual Discounts allowed to the Medical Profession.
Special Quotations to Hospitals.

Sole Concessionnires for British Empire—
C. L. BENCARD, LTD., 184, Wardour Street, London, W.1.
Telephone: GERRARD 1828. Telegrams: SCANOFIL, WESTCENT, LONDON.

Sole Agents for the Midlands, Northern England, Wales and Ireland—
JAMES WOOLLEY SONS & CO., LTD., Victoria Bridge, Manchester.
Telephone: CENTRAL 8580. Telegrams: PHARMACY, MANCHESTER.

South African Distributors—
LENNON LIMITED, CAPE TOWN and BRANCHES.

"The Microscope proves its efficacy."

Trade Mark **'NEOTROPIN'** Brand

Butyloxy-diamino-azo-pyridin.

A new non-irritant internal disinfectant and bactericide of marked penetrative power and tissue affinity.

Indicated in

BACTERIURIA, CYSTITIS,
PYELITIS, PYELONEPHRITIS,
GONORRHOEAL COMPLICATIONS,
and as a PRE- AND POST-OPERATIVE ANTISEPTIC.

DOSE: Two dragées to be swallowed thrice daily according to requirements of the case.
Original Packing: Bottles of 30 dragées (1·5 grains).

Sample and illustrated brochure on request.

SCHERING LIMITED, 3, Lloyd's Avenue, London, E.C.3

Or from the following overseas depôts:

CANADA— Schering (Canada) Ltd., Unity Building, P.O.B. 388, Montreal.
CEYLON— Paul Winn & Co. Ltd., Colombo.
BRITISH INDIA— Schering-Kahlbaum (India) Ltd., P.O.B. 2006, Calcutta.
AUSTRALIA— Schering-Kahlbaum (Australia) Ltd. P.O.B. 5576S, Sydney.
NEW ZEALAND— F. & N. Suckling, Auckland
SOUTH AFRICA— Schering-Kahlbaum S. Africa (Proprietary) Ltd., P.O.B. 7539, Johannesburg.
EAST AFRICA— The Old East African Trading Co. Ltd., Mombasa.
STRAITS SETTLEMENTS & SIAM— N.V. Handelmaatschappij v/h Barmer Export Gesellschaft, Singapore & Bangkok.
DUTCH INDIES— H.V. v/h W. Biedermann & Co., Batavia, N.V. Handelmaatschappij v/h Barmer Export Gesellschaft, Medan

A Paper
ON
CLASSIFICATION OF BRAIN TUMOURS AND ITS PRACTICAL APPLICATION*

BY
WILDER PENFIELD, B.Sc.OXON., M.D.
MONTREAL

(*With Special Plate*)

I consider it a very great honour to be called upon to open this discussion, particularly as the president of the Section has himself played so distinguished a part in formulating our modern conception of the pathology of brain tumours. Further, it is peculiarly fitting that this meeting should take place in Winnipeg, for the important work on this subject that is being carried out by Professor Boyd of this city is known throughout the Empire. The topic was originally intended to be that of neurological surgery or of brain tumour. It may be permitted me, perhaps, to take exception to the implication that the two subjects are synonymous. Neurological surgery (or better, neuro-surgery) began, and should always continue, in my opinion, as an integral part of neurology; it was concerned at first largely with brain tumours. It has since expanded so rapidly, however, that the treatment of brain tumour now makes up a minor portion of the whole specialty. During the first twenty months of the existence of a department of neuro-surgery at McGill University there have been carried out by Dr. Cone and myself 250 major neuro-surgical operations (exclusive of 160 ventriculograms and encephalograms). Of these only 73 were for brain tumour. In the remaining group are included many equally interesting lesions.

Tumour classification based on histological similarities must serve to separate out groups of neoplasms whose biological behaviour is likewise similar, otherwise the classification is of little practical value and has only academic interest. This is not the place to undertake extensive histological description. I have attempted to do this elsewhere (1927). The following classification, based to a considerable extent on the work of others, has fulfilled in my experience the essential purpose of separating the more benign from the malignant gliomas. It makes neuro-surgery more discriminating, and serves as a basis for treatment, for prognosis, and for analysis. After outlining the groups I shall cite examples of individual cases chosen so as to illustrate the type of behaviour which we have learned to expect from the more common of these groups.

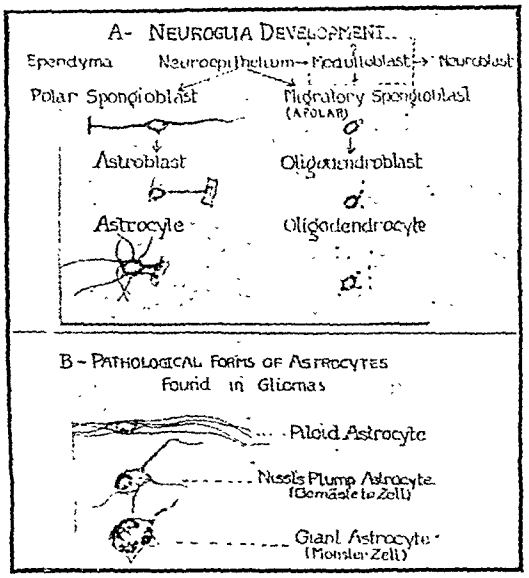


FIG. A.—Sketches of embryological and pathological forms of neuroglia which are commonly seen in gliomas. These are recognized by their morphology rather than by specific staining characteristics. Piloid astrocytes contain very long fibres, and appear within the brain where nerve fibres have been destroyed. Such cells rather than the astrocytes of the normal brain appear in astrocytomas. Nissl's plump cells, and also giant cells, are found in multiform spongioblastomas, where there is much focal vascular obliteration similar to that in areas of chronic vascular change within the brain.

The great majority of tumours of the brain may be taken up under two chief headings: (*a*) gliomas, which arise in the parenchyma and infiltrate nervous tissue, and (*b*) tumours of the sheaths of the nervous system, which are generally encapsulated and do not infiltrate nervous tissue. Because of their comparative rarity neither the locally malignant sarcomas of the meninges, nor the adenomas of the pituitary, nor the tumours of the cranio-pharyngeal pouch which appear about the sella turcica will be discussed here. Tumours of the pineal gland, although rare, must be considered, particularly when there is a hypothalamic or midbrain symptomatology. Metastatic tumours are not included. The haemangiomas of the cerebral cortex are of some importance, and the haemangiomatous cysts are of considerable moment, inasmuch as haemangiomatous nodules surround themselves by fluid, and thus form an intracerebral, or more often an intracerebellar, cyst, which yields gratifying results, provided the intracystic nodule be removed (Lindau, 1926, Cushing and Bailey, 1928, Sargent and Greenfield, 1929).

GLIOMAS

The term "glioma" was first employed by Virchow, who recognized that these tumours were composed of neuroglia cells. Numerous sporadic studies were made of gliomas, but the concentration of material was not sufficient for important work until Horsley opened up the field of neuro-surgery at Queen Square, and Tooth was there provided with 500 cases of brain tumour, over half of which were verified. Tooth (1913) did not subdivide the gliomas, but he observed that increase in size of cells corresponded with a high degree of malignancy. It is obvious that he was referring to the malignant multiform spongioblastomas which also contain Tooth's "glomerular multiplications of vessels." He described "annulation" (pseudo-rosettes), and pointed out that a large number of small undifferentiated cells signified malignancy. Here he doubtless referred to tumours since called medulloblastomas.

Roussy, Lhermitte, and Cornil made an effort to classify brain tumours (1924). They recognized astrocyte-containing tumours (astrocytomas), also ependymogliomas (ependymomas), as entities, both of which had been repeatedly described by earlier workers. They further isolated "polymorphous gliomas," which had been described roughly by Ribbert, and clearly by Globus and Strauss (1918 and 1923), under the name of spongioblastoma multiforme. The analysis of a large, well-organized group of tumours by Bailey and Cushing (1926), on the basis of the type cell of each form, has shown that not only can gliomas be subdivided by their histological appearance, but also that these subdivisions have distinctly different growth characteristics. If treatment is correct, the probable survival period of patients varies from a few months for those with multiform spongio-

* Read in opening a discussion in the Section of Mental Diseases and Neurology at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

blastomas to between two and twenty years for those with astrocytomas. Bailey and Cushing believed that generally the degree of histological differentiation of the tumours varied inversely with their malignancy, and that the more differentiated tumours were more benign, and the more embryonic tumours were more malignant. This is true to a limited extent, but it must be borne in mind that in addition to the type cell from which a tumour group gets its name, there may be present more and less differentiated cells as well. Thus in an astroblastoma there may be present numerous polar spongioblasts and also a few differentiated astrocytes.

The developmental and pathological cell types which are encountered in gliomas are roughly sketched in Figure A. They will be referred to under the headings of the tumour groups.

What we have found to be the most useful and simple classification of gliomas is as follows:

Gliomas	*Synonyms*
1. Neuro-epithelioma (Flexner)	Medullo-epithelioma and neuro-epithelioma of Bailey and Cushing.
2. Multiform spongioblastoma (Ribbert, Globus and Strauss)	Gliosarcoma (Borst); glioblastoma multiforme (Bailey and Cushing); polymorphous glioma (Roussy, Lhermitte, and Cornil).
3. Medulloblastoma (Bailey and Cushing)	Small round-cell glioma, glioma sarcomatodes (Borst). Pineoblastoma (Bailey and Cushing).
4. Oligodendroglioma (Bailey and Cushing)	
5. Polar spongioblastoma	Neurinoma centrale. Unipolar spongioblastoma (Bailey and Cushing).
6. Astroblastoma (Bailey and Cushing)	
7. Astrocytoma (Golgi)	Astrome (Lenhossek).
8. Ependymoma	Ependymoglioma; ependymo-epithelioma; ependymoma and ependymoblastoma of Bailey and Cushing.

1. *Neuro-epitheliomas* are encountered in the retina, the central nervous system, and even occasionally in the peripheral nerves, where they seem to arise from the anlage of the sheath of Schwann cells. They are characterized by the formation of neuro-epithelium (not ependyma), often in the shape of true rosettes. They contain numerous mitotic figures, and may even metastasize and erode the skull. They are usually, but not always, rapidly fatal. We know of one case which seemed to react favourably to *x*-ray treatment.

2. *Multiform spongioblastomas* are characterized by variety of cell form. There are usually small cells like apolar spongioblasts, and the presence of Nissl's plump astrocytes and giant cells is altogether characteristic (see Fig. A). However, other cells in the spongioblastic series may be present. Most characteristic of all, the blood vessels show curious glomeruloid out-buddings, and there are widely scattered focal necroses and often small cysts. These tumours are usually encountered in middle age and arise deep in the cerebral hemispheres. They are sometimes multiple, but practically never metastasize. They run a rapidly fatal course from the first symptom, usually lasting less than six months, occasionally two years. Operation on these cases is ordinarily followed by death in a few days from brain swelling unless "apparently total" extirpation is possible, in which case death may be postponed six months. These tumours are relatively frequent (30 per cent. of the gliomas in Bailey and Cushing's series) and cannot be considered hopeful subjects for surgical therapy.

As an example of multiform spongioblastoma treated by amputation of occipital lobe, the following case is given.

The patient, F. B., was a right-handed man, aged 50, who complained of headache for one year, alexia and aphasia for four weeks. On examination the patient was found to be somewhat confused. He was unable to read, although he understood almost everything that was said to him. There was a bilateral papilloedema and a partial homonomous defect in the right visual fields.

A left posterior osteoplastic craniotomy, under novocain anaesthesia, showed the dura to be under great pressure. No tumour presented itself on the surface, but the cortex was somewhat yellow, and an exploratory needle met with definite resistance at a depth of 2 cm. An incision was made through the cortex and a solid tumour encountered. It was seen to occupy the centre of the occipital lobe. The whole lobe was therefore amputated, no gross evidence of tumour being left behind (Fig. 1, Special Plate). The patient left the operating room in good condition. For the following ten days he was drowsy, showed a marked aphasia and a right-sided hemiplegia evidently associated with brain swelling. This cleared up and he returned home. During the next three or four months he was happy and quite free of symptoms. At the end of this time he began to have epileptic seizures, the aphasia and headaches returned, and he died about six months after operation, obviously from a recurrence of the tumour.

Most of these multiform spongioblastomas are too deeply situated in the hemispheres to permit such radical removal. Partial removals are usually followed by post-operative death.

3. *Medulloblastomas* are cellular tumours whose microscopic appearance is almost always the same. The cells contain rounded nuclei closely arranged and possess little cytoplasm. Although Bailey and Cushing called the type cell a *medulloblast (Schaper's indifferent cell)* because in certain rare instances it seemed to form neuroblasts, it would be better to consider that these tumours are made up of apolar (migratory) spongioblasts, which the type cell resembles. We have never been able to find neuroblasts in these tumours. There is a complex connective tissue stroma attached to the blood vessels. The cells frequently form ball-like clusters with hollow centres. Mitoses are moderately frequent, and the tumours infiltrate the brain, although a line of demarcation may often be grossly evident. They do not metastasize through the blood stream, but may on occasion invade the leptomeninges, to be disseminated through the spinal fluid. These tumours, which constitute 11 per cent. of Bailey and Cushing's series, are most often seen in the cerebellum, where they arise from the roof of the fourth ventricle, especially in children. They are less malignant than the foregoing group and are favourably influenced by radiotherapy, undergoing sclerosis with increase of stroma and destruction of the type cell.

The following case of extirpated medulloblastoma of the cerebellum illustrates the condition.

The patient was a boy, aged 12, who had complained of occasional vomiting for six months, occipital headaches for two months, diplopia and dimness of vision for six weeks, dizziness, ataxia, and drowsiness for four weeks. On physical examination the boy proved to have a moderate papilloedema, a weakness of the left external rectus muscle, an irregular nystagmus on gaze to the left, and symmetrically decreased reflexes and unsteadiness in standing and walking. Because of the fact that there were calcifications in each cerebral hemisphere seen in *x*-ray plates of the skull, a ventriculogram was done which showed a symmetrical dilatation of the lateral and third ventricles (Fig. 2, Special Plate). The calcification was seen clearly to be in the choroid plexus of each lateral ventricle and without pathological significance. A suboccipital craniotomy was carried out by my associate, Dr. Cone, under novocain anaesthesia. No tumour was seen when the cerebellum was exposed, but on separating the lateral lobes a greyish tumour was found which extended

into the fourth ventricle. The tumour was removed, apparently completely, together with some of the choroid plexus from the fourth ventricle. The patient made an uneventful recovery. All signs and symptoms disappeared. He has received several series of *x*-ray treatments, and during the eighteen months since operation the boy has carried on his school work and played hockey without evidence of recurrence.

Complete cure is possible, but we must anticipate recurrence within five years. If that happens, secondary removal will be undertaken.

4. *Oligodendrogliomas* are equally cellular neoplasms, but they are much more differentiated than medulloblastomas. Their type cell is not in reality oligodendroglia, but the more embryonic oligodendroblast (Fig. A). The cells are difficult to impregnate, but there may be pericellular haloes quite easy to recognize and resembling the haloes seen in acute swelling of oligodendrocytes in the brain. Small astrocytes and occasional differentiated oligodendrocytes (oligodendroglia) are present. Just as is the case with all the more differentiated gliomas the stroma is made up of blood vessels. The tumours grow very slowly. Mitoses are rare, and they often contain scattered calcification. They are found in the cerebral hemisphere, where they infiltrate the brain to such an extent that there may be no demarcation. Their consistency resembles that of cerebral tissue. These neoplasms are rare (3.5 per cent., Cushing and Bailey) and give favourable results after operation.

An oligodendroglioma treated by frontal lobe amputation will serve as an example.

The patient was a woman, aged 43, who gave a history of convulsive seizures at long intervals, beginning at the age of 19 years. During the previous four years the attacks had become more frequent. They began in the left arm. She complained of headaches, and later of vomiting, and some weakness of the left hand. For five years she had found administrative work difficult and eventually impossible, although clear in every other way. Physical examination showed that she had a bilateral papilloedema and very slight increase of deep reflexes on the left side. *X* rays showed calcification in the right frontal lobe (Fig. 3, Special Plate).

A large right frontal osteoplastic craniotomy was carried out under novocain anaesthesia. The presence of the tumour betrayed itself on the surface only by an increased vascularity. The pattern of the convolutions was maintained. On making an incision into the suspected area greyish-brown neoplasm was encountered. By use of galvanic stimulation the brain just posterior to the tumour was demonstrated not to be the motor gyrus. It was obvious in this case that the motor gyrus was pushed back to a point behind its usual situation in the cranial cavity. The amputation was therefore carried out through normal brain tissue posteriorly. After the removal it was discovered (alas!) that the neoplasm had passed across into the opposite hemisphere (Fig. 4, Special Plate). Removal of this portion was not attempted. The whole procedure was carried out under novocain anaesthesia, and although it was necessary to transfuse the patient three times on the operating table she left the operating room conscious and in fairly satisfactory condition.

Three weeks after operation she left the hospital feeling well, and in the nineteen months which have since elapsed she has been able to look after her large family better than at any time during the last five or ten years. There are now no signs or symptoms of the tumour, although the recent recurrence of a Jacksonian convulsion suggests that the tumour is growing again in spite of continued *x*-ray treatment. The complete absence of any immediate mental symptoms attributable to the removal of the right frontal lobe is obviously to be explained by the fact that other portions of the brain had taken over the function of this lobe during the very slow growth of the tumour. A secondary removal may have to be undertaken any time within the next ten years. In the meantime the patient is happy, and leading an eminently useful life as the mother of six children.

5. *Polar spongioblastomas* are composed of elongated cells whose tail-like cytoplasmic expansions may be mistaken for fibres unless the observer is on his guard. The cells are usually bi-polar or tri-polar (Fig. A), and occasionally unipolar or multipolar. Degeneration and cyst formation are frequent and mitosis is rare. The cells may be found attached to blood vessels and may differentiate into astroblasts. Confusion may arise between this tumour and astrocytoma, but this may be avoided if a stain for neuroglia fibres be used. Such fibres are not found in polar spongioblastomas. Further, without differential stains, these tumours bear a resemblance to perineurial fibroblastomas (see below), although the latter never infiltrate the brain. Polar spongioblastomas, which must be clearly distinguished from multiform spongioblastomas, are comparatively rare. They are slow-growing and are most frequently encountered in the cerebellum.

The following example illustrates polar spongioblastoma of the cerebellum removed by suction.

The patient was a girl, aged 16, who gave the following history. Thirteen months before admission she began to notice diplopia, particularly on looking down. Shortly after this, headaches and occasional vomiting developed, followed by mists before the eyes. Physical examination showed unsteadiness in walking and in standing with the feet together. She had a papilloedema and there was a coarse nystagmus on gaze to the left, with a fine nystagmus on gaze to the right. The deep reflexes were symmetrical but somewhat difficult to elicit.

A suboccipital craniotomy was carried out on January 29th, 1929. The pressure was very high. The tumour was felt with an exploratory needle at a depth of 4 to 5 cm. beneath the right cerebellar hemisphere. A profuse arterial haemorrhage followed the exploration with the needle, and the patient's condition became so critical that it seemed best to close the wound, leaving the dura open A transfusion was given. Following this operation the patient's condition became very rapidly worse. She was unable to feed herself because of ataxia. Her speech became so thick that she could not be understood. A second operation was carried out eight days after the first. The wound was reopened, and this time the cerebellum was split in the midline. At a depth of about 4 cm. from the surface of the vermis, and high up beneath the tentorium (Fig. 5, Special Plate), a semi-solid tumour was encountered. One large piece was removed *en bloc* and the rest of the neoplasm was removed by suction. The next day the patient was much less drowsy, speech was improved and was intelligible. The following week the ataxia of the limbs gradually improved. However, on leaving the hospital, the patient was able to walk only with assistance because of her ataxia, most marked in the right leg. Her speech was still cerebellar in type.

During the nineteen months which have elapsed since the second operation, the patient has steadily improved. At the end of the year her speech was almost normal, and she was able to play the piano again. There is now practically no trace of her old ataxia. She can play the violin, and finds that bowing is her only difficulty.

This case illustrates the difference between the conservative and the radical treatment of brain tumours. The remarkable recovery was of course only possible because the tumour was a polar spongioblastoma and not a more malignant type. Had the patient been left as she was following the first operation, however, when it was decided that the tumour was too deep to risk removal, the result would almost certainly have been death in a pitiable state. After the second operation, with the tumour out she progressively came back to health. Had the tumour been removed at the first operation, as originally intended, the patient would have had none of the symptoms of increased ataxia and pressure, which were doubtless due to oedema in the vicinity of the tumour.

6. *Astroblastomas* present a quite characteristic arrangement of cells about blood vessels and connective tissue

septa. The nuclei leave a zone free about the vessel. If successfully stained with silver (most easily done with a modification of Hortega's microglia method) they are found to have long vascular foot processes like astroblasts in newborn mammals (Fig. A). The processes may be faintly seen by Mallory's phosphotungstic acid stain and even by haematoxylin and eosin. There may be numerous cells not applied to vessels which are morphologically polar spongioblasts as one might expect from a knowledge of the development. These tumours are moderately slow-growing, but may contain mitotic figures. In Cushing's cases they appeared in adults and were all found in the cerebral hemispheres. In our own clinic there have been four of these tumours, three of them in the cerebellum, and all in children. One recurred a year after radical removal. Lack of space does not permit illustration here.

7. *Astrocytomas* were subdivided by Bailey and Cushing into fibrous and protoplasmic types. I have never encountered such a tumour without neuroglia fibres, and can see no object in such a multiplication of names. It should be recognized at once that these tumours rarely contain cells that resemble astrocytes of the nervous system. On the contrary, the type cell is what we have called (1930) the piloid astrocyte (Fig. A), which appears in the brain in old scars and in columnar sclerosis. In other words, the piloid astrocyte appears in the central nervous system where nerve fibres are absent, and it is to be expected therefore in a neoplasm. The cells often contain elongated nuclei, and appropriate stains disclose neuroglia fibres. Foot-plates can always be found. Occasionally giant cells appear as degenerative forms. Mitoses are rare, and the formation of large cysts is frequent. These are the most benign of all gliomas, and, fortunately, as shown in Bailey and Cushing's series, they represent the most numerous group (40 per cent.). They may appear in cerebrum or cerebellum, and splendid results follow removal.

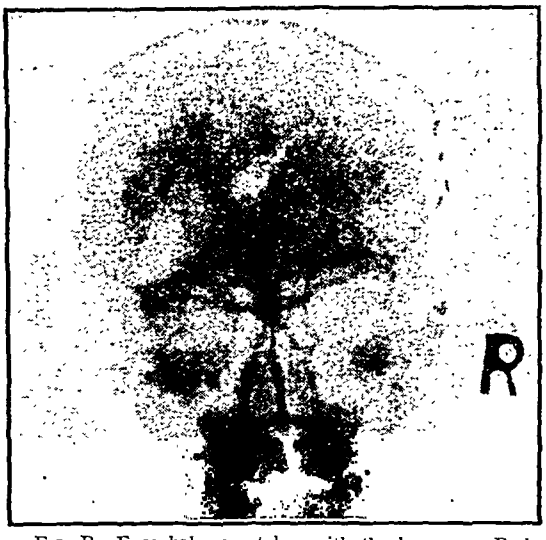


FIG. B.—Encephalogram taken with the brow up. Both anterior horns are filled and displaced towards the left. The silver clips indicate the field of Dr. Cushing's previous operation.

The case described below is one of astrocytoma of the cerebrum treated by operation and re-operation.

The patient was a little boy, who, at the age of 8, began to complain of weakness in the left arm and leg. He also had attacks of Jacksonian epilepsy confined to the left side, and followed on one occasion by hemiplegia. He was operated upon by Dr. Cushing at that time (1926), and an astrocytoma of the right parietal lobe was removed. After operation he was free of all symptoms for a year, at which time he began to have epileptic seizures. The boy continued to be well and to go to school. The attacks gradually increased in frequency until he entered our clinic under the care of my associate, Dr. Cone, three years after his operation. On physical examination his optic discs were normal. There was a definite increase in the deep reflexes of the left side and weakness of the left abdominal reflex; plantar response on the left was extensor.

An encephalogram was done in order to determine whether or not there had been a large recurrence. The left lateral ventricle filled, but there was no filling of the body, posterior or inferior horns of the right lateral ventricle. The right anterior horn filled, but was displaced across toward the left (Fig. B). Dr. Cone reopened the osteoplastic flap and found a very large cyst in the parieto-temporal region. At the base of the cyst, and extending into it, was a solid tumour. The roof of the cyst was completely removed, and it seemed to be made up of very much thinned-out cerebral tissue, and the tumour at the base was extirpated (Fig. 6, Special Plate). Electrical stimulation was used to prevent removal of the motor area. The operation was carried out under novocain anaesthesia. Following the operation there was hemiplegia chiefly involving the left arm. This has gradually cleared up, so that there remains only a slight degree of weakness in the left leg. The boy is doing well in school, and during the six months which have elapsed since operation has had no further epileptic seizures.

This patient was chosen to illustrate the astrocytoma group, as he shows the importance, in the production of symptomatology, of the formation of cysts by these tumours. The case also illustrates the possibility of successful multiple operations in these conditions.

8. *Ependymomas* are easily recognizable, inasmuch as the pathognomonic histological characteristic is the production of ependyma either in rings or in epithelial sheets. Cilia may often be stained, and, at the base of the cilia, centrioles or blepharoplasten. Between the areas of epithelial structure polar spongioblasts may be numerous, and cells may differentiate into astrocytes. I have never seen mitotic figures in these tumours. They grow slowly and are often well circumscribed. It is frequently difficult to remove them, because of their deep-lying situation. The midline of the cerebellum is a favourite site of origin. They are comparatively more frequent in the spinal cord than in the brain.

B. TUMOURS OF THE NERVOUS SHEATH

Generally speaking the encapsulated tumours have been better recognized than the gliomas, although the cytological interpretations have been curiously varied. This has been discussed elsewhere (1927) and need not be reviewed at present. In general, the gliomas arising within the brain do not pass outward through the pia mater, and, conversely, the tumours of the meninges and nerve sheaths, arising without, never pass inward through the pia mater.

The tumours of the sheaths are best classified as follows:

Sheath Tumours	*Synonyms*
1. Meningeal fibroblastoma	Dural endothelioma, psammoma, arachnoidal fibroblastoma (Mallory), meningioma (Cushing).
2. Perineurial fibroblastoma (Mallory)	Solitary neurofibroma, neurinoma (Verocay), cerebellopontile angle tumour, peripheral glioma, etc.
3. Neurofibroma of von Recklinghausen's disease.	

1. *Meningeal fibroblastomas* are attached to, and vascularized by, the dura, usually arising in the arachnoidal cell tufts, which they resemble histologically. The lepto-

meninges seem to be quite obviously mesodermal (Weed, 1930) in spite of occasional efforts to establish for them an ectodermal origin, and the type cell of these tumours forms fibroglia and collagen, distinguishing characteristics of fibroblasts. The histological structure most characteristic of these tumours is whorl formation as in the arachnoidal tufts. Meningeal fibroblastomas may invade the skull, causing bone thickening, but they do not enter the brain. They grow slowly and may occur after many years if not completely removed, but are not malignant as the meningeal sarcomas may be. It may be pointed out that the term meningioma does not differentiate these two tumours.

The following case is an example of meningeal fibroblastoma localizable only by ventriculography.

The patient was a right-handed woman, aged 52, who had complained for four years of gradually increasing childishness and memory defect, with occasional involuntary micturition. For three years there had been motor aphasia of varying degree, and for two years progressive weakness of the left side. No headache and no vomiting had occurred.

On examination the optic discs were normal. There was evidence of a lesion to the pyramidal tract arising in the right hemisphere—aphasia and disorientation. A ventriculogram showed the anterior portions of both lateral ventricles pushed from the left to the right (Fig. 7, Special Plate).

A left osteoplastic craniotomy was performed, and a meningeal fibroblastoma removed from the posterior portion of the left frontal lobe. The neoplasm had infiltrated the overlying bone (Fig. 8, Special Plate). The infiltrated area of bone was excised as well as the attached dura, and a transplant of fascia from the thigh was made to close the dural defect.

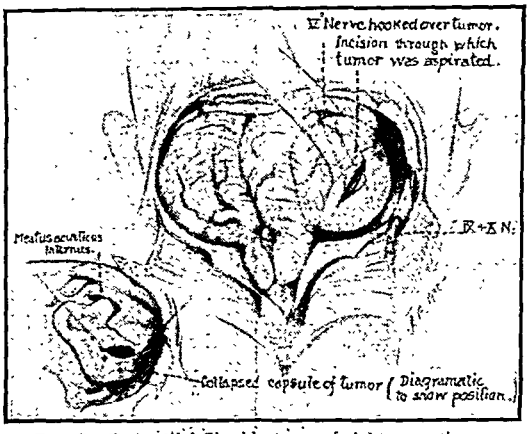


FIG. C.—Perineurial fibroblastoma of right acoustic nerve, much schematized to show the relationship of the tumour to the cranial nerves.

The only explanation of involvement of the pyramidal tract of the opposite side would seem to be that this tumour was so placed as to press the peduncle of the opposite side against the anterior attachment of the tentorium, a phenomenon which we have seen give rise to contralateral signs in another similar case. Following operation the patient has made a gradual but complete recovery, and is, of course, perfectly well now, sixteen months after operation. The bilateral, apparently diffuse, signs which this patient presented, and the absence of any evidence of increased intracranial pressure, rendered a positive pre-operative diagnosis impossible without ventriculography. It is in such cases that ventriculography is of the greatest value. Had the lesion proved to be on a vascular basis the injection of air should not have been detrimental.

2. *Perineurial fibroblastomas* arise from the connective tissue sheaths of nerves and particularly of nerve roots. As is well known, they most frequently arise from the sheath of the root of the eighth cranial nerve. Histologically the nuclei tend to form characteristic palisades. Silver staining reveals long, parallel, wire-like fibres similar to the reticulin (a form of collagen) in the perineurium and endoneurium of nerve fibres. These neoplasms do not metastasize, but frequently degenerate and become necrotic at the centre. They do *not* yield to *x*-ray treatment like gliomas.

A complete removal of perineurial fibroblastoma of the acoustic nerve was done on a woman, aged 35, who had complained of tinnitus aurium for three years, unsteadiness, headache, and failing vision for two years, and dizziness for one year. On examination she was found to have papilloedema, to be totally blind in one eye, and partially in the other. There was nystagmus, decreased corneal reflex on the right, and partial nerve deafness on the right.

A suboccipital craniotomy was carried out, the tumour encountered in the right cerebello-pontile angle (Fig. C), and the soft centre curetted out. The capsule was then carefully removed, and the internal auditory meatus laid open with a chisel and curetted for tumour remnants. After operation the right seventh nerve was paralysed, but the fifth, ninth, and tenth nerves were intact. The second operation was carried out three weeks later, and a hypoglossal to facial nerve anastomosis performed. At present, five months after operation, the vision is improved and headaches have gone. She still complains of dizziness and ataxia of right extremities.

If a partial removal be done in these cases the post-operative course is much smoother, the seventh nerve is not injured, and the fifth is not endangered, but recurrence within a few years is inevitable.

3. *Neurofibromas* may appear on any nerves, of course, and are multiple. Nerve fibres are found histologically running through those tumours, while in perineurial fibroblastomas they pass around the capsule. In addition to the presence of nerve fibres in the tumour substance the whole histological pattern of neurofibromas is more mixed than that of perineurial fibroblastomas, although there are usually certain microscopic fields which give a similar appearance. The treatment depends upon their location. They may on occasion undergo malignant change into sarcoma.

CONCLUSION

In conclusion I must apologize for reviewing many things with which, no doubt, many are already familiar. This is inevitable, perhaps, when the topic covers so large a subject. Brain tumour classification and the practical application of surgery to this otherwise fatal malady is a work to which a large number of workers have contributed varying talents. The classification outlined above has formed, in our experience, a satisfactory basis for analysis. With certain alterations and considerable simplification the portion that has to do with gliomas is derived from the outline of Bailey and Cushing (1926). Except for simplification the whole classification corresponds with the outline adopted by the committee on terminology of the American Neurological Association, an outline which it was originally my task to prepare for the committee.

It must be urged, finally, that it is necessary for the neuro-surgeon himself to understand as nearly as possible the characteristics of the lesion he would combat. Technical excellence is not enough. Clinical judgement and therapeutic insight must be based upon discriminating histological study. As far as names are concerned, this classification is, of course, only one of a number of possible ones, but it withstands the test of practical clinical application (see also Cutler, Moritz, and Zollinger, 1929) and is the result of careful cytological and embryological study. It is of the utmost importance for those of us who work in this field to ignore minor differences

of opinion as to priority and the niceties of terminology, and to unite in a combined study of the problems before us, using a common classification for a starting point.

BIBLIOGRAPHY

Bailey, P., and Cushing, H.: *A Classification of the Tumours of the Glioma Group*, Philadelphia, 1926.

Cushing, H., and Bailey, P.: Haemangiomas of Cerebellum and Retina, *Arch. of Ophthalmol.*, 1928, lvii, 447.

Cutler, E., Moritz, A., and Zollinger, R.: A Histological Study of Tumours of the Central Nervous System, *Ohio State Med. Journ.*, April, 1929.

Globus, J. H., and Strauss, I.: Spongioblastoma Multiforme, *Arch. Neurol. and Psychiat.*, 1925, xiv, 139.

Lindau, A.: Studien über Kleinhirncysten, *Acta path. et microbiol. Scandinav.*, 1926, Supplement i, 128.

Penfield, W.: Principles of the Pathology of Neurosurgery, *Nelson's Loose Leaf Surgery*, 1927.

Idem: The Encapsulated Tumours of the Nervous System, *Surg., Gynecol. and Obstet.*, 1927, xlv, 178.

Idem: Chapter on Neuroglia, *The Cytology and Cellular Pathology of the Nervous System*, Hoeber, New York, 1930.

Ribbert, H.: Über das Spongioblastom und das Gliom, *Virchow's Arch. f. path. Anat.*, 1918, ccxxv, 195.

Roussy, G., Lhermitte, Jr., and Cornil, L.: Essai de classification des tumeurs cérébrales, *Ann. d'anat. path. med.-chir.*, 1924, i, 333.

Sargent, P., and Greenfield, J.: Haemangiomatous Cysts of the Cerebellum, *Brit. Journ. of Surg.*, 1929, xvii, 84.

Strauss, I., and Globus, J. H.: Spongioblastoma with Unusually Rapid Growth following Decompression, *Neurol. Bull.*, 1918, i, 273.

Tooth, H. H.: Some Observations on the Growth and Survival Period of Intracranial Tumours based on the Records of 500 Cases, with Special Reference to the Pathology of Gliomata, *Brain*, 1912-13, xxxv, 61.

Weed, L.: Chapter on Meninges, *The Cytology and Cellular Pathology of the Nervous System*, Hoeber, New York, 1930.

SOME ASPECTS OF PREVENTION OF TUBERCULOSIS IN CHILDREN*

BY

F. MAURICE McPHEDRAN, M.D.

(From the Henry Phipps Institute, University of Pennsylvania)

(*With Special Plate*)

In treating the important topic of tuberculosis in children, my point of view is necessarily much influenced by an interest, dominant during the past seven years, in the pathogenesis of the disease and in the course of its evolution. At the Henry Phipps Institute the incidence and progress of infections have been studied in family groups. No hospital beds are in the dispensary, nor have we access to a sufficient number of beds elsewhere to afford prompt hospitalization and sufficiently long treatment to many of our cases. This advantage, common to many communities, is peculiarly inimical to attempts to stamp out the beginning infiltrations of children. It is difficult at best to persuade an adolescent or the parents of a younger child, when symptoms are trivial or absent, that rest in bed is necessary to avert a serious illness. Delayed admission to an institution known to be crowded does not strengthen the appeal of an enforced rest. However, serial *x*-ray observations and correlated attempts to regulate the lives of children who defer or refuse institutional care are sometimes followed by retrogression of their lesions, and always place one in a stronger position to urge absolute rest in bed at the onset of definite symptoms. Furthermore, one is in a position to record the fluctuations of a lesion and to learn how extensive may be the damage capable of retrogression and healing without excessive surgery, essential and life-saving though surgery is in very many cases. Although one's observations are restricted through concentration on certain problems, it is clearly impossible within a brief space to do more than outline a few aspects of tuberculosis in children, and to indicate means of detecting, preventing, and treating its protean appearances in the diverse phases of infancy, school age, and adolescence. It is only by discussion from many angles and by free exchange of the fruits of experience and controlled observation, that we may hope for "new methods of approach to a subject which still defies exact comprehension and as to which there is still so little unanimity in the minds of investigators."[1] The interaction of seed and soil,[2] of infecting micro-organisms and host, produces a baffling and complex disease. In its development and manifestations, the type of tubercle bacillus, the size, number, and spacing of the "doses" on the one hand, and on the other the portal of entry and the race,[3,4] age,[5] sex, and environment of the infected person, are leading factors. The bovine sources of contagion will not be referred to in this brief consideration. For those interested in pulmonary tuberculosis, in its pathogenesis, epidemiology and clinical manifestations, the duration and intensity of infection or contagion,[6] and race and age, are perhaps the dominant considerations.

"The available amount of energy and money which can be applied to the extermination of tuberculosis is not unlimited, and so much of it as is spent on measures which are less likely to yield results than others must be considered to some extent to be wasted."[7] Newsholme's warning is not less significant to-day in view of the enormous economic waste of current methods. When the patient is ill enough to seek the physician the disease is usually so far advanced that months, even years, of treatment are a mere palliative. If the patient is retained in hospital, expensive facilities and care are required to secure a clinical recovery, which must be followed by years of careful rehabilitation; if he has a shorter inadequate hospital stay, he goes home a well of contagion, to infect those living in his environment. There is a tendency among those faced with these difficulties to find in the declining death rate a reassurance that only too often results in paralysis of effort. But the fall in mortality, the nature of which has been well defined by Cobbett,[8] should not be so interpreted that activities languish and fail to be progressively directed against the most destructive phases of tuberculosis. Moreover, amazing though the fall in the death rate is, tuberculosis mortality in England and Wales in infants under 1 year was 109 per 100,000 births in 1927,[8] and in the age periods from 5 to 10 and from 10 to 15 years, although the death rate from all causes was low, tuberculosis accounted respectively for 14.43 per cent. and 22.53 per cent. of the deaths. But it is in adolescence and in early adult life that we find the peak of tuberculosis mortality, and here, too, we find in tuberculosis economically the most destructive and wasteful of diseases. It cripples more or less permanently or destroys at the beginning of usefulness the carefully trained economic unit representing years of education and the summation of family hopes. It strikes the patient down sometimes rapidly, more often in a series of relapsing illnesses. Further, during the quiescent intervals, the patient may pass on the infection to the next generation. Moreover, there is evidence that, at least in some large cities, there is not a diminution in the percentage of the population infected corresponding to the diminished total tuberculosis mortality.[9] The tuberculin reaction shows that infection with the tubercle bacillus is still as nearly universal in city dwellers of European stock as it was twenty-one years ago.[10] It is impossible to ascertain how many of these infections would flare up under conditions of unusual strain or privation, as is suggested by the steep ascent of the tuberculosis mortality curves[11,12,13] in civil popula-

* Read in opening a discussion in the Section of Tuberculosis at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

tions during war. In normal circumstances, many latent infections escape attention because good living conditions constitute an undesigned but adequate prophylaxis for this group. That other large group of cases which even under normal conditions develop into demonstrable latent infiltrations is the chief object of the search and attack in tuberculosis control.

HOUSEHOLD CONTAGION FOCUS OF STUDY, PREVENTION, AND TREATMENT IN TUBERCULOSIS

In seeking the most practical attack on infantile and adolescent mortality (and knowing that the combating of the latter is often grounded in the lesion, latent or clinical, of adolescence), a most rewarding procedure is to be found in the serial examination of those living in household contact with sputum-positive tuberculosis. We have used the term "latent" somewhat arbitrarily, but with a meaning that is appropriate to case-finding methods, to designate the pre-clinical stage of a tuberculous pulmonary infiltration, when it is demonstrable by *x*-ray examination but does not yet manifest itself clinically by symptoms or signs perceptible to the patient or by the usual methods of classical physical examination. In a report[8] based on observations extending over slightly more than two years, it was shown that among a group of children of whom either the father or mother had positive sputum, about 9 per cent. showed clinical tuberculosis, about 2 per cent. well-defined latent pulmonary infiltrations, and about 20 per cent. calcifications of the tracheo-bronchial lymph nodes. In these children the number of pulmonary lesions has increased during four years of subsequent observation. Among a control group of children living in households no member of which had a history of pulmonary tuberculosis, there was no instance of clinical tuberculosis, and only about 4 per cent. showed calcifications of the tracheo-bronchial nodes. Among the first 102 families reported, 34 had one or the other parent sputum-positive, 33 had no member with tuberculosis, and in 7, one of the children (the eldest in five instances) had open tuberculosis. Although it is possible that in these seven cases the source of infection of the patient was extrafamilial, we were not able to examine the parents for pulmonary infiltration or to obtain adequate evidence of the cause of death of parents not living.

The first examination of contacts of a freshly reported case of open tuberculosis often discovers remarkably little evidence[14] of severe infections which reward supervision. Sometimes, indeed, even the tuberculin reactions may be slight or absent in certain children. If the tuberculin test is made intracutaneously with measured quantities of a standardized tuberculin,[15] and reactions occur only with the larger quantities (0.1 mg. and 1.0 mg. O.T.), strong evidence has been obtained that the exposure to positive sputum is both recent and short, and, in substantiation of this, the *x*-ray picture may show in the source of contagion a lesion that is evidently wholly soft and recent, or may present evidence of an old lesion with recent exacerbation. If, in addition, roentgenograms of the children show no evidences of long-standing exposure—such as tracheo-bronchial calcifications, etc.—the bacillary content of some twenty specimens of sputum as measured roughly by the Gaffky count, and the frequency of expectoration, will give the nearest approximation to a measure of the intensity of exposure in such cases. If the sputum shows few bacilli and the cough is infrequent, it is probable that the sum of infection has not been severe. Nevertheless, because of the uncertainty of all these measures of contagion, the tuberculin test should be repeated in some four to six months, and neither satisfactory hygienic living conditions nor serial *x*-ray supervision should be neglected. A family history is appended:

Father, aged 31, ill five weeks with cough, sputum, and haemorrhage; onset acute, of the type resembling grippe. *X* rays show a few old strands in the extreme apex, right and left, and in the right upper lobe flocculent spots becoming confluent to consolidate for some four centimetres beside the interlobar fissure in the axilla only. Twelve specimens of sputum negative, one positive, Gaffky IV. Patient hospitalized fourteen weeks after the onset of symptoms; died five months later of acute tuberculosis. Mother, aged 27, showed a small tracheo-bronchial calcification, but no pulmonary infiltration. Tuberculin positive to 0.1 mg. O.T. Santo, aged 8 years 7 months, showed a large pulmonary calcified nodule and large tracheo-bronchial calcifications. Tuberculin positive to 0.1 mg. O.T. John, aged 7 years 2 months, had a negative *x*-ray, and was negative to 1.0 mg. O.T. Carmella, aged 5 years 4 months, had a negative *x*-ray, and was negative to 1.0 mg. O.T.

Here the acute onset and the soft mottling and consolidation in the father and the negative tuberculin reactions of the younger children, one of pre-school age, suggest exposure of short duration. The relative infrequency of positive sputum indicates no great intensity of exposure. Possibly the tracheo-bronchial calcification and weak tuberculin reaction of the oldest child and the few old strands seen in the father's apices may, taken together, be interpreted as evidence that during the infancy of the eldest child the father had a slight lesion, which became arrested before the second child was born. Careful inquiry failed to discover that anyone else had lived with the family. That this family was not heavily infected during fourteen weeks' contact with the father is shown by a tuberculin reaction in the youngest child persistently negative annually for three subsequent years and by the occurrence in the second child of merely weak reactions to the highest doses (0.1 and 1 mg. O.T.) during the same period.

The immediate problem of supervision is, of course, the severity and length of infection to which any infants in the household have been exposed. In an infant, even a weak tuberculin reaction may signalize a dangerous infection. There is evidence[5] that even young infants may recover from lesions resulting from transitory severe exposure or slight exposure lasting several weeks. But in all cases there is grave danger that even a small lesion, whether of the lung or of one or several tracheo-bronchial lymph nodes, may progress or that metastasis to other areas, in particular the meninges, may occur. Therefore every precaution should be taken to prevent reinfection and to maintain the infant in the best possible living conditions, preferably in its mother's care unless she is the source of infection, and to ensure that the mother has time and means to care for it properly. The importance of preventing reinfection or superinfection is to-day probably generally recognized. But perhaps it is not so generally understood how the attachment to the infant of the source of infection, whether parent, grandparent, aunt, or uncle, will often result in an interruption of the patient's isolation from the baby and all that concerns it. Aseptic technique and clear appreciation of possible modes of transmission of infectious material come hard even to some physicians. In the absence of exact knowledge of the chances of infection—for example, by dry dust and by contamination of food and utensils and toys—merely to require that the patient with the open lesion shall not handle the baby is to take an indefensible risk with the infant's life. Although a positive tuberculin reaction in an infant is not conclusive evidence of immediate contact, it is sufficient to warrant the institution of every measure to ensure the prevention of further infection, including *x*-ray examination of all persons who have been in its environment.

At the other extreme is the result of the first examination of the contacts, typically father or mother, of a patient. One may have coughed and expectorated for years, with sputum presenting many bacilli in most specimens, and an *x*-ray film showing an old lesion, partly strand-like, with one or many spherical or multilocular smooth-walled cavities. There may be a history of a baby recently dead of meningitis. Of the younger children, half may show calcified tracheo-bronchial nodes, and of those past or at puberty usually one or more will show an infiltration of the upper third of the lung field, with or without symptoms and classical physical signs. The tuberculin reactions vary in intensity, but all, or all but one or two, react to 0.01 mg. O.T. The following cases are illustrative.

CASE I

Father, aged 39, sputum-positive, with symptoms extending back some seven years and an old strand-like lesion, largely excavated. Mother, aged 41, had no pulmonary lesion. Her tuberculin reaction was positive to 0.01 mg. O.T. At the first visit all eight children had positive reactions to 0.01 mg. O.T. A child 2½ years old had recently died of tuberculous meningitis. *X* rays showed that the three oldest children, aged 17, 16, and 15 years, had latent apical infiltrations, the third with associated tracheo-bronchial calcification suggesting, in conformity with observations in our studies of contagion, that her first infection was of intrafamilial origin. (The significance of calcification of these lymph nodes has been fully discussed elsewhere.[5]) Within three years from the first examination the oldest child, refusing rest in bed, became far advanced. The apical lesion of the next child at first advanced, but was improved by sanatorium care, unfortunately ambulant. The apical lesion of the third child (Figs. 1 and 2, Special Plate) progressed, despite a gain in weight, during ambulant sanatorium care. Another child in whom a fresh apical infiltration developed, with rapid spread, has improved remarkably with complete rest in bed (Figs. 27, 28, and 29 of Reference 5).

CASE II

The father of another family refused examination. The mother died of tuberculosis in 1918. The oldest child, a girl, died, also of tuberculosis, in 1921. The next, a girl aged 20, our first patient from this family, had a far advanced lesion with tracheo-bronchial calcification. The next child, a sister aged 17, had a latent apical lesion. The remaining three children, aged 15, 13, and 12, all showed tracheo-bronchial calcifications. The tuberculin reactions were all positive to 0.01 mg. O.T. Within one year from the beginning of our supervision the youngest child developed a severe infiltration, which has yielded to complete bed rest. (Figs. 3 and 4, Special Plate, and Figs. 16, 17, and 17A of Reference 5.)

These few diverse instances indicate at once how various and how logical may be the results of the first examination of contacts. The children of each household present evidences of infection that are, broadly speaking, reflections of the history and of the anatomical extent and condition of the lesion of the source of contagion. The correlation is clearer when a parent is the patient and the household has not at one time or another contained brothers, sisters, father, or mother of the patient—that is, when other and earlier sources of infection may be ruled out. In nearly all households, whatever the source of infection, the danger is immediate for children under 2 years, somewhat less urgent but more protracted for adolescents, and for children between these ages real, but for the most part deferred until puberty. In short, in children, as Newsholme[7] showed to be the case in adults, the latent period between the cessation of exposure and the onset of a clinically manifest lesion is often a matter of years.

An eldest daughter, all members of whose household had been serially examined (Fig. 11 of Reference 6), first showed an apical infiltration four and a half years after her father's death. Again, a boy, whose sputum-positive mother died in his sixth year, first showed symptoms in his fourteenth year. In this somewhat unusual case there is no evidence of other intrafamilial contact. Strong evidence that there was none is found in the negative tuberculin reactions of three younger brothers, who were aged 9, 7, and 5, within less than six months before the appearance of a positive sputum in this patient. No extrafamilial contact, always a possibility to be considered, could be traced.

It is not uncommon for children past puberty first to present infiltrations from the second to the fourth year after the cessation of contact. Jessel[16] found three and a half years the average interval. I have not found that annual *x*-ray examinations after contact has ceased could be dispensed with during a period covered by seven years' supervision of contact children. Supervision should be closer and more prolonged the nearer the period of contact to the years of adolescence. Known contagion, centring about a diagnosed case of sputum-positive tuberculosis, is the most economic starting point for discovering pulmonary tuberculosis in its most tractable phase. *X*-ray examination of school children[9 17] selected by the tuberculin reaction and the routine examination of young adults seeking employment[18] stand perhaps next in order of demonstrable value. *X*-ray examination of all school children, though more laborious and expensive, has the added advantage that it will reveal many chronic non-tuberculous pulmonary infiltrations, which, undetected and untreated, are productive of serious invalidism. Furthermore, adequate films will pick up indications, in heart size and shape and in pulmonary markings, of many cardiac lesions needing supervision that would nevertheless be overlooked by routine physical examination.

X RAYS IN DIAGNOSIS, SUPERVISION, AND CLINICAL INVESTIGATION

In a general way the importance of the *x* rays in the examination of the lungs is recognized. It is less generally known or admitted that they can afford basic information about the state and possibilities of a lesion, information that is subject to modification by evidence such as elevated temperature and various abnormal blood pictures, but is nevertheless in itself sufficient warrant for the institution and continuance of treatment in the absence of corroborative accessory findings. Ignored, the *x*-ray evidence will sooner or later receive disastrous amplification in signs, symptoms, and laboratory tests.

In earlier papers[19 20 5] histories are cited and lesions recorded, particularly in Figures 5, 14, 16, and 17, and 24 to 35 of Reference 5, illustrating how rapidly, how extensively, and for how prolonged a time tuberculous infiltrations can invade the lung substance and even destroy it while remaining latent in the sense defined above (Figs. 1 and 2, Special Plate). More recently, comparative studies, as yet unpublished, have shown that, although the blood picture[21 22 23 24] or the sedimentation test, or both, when repeated at relatively short intervals, rarely fail to reflect definitely progressive infiltration, both may be normal at a time when the *x* ray records a lesion the softness of which indicates an instability subsequently verified by spread. We should be most unwilling to dispense with the aid of either of these valuable indications of activity, properly defined. We hope that through extended comparative studies, subjected to continued analysis, they may throw further light on the course, particularly, of latent lesions, and furnish more certain criteria on which to base their care. But we do not yet know in what relation to place the evidence afforded by each of them in its various degrees of positiveness, and it is essential to evaluate all evidence carefully in dealing with a disease at once so insidious and so volcanic as tuberculosis. Having found that the

x-ray evidence may be alone decisive, we feel that in all cases, at least for the present, the anatomical extent, site, and condition, or softness, of the lesion as revealed by the *x* ray should be the major consideration, emphasized by these important but accessory tests when positive. This distinction should, above all, be insisted upon during the retrogression of infiltration, when only the *x* ray may reveal the extent of the lesion and lack of delimitation, denoting capacity for violent resurgence.

Economically, the greatest waste in the recognition and supervision of tuberculosis arises probably from the failure to institute promptly, and to continue, treatment for the lesions of children, particularly adolescents, until they show, by serial *x*-ray examinations, clear evidence of strand-like anatomical stability. To discharge adolescent children, symptom-free for a few weeks, without such results, is a cat-and-mouse form of treatment, building up hope over months, to destroy it over weeks or months or years. Nothing is more futile and visionary than to lavish attention and costly infirmary beds only upon the clinically manifest activity of so insidious a disease. Inexpensive accommodation can provide adequately for much of the stabilizing period of anatomical arrest if medical supervision is equipped with good *x*-ray and laboratory facilities, and informed by experience with tuberculosis and the tuberculous. Unquestionably, if there is evidence by *x* ray, sedimentation test, or differential count that a lesion is increasing, the patient should be returned to an infirmary bed. Infirmary beds should likewise be sufficient in number to permit alternating periods of complete rest in bed and of varying degrees of freedom for those whose lesions are only moderately well delimited and sluggish, showing little progress to stable strand-formation, despite, perhaps, negative blood tests. No doubt there will still be found those who, objecting that to give such a place to the skiagram is to allow it to define activity and so to determine treatment, will boggle at such an idea, largely because of the association of activity with venerated definitions. But definitions that are time-honoured may come to be time-worn. The value of any conception or definition of activity must depend on the accuracy with which it points to the course and potentialities of the morbid process. Before the development of dependable *x*-ray methods and the correlation of skiagraphic appearances in the living with those of excised material subsequently sectioned, certain physical signs, in particular rales, formed for many physicians the most dependable evidence of active tuberculosis. Physical signs had to be discarded as the index of activity because, on the one hand, they usually lag far behind the initial invasion and the development of fresh infiltrations, and, on the other hand, they may persist for years over anatomically stable and functionally cured lesions. Elevation of temperature and of pulse, the signs currently accepted as evidence of activity, are significant only in that they usually indicate an acceleration, intensification, or extension of the existing lesion. Like rales and symptoms, they neither coincide with the onset nor, by their disappearance, signalize the cessation of progressive infiltration or excavation. Alike in the latent or pre-clinical phase of pulmonary tuberculosis and during clinical disease, widespread extension and even excavations are commonly recorded, particularly in children, without changes in temperature and pulse. These are usually late and essentially secondary effects of the morbid process. When present they occur with no definite, much less proportionate, relation to the intensity and extent of the underlying infiltration, the means by which tuberculosis destroys lung and eventually life. Attempts to link these signs directly with phases of allergy, immunity, or lack of immunity, or with the so-called exudative stage of tuberculosis in children will receive scant support if closely spaced serial films are made of symptomless contacts (Figs. 1, 2, 3, and 4, Special Plate). (See also Figs. 5, 14, 16, 17, 17A, 20, 24, 27, 28, 30, and 31 of Reference 5.)

A pulmonary infiltration sufficient in extent to cause fever, or other signs and symptoms, rarely, if ever, escapes ready recognition by an adequate roentgenogram interpreted with regard to the anatomy of the chest, the pathology of tuberculosis, and the properties of the *x* rays.[5 25] In children and adolescents particularly, tuberculosis characteristically causes extensive damage with no febrile disturbance, or with such transient and trivial disturbances as commonly occur in healthy children. A conception of activity in which emphasis is transferred from the direct anatomical evidence presented in the *x*-ray film to such secondary haphazard effects, has lost the essential protection it can give the patient, and will allow negative evidence to camouflage destruction. A patient in whom a tuberculous pulmonary infiltration appears in the *x*-ray film as soft ill-delimited spots, especially if these tend to confluence, should be treated by rest in bed until the insufficiency of such care is proved by adequate observation. As long as such a lesion, roentgenographically recorded at three months' intervals, continues to show a material retrogression from one quarterly record to the next, the patient must be regarded as one who still needs complete rest in bed. Such a lesion is clearly very unstable. An ambulant patient should be one in whom the lesion is not obviously ill delimited and, in quarterly roentgenographic records, either continues to show retrogression or maintains anatomical stability. Even without the warning of other signs of activity, such as may be found in the blood test, the sedimentation test, temperature, or by physical examination, a patient is not suitable for ambulant care who shows a soft ill-delimited consolidation or mottling, despite evidence of retrogression in quarterly roentgenograms.

Eligibility for discharge should be based on the degree to which the infiltration is reduced to sharp strands and calcium. The younger the patient, the less are the therapeutic and economic obstacles to adequate treatment. Particularly in adolescents and young adults the volcanic character of this disease, its potentiality in them for swift relapse on the one hand and relatively rapid retrogression on the other, should be recognized by the rigid application of a roentgenographic standard of anatomic stability. The younger the patient the more he has to lose or to gain by these alternatives. By so much the more, therefore, should we provide that he is not discharged from close supervision before his lesion is in a stage to support the stresses that heedlessness and economic necessities will bring upon it. Serial roentgenograms are the justification and guide for treatment, and the patient's best protection. Boards of trustees and managers have been known to object to the adequate use of the *x* rays because of cost, which is equivalent to the charges for about three days' care, or, for quarterly films, to twelve days' sanatorium residence in the year. The implication is that merely being in a sanatorium for 365 days in a year is more important than having the medical care accurately adjusted to the needs of the disease every three months and keeping the patient in sanatorium only 353 days of the year. Except for the moribund, is there any group of tuberculous patients who cannot better afford to dispense with a small fraction of their sanatorium stay than to suffer the hazards of uninformed treatment? It is implicit in the foregoing that one must not expect some two or three months' rest in bed to nullify an extensive soft lesion merely because

it has not caused signs or symptoms: There is evidence that of two children with lesions of equal extent the one without symptoms or signs clears more rapidly and completely than the one with clinically manifest disease, but even with the former, time is needed to secure a stable lesion. When unsupported by the warning of symptoms the physician requires, to put the patient in bed or to keep him in bed, the ability to attain, at more appropriate seasons, the Fat Boy's desire, "I wants to make your flesh creep." It is only by the sufficiently early institution of treatment long enough continued that he can succeed in preventing and checking tuberculosis in children and adolescents, and so in forestalling the greater part of the tuberculosis of early adult life. To achieve and establish the benefits of preventive medicine in this difficult but most rewarding field, where the prevention of clinical disease is in turn a means of preventing the spread of infection, even into the next generation, he needs all his resourcefulness, tact, optimism, and the sharpest discrimination in evaluating evidence.

Note.—The use of B.C.G. involves so many considerations that it has not seemed desirable to discuss it in this paper. The figures of Cox[26] and his co-workers give a much lower mortality among children intimately exposed to sputum-positive tuberculosis than are given by French workers. We have reserved B.C.G. for infants born into households containing a person with positive sputum, as a measure whose exact value has not yet been determined. The number of such infants is not large, but, especially if the intelligence of the family is low, the danger is grave.

REFERENCES

[1] Cummins, S. L.: *Proc. Roy. Soc. Med.*, 1930, xxiii, 47.
[2] Cobbett, L.: *The Causes of Tuberculosis*, Cambridge, 1917.
[3] Borrell, A.: *Ann. de l'Inst. Pasteur*, 1920, xxxiv, 105.
[4] Opie, E. L., Landis, H. R. M., McPhedran, F. M., and Hetherington, H. W.: *Amer. Rev. Tuberc.*, 1929, xx, 413.
[5] McPhedran, F. M.: Ibid., 1929, xx, 532.
[6] Opie, E. L., and McPhedran, F. M.: Ibid., 1926, xiv, 347.
[7] Newsholme, A.: *The Prevention of Tuberculosis*, E. P. Dutton and Co., New York, 1908.
[8] Dow, D. J., and Lloyd, W. E.: *Tuberculosis Mortality in Children*, Richard Clay and Sons, Ltd., 1930.
[9] Hetherington, H. W., McPhedran, F. M., Landis, H. R. M., and Opie, E. L.: *Amer. Rev. Tuberc.*, 1929, xx, 421.
[10] Hamburger, F., and Monti, R.: *Münch. med. Woch.*, 1909, lvi, 449.
[11] Kirchner, M.: *Zeit. f. Tuberk.*, 1921, xxxiv, 228.
[12] Glover, E. G.: *Lancet*, 1921, cc, 715.
[13] Drolet, G. J.: *Bull. New York Tuberc. Assoc.*, 1923, iv, No. 5, 13; *Amer. Rev. Tuberc.*, 1924, ix, Abstracts Section, 41.
[14] Wood, W. B.: *Tubercle*, 1930, xi, 489.
[15] Aronson, J. D.: *Amer. Rev. Tuberc.*, 1926, xiii, 263.
[16] Jessel, G.: *Tubercle*, 1930, xi, 493.
[17] Hetherington, H. W.: *Amer. Rev. Tuberc.*, 1929, xx, 511.
[18] Reid, A. C.: Ibid., 1929, xx, 46.
[19] McPhedran, F. M.: Ibid., 1927, xvi, 420 and 479.
[20] Idem: *Tubercle*, 1928-29, x, 14.
[21] Medlar, E. M.: Ibid., 1927-28, ix, 218.
[22] Blackfan, K. D., and Diamond, L. K.: *Amer. Journ. Dis. Child.*, 1929, xxxvii, 233.
[23] Sabin, F. R., Cunningham, R. S., Doan, C. A., and Kindwall, J. A.: *Bull. Johns Hopkins Hosp.*, 1925, xxxvii, 14.
[24] Cunningham, R. S., Sabin, F. R., Sugiyama, S., and Kindwall, J. A.: Ibid., 1925, xxxvii, 231.
[25] McPhedran, F. M., and Weyl, C. N.: *Amer. Journ. Med. Sci.*, 1927, clxxiii, 313.
[26] Cox, G. L.: *Tubercle*, 1929, x, 497.

DIVERTICULA OF THE DUODENUM

BY

S. GILBERT SCOTT, M.R.C.S., L.R.C.P.

D.M.R. AND E.CAMB.

CONSULTANT RADIOLOGIST TO THE LONDON HOSPITAL

(With Special Plate)

THE clinical diagnosis of diverticula of the intestinal tract, excluding possibly those of the proximal and distal sections, the oesophagus, and colon, may be said to be practically impossible without the help of an opaque meal investigation.

By this method these pouches or local bulgings of the intestinal wall have been detected on almost all parts of the intestinal tract; as curiosities, I am reproducing radiographs of minute diverticula of the ileum and appendix (Figs. 3 and 4). The latter brings to mind the old rhyme, "Great fleas have little fleas upon their backs to bite 'em, and little fleas have lesser fleas, and so *ad infinitum*," for the appendix itself may be considered a diverticulum. I have been unable to find any published record of diverticula in these two sections of the intestinal tract.

A definite case of diverticulum of the duodenum, containing stones found by chance at necropsy, was described by Chomel as early as 1710—that is, in the reign of Queen Anne. About one hundred cases had been described up to 1910, none of which were diagnosed clinically. Since the opaque meal examination became possible, the literature on the subject has become considerable.

While granting that diverticula may be present in large numbers in the colon without giving rise to symptoms, my experience leads me to think that those arising from any section of the duodenum eventually produce some form of abdominal disturbance or distress, whether from direct or reflex causes, and in some cases this may even be of an acute nature, although more frequently it is met with as a chronic condition (diverticulitis duodenale). In fact, I now include a duodenal diverticulum in the list of undiagnosed causes of the condition known as "chronic abdomen," which is, in my experience, more often than not, due to one of the following, placed in order of their frequency: (1) duodenal ileus, (2) splenic drag (incomplete enteroptosis), and (3) duodenal diverticulum.

The early diagnosis of any of these is important, for it is in the early stages of development that measures must be taken if the patient is to be prevented from joining the large and pathetic tribe of "chronic abdomens." The majority of these unfortunate cases are but undiagnosed or undiagnosable abdominal lesions.

It will be realized, therefore, that diverticula, especially those arising in connexion with the duodenum, have ceased to be only of academic interest, and call for much more careful consideration and investigation than has hitherto been given them.

It is usual to describe two types of diverticula—the congenital and the acquired. The acquired—namely, those resulting from traction of adhesions, ulcers, etc.—should not, strictly speaking, be placed in the same category as the true or congenital type of sacculation.

All the normal structures and layers pertaining to the duodenum should be found in the true diverticulum, while the individual thickness of the wall is dependent on the degree of distension of the pouch.

As already mentioned, the clinical diagnosis is practically impossible, as the abdominal symptoms are so varied and at times resemble very closely other pathological lesions. In fact, most of the cases I have had to investigate have been sent with the provisional diagnosis of gastric or duodenal ulcer, cholecystitis, or appendicitis—practically the identical list of lesions that the symptoms in duodenal ileus suggest. The causes of symptoms are direct and reflex. As with an appendix, an acute or chronic infection or inflammation may occur. As a rule, however, these changes are only catarrhal, but in some cases suppuration, ulceration, and even perforation are met with.

It is a mistake to conclude that because a diverticulum, found by chance at a post-mortem examination, shows no

evidence of inflammation, that therefore it gave rise to no symptoms during life. Considerable abdominal distress, making the patient's life a misery, may result from the indirect effects of its presence.

In the case here described, the fact that tenderness was elicited over the diverticulum on palpation under the screen, and that a calculus was detected within the lumen, were indications of possible infection. It is not essential, however, for infection to be present to give rise to symptoms. A reflex resulting in spasm of the pylorus or forcible peristalsis of the duodenum, a form of duodenal ileus, may lead to definite attacks of pain and vomiting—often called " bilious attacks," and starting in childhood.

It is by no means uncommon to note a local bulging of the duodenal lumen in the region of the ampulla of Vater.

I do not, however, consider this to be a true diverticulum. Nevertheless, the condition, causing as it does an insufficiency of the sphincter, permits the contents of the duodenum to flow into the bile and pancreatic ducts. Infection may follow, leading to cholecystitis, etc.

It is possible for the pouch to contract and to disgorge its contents if the muscle coat is still well developed and not overstretched. Most of the diverticula I have examined retained their contents for a brief period after the meal was clear of the stomach. This phenomenon suggests atrophy or atony of the muscular coat from overdistension.

As might be expected, the literature on the subject of treatment is somewhat vague. The majority of writers favour surgical intervention, such as excision, invagination, and so on. The physician does not appear to have seriously investigated the possibilities of medical treatment. My impression, however, is that once it has been established that the diverticulum is primarily responsible for symptoms, surgical measures will eventually become necessary.

Process of Development

The literature on the subject of the development of these sacculations is also somewhat meagre. It appears that in the process of development, embryos of about thirty to sixty days show multiple vacuoles or pits, which give rise to local bulging in the wall of the duodenum (Keibel and Mall), but it is open to discussion whether these play any part in the ultimate formation of diverticula.

While granting that a congenital weakness of the wall originally exists, what mechanism is responsible for the gradual pushing out or for the localized bulging of the wall? Obviously there must be some form of internal pressure or stress. Now in the normal duodenum this internal pressure is not high, and certainly not sufficient to create the force required to " balloon " or blow out this inherent weakness of the wall. In most cases a careful investigation of the history will elucidate the fact that, as a child, " bilious attacks " were experienced. These attacks usually persist—three or four a year being usual—until in later years they become more frequent and severe, in most cases the patient seeking medical advice between the ages of 20 and 40.

Now I have been struck with the similarity between the history of diverticula of the duodenum and that of duodenal ileus. Another significant point is that in all the cases I have examined personally duodenal ileus has been present in the first, second, or third degree. This suggests the possibility that here we have the *increase of tension* in the duodenum necessary to produce the gradual local distension or bulge. Is this obstruction, which is noticed at the duodeno-jejunal junction, caused by reflex spasm, analogous to that of the pylorus, in fact a reflex set up by the presence of the diverticulum, or does the diverticulum originate from the combined efforts of a local weakness and a congenital type of duodenal ileus?

Routine Examination

Most of these duodenal diverticula are well developed by the time the patient is forced to seek medical advice, and are readily detected radiographically. The smaller ones, however, necessitate a more careful routine examination of every inch of the duodenal mucosa by radioscopic palpation—the method that should be used in all gastric work. Owing to the fact that many workers depend primarily on films for their diagnosis, many diverticula in their early stages are being overlooked, for although the pouch itself may be large, the opening into it may be small, and unless the contents of the duodenum are dammed up and manipulated into the pouch with the hands on the abdomen, little or none of the meal may enter. This holding up of the duodenal contents by pressure on the distal part should form part of the routine method for examining the duodenum in opaque meal cases. If this method is adopted, there is no necessity to alter the position of the patient, as is advocated by some workers.

A Typical History

The history of the following case is very typical, since the symptoms would fit in with the diagnosis of almost any abdominal lesion.

The girl, aged 22, who was referred to me by Dr. F. Green, was healthy and well developed, but stated that her life was becoming a misery on account of indigestion. As a baby she was very delicate, and her digestion very bad. In fact, she almost died at the age of 6 months. She grew up fairly healthy, but was never quite free from indigestion. She was subject to bilious attacks and had to be careful about her diet.

There is one point in the history of these patients that always makes me suspect the presence of a duodenal ileus or diverticulum—namely, the history of " bilious attacks " in childhood, which they never entirely outgrow.

About two years ago she complained of epigastric pain of a constant and " boring " type. It was almost continuous, and varied in severity.

In New York, this early spring, she underwent an operation for appendicitis. Since then the pain has been, if anything, worse. Burning is a characteristic of these pains, and it is not relieved by food. She vomits now and again with a certain amount of relief. She is hungry, but restrains her appetite and is strict with her diet, being fearful of consequences.

The routine " survey " radiograph demonstrated a small shadow opposite the lumbar vertebrae, suggestive of a calcareous mesenteric gland.

The opaque meal showed a somewhat irritable hypertonic type of stomach. There was no evidence of any gastric lesion. The gastric mucosa was regular. There was a definite pyloric spasm, which was relaxed by gentle abdominal manipulation. The duodenal " cap " was then seen to be normal, and the duodenal contents flowed into a large diverticulum situated at the junction of the second and third parts on its convex or outer aspect (Fig. 1). Most of the duodenal diverticula reported have been seen leading out of the first or second parts, very few from the third part, and nearly all originate on the concave or inner surface.

The small shadow previously seen in the " survey " radiograph, and thought to be a calcareous gland, could now be seen in close relation to the sac itself (Fig. 1). Their respiratory excursion was identical, and they could not be separated by manipulation. The shadow was eventually hidden when the diverticulum became fully filled by the opaque emulsion (Fig. 2). Tenderness was located over the diverticulum. One was forced to the conclusion that the opacity, owing to its close relation to the diverticulum, was probably a small calculus contained in it.

The pouch remained full for about one hour after the stomach and duodenum had emptied.

The patient has shown some improvement under medical treatment, but my experience leads me to think that surgical intervention will eventually become necessary.

BACKACHE IN WOMEN: ITS SIGNIFICANCE AND TREATMENT

BY

CHARLES L. KARK, M.R.C.S., L.R.C.P.

LATE RESIDENT MEDICAL OFFICER, HOSPITAL FOR WOMEN, SOHO, AND GENERAL LYING-IN HOSPITAL, LAMBETH

In the words of Eden and Lockyer "backache is the commonest of all the ailments of which women in indifferent health complain." Notwithstanding the great prevalence of this condition and the vast amount of discomfort and ill-health for which it is responsible, it is extraordinary how little attention has been paid to its pathology and treatment. Whether regarded as a sort of curse which befell Eve, and, like labour pain, a thing to be tolerated, or as a mere symptom of any gynaecological disorder, backache as a pathological phenomenon in itself seldom receives adequate consideration.

It would hardly be an exaggeration to say that the majority of women with retroverted uterus or other disorders of the genitalia who seek treatment principally on account of backache, are not treated for the backache in itself, but for the local pelvic condition associated with it. Nevertheless it has been shown,[1] and it is indeed a common experience, that in a large proportion of cases treatment for the local condition alone fails to relieve the backache. The explanation of this apparent anomaly lies in the fact that backache in the majority of cases, although associated with disorder of the female reproductive organs, is not necessarily a symptom of such disorder, but a symptom of structural and postural changes in the back itself. Moreover, not only does faulty posture account for most cases of backache, but it is probably the underlying cause of much genital pathology. A flattened lumbar arch with bent back gives rise, under certain conditions, not only to backache, but to congested and diseased states of the uterus and adnexa; this statement will be amplified later.

The term "backache" is here taken to denote the common form of ache experienced by some women over the sacro-iliac joints, by others over the lumbar-sacral articulation, and generally in the region of the lumbar-sacral arch; it does not refer to pain due to gross orthopaedic conditions, disease of the vertebrae, or pathological conditions of the viscera apart from the female reproductive organs. This postural backache is the direct result of faulty posture, characteristic in pregnancy with its increased lordosis; common after pregnancy in the non-robust mother, with a diminished lordosis, heavy pendulous breasts, and bent back (the nursing attitude); frequent in all women who have borne children, in frail anaemic girls, especially those whose work involves much sitting or stooping, in all—both men and women—who are confined to bed for lengthy periods.

Anatomical Commentary

The lumbar vertebrae are held in position mainly by the anterior and posterior common ligaments, the supraspinous and interspinous ligaments. These are kept either taut or relaxed according to the attitude of the spine, and are subject to strain. When this strain is constantly repeated or prolonged, aching results. The ligaments are reinforced by the sacrospinalis muscle, which extends from the sacrum to the cervical region. This muscle is a large muscular and tendinous mass, larger in the lumbar region than elsewhere, and it is by its aid that spinal movements take place and the trunk is held erect, the brunt of such action falling on the lumbar-sacral region. When this muscle is strained, therefore, or when it is not strong enough to carry out its normal or increased functions, aching results in the lumbar-sacral region.

Effects of Posture on the Pelvic Viscera

The anterior surface of the lumbar arch, traced from the promontory of the sacrum upwards, forms an inclined plane making an angle of about 30 degrees with the vertical.[2] Thus a shelf is formed which projects between the abdominal and pelvic cavities. As the pelvic cavity inclines posteriorly at an angle of about 90 degrees to the abdominal cavity, the projecting lumbar shelf protects the pelvic viscera from direct pressure of the abdominal contents.[3] When posture is faulty, however, and when, in addition, the anterior abdominal muscles are lax and stretched, the shape of the abdominal and pelvic cavities is modified, the lumbar arch is flattened, the protecting influence of the lumbar shelf is removed, intra-abdominal and intrapelvic pressure is increased, and the functions of the viscera are thus impaired. The effect in the pelvis is to produce a congested state of its contents—a fact of the greatest significance in the etiology of disorders, such as subinvolution, congestive types of dysmenorrhoea, and retroversion. These pathological conditions most frequently commence during the puerperium and the first two or three months following. During this period the abdominal muscles as a result of pregnancy are stretched and weakened, the tone of the sacrospinalis muscle is likewise impaired, the ligaments of the sacrum and lumbar arch are softened and stretched, and posture is consequently faulty. The abdominal viscera press directly upon a heavy involuting uterus, tending to retard involution, and for obvious mechanical reasons forming a potent factor in the production of retroversion.

It will be seen, therefore, that the frequent association of backache with such conditions as retroversion, subinvolution, dysmenorrhoea, congestion of the pelvic organs,[4] is probably due to the existence of a common etiological factor—namely, a weak back, loss of muscle tone, faulty posture. This might serve to explain why the treatment of retroversion and other gynaecological disorders seldom relieves backache unless the back itself is treated, even to the neglect of a local displacement.

Factors in the Production of Backache

Normally the curves and structures of the back are so arranged that the trunk is supported and movements performed with a minimum expenditure of energy. Any deviation from this ideal arrangement renders the mechanism of the back far less efficient, and a much greater tax is imposed on the muscles and ligaments of the spine. Such a condition occurs during pregnancy, when, with an enlarging tumour, and a gradually changing centre of gravity, the muscular and ligamentous structures of the back have to withstand increasing strain in order to maintain the erect posture. Further, where there is a weakness and loss of tone of the back muscles, such as is found after pregnancies, during debilitating illnesses, in frail young women, or during menstruation, especially if there is associated menorrhagia, the strain that the lumbar-sacral spine is normally able to cope with becomes too great for the weakened structures, the arch tends to become flattened, the muscles being too weak or fatigued to support it, ligaments become strained, and backache results.

Analogy between Lumbar and Plantar Arches

The lumbar arch is in many respects analogous to the plantar arch in the foot. In the condition of flat-foot aching is caused by strain on the ligamentous structures of the flattened and weakened arch. This ache can usually be relieved by mechanically supporting the sagging arch. Further, by means of suitable exercises and massage the muscles that normally support the

arch are gradually strengthened until such time as the mechanical support can be dispensed with and the arch maintained by muscles and ligaments that have been rested and restored to function.

Treatment of Backache

In the treatment of backache the most essential factor is the provision of adequate support and rest. This problem is not as simple as it appears at first sight. The support must be adjusted to the exact degree demanded by the patient to afford relief and comfort. In other words, it must relax the strained spinal ligaments and the musculature. A support which is too strong or too weak will fail in its purpose. Rest in bed without an arch support is of little value, and, in fact, is often harmful, as the vast majority of beds sag, the patient lying in a saucer-shaped hollow, with shoulders and feet well above the level of the lumbar arch, which becomes dorsiflexed. An ordinary cushion is of little use, as it cannot be suitably adjusted. It is obvious that the degree of support will vary according to the patient's body weight, the type of arch, and the attitude of the body—that is, the angle it makes with the horizontal at the point where the sacrum impinges on the bed.

To fulfil these conditions a simple apparatus has been devised, which has given most gratifying results in practice. Briefly the device consists of a rubber bag large enough to cover the lumbar arch, to which is connected a piece of rubber tubing sufficiently long to be brought round to the front of the patient. To the free end of the tubing is attached a valve and bulb, similar to that used on a sphygmomanometer. The rubber cushion is easily inflated to the required degree, the valve being used as a control. By its aid the back can be maintained in a constant state of relaxation and freedom from strain; only in this way can aching be effectively remedied.

Generally speaking, faulty posture in bed produces not only much discomfort, backache, disturbed sleep, and avoidable suffering, but other more serious effects. The typical patient propped up in the Fowler or sitting position has his back bent and lumbar arch flattened, with the result that the diaphragm is cramped and its function impaired. Consequently the patient ceases to breathe deeply, the lower lobes of the lungs are not ventilated satisfactorily, and post-operative pulmonary complications are very probable sequels. Finally, in all ailments, whether of the thoracic, abdominal, or pelvic viscera, faulty posture by crowding the organs, producing congestion, and interfering with function, must hamper successful treatment.

Summary

1. Faulty posture is the main cause of backache.

2. It is suggested that it is also a predisposing cause of much disease of the female pelvic organs.

3. An adjustable pneumatic support, devised for the relief of backache, is described.

I am indebted to Dr. James Young, Edinburgh, who has kindly given me permission to state that he has used the cushion device in the Royal Infirmary and in private practice for the last six months and has found it of great value. I am also much indebted to Mr. Leonard Phillips for the facilities he has given me to use the cushion for patients under his care at the Hospital for Women, Soho Square.

A detailed report on the results of this method of treatment will be published. The cushion has been made for me by Messrs. P. B. Cow and Co., Ltd., 46, Cheapside, London, E.C.2.

REFERENCES

[1] Adams: *Amer. Journ. Obstet. and Gynecol.*, 1927, xiv, 742.
[2] Goldthwaite: Shattuck Lecture, 1915, *Boston Med. and Surg. Journ.*, clxxii, 881.
[3] Ogilvie: *Recent Advances of Surgery*, 1929, 266.
[4] Comyns Berkeley: *Practitioner*, 1911, lxxxvii, 477.

SEPTICAEMIA AND ENCEPHALITIS IN RELATION TO VACCINATION

BY

ROBERT PRIEST, M.B., M.R.C.P.

MAJOR, R.A.M.C.

In their article on septicaemia and encephalitis in relation to vaccination, published in the *British Medical Journal* of June 21st, 1930, Drs. Temple Grey and Whittaker draw the all-important conclusion that no condition can be fairly described as encephalitis pure and simple unless septicaemia has been excluded as a possible cause by appropriate bacteriological examinations; and, further, that all cases of severe illness occurring in the three weeks after vaccination should be under hospital treatment in order that the special examinations may be performed, and if death occurs the necropsy should include bacteriological and histological investigation of the other tissues as well as those of the central nervous system. These conclusions, and the need for eliminating all other morbid conditions before ascribing any clinical cerebral or encephalitic signs to primary vaccination in an adult, prompt me to record a case, very similar to the first one of those reported by these authors, which was under my care.

Clinical History of Case

A recruit, aged 18, was admitted to the Queen Alexandra Military Hospital on May 27th, 1930, with a history of being ill for four days with headache and dizziness, and some frequency of micturition and diplopia. There was also malaise and loss of appetite, but no nausea or vomiting. He had had influenza in 1929; he had never been abroad. He was vaccinated for the first time in his life on May 7th, 1930, with Government lymph, in two places on the left arm just below the deltoid. On admission his temperature was 104.6°, pulse 124. The vaccination sites showed healthy scabs, with no surrounding inflammation. There were some septic sores on the skin over both insteps, and another septic area, partially covered with an unhealthy scab and surrounded by an area of cellulitis, in the region of the left external malleolus. The toes of the left foot also appeared to be inflamed. The lungs showed no evidence of active disease, but there was some deficiency of air entry and some impairment of note at the left base. The heart did not appear enlarged; there was no thrill, but the first sound at the apex was roughened. Liver edge not felt; spleen not palpable. The patient's mind was clear. The diplopia of which he had complained at the onset was no longer present; there was no squint, and the pupils reacted normally. Abdominal reflexes were absent, knee-jerks sluggish and difficult to obtain, right ankle-jerk absent, left plantar response "flexor," right doubtful. Sphinters controlled. There was slight but obvious ptosis of the eyelids, more marked on the right side.

On May 28th the temperature was 104.4°, pulse 120. Lumbar puncture showed the cerebro-spinal fluid to be under no increase of pressure; the fluid was clear and found to be sterile on culture. Lymphocytes present 6 per c.mm.; no increase of globulin or sugar. The Wassermann reaction proved negative. Blood culture produced a growth of *Staphylococcus albus*. Total leucocytes 14,000; polymorphonuclears 84 per cent., small lymphocytes 8 per cent., large lymphocytes 4 per cent., hyalines 3 per cent., eosinophils 1 per cent. Red blood cells 5,600,000; haemoglobin 80 per cent.

On May 29th the temperature was 104°, pulse 132. The right ptosis was more distinct, and there were now signs of meningeal involvement as shown by neck rigidity, irritability, and hypersensitiveness. There were epistaxis and twitching of the right eyelids, the limbs were much more rigid, plantar reflexes "flexor," abdominal, cremasteric, and epigastric reflexes absent. Arm-jerks were not obtained, except a feeble response in left triceps; knee-jerks absent, right ankle-jerk absent, left brisk. No diplopia, pupils normal. Sphincters controlled. Lumbar puncture proved the cerebro-spinal fluid to be clear and under no pressure.

On May 30th, after a very restless night, the patient was comatose, and showed a very definite paresis of the right face, arm, and leg; the right plantar reflex "extensor," right abdominal reflex absent, left present; some areas of haemorrhage, with some induration, noted over the toes of both feet, under the skin of the left thigh, and a few small pyaemic-looking areas on the back. He was seen by Colonel W. P. MacArthur, who agreed that the condition was one of septicaemia, and, owing to the presence of the systolic bruit, and to the fact that the spleen was now just palpable, formed the opinion that the clinical picture was one of acute infective endocarditis. The patient gradually became weaker, and just before he succumbed on the early morning of May 31st his temperature had risen to 106°.

Post-mortem Findings

At necropsy the two vaccination sites appeared clean and healthy. There were haemorrhages present on the toes of the feet and on the left thigh. The lungs appeared normal. The fluid in the pericardial cavity was blood-stained, numerous vegetations were seen on the mitral valve and on the wall of the left ventricle. No vegetations were seen on the right valves or heart wall. The liver weighed 3 lb. 1 oz.; no macroscopic abnormality noticed. The spleen was enlarged and soft, and weighed 18 oz. In the right kidney there were multiple infarcts; one appeared to be very recent and the others were organized; the left kidney appeared to be normal, and no lesions were seen macroscopically. Microscopical examination of the brain showed thrombosis in the blood vessels, softening of brain substance, and round-cell infiltration. Many of the smaller vessels were congested, and a great excess of leucocytes, mostly polymorphonuclears, was seen within the lumen. On examination of the septic vegetations from the heart valves large masses of Gram-positive micrococci were seen enmeshed within the film covering of the valves.

This case, then, presenting as it did diplopia, headaches, ptosis, the subsequent meningeal signs, rigidity and coma, might have led to a diagnosis of post-vaccinal encephalitis; and, should the question of compensation have arisen, it would have been very difficult to dissociate the two conditions without the careful daily observation while in hospital and without the assistance of the post-mortem findings.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

THE PREVENTION OF PUERPERAL PYREXIA

The following statistics showing the effect of Parke Davis's antistreptococcic puerperal serum as a preventive of puerperal sepsis may prove of interest to those who are engaged in obstetric practice. The apparent beneficial results of this serum can be readily understood by studying the annual returns at Bellshill Hospital before and after its routine administration in complicated cases, and also in normal cases with laceration of the perineum. Our experience has been that the best results are obtained by the administration of the serum in large doses; 50 to 70 c.cm. should be given during labour, or a few days prior to its onset if trouble is anticipated. Procrastination deprives the patient of an opportunity to escape the sequels of infection. Apart from the occurrence of a rash, no inconvenience is experienced. The rash does not appear in some instances, and when it does it varies in frequency and intensity with different batches of serum. We are inclined to regard the occurrence of a rash as a favourable omen. The only other disturbance worthy of note is the not infrequent onset of uterine haemorrhage (15 per cent.) about the eighth to the tenth day, but the loss is not sufficient to create anxiety.

A short explanatory note about the figures is necessary. In 1925 and 1926 serum was not used, but during 1927 and 1928 we began administering this serum, which Parke, Davis and Co. placed at our disposal free of charge for clinical experiment. At this time the output of serum was small, so that only a limited number of cases could be treated. Nevertheless the results were so encouraging that we determined to employ it extensively. During 1929 and 1930 it was given in all complicated cases, and in normal cases where the perineum was torn; the results have been gratifying. Since Mellanby's communication[1] appeared on the value of a diet rich in vitamin A as a preventive of puerperal sepsis in rats, we have advised our patients to partake freely of a diet consisting of fresh vegetables, carrots, cheese, and liver. As this paper appeared only recently, we have not yet obtained a sufficiently large number of cases to estimate if the incidence of puerperal pyrexia in our cases has diminished.

Date	Number of Cases		Puerperal Pyrexia According to B.M.A. Standard	
			Number	Percentage
1925	Confinements ... ... 517 Post-natals ... ... 26 Abortions 122	665	50	7.5
	Of the 517 confinements the number normal was	476	18	3.8
1926	Confinements ... ... 696 Post-natals ... ... 26 Abortions 125	848	55	6.5
	Of the 695 confinements the number normal was	380	11	3.0
1927	Confinements ... ... 726 Post-natals ... ... 47 Abortions 125	898	45	5.0
	Of the 726 confinements the number normal was	432	not known	
1928	Confinements ... ... 707 Post-natals ... ... 32 Abortions 125	864	41	4.7
	Of the 707 confinements the number normal was	432	10	2.3
1929	Confinements ... ... 543 Post-natals ... ... 21 Abortions 139	703	20	2.8
	Of the 543 confinements the number normal was	279	Nil	Nil
1930	Confinements ... ... 700 Post-natals ... ... 40 Abortions 160	900	19	2.1
	Of the 700 confinements the number normal was	308	1	0.3

In 1925 and 1926 no serum was used, and in 1927 and 1928 a limited supply only. In 1929 and 1930 serum was used in all complicated cases, and in normal cases with perineal lacerations.

Radiostoleum is also mentioned by Mellanby as a suitable preparation where vitamin A is required, so we have been using either radiostoleum or adexolin, which contains vitamins A and D.

It seems to us that in obstetrical cases fortifications should be erected early to prevent puerperal infection, and it may be that this aid can be obtained to a large extent by diet and by the administration of serum. The disadvantage is great if the invader is permitted to demonstrate within the citadel.

It is unfortunate that treatment by serum proves expensive, but it should not be forgotten that the victims of puerperal sepsis often have a long and costly illness. The administration of serum during labour curtails convalescence in cases where pyrexia develops.

SAMUEL J. CAMERON, M.B.,
F.R.F.P.S.,
Consulting Surgeon,
HENRY THOMSON, M.D.,
Physician in Charge,
County of Lanark Maternity Hospital,
Bellshill.

[1] Green, H. N., and Mellanby, E.: *British Medical Journal*, 1928, ii, 691.

AN UNUSUAL TYPE OF DIPHTHERIA CARRIER

Recent advances in our knowledge of the immunological processes concerned with the detection of persons susceptible to diphtheria infection and the valuable immunization methods now in use have brought the significance of the disease even more before the public health authorities and medical practitioners. The Schick test has added enormously to our knowledge of the epidemiology. Largely through the extensive investigations and work of Dr. Harries of the Birmingham Medical School, the proportion of immunes among persons who have never had clinical diphtheria, living in different localities and belonging to different levels of society, has been determined. Broadly speaking, a much higher rate of immunity is found among inhabitants of the poorer and more crowded districts; this is presumably owing to greater exposure to subminimal infection with the disease virus and the acquisition of immunity without passing through the recognizable disease.

It would be expected that the possibility of such acquired immunity would be much less among people living in country districts where, although the incidence of the disease may not be low, the chances of contact are much less, even if the conditions of living are poor. The cases here recorded support this contention, and indicate incidentally that the immunization of persons living in country districts is as important as the immunization of town dwellers; it may even be more important. Although perhaps the chances of infection are less among country folk, the clinical course of the established disease is likely to be severe, and may spread rapidly in the household owing to the entire absence of immunity in the other members. It is analogous to measles in the negro races.

Commonly the virulent diphtheria bacilli reside in the throat and nose, and very occasionally in other sites, such as the ear, the eye, the vagina, and wounds. The outbreak recorded below was caused by a member of a family carrying virulent diphtheria bacilli in his left conjunctival sac. The family lived in a farmhouse in a very thinly populated and remote district in Staffordshire. The sequence of events was as follows:

In October, 1929, C. G., aged 12 years, had a mild unilateral conjunctivitis without membrane formation. Under local antiseptic treatment the condition abated. There were no general symptoms. Occasional recrudescence of the conjunctival affection occurred, always remaining unilateral. During the period December 26th, 1929, to January 26th, 1930, one sister and four brothers developed very severe faucial and tonsillar diphtheria. (The sister and one brother have now completely recovered from post-diphtheritic paresis.) Throat swabbings from the mother were negative. The detection of a carrier in the household followed a casual remark concerning the previous eye condition of C. G. Careful examination of his left conjunctival sac showed a few fragments of membrano-purulent exudate, which on bacteriological examination gave a pure growth of diphtheria bacilli. Animal tests showed the marked virulence of the bacilli. The boy had never had any clinical diphtheria infection before. We are therefore of the opinion that he had obtained general immunity from the local conjunctival lesion, and so evaded the more serious illness which occurred in the other members of the family.

The points of special interest in this case are: (1) The persistent high infectivity of the diphtheritic conjunctiva. (2) The absence of immunity in any other child of the family. (3) The suggestion that active immunization of persons living in the country is as important as it is in the case of town dwellers.

I am indebted to Dr. William Fraser of Chasetown for help in collecting the details of this case.

A. VICTOR NEALE, M.D.,
Physician to Out-Patients,
Children's Hospital, Birmingham.

STRANGULATION OF INTESTINE CAUSED BY MECKEL'S DIVERTICULUM

Although Meckel's diverticulum is a fairly common condition it does not very often produce strangulation of intestine, and the following case seems worthy of record.

A man, aged 20, was admitted to the Royal Isle of Wight County Hospital on October 3rd, 1930. Twenty-four hours previously he had been seized with a sudden attack of severe abdominal pain round the umbilicus, which later settled in the right iliac fossa. He had vomited once before admission. There was no history of previous similar attacks.

On admission his face was flushed and tongue furred; temperature 102° F., pulse rate 98. Abdominal examination revealed marked rigidity of the right rectus muscle and tenderness over McBurney's point. A diagnosis of acute appendicitis was made.

The abdomen was opened by means of Battle's incision. On entering the peritoneal cavity a considerable quantity of bright red blood was found. A loop of black gangrenous ileum lay in the right iliac fossa. The strangulation was caused by a band, which was divided. About 18 inches of ileum were resected and an end-to-end anastomosis performed. The appendix was examined and found normal, and the abdomen was then closed. On examination, the band proved to be a Meckel's diverticulum, which opened into the gangrenous loop of ileum.

The patient made an uneventful recovery, and left hospital three weeks after admission.

Shanklin, I.W. J. ALFRED GAYNOR, M.B., F.R.C.S.I.

Reports of Societies

SCABIES AND RINGWORM

At a joint meeting of the Sections of Dermatology and Comparative Medicine of the Royal Society of Medicine, held on February 19th, with Professor G. H. WOOLDRIDGE in the chair, a discussion on scabies and ringworm as transmissible between animals and man was opened by Dr. ARTHUR WHITFIELD.

In the transmission of mange from animals to man, said Dr. Whitfield, the sarcoptes were important, and the animals from which these parasites were most commonly acquired in this country were dogs and, less frequently, cats and horses. Small and toy dogs were more often responsible for transmission to man than large dogs; usually the axillae and inguinal regions were affected first in the dog, then the ears, face, and eyes. In man the arms, trunk, and face were often affected, and the points of the elbows were a common site in both men and dogs. The lesions were minute vesicles on an erythematous base; the acarus might be found occasionally and with difficulty, and was smaller than that responsible for human scabies; to clinch the diagnosis, comparison of the two types of acari was advisable. Cure could be obtained quickly by sulphur inunction, but reinfection might take place indefinitely. Ringworm could also be transmitted from animals to man, the order of frequency of those responsible in this country being the cat, the calf, the horse, the dog, and birds. If the fungus was a microsporon, giving rise to bold rings, an animal origin should be suspected, and especially a cat. Ectothrix came frequently from the horse and the calf; ringworm in these animals was a grossly pyogenic disease, and called into action the defensive mechanisms of the body, with the production of allergy, and a variable immunity.

Mr. A. W. NOEL PILLERS said that the sarcoptes on being transmitted from animals to man might find the soil unfitted after piercing the surface epithelium, and might cease their activities in consequence. Cows were often the source of infection to man, and camels were

frequently responsible in the East. He had seen cases where a pig and a chimpanzee, respectively, had been the original hosts, and infections acquired from the sheep, goat, llama, and wombat had been recorded. It was possible that man might occasionally be responsible for conveying mange to animals, a crop of disgruntled acari, for example, being transferred from the groom to the horse. As to ringworm, much terminological confusion existed. He had sometimes found spores where no lesions were visible.

Dr. W. J. O'DONOVAN reviewed the histological references to scabies. The acarus was described in the twelfth century by Abinzoar, and subsequently by Ingrassi of Naples, by Gabucinus, Laurence Joubert, and other writers of the fifteenth and sixteenth centuries. As far back as 1820, Ernst, a veterinary surgeon in Zurich, had described a case of ringworm in a young girl infected from a cow.

Mr. G. H. LIVESEY said that transmission of scabies from dogs occurred most frequently to women who carried pet or toy dogs. It might affect any part of the body, and personal cleanliness was not a preventive. He described a case in which one blue Persian kitten had been responsible for the infection of sixteen persons with ringworm.

Mr. J. W. HOLMES confined his remarks to the dog and cat. All kinds of follicular mange in these animals could cause an eruption in man, but the sarcoptes were particularly apt to be transmitted. The sites affected in the dog were the head, ears, throat, elbows, the under-surface of the abdomen and thorax, and the outer surface of the tibiae. By scraping deep enough to draw blood he had been successful in demonstrating the parasite in 60 per cent. of cases in the dog. In the cat, mange was usually confined to the head. Scabies had been transmitted to an attendant at the Zoological Gardens by a llama. Ringworm was commonly transmitted from cattle ; a chronic ulceration of the upper lip in cats, due to ringworm, might also give rise to ringworm in man.

Dr. SIDNEY THOMPSON remarked that patients usually proved unco-operative if suspicion was cast on their pets. Owing to the work of the London County Council human ringworm was dying out, and it was therefore essential that attention should be paid to the animal sources of infection. Dr. J. A. DRAKE mentioned a case in which a woman acquiring scabies from her dog developed lesions on all the hotter parts of the body, in the axillae, under the breasts, and under an abdominal bandage. Dr. J. M. H. MCLEOD agreed that a predilection for the hotter parts of the body was shown by the sarcoptes. He had tried to obtain evidence that ringworm fungi might lead a saprophytic existence in the straw of stables, but had not been successful. Mr. PILLERS quoted references to the work of other observers who had found *Microsporon equininum* in the straw of a stable. Dr. A. M. GRAY referred to the experiments of Munro during the war, which had gone to show that the lesions of scabies were due to the acarus in the larval stage. If this were true it would account for the difficulty of demonstrating adult acari in the lesions. In reply to a question, Dr. MCLEOD said he had seen a case in which he believed demodex mange had been transmitted to man from an animal ; but Dr. H. P. FOX considered that this might be a coincidence, since experiments to produce such transmission always appeared to fail.

In his reply Mr. HOLMES said that the adult acarus, usually the female, was responsible for the lesions of scabies, and not the larva.

The CHAIRMAN, in summing up, said that there were cases which pointed to the transmission of mange from cats to dogs. He had never succeeded in transmitting demodex from one dog to another. Larvae were occasionally found on taking a deep scraping, but he believed that they had just been hatched. Llamas and camels had been responsible for transmission to man ; it was almost impossible to cure camels, owing to the thickness of their coats. A case had been recorded where the infection had come from a raccoon. Ringworm was frequently transmitted by cows, which might become reinfected on returning to the same stable after an interval of six or even twelve months.

PHYSIOLOGICAL EFFECTS OF BATHS

At a meeting of the Section of Balneology and Climatology of the Royal Society of Medicine on February 20th, with Dr. F. G. THOMSON (president) in the chair, a discussion was held on possible lines of research which the Section might undertake on the physiological effects of baths.

The PRESIDENT said that an idea had been entertained for some time past that the Section might instigate some combined research of this nature. A good deal of research had already been done, but for the most part it had been carried out by isolated individuals, and consisted of the effects of baths or waters on disease; there had been no attempt at any really well-organized combined research. A great number of the statements found in literature did not carry conviction ; they were made without any confirmatory evidence, and many had been copied from one book to another, and so had become stereotyped and accepted at their face value. Much of the research work also had been on the effect on disease, but what was much wanted, in the first place, was to discover the effect of different hydrological treatments on the normal. Until that was fixed it was impossible to say definitely why certain results were obtained in particular diseases. By such a research some common factors might be found to apply to all waters, and then the waters of different spas might be assessed. The experiments it would be advisable to carry out were: (1) simple clinical experiments, such as the determination of the effects on temperature, pulse rate, sweating, blood pressure, respiration, leucocytosis, and so forth, which might reasonably be expected to be carried out by the practising physician ; and (2) certain experiments concerned with metabolic effects which it would be hopeless for the practising physician to attempt, and which required to be done by specially trained men with laboratory facilities. He added that a great many investigations in the first of these categories could be carried out at special spa hospitals and bathing establishments.

Dr. C. W. BUCKLEY thought that the most important need was for co-ordination of research between the spas and also the clinics and hospitals where physical methods were in use. He gave instances of directions in which research might be usefully applied. A series of observations made at the Devonshire Hospital, Buxton, showed as a general result of baths and mineral water a reduction of blood pressure, sometimes very marked ; but there was no uniformity in this reduction, and it was very difficult to see why, in two cases apparently precisely the same, there should be a reduction in systolic pressure of 10 mm. in one, and in the other a reduction of 20 or 30 mm. In the great majority of cases, with water administered as baths or douches, there was a definite fall in blood pressure, but in a certain number the blood pressure rose. In only one instance, however, was this rise met with in a case in which the pressure was higher than the normal for the age ; in all the other cases where there was a rise of pressure, the pressure had been below the normal. Observations made upon patients in hospital might be assumed to have been taken under

uniform conditions, and therefore to be comparable, but as a matter of fact great variations arose in patients who were out and about, owing to different habits as to exercise and to illicit indulgence in food and perhaps alcohol between meals; while if the patients taken were in bed they could not be described as normal. It was possible, given suitable animals, that the effect of mineral waters might be determined; he believed observations had been made on the development of tadpoles in certain mineral waters, and that was a line of investigation which would be free from some of the ordinary objections. Mineral waters were complex solutions of electrolytes in a state of unstable equilibrium. Stability was probably attained some time after they reached the surface, and this helped to explain why both the internal and external use of such waters was more effective or only effective if used at their source. There were many curious actions of mineral waters which called for further investigation, and if a scheme of research could be drawn up it would be good, not only for the Section, but for the study of balneology as a whole.

Dr. J. B. BURT urged that in deciding on the form of research something of a simple nature should be taken first. He had himself suggested two simple lines of research, one of them the measure of the sedimentation rate, and the other the investigation of temperatures as affected by baths. It might be ascertained whether the temperature went up if a person were kept in a bath for ten minutes, and how the different spa waters compared in this respect with each other and with ordinary tap water. These were lines of investigation which might readily be undertaken, and the co-operation of the big spa hospitals and of the Red Cross Rheumatism Clinic in Marylebone Road might be enlisted. If enough cases were taken the differences due to psychological factors and the factor of diet in respect to the bath reaction would be largely neutralized.

Dr. GEOFFREY HOLMES did not think the problem was quite so simple as Dr. Burt had suggested. These observations on pulse rate, temperature, blood pressure, and so forth had been made before. The fundamental difficulty in research work in balneology was that nothing or very little was known about the physiology of bathing. Balneology was still not taught in the medical schools, with the result that very few people indeed had the slightest interest in the subject, unless they happened to have done spa practice, and once they were settled down in practice it was very difficult to get them to undertake a series of experiments. Two years ago at Harrogate he had been particularly anxious to get some of this work done, and the help of some students from the medical school at Leeds was obtained and a number of experiments made with plain hot-water baths for determining the circulation rate. It was found that in a warm bath the pulse rate rose immediately, certainly before there was any time for the corresponding rise of temperature, and in all these cases, although there might be an immediate rise in systolic pressure, there was a profound drop, as the bath continued, in diastolic pressure. In these experiments also an immersion bath in sulphur water was found to produce much freer sweating and more cyanosis than in plain tap water at the same temperature. In his opinion the work most urgently wanted was research on the ordinary physiology of bathing.

In the course of further discussion, Dr. M. B. RAY promised the co-operation of his colleagues at the Red Cross Rheumatism Clinic, and Dr. A. R. NELIGAN suggested that a very interesting piece of work would be determination of the effects of baths of different temperatures and durations on the pulse rate.

The PRESIDENT said that there was general agreement that it would be a good thing to carry on combined research, beginning with certain simple phenomena associated with different types of baths. Already Dr. Geoffrey Holmes had carried out some valuable observations on the pulse rate; Dr. Burt had made sedimentation tests, and Dr. R. G. Gordon and himself at Bath had carried out certain observations on temperature effects as far as possible under scientific conditions. Dr. BUCKLEY suggested that it might be laid down as a principle that in making temperature tests in baths the continuous self-recording electrical thermometer should be used, and also that it was the rectal temperature which should be taken.

It was agreed to form a small committee to formulate detailed plans for the research, and report further to the Section.

EARLY DIAGNOSIS OF PREGNANCY

At a meeting of the Liverpool Medical Institution held on February 5th, Dr. M. DATNOW read a note on the early diagnosis of pregnancy. He first referred to Liepman, Abderhalden, Fahraeus, and others who had attempted to elaborate tests, and then pointed out how much superior were the recent researches of Aschheim and Zondek, their tests giving results far more accurate than any other so far described. The consideration upon which this test was based might form a starting point for the investigation of many sex problems. The effect upon immature mice of injections of the early morning urine from pregnant women was illustrated by means of specimens and lantern slides showing follicular activity, follicular haemorrhages, corpora lutea atretica, and development of the uterus. Apart from normal pregnancy, hydatidiform mole, chorion epithelioma, ectopic gestation, and, in a few cases, malignant disease, gave a positive Aschheim-Zondek test.

In the discussion which followed, Dr. T. N. A. JEFFCOATE said that his experience of the Aschheim-Zondek test led him to agree that it was very reliable. On the question of the origin of the hormones some observers had recently inclined to the belief that those found in the urine in pregnancy were derived from the placenta rather than from the anterior pituitary. He had recently studied a case of pregnancy in which both ovaries had to be removed at the sixteenth week. There was no change in the amount of oestrin present in the urine after operation; this pointed to the fact that the placenta, rather than the ovaries, was the chief source of the oestrin which is excreted in the urine during pregnancy. The solution of the problem of the origin of prolan A and B was more difficult, since animal experiment was excluded by the fact that the urine of pregnant animals did not give the reaction. Prolan A was found to be present in the urine of women after sterilization, at the menopause, and in some cases of carcinoma; the occurrence of this hormone in the urine in these conditions did not, however, affect the reliability of the test as used in the diagnosis of pregnancy, since it was present in much smaller quantities. In conclusion, Dr. Jeffcoate said that, provided the investigator was given the clinical data as a guide, it was possible to be correct in the diagnosis of pregnancy in almost 100 per cent. of cases. Dr. ARTHUR A. GEMMELL sounded a warning note against accepting the test as always accurate. In a very limited number of cases he had had two in which the test was incorrect. He stressed the fact that the test was not a test for pregnancy, but for the presence of living chorion, and that its reported result must be carefully considered in connexion with the clinical findings.

After the reading of a note by Dr. T. GUTHRIE, entitled, "Two abnormalities of the hyoid arch," Dr. I. HARRIS gave a paper on cardiac output and oxygen utilization in heart disease. Data were collected from different types of heart cases in regard to consumption of oxygen, output

of CO_2, the patient's reaction to exercise, oxygen requirement, oxygen debt, CO_2 and oxygen in venous blood, cardiac output, heart rate, and number of respirations. Cardiac output was determined by the CO_2 method. Determinations were undertaken under resting conditions and after standard exercise. It was found that under resting conditions oxygen consumption, percentage of oxygen utilization, and the cardiac output, with a few exceptions, were normal. Exceptional cases which showed an abnormally small output gave an abnormally high percentage of utilization, the conditions standing in inverse ratio to each other. The size of cardiac output broadly stood in some relation to the amount of oxygen consumption, but a case in which the cardiac output was large and oxygen consumption moderate gave a low haemoglobin percentage, the large output evidently compensating for a poor carrying capacity of oxygen of the blood. The cardiac output was increased to a much smaller extent in heart cases after a standard exercise in comparison with normal cases; while the percentage of oxygen utilization had greatly increased in the diseased heart after exercise, the percentage of utilization remained the same in the normal heart under resting and working conditions. Thus oxygen utilization and output stood in inverse ratio to each other. This constituted a very important factor in estimating cardiac reserve power. Further, the oxygen consumption, as the result of work, in heart cases was greatly increased above normal, and the time before the oxygen consumption became normal again was greatly prolonged. The CO_2 content of the blood in heart cases under resting conditions was lower than normal. This was contrasted with oxygen saturation, which was practically normal in all these cases; CO_2 being an important stimulus to the circulation, the rationale of giving oxygen in heart cases was discussed. In the diseased heart, stroke volume increased after exercise to a less extent than in the normal; in an advanced case of heart disease it did not increase at all. The reaction of stroke volume to exercise was a definite measurement of cardiac reserve power. The diseased heart increased its minute volume by increasing the number of beats, the normal heart by increasing the size of the single stroke volume. The importance of this method was so great that the Liverpool Heart Hospital had created a special department for the routine examination of suitable cases.

A RETROSPECT OF GYNAECOLOGY AND OBSTETRICS

At a meeting of the Edinburgh Obstetrical Society, held on January 14th, with the vice-president, Dr. JAMES YOUNG, in the chair, Professor ARCHIBALD DONALD of Manchester read a paper entitled "Then and now."

Professor Donald began by saying that the thirty years between 1880 and 1910 represented the most eventful period known in surgical history. He described the conditions at St. Mary's Hospital, Manchester, when he first entered it as resident surgical officer in 1884. The out-patient department at that time provided opportunities for unrivalled diagnosis. Among the many cases reported every day were large abdominal tumours. Local applications and the use of the sound and pessary were the common forms of treatment for the minor gynaecological cases. Operations in the hospital consisted of perineal and fistula repairs, and the removal of polypi. Four types of colporrhaphies—two anterior and two posterior—were attempted at that time, but the posterior operation was abandoned, as it involved the opening of the pouch of Douglas, which was supposed in those days to be a very dangerous risk. No curettages were done, and dilatation of the cervix was effected only by means of tents. Ovariotomy was the only major operation performed, but the mortality was very high. It was of historical interest that Charles Clay, who was the father of ovariotomy in Europe, was associated with St. Mary's Hospital for a time. Operations for fibroid tumours were attempted only at a much later date. The first treatment was the extraperitoneal treatment of the stump, which was responsible for a mortality of 62.5 per cent. In 1883 the removal of the appendages was advised by Tait, and this operation, along with Apostoli's electric therapy, delayed for a considerable period any advance in the treatment by hysterectomy. In 1891 myomectomy was carried out at St. Mary's Hospital, and in 1892 vaginal hysterectomy was first performed for a fibroid, though it had been done three years previously for a carcinoma of the cervix. The combined abdominal and vaginal operation was performed in 1892, and the subtotal hysterectomy—the precursor of the present operation—was first attempted in the following year. Reference was made to Cullingworth's hard struggle with regard to the operative treatment for inflammatory diseases of the appendages and to the many derogatory statements that had followed the reading of his paper before the Royal Society of Medicine. The combined anterior and posterior colporrhaphy along with the amputation of the cervix was first attempted by Professor Donald in 1888, and catgut was very quickly substituted for silver wire. In referring to the after-histories of his first three cases, Professor Donald showed how satisfactory were the results. These were the first cases in which buried catgut had been used. The operation was modified slightly by Fothergill in 1908 in regard to the amputation of the cervix, but buried sutures were not used in Fothergill's operation.

With regard to obstetrics there were two thousand to three thousand district cases a year which were attended by midwives and doctors from St. Mary's Hospital. Even in those days ante-natal care was practised, careful histories being taken and the urine being tested frequently during the pregnancy. Accommodation in the hospital was very limited for midwifery cases, nevertheless 150 obstetrical operations were performed every year. Turning to the present day Professor Donald attributed primarily to Lister the great advancement that had been made. He considered that sepsis, which followed antisepsis, was the chief factor in the comparative safety of surgery to-day, and that the Trendelenburg position allowed a great advance in pelvic surgery. He feared that there was an irreducible mortality in abdominal operations, regarded generally, of 2.5 per cent. In his opinion surgery had not reached its limits, for radium and x rays were still in their infancy, and anaesthetists were opening up new fields by their research for methods of reducing shock. Professor Donald then described how he had noted clinical cases, now described as endometriomata, as early as 1917, and though these were carefully examined microscopically, unfortunately the endometrial lining had been destroyed on account of their large size. The whole situation was cleared up in 1921 by J. A. Sampson, who showed microscopically that the disease was caused by fragments of endometrium which had been carried through the tubes to the pelvic cavity. This was also demonstrated later by Dr. Bailey of St. Mary's Hospital. Professor Donald considered that the practice of midwifery stood much where it did forty years ago, though there had been two great advances—namely, antenatal care and Caesarean section; but the latter, after all, was a result of surgical progress. Maternal mortality was still 4 per 1,000, and the interim report of the Departmental Committee for Maternal Mortality and Morbidity revealed that nearly half the fatal cases from sepsis

followed normal labour. Referring to disinfection, he stated that lysol alone had been used in a strength that was of little use as an antiseptic agent in a very large proportion of the fatal septic cases; he considered that the substitution of mercurial preparations in sufficient strength would have a very marked effect in reducing sepsis. Commenting on medical training, he said that the student was trained in aseptic technique in a well-equipped operating theatre or labour ward, whereas when he had to attend cases in the district, or later in his general practice, this aseptic technique was impossible, and an antiseptic technique had to be substituted for it. He contended that antiseptic training was necessary to prepare students for the conditions met with in private practice, and that the three essentials which must be observed were: the disinfection of the hands and arms, the disinfection of the patient's perineum and vulva, and, lastly, the care of the perineum and vulva after labour. He did not regard gloves as essential. Professor Donald concluded his address by remarking that there was no doubt that the results in the larger maternity hospitals had improved in recent years, and that the epidemics of puerperal sepsis were now countered by early and radical measures. In his view an up-to-date maternity hospital should consist of three blocks—one for booked cases, a second for suspect cases, and a third for septic cases, and that each of these should be managed quite independently.

VACCINE THERAPY

The annual meeting of the Association of Clinical Pathologists was held at the Hospital for Sick Children, Great Ormond Street, on January 31st, with Dr. D. NABARRO in the chair. The meeting was devoted to a discussion of vaccine therapy.

Dr. C. E. JENKINS opened with a paper on general principles. He dealt with the contention that vaccine therapy must in the nature of things be useless because, in the face of an infection, it was futile to expect the body to respond to further doses of the infecting organisms. Dr. Jenkins referred to this attitude as the "pint pot" theory; he regarded it as entirely fallacious. The aim of vaccine therapy should be to induce an immunogenic response on the part of tissues other than those actually invaded by the infecting organisms. He further contended that the response of the tissues to dead differed from that to living organisms. Living organisms, in virtue of their being alive and able to produce bodies of the nature of aggressins, could to some extent inhibit the production of immune bodies by the tissues. Dead organisms had no such inhibitory effect. The aim of vaccine therapy should be to convert a patient susceptible to the attacks of a particular organism into a refractory subject.

In the discussion that followed this paper, several members spoke of local immunization, and recorded successful results in the local use of vaccines in pyorrhoea, sycosis, and other conditions.

Dr. D. EMBLETON, speaking on the investigation of cases with a view to vaccine therapy, expressed the opinion that no proof existed of the therapeutic value of vaccines. He laid stress upon the necessity for a thorough general examination of the patient as a preliminary to any attempt to prepare a vaccine. Various members disagreed with Dr. Embleton as to the absence of proof of the therapeutic value of vaccines. Dr. JENKINS stated that in his opinion, although statistical proof might be lacking, and might in the nature of the case be impossible to obtain, there was overwhelming evidence in favour of their value. Dr. DYKE observed that many of the most successful results of vaccine therapy, as in the case of boils, the common cold, and so forth, were obtained, not by curing the existing lesion, but by preventing the occurrence of future ones; in this respect such treatment might be regarded as prophylactic rather than therapeutic.

Dr. A. RENSHAW outlined a very full scheme for the investigation of rheumatic cases with a view to their treatment by vaccines. He said that the earlier the case was seen the greater measure of success in treatment was to be looked for; and he laid great stress upon the discovery and eradication of focal sepsis. Various members, though agreeing upon the importance of thorough investigation of the case, considered that Dr. Renshaw was inclined to go too far in this direction, and that to subject the patients to the extensive routine investigation demanded by him was unreasonable. Dr. S. MILLER and others drew attention to the disturbance of carbohydrate tolerance and of the liver function as revealed by the levulose tolerance test in rheumatic cases. Dr. Renshaw expressed the opinion that a disturbance of carbohydrate tolerance was common, and that such cases, contrary to the general opinion, usually did better with limitation of the carbohydrates and plenty of meat in the diet.

Dr. A. F. WRIGHT considered briefly the general considerations governing the preparation of vaccines. The antigen used should be altered as little as possible by subculture; and he recommended killing by heat and standardization by opacity. Other members expressed the opinion that killing of the organisms was better carried out by chemicals than by heat.

Dr. CRONIN LOWE described his technique for selecting organisms for preparation of vaccines by means of blood selection. Swabs from the patient were sown into the patient's own blood, the organism which grew in the blood being that chosen for preparation of the vaccine. Dr. A. G. SHERA laid stress upon the importance of the inclusion of the toxic products of the organisms as well as the organisms themselves in vaccines. He regarded this as being of particular importance in the case of the staphylococci and streptococci. It was his custom to add to his emulsions of organisms, filtrate from broth cultures to the extent of 5 per cent. Dr. JENKINS described his technique for the preparation of "residual" vaccines.

SILICOSIS

At a meeting of the Sheffield Medico-Chirurgical Society, held on February 4th, with the president, Professor GRAHAM SIMPSON, in the chair, Professor ARTHUR HALL gave an account of his recent visit to Johannesburg, when, at the invitation of the International Labour Office of the League of Nations, he was one of the delegates from Great Britain at the International Conference on Silicosis. He pointed out that Johannesburg had been selected because in that city the incidence of silicosis amongst gold miners, and the medical organization for dealing with it there, were on a far greater scale than in any other centre.

Professor Hall said that in 1843 a very full account of "grinders' phthisis" was published by Dr. Calvert Holland, one of the then physicians to the General (now Royal) Infirmary. More recently a further source of silicosis had arisen in the city and district in connexion with the working in ganister, found in abundance in the neighbouring valleys. He explained the difficulties which had been met with in the country in the application of the Workmen's Compensation Act to cases of silicosis on account of the long latent period and the insidious onset and development. The problem of apportioning the onus of compensation in a disease which might not show itself until a considerable time after the workman had perhaps left the industry in which it was acquired was

obviously no easy matter. The speaker dealt with the work of the South African Miners' Phthisis Medical Bureau, and showed a large number of lantern slides.

There were some 15,000 white miners employed in the Rand gold mines, and each of these had to undergo an initial complete examination, both clinical and radiological, before being allowed to work underground. A similar examination was necessary every six months during employment; thus the number of daily examinations at the bureau was very large. For this work eight whole-time medical officers were required, together with a radiologist, a pathologist, and the necessary clinical staff and assistants. Besides the white miners, about 200,000 natives were employed underground. These men stayed in the mines only for a period of some twelve to eighteen months. This time was found to be too short to produce signs of silicosis, and it was therefore unnecessary to submit natives to the bureau for periodic examination. They were fully examined clinically, however, by a special medical board before admission underground. When a white miner was first found by the bureau to show definite signs of early silicosis, he was informed of the fact and could, if he wished, stop work and receive compensation at a certain rate. If he did so he continued to come up for re-examination at stated intervals, and, if the disease caused a growing disability, the compensation was increased according to a definite scale. If, however, he chose to continue at work underground, he could do so, it being stipulated that compensation on leaving would not be more than it would have been at the first assessment. Men found to have tuberculosis, or tuberculosis with silicosis, had to leave the industry at once; they received compensation.

Regarding the actual work of the conference, reference was made to the difficult problem of dust prevention, and to the impossibility of applying identical methods in the various industries owing to the great difference in working conditions. In connexion with diagnosis, a series of slides and photographs were shown which had been collected for the conference. These illustrated the pathological features (both macroscopical and microscopical), and the *x*-ray findings, in gold miners' silicosis.

At the annual meeting of the Devon and Exeter Medico-Chirurgical Society, held on January 29th, Dr. F. A. ROPER occupied the chair in the absence of the newly elected president, Dr. J. R. HARPER. Several patients were shown and their diseases discussed. In a case of myasthenia gravis occurring in a woman, aged 31, the possibility of encephalitis lethargica had been considered, Dr. R. N. CRAIG suggesting that if there was any doubt remaining, the removal and section of a small fragment of muscle would make matters clear, as the lymphoid bodies between the muscle fibres could be demonstrated. An interesting case of albuminuric retinitis was also shown. The patient was a woman, aged 41, who had been married two years, and in the first twelve months had had a miscarriage, eclamptic symptoms and albuminuria developing in the second month of the second pregnancy. Total blindness necessitated induction of labour, after which vision improved slowly. Mr. G. P. HAWKER, who had examined the fundi, said that owing to the chronic nature of the neuro-retinitis, the affection would probably recur, thus the prognosis was very grave. A case of polycythaemia vera in a man, aged 60, was demonstrated by Dr. ROPER, who said that in August, 1930, the red blood cells had been 12,000,000, white cells 23,400, and haemoglobin 110 per cent. Treatment had been limited entirely to that with acetyl phenyl-hydrazin, and *pari passu* the red blood cells became reduced to 5,344,000. In reply to questions, Dr. Roper advised caution in giving the drug; the third course had had to be stopped, since the red cell count had fallen to 4,650,000.

Reviews

THE CEREBRO-SPINAL FLUID

In spite of the extensive research which has been devoted to the subject, especially since the beginning of the present century, it is evident that our knowledge of the nature and function of cerebro-spinal fluid is still very imperfect. In his valuable monograph[1] Professor V. KAFKA emphasizes the fact that research has hitherto been diverted from the study of cerebro-spinal fluid itself to its more practical application to clinical medicine, and especially to the often doubtful interpretations of the varying appearances and composition of the fluid and their relations to the diagnosis of diseased conditions. Concentrating primarily on the appearance, composition, origin, and function of normal cerebro-spinal fluid, he has endeavoured, by collecting and reviewing the many available observations on the subject, to define more clearly the, as yet, uncertain limits of the normal and pathological fluids. The greater part of the book is concerned with the general characters of cerebro-spinal fluid, its macroscopic and microscopic appearances, its chemical composition, and its physical and chemical properties. It provides a great mass of information of rather unequal value, including many conflicting statements by different observers which are not sufficiently commented upon; indeed, the astonishing number of references to the work of others, together with the relative scarcity of paragraphs and frequent abrupt changes of the subjects discussed, have reduced this section to a catalogue, involving much repetition, and interruption to intelligent reading. Possibly some of the confusion could have been avoided by freer employment of tables.

After a useful chapter on the anatomical relations and boundaries of the fluid, the author discusses the place of origin, the nature, and function of the fluid. He considers it is now safe to assert that under normal conditions the cerebro-spinal fluid probably arises solely from the choroid plexus, which is not only the site of its formation but also of its "permeability." How far, if at all, this is shared by the tissues cannot as yet be completely answered. In certain pathological states the choroid plexus is certainly not the only site of origin of the fluid. Whether the fluid should be regarded strictly as a secretion or rather as an exudate or transudate is not clear. Professor Kafka considers that the process of the formation of cerebro-spinal fluid is very complex, for the most part physico-chemical and only to be described as biological; perhaps the expression "absorptive secretion" (Fleischmann) conveys the best idea. The fluid is chiefly a pressure-regulating mechanism; it provides also an optimum medium for the living nerve tissue; it acts as a defence against infection.

This monograph will be of great use as a book of reference; the bibliography, which extends to upwards of 100 pages, is conveniently arranged in sections corresponding with those of the text.

GASTRO-DUODENAL RADIOGRAPHY

During the last few years a number of atlases of radiology have appeared. As a rule they are expensive and are written for the use of experts. The little book by RAMOND and JACQUELIN[2] will appeal to a wider class of reader. It describes in small compass the various appear-

[1] *Die Zerebrospinalflussigkeit.* Von Professor Dr. med. V. Kafka. Leipzig und Wien: F. Deuticke. 1930. (Pp. x + 400; 46 figures. M.30.)

[2] *Radiologie de l'estomac et du duodénum.* Par Félix Ramond et Charles Jacquelin. 2e édition. Paris: N. Maloine. 1930. (Pp. 206; 167 figures. 35 fr.)

ances on the *x*-ray screen of the stomach and duodenum under normal and pathological conditions. The descriptions of apparatus and technique are packed into a few pages, readers being referred for fuller information to other and bigger books. The authors insist that a full clinical examination of the patient should be made before the *x*-ray examination; and that a complete *x*-ray examination is necessary, even though only a single organ seems affected. Much more is gained by observing the contours and movements of the stomach on the screen than by photography. The authors advocate the use of radiographs for confirmation of detail, but themselves prefer a rapid sketch of the screen appearance made on transparent paper placed in front of the screen. Throughout the book the illustrations are sketches made in this way. The usual ground of the normal position and shape of the stomach is covered, and succeeding chapters describe appearances in pathological states of stomach, duodenum, and adjacent organs, such as the gall-bladder. The shadowgraphs are so clear that the text can be followed easily with only a small knowledge of French. The descriptions are usually adequate, though modern advances in defining the gastric mucosal folds in chronic gastritis and its associated states are scarcely mentioned. The book may be read with benefit by practitioners who wish to interpret the *x*-ray films sent to them by radiologists. Radiologists themselves will not find much new to interest them, though the illustrations by shadowgraph are well worthy of study.

SURGICAL EMERGENCIES

A book on surgical emergencies should be written by a young man who is actually engaged in the practice of surgery, and whose views are not mellowed by time but sharpened by immediate experience. In *Emergency Surgery*, vol. i,[3] by Mr. HAMILTON BAILEY, we have such a book, and, as he remarks in the preface, this subject has been engaging his attention over some years. This volume deals with the emergency surgery of the abdomen, female generative organs, and the genito-urinary system. A second, in course of preparation, is to include the other systems.

The book is clearly written, the operations are explained in detail without unnecessary padding, and the author's views are set forth in a dogmatic manner which is no disadvantage in the majority of instances, as it avoids alternative methods which may be merely confusing to the reader. In regard to acute appendicitis the reviewer disagrees with the author's views on delayed operation after forty-eight hours, even when the patient is watched on the "threshold of the operating theatre," and as the book is especially written for the "comparatively isolated surgeon" it would perhaps have been better not to stress the Ochsner treatment. The abdominal section is well done and the reasons for procedure are clearly put forward, especially the remarks on gastro-enterostomy in perforated gastric and duodenal ulcers, although suprapubic drainage is not in our opinion so necessary as the author makes out. His views on the treatment of severe haematemesis from a chronic gastric ulcer are sound, and there appears adequate reason for stressing the advantages of transfusion and retransfusion in these cases, even though the ulcer is still bleeding. The sections on the kidney, bladder, and prostate are also clearly written and concise, and here the surgeon will find many useful hints for dealing with awkward situations. Throughout the book there is a commendable absence of the use of intricate surgical instruments, and there is much to be said for Mr. Bailey's opinion, stated in the first few pages, that catgut of a higher number than 0 is rarely necessary.

The illustrations are numerous and very clear, and are reproduced in the excellent manner that we now expect from the publishing house of Wright.

[3] *Emergency Surgery*. By Hamilton Bailey, F.R.C.S. Vol. i: Abdomen and Pelvis. Bristol: J. Wright and Sons, Ltd.; London: Simpkin Marshall, Ltd. 1930. (Pp. xviii + 380; 324 figures. 25s. net.)

A HEALTH CENTRE

University settlements and kindred organizations for social work are usually founded on a religious basis, though some of them have a medical department or certain medical activities associated with them. There is no reason, however, why valuable and extensive social work of the same type should not be founded on a health basis, with medical activities as the main, the central, the essential portion of the work. An interesting account of the inception, the development, and the practical outcome of such a medical settlement (or, as the authors call it, "the pioneer health centre") will be found in a small volume entitled *The Case for Action*,[4] by Drs. INNES H. PEARSE and G. SCOTT WILLIAMSON. It is commended to the notice of readers by Lord Moynihan and the Master of Balliol. The work of the health centre set out in this book is indeed commendable on many grounds, and noteworthy because, both in its doing and in its description, stress is laid on certain principles which, while they have been recognized for a considerable time, have of late years occupied a place of growing importance in the sphere of health and of medicine. The three most fundamental of these may perhaps be stated thus: not only must the preventive aspects of medicine be continually borne in mind, but the development of all functions of the body and mind to the greatest extent possible must be the aim; medical work and social work, the medical practitioner and the social worker, constitute an essential partnership; and psychological knowledge and considerations are at least as important as knowledge of the physical frame and its abnormalities in dealing with individual and family health. Other points, of a somewhat different character, that are brought out, are the importance of the father in family life and in the rearing of children, and the advantage of throwing as much responsibility as possible upon parents and individuals instead of relying wholly or mainly on State or communal action.

Now none of these things is quite a new discovery, and every one of them has been given practical recognition as a part of medical work of various kinds, sometimes very extensively, though perhaps not with such full co-ordination as has been effected and described by Drs. Pearse and Williamson. It is a pity, therefore, that the book is pervaded by a sort of exaggeration, and that there should be some appearance of depreciation of the work of private medical practitioners, of hospitals, and of county or municipal centres conducted on the same principles within their respective spheres. It is fair to say that the authors do not actually blame such practitioners, institutions, or organizations; they merely assume that circumstances make it inherently impossible for them to do good work on similar lines. As an instance of exaggeration is this: "Official reports state that over 1,000,000 children in this country are too unfit to take advantage of the education offered them by the State and paid for by the taxpayer." Again, "Owing to the provision of a periodic medical overhaul disease was discovered and brought to treatment perhaps on an average six to ten years before in the ordinary course of events it would have reached a doctor's consulting room." On what evidence can such a statement

[4] *The Case for Action*. By Innes H. Pearse, M.D., B.S., and G. Scott Williamson, *M.C.*, M.D.Ed. With preface by Lord Moynihan, K.C.M.G., C.B., and A. D. Lindsay, C.B.E., LL.D. London: Faber and Faber, Ltd. 1931. (Pp. xii + 171; illustrated. 5s. net.)

be based, even if much virtue be found in " perhaps "? Concerning the general practitioner, the following statements, with others of like implication, are made: " Even the doctor is no longer the family doctor. He is now the panel doctor dealing with the insured members of the family only." Speaking of the patient discharged from hospital after a serious illness, " Who is to look after him? The hospital is too occupied with the next urgent case. His panel doctor, whom he has never visited, knows nothing about him or his illness. The panel doctor is fully occupied treating the sick and has no time to give to those who appear well." Speaking of married women with uterine symptoms, " A private doctor, particularly a man, is reluctant to make the necessary examination unless the need is urgent and pressing." Speaking of an inveterate smoker, a woman who had severe laryngitis, " The woman would not have been content with mere advice from any doctor she had called in to treat her."

Passages like these, giving a wrong idea of what we believe to be the usual relationship between doctor and patient in general and insurance practice, could be multiplied. The authors seem to take it for granted that in ordinary working-class medical practice no attempt is made to keep patients well, no attention is paid to them unless they are definitely ill, no correction of bad habits is suggested, and no account is taken of home conditions or family relationships. This assumed state of affairs, in both private and hospital work, is described as "deplorable yet inevitable." The authors may be comforted: the inferences they have drawn from personal observation are not of universal application. Apart from the matters we have criticized, their book is valuable and suggestive in its description of an experiment conducted on correct principles and sound lines.

FIRST LINES ON CANCER

Cancer and Scientific Research,[5] by Dr. BARBARA HOLMES, is one of a series entitled "The Sheldon Books of Popular Science," edited by Dr. and Mrs. Needham. The editors remark in a prefatory note that our present age is dominated by science and that therefore it is desirable for the general public to know something of the methods and outlook of science. The purpose of the series is to provide such information written by scientists in untechnical language. Sir Frederick Hopkins contributes a preface to the volume under review in which he expresses the hope that the instruction of the lay public in the facts concerning cancer may do something to dispel the half superstitious element in the dread which this malady inspires.

Mrs. Holmes has endeavoured to give a simple account of the salient facts established about cancer. The book opens with an account of the history of the disease and of the evidence concerning its present incidence. The influence of occupation and heredity on the occurrence of cancer is discussed. Finally, a short account is given of the points of chief interest that have been established by the prolonged researches on experimental cancer and tissue culture. This short summary indicates the width of the field with which the book deals, for the problems arising involve vital statistics, laws of heredity, biochemistry, cytology, and even the theory of immunity. The author shows remarkable skill in explaining the salient points in simple language.

The two essential things about a book of this kind are, first, that the picture it presents should convey a correct general impression of the subject, and, secondly, that it should be readable. Mrs. Holmes's little book passes both these tests with credit. Though intended primarily for the lay public it can be recommended to the medical profession, for not only is it interesting, but those who are not specialists in cancer research will find here a large amount of information that probably is new to them.

[5] *Cancer and Scientific Research*. By Barbara Holmes, Ph.D. With a preface by Professor Sir F. G. Hopkins. London: The Sheldon Press. 1931. (Pp. viii + 160; illustrated. 3s. 6d. net.)

BIOLOGICAL DATA AND BELIEFS

In his book *The Progress of Life*[6] it is the avowed intention of Professor MEEK " to indicate a way to recover that elasticity of conception of the process of evolution which the behaviour of protoplasm invites and which the germ-plasm theory of development has for so many years prevented." The endeavour to denude theories of superfluous hypotheses and to expose the weakness of false doctrines is an admirable objective, and having read the preface we looked forward hopefully to a broad and stimulating exposition of evolutionary concepts. But we were disappointed. *The Progress of Life* is an encyclopaedia of biological facts, chiefly relating to morphology, but for the reader there is a serious risk that, having studied it, he will fail to see the wood on account of the trees. It may be that the author has succeeded in his purpose, but the impression which remains after carefully reading this book is that he has been embarrassed by the extent of his own knowledge. He introduces such a vast array of material to exemplify his argument that the reader is bewildered, and searches in vain for a sustained and continuous theme. This is much to be regretted, as there are many who will agree that the time has come when it is desirable to survey the claims to validity of the several " biological creeds " to which the author refers.

NOTES ON BOOKS

The third edition of the *Manual of Physiology*,[7] by LYLE and DE SOUZA, has now been published. Considering its size it contains an astonishingly large amount of matter, well expressed, and on the whole with due emphasis on the essentials. It will certainly serve as a good synopsis of the subject. In the next edition the revision might be even more thorough. The small book, for instance, tends to be rather overloaded with chemical formulae, and there is included a certain amount of matter of little value for the medical student. Some reference, too, in the present edition might have been made to the modern work on the apparent relationship between the activity of the ovary and the pars anterior of the pituitary, to the effect of liver extracts on the formation of the erythrocytes, and to blood grouping—all subjects of interest in applied physiology.

In a practical little work, clear and precise, Dr. H. JUMON has written a most interesting monograph on Infantile Asthma and its Associated Reactions.[8] He confines his investigations to true asthma occurring in children at some time in the first six years of life and disappearing at puberty or shortly before it. He discusses the associated occurrence of skin irritation, and goes fully into the matter of acetonaemia, which he considers is at the root of most of the trouble. Generally speaking, colloidoclastic shock, chiefly influenced by weather conditions, is found as the basis of the attacks; the inherited asthmatic " soil " demonstrates its peculiarities by insufficiency and by instability of the vegetative nervous system. Dr. Jumon regards this special form of infantile asthma as a syndrome, which he calls " syndrome arthritique infantile." He has

[6] *The Progress of Life*. By Alexander Meek, D.Sc. London: E. Arnold and Co. 1930. (Pp. vii + 193; 10 figures. 10s. 6d. net.)

[7] *Manual of Physiology*. By H. Willoughby Lyle, M.D., B.S., F.R.C.S., and David de Souza, M.D., D.Sc., F.R.C.P. Third edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1930. (Pp. xvi + 820; 138 figures, 3 plates. 16s. net.)

[8] *L'asthme infantile*. Par H. Jumon. Paris: N. Maloine. 1931. (Pp. 139. 18 fr.)

nothing new to say about treatment, but he discusses critically the numerous remedies already well known to the profession.

The monograph on Epidemic Infantile Paralysis,[9] forming volume xi of Lehmann's medical textbooks, by Professor FRITZ LANGE, the well-known orthopaedic surgeon of Munich, is based on his thirty-five years' experience of the disease, and claims to be the only comprehensive modern German work on the subject. The first three chapters and the last, which between them deal with the history, pathogenesis, and symptomatology of poliomyelitis and other forms of infantile paralysis, and general treatment, will appeal to the physician. The greater part of the book is taken up by a consideration of the orthopaedic treatment of poliomyelitis, particularly the transplantation of tendons and the use of artificial ligaments, consisting of strands of silk, which Lange was the first to introduce. The text is liberally interspersed with excellent photographs, and eight coloured plates are appended.

The well-merited popularity of the Compendium of Social Hygiene[10] by Professor B. CHAJES, of which a revised and enlarged third edition has recently been published, is shown by the fact that it has been translated into Polish, Russian, Japanese, and Ukrainian. After an interesting introduction dealing with the scope and history of social hygiene the author discusses in turn medical statistics, the social hygiene of housing, feeding and clothing, tuberculosis, venereal diseases, alcoholism, the social hygiene of childhood, industrial hygiene, eugenics, and sanitary organization in Germany, where a Ministry of Health is still unknown in spite of its existence in at least thirty other countries. A bibliography of 114 references to exclusively German books and periodic literature dealing with social hygiene is appended. The text is interspersed with numerous tables, which will be of value even to those whose knowledge of German is imperfect.

Among the numerous drugs discussed in Part III of *E. Merck's Annual Report*[11] for 1930, the following have especial interest. Oral tetragnost is the name given to a new preparation of sodium tetra-iodo-phenolphthalein suitable for oral administration. The unpleasant side-effects apt to result from intravenous injection of this drug are well known, but it has been found difficult to devise a method of oral administration which can be relied upon to give a good picture of the gall-bladder. A report on the clinical use of oral tetragnost gives detailed instructions for the preparation of the patient, and the author states that, provided his technique is accurately carried out, a satisfactory result can be obtained in 80 per cent. of cases. Nearly twenty pages of the report are devoted to vigantol (irradiated ergosterol). The dose recommended is from 0.5 to 1 mg. of the pure preparation (7 to 14 drops of standardized vigantol). The standardized vigantol is stated to be about twice the strength of the American viosterol, which is standardized to have an activity 100 times that of a high-class cod-liver oil. Considerable space is devoted to the question of hypervitaminosis, for apparently the popularity of vigantol in Germany has led to this condition being termed "vigantol poisoning." Messrs. Merck point out that clinical cases of poisoning by excess of ergosterol are very rare, and that there is a general agreement that all forms of irradiated ergostcrol are equally apt to cause poisoning when given in massive doses to animals. Some space is devoted to the controversy over the value of irradiated milk. Most of the authors quoted consider that the vitamin content of such milk is too low to be efficacious as a curative agent.

[9] *Die Epidemische Kinderlähmung.* Von Geh. Hofrat Professor Dr. Fritz Lange. Munich: J. F. Lehmann. 1930. (Pp. x + 322; 397 figures, 8 plates. M.22.)

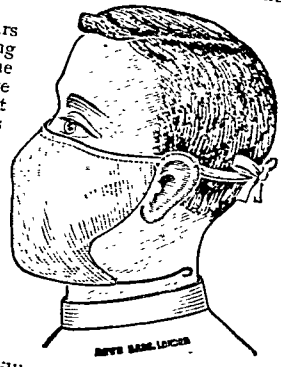
[10] *Kompendium der Sozialen Hygiene.* Von Professor Dr. B. Chajes. Dritte Auflage. Leipzig: H. Kornfeld. 1931. (Pp. 167. M.11.40.)

[11] *E. Merck's Annual Report, 1930.* Part III. English edition. Darmstadt: E. Merck. 1931. (Pp. 339–508; illustrated. Forwarded, free of charge, on application, to any member of the medical profession.)

PREPARATIONS AND APPLIANCES

A SIMPLE FACE MASK FOR MIDWIFERY WORK

Dr. HOWARD E. COLLIER (Redditch) writes: The belief that many cases of puerperal sepsis result either directly or indirectly from infection from the throats, noses, etc., of those who are in attendance upon the cases and who are carriers of virulent organisms, has been growing in strength during the last few years. Therefore it has become necessary that some efficient means should be devised for protection from droplet infection. A good maternity mask should conform to the following requirements: *(a)* it should be cheap; *(b)* it should be comfortable to wear; *(c)* it *must* be efficient to prevent the passage of organisms through it; *(d)* it should be easy to sterilize.



During the last three years I have been experimenting with different masks, the essential parts of which have been a shield of jaconet mounted upon various kinds of frames. At first I used a head-phone band, later a Seymour Jones spectacle frame, and now, on the advice of the makers (Messrs. Down Bros., London) the jaconet shield has been attached to a strip of flexible aluminium. The mask has been submitted to Dr. Leonard Colebrook of the inoculation department of St. Mary's Hospital, to Professor Miles Phillips of Sheffield, and to Professor Beckwith Whitehouse of Birmingham. As the result of their advice and criticism the present mask is submitted for general use.

It consists of a piece of jaconet applied to a strip of flexible aluminium, to the ends of which tapes are attached, which are tied round the back of the head. The strip is moulded by the wearer to the shape of his nose and face. To the lower part of the jaconet is attached a light, open, metal neck-spring, which serves to prevent the mask from flapping forward when the wearer bends forward. The mask can be sterilized by simple washing in a strong antiseptic solution. It is germ-proof, does not fog the glasses, can be worn in any place, and is reasonably comfortable to wear. The price is 1s. I feel sure that its general use by doctors and midwives would materially lessen the incidence of puerperal sepsis.

NEMBUTAL

Nembutal "844" (Messrs. Spicer and Co., Ltd.) is a barbituric acid derivative with the constitution of sodium ethyl methyl-butyl barbiturate. The barbituric acid derivatives have been subjected to intensive research in recent years with the purpose of finding some compound suitable for use as a sedative for preliminary medication in general, spinal, or local anaesthesia. Comparative analysis of the modes of action of members of this series has revealed interesting differences in their pharmacological actions. Some derivatives are eliminated slowly from the body and produce a prolonged action, whereas others are eliminated more rapidly and produce a shorter action. Considerable variations have also been found in the therapeutic ratios (effective narcotic dose: fatal dose). Nembutal is a powerful hypnotic, but it is of the short-acting class, for recovery occurs in four hours; it is therefore particularly suitable for preliminary medication in anaesthesia. Like many others of the more complex barbiturates it hydrolyses on keeping in aqueous solution, and solutions for intravenous injection must be prepared shortly before use. The makers direct that it should be dissolved in sterile distilled water, and, presumably, it is undesirable to boil the solution. The drug has been used with success in a large number of surgical cases. The makers emphasize the necessity of following exactly the directions regarding dosage, rate of injection, etc. The drug can be given either intravenously or by rectal injection as a preliminary medication in anaesthesia.

DESICCATED STOMACH

Gaster siccata (B.D.H.) is prepared from selected stomachs of animals certified healthy. The preparation is intended for use in pernicious anaemia. Several authors have reported in these columns and elsewhere that treatment with dried stomach produces results in pernicious anaemia equal to those produced by liver treatment. The preparation under notice is an insoluble powder, which can be given suspended in milk. The dose recommended is from to 30 grams.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

250TH ANNIVERSARY

Centenary celebrations are much in the air at present, and it has become the fashion to hold minor commemorations at the intervening fifty-year periods. It is natural, therefore, that the Royal College of Physicians of Edinburgh should celebrate on St. Andrew's Day of this year the 250th anniversary of its foundation on November 29th, 1681.

In 1505 James IV confirmed a charter incorporating the Guild of Surgeons and Barbers in Edinburgh, and out of this, the first medical corporation in Scotland, the Royal College of Surgeons developed. James VI of Scotland and I of England granted in 1599 a charter to Mr. Peter Lowe and Mr. Robert Hamilton in the West of Scotland to test the skill of any persons practising surgery in that part of the country, and from this sprang the Royal Faculty of Physicians and Surgeons in Glasgow. In 1621 the same king signed an order to the Scottish Parliament to erect a College of Physicians in Scotland which would function from Edinburgh. This project, however, was strongly opposed by the bishops, the Corporation of Surgeons of Edinburgh, and the universities, which then had some notion of establishing medical schools of their own. The plan for a College of Physicians, therefore, did not mature till 1681, when, through the good offices of Sir Charles Scarborough with King Charles II and Prince James, a charter was granted to Sir Robert Sibbald and twenty associates, empowering them to found a College of Physicians in Edinburgh. The Great Seal was affixed to this charter on November 29th, 1681, being St. Andrew's Day, and the College thereupon came into being. Under the charter the new College was empowered to draw up laws for its government, and for promoting the science of medicine, and regulating its practice within the city of Edinburgh and Leith. The College was also empowered to examine the apothecaries and test their medicines in this city, and the Fellows at once set about drawing up a *Pharmacopoeia*, which was finally published in 1699. It went through thirteen editions, and did much to standardize medicine in Scotland until the first issue of the *British Pharmacopoeia* in 1864. One of the earliest and most productive efforts of the College of Physicians developed from the idea entertained by some of its Fellows to found a regular medical school in Edinburgh. Sir Robert Sibbald and a few of his friends had already, about 1670, laid out a physic garden in the city, and induced the town council to appoint a professor of botany.

Dr. Archibald Pitcairne, one of the original Fellows of the College of Physicians, who had been professor of medicine at Leyden and the instructor of the later celebrated Boerhaave, began in 1700 to reorganize anatomical teaching at Edinburgh under the Incorporation of Surgeons, with the result that in 1720 Alexander Monro was appointed professor of this subject by the town council. In 1724 four Fellows of the College of Physicians —Dr. John Rutherford, Dr. Andrew St. Clair, Dr. Andrew Plummer, and Dr. John Innes—purchased a house for a "chemical elaboratory," and commenced to teach the various branches of medicine, being appointed professors by the town council two years later. After a professor of midwifery had been appointed in the person of Mr. Gibson, who belonged to the Incorporation of Surgeons, the Medical Faculty of Edinburgh University was complete, largely by the efforts of Fellows of the College of Physicians.

An early activity of the College of Physicians which has had far-reaching effects in medicine was the establishment of the Royal Infirmary of Edinburgh. In 1725 the College opened a subscription list to erect an infirmary for the sick poor, the College binding itself that one or more of its Fellows would attend this hospital faithfully and freely, and by August, 1729, a small hospital with six beds was established. The managers of this institution at an early meeting resolved that only Fellows of the Royal College of Physicians should in time to come act as physicians to the Infirmary. From time to time in the next two centuries when the Infirmary was in need of funds the College of Physicians came to its assistance with substantial aid.

HALL OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.

From an early date the College of Physicians conducted examinations for the purpose of licensing persons who desired to practise as physicians within the jurisdiction of the College, and in course of time, after the passing of the Medical Act of 1858, the College of Physicians combined with the Royal College of Surgeons at Edinburgh and the Royal Faculty of Physicians and Surgeons in Glasgow to establish the Scottish triple qualification. Various other medical activities engaged the College from time to time. At its beginning the College laid the foundations of a library, to which every entrant was expected to contribute a book or books, and the library now contains well over 100,000 volumes, many of them being early books of rarity and value. A College Hall was established, which changed its site with the development of the city, and is now located in a handsome building at 9, Queen Street, Edinburgh. With the development of scientific research the College, in 1889, established a laboratory in a small house in Lauriston Lane, close to the Royal Infirmary. So fruitful was the work done here that from 1915 an annual volume of reports has been published, and a great amount of routine reporting has been carried out, the reports numbering in all about 15,000. In addition to the Royal Infirmary, many other medical institutions of Edinburgh owe their inception or their foundation in large part to Fellows of the College. Among these are the Royal Mental Hospital at Morningside, the Royal Public Dispensary, the Royal Blind Asylum, and the Royal Maternity Hospital.

British Medical Journal

SATURDAY, FEBRUARY 28th, 1931

IODINE IN RELATION TO GOITRE

The empirical use of iodine in the treatment of goitre dates from 1820, soon after the chemical isolation of iodine. The observations of Coindet at that time proved that some cases of goitre were cured by internal medication with iodine or by its application as a salve over the thyroid gland. Iodine still remains the most potent of all remedies in the treatment of parenchymatous goitre. Not all cases, however, respond to treatment with iodine; and some are made worse if the dosage is excessive. Intoxication from excessive iodine medication in cases of struma may closely simulate Graves's disease, producing rapid heart action, muscle tremor, loss of weight, and increased rate of basal metabolism. It seemed somewhat rash, therefore, of Plummer in 1922 to advocate the administration of iodine in the treatment of exophthalmic goitre; but the experience of surgeons throughout the world has confirmed the value of iodine medication, both pre-operatively in improving the patient's general condition and in reducing the operative risk, and after the operation in promoting convalescence and ensuring stabilization of the result obtained. Biochemical research showed the importance of iodine in the tissues of the thyroid gland as compared with other parts of the body structure, and culminated in Kendall's isolation of the thyroid hormone, thyroxine, which on analysis proved to contain a high proportion of iodine.

It would seem reasonable to suppose that a deficiency in iodine is a causative factor in endemic goitre, but the many observations brought forward in proof of this thesis have not found universal acceptance. Chatin studied for years the distribution of iodine in various parts of France and Switzerland, and became convinced that a deficiency of iodine was a cause of goitre and cretinism. But commissions set up by the Paris Academy, while confirming his chemical results, did not accept his conclusions as to the cause of goitre. McCarrison, as the result of observations on endemic goitre in India, was led to believe that the determining factor in the development of this condition was a toxic agent derived from the alimentary tract rather than a deficiency of iodine in water or food. A recent revival of interest in the problem is shown by the publication of careful work carried out in places where goitre is endemic. Kimball, for instance, has reported the results of exhaustive goitre surveys and water analyses in Michigan, U.S.A.; the iodine content of the water supply appeared to be inversely proportional to the incidence of goitre.

During the last few years investigations made in New Zealand, where in places goitre is endemic, led to a restatement of the hypothesis that the incidence of goitre was related inversely to the iodine content of the soil. Hercus, Benson, and Carter, in 1925, published the data obtained from the analyses of 470 soil samples, and the examination of 80,750 children. In a more intensive study by R. A. Shore and R. L. Andrew,[1] as a result of the examination of 24,000 school children, and the analysis of 300 soils in certain well-defined districts in the North Island of New Zealand, the same interesting inverse relationship is in the main established. The report is valuable in that the analysis was entirely done by one worker, while the goitre percentages were compiled by another, and the results of the work carried out independently by each observer were afterwards collated. No relation was found between the iodine content of the potable waters and the incidence of goitre. This may, of course, be due to the fact that a great deal of the water supply comes from upland surface reservoirs, largely dependent on melting snow for replenishment, and much less from deep springs, which are more likely to contain iodine. In other parts of the world—for example, in Finland[2]—evidence was obtained of a positive relation between the prevalence of goitre and a low iodine content of water, though many exceptions were found. It would indeed be surprising if a close nexus were proved, under modern conditions of exchange of foodstuffs between different districts and importation from other countries. It would be difficult to find a people living only on the produce of its own district, enabling a clean experiment to be made. The results obtained by Shore and Andrew in New Zealand are therefore the more striking in that where there is a high iodine content in the soil there is a low incidence of goitre, and where there is a low iodine content there is a high incidence of goitre.

Another method of investigation is to examine the iodine excretion rather than the iodine absorption. Under normal conditions about 60 per cent. of the iodine excretion occurs through the kidneys. It was shown by v. Fellenberg that the amount of iodine excreted by normal adults in twenty-four hours was considerably greater in districts where goitre was rare than in those in which goitre was prevalent; while Lunde[3] showed that the renal excretion of iodine of normal adults in a Norwegian goitrous district was considerably diminished where there was a large percentage of goitre among the school children of the same region. It appears, therefore, that in many places the occurrence of endemic goitre corresponds with a lack of iodine. Lack of iodine may not be the only cause of goitre, however; and McCarrison, Tanabe, and, more recently, Hellwig,[4] have brought forward evidence from animal experiments that the positive factor in the causation of goitre is the high calcium content of the drinking water. This may act by interfering with the absorption of iodine, even if the latter be present in otherwise sufficient amounts.

While the question of the iodine content of the environment in relation to the prevalence of goitre is

[1] Goitre in School Children. Report of the Departments of Health and Scientific and Industrial Research. Wellington. 1929.
[2] *British Medical Journal*, 1929, ii, 62.
[3] Lunde: *Klin. Woch.*, 1930, ix, 865.
[4] Hellwig: Ibid., 1930, ix, 1913.

thus still open, it may fairly be presumed that a gland which contains such a relatively large amount of iodine must have an adequate supply of iodine in order to continue to function normally. Attempts to increase the amount of iodine ingested by using iodized salt have apparently lessened the goitre incidence in school children in districts of the United States of America and in New Zealand. Since sea-fish contain a considerable amount of iodine, the addition of sea-fish to the diet has also been advocated. Many workers have published their views and observations on the problem of the relation of iodine to the causation of goitre. There is, at present, no general agreement; but the issues are becoming clearer, and it is to be expected that the work being done in various parts of the world may lead to a conclusion that will offer a convincing solution to the problem.

MEDICAL EDUCATION IN WALES

The history of medical education in Wales, though relatively short, has been full of incident, but there seems every prospect that the Welsh National School of Medicine will soon be in a position, if it is not actually so at present, to forget as much of its past as it desires to do, and to concentrate on the future. As long ago as the nineties the pre-clinical subjects were taught at Cardiff in departments of the University College of South Wales and Monmouthshire, the students proceeding later to London and other centres for their clinical training. But when the University of Wales was founded it was decided to provide a complete medical education in Wales, and a School of Medicine was established under the dual control of the University and the College at Cardiff.

The Welsh people have a strongly developed national sense, and those best able to appreciate the position have always been convinced that Wales would eventually produce a medical school worthy of her people. But the birth pangs have been severe. From the first it was clear that the proposed dual control was too much for any young institution to bear. Cardiff College was reluctant to relinquish the control of the new school which it had done so much to develop, and the rest of Wales was equally insistent that the new Welsh National School of Medicine should be the property of Wales and not of any one Welsh city. At one time it seemed even possible that the project would fail altogether as the result of internal dissension; but happily a complete breakdown has been avoided, and there seems every likelihood that peace has at last been attained. The University of Wales, the University College of South Wales and Monmouthshire, and the Welsh National School of Medicine, have been granted charters and supplemental charters, in which the position has been defined, it may be hoped, to the satisfaction of all parties. The Welsh National School of Medicine now becomes an independent constituent school of the University, but the departments of the pre-clinical year will be under a joint academic committee of the School and College. The interest of the College in the departments which it had established long before the complete school was contemplated is thus preserved. Further, it has been agreed that should the Federal University of Wales at any time become broken up, the School of Medicine will form part of a new University of South Wales and Monmouthshire at Cardiff.

Whether the possibility thus foreshadowed has any stronger basis than an expression of civic patriotism only those on the spot can tell. But, whatever the future developments may be, it is to be sincerely hoped that the School of Medicine will now enter upon a period of serenity, untroubled by political discussions. The effect on teachers and students alike of such a state of affairs as has existed at Cardiff is incalculably bad. Academic bodies may differ hotly over academic matters with much benefit to themselves and their pupils, but when a scholastic institution becomes a bone of contention, and the contest is declared open to all, the primary object of its existence inevitably suffers. That the Welsh School of Medicine has survived its early troubles is proof of its vitality; if it is allowed to mature unhampered it will assuredly take a worthy place among the medical schools of Great Britain.

PHARMACOLOGICAL LABORATORIES OF THE PHARMACEUTICAL SOCIETY

The Pharmacological Laboratories of the Pharmaceutical Society of Great Britain have now completed five years of work, and we would like to take this opportunity of expressing the indebtedness of the medical profession, both to the society that organized and pays for this laboratory, and to those who have carried on its work in such a successful manner. The purpose of the laboratory is to provide facilities open to all who desire to have drugs standardized biologically, or to obtain an estimate of the vitamin content of foods or drugs. In addition to this routine work the laboratory has carried out valuable research on subjects of great practical importance—such as variations in toxicity of drugs, factors influencing the stability of drugs, and methods of biological standardization. During the nineteenth century the manufacture of drugs passed from the hands of retailers into those of the manufacturing chemist, and at the same time the galenicals began to be replaced to a large extent by synthetic drugs whose purity could be measured by simple chemical tests. The troubles experienced by previous generations of physicians in obtaining drugs of adequate purity appeared to be approaching solution towards the end of last century, but just about that time the progress of medicine introduced a series of new problems. The introduction of such therapeutic agents as antitoxic serums, complex organic compounds used in chemotherapy, endocrine products, and vitamins, raised new difficulties, because for all these substances chemical tests were inadequate to measure either therapeutic activity or toxicity, and hence the need for biological standardization arose. The problem was somewhat similar in form to that which faced the profession in the times of the Tudors, though scientific progress had made it more complex. In those days the physicians

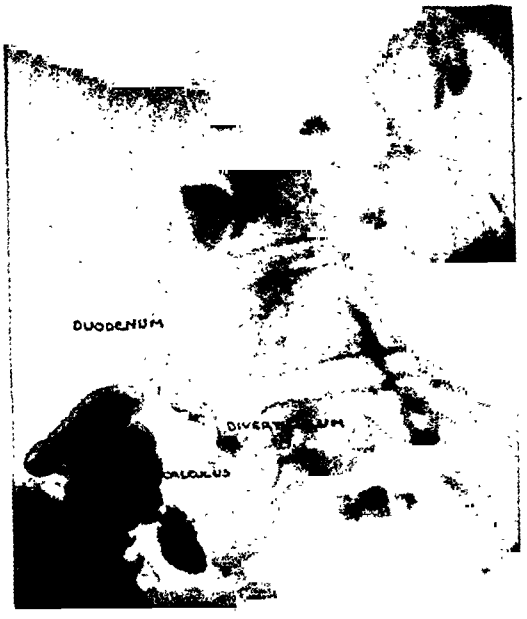


FIG. 1.—Pedunculated diverticulum at the convex side of the third part of the duodenum, with shadow of calculus in close relation to it.

FIG. 2.—Diverticulum fully filled, is masking calculus which can be seen on Fig. 1. Note dilatation of duodenum, indicating some degree of ileus.

FIG. 3.—Small diverticulum of the ileum.

FIG. 4.—Small diverticulum of appendix, with multiple diverticula of the colon.

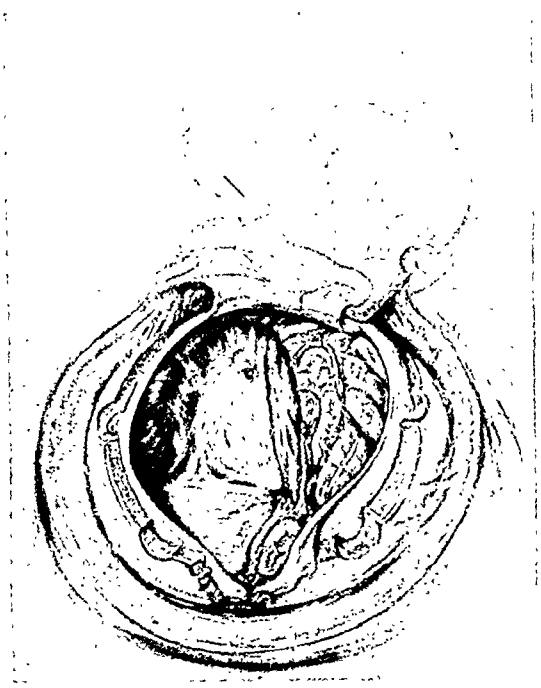


FIG. 1.—Case of multiform spongioblastoma of the left occipital lobe. The lobe has been removed, exposing tentorium and falx.

FIG. 2.—Antero-lateral view of a ventriculogram showing symmetrical ventricular dilatation with the shadows of the calcified choroid plexus on either side.

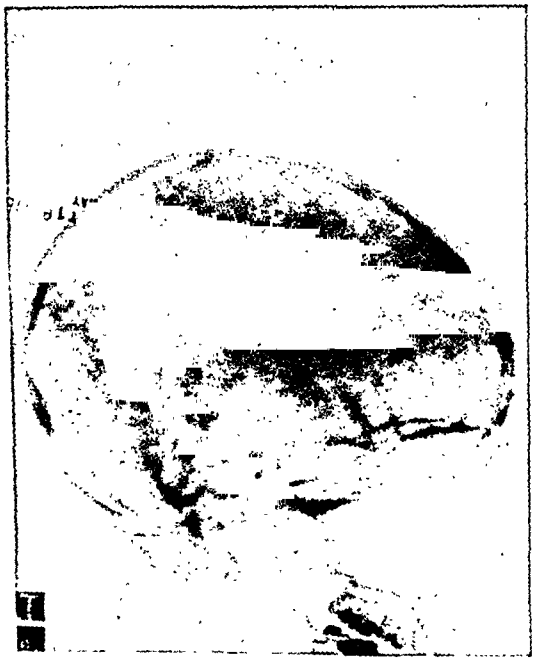


FIG. 3.—Case of oligodendroglioma of the right frontal lobe. Note the granular calcification in the substance of the tumour.

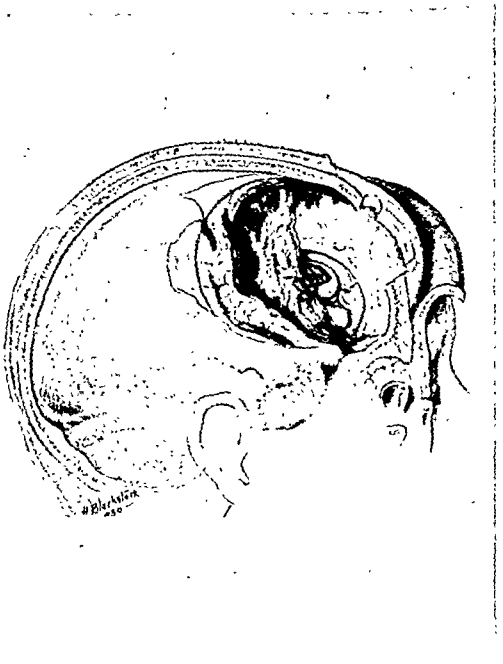


FIG. 4.—A schematized antero-posterior section of the skull to show the amount of removal of cerebral tissue in the case illustrated in Fig. 3. The anterior portion of the falx is exposed.

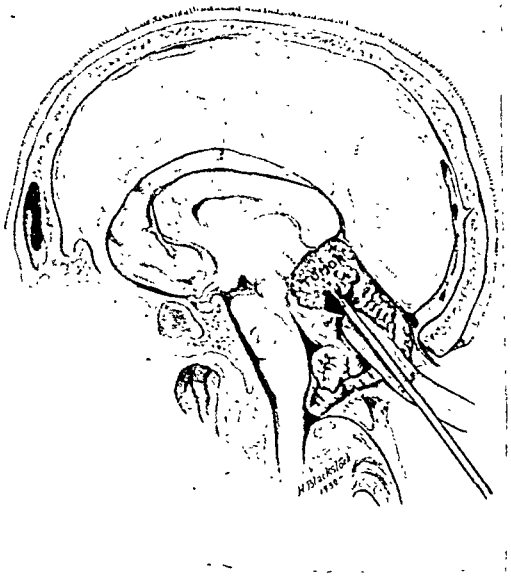


FIG. 5.—Schematic drawing to show the situation of the polar spongioblastoma removed by suction.

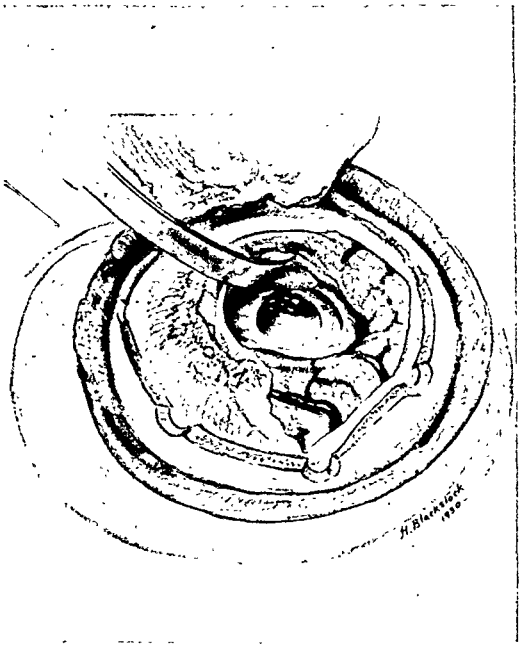


FIG. 6.—The roof has been removed from a cyst in the temporo-parietal region. The edges of the cyst have fallen inwards. The neoplasm itself at the bottom of the cyst is indicated as being dark just beyond the retractor. The walls of the cyst are made up of cerebral tissue and are not neoplastic. The dura was densely adherent to the surface of the brain.

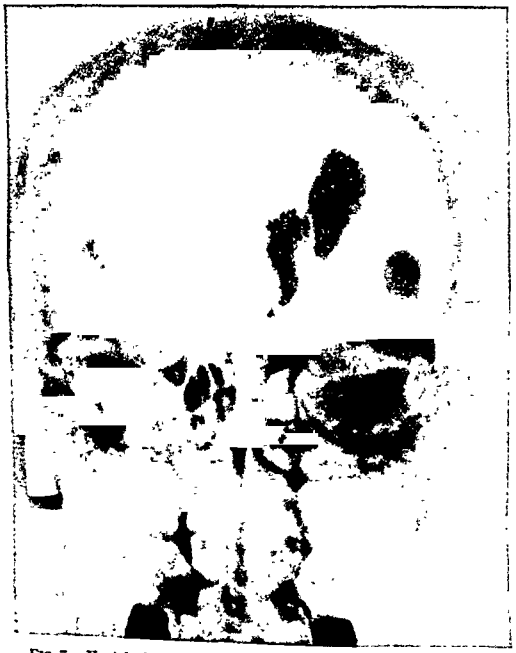


FIG. 7.—Ventriculogram taken with the brow up showing both anterior horns of the third ventricle pushed across to the right by a meningeal fibroblastoma in the posterior portion of the left frontal lobe.

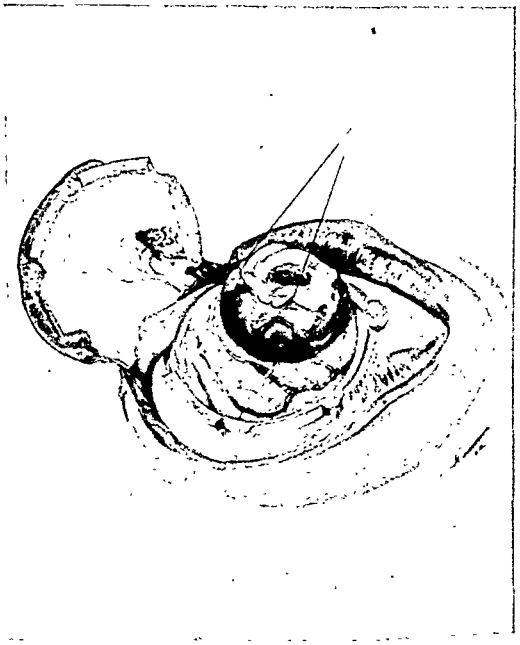


FIG. 8.—Meningeal fibroblastoma being removed from the left frontal region.

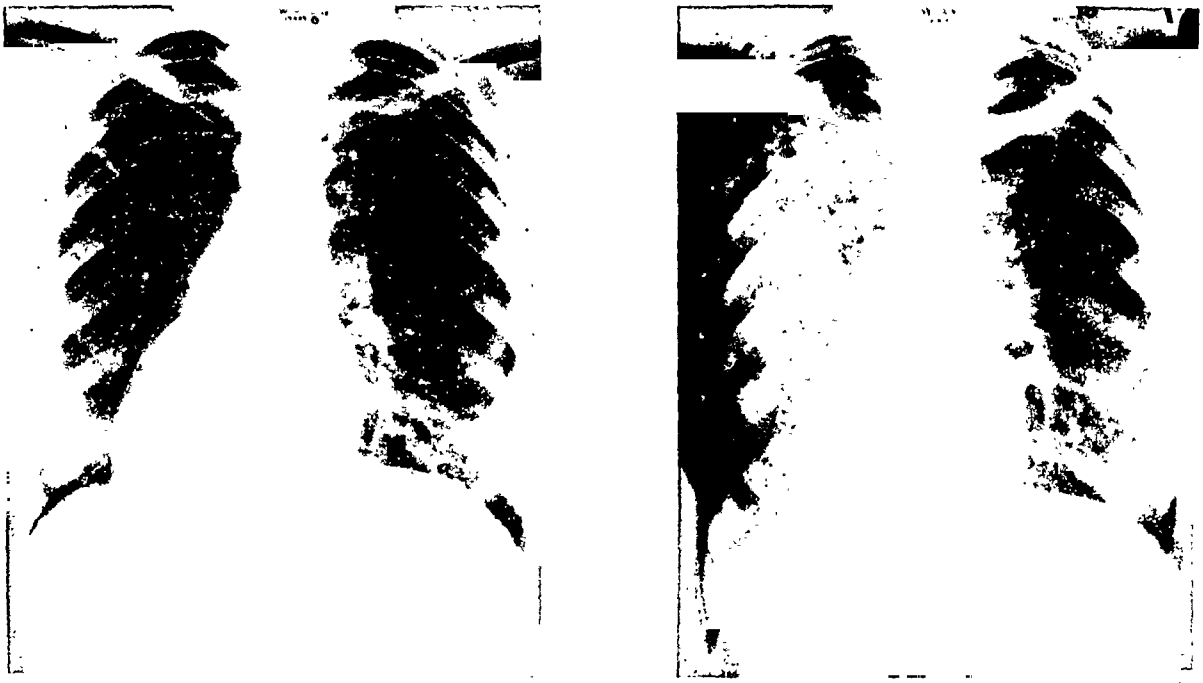


FIG. 1.—Female, 16½, October, 1928. Right: calcified lymph node above 6th post. rib; faint inverted salients below neck of 2nd post. rib. Left: irregular soft clouding in post. 2nd, 3rd, and 4th i.s. FIG. 2.—May, 1930: shows increased lesion. History: December, 192[illegible] below the neck of 2nd rib (r. and l.)—the only parenchymal lesion. February, 1928; lesion on left reached 3rd and 4th post. i.s.; a few rales only. May-October, 1928, patient ambulant in sanatorium; gained 5½ lb., averaged 94 per cent. normal wgt.; [illegible]uary, 1929; slight retrogression. May, 1930; definite rales; pulse and temperature normal. No symptoms.

Male, November, 1927, aged 11. X-ray showed calcified nodules and nodes; same picture March, 1928. September, 1928, TBN was + to 0·01 mg.; temperature 98.6°; wgt. 90 per cent.; no symptoms. October 1, cough; sputum ½ oz.; five specimens negative. FIG. 3.—13/10/28. Right; 2 calcified nodules on 8th and 9th ribs near tip of 5th rib; with four associated nodal calcifications in hilum in 7th and 8th i.s. and on 8th rib; fresh, soft, unequal density in 5th and 6th post. i.s. Oblique films showed this as situated on post. chest wall. The small density in 5th post. i.s. close to spine, is due to a vessel. Left: granular nodal calcification in hilum at 7th post. i.s. Symptoms: morning cough only; patient in bed at home except for dispensary visits. FIG. 4.—increased lesion with central excavation despite gain in wgt., absence of fatigue and fever, and decrease in cough; sputum negative; wgt. 97 per cent.; rest in bed continued. January, 1929, retrogression definitely begun. June, 1929, still improving.

of London were willing, nay even determined, to supervise the activity of the apothecaries and to ensure a supply of reliable drugs, and there was much controversy between the two professions. First, the College of Physicians and then the Society of Apothecaries was given power to inspect drugs. This privilege was associated with the right of entry for the purpose of inspection, and the right to destroy defective medicines. No such eagerness was displayed by these corporations in meeting the drug problems of the twentieth century, possibly because the organization of facilities for biological standardization of drugs involved heavy expense. A solution of the problem was sought by various means. Government action provided for the standardization of various important drugs such as organic arsenicals, many of the larger drug firms instituted laboratories in which they tested their own products, and a certain amount of work was done in university laboratories. There was, however, an obvious need for a public institute in which an authoritative and impartial estimate of the biological activity of preparations could be obtained. The Pharmaceutical Society is to be congratulated on the public spirit which it has shown in providing and maintaining such an institution.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL

In the great development of medical education during the last fifty years, one of the most remarkable changes is the transformation of the medical curriculum and teaching bodies that has occurred in the United States of America. This should be ascribed, first, to the influence of Sir William Osler and the Johns Hopkins Hospital, which has been carried on until the present day by Professor W. H. Welch; and secondly, to Mr. Abraham Flexner's report to the Carnegie Foundation on Medical Education in the United States and Canada, which, acting more rapidly and dramatically, led to the elimination of a number of proprietary schools of medicine, so that now the schools listed by the American Medical Association (which has taken an active part in the good work) are almost all of the "A" category. The instruction in the proprietary schools was, in some instances, very inadequate; there is the notable, and extreme, example of Walter Reed of yellow fever fame, who obtained an M.D. at the University of Virginia in 1869, after one year's medical work. Post-graduate teaching was therefore urgently needed, and with this object many recent M.D.'s flocked to Europe, and especially to Vienna. The desirability of providing these facilities in New York was recognized in 1875, when eight of the teachers in the Faculty of Medicine in New York University, under the leadership of the late Dr. D. B. St. John Roosa, established a post-graduate department in the University. After six years they realized, as many have since done, that under-graduate and post-graduate teaching cannot be successfully combined, and, as the university refused to provide a separate building for the graduates, they took the serious step of resigning their appointments there in order to organize the New York Post-Graduate School. This was in 1882, when post-graduate teaching in London was being advocated, and developed, in a small way, by Sir Jonathan Hutchinson, Sir William Broadbent, and others. It is natural to compare progress in this project in the two great cities, and satisfactory that at the present time both are entering upon a period of great expansion. In London the Government is helping in the establishment of a school and hospital, which, it is hoped, will be worthy of the centre of the Empire, and in New York the Post-Graduate Medical School and Hospital has just been incorporated with Columbia University. The President of Columbia, Dr. Nicholas Murray Butler, who announced this important event at the annual dinner of the New York Post-Graduate Medical School and Hospital on January 31st, gave the union his blessing, and joined the board of directors of the New York Post-Graduate School. Dr. Chace, the president of the school and chairman of the dinner, and Dr. Willard C. Rappleye, the new dean of the school, and lately the director of studies of the Commission of Education, also spoke in terms of gratification. Thus, starting as a secession from a university medical school, and after forty-eight years of independent existence, during which it has improved the education of 27,324 medical men, the post-graduate school now again becomes part of a university.

AN INDEX TO PHYSIOLOGICAL PROGRESS

We welcome the recently published Subject Index to the first sixty volumes of the *Journal of Physiology*,[1] not only as a record of the progress of physiology in this country, but also as a joint memorial to Sir Michael Foster, the virtual founder of that journal, and to one of the greatest of all scientific editors, the late Professor Langley. Those who take the trouble to look through this comprehensive work (prepared by Dr. J. G. Priestley) will be rewarded with a view of the onward march of a science which, since the inception of the *Journal of Physiology*, has been, in a sense, a peculiarly English study. But careful inspection of the subject index, devoid as its pages are of the glamour of distinguishing and distinguished personality, does something more: it reveals the width of interest of our laboratories, and a gradual change in emphasis. Above all, the volume testifies in a striking manner to the catholicity of taste, acumen, critical judgement, and faith of J. N. Langley. It is as much as anything his memorial—a lasting record of a life spent in the service of physiology. The reader who passes in review before his mind's eye the work catalogued in these 200 pages will see reflected therein the genius of the national character. Here is to be found in briefest epitome the tale of attack after attack on the great physiological systems—for example, fourteen and a half columns devoted to striated muscle, fourteen columns to heart, ten columns to respiration, six columns to the nervous system in general, and four columns to the vagus alone. We may not be an imaginative race, but when a problem offers well-nigh insuperable difficulties there is no hesitation. Our men of science do not have to whet their appetite for research on trumpery *hors d'oeuvres*. Long may this interest in the great basal problems, with its accompaniment of hard and often rather dull work, characterize the British race. The *Journal of Physiology* is a noble record of steady work well done.

[1] *The Journal of Physiology*. Subject Index to Volumes 1 to 60. Issued by the Physiological Society and published as a Supplement. January, 1931. London: Cambridge University Press. 1931. (15s. net.)

ACROCYANOSIS

Acrocyanosis, the subject of an interesting and exhaustive study by Dr. Fernand Layani,[1] is a term seldom used in English medicine, and it is curious to remark how insular most countries are in their choice of medical delicacies. Acrocyanosis means persistent blueness of the extremities, and at first sight it might be thought that such a condition was very common in certain circumstances, and but little removed from the physiological state. The pathological nature of the manifestation is to be inferred, however, when it is understood that the blueness of the hands and feet must be accompanied by coldness and by secretion from the sweat glands. Endocrine disturbances, and a high venous pressure, measured by methods current in France, have also come to be associated with the rather imperfectly defined syndrome. Hands afflicted with acrocyanosis are blue, cold, and damp; they may in certain cases be oedematous, and, more rarely, the site of trophic changes. This combination is unusual. We are accustomed, in the course of the daily round of greetings, to normal hands, to bluish hands, to cold dry hands, and to warm moist hands, but we should be at once disagreeably impressed by cold and wet hands politely tendered, even if they were not blatantly blue. Had not Uriah Heep such clammy members? There is no possibility of confusing the syndrome with Raynaud's disease, in which the cyanosis is spasmodic and localized, in some cases to a finger-tip. It is desirable to point out at once that Dr. Layani has not succeeded in elucidating the cause of the syndrome. Having made this clear we may proceed to discuss the symptoms on what may be loosely termed an actuarial basis. The syndrome was born as recently as 1896, at a congress of alienists and neurologists held at Nancy, which a few years ago attained notoriety as the birthplace of a therapeutic cult which has already passed into obscurity. Since that date acrocyanosis has been the subject of much literature and research, principally in France. Its spectacular nature rivalled that of Raynaud's disease, and it became embellished with many sensational and romantic observations, in a similar way to Raynaud's disease, which has of late years been shorn of the fantastic, and ranged among the diseases of known pathology. The symptoms of acrocyanosis seem to lend themselves to "arm-chair analysis." We know that the skin of normal hands may be blue at temperatures between extreme cold and extreme heat, and the few skin temperatures mentioned by Layani seem to fall in this part of the cutaneous thermometric scale, though in some passages he stresses the extreme coldness of the skin and in others the varying degrees of cyanosis; before proceeding further we ought to state in each supposed case of the disease the temperature and cyanotic tint (on the recognized cutaneous colour scale), and determine their departure, if any, from normal. The remaining symptom, sweating of the hands and feet, is by no means infrequent, and we do not know how far it denotes a pathological state; that it might occur in a certain number of people whose skin temperatures favoured cyanotic tints seems likely, and, before deciding that such a combination makes up a syndrome, we ought to be in a position to say whether it occurs more often in a large group of people examined than the laws of probability allow. If such an analysis were favourable to the reality of the syndrome, then the methods so successful in the case of Raynaud's disease would probably explain its nature.

[1] *Les Acrocyanoses.* Par Fernand Layani. Préface du Dr. Etienne May. Paris: Masson et Cie. (32 fr.)

ROUTINE ANAESTHESIA IN MIDWIFERY

The desirability of giving light anaesthesia in childbirth in hospitals under the London County Council's control has been considered by the Central Public Health Committee. It will be remembered that the general conclusion of the Departmental Committee on Maternal Mortality and Morbidity was that light obstetrical anaesthesia by the intermittent method might with advantage be administered to suitable cases of normal labour, particularly to primiparae, to a greater extent than has generally been the practice hitherto. In the maternity wards of twenty-three hospitals now transferred to the London County Council 7,454 patients were delivered in 1929, and of these 877 received either sedative, analgesic, or anaesthetic; 382 received a sedative only, 412 an analgesic only, and 83 (mostly abnormal cases) a general anaesthetic. At five hospitals light anaesthesia was given to normal patients (mainly primiparae) in a few cases. At one hospital half the patients received analgesics, but in most hospitals only a small proportion had this form of relief. The Central Public Health Committee puts forward certain considerations in connexion with the proposed extended use of anaesthesia. Many medical superintendents, it states, hesitate to encourage a practice which they believe delays labour, increases the necessity for interference, and in other ways tends to augment the risks to mother and child which they are working to diminish. It is also pointed out that medical opinion is definitely against the administration of any form of general anaesthesia by nurses, except under the direct supervision of a doctor. Confinements occur at any hour of the day or night and are of unpredictable length, and therefore the interruption of a medical officer's routine would be out of all proportion to the time actually spent in the labour room, and would gravely interfere with other duties. In the Council's hospitals all normal labours are attended by midwives only, and if the presence of a medical officer is required on such occasions the question at once arises whether the hospital medical staff is large enough to permit of this. Further, an unknown factor in estimating the degree of insufficiency of medical staff for the purpose is the number of women who would accept anaesthesia if offered. There is said to be considerable prejudice against it in some quarters where its use has never been possible hitherto; but, judging from the numbers of women who demand this relief when they are in a position to afford it, those asking for it in the Council's hospitals would ultimately be very numerous, probably about 90 per cent. of the total. Another consideration is that the administration or supervision of obstetrical anaesthesia is not a particularly interesting or valuable experience to the young medical practitioner, and if such anaesthesia were offered to patients confined in the Council's hospital maternity units, it is essential that the duty of administration should be carried out by a rota of the medical staff, to be arranged from week to week. The com-

mittee feels, however, that the principle of providing facilities, where practicable, in the Council's hospital maternity units for the giving of light anaesthesia in normal cases of childbirth is one which, having regard to modern opinion and practice, should be conceded, at any rate for an experimental period, subject to review in the light of experience. On the question of practicability, it is stated not to be possible, in the ensuing financial year, to make the necessary arrangements in more than a limited number (about six) of the hospitals with maternity units. The result of the experiment in these hospitals will be considered after about six months' working.

OSLER'S DISEASE AND EPONYMS

Last year Dr. Hyman I. Goldstein[1] published an exhaustive bibliographical account of "Hereditary epistaxis: with and without hereditary (familial) multiple haemorrhagic telangiectasia (Osler's disease)," and concluded that there are probably a total of sixty-five families and about three hundred and fifty individuals suffering from epistaxis with hereditary telangiectasia. He suggested further that cases of familial haematuria, haemorrhagic nephritis, haemoptysis, gastrostaxis, intestinal and gastric haemorrhage, and some of the so-called essential idiopathic haemorrhages are probably different forms of this disease. As a source of reference to the history of epistaxis during the last three centuries, and especially during the last hundred years, this is a very valuable contribution. Doubts may arise about the wisdom of drawing the other diseases into the net of hereditary multiple telangiectasis, to which Sir William Osler in 1907, and Dr. Parkes Weber, both then and often since, have specially drawn attention in this country. The use of eponyms, such as "Osler's disease," is also open to criticism; they have their advantages by avoiding definitions which may subsequently prove to be erroneous, and also by economizing time when the descriptive name is lengthy, as in the case of the condition Dr. Hyman Goldstein discusses, though this argument is somewhat undermined by his quotation of "Rendu-Osler-Weber's disease." On the other hand, eponyms, though attractive to medical historians and hero-worshippers, are a sore trial to the student; they may be very confusing when the name of the same distinguished clinician is applied to more than one condition, such as that of Paget (osteitis deformans; "eczema" of the nipple), von Recklinghausen (multiple neurofibromatosis; osteitis fibrosa cystica), and Osler (erythraemia or Vaquez-Osler's disease, and multiple hereditary telangiectases); or when two Wilsons have their names thus perpetuated (Erasmus Wilson's exfoliative dermatitis, and S. A. K. Wilson's progressive lenticular degeneration). It is therefore fortunate that eponyms, as, indeed, some of those just mentioned, tend to drop out of current literature, as is shown by a glance at the heading "Disease" in Dorland's *Medical Dictionary*. Moreover, there is not any rigid custom in the apportioning of eponyms; the name is not always that of the first observer, for it may be credited (and there is some justification for so doing) to the describer who provides the fullest account of a disease which, though previously recorded, had almost escaped recognition. Different countries may apply the names of their own medical leaders to the same disease: an outstanding example of this is Graves's, Parry's, Basedow's, Flajani's disease, or exophthalmic goitre. Leading cases in legal procedure are necessarily known by the names of the parties concerned, but there is not the same reason for the eponymic practice in medicine.

[1] Goldstein, Hyman I.: *Internat. Clinics*, Philadelphia, 1930, Series xl, vol. iii, p. 148; vol. iv, p. 253.

A NEW INSTITUTE OF MEDICAL HISTORY

Professor Paul Diepgen, in the *Klinische Wochenschrift* (February 7th, p. 269), gives an interesting account of the new Institut für Geschichte der Medizin und der Naturwissenschaften in Berlin. Conveniently situated in the centre of the town, near the university, the libraries, and the clinics, it occupies the second floor of a large building, and contains a lecture theatre, a library with accommodation for 20,000 books, research and reading rooms, a kitchen, a spare room for visitors, and a safe for its most treasured possessions. The staff consists of a director, two subdirectors, four assistants, two secretaries, and a librarian. The aims of the institute are praiseworthy. In addition to special courses in medical history and bibliography, lectures have been arranged for students and practitioners on "living history of medicine," illustrated by cases selected from general practice: how, for example, a case of puerperal fever was treated by Hippocrates, and how it is treated to-day, the meaning of the difference in treatment, and how the problem of puerperal fever has remained essentially the same. In the evenings there are lectures of a lighter kind, intended for busy practitioners, to serve as respite from the serious affairs of life. The institute is to remain open from early morning until late at night, including week-ends.

SIR CHARLES HASTINGS LECTURE

The fourth of the series of Sir Charles Hastings Lectures, inaugurated by the British Medical Association for the purpose of offering to the public information by the highest authorities on matters of general public health interest, will be delivered in the Great Hall of the Association's House in London on Friday, March 13th, at 8 p.m. This year's lecturer is Dr. Edward Mellanby, F.R.S., professor of pharmacology in the University of Sheffield, and his subject will be "Diet and Health." The chair will be taken by Lord Moynihan of Leeds, President of the Royal College of Surgeons of England, and after the lecture relevant questions in writing will be invited. Admission is free, by tickets obtainable on application to the Financial Secretary, B.M.A. House, Tavistock Square, W.C.1. Seats not occupied by ticket-holders by 7.50 p.m. will be available for other members of the public.

The annual meeting of the Royal Medical Benevolent Fund will be held at 11, Chandos Street, W.1, on Tuesday, March 17th, at 5 p.m.

We regret to announce the death, on February 21st at Folkestone, of Dr. Cyril Ogle, consulting physician to St. George's Hospital.

ATMOSPHERIC POLLUTION AND FOGS

BY

PROFESSOR J. S. HALDANE, C.H., M.D., F.R.S.

The interesting account in the *British Medical Journal* of February 14th (p. 277) of the investigations by Professors Nolf, Firket, and Leeuwen, into the causes of the Meuse fog disaster in December has prompted me to write this article. It appears that the disaster was caused by the ordinary products of combustion from the chimneys of factories and other industrial undertakings scattered about in the sparsely populated neighbourhood of the district near Liége where the disaster occurred; and the possibility of a similar disaster happening in this country is a matter of great public interest. If a similar concentration of similar products of combustion were to occur in the air of any large town in this country, the deaths would be numbered not in tens but in thousands.

From the symptoms described, and the clinical and post-mortem evidence, the effects on men and animals were due mainly, if not entirely, to the sulphur acids (sulphuric and sulphurous acids) in the products of combustion, owing to the irritant action of these substances on the air passages. Symptoms and signs of nasal inflammation, laryngitis, and bronchitis were evident, but not of pneumonia. The sulphuric acid is present in the air as minute liquid droplets of dilute sulphuric acid condensed on solid nuclei, while the sulphurous acid is present as gas. It was suggested that hydrofluoric acid might also have been present in very small quantities, but my own experiments with this substance during the war did not seem to indicate that, in spite of its striking action on glass, it is more dangerous as a constituent of air than other mineral acids.

The dangers arising from atmospheric pollution by products of combustion were discussed in the inquiry in December last, before the Electricity Commissioners, as to the proposed very large electrical generating station (now sanctioned by them) to be erected at Fulham. Evidence as to possible risks to public health and safety was given, on behalf of the London County Council, by Dr. J. S. Owens, Dr. Daley, and myself, and as to possible damage to buildings by Sir Frank Baines. Assuming from the newspaper evidence that the fog disaster near Liége was due to ordinary products of combustion, I myself discussed the question why it is that though the products of combustion emitted per acre of ground are probably greater in amount in London than in the Liége district, nothing comparable to what occurred in the latter district last December, or in the winter of 1911, has ever occurred in London. I pointed out that in a town a very large amount of heat is emitted at or near the ground level. This warms the air sufficiently to cause convection currents which carry it upwards, and at the same time to evaporate to a considerable extent the liquid particles which constitute fog. These particles are evaporated to a much greater extent inside buildings, though acid nuclei still remain, and make the air inside just as irritating as that outside. Many of the Liége victims had never been outside at all.

The consequence of the products of combustion being carried upwards over a town is that, instead of their becoming concentrated near the ground level, and a fog being correspondingly more opaque there, they are distributed through a layer many hundreds of feet high, and a "black" overhead fog results, in place of a stifling fog at the breathing level, as near Liége. There, owing to the absence of the warming effect produced by inhabited houses, the products of combustion accumulated down below with disastrous results. It is now a common experience of motorists and others that though it is darker in a town than outside it, the air is much less opaque during a fog. In the town of Liége itself there was no trouble from breathing the fog.

Dark overhead fogs are now much more common in London and other large towns than the more opaque, equally dark, and also more irritating fogs which prevailed last century. I think that there can be no doubt that the reason for this is the immensely increased use of gas for heating and cooking, particularly among the working classes, who have to study economy. Gas supplies heat with hardly any emission of sulphurous fumes, and none whatever of smoke. The sulphur naturally present in gas is nearly all in the form of sulphuretted hydrogen, and every trace of this impurity must, by law, be removed from the gas, the public gas examiners appointed by local authorities seeing that this regulation is most strictly complied with, in accordance with the methods specified by the Gas Referees. Although only a very small proportion of the energy liberated as heat in a large town is distributed as electricity, the electrical undertakings have hitherto taken no share in improving the atmosphere, since all the sulphur in the coal burnt at the generating stations goes into the atmosphere, along with a good deal of smoke. If the system of combustion and purification adopted at the new large generating stations at Battersea and Fulham is made really effective, and the present smaller stations throughout London are abolished, it will be no longer possible to level this reproach against electrical supply undertakings.

In their decision, which was communicated to the newspapers, as well as to others concerned, about a fortnight ago, the Commissioners have not specified any definite standard of purification, beyond the general condition that the purification shall be the best that is "reasonably practicable," and that the Commissioners, the Board of Works, and the Minister of Health must be satisfied of this. Perhaps it was impossible, in view of the somewhat doubtful and imperfect chemical evidence available, to go further than this.

In one respect, however, the Commissioners decided in the teeth of the medical evidence submitted to them on behalf of the County Council. The scrubbing process in the scheme of purification proposed would involve cooling down the effluent gas to near the air temperature. Owing to its high percentage of carbon dioxide, this cooled gas would, in periods of air stagnation, including fog, drop at once, and with only (owing to its enormous volume) a comparatively small dilution, on a small area round the generating station. The representatives of the undertaking agreed to the necessity of the gas being sufficiently heated to make it rise high above the tops of the chimneys in still weather. The Commissioners decided, however, that it was not necessary for the effluent gas to be warm; and it appeared that the basis of this decision was a memorandum (which they quote in full) from the chief representative of another Government department. This memorandum was not brought up at the inquiry. If it had been it would have been torn to pieces in the course of cross-examination and rebutting evidence. To pour down cold and heavy gas in immense volume on the people round the station and the mouths of the furnaces would be an invitation to a great disaster. The result would probably be, for one thing, a wholesale emission of carbon monoxide owing to imperfect combustion; and hundreds of people might be poisoned in consequence. The County Council has taken, or is taking, energetic steps to bring the true facts of the case before the bodies which will be concerned in guarding the public interest in connexion with the new generating stations; but it is perhaps well that,

through the columns of the *Journal*, the medical public should also know how matters stand.

It is evident that the importance of properly purifying the effluent gases from electrical generating stations and other large similar undertakings is becoming more and more recognized. With it will also be recognized the importance of emitting the gas at a suitable temperature. With reasonable purification, and the gas emitted warm, any such disaster as that near Liége could never have occurred, nor could the extensive damage to vegetation. It is more difficult to deal with the damage to buildings and other property, through the use of ordinary coal fires, and even coke or smokeless coal fires ; but by the substitution of gas fires for ordinary fires considerable progress has been made in this direction.

One interesting historical fact which occurs to me in relation to the great improvement in connexion with the composition of London fogs is as follows. The air was formerly so very unpleasant in the House of Commons, as well as outside, during fogs, that a large fog-filter of cotton-wool was designed by Dr. Percy, who at that time superintended the ventilation. This filter was like an immense mattress, and was placed in position whenever a bad fog occurred, so that the air supplied had to pass through it. I can remember it well, but it was abolished many years ago, partly because it was no longer necessary, partly owing to danger from fire, and partly because it obstructed the ventilation, and people had begun to trouble more about germs than about chemical constituents of the air.

Recent information as to the chemical composition of the air during fogs in towns or industrial districts is extremely scanty ; but Dr. Russell made, last century, a large number of determinations of the carbon dioxide in the air at St. Bartholomew's Hospital, and found that during one of the thick fogs then prevalent the percentage rose to as much as 0.14 per cent. Allowing for the probable error of the Pettenkofer method which he used, this indicated an excess of 0.1 per cent. It seems probable that in the fog which caused the disaster near Liége the excess may have been three or four times as great. It can hardly have been more, or symptoms of carbon monoxide poisoning would have pretty certainly occurred ; and the symptoms observed were not those of poisoning by this gas.

"UNIPOLAR AIR"

EXPERIMENTAL WORK AT FRANKFORT

[FROM A CORRESPONDENT]

The effects of certain climatic conditions—such as sunlight, temperature, humidity, and barometric pressure—upon the human organism have all been more or less studied in times past, but relatively little attention has been directed to the electrical charge present on particles in the atmosphere. The subjective symptoms experienced by certain individuals before or at the time of a thunderstorm or in association with certain seasonal winds in the South of France have been attributed to possible electrical effects, and the subject must be considered as removed from the realm of mere guesswork by the recent publication[1] of some remarkable experimental results obtained over a period of ten years at the "Institute for the Physical Foundations of Medicine" of the University of Frankfort-on-Maine, directed by Professor F. Dessauer. That they are only now available for the first time is due to a fear that premature publication might cause the work to be regarded as something in the nature of a "stunt."

Put briefly, the underlying assumption is that air contains normally both positively and negatively charged particles, which fluctuate in numbers and proportion according to climatic conditions. Normal air at ordinary altitude contains usually an excess of positively charged particles, but under certain weather conditions this surplus of positive articles may give place to an excess of negatively charged particles. The particles are roughly of two types: what are termed "light" particles, gaseous ions for the most part, and "heavy" particles, consisting of dust and water vapour. The experiments at Frankfort have been concerned with the effects on the body of air containing excess of particles of only one electrical sign. The production of ionized air with a positive or negative charge has been obtained in various ways, including the use of ultra-violet light, high-tension electrical apparatus, high-frequency apparatus, or by glowing alkalis or metals. The favourite method has been to heat a cartridge of magnesium oxide by means of a coil of platinum-iridium wire through which an electrical current is passed. Air is circulated over this and then through a grid, which is charged positively or negatively according to the "ions" it is wished to retain. After passing through the grid air containing a unipolar charge as high as 10,000 times the amount present in normal air was available for experimental purposes. The method of measuring the charge, the number of "ions" present, the loss by gaseous diffusion, electrical diffusion, and many other physical problems, have been gradually solved by various workers at the institute, and for the most part the experimental work has been carried out with "heavy" particles of medium size.

The use of this "unipolar air" for animal experiments and for the treatment of patients has been mostly employed by Dr. Happel, and he states quite frankly that many of the experiments produced negative results. Nevertheless some interesting effects were observed when patients breathed this specially prepared air, either obtaining it through a funnel or breathing in a chamber into which such air was passed. In certain cases of raised blood pressure, particularly when this was not due to renal disease, the inhalation of air with a negative charge produced definite reduction in blood pressure and alleviation of the principal subjective symptoms such as headache, tiredness, and giddiness, while, if the air breathed had a positive charge, distinctly unfavourable results and an aggravation of symptoms frequently resulted. Even where the blood pressure did not fall in cases of essential hypertension subjective symptoms were often relieved by negatively charged air, while similar symptoms were also sometimes relieved in patients with no rise in blood pressure, especially those peculiarly sensitive to climatic conditions. The usual periods of treatment were from half to one hour daily or at less frequent intervals, and the results mentioned above were carefully controlled so that patients did not know what variety of air they were breathing on any particular day. Care was also taken to make sure that the effects produced were in no way to be attributed to the minute amounts of platinum or magnesium inhaled, estimated at less than one-hundreth of a milligram in half an hour, or to any oxidation products of nitrogen. A definite amount of electrical charge appears to be "lost" in the body by this method of treatment, and it is tentatively suggested that the effects produced result from this electrical charge.

While the first ten years of work at Frankfort have been fully occupied with the scientific basis of this fascinating subject the application of results to treatment

[1] *Zehn Jahre Forschung auf dem physikalisch-medizinischen Grenzgebiet.* Edited by Professor Dr. Dessauer. Leipzig: Georg Thieme. 1931.

demands yet further experiment. The well-prepared groundwork should make this comparatively easy, and more light upon a further climatic factor may be obtained. Coming from a university of such fame and presented in such a restrained manner this work cannot be dismissed as yet another quasi-scientific method of exploiting the public with some form of electricity, and it would seem to merit serious attention.

HEALTH OF THE NAVY

REPORT FOR THE YEAR 1929

The medical staff at the Admiralty is to be congratulated on the rapidity with which the latest report[1] on the health of the Navy has been produced. A few years ago the Admiralty had considerable lee-way to make up, but the Navy is now in line with other Services, an achievement of which the Naval Medical Service can be justly proud. If the officers concerned can maintain this standard, all official reports on the health of the respective Services should in future be published about the same time. This would increase their value and render them more easily comparable.

The present report opens with remarks on the figures relating to the health of the total force, then deals in similar fashion with the Home Station, Atlantic Fleet, Mediterranean Station, America and West Indies Station, China Station, East Indies Station, Africa Station, and the Irregular List. Finally the details are given in statistical tables, following the same order. The Admiralty, having accomplished so much, might now be tempted to consider a slight reorganization of its health report. The method at present adopted separates the notes on the diseases and injuries from the statistical tables, and instructive information may therefore be overlooked. The notes might well appear before or after the tables on the respective stations, or, preferably, be consolidated in a separate section. It this were feasible, the report would become a still more interesting and valuable book of reference, and a considerable saving of money to the Government would be effected.

The statistics for 1929 show that 41,571 cases of disease and injury were entered on the sick list. The ratio per 1,000 has increased from 445.99 in 1928 to 482.03 in 1929 in a total force which shows a decrease in strength from 90,820 to 86,240 in the corresponding years. The average number of men sick daily was 1,767.40, giving a ratio per 1,000 of 20.49, an increase of 1.05 in relation to 1928.

The total number of days' sickness was 645,104, which represents an average loss of service of 7.48 days. The ratio per 1,000 of daily sick on the various stations was as follows: Irregular List, 39.31; Home Station, 24.94; Africa Station, 23.29; East Indies Station, 21.46; China Station, 19.83; America and West Indies Station, 18.74; Mediterranean Station, 17.05; and Atlantic Fleet, 13.76. The death and finally invalided rates have also increased from 2.22 and 11.41 per 1,000 in 1928 to 2.94 and 14.30 respectively in 1929.

If the admissions to hospital are examined it will be found that diseases of the respiratory system accounted for a ratio per 1,000 of 84.70; local and general injuries, 83.91; diseases of the digestive system, 76.83; venereal diseases, 73.74; diseases of the areolar tissue and skin, 45.56; and influenza, 19.26. These diseases give a total ratio per 1,000 of 384.00. The ratios for respiratory diseases, local and general injuries, and venereal diseases are comparatively high. It is reported that the total number of days lost to the Service owing to venereal diseases was 130,041, and that the average number of men sick daily was 356.25. The highest admission ratio for these diseases, 195.75, was shown by the Africa Station, and the lowest, 44.93, by the Atlantic Fleet. With the exception of pneumonia (2.07 per 1,000), pulmonary tuberculosis (2.76), dysentery (0.69), and malaria (6.22), the ratios for infectious diseases and those associated with Eastern service are negligible. It is therefore evident that the medical officers R.N. are chiefly employed in treating the ordinary diseases of everyday life. As regards the treatment of gonorrhoea, they are to be congratulated on curing sufferers from this disease in an average period of 19 days.

One of the useful purposes of an annual medical statistical report is to indicate to administrative officers the diseases and injuries which cause a high admission ratio and reduce efficiency in a force. They can then institute more effective preventive measures, if these are known, or promote further research into the causes, so that future administrative action may be taken to reduce inefficiency. The research work undertaken by personnel of the Naval Medical Service during the year under review deals with disinfectants, the vital capacity of ranks and ratings, ventilation, and the preparation of vaccines, all of which are very important subjects but not intimately connected with the everyday causes of inefficiency—namely, the diseases mentioned above.

The number of deaths was 254, of which 153, or 1.77 per 1,000, were due to disease, and 101, or 1.17 per 1,000, were due to injury. The chief causes of death were drowning, 42 (0.48 per 1,000); injuries and wounds, 22 (0.25 per 1,000); pneumonia, 21 (0.24 per 1,000); pulmonary tuberculosis, 19 (0.22 per 1,000); disease of the intestine, 15 (0.17 per 1,000); multiple injuries, 14 (0.16 per 1,000); multiple burns and scalds, 13 (0.15 per 1,000). The total number invalided out of the Service was 1,234. Among these were 29 who refused surgical operative treatment, 13 being for hernia, an unusually large figure for an operation now regarded in the Service as a simple curative measure. The chief causes of invaliding were pulmonary tuberculosis, 228, showing a ratio of 2.64 as against 1.31 in 1928; diseases of the eye, 170 (1.97 per 1,000); diseases of the ear, 132 (1.75 per 1,000); general and local injuries, 105 (1.21 per 1,000); and neurasthenia, 65 (0.75 per 1,000).

All the Services are paying special attention to dental treatment, now recognized as an important factor in preventive medicine. Throughout the year under review, the naval dental officers completed the immediate treatment required by 3,601 officers, 23,787 men, 2,725 boys, and 276 miscellaneous patients. The numbers requiring extensive operative treatment on admission to the Service increased from 25.6 per cent. in 1928 to 27 per cent. in 1929, and it must be gratifying to the Navy to find that out of 44,801 ratings dentally inspected on rejoining their home depôts 76.3 per cent., as compared with 71.5 per cent. in 1928, were not in need of immediate dental treatment.

[1] Statistical Report of the Health of the Navy for the year 1929. London: H.M. Stationery Office. 1931. (2s. 6d. net.)

PREVALENCE OF CEREBRO-SPINAL FEVER

On February 20th the Ministry of Health issued the following statement in regard to the prevalence of cerebro-spinal fever in England and Wales:

In view of the public notice which recent reports of cerebro-spinal (or "spotted") fever have received (particularly those relating to cases in Army and Air Force stations), it is well that it should be understood that periodical increases in the occurrence of this relatively rare disease are not unusual. Cerebro-spinal fever has been recognized and studied in this country for over sixty years, particularly when, as has sometimes been the case, it has occurred intensively in particular areas, or, as is the more general rule, when its prevalence is made up of small numbers of cases scattered through the whole country. In every year there is a certain amount of cerebro-spinal fever in the country, but in particular years or series of years its occurrence is sometimes considerably above the average. There appears to be no one outstanding cause for these increases, though a variety of different circumstances have appeared at one time or another to have influenced their occurrence.

Cerebro-spinal fever was made generally notifiable in this country in 1912, and some 200 to 300 cases were

reported annually until the war years, when mass concentrations of men were frequent, and housing accommodation for both civilian and soldier was strained to the utmost. In 1915–17 there was an annual incidence on the civil population of from 1,300 to 2,500. From that time the annual figures decreased to a minimum of 301 in 1923, but since that year their tendency, though irregular, has been upward. The total of notified cases in England and Wales in 1929 was 650, and in 1930 it was 666. Since the present year began, approximately 230 cases among civilians have been notified in England and Wales. In general they have shown the usual scattered distribution, and have occurred in as many as thirty-six counties. There has, however, been some concentration in the West Riding of Yorkshire, where 79 cases have occurred since the beginning of the year in twenty different sanitary districts.

The case mortality from cerebro-spinal fever varies with the epidemic and with the phases of an epidemic, and, naturally, with the extent to which the milder cases are diagnosed and reported. Of the cases at present occurring and reported, approximately half have proved fatal.

The wide diffusion of cases, with their occasional concentration here and there, is a characteristic of cerebro-spinal fever, not only in this country, but all over the world. This has been the case in practically all European countries and also in the United States, where the disease is, relatively speaking, more common. More severe and concentrated outbreaks from time to time occur in the East, probably associated with conditions parallel to those of the war years in England. The epidemic behaviour of this disease depends largely on the fact that in times of prevalence the responsible micro-organism (the meningococcus) is to be found in the nose and throat passages of a very large number of persons who are, and who remain, quite well. Contact with such persons is unavoidable, and little in the way of preventive measures can, in the circumstances, be taken, except those which are usually adopted or enjoyed to prevent the spread of ordinary catarrhs from person to person. Isolation of the individual case of cerebro-spinal fever is, on the whole, desirable, but, however effectively it is done, its influence on the spread of meningococcus infection can never be considerable. Infants, children, and young persons (especially when newly entrant to a large community—for example, recruits) are especially liable to the disease. One circumstance has been shown conclusively to favour local outbreaks—namely, overcrowding in barracks, schools, and other residential institutions, and in club premises for young people. It was found, particularly during the war years, that when the individual was given more room in which to live and sleep the incidence fell greatly. This point is of special importance in the prevention of outbreaks of the disease in these institutions in which no approach to overcrowding should be permitted. This applies particularly to dormitories, where insistence on sufficient space between the edges of adjacent beds (which should never be less than 3 feet clear) and the maintenance of thorough ventilation are of the greatest importance in preventing cerebro-spinal fever.

No vaccine or serum effective for the prevention of an attack of cerebro-spinal fever is known. There is, however, an important specific curative treatment by the administration of antimeningococcus serum, but its efficacy is by no means constant, and depends to a large extent on the particular type or types of meningococcus used in its preparation. Serum therapy thus sometimes yields brilliant results, but at other times they are disappointing, even when the serum has been recently produced and has been derived from the organisms responsible for the current type of disease. The continued identification of types, the appropriate modifications of serums, and the laboratory methods of determining the therapeutic potency of any given batch of serum, are among matters which are receiving close attention from many research workers and bacteriologists in this and other countries, in the hope of enabling serums to be prepared which promise greater success than those which are at present in use.

HEALTH SERVICES IN LANARK: PROPOSED CO-ORDINATION

A memorandum on the co-ordination of health services has been addressed to the Lanarkshire County Council by the Lanarkshire Medical Practitioners' Union and the local Division of the British Medical Association. The Lanarkshire Division numbers 258 members, but the memorandum claims to speak generally for all the practitioners in the county, which has a population—largely industrial, and Labour in its political sympathies—of well over half a million.

While recognizing the widening scope of the public health service, and abandoning the view that public health should be limited to preventive medicine, the framers of the memorandum remind the council that the first line in the fight against disease is occupied by the family practitioner, whose duty it is to recognize ill-health in the individual at its earliest and therefore most curable stage. The increasing encroachment upon the daily work of the general practitioner by the public health service, extending definitely to the therapeutic side of medicine, is noted, but it is pointed out that the development of the public health department of the county has now reached a point at which wider extension necessarily involves the appointment of general practitioners rather than specialists to its staff. This raises the question whether it is in the public interest that the public health service should continue to develop by the appointment of more whole-time officials until the ideal of a State medical service is attained, or whether the general practitioner should be brought into closer association. The excellent work done in the past by whole-time officials is fully acknowledged, but it is stated that the medical practitioners of the county consider that the time has arrived when the public interest demands that there should be closer co-operation between the two sections. They suggest that much clinical work, such as inspection and treatment of school children, maternity and child welfare, and domiciliary treatment of tuberculosis, could be efficiently performed by general practitioners on a part-time basis. "After all, these represent the day's darg* of every doctor in family practice." They also maintain that it is not in the interests of the public health service or of the people that this work should be undertaken by medical assistants whose experience and training is almost exclusively confined to the limited section of work in which they are engaged. When dependants are included in the health provisions of the national insurance scheme, the memorandum states that not less than two-thirds of the population of Lanarkshire will be affected, but that if the public is to obtain the fullest use of all the services available, it seems essential that the domiciliary medical treatment provided under the National Health Insurance Act should be brought into close relationship with the public health and hospital services of the county.

It is understood that the county council proposes at the moment to make no change in the terms of appointment of the medical officers who were appointed by the now defunct parish councils to undertake the medical treatment of the poor. Those practitioners whose opinion is expressed by the memorandum agree that existing appointments should not be disturbed, but they suggest that as and when vacancies occur the sick poor should have the same rights with regard to medical treatment as insured persons. There should be no segregation for the purpose of medical relief. A skeleton scheme is also submitted for the provision of facilities for diagnosis. It is pointed out that many patients could be efficiently treated at home, thus relieving hospital congestion, if certain diagnostic facilities, outside the means of the private doctor, were available, such, for example, as routine *x*-ray examination, electrocardiography, test meals, kidney efficiency determinations, and so forth.

* A good old Scottish word. "I have a lang day's darg afore me."—*Heart of Midlothian.*

The establishment of diagnostic centres affording these facilities would materially raise the standard of the medical service, and greatly assist in the medical treatment of the workers throughout the county. It is suggested that the staff should consist of general practitioners and of specialists in the various departments, all on a part-time basis and remunerated by a sessional fee. Advantage might be taken of such centres in connexion with the treatment of school children, and for the purpose of consultation by the regional medical staff, and they would form a most desirable liaison between the public health officers and the general practitioners. The memorandum also proposes that in the provision of general hospital beds, of which there is a definite shortage in the county, the general practitioners might be consulted with advantage, and that in any provision made by the county council the right of the general practitioner to treat his patient should be maintained, subject always to the regulations of the hospital authority. It is recognized that in all schemes of this nature the medical officer of health must be the supervising and controlling authority, but the importance of bringing in the general practitioner is stressed.

"It is not in the interests of the public health service that it should be formed of a series of officials who, while expert in one department or in one section of a department, may never have had that wide experience of the conditions under which the people live, without which knowledge and understanding it would appear that no measures can prove of permanent value."

The action of the Lanarkshire practitioners might well be followed by those in other localities. Materials for such memorandums may be found in reports adopted by the Representative Body.

Scotland

We publish at page 360 this week a note on the Royal College of Physicians of Edinburgh, which will commemorate its 250th anniversary next November. The celebration, which will extend for some three days, will include a religious service in St. Giles's Cathedral on Sunday, November 29th, a meeting for the conferment of the honorary Fellowship of the College on a number of distinguished physicians, a reception in the College Hall, and a banquet in the Freemasons' Hall.

The Morison Lectures

The Morison Lectures were delivered before the Royal College of Physicians of Edinburgh by Dr. D. K. Henderson, medical superintendent of the Royal Mental Hospital, Glasgow, on February 9th, 11th, and 13th. The lecturer chose as his subject "Social psychiatry," and said that mental hygiene was a public health question which should be placed on the same basis as physical hygiene, so that mental disease should be considered in terms of illness rather than in terms of wickedness and crime. It was not generally recognized that many patients were discharged from mental hospitals in a recovered or greatly improved condition; these amounted to over 50 per cent. of the annual admission rates. The majority of recoveries took place within the first twelve months after admission, and where residence in a mental hospital exceeded three years, a satisfactory recovery could rarely be expected. The voluntary group of patients made the best and quickest recoveries. With regard to mental defectives, improvement in educational and training methods, closer supervision, and the establishment of more training centres would have a beneficial effect. Many forms of disordered conduct were due to the individual's inability to adapt himself to the demands of everyday life, and a hopeful method of approach was to deal with those who had not yet developed any outstanding defect. The lecturer did not consider that much improvement would be gained by the modern eugenic proposals. Who was going to determine these matters? The only satisfactory method was to educate the public. The alcohol problem was not so serious as it had been, but while enlightenment and betterment were taking place in this country, he thought the opposite had occurred in the United States, as a result of premature legislation. Types of temperament, such as lymphatic, the melancholic, the nervous, etc., had been recognized from early times as broad groupings, but the correlation of temperament with definite types of mental disorder had been of comparatively recent date. They should endeavour to establish behaviour patterns which should be of help in picking out pre-psychotic types, so that treatment might be instituted at a time when success could be hoped for. The mentally disordered and the criminal were "misfits" of society, and success in dealing with them would be measured by the number which could be transformed into decent law-abiding citizens.

In the second lecture, Dr. Henderson spoke of the benefit that would result from a closer co-operation between the general hospitals and the mental hospitals, as well as between the doctor and the social worker. Psychiatry was the subject of medicine in which the general practitioner was worst educated. The psychiatrist, too, was often kept in the background, and treatment in a mental hospital was used as a threat. This lack of frankness, and hesitation in accepting an illness as psychically determined, eventually created distrust and lack of confidence. The lecturer thought that the present training of the medical student in psychiatry, which consisted merely of a few systematic lectures and the demonstration of groups of patients exhibiting gross symptoms, was insufficient, and that the danger signals and the early cases with which the medical man should be familiar, were either not observed or were neglected. The general hospitals at present failed to make adequate allowance for the psychological or functional element which might be an accompaniment of physical illness, and the student still thought in terms of symptoms rather than of personalities. There should be more treatment of patients, both for physical and for mental ailments, while they continued at their work or in their homes. He considered that the success of this method would depend on ability to dissipate the notions which were currently held regarding the awfulness of mental disorder, and on enlisting the cordial support both of the medical profession and of charitable institutions interested in social welfare.

Glasgow Victoria Infirmary

The annual meeting of the Victoria Infirmary of Glasgow was held on February 16th under the presidency of Lord Provost Kelly. Mr. William Gray, chairman of directors, referred to the new ward for paying patients, which will be ready for occupation in a month, with accommodation for thirty beds. He said that there was great need for institutional treatment for people of moderate means, whose finances were too severely taxed by the charges of private nursing homes. Many at present were being treated free in the wards of voluntary hospitals who would prefer to pay a fee if such an arrangement could be made. The directors desired to free such patients from financial worry by providing the best surgical treatment and nursing at a moderate expense. The hospital charge would cover the actual cost of nursing and maintenance, and the cost of surgical operations would be considerably lower than that at private nursing homes. He stated also that the new auxiliary hospital at Philipshaugh had been an unqualified success.

Patients had been removed from the city to attractive and healthy surroundings in the country, offering them a better opportunity for speedy recovery. With regard to the Victoria Infirmary there was a waiting list of 200 to 250 names. The report showed that 7,130 patients had been treated in the wards, including 255 cases due to motor accident. The income of the hospital amounted to £48,250 and the expenditure to £67,359. In appealing for increased subscriptions the directors emphasized the fact that the cost of maintenance now exceeds £67,000 per annum.

Royal Medical Society of Edinburgh

The annual dinner of the Royal Medical Society of Edinburgh was held on February 19th in the Hall of the Royal College of Physicians. Dr. W. I. C. Morris, senior president of the society, presided, and Sir Robert Philip was the principal guest. In proposing the toast of "The Royal Medical Society," Sir Robert said that this society had been founded nearly two hundred years ago, at the time when the medical faculty in the University was instituted, for there had been no medical faculty up to the year 1726. The University of Edinburgh had granted a degree in medicine, but neither taught nor examined for it at that time, relying upon the Colleges of Physicians and Surgeons for the instruction of students in Edinburgh, and on the College of Physicians for examining candidates for the M.D. degree. Referring to his own association with the society, he said that more than fifty years had passed since he became a member; he had no doubt that the training and experience gained by students in the society were of incalculable value. The freedom of discussion, the clash of mind against mind, and the fact that they had a body of men viewing subjects from different angles, all combined towards forming a common judgement of affairs. Dr. I. C. Munro proposed the toast of "The City of Edinburgh," and Lord Provost Whitson, in reply, referred to the work of the town council in reorganizing the hospitals which had come under its care from the parish council. If they succeeded in co-ordinating all the hospitals in the city, he said, there would be more facilities for clinical teaching, and the number of medical students would be increased. These results would be of great benefit to the city.

Teaching in Edinburgh Poor Law Hospitals

At a meeting of the board of managers of the Royal Infirmary of Edinburgh, held on February 16th, a letter was read from Lord Provost Whitson dealing with the provisions which are at present being made by the corporation of Edinburgh for accommodation in the hospitals taken over in May, 1930, from the parish council. It was stated that the corporation expected to make provision for 750 beds, which will be available for teaching purposes. In this connexion arrangements are being made with the University. The letter emphasized the fact that these proposals, at present under discussion, would not in any way affect the need for enlarging the Royal Infirmary, and that the town council would give every assistance in its power towards furthering the appeal for a sum of £500,000 for this purpose.

Dunfermline Hospital

The thirty-sixth annual report of the managers of the Dunfermline and West Fife Hospital states that the additions by legacy and gift to the capital of the hospital during the past year amounted to £38,965, including several large bequests. The annual income for the maintenance of the hospital from all sources totalled £11,258, an increase of £2,113 compared with the previous year. There was a credit balance in hand of £3,793. In view of the temporarily restricted accommodation owing to the reconstruction of the hospital, the number of admissions had fallen from 1,160 in 1929 to 942 in 1930. In addition to the new wards which have been opened, the heating, lighting, and drainage systems have been completely remodelled, and a large up-to-date out-patient department, separate from the remainder of the hospital, is in course of erection. It is expected that the reconstruction of the hospital will be completed by March of the present year.

England and Wales

Birmingham University and the Hospitals Centre Project

As already explained in these columns, Birmingham has a handsomely supported project for establishing a large hospital centre at Edgbaston, close to the University, with a general hospital of 740 beds, and a new medical school. At the annual meeting of the court of governors of the University on February 19th, the Pro-Chancellor, Sir Gilbert Barling, stated that there had been a good response to the appeal, which so far amounted to £600,000. The arrangement is that the University for the purpose of the new medical school will receive one-sixth of the sum realized, but Sir Gilbert Barling pointed out that £100,000 was not adequate for this purpose, and those concerned would like to see another £100,000 allocated. He announced also that during the year the University Grants Committee had had an additional £250,000 placed at its disposal by the Chancellor of the Exchequer, and of this sum Birmingham was to receive a sum of £10,000 a year for the next five years, making the annual grant from this source £76,000. The committee had now given an additional £2,000 for the library and £5,000 to be spent on athletics. The Principal, Sir Charles G. Robertson, in a further reference to this supplementary allowance from the University Grants Committee, said that there was an idea that it was to be devoted largely to increasing the salaries of the professorial and non-professorial staffs, but in fact neither the universities, who had sent a deputation to the Chancellor of the Exchequer on the subject, the Chancellor himself, nor the committee, were pledged that any proportion of the money should necessarily be devoted to the augmentation of salaries, although he himself hoped that some review of salaries would be made. He also discussed the report of the committee on research at Birmingham University, saying how much he was impressed by the extent as well as by the quality and variety of the work done. He wished to emphasize a passage which he wrote in the council's report as to the over-development of the social side of undergraduate life. While in no way wishing to restrict their pleasures, he had reminded the students that their main purpose at the University was to work, and that engrossment on the social side meant a lessening of the number of working hours available, and possibly a diminished fitness for work during those hours. In this connexion the *Birmingham Daily Post* points out that a non-residential university in a great town is a very difficult problem, and Birmingham has tackled it, so far, by giving undergraduates the maximum of liberty. It takes the Principal's remarks as meaning that some restraint will have to be imposed, and says that that restraint will be at once more tolerable and more effective if it is achieved by co-operation between the students and the authorities.

Hunterian Society Annual Dinner

Professor A. W. Sheen, the first Welshman to hold office as president of the Hunterian Society of London, was in the chair at the annual dinner held in the May Fair Hotel on February 19th. The occasion was interesting also because it was the first time that a member outside the London area had been appointed to the chief office. Among the distinguished guests present were the Lord Mayor and Lady Mayoress and the Sheriffs of London, the Presidents of the Royal College of Physicians and the Royal College of Surgeons, the Masters of the Society of Apothecaries and of the Cutlers' Society, the Presidents of the Royal Society of Medicine, the Medical Society of London, the Harveian Society, the Chelsea Clinical Society, and the West London Medico-Chirurgical Society, and Mr. G. Buckston Browne. After the usual loyal and patriotic toasts, Sir Basil Blackett proposed the "Hunterian Society," saying that John Hunter was a man of extraordinary characteristics, a likeable man to those who liked him. He was always experimenting; he was never satisfied with things as they were. He showed the venturesome spirit so much required by the younger generation to-day. Replying, the President made reference to Mrs. Hunter; she was undoubtedly a woman of outstanding character who had probably had much to do with the success of her husband. It would be fitting, he thought, if a Hunterian Lecture were devoted to Mrs. Hunter. The toast, "To the Memory of John Hunter," was drunk by the guests standing and in silence. Replying to the health of the Lord Mayor and Corporation, Sir William Phené Neal commented on the work of the modern hospitals, and said that if he were seriously ill he would rather go to a hospital than be treated in his own home. Sir Arthur Keith proposed the toast of "The Guests," which was replied to, first, by Lord Moynihan, and secondly, by Lieut.-Colonel C. T. Samman. Lord Moynihan eloquently described the attributes of the man they were met to honour that night, and said that Hunter had been the great example in the world of surgery. Although he was of the opinion that surgical accomplishment had reached its limit, he was proud to think that, thanks to the munificence of Mr. Buckston Brown, surgical biological research could be carried on indefinitely, and therefore the future of surgery was assured.

Central Midwives Board

At the February meeting of the Central Midwives Board for England and Wales a letter was read from the Queen's Institute of District Nursing, stating that it had re-elected Mrs. Elena Richmond as its representative on the Board for the year commencing April 1st next. A communication was received from the Incorporated Midwives Institute requesting that the names of midwife-teachers holding the diploma of the Institute might be placed on any list of such teachers issued by the Board or on any roll of teachers instituted by Act of Parliament. It was agreed to reply that those midwives who had passed the teachers' examination conducted by the Institute would be placed in the same position as those who passed the Board's examination for midwife-teacher. A letter was read from the medical officer of health for Norwich, drawing attention to that part of Rule E.8 which requires a midwife to wash the patient's external parts with soap and water, and then swab them with an efficient antiseptic solution on certain occasions, and asking whether the wording of the rule requires the midwife to perform such duties personally. It was decided to send the following reply:

"That the Board is of opinion that the duties imposed by Rule E.8 must be performed by the midwife or by a certified midwife acting as her substitute. It would be regarded a breach of the Act if a midwife employed an uncertified woman. It should be noted that Rule E.8 applies to surgical washings. The position of a midwife under Rule E.12 is somewhat different, as under that rule a midwife is only required to supervise personally and be responsible for the cleanliness, etc., of the patient. This supervision can be exercised and the responsibility assumed, even if the midwife is not present when ordinary washings of the patient take place. It will readily be understood that a midwife cannot be expected to be present on every occasion when an ordinary washing is necessary. The delegation of the midwife's responsibilities under Rule E.12 must not be made to an uncertified woman."

The Standing Committee reported that owing to his election as a member of the Board, Mr. Comyns Berkeley had resigned his appointment as one of the Board's examiners. Mr. Comyns Berkeley had held the appointment of examiner at the London centre during the whole of the time the Board had conducted examinations, and the Board had profited much, not only by the way in which he has carried out his duties as examiner, but also by the valuable advice on examination matters which he had from time to time given to it. It was agreed that the best thanks of the Board be given to Mr. Comyns Berkeley for his valuable services. The Board recorded its sympathy with the family of the late Dr. J. E. Gemmell, and its appreciation of the services rendered by him as an examiner at the Manchester-Liverpool centre.

A Hospital Contributory Scheme

We have received an account of the year's working of the North Walsham (Norfolk) Hospital Saturday and Sunday Fund, which covers a small country town and adjoining rural districts. The membership of the fund is 1,800, and, on the basis of contributions of twopence a week, an annual income of over £700 is received, about half of which goes to the Norwich Fund, where it assists the central hospital, the Norfolk and Norwich, at which many of the contributors receive benefit, and the other half goes to a local account, largely in support of the excellent cottage hospital at North Walsham. Thanks, evidently, to much voluntary work, the cost of the administration of the fund is negligible. At the annual meeting, held on January 29th, Dr. C. H. W. Page, who has been president of the fund since its inception ten years ago, mentioned that £50 had again been voted towards the staff fund of the local hospital. This fund was started two years ago with a nucleus contributed from the same source. Its purpose, said Dr. Page, was to assist in meeting the out-of-pocket expenses of practitioners who gave their services in an honorary capacity to the hospital, and although this was not a payment for such services, but only a recognition of them, it had been much appreciated by the doctors concerned. The contributory scheme has also assisted the endowment fund of the local hospital, the local nursing association, and the new nurses' home at the Norfolk and Norwich Hospital, while a modest donation has been sent to St. Bartholomew's, on the very sound principle that even the more rural parts of the provinces have a definite interest in the great teaching hospitals. At the North Walsham Cottage Hospital the medical men of the locality are invited to act as honorary medical officers; each officer has charge of his own patients, but each takes duty for one week in rotation, with charge of all patients admitted during that week, transferring such as are not his own to their own medical attendants as soon as possible; while any practitioner in the district who has one of his patients in hospital may, if the patient desires and the medical staff agree, attend that patient in the institution. The general committee is empowered to contribute to the staff fund from the moneys received under contributory funds up to a maximum not exceeding 5 per cent. of the ordinary hospital income.

Ireland

Northern Ireland Vital Statistics

According to the Registrar-General's quarterly return for the three months ending December 31st, 1930, which has just been published, the numbers of births, deaths, and marriages registered show an increase on the numbers registered in the corresponding quarter of the previous year. The equivalent annual birth rate for the quarter under review was 19.6 per 1,000 of the population, as compared with rates of 15.4, 18.8, and 18.6 for England and Wales, Scotland, and the Irish Free State respectively. The equivalent annual death rate was 13.3 per 1,000, the corresponding rates for England and Wales, Scotland, and the Irish Free State being 11.5, 13.0, and 13.4. Deaths from the principal epidemic diseases and tuberculosis show, on the whole, a considerable decrease when compared with the average numbers of deaths from these causes in the fourth quarters of the five preceding years. The deaths from cancer, however, continue to increase; the number recorded for the quarter under review showing an increase of 12 per cent. on the average numbers registered in the corresponding quarters of the five preceding years. A summary of the quarterly returns for the year shows that the deaths registered numbered 17,171, giving a rate of 13.8 per 1,000, which is the lowest death rate yet recorded for Northern Ireland. The births numbered 25,953, the rate being 20.9 per 1,000, and the marriages 7,529, a rate of 6.05 per 1,000. The infant mortality during the year was 66.5 per 1,000 births registered, an appreciable decrease on the figures for 1929. The quarterly return is published by H.M. Stationery Office, 15, Donegall Square West, Belfast (price 1s.).

County Down Mental Hospital

In a report on a recent inspection of the County Down Mental Hospital, Dr. Patrick states that since the last, in December, 1929, when 774 patients were on the register —401 males and 373 females—130 have been admitted, 54 have been discharged, and 53 have died. As in previous years, cardio-vascular disease was a factor in nearly 50 per cent. of the deaths. In 14 cases tuberculosis was present. Twelve post-mortem examinations were made. Twenty-one cases of zymotic disease occurred, two of the staff being affected. Of these, 17 were of the intestinal group, and resulted in two deaths among the patients; the source of infection was not traced. Patients with epileptic and suicidal tendencies under special observation numbered 182. The introduction of occupational therapy, which consists at present of the weaving of tweed and linen, basket-making, wire work, rug-making, leather work, and raffia, is stated to have been of the greatest benefit, and its success calls for the provision of more extensive workshop accommodation, so that a larger number may be employed. The general tone and condition of the institution is reported to be excellent in every way.

Enniscorthy Mental Hospital

In his report on the Enniscorthy, County Wexford, Mental Hospital, Dr. D. L. Kelly, inspector of mental hospitals, states that at the time of his last visit there were 529 patients on the register. Since the previous inspection 76 patients had been admitted, 27 had been discharged, and 48 had died. The institution is estimated to accommodate 525. In the hospital 30 patients were confined to bed—13 men and 17 women. The majority of these were suffering from senility, only 3 being acutely ill. The report emphasizes the need for two verandas to deal with the large number of tuberculous cases. It is suggested that amusements, such as handball and football, should be organized, and that a weekly dance should be held during the winter. In regard to the staff, ten of the male attendants hold a certificate in mental nursing, and seven attendants and five nurses have taken the first part of the examination. Instruction has been given to ten others who are preparing for the certificate. Dr. Kelly points out that the committee should insist that all members not in possession of the nursing diploma should attend these lectures and demonstrations. He also recommends that the practice of allowing patients to stay with friends on trial should be extended.

Correspondence

X-RAY THERAPY IN MALIGNANT DISEASE OF THE LUNG

SIR,—Dr. Ff. Roberts, in your issue of February 14th, criticizes Mr. Tudor Edwards's sceptical attitude towards the *x*-ray treatment of malignant lung tumours, and goes on to assert that he has had cases in which there has been "undoubted material benefit as regards alleviation of symptoms and prolongation of life." This is a vague phrase, and Dr. Roberts would be doing a valuable service if he would amplify his statement and give figures and actual results.

In the *Lancet* of September 17th, 1927, with Dr. Carlyle T. Potter, I published the results of a follow-up of 120 cases of primary malignant intrathoracic tumour. Of 59 such cases treated by *x*-ray therapy, one recovered, and that was a mediastinal lymphosarcoma with secondaries in the neck. Many have expressed surprise at such a small percentage of cures, but no one has ever shown me better. My article was largely written to stimulate criticism and correspondence, and I had hoped for contradiction, but not a voice was raised. I sometimes wonder if we are really justified in recommending *x*-ray treatment in these cases, especially in *lung* tumours, which, if primary, are always carcinoma, for it seems, alas! so futile.

If the results are not so bad, why does no one publish final results? I have had a very large experience of this type of tumour, and I grow more disheartened. *X* rays, radium, surgery, drugs; early cases, late cases—always the same result. Nevertheless, the disappointment must spur us on to further effort and not paralyse us. But it will not help if we deceive ourselves and believe that our achievements are better than they are.—I am, etc.,

F. G. CHANDLER, M.D., F.R.C.P.

London, N.W.1, Feb. 17th.

THALLIUM AND ITS RISKS

SIR,—We were surprised to learn from an article on thallium and its risks, appearing in the *Journal* of February 21st, that the English Board of Education has interdicted the use of this drug in the treatment of ringworm in school children. We presume that this applies to the internal administration of thallium in such cases.

It has been known for the past thirty years that thallium, like other heavy metals, is a poisonous substance. Since 1918, however, severe toxic symptoms have occurred only as a result of very gross errors in dosage, and when compared with other drugs such untoward results have been rare. It is true that a proportion of children who have received an epilating dose of thallium subsequently develop transient mild muscular pains. There is no evidence that any further deleterious effects occur, and the children afterwards gain weight and develop

normally. In certain cases which have been reported as instances of severe thallium poisoning following the administration of an epilating dose the symptoms may well have been due to some intercurrent condition. In one case in our series symptoms suggestive of severe thallium poisoning (including meningismus and abdominal pains) were in reality due to the presence of *Ascaris lumbricoides* in the duodenum.

Up to the present time about 3,000 cases of ringworm of the scalp treated with thallium acetate have been reported, and only four or five instances of intoxication have been noted. In three instances the result was fatal, but in these ten times the therapeutic dose had been given. When the advantages of thallium over *x* rays are considered, especially in the treatment of a large number of cases occurring during a short space of time, such as happens in school epidemics, it seems unwarrantable to condemn the use of this drug on account of one or two dispensing errors.

Nothing whatever is known of the mechanism by which thallium produces temporary alopecia. An intermediate action on the central or autonomic nervous systems, or on the endocrine glands, has been suggested by several authors. Such views are only based on the finding, post mortem, of petechial haemorrhages in the meninges and cerebral cortex, and of degenerative changes in one or more of the endocrine glands, in animals which have received a fatal dose of thallium. The supporters of these theories have brought forward no direct biological evidence to substantiate them. Furthermore, the normal influence of these systems on hair growth is not yet understood. This subject is fully discussed in the *British Journal of Dermatology and Syphilology* (1930, xlii, p. 59).

The therapeutic use of thallium has not been interdicted in cases of tinea capitis occurring in schools under the control of the Education Department for Scotland. We have administered an epilating dose of thallium to over 200 children, attending Edinburgh schools, or inmates of Craiglockhart Hospital, with results which were eminently satisfactory from the therapeutic standpoint. We have met with no instances in which severe toxic symptoms were caused by this drug.

We are in entire agreement with the suggestion that the employment of thallium in commercial depilatory creams should be strictly forbidden.—We are, etc.,

Skin Department, Royal Infirmary, Edinburgh, Feb. 23rd. FREDERICK GARDINER. G. H. PERCIVAL.

MORTALITY IN ACUTE APPENDICULAR DISEASE

SIR,—I have read with interest the article in the *Journal* of February 14th by Professor D. P. D. Wilkie on this subject, and wish to congratulate the author on its exposition.

Those who spend their time in the presence of the acute abdomen will whole-heartedly endorse the pronouncements of Professor Wilkie regarding the classification of the diseased appendix. Not all, however, will be content to follow his lead into the land of explanations as to the continued high mortality. It is Utopian to think that earlier diagnosis of the obstructive case by the family physician will permit the surgeon to remedy matters. Not till everyone, from the simplest citizen, acquires the tactile sense of the expert clinician can this be possible. Only recently I removed a ruptured, obstructed, and gangrenous appendix four hours after the first symptom. This is not uncommon. Many, I fancy, dealing with the peritonitic abdomen must feel, as I do, that it is we surgeons who must accept a percentage of the responsibility and find out where we fail.

Professor Wilkie admits that the ruptured appendix and the consequent peritonitis remain the cause of the high mortality. Since the disease is often more rapid in its progress than can be remedied by improved transport, it is, then, our clear duty to unearth our weakness in the treatment of the fully established case. Reviewing my own cases over the past five years, I doubt if I could place one death at the door which Professor Wilkie marks with a cross—namely, the wound. It may aggravate matters, but the mysterious physiological catastrophe that leads to the continued unsatisfactory mortality is within the abdomen. I agree that the peritoneum has a wonderful power to deal with infection, and that the mere infection is seldom the cause of death. We must look beyond either of these factors. It is the sequel to the peritonitis, a sympathetic crisis, that has baffled our efforts. If we realize this, the remedy for this aberration from normal physiology may not be far to seek, and the mortality from acute appendicitis be effectively reduced.—I am, etc.,

Gilbert Bain Hospital, Lerwick, Feb. 18th. JOHN J. ROBB.

SIR,—Like Mr. Rayner, after reading Professor Wilkie's paper on the mortality of acute appendicitis in the *Journal* of February 14th, I felt that there was a call for possible criticism. It may be that the experiences of hospital surgeons vary very widely, due, perhaps, to the local and district conditions of the community which a particular surgeon serves, but it has certainly been my experience that the mortality rate of acute appendicitis is less than it was twenty years ago. I would go further than this, and seriously suggest that it is less than it was ten years ago.

I have looked very carefully into my hospital figures, and, over a period of ten years, the mortality rate of all forms of the disease was 2.6 per cent. Over 400 cases were operated on in the acute stage, and the mortality rate was 3.5 per cent. Over a three-year period the mortality rate in females was 7.3 per cent. Acute appendicitis cases formed 52.6 per cent. of the total emergencies. In acute gangrenous appendicitis with perforation the mortality rate over the ten-year period is certainly higher, being 16.8 per cent.

It would be interesting, and perhaps instructive, if Professor Wilkie could persuade (and doubtless he could) hospital surgeons all over the country to make up their statistics, and, were this done, I believe he would be satisfied that acute obstructive appendicitis is being more and more recognized by the general practitioner, and that, as a result, the operation is being performed at an earlier stage.

Many surgeons, like myself, have benefited from Professor Wilkie's teachings on this disease, and any criticism that may be offered is certainly not intended to be destructive.—I am, etc.,

R. BERTRAM BLAIR,
Honorary Surgeon, Hull Royal Infirmary.
February 23rd.

THE ENIGMA OF THE CHILBLAIN

SIR,—I have read with interest and pleasure Dr. Rupert Hallam's article on chilblains in your issue of February 7th. His happy choice of the term "enigma" appears to be endorsed by the diversity of views of your correspondents.

As regards Dr. Izod Bennett's letter, unless I have read into it a meaning quite unintended by the writer (in which case I apologize), it suggests that there is really no enigma at all! With that view I do not agree. Nobody denies the importance of cold as a factor. Dr. Hallam in his first paragraph says: "It is known that cold is the exciting cause." But when Dr. Bennett says,

"The all-important factor in the production of chilblains is the shibboleth . . . of cold bedrooms which has come to us from our Victorian forebears," I venture to think that he goes, not only beyond the facts, but that he is also a little unjust. At the present day so many of the country's ills are heaped upon Victorian shoulders that a few chilblains more or less will not, perhaps, make much difference. Still, it is just as well to be fair, and, seeing that chilblains have been so called for a very long time, and that nearly a century before the Victorian era Johnson derived the word chilblain from "chill, cold, and blain," and defined it as "sores made by frost," it seems hardly necessary to lay the blame on Victorian bedrooms.

Even if chilblains should be prevented in this country "by discipline and common sense," as Dr. Bennett's letter seems to suggest, the problem to which Dr. Hallam has called attention would not be solved thereby; it would merely become one of academic interest instead of, as now, of practical importance. The problem itself seems clear enough. To quote Dr. Hallam's own words: "How one individual escapes and another suffers has never been determined." May I put it in a more concrete form, using Dr. Bennett's graphic, if somewhat dramatic, terminology? Suppose that Mr. and Mrs. X (true to their Victorian upbringing) sleep in the same "arctic bed," and place their "numbed" feet on the same "burning hot-water bottle," and, next morning, they "thaw their frozen hands and feet" before the same "glowing fire," why is it that Mrs. X suffers from chilblains, whilst Mr. X does not, or vice versa? It seems to me that until this question is answered "the enigma of the chilblain" still remains.

Personally, I think that the problem is well worth scientific investigation, and that its solution would have effects reaching considerably beyond the confines of dermatology.—I am, etc.,

Sheffield, Feb. 23rd. ARTHUR J. HALL.

GONOCOCCAL RHINITIS

SIR,—In the *Journal* of February 14th you publish an article under the above heading. The authors invite criticism and discussion. I would suggest that (if the facts are as given) such a diagnosis is quite unjustified.

To suggest that because Gram-negative intracellular diplococci have been found in the nose therefore they are gonococci, even if the father's ancient history recalled an attack of gonorrhoea years ago, is really too much! Why not meningococci or a host of other breeds? Why are the authors so sure that *Micrococcus catarrhalis* never becomes intracellular? Unless these cocci were cultured and submitted to fermentation tests, I contend that the authors were not justified in labelling them gonococci. This leap to a wrong conclusion because Gram-negative cocci have been found in a cell is becoming very common, and it leads to endless trouble. In obvious cases a diagnosis, together with clinical signs, may be justified by finding Gram-negative intracellular cocci, but in doubtful cases I contend that such a diagnosis as gonococcal rhinitis should never be made without confirmation.—I am, etc.,

E. W. ASSINDER.

General Hospital, Birmingham, Feb. 18th.

SIR,—I was much interested in the case of gonococcal rhinitis in an infant reported by Drs. Kirkland and Storer (*Journal*, February 14th, p. 263), but I cannot help feeling that further investigation should have been made before the diagnosis was arrived at.

It appears to be somewhat dangerous, in view of the unusual situation of the gonococcal infection, to tie oneself down to such a diagnosis on the strength of the morphological appearances of the organisms in the smears. It should have been possible to confirm the cause of the condition by isolating an organism from the nasal mucous membrane conforming to the cultural reactions of the gonococcus. Furthermore, no conclusive evidence that the father of the child was suffering from a gonococcal prostatitis was adduced. The presence of pus in a prostatic bead is not of necessity due to the gonococcus, but may be caused by such organisms as staphylococci or coliform bacilli, even although there be a history of antecedent gonorrhoea. A negative Neisserian infection reaction seems to point to the fact that the prostatic condition was not due to the gonococcus. Finally, no bacteriological or serological evidence of gonorrhoea in the mother was demonstrated.

In conclusion might I add that the complement fixation test for gonorrhoea, as performed in this laboratory, is almost invariably positive in cases of gonococcal prostatitis and cervicitis.—I am, etc.,

I. N. ORPWOOD PRICE,
Mile End, E.1, Feb. 16th. Pathologist, Whitechapel Clinic.

SIR,—With reference to the case reported by Drs. Kirkland and Storer, I should like to describe a similar one seen recently.

A baby, 15 days old, was sent to the Elizabeth Garrett Anderson Hospital from a children's hospital with urgent request for admission as a case of "frontal sinusitis."

There was a history of swelling of the nose, which had lasted about two days. The midwife who brought the child said that she had attended the mother at her confinement at home, that the labour was quite normal, and that there was no sign of gonorrhoea. The nose was swollen about three times the normal size, especially at the upper part. There was no discharge from the nose or eyes. A swab was taken from the nose, and gonococci were found. Discharge began from the nose the following day, and both mother and child were transferred to a special hospital.

—I am, etc.,

London, W.1, Feb. 19th. ELEANOR LOWRY.

FAMILIAL INCIDENCE OF CANCER

SIR,—I have noticed in the *Journal* some correspondence on the familial incidence of cancer, and it occurs to me that the following bare facts may be of interest in this connexion.

From 1886 to 1902 I was in practice in Barnstaple, and was also medical officer of health to the urban district council. I used to receive from the registrar of births and deaths a weekly list of the deaths occurring within the town. From this register the following facts are derived. During a period extending over about five to seven years, three brothers died successively of malignant disease of the rectum. I use the word "malignant" as no necropsy was performed in either case. The diagnosis was made by my then partner, the late Joseph Harper, a man of high repute in the town. I knew the patients personally, and had attended them at various intervals. They were all builders, though one was the licensee of a public-house as well. I also attended a grandson of one of the three brothers; this boy died at about 19 years of age from sarcoma of the lung. I regret that I know nothing of the parents of the three brothers, or of the cause of death in the father of the lad who died of sarcoma of the lung, although I knew him well.

There are one or two interesting questions raised by these facts. Naturally the first is: Was there any hereditary influence at work? They are the strongest evidence I have met with as to the influence of heredity.

The three brothers lived in different parts of the town, so that contagion may, I think, be excluded. Early in my practice I read Cohnheim's *Pathology*, and a great impression was made on my mind by his theory of the nature of cancer. On his hypothesis it would be quite natural to assume that a colony of embryonic cells, having the same origin from one or other of the parents, had in each case developed on similar lines in each of the several subjects. It is very remarkable that they all showed an affinity for the same site in the body, and that they should have developed in each case at relatively the same period of life—about 65 years of age, or a little later. I intended to publish more detailed accounts of this series of cases, but left Barnstaple in 1902. I ought to say that I have written this note entirely from memory.—I am, etc.,

Bexhill-on-Sea, Feb. 10th. MARK JACKSON, M.D.

TREATMENT OF ETHMOIDITIS

SIR,—In reply to Mr. Peters's letter in the *Journal* of February 14th (p. 286), I wish to point out that my criticism of his article was directed not so much to the routine removal of the middle turbinal as to the actual method of removal which he mentions—namely, with a Luc's forceps. This is just an operation in which that useful instrument cannot be used with safety, as it can but result in avulsion of the turbinal. This means that the outer wall of the "danger area" (or, in other words, the inner surface of the middle turbinal) is torn across at some indeterminate level, hence the danger. If Mr. Peters will try my transantral method of removing degenerated ethmoidal tissue he will be surprised at the facility and clarity with which this can be accomplished without interfering with the middle turbinal.

With regard to his remarks about radiography and the frontal sinus, I would remind Mr. Peters that my previous letter (like his article) related to the *treatment* of ethmoiditis. I quite agree with him that radiography is a necessary step in the *diagnosis* of nasal sinus disease.—I am, etc.,

Cork, Feb. 16th. J. B. HORGAN.

ANTIDIABETIC DIETS

SIR,—All post-mortem reports on the pancreatic glands of those who have died of beri-beri or pellagra record an increased development of the islets of Langerhans, and all clinical reports record an exaggerated ante-mortem sugar tolerance. These two diseases being now practically proved to be due to diet deficiency—to vitamin deficiency—one naturally presumes that by some diet deficiency, analogous to that which produces these diseases of excessive sugar tolerance, we should be able to get rid of that one disease which is accepted as being due to loss of the glandular tissue of the islets of Langerhans. In this connexion paragraph 527 in your *Epitome* of December 13th, 1930, recording seventeen cases of diabetes treated by a deficiency diet, of which sixteen were apparently cured, is of serious interest. The specialists who by laboratory work have built up our knowledge of vitamins seem to have little opportunity for human experiments. But among your thousands of readers there are likely to be some who would have both the desire and the opportunity to test deficiency diets on diabetic patients were they provided with the necessary information as to forms of deficiency diets most likely to restore the islets. Our Association might thus be of valuable world service.—I am, etc.,

J. BARCROFT ANDERSON.

East London, Africa, Jan. 21st.

LONDON CLINIC AND NURSING HOME

SIR,—I have read with great interest the letter of the executive committee to the medical advisory board of the London Clinic and Nursing Home, appearing in the *Journal* of February 14th (p. 287). I agree entirely with the ideals of the promoters, and think there is a real need for an institution of this kind. May I, however, criticize the claim made in the last paragraph of the letter that "this is the first real effort in this country to extend the advantages of an organized specialist service to those who are excluded from the services of charity"? Sixteen and a half years ago St. Chad's Hospital was opened in Birmingham, and since then has dealt with an average of about 1,000 patients a year.

The desirability of a self-supporting non-charitable institution where patients of moderate means can obtain the advantages of the accessory departments and team work of the large voluntary hospitals, and yet can retain the privacy and other amenities of a nursing home, was realized by a group of consultants. Sufficient public interest was aroused to enable a public company to be formed to finance and carry through the building and equipment of a "pay hospital" of 100-bed capacity. An account of St. Chad's Hospital and its work has already been published (*Journal*, 1920, i, 263). The institution, and the ideals of which it is the embodiment, are widely known in medical and other circles.

All the essential features outlined in the letter of the executive board of the London Clinic and Nursing Home, with the exception of expensive suites for wealthy patients and the medical clinic containing consulting rooms in close relationship to it, are provided by St. Chad's Hospital. There is a resident medical officer, a maternity department, with its delivery room, nursery, suite of private rooms for the patients, and special expert nursing service, an *x*-ray department, pathological laboratories, dispensary, two operating theatres, etc. The hospital has been recognized by the General Nursing Council as a training school for nurses, and its constitution is approved by the Royal College of Physicians. The shareholders of the company receive a restricted dividend of 6 per cent., and medical men connected with the hospital are free to invest in it if they wish, the limited dividend they can receive solving the ethical problems involved. Any member of the staff of a Birmingham voluntary hospital which confers consulting status is eligible for election to the staff of St. Chad's, which at present consists of thirty-four specialists in the various departments of medical work.

St. Chad's Hospital, in spite of the low charges made for nursing-home accommodation, etc., has met all its financial obligations with a moderate surplus, out of which improvements have been made and additional equipment provided. Its record over a period of many difficult years, including those of the great war, inspires confidence in the future of the London Clinic and Nursing Home.—I am, etc.,

Birmingham, Feb. 17th. WILLIAM BILLINGTON.

SIR,—We appreciate the opportunity which Mr. Pearce Gould has given us of laying stress upon several important points in the organization of the London Clinic and Nursing Home. To make the position entirely clear we will answer the questions in order.

1. General practitioners will be able to admit patients to the London Clinic under their own care or under the care of a consultant, whether he be connected with the group or not. They will, in fact, have facilities in every way similar to those enjoyed at any of the present nursing homes, but the reasonable stipulation is made that operations shall only be performed in the theatres by surgeons on the staff of a recognized hospital.

2. With regard to prices of the rooms, a large proportion will be provided at fees ranging from eight to fourteen guineas a week. This will include all diets, whether special or otherwise, all ordinary nursing service, and all drugs contained in the Clinic Pharmacopoeia.

3. Fully equipped laboratories and *x*-ray departments will be provided under the control of specialists, where investigations in pathology, bacteriology, chemical pathology, or changes in metabolism can be carried out at current charges without the patient leaving the nursing home. The services of the laboratories will be at the command of any patient, whether under the care of a member of the group or of any other doctor.

4. Any consultant will be able to admit cases as in other nursing homes, and will be able to enjoy the same facilities.

5. Those consultants connected with the group—that is, having consulting rooms—will have the benefit of being situated adjacent to the home; of being on the advisory board so that they can guide the development of the clinic along modern medical lines; of having the first claim upon vacant rooms; of having the benefit of constantly meeting colleagues engaged in other branches of their profession; and it is hoped, in the near future, of evolving a scheme whereby poorer patients may be enabled, on the payment of small inclusive fees, to obtain a complete examination by different members of the group at the request of the patients' own general practitioner. It is only such patients, who may for convenience be called "group patients," who would be required to see different consultants connected with the group. All other patients or their private medical advisers would be free, even if admitted by one member of the group, to see any other consultant, whether connected with the group or not. In fact, it is proposed to conform in every way with the established methods of medical practice, but to enable the patients and their own medical advisers to obtain those facilities which to-day are found in the larger hospitals.

—We are, etc., THE EXECUTIVE COMMITTEE OF THE MEDICAL GROUP, LONDON CLINIC AND NURSING HOME.

London, W.1, Feb. 24th.

MEDICAL RECIPROCITY WITH FRANCE

SIR,—Pray what is the matter with Dr. Gerald Stanley that he should write in such a morbid strain of medical practice in France? I have had something like thirty years' experience thereof, and am by no means despondent. What does tend to depress me is the fact that, judging from appearances, we British practitioners abroad do not seem likely to have successors of our own nationality when we depart. And that is a pity, because practice among Anglo-American folk in the Continental health resorts is very agreeable. One meets so many distinguished and otherwise delightful people, and practice is by no means exacting. The summer in Algiers, for instance, is one long holiday, and an enjoyable one at that, for the heat is far less trying than that of Paris or London.

I have on more than one occasion endeavoured in the British medical press to call the attention of British parents to the splendid field for medical practice afforded by foreign health resorts for their offspring. True it is that aspirants for Continental medical practice will have to take a State degree entitling them to follow their bent, but the only real difficulty is the *baccalauréat*, but even that need not scare them away. All that is necessary is that they should spend a year or two in a French *lycée* to learn the language and to get *pistonné* through the *bachot*. Moreover, this matriculation examination is, I believe, accepted by many of the English collegiate authorities in lieu of their own, should the candidate be desirous of taking an English qualification at the same time. When I was a student I put in an appearance at both Paris and London lectures during alternate fortnights. The purely professional examinations are, of course, virtually the same on both sides of the Channel. That was the time of my life—from Westminster to the Boulevard St. Michel, and vice versa.

I doubt whether there will ever be reciprocity—the French are far too protectionist for that. Nor is there any particular necessity therefor; it is so easy to elude the protection by complying with the regulations.—I am, etc.,

Algiers, Feb. 3rd. ALFRED S. GUBB, M.D.Paris.

Obituary

SIR ROBERT WILLIAM BURNET, K.C.V.O.

M.D., F.R.C.P.

Formerly Physician to the Royal Household

The death took place on February 20th, in his eightieth year, of Sir Robert Burnet, who was physician to the Royal Household from 1910 to 1919. He had been living for some years at Budleigh Salterton, in Devonshire, after retirement from practice.

Robert William Burnet was born at Chryston, a village seven miles from Glasgow, where his father was minister of the Free Church of Scotland. Like Sir Henry Campbell-Bannerman, whose close friend and medical adviser he afterwards became, Burnet was a scholar at Glasgow High School. Later, his family having moved to Aberdeenshire, he entered the University of Aberdeen, where he graduated M.B., C.M., with honours, in 1876, and took the M.D. in 1878. For a short time he held an appointment at the London Hospital, where he attracted the attention of Sir Andrew Clark, who was one of its then physicians, and for five years he served as Clark's private secretary and assistant. Probably it was Sir Andrew Clark's example which led Burnet to cultivate the habit of writing most elaborate directions as to regimen for his patients, such as the hours at which food should be taken, the quantities that should be given, and the dishes to be permitted or avoided. Like his master, he was most meticulous in this respect.

In 1879 Burnet followed the late Poet Laureate, Dr. Robert Bridges, as physician at the Great Northern Hospital, then at King's Cross, now the Royal Northern in Holloway Road. He began his work as physician to the out-patient department, and the institution retained his interest during the whole of his career. He served it not only as a physician on its staff, but as an adviser and administrator in connexion with its various schemes for reconstruction and enlargement. On his resignation after twenty years on the full staff, all his colleagues bore the most cordial testimony to his services, and he was elected consulting physician, a post which he retained until the end of his life.

When Lord Lorne, afterwards Marquess of Argyll, with Princess Louise, went to Canada in 1882 to take up the duties of Governor-General, he was accompanied by Sir Andrew Clark. Dr. Burnet, then Clark's assistant, afterwards went as medical attendant to the viceregal household on the journey across the continent to British Columbia. Lord Lorne prided himself on the large Scottish element in his entourage, and took a special interest in this young Scottish doctor. Desiring that the Scottish people should learn something about the then unknown country of the Canadian Pacific, its genial climate, and its opportunities for settlers, Lord Lorne asked Dr. Burnet to write his impressions, and this he did from Government House in the form of letters to the *Scotsman*.

Burnet's connexion with the Royal Household began in 1894, when he became physician in ordinary to the Duke of York (the present King); during the next reign

he continued as honorary physician to the Prince of Wales, and on King George's accession he was appointed physician to H.M. Household, a position which he retained for nine years. He was elected F.R.C.P. in 1894.

One of his distinguished patients, as already stated, was Sir Henry Campbell-Bannerman, and during the last few years of that statesman's life he accompanied him to Marienbad and elsewhere. There are several references in Mr. J. A. Spender's *Life* of the Prime Minister to this devoted medical adviser and good friend. It is related how, one night in Paris, Campbell-Bannerman had an alarming heart attack, and there was difficulty in securing medical attendance. The attack passed off, but Campbell-Bannerman's private secretary, Mr. Arthur Ponsonby, decided that to have a sick Prime Minister on his hands in a foreign capital was too great a responsibility, and in the morning telegraphed to Burnet, who came over at once and took his patient to Biarritz. Burnet was knighted in 1908, and created K.C.V.O. in 1917.

He was not a voluminous author, but his one book, first published in 1890, attained great popularity, and ran quickly through five editions. It was entitled *Foods and Dietaries: a Manual of Clinical Dietetics*, and it is characteristic of his methods that it gives detailed directions for dieting in a large number of conditions, with suggested menus for every meal. In 1890 he became physician to the London Life Association. This appointment he held for twenty-seven years, when he became a director. He was president of the Section of Medicine at the Annual Meeting of the British Medical Association held at Portsmouth in 1899.

WALTER C. STEVENSON, B.A., M.D.

Surgeon and Consulting Radiologist, Steevens' Hospital, Dublin

We regret to announce that Dr. Walter C. Stevenson, the Dublin radiologist, died at his residence in Lower Baggot Street, on February 19th, from pneumonia following influenza.

Walter Clegg Stevenson was born at Calcutta in September, 1877. He received his early education at St. Paul's School, and the High School, Dublin, and entered Trinity College in 1895, graduating B.A. in 1898, M.B., B.Ch. in 1900, and proceeding M.D. two years later. He entered the R.A.M.C. as a lieutenant in 1901, winning the De Chaumont Prize at Netley, and serving in the South African war. He resigned his commission in order to take up practice and research in Dublin. His successful work in connexion with radium treatment is well known to the medical profession in Europe and America. He was the first to apply radium in needles for the treatment of cancer. During the war he did much valuable work for the British War Office in connexion with radium research, and in 1919, having obtained a supply of radium from the Royal Dublin Society, he and Professor Joly, president of the society, carried out valuable investigations in Dublin. Dr. Stevenson's method of radium treatment was used by him during the period of the war on more than 2,000 patients, about half of whom were suffering from cancer. It was in 1914 that Professor Joly first suggested to Dr. Stevenson that the best way to use radium would be by frequent applications in small quantities. Mr. Richard Moss added further valuable suggestions, and their treatment was so successful that leading members of the medical profession travelled from London and Paris to the Royal Dublin Society to see the work that was being done by them.

Dr. Stevenson was a Knight of Grace of the Order of the Hospital of St. John of Jerusalem in England, surgeon to Dr. Steevens' Hospital, Dublin, and to the Incorporated Orthopaedic Hospital of Ireland. During the past twelve years his professional standing had risen to a remarkable degree, and his research work and medical knowledge gained him much admiration from his colleagues and from the general public. He was consulting surgeon to the Ministry of Pensions, radium consultant to the Rotunda Hospital, a Fellow of the Royal Academy of Medicine in Ireland, and honorary secretary to the Irish Centre of the St. John Ambulance Association. He was the author of many books and papers on radium treatment. At a meeting of the council of the Royal Dublin Society the following resolution of condolence was passed:

> The council wish to place on record their sense of the loss which the society has sustained by the premature death of Dr. Walter C. Stevenson. The loss applies more especially to the work of the Irish Radium Institute, in which work for the alleviation of suffering Dr. Stevenson took a foremost part. His work on this branch of medical science was not only that of the practitioner, but was more especially concerned with his solution of the problem of securing uniformity of radiation in any accessible region of the human body. The now well-known "needle method" was Stevenson's invention. From testimony received from all parts of the globe this method has been of incalculable value. Its importance in medical science is established beyond doubt, and Stevenson's name will be imperishably connected therewith. In the forthcoming bicentenary account of the history of the society the reference to this part of the society's work for mankind is emphasized, and Dr. Stevenson's connexion therewith is, of course, fully recognized.

Dr. ISRAEL FELDMAN, jun., who died on February 11th, aged 38, received his medical education at the London Hospital, qualifying M.R.C.S., L.R.C.P. in 1915. After acting as assistant medical officer to Whipp's Cross Hospital for a few months, he entered the R.A.M.C., serving with distinction throughout the war and being mentioned twice in dispatches. On demobilization he resumed his work at Whipp's Cross, where he was soon appointed first assistant. In 1922 he graduated M.B., B.S., and started general practice at Golder's Green. Dr. Feldman was a very able and enthusiastic practitioner, of amiable disposition, and devoted to his work. He was a great lover of the open air, and for his young patients organized classes in physical training, which were held in his garden. His loss is deeply mourned by all those with whom he came in contact.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

At a congregation held on February 20th the following medical degrees were conferred:

M.B., B.CHIR.—G. L. Robinson, J. H. Hopper, T. C. J. Evans, W. V. Boyle.
M.B.—E. T. O. Slater, H. D. B. Kelly.
B.CHIR.—M. S. M. Fordham, G. N. Grose.

UNIVERSITY OF LONDON

LONDON HOSPITAL MEDICAL COLLEGE

The Liddle Triennial Prize offered in 1929-30 has been awarded to Dr. William Evans.

UNIVERSITY OF LEEDS

Dr. J. O. Terry has been appointed demonstrator in pathology.

UNIVERSITY OF BRISTOL

The dissertation for the degree of M.D. submitted by A. E. Hayward Pinch has been approved by the Board of Examiners.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Museum Demonstration

The spring course of museum demonstrations in the theatre of the College will commence on Friday, March 6th, when Sir Arthur Keith will discuss the nerve supply of the alimentary tract and the nature of Auerbach's plexus. On March 13th he will demonstrate specimens illustrating the

anatomy, physiology, and pathology of the oesophagus, and on March 20th the anatomy and nerve supply of the diaphragm. On March 9th Mr. C. E. Shattock will demonstrate specimens illustrating diseases of the colon and rectum, and on March 16th he will discuss affections of the kidney. The series will be brought to a close on March 23rd, when Mr. Reginald T. Payne will demonstrate pathological specimens relating to diseases of the gall-bladder and extra-hepatic biliary passages. The demonstrations, which commence at 5 p.m., are open to advanced students and medical practitioners.

The Services

DEATHS IN THE SERVICES

Lieut.-Colonel James Hickman, R.A.M.C. (ret.), died on December 18th, 1930, aged 75. He was born on September 26th, 1855, and was educated at Queen's College, Belfast, graduating as M.A. in the Royal University of Ireland in 1877. He took the L.R.C.P. and S.Ed. in 1880, and subsequently the D.P.H.Camb. in 1888. Entering the Army as surgeon on July 29th, 1882, he became lieutenant-colonel after twenty years' service, and retired on January 20th, 1904. He served in the Burma campaigns in 1886, receiving the Indian frontier medal with a clasp; in West Africa, in the Gambia campaign of 1892, and took part in the attack on, and capture of, Toniataba, gaining the African medal with a clasp; in the Ashanti expedition of 1895-96 (star), and in the operations at Sierra Leone in 1898-99 (clasp); and in the South African war in 1899-1900, when he took part in the actions at Spion Kop, Tugela Heights, Vaal Krantz, and Pieter's Hill, and in the relief of Ladysmith, receiving the Queen's medal with two clasps.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons was occupied this week with Supplementary Estimates. The Unemployment Insurance Bill was read a third time.

The text of the Nursing Profession (Hours and Wages) Bill has been issued. The Bill was introduced by Mr. Brockway on December 10th, 1930, and was down for second reading on February 26th. It is not expected to make progress this session. The Osteopaths Bill and the Hospitals (Relief from Rating) Bill were also formally set down for second reading this week.

The Pharmacy and Poisons Bill still awaits second reading in the House of Lords.

Cerebro-spinal Fever

Replying to Mr. Hacking on February 19th, Mr. GREENWOOD said that he was advised that an increase in the number of cases of cerebro-spinal fever, or spotted fever, was usual in the early months of the year, especially when influenza was prevalent. Local authorities and their medical officers of health were alive to the importance of urging precautions to prevent the spread of this disease. Mr. Greenwood stated that 272 cases of cerebro-spinal meningitis among civilians had been reported during the eleven weeks ended February 14th. There had been 79 cases of this disease reported recently in the West Riding of Yorkshire. The deaths could not yet be stated. Such preventive measures as were practicable were being used. Action taken by his Department included the close observation of reported cases of this disease, and the giving of advice, on request, to local authorities and medical officers of health on the isolation of patients and any practicable preventive measures. If necessary, visits were paid by medical officers of the Department to districts affected. The type of the prevalent organism was studied in the laboratory by the pathologists of the Department, who worked in co-operation with the pathologists of the Army, Navy, and Air Force. It was well established that overcrowding of persons in barracks, schools, and other residential institutions favoured the spread of meningococcus infection. The existence of overcrowding in such circumstances would be investigated in any district affected, but no notable example of such overcrowding had been discovered during the present prevalence of this disease.

Mr. G. H. HALL told Sir H. Cayzer, on February 19th, that one case of spotted fever had occurred at Eastney Barracks, Portsmouth. No outside residents were permitted to attend any Divisional entertainment, and no football, hockey, or shooting matches would take place either at home or away.

On February 23rd Mr. MONTAGUE informed Mr. Groves that twelve cases of cerebro-spinal meningitis, of which six proved fatal, had recently occurred among Royal Air Force personnel stationed at Uxbridge. Eleven of the twelve men concerned had been vaccinated, but none had been inoculated. The dates of vaccination ranged from September 30th, 1930, to January 20th, 1931.

Mr. SHAW, on February 24th, told Lieut.-Colonel Heneage that the usual precautions to combat the outbreak of cerebro-spinal meningitis had been taken throughout the Army with regard to ventilation and prevention of overcrowding. Carriers were being searched for and immediate and remote contacts were being watched. In Aldershot, where rather special conditions obtained, special orders had been issued reducing indoor gatherings to a minimum. He was acting in concert with the civil authorities. With regard to investigations of the cause of the disease, the type of prevalent organism was studied in the laboratory by the Army pathologists, who worked in co-operation with the pathologists of the Navy, Air Force, and Ministry of Health.

Mr. SHAW also told Lieut.-Colonel Heneage that in England and Wales the published figures for the civil population showed a smaller ratio per 1,000 for cerebro-spinal meningitis than was shown for the troops. In regard to Scotland, the reverse was the case, but he was not sure that the figures were on a strictly comparable basis. The incidence of the disease was so spread that there were no grounds for connecting it with any particular type of barrack room. No barracks in the Aldershot Command had been condemned. The minimum cubic space allowed for British troops at Home Stations was 600 cubic feet a man.

Lieut.-Colonel HENEAGE asked whether, having in view the statement made by the Minister of Health that the disease was due to overcrowding, Mr. Shaw would pursue investigations on the types of barrack room. Mr. SHAW said that he would do so. Sir R. HUTCHISON: Will the right hon. gentleman make inquiries as to the percentage in each rank affected? Mr. SHAW: I am anxious to get all the information possible on these matters, and I will also make inquiries with regard to that question.

Mr. SHAW, replying to Mr. Freeman on February 24th, said that up to February 23rd the number of cases at Aldershot during the present outbreak of cerebro-spinal meningitis had been 13 (including a civilian nursing sister), of which 8 had proved fatal. The cause of the outbreak had not been ascertained. Twelve of the patients had been vaccinated, one within a week, one within a month, and the remainder from seven months upwards. Only one patient had been inoculated, and the inoculation was more than three years ago.

Asbestosis and Silicosis

On February 19th Mr. CLYNES stated that he had received a report from the senior medical inspector of factories concerning the death of a woman from heart failure following bronchial pneumonia accelerated by asbestosis. A draft scheme of compensation for this disease was issued last month, with a draft of the proposed medical scheme by which a medical board would be set up to deal with all cases of silicosis and asbestosis throughout the country. These draft schemes were now under consideration by employers' and workers' associations. He was impressed by the urgency of the question, and hoped to reach a final settlement by the end of next month.

Replying to Mr. Morley on February 19th, Mr. CLYNES said that the effects on the lungs of various dusts, including coal dust, were being investigated by an expert committee of the Medical Research Council. This committee was pursuing various lines of research, but the problems were complicated, and considerable time must elapse before definite conclusions could be reached. In reply to another question, Mr. Clynes said that the Various Industries (Silicosis) Amendment Scheme, which amended the definition of "silica rock," came into force on February 1st.

Mental Hospital Laboratories.—Replying to Mr. Kinley on February 19th, Mr. GREENWOOD said that in some areas the local authority had provided a central laboratory for mental hospitals belonging to it. It was hoped, without prejudice to the principle of each hospital having a laboratory of its own, that such centralization might be developed elsewhere, particularly where the laboratory service could be based on the medical school of a university. It was not intended to attempt to set up a single central unit for this purpose.

Housing.—Replying to Major Nathan on February 19th, Mr. GREENWOOD said he did not consider that setting up a Royal Commission or a Departmental Committee would accelerate either the provision of new houses or the clearance of slums. Mr. Greenwood told Sir Kingsley Wood that the London County Council's programme for the next five years was 33½ per cent. more than for the last five years, but he was not satisfied that that was the best the Council could do.

Welfare of Coal Miners.—In the House of Commons, on February 17th, Mr. SHINWELL moved the second reading of the Mining Industry (Welfare Fund) Bill. He said that the Miners' Welfare Fund had been established for a period of ten years, which expired at the end of last year, and it was necessary to ask the consent of the House to proceed with the Fund for another five years. The Fund had provided drying rooms and shelters at the pithead, and in some cases drinking-water underground. Provision had been made for erecting hospitals and the endowment of these institutions in fifty-six schemes. These were costly propositions. There had also been thirty-seven schemes for the provision of convalescent homes. There was general approval of these institutions. There were thirty-one schemes for district nursing services and seventy-one ambulance services. Excellent work was being done in safety research by the Safety Research Board associated with the Mines Department. From the Miners' Welfare Fund approximately £50,000 had been devoted annually to research. The Bill was read a second time.

Sickness Benefit Claims.—Mr. GREENWOOD told Mr. Rhys Davies, on February 23rd, that no precise information was available in regard to the effects of the influenza epidemic on the applications for funds to meet claims for benefit. The applications in January did not show any considerable variation in amount, but further applications now being received indicated a serious increase in the claims for benefit during the last three weeks that might be due to influenza.

Finance of Health Insurance.—In reply to Mr. G. Macdonald on February 12th, Mr. GREENWOOD said that in 1928 employees' contributions to health insurance amounted to £12,600,000, and £32,300,000 was paid in benefits. The figures for 1929 were £12,700,000 in contributions and £34,500,000 for benefits, and in 1930 £12,800,000 in contributions and £32,550,000 in benefits.

Royal Veterinary College.—Dr. ADDISON told Mr. Ormsby-Gore, on February 12th, that it had been unanimously recommended that the Royal Veterinary College should be rebuilt on the present Camden Hill site. That recommendation had been accepted both by the Government and by the Governors of the College. The Government contribution of £150,000 was therefore offered with a view to reconstruction on the site. He did not wish to be considered absolutely bound, but understood that the committee's report was unanimous on the point.

Indian Medical Service.—Mr. BENN, on February 16th, told Major Pole that the contemplated establishment of the Indian Medical Department reserve of sub-assistant surgeons, the formation of which had been sanctioned by the Government of India, was 150 in the first instance.

An All-India Medical Council.—Mr. BENN also informed Major Pole, on February 16th, that the Government of India had reported, on January 27th, that the draft of a new Bill for the establishment of an All-India Medical Council was nearly completed.

Notes in Brief

Mr. Dalton reports that eleven European States have not yet ratified or acceded to the Geneva Gas Protocol.

The first report of the Scottish Advisory Committee on Rivers Pollution Prevention has just been issued. The committee has not yet undertaken an examination of the Clyde.

Medical News

The Harveian Lecture before the Harveian Society of London will be delivered by Sir Percy Sargent at 11, Chandos Street, W.1, on Thursday, March 19th, at 8.30 p.m. The subject will be "The romance of the pituitary gland." At a meeting to be held on May 14th, Dr. Donald Hunter will open a discussion on indications and methods of treatment in calcium therapy. As already announced, the centenary celebrations of the Society will will be held from June 11th to 13th.

At a meeting of the Royal Sanitary Institute, to be held on Friday, March 6th, in the Guildhall, Swansea, discussions will be opened on "The rheumatic child," by Mr. H. R. Tighe, F.R.C.S., and on "Housing," by Dr. J. M. Morris. The chair will be taken at 3 p.m. by Dr. Charles Porter.

The National Institute for Industrial Psychology will *hold a conversazione at Aldwych House, Aldwych,* W.C.2, on Thursday, March 19th, at 8.45 p.m. Sir Frederick Hopkins, P.R.S., vice-president of the Institute, will receive the guests.

The new wing for private patients at the Central London Ophthalmic Hospital, Judd Street, W.C., will be opened by Her Highness Princess Marie Louise on Thursday, March 5th, at 3.30 p.m.

Mrs. Philip Snowden is giving an "At Home" at 11, Downing Street, on Tuesday, March 3rd, in support of the rebuilding appeal on behalf of the London Temperance Hospital.

The secretary of St. John's Hospital for Diseases of the Skin, Leicester Square, asks us to state that the out-patient department is open daily at 1.30 p.m. and 5.30 p.m. (Saturdays at 1.30 p.m. only). Much inconvenience has been caused to patients, especially those who have come from a distance, who have been advised by their doctors to attend for treatment in the morning.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-Graduate Courses, published in the *Supplement* at page 68. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1. The list of special courses arranged for 1931 is now available.

The next series of lectures and demonstrations on tropical hygiene for men and women outside the medical profession proceeding to the Tropics will be given by Lieut.-Colonel G. E. F. Stammers, from March 18th to 27th. Full particulars can be obtained on application to the secretary, London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1.

The Medical Society of the Mediterranean Coast has arranged a tour from March 29th to April 13th, which will include visits to Cannes, St. Raphael, St. Juan-les-Pins, Grasse, Nice, Cap Martin, Mentone, Monaco, and Cap Ferrat; there will be subsidiary excursions to Corsica, the Alps, and Italy. Fuller particulars of this tour can be obtained from the Federation of the Health Resorts of France, Tavistock House North, Tavistock Square, W.C.1.

King Edward's Hospital Fund for London has received from the Nizam of Hyderabad, through Sir Akbar Hydari, a donation of £2,000, as a token of his gratitude for the personal interest taken by His Majesty the King in the work of the Round Table Conference, and in that of the Hyderabad delegation.

The Gifford Edmonds prize of £100, awarded every two years, is offered for the best essay on radiant energy as (*a*) a pathogenic and (*b*) a therapeutic agent in ophthalmic disorders. It is open to any British subject holding a medical qualification. Preference will be given to original work rather than to compilations from the writings of previous observers. Essays must be sent in not later than December 31st, 1932. A leaflet giving full particulars may be obtained from the secretary, Royal London Ophthalmic Hospital, City Road, E.C.1.

The Home Office gives notice that the Secretary of State proposes, after the expiration of forty days from February 20th, to make new Regulations under Section 7 of the Dangerous Drugs Act, 1920, amending the Dangerous Drugs (Consolidation) Regulations, 1928. The effect of these is to exempt from the application of the Dangerous Drugs Regulations five preparations containing diacetylmorphine (heroin), which the Health Committee of the League of Nations has found cannot give rise to the drug habit on account of the medicaments with which the diacetylmorphine is compounded in them. Draft copies of the new Regulations can be obtained on application to the Under Secretary of State, Home Office, Whitehall, S.W.1.

The American Association for the Study of Goiter again offers an award of 300 dollars for the best essay based upon original research work on any phase of goitre presented at its annual meeting in Kansas City, April 7th to April 9th, 1931. Competing manuscripts must be in the hands of the corresponding secretary, Dr. J. R. Yung, Rose Dispensary Building, Terre Haute, Ind., not later than April 1st. Manuscripts arriving after that date will be held for the next year or returned at the author's request.

The January issue of the *Leprosy Review*, the quarterly publication of the British Empire Leprosy Relief Association, contains an article by Dr. J. L. Maxwell on the menace of leprosy in Manchuria, and the first of a series of reports, by Dr. R. G. Cochrane, on the leprosy situation in East and Central Africa. The growth of a leper therapeutic settlement at Ho, on the Gold Coast, is described by Dr. F. H. Cooke, who pleads for the extension of this method of limiting infection and providing lepers with a happy and useful existence. A note by Dr. Janet Murray, on work in Tanganyika, mentions the inadvisability of compulsory segregation. The *Leprosy Review* can be obtained from the offices of the Leprosy Relief Association, 29, Dorset Square, N.W.1, price 2s.

The *Urologic and Cutaneous Review* for February contains a symposium on certain phases of syphilis, in which 110 experts from various countries contribute their views as to the incidence of the disease since the war, the change in the age at which infection takes place, the prevalence of neurosyphilis, and the development of immunity against syphilis in the more advanced populations of the world.

The 117th to 119th volumes of *Deutsche Zeitschrift für Nervenheilkunde* are dedicated to Professor Max Nonne of Hamburg on the occasion of his seventieth birthday.

The fourth Congress of the German Association for the Investigation of the Circulation will be held at Breslau, on March 9th and 10th, when special attention will be devoted to digitalis therapy in all its aspects. Further information may be obtained from Professor Bruno Kisch, Lindenburg, Lindenthal, Cologne.

A medical faculty, at which 150 students have been enrolled, has recently been opened at Samarkand in Turkestan.

An institute of serology and venereal prophylaxis has recently been created at the Toulouse Medical Faculty.

An institute of dietetics has been opened at the Pazmany-Peth University at Budapest under the direction of Professor A. v. Soóz.

Dr. Maurice Genty, editorial secretary of the *Progrès médical*, has been appointed librarian of the Académie de Médecine.

The King has approved of the retention of the title of "Honourable" by Dr. Richard Arthur, who has served for more than three years as a member of the Executive Council of the State of New South Wales.

The King has appointed Dr. Donald P. Wailling to be an official member of the Executive Council of the presidency of the Virgin Islands.

Trichinosis has recently been made a notifiable disease in Saxony.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Majorca

"A. W." writes in reply to "C. M.'s" inquiry. I can inform him: (1) there is no public water supply in Majorca. Each house has either its spring water well, or, more generally in the towns, as in Palma, its well of rain water collected from roofs, etc. Many of the wealthier class allow the poorer neighbours to have access to their cistern. Obviously this system is not without its risks of pollution. (2) Mosquitos and flies are only troublesome between May and November. (3) The temperature is changeable in the winter months, with cold winds after sunset.

"J. M." writes: All the hotels in Majorca frequented by visitors have a water-borne system of sanitation; the sanitary accommodation is satisfactory. I believe the water in the hotels in Palma and Pollensa Port is safe to drink; milk should be boiled; bottled mineral waters are cheap. During the winter months flies and mosquitos are not in evidence. Near Pollensa there is a good deal of swampy ground, and near Alcudia rice is cultivated. Enteric fever is not uncommon among the natives, but very rare among visitors. I consider the climate from October to April is eminently suitable for patients who suffer from recurring chest colds or rheumatism. There are windy, wet, and cold days, but these are infrequent; for the most part the weather is dry and sunny, and the high mountains along the north coast are a protection against cold winds. There are no great extremes of temperature; the daily variation rarely exceeds 10° F., and is usually less than 5°. The hotels in Palma and its suburbs have central heating, and so have the two in Pollensa Port with which I am acquainted. As regards the advisability of sending actual invalids to Majorca, it should be remembered that there is no English medical man in practice there, or was not a year ago. The hotels are clean and comfortable, and charges moderate, though higher than formerly. A year ago the charges in Palma and its suburbs varied from 15 pesetas to 25 pesetas a day (7s. 6d. to 12s. 6d.). In Soller and Pollensa Port they were less. Chamberlin's *Guide to Majorca* is full of information; it is published by the "Fomento de Turismo," Palma, and may be obtained from the Spanish Travel Bureau, 173, Piccadilly, W.

His Excellency the Spanish Ambassador has been good enough to send us some printed particulars of recent date about the Balearic Isles, which we have forwarded to our correspondent, "C. M."

Prevention of Boiler "Scale"

"S. S." would be glad to know of any personal experience in the domestic use of methods (not including "water softeners") for the prevention of the deposition of "fur" or "scale" in hot-water boilers and pipes. One form of such apparatus referred to is known as an "activator," and is said to be radio-active and without chemical action.

Assimilation of Inorganic Salts

"S. M. W." (Manchester) asks for references to experimental work, or any reliable statement based on such work, which shows to what extent inorganic iron, calcium, phosphorus, etc., and their salts are assimilated when administered by mouth to human beings.

*** A very large amount of research has been done on the absorption of iron, and also on the absorption of calcium and phosphates from the foods. The older work is vitiated by ignorance (1) of the importance of liver and stomach extracts in regulating the formation of blood, and (2) the control of calcium absorption by vitamin D. Sherman, *Chemistry of Food and Nutrition* (New York, third edition, 1927), and Lusk, *Science of Nutrition* (Saunders, fourth edition, 1928) give general accounts of these problems. The absorption of iron was dealt with in a long series of papers by Whipple in the *American Journal of Physiology* (1920, liii, 151; 1925, lxxii, 395). A recent article on calcium metabolism, by Percival and Stewart, appeared in *Physiological Reviews* (1928, viii, 283). The absorption of calcium and of phosphates is a peculiarly difficult problem; it is controlled by several factors, such as the relative quantities of calcium and of phosphates, the reaction of the gut, and the supply of vitamin D.

The Heart after Artificial Respiration

"ENIGMA" writes: An apparently strong, healthy man died under an anaesthetic given for a small groin operation just as the clips were being fixed. Artificial respiration was continued for fifty minutes, but without avail. At the post-mortem examination the heart was somewhat "ballooned" in shape, being dilated and emptied of blood, while the muscles were normally firm. Is such a condition sufficient to justify one concluding that the heart was at fault, or was the condition due to the effects of a good heart making a terrific struggle and eventually collapsing? After exercise we all know that as the result of increased exudation the lymphatics are fuller and help to make the heart larger and heavier, while, as Starling pointed out, an extra exertion is accompanied by greater dilatation. Personally it seems to me far more reasonable to think that the anaesthetic had disturbed the surface tension of the blood corpuscles beyond its capacity for recovery, so that a toxaemic condition ensued due to abnormal metabolic products introduced into the blood. A toxaemia of this sort would tend to raise the blood pressure and give rise to a greatly added strain to the heart. Deaths of this sort seem to emphasize the necessity for a very full and systematic examination of the heart in every patient before an operation, and for the recording of all the facts found.

Income Tax

Motor Car Allowance

"W. S." bought a 14-h.p. car in 1925 for £575; he has had no allowance for depreciation, because "the income tax inspector always replied that I should be allowed in full on replacement." In February, 1931, he bought a second-hand car for £350. What can he deduct?

*** The appropriate deduction on the replacement basis is restricted to the actual out-of-pocket expenditure—namely, £350 less the allowance for the old car. As this amount is less than the original cost to "W. S." of the old car, it would have paid him better if he had persisted in his depreciation claims in the past. In all the circumstances, and particularly if there was any dissuasion from that claim by the inspector, we suggest that "W. S." should point out the fact that he is losing on the basis which he was advised to take, and ask for such modification of the present assessment as will put him into the position he would have been in if he had received the depreciation-cum-obsolescence allowance.

Temporary Lectureship—Expenses

"RETIRED" was asked by a friend to deliver a course of lectures for him in a town a considerable distance from that in which he resided. He received a sum of £125 "in compensation for the extra expense involved," to cover the special expenses of board and lodging, travelling, etc. Is he liable on the full amount of £125?

*** This is a difficult case, because so much turns on the precise arrangement made with regard to remuneration, and, between friends, it was probably informal. If the terms arranged were simply that "Retired" was to receive £125 for the service rendered and was to pay the special expenses thereout, then we fear that he is, under legal decisions dealing with "expenses" incurred in connexion with appointments, liable on the full sum. If, on the other hand, the agreement was, for example, that he should receive £75 as remuneration and £50 as an allowance towards his expenses, he would be liable on the £75 only. In either case, of course, "Retired" would receive £125 and pay his expenses, but there is a definite legal distinction, and in the second case the £50 would not come within the scope of the income tax Acts. The onus of proof is on "Retired," but perhaps some assistance can be derived from correspondence that may have passed before the work was accepted.

LETTERS, NOTES, ETC.

Treatment of Tetanus

Colonel C. C. MURISON, I.M.S. (ret.), writes: Dr. J. H. Grove-White's memorandum on the treatment of tetanus in the *Journal* (November 15th, 1930, p. 821) has encouraged me to publish my experience of the treatment of tetanus in India. The method stated below, with necessary modifications in certain cases, has usually been adopted and found to be most effective. The failures have been almost *nil*; these have invariably occurred in cases which have come under treatment very late. Serum treatment is given as soon as possible after admission—3,000 units intravenously and 1,500 units subcutaneously. On the second day 1,500 units intravenously and 1,500 units subcutaneously, and on the third and subsequent days for about four, five, or six days, till the spasms cease, 1,500 units subcutaneously are given. Additional treatment consists of subcutaneous injections of 1/4 grain of morphine and 1/100 grain of hyoscine hydrobromide (morning and evening for five or six days till there is complete relaxation of the muscles), and, orally, 15 grains of chloretone dissolved in liquid paraffin thrice daily till the spasms have ceased.

Treatment of Hyperthyroidism

Dr. K. L. S. WARD (Brasted) writes: In October last year I had a patient suffering from hyperthyroidism, with the usual symptoms of rapid pulse, exophthalmos, etc.—a true Graves's disease. In the treatment, *x* rays, Lugol's solution, quinine, digitalis, bromides, rest, and vitamins, were prescribed without benefit, but when oedema supervened and the condition was approaching that of heart failure, something fresh had to be tried. The patient craved for and took large quantities of starches, but there was no glycosuria. Assuming that this patient was unable to use his carbohydrate at some point in his metabolism, I instituted the following routine: first he was given 5 minims adrenaline (1 in 1,000) hypodermically, followed by 6 c.cm. glucose intravenously, and then by 20 units of insulin. In addition to this I gave him, on alternate days, a diet of excessive starch, with half an ounce of dextrose, four times daily. Under this treatment he is much improved. I have never before found any drug of much use in similar cases.

The Common Moustache Brush

Sir HARRY BALDWIN writes: Cannot something be done to cause barbers to amend some of their habits? The particular offence I am now alluding to is that of brushing the moustache of one customer after another with a small moustache brush. Yesterday I was subjected to this treatment, and now, within twenty-eight hours, I am suffering from one of the most acute "colds in the head" I have ever had. I fully believe the infection was propagated to me in this way. The brush had a most foul smell. At a time like this of epidemics of influenza and acute rhinitis it seems a certain way of spreading infection.

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 44, 45, 46, 47, and 50 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 48 and 49.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 67.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

183 Auricular Fibrillation in Heart Disease

W. M. FOWLER and C. W. BALDRIDGE (*Amer. Heart Journ.*, December, 1930, p. 183) report ten cases in which auricular fibrillation was the only symptom of cardiac disease. The ages of the patients ranged from 17 to 34, and all except two were under 30. In seven cases the fibrillation was paroxysmal, while in three it had persisted for periods of two weeks, five months, and two and a half years respectively, sinus rhythm being restored by quinidine when it would otherwise probably have persisted. A post-mortem examination was eventually performed on the patient who had had fibrillation for two and a half years, and the heart was reported as being grossly and microscopically normal. In one case the fibrillation was attributed to the removal of wax from the ear; in another to exertion; in four to alcoholism; in one to carbon monoxide; in one to ether and nitrous oxide anaesthesia; and in two patients to having been engaged in work at petrol stations. The authors have collected 35 cases from the literature in which fibrillation was the only sign of cardiac damage, and discuss the etiology. Abdominal disease and alcoholism were the most common exciting causes; in the first group it is suggested that a reflex stimulation over the vagus contributed to the production of fibrillation.

184 Induction of Diuresis in Nephritis

W. EWIG (*Deut. med. Woch.*, January 9th, 1931, p. 51) states that diathermy applied over the region of the kidneys increases their blood supply and thus causes diuresis. In normal persons he has produced a striking diuresis in this way, there being a direct action on the kidney, as shown by an experiment where the urine was collected from ureteric catheters during diathermy on one side only. Not only is more water excreted, but though the concentration of the urine becomes less, the total excretion of chloride and nitrogen is increased. Some of the results in severe cases of acute nephritis with anuria and convulsions have been most striking, the method used being the application of an electrode measuring 30 cm. square to the abdomen, and one measuring 20 by 15 cm. over each kidney, a 3 to 4 ampere current being passed through for two hours at a time twice daily. Illustrative cases are described where immediate diuresis occurred, the convulsions ceased, and the nephritis cleared up in a few days. In the convulsive cases diathermy can be applied to the head at the same time. The results in subacute and chronic types of nephritis are said to have been much less satisfactory.

185 Chronic Bromide Poisoning

C. P. WAGNER and D. ELIZABETH BUNBURY (*Journ. Amer. Med. Assoc.*, December 6th, 1930, p. 1725), impressed by the incidence of bromide intoxication among psychotic patients admitted to the Colorado Psychopathic Hospital, record observations upon 1,000 consecutive cases in which routine determinations of the bromide content of the blood were made. In 77 the serum showed the presence of bromide in concentrations of 75 mg. per 100 c.cm. and over, and in 44 of these the mental symptoms were due to, and increased by, the bromide. The authors consider that serum concentrations of 200 mg. per 100 c.cm. should be regarded as toxic; the figure should be kept below this point, since in higher concentrations some evidence of toxicity usually manifests itself, taking the form of increased restlessness, hallucinations, and apprehension, with physical symptoms of tremor, speech defect, ataxia, and finally stupor. In concentrations over 300 mg. life may be endangered, and the delirium may mask any underlying psychotic condition. Treatment is mainly supportive and eliminative, the diet and fluid intake being increased. Sodium chloride in 15-grain doses three times daily by the mouth increases bromide elimination. In patients showing evidence of debility and dehydration, however, its administration is undesirable, since it liberates the bromide from the tissues too rapidly for elimination by the kidneys, causing a rise in the blood bromide content, and possibly a fatal exacerbation of the toxic symptoms. Where there is impairment of the excretory or circulatory functions the administration of bromide must be carefully watched, but untoward mental symptoms can be minimized if the physician is on the look out for any exacerbation, or ascertains the bromide concentration in the blood.

186 Prophylaxis of Epidemic Poliomyelitis

E. MORO (*Klin. Woch.*, December 20th, 1930, p. 2383) suggests that when poliomyelitis threatens to assume an epidemic character prophylactic injections should be at once started, consisting not of convalescent serum, which is usually not available, but of normal adult blood or serum. Experimental work has shown that the blood of most adults is bactericidal; it is therefore extremely probable, although not absolutely proved, that it possesses a protective power. It is unknown how long such passive immunity lasts, but on the analogy of measles convalescent serum it would be about four weeks; a second injection would therefore be required at the end of this period. Since children under 5 years of age are most susceptible to poliomyelitis, Moro thinks that the injections might well be confined to children between 6 months and 5 years old. In urban districts where the majority of adults—that is, persons over the age of 15—possess specific protective substances in their blood, at least 20 c.cm. of the parents' blood should be injected intramuscularly. In rural districts in which there is infrequent communication with towns the immunity of adults is at most 50 per cent., and the protective power of the blood of such adults is consequently uncertain. It is desirable, therefore, that in such cases blood should be obtained from adults living in towns. Moro suggests that serum centres should be established, as in the case of measles convalescent serum.

187 Spastic Hemiplegia following Post-Vaccinal Encephalitis

J. DUKEN (*Zeit. f. Kinderheilk.*, November 22nd, 1930, p. 293) records two cases in female infants aged 18 months and 13 months respectively. In the first, convulsions developed on the tenth day after vaccination, followed two days later by right hemiplegia, which disappeared in about a week's time after intravenous and intramuscular injection of 200 c.cm. of the mother's and aunt's blood. Complete recovery ensued. In the second case right hemiplegia developed within a month after vaccination, which had been followed by high fever, though there were no convulsions. No special treatment was adopted, and the hemiplegia became spastic and permanent.

188 Post-Traumatic Mental Symptoms

Dealing solely with mining accidents, M. J. COHEN (*Journ. Med. Assoc. of South Africa*, December 13th, 1930, p. 724) analyses these conditions in 105 cases. Psychoses are rare sequels of mine injuries, while psychoneuroses are common; their etiology here is the same as in any other occupation, the desire for compensation and the abandonment of dangerous work being important factors. The two main nervous affections after trauma are anxiety neurosis and hysteria. The headaches and other head sensations of the non-organic and organic sequels of trauma are differentiated; they have both diagnostic and prognostic importance. In the first, the sensations are subjective, and are due to suggestion and to vasomotor changes; in the second, some actual damage to the scalp,

skull, membranes, or brain may be present. Sometimes an injury to a miner reveals coexisting organic disease, such as syphilis. Treatment of these mental sequels may consist of rest, suggestion, and other forms of psychotherapy. Prognosis depends much on the patient's reaction to the awarding of compensation and his response to treatment. ALICE COX (ibid., p. 728) reports a small series of cases which illustrate some of the types discussed by Cohen.

189 Toxic Diphtheria

A. HOTTINGER (*Schweiz. med. Woch.*, January 3rd, 1931, p. 13) illustrates the great frequency of toxic diphtheria by the fact that out of 796 cases of diphtheria recently admitted to the clinic for infectious diseases at Düsseldorf, 40 (of which 20 were fatal) were examples of this kind. The cases of laryngeal diphtheria numbered only 25, and only 5 were fatal. The attacks were remarkably refractory to large doses of antitoxin, and treatment by convalescent serum alone, or in combination with antitoxin as recommended by Hentschel, was also unsuccessful.

Surgery

190 Intrathoracic Tumours

T. C. DAVISON (*Arch. of Surg.*, Part II, December, 1930, p. 1393) divides intrathoracic tumours into the primary, which may be benign or malignant, and the secondary, which are nearly always malignant. Benign primary tumours include lipoma, chondroma, osteoma, fibropapilloma, and dermoids; they may occur in the mediastinum or in the lungs. They may cause pressure symptoms, and sometimes pulmonary suppuration and sepsis by obstruction of the bronchi. Of malignant intrathoracic tumours, carcinoma is the most frequent, and may be diagnosed by *x* rays and the bronchoscope. Primary carcinoma of the lung may be endobronchial or parenchymatous, the former being the more common. It occurs more frequently in men than in women, chronic irritation being the principal cause, due to the inhalation of irritating substances such as coal dust, gases, and tobacco smoke. It is most common after the age of 60, and about 80 per cent. of cases involve the upper lobes of the lungs. Secondary tumours of the lung are metastases from some distant primary focus; they may be single or multiple, and may grow into large spheroidal masses. The symptoms of cancer of the lung resemble those of tuberculosis, and diagnosis must be made by means of the bronchoscope and *x*-ray examination. Benign tumours of the chest should be removed surgically whenever accessible, and early operation is essential for primary malignant growths. After removal of the tumour-bearing area, healing should occur without infection. The so-called dead space is obliterated by the elevation of the diaphragm, the contraction of the thoracic wall, and possibly by a physiological emphysema of the rest of the pulmonary tissue. In extensive operative procedures on the lung a two-stage operation is advised. In late cases partial collapse of the affected lung, evacuation of secondary abscess, and resection of a large portion of the tumour will give temporary relief.

191 Injection Treatment of Varicose Veins

J. P. COLL (*Med. Journ. and Record*, December 17th, 1930, p. 578) reviews the recent developments in the choice of solutions and technique in the treatment of varicose veins by the injection of hypertonic fluids. The method has distinct advantages over surgical treatment in that the period of incapacity is much shorter, often scarcely interfering with daily duties; it is less painful, cheaper, and gives better cosmetic results. The solutions in general use are: (1) a 20 per cent. sterilized solution of sodium chloride, of which from 2 to 12 c.cm. are injected at various points; (2) a 20 per cent. solution of sodium salicylate, of which 3 to 5 c.cm. are injected; (3) 2 to 12 c.cm. of 75 per cent. glucose, either alone or with 5 per cent. sucrose; (4) a solution of 0.4 gram of quinine dihydrochloride with 0.2 gram of urethane in 3 c.cm. distilled water; and (5) a 1 in 500 solution of metaphen for small veins. The aim is to use a hypertonic fluid which, in contact with the intima of the vein for five minutes, will so thoroughly irritate and destroy the intima as to result in sclerosis. After the affected vein has been defined and brought with prominence by a tourniquet above the knee the injection should be made very slowly with a 10 c.cm. syringe and a 26 gauge needle, care being taken that none of the solution passes outside the vein, a pad of gauze being held over the site of puncture for some minutes to prevent leakage. Contraindications are cardiac and renal disease with venous stasis, obstruction to the deep circulation, arterio-sclerosis, and acute or subsiding phlebitis.

192 Stieda's Lesion

W. F. BAASTAD (*Norsk Mag. f. Laegevidensk.*, December, 1930, p. 1385) records four cases in adult patients, aged 50, 25, 53, and 40 respectively, of the so-called Stieda's lesion, the pathological nature of which is doubtful. The traumatic origin of the condition is obvious, the nature of the trauma being a violent abduction of the knee. Most of the cases are not examined by *x* rays until the end of three of four weeks, when a shadow will be found external to the epicondyle, in some cases above and in others below it. Some authorities maintain that the shadow is due to a metaplastic process connected with rupture of the tendon or ligament, but others have found either a fragment of bone torn from the condyle or a process of bone formation arising from a piece of periosteum which has been torn away by the trauma. In three of Baastad's cases a fracture was detected, in spite of the fact that the *x*-ray examination did not take place until four weeks after the trauma. In one case in which no shadow was found three months after the trauma there had probably been only a rupture of a tendon or ligament, although the nature of the trauma and the symptoms were the same as in the three other cases. All the patients were treated by massage with good results.

193 Treatment of Malignant Tumours with Radio-active Bismuth

According to H. KAHN (*Deut. med. Woch.*, December 12th, 1930, p. 2131), of the heavy metals which have been used in colloidal form in the treatment of malignant disease, bismuth alone becomes selectively distributed in the cancer cells. Instead of giving injections first, followed by radiation of the tumour, he has used a preparation of bismuth previously rendered radio-active (bismuth-isotope Radium E). Human and animal experiments indicate that this bismuth-isotope becomes concentrated in the tumour eighteen times as much as in the corresponding normal tissue. This concentration can also be demonstrated by placing a section of the tumour (after injection of the patient or animal) on a photographic plate in the dark room, when a picture of the tumour ("autoradiogram") can be obtained owing to the blackening of the photographic plate by the radio-active material in the tumour. No serious untoward effects have yet been observed from treatment by radio-active bismuth, and, unlike thorium, it does not damage the blood cells. So far as clinical results are concerned, there is an undoubted influence on tumour growth, but the method is too much in its experimental stage for any final decision.

194 Bilateral Simultaneous Artificial Pneumothorax

V. MONALDI (*Riv. di patol. c clin. della tubercolosi*, December, 1930, p. 1005) records his observations on nine cases of bilateral simultaneous artificial pneumothorax in patients between the ages of 17 and 34. He concludes that in some cases of pulmonary tuberculosis the bilateral procedure may be as valuable therapeutically as unilateral pneumothorax. The tolerance of double simultaneous collapse of the lung in suitable cases in which the treatment is conducted properly is established by a change taking place in the functional and cardio-vascular equilibrium. In cases in which the collapse is exaggerated,

owing to errors of technique or to extensive respiratory or cardio-vascular lesions, insufficiency may develop. Respiratory insufficiency is manifested by exaggerated thoracic movements, increased respiratory quotient, a low alveolar tension of CO_2, and changes in the basal metabolism; while cardio-vascular insufficiency is indicated by fall of the systolic pressure, usually accompanied by diastolic hypertension, arrhythmia, asystole, exaggerated dicrotism, and other changes in the form of the sphygmogram.

195 Tonsillectomy in Acute Cervical Adenitis

H. L. BAUM (*Journ. Amer. Med. Assoc.*, December 13th, 1930, p. 1829) reports a series of 40 cases in support of his view that it is safe to remove tonsils and adenoids during the height of an anterior cervical adenitis, and that such a procedure is to be recommended. The average age of the patients in his series was 3.6 years. All the patients showed acute enlargement of the anterior cervical glands following a combined tonsillar and pharyngeal infection, with soreness and tenderness of the glands, stiffness of the neck, general prostration of varying degree, high and usually irregular pyrexia, leucocytosis and an increase in the polymorphonuclears, and a decrease in haemoglobin. Baum believes that tonsillectomy should be performed in such cases as soon as it is seen that no progress is being made, since early removal of the chief source of infection of the glands is clearly indicated. He has had no unfavourable operative sequels, and for the most part the subsequent improvement was dramatically rapid.

Therapeutics

196 Insulin in Wasting following Cholelithiasis

D. CECCARELLI (*Il Policlinico*, Sez. Prat., November 17th, 1930, p. 1665) reports the beneficial results of insulin treatment in a youth of 18 who lost 3 stone in weight during six months, following cholelithiasis, and in whom tuberculosis and diabetes had been excluded. It is generally thought that such wasting is due to chronic or sclerotic pancreatitis. Other forms of treatment having failed, the patient received 20 units of insulin daily, 10 units being given twenty minutes before the two principal meals. In 45 days the patient gained 32 lb. in weight, after which the treatment was discontinued. In the first five days the patient gained 8½ lb., which the author attributes to an increased retention of water, confirmed also by decrease in diuresis; the subsequent continued increase in weight was probably due to improved assimilation. Adrenaline was administered orally in daily doses of 30 minims owing to the patient's low blood pressure, and also because of its well-known action in preventing hypoglycaemia and reducing diuresis. Five months after the cessation of the insulin treatment the patient was still improving, the increase in weight being maintained.

197 Treatment of Gastric Ulcers by Pepsin

M. LOEPER, M. DEBRAY, L. MICHAUX, and Mlle SAINTON (*Presse Méd.*, October 29th, 1930, p. 1465) have treated a series of 20 cases of gastric and duodenal ulceration by the hypodermic injection of pepsin. In a preliminary series a 10 per cent. solution of pure sterilized pepsin was given in 1 c.cm. doses, but, owing to rather troublesome general reactions, a 10 per cent. solution of pepsin was made up with the addition of sodium benzoate, which eliminated the unpleasant reactions without lessening the efficacy. A standard course of treatment consisted of a first injection of 1 c.cm. into the muscles of the buttock; this acted as a test of tolerance. The following injections were of 2 c.cm., and were repeated three times a week for fifteen doses. Three weeks' rest was then allowed, with a simple but generous diet, after which, if the pains returned, a second similar course was given. The authors were guided by the tolerance displayed by the patient, and by *x*-ray examination as to the frequency and desirability of further courses of injections. The treatment was well borne and the results were very gratifying in 19 patients, most of whom had had previous unsuccessful treatment of different kinds. A detailed table is given of the results of treatment; in it are included two cases of carcinoma which showed little change except disappearance of pain. Among the cases treated by pepsin were 2 ulcers of the lesser curvature, 7 pyloro-duodenal, and 7 duodenal. No other medication was employed simultaneously, and the authors claim that the injections of pepsin must have caused the almost uniform and dramatic amelioration in all the cases except one. They discuss its method of action, and conclude by stating their belief that cases of hyperchlorhydria and ulceration are hypersensitive to pepsin, and that the good effects produced by its injection can be better explained by the hypothesis of hypersensitivity than on any other lines.

198 Yagéine or Harmine

J. DECOURT and A. LEMAIRE (*Paris Méd.*, December 6th, 1930, p. 505) discuss the identity of two alkaloids isolated from the South American creeper yagé, the first in 1923 by Cardenas and the second in 1847 by Fritzsche. Solutions of the salts (sulphate and chlorhydrate) are slightly fluorescent. In man a therapeutic subcutaneous dose of 2 to 3 cg. causes a slight fall in the blood pressure and slowing of the pulse rate, a glycaemia of 10 to 50 cg., and a lowering of the basal metabolism, which may reach 20 per cent. The drug was first used in Parkinsonism by Kurt Beringer. The subcutaneous administration of 2 c.cg. dissolved in 1 c.cm. of water is followed in half an hour by a sense of well-being in the patient. There is diminution of the hypertonicity, permitting of voluntary movements being performed with greater ease and suppleness. The tremors are increased in amplitude and frequency, the latter often being doubled. Generally, post-encephalitic cases of Parkinsonism in the young yield more readily to this drug than examples of the classic disease in the aged; in many cases there may be no change whatever. The therapeutic effect lasts for a few hours only, rarely 24 hours to a few days. Good effects, and no untoward incidents, are reported with daily subcutaneous injections of 2 cg. Beringer also advocates doses of 4 cg. in keratin-coated capsules two or three times a day. Suppositories appear to be more efficacious. Both these methods afford alternatives to the injections for long-continued therapeutic effect.

199 Splenic Extract in Malarial Anaemia

C. HEDERER (*Bull. Soc. de Thér.*, November 12th, 1930, p. 288), who records three illustrative cases, states that the Toulouse school, represented by Remond, Soula, Colombies, Bouisset, Tapie, Pau, and Radji, have for some time emphasized the important part played by extracts of the spleen in regeneration of the blood. In the cases of chronic malarial anaemia reported by Hederer treated by intramuscular injection of splenic extract in the form of a preparation called liposplenine, a progressive and persistent diminution took place in the size of the spleen, there was a marked increase in the number of red cells, and improvement in the general condition was shown by increase of weight and a return of appetite and strength.

200 Serum Treatment of Chronic Ulcerative Colitis

J. A. BARGEN, E. C. ROSENOW, and G. F. C. FASTING (*Arch. Int. Med.*, December, 1930, p. 1039) report successful results in the treatment of chronic ulcerative colitis with an antibody solution obtained by precipitation in ether-water of the specific immune serum of chronic ulcerative colitis. Details of the method are described. Fasting's antibody euglobulin solution was administered deeply and intramuscularly in about 200 cases of chronic ulcerative colitis; the important facts of the first 50 consecutive cases are given, observation having been made for a time sufficient to justify an opinion as to the value of the treatment. Uncomplicated cases are best treated by this process of immunization against the causative

organism; the results are said to surpass those of other methods, including operation and irrigation of the colon with medicated solutions. Since at present it can only be hoped to control the condition rather than to effect a cure, patients who have once overcome an attack should continue to receive the vaccine periodically, but the degree of frequency required is still problematical. The treatment is most useful in the more severe, subacute cases in which it was usual to perform ileostomy; the need for this procedure has been less frequent, and more limited to dealing with complications, since the institution of serum therapy in this disease.

201 Bismuth Subnitrate in Arterial Hypertension

E. J. STIEGLITZ (*Journ. Amer. Med. Assoc.*, September 20th, 1930, p. 842), while admitting that the etiology of arterial hypertension is obscure, stresses the importance of combating the vicious circle of muscular irritation followed by fatigue and increased irritation, and finally resulting in vascular sclerosis. Considering that the action of the usual vaso-dilators is transient, and therefore of little value, he has tried bismuth subnitrate in doses of 10 grains three times a day; the bismuth ion is inactive, the specific action on arterial muscle being due to small quantities of nitrites which are liberated continuously by the action of *B. coli* in the intestine. In 200 unselected patients of all ages treated by this method, he has obtained reduction of the diastolic pressure below 100 mm. in 77 per cent. Of the total number treated, 122 were free from arterio-sclerosis, and 78 suffered from it to some degree. The result of treatment, which extended over a period on the average of six months, is gauged by the "percentage reduction of pressure towards normal for the age." This "percentage reduction" for systolic and diastolic pressures amounted respectively in the arterio-sclerotic group to 39 and 46 per cent., and in the other group to 73 and 105 per cent. The treatment of 120 cases of hypertension associated with pregnancy showed the amenability of such cases to the same treatment, but the association with a definite, if unknown, toxic state makes the pressure reduction of doubtful use, or even dangerously misleading. Stieglitz believes that the breaking of the "vicious circle" over a period of several months is of definite therapeutic value, and he has observed some cases where such a course of treatment has been followed by a continuation of lowered pressure for three to four years. Commenting on the use of bromides and sedatives of the barbituric acid group, he holds that the bismuth subnitrate therapy gives better and more lasting results.

Disease in Childhood

202 Still's Disease

M. TROMBETTI (*Rinascenza Med.*, October 15th, 1930, p. 502) publishes a synthetic account of Still's disease, which he recognizes as a definite entity, differing from other infective forms of arthritis; its origin is as yet unknown. The paper is illustrated by photographs and radiograms of the condition. Usually the disease sets in gradually in young subjects, but may start more abruptly like an acute rheumatism; it differs in not "flying from joint to joint," but tending to become fixed in one or other articulation and in enlargement of the spleen and lymphatic glands. The fever may be of a chronic, protracted type, or be intermittent; each recurrence of fever is associated with fresh joint involvement. Occasionally rashes may occur. Growth is stunted, and as a rule there is marked cachexia and some anaemia, with variable changes in the white cell count. In the early stages the larger articulations are affected, later there is a symmetrical spread to the smaller joints; once started, the disease tends to remain fixed. Owing to the muscular wasting the articular ends appear more enlarged than they really are. Osteoporosis of the epiphyses is common. The enlargement of the lymphatic glands is secondary to the joint infection, and due to the same cause, whatever that may be. Authors are agreed that there is no sign of tuberculosis in these cases, but pericarditis is a fairly frequent epiphenomenon. The disease is essentially chronic, and seldom fatal. Treatment so far seems to be of little avail. Sometimes the onset of some intercurrent affection influences the course of the disease favourably, so that in the absence of any known cure malaria therapy might possibly be worth trying.

203 Treatment of Bronchiectasis in Childhood

R. NISSEN (*Münch. med. Woch.*, October 24th, 1930, p. 1849) considers that many cases of bronchiectasis in children originate in congenitally dilated bronchioles, and that the condition only follows "prolonged pneumonia" comparatively rarely; treatment should therefore aim at compressing these bronchioles. In order to achieve this he plugs the thoracic cavity round the affected lobe with a mixture of paraffin wax, and reports that good results have followed this method. In a child 300 to 400 c.cm. are required, and expectoration ceased completely in a number of cases thus treated; the scoliosis which almost inevitably follows extensive rib resection or artificial paralysis of the diaphragm in a child is avoided. For those cases in which the effect of paraffin plugging is not permanent he advocates lobectomy, remarking that if this is carried out in several stages the risk is not excessive. Among four children treated thus there were no deaths, though among 28 adults the mortality was 10 per cent. Nissen has found pneumothorax treatment disappointing in bronchiectasis. If a low pressure was used the alveoli alone were compressed and not the dilated bronchioles; higher pressure merely displaced the mediastinum, again without affecting the bronchiectatic dilatations.

204 The Measurement of Intelligence in Infants

T. SIMON (*Paris Méd.*, November 1st, 1930, p. 403) records the stages in the mental development of infants, previously defined in collaboration with Binet. At the age of 3 months the infant should follow with his eyes any object held up before him. At 6 months he should turn towards sounds, seeking their origin. At 9 months he should seize an object within his reach in his field of vision. This is, of course, different from the earliest reflex action—namely, the grasping of any object placed in his palm. At 12 months he should recognize articles of food; thus he should be able to tell the difference between a biscuit and a piece of wood of the same shape and colour, by touch or taste, or both. At 18 months he should be able to say "Mama" of his own accord. At 2 years he should walk, ask to go to the lavatory, and obey simple instructions conveyed to him by word and gesture.

205 Circulatory Changes at Birth

Collating the results of several recent investigations, B. M. PATTEN (*Amer. Heart Journ.*, December, 1930, p. 183) concludes that there is no abrupt change in the infantile circulation at birth, there being a sufficient volume of blood in the lungs of the newborn infant for its need until they are sufficiently ventilated. The volume and power of the pulmonary circuit gradually increase until by the end of the first month the new functional balance in intracardiac pressure is established. Under normal conditions the progressive closure of the ductus arteriosus hastens the enlargement of the pulmonary vessels after birth, but there are many cases in which the normal pulmonary circulation has come into being without such a closure, the foramen ovale falling gradually into disuse, and then becoming obliterated. Failure of the ductus arteriosus to close is regarded as a symptom rather than a cause of circulatory dysfunction. Following the increase in the pulmonary circulation, and the closure of the foetal blood passages, there is a gradual increase in the musculature of the left ventricle until it equals that of the right at the age of 3 to 5 months. It has acquired a definite preponderance by the second year, and its full adult relation to the right ventricle by about the seventh year.

Obstetrics and Gynaecology

206 Ectopic Gestation

C. A. BEHNEY (*Journ. Amer. Med. Assoc.*, November 22nd, 1930, p. 1557) reports a series of 167 cases of extra-uterine pregnancy, and concludes that diagnosis depends on the association of a history of amenorrhoea with recurring and consistently localized pain in the lower part of the abdomen, metrorrhagia, signs of pregnancy, and the presence of a typical pelvic mass. Ectopic gestation occurs most frequently between the ages of 27 and 35, and the high incidence of anteflexion of the uterus and of irregularity or delay in the menses suggests the possibility of genital hypoplasia. Pelvic masses were found in 85.5 per cent. of the cases, and ruptured ampullar pregnancy was the commonest lesion. Behney did not obtain evidence of pre-existent pelvic disease sufficiently often to incriminate it particularly; in 80.5 per cent. of the patients there had been no previous pelvic symptoms, but when these had occurred there had often been discovered some abnormality of the adnexa on the opposite side of the abdomen to that where the ectopic gestation had subsequently developed.

207 Fibroma Praevia and Forceps Delivery

BAUX (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, November, 1930, p. 703) describes a case in which a very soft and very oedematous fibroma, about the size of the foetal head, was found in the vagina at the end of the first stage of labour in a primipara aged 22. Extraction by forceps was rendered difficult by repeated interposition of the flaccid tumour between the blades. On the third day the fibroma became gangrenous and was excised without haemorrhage from the cervix, to which it was attached by a broad pedicle. GARIPUY (ibid., p. 704) describes two cases of forceps delivery with fibroma praevia. In the first patient, a primipara aged 39, the fibroma ascended from the pelvis late in the second stage, but, subsequently returning, caused difficulty in manual removal of the placenta. In the second patient the fibroma, from the beginning of labour, gradually gave way to the descending head; there was alarming post-partum haemorrhage. In the case of AUDEBERT and E. ESTIENNY (ibid., p. 705) a fibroma praevia, the size of the fist, was found in the pelvis after forty-eight hours' labour, the cord being prolapsed and the foetus dead. Quite suddenly, as preparations were being made for Caesarean section, the tumour ascended above the pubis, and labour was completed by forceps application to the transversely placed head.

208 Causative Factors in Sterility

S. R. MEAKER (*Amer. Journ. Obstet. and Gynecol.*, December, 1930, p. 749) reports a study of sterility comprising elaborate gynaecological and urological examinations and a thorough investigation of both partners from the medical and endocrinological standpoints. Sterility was found to be due in most cases to the combined influence of multiple causative factors, and the assessment of individual responsibility became a complex matter. It appeared that a considerable number of states, generally depressing and debilitating in nature, might reflect themselves in lowered fertility of the sex cells. Any single one of these states, excepting the comparatively few absolute factors, might not be sufficient to cause sterility; all of them together depressed fertility below the threshold of conception. Among endocrine disorders pituitary disturbances were conspicuously in the majority, and the thyroid failures constituted a small but important minority. Protein starvation appeared to be the chief nutritional error militating against fertility. Obesity was not a cause of sterility, but obesity and sterility were frequently associated as simultaneous results of the same underlying subnormality of metabolic function. In nearly 90 per cent. of sterile matings extragenital conditions of constitutional depression were operative. In more than 90 per cent. of clinical cases there was some division of responsibility between the two partners. Meaker found that such complete investigation pointed the way to adequate treatment, which resulted in a percentage of successes more than twice as great as the average of successes obtained by methods previously employed.

209 Occlusions of the Lumen of the Fallopian Tube

R. E. WATKINS and F. R. MENNE (*Journ. Amer. Med. Assoc.*, November 29th, 1930, p. 1647) have tried to determine the most frequent sites and the extent of occlusions of the Fallopian tubes, and the microscopical appearance of the involved area. Forty-nine tubes were examined, the technique employed being to fill the uterine and tubal cavities with bismuth mixtures under measured pressures ranging from 100 to 250 mm. of mercury. Though occlusions may occur in any part of the tube, the most frequent site is the isthmian portion. The fimbriated end, when not adherent to the ovary, is frequently open, or partially so. Restoration of the lumen depends on the absorption of inflammatory products. Healed abscess cavities and canaliculi are important causes of extrauterine pregnancy. In the present series no tubo-ovarian abscesses communicating with abscess cavities in the ovary were found. The authors remark that operations to re-establish the lumen of the tube should never be contemplated until a definite diagnosis of the location of the obstruction has been made. If the occlusion is at the fimbria, this may be opened by separation, or by resection of a portion. When the occlusion is in the intramural or isthmian portions surgery is unsatisfactory. Conservative measures, with the regenerative processes following eradication of the infection, are the best curative agents, and insufflation, or the injection of fluids through the lumen, may aid in opening the channel. The histology of the condition is described at some length.

210 Adeno-acanthoma of the Uterus

Recording a case of that rare condition adeno-acanthoma of the uterus, A. STEIN and F. TOREK (*Surg., Gynecol. and Obstet.*, December, 1930, p. 856) describe as unique a metastasis in the mediastinum and lung. The married patient, aged 42, presented symptoms and signs suggestive of uterine cancer. After hysterectomy, the entire uterine wall was found to be invaded by carcinomatous tissue. For 2½ years after the operation no evidence of local recurrence was noted. A little more than two years after the hysterectomy the patient complained of gastric pain, loss of appetite, and difficulty in swallowing, and radiographic examination of the thorax revealed a mass in the mediastinum. This was diagnosed as a cyst, but, when removed, it proved to be an adeno-acanthoma of the lung and posterior mediastinum secondary to the earlier uterine growth. The patient made a good recovery from this operation also.

Pathology

211 Renal Insufficiency and Azotaemia

E. BECHER (*Klin. Woch.*, December 13th, 1930, p. 2350) defines two distinct types of renal insufficiency associated with azotaemia. In the first type, which is a circulatory disturbance seen in heart failure and also usually in acute nephritis, the non-protein nitrogen, urea, and uric acid are increased in the blood, but the products of intestinal putrefaction, such as indican, are not increased. There is no change in the colour of the urine unless blood is present, and the specific gravity remains normal or high. In the second type there is a real failure of the renal tubules, which is seen especially in chronic nephritis. In addition to the rise in the blood urea, etc., there is an increase of indican, and often creatinine, in the blood even in the early stages. The skin of the patient's hands and face has a yellowish appearance; the urine is of low or fixed specific gravity (hypo- or iso-sthenuria), and is pale in colour, probably owing to failure of the kidney to convert chromogenic substances into their coloured form.

212 Germicidal Properties in Soaps

Some soaps, such as the oleate and bromo-palmitate, are among the most powerful and rapid germicides known, and certain soaps may play an important part in the body defence against bacteria, having, indeed, a selective germicidal action. A. H. EGGERTH (*Journ. Exper. Med.*, January 1st, 1931, p. 27) has tested two series of sulphur-containing soaps, the α-mercapto and α-disulpho varieties. These were found to possess a powerful and markedly selective germicidal action. In the mercapto series, those with 12 and 14 carbon atoms were the most germicidal; in the disulpho series, the dicaprate, dilaurate, and dimyristate were the most powerful. The optimum number of carbon atoms varied with the test organism. Eggerth finds that the number of carbon atoms in the molecule markedly influences the germicidal action of soaps. Two main factors determine this action: the ability of the soap to make its way into the bacterial cell, and its toxic action on the bacterial protoplasm after it has penetrated. As the number of carbon atoms in the soap molecule increases the toxicity becomes greater, but the penetrative power diminishes. So long as molecular size does not prevent entrance of the soap into the cell, germicidal action will increase with the molecular weight; eventually a point is reached where molecular size prevents cell entry, and germicidal action is diminished.

213 Histological Effects of Liver Diet

TH. FAHR (*Deut. med. Woch.*, January 2nd, 1931, p. 8) summarizes the data obtained from 24 post-mortem examinations performed on cases of pernicious anaemia in 1929 and 1930. In 12 of these liver diet had been given for too short a time to have any effect, the patients having been admitted when moribund, or having died from complications soon after admission. These showed the usual morbid appearances associated with pernicious anaemia. In the other cases, which had responded to liver treatment (as far as the blood picture was concerned), but in which death had followed such conditions as sepsis following spinal cord degeneration and broncho-pneumonia, the typical changes in the heart muscle, bone marrow, liver, and spleen were very slight or absent, showing that these had been influenced favourably by the treatment. One patient, a woman who had exophthalmic goitre in addition to pernicious anaemia, failed to respond to liver therapy; the post-mortem changes were typical of an untreated case. In the author's opinion, cases showing predominantly spinal symptoms have the worst prognosis, and are little if at all influenced by treatment.

214 The Relation of Mild to Typical Small-pox

E. DIEM (*Schweiz. med. Woch.*, December 13th, 1930, p. 1174) inoculated with vaccine lymph a number of persons who had suffered from an attack of mild small-pox eight to nine years previously. Of 45 persons tested, five reacted positively, but the reactions in these cases were estimated as being only about one-fifth to one-third of the intensity of a normal control. On the other hand, patients suffering from varicella, when tested at the height of the rash, or six to nine days after its eruption, gave uniformly a strong positive reaction. It would appear, therefore, that the outbreak of mild small-pox which commenced in Switzerland in 1921 may have been immunologically similar to true small-pox, and that it was entirely different from varicella.

215 Haemorrhagic Lesions caused by Clostridium welchii

M. WEINBERG and N. COMBIESCO (*Ann. de l'Inst. Pasteur*, November, 1930, p. 547) bring evidence to show that such symptoms as haemoglobinuria, haematuria, haemoptysis, and gastro-intestinal and uterine haemorrhages observed in patients infected with *Cl. welchii* (*B. perfringens*) are caused by the toxin secreted by this organism. The lethal dose of dried toxin for guinea-pigs was found to be about 1.6 to 3 mg. When these animals were injected intravenously with doses varying from 2.5 to 12.5 mg. they all developed haemoglobinuria, and this was often followed by haematuria; death ensued in 10 to 24 hours. At the necropsy haemorrhagic lesions were generally encountered in the kidney, liver, spleen, stomach, suprarenal, lung, and heart, and sometimes in the uterus and bladder. Besides these lesions, which were apparently due to the haemolytic toxin, focal necroses were found in the liver, and less often in the kidney, due to the non-haemolytic toxin. As regards the mechanism of the haemorrhages, it appears that the non-haemolytic toxin may produce at the same time a rise in blood pressure and a degeneration of the capillary walls; the vessel ruptures, and allows extravasation of blood to occur.

216 Post-Arterio-sclerotic Pulmonary Lesions

E. MOSCHCOWITZ (*Amer. Heart Journ.*, December, 1930, p. 171) describes the brown induration of the lungs which occurs in forms of circulatory or cardiac disturbance in which there has been hypertension of the pulmonary circulation. This lesion is, he finds, exclusively associated with arterio-sclerosis of the pulmonary vessels, a condition pathognomonic of such hypertension; there is dilatation and thickening of the pulmonary capillaries. Part of the sclerotic process is unquestionably the result of a diminished blood supply, and even of infarction of the affected areas. The pulmonary lesions are exactly similar to those seen in the systemic organs, and especially in the kidney, in hypertension of the greater circulation. Moschcowitz reports a case in which brown induration was found after prolonged asthma. Under observation the patient revealed the transition from a purely functional bronchial asthma to emphysema to a pure clinical example of hypertension of the pulmonary circulation, and finally to death consequent on failure of the right side of the heart.

217 Experiments with Foot-and-Mouth Virus

I. SICHERT-MODROW (*Zentralbl. f. Bakt.*, December 8th, 1930, p. 12) has constructed an apparatus for cataphoresis experiments which he maintains is free from the disturbing influence of diffusion currents. With this apparatus he finds that the foot-and-mouth virus is always negatively charged, in this respect resembling the ordinary bacteria. The same results were obtained with all three types—A, B, and C—of virus. No evidence of an isoelectric zone was apparent, such as was concluded to exist by Olitsky and Boëz. In a second paper (ibid., p. 17) the author records experiments on the resistance of the virus to different temperatures. Working with heparinized guinea-pig plasma and guinea-pig serum, he finds that in the dried state the virus may survive in the ice-chest for 1½ to 2 years. At room temperature the virus retained its infectivity for only 5 to 10 days. A surprising resistance was observed to high temperatures. Dried lymph *in vacuo* survived for 2½ hours at 70° C., and for 3 minutes at 122° C. On the other hand, lymph that had not been previously dried was destroyed very rapidly.

218 Skin Tests in Diagnosis of Allergy Conditions

S. M. FEINBERG (*Journ. Amer. Med. Assoc.*, November 29th, 1930, p. 1665) maintains that sensitization estimations should be considered only as laboratory guides, and that there are many limitations to the value of skin tests in allergy. Negative reactions may be given to substances to which the patient is clinically sensitive, or the converse may be the case; negative reactions frequently indicate an absence of allergy, and many variations have been found when relating the tests to the clinical conditions. Complications, such as infection, mechanical difficulties, and neurogenic factors, may be more important than the allergy. These difficulties may be met chiefly by employing, when necessary, other methods of testing, such as the intracutaneous, subcutaneous, conjunctival, and the nasal; by clinical investigations and elimination diets; by a wide knowledge of the clinical correlation and clinical experience in allergy; and by bearing in mind the possible existence of causes other than allergy.

THE RATIONALE OF THE ACTION OF RYVITA CRISPBREAD IN CERTAIN SPECIAL CONDITIONS

CONSTIPATION

The use of Ryvita Crispbread as a corrective where constipation exists is advocated by an increasing number of the Medical Profession.

The special laxative properties of rye grain are well known. Ryvita is made of pure, crushed, whole-grain rye, which is rich in vitamin B, and the salts of lime and iron and phytates.

The ready digestibility of Ryvita, and the low percentage in it of unconverted starch, ensures against starch fermentation, thus keeping the whole alimentary tract in wholesome condition. The roughage and mineral salts of the bran ensure daily natural evacuation of the bowels.

An Eminent Authority declares:

"Washed wheat bran fed to cows was found to be constipating, indicating that the laxative property of ordinary bran and whole-grain products is dependent not simply upon mechanical irritation, but largely, if not mainly, upon the phytates."

It is not improbable that the vitamin B content of Ryvita has also a stimulative effect upon intestinal movements. Reports of recent dietetic research tend to confirm this view.

Many Doctors testify that Ryvita Crispbread gives excellent results in combating habitual constipation. Ryvita is definitely indicated as an item of the dietary in the treatment of disorders arising from indigestion, constipation, or malnutrition. It is usual to suggest that the patient begin by eating two or three slices of Ryvita with at least one meal each day.

RYVITA

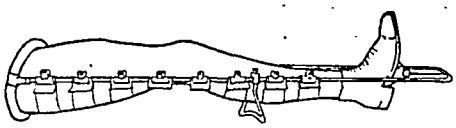
CRISPBREAD

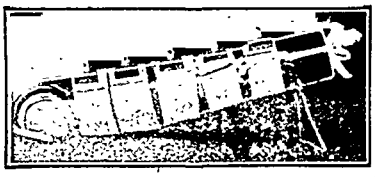
We shall be very pleased to send Free Samples and full particulars to any interested Member of the Profession.

THE RYVITA COMPANY LTD.

785, RYVITA HOUSE, 96, SOUTHWARK STREET, S.E.1

The most modern method of accurate extension and safe transport is provided by





COLLENDER'S SPLINTS

(Patented in the leading countries of the world.)

An evolution of the Thomas splint, preserving all its advantages with many improvements.

Invaluable for Hospital, Emergency, and District Surgeons' work. Indispensable for Mines, Ranches, Lumber Camps, Railways, Shipping Cos., and all places remote from surgical aid. Made of Duralumin, untarnishable, light, and of great tensile strength. All parts interchangeable. Complete splints constructed in a few minutes for limbs of any dimensions. Sufficient members to accommodate ten fractures simultaneously. Supplied in strong fitted case.

Write for full descriptive booklet, post free.

WATSON BAKER COMPANY, WEST END LANE, BARNET, HERTS, ENGLAND

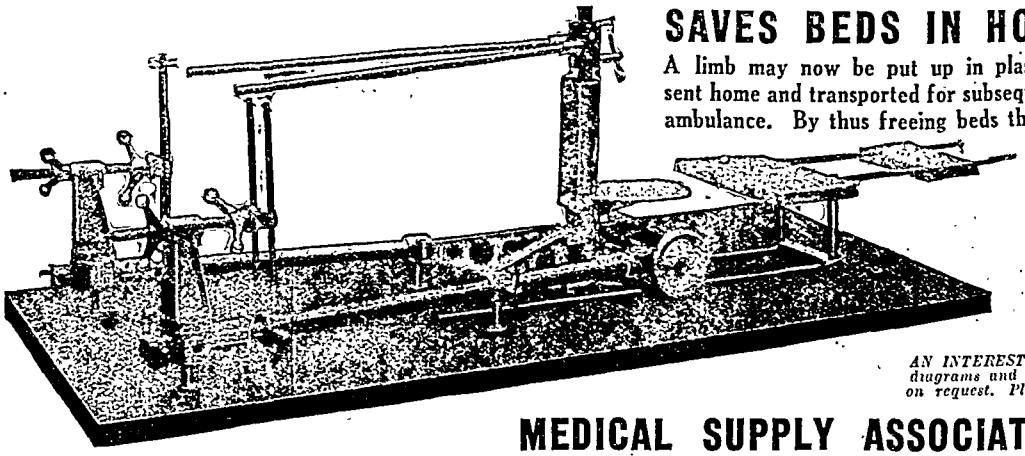
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

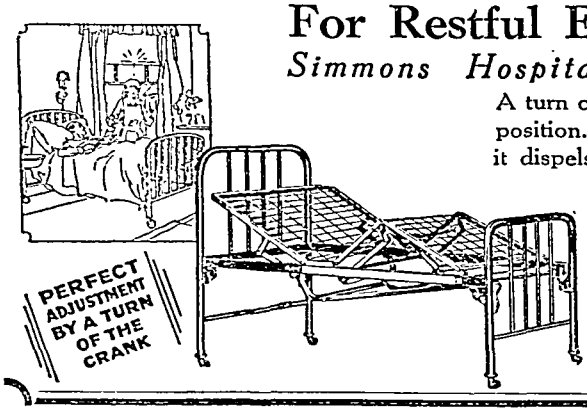
Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

167/185, Gray's Inn Road, LONDON, W.C.1. — 12, Holly Street, SHEFFIELD. — 10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines).



For Restful Ease or Surgical Positions—

Simmons Hospital Beds are instantly adaptable

A turn of the crank adjusts the Simmons Bed into any desirable position. For convalescents this means maximum repose, for it dispels the necessity of constantly rearranging pillows.

The strong construction of Simmons Beds, and their hygienic qualities, make them invaluable to all Hospitals and Institutions.

SIMMONS

Equipment for Hospitals and Institutions

Write to SIMCO Ltd. (Contract Dept.), 22/28, Shand Street, Tooley Street, Bermondsey, London, S.E.1.

NORVIC Reg'd CRÊPE BANDAGES

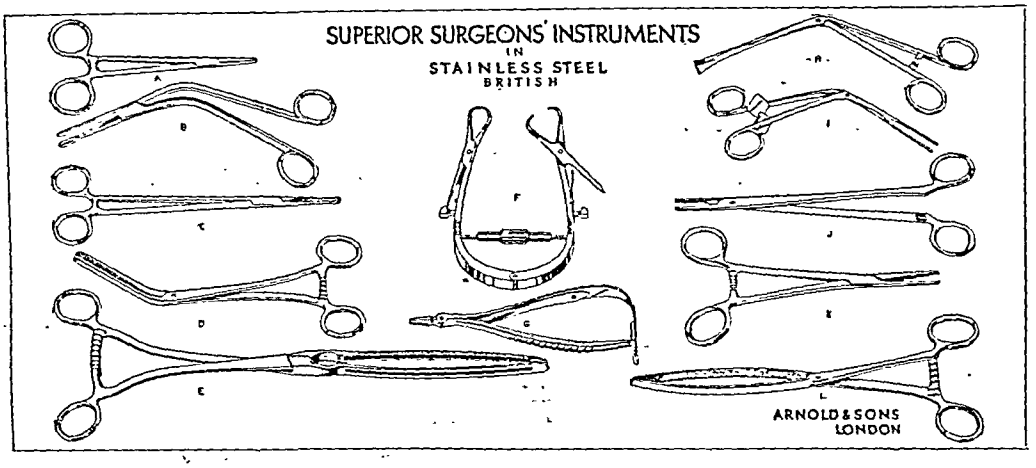


Fig. A. Moynihan's Artery Forceps, box joint, round bows, 5½" ... ... each 15/6
Fig. B. Denis Browne's Tonsil Holding Forceps, with box joint ... ... each 27/6
Fig. C. Moynihan's Tissue Forceps, box joint, 8" each 22/6
Fig. D. Thomson-Walker's Forceps for renal pedicle each 24/6
Fig. E. Stomach Clamp Forceps, 14" (London Hospital Model) 63/-
Fig. F. Goitre Retractor (Cecil Joll's) ... ... each 63/-
Fig. G. Needle Holder (London Hospital Model) 25/-
Fig. H. Rowntree's Radium Forceps, for picking up needles 18/9
Fig. I. Rowntree's Radium Forceps, for inserting needles 14/3
Fig. J. Finzi's Radium Forceps 24/-
Fig. K. Mayo Oschner's Artery Forceps, 7½", box joints ... 23/6
Fig. L. Doyen's Intestine Clamp Forceps, 9" 27/-

Telephone— WELBECK 5555 (12 lines)

Arnold & Sons (JOHN BELL & CROYDEN)

Telegrams— INSTRUMENTS, WESDO, LONDON.

50-52, WIGMORE STREET, LONDON, W.1.

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting.

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS
arranged for Doctors and Patients.
Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

MR R.H.DENT'S
Ardente
FOR DEAF EARS

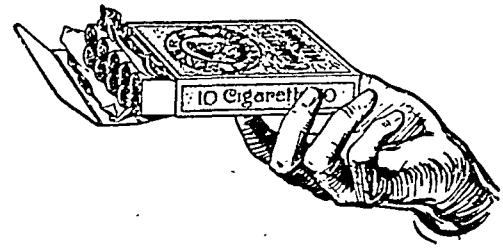
309, OXFORD ST., LONDON, W.1.
Tel.: Mayfair 1380/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.

206, Sauchiehall Street, GLASGOW.
23, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER

Have one of mine!

Smokers of good taste offer their friends a full value cigarette



PLAYER'S GIVE FULL VALUE

10 for 6D 20 for 11½D

NCC.19b.

'WARDWAY'

The Chair you can wheel upstairs

John Ward, Specialist in Invalid Chairs, respectfully invites members of the Medical Profession to write for the "Wardway Booklet No. 9."

JOHN WARD Ltd
242 7 Tottenham Ct. Rd. London

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.
Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"
keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request:
HILLIARD, 123, Douglas Street, Glasgow, C.2.

NAME PLATES
FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.

Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.

With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE.
COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

Account A/c Forms a Specialty

Printed in Best Style.
Account Forms. Letterheads. Cards., etc.,
Samples Sent.
R ANDERSON & SON

Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH

BRASS NAME PLATES.
BRONZE PLATES (ENAMEL LETTERS).
SKETCH & ESTIMATE UPON REQUEST.
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

B. MILLER & CO. LTD
17 CONDUIT STREET
BOND STREET, LONDON, W.1
TAILORS
Established 1896

LOUNGE SUITS and **OVERCOATS** *from* £8 : 8 : 0

DINNER SUITS Lined Silk *from* £10 : 10 : 0

A large selection of materials in the newest designs.—Patterns sent on request.

Convenient terms can be arranged.

FLATULENCE AND ALIMENTARY FETOR

MANY conditions are associated with flatulence, some of which frequently give rise to embarrassment of distant organs.

Dyspepsia, catarrh and ulceration of the stomach and intestine, cancer, dysentery, and other diseases of the alimentary canal itself, neurasthenia, and diseases of the heart, liver and pancreas, to name only a few, may all be associated with flatulence and intestinal flatus.

Some of the diseases of the intestine, such as dysentery and cancer, are often also associated with horrible fetor of the evacuations.

The accumulation of flatus in the stomach and intestine is liable to embarrass the action of the heart and lungs, giving rise to dyspnœa, disordered action of the heart, faintness and even anginal attacks.

Both the flatulence and fetor are the result of abnormal fermentation and putrefaction of the contents of the alimentary canal; apart from treatment of the condition itself, it can be rationally controlled by the use of an efficient intestinal disinfectant. For this purpose, Kerol, the most potent germicide, being unabsorbed and non-toxic, is unsurpassed, and can be safely administered in sufficient amount to exert its germicidal action.

When the fermentation is located in the stomach, KEROL CAPSULES (Gastric) m. 3, should be administered: one or two may be given three or four times a day after meals.

When there is intestinal flatus and fetor, the keratin-coated KEROL CAPSULES m. 3, should be used, the dose being one to three after meals.

Intestinal

Kerol Capsules

Disinfection

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD.
Ravens Lane
Berkhamsted, England

STANIFORM

Regd. BRAND. Trade Mark.

OINTMENT METHYL STANNIC IODIDE **LOTION**
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is contra-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

A anacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists', Sundriesmen or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Klinick (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

West End Clothes

Special Introductory Offer to 100 New Customers

BEFORE Easter we are anxious to obtain 100 new customers. To make quite sure this objective is reached we are making a special introductory offer, which for the sake of brevity is crystallized as follows:—

★ Clothing with the hall mark of the West End tailor at extremely modest prices as detailed below.
★ A Free Valeting Service for Sponging, Pressing and Repairing all garments after purchase as often as you wish.
★ CONVENIENT PAYMENTS FROM £1 PER MONTH without references or enquiries.
★ A special discount of 10/6 from your first order because we are convinced that the quality of our goods and service will merit your continued patronage.

Lounge Suits and Overcoats from 5 gns.
Dinner Clothes and Evening Dress from 6 gns.
Catalogue and patterns gladly sent on request

Keith Bradbury Ltd

Tailors of Credit

137/141 REGENT STREET
LONDON, W.1

Hours of business 9–7. Saturdays 9–1
Telephone: REGENT 5288

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

POCKET MONEY ADDING MACHINES 15/- post free

TAYLOR'S TYPEWRITERS

SELL, HIRE, HIRE PURCHASE or EXCHANGE 2nd Hand Desks, Tables & Chairs Est. 1884.

Write for Bargain List 32. THE BIJOU
'Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.
The best portable Writer Complete in Travelling Case, from £9 9s.
74, CHANCERY LANE (Holborn End), W.C.2

MANUFACTURED by SHORT & MASON LTD.

Tycos

WALTHAMSTOW LONDON, E.17.

SPHYGMOMANOMETERS

BRONZE NAME PLATES

Cream enamelled lettering, no cleaning required

BRASS NAME PLATES

Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

"VITA" GLASS

daily health through windows

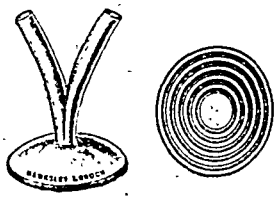
BLOOD PRESSURE

SPHYGMOMANOMETERS

Mercurial : Aneroid : Recording

NEW CATALOGUE
post free on application.

STETHOSCOPES



NEW
'METALLIQUE' CHEST END
(Pat. app. for)

The specially constructed metal diaphragm is extremely sensitive and magnifies heart sounds without distortion.

Price, chest end only, 10s. 6d.

Obtainable from all Dealers, or from the Makers:

HAWKSLEY & SONS Ltd.
83, Wigmore Street, London, W.1
Telephone: Welbeck 3859

A Gentleman Always Looks Well Dressed in *SAVILLE ROW* Clothes

NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.:—
DAVIES & SON, LESLEY & ROBERTS, SCHOLTE, JOHNS & PEGG, SULLIVAN WILLIAMS, &c., OVERCOATS, LOUNGE, DRESS, SPORTS SUITS, &c., 4 to 8 Gns.

ALTERATIONS ON PREMISES.

REGENT DRESS CO.,
Piccadilly Mansions, 17, Shaftesbury Avenue, Piccadilly Circus, W.1.
(Next door to Cafe Monico.) Gerrard 7611.
(Ladies' Department on First Floor.)

FOR SUCCESSFUL VACCINATION USE
CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens to H.M. the King* 76, NEW BOND STREET, LONDON, W.1
Telephone: Mayfair 4173—4.

BANTAM Coffee

Pure groundless coffee in powder form which dissolves instantly when hot water or milk is added. No preparation is necessary. A little Bantam Coffee added to hot milk makes a very palatable beverage and a welcome change to persons who must take milk regularly. Bantam Coffee is prepared from a blend of selected Empire-grown beans, and has been awarded the Certificate of the Institute of Hygiene.

Economical in use. A 2/- tin will yield 50 cups of delicious coffee. From Grocers or Post Free from
DEPT. 30, BANTAM PRODUCTS LTD., BANTAM WORKS, LEEDS.
Samples for Testing will gladly be sent on request.

ALLIANCE DRUG & CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C.3.

Telephone: ROYAL 5885.

Tel. Address: "NALTROF," BILGATE, LONDON.

Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulae as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 In 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegae @ 3/9 lb.
Lassar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Lin. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/8 lb.
Chloroform Pur., 8 lb. @ 3/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero-Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosp. Co., B.P.C., 7 lb. @ 1/- lb.
Prumi Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillae, B.P., 7 lb. @ 8d. lb.
Sennae, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Bland's (Sugar-coated), gr. 5	... 3/10
Nitroglycerini, B.P., gr. 1-50th ...	... 5/-
Perchloride of Mercury (Coloured) ..	...15/-

One Tablet in 1 pint of water is equivalent to 1 in 1,000.

Thyroid Gland, gr. 5 ... ... 12/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.

	B.P. Aquos.		B.P. Aquos.
Belladon.	... 4/3	1/6 Hyoscyam.	... 4/3 2/4
Benzoin Co.	... 4/7	— Nucis. Vom.	3/10 1/4
Camph. Co.	... 3/-	1/6 Opii ...	... 5/3 4/3
Card. Co.	... 2/6	1/6 Quin. Ammon.	3/3 —
Gentianæ Co.	2/8	1/6 Rhei Co.	... 2/8 1/9

Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichtaimolls, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

*Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

ANTIQUE AND MODERN
HIGH-CLASS SECOND-HAND
FURNITURE
FOR IMMEDIATE DISPOSAL.

THE ENTIRE VALUABLE CONTENTS OF SEVERAL NOTABLE MANSIONS, Town and Country Residences, Flats, etc., removed for convenience of sale, including many important items from the following collections.

LANSDOWN HOUSE.
THE PRINCESS PALEY (Paley Palace).
SIR FREDERICK CHARLES HOLIDAY (Decd.).
MARY ANNA DUCHESS OF ABERCORN (Decd.).
THE THIRD EARL OF DURHAM (Decd.).

THE MAGNIFICENT BEDROOM APPOINTMENTS comprise: 500 Complete Suites in English Walnut, Finely Figured Mahogany, Cream, Green, and Black Lacquer, Painted and Figured Satinwood. Fine Oak, ranging in price from £4 10s. to 250 Guineas per suite, many of which originally cost over double, including a special offer of 36 only Club Bedroom Suites in Solid Oak, with Bedsteads complete, £4 10s. set.

GENUINE ANTIQUE FOUR-POST BEDSTEADS, Tallboy and shaped front Chests, Sofa Tables, Corner and other Washstands, Toilet Mirrors, and numerous Dressing Tables, Bow-front Wardrobes, etc. Several Fitted Gentlemen's Wardrobes offered at £4 each.

5,000 CARPETS AND RUGS, including fine Persian, Turkey, Wilton, Axminster; Chinese, and Aubusson, including a large salvage stock now being offered at remarkable bargain prices. A quantity of fine Pile Carpet at 2s. 9d. per yard, together with a large number of Seamless Squares in various designs and colourings from 21s. each.

750 SETTEES AND LOUNGE EASY CHAIRS, some covered Morocco Leather, Tapestry, rich Silk, Hide, etc., removed from a large West End Club and Hotel. A large quantity covered Plain Art Repp, all being of excellent quality and in all cases equal to new. Small Lounge Easy Chairs offered at 21s. each, several in Real Hide, £3 3s. each. Large Club Lounge Chairs, £4 17s. 6d. to 12 gns. Well-made softly-sprung Chesterfield Settees, 3 gns.; and a large quantity of Chesterfield Settees with Loose Pillow Backs and Seats, ranging from £7 15s. to 25 gns.

THE MAGNIFICENT DINING ROOMS, LOUNGES, LIBRARIES, and **HALLS** comprise a wonderful collection of all periods, Early Tudor, Queen Anne, Chippendale, Hepplewhite, Adams, and Sheraton, in Oak, Mahogany and Walnut. Complete Dining Room Suites, comprising Sideboard, Set of Chairs, and Dining Tables, being offered for 10 Guineas set, whilst the more elaborate suites range from 25 Guineas to 300 Guineas, many of these exquisite sets having cost over treble the price now asked to clear. Special attention is called to a quantity of Cottage Wheelback Chairs offered at 6s. 9d. each.

A LARGE NUMBER OF PIANOFORTES by eminent makers, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, important collection of Statuary, Pictures, Silver and Sheffield Plate, quantity of fine old Cut Glass, Bed and Table Linen, a large quantity of Office Furniture, including Iron Safes, Roll-top Desks, Pedestal Desks, Bookcases, etc., etc.

PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F.) POST FREE.

ON SALE DAILY, 9 till 7. Any item may be purchased separately, and can remain warehoused free for 12 months or delivered to any part.

SETTLEMENT OF ACCOUNTS CAN BE ARRANGED TO SUIT CUSTOMER'S CONVENIENCE.

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.

(By Royal Appointment to H.M. the King of Spain.)

PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1.
(Within Ten minutes of West End.)
'Phone: North 3580.

STUDINGTON

CORRECT EVENING WEAR

THIS important branch of Tailoring is essentially the work of experts.

Care of detail and studied workmanship has built for Studington an enviable reputation for dress wear.

STUDD & MILLINGTON LIMITED
MAKERS OF FINE CLOTHES

51, CONDUIT STREET, BOND STREET, W.
67-69, CHANCERY LANE, HOLBORN, W.C.
81, GRACECHURCH STREET, E.C.
ABBEY HOUSE, VICTORIA STREET, WESTMINSTER, LONDON, S.W.1.

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

SEND for our NEW SAMPLES of the very BEST STATIONERY, Etc.
HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

THE 'ALLENBURYS' CASTOR OIL

Is Tasteless and is the Standard of Quality

Supplied in bottles at 8d., 1/3, 2/3 and 4/- each

OXHEY GROVE,

HATCH END, MIDDLESEX.

A NURSING HOME for BORDERLINE CASES of BOTH SEXES, twelve miles from Marble Arch. Resident Medical Officer, male and female staff, visiting Pathologist. Fees 5 to 12 guineas.

Full particulars from the MEDICAL SUPERINTENDENT. Telephone: Hatch End 368.

NORTHWOODS, Winterbourne, Bristol.

Telephone and Telegrams: Winterbourne 18.

This beautiful mansion in fifty acres of secluded grounds was built specially for the TREATMENT OF MENTAL ILLNESS. Certified patients of both sexes. Thorough clinical, bacteriological, and pathological examinations. Separate bedrooms. Private suites. Indoor and outdoor amusements. Wireless and other concerts. Occupational therapy. Physical drill. Private golf course. Garden and dairy produce from farm on the estate. Reasonable terms. A few voluntary boarders are received in the Medical Superintendent's house.

For further particulars and prospectus, apply to JOSEPH CATES, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone:* PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3¼ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.

The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA, nr. LIVERPOOL.

For the care and treatment of a limited number of Ladies and Gentlemen suffering from NERVOUS or MENTAL breakdown. Voluntary Boarders received. Psycho-therapy in suitable cases if desired. Terms moderate. Apply, RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E Carver, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone:* Brixton 0494. Apply, Miss THWAITES.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone:* 2708.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Mental or Nervous allied disorders of Habit. All types of cases are received Voluntary Boarders. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 23 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams:* "Masters," Chislehurst.

The Stanboroughs

WATFORD HERTS

Specially equipped for treating cases of functional nervous disorders, alcoholism, and drug addiction. Fees moderate. Extensive park. Inspection invited.

S. MCCLEMENTS, M.R.C.S., L.R.C.P., Medical Superintendent.

Phone - - - WATFORD 1751.

"BANKSEA," Dovercourt Bay, ESSEX.

CONVALESCENT HOME FOR GIRLS.

This Home, conducted by the Dominican Sisters, is certified by the Essex County Council under the Ministry of Health.

Beautifully situated on the sea front. Bracing air. Bright and airy [illegible] Central heating. Pleasure Park [illegible] Individual attention [illegible] Nurse. Infectious or [illegible]

Terms moderate. Vouchers issued for reduced railway fares. — Apply, MOTHER PRIORESS, Dominican Convent, Dovercourt, Essex.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1923.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital.

Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE, GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment. Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—ARTHUR TOWNSEND, M.D., Medical Supt.

Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*

A. E. CARVER, M.D., D.P.M.

Telephone: Nuneaton 241.

CHEADLE ROYAL, CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received. For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 481 GATLEY.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, M.B., C.M.Edin., Resident Physician.

Telephone No.: Bathgaston 8189.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

ST. ANDREW'S HOSPITAL FOR MENTAL DISORDERS, NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, golf courses, and bowling greens, lawn tennis courts (grass and hard courts), croquet grounds, football and hockey grounds. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

TYKEFORD ABBEY, NEWPORT PAGNELL, BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psychotherapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Telephone: Newport Pagnell 121.

Apply, Dr. D. L. M. DOUGLAS-MORRIS.

HAYDOCK LODGE, NEWTON-LE-WILLOWS, LANCASHIRE.

Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition. Self-supported by its own farm and gardens. Situated in park and grounds of 400 acres. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER, SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.

Telephone: Teignmouth 269.

THE COPPICE, NOTTINGHAM. HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of **Private Patients** of both sexes of the **Upper and Middle Classes** at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117.

For terms, etc., apply to the Medical Superintendent.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle, Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.
Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

TOR-NA-DEE SANATORIUM

MURTLE DEESIDE. ABERDEENSHIRE.

Medical Director: David Lawson, M.D., F.R.S.E.

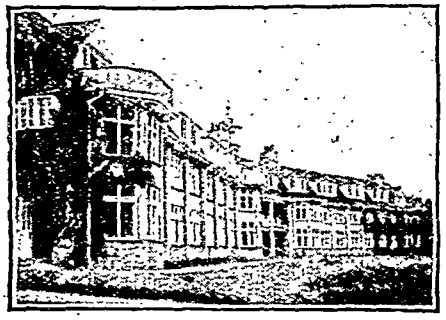
FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

EAST ANGLIAN SANATORIUM.



This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus, etc., apply to the SECRETARY, East Anglian Sanatorium, Nayland, near Colchester. *Tel. and Telegrams*: NAYLAND 1.

PENDYFFRYN HALL SANATORIUM

PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), R. M. Bremner, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone. 20.)

KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1901. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray Plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 6s. 8d. to £6 6s. per week inclusive, no extras.

MEDICAL SUPT.: FELIX SAVY, M.D. *For particulars apply to the Secretary.*

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled). Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

EPILEPSY.

Attendance at school is a necessary part of the satisfactory treatment of Epilepsy in Children.

COLTHURST HOUSE SCHOOL

meets all the requirements of children of middle-class parentage. Extensions made necessary by the success of the school have created several vacancies.

Only bright and intelligent boys and girls are eligible for admission.

Apply to the Medical Supt., Colthurst House School, Warford, Alderley Edge.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.
All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation.
Physician in attendance.
IDEAL HEALTH RESORT.
Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

HOTEL ANNONCIATA,

MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.
Dry, bracing mountain air, semi-tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods.
Easy access to Town. Up-to-date comfortable Hotel, moderate charges.
Under French and English Management.
Teleg.: Annonciata, Menton. *Teleph.*: 1.06.

BOURNEMOUTH HYDRO,

with Vita-glass [illegible] Iconv
on
Every kind
Every kind " light.
Every kind
Every kind [illegible]
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.
Resident } W. JOHNSON SMYTH, M.D.
Physicians: } L. T. ROSE-HUTCHINSON, M.D.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.
Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.
Voluntary Boarders accepted.
Apply for particulars to Dr. SANKEY.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant Telephone: Tamworth 108.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*

For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

'Grams: "SMEDLEY'S MATLOCK."
'Phone: No. 17.
For Prospectus and full information please write MANAGER, M.J.

MATLOCK

HOSPITAL FOR CONSUMPTION

AND DISEASES OF THE CHEST, BROMPTON, and FRIMLEY SANATORIUM.

PAYING PATIENTS RECEIVED.
BOTH MEDICAL and SURGICAL CASES.
4 to 8 guineas per week.
APPLY TO THE SECRETARY:—BROMPTON HOSPITAL, S.W.3.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,300 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.
Certificates awarded as required by the various Examining Bodies.
For rules, fees, etc., apply ARTHUR WATTS, Secretary.

Tancred Studentships.

Shortly after Whitsuntide next the Governors and Trustees propose to elect ONE STUDENT in PHYSIC at CONVILLE and CAIUS COLLEGE, CAMBRIDGE.
Candidates must have been born in England, Scotland or Wales, and be members of the Church of England, unmarried, and within the ages of 17 and 20 years.
The annual stipend is £100.
The last day for sending in petitions is March 10th.
Application for further particulars should be made to Mr. GUY HARGREAVES CHOLMELEY, 28, Lincoln's Inn Fields, Clerk to the Governors and Trustees.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

Royal College of Physicians of LONDON.

The next ordinary PROFESSIONAL EXAMINATION for the MEMBERSHIP will commence on Friday, April 17th, 1931.
Candidates are required to give 21 days' notice, in writing, to the Registrar of the College, to whom all certificates and testimonials required by the By-laws must be sent at the same time.
Candidates who propose to submit published work under [illegible] in force should apply, in [illegible] without delay, for [illegible] the procedure they [illegible]
M.D.,
Pall Mall [illegible] egistrar.

Royal Medical Benevolent Fund.

11, Chandos Street, Cavendish Square, London, W.1.

The ANNUAL MEETING of the MEMBERS of the ROYAL MEDICAL BENEVOLENT FUND will be held at 5 p.m. on TUESDAY, MARCH 17th, 1931, at 11, Chandos St., Cavendish Sq., London, W.1, when the Annual Report and Financial Statement for the year ended December 31st, 1930, will be presented and the Officers and Committee for the current year elected.

PERCY SARGENT,
R. M. HANDFIELD-JONES,
Feb. 23rd, 1931. Hon. Secretaries.

POST-GRADUATION SCHOOL
CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL.
Gray's Inn Road, London, W.C.1.

INTENSIVE COURSE of LECTURES AND DEMONSTRATIONS, including OPERATIVE SURGERY, PATHOLOGY and BACTERIOLOGY, and PERORAL ENDOSCOPY CLASSES, will be given from 27th April to 23rd May, 1931.

PRACTICAL TEACHING throughout the year. Courses in methods of Examination and Diagnosis at frequent intervals; Clinics and Operations daily; Lectures weekly.

CLINICAL ASSISTANTSHIPS available for periods of THREE, SIX, or TWELVE MONTHS.

The Post-graduate work covers all the requirements for the D.L.O. (R.C.P.&S.Eng.).

Full Syllabus obtainable from the Dean.

FELLOWSHIP OF MEDICINE
Special Courses in March: Neurology, Dermatology, Psychological Medicine, Medicine, Surgery and Gynaecology, and Orthopaedics.
Special V.D. Courses arranged for Women only.

Detailed syllabuses of above courses from
FELLOWSHIP OF MEDICINE, 1, Wimpole Street, London, W.1. Langham 4266.

Post-Graduate Teaching, West London Hospital.
Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, London, W.1.

L.R.C.S. ENGLAND
PRIMARY and FINAL.
May and June 1931 Examinations.

You can pass these examinations at the first attempt by enrolling for the unique Courses of Postal and Oral Coaching by Specialist Tutors. Free Guide and all particulars on application.

M.R.C.P. LONDON
Courses are now commencing for the M.R.C.P. London, April 1931, examination by Tutors acquainted with the special character and features of this examination. Highly successful results.

Write for free booklet, "The M.R.C.P. and How to Obtain It," to the Secretary, Medical Correspondence College, 19, Welbeck Street, W.1.

TAUNTON SCHOOL,
TAUNTON.
A PUBLIC SCHOOL FOR BOYS.
Boys are regularly prepared for the First M.B. [illegible] ...sity Scholarships in [illegible] ...red for the teaching ...my, and Zoology. ... containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.
(UNIVERSITY OF LIVERPOOL)
COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)
For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

STAMMERING, SPEECH DEFECTS.
BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.
"Pre-eminent success in the education and treatment of [illegible]"—"Times." [illegible] "Lancet." [illegible] and perfectly [illegible]
STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/6 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

F.R.C.S.(Edin.).
CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £8 8s. for 10 lessons.—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

CITY OF LONDON MATERNITY HOSPITAL,
CITY ROAD, E.C.1.
MIDWIFERY TRAINING SCHOOL.
MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.
PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.
PRIVATE WARDS for paying patients.
MATERNITY NURSES sent out for private cases.

POST-GRADUATE COURSE IN ORTHOPAEDIC SURGERY.
A Special Two Weeks' Course will be held at the ROYAL NATIONAL ORTHOPAEDIC HOSPITAL from March 9th to March 21st, 1931.
Lectures and Demonstrations will be given, and those taking the Course will have access to operations and the practice of the Hospital.
Application should be made to the Secretary of the Hospital, 234, Gt. Portland St., W.1, or to the Secretary, Fellowship of Medicine, 1, Wimpole Street, London, W.1.

POST-GRADUATE MIDWIFERY.
Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,
PRINCE OF WALES'S GENERAL HOSPITAL, N.15.
The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BENJANS, F.R.C.S., Dean.

Medical and Dental Students.
Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.), 1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.), *Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.), *Primary* 1906-30)	162
Final	161
M.R.C.P.(Lond.), 1914-30	192
D.P.H. (Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.), 1918-30	46
M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.) (Practitioners) 1906-30	38
M.D. Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. *Museum and Microscope Work. Also* Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all* [illegible], and Oral [illegible]er Medical higher Sur- *the Special* urse. Open- theses. with list of Principal,

Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

SOCIETY OF APOTHECARIES OF LONDON.

The Court invites applications for FOUR EXAMINERSHIPS, three in Medicine and Pathology and one in Physiology and Biology, from teachers at recognized Medical Schools.

Applications should be sent in by April 18th, 1931.

Water Lane, Queen Victoria St., E.C.4. R. SILBY LEWIS, Registrar.

£100 Grant for Post-Graduate STUDY OF HOMOEOPATHY.

THE BRITISH HOMOEOPATHIC ASSOCIATION (INC.), 43, Russell Square, London, W.C.1, Graduates of Medicine or the University of OF £100 for a Post-graduate Course of Study of the Principles and Practice of Homoeopathy, for six months, at the London Homoeopathic Hospital. Applicants must be under 30 years of age on March 1st. Closing date for applications July 1st, 1931.

For further particulars apply to the Secretary at 43, Russell Square, W.C.1.

National Hospital for Diseases of THE NERVOUS SYSTEM, Queen Square, W.C.1.

SPEECH DEFECTS.

The Board of Management will shortly appoint an HONORARY OFFICER to undertake treatment and re-education of patients suffering from speech defects who have been referred by the Honorary Medical Staff. Attendance on two days each week will be required. Applications should be sent to the undersigned on or before March 6th.

GODFREY H. HAMILTON, Secretary.

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE.

FACULTY OF MEDICAL SCIENCES.

SPECIAL COURSE FOR THE PRIMARY FELLOWSHIP EXAMINATION OF THE ROYAL COLLEGE OF SURGEONS.

Special SHORT COURSES in ANATOMY and PHYSIOLOGY will begin on MONDAY, MARCH 9th, 1931, in preparation for the June Examination.

ANATOMY: J. KIRK, M.B., Ch.B., F.R.C.S.E.
PHYSIOLOGY: H. P. GILDING, M.A., B.M., B.Ch.; W. H. NEWTON, M.Sc., M.B., Ch.B.

The Course in Anatomy (including Embryology) is made up of lectures and demonstrations. Students are permitted to use the Dissecting Room and Museum of Anatomy at other times. The Courses in Physiology, Bio- onsist of lectures with revision of hes of the subject ortance in Medical Practice.

Full particulars may be obtained on application to—

University College, London. C. O. G. DOUIE, Secretary.
(Gower Street, W.C.1.)

Royal London Ophthalmic HOSPITAL (Moorfields Eye Hospital), City Road, London, E.C.1.

GIFFORD EDMONDS PRIZE IN OPHTHALMOLOGY.

The Prize of £100 awarded every two years is offered for the best Essay on a subject dealing with Ophthalmology and involving original work, and is open to any British subject holding a medical qualification.

The subject for the next Essay is:

RADIANT ENERGY AS (*a*) A PATHOGENIC AND (*b*) A THERAPEUTIC AGENT IN OPHTHALMIC DISORDERS.

NOTE.—It is not expected that any candidate will deal comprehensively with all branches of the above subject—a selection should be made.

Preference will be given to original work based on any branch of the subject, rather than to compilations of the writings of previous observers.

Essays must be sent in not later than December 31st, 1932.

A leaflet giving full particulars of the prize may be obtained from the Secretary, Royal London Ophthalmic Hospital (Moorfields Eye Hospital), City Road, London, E.C.1.

London Hospital Medical College.

LIDDLE TRIENNIAL PRIZE.
(Open to Public Competition.)
1929-30.

The above Prize for an Essay on "*The Cause and Incidence of Duodenal Ulcer*" has been awarded to WILLIAM EVANS, M.D., M.R.C.P., of the London Hospital.

Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean.

Manchester and District Radium INSTITUTE, Nelson St., MANCHESTER.

Required Medical Man, thoroughly experienced in radium work, to act as DIRECTOR of The Radium Institute. Terms and conditions to be obtained from the Hon. Secretary.

Applications to be received not later than March 14th.

City of Cardiff.

ISOLATION HOSPITAL.

Applications are invited for the post of RESIDENT ASSISTANT MEDICAL OFFICER (male or female—single). Salary £150 per annum, with board, lodging, and laundry. The appointment will be tenable for twelve months only. Candidates must be fully qualified and registered.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be addressed to the undersigned not later than March 7th.

City Hall, Cardiff. RALPH M. F. PICKEN, Medical Officer of Health.
February, 1931.

The Liverpool Eye and Ear INFIRMARY, Myrtle Street, LIVERPOOL.

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON to the above Institution. Salary £100 per annum, with board and lodging.

Applications, stating age and qualifications, together with not more than three recent testimonials, should be sent forthwith to CHAS. W. WRIGHT, Esq., 8, Harrington Street, Liverpool.

Borough of Reigate.

MEDICAL OFFICER OF HEALTH, SCHOOL MEDICAL OFFICER, AND MEDICAL OFFICER OF INFANT WELFARE CENTRE.

The Reigate Town Council invites applications from duly qualified persons of not more than 35 years of age, holding a Diploma in Public Health and possessing Municipal or Local Government experience, for the appointment of Medical Officer of Health, School Medical Officer, and Medical Officer of the Infant Welfare Centre for the Borough.

The total commencing salary will be £800 per annum, with an allowance of £40 per annum for travelling and other expenses.

The person appointed will be required to devote his whole time to the duties of his offices, and must reside within the Borough. The duties to be performed are those defined by the Sanitary Officers Order, 1926, made by the Minister of Health, together with any other duties which may from time to time devolve on a Medical Officer of Health by virtue of any present or future Act of Parliament or Orders or Regulations of the Ministry of Health.

He will also be required to act as School Medical Officer and Medical Officer at the Infant Welfare Clinic.

The officer's tenure as Medical Officer of Health will be governed by Section 1 of the Public Health (Officers) Act, 1921.

The Council will provide offices and staff.

Applications, stating age, qualifications, and experience, with copies of three recent testimonials, must be sent, endorsed "Medical Officer," so as to reach me not later than Friday, March 13th next.

Twelve copies of the application and testimonials should also be forwarded for the use of the members of the Committee.

Canvassing in any form is strictly prohibited and will disqualify.

By Order of the Council,
Municipal Buildings, Reigate. ALFRED SMITH, Town Clerk.
February 14th, 1931.

County Council of Middlesex.

DISTRICT MEDICAL OFFICER AND PUBLIC VACCINATOR.

The County Council invites applications from duly qualified Medical Practitioners for the undermentioned appointments:

DISTRICT MEDICAL OFFICER, ISLEWORTH (part of).

Salary £140 per annum, rising by annual increments of £7 10s. to £180 per annum. The officer appointed will be required to carry out his duties in accordance with the Public Assistance Order, 1930, of the Minister of Health, to reside in the district, and to name to the Council some duly qualified Medical Practitioner who will, in the case of his absence or other hindrance to his personal attendance, act in his place.

PUBLIC VACCINATOR, ISLEWORTH (part of).

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination, unless such certificate was required as a condition of obtaining any diploma, licence, or degree which he possesses.

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order, 1930, of the Minister of Health. The contract will provide for the payment of the minimum fees laid down in the Order.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than March 7th.

No special application forms are provided. Envelopes must be endorsed "District Medical Officer" or "Public Vaccinator," as the case may be.

Canvassing, directly or indirectly, will be a disqualification.

Guildhall, Westminster, S.W.1. ERNEST S. W. HART, Clerk of the County Council.
February 10th, 1931.

Borough of Batley.

ASSISTANT MEDICAL OFFICER OF HEALTH (Part-time).

Applications are invited for the above appointment. Candidates must be registered Medical Women possessing the qualifications prescribed by the Ministry of Health, paragraph 7 of the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930. The duties will entail attendance at an Ante-Natal Clinic and Infant Welfare Centres on two afternoons per week. The remuneration will be 1½ guineas per session of two hours in accordance with the B.M.A. scale, plus travelling expenses.

Applications to be sent forthwith to the undersigned.

G. H. PEARCE, Medical Officer of Health.
Medical Officer's Dept., Batley, Yorks.

Salford Royal Hospital.
(265 Beds.)

Applications are invited for the following vacancies, which will occur in the Resident Medical Staff (male) on March 31st next:

HOUSE SURGEON (attached to the Orthopaedic Department). Salary at the rate of £125 per annum.

HOUSE SURGEON. Salary at the rate of £125 per annum.

HOUSE SURGEON to Aural, Skin, and Gynaecological Departments. Salary at the rate of £125 per annum.

CASUALTY HOUSE SURGEON. Salary at the rate of £125 per annum.

The appointments are for a period of six months, with board and residence.

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England, and appointments here are recognised for the English Fellowship (Final).

Forms of application, which may be obtained from the undersigned, must be delivered on or before March 10th.

By Order of the Board,
GEORGE RUDDLE,
Gen. Supt. &
Secretary.
Salford Royal Hospital.
February 23rd, 1931.

St. Peter's Hospital for Stone, ETC.,
Henrietta Street, Covent Garden, W.C.2.

The office of HOUSE SURGEON will fall vacant on April 1st, and applications are invited from male candidates with previous experience in a similar office at a General Hospital. The salary offered is at the rate of £75 per annum, with board, lodging, and laundry.

At the expiration of six months' term of office, and subject to the recommendation of the Medical Committee, the House Surgeon is appointed Resident Surgical Officer for a further similar period. Candidates should therefore be prepared, if successful, to remain at the Hospital for twelve months in all.

Applications, accompanied by copies of testimonials, will be received by the undersigned not later than the first post on Wednesday, March 11th.

BEECHEY ROGERS, Secretary.

Peterborough and District
MEMORIAL HOSPITAL.
(154 Beds and Out-patient Department.)

RESIDENT HOUSE SURGEON required.

Applications are invited from fully qualified male Practitioners for the above post.

Salary £135 per annum, with board, residence, and laundry.

Appointments will be for a minimum period of six months.

Applications, stating age, qualifications, and experience, with copies of recent testimonials, to be sent to the undersigned, from whom further particulars may be obtained.

FRANK A. O. TAYLOR,
Secretary-Superintendent.

Elsie Inglis Memorial Maternity HOSPITAL,
Spring Gardens, EDINBURGH. (60 Beds.)

Applications are invited from qualified Medical Women for the following posts: (a) DISTRICT MEDICAL OFFICER, (b) JUNIOR HOUSE SURGEON. The District Medical Officer serves for three months on the district and then becomes Senior House Surgeon. The appointments are for six months from April 1st, with board, residence, and laundry. Honorarium at the rate of £50 and £25 per annum respectively.

Applications, with copies of testimonials, to be received by the Secretary at above address on or before Monday, March 2nd.

Torbay Hospital, Torquay.
(146 Beds.)

HOUSE PHYSICIAN wanted for March 23rd. Salary £175 per annum, with board, residence, and laundry. Candidates must be fully qualified, registered, and unmarried.

Applications, stating age, nationality, qualifications, and experience, should be sent forthwith to the undersigned, with copies of not more than three recent testimonials.

E. L. GRIST,
Secretary.
February 23rd 1931.

Victoria Central Hospital,
WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry. Candidate chosen would be appointed for six months.

Applications, with copies of recent testimonials, to be sent to the Secretary.

City Mental Hospital,
HUMBERSTONE, LEICESTER.

SECOND ASSISTANT RESIDENT MEDICAL OFFICER. (Single, under 30.)

Applications are invited for the above post.

Salary £450 a year, rising by annual increments of £50 to £550, together with board, lodging, washing, and attendance, valued for purposes of superannuation at £100 per annum.

Candidates must hold a Diploma in Psychological Medicine, and have held a resident House appointment in a recognised Teaching Hospital for at least six months.

Preference will be given to those holding a University degree.

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, marked "A.M.O.," giving particulars of experience, and copies of not more than three testimonials (ad hoc), to be sent to the Medical Superintendent.

Royal Victoria Hospital,
BELFAST.

MEDICAL SUPERINTENDENT.

A vacancy will shortly occur at the Royal Victoria Hospital, Belfast, for a Medical Superintendent.

Applicants must not be over 55 years of age on date of appointment and must possess experience in hospital administration and organisation.

Salary £500 per annum, with free house, coal, and light. Age on retirement 65.

Applicants should also state how soon they would be free to take over in the event of being selected for the appointment.

Letters of application, stating age, experience, etc., with references, should be addressed, before March 31st, to the Honorary Secretary, from whom further information can be obtained.

Canvassing forbidden.

Addenbrooke's Hospital,
CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON to the Special Departments, with care of beds for ear, nose and throat, eye, gynaecological and maternity cases.

The appointment will be for a period of six months from March 26th, but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum, with board, residence, and laundry.

Candidates (male), who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials, to the undersigned on or before Wednesday, March 11th.

W. H. HEAD,
Secretary-Superintendent.

Herefordshire General Hospital.
(126 Beds.)

Applications are invited for the post of HOUSE SURGEON (male). Twelve months' appointment, renewable. Salary £150 per annum, with board, residence, and laundry.

Applications are also invited for the post of HOUSE PHYSICIAN (male). Six months' appointment, renewable. Salary £150 per annum, with board, residence, and laundry.

Candidates must be fully qualified and registered. Applications, stating age, qualifications, and experience, together with not more than three copies of recent testimonials, should reach the undersigned not later than March 10th.

S. WARD, Acting Secretary.

St. Bartholomew's Hospital.

APPOINTMENT OF ASSISTANT SURGEON.

Notice is hereby given that a meeting of the Election Committee will be held on Tuesday, April 14th, at 4 o'clock in the afternoon, to elect an Assistant Surgeon to this Hospital.

Candidates, who must be Fellows of the Royal College of Surgeons of England, are required to lodge 50 copies of their applications and testimonials with the undersigned, on or before Saturday, March 21st.

THOMAS HAYES,
Clerk to the Governors.
February 27th, 1931.

The Royal Infirmary, Sunderland
(290 Beds.)

Wanted, SENIOR HOUSE SURGEON (male), salary £200 per annum; also HOUSE SURGEON (male), £140 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Worcester General Infirmary.

HONORARY GYNAECOLOGIST.

The Executive Committee invite applications for the newly created post of Honorary Gynaecologist.

Candidates must be registered under the Medical Act and possess one of the following qualifications:

(a) A Degree in Surgery from one of the Universities of the United Kingdom; or
(b) The Fellowship of one of the Royal Colleges of Surgeons of the United Kingdom.

Forty copies of the application, together with not less than four recent testimonials, should be forwarded to the undersigned not later than Wednesday, March 11th.

N.B.—Canvassing is forbidden.

Signed on behalf of the Committee,
PERCY N. GLASS, B.Sc.(Vict.),
General Secretary.

Hull Royal Infirmary.

SUTTON BRANCH.

The above Branch has been recently opened and is a self-contained modern General Hospital of 100 Beds. There are two Resident posts.

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum, plus board, residence, and laundry. The appointment will be for six months in the first instance, and will be terminable by one month's notice on either side.

The House Physician will have charge, under the direction of the Honorary Staff, of 46 medical beds.

Applications, stating age, qualifications, and nationality, and with copies of testimonials, should be sent to the undersigned.

R. J. CARLESS,
House Governor.
Hull Royal Infirmary,
Hull.
February 23rd, 1931.

Dorset Mental Hospital,
HERRISON, DORCHESTER.

JUNIOR ASSISTANT MEDICAL OFFICER.

Applications are invited from candidates duly qualified, registered, and unmarried. Commencing salary £400 per annum, rising by two yearly increments of £25 to £450, and further increases on promotion, with board, apartments, laundry, and attendance. Excellent laboratory facilities exist, with skilled assistance, for research and clinical medicine. (960 beds.)

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909. Applications, stating age and qualifications, with copies of recent testimonials, should be sent to the Medical Superintendent at once.

Charing Cross Hospital.

REGISTRAR.

Applications are invited for the post of Registrar (male) to the Nose, Throat, and Ear Department.

Candidates must have some experience of this speciality. Attendance four half-days per week. The appointment is tenable for one year; eligible for re-election. Honorarium £100 per annum.

Applications, in writing, stating age, qualifications, and experience, to be made to the undersigned not later than March 4th.

PHILIP INMAN,
House Governor.
Charing Cross Hospital,
Strand, W.C.2.

Charing Cross Hospital.

SURGICAL REGISTRARS (Two).

The Council invite applications from candidates, who must be registered Medical Practitioners (male), for the posts of Surgical Registrars. Honorarium £150 per annum.

A copy of the regulations can be obtained from the undersigned, to whom applications, together with copies of three testimonials, must be submitted not later than Wednesday, March 4th.

PHILIP INMAN,
House Governor.
Charing Cross Hospital,
Strand, W.C.2.

District Infirmary,
ASHTON-UNDER-LYNE.
(General Hospital, 200 Beds, mainly Surgical.)

Wanted, a male HOUSE SURGEON. Six months' appointment, renewable.

Salary at the rate of £150 per annum, with board, residence, and laundry.

The Resident Staff comprises a Resident Surgical Officer and three House Surgeons.

Applications, with testimonials, to be sent at once to the undersigned.

FRANK OLIVER,
General Supt. and Secretary.
February 23rd, 1931.

Royal Manchester Children's HOSPITAL.

Out-patients' Department: Cartside Street, MANCHESTER.

Wanted for the Out-patients' Department, Two ASSISTANT MEDICAL OFFICERS, non-resident, salary £150 per annum, who will be appointed for six months.

Candidates must be doubly qualified and on the *Medical Register*. Particulars of the duties can be obtained from the Secretary. The hours of duty are from 9 a.m. till 1 p.m. or until the work of the Dispensary is finished. Patients' attendances number 97,000 per annum. Duties to commence April 1st.

Applications, stating age, and accompanied by copies of not more than three testimonials, to be sent to the undersigned not later than Wednesday, March 4th.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY.
February 11th, 1931. Secretary.

Royal Manchester Children's HOSPITAL,

PENDLEBURY, near MANCHESTER (190 Beds).

Wanted, a RESIDENT MEDICAL OFFICER and a RESIDENT SURGICAL OFFICER, salary £125 per annum, who will be appointed for *six months. Duties to commence April 1st.*

Candidates must be unmarried, doubly qualified, and duly registered. Previous Hospital experience essential.

Applications, stating age, and accompanied by copies of not more than three testimonials, to be sent to the undersigned not later than Wednesday, March 4th.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY,
February 11th, 1931. Secretary.

The Royal Gwent Hospital, NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER, to act as House Surgeon to Out-patients and as House Physician.

Salary £135, with board, lodging, and laundry. Resident Medical Staff 5. Eligible for promotion. Large Out-patient Department.

Applications, stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.

Applications from ladies not entertained.

J. K. MILLWARD,
Secretary-Superintendent.
February 17th, 1931.

St. John's Hospital for Diseases OF THE SKIN,

49, Leicester Square, W.C.2.

Applications for the post of SENIOR and JUNIOR HONORARY MEDICAL REGISTRARS (male) are invited to be sent to the undersigned on or before Monday, March 2nd.

Applicants must be duly qualified and registered Medical Practitioners. Particulars of the duties can be obtained on application.

There are also vacancies for CLINICAL ASSISTANTS.

LEONARD G. R. TURPIN, Secretary.

City Mental Hospital, NOTTINGHAM.

DEPUTY MEDICAL SUPERINTENDENT required at the above Hospital. Salary £650 per annum, rising by £10 per annum to £700, together with unfurnished house, rates and taxes free, valued for A.O.S. purposes at £95. No other emoluments. In addition £50 per annum for D.P.M. and £10 per annum for M.P.C. Applications, with fullest particulars, to be sent to the Medical Superintendent.

General Infirmary, Salisbury.

Applications are invited for the appointment of an HON[illegible]RGEON to the above [illegible] to be sent to the Hous[illegible] not later than March 20th.

Canvassing by, or on behalf of, the candidates will disqualify.

By Order of the Committee,
J. G. ELGAR,
House Governor and Secretary.

London Hospital, E.1.

There is a vacancy for the post of ASSISTANT OBSTETRIC and GYNAECOLOGICAL SURGEON. Candidates must be Fellows of the Royal College of Surgeons, England, or Masters of Surgery of a recognized University.

Applications, with testimonials, should be sent to the House Governor, and should arrive not later than Saturday, March 14th.

ARTHUR G. ELLIOTT,
House Governor.

Princess Elizabeth Orthopaedic HOSPITAL, EXETER.

The Devonian Association for Cripples' Aid invite applications for the post of ORTHOPAEDIC SURGEON to the above-mentioned Hospital, which will become vacant on or about September 1st. Salary £600 per annum. The appointed officer will be allowed to engage in private practice.

A candidate must be a Fellow of one of the Royal Colleges of Surgeons of England, Ireland, or Edinburgh, or a Master of Surgery of one of the Universities of Oxford, Cambridge, or London, and have had previous experience in Orthopaedic Surgery.

Applications, together with three copies of recent testimonials, should be sent to the undersigned (from whom full particulars can be obtained) by April 15th.

R. S. LANG, Hon. Secretary.
Devonian Association for Cripples' Aid,
Princess Elizabeth Orthopaedic Hospital,
Buckerell Bore, Exeter.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.

HOUSE SURGEON in charge of Male Wards.

HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for *six months*. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Bootle General Hospital, BOOTLE, LANCS. (100 Beds.)

Applications are invited from Medical Men for the posts of SENIOR RESIDENT MEDICAL OFFICER, with previous Hospital experience, and *Two JUNIOR HOUSE SURGEONS*, for the *six months* ending September 30th.

Salaries at the rate of £200 per annum Senior Officer and £150 per annum each Junior Officer, with board, residence, and laundry.

[illegible] 1st.
[illegible] and qualifications, to be sent to the undersigned on or before March 3rd.

J. A. BEARDSALL,
Secretary-Superintendent.

Royal National Orthopaedic HOSPITAL,

(Country Branch: Brockley Hill, Stanmore, Middlesex).

Applications are invited for the post of HOUSE SURGEON (male). £150 per annum, with board, quarters, and laundry.

The appointment is for six months commencing April 1st, renewable for a further period of six months on the recommendation of the Medical Board. Applications, accompanied by copies of testimonials, should reach the Secretary at 234, Gt. Portland St., London, W.1, not later than March 11th.

Royal National Orthopaedic HOSPITAL,

234, Gt. Portland Street, W.1.

Applications are invited for the posts of HOUSE SURGEON (Male, Two). £150 per annum, with board, quarters, and laundry.

[illegible] for six months comable for a further [illegible] recommendation of [illegible] ations, accompanied [illegible] should reach the Secretary not later than March 11th.

East Suffolk and Ipswich HOSPITAL.

(265 Beds—7 Residents.)

Wanted, a HOUSE SURGEON and a HOUSE PHYSICIAN (male, British). Salary at the rate of £120 per annum. Board, residence, and laundry. *Previous experience essential.*

Applications, st[illegible] and experience, and [illegible] cent testimonials, to b[illegible]

The Hospital, Secretary.
Ipswich.

Lowestoft and North Suffolk HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required at once. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

Liverpool Hahnemann Hospital, HOPE STREET.

Applications are invited for the post of ANAESTHETIST to the above Hospital. Hours of attendance:

Surgical Operations. — Alternate Tuesday mornings (9 to 11 a.m.), and Tuesday afternoons (1.30 to 5 p.m.).

Gynaecological Operations.—Thursday (1.30 to 5 p.m.).

Ear, Nose, and Throat.—Friday morning (about 1 hour from 9 a.m.).

Dental.—Thursday morning (about 1 hour by arrangement).

Salary at the rate of £50 per annum, plus fees in private cases (£50 upwards).

Apply, stating age, sex, nationality, and experience, and enclosing copies of testimonials, to the Registrar.

Freemasons Hospital and NURSING HOME,

237, Fulham Road, Chelsea, S.W.3.

The post of RESIDENT MEDICAL OFFICER (male) will be vacant on April 1st next. Salary at the rate of £250 per annum, with board, residence, and laundry. The appointment is for six months. Candidates must be registered and must have held resident appointments at a General Hospital. The Institution (46 beds) is for paying patients of both sexes of moderate means unable to afford ordinary Nursing Home treatment, etc.

Selected candidates interviewed March 9th.

Applications, stating full particulars, to be sent on or before March 7th next to the Honorary Secretaries, from whom further information may be obtained.

Winsley Sanatorium, near BATH.

The Governors inv[illegible] appointment of a RESIDENT MEDICAL [illegible] £250, with apartments, board, laundry, etc.

The appointment will be made for a period of twelve months (subject to termination during such period by one calendar month's notice on either side).

Forms of application and particulars of duties can be obtained from the undersigned, to whom all applications should be addressed, accompanied by not more than three recent testimonials, not later than first post March 7th.

T. A. W. CARLISLE,
Winsley Sanatorium, Secretary.
Near Bath. February 14th, 1931.

The Sheffield Royal Hospital. (340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum, also RESIDENT ANAESTHETIST, salary £80 per annum, rising to £100 in six months, to commence duties at once (males). Board, residence, and laundry. There are twelve Resident Medical Officers. Applications should be forwarded at once to—

W. H. BOOTH,
January 5th, 1931. Supt. & Secretary.

Royal Free Hospital, Gray's Inn Road, W.C.1.

Applications are invited for the post of FIRST ASSISTANT in the Children's Department, £100 per annum honorarium. Candidates, who must be duly qualified registered Medical Practitioners and have had experience of Children's Diseases, should submit applications, stating age, and accompanied by copies of three testimonials, to the undersigned on or before March 10th, from whom further information may be obtained. Preference will be given to former Students of the London (*R.F.H.*) School of Medicine for Women.

REGINALD R. GARRATT,
Secretary.

Royal Surrey County Hospital, GUILDFORD. (180 Beds.)

Wanted, HOUSE SURGEON. Salary £150 per annum, with board, residence, and laundry.

Applications, stating essential particulars, with copies of testimonials, to be sent to Secretary-Superintendent not later than March 7th.

Swansea General and Eye HOSPITAL. (316 Beds.)

CASUALTY OFFICER required. *Gentleman, single.* Salary £200, *with board, residence, and laundry. Duties to commence* March 1st.

Candidates must have had previous Hospital experience.

Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary-Superintendent.

Monmouthshire County Council.

ASSISTANT MEDICAL OFFICER (Woman).

The Council invite applications from duly qualified and registered Medical Practitioners, not exceeding 35 years of age, holding a Diploma in Public Health and State Medicine, for the appointment of One Assistant Medical Officer (woman), to undertake mainly the Medical Inspection and Treatment of School Children, and, in addition, Maternity and Child Welfare work.

Special experience in *Refraction and Ophthalmic* work is obligatory, the lack of which will be a disqualification.

Salary £500 per annum, rising by annual increments of £25 to £750, with third-class rail fares and reasonable subsistence allowance.

The successful candidate will be required to act under the direction and supervision of the County Medical Officer; to devote whole time to the service of the County Council; and to reside in such place as the Council may determine.

The post will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

A schedule of the duties to be performed, together with conditions of appointment and a form of application, can be obtained from the undersigned, to whom applications, accompanied by copies of not more than three recent testimonials, are to be sent by March 13th.

The County Hall, Newport, Mon. February 21st, 1931.

D. ROCYN JONES, County Medical Officer.

Derbyshire Education Committee

SCHOOL MEDICAL SERVICE.

ASSISTANT SCHOOL DENTIST.

Applications are invited from fully qualified and registered Dental Surgeons for the appointment of a Whole-time Assistant School Dental Officer under Derbyshire Education Committee.

The officer appointed will not be allowed to engage in private or consulting practice, but will be required to devote his or her whole time to the duties of the office, and act under the direction of the School Medical Officer and the Senior Dental Officer.

The appointment will be a designated post under the Local Government and Other Officers Superannuation Act, and the successful candidate will be required to pass a medical examination.

The salary will be at the rate of £450 to £500 per annum, with travelling expenses. Apparatus, premises, etc., are provided by the Committee.

Applications, stating age and full qualifications, and accompanied by copies of three recent testimonials, must be forwarded to the undersigned on or before Monday, March 9th.

No official form of application will be issued.

New County Offices, St. Mary's Gate, Derby. February 14th, 1931.

W. M. ASH, School Medical Officer.

Ancoats Hospital, Manchester.

RESIDENT MEDICAL OFFICER required at once. Appointment for six months. Salary at the rate of £150 per annum, with board and residence, etc. Previous experience in a similar position preferred.

HOUSE SURGEONS (Two) required to commence duty on April 1st. Appointments for six months. Salary at the rate of £100 per annum, with board and residence, etc.

Applications, stating age, qualifications, experience (if any), etc., and full particulars, to be forwarded to the undersigned on or before March 18th, together with copies of three testimonials.

By Order of the Board,
HERBERT J. DAFFORNE,
General Supt. & Secretary.

Westminster Hospital,

Broad Sanctuary, S.W.1.

Applications are invited for the office of SURICAL REGISTRAR to this Hospital. Gentlemen desirous of becoming candidates must be Fellows or Members of the Royal College of Surgeons of England. A salary of £150 per annum is attached to the office. Applications (eight copies), with eight copies of each of three testimonials, should be sent to the undersigned not later than Friday, March 6th.

CHARLES M. POWER, Secretary.

Westminster Hospital,

Broad Sanctuary, S.W.1.

There is a vacancy in the office of ASSISTANT HOUSE PHYSICIAN. The appointment is for three months commencing forthwith, non-resident, board provided, to be followed by six months as House Physician, with board and residence in the Hospital and an honorarium at the rate of £52 per annum. Applications should be addressed to the undersigned.

CHARLES M. POWER, Secretary.

City of Birmingham.

SELLY OAK HOSPITAL.

MALE RADIOGRAPHER.

Applications are invited from fully qualified Radiographers for the above whole-time appointment.

The scale of salary will be £250 per annum, rising, subject to satisfactory service, by annual increments of £20 to a maximum of £350 per annum. The commencing salary will be placed within this scale according to qualifications and experience.

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme, and to the candidate passing a medical examination, and will be subject to one month's notice on either side.

Further particulars of the appointment may be obtained from the Medical Superintendent, R. P. S. KELMAN, Esq., M.B., Ch.B., F.R.C.S. Eng. and Edin.), to whom applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Wednesday, March 11th.

The Council House, Birmingham. F. H. C. WILTSHIRE, Town Clerk.

Administrative County of LONDON.

THE LONDON COUNTY COUNCIL invites applications for appointment as DIVISIONAL MEDICAL OFFICER in its Public Health Department. The duties attaching to the position will be chiefly in connection with the Council's housing work. Candidates must possess a Public Health qualification. The scale of salary is £800 a year, rising by annual increments of £50 to £1,000 a year. Candidates must be not more than 45 years of age on April 1st, 1931.

Forms of application, containing full details, may be obtained (stamped addressed foolscap envelope necessary) from the Clerk of the Council, The County Hall (Room 317), Westminster Bridge, S.E.1. *Completed forms must be* returned by March 9th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a SENIOR HOUSE SURGEON (male or female) for a period of six months as from April 1st. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle, on or before March 14th.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a HOUSE PHYSICIAN (male or female) for a period of six months as from April 1st. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle, on or before March 14th.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female), non-resident, for a period of six months as from April 1st. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle, on or before March 14th.

Kent and Canterbury Hospital,

CANTERBURY.

HOUSE SURGEON (male) required. Six months' appointment. Salary at the rate of £125 per annum, plus board, residence, and laundry.

Applications, accompanied by copies of testimonials, should be forwarded to the undersigned.

W. T. SOUTHWOOD,
Superintendent & Secretary.

Kettering and District General HOSPITAL.

Applications are invited for the post of RESIDENT MEDICAL OFFICER. The appointment is for six months, with eligibility for a period of a second six months. Salary £200 per annum, plus certificate fees, etc. Applications, stating age, qualifications, etc., together with copies of three recent testimonials, should reach the undersigned as early as possible.

G. W. JACKSON,
Secretary-Superintendent.

County Borough of Darlington.

HEALTH VISITOR.

Applications are invited from properly qualified persons for the appointment of Health Visitor.

The duties are chiefly concerned with Maternity and Child Welfare, and the successful applicant will be required to carry out such duties under the direction of the Medical Officer of Health.

The salary (under the Corporation's Scale) as at present adjusted by reference to the rise or fall in the cost of living is £165 12s. per annum, and is subject to such other conditions of the Scale as are applicable. Additional allowances amounting to £11 per annum in respect of travelling and uniform are made.

The appointment will be subject to the Local Government and Other Officers Superannuation Act, 1922, and the successful applicant will be required to pass a medical examination.

Applications, stating age, qualifications, and experience, must reach the Medical Officer of Health, Feethams, Darlington, not later than Tuesday, March 10th.

Town Clerk's Office, Darlington. February, 1931.

H. HOPKINS, Town Clerk.

Miller General Hospital,

Greenwich Road, S.E.10.
(161 Beds.)

Applications are invited for the following posts:

CASUALTY OFFICER. Salary £150 p.a.
HOUSE PHYSICIAN. Salary £125 p.a.
HOUSE SURGEON. Salary £125 p.a.

There are six Resident Officers. Candidates (male) must be unmarried. Board, residence, and laundry are provided. Each appointment is for six months from April 1st next. Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary as soon as possible.

February 23rd, 1931.

Miller General Hospital,

Greenwich Road, S.E.10.

ANAESTHETIST.

Applications are invited for the post of Anaesthetist from those who are specially engaged in the practice of anaesthetics. Attendance on Tuesday afternoons. Honorarium at the rate of 52 guineas per annum for one attendance a week. All particulars to be obtained on application to the Secretary.

February 21st, 1931.

Queen Charlotte's Maternity

HOSPITAL, Marylebone Road, N.W.1.

APPOINTMENT OF REGISTRAR.

The Committee ... applications for the ... The duties will inc... f the Annual Medical Report, the superintendence of the notes and monthly Reports, and elementary teaching of Students. Applications should be sent to the undersigned not later than March 14th.

ARTHUR WATTS, Secretary.

Queen Charlotte's Maternity

HOSPITAL, Marylebone Road, N.W.1.

ASSISTANT PHYSICIAN.

Applications are invited for the office of Assistant Physician. Candidates must be Graduates in Medicine of a University of the United Kingdom, and Fellows or Members of the Royal College of Physicians in *London*. Applications, accompanied by copies of testimonials, should be sent to the Secretary at the Hospital not later than March 14th.

ARTHUR WATTS, Secretary.

Coventry and Warwickshire

HOSPITAL. (307 Beds.)

RESIDENT HOUSE SURGEON (male) wanted. Salary £125 per annum, with board, laundry, and attendance provided. Candidates must be duly qualified and registered

Applications, stating age, and enclosing copies of recent testimonials, should be sent to the undersigned on or before March 9th.

(Miss) R. HOOPER, Secretary.

Two House Surgeons (males)

required for AYR COUNTY HOSPITAL for six or twelve months, one to commence duty on April 1st, and one on May 1st. Salary at the rate of £150 a year, with board and residence.

Applications, with two copies of testimonials, to be lodged with the Secretary, Ayr County Hospital, Holmston Road, Ayr, not later than March 5th, at 11 a.m.

Cardiff Royal Infirmary.
(Associated with Welsh National School of Medicine.)

Applications are invited for the undermentioned posts:

HOUSE SURGEON—Surgical Unit.
HOUSE SURGEON—Ophthalmic.

The post of House Surgeon, Surgical Unit, is for six months commencing March 20th. Salary is at the rate of £50 per annum, with board-residence.

The post of Ophthalmic House Surgeon is tenable for six months, and the salary is at the rate of £75 per annum, with board-residence. Candidates must have experience of Refractions. This post is open to ladies.

Application forms may be had from the undersigned, and should be returned, with copies of three recent testimonials, on or before March 9th. In the case of the Ophthalmic House Surgeon, applications should be returned at the earliest possible date, as the appointment commences immediately.

R. ARMSTRONG,
Medical Supt.

Feb. 24th, 1931.

National Hospital for Diseases of the Heart,
Westmoreland Street, W.1.

RESIDENT MEDICAL OFFICER.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male). The appointment is for a period of six months from April 1st, but may be renewed for a further period not exceeding six months.

Salary at the rate of £150 per annum, with board, residence, and washing.

Candidates, who must be duly registered Medical Practitioners, will not be expected to call on the Honorary Medical Staff, but should send their applications, with copies of three recent testimonials, to me at the Hospital not later than Friday, March 13th.

ROBERT G. E. WHITNEY,
Secretary.

Kensington, Fulham, & Chelsea General Hospital.

Applications are invited for the post of DERMATOLOGIST to this Hospital, which is now in process of rebuilding. Candidates must be Fellows of the Royal College of Surgeons of England, or Members or Fellows of the Royal College of Physicians of London, and Graduates in Medicine of a University recognized by the General Medical Council. They must not be engaged in general practice. Candidates will be required to call on the Members of the Staff. Applications, accompanied by testimonials, must reach the undersigned (from whom further particulars may be obtained) not later than March 12th.

THE SUPERINTENDENT.

194, Fulborough Rd., S.W.10.

The London Female Lock Hospital,
283, Harrow Road, London, W.9.

The Board of Management invite applications for the post of HOUSE SURGEON (male or female) at the Female Lock Hospital. Salary at the rate of £150 per annum, with furnished rooms, full board, and washing. Candidates, who must be doubly qualified and duly registered, should send in their applications by March 9th, accompanied by copies of three recent testimonials, to the Secretary, from whom further particulars can be obtained. The appointment is for six months, commencing April 4th.

Preference will be given to candidates having previous Obstetric experience.

By Order of the Board,
HY. J. EASON.

Feb. 20th, 1931.

Kensington, Fulham, & Chelsea General Hospital.

Applications are invited for the post of PHYSICIAN to this Hospital, which is now in course of rebuilding. Candidates must be Fellows or Members of the Royal College of Physicians of London, and Graduates in Medicine of a University recognized by the General Medical Council. They must not be engaged in general practice.

They will be required to call on the Members of the Staff. Applications, accompanied by copies of recent testimonials, must reach the undersigned (from whom further particulars may be obtained) not later than March 12th.

THE SUPERINTENDENT.

194, Fulborough Rd., S.W.10.

Manchester Royal Eye Hospital.

JUNIOR HOUSE SURGEON required. Salary £120 per annum, with residence, board, etc. Applications (with copies of testimonials), endorsed "House Surgeon," to be addressed to the Chairman of the Board of Management not later than March 14th.

H. R. NORTH, Secretary

City of Birmingham.
BABIES' HOSPITAL, (80 Beds.)
CANWELL HALL.

Applications are invited from Medical Women with previous experience in a Children's Hospital, for the following posts (six months' appointment—three months as Junior and three months as Senior Resident Medical Officer):

JUNIOR RESIDENT MEDICAL OFFICERS, to commence duties March 15th and May 31st respectively. Salary £100 per annum, with board and laundry.

The Junior Resident appointed for March 15th will, subject to satisfactory service, be promoted to the Senior Resident's post on May 31st, at a salary of £150 per annum, with board and laundry, and will be expected to hold this post till August 31st.

Applications, giving all particulars of age and experience, with three copies of recent testimonials, to be sent to the Medical Officer of Health, Council House, Birmingham, on or before March 7th.

All Saints' Hospital (for Genito-Urinary Diseases.
In-patient Dept.: 91, Finchley Road, N.W.8.
Out-patient Dept. & Secretary's Office: 49/55, Vauxhall Bridge Road, S.W.1.

HOUSE SURGEON (male) required on April 1st for period of six months; the first two (or possibly three) months as Junior House Surgeon (non-resident), and the remainder of the period, subject to the approval of the Board, as Resident Senior House Surgeon. Salary will be at the rate of £150 per annum, with board and laundry during the resident period. The duties of the non-resident House Surgeon consist of attendance at the Out-patient Department every afternoon and three evenings weekly.

Applications, stating age, qualifications, experience, and enclosing copies of recent testimonials, should reach me not later than March 14th.

D. H. EADE, Secretary.

Seamen's Hospital Society,
Greenwich.

The Committee invite candidates for the appointment of HOUSE PHYSICIAN at the HOSPITAL FOR TROPICAL DISEASES, Endsleigh Gardens, W.C. Candidates must be male, doubly qualified and registered. The elected candidate will be required to take up duty on April 1st. Salary at the rate of £150 per annum, with board, residence, and washing. The appointment will be for six months.

Applications, stating age, together with copies of not more than three recent testimonials, to be sent in on or before March 10th to the undersigned, from whom further particulars can be obtained.

R. E. V. BAX,
Secretary.

Greenwich, February 23rd, 1931.

Seamen's Hospital Society.
KING GEORGE'S SANATORIUM FOR SAILORS, LIPHOOK, HANTS, for the Treatment of Pulmonary and Non-pulmonary Tuberculosis.

Applications are invited for the post of ASSISTANT MEDICAL OFFICER. Commencing salary at the rate of £200 per annum, with quarters and board. The appointment is for six months in the first instance. There is no accommodation for a married man.

Applications, with copies of three recent testimonials, to be sent in by March 17th to the undersigned,

R. E. V. BAX,
Secretary.

Seamen's Hospital,
Greenwich, S.E.10.
February 23rd, 1931.

Seamen's Hospital Society,
Greenwich.

HOUSE PHYSICIAN and HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich, for six months from April 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing.

Candidates must be male.

Applications, with copies of three testimonials, to be sent in by March 10th to the undersigned.

R. E. V. BAX,
Secretary.

Greenwich. February 23rd, 1931.

Seamen's Hospital Society,
Greenwich.

RESIDENT MEDICAL OFFICER required at ALBERT DOCK HOSPITAL, Connaught Road, E.16, for six months from April 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male. Applications, with copies of three testimonials, to be sent in by March 10th to the undersigned.

R. E. V. BAX,
Secretary.

Greenwich. February 23rd, 1931.

London Homœopathic Hospital
(Incorporated by Royal Charter),
Great Ormond Street and Queen Square, Bloomsbury, W.C.1. (172 Beds.)

The Board of Management are prepared to receive applications for the following appointment:

ASSISTANT PHYSICIAN FOR DISEASES OF CHILDREN.

The successful candidate must possess, or obtain, a registrable University Degree, and be, or become, a Member of the British Homœopathic Society. Any candidates canvassing the Members of the Board, Medical Council, or Medical Committee are thereby disqualified.

Candidates will be required to attend a meeting of the Medical Committee.

Applications, stating age, with 30 copies of testimonials, should be sent immediately, addressed to the Secretary, of whom further particulars may be obtained.

EDWARD A. ATTWOOD, Secretary.

Central London Throat, Nose, and Ear Hospital,
Gray's Inn Road, W.C.1.

ASSISTANTS IN THE OUT-PATIENT DEPT.

There are vacancies for Third Assistants for attendance on Mondays and/or Saturdays at 2 p.m.

The duties are to assist the Surgeons in seeing patients, and the posts are honorary.

Applications, which may be for a period of three, six, or twelve months, should be sent to the undersigned on or before March 2nd.

JOHN H. YOUNG,
Secretary-Superintendent.

The Queen's Hospital for Children, Hackney Road, London E.2.

The Committee invite applications for the post of SECOND SURGEON for the Ear, Nose, and Throat Department, with charge of beds. Attendance required on Tuesday mornings. An honorarium to cover travelling expenses will be paid. Candidates must be Fellows by examination of the Royal College of Surgeons, England.

Applications, with copies of three recent testimonials, which may be printed or typewritten, should be sent on or before March 7th to the undersigned, from whom further particulars may be obtained.

CHARLES H. BESSELL,
Secretary.

February 2nd, 1931.

The Royal Hospital,
WOLVERHAMPTON.
(Incorporated under Charter.)

HOUSE SURGEON required immediately, for Ear, Throat, and Nose Department.

The Hospital contains 240 beds, includes the usual special departments, and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical practice.

Candidates must be registered under the Medical Acts and unmarried.

The appointment is for six months. Salary at the rate of £100 per annum; board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded to the undersigned forthwith.

W. H. HARPER,
House Governor.

Wolverhampton.
February 2nd, 1931.

Southampton Children's Hospital AND DISPENSARY FOR WOMEN.
(45 Beds.)

The Board of Management invite applications for the post of RESIDENT MEDICAL OFFICER (lady). Appointment for six months. To commence duties early in April. Salary at the rate of £100 per annum, with board, residence, and laundry.

Applications, stating age, and accompanied by copies of testimonials, to be sent to the undersigned not later than March 7th.

ELLA K. MATTHEWS, Secretary.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited from duly qualified male or female candidates for CLINICAL ASSISTANTSHIP in the Ophthalmic Department (Tuesday or Friday mornings 9 a.m.). Intending candidates should submit applications to the undersigned on or before March 10th.

REGINALD R. GARRATT, Secretary.

The Children's Clinic,
48, Cosway St., Marylebone Rd., N.W.1.

Vacancies for Two CLINICAL ASSISTANTS. Attendance required on Mondays 2—4, and Thursday mornings 10—11.30 a.m.

Applications, including age, qualifications, and experience, should be addressed to the Administrator, Children's Clinic, 26, Devonshire Place, W.1.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH.**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	EAST SUFFOLK COUNTY COUNCIL. *(Male Assistant County Medical Officer of Health.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	PLYMOUTH EDUCATION AUTHORITY. *(Deputy Assistant Medical Officer.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)		YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

February 25th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

West London Hospital,
Hammersmith Road, W.6. (234 Beds.)

Required, One HOUSE PHYSICIAN, Two HOUSE SURGEONS (males), and One RESIDENT ANAESTHETIST for *six months* from April 1st next, *subject to one month's notice on either side.* Salary at the rate of £100 per annum, with board, lodging, and laundry allowance. Candidates must be registered under the Medical Act. Applications (which must be made on printed forms obtained from me) must reach me not later than first post on Monday, March 16th. Selected candidates will be required to *call upon such Members of the Medical Staff as directed, to be in attendance at a meeting of the Medical Council on Friday, March 27th,* at 4 p.m., and the House Committee meeting at 4.45 p.m. the same day, when the appointments will be made.

H. A. MADGE, Secretary.

Leicester Royal Infirmary.
(420 Beds.)

HOUSE PHYSICIAN.

A vacancy is expected on April 1st for a Second House Physician. Salary at the rate of £125 per annum. Applicants must have held a resident Hospital post or had similar experience of Hospital work. Election about the middle of March.

Applications should be made to the House Governor and Secretary on or before March 3rd.

February 16th, 1931.

Leicester Royal Infirmary.
(420 Beds.)

HOUSE SURGEON AND CASUALTY OFFICER.

Vacancies are expected on April 1st for a House Surgeon and a Casualty Officer. Salaries at the rate of £125 per annum. Applicants must have held a resident Hospital post or had similar experience of Hospital work. Election about the middle of March.

Applications should be made to the House Governor and Secretary on or before March 3rd

February 16th, 1931.

Hospital of St. Cross, Rugby.
(114 Beds.)

Applications are invited for the post of THIRD RESIDENT MEDICAL OFFICER (male) at the Hospital of St. Cross.

Candidates must be registered Medical Practitioners, and must be prepared to begin duties immediately.

Salary at the rate of £100 per year, with board and residence in the Hospital.

The appointment is for a period of six months only.

Applications, stating age, qualifications, with *copies of three recent testimonials, should be* sent to me as early as possible.

W. COCKBURN,
Supt. & Secretary.

Jewish Maternity Hospital,
Underwood Street, E.1.

Applications are invited for the post of RESIDENT MEDICAL OFFICER. Duties commence April 1st for a period of six months. Salary at the rate of £50 per annum.

Applications, together with copies of three recent testimonials, to be sent to the undersigned not later than March 10th.

ALICE MODEL, Secretary.

Newark General Hospital
(50 Beds).

Wanted, a fully qualified RESIDENT HOUSE SURGEON (male or female), unmarried. Salary £175 per annum, with board, residence, and laundry. Appointment for six or twelve months if mutually desired. Applications, with copy testimonials, to be sent to W. T. CRAMPTON, Secretary, 27, Kirk Gate, Newark, Notts.

Liverpool & Samaritan Hospital
FOR WOMEN.

Wanted [illegible] iod of six mont[illegible] ry at rate of [illegible] with testimonials, to be sent to undersigned.

J. ST. G. WILSON.

13, Rodney St., Liverpool.

North Riding Infirmary,
MIDDLESBROUGH.
(General Hospital—150 Beds.)

JUNIOR HOUSE SURGEON (male) wanted to take up duties as early as possible.

The appointment will be for a definite period of six months, with salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three testimonials, should be sent forthwith to the undersigned.

N.B.—The successful candidate will be eligible *to apply for the Senior House Surgeon's post* at the expiration of the above term.

CHARLES POSTGATE,
Secretary-Superintendent.

Northampton General Hospital.
(230 Beds.)

There will be vacancies on April 1st next for One HOUSE SURGEON and Two ASSISTANT HOUSE SURGEONS. British nationality. Salary £150 per annum, with board, residence, and laundry.

The successful candidates will be appointed for a period of *six months*, and will be eligible for re-election for a further period.

Candidates must be duly qualified and registered.

Applications, stating age, sex, qualifications, etc., with copies of testimonials, to reach the undersigned not later than first post on March 4th.

H. ST. JOHN WOOD,
Feb 16th, 1931. Secretary-Supt.

Manchester Babies' Hospital,
BURNAGE LANE, LEVENSHULME.

Applications are invited immediately for the post of JUNIOR RESIDENT MEDICAL OFFICER. Appointment is for *six months*. Salary at the rate of £50 per *annum*, with laundry.

Applications, together with copies of testimonials, should be sent to the undersigned, and marked "J.R.M.O." by Friday, March 6th.

ANGELA LOPEZ, Secretary.

(Appointments continued on p. 50.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.

Telegrams: ARTICULATE, WESTCENT, LONDON.
Telephone: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted.—In Country Practice in South Devon.—ASSISTANT for six months, £300 p.a., indoor, with definite view at end of that period to buy half share. Rapidly growing district and great scope. Young, Scotch or English.—WESTERN MEDICAL AGENCY, 22, Clare Street, Bristol.

Wanted, end of April, Assistant, either sex, well qualified, T.T., energetic, in or outdoor, good industrial practice. Welsh pref., not essential. Full particulars and refs. Motor cyclist pref. — Address, No. 1405, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, male ASSISTANT, single, indoor, British, 25 to 35, for good-class Colliery Practice, North of England. Work light. View to suitable man. —Address, No. 1422, B.M.A. House, Tavistock Square, W.C.1.

Wanted, an outdoor Assistant in a mining Practice in Glamorgan. No dispensing. Usual bond. Salary £400 per annum, with furnished rooms, fire, light, and attendance. — Address, stating age, refs., etc., No. 1411, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Outdoor Assistant in a pleasant agricultural district (small town with hospital), North Wales. Work light. Dispenser kept. Able to drive car.—Address, No. 1236, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — An indoor male ASSISTANT, aged 30—35, for a large and increasing Practice in a delightful city. Little night work or midwifery. Prospects of share easy terms. Give essential particulars.—No. 1427, B.M.A. House, Tavistock Sq., W.C.1.

Wanted immediately, Assistantship, by lad[illegible] experience Hospital ap[illegible] Testimonials. Interv[illegible] area preferred. —1431, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship, outdoor (pref. with view), or LOCUMS, by Medical Woman, L.R.C.P.S., L.M., D.P.H. Accus. sole charge, good personality, 5 years' exper. London or S. of England pref.—Addl., No 1429, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, a permanent Second indoor male ASSISTANT for pleasant city. Night work and midwifery light. G.P. and Anaesthetic exp. essen. Motorist, adaptable, aged 28—35. State nationality and send photo. —No 1426, B.M.A. House, Tavistock Sq., W.C.1.

Wanted immediately.—Outdoor ASSISTANT, male. Experienced panel and midwifery. London suburb. Salary £420. Irish Catholic preferred. — Address, No. 1416, B.M.A. House, Tavistock Square, W.C.1

Wanted. — Assistant, panel and private, East End Suit recently qualified man. Salary £400, live out.—Address, No 1415, B.M.A. House, Tavistock Square, W.C.1

Wanted. — Assistant, male, indoor, unmarried, for Practice near Cardiff. — Address, with references, etc., No. 1432, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, outdoor, male. Panel and private, South Yorkshire. State age and experience.—Address, No. 1210, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship by woman Doctor, M.B., Ch.B., aged 28; 3 years' General Hospital experience. Special experience Midwifery. — Address, No. 1403, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Assistantship (permanent) wanted by M.B. (N.U.I., 1923), act. 30, experienced, steady, single, own car. Excellent refs. Pref. outdoor; country. Free in one month. — Address, No. 1419, B.M.A. House, Tavistock Square, W.C.1.

Assistancies. — Practitioners immediately available for ASSISTANTSHIPS, with or without view; preferably aged 25—35; British; are invited to call between the hours of 10 a.m. and 5 p.m.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Assistantship required in Radiological or Electro-therapeutical Practice, by D.M.R.E., L.D.S., experienced in Dental Radiography.—Address, No. 1412, B.M.A. House, Tavistock Square, W.C.1.

Assistant-Successor, three years at latest. Scotland, University City. Panel, General, and Eye. House and Practice about £6,000. — Address, No. 1425, B.M.A. House, Tavistock Square, W.C.1.

Assistant (male) required, 15 minutes from West End. Afternoons usually free. £250, all found. State full particulars. — Address, No. 1434, B.M.A. House, Tavistock Square, W.C.1.

M.R.C.S., L.R.C.P. Lond., desires an ASSISTANTSHIP in Birmingham. Terms moderate. 'Phone: Bearwood 1848.—Address, "Peace Haven," 5, Fountain Road, Edgbaston, Birmingham.

North Wales. — Several outdoor ASSISTANTS wanted, early Partnerships if suitable. Welsh essential. — Particulars to "Chemicals," 40, Hamilton Street, Hoole, Chester.

Progressive G.P. wants competent outdoor ASSISTANT, mid-March, near Manchester. Abstainer, Scot preferred. Own car. Two years' agreement. Salary to £400. — Address, No. 1406, B.M.A. House, Tavistock Square, W.C.1.

Woman Medical (M.B.Glasg.), keen and physically strong, will be glad to hear of ASSISTANTSHIP, with view to Partnership, in Country Practice, Yorkshire or Lancashire preferred. Well versed in Hospital routine work, Ophthalmology and general practice. Children and midw'y of special interest. —No. 1022, B.M.A. House, Tavistock Sq., W.C.1.

Young Doctor, British, male, reading higher diploma, wishes ASSIST in Practice, mornings or evenings, in South London district. Experience panel and private. Own car.—Address, No. 1421, B.M.A. House, Tavistock Square, W.C.1.

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.*: TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

Experienced G.P., now living Southampton, would be glad of PART-TIME or LOCUM WORK in the town or district. Own car.—Tel.: Southampton 5281.

FOR LOCUM TENENS APPLY TO PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

PARTNERSHIPS.

Wanted, July, by well qualified experienced Surgeon, PARTNERSHIP, good-class Practice, 60 miles radius London. Scope for major surgery, and hospital appointment appreciated.—Address, No. 1410, B.M.A. House, Tavistock Square, W.C.1.

Cambridge Graduate, aged 29, wants PARTNERSHIP shortly in good-class residential district, preferably within 50 miles of London; 3½ years' of hospital appointments. Preliminary Assistantship essential.—No. 1423, B.M.A. House, Tavistock Sq., W.C.1.

Doctor requires Partner having £500—£1,000 to finance a protected invention. 100 per cent. profit reasonably anticipated. One-third share offered.—DOCTOR, c/o NIXON, ROWBOTHAM & Co., Solicitors, Queen Street Chambers, Sheffield.

M.D. requires Partnership in good-class South Country Practice towards end of year. Scope necessary. Present Partnership North. Excellent experience, energetic, 9 years qualified. Shall have to dispose own practice. No agents.—Address, No. 1208, B.M.A. House, Tavistock Square, W.C.1.

Partner in a well-established firm of four, in a prosperous town within 35 miles of London, wishes to DISPOSE of his SHARE (one-sixth). Premium 1½ yrs.' purchase, cash. Average receipts over £10,000 per annum and increasing. Accountant's certificate available. Short preliminary Assistancy. House at moderate rental. — Address, No. 1417, B.M.A. House, Tavistock Square, W.C.1.

North Midlands. — Partnership. One-half share 1½ years' purchase in old-established Practice. Receipts £2,000 p.a. Large panel, very little midwifery or night work. Ample time for man wishing specialise. —No. 1408, B.M.A. House, Tavistock Sq., W.C.1.

Partnership in good middle-class old-established Practice, London, S.W., rapidly increasing. One-third share producing about £1,800 at 2 years' purchase. Modern house available to rent in excel. locality and position. Exp., well qualified man required. —No. 1413, B.M.A. House, Tavistock Sq., W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

Wanted. — First-rate Anaesthetist, interested in best-class general practice. Partnership in Practice, 50 per cent. of which is anaesthetic work. Berkshire.—Add., No. 1404, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Lady Resident Medical SUPERINTENDENT for THE RETREAT, ARMAGH, MENTAL HOME.—Apply THE PROPRIETOR.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

An enthusiastic Lady Dispenser (Hall certificate) seeks POST with Doctor, Hospital, or Chemist. North or West London preferred. — MACKINTOSH, 17, Denehurst Gardens, Hendon, N.W.4.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, [illegible]—Dispensers, and [illegible] wire, or 'phone [illegible] ENCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5853, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Gordon Hall School of Pharmacy TRAINS WOMEN in Pharmacy and Dispensing, and can SUPPLY qualified Dispensers without charge.—Apply, PRINCIPALS, Gordon Hall, Drayton House, W.C.1. 'Phone Museum 3930.

Receptionist-Secretary (26), trained LONDON UNIVERSITY in Social and Domestic Science, exper. household management, agreeable personality, energetic, efficient, capable organiser, desires PERMANENT POST. London.—BROCKLESBY, 173, Maida Vale, W.9.

Secretary. — Educated gentlewoman, fully qualified Secretarial subjects. Excellent previous experience and references Medical and Hospital work. Free now.—Tel.: Mountview 3534, or address, No. 1433, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser (Hall), receptionist, seeks POST with Doctor, part-time or locum. Hospital experience with testimonials. London preferred.—BELMONT, 107, *Highbury New Park, N.5.*

Qualified Dispenser (Hall), gentlewoman, desires POST with Doctor or Hospital. London, Middlesex, or Surrey preferably.—Address, No. 1420, B.M.A. House, Tavistock Square, W.C.1.

Syria.—Doctor required to take CHARGE of small QUAKER MISSIONARY HOSPITAL on the LEBANON. Friend preferred, but not essential. — Apply, FRIENDS SERVICE COUNCIL, Friends House, Euston Road, London, N.W.1.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

The Royal Army Medical Corps ASSOCIATION, 85, *Eccleston Square*, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous doctors.—BEATRICE N.W.3. 'Phone:

PRACTICES.

Wanted immediately in Southampton or district, a PRACTICE or PARTNERSHIP, with view early succession, income about £1,000, with scope, with or without panel, by Medical Man with over 12 years' experience in general practice. Ex H.P. and H.S. Some capital available.—Apply, 13, Cavendish Road, New Brighton, Cheshire.

Wanted. — London suburb or within 30 miles. — Good middle and better working-class PRACTICE, £1,500 upwards, with scope. House in good condition, 6—7 bedrooms, garden, garage, cons. rooms, in nice part. Education facilities essential.—Add., No. 1402, B.M.A. House, Tavistock Sq., W.C.1.

Wanted in London or suburbs, good-class PRACTICE. Minimum income £1,000. House or flat to rent if possible. Partnership with early succession considered.—Address, No. 1237, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — General Industrial PRACTICE in South Wales, income £1,000, with a panel of 1,000 and appointments (if any). Please give full particulars.—*Address, No. 1430, B.M.A. House, Tavistock* Square, W.C.1.

Wanted. — Practice £1,200—£1,800, with good panel, in or near good school centre, coast, country, or small town in England.—Address, No. 1436, B.M.A. House, Tavistock Square, W.C.1.

For Sale to Medical Woman.—Medical Woman's PRACTICE in West Ham. Established 22 years. Last year's receipts nearly £600. House on lease. Premium 1½ years' purchase. —Address, No. 1407, B.M.A. House, Tavistock Square, W.C.1.

Good-class non-panel Practice, 10 miles London. Now £650—£700 p.a. Exceptional scope; rapid increase certain. Fine house in best position. Owner accepted appt. Reasonable price to immediate purchaser.—No. 1437, B.M.A. House, Tavistock Sq., W.C.1.

Lancs. — Unopposed Practice in lovely country. Nice house, 8 rooms, bath, garden, garage. Receipts over £500, much scope. Appointments £150. Price—Practice and house (freehold)—£2,000, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Isle of Man. — Unopposed. — Lovely district. Nice house, large garden and garage, rented with ultimate purchase. Receipts £800, much scope. Panel £140, increasing. Easily worked. Golf, boating. Price £700, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Practices wanted. — London. — Wanted, well-established PRACTICE, situated in residential locality, with medium-sized house to rent (or for sale). Receipts not less than £1,500, with panel of 1,000 up. Ample capital available. — Apply, THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

For Sale.—Near Birmingham.—Middle-class and panel PRACTICE over £2,000 p.a., excluding appt. £150. Panel 2,100, increasing. Premium £3,000 Good house to rent.—Address, No. 1287, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Increasing Practice in West of England city. Receipts last year £425. Panel nearly 600. Suitable house, with electric light, garage, garden. Plenty of scope. Premium £400. — Address, No. 1414, B.M.A. House, Tavistock Square, W.C.1.

Manchester (residential district). —PRACTICE with small panel. Average £960. Good house, garden, and garage, on lease, or can be bought if desired. Moderate premium for quick sale.—Address, No. 1428, B.M.A. House, Tavistock Square, W.C.1.

Scarborough. — For Disposal, early April, very old-established private PRACTICE, with panel nearly 1,800, increasing. Practice worked from convenient surgery, rent £52 p.a. Choice of houses.—Fuller partics, No. 1424, B.M.A. House, Tavistock Sq., W.C.1.

Seaside Town.—Pleasant district, South Wales.—Good mixed General PRACTICE, with scope, averaging £1,000 p.a. Premium 1½ years' purchase. Good house to rent. — Address, No. 1334, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. *Telegrams: "Epsomian, London."*

Urgent. — Industrial Practice. Share worth over £800 net. £500 down, £250 at end of a year. Suit single or married man. — Address, No. 1418, B.M.A. House, Tavistock Square, W.C.1.

West Riding Town Suburb.—*Middle-class PRACTICE.* Number of panel 1,400. Average receipts for past three years £2,500. Good introduction. Premium, including house, £5,000. — Apply 2504, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

HOUSES, CONSULTING ROOMS.

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.),

Surveyors, Auctioneers, and Estate Agents,

10, WIGMORE STREET,
CAVENDISH SQUARE, W.1.

SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS

In Harley Street and leading Medical Positions.

Telephone: Langham 3927 and 3928.

SOUTH HAMPSHIRE.

Admirably suited for Nursing Home, Nerve or Convalescent Home, or similar purpose. To Let on Lease: £150 p.a. or offer. Or for Sale, F'hold.

DETACHED RESIDENCE.—Lawn, extensive outbuildings, garage, detached servants' quarters. Six principal bedrooms, bathroom, three reception rooms, etc. Electricity, gas, main drains, company's water, central heating. In splendid condition and thoroughly modernised throughout. An excellent oppot. *Photographs*, and other details. — Sole Agents: CITY AND SUBURBAN ESTATE OFFICES, Kingston Road, Portsmouth. 'Phones: 4226 and 4167.

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & Co., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Devonshire Place. — Part-time CONSULTING ROOM, without door-plate, to Let. Use of waiting room and telephone. Well-appointed house. Excellent service. Garage available.—Address, No. 1409, B.M.A. House, Tavistock Square, W.C.1.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Portland Place. — Doctor's Ideal FLAT on Ground Floor with garage. Three reception rooms, waiting room, and gallery 40 ft. long, 7 bedrooms, model offices, heating, hot water, electric light wiring, intercommunication telephones and sanitation entirely new throughout. — To view, apply SURVEYOR, Keith House 133, Regent Street.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.

Telephone: 3204 MAYFAIR.

Harrogate. — For Sale, suitable for Doctor or Nursing Home.—Delightfully sunny, well-built HOUSE, standing high, well back from the main road, commanding lovely view, only six minutes' walk from town. Seven *bedrooms, two large bathrooms, three w.c.'s*, two or three reception rooms, usual offices, tiled pantry. The whole house in perfect repairs and decorations. Nice garden, company's water, electric light. Telephone, wireless, and vacuum plugs in every room. Quick sale £3,000.—BOX 181, SMITHS' LIBRARY, Harrogate.

Harold Wood.—Ideal Detached RESIDENCE, suitable Doctor, sale or let, double-fronted, three reception, five bed.: frontage 80 ft. Large garden. Central position *opposite station. One resident Doctor only.* Excellent opport.—WILLATS, Harold Wood, Essex.

Important main road. — Corner HOUSE, many years in occupation of Doctor. Rent £150. 21 years' lease.—Apply, FLOOD & SONS, 474, Harrow Road, W.9, *opposite the property.*

Mayfair. — Ground Floor CONSULTING ROOM to Let in Dental Surgeon's flat. Exceptionally good light. Use of waiting room, attendance, etc. Available immediately.—Address, No. 1435, B.M.A. House, *Tavistock Square*, W.C.1.

Three Rooms, intercommunicating, suitable for Doctor's reception, waiting and consulting rooms; off Piccadilly, close to *Mayfair, Ritz, and Berkeley Hotels. Can be* seen any time during day by appointment.—No. 1206, B.M.A. House, Tavistock Sq., W.C.1.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS " £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.

THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:

Regent 3024-3025 & 7486. National 8696/7.

Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS.

49, Chancery Lane, London, W.C.2.

'Phone: Holborn 6559. Write for Tax Guide, Free

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

APPOINTMENTS.—Contd.

Princess Louise Kensington HOSPITAL FOR CHILDREN, St. Quintin Avenue, North Kensington, W.10. (50 Beds.)

HOUSE PHYSICIAN, male or female, required for six months from April 1st. Salary for first three months at the rate of £100 a year, after which, should he or she be appointed Senior *Resident (of two)*, the salary would be at the rate of £125 a year, with board, residence, and laundry in each case. It is desirable that applicants should have held a responsible Hospital post. Applications, with copies of three testimonials, must be submitted on a form to be obtained from the Secretary. Applications must reach the Secretary not later than first post on Wednesday, March 18th.

The Royal Portsmouth Hospital. (Five Resident Medical Officers.)

Applications are invited for the posts of:
SECOND HOUSE SURGEON, male, (qualified). Salary at the rate of £130 per annum, with board, etc. To commence about March 7th.
CASUALTY OFFICER, male (qualified). Salary at the rate of £100 per annum, with board, etc. To commence March 23rd.
Six months' appointments and eligible on completion of term for extension or other resident posts.
Applications, stating age, nationality, and full details, with copies of three testimonials, to be sent to the undersigned as soon as possible, from whom all particulars can be obtained.
B. WAGSTAFF, Secretary.

General Infirmary, Salisbury.

The Committee are desirous of appointing an ASSISTANT MEDICAL OFFICER to the Venereal Diseases Department. Applications to be sent to the House Governor and Secretary not later than March 27th.
The successful candidate will be appointed, subject to the approval of the Ministry of Health.
By Order of the Committee,
J. G. ELGAR,
House Governor & Secretary.

The Infants Hospital, Vincent Square, Westminster.

Applications are invited for the post of HOUSE PHYSICIAN (female). The appointment is for six months. Salary at the rate of £75 per annum, with board, residence, and laundry. Applications and copies of testimonials should reach the undersigned by March 13th.
ALFRED J. SMALL, Secretary.

East Ham Memorial Hospital, E.7. (100 Beds.)

The Committee of Management invite applications for the post of HONORARY OPHTHALMIC SURGEON. Candidates must be *Fellows of* the Royal College of Surgeons and not engaged in general practice.
Applications, in triplicate, should reach the undersigned on or before March 9th.
REGINALD PERRY, Secretary.

King George Hospital, ILFORD (8 miles from London).

Applications are invited for the appointment of HOUSE SURGEON (male). Salary £100 per annum, with board, residence, etc. Term, six months, with eligibility for a further period.
Applications should be sent at once to the Secretary.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 3873.) —— (Estab. 1860.)
This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.
No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.
Terms post free on application.

London, S.E., near River. — Over £1,200. Half Partnership with succession in 12 months. 35 years in present hands. Dispensing, industrial. No midwifery. Panel £560. Bachelor could live in. £1,200, £800 down, for half.—No. 8806.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman preferred. £1,000 for share.—No. 8807.

W. of England. — Small Town. Over £1,000. Panel 700. Visits 4/-, 5/-, and mileage. House, 5 bed., 2 reception. Separate surgery and entrance. £60 p.a. 1½ years. £1,000 down.—No. 8805.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

S. W. County. — Country. — £1,000. Panel brings £240. Visits 3/6—10/6. Large house and garden. £60 p.a. £1,500.—No. 8800.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 3/6 to 21/-. No dispensing. Small panel.—No. 8799.

West Riding.—£1,030 p.a., increasing. Panel 400. Appts. £45. Fees 3/6 to 10/6 and up. Midy. 3 to 7 gns. Small modern house to rent or on mortgage.—No. 8797.

S. Midland. — Country. — £480 and scope to young man. Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. Premium only £300.—No. 8796.

West of England Town.—£1,100 plus appts. worth £400. Panel 1,240. No midy. taken. Visits 4/- to 10/6. House, with 2 surg. and wait. rooms, 4 bed., etc.—No. 8786.

Yorks.—Death Vacancy.—£1,000 or more Panel 950. Not much midy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. £600 down, bal. deferred.—No. 8795.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No midy. Fees 3/6 to 10/6. House to rent. —No. 8791.

Kent. — Outer Suburb.—About £900 p.a. Scope. Panel over 900. Appt. £100. Visits 3/6 to 21/-. Good house and garden. Good schools.—No. 8789.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

London Suburb, S.W. — About £1,100. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 3/6 up. House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London Suburb, S.W. — £2,800. Old-estab. General Practice. Panel 1,250. Detached house (7 bed.) and garden.—No. 8766.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £25. Prem. £800, incl. furn.—No. 8766.

Favourite South Coast Resort.—Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 3/6 to £1 1s. Large house and garden. Smaller ones available.—No. 8750.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER*: 176, *Oxford Rd.* *GLASGOW*: 28, *Windsor Terr.* *DUBLIN*: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines). Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.
Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 5932 CITY.
TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT
The
Medical Insurance Agency
(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

N.W. LANCS.—UNOPPOSED COUNTRY PRACTICE.—*Beautiful agricultural district. Cash receipts* 1930—£1,600. Panel 800. Appointments (transferable) £405 p.a. Excellent house, 2 reception, 6 bedrooms. Garage and large garden. Electric light. *Rent* £55 p.a. *Premium* £2,250 (to include drugs, fittings, etc.). —No. 242.

LARGE LANCS TOWN.—*Sound old-established* PRACTICE. Cash receipts 1930, £1,581. Panel 1,300. Appointment (transferable) £175. Good house, 2 reception, 4 bedrooms. Garage and garden. Premium—Practice and house—£2,500, part by arrangement.—No. 235.

MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,361 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 63.

CHESHIRE COUNTRY TOWN. — Old-established PRACTICE. Cash receipts 1930, £1,098. Panel 713. Local Hospital. Excellent house, 2 reception, 5 bedrooms. Garage, garden and orchard. Rent £60 p.a. Premium 1½ years' purchase.—No. 241.

DEATH VACANCY.—Cheshire Town, near Manchester. Average cash receipts £838 p.a. Panel 800. Scope. Good house, 2 reception, 4 bedrooms. Garage and garden. Rent £52 p.a. Premium £700.—No. 240.

YORKSHIRE (W.R.). — PARTNERSHIP in Industrial Practice. £2,500 p.a. Large panel. One-third share offered after preliminary assistantship at £400 p.a., with house rent free.—No. 243.

LIVERPOOL (near).—PARTNERSHIP in excellent middle-class Practice. Average cash receipts £2,194 p.a. Panel over 1,000. Good scope. Nice house, 2 reception, 4 bedrooms. Garage and garden. Rent £70 p.a. Premium 1/2 share 1½ years' purchase. —No. 228.

[illegible] EASANT TOWN, largely residential— Average cash receipts £995 p.a. *not included* £100 p.a. *Great scope.* Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No 234.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

NEAR NORTH-EAST COAST. — SEASIDE RESORT. — Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £800 for quick sale. —No. 220.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Rent £90 p.a. Premium £1,500.—No. 222.

ISLE OF MAN.—SEASIDE TOWN.—Old estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium —Practice and house—*any reasonable offer.*—No. 173.

NORTH-WEST COAST.—SEASIDE RESORT.—Good-class PRACTICE Cash receipts 1930, £2,135. Panel 550 Excellent freehold house in good position facing Sea, 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

MANCHESTER.—INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

LIVERPOOL (Near). — Old-estab. middle-class PRACTICE Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

MANCHESTER SUBURB.—Good-class PRACTICE Average cash receipts £662 p.a. *Small panel. Scope.* House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

NORTH WALES.—RAPIDLY GROWING SEASIDE RESORT.—PRACTICE. Average cash receipts £627 p.a. Panel £123. Excellent modern house (freehold) to rent. 2 reception, 6 bedrooms. Garage and garden. Premium—Best offer for quick sale.—No 225.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Premium—Practice—1½ years' purchase. —No. 194.

ISLE OF MAN.—Seaside Resort.—PRACTICE. Cash receipts 1930, £861. Panel. Good house, 3 reception, 7 bedrooms. Garage and garden. *Premium—Practice*—£700 (*or near offer*).—No. 224.

[illegible] PRACTICE. Cash receipts 1929, detached house, 2 reception, 5 bedgarden. Rent £50 p.a. Premium—

SOUTH COAST.—SEASIDE RESORT.—PRACTICE. Average cash receipts £745 p.a. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 197.

NORTH WALES.—Country Town near Sea.—PRACTICE. Cash receipts £700 p.a. Panel £300 p.a. Good detached house. Garage and garden. Rent £65 p.a. Premium for quick sale 1 year's purchase.—No. 219.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) *SHOULD REGISTER AT* ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,

Tele. Address: Triform, Wesdo—London.

Oxford Street, W.1.

Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The **Manchester Medical Agency**, lately under the control and management of the Manchester Medical Committee, has now been taken over by the **British Medical Bureau** as their **Northern Branch.**

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 DEATH VACANCY.—ESSEX.—Practice in outlying suburban district. Receipts average nearly £1,000 p.a. (including £300 p.a. from panel). Well-situated house (6 bedrooms) in own grounds, with good garden and garage, for sale.

2 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

3 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

4 S.W. OF ENGLAND. — Third Partner required in Practice, over £5,600 p.a., in small Industrial Town. Panel 4,100. Suitable house to purchase. Excellent scope for Surgery. One-sixth share at first at 2 years' purchase. Preliminary Assistantship.

5 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

6 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

7 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a. at 1½ years' pur.

8 EAST ANGLIA.—Practice of about £1,700 p.a. in a Market Town in a beautiful part. Panel 1,000. Very attractive house (8 bed and dressing rooms). Garage and garden to rent. Considerable scope. Premium 1½ years' purchase.

9 SCOTLAND. — Nucleus of Consulting Practice, with appointments, together worth about £300 p.a., in University City. House situate in high-class residential quarter. Premium (house and Practice) £1,750.

10 ITALY. — Partnership in easily worked, good-class Practice of £1,400 p.a. in world-renowned Mediterranean Sea Coast Town. Established over fifty years. Fees chiefly 21/- (permanent residents less). Vendor purposes retiring from general practice in the near future, and his charmingly situated apartment would be available if wanted. No midwifery. No language difficulty. Premium 1½ years' purchase. Vendor well known to Bureau.

11 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

12 LONDON, E.C. — Old-established Practice of about £1,200 p.a. in the City. Fees mostly £1 1s., some 10/6. Very good consulting and waiting rooms to rent. Prem. £1,000.

13 LIVERPOOL.—Middle-class non-dispensing PRACTICE of nearly £1,200 p.a. in residential part. Small panel. Good house to rent. Premium 1½ years' purchase.

14 CHANNEL ISLANDS.—Practice of nearly £1,900 p.a. Good house (6 bedrooms, 4 attics), with large garden, for sale. Excellent climate.

15 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in three-quarters of an acre of ground, with good garden and garage, for sale. Great scope. Premium one-half share 1½ years' purchase.

16 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

17 LONDON, E. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwifery. Six-roomed house to rent. Premium £200, to include drugs, etc.

18 ESSEX.—Practice averaging £370 p.a. in well-populated outlying suburban district. Panel 225. Double-fronted house (4 bedrooms), with nice garden, for sale. Good scope for young energetic man. Premium £450.

19 ISLE OF WIGHT. — Country Practice averaging £750 p.a. Panel over 380. Plenty of sport. Premium 1½ years' purchase.

20 BRITISH WEST INDIES. — X-ray and General PRACTICE in one of the Principal Towns. Receipts about $500 per month. Premium, to include X-ray installation, etc., £700.

21 S. OF ENGLAND. — Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one-fourth share, £1,750. Preliminary Assistantship.

22 YORKSHIRE (N.R.). — Assistantship with view to Partnership in good-class Country Practice. Fees 5/- to £1 1s. Share worth about £750 p.a., with considerable scope. Cottage Hospital.

23 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

24 WITHIN 50 MILES OF LONDON.—PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate County Town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P appointments. Preliminary Assistantship.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

25 CHESHIRE.—Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

26 S. DEVON. — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House, containing 5/6 bedrooms, for sale. Prem. one-half share £1,320, include drugs, etc. Work very light.

27 S. MIDLANDS.—Practice averaging over £1,200 p.a in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

28 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) *in a beautiful part.* Good house (company's water, main drainage) for sale or rent. Premium £750.

29 S. COAST. — Practice about £1,200 p.a. in Popular Resort. Panel between 700/800. No midwifery or night work. House (5 bedrooms) to rent. Premium 1½ years' purchase.

30 N. DEVON.—Country Practice about £1,000 *p.a. in attractive Agricultural and Sporting District.* Panel 330. *House* (7 bed and dressing rooms and attics), garage, and about half an acre of garden, to rent. *Well-equipped Hospital. Premium* £1,500.

31 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

32 HIGH-CLASS NURSING HOME (held by Medical Man) in delightful Country District (500 ft. above sea-level) within 35 miles of London. Receipts over £5,000 p.a. Net profits between £1,000/£1,200 p.a. Beautiful house, with extensive grounds, etc., to rent. Premium for goodwill £1,500.

33 SURREY.—Partnership in non-dispensing PRACTICE of £3,200 p.a., in residential Town. Panel over 4,000. House with 5 bedrooms. Partner should be aged 30/40, and experienced in anaesthetics. Premium two-fifths share 2 yrs.' purchase.

34 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice in residential town and Health Resort. *Panel 800. After preliminary Assistantship,* share gradually increasing to one-half (worth about £1,600 p.a.) at 2 yrs.' purchase.

35 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

36 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

37 NEW ZEALAND.—Practice of £1,500 p.a. in Country Township in North Island. Visits range from 10/6 to £3 13s. 6d. Well-situated house (4 *bedrooms, bathroom,* etc.), and half acre of garden, for sale. Good private Hospital, with scope for Surgery. *Premium* £1,250.

38 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main thoroughfare for sale. Scope for panel and midwifery. Premium £1,200.

39 ISLE OF MAN.—Practice in small watering-place. Receipts 1930, £861. Double-fronted house in best road (7 bedrooms, etc.), garage and large garden, for sale. Educational facilities. Excellent scope. Premium £700.

40 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). *Panel* 320. Small house, rent £50. Scope for large increase. Premium £400.

41 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

42 LONDON, N.—Practice of about £700 p.a. *in suburban district. Panel* 727. *Small house* (3 bedrooms, consulting and waiting rooms) for sale. Price £600. Scope for increase. Premium £900.

43 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

44 S. COAST.—Partnership after preliminary Assistantship in well-established Practice in Seaside Resort. Share worth £1,000 p.a. to suitable man after six months. Premium 2 years' purchase. Considerable scope and excellent opportunity for *young man.*

45 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 *from panel*). Nice compact house (5 bedrooms), *with garden, for* sale. Sport. Premium £1,200, or offer.

46 S. MIDLANDS. — Practice over £750 in first-rate County Town. Small panel. Suitable house for sale at £1,200. Good Hospital. Scope. Premium 1½ years' purchase.

47 N.E. COAST.—Partnership in increasing Practice over £4,800 in Seaport Town. Panel 2,500. Incoming *Partner should be married and have held H.S. and H.P. appointments. One-fourth share at first at 1½ years' purchase.*

48 LONDON, N.—Cash and Panel Practice of £1,300 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

49 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, as there should be a good surgical outlook. Share worth abut £800 at 2 years' purchase, with fairly rapid increases to *suitable man.*

50 KENSINGTON. — Small good-class non-dispensing PRACTICE of about £450 p.a. Small select panel. No *midwifery or night work. Very good residence for sale. Great* scope. Premium £500.

51 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 *years' purchase.*

52 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

53 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

54 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a in growing and pleasant residential *district. Choice of residence for sale. Good scope. Prem. £1,200.*

55 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed *and dressing rooms), with garage and garden,* for sale. Scope for increase. Premium £2,250.

56 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

57 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

58 N. WALES.—Country Practice of £1,230 p.a. *in Welsh-speaking district. Panel about* 550. *Convenient* and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER) *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls.*) *Telegrams*: "REASIDE, TUBERCLE, WESTRAND, LONDON."

BERKS.—PARTNERSHIP.—Country Town Practice in sporting district. Receipts average nearly £1,150. Panel nearly 600. Fees 2/6 up. Short preliminary Assistantship. 1/3 to 1/2 share for disposal at 1½ years' urchase. Suitable to experienced man, British, aged 27 upwards.

SURREY (near Windsor). — Well-established middle-class PRACTICE. Double-fronted detached house, with charming garden, to rent on lease at £120 p.a., or may be purchased freehold. Receipts over £700 p.a. Panel 220. Fees 2/6 up. Cottage Hospital. Good social life. Good schools. Premium for Practice £900.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

LONDON, E.13. — NUCLEUS working-class PRACTICE (mostly cash), situated in thickly populated locality. House to rent at £60 p.a. (part sub-let at £26 p.a.). Receipts approximately £350. Panel 400. Fees 1/6 up. Mids. 2—3 gns. Premium £400.

DEVON (SOUTH)—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Hospital. Scope for surgery. Good schools. Premium for 1/3 share £2,030. Terms considered to right man.

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for surgery. Premium 1/3 share, with view to larger share, £1,300.

LIVERPOOL (near).—Mixed G.P.—Medium-sized house, with large garden. Branch Surgery. Receipts £2,500. Panel 2,600. Fees 2/6 up. Scope for Surgery if desired. Premium 1½ years' purchase.

MIDDLESEX.—Good-class non dispensing and non-panel PRACTICE. Scope for Surgery. House to rent on lease at £120 p.a. (4 bedrooms). Garage. Garden. (May be purchased for £1,500.) Receipts £1,000 p.a. Fees 5/- upwards. Good schools, golf, tennis, etc. Premium £1,500.

LONDON, W.10.—Cash and Panel PRACTICE, situated in middle and working-class locality. Suitable accommodation available to rent at £76 p.a., inclusive. Fees 2/6 up. Midwifery 2 gns. up. Panel 300. Books audited. Receipts £385. Premium £600, or near offer.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approximately £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional accommodation consists of three rooms, centrally situated, held on agreement at £100 p.a. Receipts approximately £530. Fees 2/-. Panel 430. Premium £650, cash. Scope for further development.

BERKS.—Town PRACTICE within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery (scope). Suitable house available. Premium 1½ years' purchase.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220, growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £300.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY, 19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London. *Telephone*: Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. LONDON, S.W.—Well-established Cash and Panel PRACTICE. Receipts over £2,500 p.a., panel over 2,000. Lock-up surgery, rent £100. Premium moderate.
2. SURREY.—Nice Town, 20 mins. Waterloo.—PARTNER wanted for rapidly increasing Practice. Receipts for last twelve months £1,750, panel 1,000. Excellent chance for active practitioner. Premium arranged.
3. LONDON, E. (near Liverpool Street).—Mixed-class PRACTICE. Receipts last year £530, including panel 605. Premises 32/6 weekly. Premium £750 or near offer.
4. LONDON, S.W. (near Chelsea).—Old-established Cash and Panel PRACTICE. Receipts £1,500 a year. Nice corner house, rent £150, long lease. Situated in residential part. Premium 2 years' purchase.
5. LONDON, S.E. (15 mins. Charing Cross).—Old-established middle and working-class PRACTICE. Receipts average £950 a year, panel 800. Large house and garden, rent £115, part sub-let. Prem. £1,500. Good scope.
6. LONDON, E.—Cash PRACTICE for disposal on very favourable terms. Receipts last 12 months £900. Rent mod., part sub-let. Suit lady or gent. Scope for panel if desired.
7. ESSEX.—Seaside Town.—Well-estab. mixed-class PRACTICE. Receipts average £560 p.a., including panel 250. Nice house on lease, rent £65 p.a. Premium £700 for quick sale.
8. SCOTLAND.—Large Town.—Well-established PRACTICE. Receipts over £2,000 p.a., panel 1,816. Very good house, rent £78 p.a. Prem. 1½ years' purchase, part payable by instalments.
9. EASTERN SUBURB. — Old-established Cash and Panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by arrangement.

No charge to purchasers or for enquiries.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. NORTH OF ENGLAND. — Panel, Private, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appts. £350. Good house to rent. Considerable scope for energetic man.
2. MANCHESTER (Suburb).—Lock-up Surgery. Industrial PRACTICE. Receipts £350. Panel 600, and increasing. Excellent scope.
3. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transferable. Good house, garage, and all conveniences.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts average £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.
7. LANCASHIRE.—Old-established and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
8. MIDLANDS. — COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

THE

WESTERN MEDICAL AGENCY

(DR. K. H. BENNETT, DR. W. J. PARAMORE.)

PHOENIX CHAMBERS, 22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.
PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. CHESHIRE BORDERS.—One-third share of PARTNERSHIP, averaging £2,000 p.a., for sale. Pleas. country dist. Panel over 1,700. Plenty of scope. Prem. £1,000. Suit young doctor. Purchaser could live with Vendor.
2. [illegible] TY.—One-sixth to ership aver. over for Surgeon. Four omes near. Appli- and be about 30- [illegible] Panel 4,100. Several appts. Good house. Near sea. All sport. Prem. 2 years' pur.
3. SOUTH-WEST WALES.—General PRACTICE, returning £1,000 p.a. Present hands 10 yrs. Seaside and Country Town. Panel 750. Good house to rent. Prem. 1½ yrs. No collieries.
4. WEST OF ENGLAND CITY. — PARTNERSHIP.—Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Prem. 1½ years. Choice of resid.
5. NORTH WALES.—Good-mixed PRACTICE in Hospital town, returning £800 p.a. Panel £300 p.a. Working knowledge of Welsh essential. Excellent house on lease, rent £65 p.a. Prem. £800, on very easy terms.
6. S. DEVON. — Old-established PRACTICE, averaging £2,400 p.a., for sale in favourite town. Panel 1,500, increasing. Large house in grounds, for sale or rent. Seaside. Ideal climate.
7. [illegible] good mixed Panel 1,300. Opposition) p.a. Good scope for increase. Premium £1,550.
8. SOUTH DEVON. — PARTNERSHIP. — Half share in old-estab. Country PRACTICE, ret. over £1,400 p.a. Good house for sale, other arrangem'ts poss. All sports, nr. sea. Scope.

FINANCIAL ASSISTANCE can be arranged for the PURCHASE of PRACTICES and PARTNERSHIPS. Full particulars on application.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. PARTNERSHIP.—In a most desirable outlying residential suburb of London, a suitable Partner (experienced, 35 to 40 years of age, and married) can acquire either the fourth or fifth Share (to commence with) in an old-established good mixed-class Practice, averaging about £10,500 p.a. Very good house with ample accommodation. Premium two years' purchase.
2. PARTNERSHIP.—LONDON, NORTH.—A two-fifths share (to commence with) is offered in a well-established non-dispensing Practice, situated in pleasant and rapidly developing residential suburb. Cash receipts £2,600 to £2,700 p.a. There is considerable scope for surgery at good fees, which latter it is proposed ingoing Partner should retain Patients good middle-class. Incomer, if unmarried, can live with Vendor, but no difficulty anticipated in obtaining suitable house. Premium two years' purchase.
3. NORTH OF [illegible] sound steadily increasing [illegible] ering good scope. Gross cash [illegible] including panel of 2,794. [illegible] reception, 5 bedrooms, etc. Price £1,600. £1,000 on mortgage. Good sport and schools. *Premium 1¼ years' purchase. Very suitable for two friends in partnership.*
4. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1¼ years' purchase, part *by instalments. Welsh not necessary.*
5. WITHIN 25 MILES OF LONDON.—GROWING RESIDENTIAL DISTRICT.—Well-established mixed-class PRACTICE, offering good surgical scope if desired. Gross cash receipts for past twelve months £3,184. Panel of 900. Visits 5/- to 21/-. Commodious house with 3 reception, 7 bedrooms, etc.; separate professional accommodation. Rent on lease £150 p.a. Good sporting, social, and educational facilities. *Premium £6,000.*
6. CHESHIRE.—Pleasant Town.—Good middle and working-class PRACTICE, having large scope. Gross cash receipts for last twelve months £1,098, including panel of 695, and appts. worth about £50. Fees from 3/6. Not much midwifery. Suitable house with 2 reception, 6 bedrooms, etc. Rent on lease £60 p.a. Good sport. Premium 1¼ years' purchase, payable £1,000 down, and balance by instalments.
7. WITHIN 15 MILES OF LONDON.—Developing neighbourhood.—PARTNERSHIP.—A one-half share is offered in a steadily increasing PRACTICE owing to the retirement of the senior partner. Gross cash receipts for last twelve months £2,696. Panel of over 1,000. Good house with 3 reception, 6 bedrooms, etc. Nice garden. Price £1,400, part on mortgage. Good sport and schools. Premium 2 years' purchase. Ingoing partner should be married, 35 to 40 years of age, and preferably English or Scotch.
8. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., *including appts. and panel £550. Exceptionally attractive house in* three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.
9. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1¼ yrs.' purchase, payable by arrangement. Ill-health reason for sale.
10. SOUTH MIDLANDS.—COUNTY TOWN.—PARTNERSHIP.—A one-half share is offered in an exceptionally sound good middle and working-class Practice, averaging over £2,900 p.a., including panel bringing in over £700 p.a. Suitable house, with 2 reception, 4 bedrooms, etc., and professional rooms. Small but secluded garden. Rent on lease £75 p.a. Sport of all kinds, and first-rate schools. Premium 2 years' purchase. *Ingoing partner should be English or Scotch.*
11. PARTNERSHIP.—MIDLANDS.—Prosperous Town within 80 miles of London.—A one-third or five-twelfths share is for disposal owing to the retirement of the second of three partners in a very good mixed-class Practice. Average gross cash receipts £3,300 *p.a., including* panel of 1,000. Fees from 2/6 to 25/-, medicine extra. Premium only 1¼ years' purchase for quick sale, owing to ill health.
12. YORKS.—FAVOURITE RESIDENTIAL TOWN.—PARTNERSHIP.—A third partner is required to take over a one-sixth share (with increase later) in a very well-estab. non-dispensing Practice, averaging over £4,000 p.a. Well-equipped Hospital, affording good scope for surgery. *Premium* 2 years' purchase. Preliminary assistantship of 6 to 12 months.
13. NORTH DEVON.—Very old-established unopposed Country PRACTICE, situated in a beautiful district, and producing last year £940, including panel and appts. worth about £300. Excellent residence (3 reception, 6 bedrooms, bathroom, etc.), in about 1/2 an acre of garden, with tennis court, garage. Rent on lease £60 p.a. Premium £1,500. Good hunting, shooting, and fishing.
14. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1¼ years' purchase.
15. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1¼ years' purchase.
16. NORTH OF [illegible] COAST TOWN.—A one-third share is offered in a very [illegible] ing about £5,000 p.a. Ingoing partner mu[illegible] er 35, and interested in medicine. Suitable ho[illegible] 2 years' purchase.
17. NEW ZEA[illegible] — Well-established PRACTICE, situated wi[illegible] City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, *bathroom, etc.), in half an acre of garden.* Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.
18. DEATH VACANCY.—YORKS.—Village PRACTICE near large town. Old-established mixed-class Practice averaging £1,200 p.a., including panel of 950. Fees from 3/6, with medicine extra. Suitable house, with 3 reception, 4 bedrooms, bathroom, etc. Electric light. Small garden. Rent £56 p.a. Premium £1,000, payable £700 down and balance by instalments. Locum in charge.
19. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts *average about £1,700 p.a., including appt.* £70 and panel of over 1,000. Good house, with ample accommodation. Small garden. Price, *freehold*, £2,500. *Premium* 1¼ years' purchase. Good educational facilities and sport of all kinds.
20. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,157, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1¼ years' purchase.
21. SOUTH-WESTERN COUNTY. —Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and *appt. worth £40* p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price *for freehold £1,600, half on mortgage. Very good schools and sport. Premium* £1,300.
22. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
23. MIDLANDS.—COUNTY TOWN.—Old-established better-class PRAC*TICE, averaging £793* p.a. and offering good scope. Panel of 500. Fees 5/- upwards. Well situated house with good garden, with 3 *reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111* p.a. Premium 1¼ years' purchase.
24. SOUTH COAST TOWN.—*Rapidly increasing PRACTICE, producing* over £500 p.a. No panel. Visits 5/- up. Suitable house, with 2 *reception*, 3 bedrooms, etc. Rent on lease £130. Premium £750.
25. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope. Panel of over 1,400. Fees from 3/6. Suitable house can be secured. Premium 2 years' purchase.
26. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., *including* panel of 780. Fees from 3/6. Mid 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. *Price for freehold £1,400, £800 on* mortgage. Premium 1¼ years' purchase, £1,100 down.
27. WITHIN 20 MILES OF LONDON (West).—Rapidly developing district. —PARTNERSHIP.—A one-half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100, and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
28. SURREY.—In a beautiful residential district within 40 miles of *London* (good train service) a small mixed-class PRACTICE worth about £600 p.a., and offering scope. Select panel of 200. Charming house, in very pretty grounds, with ample *accommodation.* Price, freehold, £3,500. Premium 1¼ years' purchase.
29. BORDERS OF NORFOLK AND SUFFOLK.—PARTNERSHIP.—A half-share (with succession in 2 to 3 years' time) in a good mixed unopposed Practice, in pleasant village, near two good towns. Income for last 12 months £1,992, including panel of 1,000, and appts. worth about £150. Fees 2/6 to 10/6. House contains 3 reception, 6 bedrooms, etc. *Sport of all kinds.* Premium 2 years' purchase.
30. MANCHESTER DISTRICT.—Old-established middle and working-class PRACTICE, worth last year about £700 p.a., including panel of 614 and capable of increase. Expenses small. Well-situated house, with six rooms in addition to professional accommodation. Large garden. Price for freehold £850. Moderate premium accepted.

Full Schedule of Terms and Conditions will be forwarded on application.

IN CONSTIPATION

Try this Tonic Laxative

AGAROL

BRAND COMPOUND

the original mineral oil emulsion with phenolphthalein, not only softens the intestinal contents but *gently stimulates* the peristaltic action and thereby aids in re-establishing normal bowel function.

We will gladly send you a liberal quantity to convince you of its merits.

FRANCIS NEWBERY & SONS, LTD.,
31-33, BANNER STREET,
LONDON, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC.
Manufacturing Pharmacists Since 1856.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SCIENTIFIC ENZYME DIGESTION

RICH SELECTED ENGLISH MILK
Pancreatised

SELECTED ENGLISH WHEAT
Dextrinised and Pancreatised

PREDIGESTED MILK
(25% Protein Conversion)

PREDIGESTED WHEAT
(25% Starch Conversion)

Powdered by the
COW & GATE
Improved
Roller Process

Peptalac
REGD.

THE NEW INSTANT PREDIGESTED FOOD

SIX OUTSTANDING ADVANTAGES

1 PEPTALAC is [illegible] the simplest instant a[illegible]

2 PEPTALAC is fool-proof and requires neither technique, skill nor addition of milk. It renders obsolete the method of peptonisation wherein milk had to be held at a temperature 117°F. for 20-30 minutes under carefully controlled conditions.

3 PEPTALAC is guaranteed to have been pancreatised and the essential components of starch and milk proteins broken down to sugars, peptones, and amino-acids. With other methods of peptonisation this cleavage is uncertain and unreliable and the milk which is added is *not predigested.*

4 PEPTALAC is a safe and practically sterile powder. In the old methods of peptonisation, the milk [illegible] genic organisms and practically sterile.

5 PEPTALAC is therefore invaluable for *infants,* the [illegible] milk-preparations made with it.

6 PEPTALAC is pleasing to the most fastidious palates—salt or chocolate may be added for *further flavouring if desired.*

SEND THE COUPON FOR

FREE CLINICAL SAMPLE

Name.....

Address.....

B.M.J., Feb. 28/31.

COW & GATE LTD. GUILDFORD, SURREY

Metatone

A Palatable Vitamin B Reconstructive Tonic

HARDLY a day of a physician's life is passed without one, or more, of his patients requiring a tonic. Metatone is a general tonic particularly suitable for such occasions. In the treatment of general debility, during convalescence, in neurasthenia, anæmia and rickets, after surgical operations and during pregnancy and the period of lactation, Metatone may confidently be prescribed for its reconstructive, restorative and tonic properties.

Metatone is an agreeable fluid combination of vitamin B, nucleinic acid and glycerophosphates, containing in each fluid ounce:—

Vitamin B Extract	10 grains
Nucleinic Acid	2 grains
Calcium Glycerophosphate	4 grains
Potassium Glycerophosphate ...	4 grains
Manganese Glycerophosphate ...	1/2 grain
Sodium Glycerophosphate	2 grains
Strychnine Glycerophosphate ...	1/25 grain

The adult dose of Metatone is one to two teaspoonfuls, three or four times daily, usually after meals.

Supplied in bottles of 8, 16 and 80 fluid ounces.

PARKE, DAVIS & COMPANY,
50, Beak Street, London, W.1.
Inc U.S.A., Liability Ltd.
LABORATORIES: HOUNSLOW, MIDDLESEX.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3661 SATURDAY, MARCH 7, 1931 Price 1/3

THE 'ALLENBURYS'
DIABETIC FLOUR

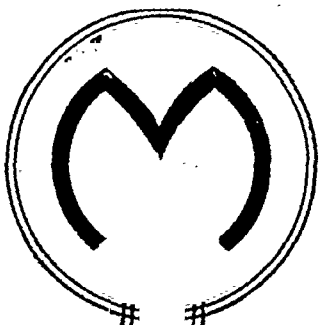
A special preparation of caseins and lactalbumen to which leavening agents are added.

It is a satisfactory and convenient product for the preparation of special foods, free from carbohydrates, and containing a minimum of fat; or definite proportions of these may be added as tolerance increases with the progress of the treatment. The 'Allenburys' Diabetic Flour is convenient to use, and keeps well. From it may be prepared a variety of palatable and highly nutritious foods of special composition. Recipes and directions for use are enclosed with each packet.

Further particulars and clinical trial sample will be sent on request.

ALLEN & HANBURYS LTD.

Telephone— Bishopsgate 3201 (10 lines). LONDON, E.2. Telegrams— "Greenburys Edo London."



MOST ACUTE MIDDLE-EAR INFECTIONS

are not attended by mastoiditis; they are accompanied by earache and temperature, which are usually relieved when the drum ruptures, or is incised. ■ Recovery may be hastened and the possibility of infection decreased by hot packs of Antiphlogistine over the mastoid area. ■ By virtue of its thermotherapeutic, hygroscopic and osmotic properties, together with the antiseptic agents entering into its composition, Antiphlogistine will diminish the congestion in the affected area and destroy the bacteria, thereby checking the infectious processes and relieving pain and tension.

ANTIPHLOGISTINE

Sample and literature will be sent upon request to
THE DENVER CHEMICAL MFG. CO.
(Inc. U.S.A. Liability Ltd.).
LONDON, E.3.

British Medical Journal

CONTENTS

MARCH 7, 1931

ORIGINAL ARTICLES

The Medicinal Treatment of Chronic Arthritis. By N. MUTCH, M.D., F.R.C.P. (With Key Index)..... 383

Closed Drainage in the Treatment of Empyema. By J. D. MCEACHERN, M.D. (Illustrated)..... 389

Intranasal Dacryocystostomy for Relief of Lacrymal Obstruction. By F. HOLT DIGGLE, F.R.C.S. 391

Reconstruction of the Forearm After Amputation of the Hand. By ARNOLD K. HENRY, M.B., F.R.C.S.I. (Illustrated)..... 393

Puerperal Coma: Rapid Recovery Following Inflation of Breasts. By J. G. KININMONTH, M.D. 395

MEMORANDA

Tetanus: Unusual Channel of Infection. By W. S. BRINDLE, M.B., Ch.B. 396

Melaena Neonatorum. By J. NOËL BANKS, M.B., Ch.B.Ed. 396

CLINICAL PROCEEDINGS

SOUTHAMPTON DIVISION: Treatment of Rheumatic Disease by Heat 397

REPORTS OF SOCIETIES

MEDICAL SOCIETY OF LONDON: Indolent Ulcers of the Leg 398

ROYAL SOCIETY OF MEDICINE: Protein Content of the Plasma 399

CHELSEA CLINICAL SOCIETY: Treatment of Gland Deficiencies 400

ROYAL ACADEMY OF MEDICINE IN IRELAND: Unusual Tumours (Illustrated)..... 401
Plastic Surgery 403

BRITISH INSTITUTE OF RADIOLOGY: Aspects of Radium Therapy..... 402

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY: Organic Nervous Disease 403

REVIEWS

Physiology of Bacteria 404
The Nature of Life 404
Physio-Pathology of Sleep 405
Cutaneous Leishmaniasis 405
A Dictionary of Dental Surgery..... 405
Notes on Books 406

THE SERVICES

Deaths in the Services 429
(For Naval, Military, and Air Force Appointments see SUPPLEMENT)

LEADING ARTICLES

MEDICINE AND STATECRAFT..... 407
THE ELECTROCARDIOGRAM 407

THE WEEK

The Service Reports..... 409
Vitamins and Subacute Combined Degeneration 409
Insanity Among the Scandinavians..... 410
Shortage of Nurses 410
Fractional Products of the Tubercle Bacillus..... 411
Nature of the Living Cell..... 411
International Trachoma Prize 411

GENERAL ARTICLES AND NEWS

Medical Research Council. Annual Report, 1929-30. (First Notice)..... 412

The Spleen: Its Structure, Functions, and Diseases. Lettsomian Lectures by J. W. MCNEE, M.D., F.R.C.P. 413

LONDON COUNTY HOSPITALS MEDICAL STAFF. New Scales of Salaries and Conditions of Service..... 416

COUNTY HOSPITAL SERVICES OF LONDON. First Year's Experience of L.C.C. Administration 418

ATMOSPHERIC POLLUTION. Report of Scientific Investigation..... 419

PREPARATIONS AND APPLIANCES. (Illustrated) 406

MEDICAL NOTES IN PARLIAMENT: Maternal Mortality..... 427
Cerebro-spinal Fever 429

MEDICAL NEWS 431

CORRESPONDENCE

Obstetrical Education of the Undergraduate. By Miles H. Phillips, M.B., F.R.C.S. 423

Genetic Relationship Between Cretinism and Hypothyroidism. By C. J. Bond, F.R.C.S. 423

Mortality in Acute Appendicitis. By Harold Dodd, Ch.M., F.R.C.S. 423

The Incision for Appendicectomy. By Alex. MacLennan, M.B., C.M. 424

Serum Anaphylaxis. By Margaret Wylie Thomas, M.B., Ch.B..... 424

Glycerin as a Surgical Dressing. By David Kyle, M.B., Ch.B. 424

Puerperal Pyrexia. By Samuel J. Cameron, M.B., F.R.F.P.S. 425

Research on Disseminated Sclerosis. By J. A. Braxton Hicks, M.D., and F. D. M. Hocking, M.B., M.Sc. 425

London Clinic and Nursing Home. By Eric Pearce Gould, M.Ch., F.R.C.S.... 425

LOCAL NEWS

AUSTRALIA—
School of Public Health and Tropical Medicine in Sydney 419
[illegible] 419
[illegible] 420
[illegible] 420

INDIA—
Treatment of Rabies 420
Infant Mortality in Central Provinces 421
Improvements in Mental Hospitals... 421

SCOTLAND—
Glasgow Maternity Hospital 421
West Govan Child Welfare Association 421
Red Cross Society..... 422
Royal Edinburgh Mental Hospital ... 422
Clinic for Child Psychology..... 422

OBITUARY

S. Alwyn Smith, Ch.M., F.R.C.S.Ed.... 425
Cyril Ogle, D.M., F.R.C.P. 426
Albert Henry Bygott, M.D. 427
Edward Lloyd-Williams, M.R.C.S. 427
Crozier Magee, M.R.C.S. 423
Arthur Lambert, M.D. 428

UNIVERSITIES AND COLLEGES

University of Oxford 428
University of Cambridge 423
University of London 428
University of Durham 429
University of Dublin 429
[illegible]ons of England... 429
[illegible] of London 429

LETTERS AND ANSWERS

Treatment of Sciatica..... 432
Majorca..... 432
Income Tax 432
"Bad Risk" 432
Gordon Men 432
Sterilization of Mental Defectives 432

VACANCIES 432

(See also page 75 of SUPPLEMENT)

The SUPPLEMENT contains:

Annual Meeting, Eastbourne, 1931:
Scientific Sections.
Provisional Time-Table.

CURRENT NOTES:
Subscriptions for 1931.
Scholarships and Grants.

CORRESPONDENCE:
The Association in Australia.

BOOKS ADDED TO THE LIBRARY.

Association Notices; National Insurance; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. President: Sir HERBERT WATERHOUSE, F.R.C.S. Entrance Fee, 10/-

No entrance fee to those joining within 12 months of registration. Assets exceed £55,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Cambridge University Press.
Myers & Bartlett—
Experimental Psychology 4

Churchill, J. & A.
McGehee, W. H. O.—
Operative Dentistry 4

Harrison & Sons, Ltd.
Miles, W. E.—
Cancer of the Rectum..... 4

Lewis, H. K. & Co. Ltd.
Elliot, R. E.—
[illegible] 4
[illegible] 4
[illegible] 4

Oxford Medical Publications
Elliot, R. E.—
A Treatise on Glaucoma 4
The Care of the Eyes..... 4
Tropical Ophthalmology..... 4

Saunders, W. B. Co., Ltd.
[illegible] 3
3
3
3
3
3

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS..... 65

ASSURANCE COMPANIES—
Century Insurance Company 60

BANKS—
Westminster Bank 60

BATHS, SPAS, &c.—
[illegible] 49
48
48
49

BRASS NAME PLATES, &c.—
[illegible] 4
43
40
4
42

FOOD PREPARATIONS—
[illegible] 41
43
10
21
Benger's Food 24
Borril 38
Brand's Essences 13
Cow & Gate Ltd.—Milk Food Cover iii
[illegible] 17
40
12
66
15
Wander, Ltd.—Ovaltine 18

HOSPITAL, &c., FURNITURE—
Lawson Tait—Bedsteads 42

MOTOR CARS, TYRES, &c.—
[illegible] 4
7
7
6
58

PRINTING & STATIONERY—
Anderson & Son—Account Forms 4
Taylor's Typewriters..... 4

TOBACCO & CIGARETTES—
Player's No. 3 41

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. ... 57

VACCINES & CULTURE MEDIA—
Genatosan Ltd.—Vaccines, etc. ... 32
Heinemann, W.—Vaccine Lymph 39
Laboratories of Path. & Pub. Hlth 39

CHEMISTS, &c.—
[illegible] 14
11
[illegible]
Ergodex 19
Burroughs Wellcome & Co.—
'Wellcome' Insulin 33
Carnrick, G. W., Co.—
[illegible] 13
Dimol Laboratories—Pulverettes.... 23
Eno's Fruit Salt 34
Evans Sons Lescher & Webb Ltd.—
[illegible] 77
[illegible] 10
[illegible]
Schering Ltd.—Veramon..... 38
S.P. Charges Co.—Sulphaqua 38
Wyleys Ltd.—
Elixir Iodo-Creosoti Co..... 22

SURGICAL APPLIANCES—
[illegible] 6
5
5
4
6
42
31
23
23
23
58
40
42
43
37
4
9
36

TAILORING & UNDERCLOTHING—
[illegible] 58
40
42
6
40
42

WINES & SPIRITS—
Gaymer's Cyder 10

X-RAY & ELECTRO-MEDICAL APPARATUS—
Kodak—'Dupli-Tized' X-Ray Film 8
Medical Supply Association, Ltd.—
Diathermy Apparatus 36

HOTELS & HEALTH RESORTS—
Hotel Annonciata 49

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 49
Peebles Hydro 49
Ruthin Castle, North Wales 45
Smedley's Hydro, Matlock 48

HOSPITAL, &c., VACANCIES—
Acton Hospital, W. 54
All Saints' Hospital, N.W.8. 55
Ashton-under-Lyne District Infirm. 53
[illegible] 52
52
55
52
53
[illegible]
[illegible] 59
[illegible]
[illegible]
[illegible]

New Books and New Editions

KAPLAN'S RADIATION THERAPY

NEW

Dr. Kaplan devotes his entire book to stating briefly the established principles of radiation therapy, and then to detailing extensively the application of those principles to cases. He explains the methods which he has found give results in treating thousands of patients. He gives the technique he uses. He sounds warning notes. He gives an Index of Diseases and their Treatment, wherein are stated for quick reference the dosage, frequency, precautions, management as applied to individual diseases.

Octavo volume of 354 pages, with 227 illustrations. By IRA I. KAPLAN, M.D., Director, Division of Cancer, Department of Hospitals, New York City. Cloth, 27s. 6d. net.

RAND, SWEENY, & VINCENT GROWTH AND DEVELOPMENT OF THE YOUNG CHILD

NEW

This new book on the young child—by three workers representing the fields of parental education, physical growth, and mental growth—brings teachers and students a unified discussion of our modern knowledge of early childhood. For their material the authors have called upon their rich practical experience and the wealth of material at the Merrill-Palmer School.

12mo. of 394 pages, illu , A.B., R.N., Specialist in Parental E M.S., M.A., Nutritionist; and E. I gist, at the Merrill-Palmer School, Cloth, 12s. 6d. net.

WEBSTER'S LEGAL MEDICINE AND TOXICOLOGY

NEW

Dr. Webster takes up all legal aspects of medicine, all those problems which reach courts of law and on which the physician's opinion is frequently demanded. He applies our modern knowledge of medicine and its related sciences to questions concerning the causes of death, the identity of the living and the dead, the results of wounds and injuries of all kinds, life and accident insurance, mental incompetence from various sources, malingering, legitimacy, abortion and infanticide, impotence, sterility, unnatural sexual offences, marriage, divorce, and malpractice. There is a complete section on Toxicology.

Octavo of 862 pages, illustrated. By RALPH W. WEBSTER, M.D., Ph.D., Clinical Professor of Medicine (Medical Jurisprudence) in Rush Medical College, University of Chicago. Cloth, 37s. 6d. net.

CECIL'S TEXT-BOOK OF MEDICINE

2nd EDITION

For this brand new edition the entire book had to be reset, because the 135 eminent contributors were given *carte blanche* in the revision of their articles. The new (2nd) edition represents to-day's approved practice. In addition to the hundreds of changes throughout the book, there are entirely new chapters on tularemia, snake venom poisoning, atelectasis of the lungs, creeping eruption, oroya fever, brucella abortus infections, essential hypertension, agranulocytic angina, and arthritis. In his selection of authors, Dr. Cecil was particularly fortunate. Most of them are teachers in medical schools, and their authoritative presentations are in a form specially acceptable to all those interested in the study and application of medical knowledge.

Octavo of 1,592 pages, illustrated. By 135 American Authors. Edited by RUSSELL L. CECIL, M.D., Assistant Professor of Clinical Medicine, Cornell University Medical School. Cloth, 40s. net.

PEARL'S MEDICAL BIOMETRY AND STATISTICS

2nd EDITION

The growing recognition by medical men of the importance of modern biometric methods called forth this new edition. The author's extensive changes and additions have made it even more practical. This work will be of inestimable value to those interested in medicine, public health, biology, statistical research, general hygiene, genetics, life expectation, and epidemiology. It gives methods of collecting, tabulating, adjusting, and drawing sound conclusions.

Octavo of 459 pages, illustrated. By RAYMOND PEARL, Professor of Biology in the School of Hygiene and Public Health, and in the Medical School, The Johns Hopkins University. Cloth, 25s. net.

DACOSTA'S MODERN SURGERY

10th EDITION

A number of unusually practical features have won for "DaCosta" its enduring place in medical literature. Readers and reviewers have termed it "The greatest one-volume surgery ever published"; "A surgical encyclopaedia"; "The work of a master surgeon, a brilliant exponent of modern surgery." Not only does Dr. DaCosta present the principles and practice of surgery, but so carefully does he go into diagnosis that you get a surgical diagnosis as well. The book is an inexhaustible mine of facts for practitioner, surgeon, and specialist.

Octavo of 1,404 pages, with 1,050 illustrations, some in colours. By JOHN CHALMERS DACOSTA, M.D., LL.D., F.A.C.S., Samuel D. Gross Professor of Surgery, Jefferson Medical College. Assisted by BENJAMIN LIPSHUTZ, M.D., F.A.C.S., Surgeon to the Mt. Sinai Hospital, Philadelphia. Cloth, 45s. net.

W. B. SAUNDERS COMPANY Ltd., 9, Henrietta St., London, W.C.2.

H. K. LEWIS & CO. LTD., Publishers and Booksellers.

REBUILDING AND EXTENSION OF PREMISES.

During the Rebuilding of the Corner Premises, 136, Gower Street, and 24, Gower Place,

The BOOKSELLING and STATIONERY Departments are accommodated in the completed portion of the new building (entrance in Gower Street).

The CIRCULATING LIBRARY is permanently housed in this portion, greatly increased accommodation being provided both for the Exchange Department (ground floor) and the Reading Room (first floor).

The Address, 136, GOWER STREET, London, W.C.1 ('phone: Museum 7756) remains unaltered.

THE DEPARTMENT FOR SECOND-HAND BOOKS remains at 140, Gower Street. 'Phone: Museum 4031.
THE PUBLISHING AND WHOLESALE OFFICE is unaltered, 28, Gower Place. 'Phone: Museum 2853.

Third Edition.

A TEXTBOOK OF
EXPERIMENTAL PSYCHOLOGY
By CHARLES S. MYERS, M.A., M.D., Sc.D., F.R.S., and F. C. BARTLETT, M.A.

Demy 8vo. In 2 parts, complete. 16s. net.

The two parts are also sold separately
Part I, Textbook, 10s. 6d. net;
Part II, Laboratory Exercises, 7s. net.

"No worker in psychology can afford to dispense with this excellent textbook, while the physician opening it at random will find material to engross him on almost every page."—*Lancet*, on the Second Ed.

CAMBRIDGE UNIVERSITY PRESS,
Fetter Lane, London, E.C.4.

CANCER OF THE RECTUM
ITS PATHOLOGY, SYMPTOMATOLOGY, AND TREATMENT.
BY
W. ERNEST MILES, F.R.C.S.,
Surgeon Emeritus (with beds) to the Cancer Hospital; Surgeon to the Gordon Hospital for Diseases of the Rectum, etc.

80 pp. and 33 plates. Bound cloth.
Price 7s. 6d. net, post free 7s. 10d.

"It is the best exposition of the subject with which we are acquainted."
—*British Journal of Surgery.*

"Deserves to rank as a classic in the literature dealing with cancer of the rectum."
—*Bulletin of the Johns Hopkins Hospital.*

"Perhaps no surgeon of to-day has had a greater experience in treating cancer of the rectum."—*Surgery, Gynecology, and Obstetrics.*

HARRISON & SONS, LTD.,
44, ST MARTIN'S LANE, LONDON, W.C.2.

By Lt.-Col. ROBERT HENRY ELLIOT, M.D., B.S.Lond., F.R.C.S.Eng., I.M.S.(rtd.).

A TREATISE ON GLAUCOMA.
Second Edition. Revised and Enlarged, 1922. With 215 Illustrations, 30s. net.

TROPICAL OPHTHALMOLOGY
7 Plates and 117 Illus. 31s. 6d. net. Spanish and French Eds., 1922. Full German Abstract.

THE CARE OF EYE CASES
FOR NUR[illegible] NTS.
With [illegible]
THE [illegible]

GLAUCOMA:
FOR THE GENERAL PRACTITIONER.
With 23 Illustrations. 4s. net.

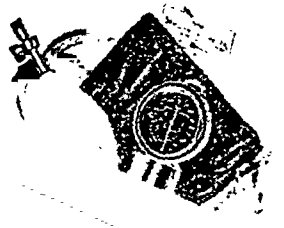
COUCHING FOR CATARACT.
With 45 Illustrations. 7s. 6d. net.
H. K. LEWIS & CO., LTD.

As necessary as a Stethoscope

The present-day physician can ill afford to dispense with a sphygmomanometer as part of his visiting equipment. Many of the greatest medical minds of to-day advocate blood pressure tests as a guide to the eventual diagnosis.

The question of portability is easily solved by the S. & M. Portable type of Sphyg. as illustrated. This instrument—including Patent Arm Sleeve and Inflating Bulb with Control Valve—is contained in a leather carrying case 7 in. long, 4 in. wide by 3 in. deep.

Write for full details and prices.

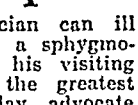


Every genuine instrument bears the trade-mark "Tycos" engraved on the dial.

Obtainable from all reputable Instrument Dealers.

Tycos **SHORT & MASON LTD**
ANEROID WORKS, WALTHAMSTOW, E.17.
Showrooms: 45/50, HOLBORN VIADUCT, E.C.1.
Publishers of *"Blood Pressure Simplified,"* 4s. 6d. net.

1040 Illustrations. 42s. Postage 9d.
OPERATIVE DENTISTRY
By WILLIAM H. O. McGEHEE, D.D.S., M.D.
"A valuable and useful addition to dental literature which is certain to help practitioner and student alike."—ROY. DENT. HOSP. MAG.
J. & A. CHURCHILL,
40, Gloucester Place, Portman Square, W.1.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PUR-CHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 32.*
Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.
Desks, Tables & Chairs
Est. 1884.
THE BIJOU

The best portable Writer Complete in Travelling Case, from £9 9s.
74, CHANCERY LANE (Holborn End), W.C.2

Doctors' A/c Forms a Speciality
Printed in Best Style.
Account Forms Letterheads, Cards, etc.
Samples Sent
R ANDERSON & SON
Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH

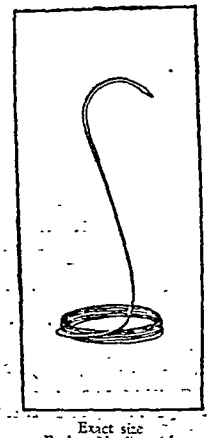
NAME PLATES
FOR THE PROFESSION.
Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.
Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.
With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE.
COOKE'S (Finsbury) Ltd. Signs Dept.

FOR DEAFNESS
Doctors use and recommend Ardente
because it fulfils its claims.
309, Oxford St., London, W.1.
Midway between Oxford Circus & Bond St.
Mayfair 1380/1718.

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

LONDON HOSPITAL CATGUT

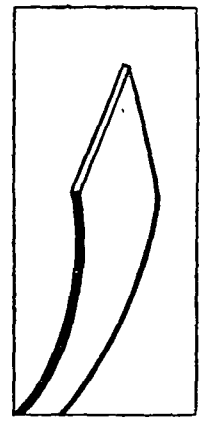
Curved Ophthalmic Advancement Suture



Exact size
Eyeless Needle with
London Hospital Catgut.

At the request of ophthalmic surgeons this needle has been specially designed for advancement suturing. Special features are that the needle point has a double cutting edge and makes a horizontal incision, through which the needle and ligature pass freely.

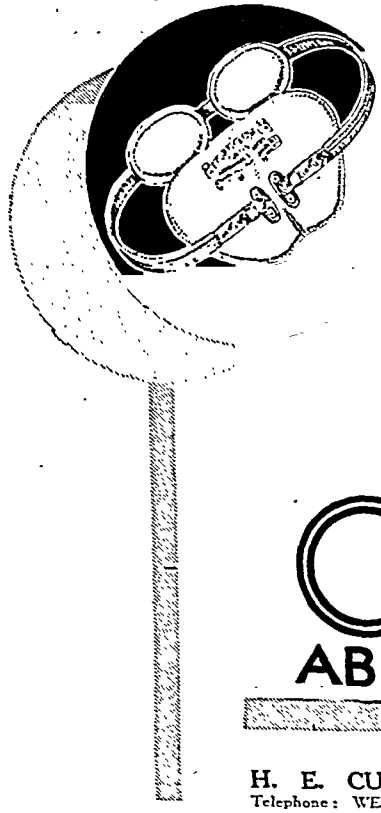
Supplied threaded with plain catgut, "Ultratan" catgut, silk, or horsehair as desired.



Needle magnified
to show special point.

ALLEN & HANBURYS Ltd.
48 Wigmore Street, London, W. 1.

AND ALL THE LEADING SURGICAL EQUIPMENT HOUSES.



Comfortable, and Correct Support

Assured to all sufferers from abdominal ptosis who wear the Curtis Abdominal Support, Model No. 1. The principle of this support—that of anterior posterior support—has been proved by scientific research to be the most efficient. There is no circumferential pressure, hence the wearer's freedom of movement is in no way restricted. There is no cramping or binding of the hips. It is light in weight, and easy to apply. There are no complicated fastenings.

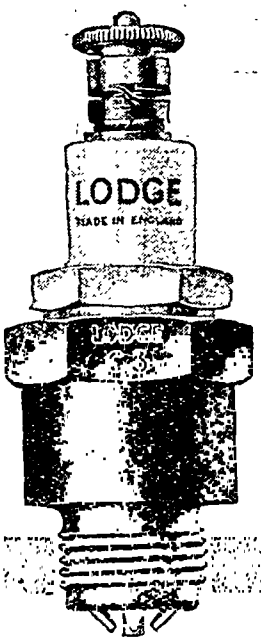
IN USE IN MOST OF THE LONDON HOSPITALS.

CURTIS
ABDOMINAL SUPPORT

Sole Manufacturers of the Curtis Appliances:—
H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.
Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

The Spring overhaul

Make it complete by giving attention to the sparking plugs.



Cleaning them and re-setting the spark-gaps will restore their vitality; but if they have already been in use for a whole season it will pay you to fit a new set of

LODGE

SPARKING PLUGS

Sold at all good garages.

LODGE C3
5/-

LODGE PLUGS, LTD., RUGBY

RE-INFORCING THE ABDOMINAL MUSCLES WITHOUT UNDUE PRESSURE!

For those disorders of the abdomen that call for external support, Domen Abdominal Belts have very definite advantages. They give adequate support to the abdomen without setting up pressure to aggravate the patient's condition. And whether it is pregnancy or umbilical hernia, prolapsus uteri, or simply general support, there is a Domen Belt designed specifically for that condition. Domen Belts fit well, sit comfortably and do not get out of place. They leave the patient free and without embarrassment. Full particulars will be forwarded on receipt of your card or a telephoned request.

DOMEN BELTS Co. LTD.

26, SLOANE STREET, LONDON Tel.: Sloane 3524

PERMANENT RELIEF for

VARICOSE VEINS

Is ensured by the world famous

"Academic" RUBBERLESS STOCKING

Claimed as the best and most effective means for relieving Varicose Veins and other leg ailments, and preventing the formation of new varicose veins.

PERFECT COMFORT

STRONG SUPPORT

LEGS ALWAYS SLIM & SHAPELY

The patented heel increases longitudinal pull, never curls, always retains its position, and there is no discomfort or damage to silk hose.

HYGIENIC, WASHABLE & INVISIBLE under the finest silk hose.

From D. H. Evans, Harrods, Army & Navy, Selfridge's, all branches of Boots The Chemists, and all the leading London and Provincial stores.

Doctors are cordially invited to write for further details.

ACADEMIC DEPOT, 158, Oxford St., W.1.

B. MILLER & CO. LTD

17 CONDUIT STREET
BOND STREET, LONDON, W1

TAILORS
Established 1896

LOUNGE SUITS and OVERCOATS *from* £8 : 8 : 0

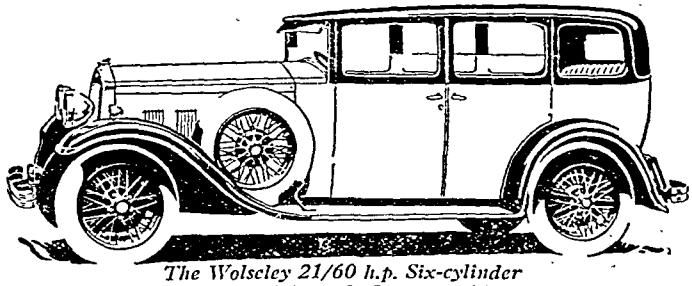
DINNER SUITS Lined Silk *from* £10 : 10 : 0

A large selection of materials in the newest designs.—Patterns sent on request.

Convenient terms can be arranged.

The Ideal Car for the Medical Man

WOLSELEY



The Wolseley 21/60 h.p. Six-cylinder County Saloon de Luxe, £445.

Wolseley Cars are renowned for quality and dependability, and in their comprehensive range you will find your ideal car—one that will exactly meet your requirements.

For over 50 years we have faithfully served the medical profession, and to-day many leading specialists are included in our clientèle. Our long experience is freely at your service.

The HORNET Six-cylinder - from £175
The VIPER Six-cylinder - - from £285

Special Deferred Terms arranged for members of the medical profession.
— Any car in part exchange. —

Garage and Service Station at your service Day or Night.

CARS FOR HIRE.

Garage: 49, High Street, Marylebone, W.1.

'Phone: WELBECK 1101-2.

R. HARDY & SON

Showrooms:
50, High Street, Marylebone, London.

Service: 55, High Street, Marylebone, W.1.

Telegrams: "HORSEFOOT WESDO."

SAVE ON YOUR SPRING

LIVERY OUTLAY at

GAMAGES

HOLBORN

53RD ANNIVERSARY

SALE

You will appreciate the really substantial Reductions which we have made on our high-class Standard lines. Here are two typical examples:

CHAUFFEURS'
BLUE SERGE SUITS

Comprising Double-breasted Jacket, Vest, and Trousers, made from a good weight Navy Blue Ribbed Serge. This suit combines neatness with style, and can be purchased Ready for Service.

Usual Price 75/-.
SALE PRICE **59/6**

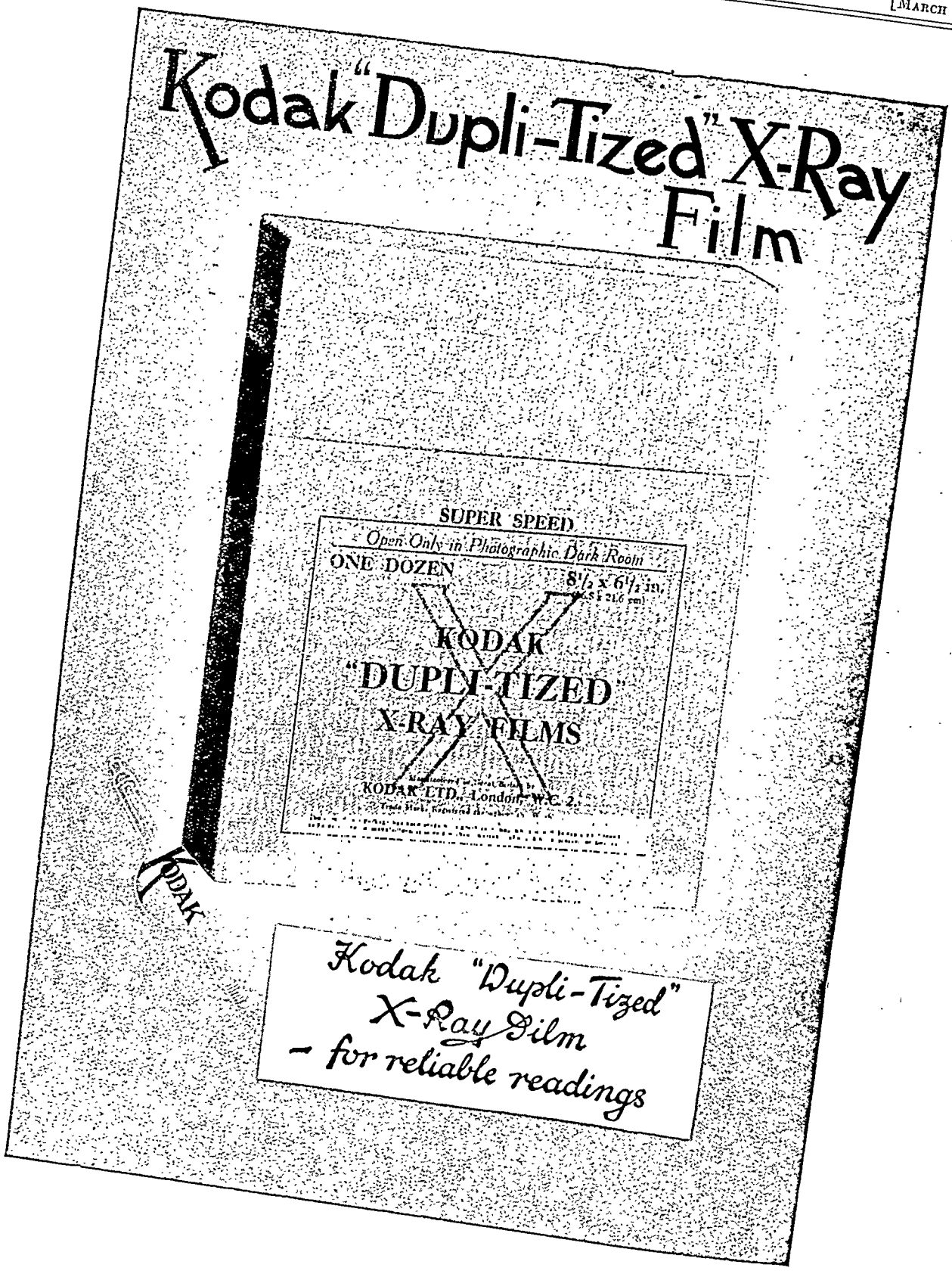
CHAUFFEURS'
WATERPROOF COATS

These Coats are cut specially for driving. Made from double texture Paramatta, blue only. Double-breasted as illustrated. 34 to 42 inches chest.

SALE PRICE **26/9** Usually 42/-

GAMAGES, HOLBORN, LONDON, E.C.1.

Telephone: Holborn 8484.


Kodak "Dupli-Tized" X-Ray Film
SUPER SPEED
Open Only in Photographic Dark Room
ONE DOZEN
8½ x 6½ in.
KODAK
"DUPLI-TIZED"
X-RAY FILMS
KODAK LTD., London, W.C. 2.
KODAK
Kodak "Dupli-Tized" X-Ray Film - for reliable readings

When Operation for Hernia is Inadvisable—

A Spencer Abdominal Belt, or Supporting Corset gives excellent Results.

TO be effective a support for hernia must stay in place. Each Spencer support is designed especially to meet the needs of the individual who will wear it. This assures perfect fit and adjustment at all times, since the Spencer support for hernia is non-elastic as well as individually designed.

Spencer hernia supports are comfortable. They fit, and they have no hard rubber or heavy metal parts.

They are also strong and well made, in order to provide both durability and absolute security for the patient.

Spencer supports for reducible umbilical hernia may be prescribed with or without auxiliary pads, according to the patient's need.

For cases of non-reducible umbilical hernia, a special protecting pad used with a Spencer Belt will shield a small hernia of this type from injury, and will prevent increase in the size of the hernia mass. For a very large non-reducible umbilical hernia, the Spencer Belt is made so that the mass is gently but firmly supported, to provide comfort and to guard against increase in the size of the hernia. Inguinal hernia, ventral hernia at the site of an operation scar, can be properly taken care of by a Spencer support.

SPENCER SUPPORTING CORSET

Front unclasped and held back to show the inner supporting section.

The Spencer Corsetière will call at your surgery or at your patient's home to take measurements under your supervision.

We issue the following booklets on the use of Spencer Supports: Hernia, Sacro-iliac Strain, Enteroptosis and Intestinal Stasis, Movable Kidney, Pregnancy and Postpartum Support. We will gladly send you any of them in which you are interested.

SPENCER

TRADE REJUVENO MARK

FOUNDATION GARMENTS AND SURGICAL SUPPORTS

PATENTED

Booklets Listed below gladly sent on request.

SPENCER CORSETS, LTD., 94, 96 and 98, Regent Street, Piccadilly Circus, LONDON, W.1.

SPECIAL LONDON SERVICE. Expert Fitters at your immediate Service.

Telephone: Gerrard 0876.

Manufactory: SPENCER HOUSE, Britannia Road, BANBURY, Oxon.

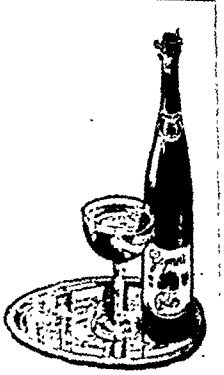
Please send me your booklet on the use of Spencer Supports for (check the subjects in which you are interested) Hernia, Sacro-iliac Strain, Enteroptosis and Intestinal Stasis, Movable Kidney, Pregnancy and Postpartum Support. We will gladly send you any or all of them.

Name..... *Address*.....

Associate Houses: Rock Island, Quebec, Canada; New Haven and New York, U.S.A.

BY APPOINTMENT To H.M. The KING

Gaymer's CYDER



GAYMER'S WAS FIRST SHOWN AT THE BRITISH MEDICAL ASSOCIATION EXHIBITION OF 1898.

FREE SAMPLES WILL BE SENT ON RECEIPT OF PROFESSIONAL CARD QUOTING B.M.J.

WM. GAYMER & SON, LTD., ATTLEBOROUGH, NORFOLK.

Proverbs Up-to-date No. 3

WHAT CAN'T BE CURED MUST BE ENDURED

Surely such passive suffering is no longer necessary, as *prevention* is the key-note of all medical thought in regard to *incurable* diseases. Diseases of the teeth cannot be cured, but the means for their prevention are known to, and practised by, professional men.

Cure is the voice of the past—*Prevention* the divine whisper of the present.

And it is in this vital matter of prevention that Gibbs Dentifrice is allied to the work of the Dentist. The formula for Gibbs Dentifrice is one that is heartily endorsed by leading Medical Authority; because it provides just those qualities demanded.

Gibbs Dentifrice has a saponaceous base and mild alkaline reaction. It produces a fragrant antiseptic foam that penetrates to every interstice and crevice of the teeth and mouth — removing all decay-causing deposits. The polishing agent is of just the correct texture to clean and polish without risk of abrasion. Moreover, Gibbs Dentifrice is very pleasant and economical in use. By giving powerful publicity to Gibbs Dentifrice in the National Press, Gibbs help the Doctor and Dentist to extend the scope of preventive dentistry.

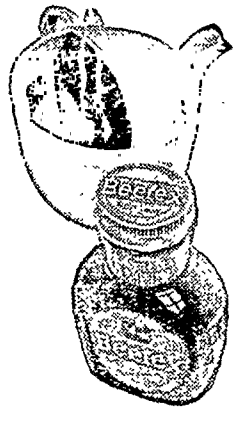
GIBBS DENTURE TABLET

Gibbs new Denture Tablet is for cleaning Dental Plates (both gold and vulcanite), Bridgework and artificial teeth. It gives a high polish, removes stains, makes plate or teeth sterile and antiseptic without in any way injuring the softest gold or the finest vulcanite or platinum. The formula has been submitted to and approved by important members of the Medical Profession.

Gibbs Dentifrice
BRITISH MADE

Literature, propaganda material, kinematograph films, leaflets, etc., as well as samples, are always freely at your disposal. Address: Dental Dept. 3 W X, D. & W. Gibbs Ltd., London, E.1.

GDD67



Beefex

The SUPERIOR STIMULANT

We shall be pleased to send a sample bottle of this superior and valuable Beef concentrate to any Medical Man.

HIGH Medical Authority, after an independent test, reports that Beefex is a genuine Beef Extract of high quality and purity and is superior to others. It is invaluable in cases of weakness, exhaustion, or malnutrition, and appeals to invalids of all ages by reason of its delicate flavour.

BEEFEX LIMITED, BEEFEX HOUSE, LONDON, E.C.1.

TO COUNTER ACIDOSIS

As SALVITAE contains 89% of Potassii et Sodii Citro-Tartras and 10% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to

COATES & COOPER,
41, Great Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.

Two sizes, 4/6 and 7/-

Salvitae

A formula that demonstrates its scientific value.

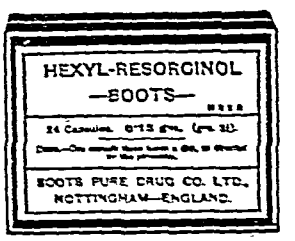
Manufactured by
American Apothecaries Co.,
New York.

BOOTS PRODUCTS
OBTAINABLE FROM ALL BRANCHES OF
The Boots Company

Hexyl-Resorcinol (BOOTS)

Tested by the usual Rideal-Walker method, HEXYL-RESORCINOL (BOOTS) is shown to possess extraordinary bactericidal potency numerically very many times greater than that of the ordinary organic disinfectants in general use. At the same time, the prescribed dose has no toxic action towards man or animals.

HEXYL-RESORCINOL (BOOTS) is supplied in Enteric-coated Tablets—in bottles of 25 and 100 tablets. Special Gelatin Capsules—in boxes of 24 and 100 capsules—are also available.



WHOLESALE AND EXPORT DEPARTMENT.
BOOTS PURE DRUG Co. Ltd.,
NOTTINGHAM, ENGLAND.
Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.
KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.
Telephone: GLADSTONE 2071 (2 lines). *Telegrams:* KAYLENOL, CRICKLE, LONDON.

Why the profession approves Mistol

FOR a number of years leading rhino-laryngologists have been recommending an oily spray solution containing menthol, camphor, eucalyptol and chlorbutol, for common cold, chronic rhinitis, hay fever, minor sore throats and lesser inflammations of the upper respiratory passages.

The makers of Nujol developed this suggestion so as to produce, after much scientific investigation, a product containing these ingredients in the form best suited for intranasal medication. Mistol was the result.

Administered with the dropper contained in each package, Mistol immediately spreads evenly over the nasal mucosa so as to form a thin protective film. It has the further property of clinging tenaciously, so as not to be dislodged by secretions. Further advantages of Mistol are that it may be taken as a gargle or nebulized into a fine vapour for inhalation.

Because its use is based on sound medical practice, Mistol enjoys the highest measure of professional approval and confidence.

Mistol
REG. TRADE MARK
MADE BY THE MAKERS OF NUJOL
Nujol Laboratories:
128 Albert Street, Camden Town, N.W.1

Mellin's Food
A MILK MODIFIER

MELLIN'S FOOD is specially prepared for modifying and adjusting cow's milk to meet the nutritive needs of infants deprived of human milk.

No matter whether certified, pasteurised, dried, or condensed milk is employed, its digestibility and its value as nourishment for the baby is enhanced by the addition of Mellin's Food. In other words, milk in any form is better borne, more completely utilised, and its nutritive constituents more appropriately balanced if properly modified with Mellin's Food.

There is no milk modifier exactly like Mellin's Food, and its continued recommendation by a large number of members of the Medical Profession is ample evidence of its outstanding advantages.

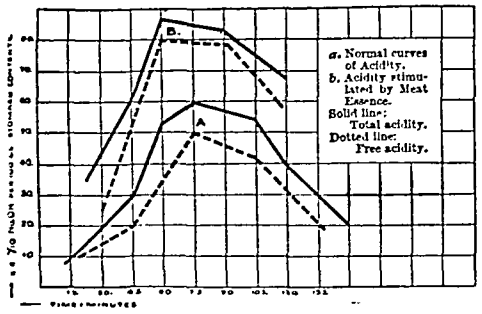
Further particulars and samples will be supplied on request.

MELLIN'S FOOD LTD., LONDON, S.E.15

"MODIFIED MILK IN INFANT FEEDING."

The above-named booklet of 64 pages will be gladly sent to members of the Medical Profession.

Conserves the patient's energy— no strain on the digestive system when these essences are taken



Graph showing acidity found when meat essences are taken

BRAND'S

ESSENCES OF BEEF

OR CHICKEN

When the appetite needs stimulus, and the body needs to be invigorated without demands on the digestive system, Brand's Essences of Beef or Chicken have been found to be indispensable. Recent scientific tests have shown that these essences are assimilated by the digestive organs *forty minutes quicker* than ordinary foods and without the formation of any residue.

In convalescence and in all cases of intestinal disturbances, whether the lesion is catarrh or cancer; in states of exhaustion when the patient's recovery is hampered by anorexia; in specific fevers and in all disorders associated with pyrexia; in the *post-influenzal* state and before and after operations, these Essences supply energy and prepare the system to accept and digest a more solid diet.

Hygienically prepared by an *exclusive* process from the finest freshly-killed English meats, Brand's Essences of Beef or Chicken are suave and non-irritant in action. For these reasons 99 doctors out of every 100 recently interviewed, recommend them. Samples will be gladly sent on receipt of a professional card. Brand & Co. Ltd., Dept. F.26, Mayfair Works, South Lambeth Road, London, S.W.8.

5% of pure iron (Fe) in readily assimilable form

. . . does not constipate, disturb digestion or discolour teeth

Colloidal Iron Concentrate	83%
Pure Alcohol	6%
Sugar	10%
Flavouring	1%

That is the formula of this tonic preparation, which contains a larger percentage of assimilable iron than has hitherto been provided in either a general or colloidal form. A more rapid response may therefore be anticipated from the administration of this preparation, which is very pleasant to take and well tolerated by all patients.
Idozan has no constipating effect, it does not derange the stomach or discolour the teeth. Though incompatible with alkaline salts, it may be combined with Liq. Arsenicalis and vegetable tinctures. It is therefore very suitable for therapeutic administration, where it is desired to give large doses of iron; both as a restorative after illness and in cases of anæmia it can be prescribed either with or without additional drugs with confidence and freedom.

IDOZAN

IDOZAN HAS BEEN REGULARLY PRESCRIBED BY DOCTORS IN FIFTEEN DIFFERENT COUNTRIES

Samples and literature sent post free on request to Sole Distributing Agents:
MESSRS. COATES & COOPER
41, Great Tower St., London, E.C.3.

Extract of
Suprarenal Cortex
in the treatment of
Addison's Disease

as described by Swingle Pfiffner

Ref.: "Science," March 21st, 1930.

We are in a position to supply this extract in limited quantities

Particulars may be obtained from:

ALLEN & HANBURYS Ltd.
7, VERE STREET, LONDON, W.1

Telephone: Mayfair 2216 (3 lines) Telegrams: "Vereburys Wesdo London."

What shall I prescribe?

WHEN CONFRONTED WITH A DIFFICULT CASE OF OSTEO OR RHEUMATOID-ARTHRITIS IT IS INDEED COMFORTING TO KNOW THAT QUICK AND LASTING RELIEF CAN BE OBTAINED FROM THE ADMINISTRATION OF ELIX. FORMASAL AND TAB. ARTHRITONE.

THE POPULARITY OF THESE PREPARATIONS IN RHEUMATIC CONDITIONS IS DUE SOLELY TO THE GOOD RESULTS OBTAINED.

PRACTITIONERS HAVE TAKEN THE TROUBLE TO WRITE AND TELL US OF THE WONDERFUL EFFECTS THAT THESE PREPARATIONS HAVE IN CASES WHERE ALL OTHER FORMS OF MEDICATION HAVE BEEN OF NO AVAIL.

ELIXIR FORMASAL
1 PINT **6/3**
SMALLER AND LARGER SIZES ISSUED

TAB. ARTHRITONE
250, **8/2**
SMALLER AND LARGER SIZES ISSUED

HOUGH, HOSEASON & CO. LTD.
PHARMACEUTICAL SPECIALISTS TO THE MEDICAL PROFESSION - MANCHESTER.

MEASLES
AND
WHOOPING COUGH

The danger of these disorders is often in their far-reaching secondary effects.

The convalescent stage calls for special reparative nutrition. Virol has a marked effect upon the conservation of the tissues, repairing the waste and restoring the equilibrium of a healthy metabolism.

VIROL

More than 3,000 Hospitals, Sanatoria, and Infant Clinics use Virol regularly.

IN JARS, 1/3, 2/- & 3/9 ; ½-gall., 15/-. VIROL LTD., EALING, LONDON, W.5.

Trade Mark "GARDENAL" BRAND

PHENOBARBITAL

For the Routine Treatment of

EPILEPSY

"Gardenal" is a completely reliable, non-narcotic hypnotic of unvarying therapeutic efficiency. It is a highly efficient sedative in epilepsy, and is widely employed in other nervous disorders such as chorea, migraine, eclampsia, neurasthenia, pertussis, etc.

Write for a copy of descriptive leaflet and clinical trial sample

Supplied in powder and tablet form

Prepared in the Laboratories of

MAY & BAKER LTD. BATTERSEA, LONDON, S.W. 11

Telegrams : Bismuth, London. Telephone : Battersea 1813 (6 lines)

The Treatment of Whooping-Cough

The laevorotatory alkaloid of the plant Ephedra Vulgaris.....a useful coadjuvant treatment of whooping-cough, especially when it is complicated with asthmatic bronchitis or bronchiectasia or asthma.
—(J.A.M.A., 22.11.30, p. 1626.)

Ephedrine B.D.H. is the natural laevorotatory alkaloid —it is prepared in the B.D.H. laboratories from the Chinese plant Ma Huang (Ephedra Vulgaris).

In the form of an elixir it is particularly palatable to children suffering from whooping-cough.

Ephedrine B.D.H. is issued also in Tablets, as an Inhalant, a Throat Spray and a Nasal Jelly.

To ensure that you are prescribing the natural laevorotatory alkaloid of Ephedrine always specify B.D.H.

EPHEDRINE B.D.H.

Literature and samples on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Eph/16

POWERFUL..... CERTAIN....SAFE
MARSHALL'S LYSOL

MARSHALL'S Lysol is powerful and certain in its germicidal and antiseptic properties. It is harmless to tissue when used in the correct dilution. MARSHALL'S is a little dearer than other brands, but many of these are caustic and unreliable. Be on the safe side . . . . use MARSHALL'S in every case you attend. MARSHALL'S Lysol is made to the original Lysol formula and specification. Every bottle is tested for purity and strength.

Only the finest grade chemicals are used.

Sample will be sent upon request to members of the Medical and Nursing professions.

Lysol Ltd. (Dept. K), Raynes Park, London, S.W.20

IMPORTANCE of STARCHY FOODS in INFANT DIET

Tests by a great biochemical institute prove this wheat cereal invaluable as first solid food

LEADING practitioners to-day are agreed that it is vitally important to introduce a *starchy* food into the diet of infants at a very early stage.

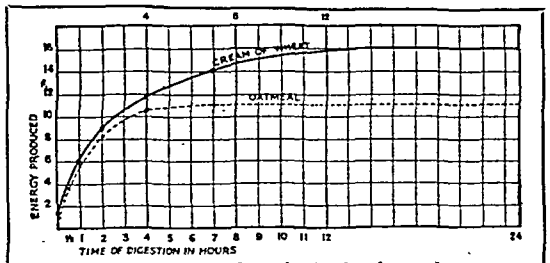
In a recent article on Starch Feeding (*The Practitioner*, July, 1930) a leading paediatrist stated:

> The addition of starch to an infant diet allows carbohydrate digestion to take place more slowly and there is less tendency for fermentative diarrhoea to occur.
>
> Instead of the blood stream being suddenly flooded with carbohydrate, and its absorption being extremely rapid, such starch must first undergo hydrolysis, and is then absorbed over a period lasting almost until the next feed.
>
> Starch is a useful addition to sugar to metabolize the fat in an infant's diet, and the presence of a colloidal solution of starch (cooked) retards curd formation, and therefore adds to the digestibility of milk.

This authority has placed "Cream of Wheat" on his diet sheets, as a first solid food for infants.

Greater digestibility—50% *higher sugar-yield.*

Long successful as an infant diet, this wheat cereal has recently been tested exhaustively by one of the leading



It will be seen that after 4 hours the digestion of oatmeal was practically at a standstill while that of "Cream of Wheat" continued at a scarcely diminished rate for a further 4 hours. When digestion was complete, the sugar from "Cream of Wheat" was nearly half as much again as that from oatmeal — making it productive of 1½ times as much energy.

biochemical institutes of Great Britain. Comparison of "Cream of Wheat" with oatmeal proved not only that the former is more digestible, but that in its absorption—a process continuing twice as long as that of oatmeal—it yields 1½ times as much sugar and thus of energy.

"Cream of Wheat" is an extremely palatable product made from the kernel of the finest hard wheat. It contains 72% starch, and is free from any harsh parts which might irritate the intestinal tract. It is therefore invaluable, not only as an infant's food, but for patients during the post-operative period and convalescence. If you would care to examine the product we shall be delighted to supply you gratis with a sample and a detailed account of the tests. Please enclose your professional card to Dept. W.1, Fassett & Johnson Ltd., 86, Clerkenwell Road, London, E.C.1.

EVANS' THROAT Pastilles

MADE BY

EVANS SONS LESCHER & WEBB Ltd.

56, Hanover Street, LIVERPOOL and LONDON

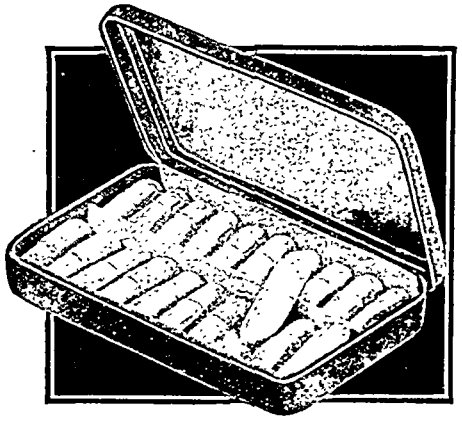
THROAT THERAPY.

Evans' Pastilles are prepared to a formula of the Liverpool Throat Hospital. Their action is soothing and demulcent, the formula being carefully balanced with both these objects in view. Evans' Pastilles relieve harshness and irritation and maintain their effect for some time after the pastille has dissolved.

Sold in 1/- tins or in bulk for dispensing.

A physician's sample will be gladly sent on request.

A *New* chemo-therapeutical preparation *for the treatment of influenza, septic diseases and toxemias*



Used in America for treating Influenza for the past two or three years with great success. The physician's sample illustrated here will be sent to you free on request.

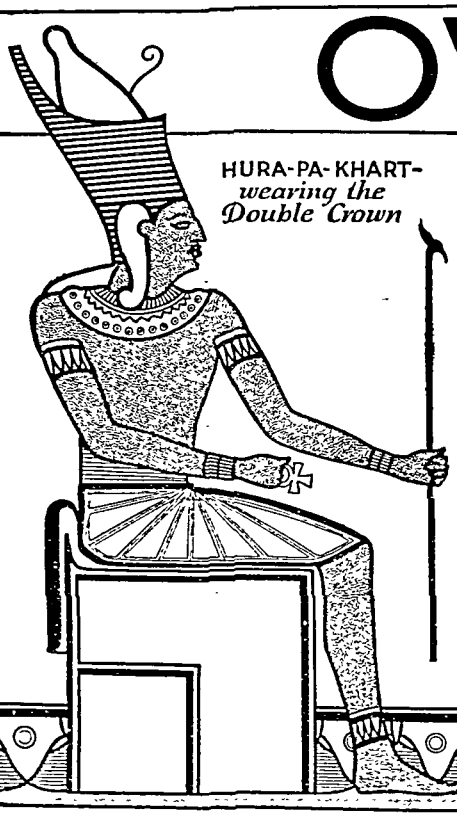
Indications.
Influenza Colds, Pyelitis, Puerperal Sepsis, Surgical Sepsis, Bronchial Asthma, Obstetric Morbidity, Cystitis, etc.

DISULPHAMIN is a mixture of Sulpho-salicyl formol sodium nucleinate and Dimethylamino-antipyrin combined with camphor. The antitoxic action is based on the assumption that Disulphamin transforms the toxic colloid to a crystalloid, thereby facilitating its dialysis through the walls of the blood vessels, and accelerating its elimination by the kidneys.
While phenol is bactericidal in a 1/100 dilution, Disulphamin is bactericidal in a dilution of 1/10,000 to 1/50,000.
In a series of tests made in the treatment of Influenza with Disulphamin, it was found that the course of the disease was materially shortened, and very seldom did Broncho-pneumonia or other complications supervene. Although the etiology of influenza has not yet been clearly determined, it appears that Disulphamin exerts a polyvalent action.
The clinical results thus far obtained are so encouraging that physicians have ample justification for employing Disulphamin in Febrile Toxemias arising from Sepsis.
Samples and literature, including charts of actual tests and important hospital findings, will be sent free on request to Messrs. COATES & COOPER, 41, Great Tower Street, London, E.C.3.

DISULPHAMIN

Product of
THE BIO-CHEMICAL LABORATORIES
LOCARNO, SWITZERLAND

OVALTINE



HURA-PA-KHART-
wearing the Double Crown

FOR HEALTHY NUTRITION.

In every condition in which the need of a nutritious and easily digested food is indicated the advantages of "Ovaltine" are definite and many. In no case need the physician hesitate to order its liberal use.

"Ovaltine" is a highly concentrated extraction of malt, milk, and eggs. It is almost completely absorbed by the system, and because of its complete absorption, and because it is a form of nourishment complete in every respect, "Ovaltine" tones, strengthens, reinforces, and reinvigorates the whole body.

"Ovaltine" is purin-free. Its use neither aggravates the tendency to arterio-sclerosis nor favours the accumulation of uric acid in the system. This delicious food beverage sustains life ideally by promoting the healthy activity of the bodily functions.

A liberal supply for clinical trial sent free on request.

A. WANDER, Ltd., 184, Queen's Gate, S.W.7.

Works: KING'S LANGLEY, HERTS. M 247.

A New Standardised and Stable

Liquid Preparation of Ergot

It is now established that the characteristic physiological effects of the official ergot of rye are due to the alkaloid Ergotoxine, and that the comparative inactivity of the official liquid extract of ergot is accounted for by the fact that the ergotoxine content of this preparation is negligible.

An entirely new preparation—named Ergodex—which surpasses all official preparations of ergot in its usefulness is now available to physicians.

Ergodex is stable and highly active, it represents the whole alkaloidal content of the drug, and, therefore, its whole characteristic activity. It is miscible in all proportions with water without precipitation. It is physiologically standardised to contain 0.03% of ergotoxine, and will be found to exert the full therapeutic effect of genuine ergot.

Ergodex is administered orally, the usual dose being 10 minims to 30 minims. It is issued in amber-coloured bottles containing 60 c.c. (2 fl. ounces) at 4/6 per bottle.

'ERGODEX'

Registered Trade Mark

Literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Ergl1.

MONSOL BRAND

PESSARIES

Monsol Liquid for dressings, douches, packs, and all sick-room purposes.

Monsol Capsules, keratin-coated, for intestinal disinfection.

Monsol Ointment and *Monsol Throat Pastilles.*

Monsol Dental Cream.

Monsol Medicated Soap.

Monsol Pessaries.

In response to repeated requests from the Medical Profession, Monsol is now available in the form of Pessaries containing 2½% of Monsol in a glyco-gelatine base. Powerfully germicidal, non-irritant, and possessing all the essential characteristics of Monsol Liquid, they have proved of value in the treatment of both acute and chronic cervicitis and vaginal infections, particularly when of gonorrhoeal origin, and are specially indicated for a chronic infection in pregnancy when douching is undesirable.

Manufacturers:

THE MOND STAFFORDSHIRE REFINING CO., LTD., ABBEY HOUSE, LONDON, S.W.1

Dimol

"T" (TONIC) PULVERETTES

prepared to the following formula:—

Dimethylomethoxyphenol gr. 1
Acid Arsen. gr. $\frac{1}{100}$
Ext. Nuc. Vom. gr. $\frac{1}{10}$

The value of a nerve and general tonic combined with a non-toxic intestinal bactericide of high potency is so apparent that we feel certain it will be of the greatest service in all cases of toxic degeneration with an intestinal focus, and associated with anaemia and diminished vitality of the neurones and endocrine glands.

Medical men are invited to try them personally if run down or over-worked.

"I think Dimol 'T' is the most useful and best preparation of its kind on the market."

London, W.1.
14th Nov., 1930. ....., M.D.

DIMOL LABORATORIES LTD., 40, LUDGATE HILL, E.C.4.

Distributing Agents:
SANGERS LTD., 258, Euston Road, LONDON, N.W.1

REGETHERM WOOL

THE use of an impregnated wool as an effective dressing in cases of Rheumatism, Gout, Lumbago, Sciatica, Bronchitis, Colds on the Chest, Sore Throat, etc., is well known to the medical profession. Regetherm Wool is ideal where this kind of treatment is necessary.

Per 1/- Carton

Obtainable from all branches of

The Boots Chemists

Full-size trial package free to Medical Practitioners in the British Isles on application to Boots the Chemists, Station Street, Nottingham

900 BRANCHES THROUGHOUT GREAT BRITAIN

BOOTS PURE DRUG CO. LTD., NOTTINGHAM.

Medisoap

MIDGLEY'S MEDICATED SOAP

The word MEDISOAP is a registered trade-mark indicating the pure soap base made and scientifically medicated by CHARLES MIDGLEY, LTD., according to published formulae. This method of skin medication has been brought into favour by the ease with which applications can be made and the certainty of absorption through regularity of use by the patient.

A PRESCRIBER'S INDEX

relative to the comprehensive range of Medisoaps is available to members of the medical profession on application to EVANS' BIOLOGICAL INSTITUTE, RUNCORN.

Medisoap Depots all over the country.

Sole Makers:

SEBORRHOEA

In the treatment of scalp conditions Medisoap Therapy merits special consideration, as the presence of hair complicates most other schemes of treatment. The following containing Resorcin are very effective:—

MEDISOAP No. 40, containing Resorcin 1½% and Acid Salicylic 1½%.

MEDISOAP No. 41, containing Resorcin 1½%, Acid Salicylic 1½%, and Sulphur 10%.

MEDISOAP No. 57, containing Resorcin 2½%.

MEDISOAP No. 71, containing Resorcin 1½% and Sulphur 1½%.

For further particulars see *"Prescriber's Index."*

CHARLES MIDGLEY, LTD. Medicated Soap Specialists MANCHESTER

Associated with EVANS SONS LESCHER & WEBB, LTD., Liverpool, London, and Dublin.

Vitamin Deficiency?

Put them on

BEMAX

THE NATURAL VITAMIN TONIC FOOD

THE BOAT RACE
March 21, 1931
AN INVITATION

The Bemax Factory at Hammersmith affords an excellent view of the Boat Race. Requests from Medical men and their friends for the 20 seats available will be dealt with in rotation.

Bemax was prepared to provide food rich in natural vitamins, which, added to the normal diet, would restore a balanced metabolism, and so create a condition in which remedial measures by the physician would be assured of the fullest success in all ailments due to deficiency of Vitamins A, B and E.

Laboratory reports on Bemax and clinical sample for personal trial will be sent to any medical man on receipt of his professional card.

THE BEMAX LABORATORIES, 23, UPPER MALL, LONDON, W.6.

WYLEYS LIMITED WHOLESALE DRUGGISTS **COVENTRY** *Established 1750.*

ELIXIR IODO-CREOSOTI CO.

Two fluid drachms contain Beechwood Creosote 2m., Potassium Iodide 4 gr., Caffeine Sodio-Salicylate 1 gr., with Tinctures of Aspidosperma, Bryony and Cereus.
Palatable and pleasantly flavoured.

Most useful and efficient for the relief of Lobar Pneumonia, Pulmonary Tuberculosis, Broncho-pulmonary Influenza, and Influenzal Laryngitis, particularly for controlling temperature and pleuritic effusion.

Price: 3/- per 8-oz. bottle; 16-oz. 5/6.

FULL LISTS ON APPLICATION.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

TUMOUR OF BRAIN.

Typical Case.

L. B., male.

Diagnosis: Brain tumour in the left arm and leg centre.

Operation: Decompression. Ligation of varicosities.

Anaesthesia: 100 c.c. of a 1 per cent. Novocain-Adrenaline solution.

Operation: Ten minutes after making the infiltration a horseshoe-shaped flap was turned down on the right side over the vault of the cranium. The skull was opened by means of the Martell drill and a bone flap was turned down by the use of a motor saw and dura guard. This procedure was entirely painless to the patient, and he did not even complain of the grating of the saw. The patient made a prompt recovery.—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:
THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.
Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

ONE DOCTOR AFTER ANOTHER PRAISES SPHAGNOL

"In a case of Psoriasis of the Scalp from which the patient had been suffering for 15 years, the use of Sphagnol Soap and Ointment for about two months has cured it."

"I have used your Sphagnol Soap and Ointment in a case of Seborrhoea and Acne with splendid results."

"Sphagnol has been used on one of the most distressing cases of Haemorrhoids and has acted like magic."

"I am constantly recommending Sphagnol Ointment just now for Insect Bites. It gives instant relief and brings out the inflammation in a remarkably quick way."

SEND FOR FREE SAMPLE

PEAT PRODUCTS (SPHAGNOL) LIMITED (DEPT. B 46), 21, BUSH LANE, LONDON, E.C.4

"VARIBAN" *Elastic Plaster* BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove. Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc. Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SUPPLIED IN WIDTHS

2"	2½"	3"
1/7	1/9	2/-

— EACH —

When stretched measure six yards (approximately)

SAMPLE 3in. "VARIBAN" Elastic Plaster Bandage SENT POST FREE on receipt of P.O. for 2/3

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

"CELLANBAND"

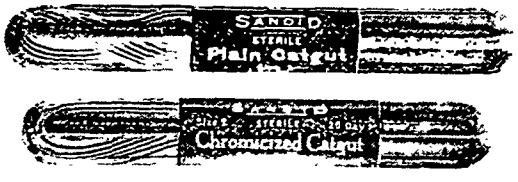
SAMPLE BANDAGE 1/- Post Free

DESCRIPTIVE LITERATURE AVAILABLE ON REQUEST

"SANOID" TUBES OF STERILE LIGATURES

Exceptional Flexibility

Tensile strength and smooth surface are prominent features of these Ligatures. They are prepared in accordance with the Therapeutic Substances (Catgut) Regulations, 1930.



PRICE 9/-
PER DOZ. TUBES

LICENCE No. 40.

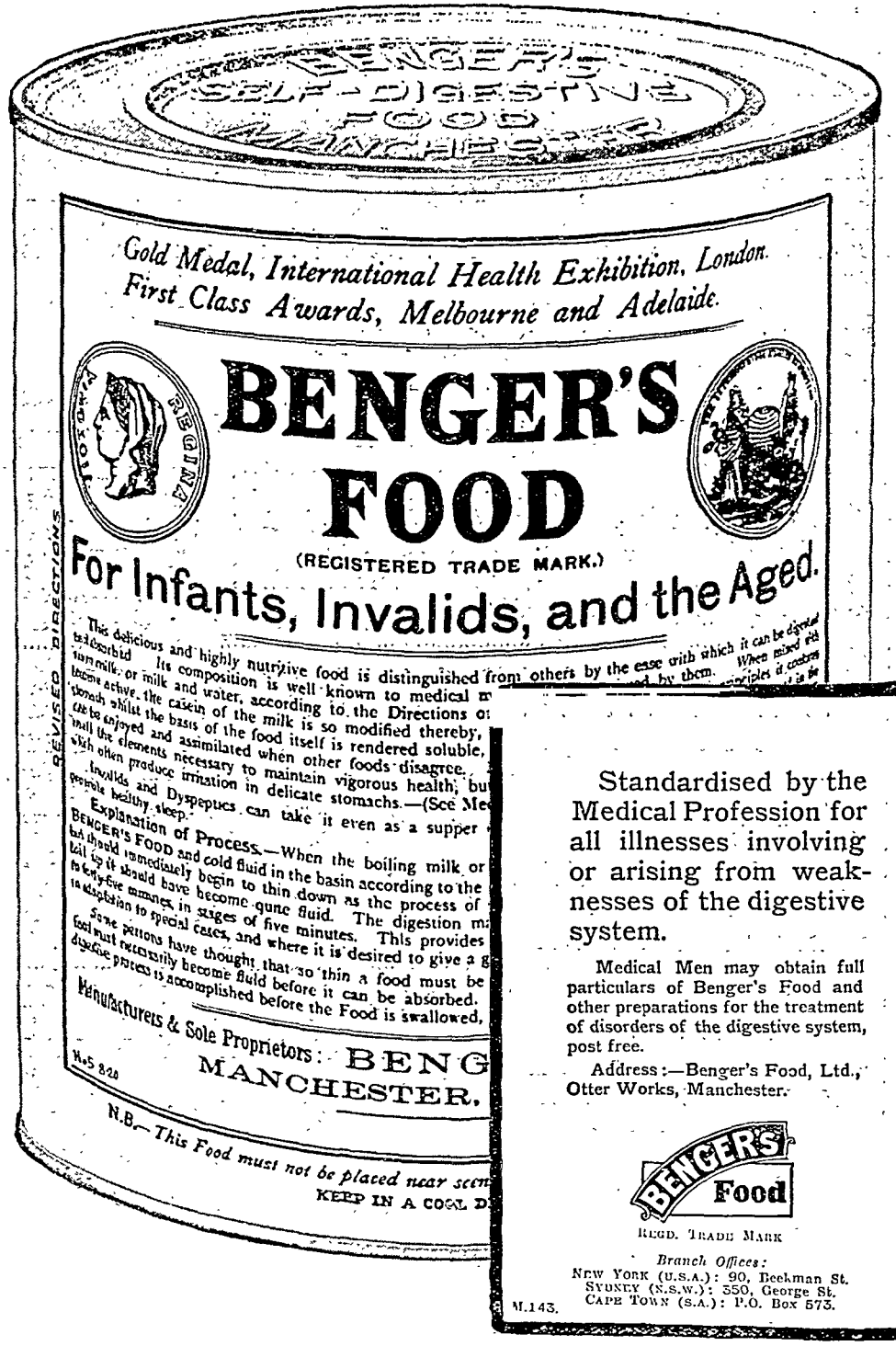
Sole Manufacturers—

CUXON, GERRARD & CO. LTD. MANUFACTURING CHEMISTS OLDBURY, BIRMINGHAM.

Distributors to the Medical Profession—

The MEDICAL SUPPLY ASSOCIATION LTD.,

167-185, Gray's Inn Rd., LONDON, W.C.1 10-13, TEVIOT PLACE, EDINBURGH 6-12, Holly St., SHEFFIELD.



Standardised by the Medical Profession for all illnesses involving or arising from weaknesses of the digestive system.

Medical Men may obtain full particulars of Benger's Food and other preparations for the treatment of disorders of the digestive system, post free.

Address:—Benger's Food, Ltd., Otter Works, Manchester.

BENGER'S Food

REGD. TRADE MARK

Branch Offices:
NEW YORK (U.S.A.): 90, Beekman St.
SYDNEY (N.S.W.): 550, George St.
CAPE TOWN (S.A.): P.O. Box 573.

M.143.

LOSS OF APPETITE

℞ 'ACIDOL'-PEPSIN

A List of

GLANOID MEDICINAL PRODUCTS OF ANIMAL ORIGIN

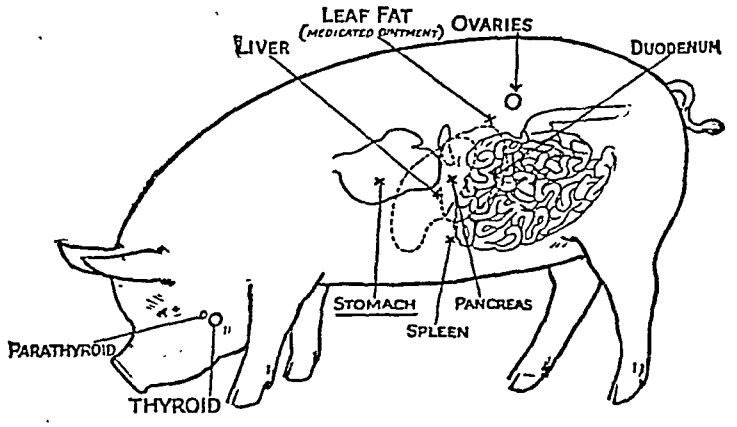
Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
*Catgut**
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
*Pituitary, W. G.**
*" Ant. Lobe**
*" Post. Lobe**
*" Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
" Co.
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

*Literature available on request.

GLANOID

BRAND

HOG STOMACH SUBSTANCE



WE PREPARE DESICCATED HOG STOMACH SUBSTANCE

in POWDER and TABLETS

For use in the Treatment of Pernicious Anaemia

Hog Stomach Substance has been found of benefit in the treatment of Pernicious Anaemia as an alternative to Liver Therapy, but we do not suggest "Hog Stomach Substance" will achieve the same outstanding results given by "Glanoid Concentrated Fluid Extract of LIVER."

LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

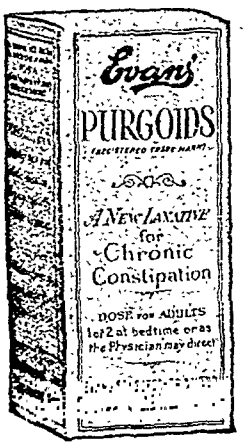
ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

(Æsculapius)

PURGOIDS

Purgoids are a most effective combination of Phenolphthalein, Aloin, Ipecac, Belladonna, etc., in sugar-coated tablet form. Of great value in cases of constipation, acting without depressing action. Peristalsis is promoted without griping and intestinal secretion is increased.



In long-standing cases of chronic constipation it has been noted that patients have fully recovered, not finding any further laxative necessary. They have been found to be of special value to nursing mothers, as they do not affect the baby.

Issued in bottles of
25, 100, 500, and 1,000.

A Physician's sample will be sent with pleasure, on request.

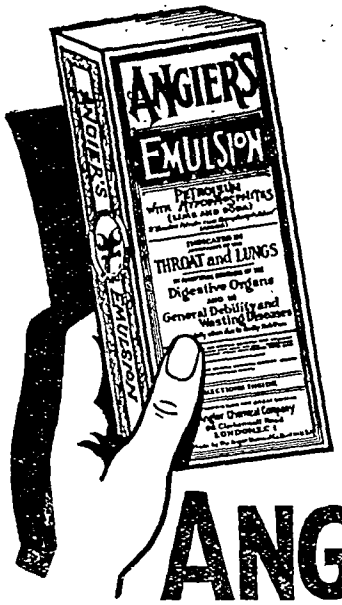
EVANS SONS LESCHER & WEBB Ltd

LIVERPOOL 56 Hanover St. DUBLIN LONDON 50 Bartholomew Close

THE ORIGINAL AND STANDARD EMULSION OF PETROLEUM

In Gastro-Intestinal Disorders

of a catarrhal, ulcerative, or tubercular nature, Angier's Emulsion is particularly useful. The minutely divided globules of petroleum reach the intestines unchanged, and mingle freely with intestinal contents. Fermentation is inhibited, irritation and inflammation of the intestinal mucosa rapidly reduced, and elimination of toxic material greatly facilitated. An improved state of the digestive functions and modification of the various symptoms traceable to auto-intoxication are notable results.



During Convalescence

After fever, dysentery, operations, or after any serious illness, Angier's Emulsion will improve and strengthen the organs of digestion and assimilation and enable patients to derive the fullest benefit from any prescribed diet. The creation of appetite and the return of normal digestion is quickly brought about by its regular use.

Frail, Nervous Patients.

respond actively to Angier's Emulsion. It is a tonic in effect and an aid to digestion. Being a perfect Emulsion, it is presented in a form pleasing to the taste and acceptable to the most fastidious. Its good effects are accomplished in a safe and natural manner without entailing any extra work upon the weak or overburdened system.

ANGIER'S Emulsion

Free Samples to the Medical Profession

THE ANGIER CHEMICAL COMPANY, LTD., 86 CLERKENWELL RD., LONDON, E.C.1

ASPIRIN DERIVATIVES

IN

RHEUMATISM, NEURALGIA, AND INFLUENZA

"ASPRIODINE"

A compound of Aspirin and Iodine

FOR RHEUMATIC AFFECTIONS AND ARTERIO-SCLEROSIS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"SEDASPRIN"

A compound of Aspirin and Bromine

FOR INSOMNIA AND NERVE AFFECTIONS.

Bots. of 25 5-grain Tablets 2/6; 100 7/6.

"METHYL-ASPRIODINE"

THE NEW ANTI-RHEUMATIC FOR INUNCTION. BALM or LINIMENT 3/-

"PHENYL-ASPRIODINE"

AN INTESTINAL AND URINARY ANTI-SEPTIC. EMBODIES THE ACTIVITIES OF IODINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"PHENYL-SEDASPRIN"

A NEW COMPOUND OF THE SALOL TYPE EMBODYING THE EFFECTS OF BROMINE, ASPIRIN, AND PHENOL.

Bots. of 25 5-grain Tablets 2/6.

"MAGISAL," "TYLCALSIN," and "TYLLITHIN"

ARE VALUABLE SOLUBLE SALTS OF ASPIRIN, WHICH ARE PROMPT IN ACTION AS ANTI-NEURALGICS AND ANTI-RHEUMATICS.

Original Bots. of Tablets 2/- and 7/6.

Write also for particulars of Peptone, Mercurome, and other Martindale preparations

W. MARTINDALE

12 NEW CAVENDISH ST., LONDON, W.1

Telephone: Langham 2440. *Telegrams: "Martindale, Chemist, London."*

PHYSIOLOGICAL TREATMENT OF CONSTIPATION

COMPOSED OF

EXTRACT OF THE INTESTINAL GLANDS

which strengthens the glandular secretions of the organs.

BILIARY EXTRACT

which regulates the secretion of the bile.

AGAR-AGAR

which rehydrates the contents of the intestines.

LACTIC FERMENTS

which reduce bacterial action in the intestines.

IN TABLET FORM.

ITS USE DOES NOT LEAD TO HABIT

LABORATOIRES LOBICA,
Avenue des Ternes, PARIS (17e)

Distributors in British Isles:
LABORATORIES Ltd., 30, Marsham St., London, S.W.1

Taxolabs, Sowest.

Victoria 2041.

SPECIAL NOTICE

Owing to a greatly increased demand for

London Hospital

CATGUT & NEEDLES

some surgeons and hospitals may have experienced difficulty in obtaining supplies from the leading surgical and instrument houses

This is to announce that we have taken steps to increase our output and are now in a position to meet the greatest demand without delay——

Insist on London Hospital CERTIFIED Catgut and Eyeless Needles

THE LONDON HOSPITAL
(Ligature Dept.)
LONDON, E.1

Alternative Methods in the

TREATMENT OF BOILS CARBUNCLES & FURUNCULOSIS

Antivirus

The latest method, which has proved so useful with patients who object to injections, consists of local treatment with Staphylococcus Antivirus. Reports from hospitals and Skin Specialists state that this Antivirus is as efficient or more efficient than subcutaneous inoculations with Vaccine.

Detoxicated Vaccine

Practitioners who prefer the more orthodox forms of treatment are recommended to use Detoxicated Staphylococcal Vaccine; its special feature is the production of great immunity with little or no reaction. This is achieved by removing all the toxic elements of the germ during the preparation of the Vaccine. Doses up to 50,000 millions are given without malaise.

Ordinary Vaccine

To meet the requirements of those who consider that a slight reaction has definite therapeutic value Ordinary Staphylococcal Vaccine is available. It has proved generally successful and is very inexpensive.

¶ *All the Products described above are prepared in the Pickett-Thomson Research Laboratory, St. Paul's Hospital, London, and Practitioners desiring further information regarding them are invited to write to:*

GENATOSAN LTD., VACCINE DEPT., LOUGHBOROUGH.

Telephone: LOUGHBOROUGH 292

Telegrams: "GENATOSAN, LOUGHBOROUGH."

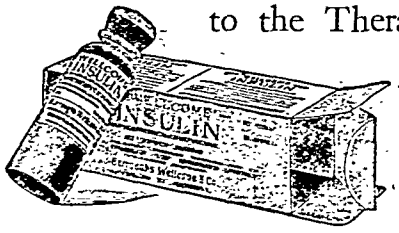
PIONEERS AND EMPIRE BUILDERS: No. 587
NINTH PERIOD

Pure, accurate and reliable

TRADE MARK 'WELLCOME' BRAND
INSULIN

The Insulin Hydrochloride used conforms to an exceptional standard of purity approaching that of the purest Insulin ever obtained even by research workers. Every batch is biologically tested at The Wellcome Physiological Research Laboratories. No batch is issued without the certificate of approval of the British Medical Research Council. Conforms to the Therapeutic Substances Act, 1925.

Reduced facsimile



Rubber-capped amber-glass phials of 100 *units in* 5 *c.c., at* 2/- *each;* 200 *units in* 5 *c.c., at* 4/- *each;* 200 *units in* 10 *c.c., at* 4/- *each; and* 400 *units in* 5 *c.c., at* 8/- *each*

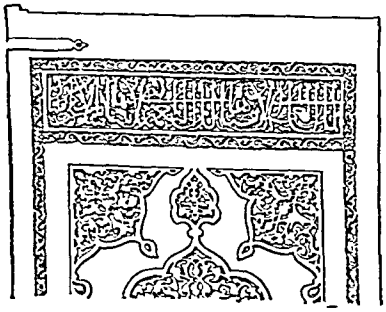
TRADE MARK 'TABLOID' BRAND
INSULIN
HYDROCHLORIDE
(Hypodermic)
Sterile 10 *Units*

The only British Insulin issued as a compressed product

No. 150—2/- *per carton of ONE tube containing* 10 *products*
No. 152—2/8 *per carton of* 10 *tubes, each containing ONE product*

Prices quoted are those in London to the Medical Profession

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1
Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES



SCULPTURED DOOR INFLUENCED BY COPTIC ART AND INSPIRED BY ARAB LOVE OF THE FANTASTIC.—This masterpiece of chiselled wood is an unmistakable example of Islamic art. The beautiful written characters of the Arabic language are combined with fine effect in the decoration. At the centre is an eight-petalled flower, around which eight stems are interwoven to form a polygon with eight points; these being produced give rise to eight flowing arabesques, and the whole design is enclosed within a motif, which also carries the ornamentation to the limits of the panel. The corners are decorated with similar arabesques contained within triangular outlines having projections which reach forward towards the central medallion. An inscription which forms an integral part of the design has a unifying stem running through it.

DATE: A.D. c. 1300–1500 COPYRIGHT

NIGHT OR MORNING?

WHEN TO TAKE LAXATIVES

There can, of course, be no universal rule as to the taking of laxatives. Circumstances vary, and only the physician is in a position to judge their relevance. But experience seems to show that a good deal of harm is often done by the common habit, continued over long periods, of taking aperients at bed-time. At night, the colon is normally much less active than in the day; and it seems unwise, unless special reasons exist, to stir it to unwonted activity during the hours which should be allotted to sleep. It is probable that much insomnia and many rest-disturbing dreams have their origin in the taking of a nightly purgative.

When there is an habitual tendency even to slight constipation, not fully remedied by diet and exercise, it is suggested that the most satisfactory result can generally be obtained by the taking, first thing in the morning, on an empty stomach, of a simple refreshing saline draught, such as Eno's "Fruit Salt" provides. Eno is a saline effervescent of fine granular consistency, containing no trace of irritating mineral salts, such as Epsom and Glauber. Owing to its purity and texture, it is agreeable to the palate; its pleasantness owing nothing to added sugar or flavouring matter, from both of which it is entirely free.

"Urgent Abdominal Diagnostics."

The Proprietors of ENO'S "Fruit Salt" will deem it a privilege to send to any member of the Medical Profession a copy of the latest of their series of "Medical Reminders"—with or without a bottle of their preparation as desired. "Urgent Abdominal Diagnostics" summarises the salient facts which need to be ever at the front of the mind when faced with an abdominal emergency. The diseased conditions dealt with include those which most often call for immediate surgical attention. It is bound in black morocco limp to conform to the style of the previous publications in this series.

J. C. Eno, Ltd., 160, Piccadilly, London, W.1

ENO'S "FRUIT SALT"

B I 8.

Observations ON THE MEDICINAL TREATMENT OF CHRONIC ARTHRITIS

(With Key Index)

BY

N. MUTCH, M.D., F.R.C.P.

PHYSICIAN TO GUY'S HOSPITAL

There clearly is great pleasure in variety. Drugs and potions have been furnished in profusion to combat this disease. Some are frankly quack, others vague traditions such as black snake root, poison ivy, maté, celery oil, and manaca. Others, again, are simple mixtures of well-known substances glorified by a registered name—for example, colchicum and colocynth in "Bejean's specific" and "Laville's liqueur." Apart from these, however, there are more than a hundred substances and preparations of published composition whose use is sanctioned by laboratory experiment or common prescription. A pretentious nomenclature suggests great diversity in their modes of action, but chemically they fall into a conveniently limited number of groups. It is part of the purpose of this communication to provide a guide to the formidable array, and enable the reader to see at a glance what result to expect from any particular preparation. Accepting the common view that the bulk of chronic rheumatic disorders are produced by toxin or bacterial seepage from one or more septic foci, it is possible to make a rapid survey of the therapeutic field. Lowered resistance, sensitization, perverted metabolism, and deranged endocrine secretion in many cases probably prepare the soil, but their discussion here would lead too far from the main thesis of this paper. Apart from these considerations the treatment falls under the following headings.

A. Focus Treatment

The teeth, throat, sinuses, and genito-urinary passages need surgical care and an intelligent use of antiseptics. The danger to be avoided is the infliction of chemical trauma. The stomach and intestines require careful survey that a scheme of treatment can be organized to reduce putrefaction and the harbouring of saprophytes with infective powers which enable them to penetrate[22 23] the living tissues of the bowel wall. The chief methods are:

1. Elimination of food stasis.

2. Simplification of the diet and correction of faults in feeding and secretion with the object of reducing the amount of undigested putrescible material in the colon. A correct meal routine, efficient mastication, hydrochloric acid if needed, takadiastase, and the more potent preparations of pancreatin are important means to this end.

3. Limitation of bacterial action by antiseptics such as ichthyol salicylate, salol, or guaiacol carbonate. The last-mentioned is not antiseptic itself, but slowly liberates free guaiacol throughout the entire length of the bowel, and so exerts a mild antiseptic action at all levels. The effects of antiseptic treatment are not striking, and even the most modern products of research do not seem to achieve very much in this direction.

4. Toxin fixation by the use of an insoluble adsorbent kaolin[24] or charcoal capable of removing from solution toxins thrown off by bacteria and toxic proteoses produced from proteins by bacteria or perverted digestion in the gut. It is rarely possible to give sufficient charcoal to secure complete protection from these substances, but kaolin is easily taken in amounts commensurate with the mass of faecal matter to be dealt with. Most kaolin contains harmful microscopic particles of quartz and mica. For continued use it is important to employ one of the well-known proprietary brands of colloidal kaolin which have been specially freed from such deleterious matter.

B. Local Treatment

Apart from orthopaedic methods most local treatment resolves itself into attempts to improve the circulation in the affected parts. Radiant heat, steam, hot wax and mud, and diathermy are invaluable when correctly applied. Medicinally there is a galaxy of counter-irritants, some elegant, some brutal—alcoolat de Fioraventi, oil of amber, saffrol, Chillie paste, a host of others, and the common embrocations of the *Pharmacopoeia*. The group which stands out most clearly is that of oil of wintergreen, and here the registered trade nomenclature calls for a little analysis. The advantages of wintergreen are that, in addition to its causing vasodilatation of the skin and underlying parts, it has a mild local anaesthetic action on the skin, and is absorbed, producing a general salicylate effect in mild degree.

Methyl Salicylate Group

(Syn. Oil of Wintergreen, Gaultheria Oil, Betul Oil)

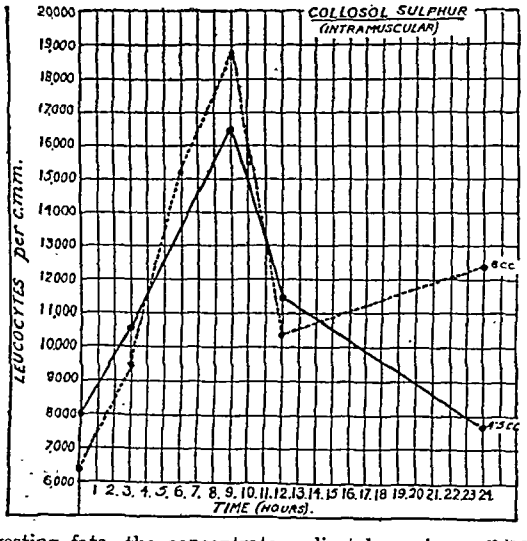
Applied externally

$C_6H_4.OH.COOCH_3$

Amysal	=	Amyl salicylate
Bengue's balsam	=	Methyl salicylate and menthol
Betul-ol	=	Methyl salicylate, menthol, and chloral
Ethyl salicylate		
Glycosal	=	Glyceryl monosalicylate
Mesotan	=	Methoxymethylsalicylate
Methyl aspriodine	=	Methyl acetyl iodosalicylate
Rhesal	=	Glyceryl monosalicylate
Salen	=	Ethyl and methyl glycolylsalicylate
Saliceral	=	Glyceryl monosalicylate
Salit	=	Borneol salicylate
Spirosal	=	Ethyleneglycol monosalicylate

C. General Resistance

1. Healthy surroundings, ultra-violet light, and a richly vitaminous diet are invaluable. Vitamins A and D are particularly important, and are easily given as cod-liver oil. For obese subjects, and those who have difficulty in digesting fats, the concentrate radiostoleum is available, and with it calcium preparations, the gluconate[16] or lactate, can be profitably combined.



2. Non-specific reactive therapy. A number of useful schemes have been devised:

(i) The facilitation of antibody formation by the injection of manganese.

(ii) Artificial leucocytosis by subcutaneous or intramuscular injection of suitable reagents, such as sodium nucleinate or colloidal sulphur either in a watery or an oily medium, and many other substances. The graph illustrates the effects of intramuscular collosol sulphur on the leucocyte count. The

latter was kindly worked out for me by Dr. R. S. Bruce-Pearson.

(iii) Intravenous injections where more opportunity is given for colloid interaction—for example, cibalbumin and certain bacterial emulsions such as T.A.B. Here again leucocytosis plays a part, but is certainly not the only agency at work. The method is not free from risk, and dosage is difficult to assess in terms of expected reaction in the rheumatic parts.

Other substances—for example, milk, peptone, and yatren-casein—probably act in analogous fashion, but should not be given intravenously.

D. Specific Resistance

Inoculation with vaccines made from the infective bacteria of the various foci provokes pain reactions in the rheumatic areas, leads to antibody production, and is undoubtedly, on occasion, followed by definite clinical improvement. Up to the present time it has proved impossible to devise a reliable method of determining which strains should be incorporated in the vaccine. Until our knowledge is greater it is advisable to include all infective strains isolated.[25]

E. Vicious Circles

Results which react on causes and aggravate the original mischief are to be found in most diseases of long standing. The rheumatic group is no exception. Here subthyroidism and anaemia are the chief offenders.

(i) Subthyroidism may antedate the lesions in the joints or be collateral with them, and probably represents the effect of the focal toxins on the thyroid gland. When once established it impairs metabolism and the defence mechanism, so permitting the morbid process at foci and joints to proceed more briskly. All degrees of subthyroidism are met with, varying from the most benign to fully fledged myxoedema. Their correction by suitable doses of the dried gland has a remarkably beneficial effect on the whole syndrome.

(ii) Anaemia of the ordinary secondary type is almost universal in the more progressive forms of chronic arthritis, and may assume serious proportions; 80 per cent. haemoglobin is a common reading, but figures as low as 30 per cent. are not unknown. There is no evidence of active haemolysis, and the poverty of the blood is probably due to toxic depression of the bone marrow. It is very prejudicial, and should be corrected by iron therapy. Natural ferrous iron waters are useful, but for routine use a scale preparation or iron phosphate is effective if the bowels are acting well, and one of the strong colloidal preparations—for example, idozan—if there is any tendency to constipation.

The therapeutic field has now been represented in perspective from the viewpoint of accepted pathology, and we are in a position to deal critically with the vast array of drugs advertised for use in these conditions. They will be classified chemically, and each group assigned its appropriate place in the general scheme of treatment.

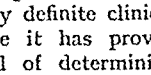
Aspirin

The 1,000 tons of aspirin sold in this country annually are remarkable testimony to the utility of the drug. Its outstanding effects are relief of rheumatic pains and diminution of stiffness in so far as this is not due to ankylosis or adhesions. The ultimate course of the disease does not appear to be influenced directly, but indirectly; something must be gained by enabling the patient to sleep and affording him a respite from the exhausting monotony of his pain. A portion is lost by decomposition in the stomach. The rest is disseminated very widely, and salicylates can be recovered from the joint tissues themselves, also from pathological and normal synovial fluid. Its power of relieving pain in chronic rheumatism seems almost to be specific, and is far greater than that of sodium salicylate. It is, however, exercised in a limited way in other conditions. The secret of its action is well concealed, and may involve changes in tissue tension with release of compressed vessels or nerves.

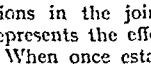
A number of observations point in this direction. Both Oswald[26] and Hanzlik[10] have shown that aspirin alters the permeability of certain colloid membranes. It also causes retention of fluids in the body, with a diminished urinary flow and a rise in body weight. The excess is not accommodated in the vascular system, because there is no change in the concentration of haemoglobin. It must therefore be in the cells themselves, the tissue spaces, or lymphatics.[12] Finally, idiosyncrasy to aspirin often shows itself as urticaria or generalized oedema, so that it would appear reasonable to assume that some kindred peripheral action around the joints is responsible for the loss of pain rather than to invoke a central narcotic action on pain perception in the brain.

Aspirin Group

(Syn. Acetyl Salicylic Acid)



Aspro Empirin Genasprin	}	A few registered names of brands of aspirin
Aspiphenin	=	Aspirin and phenacetin
Diaspirin	=	Succinyl salicylic acid
Metaspirine	=	Aspirin and caffeine
Nopirine	=	Aspirin, phenacetin, and caffeine
Rhofeine	=	Aspirin and caffeine
Aspriodine	=	Iodoaspirin
Novaspirin	=	Methylene citryl salicylic acid
Salacetol	=	Acetyl methyl salicylate
Sedaspirin	=	Bromo aspirin



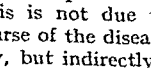
Sodium cresotinate (resembles aspirin in relieving the pain of chronic rheumatism)

Antipyrin

The arthritic patient's demand for relief from pain has led to the development of a series of simple analgesic drugs with an admittedly central action. If derivatives of codeine and morphine are excluded most of the others will be found to be modifications of antipyrin. In this class there is great scope for mystification, because the same substance can be described in widely different chemical terms. For example, pyramidon (amidopyrin) may be referred to as dimethylaminoantipyrin or as dimethylamino-phenyl-dimethyl-isopyrazolone. Both names are correct, and although to most medical men not engaged in pharmacological or chemical research they are mere mumbo-jumbo, they carry a scientific cachet which appeals to many and which can be exploited by the vendor of drugs. The close relationship between most of the members of the series will be seen at a glance in the table appended. In addition to these a pharmacologically analogous drug phenocoll hydrochloride, a derivative of phenacetin, has been much used.

Antipyrin Group

(Syn. Phenazone, Dimethyloxyquinizine, 1-phenyl-2:3-dimethyl-5-pyrazolone)



Acetopyrine	=	*Antipyrin*acetosalicylate
Compral	=	Dimethylamino*antipyrin* (that is, pyramidon) + a modified urethane hypnotic
Gardan	=	Dimethylamino*antipyrin* (that is, pyramidon) + methylamido-methane sulphonate of *antipyrin* (that is, *novalgin*)
Melubrin	=	Amidomethane sulphonate of *antipyrin*
Novalgin	=	Methylamidomethane sulphonate of *antipyrin*
Pyramidon	=	Dimethylamino*antipyrin*
Pyrethane	=	A combination of *antipyrin* and urethane
Salipyrin	=	*Antipyrin* salicylate

SULPHUR

It is a little difficult to see why sulphur should be so useful in modifying the course of chronic rheumatic diseases. Its use undoubtedly has received wide sanction over a long period of years. Most of it passes unchanged through the bowel and is excreted unchanged in the faeces, so that it has ample opportunity to affect the contents of the entire digestive tract. Although inert in inorganic association it readily reacts with proteins in an alkaline medium, giving rise to sulphides, which are bactericidal, irritant, and laxative, sulphuretted hydrogen, and organic sulphur compounds. All of these can be recovered from the stools.[13] Sulphur is far more than an intestinal antiseptic. It is a detoxicating agent in virtue of its power of interacting with otherwise putrescible residues in the colon. It is a kind of scavenger modifying and destroying these protein remnants just as it destroys necrotic material and slough when packed into a contaminated wound. Varying amounts pass into the circulation, possibly as sulphides. As much as 50 per cent. of milk of sulphur may be dealt with in this manner. Up to the present, however, no systemic effects have been observed. There is no formation of sulphaemoglobin and no other evidence of free sulphide in the blood. Sulphides are active reagents and poisonous. Even small amounts would be expected to irritate the cortex or medulla. Sulphides appear in the urine, but most of the absorbed sulphur is eventually excreted fully oxidized as sulphate.

As explained before, the injection of colloidal sulphur is another matter. The fever and leucocytosis provoked in this way can be regarded as the outcome of a non-specific interaction between the colloid particles injected and those of the body fluids.

Sulphur Group

Azufrol Collosol sulphur	}	Colloidal sulphur (proprietary)
Dutch drops	=	A preparation of sulphur, linseed oil, and turpentine
Oscol sulphur Sulfoiodol Sulfurion Thionhydrol Vulcase	}	Proprietary forms of colloidal sulphur

IODINE

The clinical value of iodine preparations is undoubted but limited in its scope. In the amounts prescribed its theoretical antiseptic value in gut and tissues must be negligible. One of its most pronounced features is that of storage. After a single half-gram dose of iodide, the element can be detected in the urine for forty hours, and after a short course it may take three weeks to clear the urine again.[14] There are two obvious ways in which it may help the rheumatic patient. In the first place it may act indirectly by stimulating a defective thyroid gland and normalizing its secretion chemically as well as in amount. Iodine storage occurs in the thyroid gland to a greater extent than in any other tissue. The administration of iodine produces histological changes in the gland,[15] raises the basal metabolic rate, and increases the functional activity of the thyroid substance as estimated by its effect on the growth of tadpoles.[19]

Another opportunity is afforded by the local accumulation of iodine near inflammatory foci. Not only does special concentration occur in syphilitic gummata, but also in the lipoids of tuberculous areas,[4] and in pus and other inflammatory exudates[17] where it is found as inorganic iodide. Suitable conditions are thus provided, not only for assistance through the thyroid, but for a direct action in the joints and inflammatory foci themselves, whilst the storage and slow excretion ensure steady uniform action the whole day through.

The favourite old French tincture, various colloidal forms such as iodor and collosol iodine, and the pharmacopoeial preparations of iodides and of the element itself are all in common use. There are, in addition, large numbers of iodine compounds on the market testifying to the popularity of the drug. About them, Erlenmeyer and Stein[5] have made the sweeping generalization that all remain inert until decomposed in the tissues or the gut with the liberation of simple iodides, which are taken up again by the body colloids. They fall into two groups: those in which the iodine is combined with proteins and those in which it is linked with fats, fatty acids, and kindred substances. The former are digested in the bowel and the iodine absorbed as simple iodides, so that nothing much is gained beyond delayed absorption. The latter gain the lymphatics unchanged, and undergo preliminary distribution in a manner peculiar to themselves, attaching themselves to the body lipoids.[1 6 20]

The lists below are by no means complete, and iodine occurs in several other combinations, as in yatren, iodaseptine, iodoxybenzoic, etc., considered in other connexions.

Iodine
(Protein Group)

Iodalbacid	
Iodalbin	With serum albumin
Iodalose	With peptone
Iodethylglycin	
Iodocasein	
Iodogelatin	
Iodoglidine	With wheat gluten
Iodone	With peptone
Iodoprotein	With albumin
Iodotannate	
Iodurase	Iodides and yeast albumin
Iolase	Iodine with yeast albumin
Seroden	With serum protein

Iodine
(Fatty Group)

Calioben	=	Calcium iodobehenate
Iodatol	=	Iodized vegetable oil
Iodicin	=	Calcium iodoricinoleate
Iodinol	=	Iodized sesame oil
Iodipin	=	Iodized sesame oil
Iodostarin	=	Diiodotaririnic acid
Lipiodol	=	Iodized vegetable oil
Lipoiodine	=	Ethyl diiodobrassidinate
Oliolase	=	Iodized vegetable oil
Sajodin	=	Calcium iodobehenate

RADIO-ACTIVE SUBSTANCES

Radium chloride can be safely given by mouth in dose of 1/100,000 milligram several times a day for a number of weeks at a time. It is absorbed rapidly, permeates the tissues freely, and, after special storage in the liver and spleen, is eliminated through the bowel wall.[3 27] During its stay in the body some breaks up into its degradation products known as emanation, niton, or radon, and into α rays. Radon can be detected in the air, exhaled through the lungs, and in its turn emits β and γ rays, the latter being electro-magnetic waves of decidedly shorter length than those employed in deep x-ray therapy. The γ rays are probably the factor most closely concerned in the pharmacological action of radium when taken in small doses by mouth.

The most definite effects are diuresis, lowering of the blood pressure in certain common varieties of hyperpiesia, and the provocation of local reaction around inflammatory foci. In chronic arthritis this usually takes the form of an increase of pain and swelling. With the dosage mentioned the reaction is not usually noticeable until the radium has been taken for several days. At the completion of a short course it subsides and is usually followed by a beneficial swing of the clinical pendulum in the opposite direction. A similar result can be achieved by the administration of a solution of radon or emanation in

KEY INDEX

Drug	Chemical Group.												
					Iodine								
	Antipyrin	Aspirin	Cinchophen	Hexamine	Protein, etc.	Lipoid, Soluble	Iodoxybenzole	Radio-active	Sulphur	Thiosinamine	Uric Acid Solvents	Wintergreen
Acetopyrine	+											
Acitrin			+									
Agotan			+									
Amphotropin				+								
Amysal												+
Arthritin							+					
Aspiphenin		+										
Aspriodine		+										
Aspro		+										
Atophan			+									
Atophanyl			+									
Atoquinol			+									
Azufrol									+			
Bengue's balsam ...												+
Benzo-piperaz ...											+	
Betul-ol												+
Borovertin				+								
Calcusal											+	
Calioben						+						
Cicatricine										+		
Citarin				+								
Collosol sulphur ...									+			
Compral	+											
Cystamine				+								
Cystazol				+								
Cystoformin				+								
Cystopurin				+								
Diaspirin		+										
Dutch drops									+			
Empirin		+										
Ethyl salicylate ...												
Fibrolysin										+		+
Formalol				+								
Gardan	+											
Genasprin		+										
Glycero-piperaz ...											+	
Glycosal												+
Helmitol				+								
Hetralin				+								
Hexophan			+									
Iodalbacid					+							
Iodalbin					+							
Iodalose					+							
Iodatol						+						
Iodaseptine				+								
Iodethylglycin ...					+							
Iodicin						+						
Iodinol						+						
Iodipin						+						
Iodocasein					+							
Iodogelatin					+							
Iodoglidine					+							
Iodolysin										+		
Iodone					+							
Iodoprotein					+							
Iodostarin						+						
Iodotannate					+							
Iodurase					+							
Iolase					+							
Lipiodol						+						

Drug	Chemical Group												
					Iodine								
	Antipyrin	Aspirin	Cinchophen	Hexamine	Protein, etc.	Lipoid, Soluble	Iodoxybenzole	Radio-active	Sulphur	Thiosinamine	Uric Acid Solvents	Wintergreen
Lipoiodine						+						
Losan			+									
Lycetol											+	
Lysidine											+	
Melubrin	+											
Mesothorium								+				
Mesotan												+
Metaspirine		+										
Methyl aspriodine ...												+
Metramine				+								
Mirion				+								
Neocinchophen ...			+									
Nopirine		+										
Novalgin	+											
Novaspirin		+										
Novatophan			+									
Oliolase						+						
Oscol sulphur ...									+			
Piperazine											+	
Piperidine											+	
Pyramidon	+											
Pyrethane	+											
Quinic acid											+	
Quinophan			+									
Radon water								+				
Rhesal												+
Rhodallin										+		
Rhofeine		+										
Sajodin						+						
Salacetol		+										
Salen												+
Saliceral												+
Salicyl-piperaz ...											+	
Salipyrin	+											+
Salit												
Scleradium								+				
Sedaspirin		+										
Seroden					+							
Sidonal											+	
Sodium cresotinate		+										
Solurol											+	
Spirosal												+
Sulfoiodol									+			
Sulfurion									+			
Thionhydrol									+			
Thyminic acid ...											+	
Tiodine										+		
Tolysin												
Uralysol			+								+	
Uraseptine				+							+	
Urazin				+							+	
Uricedin				+							+	
Urodonal				+							+	
Urogenine				+							+	
Uro-hexoid				+							+	
Urosin				+							+	
Vesalvine B.				+							+	
Vesalvine S.				+							+	
Vulcase									+			

water, but the effect is less steady and more transient, partly because of rapid elimination of radon through the lungs, and partly because radon has a very short life, being fairly completely dissipated in a few days' time.

Agents conveniently at our disposal and arranged in increasing order of potency are as follows:

Spa waters containing radon.
Water which has been allowed to stand in a container in which radium ore is incorporated. This also relies on its radon content.
Solutions of radon produced under controlled laboratory conditions from pure radium salts, as at the Radium Institute.
Scleradium, stated to contain a standardized amount of radium chloride itself in a fairly large saline tablet.

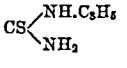
Other radio-active substances also are available. Thorium, used extensively in the manufacture of incandescent gas mantles, undergoes slow and continuous molecular degradation, giving rise to mesothorium, which gives off γ rays whilst further degradation is taking place. Mesothorium is isolated as a by-product in the manufacture of gas mantles, and the yearly output was at one time estimated as equivalent to about 1/2 gram of radium in terms of γ radiation, but its average life is only a few years in contrast to the 2,600 years of radium. Mesothorium is supplied in solutions of various strengths up to 2 micrograms of the bromide per c.cm.

It is important to remember that solutions of radon must be fresh, because they become inactive in less than a week. Mesothorium keeps for several years, and radium indefinitely.

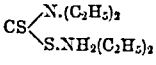
THIOSINAMINE

This substance was introduced by Hebra and Unna in 1892. It does not dissolve at all freely in water. Simple soluble modifications such as sodio salicylate (fibrolysin) are therefore used instead. It provokes a widespread reaction with metabolic effects, evidenced by fatty degeneration of parenchymatous organs and increased elimination of nitrogen. Clinically the reaction produces malaise and pyrexia, and appears in some cases to be followed by the resolution of low-grade indolent localized infections, with a diminution in the fibrous and other chronic inflammatory tissues which surround them. A list of preparations is given below. In this connexion contramine should be mentioned. Its chemical relationship to this group will be seen by comparing its published structural formula with that of thiosinamine.

Thiosinamine



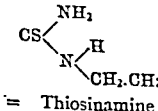
Contramine



It is also a reactive drug, and is supposed to produce its effect by physical interaction with the body colloids rather than by simple chemical means. Our knowledge of the mode of action of these admittedly potent drugs is still extremely scanty, and it would appear rash to use them unless the patient can be kept under close medical observation.

Thiosinamine Group

(Syn. Allyl Sulphocarbamide, Allyl thio urea)

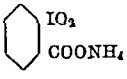


Cicatricine	=	Thiosinamine and antipyrin
Fibrolysin	=	Thiosinamine sodio salicylate
Iodolysin	=	Iodine derivative of thiosinamine
Rhodallin	=	Thiosinamine
Tiodine	=	Thiosinamine ethyl iodide

IODOXYBENZOIC ACID

This substance and the related compounds iodosobenzoic and iodobenzoic acids have been known to pharmacologists for many years, but the group was not introduced into clinical medicine until 1926, when Young and Youmans published a series of cases treated with ortho-iodoxybenzoates. Given by mouth iodoxybenzoates cause sweating and a certain amount of epigastric discomfort, followed by relief of joint pain. It is more usual to administer it intravenously as a solution of its sodium or ammonium salt, the latter being preferable because of the decided tendency of the sodium salt to cause local thrombosis. It is bactericidal to staphylococci and streptococci, even in the presence of serum,[2] but it seems unlikely that this property is responsible for the clinical effects following intravenous injection. Used in this way it provokes a polymorphonuclear leucocytosis, and in experimental animals there is an increase in the formation of antibodies.[13] The immediate clinical effect is a smart reaction, with sweating, fever, nausea, and abdominal pain. Relief of joint pain and associated muscle spasm commonly follows, but is not usually very lasting. The unpleasantness of the reaction is a serious drawback to the use of the drug. Like thiosinamine, its effects are somewhat akin to those of non-specific reactive therapy.

Arthritin = Ammonium ortho-iodoxybenzoate



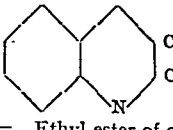
CINCHOPHEN

Nicolaier and Dohrn introduced this substance in 1908. Its popularity probably depends entirely on its pain-relieving qualities, which in acute rheumatic fever rival those of the salicylates themselves. Although aspirin is the most useful analgesic in chronic arthritis the antipyrin and cinchophen groups are keen competitors.

Scientific attention has been keenly focused on the increased excretion of uric acid which follows the use of this substance. The percentage of uric acid in the blood falls at the same time,[7 21] and suggests that cinchophen increases the permeability of the kidney to urates and so facilitates their excretion. The power of cinchophen to relieve pain is not confined, however, to those chronic arthritics with high blood uric acid values, and is, on the whole, more conspicuous in chronic infective arthritis than in true gout. Clinically there is little justification for its use if pain can be controlled in other ways. It does not seem to have any direct effect on the final result, and on quite a number of occasions jaundice, with serious degenerative changes in the liver, has followed the use of cinchophen and its derivatives. It is only fair to add that there is no evidence that the liver is attacked in every case; indeed, Graham (1926) showed that, even after long courses of the drug, liver function as measured by the levulose curve was usually unaffected. Nevertheless the incidence of acute liver changes in this connexion is too significant to pass unnoticed.

Cinchophen Group

(Syn. Phenoquin, Phenyl Cinchoninic Acid, Phenylquinoline-carboxylic Acid)



Acitrin	=	Ethyl ester of cinchophen
Agotan	=	Cinchophen
Atophan	=	Cinchophen
Atophanyl	=	Sodium cinchophen and sodium salicylate
Atoquinol	=	Allylcinchophen
Hexophan	=	Oxycinchophen
Losan	=	Sodium bicarbonate and cinchophen
Neocinchophen	=	Ethyl ester of methylcinchophen
Novatophan	=	Ethyl ester of methylcinchophen
Quinophan	=	Cinchophen
Tolysin	=	Ethyl ester of methylcinchophen

HEXAMINE

This drug is not often prescribed alone in chronic rheumatic conditions, but being an ingredient in a number of popular proprietary mixtures, such as urodonal, it must claim some attention here. When used in chronic arthritis the usual intention is to exploit its solvent action on uric acid, not to employ it as an antiseptic for the urine. The consideration is of theoretical interest only, and it is impossible to detect any fall in the uric acid content of the blood or any rise in the daily excretion even when full dosage is employed. Its clinical influence on the symptoms or the course of the disease is not apparent. It might conceivably produce a beneficial effect by liberating traces of formalin at the infected joint areas and primary foci. The concentration of formalin liberated from hexamine is determined by the acidity of the surrounding medium, and is not quite zero even at the point of neutrality to litmus. It can be shown that at a reaction corresponding to that of blood about 1/2 per cent. is split up into formalin after a few hours, and at the reaction of asphyxial blood the figure reaches almost 1 per cent.[4 11 29] Local CO_2 tension and acidity are definitely higher around areas of inflammation than elsewhere, so that some support is given to the idea that free formalin is produced in these situations. Whatever formalin may be liberated in this way is bound at once by protein, and loses its antiseptic properties. Nevertheless through this means it might indirectly influence the course of the disease beneficially. The reaction by which formalin is liberated is a balanced one. The prompt removal of formalin by protein fixation should therefore lead to the continuous production of more and more formalin as long as any hexamine remains. It must be admitted, however, that large doses of hexamine can be injected intravenously without provoking any obvious disturbances such as those associated with colloid shock or following the introduction of thiosinamine or iodoxybenzoates, and that most of it can be recovered again from the urine.

Hexamine Group

(Syn. Urotropine, Formin, Formamine, Hexamethylenamine, Hexamethylene tetramine, Methenamine)

$N_4(CH_2)_6$

Cystamine Metramine	}	Two of many proprietary brands of hexamine
Amphotropin	=	Hexamine camphorate
Borovertin	=	Hexamine triborate
Cystazol	=	Hexamine sodio benzoate
Cystoformin	=	Modified hexamine
Cystopurin	=	Hexamine sodium acetate
Formalol	=	Hexamine anhydro methylene citrate
Helmitol	=	Hexamine anhydro methylene citrate
Hetralin	=	Hexamine resorcin
Iodaseptine	=	Iodobenzo methyl hexamine
Mirion	=	Iodohexamine
Uralysol	=	Hexamine (+ helmitol, lysidine, and thyminic acid)
Uraseptine	=	Hexamine (+ helmitol, piperazine, lithium, and sodium benzoate)
Urodonal	=	Hexamine (+ lysidine, sidonal, and sodium bicarbonate)
Urogenine	=	Hexamine (+ piperazine, lithium, and sodium benzoate)
Uro-hexoid	=	Hexamine (+ lithium benzoate)
Vesalvine B.	=	Hexamine benzoate
Vesalvine S.	=	Hexamine salicylate
Citarin	=	Sodium anhydro methylene citrate (liberates formalin easily, and can be mentioned here, although not actually a derivative of hexamine)

PIPERAZINE AND OTHER URIC ACID SOLVENTS

Piperazine,[9 12] when added to urine, increases its ability to dissolve uric acid. Lithium salts increase the solvent action of water for uric acid, but in the serum and urine the excess of sodium nullifies the effect completely. It is entirely improbable that under clinical conditions these substances affect the urates in the tissues or the blood in any way. Even if it can ever be proved that they are able to exert some such action it will still remain to be shown that the patient benefits from the change. Piperidine and thyminic acid belong to the same pharmacological group. The clinical effects, if any, of using this class of substance in the treatment of chronic arthritis are quite imperceptible.

Uric Acid Solvent Group

(Excluding Hexamine)

Benzo-piperaz	=	Piperazine benzoate
Calcusal	=	Piperidine para sulphamine benzoate
Glycero-piperaz	=	Piperazine glycerophosphate
Lycetol	=	Dimethylpiperazine tartrate
Lysidine	=	Ethyleneethenyldiamine (also in uralysol and urodonal)
Piperazine	=	Diethylenediamine (also in uraseptine and urogenine)
Piperidine		
Quinic acid	=	Hexahydro tetraoxy benzoic acid
Salicyl-piperaz	=	Piperazine salicylate
Sidonal	=	Piperazine quinate (also in urodonal)
Solurol	=	Thyminic acid (a nucleoprotein derivative also in uralysol)
Thyminic acid		
Urazine	=	Piperazinecitrosalicylate
Uricedin	=	Lithium succinate
Urosin	=	Lithium quinate

With few exceptions the relatively inert lithium salts have been omitted, and no special mention is made of saline aperients or mineral base preparations. The lists are admittedly far from complete, but most of the preparations which have obtained a vogue in recent years have been included.

With so many substances at his disposal the medical man, bewildered, may well pause before giving his patient any positive advice at all. A critical survey of every organ and system is essential, and in making a therapeutic plan it is useful not only to keep in mind the balanced scheme of treatment outlined in the earlier part of this paper, but to decide whether the chief effort should be centred on the joints themselves, the septic foci, the digestive tract, the endocrines, general resistance, non-specific reactive therapy, or an attempt made to raise specific resistance to particular bacteria by vaccines. Clinical observation usually indicates clearly where the greatest advantage is to be secured. Suitable medicinal agents can then be selected with confidence. Revision will be needed from time to time to make good an advantage or to pass from one gain to the next objective, and little by little, with care and patience, what seemed at first impossible will be achieved.

Much care has been taken to ensure the accuracy of the chemical statements made, and I am greatly indebted to Professor C. S. Gibson for acting as censor in this matter. I should nevertheless welcome communications from any manufacturers who consider that their products have been misrepresented from the chemical point of view, and from any practitioner who has had outstanding success in the treatment of chronic arthritis with any drug omitted from the discussion or schedules.

REFERENCES

1. Abderhalden and Hirsch: Iodine, *Zeit. f. Physiol. Chem.*, 1911, lxxv, 39.
2. Arkin, A.: Iodoxybenzoate, *Journ. Pharmacol. and Exper. Therap.*, 1911, iii, 145.
3. Brill and Zehner: Radium, *Berlin klin. Woch.*, 1912, xlix, 1261.
4. De Eds, F.: Methenamine, *Arch. Int. Med.*, 1924, xxxiv, 511.
5. Erlenmeyer and Stein: Iodides, *Jahrb. f. Pharm.*, 1909, lxix, 120.
6. Filippi, E.: Iodide, *Riv. crit. di clin. med.*, 1912, xiii, Nos. 31, 34, 43.
7. Filon and Lyman: Cinchophen, *Journ. Pharmacol.*, 1913, iv, 539.
8. Fujisawa, K.: Iodine, *Journ. Amer. Med. Assoc.*, 1919, lxxiii, 801.
9. Hanzlik, J. P.: Methenamine on Uric Acid, *Journ. Lab. and Clin. Med.*, 1916, i, 321.
10. Idem: Salicyl, Ibid., 1912, iii, 387.
11. Hanzlik, J. P., and Collins: Methenamine, *Arch. Int. Med.*, 1913, xii, 578.
12. Hanzlik, J. P., Scott, and Reycraft: Salicyl Oedema, Ibid., 1917, xx, 329.

[13] Heffter, A.: Sulphur, *Arch. f. exper. Path. u. Pharmakol.*, 1904, li, 176.
[14] Heimann, P.: Iodide, *Zentralbl. f. Biochem. u. Biophys.*, 1912, xiii, 124.
[15] Hektoen, L.: Iodoxybenzoic, *Trans. Chicago Path. Soc.*, 1911, viii.
[16] Lieberman, L.: Calcium, *Journ. Pharmacol. and Exper. Therap.*, 1930, xl, 71.
[17] Loeb, O.: Iodide, *Arch. f. exper. Path. u. Pharmakol.*, 1907, lvi, 320.
[18] Marine, D.: Iodine, *Journ. Biol. Chem.*, 1915, lxv, 1757.
[19] Marine, D., and Rogoff: Thyroid Gland, *Journ. Pharmacol. and Exper. Therap.*, 1916, ix, 1.
[20] McLean, F. C.: Iodine, *Journ. Amer. Med. Assoc.*, 1914, lxiii, 1382.
[21] McLester: Cinchophen, *Arch. Int. Med.*, 1913, xii, 739.
[22] Mutch, N.: Bacteriology of the Alimentary Tract, *New York Med. Journ.*, May 18th, 1921.
[23] Idem: Alimentary Infections in Chronic Arthritis, *Lancet*, 1921, ii, 1266.
[24] Idem: Adsorption Treatment, *Amer. Med.*, 1929, xxiv, 365.
[25] Idem: *B. fallax* in Chronic Arthritis, *Lancet*, 1927, i, 1021.
[26] Oswald, A: Salicyl, *Zeit. f. exp. Path.*, 1910, viii, 226.
[27] Smith, E., and Bellingham: Radium, *Zentralbl. f. Biochem. u. Biophys.*, 1912, xii, 851.
[28] Stevens, H., and May: Uric Acid, *Journ. Amer. Chem. Soc.*, 1911, xxxiii, 434.
[29] Trendelenburg, P.: Methenamine, *Zentralbl. f. Biochem. u. Biophys.*, xxi, 412.

CLOSED DRAINAGE IN THE TREATMENT OF EMPYEMA

WITH A REPORT OF FORTY-TWO CASES IN INFANCY AND CHILDHOOD*

BY

J. D. McEACHERN, M.D.

CHIEF SURGEON, WINNIPEG CHILDREN'S HOSPITAL

Hippocrates taught that in cases of empyema the operation to drain away the purulent effusion should not be performed before the fifteenth day after the onset of the illness. He also advocated irrigation of the cavity. His teachings therefore foreshadowed two principles in the modern treatment of this disease.

PRINCIPLES OF MODERN TREATMENT

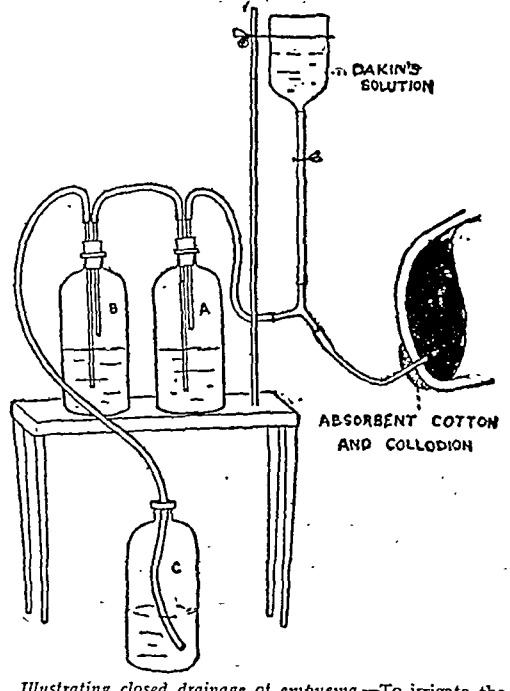
Delay before Operating.—Empyema is not to be regarded as a surgical emergency requiring operation as soon as it is diagnosed. The necessity of waiting until the adhesions between the lung and the chest wall are sufficiently firm to prevent the lung from pulling away from the chest when the thorax is opened is well recognized. It is also advisable in most cases to wait until the pneumonic process has subsided before continuous drainage of the empyema is undertaken, the pus being removed by repeated aspiration until such time as the pneumonia has resolved. All the cases here reported have been aspirated at least once—depending on the nature of the condition. In cases of empyema due to the streptococcus, effusions into the pleural cavity are prone to occur at an early date, and firm adhesions between the visceral and parietal pleurae do not take place as readily as when the infecting organism is the pneumococcus. Where the empyema is caused by the streptococcus, therefore, aspiration is persisted in longer than where it is due to the pneumococcus. In the latter case we feel that adhesions between the lung and the chest wall are sufficiently firm to prevent collapse of the lung after thick pus has been present for one week; while in the case of the streptococcus we consider that we must wait from two to three weeks for the above desired result. Here it may be well to point out that in aspirating pus from the pleural cavity, the utmost care should be taken to prevent air from entering the thorax. It is always very disappointing for a surgeon to find that an exploratory puncture has been performed, and that air has been allowed to enter the chest, with additional lung collapse and spread of infection.

Irrigation.—The second principle employed by Hippocrates was that of irrigation. While he washed out the cavity with wine and oil "to cleanse the surface of the lung," we use Dakin's solution to overcome the infection, to liquefy the masses of fibrin so that they will pass out though the catheter, and to soften the exudate which covers the surface of the lung and impedes its expansion.

Application of Negative Pressure.—The third principle—which Hippocrates did not employ—is the application of negative pressure to assist in expanding the lung and thus obliterate the cavity. Forty years ago Beulau inserted a catheter through a trocar into the thorax, drained off the fluid, and applied negative pressure drainage. Since that time the closed method of drainage in empyema has had some advocates and many adverse critics. Notwithstanding the advantages claimed by those who used the closed method, it has been slow in coming into general use. After a personal experience with the closed drainage combined with irrigation of the cavity with Dakin's solution in more than fifty cases of empyema, I have found that this way of treating the condition is so much better that I have abandoned the open method. I therefore take this opportunity of focusing attention on this subject, in the hope that those who have not hitherto given this method a trial will do so.

APPARATUS

I wish also to call attention to a very simple apparatus which I have employed for this form of treatment, as



Illustrating closed drainage of empyema.—To irrigate the cavity the rubber tube connecting the Y glass connexion with bottle A is clamped, after which the clamp is removed from the tube connecting the Y with the container for Dakin's solution; when the abscess cavity is filled the solution is clamped off and the clamp between the Y connexion and bottle A removed, allowing the solution to drain off by suction into bottle A. To remove the solution accumulated in bottle A, clamp both rubber tubes leading from the glass connexions in the cork; the cork may then be withdrawn and the bottle emptied without disturbing the siphon.

I feel that one reason why more surgeons have not given the method a thorough trial is the complicated nature of the apparatus described from time to time for its

* Read before a joint meeting of the Sections of Surgery and Tuberculosis at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

application. This apparatus, for which nothing original is claimed, consists of three ordinary Winchester bottles with rubber stoppers pierced with two holes for glass rods, a flask for Dakin's solution, and some glass and rubber tubing (see figure), all of which may be obtained at any chemist's at small cost.

TECHNIQUE OF OPERATION

The operation is carried out under local anaesthesia. It can be performed quite readily in bed if the patient is too ill to be moved. In the case of infants and children a catheter size No. 16 or No. 18 (French) is inserted through a trocar between the ribs, and the trocar withdrawn. The opening around the catheter is then sealed by the application of successive layers of absorbent cotton saturated with collodion until a collar is built up around the tube, five inches in diameter, and about half an inch thick. This dressing is then fanned for half an hour before the patient leaves the table, when the collodion is sufficiently firm to allow of the child being moved without danger of disturbing the dressing. A clamp is left on the end of the catheter for four hours, when it is removed and the suction drainage connected. Irrigation of the cavity with Dakin's solution is begun the following morning. These irrigations are carried out every two hours during the day, and two or three times at night. The top of the fluid in the container for Dakin's solution is never allowed to be more than eighteen inches above the opening in the chest. To irrigate, the clamp is removed from the tube leading from the Dakin's flask and the solution allowed to run into the chest until it causes pain or stops running from equalization to pressure. This clamp is then replaced, and the clamp from the tube leading to the suction is removed, when the solution drains off into No. 1 bottle. If the catheter becomes plugged with fibrin, as sometimes occurs, it can usually be freed quite easily by disconnecting it from the drainage and injecting saline or Dakin's solution with a syringe.

The temperature usually goes down to normal in two or three days. The lung expands rapidly, and the amount of pus in the washings rapidly diminishes. After the washings have returned clear for five days, we consider that the cavity for practical purposes is sterilized, and if the lung has expanded satisfactorily and the general condition of the patient permits, the tube may be removed from the chest and dry dressing applied.

Though the majority of my cases have been concerned with children, I have also found this method equally satisfactory in adult empyema, and have treated two cases of subphrenic abscess, with results that were much superior to those obtained by the usual open method of treating that condition.

RESULTS

Forty-two cases of acute empyema in infancy and childhood were treated by this method. In twenty-two cases the infecting organism was the pneumococcus; in five cases the staphylococcus; in three cases the streptococcus. Six were reported "no growth," and in six cases no report could be found.

The following group shows the number of cases in each year of life.

Year	Number	Year	Number
1st	4	7th	3
2nd	7	8th	2
3rd	8	9th	3
4th	4	10th	2
5th	3	11th	1
6th	5		

The youngest child was aged 4 months, and the eldest 11 years. There were eleven cases among children in the first two years of life, and more than half the cases were in children of 4 years of age and under. Of the children in the first year of life, one was aged 4 months; one 5 months; one 6 months; and one 11 months. All of them recovered.

The average number of days of drainage was 25.66. This includes all days in which there was drainage from the empyemic cavity.

There was one death, making a mortality of 2.38 for the series. This occurred in the case of a child, aged 14 months, who developed empyema following broncho-pneumonia. The child's condition was extremely grave when first seen. Vomiting and diarrhoea were present, and persisted until death. The chest was first aspirated and then drained by the usual method. The condition, however, gradually grew worse, and death occurred a week after the institution of the closed drainage. The infecting organism was the pneumococcus. It was found on necropsy that the child had developed pneumonia in the other lung, and that acute pericarditis was also present.

There was one case of pleural shock. This occurred while irrigation of the cavity was being carried out by an inexperienced nurse, who allowed the Dakin's solution to continue to run into the thorax after the child began to scream with pain. Contrary to regulations, the container holding the Dakin's solution had been placed nearly three feet above the opening in the chest, instead of the required eighteen inches. The child gasped for breath, and rapidly became cyanosed, with weak and rapid pulse, and presented the appearance of impending dissolution. When an attempt was made to siphon off the Dakin's solution, it was discovered that the catheter was blocked. I happened to be in the hospital when the accident took place, and at once removed the tube from the chest and allowed the contents of the pleural cavity to escape. Some improvement took place at once. Suction was again applied, and the child went on to recovery, though its condition for some six to eight hours was extremely grave.

There were two cases of pocketing—one in a child aged 6 months, and the second in a child of 2½ years. In both cases the secondary collection of pus was discovered while the child was still in hospital, and was drained in the usual way. In the first case a period of ten days, and in the second case of thirty days, was required for additional draining.

Three cases developed cellulitis of the thoracic wall, which, though not serious, was troublesome, and prolonged the convalescence. All three cases followed aspiration.

There were two cases of bronchial fistula. In one case the fistula did not interfere with the application of negative pressure. In this case irrigations were discontinued, and the fistula closed in two days. In the other case it was found impossible to maintain negative pressure. A small amount of Dakin's solution was allowed to run into the cavity twice daily, with the tube in the most dependent position, and immediately siphoned off. It was found that this could be done without provoking spasms of coughing. In this latter case the fistula closed in six days. Irrigations were then begun and negative pressure applied in the usual way.

With the exception of the two cases of pocketing there were no cases requiring secondary operations.

ADVANTAGES OF CLOSED METHOD

The advantages of the closed method over the open method fall under two headings—namely, mortality and morbidity.

Mortality.—The mortality under the closed method is lowered—in this series of cases to 2.38 per cent. The greatest reduction in mortality takes place in infants.

This reduction in the death rate can be attributed to the following causes: (*a*) the use of general anaesthesia is avoided; (*b*) surgical trauma is lessened; (*c*) the danger of secondary infection is greatly reduced.

Morbidity.—The period of illness is shortened, the average number of days of drainage being 25.06 days, while the average by the open method is six weeks. In my early cases the tube was left in the chest an unnecessarily long period; had these early cases been treated in the same manner as the later ones the average number of days of drainage would have been considerably reduced. This shortening of the period of drainage can be accounted for, first, by the action of the Dakin's solution in overcoming the infection and by its power of softening the exudate covering the lung surface, and secondly, by the assistance of negative pressure in expanding the lung and obliterating the cavity.

Another advantage of the method by no means unimportant is the elimination of the usual painful daily dressing, as anyone who has had experience with the open method of treating this condition in children can testify.

INTRANASAL DACRYOCYSTOSTOMY FOR RELIEF OF LACRYMAL OBSTRUCTION

AN ANALYSIS OF 63 CASES*

BY

F. HOLT DIGGLE, O.B.E., F.R.C.S.

HONORARY SURGEON TO THE EAR, NOSE, AND THROAT DEPARTMENT, ANCOATS HOSPITAL, MANCHESTER, AND TO THE MANCHESTER EAR AND THROAT HOSPITAL

The not infrequent failure of conservative treatment and the disappointments following extirpation or curettage of the tear sac for the relief of lacrymal obstruction have induced surgeons from time to time to attempt various methods in an endeavour to re-establish permanent intranasal drainage of the lacrymal apparatus.

HISTORY

With this end in view, the tear drainage apparatus has been approached surgically in three directions: (1) externally through the skin, (2) transantrally, that is, through the maxillary antrum, and (3) intranasally.

In 1904 Toti[1] described his external operation of "dacryocystorrhinostomie" in which, by an external incision, a communication is made between the lacrymal sac and the nasal passage. I have no personal experience of this method, but the best results are said to be obtained with large tear sacs, while there is some risk of injuring the delicate canaliculi. Mr. E. D. D. Davis,[2] however, prefers Toti's external operation, even in the presence of a suppurating sac or an external fistula, and finds it mechanically an easier and surer method than West's operation. Ten cases so treated were all successful. V. Eicken adopted a transantral approach, but the difficulties of the operation and the anatomical fact that the sac cannot be drained without removing some of the floor of the orbit soon prejudiced this method.

The intranasal route was first adopted by Caldwell in 1893, when he opened and drained the tear duct intranasally after a preliminary resection of the anterior end of the inferior turbinate bone. Similar attempts were made by Killian, Passow, and Okunoff. Between 1908 and 1910 West operated in seven cases, but he approached the nasal duct above the inferior turbinate body. He soon realized, however, that the obstruction lay at the junction of the tear duct with its sac and not at its lower nasal opening. Strazza in 1903 was the first to open the tear sac intranasally, but he did so by first exposing and opening the tear duct and tracing it upwards to the sac. To West[3] of Berlin, and to Dr. R. D. Paterson of Cardiff, belongs the credit of being the first to approach the sac directly. The operation of intranasal drainage of the lacrymal sac (intranasal dacryocystostomy) is therefore frequently termed "West's operation." J. S. Fraser of Edinburgh, who has done much to perfect this operation and place it on a sound basis, first performed it in 1915, and has recently[4] reported his results—seventy-five cures in eighty-nine West operations.

Between 1923 and 1929 I have, through the kindness of my colleagues on the staff of the Manchester Eye Hospital, performed seventy-nine West operations. The results, at least nine months after operation, have been traced in sixty-three cases. From a study of the records of these, an attempt has been made to obtain some information of the prospects of a permanent cure following intranasal dacryocystostomy, and also to ascertain the features that should guide us in making a selection of suitable cases.

TECHNIQUE

The success of the operation depends so much on its technique that, although the method has been so well described by West, Fraser, and others, a few details seem worth mentioning which from experience I have come to regard as important. Briefly stated, intranasal dacryocystostomy consists in the intranasal exposure and removal of the nasal wall of the tear sac, as it lies in the bony lacrymal groove, by removing the overlying nasal mucosa and bone. Anatomically, the lacrymal sac, in the majority of instances, is related intranasally to that region of the nose just in front of the anterior attachment and upper half of the anterior free border of the middle turbinal body.

Like Mr. Fraser I have abandoned local anaesthesia. The posterior margin of the frontal process of the superior maxilla, as it forms the anterior boundary of the lacrymal fossa, is occasionally too dense to remove comfortably with local anaesthesia alone.

About ten minutes before the induction of general anaesthesia the mucous membrane just in front of the anterior attachment and anterior border of the middle turbinate is injected with 1 per cent. novocain-adrenaline solution (2 to 3 minims of adrenaline to 1 drachm of 1 per cent. novocain), the nose having previously been well packed with the usual cocaine-adrenaline gauze. The local ischaemia thus produced is a distinct advantage, though in a few instances, in spite of this injection, troublesome haemorrhage has considerably increased the difficulties of the operation.

Anterior middle turbinectomy was performed in only nine cases. It should be avoided, unless absolutely necessary to gain access, as the persistent oozing of blood tends to obscure the field of operation. Anatomically it is rarely demanded, since Thorsch and others have demonstrated that in fully 65 per cent. of cases the middle turbinate body lies behind the lacrymal groove.

The nasal wall of the tear sac should be thoroughly exposed by a liberal removal of the overlying bone, otherwise granulations growing from the cut bony margins will, in course of time, coalesce and completely occlude the new ostium. I have found a long narrow and slightly curved chisel more effective and easier to manipulate than a gouge; in fact, I rarely use the latter, except, perhaps, to trim the margins. Having exposed the bone of the lacrymal fossa intranasally by the removal of a square-shaped piece of mucous membrane, I proceed to remove it in one piece. Three incisions with the chisel are made at the extreme anterior, upper, and lower boundaries of the exposed bone. They are joined anteriorly, while

*A paper read before the North of England Ophthalmological Society, October, 1930.

posteriorly the transverse incisions pass through the posterior margin of the frontal process of the superior maxilla. Each of the three bony incisions is deepened to the outer periosteum, and the outward penetration of the chisel is judged by placing the fingers of the left hand over the lacrymal fossa externally. I prefer to use my own fingers than to rely on those of an assistant.

In making these incisions the chisel is applied in the correct position under vision, and while held thus in the right hand is struck with the mallet by an assistant. With a fairly strong nasal raspatory, passed through the anterior incision, the square-shaped piece of bone thus delineated is separated from its outer periosteum and prised out of its bed by a leverage movement. The separated bone can then be lifted out of the nose with a pair of fine Luc's forceps, which may also be used to remove the thin lacrymal bone, or any other surrounding spicules of bone, until there is adequate exposure of the tear sac.

After trying many methods and instruments to remove the inner sac wall—often the most difficult step in the operation—I have found Paterson's long tenaculum forceps, specially designed for this operation, to be the most satisfactory. A fine lacrymal probe passed along the lower canaliculus makes the tear sac " tent " inwards. It is then seized with the tenaculum forceps drawn inwards, and on removal of the probe the protruding portion of the sac wall is excised with a long slender and very sharp knife, applied as close to the outer nasal wall as possible. If necessary, the opening thus made can be further enlarged by piecemeal removal with biting forceps of the Grunwald pattern. This, I find, is by no means easy with thin-walled sacs, for, when once the sac is opened and its contents have escaped, it is difficult to engage the blade of the biting forceps in the lips of the opening.

The opening into the sac should be large, and in my opinion should be at the most dependent part of the sac, otherwise tears will tend to collect in the lower part of the sac and keep up a certain amount of suppuration. To make the opening as dependent as possible I cause the lowest part of the sac to " tent " with the lacrymal probe before excision by raising the outer part of the probe when its inner end is engaged in the sac. The efficiency and size of the opening should be tested by washing out the sac with a syringe and cannula, the point of the cannula being inserted only just inside the lower canaliculus. If the fluid tends to regurgitate through the upper puncture, though it may also be entering the nose, or if there is any obvious swelling of the sac, or even if fluid can be further expressed from the sac after syringing, the opening needs further enlarging. Time taken in ensuring an adequate opening is well spent.

AFTER-TREATMENT

Tamponage of the nose with gauze should be avoided, unless absolutely necessary to control haemorrhage, since, in my opinion, it is apt to seal together the lips of the opening in the sac wall. On the second day the sac can be gently cleansed with saline solution, and this should be repeated, if the sac contains much pus, every second day for ten to fourteen days. The cannula should only just be engaged in the lower canaliculus, and not passed into the sac or even pushed through the artificial ostium into the nose. Lavage not only cleanses the sac of pus, but it prevents dried blood accumulating around the lips of the artificial ostium, which from organization and cicatrization might tend to promote its stenosis, or even complete closure. No special intranasal medication is required other than spraying the nose once or twice daily for the first ten days with a simple menthol and paroleine solution.

RESULTS OF WEST'S OPERATION

Of the 63 West operations which have been traced, 46 (73 per cent.) were completely successful—that is, the epiphora was completely cured, even when the patient was out of doors ; there was, of course, no enlargement of, or suppuration in, the sac. Six of the remaining 17 cases may perhaps be regarded as moderate cures in that, although there was some slight epiphora out of doors, there was no longer any distension of the sac or recurrent attacks of acute dacryocystitis. In each of these six cases persistent epiphora and dacryocystitis had been a source of real discomfort to the patients, four of whom considered they were really cured.

Eleven (17 per cent.) were absolute failures. A brief survey of the case records of these patients may indicate the cause of failure. Four gave a history of recurrent dacryocystitis ; in two of these it was noted in the case records that considerable difficulty was experienced in passing the lacrymal probe along the canaliculus, a kinking of the canaliculus being suspected. Severe bleeding, obscuring the field of operation, was mentioned in three cases, while in four there was no apparent cause. My second West operation was performed in one of these cases ; two others were apparent successes two or three months after operation, but later were complete failures. Presumably an inefficient removal of bone with subsequent stenosis was the explanation.

In 1925 Mr. J. S. Fraser[5] reported 73 per cent. of cures, and four years later 75 per cent. in a series of 89 West operations. A cure rate, therefore, round about 73 to 75 per cent. is, I think, the experience of all those who have essayed the procedure on any large scale.

GENERAL PRINCIPLES IN SELECTION OF SUITABLE CASES

The age of the patient, the size and width of the nose and its nasal passages, will generally be the determining factors whether a case is suitable for a West operation or not. Obviously there must be sufficient room to gain access so that delicate and difficult intranasal surgery can be performed under clear vision. An enlarged middle turbinate, or a nasal septum deviated to the side of the lesion interfering with adequate access, can be easily overcome by a partial turbinectomy and by a submucous resection operation respectively. Anterior middle turbinectomy, for reasons already given, should be avoided as far as possible. For large hypertrophies completely preventing access, I now prefer to remove the superfluous tissue under local anaesthesia a few weeks before resorting to the West operation. A submucous resection of the nasal septum which was found necessary in 11 cases was done as a preliminary under the same anaesthesia. If adequate access is at all doubtful, a resection of the nasal septum is always worth while, as the additional room gained is considerable. Some surgeons have advocated a transseptal approach to the tear sac—when operating, for example, on the right sac, to approach it from the left nasal passage through the nasal septum after resecting the cartilage. I have not yet had occasion to do this, as the additional room provided by a resection of the nasal septum has given adequate access.

A West operation should not be attempted in the presence of active lupoid or syphilitic disease of the nose, for obvious reasons. Hypertrophic or atrophic rhinitis (with or without ozaena) does not *per se* prejudice a successful result. Suppuration in a nasal sinus, particularly if any of the anterior group is involved, should first be corrected. In a paper read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association in 1927,[6] I referred to the relationship between nasal sinus infection and lacrymal obstruction,

and reported two interesting cases of closed ethmoidal empyema which had been completely cured of epiphora by drainage of the ethmoidal labyrinth alone. The incidence of nasal sinus infection in lacrymal obstruction, as was shown in that communication, is, however, rare, and I do not wish to convey the impression that the cure of suppuration in an interior nasal sinus will always relieve epiphora.

It is of course essential to ascertain before the operation that there is no abnormality or stenosis in the puncta and canaliculi, otherwise an artificial intranasal opening of the lacrymal sac will spontaneously close if tears are unable to flow along the canaliculi. If Bowman's operation (slitting of the lower canaliculus) is accurately performed, it would not seem to preclude a successful result, as was indicated in four cases in the present series.

In regard to the lacrymal sac an external sinus discharging at the time of the operation, provided it is not acutely inflamed, does not of itself prejudice a successful West operation. The sinus should be gently scraped with a fine curette and a very light dressing applied. This was done three times in the present series with successful results in each case. If the sinus is acutely inflamed, external drainage should be maintained until all inflammation has subsided.

Occasionally pressure with the finger over the sac causes its contents to flow into the nose rather than along the canaliculus, although epiphora and distension of the sac may be present. Fraser considers that a West operation in these circumstances is not likely to be so successful. In the present series such a condition was noted in five cases, two of which were failures. While the figures are interesting, they are obviously too small to furnish any conclusions.

There can, I think, be no doubt that the operation is relatively easier with thick-walled than thin-walled, scarcely palpable sacs; yet in the present series of 63 West operations the consistency of the sac wall would of itself seem to have no bearing on the end-result. The consistency of the sac was recorded in 45 cases—namely, thin-walled in 11 and thick-walled in 34. Unsuccessful West operations were performed on three (approximately 27 per cent.) of the thin-walled sacs and 10 (29 per cent.) of the thick-walled sacs. Other factors, such as recurrent acute dacryocystitis with possible cicatricial kinking or inflammatory stenosis of the canaliculus, a history of which was obtainable in the majority, no doubt prejudiced a favourable result in what was, apart from the consistency of the sac, an easy operation.

Intranasal dacryocystostomy should not be attempted when the tear sac is acutely inflamed. The inflammatory condition must be treated on the usual lines by an external incision, if necessary, and at least six weeks should elapse after subsidence of the acute phase before resorting to a West operation. Excessive bleeding otherwise adds considerably to the difficulties of the operation, while there is the added risk of exciting a serious spreading septic osteomyelitis of the facial bones.

I have the impression that recurrent attacks of acute dacryocystitis with abscess formation, which have either spontaneously discharged externally or been incised, prejudice a successful result. The sac wall is often very firm and thick; the contents of the sac cannot be expressed either along the canaliculi or into the nose; and there is occasional difficulty at the operation in passing the lacrymal probe into the sac. It is interesting to note that such a history of recurrent dacryocystitis accounted for four of the eleven complete failures. A history of dacryocystitis, however, either single or recurrent, occurred seventeen times in the total series of 63 West operations, eleven successes, two moderate results, and four failures being recorded. None of the patients with successful or moderate results had, however, had more than one attack of acute dacryocystitis. It would appear, therefore, that, although a single attack of acute dacryocystitis does not prejudice a successful issue, yet recurrent inflammations producing thick-walled sacs, perhaps loculated with malformation, kinking, or inflammatory stenosis of the canaliculi, though not a definite contraindication, are not so likely to yield successful results.

REFERENCES

[1] Toti, A.: *La Clinica Moderna*, 1904, No. 33; Idem: *Ann. d'oculistique*, June, 1910.
[2] Davis, E. D. D.: *Trans. Ophth. Soc.*, 1929, vol. xlix, 299.
[3] West, J. M.: *Arch. für Laryngol.*, 1910, vol. xxvii; Idem: *Berlin klin. Woch.*, 1913, No. 20; Idem: Proceedings XVII of the International Congress of Medicine, London, 1913, Section IX.
[4] Fraser, J. S.: *Trans. Ophth. Soc.*, 1929, vol. xlix, 298.
[5] Idem: *Journ. of Laryngol. and Otol.*, November, 1925.
[6] Diggle, F. H.: *British Medical Journal*, November 19th, 1927.

RECONSTRUCTION OF THE FOREARM AFTER AMPUTATION OF THE HAND

BY

ARNOLD K. HENRY, M.B., F.R.C.S.I.

PROFESSOR OF CLINICAL SURGERY, FACULTY OF MEDICINE, CAIRO

(From the Surgical Unit, Kasr-el-Aini Hospital, Cairo)

In 1928 I described an osteoplastic operation, performed in the previous year; my object was to make the forearm prehensile after complete loss of a hand.[1] My first patient was an Egyptian policeman whose left hand had been cut off in a tramway accident, and in December, 1928, one and a half years after the operation, he demonstrated the strong and adroit function of his reconstructed limb before the Surgical Section of the International Congress of Tropical Medicine. This result encouraged me to repeat the reconstruction at the first opportunity, and in the same year, through the courtesy of Professor Ali Bey Ibrahim, who sent me the case, I performed a similar operation, this time on the right forearm of a boy aged 8 (Fig. 1).

AIM OF THE OPERATION

The aim is to make a new digit provided with bone, tendinous attachments, and skin, and nourished by the radial trunk; this digit is allowed to become ankylosed with the shaft of the radius at such an angle that the movement of pronation brings it into firm contact with a stiff artificial finger attached to a gauntlet fitting the stump; grip and its relaxation are thus secured by pronating and supinating the forearm.

The initial difficulty was to obtain an aseptic field in the granulating stump, and I knew that if I discharged the boy from hospital to live down latent infection, his family would soon be content to leave his forearm useless. For this reason I tried, as I had tried in my first case, to rid the unhealed stump of sepsis by means of the high-frequency current. In neither patient was this attempt entirely successful, but the subsequent reaction in both was mild, and did not harm the new digit.

THE OPERATION

I repeated the two-stage procedure of the first operation at one sitting.

Stage I.—With sparks from the high-frequency apparatus, I began by charring the granulations of the stump, and also an inch-wide margin of skin. I then coagulated the region of the carpus; the limb was cleaned afresh with ether and a 5 per cent. solution of picric acid in alcohol, and after a change of gloves and instruments I began the second stage of the operation.

Stage II.—A circular disarticulation dividing the skin just distal to the radial styloid removed the remains of the

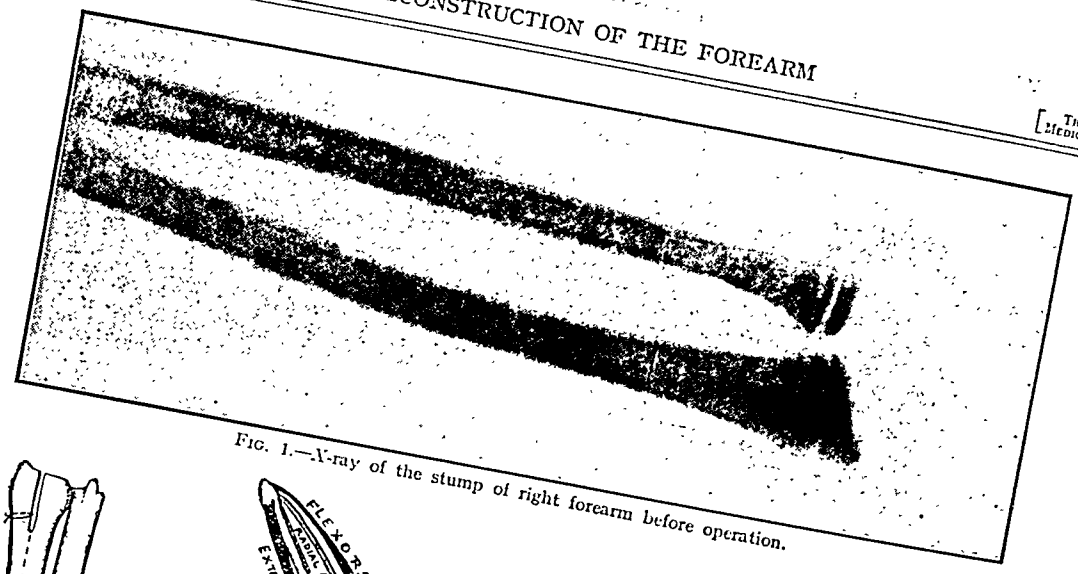


FIG. 1.—X-ray of the stump of right forearm before operation.

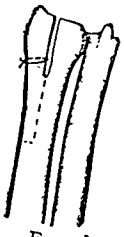


FIG. 2

FIG. 2.—Separation of the radial rod by a saw-cut.

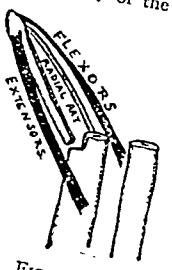


FIG. 3

FIG. 3.—Tendons are attached to the rod (see text).

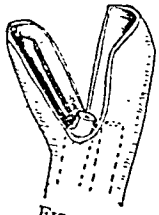


FIG. 4

FIG. 4.—The radial and ulnar skin-flaps.

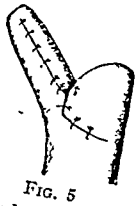


FIG. 5

FIG. 5.—The radial skin-flap is sutured round the bony rod; the ulnar flap folds down like a hood, and is sutured at the base of the new digit.

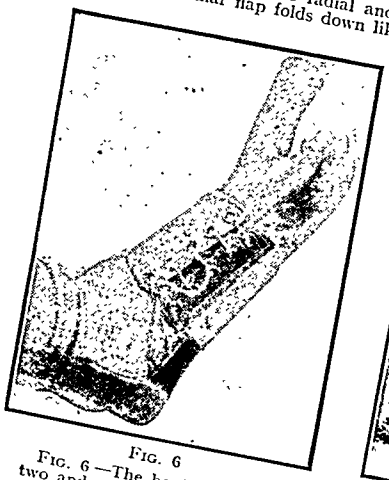


FIG. 6

FIG. 6.—The boy's right forearm reconstructed.

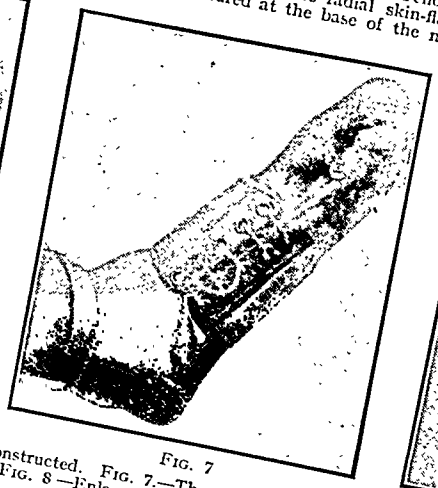


FIG. 7

FIG. 7.—The reconstructed left forearm of the policeman (the first case) two and a half years after operation.

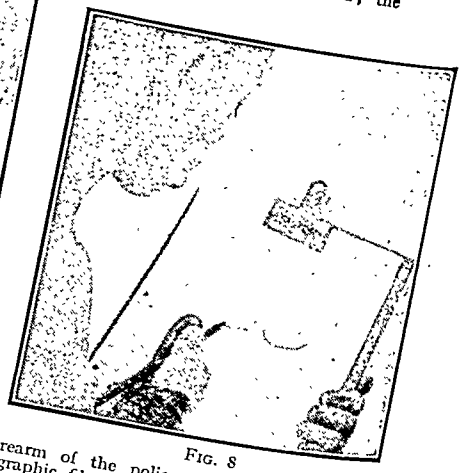


FIG. 8

FIG. 8.—Enlargement taken from a cinematographic film to illustrate the function of the reconstructed forearm.

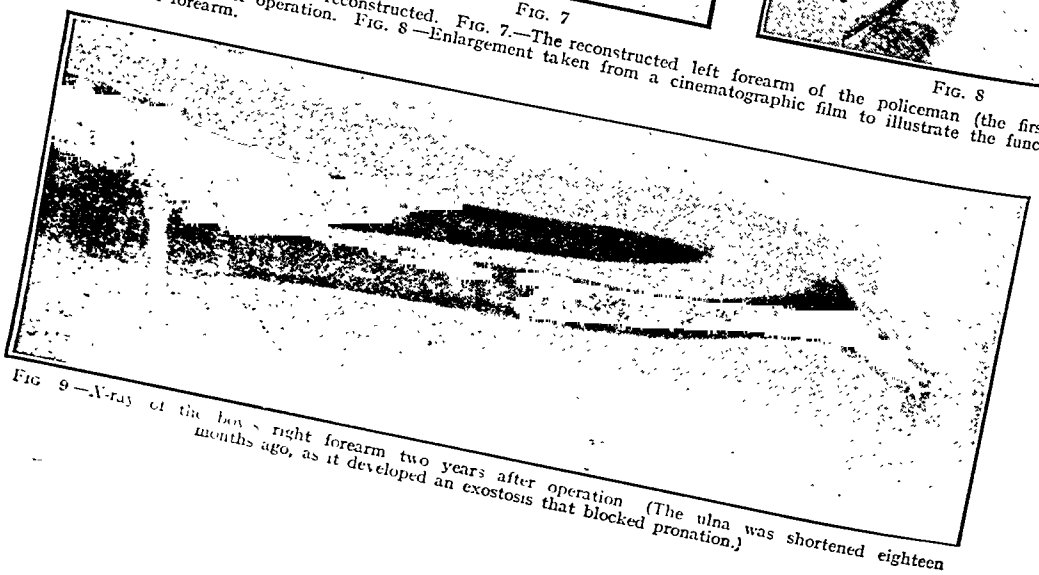


FIG. 9.—X-ray of the boy's right forearm two years after operation. (The ulna was shortened eighteen months ago, as it developed an exostosis that blocked pronation.)

carpus. I then made two longitudinal incisions on the forearm, one in the mid-line of its flexor aspect, the second on the dorsal side, a fingerbreadth radial to the middle line. Owing to the small size of the child's limb each incision was only 3 inches long, while in the man's the measurement was 5 inches. In order to provide a web at the base of the new digit, both incisions approached the ulna at their proximal ends; both were deepened to the bone—the volar incision between the tendon of the flexor carpi radialis and the flexor tendons of the fingers, the dorsal between the radial extensors of the wrist and the common extensors of the fingers. Special care was taken to mobilize and retract the bellies of the abductor pollicis longus and the extensor pollicis brevis which crossed the line of incision. The periosteum of the radius was divided longitudinally, and, with a fine saw, a 3-inch rod, a quarter of an inch square in cross-section, was separated from the distal third of the radial shaft on its lateral side. I find it a mistake to use a motor-driven saw for this purpose; the force of its revolution tends to tear the bony rod out of its periosteal covering, an accident that happened in my first case, though fortunately without causing the rod to necrose. [Ligatures tied round the rod as the saw-cut is deepened reduce the risk of enucleation (Fig. 2). The base of the rod should be incompletely separated, by greenstick fracture, from the shaft.] The tendon of the flexor pollicis longus, the radial artery, and the tendon of the flexor carpi radialis were next transferred *en bloc* to the flexor face of the bony rod; the dorsal face carried five tendons, the brachioradialis insertion, and, fastened to the rod with catgut, four tendons—the two radial extensors of the wrist, the short extensor, and long abductor of the thumb (Fig. 3). [These tendons, after re-education, become pronators and supinators, and act powerfully because they are attached to projecting bone.]

The radial skin-flap (Fig. 4) was stitched round the new digit (Fig. 5), and the ends of the ulnar and radial shafts were shortened sufficiently to allow the ulnar skin-flap (Fig. 4) to be turned over them like a hood, the edge of which was sutured to the raw edge of skin at the root of the new digit, thus completing the web between the digit and the stump (Fig. 5). The new digit was then splinted at an angle to the volar face of the forearm. In this way the limb, as in my first case, was provided with an extremity shaped somewhat like the small glove used in prize fights (Figs. 6 and 7). To this it was my intention, in the boy's case, to add a second digit, made from the ulna, instead of completing the grip by means of an artificial finger; the skin of the child's limb, however, was insufficient for this purpose.

AFTER-TREATMENT

This was begun as soon as an *x*-ray showed that the new digit was ankylosed with the radius (Fig. 8). The forearm was then fitted with a temporary prosthesis made of plaster-of-Paris that bore a "finger," against which the new digit was carried by the movement of pronation; this afterwards served as a model for the definitive apparatus.

My first patient used a strong leather gauntlet, stiffened with lateral plates of metal and laced to his forearm, for more than a year; at first this was quite satisfactory, but in time it worked loose and began to turn round when the new digit pressed on its artificial opponent. To avoid rotation of the gauntlet I had it fixed to a leather arm-piece by means of two lateral plates hinged at the elbow. Both patients now wear this improved form of prosthesis.

The use that the second patient makes of his reconstructed forearm is shown in one of the enlarged extracts from a cinematographic film that illustrates this paper (Fig. 8).

For the skilled movements of both patients I am indebted in a special degree to Miss Gwillim, sister-in-charge of the re-education and massage department, Kasr-el-Aini Hospital, and my thanks are due to my colleague Dr. R. A. Gardner, director of the department of radiology, for his *x*-rays. The improved gauntlets were made for me by Mr. A. Moring of Cairo.

REFERENCE

[1] *British Journ. of Surg.*, 1928, xvi, 62.

PUERPERAL COMA: RAPID RECOVERY FOLLOWING INFLATION OF BREASTS

BY

J. G. KININMONTH, M.D.Ed.

HOVINGHAM, YORK

The following case is recorded, partly because of the rather unusual treatment adopted, and partly to draw attention to the possibility of the occurrence in puerperal women of a condition analogous to milk fever in cows.

A primipara, aged 21, with nothing of note in her previous history, was first seen early in September, 1930. Her pelvic measurements were normal, the foetus was presenting by the vertex, and nothing unusual was found in the urine. Labour commenced about 5 a.m. on September 24th, and delivery was accomplished on the following day at 12.30 a.m., the head, which was in an occipito-posterior position, having been rotated manually and extracted with forceps. The child, a full-time healthy male, was alive, and there was no perineal tear or laceration of the vaginal walls. During the next forty-eight hours progress was satisfactory, but on the night of September 26th the patient was disturbed by nausea and vomiting. This continued next day, but her temperature remained normal until 6 p.m., when it rose to 101° F., the pulse rate being 128. She then looked very ill and complained of epigastric pain. Nothing abnormal was detected on physical examination, and she had a fairly good night after a dose of chloral and bromide. On the morning of September 28th the temperature was 100.5° and the pulse 110; she looked unwell and had a flushed face and slight icteric tinge of the conjunctivae. Her mental condition was normal. On examination some tenderness was felt over the liver; the uterus was not specially tender, and appeared to be involuting normally; the lochia were also normal. She was given glucose salines and later glucose by the mouth, and vomited twice only during the day. She was seen again at 8 p.m., when her temperature was 98°, and the pulse 100. She had been asleep and seemed dazed; she did not answer when spoken to, but this was attributed to her sleepy condition. At 4 a.m. on September 29th she was found to be in a very stupefied condition, her speech being unintelligible. The temperature was 102.8°, and the pulse 140. Her condition was so alarming that 0.5 c.cm. of pituitrin, and a rectal saline, were given. When seen half an hour later her pulse had improved considerably, but she was almost completely comatose. At 11 a.m. her temperature was 100°, and her pulse 120; she was jaundiced and practically in a state of coma, resenting only the most painful stimuli and being quite incontinent of both urine and faeces. There was a slight froth at her lips, and she dribbled saliva, though she usually swallowed fluid placed in her mouth. The tongue was moist, the eyes were open and occasionally rolled about, but apparently she did not see. The pupils were widely dilated, but reacted to strong light. Knee-jerks and ankle-jerks were present and equal; there was no clonus, and the plantar reflex was flexor. Nothing abnormal was detected in the chest. A vaginal examination was made, but nothing abnormal was found. An intracervical swab yielded a scanty growth of diphtheroids and *Bacillus coli*, but no streptococci or other pyogenic organisms. A catheter specimen of urine was found to contain numerous pus cells, and gave a pure growth of *B. coli*. It also contained bile and a trace of albumin, for which the pus cells would account. There were no leucin or tyrosine crystals. A leucocyte count showed: white blood cells 27,900, polymorphs 84 per cent., lymphocytes 10 per cent., monocytes 6 per cent., no eosinophils or basophils being seen.

The condition remained much the same throughout the day, during which 30 c.cm. of antistreptococcal serum was given. During the night she was rather restless, and cried out occasionally "like a meningitic." Next morning (September 30th) she was much more restless than on the previous day, and tossed about the bed. She still took no notice of questions or of her surroundings, and was still incontinent and dribbled saliva, but took fluids fairly well. Her temperature at 11 a.m. was 100°, pulse rate being 128. At 7 p.m. she was seen by Professor Oldfield, her condition

then being unchanged from the morning. He thought that the condition might be analogous to "milk fever" of cows, and suggested mammary inflation. This was carried out with a sterile Higginson syringe attached to an exploring needle, which was thrust well into the breast substance. The nipples were tied off with tape, since, before this was done, air was observed bubbling through milk which had been expressed on to the surface. Both breasts were inflated as far as possible, though great tension was impossible on account of spreading surgical emphysema. Two hours later she made a motion of assent when asked if she would like a cup of tea—the first sign that she had understood a question for forty-eight hours. On the morning of October 1st she was conscious and rational, though childish. She spoke rather thickly and with difficulty, but this may have been due to the surgical emphysema which had spread up her neck, to the lower jaw on either side, and down over her abdomen. Her temperature was 99.5°, and the pulse 100; the jaundice was much less. The following day she was perfectly clear mentally, no longer childish, and looked and felt quite well, though her temperature was 100°, and there was still pus in the urine. Thereafter progress was very satisfactory, for, though during the next week her temperature occasionally went up to 100° and pus remained in the urine, she ate, and felt perfectly fit. Recovery was complete by October 20th.

COMMENTARY

The case was clearly a toxaemia of an unusual kind arising during the puerperium. The clinical picture was unlike puerperal sepsis, eclampsia, acute yellow atrophy, or delayed chloroform poisoning, but resembled "milk fever" which occurs in cows. The remarkable recovery after mammary inflation makes milk fever as likely a diagnosis as any. The pyrexia can be accounted for by the *B. coli* infection, which was probably incidental to, and not the cause of, the extraordinary cerebral condition. It is unlikely that the case is unique; some of the cases described in hospital reports as "coma without fits" are probably really cases of "milk fever."

This condition occurs in cows two or three days after calving. The animal is noticed to be uneasy and unsteady on its feet, falls and is unable to rise, and rapidly becomes unconscious, with dilated pupils, stertorous breathing, and dribbling saliva. The heart rate is increased, but the temperature is always subnormal unless some febrile complication is present. Without treatment 30 per cent. are said to recover spontaneously, the remainder die. About thirty years ago, inflation of the udder was found to have an almost miraculous effect in these cases; from a comatose and apparently fatal condition the cow completely recovers within eight hours. This treatment—until lately purely empirical—has reduced the mortality from milk fever to practically *nil*. A condition similar to that found in the cow occurs in the mare, the ewe, the sow, the goat, and the bitch, but it does not appear to have been described in woman.

It has been recently shown by Russell Greig[1] that milk fever is associated in every case with a marked hypocalcaemia, and that recovery following inflation is accompanied by a rise in the blood calcium to normal. Recovery can also be brought about by the injection, intravenously or subcutaneously, of calcium gluconate. According to him the acute blood calcium deficiency—the essential cause of milk fever—is the result of an inefficient parathyroid mechanism which is unable to cope with the drain on calcium resulting from the establishment of lactation. The specific effect of mammary inflation is apparently due to the mechanical distension preventing further interchange of calcium from the blood to the gland acini and possibly causing a reabsorption of calcium from the gland. Unfortunately in the case reported no blood calcium determination was done, and it is therefore impossible to identify precisely the condition present with milk fever.

I wish to express my thanks to Professor Carlton Oldfield, at whose suggestion the mammary inflation was done, for his very valuable help in this case.

REFERENCE

[1] Greig, J. Russell: *The Veterinary Record*, x, 301.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

TETANUS: UNUSUAL CHANNEL OF INFECTION

In view of the unusual channel of infection the following case of tetanus may be of interest.

A man, aged 58, was admitted on December 28th, 1930, complaining of cramp-like pains throughout the body, and stiffness of the face, jaw, and legs. He could talk and swallow only with difficulty. Examination confirmed this stiffness, and while being observed the patient had several mild tetanic spasms. Careful search revealed no wound, but he had a chronic varicose ulcer of the right leg, which was fairly clean. The blood pressure was 185 mm., and the urine contained many granular casts. The blood non-protein nitrogen was 60 mg. per cent. The case was diagnosed clinically as tetanus, and large doses of antitetanic serum were given intravenously. The patient died suddenly on December 30th.

Post-mortem findings were largely negative, except for some chronic nephritis. Two pieces of the ulcer were removed and incubated in meat medium. On the fifth day many bacilli bearing terminal spores were seen. The culture was then submitted to Dr. T. B. Davie of the Thomson Yates Laboratories, University of Liverpool, who reported as follows. "Subcultures from your original meat medium culture showed very numerous streptococci, and among other organisms a few terminal spored organisms. Anaerobic cultures showed chiefly, and in large numbers, *B. welchii*, and a moderate number of terminal sporing organisms, most of which, however, appeared to be the non-pathogenic frequenter of wounds—Hibler's bacillus—but a few appeared to resemble *B. tetanus*. Animal inoculation: two guinea-pigs were inoculated with the mixed anaerobic culture. Both were given protection against *B. welchii* (anti-gangrene serum), and one against *B. tetanus* as well. The latter guinea-pig is still healthy, the other has developed pathognomonic extensor spastic paralysis. *B. tetanus* thus proved present."

It is interesting to note that the man's occupation was that of a fish frier, and it is quite likely that the source of infection was the soil from the potatoes used in that trade.

My thanks are due to Dr. Davie for the great trouble and care taken in investigating the culture, and to Dr. H. H. MacWilliam for permission to publish the case.

W. S. BRINDLE,
Liverpool. Assistant Medical Officer, Walton Infirmary.

MELAENA NEONATORUM

The report in the *British Medical Journal* of August 9th, 1930 (p. 213), of a case of melaena neonatorum prompts me to record the occurrence of a similar case accompanied by albuminuria of pregnancy in the mother.

For three weeks before her first confinement a primigravida, aged 29, had marked albuminuria; the systolic pressure was 150 mm., and there was no cardiac hypertrophy. On an average 75 oz. of urine were passed in the twenty-four hours; her temperature was normal, and she complained of no toxic symptoms. With rest in bed, restricted diet, and eliminative treatment the albuminuria was considerably reduced before the onset of labour. At 8 a.m. on February 2nd the patient was delivered of a female child weighing 7 lb. The labour was prolonged owing to the presentation being

right occipito-posterior, and delivery was effected by forceps and chloroform-ether anaesthesia.

On the first and second days the baby vomited a little bile-stained fluid, and at 7 p.m. on the second day (February 3rd) passed per anum more than a tablespoonful of bright red blood mixed with clots. The following day all the napkins were soaked with black tarry material. The baby continued on three-hourly breast feeds; no further vomiting occurred, but it became pale, with parched lips and tongue.

Since the melaena continued, 10 c.cm. of blood were withdrawn, on February 5th at 11 a.m., from one of the veins of the father's arm, and rapidly injected into the baby's buttock. No further bleeding occurred, and five weeks later, when the baby was vaccinated, it appeared to be in perfect health.

The puerperal history of the mother was uneventful, except for slight post-partum haemorrhage on the seventh day, which cleared up in forty-eight hours with the administration of ergot. By February 26th she had resumed her usual housework, and was albumin-free. No history of haemophilia was elicited from either of the baby's parents.

Subsequently a colleague told me of a case of melaena neonatorum which recovered after the injection of anti-diphtherial serum. From this it would appear that the essential factor in treatment is to supply thrombin, or the so-called fibrin-ferment contained in blood serum, either by injecting serum or by forming an intramuscular haematoma, which would, conceivably, produce local serum formation in the infant's tissues.

Hodnet, Salop. J. NOËL BANKS, M.B., Ch.B.Ed.

British Medical Association

CLINICAL AND SCIENTIFIC PROCEEDINGS

SOUTHAMPTON DIVISION

Treatment of Rheumatic Disease by Heat

A general meeting of the Southampton Division was held at the Royal South Hants and Southampton Hospital on January 28th, when Dr. R. FORTESCUE FOX addressed the members on the treatment of various types of rheumatic disease by heat.

Dr. Fortescue Fox began by remarking that of recent years one objective of treatment in chronic rheumatic disease had been strongly emphasized in this country—namely, the elimination of infective foci. He himself believed that infection did not by any means account for the causation of rheumatism, and that other forms of treatment were imperatively necessary in most chronic cases. La Ligue Internationale Contre le Rhumatisme, of which he was president, had put forward a rather comprehensive conception of etiology. Four possible factors to be borne constantly in mind had been defined by van Breeman as follows: (1) cosmic or external influences, such as climate, occupation, and traumatism; (2) conditions of the skin and circulation; (3) constitutional abnormality; (4) infection.

Confining himself generally to the external causes operating upon the surface of the body, Dr. Fox said that the healthy person's tolerance of external cold was sometimes cited to throw doubt upon the fact that persons in ill-health were extremely sensitive to changes of temperature. The sturdy, cold-bathing Englishman found it difficult to understand that some rheumatic subjects might be seriously chilled by dressing or undressing in an unwarmed bedroom. Healthy persons lived with comfort through an English winter at a temperature about 50 degrees below blood heat, and equally found a tropical temperature of 130 degrees not insupportable. The ability to resist climatic cold depended on the generous production of body heat, just as the ability to resist external heat depended on the power of rapid cooling by radiation and perspiration. The fundamental connexion between the thermal balance of the body and disease was apt to be forgotten. A local or general elevation of temperature was the normal reaction to the invasion of pathogenic organisms. Conversely—a fact of perhaps equal significance—many chronic diseases, such as old tuberculosis, were associated with depressions of temperature, local or general. Subnormal temperatures might be associated with poor digestion, poor circulation, and nervous depression, and they were common in old age and among otherwise healthy sedentary people. The main elements of climate—temperature, air movement, and moisture—were usually combined in their action upon the human body. Consequently, the organism reacted, not to a single impression, but to a constantly changing combination. The loss of the body heat was increased by moisture, as in cold mists, owing to the great capacity of aqueous vapour for absorption of heat. The cooling of the body by exposure in temperate climates was wholly beneficial to health; but, on the other hand, when heat production was deficient, from ill-health, the cooling process must be correspondingly reduced.

After making the inference from the work of Elsworth Huntingdon on optimum temperatures, that the ideal mental climate corresponded to the English winter, and the ideal physical climate to the English summer, Dr. Fox pointed out that as medical men they must not consider normal subjects. The temperature of London in January was undoubtedly stimulating to persons in vigorous health, but the mean temperature of an English summer, with its more even warmth, and only moderate variations of wind and weather, was much more favourable to lowered conditions of health. Everyone knew the relief of fatigue that followed a brief hot bath, and nothing compared with heat for the relief of pain, tension, and vascular stasis. Heat could be made to undo the effects of cold, of traumatism, and even of septic invasion and inflammatory reaction. Its proper application allayed functional disturbances, restored the warmth of the body, and increased and equalized the circulation of the blood. There could be no question that the systematic use of thermal agencies had a wide field of usefulness in preventive and curative medicine.

The word "rheumatism" signified an undifferentiated group of diseases, whose scientific classification awaited an accurate knowledge of causation. Many cases described as "rheumatic" were affected in one way or another by cold and heat. One stigma of rheumatism was a defect of the capillary circulation in the skin, set up by the recurrent irritation of cold and other climatic factors. When the irritability was sufficiently prolonged, an autonomous capillary spasm was set up, and later a stasis in the lymph spaces. True rheumatism, therefore, appeared to be a disease in which, following on circulatory spasm and stasis in certain capillary areas, structural changes supervened, such as fibrositis, as a result of continuous or repeated irritation. To this, and to various subsidiary factors, such as food irritants and infective organisms, must be added a constitutional abnormality in the response to external cold. This explained the curative effect of treatment by heat and induced hyperaemia, also elimination, endocrine therapy, and treatment having for its object the restoration of the normal reaction to cold. This definition separated from a mass of diseases the category which he would call true or capillary rheumatism, a category from which the acute disease known as "rheumatic fever" must be ruled out, as well as other forms of specific arthritis.

Dr. Fox then examined singly the methods of applying heat in England, supposing that a change to a warmer climate during the colder months of the year was not possible. The hot vapour bath, in which the air was

supersaturated with moisture, and which was accompanied by mechanical stimulation and followed by cold, was the best preventive treatment for catarrh and rheumatism. Sedative baths, combined with immobility and rest—for example, warm air at 95° F., softened by vapour from hot water—had the effect of removing impurities, softening the hard epidermis, and gradually restoring the natural action of the skin, without undue heat or excitation. These were most valuable in sciatica, lumbago, muscular rheumatism, and in nearly all forms of painful arthritis and fibrositis. Where pain was localized, local vapour baths or douches were effective. Dr. Fox added that rheumatic patients, heated by baths, should not be allowed to cool down to their former temperature. An artificial climate should be provided and maintained over a period of three or four weeks. The great difficulty in treating rheumatic disease in a cold climate was intercurrent cooling, which checked the increase of circulation effected by the bath. A third means of treatment was a movement cure in subthermal moisture and heat (95° to 100°). This included immersion and manipulation in pools, as well as warm manipulation douches, like those of Buxton, Bath, and Aix-les-Bains. Such treatment had its principal indications in the chronic rheumatic affections of middle life—climacteric arthritis, and congestive and toxic conditions, formerly described as "gouty." A stimulant thermal cure, like the brine bath at Droitwich, was beneficial in most cases of rheumatism that had passed the acute stage. It provided a general mild, counter-irritant action of the skin, usually combined with gentle movements, and was indicated in convalescence from infective arthritis and in chronic sciaticas and lumbagos. He was of opinion that the salt cure in England should be systematically developed in its application to rheumatic disease. Finally, hyperthermal applications of various kinds, such as volcanic muds, peat, melted paraffin, and whirling water, raised the temperature of the affected part several degrees, powerfully stimulated the arterial circulation, and in favourable cases resolved long-standing deposits and swellings.

In conclusion Dr. Fortescue Fox recapitulated his scheme of treatment as follows:

(*a*) For preventive treatment: the very hot vapour bath.
(*b*) For acute and painful states: sedative heat and moisture, general and local, with rest and no movement.
(*c*) For the rheumatism of middle life: a sedative warm movement cure; manipulation in douches and pools.
(*d*) For more advanced cases: surface stimulation; salt baths, with cautious movements.
(*e*) For unresolved and old-standing arthritis and osteo-arthritis, climacteric and senile: hyperthermal applications.

All these modes of treatment operated upon the body as artificial climates. They should be taken by preference in the autumn and early spring, and generally be combined with eliminative treatment; further, in an English climate, the patient must be maintained in a thermal environment, so as to secure the cumulative effect of heat, during the whole period of his cure.

Reports of Societies

INDOLENT ULCERS OF THE LEG

A meeting of the Medical Society of London took place on February 23rd, with Dr. R. A. YOUNG, president, in the chair.

Mr. DICKSON WRIGHT brought forward for discussion the subject of indolent ulcers of the leg and their treatment. This was a common disease, and caused a good deal of suffering, disability, and economic loss. Vascular equilibrium in the leg could be lost owing to a number of causes. These cases were almost invariably known as varicose ulcers, but "gravitational ulcer" was a more comprehensive description, and had the merit of indicating the line of treatment which led to successful results. Among the causes of the development of ulceration were occupations involving long hours of standing, also the effects of pregnancy, venous obliteration of all kinds, lymphatic obstruction, severe trauma of the leg necessitating long rest in bed (as in fractures) ankylosis of the joints, especially the hip-joint, and senile vascular changes affecting the veins rather than the arteries. Bodily habitus was of some importance; the obese and the very tall were prone to develop very stubborn ulcers, and there were obvious reasons why these individuals had difficulty in the venous return in the leg. Gravitational ulcer was associated with a number of other pathological conditions, some of them due to disturbance of the vascular equilibrium and others to the presence of the ulcer itself. Every structure in the leg, from the bone marrow to the hair follicles, suffered changes due to inadequate nutrition. The pigmentation, which was the rule, was due to a mixture of altered blood extravasation and tattooed dirt. Abnormalities of the foot were usually secondary to the ulcer; it was rare to find an ulcer with a normal foot. Talipes equinus was a common deformity. Malignant disease supervened in a small number of cases, a certain sign of this being the invasion of the bones by the growth. The incidence of this complication was fifty times greater in the male than in the female. The most logical method of treatment was by neutralization of the effects of gravity on the circulation of the dependent extremity. The treatment must be simple, not too time-consuming, ambulatory, and not painful or productive of great inconvenience to the patient. It must not involve any hospitalization, it must as far as possible be permanent in its effects, and it must be cheap. The kind of treatment which he prescribed cost one shilling a week, and at St. Mary's clinic on a recent morning, out of twenty-three men whom he saw undergoing treatment, twenty-two were in full work. The principle of the treatment was support to the limb to neutralize vascular, lymphatic, and tissue fluid engorgement. The support he used was an adhesive plaster of an elastic type, applied directly to the skin. It required 6 yards of a 3 in. bandage. If varicose veins were the cause of the ulcer they were injected as they rose through the oedema expelled by the bandage. When the ulcer was healed, each case was reviewed as to the necessity of a permanent support. For some cases of "white leg" a permanent support was as necessary as a truss for hernia. Mr. Wright showed a cinematograph film demonstrating the technique of the treatment, including his method of skin grafting. He mentioned that the oldest ulcer he had treated by this method had dated back to 1877. The drawback of the treatment was the occasional development of eczema. The bandage and the injection technique were carefully shown on the screen. Into the superficial veins he injected sodium morrhuate, which could be turned into a froth.

Sir ALMROTH WRIGHT considered that Mr. Wright had succeeded in a great humanitarian achievement. His own opinion was that these cases had to be looked at from the point of view of bacterial disease. Ordinary tissue might be regarded as resembling a very close meshwork, and if a micro-organism got between the meshes it was picked up by a white blood corpuscle. But when the fluid increased in the tissues, and the lacunae became large, the micro-organism could not be dealt with in that way, and the white blood corpuscle, emerging from the capillary, was in an unfavourable fluid environ-

ment. Therefore the oedematous tissue was a suitable focus for the development of micro-organisms, and that was the condition which existed in varicose ulcer. Every kind of micro-organism was found, and the question was how an organism which ordinarily would not grow in serum became so changed that it would do so. He suggested that the white blood corpuscles, coming out to trace the microbes, found themselves in unfavourable conditions, and degenerated, giving up trypsin. The trypsin overcame the antitryptic power of the blood, which was the only thing that kept these microbes from growing in it. This bacterial condition was not very amenable to vaccination. If one wanted to prevent suppuration of a blister, one pricked the blister and let out the fluid. The treatment of these infections was to let the fluid out. In the war he found that to put a salt solution into the wounds drew out the fluid, but that was very irritating to the ulcer. Another method was by the use of a " lymph leech "—that is, a test tube in which a vacuum was made and fluid drawn out—but that method was not to be recommended for varicose ulcers. The only method which seemed practicable was the one, expounded by Mr. Wright, of using strong pressure over the whole area, converting an oedematous tissue, which was a possible soil for microbes, into a tissue in which they could not grow. A striking part of Mr. Wright's technique was the making of skin grafts. Grafts had been made with the greatest care, but large numbers of them had been found to die, probably because, with the white blood corpuscles disintegrating on the surface of the wounds, and the liberation of trypsin, the tender roots of the grafts could get no hold. If the grafts, however, were pressed in, they got into a region definitely antitryptic, and that had a great bearing on the success of the result. What he did not understand was why the cases did not break down again after the skin grafting, with the patient still going about in the upright position.

Sir ERNEST GRAHAM-LITTLE said that the treatment of this troublesome condition by Mr. Wright at St. Mary's Hospital had been a revelation to him. These ulcerations were a reproach in every dermatological department, but now the patient with varicose ulcer need not be kept from work, nor need the expenditure on treatment be considerable. Mr. Wright had converted a vicious circle into a one-way street. He questioned any implication that this was a superficial infection. A superficial infection was quickly subjugated by surface antiseptics, but these did not avail with varicose ulcers. In the correspondence columns of the *British Medical Journal* the statement had been made that this was the revival of an old method ; if so, the method had fallen into disuse, and Mr. Wright was entitled to every credit for re-establishing it in such a way as to constitute a revolution in treatment such as he himself had witnessed in scarcely any other branch of medicine.

Mr. TURNER WARWICK spoke on the mechanics of venous return, and showed slides from which he argued that this was not a gravitational mechanism, as Mr. Wright supposed, but a backward and forward movement through the perforating veins, so that he still preferred the term " varicose ulceration." Mr. D. H. PATEY had found elastic compression result in the healing of ulcers which had failed to respond to other technique, but he thought equally good results might be obtained more cheaply by painting the whole of the leg, including the ulcer, with Unna's paste, and then applying a crêpe bandage. This had the advantage that sweat was not retained, and there was not the same tendency to dermatitis. Dr. H. G. ADAMSON recounted the history of early treatment of this kind, as given in his letter in the *British Medical Journal* of February 14th (p. 284), noting the work of Richard Wiseman, Michael Underwood, Thomas Whately, and Thomas Hunt. Mr. J. E. H. ROBERTS thought that credit was due to Mr. Wright and to any man who introduced a method—whether or not it had been introduced before—in such a way that it came into general practice. Although the method of compression was an old one, it had virtually died out until Mr. Wright reintroduced it, with improvements in technique, combined with the modern treatment of injecting veins and skin grafting. Mr. H. W. S. WRIGHT pointed out the importance of a continuance of skilled care in all these cases.

Mr. DICKSON WRIGHT, in reply, said that about 75 per cent. of the patients provided the veins had been injected and the oedema reduced, could be sent away by the surgeon with a fairly easy mind. He instructed them to discard shoes, if possible, and to wear boots, to put a piece of sticking plaster over any graze, and to return to the clinic on any sign of recurrence. The other 25 per cent. were old fracture or typhoid cases and the like—people who were never safe from ulceration. But why leave them ulcerated because the ulcer was going to recur? It was easier to look after them and keep them well than to let them relapse and then attempt to cure the condition. He defended the term " gravitational ulcer " ; " varicose ulcer " led one to suppose it due to varicose veins, which was not always the case. The average time for removal of these bandages at St. Mary's Hospital was once every three weeks.

PROTEIN CONTENT OF THE PLASMA

A meeting of the Section of Medicine of the Royal Society of Medicine was held on February 24th, with Dr. R. A. YOUNG in the chair, when a discussion on the practical significance of the protein content of the blood plasma was opened by Professor I. SNAPPER of Amsterdam.

For years, Professor Snapper said, we had been trying to pump chemical substances into the blood of patients as a therapeutic measure, but it was probable that the physical properties of the blood were far more important than its chemical properties. In the study of immunology it was thought at first that antitoxin was a chemical substance ; now it was believed to be the result of a change in the physico-chemical properties of the blood plasma. Hypoproteinaemia, to take another example, had been held responsible for the appearance of oedema, but in his opinion a diminution of protein could not possibly be the sole cause. The chief subject of his address was the sedimentation rate of the red blood cells ; the older physicians had known that the blood of pneumonia patients showed more rapid sedimentation than that of the normal person, and had based their prognosis on this factor. If 2 c.cm. of normal blood were mixed with 0.5 c.cm. of sodium citrate, and part of the mixture was drawn into a 1 c.cm. pipette suitably calibrated, it was found that at the end of one hour 6 to 12 mm. of plasma had become visible at the top ; with a pneumonia patient the sedimentation rate was so greatly increased that as much as 100 mm. of plasma might be visible at the end of an hour. In other serious organic diseases the same thing occurred, and the practical value of an increase in the sedimentation rate lay in the indication it gave of some grave organic disorder. The responsibility for the acceleration lay with the plasma, not with the red corpuscles, for if the cells of a pneumonia patient were separated by centrifugalization, and mixed with plasma from a normal person, the rate of sedimentation was not increased ; whereas if normal blood cells were mixed with pneumonic plasma the rate was accelerated. The substances in the plasma responsible for the change, as could be shown in various ways, were fibrinogen and globulin. Blood from a pneumonia patient, for example,

which had been defibrinated by shaking with glass beads, or by stirring with rods, no longer showed an increased sedimentation rate. It might be argued that the stirring had altered the blood in other ways, but it could be demonstrated that where the globulin content of different samples of blood was normal the sedimentation rate varied directly with the fibrinogen content. But in other cases it had been found that the sedimentation rate was increased, although the fibrinogen content was normal; in these the globulin content was raised. A third factor influencing the rate was the cell content of the blood; in anaemias the reduced viscosity of the blood led to a more rapid sedimentation. Fibrinogen and globulin were responsible for the rate at which the blood cells were coagulated into masses, but once these masses were formed the sedimentation rate depended on the viscosity of the blood, and hence on the anaemia. Fibrinogen was formed in the liver, but in cirrhosis or chronic venous congestion of the liver the sedimentation rate was increased, because the globulin content of the blood was raised. Why, he asked, should an increase of fibrinogen or globulin give rise to an increased sedimentation rate? It used to be thought that the negative charge on the red blood cells repelled them from each other, and that when this charge was reduced they agglutinated. This argument could not be maintained. It was easy to diminish the sedimentation rate *in vitro*; the addition of novasurol to blood with a high sedimentation rate led to a marked diminution. Professor Snapper said that he had tried other diuretic substances with variable effects; euphyllin and caffeine citrate had not reduced the rate, but diuretin had caused a great reduction, and so had salicylic acid, although benzoic acid had not. But the negative charge on the corpuscles, the fibrinogen content, and the viscosity were all equally unaffected by the addition of salicylate, and the explanation appeared to be that salicylates had an influence on the stability and lability of the plasma proteins. The rate of sedimentation was only a function of the stability and lability of these proteins, and the whole phenomenon was a physical rather than a chemical one.

Dr. W. PAYNE said that he had been working on the sedimentation rates in acute rheumatism in children during the past year. He had found that the rate ran parallel with the clinical findings, and had usually returned to normal by the time the physician in charge had said the child was ready to get up. In cases that were going to relapse the sedimentation rate remained high, and in several cases of sore throat due to haemolytic streptococci the sedimentation rate had gradually increased after apparent recovery, and a relapse had supervened. The use of salicylate appeared to mask symptoms in some cases; he described a case in which the child had apparently returned to normal, but on withdrawal of salicylates the symptoms returned; the sedimentation rate had remained high throughout.

Dr. J. FORESTIER spoke of the value of the sedimentation test in chronic arthritis. In osteo-arthritis and so-called fibrositis the sedimentation rate was normal, but in rheumatoid arthritis it was markedly raised. He had found it to be the best test to estimate the value of treatment, and a patient with rheumatoid arthritis could not be said to be cured until the sedimentation rate was normal. Dr. GEOFFREY MARSHALL had found that the sedimentation rate was increased in pulmonary tuberculosis when the inflammation was extending, and was reduced during healing.

The CHAIRMAN said he had used the sedimentation test as a routine in chest cases for the past four or five years. An increased rate was not valuable from the point of view of diagnosis, because it was found in so many conditions, but it had impressed him as being valuable in prognosis and in suggesting treatment. He wished there was more uniformity in the manner of recording the rate.

In replying, Professor SNAPPER said that although it was true that in certain cases the sedimentation rate ran parallel to the course of the disease, a normal sedimentation rate did not necessarily exclude severe disease in every case; in the late stages of degeneration of the liver, for example, less fibrinogen was formed, and the rate fell. It should not be regarded, therefore, as a true indication of improvement or the reverse. The method he employed was that of Westergren. His reason for not accepting hypoproteinaemia as the sole factor producing oedema required explanation. We were taught that there must be an equilibrium between the pressure inside the capillaries and the pressure outside, which was maintained by osmosis. But the proteins could not permeate the vessel walls, and therefore they exerted a small but constant pressure, which, until lately, we had been taught to neglect. As there was a hydrostatic pressure of 35 cm. of water from the heart forcing fluid out of the vessels, the proteins probably played an important part in preserving the balance. A reduction of protein might therefore be expected to lead to an escape of fluid into the tissues, such as that which occurred in the hypoproteinaemia present in nephrosis. But in all cachectic diseases the albumin and globulin of the blood were decreased—in such divergent conditions as lymphogranuloma, pulmonary tuberculosis, degeneration of the heart, and tumour of the lung; and oedema might, of course, be present in any of these diseases. Nevertheless, it was always possible to find some cases with a low colloid osmotic pressure and no oedema. Moreover, if blood were repeatedly withdrawn from a dog, defibrinated, and reinjected, until the colloid osmotic pressure were greatly reduced, no oedema would develop unless sodium chloride was given; the gross oedema which arose then disappeared rapidly when diuresis was produced, showing that hypoproteinaemia alone was insufficient to cause oedema.

TREATMENT OF GLANDULAR DEFICIENCIES

At a meeting of the Chelsea Clinical Society on February 17th, with Dr. F. J. MCCANN in the chair, a discussion on the treatment of glandular deficiencies was opened by Dr. W. LANGDON BROWN.

Dr. Langdon Brown said that the practitioner was constantly being torn between the confident claims of manufacturers and the conservatism of the laboratory worker. Enterprising firms had made the diagnosis and treatment of glandular diseases the simplest matter in the world for the jaded practitioner, but the laboratory worker demanded that the gland in question should be one which formed an internal secretion, that an active principle of the secretion could be extracted, and that a method of administration of the extract should be found which would admit of its utilization by the body. Herein the laboratory worker was right, but he was wrong in being extremely sceptical of any other evidence. Myxoedema and many other conditions were all discovered at the bedside, and associated with a glandular disturbance before the laboratory had any idea of the functions of the gland in question. There was no reason, therefore, to apologize for using empirical methods. Empiricism had often won therapeutic success which had had to wait long for scientific explanation. Endocrine therapy won its first easy triumphs with thyroid extract, and for some time it was not realized that the conditions obtaining there were rather exceptional. The thyroid gland contained a considerable reservoir of secretion, and the extract could be readily assimilated by the alimentary tract. Organotherapy had not kept pace with endocrinology, and this was just as well, for if all the extracts given had been potent much harm would have been done. Advance was

being made along certain definite lines in addition to the empirical one—namely, (1) the isolation of new hormones; (2) the introduction of methods of physiological standardization, such as the lowering of blood sugar for insulin, and the estimation of the calcium content of the blood for parathormone; (3) the exploration of new routes for administration, the most successful being the giving of pituitrin by the nasal route; (4) the use of synthetic drugs, which, while having similar pharmacological actions to hormones, were capable of oral administration; (5) the use of other drugs or physical methods to affect the endocrine glands, iodine medication in thyroid disorders being the outstanding example. Dr. Langdon Brown then went on to consider the application of this treatment to certain glandular deficiencies. On hypothyroidism he called attention to three points: (1) that minor degrees of hypothyroidism were still frequently overlooked; (2) that it was advisable to start with a small dose and push up gradually; (3) that cases of mongolism or hypopituitarism were still sometimes mistaken for hyperthyroidism, and although thyroid medication might help such patients, the results naturally were not nearly so good. By far the commonest type of pituitary deficiency in his experience was Fröhlich's syndrome of obesity and sexual hypoplasia. In dealing with cases in which there was a history of rather premature development followed by a check, pituitary and thyroid combined was the best treatment. In a discussion of gonadal hormones, he mentioned that he had utilized the luteal hormone successfully for checking prolonged lactation, for relieving the pituitary headache which afflicted some women on putting the infant to the breast, and in some cases of habitual abortion. The luteal hormone was essential for the maintenance of hypertrophical uterine mucosa in which the embryo could find a nest. After dealing at some length with oestrin, and giving the conclusions of Parkes's very careful monograph on the internal secretions of the ovary, the speaker touched slightly on adrenaline deficiencies, and concluded with a few remarks on parathyroid extract, saying that it was not at first realized that parathormone raised the blood calcium at the expense of the bones; it was therefore strongly contraindicated in rarefying diseases of the skeleton. Brilliant as were the effects of parathormone in acute tetany, it was much less satisfactory in the chronic type, where irradiated ergosterol and calcium salts, especially if aided by hydrochloric acid, might be very helpful. As to the position of insulin, this was now undisputed. Sometimes in children it acted so quickly that it was difficult to prevent the hypoglycaemic reaction. Graham had utilized the well-known antagonism between insulin and pituitrin by giving, for example, two units of the latter to twenty of the former, and so delaying the rate of fall in the blood sugar.

Dr. HAROLD PRITCHARD said that he had treated cases exhibiting Fröhlich's syndrome by giving a mixed preparation of thyroid and pituitrin by the mouth; the cases were later treated by giving thyroid by the mouth and pituitary extract under the skin, with improved results. He also raised the point as to whether a blood sugar curve would be of any value in estimating the basal metabolic rate, and whether there was any evidence that immunity against bacterial infections could be raised by increasing the hormone content of the blood.

Dr. CAMPBELL MCCLURE said that it was the clinician's duty to make increasing trial of organotherapy. The clinical results came first as a rule, and laboratory confirmation followed. The surprisingly successful results attributed to organotherapy by many practitioners might be due to the fact that many of the cases dealt with were highly suggestible, and that the practitioner was apt to attribute the good results to some preparation or other instead of to his own personality. He thought there was no doubt as to the activity of parathyroid given by the mouth. The depression following overdosage with pituitary by the mouth showed that in this case also absorption of an active substance took place.

Dr. PHILIP ELLMAN, speaking of the parathyroid gland, said that some years ago, before using any extract of parathyroid, he had a number of preparations carefully examined, and whilst several were composed of thymus and lymph gland tissue, only one contained a true extract of parathyroid. However, Collip's parathormone was now on the market, and was a most valuable preparation. Combined with preparations of calcium in suitable cases, especially gluconate of calcium, the treatment was such that calcium metabolism could be influenced as surely as sugar metabolism was influenced by insulin. He went on to refer to the value to be derived from an estimation of the calcium content of the blood in disease and as a means of control of therapeutic measures concerning calcium metabolism. Estimations he had made showed that the blood calcium in pulmonary tuberculosis was almost always within the normal limits of 9 to 11 mg. per 100 c.cm. of blood; but where, in active cases, the blood calcium was within minimal normal limits it could be raised by a combination of calcium and parathyroid therapy to maximum normal limits, with corresponding improvement in the pulmonary and general conditions.

Mr. C. HAMBLEN THOMAS instanced cases of middle-ear deafness, head noises, and frontal headache which had been benefited by treatment for endocrine disturbance. Mr. PHILIP FRANKLIN said that in certain cases of dysmenorrhoea the effect of desiccated whole gland or posterior pituitary substance was most startling, if one had sufficient experience to be able to select one's cases and choose the psychological moment. This latter was of vital importance; to know what case to choose and how to use the appropriate therapy was to have success, for the specificity of endocrines was amazing, and slipshod methods were of no use whatever.

Other speakers included Dr. MONTAGUE SMITH, Dr. DICKSON, and the PRESIDENT, the last-named referring to the value of organotherapy as applied to gynaecological conditions, on which, he said, he would have more remarks to make at a subsequent meeting.

UNUSUAL TUMOURS

The Section of Pathology of the Royal Academy of Medicine in Ireland met on January 23rd, the president, Dr. J. LAIT, in the chair.

Dr. L. G. GUNN read a note on a case of myelomatosis. The patient was a woman, aged 63, who had a history of nephritis for thirteen years. She fell, hitting her head against a fender, and owing to severe headache sought hospital treatment. In hospital the urine was found to contain Bence-Jones albumose. An *x*-ray examination showed several clear spaces in the bones. The patient died shortly after admission, and at the post-mortem myelomatosis was found. Dr. J. T. WIGHAM said that a discoloured swelling over the patient's eye, which might have been put down to trauma, proved to be a tumour. Microscopical sections showed numerous plasma cells. The tibia and fibula were removed, and longitudinal sections showed an extensive cystic condition. Dr. Wigham drew attention to the fact that the tumours had developed as separate nodules. All the bones of the body were myelomatous. The gall-bladder was full of gall-stones. The PRESIDENT said that only five of these cases had been reported in Ireland, and Bence-Jones proteinuria was present in all of them; it was found in less than 50 per cent. of the cases reported in Great Britain. In one of the reported cases 28 per cent. of myelocytes and plasma

cells were present in the blood. He regarded these tumours as of blood-forming tissue origin.

Sir WILLIAM WHEELER read a note on a case of tumour of the neck, the diagnosis of which presented difficulty. (See figure.) The patient was aged 26, and there was a history of about fifteen years. Clinically the growth was non-malignant; it was freely movable and painless, and extended from the lower lobe of the ear to the sterno-clavicular joint on the left side. It was not translucent with a Cameron light. A limited area of calcification could be seen in the *x*-ray photographs. An exploratory puncture resulted in the withdrawal of blood only. The tumour was soft and solid, giving, on palpation, the impression of a lipomatous mass. Obviously it did not spring from the parotid or thyroid glands. It had no resemblance to a tumour of the parotid gland. The provisional diagnosis, by a process of exclusion, was that the growth belonged to the lymphangiomatous group. At the operation the tumour was found to be enclosed in a thin vascular capsule In consistency and vascularity it resembled a goitre. The lower pole of the tumour lay in close relationship to the confluence of big veins above the clavicle and, higher up, to the deep vessels of the neck. It was not infiltrating or adherent. The operation was not unduly difficult, nor was there much haemorrhage, but the day following operation the heart commenced to fibrillate, and the man died suddenly. A complete post-mortem examination was not permitted.

Malignant endothelioma (?) of the neck. Clinically non-malignant.

Dr. J. LAIT, in demonstrating the specimen, said the tumour was heart-shaped, measured 6½ by 4 inches in its greatest diameter, and when fresh weighed 16 ounces. Its anterior surface was smooth, and in part covered by a thin capsule, to which were attached a few lymph glands. The upper pole was rather lobulated. When fresh the tumour was quite soft, and almost cystic to the touch; but when fixed and sectioned it was found to be entirely solid. The cut surface was divided into irregular oval-shaped areas, and was of a homogeneous structure, with scattered areas of haemorrhage. From the macroscopical appearance there could be little doubt that the tumour originated in the cervical lymph nodes, and there was no doubt of its being malignant, probably endotheliomatous. In one section there were large polyhedral cells, with faint outline, and large vesicular nuclei, occasionally grouped together in an imperfect syncytial arrangement. In another this structure was absent, there being a marked fibrosis. In still others, large cells appeared proliferating in the follicles of the glands. It was of interest that these tumours were often preceded by a granulomatous inflammation. A section from the periphery of the tumour showed a tuberculous gland.

Dr. J. MCGRATH thought the tumour was a lymphoma. Dr. R. R. WOODS said that he had had a similar case as far as pathological findings were concerned, but clinically quite different. The patient was a man, aged 55, whom he had seen last September with a large swelling at the base of his tongue, which had been present for about two months. The swelling was so large that when the patient put out his tongue he could not breathe. A diagnosis of carcinoma was made, and deep *x*-ray treatment given. Soon after this the man coughed up blood and pus, and Dr. Woods thought that the swelling was an abscess at the base of the tongue. A specimen was taken, and the pathological report received stated that it was a carcinoma. The tumour was very friable; as a result of deep *x*-ray treatment it disappeared.

Sir WILLIAM WHEELER read a note on a case of unusual renal tumour. The patient was a man, aged 50, suffering from haematuria. There were no other signs or symptoms. The blood urea was normal. A cystogram of the bladder showed nothing abnormal. No pus or organisms were found in the urine. A renal tumour was suspected in the first instance. Cystoscopic examination was rendered very difficult owing to the presence of blood; the mucous membrane of the bladder was seen to be oedematous in the region of the trigone, and was bleeding at various points; it was therefore concluded that the haemorrhage was from the bladder. A suprapubic cystotomy was performed, and an area of bleeding mucous membrane about the size of a two-shilling piece was fulgurated until the field was dry. The patient's temperature rose to 105° F. a few days after operation. A swelling quickly appeared in the parotid gland, which was incised and found to be composed of necrotic tissue, which gave a culture of *Staphylococcus aureus*. The man died of pyaemia. The tumour found in the left kidney post mortem was probably the main source of the haematuria, but the cause of the bleeding from the bladder mucous membrane was obscure. The acute pyaemia after operation could not be explained.

Dr. W. BOXWELL and Dr. J. LEWIS, in demonstrating the specimen, said they considered the bleeding referred to by Sir William Wheeler might have been due to the papillomatous condition of the bladder. There was no evidence on section of a tumour in the bladder or the prostate, but both were riddled with abscesses. The lower pole of one kidney showed a small papillary adenocarcinoma and many abscesses. The PRESIDENT said that at first sight this tumour might be taken for a hypernephroma. He had no doubt, however, that it was a papillary carcinoma, and that the tumour originated from the kidney epithelium.

ASPECTS OF RADIUM THERAPY

The February meeting of the British Institute of Radiology was devoted to papers dealing with radium. The president (Major C. E. S. PHILLIPS) mentioned that a conservative estimate of the total amount of radium available in the world to-day was approximately 25 oz. This was based on the fact that at the end of 1928 there were 575 grams, and since then rather more than 120 grams had been produced at two mines. The Government of the United States owned 50 grams, the British Government 49, and the French Government 31.5.

Dr. ROY WARD gave a general survey of the present position with regard to the use of radium in the treatment of benign and malignant conditions. He said that in spite of the favourable results obtained with radium in inoperable and recurrent carcinoma of the breast, it was not considered justifiable as yet to advise radium treatment alone for early cases. Time would answer the question whether radium would replace surgical measures in the treatment of operable cases of mammary cancer. During the last five years a great advance had been made in the treatment of carcinoma of the cervix uteri. There was no doubt that radium therapy had increased the number of cures in this condition. In advanced cases it had done more to alleviate symptoms and prolong life than in any other group of cancers. In a large number of cases of carcinoma of the rectum, radium treatment, if given with care, controlled the haemorrhage and discharge. In epithelioma of the anus it was possible to bring about complete regression of the growth. Dealing with some non-malignant conditions in which radium therapy had proved beneficial, Dr. Ward showed photographs of two cases of Mikulicz's disease, a peculiarly

symmetrical disease of the lacrymal and salivary glands, which cleared up remarkably well under radium treatment.

In the course of the discussion, Dr. E. A. LYNHAM considered that the combination of radium and *x* rays in cancer would ultimately prove to be the method of choice. He was also of the opinion that there was a great future for pre-operative radiation. Dr. G. VILVANDRE had seen cases where, after an indifferent result with radium, *x* rays had been applied with amazing results. Radium failed where there was metastasis. At the London Hospital there were records of patients with breast cancer who had been treated by *x* rays, and were alive after more than ten years. Dr. N. S. FINZI contested a statement, made originally by Professor Regaud of Paris, that radium was of little value in columnar-celled carcinoma. He recollected several cases of this type in which the patients had remained well for periods of over five years. He considered that the treatment of *x*-ray dermatitis by radium was completely unjustifiable; after such treatment the cases were likely to develop epitheliomata. The only effective treatment was excision of the area, followed by skin grafting. In naevi it was well to give a moderate dose and to wait a very long time for the effect. The changes in naevi went on for at least a year after the original application, and if the treatment went too far there was a tendency to get white scars and subsequent formation of telangiectasis. Dr. W. M. LEVITT did not believe that the treatment of lymphosarcoma by radium in preference to *x* rays was reasonable. Radium in the form of a "bomb" might be, but radium by the interstitial method was not justifiable. Dr. MALCOLM DONALDSON said that by force of circumstances he was himself a clinician, but his heart was in the laboratory, and if real progress was to be attained it was the laboratory side that must be encouraged. He believed that the study of the Swedish school, particularly on the subject of the tumour bed, would throw a great deal of light on tumour formation.

Radium and X-Ray Service in Australia

Dr. A. BURROWS, who has acted as radium adviser to the Commonwealth of Australia, gave an account of the radium and *x*-ray cancer service there. The Federal Government has purchased 10 grams of radium, and a large centre has been established in each capital city, to which all cases of cancer are referred, and in which research work is also organized. An up-to-date cancer clinic, equipped with radium, apparatus for deep *x*-ray treatment, adequate laboratory facilities, and means of testing, has been established in Sydney, Melbourne, Adelaide, Brisbane, Perth, and Hobart. The Commonwealth radium is distributed on loan by the Government to these various centres, and agreements are signed between the Government and the local authorities providing for the care and custody of the radium. In each centre a clinical director has been appointed to have general control of radium and *x*-ray treatment, and there is also a clinical committee which meets to discuss when possible the most suitable form of treatment for each case, and, if necessary, to assign the case to the person most suited to carry out the treatment recommended. Four radium emanation depots have been formed, at Sydney, Melbourne, Brisbane, and Adelaide, the one at Melbourne being under the direct control of the Commonwealth Government. Mass treatment with four grams of radium was at first carried out at one of the centres, but it has not been found possible to continue this work, and the breaking up of the quantity was done without reluctance, because the results obtained had not been too promising. In every case it was insisted that deep *x*-ray therapy should be provided, together with radium treatment at every centre. The *x*-ray apparatus, however, has been for the most part purchased from funds locally raised. During the first year of the scheme more than 3,000 cases were treated by radium or by *x* rays.

PLASTIC SURGERY

At the February meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland, with the president, Mr. R. ATKINSON STONEY, in the chair, Mr. T. POMFRET KILNER (London) read a paper on the role of plastic surgery in the treatment of lupus vulgaris, and showed two patients on whom he had performed the operation of reconstructive rhinoplasty. After stressing the importance of co-operation between the plastic surgeon and the dermatologist, Mr. Kilner pleaded for early surgical intervention in the terminal, or healed, stage of the disease in order to remedy the unsightly deformities which resulted, particularly destruction of the nose and cicatricial ectropion of the eyelid. Plastic operations, suitably planned, could transform disfigured patients into normal-looking individuals, capable of finding work. The speaker outlined the method of repair by Thiersch grafting employed in cicatricial ectropion, and described the technique of reconstructive rhinoplasty by a pedunculated forehead flap. Replying to questions, Mr. Kilner said that *x*-ray burns in the neck were very difficult to deal with. He considered that the essential treatment was to remove all the burnt area, otherwise the neurofibrosis which produced pain could not be got rid of. Tube pedicle grafts should not be done in very young children. A considerable amount of judgement was required in deciding the length of a tube pedicle in relation to its width. He never made them more than six inches long, or less than two and a half inches wide.

ORGANIC NERVOUS DISEASE

At a meeting of the Brighton and Sussex Medico-Chirurgical Society, held on February 5th, with the President, Mr. H. N. FLETCHER, in the chair, Dr. W. J. ADIE gave an address entitled, "Early symptoms of common organic nervous diseases." A majority of the patients who came complaining of their "nerves" would, he said, be found on investigation to be suffering from one of the minor disorders of the mind, a psychoneurosis. But grave disorder of the mind, disorder of function not necessarily of mental origin, such as paroxysmal tachycardia or migraine, grave organic disease in parts outside the nervous system, or organic nervous disease itself might be the cause. Further, the clue to the pathological nature of organic nervous disease was often discovered outside the nervous system; hence a careful general examination was necessary in every case. The distinction between functional and organic nervous disease could usually be made with the aid of the cardinal tests—pupils, discs, abdominal, knee, ankle, and plantar reflexes. In doubtful cases, if these tests showed nothing abnormal, organic nervous disease was unlikely, apart from early paralysis agitans and the Parkinsonian syndrome. Unfortunately, few but expert neurologists could make these simple tests efficiently, and assess the findings accurately. Young graduates left the hospitals with knowledge much of which was ephemeral, but with little skill. The differential diagnosis of organic nervous disease was not easy, though it was not as difficult as it was made to appear to be by teachers who demonstrated rare and advanced cases, but gave no sense of proportion. Few organic diseases of the central nervous system were common. Disseminated sclerosis, syphilis, and cerebral tumour were easily first. The numbers seen at Queen's Square in a year ran into hundreds. Cases of paralysis, subacute combined degeneration, and progressive muscular atrophy were counted in tens. Of the rest, apart from the various sequels of epidemic encephalitis, the numbers were very small. Dr. Adie then described in detail the early symptoms of tabes, disseminated sclerosis, subacute combined degeneration, and paralysis agitans, and contrasted these with the symptoms in advanced cases which formed the basis of the classical descriptions.

Reviews

PHYSIOLOGY OF BACTERIA

The treatise entitled *Physiology and Biochemistry of Bacteria*,[1] by Professor R. E. BUCHANAN and Professor ELLIS I. FULMER of the Iowa State College, comprises three volumes, the first of which has been reviewed in this *Journal* (1928, ii, 1182).

Volume ii is devoted to a consideration of the effects of environment on micro-organisms and, although its appeal will be mainly to those who study bacteriology as a science, there is much that is of practical significance to applied bacteriology. The volume is divided into three sections. The first—Section A—comprises a consideration of rates of reaction, the problem of their determination and comparison, and such questions as rate curves, survivor curves, and death curves. Section B is devoted to the effect of physical environment, and the first chapter, which deals with the effect of temperature, has much to say of importance in the industrial handling of foodstuffs, more particularly the canning and milk industries. Chapter VII commences with a brief discussion of electro-magnetic waves and emanations, and includes a useful table of the former. In discussing the effect of ultra-violet rays on enzymes and bacteria the authors do not consider the possible application of this as a means of distinguishing between living and non-living agents. The work of S. L. Baker would appear to indicate that this is a promising line of approach to the vexed question of the nature of filterable viruses. This section concludes with a chapter on the effect of various physical environments such as osmotic pressure, surface tension, and high-frequency sound waves. The remainder of the volume is occupied with a consideration of the effect of chemical environment on micro-organisms, and the opening chapter is concerned with a general discussion of the question and disinfection. Following this is a chapter on the effect of inorganic compounds and their ions. Physiological saline, so-called, is still much used in bacteriology, and is regarded by many as not harmful to bacteria. But, as Falk has pointed out, this tradition has been borrowed from vertebrate physiology and its application to bacteriology looked upon as sound, though there is evidence that such solutions produce unwonted effects which, often overlooked, are significant. There is much in this chapter of practical interest to the bacteriologist, though the introduction of tissue culture, particularly in work on filterable viruses, has inculcated saner views as to what constitutes a "physiological saline" in bacteriological work. The two concluding chapters deal with organic compounds, nitrogenous and non-nitrogenous, both subjects of vast importance.

Volume iii treats of the changes produced by micro-organisms on their environment, and is divided into two sections. The first considers the interrelations between microbes—symbiosis, commensalism, and antibiosis. It is rather surprising that under the last heading there is no discussion of the phenomenon of bacteriophagy. True, opinion is divided on the question whether the bacteriophage is a living entity or an enzyme-like agent; nevertheless we think that this would have been a more appropriate place for a consideration of this interesting phenomenon, rather than in the next section with the enzymes. The other section of this volume (which by the way is Section E in the List of Contents and Section B in the text) opens with a chapter on the agents responsible for chemical change—that is, the enzymes of micro-organisms. In the following chapters the changes wrought by these enzymes on inorganic compounds, non-nitrogenous carbon compounds, and nitrogenous organic compounds are passed in review.

The authors' task has been an extremely difficult one, for much of the territory that they cover is shifting sand. An attempt to write on a subject which is still in the unformed stage of infancy not seldom degenerates into a mere recital of researches, often conflicting, and the result is an account lacking in sequence and clarity. We feel that these volumes, though a remarkable testimony to the authors' knowledge of the literature—there are some 250 pages of references—will be of little service to those who are desirous of approaching the subject of the biochemistry of bacteria. As books of reference for those already versed in the subject, however, they will no doubt prove most useful.

[1] *Physiology and Biochemistry of Bacteria*. Vols. ii and iii. By R. E. Buchanan, Ph.D., and Ellis I. Fulmer, Ph.D. London: Baillière, Tindall and Cox. 1930. (Vol. ii, pp. xvii + 709; 57 figures. Vol. iii, pp. xv + 575; 2 figures. Each volume 34s. net.)

THE NATURE OF LIFE

It will probably be admitted, or, at all events, it will probably be found, that the two most momentous fields of work in modern biology are those of the Russian physiologist Pavlov and his co-workers on conditioned reflexes, and of Thomas Hunt Morgan and his compeers on the methods of hereditary transmission. The biological and philosophical consequences and implications of these researches are likely to prove not less revolutionary than those which, in the sphere of physics, have resulted, or are now emerging, from the theory of relativity and from the conception of the structure of the atom. A remarkable and intensely interesting book discussing these biological and philosophical consequences is *The Nature of Living Matter*,[2] by LANCELOT HOGBEN, professor of social biology in the University of London. The book is even of somewhat wider scope than that indicated. It is the expansion and outcome of the author's contribution to a symposium on the nature of life, arranged by the officers of the Physiological Section of the British Association in the summer of 1929, and a criticism of the philosophical views of General Smuts and Professor J. S. Haldane, two of the other contributors to the same symposium, who have already set out their ideas in book form. It constitutes a review of the progress of modern biology in its philosophic bearings, and claims that, although so far the physicists have assumed the leading part in the rekindled interest in the relation of science to common sense on the one hand, and the relation of science to moral philosophy on the other, it is essential that the contribution of contemporary biology to such a discussion should be taken into consideration before any assured outcome can be seen or predicted.

Professor Hogben pursues his theme under three main headings: "Vitalism and mechanism," "Darwinism and the atomistic interpretation of inheritance," and "Holism and the publicist standpoint in philosophy." The actual matters dealt with, or the aspects of the subject considered, differ distinctly in these three divisions; but the uniting thought or thesis which connects them into one whole is kept prominent throughout. In the first section it is contended that the methods of experimental biology are essentially the same as those of experimental physics or chemistry, and that the method of inquiry applicable to one aspect of the properties of living matter is not of a different kind from that employed in dealing with the remainder. The mechanization of conscious behaviour and the atomistic view of parenthood are emancipating biology from its mystical interpretations, just as the other branches of science have, though with

[2] *The Nature of Living Matter*. By Lancelot Hogben. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1930. (Pp. ix + 316. 15s. net.)

vestiges still remaining, been freed from somewhat similar notions. In a summary of his second section Professor Hogben says:

"The failure to recognize that biology no less than physics is an ethically neutral science is a heritage of the evolutionary controversy. The ethical concept of progress became entangled in the evolutionary idea. Experimental biology in this generation has undertaken the task of reducing the problems of organic evolution to an exact science. This must necessitate a re-examination of many traditional biological concepts and influences which have been extracted from an earlier phase of the evolutionary doctrine."

He proceeds to this examination of the method of evolution, and, among other things, defines the restricted sphere of natural selection, and of the struggle for life and the survival of the fittest. In his third section the author develops the concept of a public world of science which is significant for discussion or discourse as contrasted with, or distinct from, the private world of individual belief with regard to the problems of existence.

"This antinomy does not necessarily reside in the system of nature. It arises because our curiosity exceeds our information. Up to a certain point we succeed in pooling our experiences by the method of science. In so doing we construct the public world." But "man is pre-eminently interested in himself. So long as science cannot satisfy that curiosity his private and personal values assume a greater importance than the academic hypotheses of science. At every stage in the advance of scientific knowledge a new system has arisen to conserve some fragments from the wreckage of supernatural beliefs."

This line of thought is admirably and lucidly developed. Professor Hogben truly says that "there is no issue which provides more scope for vague, barren, and undisciplined discussion" than the nature of life. His own discussion of that problem, embodied in this volume, deserves epithets the opposite of these. It is clear, suggestive, forceful, and purposive, based upon a fullness of knowledge, and enlivened with delightful touches of humour.

PHYSIO-PATHOLOGY OF SLEEP

Professor ALBERTO SALMON in his book on the Physiopathology of Sleep[3] refers to the fact that the present treatment of insomnia consists almost exclusively in the administration of hypnotics; these, however, produce merely a toxic sleep, fail to effect a cure, and require to be continually repeated. The means of curing the disorders of sleep will, he maintains, be forthcoming only when an intimate knowledge, not only of the causes producing such disorders, but also of the physiology of sleep, has been acquired. Although the latter subject is surrounded by obscurities, a number of significant facts are already known, and, in the opinion of the author, they are sufficient to justify an attempt to propound a consistent theory.

It has been shown experimentally that induced insomnia causes an intense chromatolysis in the cells of the cerebral cortex, especially of the frontal lobe, and that a few hours of sleep bring about a complete restoration of the chromatin content of the cells. This suggests that some form of secretory activity is involved in the induction of sleep—that sleep coincides with a process of internal secretion of the cells of the cortex, determining the periodical suspension of their activity. A periodical functional activity of this kind presupposes a regulating mechanism, and many clinical and experimental observations point to the diencephalon or infundibulum as being the seat of a regulating sleep-centre. Thus Demole was able to produce intense and prolonged somnolence in animals by injecting calcium salts into the region of the infundibulum, and many clinical facts derived from cases with pathological lesions in the same region support the view that such a centre exists. There appears to be still more abundant evidence that the pituitary body plays an important part in the mechanism of sleep. Batelli and Jauffret, for example, have shown that an intense and prolonged somnolence can be produced in animals by injecting pituitrin into the cerebral ventricles; and the clinical facts bearing on this point are also very numerous. One need only refer to Cushing's conclusion, based on the observation of 500 cases of pituitary disease, that insomnia should be counted as one of the definite symptoms of lesions of that gland; and to the fact that a syndrome (that of Simmonds), comprising pituitary cachexia and somnolence, is now fully recognized.

The pituitary theory of sleep was first proposed by Professor Salmon in 1905 and more fully elaborated in 1910, and his account of the correlation of the function of the sleep-centre, the pituitary body, and the chromatolysis of the cortical cells, forms the most interesting part of his book. Other matters are, however, discussed with equal fullness, and the work may be regarded as a complete textbook on the subject of sleep and its disorders.

[3] *La Fisio-Patologia del Sonno.* Del Professor Dott. Alberto Salmon. Bologna: L. Cappelli. 1930. (Pp. 211. L.30.)

CUTANEOUS LEISHMANIASIS

Cutaneous leishmaniasis is a disease not often seen in the West, and one which consequently has not received much study by European dermatologists. It is endemic—and sometimes epidemic—in Greece and other Mediterranean countries, and considerable contributions to our knowledge have come from these countries. A recent volume,[4] by the distinguished Greek dermatologist Dr. HIGOUMENAKIS, is therefore of some interest. After a historical introduction, the author gives a careful account of the morphology and biology of the parasite. He then considers methods of transmission, and shows that this is by contact as well as by flies and other insects. The disease can be experimentally inoculated into monkeys, dogs, and mice. The next chapter studies the pathological anatomy of the lesion and the blood changes. The remaining chapters deal with the typical and atypical disease in man and its differential diagnosis from other skin conditions. After a short chapter on prophylaxis, the author goes on to study the treatment of the disease. He considers that the most satisfactory method of treatment is diathermo-coagulation, the technique for which he describes. This chapter contains a description of thirty recent cases observed by him, and treated by this method. The book concludes with an extensive bibliography. It is illustrated with photomicrographs and clinical photographs, and the writing is clear. This is an important contribution to our knowledge of cutaneous leishmaniasis which will prove of much value to those resident in lands where the disease is found.

A DICTIONARY OF DENTAL SURGERY

In the hope of providing the student and the practitioner of dental surgery with a ready means of refreshing his memory, and with a reference book in which will be found many practical details of use in the surgery, Mr. FLEMING MCASH has compiled *A Dictionary of Dental Diseases and Treatment.*[5] Such a method of dealing with a scientific subject does not lend itself to exhaustive discussion of any one point, and the author has wisely kept well within his self-imposed limitations. Opening the book at random

[4] *Le Bouton d'Orient (Leishmaniose Cutanée) et son Traitement Moderne.* Par Georges Higoumenakis. Avec préface du Dr. Milian. Paris: Masson et Cie. 1930. (Pp. vi + 150; illustrated. 25 fr.)

[5] *A Dictionary of Dental Diseases and Treatment.* By J. Fleming McAsh, L.D.S.Ed., L.R.C.P.E., L.R.C.S.E., L.R.F.P.S.Glas. The Edinburgh Medical Series. London: A. and C. Black, Ltd. 1930. (Pp. v + 285. 7s. 6d.)

we came on "bleaching of teeth" and found nearly a dozen methods described—shortly, but sufficiently to recall the chemistry and the technique learned in student days. The method, however, has its drawbacks; brevity may be carried too far—for example, we should like to know how long an arsenic "dressing" may be left *in situ* on an exposed pulp; and the alphabetical arrangement of the subject-matter destroys all continuity of thought by the juxtaposition of such incongruities as artificial respiration and attrition. The author, indeed, has been a victim of his own plan. Under "affections of the third mandibular molar," and under "mandibular third molar, affections of" we find practically the same article; and in the index there is no mention of the homely term "wisdom tooth." (Does not the need for an index rather discount the value of an alphabetical arrangement?) The dictionary closes with weights and measures, prescription writing, dosage, incompatibles, synonyms,—all under "W," but making a chapter for which the author will earn the thanks of all his readers. We think this book may be trusted to serve its avowed purpose: it will bring back to memory half-forgotten things, and it is full of practical details any one of which may be exactly what the practitioner is seeking.

NOTES ON BOOKS

When a new textbook of surgery reaches a second edition in these days of innumerable textbooks, it may be assumed that it has met a certain demand. And yet it must be admitted that any attempt to "crystallize and condense" into 370 small pages "the more important principles of surgery for the benefit of the student" is a matter fraught with extreme difficulty. Dogmatism is inevitable, and with this come fallacy and half truths; it cannot be claimed that the author of *A Shorter Surgery*[6] has, any more than others who attempt a similar task, avoided this defect. In order to help as many readers as possible material suitable for higher examinations is included in small type—a tempting solution no doubt, but apt to upset the balanced treatment of the various subjects. In any case, such a book should be free from obvious inaccuracies—for example, that the external malleolus is broken in Pott's fracture, and that Cooper's ligament is a fascia covering the pectineus origin; and it should not employ "diverticulae" and "sequestrae" as plurals. In short, the book deals not so much with principles as with abbreviations of facts, and sometimes it does this in a misleading way. It may, however, prove of distinct value to the final student in giving him a change from the standard textbook on which he has got "stale," and allowing him to see things from a different angle. He will find it eminently readable, the illustrations, with one or two exceptions, very good indeed, and the index reasonably comprehensive.

The third volume of the fortieth series of *International Clinics*[7] includes, among many contributions, a series of instructive papers emanating from the Fifth Avenue Hospital of New York City, the University of California Medical School, and the Heckscher Institute for Child Health of New York City. Special mention may be made of the following: the surgical consideration of acute lymphadenitis, by Dr. Charles W. Lester; treatment of carbuncles and cellulitis about the neck and face, by Dr. Kingsley Roberts; factitial proctitis, a justifiable lesion observed in patients following irradiation, by Dr. Louis A. Buie and George E. Malmgren; drug addiction, by Dr. Alexander Lambert; a symposium on epilepsy, by Drs. Temple Fay, Eugen P. Pendergrass, N. W. Winkelman, William G. Spiller, and A. E. Bauer; forty-five years of personal experience with headache, by Dr. James J. Walsh; and hereditary epistaxis (Osler's disease), by Herman Goldstein. The section entitled "Medical trend" contains an account, by the editor, of the meeting of the British Medical Association at Montreal in July, 1897, and some personal reminiscences of Sir William Osler, including his painful experience of obstetrics in country practice.

In his little book on *Tobacco*,[8] which forms No. 17 of the Harvard Health Talks, Dr. WALTER L. MENDENHALL, professor of pharmacology in Boston University, gives a judicial account of the various aspects of the tobacco problem, including its early history, the economic aspects, the effect of smoking on the circulatory system, alimentary tract, respiratory tract, eyes, and nervous system. An interesting description is given of the author's experiments showing that the main effect upon the nervous system is a sedative or depressant one, although it may have a stimulating effect as well. He comes to the conclusion from a study of the literature that there is no scientific evidence to support the claim that tobacco stunts growth. As regards the effect of tobacco on scholarship, comparative observations on smokers and non-smokers indicate that it is not so much tobacco itself that is the cause of a lower scholarship, but rather the associations and distractions accompanying the habit. After emphasizing the need for abstinence from tobacco in children, the author deals with the nicotine content of various brands of tobacco, and points out that denicotinized tobacco appeals as little to the smoker as does beer from which alcohol is absent, though he thinks it may be possible to obtain a tobacco which is free from nicotine and which yet retains its aroma.

[6] *A Shorter Surgery*. By R. J. McNeill Love, M.B., M.S., F.R.C.S. Second edition. London: H. K. Lewis and Co., Ltd. 1930. (Pp. viii + 371; 74 figures, 34 plates. 16s. net.)

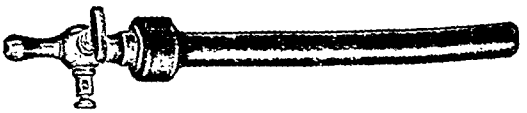
[7] *International Clinics*. Edited by Henry W. Cattell, M.D., Philadelphia. Vol. iii, fortieth series. London: J. B. Lippincott Company. 1930. (Pp. x + 305; illustrated. 12s. 6d. net.)

[8] *Tobacco*. By Walter L. Mendenhall, M.D. Cambridge, Mass.: Harvard University Press; London: Milford, Oxford University Press. 1930. (Pp. 69. 4s. 6d. net.)

PREPARATIONS AND APPLIANCES

A FLUSHING ELECTRODE FOR TREATMENT OF ULCERATIVE COLITIS

In his article on the treatment of ulcerative colitis (*British Medical Journal*, October 18th, 1930) Dr. Julius Burnford referred to a special applicator manufactured by the Medical Supply Association, Ltd., Gray's Inn Road, W.C.1. This electrode comprises an inlet nozzle for the zinc solution, an inlet and outlet tap, with a connecting terminal for the



source of the electrical energy, and an insulated mantle covering the zinc rod (not seen in the illustration). The zinc solution passes through the apertures at the end of the insulating mantle into the colon, and the height is regulated by the douche-can reservoir containing the solution to which the applicator is attached.

NEO-INFUNDIN

Neo-Infundin (Messrs. Burroughs Wellcome and Co.) is a preparation of the oxytocic principle of pituitary posterior lobe almost free from the pressor principle. The preparation contains 10 international units per c.cm., and is supplied as a "hypoloid" product in phials of 0.5 and 1 c.cm.

"DISPERT" PRODUCTS

"Dispert" products are manufactured by the Krause Medico-Gesellschaft, and the agents in this country are Messrs. Coates and Cooper. These products are tablets of drugs which have been dried by the Krause desiccation process, which is a modification of one of the spray methods used for producing dried milk. The process ensures drying in a fraction of a second, before there is sufficient time for chemical or thermic influences to have any effect. Among the drugs thus prepared are the following: digitalis dispert, prepared in tablets each of which contains 150 frog units and is equivalent to one medium therapeutic dose; valerian dispert, a dry extract of the valerian root. The therapeutic value of preparations of the latter drug has been widely questioned in recent years. The makers claim that this is because most of the active principles are destroyed by the usual methods of preparation, and that these active principles are present in their preparation. The "dispert" method has also been employed in making preparations of various organs, such as the thyroid and pancreas.

British Medical Journal

SATURDAY, MARCH 7th, 1931

MEDICINE AND STATECRAFT

Under titles which at first sight would seem to connote a similarity of content there have recently been published two articles to which attention may well be directed in a medical journal. One is by Lord Dawson in the *Atlantic Monthly* for February, entitled "Medicine and Statesmanship"; the other is by Sir Walter Fletcher, in the *Listener* of January 28th (a reprint of his broadcast lecture), entitled "Biology and Statecraft." The subject-matter of the two articles is, in fact, quite different, but the practical applications of both have much in common. Each emphasizes the need for scientific knowledge, or at least for awareness of the importance of medical and scientific problems, in our statesmen and politicians. It can be said with truth that this has hitherto been conspicuously lacking, either because the education of men aspiring to public life was altogether inadequate, or because their education was too narrowly classical. As Sir Walter Fletcher said to his audience, "If you look back over the past half-century or more, a period of rapid scientific development unequalled in the world's history, you will find how rare it has been for any Cabinet Ministers in that time to have possessed a personal understanding of the methods and results of natural science."

The general lines of Lord Dawson's argument, and the propriety of his analogy between medicine and statesmanship, appear to be unimpeachable. Until late in the last century statesmanship thought in terms of individuals, and liberalism achieved success in its great fight for democratic government, freedom of conscience, and equality of opportunity. Medicine, also, regarded illness as almost wholly an individual matter. Since then there has come a much wider appreciation of the communal and preventive aspects of medicine, and statesmanship has increasingly assumed parental and even grandmotherly functions towards both the individual and the community. Lord Dawson pertinently asks, "Is the result of this tendency as good as its purpose?" and suggests that a study of the governance of the human body may prompt useful reflection. With full regard to public health, the presence of illness and the diagnosis of disease yet present to the doctor in every case a problem of individuality. "Should not personality and the rich variations of individual life be equally an object of care to the statesman?" In the very widespread attempts at social legislation now prevalent, it is essential that personality should be remembered and the varying needs of separate men and women taken into account. The standardized care of the State may easily enslave the individual; and the more remote the control the more likely is this to be the case, for there is no human contact between the controlling legislative or administrative hand and the person. Governments, by the very extent of their activities, are forced to use mechanical methods. They need "smaller groupings in which the skilled helper, inspired by human interest, would play a part." This is an effective plea for fuller and more appropriate use of the technical expert and the voluntary worker in the administration of public utilities and welfare schemes, and in such matters as the purchase and disposal of radium. "Would not the State," asks Lord Dawson, "like the higher centres of the brain, sometimes fulfil its function better by direction rather than administration, and by encouraging variations within its general control? While retaining the reins of policy and securing adequate responsibility, could not statesmen delegate many of the great problems that come before them to other bodies, small in number of members and containing experts endowed with the necessary skilled knowledge—bodies sufficiently independent to be uninfluenced by political exigencies and to be able to take the long view as regards public policy?"

The vast importance of medical and biological problems to Great Britain and the Empire, and the proper place of the scientific expert in their solution, are powerfully set out by Sir Walter Fletcher, who also exposes the almost complete failure of statesmen to appreciate the position and its possibilities. The illustrations he uses are the struggle between man and the insect, with its vital consequences in the spheres both of economics and of health, and the new knowledge of genetics, with its decisive practical bearing on the improvement of stocks of all kinds—vegetable, animal, and human. "We have a host of dangerous enemies despoiling us, and have no adequate policy of defence." This is true in the sphere of health: in that of economics "we are fast allowing the lead to pass to other countries who compete with us in the world markets." Though of all nations of the world "none has so great a need as England of bringing biology into her statecraft," yet those who are responsible for home, Indian, and colonial affairs fail to see the paramount importance of these problems, while other matters of relatively trivial consequence appear to engage their constant attention.

THE ELECTROCARDIOGRAM

Dr. W. H. Craib's recent publication on the electrocardiogram,[1] setting forth his most important research on numerous problems of academic and practical interest, has arrived at a most opportune moment, for it has been becoming more and more desirable to review the general position of the subject as it affects clinical practice. Moreover, his methods stress the importance to the research worker of knowledge outside his special branch, especially those fundamental principles of general physics which this author has been so successful in applying to physiological problems, and which have enabled him to obtain results of the greatest significance.

[1] Medical Research Council. Special Report Series, No. 147. The Electrocardiogram. By W. H. Craib. London: H.M. Stationery Office. 1930. (1s. 3d. net.)

But before attempting to summarize the most important of them it would seem expedient to state shortly what the tenets of academic and clinical electrocardiography are.

In the last decade two schools of thought and practice have come into existence, each holding different views on the value of the electrocardiogram. The English school holds that the electrocardiographic examination of the heart has enabled us to identify all the known clinical forms of irregular heart beat; that it now remains as a little-needed final court of appeal in difficult questions of rhythm when other means of solution fail; and that its sphere of utility is almost confined to the laboratory, where it may be expected to assist the elucidation of the academic problems of what used to be called "muscle and nerve physiology." The other school, whose more vociferous adherents are to be found in the United States, though enthusiastic members are to be found in large numbers in every country in Europe, consists of cardiologists who would employ the galvanometer in a more extended application to myocardial disease, and to whom the electrical record of a regularly beating heart affords information on the past and future history of the myocardium. The attempt to regard cardiology as a specialized branch of internal medicine has conduced very largely to an exaggerated use of the galvanometer in diagnosis; the English school finds the instrument invaluable in a limited number of cases, while the other school endeavours to wring from it information which is either already available through simple clinical channels or is unobtainable in the present state of medical prognosis. In the list of leading factors in cardiac diagnosis and prognosis, rhythm, to the examination of which the galvanometer is suited, is a relatively unimportant one, perhaps of less significance than the functional capabilities of other organs of the body.

In academic physiology Dr. Craib has been studying the changes in electric potential which are brought about by the passage of a wave of excitation along a strip of tissue. This is not new. When the phenomena were first studied many years ago it was thought that an ultimate explanation of many biological processes in terms of electric currents had been foreshadowed, and, although these hopes were never realized, the subject remained sufficiently attractive to physiologists (it made a greater appeal to the imagination than the observation that sound accompanied the contraction of a muscle) for some progress in muscle and nerve physiology to be made; instruments and methods were improved, and more applied research culminated in Sir Thomas Lewis's work on the disordered heart beat in man. Those studying what have once more become academic problems from 1921 cannot be said to have made any striking announcement till now, when we find that some of the once well-established facts of physiology are capable of, and indeed demand, other interpretations. Dr. Craib has not been content to remain a physiologist; but, thinking as a physicist when using the latter's appliances and methods, he has reaped a rich harvest of interesting results. The physiologist must be more than a physiologist, if he can find time, otherwise his results will rest on an insecure foundation, open to attack from any of the quarters whence he has borrowed his methods, be they physical or chemical. Non-polarizable electrodes have for decades been placed in contact with strips of tissue moistened or immersed in saline, but it has till now remained unnoticed that the potential changes at the electrodes are directly related to the electric field in the saline, and not to that in the tissue, of which we know nothing at present except by inference and interpretation.

It has been taught in the past that an active tissue, or portion of tissue, is electrically negative to inactive tissue. Dr. Craib draws from a very simple experiment in the almost intact frog the unequivocal conclusion that active tissue is electro-positive to inactive tissue. He then shows that when a wave of excitation passes along a strip of muscle or nerve the potential changes in the electric field set up in the surrounding medium are such as would be expected by postulating the progress along the tissue of a series of ring-like "doublets" of simultaneous anodes and cathodes, so orientated that the anodes (positive) precede the cathodes (negative); these doublets of invasion are followed by doublets of retreat (to employ a well-known form of expression), in which the relative position of anodes and cathodes is reversed. His plan has been to study experimentally the distribution of potential in a large conducting medium surrounding a doublet, represented by an inanimate pair of non-polarizable electrodes, connected to a battery, and placed in contact with a circular pad of filter paper moistened with saline, and also to investigate the distribution of potential in a linear conductor, consisting of a thread previously moistened with saline and supplied with stationary doublets in the form of pairs of non-polarizable electrodes. It should be clear that the environment of the conductor in the first experiment corresponds closely to that of a preparation immersed in saline, or to the conditions prevailing in the intact body; the second experiment schematizes the familiar strip of tissue just moistened with saline and suspended in air, to which a living analogy is wanting. From the information so obtained he has been able to interpret his experimental observations on muscle and nerve.

A stupendous amount of research has been done on the "monophasic response." The interest of the attempt to record the exact form of the potential changes under *one* contact when a wave of excitation passes lies in the assumption that this form would eventually reveal what excitation really was, in more or less ultimate terms. There is no need to describe how the experiments were done; it may suffice to say that the second contact was placed upon tissue which had been previously injured and therefore served only as a second lead to the galvanometer. It is at once apparent from the work under consideration that these painstaking efforts were inspired by the false assumption

that the electrodes recorded what was passing in the tissue itself, whereas they can never do so directly. Dr. Craib has, however, studied the conditions which determine the monophasic response from two contacts placed on a strip of tissue, and, as he summarizes them, they are: "(*a*) that the strip should be bathed by a mere pellicle of fluid only; (*b*) that in a large strip the excitation wave should involve all the fibres; and (*c*) that the impulse should die out between the contacts at a region displaying conspicuous current of injury, . . . nor is it necessary that one of the contacts should rest upon destroyed tissue."

The observations on the responses of immersed tissues help to clear up several difficulties in the interpretation of the electrocardiogram, and the important conclusions are reached that the electrocardiographic deflection at any moment depends on the direction at that moment of the excitation wave through the myocardium (a confirmation of views already expressed long ago by Sir Thomas Lewis); that there is no relation between the voltage of the electrocardiogram and either the weight or the strength of the muscle; that a large myocardial infarction, as dramatic an accident as could happen in this circumscribed area, might occur in a region of the ventricle where the wave of excitation passed in a direction perpendicular to the plane of the leads without affecting the galvanometer, unless gross changes in the action of the heart ensued. From this research no support is forthcoming for an extension of electrocardiographic methods to a routine study of the myocardium.

THE SERVICE REPORTS

In recent issues we have published reviews of the annual reports for 1929 on the health of the Navy and the Army. Dealing with the incidence of disease in a selected population, these reports are instructive, but as uniformity in the method of presenting the respective figures is lacking, they fall short of achieving the maximum of interest and value. We understand that in certain areas and Commands the sick and injured of the Navy, Army, and Air Force are treated in one hospital. This procedure leads to economy, efficiency, and co-operation. There is also a committee composed of the administrative heads of the different medical services, whose duty it is to promote further co-operation. We would suggest that there is scope for the powers of this committee in the method of preparing the annual health reports. All the Services now produce their reports at approximately the same time. Surely it would be a simple matter to combine these reports in one volume, dealing with the statistics of the respective Services in separate sections. One of the advantages which would be gained from this method would be the attention it could focus upon the chief causes of inefficiency and loss of personnel. It appears that the outstanding causes of disablement in the Services are injuries, venereal diseases, and the ordinary ailments of everyday life. As everyone knows, serving officers and men of the fighting forces must be kept physically fit by drills, exercises, and the different forms of athletic sports, and in the nature of things they are more liable to injury and accident than the average civilian. It would be absurd to suppose that injuries in the Services can be wholly eliminated, but we may recall that much was done to reduce certain injuries in the Air Force a few years ago by preventive measures suggested by statistical research. To-day the chief causes of invaliding out of the Services are pulmonary tuberculosis and otitis media. These diseases require further investigation if loss to the State is to be curtailed. It will be noted in the reviews we have published that the naval medical authorities record an average of nineteen days for the treatment of gonorrhoea, while in the Army the period of treatment for the same disease is approximately three months. This discrepancy suggests that there is room for exchange of views between the medical officers most concerned. Combination of the health reports of the several Services, following a uniform method of production, need not deprive the individual records of their own characteristics; it would tend, rather, to bring to light such important points as those we have mentioned for the benefit of all officers. A broader and more comprehensive outlook would, in time, enable all three Services to achieve even higher ideals in medical work, and to promote further efficiency and economy.

VITAMINS AND SUBACUTE COMBINED DEGENERATION OF THE CORD

Professor Edward Mellanby, in a lecture delivered last summer in America,[1] has given a short account of some of the evidence he has obtained concerning those rather mysterious toxic substances in the germ of cereals whose action is antagonized by vitamins. A few years ago he aroused consternation and indignation in Scotland by pointing out that oatmeal contained some substance which favoured the appearance of rickets. His more recent work concerns the action of certain unknown toxic substances on the central nervous system. The addition of ergot to the diet of puppies was found to produce subacute combined degeneration in the spinal cord, provided that the diet was devoid of fat-soluble vitamins, but these changes could be prevented by administration of either vitamin A or carotene. Similar effects were produced by rye germ or by wheat germ. Subacute combined degeneration of the cord is found in the following clinical conditions: (1) nervous ergotism, (2) lathyrism, (3) pellagra, and (4) pernicious anaemia. The experiments described provide an adequate explanation of outbreaks of nervous ergotism, for these are likely to occur whenever ergotized rye is eaten by a population whose diet is poor in animal fats. It seems probable that lathyrism may arise from similar causes. Professor Mellanby also suggests that pellagra may be due to a twofold vitamin deficiency—a deficiency of vitamin B_2 (alias P-P or G) which causes the skin changes, and of vitamin A which allows nerve degeneration to develop. He suggests, further, the possibility of a double deficiency in pernicious anaemia—namely, a deficiency of the water-soluble substance obtainable from liver which causes blood changes, and of vitamin A which causes lesions in the central nervous system. These speculations are of very great interest, and fortunately it should be a fairly simple matter to test them clinically.

[1] *Journ. Amer. Med. Assoc.*, 1931, xcvi, 325.

INSANITY AMONG THE SCANDINAVIANS

The common mistake of grouping all the Scandinavian nations in one and the same ethnical unit has arisen partly because the Scandinavian languages are so much alike that one Scandinavian understands another even when he speaks in his own tongue—a generalization which does not, however, apply to the languages of Finland and Iceland. Behind this community of speech—this "Lingua Scandinavica"—there are fundamental racial differences which show themselves even in the forms of insanity most common in the different countries. This curious point is brought out in a paper in *Nordisk Medicinsk Tidsskrift* for January 24th by Dr. K. A. Andresen, who shows that the incidence of all forms of insanity is considerably higher in Norway than in Denmark. According to the Norwegian census of 1920, and the Danish census of 1921, there were 8,602 lunatics in Norway and only 6,255 in Denmark, although the population of the latter country was then 3 million, compared with a little over 2½ million in the former. Differences in the rate of insanity between the sexes in the two countries were also found to be very marked; in Norway the number of insane males was 48 per cent. higher than in Denmark, whereas the insanity rate for females was only 29 per cent. higher. While there were 325 lunatics in Norway for every 100,000 inhabitants, the corresponding figure for Denmark was 201. A similar difference was observed in the case of mental defectives, of whom there were 6,571 in Norway and 4,988 in Denmark, where the care of mental defectives is highly organized. More than three-fifths of the mental defectives are specially cared for in Denmark, while in Norway 90 per cent. of them lack special provision. The difference in the incidence rate of insanity between the two countries can be traced back many decades; in 1865 the figure per 100,000 was 185 in Norway; in Denmark in 1860 it was 117. Since then practically every census has revealed a parallel rise in this rate, with Norway always well ahead. In regard to the sex incidence of insanity in each of the countries, there were only 100 insane males to every 130 females in Denmark, whereas in Norway the ratio is 100 males to 113 females. The predominant type of insanity in Norway and Sweden is dementia; in Denmark it is the manic-depressive type. In fact, dementia would seem to be about twice as common in Sweden as in Denmark. One reason for the incidence of insanity in Denmark appearing to be so much lower than in the other two Scandinavian countries is that many of the patients with manic-depressive psychoses are not registered as lunatics at any given census, this malady, in contrast to the dementias as a class, being often transient. It has been suggested that the high insanity rate of Norway and Sweden may be explained by the devitalizing effect of emigration, continuing generation after generation, but the incidence of insanity among Norwegians and Swedes is very high in the United States. According to a Norwegian-American writer, 1 out of every 252 Norwegians in the United States is admitted to some public asylum, the corresponding proportion for the total population being only 1 in 627. Dr. Andresen is inclined to trace these remarkable differences between Norway and Sweden on the one hand, and Denmark on the other, to differences in character, which in their turn depend on fundamental racial differences. The Nordic type is purer in Norway and Sweden than anywhere else. The Dane is a most complex ethnical mosaic, to the pattern of which the Alpine type has contributed not a little. The dour and introspective Norwegian or Swede differs greatly from the lively and emotional Dane, who suffers from the defects of his qualities, for the emotional element in his character leads him into such excesses as suicide. In 1924, for example, there were 462 suicides in Denmark as compared with 158 in Norway.

SHORTAGE OF NURSES

The maintenance of an adequate nursing service in the hospital and elsewhere is of the utmost concern to medical men. In this belief, the *Lancet* Commission on Nursing was set up, under the chairmanship of the Earl of Crawford and Balcarres, to inquire into the shortage of candidates, trained and untrained, for nursing the sick in general and special hospitals throughout the country. The first meeting was held in December, 1930, when it was decided that the initial step must be to ascertain whether an absolute shortage of candidates existed, or whether the shortage was only among candidates whose education and personal qualities made them likely to become satisfactory nurses. After consideration of the best way to approach the problem, a questionary was sent out to the responsible authorities of over 1,200 institutions in Great Britain and Ireland; these included all the hospitals approved as training schools by the General Nursing Councils of England and Wales, Scotland, and Ireland, and a certain number of hospitals not approved as training schools in various counties in the British Isles. As there was reason to think that tuberculosis hospitals and sanatoriums found greater difficulty in obtaining recruits to their nursing staffs than any other type of hospital, forms were sent to more than one hundred and twenty such institutions. The information asked for covered the degree of shortage of probationers and trained nurses experienced by the institutions addressed, and the conditions of life and work of the nurses; space was provided for opinions on the reasons for the shortage. A statistical analysis of the replies received was undertaken by Mr. A. Bradford Hill, D.Sc., and the first interim report on the inquiry appeared in the *Lancet* of February 28th. Dr. Bradford Hill's preliminary report shows clearly that a shortage of candidates does exist, in that one-half of the hospitals whose replies have been analysed fail to secure probationers and staff nurses of the standard they require; as might be expected, the shortage is least acute among the London voluntary hospitals, but even here one-third are unable to find suitable staff nurses and one-quarter have difficulty in engaging probationers. The educational level required of probationers in the municipal hospitals is not so high as in other classes of institution so far studied; two-thirds of the municipal hospitals accept probationers who have reached the seventh standard, while only one-quarter of them aim at candidates with secondary education. Among certain other classes of hospital whose replies have been analysed the proportion requiring secondary education is three-quarters. Many hospitals aim at "secondary education, if possible," suggesting that in

order to obtain sufficient staff they have to be content with a lower standard. In giving reasons for the shortage many of the replies stress the occupations with better financial prospects which are now open to women, and the long hours and restricted freedom which fall to the lot of the nurse.

THE FRACTIONAL PRODUCTS OF THE TUBERCLE BACILLUS

One of the striking characteristics of the tubercle bacillus is that, unlike most other micro-organisms, when inoculated in the killed condition into animals it gives rise to little or no active immunity. Among the reasons that have been suggested to account for this behaviour, one of the most probable is that the bacilli are not broken up sufficiently within the normal animal to lead to liberation of the specific antigen necessary for the requisite stimulation of the body cells. If the bacilli could be disintegrated *in vitro* and the specific antigen isolated in relatively pure form, it is conceivable that more favourable results would follow its injection than that of the whole bacillus. So far this has not been accomplished, but the co-operative study that has been carried out in the United States during the past five years under the direction of the Research Committee of the National Tuberculosis Association leads one to hope that it may not be long before this objective is realized. A recent publication[1] by Sabin, Doan, and Forkner, of the Rockefeller Institute, describes the results of the biological testing of certain products isolated from the human tubercle bacillus by Anderson and his colleagues at Yale University. Briefly, it has been found that the lipoid fraction is alone responsible for the production of specific tubercular tissue. Of the various fractions isolated, the phosphatide was the most active; its injection intraperitoneally into rabbits was followed by the extensive development of epithelioid and of giant cells. Analysis of the phosphatide, and of certain other of the lipoid fractions, revealed the presence of an optically active saturated fatty acid, which is termed "phthioic acid." The injection of this substance likewise led to the formation of tubercular tissue, particularly in the shape of localized aggregations closely simulating true tubercles. Neither the tuberculo-protein nor the polysaccharide isolated possessed this specific cellular stimulus. The protein proved highly toxic to tuberculous animals, and it would seem probable that both it and the polysaccharide are concerned, not in the production of tubercles, but in the development of allergy. The formation of tubercular tissue seems to depend on the lipoid fraction, the active principle of which is the newly isolated phthioic acid.

NATURE OF THE LIVING CELL

At the February meeting of the Royal Microscopical Society Dr. Robert Chambers, professor of biology in the University of New York, gave a remarkable demonstration of his method of micro-dissection and micro-injection, in an address on the nature of the living cell. One of the most striking peculiarities of protoplasm is the fact that it exists only within the confines of microscopic dimensions. Protoplasm is protoplasm only in the form of living cells, plant or animal; therefore the only direct method of studying its properties is through the compound microscope under magnifications varying from 150 to over 1,000 diameters. The micro-dissection and micro-injection technique of Professor Chambers was evolved in order to make it possible to manipulate the protoplasm within the living cell. The apparatus is a mechanical device for controlling the movements of glass-spun micro-needles and pipettes within the field of the microscope. An apparatus of this kind, built in 1920, was first demonstrated before the Royal Microscopical Society about six years ago. Since then several different types of instrument have been developed by various workers. The present apparatus is based upon the original model of 1920, but it has been modified from year to year by the addition of various improvements, and is so constructed as to permit operations upon the living cell under the highest magnifications. By means of this instrument a great many new facts have been discovered regarding the physical and chemical properties of protoplasm. We now know, for instance, that the nucleus in many cells is a fluid body, and is more alkaline in reaction than the cytoplasm in which it is immersed. The oxidation intensity of living protoplasm has also been determined by the injection into the living cell of dyes which are reducible. For example, when the colour disappears on injection, and can subsequently be made to reappear by the injection of an oxidizing agent, we can be fairly certain that the protoplasm had reduced it in the first instance. Similarly, by this method, the physical properties of the hitherto hypothetically regarded cell-membrane have been made the object of intensive study.

[1] Florence R. Sabin, C. A. Doan, and C. E. Forkner: *Journ. Exper. Med.*, December, 1930, Supplement No. 3.

INTERNATIONAL TRACHOMA PRIZE

The Hungarian Minister of Public Welfare and Labour offers a prize of 2,000 Swiss francs as a reward for original work on the etiology of trachoma. Essays intended for the competition must be addressed to Eye Clinic No. 1 of the Royal Hungarian Peter Pázmány University, Budapest (VIII, Mária-utca 39) not later than June 30th next. Works that have already appeared in print are eligible equally with essays specially written for the occasion. The jury of award may also consider works not submitted for competition but appearing in print between July 1st, 1929, and June 30th, 1931. Essays submitted may be written in German, English, French, Italian, or Hungarian. The jury of award is appointed by the Minister, and consists of Mr. A. F. MacCallan (London), Dr. Victor Morax (Paris), Professor L. Maggiore (Bari), and Professor Carl Prausnitz (Breslau). Its decision will be announced not later than December 31st, 1931.

We regret to record the death, after many years of ill-health, of Mr. Douglas Drew, consulting surgeon to the Queen's Hospital for Children, and the Hospital for Women, Soho.

A lecture under the Chadwick Trust on maternal mortality will be given by Dame Louise McIlroy in the Great Hall of the British Medical Association House, Tavistock Square, on Wednesday, March 11th, at 5 p.m. The lecture is free, and no tickets are required.

MEDICAL RESEARCH COUNCIL

ANNUAL REPORT, 1929-30

I

The sixteenth annual report[1] of the Medical Research Council, which was issued this week, records advances in many departments of research, several of which are of immediate interest to general practitioners. The usual annual grant by Parliament of £148,000 was devoted as follows: £86,000 to general scientific investigators, for research work in clinical medicine, and for the work of the Industrial Research Board; £52,000 for the expenses of the National Institute for Medical Research at Hampstead and of the farm laboratories at Mill Hill; and £10,000 for administration. In addition to this grant, financial help for special purposes was received from various sources, including the Miners' Welfare Fund, the Empire Marketing Board, the Dental Board of the United Kingdom, the British Empire Cancer Campaign, the Distemper Research Council of the *Field*, and the Foot-and-Mouth Disease Research Committee. The Council is co-operating closely with the Ministry of Health and the Scottish Department of Health, and is directly represented on the Scientific Advisory Committee set up last autumn by the Secretary of State for Scotland. In the past year Sir Frederick Hopkins and Sir Charles Martin retired from the Council under the terms of the Royal Charter; Sir Charles Sherrington, who retired in 1929, was reappointed, and Dr. J. A. Arkwright became a member.

GENERAL SUMMARY

The increased responsibility of the Medical Research Council in respect of work within the range of the Therapeutic Substances Act is manifest in the report. Advice has to be given on the routine administration of the Act, and active research work is in progress concerning the preparation and use of standards of reference for the proper assay of biological substances which cannot be measured by direct chemical means. Special attention is also being devoted to the study of the accessory food factors, and it is confidently hoped that in this way Great Britain will play an honourable part in the further development of a branch of medical science which is now receiving special attention in several other countries.

The appointment of Sir Thomas Lewis last June as physician in charge of the Department of Clinical Research at University College Hospital is mentioned in the report as a forward step of the greatest importance, indicating the value of such a research organization; the creation of a position which will appeal to the ambition of younger workers hereafter should stimulate clinical research throughout the country. Somewhat similar appointments are contemplated at Leeds, Birmingham, and Aberdeen, reproducing conditions such as exist already at Sheffield, where the professor of pharmacology, Dr. Edward Mellanby, has had charge of forty hospital beds for the past ten years. Last year the report of the Medical Research Council reviewed the efforts it had made to assist the scientific development of clinical work as such; it is now pointed out that the establishment of such new posts, in which men freed from the claims and restrictions of private practice may devote their whole energies to the advancement of clinical medicine by research within the hospitals, calls urgently for further endowments.

Puerperal Infections

Maternal mortality and puerperal fever have for long engaged the close attention of the Council, and a special committee has been at work supervising the study of streptococci. The concentration of cases for observation has been made more possible at Manchester, where a 50 per cent. reduction in the mortality was thus achieved. In this connexion reference is made in the report to the removal of Queen Charlotte's Hospital to Hammersmith, where already a special block for the aggregation and treatment of septic cases has been built and equipped with suitable laboratories for bacteriological and biochemical work. The Council is assisting the hospital in this undertaking; Dr. Colebrook, working in the Council's service, will act as honorary director of the laboratories, and as consulting pathologist will co-operate with the clinical staff. The belief is expressed that definite knowledge is steadily accumulating as regards the adoption of valuable preventive methods, but the curative aspect is less hopeful. Thus Dr. Colebrook has been investigating the efficacy of different methods for the sterilization of the hands in midwifery, and has also revealed the fact that puerperal fever cases not infected with haemolytic streptococci frequently harbour gas-forming anaerobic streptococci.

Nutrition Studies

Much recent work has been devoted to vitamin A, which probably represents a main constituent of the original "growth factor" first demonstrated by Sir Frederick Hopkins in 1912. An ample supply of the special concentrate of this substance has now been obtained by the Council, and carefully controlled investigations will be conducted to determine whether it is really the case that this vitamin has a primary value, both in defending the body against infective diseases and also in promoting recovery after infection has become established. Thus it has already been possible to test it on a large scale in the prevention of colds during the winter months, under various conditions of indoor and outdoor work. Another inquiry in progress is an examination of the possibility that this vitamin may have some value in the treatment of infective middle-ear disease after scarlet fever, and in the prevention of dangerous infective sequels after the common infective fevers. Again, at the Dunn Nutritional Laboratory, recently completed and equipped at Cambridge, work has been in progress on carotene, the yellow pigment which produces effects closely resembling those of vitamin A. Pure recrystallized carotene can effectively replace vitamin A in the diet, and it had been concluded that it was stored unchanged in the liver. Dr. Moore, working for the Council in the Dunn Laboratory, has shown that the effects following ingestion of carotene are not due to its being stored in the body, or to any identity with vitamin A, but that carotene in the diet leads to a proportionate appearance of vitamin A as such in the liver fat. His work suggests strongly that carotene is a precursor of this vitamin, and leads to its production within the animal body. This affords an explanation of the fact previously demonstrated by Dr. Moore that the carrot, which contains carotene in abundance but no vitamin A as such, can give rise to the production in the animal body of as much vitamin A as that contained in an equivalent weight of cod-liver oil, calculated as dry substance.

Progress has also been made in the standardization of vitamin preparations. The discovery, made in the Council's laboratories at the National Institute, of the method of producing vitamin D artificially from ergosterol has led to its manufacture on an extensive scale, its issue in many forms for therapeutic use, and its addition to many types of food materials. An attempt to indicate the degree of activity of various such preparations has led to the appearance of several unofficial so-called "units," with no clearly defined relations. It was

[1] Cmd. 3785. Report of the Medical Research Council for 1929-30. London: H.M. Stationery Office. 1931. (2s. 6d. net.)

accordingly arranged to maintain at the National Institute a standard solution of irradiated ergosterol to facilitate the comparative estimation of vitamin D. The unit of this vitamin was defined as the antirachitic potency of a quantity of the first-named preparation, corresponding to 0.0001 mg. of the ergosterol used in its production. Methods were devised for thus estimating vitamin D, and supplies of the standard material were made available for general distribution to approved users last August, since when samples of the standard have been sent to twenty-eight institutions in Great Britain and to eight other countries. To promote the studies necessary for the establishment of other standards subcommittees have been already formed by the Accessory Food Factors Committee to deal with vitamins A, B_1, and C; they are actively at work.

Alcohol and Fertility

An experimental estimation of the effect of alcohol on the fertility of guinea-pigs has just been concluded at the National Institute, after having continued for nine years. In 1913 and 1914 Professor Stockard, in America, published the results of a similar experiment, his records seeming to prove that the daily administration of alcohol in quantities large enough to produce visible intoxication, but not otherwise to impair the health of the parents, caused a fall in the number of births, an increased liability to stillbirths, and the production of weakly and defective offspring. A still more serious point was that these tendencies appeared to be inherited, so that without further exposure of the stock to alcohol the proportion of animals showing weakness and deformity continued to be high in later generations. Stockard's results clearly suggested that alcohol in the circulation could injure the germ plasm, and bring about permanent deterioration of the race, even without obvious injury to the generation directly exposed. It was unlikely that alcohol would be the only poison acting in this deferred way; it was, indeed, quite possible that any circulating poison, such as those occurring in the acute infections, might inflict similar damage, only recognizable in later generations. So grave a threat to the future of humanity necessitated the careful repeating of Stockard's experiments, and this has now been done.

Miss Durham, using a specially chosen stock of guinea-pigs, has followed exactly Professor Stockard's lines, full controls being maintained. The diet was standardized for all the animals, care being taken to ensure an adequate ration of the essential vitamins. The results were statistically analysed, but no confirmation was obtained of a single essential point of Stockard's findings. The litters obtained from alcoholic parents, or from their descendants, were as numerous as those from the control matings; there was no excess of stillbirths or deformity. Their offspring for several generations exhibited no transmitted defects of the kind described by Professor Stockard, from which it appears that those defects were not attributable to the alcohol. This section of the report closes with the pertinent remark that "these negative findings have no relation whatever to the effects of alcoholic parentage on the upbringing of children in an organized human society."

[To be concluded]

The sixteenth Congress of French-speaking Medical Jurists will be held in Paris from May 25th to 27th, when the following subjects will be discussed: medical study of motor accidents, introduced by M. Simonin; traumatic ulcer of the stomach, introduced by M. E. Martin; crimes due to passion, introduced by M. Lévy-Valensi; and medical responsibility, introduced by MM. Duvoir and Donnedieu de Vabre.

THE SPLEEN: ITS STRUCTURE, FUNCTIONS, AND DISEASES

DR. McNEE'S LETTSOMIAN LECTURES

The Lettsomian Lectures were delivered before the Medical Society of London on February 16th and 25th, and March 4th. The lecturer was Dr. J. W. McNEE, who discussed the spleen, its structure, functions, and diseases.

HISTORICAL INTRODUCTION

In his first lecture Dr. McNee said that splenic enlargement presented itself as a clinical problem in all sorts of medical and surgical conditions. The subject of the spleen was a difficult one, and he might appear bold in attempting to give an account of its structure, functions, and diseases in three brief lectures. The matter, however, was one which, on the whole, was poorly understood, and seemed worthy of attention at the present time, because recent physiological and pathological researches had cleared up some points of difficulty and had indicated methods by use of which the solution of others might be expected. The human spleen was of considerable size, very easily accessible, and, when enlarged, palpable through the abdominal wall. Numerous records of curious beliefs and speculations about splenic function were found in the early history of medicine, but real knowledge of its intimate structure had accumulated slowly. One reason for this was no doubt the fact, established from the earliest times, that the spleen had not any function absolutely essential for life, so that some less fundamental reasons for its presence in the body had to be discovered. The spleen was described by Hippocrates, who stated that its work was to draw the watery part of the food from the stomach. Aristotle, in describing the organ, thought it had a somewhat similar function. Galen termed the spleen an organ full of mystery, and in the Galenic physiology it was associated with melancholia, a view which persisted for a thousand years. Numerous allusions having that significance were to be found in the works of Shakespeare and of other poets. In the first translation of Pliny into English, in 1601, there was a definite reference to the extirpation of the spleen in runners. There was a well-known tradition that in the earliest times Greek runners had their spleens removed in order to increase their speed and endurance. The first recorded splenectomies were carried out on dogs in 1680. Before that date Malpighi had ligatured the splenic vessels in dogs, without apparently injuring them, and later on he performed splenectomy in the same animals. The first operation for the removal of the human spleen was said to have been performed in 1549. Possibly the first human splenectomy carried out in this country was described by Dr. Timothy Clarke, who was physician to Charles II. Coming to modern times, Spencer Wells in 1866 operated on one of the first English cases in which the abdomen was deliberately opened and the spleen removed; in this case, however, the patient died. With the advent of Listerian principles, splenectomy became commoner, but the mortality at first was high.

The lecturer referred at length to the work of William Stukeley, who, in the introduction to his Goulstonian Lecture in 1722 to the Royal College of Physicians, on "The spleen: its description, history, use, and diseases," said that "the uses of the apparatus [the contents of the abdominal cavity] are by the industry of the curious pretty manifest, except that of the spleen; which yet has not failed to be a subject of inquiry in all ages, and has racked the brains of physicians as well as the bowels of their patients." Stukeley recognized that this spongy organ, when filled with blood, could by contraction

empty itself again at pleasure. He thought it acted as a diverticulum or safety valve to the general systemic circulation. "This necessary surcharge of blood is so regulated by the spleen as that no inconveniences arise from it"—truly an amazing prophecy of future discoveries. Just as Stukeley's work could be regarded as the classic reference on the spleen in the eighteenth century, so Henry Gray's book, published in 1854, on *The Structure and Use of the Spleen*, could be regarded for the nineteenth century, but Gray gave a much more passive role to the organ.

THE SPLEEN STRUCTURE

In dealing with the problems of the splenic structure, Dr. McNee said that in recent times much of the older work and its possible significance had been completely forgotten, and in most of the recent textbooks the description of the finer histology of the spleen was, on the whole, very poor and meagre. He was able to obtain a supply of animal spleens from the Zoological Gardens and from the Marine Biological Stations, and the comparative study of them had been of the greatest help. The following points in the structure of the spleen were, he believed, important in the interpretation of human splenic disease. The spleen of all vertebrates was covered by a fibro-elastic tunica propria, which in some animals contained abundant muscle fibres. In man the muscle was chiefly confined to the fibrous partitions known as the trabeculae of the spleen. The reticular network of the spleen was first described in 1847. It was a structure often misunderstood, but it was a most important element in the essential framework of the organ. Such tissue was not limited entirely to the spleen, but occurred in the liver, and also in the lung. The lobularity of the spleen was a most important fact to note; all spleens were essentially lobular in structure.

The lecturer dwelt at length on the blood supply of the spleen. The splenic artery in man was remarkable for its large size, as compared with the bulk of the organ. As a rule, it was a single vessel which broke up close to the hilum into a number of branches, but occasionally the branching took place at some distance before the hilum, and he had seen this lead to surgical difficulties at operation. The main branches of the splenic artery were tortuous and spring-like, and divided abundantly, until finally each branch bifurcated to form two slender vessels which were called penicilli. These were end arteries and did not anastomose. If blocked, they produced an infarction of the potential lobe supplied.

Another important part of the internal vascular arrangement of the spleen was the ellipsoid. The structure and significance of the ellipsoids had been fully investigated. They consisted of swellings of reticulum surrounding the penicilli at their terminations. They were present in the spleens of all animals, but varied greatly in their prominence. In the human spleen they could only be demonstrated with ease by impregnating the reticulum with Indian ink. The splenic vein was even more remarkable for its large calibre, in comparison with both the size of the organ and the size of the artery. It had enormous contractile power. He was convinced that most of the penicillar branches ended directly in venous sinuses, though he was well aware that there were opponents of that view. The spleen pulp constituted the spaces between the reticulum. The pulp spaces were the essential reservoirs of the spleen, and formed the largest part of the spleen structure. Turning to the problem of the mechanism of the splenic circulation, Dr. McNee said that this had been the subject of most acute controversy from the earliest developments of histology. He believed, however, that the comparative study of the spleen in animals explained some of the difficulties, while recent physiological researches had elucidated some others. Three views had been current: that the circulation was completely closed, that it was partly open and partly closed, and that it was completely open. In the comparative study of the spleen in animals it had been found that the circulation was obviously different in different species. In fishes there was an open circulation. In reptiles there was a closed circulation, being entirely within vessels lined by endothelium. In birds no conclusion could be reached, because the vessels were so fragile. In man it seemed impossible to solve the problem by direct histological methods, but help had come from the physiological researches of Barcroft on splenic function, which had suggested a form of two-way circulation in the human spleen, part passing straight through, and part being diverted into the pulp. He described some experiments of his own which, he thought, together with Barcroft's observations, strongly supported the view that there might be such a two-way circulation in man and the higher animals. The first or ordinary circulation went on continually as a direct one, the blood pumping straight through the splenic artery into the venous sinuses. The second circulation was intermittent, and was brought about by contraction and relaxation of the whole organ. It consisted of the emptying of the pulp spaces into the veins and their filling again through the lateral channels in the walls of the ellipsoids.

FUNCTIONS OF THE SPLEEN

In his second lecture, on February 25th, Dr. McNee began by remarking on the size and weight of the spleen. In vertebrates the weight of the spleen in comparison with the body weight varied enormously. It was relatively greatest in fishes and least in birds. Many observations on the weight of the human spleen at different ages were made by Henry Gray, who stated that the organ was largest during youth and active adult life, but in old age decreased in weight. Over the age of 60 the average weight was 4½ oz.

The first function of the spleen to which the lecturer alluded was its contractile power. The study of this subject was invested with new interest in 1923, when Barcroft and his colleagues at Cambridge began their important series of observations. In an expedition to Peru to study the effects of high altitude on man, Barcroft was puzzled, even on the voyage out, to account for the number of red corpuscles suddenly added to the blood as soon as hot weather was reached. Obviously this blood could only come from some storehouse or reservoir, and it was natural to think of the spleen. By a series of ingenious experiments Barcroft was able to show that a dog's spleen contracted actively during exercise, heat, and emotion, and his experiments with carbon monoxide poisoning also showed conclusively the sudden emptying of the spleen pulp during exercise. Binet and his colleagues in Paris from 1926 onwards approached the same problem from a different angle. They had noticed in experimenting with asphyxiating gases a sudden increase in the count of red corpuscles. The increase was very rapid, and the blood count of an asphyxiated dog might rise 1,000,000 or even 2,000,000 per c.cm. within five minutes. Binet soon found that in animals in which the spleen had been previously removed this increase in the blood count on asphyxiation failed to occur. Thus the contractile power of the spleen as an ancillary respiratory organ seemed completely proved.

Active contraction of the spleen had also been found to occur regularly after haemorrhage, but Barcroft had shown that this contraction was most important or pronounced after a single experimental haemorrhage and not when blood loss was repeated. While no one could fail to be impressed with the importance of the spleen

as a ready and rapidly available source of red blood corpuscles, the importance of the bone marrow as an additional source of supply must not be overlooked. Possibly the supply of red cells from bone marrow was not available so promptly as from the spleen, but none the less there must be in the normal bone marow a large store of ripe or nearly ripe red blood corpuscles.

The actual mechanism whereby splenic contraction and relaxation was brought about was of considerable interest. Binet concluded that there was a centre for splenic contraction in the medulla which acted by the stimulus of asphyxiation or changes in blood pressure. Obviously this central nervous mechanism was very complex and far from being understood. Apart from this probable nervous mechanism of contraction, there was a second mechanism whereby the spleen could certainly be made to contract under normal circumstances—namely, by the liberation of adrenaline into the blood, and it was almost certain that this mechanism operated in exercise and emotion.

It was now generally accepted that during foetal life the spleen, together with the liver, actually manufactures blood corpuscles of every kind, and in post-uterine life a reversion to this occurs in a variety of diseases of the blood. This so-called myeloid metaplasia had been studied by many workers. Lymphocytes were believed to be supplied to the blood by the Malpighian bodies during life, but there was still a good deal to learn about the physiology of the lymphatic system. Following splenectomy in normal animals a definite anaemia supervened. The cause of this long-persisting anaemia was not fully understood, but it occurred after splenectomy in human cases. Possibly it was due to the loss of some stimulating effect on the bone marrow. The lecturer went on to discuss the relation of the spleen to blood platelet production and destruction. It was most unfortunate that information on this subject was so inexact. The problem really first came forward after the apparent cure by splenectomy of severe cases of purpura associated with very low platelet count, and the marked rise in the count suggested that the spleen might either destroy the platelets or influence their production in the bone marrow.

He added a word or two about the relation of the spleen to digestion. It had been thought from the earliest times that the spleen was in some way related to the digestive process. Alterations in size of the spleen had been long noted to occur during digestion. It might be said that most of the recent studies had shown that all the metabolic processes of digestion were in no way changed in animals after splenectomy. The question of fat metabolism had been particularly investigated. It was known for a long time that the cholesterol content of the plasma was reduced in pernicious and secondary anaemias, but rapidly increased after splenectomy took place. The whole question of the relation of the spleen to fat metabolism definitely required reinvestigation, and there was a very good clinical reason for such reinvestigation, because there were a number of conditions in which it might be important to know more about the normal fat metabolism so far as the spleen was concerned.

As to the relation of the spleen to the processes of immunity, it seemed probable that the reticulo-endothelial system of cells was in some way connected with immunity to infection, so that the spleen must be regarded as of some importance in that connexion. The important clinical point arose naturally as to whether infectious diseases were commoner or were less well resisted in spleenless individuals; there was very little in the literature about that subject. On the subject of tumours, the spleen seemed to offer resistance to tumour formation, and there must be some good reason for this if it could be found; but in his own experience malignant tumour growth had occurred in two patients in whom splenectomy had been previously carried out.

CLASSIFICATION OF DISEASES OF THE SPLEEN

The lecturer reserved to his third and concluding lecture the discussion of diseases of the spleen, but he gave in his second lecture what he called a reasonable classification of such diseases, as follows:

1. Abnormalities, congenital or acquired.
2. Infections—acute, granulomatous, and parasitic.
3. Diseases affecting the myeloid and lymphatic elements.
4. Diseases affecting the reticulo-endothelial elements.
5. Diseases affecting the vascular system.
6. Tumours, simple and malignant—primary and metastatic.
7. Combined diseases of the spleen, liver, and haemopoietic system (Eppinger's "Hepato-lienalen Erkrankungen" and splenomegaly in hepatic cirrhosis).

The classification had to be based on pathology, as there was a long way yet to be traversed before these diseases could be accurately differentiated by clinical methods. The last group had been the subject of most elaborate investigation in Germany; it included diseases in which there were obvious interrelations between the liver, spleen, and bone marrow.

In closing this lecture, Dr. McNee referred to some of the abnormalities of the spleen. The spleen might be completely absent, or very many small spleniculi might be scattered throughout the abdomen. A point of importance was the lobularity of the human spleen. The division of the spleen into five, six, or seven separate lobes had frequently been described. "Floating spleen" or dislocation of the spleen was a well-known deformity, and of definite importance in abdominal diagnosis. The clinical detection of floating spleen might be quite simple or excessively difficult. Perisplenitis was a complication of very many splenic diseases, and the presence of acute, well-marked perisplenitis was often overlooked. Splenic infarction was extremely common, and splenic enlargement in fevers had to be considered, as also cysts of the spleen, especially haemorrhagic cysts, which were interesting and of surgical importance.

DISEASES OF THE SPLEEN

In his third lecture, delivered on March 4th, Dr. McNee dealt first with diseases affecting the myeloid and lymphatic structures. Myeloid metaplasia, he believed, was a "throw back" to the original function of the foetal spleen as a blood-forming organ. It occurred in a variety of diseases, such as pernicious anaemia, and splenic enlargement ensued. Apart from the lymphatic leukaemias, there appeared to be no special disease in which the Malpighian bodies were essentially involved.

Diseases affecting the endothelial elements (reticulo-endothelial system) were a very mixed group, including a considerable proportion of the splenomegalies of unknown and uncertain origin. Three types of splenic disease which might be classified as belonging to this group were: (1) chronic haemolytic (acholuric) jaundice; (2) disturbances in the lipoid metabolism of the reticulo-endothelial cells; (3) chronic splenomegalies of unknown origin, showing marked proliferation of the reticulo-endothelial cells and associated with giant cells. The first of these was such a well-known disease that it seemed unnecessary to refer to its clinical aspects. The spleens were seldom enormously enlarged, and they had a characteristic histological structure quite unlike that of any other form of splenomegaly. The second type of splenic disease mentioned was particularly interesting and puzzling, and it was possible that fresh study of the relations of the normal spleen to fat metabolism might help in its elucidation. This sub-group included Gaucher's disease, Niemann's disease, and hypercholesterolaemic splenomegaly in diabetes. In the liver the proliferation of the endothelial cells con-

taining the lipoid might, in any of the cases of the group, be so extreme that necrosis of liver cells and subsequent cirrhosis ensued. In bone marrow there might be an invasion of collections of these cells, giving an appearance resembling tumour formation. With regard to the third type several of the largest spleens in his experience fell into this category. He could do little more than describe the histology ; he had no good explanation to offer. The condition might be a response of the reticulo-endothelial cells to chronic inflammation of long standing. In several cases of this kind the liver was definitely cirrhotic, but in others he had no information about the liver, so that the question must remain open. The histological changes consisted essentially of a great proliferation of the endothelial cells, so that the spleen became a heavy solid organ and the pulp spaces and venous sinuses were encroached upon and partly obliterated. Along with this striking histological alteration, giant cells appeared, and were sometimes so numerous that the sections almost resembled those from a case of myeloid sarcoma.

Diseases affecting the vascular system formed the largest group of splenomegalies met with in Great Britain. The lecturer described two types of splenomegaly in this group: (1) one in which thrombosis had occurred in the splenic or in the portal vein ; (2) one associated with peri-ellipsoidal haemorrhages and nodular siderosis. In cases of the first type the splenic enlargement might be enormous ; one of these spleens was the largest he had seen, weighing over 9 lb. Microscopically the spleens showed nothing so characteristic histologically as to be of diagnostic value, and the chief feature made out was the hypertrophy of the spleen pulp associated with generalized fibrosis. In these cases perisplenitis and adhesions were particularly dense, creating unusual difficulties for the surgeon. In the second type the characteristic lesion, the siderotic nodule, had been observed in a considerable variety of conditions in which the spleen was diseased. It was one of the commonest findings in chronic splenomegalies examined in this country, and was recognizable at once whenever the enlarged spleen was incised. He had paid particular attention to the mode of origin of the nodules and their early stages of development. He was satisfied that the ring-like haemorrhages surrounding the arterioles were an early stage of the lesion, and that the haemorrhage underwent the ordinary process of fibrosis and organization. Both the fibrotic nodules and the perivascular haemorrhages surrounded arterioles of the finest calibre, and the vessel wall generally showed definite hyaline change. On attempting to trace the arterioles involved he was at first unable to account for their apparent abrupt ending in the pulp, until he learned the peculiar structure and functions of the ellipsoids. It was at or about the termination of the pencillar arteriole in the ellipsoid that both the fibrotic nodules and the haemorrhages were found, although the haemorrhage frequently ran back for some distance in the periarterial sheath. When the valvular function of the ellipsoid, preventing any flow-back of venous blood into the arterioles, was remembered, it seemed reasonable to suppose that in conditions of high portal blood pressure or of actual obstruction in the portal venous system a break or rupture was most likely to occur close to the obstructing valve. This was the type of case claimed by A. G. Gibson and a number of French writers to be of mycotic origin (splenic mycosis), but Dr. McNee himself was opposed to this view.

The lecturer touched slightly on spleen tumours. Simple tumours were very rare ; primary malignant tumours were also rare, and when they occurred they were always sarcomas. It was almost certain that primary carcinoma of the spleen did not exist.

Prognosis of most types of chronic splenomegaly met with in this country was, on the whole, unfavourable to prolonged life. The exception to this was chronic haemolytic (acholuric) jaundice, but even in this disease the patient had to run the gauntlet of a number of complications, such as gall-stones and biliary colic. Splenomegaly patients usually died from complications, and of these the most dreaded, but difficult to recognize in its early stages, was hepatic cirrhosis. Other complications to be feared were haematemesis, abdominal thrombosis, and the onset of the " haemorrhagic diathesis."

THE OPERATION OF SPLENECTOMY

In certain cases, such as Gaucher's disease, if the exact diagnosis was known beforehand, it would be inadvisable to remove the spleen, but, on the whole, the cases of splenomegaly in which the removal of the organ offered the best hope of cure far outnumbered the others. Splenectomy might be successful even in most desperate and unpromising cases. Certain precautionary measures were necessary before operation was considered. The first was concerned with the degree of anaemia present. If anaemia was at all pronounced, he believed in blood transfusion being done before, during, or after operation. Another necessary precaution was blood platelet counts before and after splenectomy.

In one group of cases *x*-ray treatment offered a promising alternative to splenectomy—namely, the chronic leukaemias, especially of the spleno-medullary type. Methods of treating these by *x* rays had improved of recent years, and he had two cases under his care at present in which the outcome so far as prolongation of life and return to good health were concerned could only be described as amazing. The chief danger from *x* rays was undue destruction of the leucocytic tissues, so that marked leucopenia resulted, and septic complications might ensue. Ligature of the main splenic artery was a method which, with the help of his surgical colleagues, he much desired to test in suitable cases of chronic splenomegaly. So far he had no personal experiences to relate, but the operation was apparently quite safe ; it was by no means a new suggestion. He could think of several types of cases in which this simpler operation might have been performed instead of splenectomy, and certainly this procedure should be seriously considered when dense and extensive retrosplenic adhesions greatly increased the surgical risks of removal.

LONDON COUNTY HOSPITALS MEDICAL STAFF

NEW SCALES OF SALARIES AND CONDITIONS OF SERVICE

At the meeting of the London County Council on March 3rd, the Central Public Health Committee brought forward the long-awaited proposals concerning the new scales of salaries and the conditions of service, to be adopted uniformly as from April 1st, for the medical staffs in the hospitals and institutions recently transferred to the Council from the Metropolitan Asylums Board and from the boards of guardians. Existing officers who are transferred officers within the meaning of the Local Government Act, provided they accept the conditions (with the exception of those relating to the period of probationary service), are to be given the option of being placed on the new scales. No comment has been made by the London Voluntary Hospitals Committee, to which these proposals have been submitted.

Grading of Staff

When the London County Council took over the hospitals the remuneration and conditions of service in the special hospitals hitherto controlled by the Metropolitan Asylums Board were, generally speaking, standardized, but no such uniformity existed at the general

hospitals under the control of the boards of guardians. A substantial part of the income of many of the medical superintendents of the latter has been derived from fees which have fluctuated from year to year. The conditions also varied widely as between the different hospitals in respect of number of beds, responsibility of the officers, and employment of consultants and specialists. The Central Public Health Committee admits that the last is an important question, but beyond expressing the view that the services of consultant staff should be freely available for patients in the hospitals, it suggests no definite policy as to the best method of employment of such staff; the matter will be considered next year.

It is thought desirable that every general hospital should have on its permanent staff, in addition to the medical superintendent, and according to the size of the hospital, one or more whole-time medical officers with special qualifications in medicine, surgery, or obstetrics, when necessary. These officers should be graded as senior assistant medical officers, and at the larger hospitals one of them should rank as deputy medical superintendent. Next in rank should be assistant medical officers, and subordinate to them house-physicians, house-surgeons, and clinical assistants. These last, consisting of recently qualified men and women appointed for limited periods, have, says the committee, performed valuable work by assisting the senior staff in routine matters, and in undertaking minor work independently. It is anticipated that some of them, after holding these residential posts for six months to two years, will begin private practice or take appointments elsewhere, while others will continue in the Council's service as assistant medical officers. For the post of senior assistant medical officer at a general hospital preference is to be given, in the case of surgical officers, to candidates who are Fellows of a Royal College of Surgeons or who are Masters of Surgery; in the case of medical officers, to Members of a Royal College of Physicians or Doctors of Medicine; in the case of obstetric officers, to candidates holding a high qualification, together with special experience, in obstetrical work. For officers at special hospitals generally, consideration will be given to those who have qualifications suitable for the particular branch of work. Assistant medical officers will have to be qualified medical practitioners of at least one year's standing, and they must have held a residential post for at least six months in a general hospital. The conditions of appointment of assistant medical officers are that there is a period of probation of one year, and at the end of four years' service the appointment is terminated unless the holder has applied for admission to, and been accepted for, a promotion list containing the names of those awaiting vacancies for the grade of senior assistant medical officer. The above grading is suggested not only for the general hospitals, but for most of the special hospitals under the Council's control, except that appointments as house-physicians, house-surgeons, and clinical assistants are not likely to be available at all the special hospitals.

Medical Superintendents

Formerly the medical superintendents of the guardians' hospitals received from £1,100 to £1,700 a year; this included fees earned and also cash values assigned for superannuation purposes to emoluments. The medical superintendents under the Asylums Board had a similar scale of salary, and their emoluments included an unfurnished house. Further, although the London County Council Regulations provide that fees received by its employees shall be paid into a county fund, it is held that in the case of medical superintendents certain exceptions may be allowed. These include fees received by doctors for acting as examiners—for example, for the General Nursing Council—for giving instruction to medical students, for various classes and lectures, and for literary work; the authority, however, of the medical officer of health should in all cases be obtained before any remunerated work of any character is undertaken. It is proposed that additional leave with pay, not exceeding one week in each year, be granted to medical superintendents and other whole-time medical officers when they act as examiners to outside authorities. The only emolument proposed for medical superintendents is an unfurnished house or quarters, valued at £100 a year for superannuation purposes. The salary scales proposed are as follows:

General hospitals	£900 to £1,550
Convalescent hospitals... ...	£900 to £1,100
Fever hospitals	£900 to £1,450
Tuberculosis institutions ...	£900 to £1,200
Children's hospitals	£950 to £1,650

Of the general hospitals, only two (with 265 and 320 beds respectively) will have a commencing salary of £900, rising to £1,150; and at the other end of the scale two (with 843 and 944 beds respectively) will have attached salaries of £1,300, rising to £1,550. In the intermediate cases the commencing and maximum salaries vary directly with the number of beds. In the fever hospitals the lowest scale is at the South-Western Hospital (323 beds, £900 to £1,150), and the highest at the river hospitals, where small-pox cases are concentrated (1,931 beds, £1,200 to £1,450, together with a special allowance to be fixed from time to time during epidemic outbreaks of small-pox). It is added that, as the amount of district medical work supervised by medical superintendents varies considerably, and in view of the possibility of all medical superintendents being ultimately made responsible for this work, they should, as part of the terms of their appointments, be required to supervise any district medical work allotted to them without additional remuneration, with the proviso that special consideration will be given to any case in which these added duties are exceptionally heavy. Wherever possible medical superintendents must reside within the curtilage of the hospital, otherwise a house will be provided by the Council as near as possible. The annual leave is to be six weeks, and the period of notice required is three months on either side.

Subordinate Medical Staff

It is proposed that deputy medical superintendents be employed only where beds exceed 600, and that two grades (with salaries ranging from £600 to £800 a year) be formed on the basis of beds provided. Two grades of senior assistant medical officer are suggested, with salaries ranging from £500 to £600; the higher grade includes those officers acting as deputy medical superintendents at hospitals of 600 beds and under, except at the smallest hospitals. For the grade of assistant medical officer, the scale of salary is from £350 to £425. If the engagement is extended beyond four years, the minimum is to be increased to £450 a year. It is proposed that house-physicians and house-surgeons (resident) and clinical assistants (non-resident) be engaged for strictly limited periods and receive £80 to £100 a year respectively, with no emoluments, but with meals when on duty. Generally speaking, all assistant medical officers are to be resident, but departures from this principle may be allowed if the interests of the service permit. For deputy medical superintendents and senior assistant and assistant medical officers, provision for periodic week-end leave is to be made; sick pay is to be allowed on the same scale as for medical superintendents, and annual leave and length of notice are to be fixed on the basis of the relative status of the grades concerned. House-physicians and house-surgeons are not to be regarded as employed in a whole-time capacity, and are to be granted reasonable off-duty time for study. Clinical assistants will attend for six sessions of about four hours' duration each week, and sick pay is to be granted on a basis similar to that allowed to part-time assistant medical officers on yearly engagements in the Public Health Department. It is proposed that the period of engagement of this grade of staff be limited to six months, with the possibility of extension for further periods of six months up to two years, provided that not more than twelve months are spent at any one hospital.

Those acting as locumtenents will receive a provisional maximum rate of remuneration of seven guineas a week, plus emoluments. If there is no accommodation in the

hospital for such officers, it is considered that an additional payment at the rate of one guinea a week should be made in order that they may rent rooms in the vicinity. With regard to visiting medical officers at small hospitals and homes, the rates of remuneration are laid down as £300 a year for an average attendance of between one and a half and two hours a day, and £200 a year for an average attendance of one hour a day. The additional expenditure involved in these proposals is £8,689 in the first year, and the cost in subsequent years is estimated at an average of £5,744.

THE COUNTY HOSPITAL SERVICES OF LONDON

FIRST YEAR'S EXPERIENCE OF L.C.C. ADMINISTRATION

The Central Public Health Committee presented to the London County Council on February 24th a report on the administration of the transferred hospital services for the period beginning April 1st, 1930, when the Council became responsible for those services under the Local Government Act.

It will be remembered that, under that Act, central direction through a committee of the Council was substituted for the individual direction of twenty-six separate authorities—the Metropolitan Asylums Board and the various boards of guardians—and the responsibility, in the main, for the services was placed upon the county medical officer of health. The committee's report stated that the central co-ordinating control was exercised through seven subcommittees, to which considerable powers had been delegated. A subcommittee had also been appointed for each hospital or institution, except in a few cases in which it was convenient to include two or more establishments under one subcommittee. The total membership of the existing seventy-two subcommittees, including these hospital committees, was 549. Some members were on more than one subcommittee, and the actual number of members was 382, of whom 360 were co-opted members. In appointing these members it was possible to secure, in the majority of cases, the services of former members of the late authorities, and the assistance rendered to the Council by this large body of devoted men and women during a year of great pressure was gratefully recognized.

Transferred Institutions

The total number of transferred hospitals and institutions was seventy-six, with 41,984 beds. To show the magnitude of the service represented, it might be stated that, while there were about one hundred voluntary hospitals in the County of London, their total accommodation was only about 14,000 beds. The management of the thirty-three hospitals transferred from the Metropolitan Asylums Board had for many years been under the unified control of a central authority, and the service which they had rendered had been administered as one entity. The arrangements generally in force under the Board's regime had been continued. With regard to the hospitals and institutions under the control of the guardians, the position was naturally very different, owing to the fact that they had been managed by twenty-five separate authorities. The hospitals included some for the acute cases and others for the chronic cases, the latter comprising mainly incurable diseases of senility and other chronic affections. A question to which the committee had given consideration during the year was whether it was advisable to have hospitals reserved entirely for those acutely ill and others for the chronic. There was some opinion that this was a desirable arrangement, but experience had shown that it had serious disadvantages. The most important was that it was not possible to secure the same standard of medical and nursing care in an institution containing only patients of the chronic type as in a hospital in which a variety of cases, including the curable, were treated. In the interests of both patients and staff it was considered that the best arrangement was to aim at having hospitals in which both the acute and the chronic cases were accommodated, in the proportion of about three to one. The attainment of this end would take some time.

Co-operation with Teaching Hospitals

On the matter of conference with representatives of the voluntary hospitals, as laid down under Section 13 of the Local Government Act, the report stated that the Voluntary Hospitals Committee had been consulted already on proposals for uniform scales of salary and conditions of service for medical, nursing, laboratory, and other staffs. Questions concerning medical education, particularly those referring to medical instruction in obstetrics and consultant services, had also been discussed at the meetings between the representatives. The representatives of the voluntary hospitals desired that, if the provision in their institutions (with financial support from the local authorities) of the extra obstetric beds needed by the teaching schools was not practicable, obstetric cases in the municipal hospitals should be made available for the teaching of students. Existing maternity units in the Council's general hospitals were not large enough to be suitable for teaching purposes, and were fully used for the training of nurses. Acquiescence was expressed, on the Council's behalf, to the principle of allowing the teaching of students in connexion with the Council's maternity beds as and when satisfactory arrangements could be made and suitable units were available. The Council's hospitals contained types of chronic disease rarely seen in voluntary hospitals, and it was stated that it had been agreed that facilities should be provided, as far as possible, for the medical education of students and post-graduates at these institutions.

The scheme of laboratory services which the Council has in hand provides for the establishment of five group laboratories, suitably located, capable of dealing with the more specialized pathological work. The first of these group laboratories will be ready to function in April, and all of them are expected to be available before the end of the year. The report stated that at the other general hospitals steps were being taken to bring the laboratory services up to a suitable standard.

Questions of Staffing

The Central Public Health Committee has been largely occupied during the year with the scales of salary and conditions of employment of the staffs of the transferred hospitals and ambulance services, who number nearly 19,000. The position has been complicated by numerous questions of difficulty with superannuation and pension conditions, tenure, and other rights and privileges. The nursing staff, numbering about 10,000, was most urgently in need of consideration. Provisional proposals for new scales were prepared, and the immense task of applying the scales individually to the members of the staff concerned, and of adjusting each officer's appropriate position on the new scales, was being proceeded with as far as possible. The shortage of candidates for the nursing profession had been felt in the public hospitals of London, and recently it had been agreed to increase the normal nursing staff by 500 nurses. The question of the medical staff was next dealt with, and, having regard to the needs of the service, the same careful and prolonged consideration had been given to the subject of appropriate scales and conditions. The committee hopes to be in a position to submit proposals regarding the medical staff at an early date.

Finally, there is a note on the ambulance service, which now includes two divisions—a general section and an accident section. The number of ambulances attached to the fourteen accident stations is 23, and to the six general stations, 160. The number of calls dealt with at the accident stations during 1930 was 43,930, and the number of persons removed by the ambulances attached to the general stations was 200,481. The 183 ambulances travelled a total of 1,617,950 miles.

ATMOSPHERIC POLLUTION

REPORT OF SCIENTIFIC INVESTIGATIONS

The issue by the Department of Scientific and Industrial Research of the sixteenth report for the year ended March 31st, 1930, on the investigation of atmospheric pollution[1] calls attention again to the existence of the smoke problem, and the extent to which attempts to solve it are meeting with success.

As from April 1st, 1927, the Department, at the request of a number of local authorities, undertook responsibility for co-ordinating the observations of atmospheric pollution which for some years have been made by local authorities and other bodies, and for seeing to the conduct of research into the nature of pollution and the best way of measuring it. The cost of this work is met by contributions from co-operating bodies, supplemented by a grant from the Department. The Department has appointed an Atmospheric Pollution Research Committee to advise on the work, and in order to maintain touch between the central organization and the co-operating authorities, and to promote the application of the results of the research, an autonomous body known as the Standing Conference of Co-operating Bodies has been established. Reports by the Standing Conference and the Research Committee are included in the document now under notice, as well as a report by the superintendent of observations, Dr. J. S. Owens.

The Standing Conference mentions that in the year of report, 1929–30, it caused inquiries to be made among the co-operating authorities as to steps they had taken to abate the smoke nuisance, since it was felt that knowledge of action taken and experience gained by different authorities might be useful to others. The summary of the replies given in the report indicates that, apart from the powers given to them under the Public Health (Smoke Abatement) Act of 1926, a number of authorities are taking active steps by enlisting the co-operation of house dwellers and factory owners in their efforts to solve the domestic smoke and factory smoke problems. Domestic smoke is now well recognized to be the principal contributory cause of the smoke nuisance in many of our large towns. Estimates for London and Glasgow have shown that smoke in these cities is 2½ domestic to 1 industrial and 3½ domestic to 1 industrial respectively. The burning of every ton of raw coal in a domestic open grate has been estimated to cause as much as ten shillings' worth of damage in many areas. Evidently the town dweller must sacrifice his cheerful coal fire if he is to gain the benefit of a clear atmosphere, and many local authorities, the report indicates, are doing what they can to induce this spirit of self-sacrifice. As regards smoke from industrial furnaces or public premises, the summary refers by way of example to steps taken by Wakefield, Dewsbury, Glasgow, Sheffield, and Edinburgh.

The Research Committee in its report describes a new investigation. That smoke from densely populated districts affects the clearness of the atmosphere throughout wide areas is shown by the fact that visibility at Valentia, on the south-west of Ireland, has been found to be affected by smoke from industrial areas 350 miles away. The committee has set out to get more information about the spread of pollution by an investigation in progress at Norwich, in which daily observations are made of the spread of pollution down wind from the city. The committee refers also to the development of an apparatus, a description of which is about to be issued, for measuring sulphur, the most actively destructive element of pollution in the air. The importance of sulphur measurement may be illustrated by reference to the various estimates of the damage caused to buildings by that element of pollution, the most recent being by Sir Frank Baines, who concluded that in the last twenty-five years sulphur has caused damage to buildings to the extent of £55,000,000 to £60,000,000. The apparatus has been designed to be simple in operation and suitable for routine measurements.

[1] London: H.M. Stationery Office. 1931. (4s. net.)

A comparison of the annual records of pollution from 1915 to 1928 indicated that, while there was a progressive improvement down to 1921–22, little advance had been made since. But the year 1929–30, according to Dr. Owens, marked the beginning of a trend in the right direction. Nevertheless, his report adds further evidence, if it be needed, of the loss of daylight and of ultra-violet light attributable solely to smoke. Records of ultra-violet light taken at Sheffield show that in November and December of 1929 no ultra-violet light at all was received in the middle of the city. The question of ultra-violet light is also discussed in an appendix dealing with Rochdale, contributed by Dr. J. R. Ashworth, which indicates that, even by comparison with a station only a mile away, the centre of Rochdale loses as much as 29 per cent. of ultra-violet light during the first half of the year.

Australia

[FROM OUR CORRESPONDENTS]

School of Public Health and Tropical Medicine in Sydney

The new School of Public Health and Tropical Medicine at the University of Sydney has passed through its first year with considerable success. The activities of the school include not only instruction and research in tropical medicine and public health, but also special education in school and building hygiene. Altogether 158 students attended during the year. Of these, 9 were medical graduates, 39 were medical undergraduates, 11 were students of social hygiene, 9 were architectural students, and 90 were graduate school teachers. Three diplomas in tropical medicine and two in public health were granted. The course in tropical medicine occupies a period of three and a half months, and corresponds closely to those of London and Liverpool. The faculty of medicine in the university has recognized the importance of the school by appointing its director, Dr. Harvey Sutton, professor of preventive medicine. This is the first chair in Australia in this branch of medicine. A hookworm and filariasis survey of Norfolk Island was undertaken during the month of January, 1931, completing the hookworm survey of the Australian Commonwealth, Papua, and the Mandated Territory of New Guinea. This work which was conducted for a period by the Rockefeller Institute in collaboration with the Commonwealth Government, and has been carried on by the Commonwealth Health Department.

Royal Prince Alfred Hospital

During 1930 an association entitled "The Royal Prince Alfred Hospital Resident and Ex-Resident Medical Officers' Association" was founded in Sydney. It is composed of medical practitioners who are now, or who have been, members of the resident or honorary staff of the Royal Prince Alfred Hospital. As its objects it has the publication of a Royal Prince Alfred Hospital Year Book containing contributions from the staff of the hospital, and an annual reunion of members in educational and social activities. The first reunion, held during October, 1930, was a pronounced success. A full week's programme of lectures and demonstrations was carried out by the members of the honorary staff of the hospital. The week concluded with surfing, a golf tournament, and the first annual dinner of the association at the Elanora Country Club. At this first reunion each section of the hospital staff was allotted a period for the demonstration of its work. At future meetings certain sections will be chosen in order that more detailed instruction in various subjects may be possible.

Victorian Council for Mental Hygiene

A meeting convened to form a Victorian council for mental hygiene was held at the Medical Society Hall, East Melbourne, with Sir Richard Stawell in the chair. Dr. S. V. Sewell said that the committee of the Neurology and Psychiatry Section of the Victorian Branch of the British Medical Association, who had called the meeting, had recognized, especially since the war, that a very large number of the nervous disturbances from which patients who consulted doctors were suffering was due to the fact that the patients were "misfits," and that conditions with which they were constantly confronted were due to the fact that they did not choose their work in life satisfactorily. Councils for mental hygiene had therefore been formed in many countries, and were doing magnificent work. It was realized that they could only be successful if there was adequate co-operation between the medical profession, the teaching profession, and all social workers. Professor W. S. Dawson said that, until recently, the whole subject of mental disorder had been limited to the treatment of those in mental hospitals; there had been very little organized attempt to do much for patients before they reached the stage at which they had to be certified. There was now a very much wider conception of mental trouble. This was an age of prevention, but patients were seen by specialists far too late, and their condition was often the culmination of a long series of maladjustments, which could sometimes be traced back to the years of adolescence or even of childhood. Psychiatrists realized the importance of dealing with children with nervous symptoms. The various fears, emotional upsets, and feelings of inferiority and insufficiency, if fully dealt with at an early age, could be contended with and would give place to a feeling of self-confidence. There was a time in the life of many a hardened criminal when he was a decent law-abiding youth, and then through some unfortunate environmental factor or some incident in his life he had turned to the path of antisocial behaviour. Mental hygiene was attempting to introduce preventive measures for such cases. The parental and home influence was of immense importance. Vocational guidance was of great value to the boy who was leaving school; by it he might be definitely advised for what type of occupation he was best suited. There was also the enormous question of mental deficiency. Children who were two or three years mentally retarded should be given special types of training. There had been far too much pessimism in the attitude towards defectives; with patience, and with special facilities, many of them could become useful in the community. Professor J. A. Gunn looked forward to the time when there would be closer co-operation between the educationists, the medical profession, and the social workers, each of whom saw the problem from his own particular angle. He thought that the meeting was a historic occasion for the city of Melbourne, in that it was highly representative of the different orders and associations. Mr. V. McRae said that the fatalistic view of the future of the mentally incapable was not justified by his experience. The Education Department had long been endeavouring to do something for mentally defective children, and had found that if the right classification could only be obtained early enough it meant a very great deal in the child's future progress. Dr. Vera Scantlebury stressed the importance of teaching the mother and those dealing with the child not to overstimulate or to over-fatigue him. Careful attention to nutrition would do very much to prevent a number of mental disorders. A resolution was proposed by Mr. Frank Tate "That this meeting constitutes itself as the Victorian Council for Mental Hygiene, and that application be made for affiliation with the National Council for Mental Hygiene in Great Britain," and this was carried unanimously.

University of Melbourne

The number of first-year medical students has now passed the pre-war figure. Arrangements have been made for greater teaching facilities in organic chemistry during the first year of the medical course. It has also been decided to institute diplomas in ophthalmology and oto-rhino-laryngology. It is announced that in future the examinations for the degree of M.D. and M.S. will be held half-yearly—in March and in September.

Australian Medicine in the War

The first volume of *The Official History of the Australian Army Medical Services, 1914–18*, has been published. This work, the compilation of which has been arranged by the Commonwealth Government, has been edited by Colonel A. Graham Butler, D.S.O., V.D.

India

Treatment of Rabies

Reports on the use of Sir David Semple's antirabic vaccine have been received from the King Edward VII Memorial Pasteur Institute, Shillong, and the Pasteur Institute of Southern India at Coonoor. In the thirteenth annual report of the first-named institution, for 1929, it is announced that during that year this form of treatment was made available at distant centres throughout Assam to an extent which materially altered the conditions under which antirabic measures in that province had been previously carried on. In 1917, when the Shillong Institute was opened, 569 cases were treated, with 5 deaths (0.88 per cent.) and 4 failures (0.71 per cent.); in 1929 there were treated 1,110 cases, with 7 deaths (0.63 per cent.) and 5 failures (0.45 per cent.). The Semple vaccine is first prepared as a 2 per cent. emulsion of fixed virus in normal saline solution containing 1 per cent. carbolic acid. After being kept at 37° C. for twenty-four hours, the vaccine is diluted with an equal volume of normal saline solution, is tested for sterility, is put up in single-dose ampoules, each containing 5 c.cm., and is then again tested for sterility. The vaccine is stored at 4° C. for at least three weeks before it is issued. Each centre is supplied with twenty-eight doses, enough for two full treatments. As soon as one or more cases arrive for treatment anywhere, the appropriate series of doses are requisitioned by telegram and are dispatched at once. Unused vaccine four months old is replaced by a fresh supply. Lieut.-Colonel J. Morison, I.M.S., director of the Shillong Institute, reports that this system has worked well. One case of paralysis after treatment is reported in a European; the patient recovered completely after a fortnight in bed, during which he was given massage and passive movements. This is the first case of the kind at the Institute, where 18,234 patients have already been treated by this particular vaccine. The vaccine was injected intravenously in 2 c.cm. doses on alternate days in twelve cases of severe biting by animals (proved to have been rabid by the finding of the Negri bodies or the presence of undoubted symptoms); there were no deaths. The extension of this most effective treatment, by arranging for it to be given without delay in outlying districts in Assam, will undoubtedly diminish the mortality from rabies. During ten months of 1929 there were treated at the Coonoor Institute 607 patients, an increase of 242 on the number dealt with in the previous twelve months. This is

ccounted for by the fact that about the middle of 1929 here was a serious outbreak of rabies in Ootacamund nd several rural areas in the Nilgiris, due to widespread ackal infection. Coonoor and its suburbs were not ffected by this incidence. Many instances occurred of ackals rushing along the highroads and into villages and ouses, where they attacked human beings indiscriminately, causing a grave scare. Semple's vaccine was used throughout the year under review, and Major K. R. K. Iyengar, I.M.S., director of the Coonoor Institute, remarks that three months is considered to be the limit of its efficiency. He advises daily doses of 5 c.cm. of the 1 per cent. emulsion, irrespective of whether the cases are considered light or severe. No instances of paralysis were encountered.

Infant Mortality in the Central Provinces

Attention is called in the annual public health report for 1929 of the Central Provinces and Berar to the very high infant mortality, which rose to 240.49 per 1,000, as compared with 238.41 in the previous year, and is the highest in India. The mortality figure for the age-period up to 5 years is even worse, and 53.93 per cent. of the total deaths occurred in children in this group. Major C. M. Ganapathy, I.M.S., Director of Public Health, attributes this deplorable state of affairs to poverty, ignorance, overcrowding, and bad housing conditions, and he regrets that there are signs of apathy towards the National Baby Week celebrations in several towns, including Jubbulpore. He appeals for more assistance in obtaining supplies of milk for necessitous mothers and children, and considers that the existing welfare centres might well be used for distribution purposes. Many more of these centres are urgently needed in the towns and also in rural areas, but the money for their establishment is lacking. Skilled attention at childbirth is another requirement, and home visiting generally is handicapped by shortage of staff; hospitals for infants would be immensely useful, and much remains to be done in the way of securing ante-natal treatment and advice for expectant mothers. The Indian Red Cross Society is devoting itself energetically to providing instruction for mothers in the care of infants, the treatment of infantile diseases, and improvement in the conditions of childbirth. The Government has been unable to find the increased financial support which is desired, and may even have to reduce its grants, but it is suggested that if the bulk of the educated population realized the extent of the evil, and the ways in which its reduction could be brought about, a great deal could be done without much sacrifice. Improvement in the general sanitary conditions is very slow, there being unwillingness to enforce local by-laws in spite of the high incidence of fevers, respiratory diseases, dysentery, and typhoid fever. The opinion is expressed that more energetic action in this direction would have an appreciable effect on the infant and child mortality.

Improvements in Mental Hospitals

In the three years 1927 to 1929 there was a steady daily average increase in the number of patients in the Punjab Mental Hospital at Lahore, the figure rising from 889 in the first year to 949 in the second, and to 1,010 in the third. The death rate has fallen, however. The receipts from paying patients have grown larger, and the costs of administration have been decreased, despite necessary additions to the staff. A female hospital block has now been added, designed on modern lines, and capable of undertaking all the kinds of treatment likely to be necessary. During the same triennium there was a similar fall in the death rate in the Agra and Benares mental hospitals; in the second of these the improvement is attributed partly to the construction of a better water supply, and partly to the fact that this institution now receives only criminal lunatics, and has, therefore, a population that is generally more intelligent and of better physique than the non-criminal lunatics. In the mental hospital in Nagpur special measures have been introduced for the systematic search for, and elimination of, focal sepsis in every patient; this, it is hoped, will diminish the time spent in hospital, and increase the number of discharges. The effect of these steps on the hospital statistics will be watched carefully. There are three mental hospitals in the Presidency of Madras, and the medical superintendents of these met in conference in 1929. They subsequently formulated schemes devised to bring their respective institutions more up to date as regards the provision of facilities for curative treatment, including occupational therapy. The health of the patients in the Provincial Mental Hospital in Assam having been unsatisfactory in previous years, rebuilding operations were undertaken, and as a result of the better accommodation now becoming available, there is already a marked improvement.

Scotland

Glasgow Maternity Hospital

The annual meeting of the Glasgow Royal Maternity and Women's Hospital was held on February 26th, under the presidency of Lord Provost Kelly. Commenting on the report for the year Professor Bryce said that the maternity services had expanded in the most striking manner as a result of the evolution of medical services under the Department of Health. About 10,000 cases had been treated in the hospital during the past year—a large increase on the number of the previous year. Applications for treatment had either been granted or arrangements had been made for complete supervision at the patient's own home. This was a great achievement, and had been obtained through the co-operation of the public health authorities and the bodies grouped under the Public Assistance Committee. Referring to progress in research in this department of medicine, Professor Bryce quoted the conclusion reached by the Departmental Committee on Maternal Mortality, which insisted that the solution of the complex problem of maternal morbidity and mortality would be found in an increased watchfulness at all stages of pregnancy and labour, rather than in any single, arresting, or comprehensive remedy.

West Govan Child Welfare Association

At the twelfth annual meeting of the West Govan Child Welfare Association Dr. J. Parlane Kinloch, Chief Medical Officer of the Department of Health for Scotland, said that society at the present day was in much the same position as it had been after the Napoleonic wars. Indebtedness bore the same relation to national wealth and resources, but a century ago Britain had emerged triumphant. At the present day new opportunities had got to be made, and it was from the development, not of old industries, but of new industries, that the prospect of success was going to come. The first requisite to-day, he thought, was an adequate health service, and the best economy was that of health. The progress achieved in safeguarding the health of the people might be gathered from the fact that while the average duration of life in the sixteenth century was only twenty years owing to the enormous death rate of young children, and while at the end of the eighteenth century it had

been raised to only twenty-five years, the average duration of life in Scotland to-day was fifty-seven years. They had the power now of making valuable experiments in social welfare. Lady Helen Graham explained that the characteristic of this association was an alliance between voluntary and municipal effort, for there was a tendency nowadays to accept what the State provided without further effort; the best results, she said, could be achieved only by personal enthusiasm and by the voluntary spirit. Dr. A. S. M. Macgregor, M.O.H. for Glasgow, said that he was convinced that the best work in child welfare was done by a combination of voluntary and official effort. The amount of ante-natal work carried on in Glasgow was indicated by the fact that during the past year in no fewer than 50 per cent. of the births the mothers had attended the ante-natal clinics that were provided.

Red Cross Society

The annual meeting of the City of Edinburgh Branch of the British Red Cross Society was held on February 24th, with Sir David Wallace, F.R.C.S., in the chair. Colonel Mackenzie, D.D.M.S., Scottish Command, said that the military hospital at Edinburgh Castle was unsatisfactory, and that the War Office had regarded with favour a proposal to build a new hospital at Redford, where the Edinburgh garrison was stationed. The report for the past year stated that voluntary aid detachments in Edinburgh county comprised 268 members, of whom 120 were mobile. Probationers undergoing training numbered 48—a larger number than that of the previous year. The report also mentions that a team from Edinburgh, No. 8 Detachment, won the Stanley Shield in London last May, a trophy open to teams from the whole of Great Britain. This is the third time that an Edinburgh team had been successful in winning the all-British trophy. It was pointed out by the chairman that mobile members of voluntary aid detachments might be regarded as the nursing reserve of the Navy, Army, and Air Force.

Royal Edinburgh Mental Hospital

The annual meeting of the Royal Edinburgh Hospital for Mental and Nervous Disorders was held in the City Chambers, Edinburgh, on February 23rd. Bailie Wilson M'Laren, who presided, said that this institution had taken a leading part in the remarkable progress that had been made during the last twenty-five years in the treatment of those who were sick in mind. The changes that have taken place in this period in the provision of treatment are referred to by Professor G. M. Robertson, physician superintendent, in his annual report for 1930. These changes, he suggests, might be summed up by the term "hospitalization." Twelve years ago efforts towards improvement were handicapped by the fact that they were entirely confined within the walls of the institutions. Mentally sick persons could not be admitted to mental hospitals unless they passed the severe legal test of certification. On sentimental grounds this had been objectionable, and on medical grounds it had been a barrier to early treatment. The trend of medical science to-day was towards early treatment and prevention. In psychological medicine an important principle was to begin treatment with the young, when the mind was plastic and when the first slight abnormalities could be noted. Within the mental hospital emphasis should be placed on voluntary treatment, since certification stood in the way of every attempt at early treatment. According to the report Edinburgh has probably a more compact and complete organization for dealing with mental disease than any other city in Great Britain. Apart from the social services, facilities for treatment include clinics for children and juveniles, mental out-patient departments, and the Jordanburn Nerve Hospital. In addition, the mental hospital is associated with the medical school. The report states that the managers of the Royal Edinburgh Mental Hospital have incurred considerable liabilities in perfecting these organizations. The Jordanburn Hospital for Nervous Diseases was provided by modernizing an old building at a cost of £20,000, and an out-patient department of this hospital cost £10,000. The endowment of a chair of psychiatry entailed an expenditure of £10,000, a lecture theatre £8,000, while £2,000 was spent in fitting up a clinic for the young. The mental hospital now consists of Craig House and West House. The fact that the majority of the patients come voluntarily to these institutions is attributed mainly to a realization by the public that mental patients, if suitably treated in time, may be expected to recover.

Edinburgh Clinic for Child Psychology

A new psychological clinic for children and juveniles, under the management of Edinburgh University, was opened on February 18th by the Marchioness of Linlithgow. The clinic, which is situated at Morningside Park, has been established in connexion with the Jordanburn Hospital for Nervous Diseases. Sir Thomas H. Holland, Principal of Edinburgh University, presided, and said that Dr. Drever, reader in psychology in Edinburgh University, had organized a remarkably successful school of psychology in this city, and that the University Court had felt justified in utilizing part of the Carnegie grant for the present year towards the foundation of a new chair in psychology. He added that the present-day asylums were maintained for the care of those who in the present state of knowledge had to be regarded as incurable, but it was now recognized that the most direct results were obtained by investigation among children. It was possible that cases of permanent insanity among adults were due to the ignorance of mothers, nurses, and school teachers, as much as to innate mental abnormality of the child itself. Neglect of the pre-school child and failure to regard asylums as laboratories rather than as cemeteries were matters which would strike a future generation as a definite indication of the mental abnormality of public authorities. In declaring the clinic open Lady Linlithgow said that no mother of a family could fail to be interested in the psychology of the child; its whole future depended on the way in which it was understood and brought up. A parallel might be drawn between the plant and the child. If a carefully tended plant withered, they immediately asked themselves what was the cause, and took endless trouble to find out. How much more did a child require such individual treatment! In the new clinic, where doctors would be able to work under the best conditions, the routine examination in each case would include a medical examination and a report from social workers. Dr. Drever stated that the clinic had been started six years ago to deal with delinquents, but it soon became clear that an earlier contact with behaviour problems was essential. Early danger signals could be recognized by an observant teacher better than by anyone else outside the home or family. The clinic would be open every afternoon, and there would be close co-operation between the psychiatrist and the Jordanburn Hospital, as well as co-operation with departments of child life and health, with the Sick Children's Hospital, and with the School of Social Study. They also hoped to be able to help medical educatic and to perform a social service to the community.

Correspondence

OBSTETRICAL EDUCATION OF THE UNDERGRADUATE

SIR,—Of all the world's obstetricians, no one's opinion is entitled to greater respect than that of Professor Essen-Möller. His expressed opinion (February 21st, p. 326) that a six months' course in practical obstetrics and gynaecology for British students would involve "wasting their time" must be faced at once. I venture to suggest that Professor Essen-Möller is not sufficiently aware of the exact conditions of British midwifery, and is therefore unable to contrast it with that of his own country.

The obstetric problem is different in the two countries. In Sweden a very large proportion of women (94 per cent. in Stockholm itself) are confined in hospitals under the close supervision of senior and junior whole-time specialists. In Britain the bulk of midwifery practice is domiciliary, and is in the hands of midwives. The general practitioner acts as a consultant to the midwives, and in many districts—especially the large urban centres—the tendency is for the midwife to call in the younger men. It is most desirable that these younger practitioners should be prepared for the responsibility by a much more extended training than is in force in the majority of British schools at the present moment. Especially is it necessary that they should have attended and witnessed a large number of natural labours before they enter upon general practice. It would be much more difficult to insist on additional training after qualification than to increase it whilst the student is under full control.

A comparison of the Swedish and British midwives makes this even more desirable. The course of training for midwives in Sweden lasts two years—twice as long as ours—and each pupil conducts eighty to one hundred deliveries—four to five times as many as do our pupil-midwives; for these and other reasons she is a much more highly trained woman than her British sister.

In Sweden the medical student's course in obstetrics and gynaecology lasts four months only, but he "lives in" all that time, is always under the close supervision of whole-time specialists, and he conducts forty to fifty deliveries. I do not care to confess how this contrasts with the present practical training in midwifery at many of our schools.

This is my answer to Professor Essen-Möller's criticism of a proposed six months' course for British students. There are other important arguments in favour of it, but, in my opinion, these are best discussed round the committee table.—I am, etc.,

Sheffield, Feb. 22nd. MILES H. PHILLIPS.

GENETIC RELATIONSHIP BETWEEN CRETINISM AND HYPOTHYROIDISM

SIR,—There seems to be a gap in our present knowledge as to the relative positions of thyroid deficiency and cretinism from the heredity point of view. The fact that the neuropsychic condition characteristic of congenital "cretinism" can be cured by the continued administration of thyroid extract shows that the delayed or inhibited functional activity of the cerebral neurons is not due to absence of these neural elements, the result of a germinal defect. The amentia in this case is secondary to the lack of thyroxine. But the problem of the nature of the defective thyroid development still remains.

Is this dependent on some loss of, or defect in, the genetic mechanism in the germ cells which controls the development of the thyroid gland during embryonic life, and, if so, is this defect transmitted to offspring (under certain conditions of mating) along Mendelian lines, or is it the outcome of injurious influences like lack of iodine acting on the germ plasm before fertilization, or during pre-natal life, as is thought by some to be the case in primary amentia? Certain facts, such as the occurrence of cretinism in one twin, the other being normal, seem to support the mutational rather than the environmental explanation. It might be possible to obtain some further light on this problem by a careful study of the thyroid development, and of the neuro-psychic state in the children (of the F_1 and later generations) of cretins, and other subjects of hypothyroidism of lesser degree, in whose cases, while the symptoms have been removed, the thyroid defect remains.

The interval of time since thyroid feeding began to be employed in such cases has now been long enough to provide some data of the patients who have married and have produced offspring. It would also be useful to consider cases of hyperthyroidism from this genetic point of view. Further information on this subject would be helpful both to medical science and to genetics.—I am, etc.,

Leicester, March 1st. C. J. BOND.

MORTALITY IN ACUTE APPENDICULAR DISEASE.

SIR,—I should like to comment on some of the excellent points made by Professor Wilkie in his paper published in the *Journal* of February 14th.

For several years I have taught acute appendicular obstruction (after Professor Wilkie's work) as a separate preliminary entity of acute appendicitis, and the outstanding points I have noticed are:

(*a*) The severity of the colicky pain; it doubles patients up, causing them to roll about. I have known two such cases in which the patients were sent to hospital as suffering from perforated duodenal ulcer. This restlessness is of diagnostic significance; it means mechanical pain, whereas a patient is almost always immobilized by an inflammatory pain. As inflammation supervenes, the patients gradually lie quiet and still.

(*b*) The pulse and temperature are close to the normal; this encourages waiting, and the application of the label of intestinal colic, especially if there is any suspicion of dietetic indiscretion.

(*c*) The retching or vomiting is repeated, whereas it is unusual for a patient with true acute appendicitis to vomit more than once or twice.

I entirely agree with Professor Wilkie on the great value of the time spent in "coaxing out" an appendix unruptured. Too frequently is the quality of a surgeon judged by the speed with which he performs standard operations and by the smallness of his incisions. Speed is a relic of the pre-anaesthetic days. It was Lord Moynihan, I think, who said that "the man who has one eye on the clock and the other on the abdomen is not a good surgeon," but he did later add the rider that most good surgeons are quick. A liberal incision and gentle patience, although lengthening the operation by several minutes, will shorten the patient's convalescence by days. Sometimes the short time of development and the tension in an obstructed appendix are surprising, and a catastrophe is precipitated if the rupture occurs in the abdomen before or during the operation.

Although I was brought up in the "open wound school" of Professor Wilkie, after reading Lord Lister's work I began to close my wounds accurately in infected cases, using No. 0 catgut. Each layer is gently and thoroughly cleansed with hot saline, flavine, or weak monsol solution, and exactly apposed by interrupted tensionless sutures and fitted snugly around the tube.

If possible, I cleanse more thoroughly the two layers of subcutaneous fat and obliterate their dead space with silkworm-gut sutures. I close the skin with Michel's clips. I think that the wound itself, after such a cleansing, can deal with any remaining infection, especially if no culture medium is left—for example, tissue strangulated by tight sutures. The accurate closing of the layers about the drain effectively prevents any reinfection from it; by the time the tube is disturbed (in thirty-six to forty-eight hours) there is sufficient plastic lymph around it to make the wound "watertight." In several hundred cases of acute appendicitis, using this method, I have had very few wound infections. Occasionally catgut ligatures have been shed from the subcutaneous blood vessels, and here I regard the cutting and coagulating diathermy of use in sealing these and obviating the necessity for ligatures.

To avoid post-operative ileus or obstruction in general peritonitis, I believe the following points to be all-important:

(*a*) Minimal use of morphine before and after the operation, replacing it by rectal paraldehyde (1 drachm to the stone of body weight) or similar drug.

(*b*) Placing of the incision over the infected site (by a split muscle or Battle) so that a clean area is not traversed as in the paramedian incision, and the careful avoidance of handling the ileum and small intestine.

(*c*) Post-operative application of the Ochsner conservative treatment of appendicitis, together with infrequent dressings and heat to the abdomen, but not by fomentations.

(*d*) Total avoidance of purgatives and drugs like pituitrin and eserine. I regard them as useless and dangerous. I begin with liquid paraffin, half an ounce twice daily immediately after the operation; distension and flatulence are eased by oil and turpentine enemas.

(*e*) Daily administration of intramuscular doses of anti-gas-gangrene serum until the gross pyrexia settles.

If ileus or obstruction should occur, repeated stomach washing with a small duodenal tube, the giving of turpentine enemas or the performance ultimately of a timely jejunostomy under local or spinal anaesthesia, after intravenous saline and glucose, will usually pull the patient through. Occasionally after the spinal anaesthetic, one hears the noisy evacuation of the bowels before the operation has begun.—I am, etc.,

London, W.1, Feb. 23rd. HAROLD DODD, Ch.M.

THE INCISION FOR APPENDICECTOMY

SIR,—In your issue for February 14th Mr. Southam condemns the gridiron incision as being relatively liable to be followed by inguinal hernia. If Mr. Southam will at each abdominal section he performs examine the internal rings for persisting processus vaginales he will find them present in sufficient instances to explain the hernias which happen to appear later. That the gridiron incision is often badly made was recognized by me years ago; in an article on this incision (*Practitioner*, April, 1912) the post-operative "hernia" is figured, but it is not an inguinal hernia.—I am, etc.,

Glasgow, Feb. 23rd. ALEX. MACLENNAN.

SERUM ANAPHYLAXIS

SIR,—In the *Journal* of February 7th there is a memorandum at page 220 dealing with the occurrence of anaphylaxis during a course of serum injections. Two cases are described. In each, anaphylaxis developed while the seventh dose of serum was being given, and emphasis is placed on the fact that only two or three days had elapsed since the date of the sixth injection. Your correspondents claim that this is in direct contradiction to the accepted teaching that serum may be given in repeated doses with complete safety, so long as an interval of less than ten days is allowed between the injections.

It is a well-known fact that serum sensitiveness rarely develops in less than ten days. In giving a series of injections one may therefore continue dosage until eight or nine days have elapsed since the first injection. If a further injection is given on the tenth day anaphylaxis, should it occur, is due to sensitization by the first dose of serum, not by the last, as your correspondents suggest. In the avoidance of anaphylaxis, therefore, it is essential that the interval between the first injection and the proposed additional dose should not be greater than nine days. If this limit has been exceeded, precautions with regard to desensitization must be taken. These observations apply equally to the intravenous and to the intramuscular routes. I have used serum extensively in the puerperal fever wards of Belvidere Hospital, and have wide experience of its action in both sepsis and septicaemia. Freedom from sensitiveness until the tenth day after the first injection is sometimes very striking, and is dependable in practically all cases.

It has frequently happened that women who have received repeated doses of serum during the acute stage of their illness, and who were serum-sensitive in a slight degree—sufficient to cause sickness, headache, fever, arthritis, and urticarial rashes—have developed these symptoms at ten-day intervals after each injection of their series. I have also seen two examples of severe anaphylaxis, in patients who had been given several injections, and who inadvertently received a further dose on the tenth day after the first of these. I have found these facts confirmed also in the serum treatment of diphtheria, although in this disease dosage after the first nine days in hospital is not often necessary. Your correspondents do not state how many days had elapsed after the primary injection in each series. I should be glad to know this. Since in each case six previous injections had been given, it seems likely that the ten-day interval had been reached or even exceeded. The information given does not, in my opinion, point to anything outstanding in either of these patients; nor does it justify a contradiction of the commonly accepted ideas on the subject of serum anaphylaxis.—I am, etc.,

MARGARET WYLIE THOMAS.

Mearnskirk Hospital, Glasgow, Feb. 21st.

GLYCERIN AS A SURGICAL DRESSING

SIR,—I am gratified at the interest that has been shown in glycerin as a surgical dressing as the result of my letter in your issue of January 10th. I am a little afraid, however, that the main point of my letter—namely, the wet-boric-lint-cum-glycerin method—is in danger of becoming obscured, and particularly so by Dr. A. Hayes Smith's communication, in which he appears to suggest that the recent correspondence has not added anything to our knowledge of the value of glycerin in the treatment of wounds, and that the statement made by Billroth in 1877 sums up the whole situation. Nevertheless I am much indebted to Dr. Hayes Smith for his reference to Billroth, because he has added to the history of the subject.

Billroth used pure glycerin in large quantities, frequently applied, and he emphasized its antiseptic and hygroscopic properties, and added a word of caution regarding its tendency to irritate and redden the region of the wound. Anyone who has used glycerin in this way knows that such a method is very messy, very irksome to both patient and attendant, and not likely to commend itself as a suitable mode of treatment. The method advocated in my letter bears little resemblance to that referred to by Billroth; neither do I maintain that glycerin acts

by virtue of its antiseptic power or its hygroscopic property. Personally I do not place too much confidence either in the antiseptic or the hygroscopic property. Probably some other factor—perhaps biochemical, as Dr. Benians's letter suggests—is responsible for the good results. I do not know; but I do know that the wet-boric-lint-cum-glycerin is both an effective and a convenient form of dressing. The actual strength of glycerin that I employ works out at about 25 to 30 per cent., and very seldom so much as 50 per cent.

On January 11th I commenced a series of experiments on the hygroscopic power of glycerin, and from what I have already learned I am tolerably certain that such large quantities of pure glycerin would require to be used to produce an effective hygroscopic flow of fluid from a wound that the process would practically be unmanageable, and I am equally certain that the weak solutions have virtually no hygroscopic power at all. Glycerin does not suck up water like a sponge. We must not forget the probability that the increased flow of serum, if there is an increased flow, may be due to the irritation caused by the pure glycerin. If I am granted space at some future date I shall be pleased to give an account of these experiments. In the meantime I should like to add that the results obtained up to the present time indicate that glycerin exerts its hygroscopic power very slowly indeed, and that water diffuses into it at such a rate that it takes at least ten days at room temperature for 2 drachms of water spread over a surface of pure glycerin with an area of 19 square inches to bring the uppermost layer of the resulting mixture to represent the strength of 85 per cent. glycerin.—I am, etc.,

Glasgow, Feb. 21st. DAVID KYLE, M.A., M.B., Ch.B.

PUERPERAL PYREXIA

SIR,—In the short communication which appears in the *British Medical Journal* of to-day's date I should have mentioned that Mellanby's most recent observations will be found in a pamphlet which was circulated at the Public Health Conference, London, November 19th, 1930. This year, at the County of Lanark Hospital, Bellshill, we have had 255 cases. As pyrexia only occurred in one case of placenta praevia and one case of hydatidiform mole, the results obtained by using antistreptococcic serum as a prophylactic agent continue to be satisfactory.—I am, etc.,

Glasgow, Feb. 28th. SAMUEL J. CAMERON.

RESEARCH ON DISSEMINATED SCLEROSIS

SIR,—The recent refusal of Miss K. Chevassut to accept the offer of the Medical Research Council of an opportunity of demonstrating a spherule in disseminated sclerosis under her own test conditions in another London laboratory has led to Sir James Purves-Stewart's dissociating himself from further collaboration with her.[1] This, together with Miss Chevassut's negative findings in a test series of cases submitted to her for examination, under arrangements made by the Medical Research Council, might create the erroneous impression that a spherule is non-existent.

We ourselves, however, working independently, although unable to confirm many of Miss Chevassut's findings, have repeatedly observed a spherule in spinal fluids from disseminated sclerosis patients. We are therefore willing to demonstrate it to any medical colleague who so desires. We are not, however, prepared to say that this is the only nervous affection in which the appearance can be seen.

Whether the spherule will ultimately prove to be a living virus, or due to some biochemical precipitation, we are not yet in a position to express an opinion. We are, however, continuing research on the subject, and hope to publish our further observations in due course.—We are, etc.,

JOHN A. BRAXTON HICKS.
F. D. M. HOCKING.

Westminster Hospital Neurological Research Laboratory, S.W., March 3rd.

[1] *Lancet*, February 21st, 1931, p. 440.

LONDON CLINIC AND NURSING HOME

SIR,—I am grateful for the prompt and full answers given by the Executive Committee to the questions in my letter of February 21st. "The need for a building containing rooms suitable to *all* classes of paying patients" may be obvious, but it is surely equally obvious that if the price of the rooms provided is *8 to 14 guineas a week*—roughly the same as the charges in a score of well-known nursing homes in London at the moment—nothing is being done to assist the very class to whom serious illness presents the most acute financial problem. I still feel that this class will find the solution of their problem in graded accommodation in the large hospitals.—I am, etc.,

London, W.1, March 2nd. ERIC PEARCE GOULD.

Obituary

STANLEY ALWYN SMITH, D.S.O.

M.D., M.CH., F.R.C.S.ED.

Consulting Surgeon, Ministry of Pensions, Wales Region; formerly Orthopaedic Surgeon in Chief, Welsh Metropolitan War Hospital

We regret to record the death on February 22nd, at the early age of 47, of Mr. S. Alwyn Smith, at his country house, Pentyrch, near Cardiff. Orthopaedic surgery has been deprived of one of its most active minds, and his death has closed one of the most distinguished surgical careers in the records of the Principality. He was lecturer in orthopaedic surgery at the Welsh National Medical School, senior honorary surgeon to the Prince of Wales' Hospital, Cardiff, and also to the Shropshire Orthopaedic Hospital, consulting surgeon to the Ministry of Pensions and to the Welsh National Memorial Hospital. A sudden crippling illness had for some years debarred him from active surgical practice, but he retained to the end a keen and active interest in the work to which he was devoted.

Stanley Alwyn Smith was the son of Lieut.-Colonel T. F. Smith of Leek, Staffordshire, and spent his school-days at Repton. When he entered Edinburgh University as a medical student those who were his seniors very soon became aware that the quiet freshman who had arrived among them was a personality, modest and retiring in manner, whose presence was yet felt. Perhaps one of the secrets of his strength was his concentration on what he was doing. Whether in work or play, his self was always wholly immersed in the business in hand. A contemporary writes of him: "Looking back on those eager discussions in which undergraduates get the best part of their education, when pipes are lighted and books thrust aside, the memory remains that Alwyn Smith spoke less and was more listened to than most; it was in his personal contact with his fellow man that he made himself felt and loved." Soon after graduating M.B., Ch.B. in 1905 he became house-surgeon, and then personal assistant, to Sir Robert Jones in Liverpool, in collaboration with whom he laid the foundations of that knowledge which made him one of the world's leading authorities on disorders of the knee-joint and their surgical treatment. He proceeded M.D. in 1908, and in 1911 obtained the M.Ch. degree and the diploma of F.R.C.S.Ed.

Alwyn Smith went to Canada by invitation in 1912, and practised as a consulting orthopaedic surgeon to the Winnipeg General Hospital and the Children's Hospital. Immediately on the outbreak of the great war, he was mobilized with the Canadian Army Medical Corps, and served in France all through 1915. He was awarded the D.S.O. at Festubert in recognition of his devotion to his work, when his power of intense concentration, combined with a sturdy frame, enabled him to keep almost continuously at work during a critical time of exceptional stress. He was twice mentioned in dispatches. He returned to England in 1916 to take charge of all Canadian orthopaedic cases, and was appointed surgeon-in-chief of the Granville Special Hospital at Ramsgate. This was the first orthopaedic hospital started in England during the war, and was a model of efficiency and organization. In 1917, by special request, he was transferred to the British Army, and was placed in charge of the Welsh Metropolitan War Hospital at Whitchurch, Cardiff, as orthopaedic surgeon-in-chief. After the war Alwyn Smith became consulting surgeon to the Ministry of Pensions and surgeon-in-chief to the Prince of Wales Limbless Hospital, which later became the orthopaedic hospital for Wales. His literary output was always arresting and practical, and showed originality and sound judgement. Among his articles may be mentioned "The knee-joint" (Jones's *Orthopaedic Surgery of Injuries*), "Rupture of the crucial ligaments," "Bone grafting," "Operative treatment of knee flexion in poliomyelitis," (published in these columns in 1924), and many other very practical and helpful contributions. At the Annual Meeting of the British Medical Association at Cardiff in 1928 he was vice-president of the Section of Orthopaedics.

Alwyn Smith will be sadly missed, for not only was he a skilful and sound surgeon, but he endeared himself to all who worked with him. His patients were devoted to him, and his knowledge and help were open to all.

Sir ROBERT JONES, Bt., sends the following appreciation:

It is difficult to realize that Alwyn Smith has passed from us. Until illness seized him he was the soul of energy, full of the joy of life and work. He was a lovable character, loyal in friendship, modest, and self-sacrificing; he never harboured an unkind thought of anyone. He had the rare gift of true friendliness. In my long association with him as chief and colleague he never failed me; one could always depend upon him—his word was his bond, and his consideration and kindness whenever difficulties arose commanded one's deep affection. He did yeoman service for military orthopaedic surgery. Before any of our orthopaedic centres functioned he had started and controlled an organization of this kind in the Canadian Hospital at Ramsgate, and when, after great difficulty, I managed to have him transferred from the Canadians, his experience proved very helpful, both as teacher and as organizer. The Cardiff Orthopaedic Centre at Whitchurch, of which he had charge, was a model of surgical efficiency. He had boundless courage, both physical and moral; no difficulties appalled him; his cheery optimism and kindly tact overcame them all. There was nothing secretive in his nature; his mind was an open book; he was anxious to teach all he knew and to help all who needed help. He had all the qualities of an ideal surgeon—operative skill, a sense of proportion, sound judgement and resource, with a deep and abiding sense of responsibility, which made him a true guardian of the welfare of his patient. Orthopaedic surgery has indeed suffered a cruel blow. During his long and painful illness he displayed marvellous patience, hoping almost to the end that he would be spared to continue the great work which was his life. Our sympathy rests with his three small boys and his wonderful wife, who has tended him with a devotion and courage beyond all praise.

CYRIL OGLE, D.M., F.R.C.P.

Consulting Physician and Baillie Lecturer, St. George's Hospital

The death at Folkestone, on February 21st, of Dr. Cyril Ogle after a disabling illness of some two years' duration will sadden generations of St. George's men who, during the last forty or more years, owe him so much for teaching, example, and many kindnesses. He was born on April 19th, 1861, as the third son of John William Ogle (1824-1905), vice-president in 1886 of the Royal College of Physicians of London, and Elizabeth, daughter of Albert Smith of Ecclesall, near Sheffield, whose family subsequently took the name of Blakelock. He came of a family much connected with the hospital and school of St. George's; his father was physician from 1866 to 1876; his relative William Ogle (1827-1912) was a well-known lecturer on physiology (1869) and assistant physician (1867-1872) before he became Superintendent of Statistics at the General Register Office (1880-1893), and another William Ogle (1823-1905) of Derby was medically educated there. Cyril Ogle was unmarried, and for much of his professional life looked after his invalid father, sister, and brothers.

He was educated at Westminster (1875-80), and, like his father, at Trinity College, Oxford, where he took a second class in the Natural Science School in Trinity term 1884, and proceeded to the degrees of B.A. (1884), M.A., B.M. and B.Chir. (1890), and D.M. (1906). Entering the Medical School of St. George's Hospital in January, 1883, he qualified in 1888, and after holding resident and other appointments, especially those of medical registrar and curator of the museum, was elected assistant physician (1897), physician (1904), and consulting physician (1926). Not only was his term as physician prolonged two years beyond its ordinary limit, but his colleagues, feeling the gravity of his loss, gave him, on March, 1926, the use of four beds, and unanimously elected him Matthew Baillie Lecturer, an honour shared only by his predecessor, the late W. H. Dickinson (1832-1913). He also continued to lecture on therapeutics until 1929. At the Royal College of Physicians of London, where he became a Member in 1891 and a Fellow in 1899, he was an examiner in pharmacy (1905-9) and in medicine (1911-15), a councillor (1916-18), and censor (1924-25).

Of a very retiring disposition, though extremely tenacious of his convictions, Cyril Ogle wrote comparatively little in the medical press. But between 1894 and 1899 he contributed twenty-one papers to the *Transactions* of the Pathological Society of London; the last of these, on two pineal tumours, was specially noteworthy, as the case in a boy aged 6 years was the first recorded, at any rate in this country, of the associated sexual precocity, a feature of pineal tumours more often connected with the name of von Frankl-Hochwart, who wrote on the subject ten years later. A paper based on clinical and post-mortem investigation was that (with the late H. W. Allingham) on purulent pericarditis, with a suggestion of a method for opening the pericardial sac (*Lancet*, 1900, i, 693). He contributed the articles on pericarditis and diseases of the pericardium, and on new growths of the mediastinum to Latham and English's *System of Treatment* (1912). He was a vice-president (1922-27) of the Clinical Section of the Royal Society of Medicine.

As a physician with the clinical instinct, born of long experience, careful observation, and most conscientious hospital work, he was an outstanding example, and the accuracy of his diagnosis was remarkable, sometimes almost uncanny in its accuracy. His exceptional abilities were fully recognized by his colleagues and pupils, who paid him the well-deserved tribute of making him the doctors' doctor. A more willing and unselfish friend cannot be imagined, and it is certain that he spent his life in the service of others.

H. R.

Sir JOHN ROSE BRADFORD, Bt., President of the Royal College of Physicians of London, writes:

The profession of medicine can ill afford the loss of men of the type of Cyril Ogle, a man of solid attainments in the branch of knowledge to which he devoted himself, and one who, owing to his excessive modesty and diffidence, scarcely received the recognition to which he was entitled from his professional brethren, unless they happened by the force of circumstances to be brought into close relations with him. Physicians, in Ogle's student days, considered that the art of medicine should be based on a thorough and accurate knowledge of morbid anatomy, and Ogle himself was a remarkable example of the value of this method of training in the development of an accurate and skilled clinician. Notwithstanding his reserve and, indeed, shyness, especially with strangers, he was a most accurate clinical observer, and his diagnostic acumen was quite remarkable, so that his opinion was especially valued by his professional colleagues and by his students—and after all, that is one of the highest testimonies to the real skill and worth of a hospital physician—and judged by this standard Ogle achieved marked distinction. He did not contribute much to medical literature, and in his writings devoted himself mainly to diseases of the thoracic viscera; but his knowledge of medicine was very wide, and until his breakdown in health was well abreast of modern developments. At the College of Physicians he served on the Council, and as an examiner and as censor; in all these offices he always discharged his duties most conscientiously, and his standards were always of the highest. His friends, and especially those of long standing—and of these there were many—know what a kindly and lovable man he was, and they will mourn his loss.

ALBERT HENRY BYGOTT, M.D., D.P.H.

Medical Officer of Health, West Suffolk

Dr. A. H. Bygott, who died on February 21st at the age of 62, had been medical officer of health for West Suffolk for nearly twenty years. Until middle life he had been in general practice and in the Poor Law service in the Birmingham district. His interest in social matters was always very active, and led him, at much personal sacrifice, into the public health service. Those who enjoyed the privilege of intimate association with Bygott could not fail to be impressed with his unselfish zeal for the public welfare, to which he gave his whole attention and energy. With his wide and varied social and professional experience he yet continued to be a student, always in search of new knowledge for application to his work.

Dr. R. A. LYSTER writes:

Bygott's death means the loss of an outstanding personality not only in the public health service, but in the medical profession generally. Indifferent to praise or blame, he sought no publicity, but devoted himself entirely to the job in hand. His early struggles are known to those few who were contemporaries with him in his career as a medical student, and to them his endurance under privation, his dogged determination and perseverance, and his capacity for self-denial were subjects of amazement and deepest respect. Matriculating in 1887, he qualified first in 1893, and at once commenced practice in Birmingham. His natural genius in medicine and in surgery was quickly recognized, and he was the idol of his poor patients. In those days hospital accommodation was much more limited than now, and Bygott achieved extraordinary things in the way of urgent operations in poor homes. On the top of the work of a heavy practice he piled continuous study, and he obtained the M.B. of London University in 1900; and in 1901, when the Birmingham Board of Guardians turned their Poor Law medical staff into a whole-time service, he accepted the position of district medical officer for the Bordesley district of Birmingham. In the same year he made an unusually happy marriage. In the quieter atmosphere of the official appointment Bygott soon made short work of the fulfilment of his ambitions as regards qualifications, taking the M.D.Lond. in 1902, the D.P.H. (Birmingham) in 1903, and becoming a barrister of the Middle Temple in 1905. His real sphere was obviously preventive medicine, and he seized the opportunity to enter the public health service when the medical officer of health for Hampshire invited him to become assistant county medical officer in 1908. This was work entirely congenial to Bygott, who threw himself wholeheartedly into the big task of introducing medical inspection of schools and school children, as well as progressive public health ideals, in a county where organized medical work of any description was unknown previous to 1908. Teachers in Hampshire still remember the striking personality of the new school doctor, his tactful ways of overcoming difficulties and opposition, and his eccentricities. Subsequent promotion was rapid. He was appointed medical officer of health for Barking in 1909, and moved from there in 1912 to become county medical officer for West Suffolk.

There is no doubt that Bygott continuously overworked. He loved his work so much that he could not bear to let anyone do things for him, and he delegated grudgingly. He had found for years that his capacity for work and endurance was unlimited and that he could dispense with relaxations and hobbies and holidays, and he made the fatal mistake of thinking that he could go on indefinitely. Two years ago he had an attack of what was then diagnosed as "influenza," but which was really encephalitis, and he never recovered. He could not contemplate life without his beloved work, and so the advice of his friends who implored him to retire and to try the effect of prolonged rest and change fell on deaf ears. His work was his life, and when he found his chances of holding on to his work were fading away his life ended. A man of the highest courage—physical, mental, and moral—he could always face an issue calmly and fearlessly. Few realized what a lovable man hid behind that shy, sensitive, and abrupt manner, but to those who were privileged to share his friendship Bygott was a beloved companion whose instincts were generous and whose capacity as a loyal and devoted comrade was endless.

The announcement of the death of Mr. EDWARD LLOYD-WILLIAMS, M.R.C.S., L.D.S., on February 20th, after a short illness, will be received with deep regret by his numerous friends and former students. He received his medical education at the Middlesex Hospital and the Rotunda Hospital, Dublin, was a prizeman and Saunders scholar at the Royal Dental Hospital of London, served for many years on the staff of the Westminster and the Royal Dental Hospitals, and was a past-president of the Odontological Society of Great Britain. He had held the post of lecturer on dental mechanics, and published within a few weeks of his death a work on this subject, full of half a century's practical experience. He filled these positions, and others, with distinction, and his personality and high endeavour will be long remembered. He served as a surgeon in the Volunteers for forty years, including five years with the R.A.M.C., in France and at home, in the great war; he attained the rank of lieutenant-colonel, and was awarded the Territorial Decoration. A former colleague writes: Lloyd-Williams was a man of conspicuous ability, versatility, and enthusiasm, and his success as a teacher and a leader was due to two factors—thoroughness and self-reliance. As an instance of the former it may be stated that, when funds

were being collected in the nineties for a new hospital, he and the dean, Morton Smale, visited the chief universities and dental schools in America, in order that theirs in Leicester Square should be second to none. He was a man of fine character and deep convictions, a lay reader licensed by the Bishop of London, a Sunday school teacher, a chorister at St. Margaret's, Westminster, and, being bi-lingual, contributed papers to the Cymmrodorion Society. Never idle, he at one time or another edited the *Dental Record*, led a musical and a Shakespearean society, besides being an amateur photographer, golfer, and lawn tennis player. In his retirement at East Grinstead he devoted much of his time, both at home and on the Continent, to the welfare of the Y.M.C.A. A delightful and loyal companion, he inspired others, including the writer, a fellow-student and lifelong friend. He leaves a widow, and a son and daughter, both of whom, graduates in medicine and surgery of London University, are in general practice.

On November 20th, 1930, the death occurred in Melbourne, Victoria, of Dr. CROZIER MAGEE, late of Branxholme, aged 71. He had been ill for five months. Born in Ballarat, he first qualified in pharmacy, and travelled in New South Wales and New Zealand for Messrs. Parke, Davis and Co. He subsequently proceeded to London, attended the London Hospital Medical School, and obtained the M.R.C.S., L.R.C.P. diplomas. Returning to Australia, he practised at Penola, South Australia, and Tungamah and Branxholme, Victoria. During the small-pox epidemic in 1913 he served in the Commonwealth Government Quarantine Department at Circular Quay, Sydney. He is survived by his widow and two sons.

The sudden death of Dr. ARTHUR LAMBERT, at Harrow-on-the-Hill, came as a great shock, to both school and town. He died just as he was about to start on his round on the morning of February 12th. Sydney Herbert Arthur Lambert was born in 1867 at Georgetown, Demerara. Educated there at Queen's College, under Exley Percival, he won the Colonial Scholarship, and went to St. John's College, Cambridge. He took the Natural Sciences Tripos in 1887, studied at St. Mary's Hospital, and qualified with Conjoint diplomas and the Cambridge degrees. He became house-physician at the Brompton Hospital, and in 1894 settled down to work at Harrow. He joined the firm of Briggs and Bindloss in 1894 as assistant, and in 1896 as partner. In 1904 he took his M.D. In 1916, when Dr. Bindloss retired from the practice, Dr. Lambert became senior partner and medical adviser to the head master of Harrow. A colleague writes: Lambert's fine powers were tested severely during the influenza epidemic of 1918, when, almost alone in Harrow, save for one devoted assistant, Dr. Watney Roe (who had been invalided from the front), he had to cope with the illness of 400 boys, a large proportion of the school staff, and innumerable cases in the town. It was a dreadful time; accommodation was sadly insufficient, and nurses were not to be had; yet only one boy in the school died. For years it had been Lambert's ambition to have a new and adequate sanatorium for the growing needs of the school, and when at last, only a year ago, the new sanatorium on Sudbury Hill was opened, he said, "Now I shall die happy." The school was as much to him as he was to the school. As a practitioner he had a quick eye for the finer points of diagnosis, and was gifted with that medical instinct which only comes as the reward of knowledge and experience. His life was one of unbroken service, which he loved to give; the work had become so much part of himself that he feared the day when he should have to withdraw from practice. His patients were all his friends; to many he was their best friend. In a busy practice for thirty-six years, he never lost touch with the progress of medicine. Always believing the best of human nature, he called forth the best in everyone. Among the multitude of flowers at his funeral were to be seen tributes from every school house, fashioned in the house colours of each. Both school and town are sadly conscious of a blank which will not readily be filled; but his immediate friends are conscious, too, of an inspiration which will remain.

The following well-known foreign medical men have recently died: Dr. QUEIROLO, professor of clinical medicine at Pisa; Dr. ÉTIENNE JOURDAN, honorary professor at the Marseilles Medical Faculty; Dr. GASTON DE CAMONE, surgeon to the French Hospital at Constantinople; Dr. FÉLIX REMY, doyen of the medical profession in the Canton of Freibourg, Switzerland, aged 80; Professor CARL HIRSCH, director of the Medical Clinic at Bonn, aged 61; Dr. HERBERT HENTSCHEL, director of the infectious diseases department of the Munich University Children's Clinic, aged 30; Dr. SALOMON HENSCHEN of Stockholm, formerly professor of nervous diseases at Upsala, aged 83; Dr. RICHARD GEIGEL, a Würzburg balneologist, aged 71; Professor PROPPING, a leading Frankfort surgeon; Dr. MAX SCHILLER, a Breslau roentgenologist; and Professor WERNER KÜMMEL, director of the University Clinic of Oto-rhino-laryngology at Heidelberg, and conjoint author with von Mikulicz of a textbook on diseases of the buccal cavity, aged 64.

Universities and Colleges

UNIVERSITY OF OXFORD

The following are the days on which degrees will be conferred during Trinity term and vacation: Thursday, April 30th; Saturday, June 6th; Thursday, June 25th; Saturday, July 18th; and Saturday, August 1st. There is one degree day during the coming vacation—namely, March 28th.

UNIVERSITY OF CAMBRIDGE

DOWNING PROFESSORSHIP OF MEDICINE

The Council of the Senate has lately presented a full report on the Downing Professorship of Medicine, now vacant by the death of Dr. J. B. Bradbury. Under the charter of Downing College this chair was an integral part of the college, and the cost of Dr. Bradbury's professorship to the University Chest was small. The new statutes of the college have relieved it of any obligation to provide a fellowship, stipend, or house for future Downing professors, and if a professor of medicine were appointed the whole of his emoluments would have to be paid by the University, imposing an increased charge upon the Chest of £1,185 a year. As there is no source from which this money could conveniently be provided at present, the Council of the Senate invited a committee to consider the circumstances. This committee, comprising the Regius Professor of Physic, the Professors of Physiology, Pathology, and Biochemistry, with Dr. T. R. Elliott, Sir Walter Fletcher, Dr. H. H. Dale, Dr. T. S. Hele, and Dr. F. R. Fraser, has reported that in its opinion provision should be made in Cambridge for the furtherance of clinical medicine by research, and they would welcome the establishment of a professorship and department of experimental and clinical medicine, but this could not be done without a large benefaction. Moreover, since recent holders of the Downing professorship have been specially concerned with pharmacology—a subject which is safe in the charge of the present Reader, Dr. W. E. Dixon, of whose long services to the University and position in the scientific world the committee expresses warm appreciation—the committee does not think that discontinuance of the professorship would leave a serious gap in the medical teaching at present provided by the University, and it recommends that it be discontinued. This recommendation has been adopted by the Council, and is put forward for approval by the Senate.

UNIVERSITY OF LONDON

Mr. H. L. Eason, C.B., C.M.G., M.D., M.S., has been reappointed to represent the University on the General Medical Council.

It has been decided to institute a University (part-time) chair of medical psychology tenable at the London School of Hygiene and Tropical Medicine.

At the January Matriculation Examination there were 157 successful candidates in the first division and 649 in the second division; in addition, 43 took the supplementary certificate in Latin.

UNIVERSITY COLLEGE

The annual report of the Committee of University College, London, for the past year states that the number of students on the books of the College was 3,150: 2,513 came from the British Isles; 330 from different parts of the Empire overseas; 199 from various countries in Europe; and 108 from countries outside Europe, of whom 49 came from the United States of America. Towards the total sum of £170,000 required for the Ramsay Memorial Laboratory of Chemical Engineering £27,516 for building and equipment and £33,255 towards maintenance has already been secured through the agency of a special committee, of which the late Lord Melchett was chairman. Sir Robert Waley Cohen is vice-chairman, and Sir David Milne-Watson is honorary treasurer. Among the schemes under consideration is the provision of a new building for the department of zoology and comparative anatomy.

UNIVERSITY OF DURHAM

Sir J. Arthur Thomson, late Regius Professor of Natural History in the University of Aberdeen, has been appointed Riddell Memorial Lecturer for the ensuing year.

UNIVERSITY OF DUBLIN

At a meeting of the Senate on February 21st Sir John Rose Bradford, K.C.M.G., F.R.S., President of the Royal College of Physicians of London, was nominated to receive the honorary degree of M.D., and Professor Kappers of Amsterdam for that of Sc.D.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

COUNCIL ELECTION

The secretary of the Royal College of Surgeons has sent out the usual announcement, which on this occasion states that on Thursday, July 2nd, at 11 a.m., there will take place an election of three Fellows into the Council in the vacancies caused by the retirement in rotation of Mr. J. Herbert Fisher, Mr. G. E. Gask, C.M.G., D.S.O., and Mr. Graham Simpson.

Blank forms of the requisite notice from a candidate and of his nomination may be obtained on application to the secretary, and the same must be received by him duly filled up within ten days—that is, not later than Monday, March 16th. A voting paper will be sent by post to each Fellow whose address is registered at the College on March 31st. Fellows are requested to give notice without delay of any change of address so that voting papers may not be mis-sent.

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated:

SURGERY.—J. M. Durr, J. H. Ferguson, J. S. Lane, G. S. Rozario.

MEDICINE.—C. L. Ferguson, J. H. Ferguson, J. S. Lane, Walsh R. Pakenham.

FORENSIC MEDICINE.—J. H. Ferguson, E. I. B. Hawes, W. G. Kingston, S. E. Paterson, R. Schauder, C. F. Williamson.

MIDWIFERY.—R. R. Clipstein, J. H. Ferguson, D. R. Rigg, G. S. Rozario.

The diploma of the Society has been granted to Messrs. C. L. Ferguson, J. H. Ferguson, and G. S. Rozario.

The Services

DEATHS IN THE SERVICES

Lieut.-Colonel Frederick Augustus Smyth, Bengal Medical Service (ret.), died at Weymouth on January 20th, aged 89. He was born on July 27th, 1842, the son of John Smyth, Esq., of Dublin, was educated at Trinity College, Dublin, and graduated there as L.M. and L.Ch. in 1868, also taking the L.R.C.S.I. in the same year. Entering the I.M.S. as assistant surgeon on October 1st, 1869, he became brigade surgeon lieutenant-colonel on January 12th, 1895, and retired on July 27th, 1898. Most of his service was in military employment. He served in the Burmese war in 1885-86, with the Hlinedet and Yemethen columns, receiving the frontier medal with two clasps; and in the North-West Frontier of India campaigns of 1897-98, when he was P.M.O. of the Malakand Brigade, took part in the relief and defence of Malakand, was mentioned in dispatches in G.C.O. No. 1089 of 1897, and received the medal with two clasps.

Captain Spencer Stawell Crosse, M.C., R.A.M.C. (ret.), died at Kudat, British North Borneo, on February 10th. He was educated at Cambridge, where he graduated B.A., taking honours in the Natural Science Tripos, in 1909, and at Guy's, and took the M.R.C.S. and L.R.C.P.Lond. in 1912, after which he served as house-surgeon and house-physician at the Royal Berkshire Hospital at Reading. He entered the R.A.M.C. as lieutenant on February 22nd, 1917, became captain after a year's service, and retired on April 14th, 1923. He served during the war of 1914–18, and received the Military Cross on September 16th, 1918.

Captain Hugh McVicker, R.A.M.C., died of pneumonia at Peshawar on January 19th, aged 30. He was educated at Edinburgh University, where he graduated as M.B. and Ch.B. in 1925, and soon after joined the Army, attaining the rank of captain on April 1st, 1929. He was a well-known Rugby football player. While at Edinburgh he was captain of the University Rugby fifteen, and subsequently played for Richmond and for the Army, and represented Ireland five times in International matches—in 1927 and 1928. Two of his brothers had also played for Ireland.

Captain Phillip Jebb Rencontre Nunnerley, R.A.M.C. (ret.), died on November 23rd, aged 70. He was born on September 25th, 1860, entered the R.A.M.C. as surgeon on August 1st, 1885, was placed on half pay on account of ill-health on July 26th, 1898, and retired five years later, on July 26th, 1903.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The Government has withdrawn the Trade Disputes Bill which was before a Standing Committee of the House of Commons. The House this week set up a time-table for the Representation of the People Bill and went into committee on that measure. The Probation of Offenders (Scotland) Bill was read a second time.

Maternal Mortality

Miss LAWRENCE, replying to Mr. Freeman on March 3rd, gave a list of the numbers of women in England and Wales who had died in childbirth attributed to pregnancy and child-bearing in the years 1919 to 1929. The list showed that in 1919 the total number of maternal deaths was 3,028; in 1920, 4,144; 1921, 3,322; 1922, 2,971; 1923, 2,892; 1924, 2,847; 1925, 2,900; 1926, 2,860; 1927, 2,690; 1928, 2,920; and 1929, 2,787. The figures for 1930 were not yet available. No reliable estimate could be formed of the proportion of maternal deaths in those years which were preventable, but in its recent report the Departmental Committee on Maternal Mortality estimated that of the deaths brought under its notice, which it had no reason to suppose were other than fairly representative of the total, no fewer than one-half were preventable. No information showed the number who received no pre-natal supervision, or the proportion of deaths among these women compared with those who received such assistance. The Departmental Committee, however, had recorded its opinion that, while the number of women who received ante-natal supervision was increasing, there was still a large section of the population which did not realize the advantages of such supervision.

Cerebro-spinal Fever

On March 3rd Mr. Freeman asked the Secretary for War whether, in view of the fact that of the 13 cases of cerebro-spinal meningitis at Aldershot, of which 8 had already proved fatal, 12 sufferers had been recently vaccinated, he would consider the desirability of suspending compulsory vaccination in the Army. Mr. SHAW replied that Mr. Freeman was under a misapprehension. Only two of the patients had been vaccinated within six months. The remaining ten were vaccinated at dates varying from six months to more than four years before they fell ill of cerebro-spinal fever. That only one of the patients was unvaccinated could be accounted for by the rule that no recruit was accepted unless he had been vaccinated or was willing to be. He was advised that there were no grounds in the present outbreak for suspending the rule.

Paratyphoid Fever

Questioned by Colonel Howard-Bury on February 26th, Mr. GREENWOOD stated that inquiries made by a medical officer of his Department in conjunction with the local medical officers of health appeared to have shown that the origin of the outbreak of paratyphoid fever in Essex was one of the employees at a dairy farm, who, unknown to himself, was suffering from the disease; 256 cases, including secondary cases, had occurred up to the present, and there had been seven deaths. The preventive measures taken included the removal to hospital of the man considered to have been the source of infection, the cleansing and disinfection of the premises, milk utensils, etc., and the employment of a fresh staff of workers at the farm.

Replying to Mr. White on February 26th, Mr. GREENWOOD said he was advised that the paratyphoid organism was easily destroyed by heat, and that any of the methods of treatment by heat in general use, if carried out with proper care, were effective in destroying this organism. Milk was not allowed to be sold as "pasteurized" unless it had been treated by the method prescribed by his Department, and as this method was now being used to an increasing extent he did not think it necessary to take any special steps to encourage its adoption.

Milk Purification

Mr. GREENWOOD told Mr. Hurd, on February 26th, he was not at present satisfied that the abolition of the licence fees for graded milk would have the effect of encouraging the supply of pure milk, but he would consider the matter in consultation with the Chancellor of the Exchequer and the Minister of Agriculture, and also with representatives of local authorities, when opportunity occurred for the general revision of the Special Designations Order.

Replying to Dr. Fremantle on February 26th, Mr. GREENWOOD said that the memorandum on human and bovine tuberculosis was now in proof, and he hoped to publish it shortly.

Vaccination

Replying to Mr. Carter on February 26th, Mr. GREENWOOD said that he had the whole subject of vaccination under consideration, but could not in present circumstances undertake to introduce legislation suspending the compulsory clauses of the Vaccination Acts, as suggested. The compulsory requirements of the Vaccination Acts were in effect limited to infants under 12 months of age, and in this class the occurrence of post-vaccinal encephalitis had been practically negligible. In Holland a compulsory measure had been suspended, but it related to the vaccination of children at school age. He added that since January 1st, 1930, a total of seven cases of post-vaccinal encephalitis had been reported, two of which had proved fatal.

Questioned by Mr. Groves on February 26th, Mr. GREENWOOD said that public vaccinators and vaccination officers were statutory officers, and their office could not be abolished without fresh legislation. The appointment of these officers had recently been transferred to the local health authorities, and he did not propose to consider the question of introducing any such legislation until those authorities had more experience of their new duties. Under present conditions the appointments in question might be held jointly with other offices, such as that of district medical officer and registrar of births and deaths.

Influenza

Replying to Mr. Freeman on February 26th, Mr. GREENWOOD stated the number of deaths in England and Wales from influenza during the years 1918 to 1930 to be respectively: 112,329, 44,801, 10,665, 8,995, 21,498, 8,461, 18,986, 12,721, 8,936, 22,263, 7,754, 29,084, and 5,002. Influenza had been more prevalent in January and February than during the corresponding period of 1930, but considerably less than during that period of 1929. The numbers of deaths varied substantially from year to year, and it was not possible to ascribe this variation to any particular cause.

Doctors' Cars

Replying to Mr. Hore-Belisha on February 25th, Mr. MORRISON said there was no distinction in appearance between a doctor's car and an ordinary private car. He would deprecate any attempt to establish a priority of right of way for doctors' cars by the use of a distinctive type of motor horn or other similar means. Such a course would be open to serious abuse.

Change of Doctor.—On March 2nd Mr. Gossling asked the Minister of Health if the recent change in the Medical Benefit Regulations by which insured persons must give longer notice of their wish to transfer from one insurance doctor to another was made with the approval of the British Medical Association. Miss LAWRENCE replied that the appropriate steps were taken to bring this proposal to the notice of the British Medical Association as soon as the Minister of Health had formed the opinion that any further protection of insurance funds which could be secured by this means ought to be secured without avoidable delay. The whole subject was fully discussed at the Annual Conference of Local Medical and Panel Committees in October, and a resolution was passed requesting the Minister to defer the consideration of the matter for a year. The Minister was sensible of the importance which attached to the principle of free choice of insurance doctors by insured persons, but complete freedom of choice was not accorded by the Regulation which had now been amended. The matter was therefore one of degree, and he decided that it was his duty to take action without the interposition of any prolonged period of delay such as had been suggested to him on behalf of the Association.

Royal Veterinary College.—Dr. ADDISON told Sir George Courthope, on February 25th, that the Treasury had sanctioned from the Development Fund, towards the cost of reconstructing the Royal Veterinary College, grants amounting to £150,000, provided the Governors obtained from other sources a sum of £100,000. Other conditions attached to the grants, but the Governors had accepted them. The Governors had now raised a sum slightly above £50,000.

International Conventions.—On March 2nd Dr. Fremantle asked the Foreign Secretary why the two Conventions relative to the treatment of prisoners of war and for the amelioration of the condition of the wounded and sick of armies in the field, signed by the representatives of Great Britain, the Dominions, and India on July 27th, 1929, had not been presented to Parliament for ratification. Mr. DALTON said that a number of legal questions had had to be examined in connexion with these Conventions, one of which would require legislation to bring it into effect.

[The text of these Conventions has now been issued as White Papers.]

India: Medical Research.—Mr. BENN told Major Pole, on February 25th, that he had sent him, in March, 1930, a copy of a debate in the Indian Legislative Assembly which showed that the Government of India had decided to summon a conference to inquire into the most suitable centre for the proposed central medical research institute and other matters. This conference was held in July, and passed a resolution (the official members not voting) that a central medical research institute on the lines advocated by the Fletcher Committee should be located at a university centre as soon as financial conditions permitted. The Government of India was considering this resolution, but anticipated that it would not be possible to bring the institute into existence either at Dehra Dun or elsewhere as long as the present financial stringency continued.

Indian Medical Service.—On March 2nd Mr. BENN told Major Pole that, so far as could be foreseen at present, it was not proposed to make any alteration in the method of recruitment to the Indian Medical Service pending the enactment of constitutional reforms.

Notes in Brief

It is estimated that between 60,000 and 100,000 persons will have their period of insurance extended for another year as a result of the passing of the National Health Insurance (Prolongation of Insurance) Act, 1930.

Medical News

As already announced, Professor Edward Mellanby, M.D., F.R.S., will give the fourth Sir Charles Hastings Lecture in the Great Hall of the British Medical Association's House in London on Friday, March 13th, at 8 p.m. The subject of his lecture is "Diet and Health." The chair will be taken by Lord Moynihan, President of the Royal College of Surgeons of England, and after the lecture relevant questions in writing will be invited. Admission is free, by tickets obtainable on application to the Financial Secretary, B.M.A. House, Tavistock Square, W.C.1. Seats not occupied by ticket holders by 7.50 p.m. will be available for other members of the public.

At a meeting of the Illuminating Engineering Society, to be held in the Lecture Theatre of the Institution of Electrical Engineers, at Savoy Place, Victoria Embankment, W.C., on Thursday, March 19th, there will be a discussion on modern domestic lighting.

At a meeting of the Royal Sanitary Institute, to be held on Friday, March 20th, at 5 p.m., in the Technical College, Lincoln, discussions will be held on houseboats on inland waterways, and refuse collection and disposal.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-Graduate Courses, published in the *Supplement* at page 76. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1.

A series of lectures, with demonstrations, on the care of the child, for nurses and health visitors and others interested in the welfare movement, will be delivered at the Infants Hospital, Vincent Square, S.W.1, on Wednesdays at 6.30 p.m., commencing on April 15th, when Dr. Eric Pritchard will discuss breast-feeding. The series will conclude on June 3rd with a lecture by Miss M. G. Thomson on the management of the child in the nursery school. The fee for the course is 5s., or 1s. for a single lecture.

Lectures and practical courses of instruction for the diploma in psychological medicine were resumed at the Maudsley Hospital on March 4th. The course includes twelve lectures on morbid psychology, eight on treatment and on the psychoneuroses, four on mental abnormalities of children and on the legal relationships of insanity, six on crime and insanity, and three lecture-demonstrations on laboratory methods. There will be six clinical demonstrations in psychiatry, twelve in neurology, two on abnormalities of the fundus oculi, and four on the pathology of the nervous system. Particulars may be had from the director of the Central Pathological Laboratory, Maudsley Hospital, Denmark Hill, S.E.5.

The forty-sixth Congress of the Berlin Society of Balneology will be held in Bad Ems, from April 7th to 11th. One of the main subjects for discussion is the treatment of asthma by hydrological methods. Visits will be paid to several mineral water resorts, and the use of this form of treatment in various morbid conditions will be discussed. Further information may be obtained from Dr. Max Hirsch, Steglitzerstrasse 66, Berlin, W.35.

The first Congress of the International Stomatological Association will be held at Budapest from April 14th to 19th, under the patronage of the Hungarian Government. Further information can be obtained from the secretary of the congress, 14, Varosha-ulca, Budapest IV.

On the proposal of the Spanish Government the Council of the League of Nations has decided to hold a conference on rural hygiene at Geneva on April 3rd, to which representatives of all the European nations will be invited.

The first scientific meeting of the recently founded German Society for Internal Medicine and Neurology in the Czechoslovakian Republic is being held at Prague on March 7th and 8th, when the chief subject for discussion is the modern treatment of blood diseases.

The annual meeting of the International Society against the State Supervision and Regulation of Prostitution will be held at Strasbourg and Colmar from April 30th to May 2nd.

A special number of the *Bruxelles-Médical* has been issued, containing accounts of the various scientific and social functions which were held in the course of the congress known as the Journées Médicales from June 28th to July 2nd, 1930, in connexion with the commemoration of the centenary of the declaration of Belgian independence. Abstracts of the more prominent papers read are included. A summer cruise is being arranged this year by the *Bruxelles-Médical* on the new steamship *Foucauld*. Starting from Zeebrugge on July 12th, the party will visit the Norwegian fjords, the Lofoden Islands, the North Cape, Lapland, Spitzbergen, the icefields, and the Faroe Islands; the tour ends on August 8th. The charges for medical practitioners, their wives, and unmarried children under the age of 21 is from £16 second class, and £36 10s. first class. Further details may be obtained from the Section des Voyages de Bruxelles-Médical, 29, Boulevard Adolphe Max, Brussels.

The *Popular Science Monthly* has awarded G. R. Minot of Boston and G. H. Whipple of Rochester (U.S.A.) a prize of 10,000 dollars for their introduction of the liver treatment of pernicious anaemia.

Dr. Leslie Charles Broughton-Head has been appointed Honorary Surgeon Dentist to His Majesty the King in Scotland in succession to Mr. J. H. Gibbs resigned.

Madame Nageotte-Wilbouchewitz has been elected president of the Société de Pédiatrie de Paris.

The Secretary of State for the Colonies has approved a change of title from Deputy Director, Health Service, to Assistant Director, Health Service, Sierra Leone.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

A Case of Dyspnoea

"G. D. G." (Leeds) asks for suggestions for the treatment of the following case of dyspnoea: The patient, a woman aged 66, has had attacks of acute dyspnoea every night for several years. The attack lasts from two to three hours, and always comes on after she has been asleep some little time. There is some slight wheezing, and expiration is prolonged. During the attack the blood pressure rises, and on one occasion it was 234/75 mm. Hg; between attacks it had varied from 148/78 to 210/85. The appearance of the patient suggests a renal origin; the urine from time to time contains a very slight amount

of albumin, the specific gravity being usually 1010. The heart is somewhat enlarged, and the first sound at the apex is duplicated. Treatment already tried has included nitroglycerin, mannitol nitrate, asthmatic mixtures of all kinds, and thyroid gland tablets. Lately she has had liquor morphinae at night and a mixture of tincture of digitalis and potassium bromide during the day. This had some success for a time. Some temporary relief is obtained by taking a half-grain tablet of ephedrine hydrochloride during the attack.

Paroxysmal Rhinorrhoea?

"Ninety-nine" writes: I have a female patient, aged 7½ years, who has paroxysms of sneezing in the mornings, lasting two or three hours. The paroxysms occur at all times of the year and at quite irregular intervals, and are accompanied by profuse watery discharge, making the child very exhausted. Between attacks she seems perfectly well and suffers from no other condition referable to the nose or to any anaphylactic type of disease. There seems to be no local abnormality (other than slightly enlarged tonsils), and all methods of treatment, local and general, have failed. Suggestions for treatment will be welcomed.

Treatment of Sciatica

Dr. E. M. MACDERMOTT (Galway) writes in reply to the correspondent who inquired about the use of quinine-urea-hydrochloride injections in sciatica (February 21st, p. 336): I have only personal experience of three cases—one of many months' standing, which, as well as my second case, was completely relieved by injecting 10 c.cm. of a 10 per cent. solution. The patient with long-standing sciatica remained perfectly comfortable for months, but has recently had a slight return of his trouble. The third patient was not permanently relieved, but this is not a case of pure sciatica, being secondary to a hydrops tubae profluens of nine years' standing; even she got complete relief for four days, followed by a period of comparative comfort for a long time.

Majorca

Dr. F. GILBERT SCOTT (Cala Mayor, Palma-de-Mallorca, Spain) writes in reply to "C. M.'s" queries (February 21st, p. 335): The water in the towns of Majorca is satisfactory, so, too, is sanitation; in the smaller places less so. There is no sudden change of temperature at sundown such as is met with on the Mediterranean coast. For rheumatism the dry climate is distinctly good. The rainfall is less than 15 inches per annum.

Sir HARRY BRITTAIN (London, S.W.) has sent us a reprint of an article in praise of Majorca which he contributed recently to the *Windsor Magazine*. We gather that copies of this leaflet are obtainable from the Spanish Travel Bureau, Ltd., 87, Regent Street, W.1.

Income Tax

Commencement of Partnership

"R. S. G." entered into partnership ("an entirely new business") on April 1st, 1930. After that date he and his partner received cheques in payment for work done before the partnership came into existence. How should those receipts be dealt with? Further, he purchased a new motor cycle in April, 1930, for £25, and part exchanged it in November, 1930, receiving £15 towards the cost (£41) of a new cycle. What can he claim for cost of renewal and depreciation?

*** The receipts in question need not be brought into the partnership account for income tax purposes, especially as, being a new partnership, the practice will presumably be assessed on the basis of the value of the year's "bookings." The out-of-pocket cost of renewal can be claimed up to the extent to which it is a renewal and not an improvement; this amount will be £25–£15=£10. Depreciation cannot be claimed for the same year as that for which the computation is affected by the "renewal" claim. When "R. S. G." replaces the new cycle by another, or a car, he can make a further claim. If he does not replace it in 1931 he can claim a depreciation allowance on the £41 cycle for 1932–33.

Charge for "Rent" of Surgeries

"Z. Y. X." has two surgeries. A is a house for which he pays £140 per annum inclusive. The top is let off at £110 inclusive, and the lower portion is occupied by a rent-free caretaker in return for his services as surgery receptionist. B is owned by "Z. Y. X." and would probably let at an inclusive rent of, say, 27s. 6d. per week; in fact two rooms are retained for use as surgery and the rest of the premises are let for £1 per week. What allowances should "Z. L. X." claim?

*** In each case the method of calculation is to decide what proportion of the total rental value of the premises represents the professional use and to claim that ratio of the total cost. For instance, if in the case of A the upper portion represents one-half of the rental value, then the amount to be claimed in computing the professional profits is one-half of £140=£70. It is assumed that no services are rendered to the tenants who pay a rent, in which case the profit on subletting—that is, £110–£70=£40—represents income which is chargeable under Schedule A only and cannot be brought into the Schedule D assessment.

LETTERS, NOTES, ETC.

"Bad Risk" Operation Cases

Dr. B. E. COOK (Anaesthetist, Doncaster Royal Infirmary) writes: Years ago, in Manchester, I heard Professor D. P. D. Wilkie lecture before the Medical Society, and his latest paper on acute appendicular disease is as admirably concise, original, and stimulating as that remembered address. Recently Professor Donald of Manchester read a paper on progress in surgery (*British Medical Journal* p. 354), in which he refers to a possibility of future advances, since "anaesthetists were opening up new fields by their research for methods of reducing shock." It is in these desperate emergency cases to which Professor Wilkie refers that all these methods—such as the use of CO_2 and O_2, liberally, during and after operation—should be employed, and have already proved their value in saving numbers of "bad risk" cases, in which the prognosis before operation was extremely bad.

The Gordon Memorial College, Khartum

The wing in the Gordon College, Khartum, which has for many years been occupied by the Wellcome Tropical Research Laboratories, is now required for school extension, and it is proposed to remove them to a specially erected building. In the annual report of the college for 1929 attention is called to the remarkable reduction in the death rate which followed the installation of these laboratories. The extensive irrigation scheme which has been constructed latterly to promote the cultivation of cotton in the Sudan has brought into existence a very large number of possible breeding places for mosquitos, thereby involving the laboratories in still further work. At an interim meeting of the committee and trustees of the college, held in London last July, Major Archibald, director of the laboratories, reported that 25,000 cases of malaria and splenomegaly had been treated; the splenic rate had been reduced from 70 to 35 per cent. in the previous six months, special attention having been paid to children. The incidence of bilharziasis had been similarly diminished, and in these ways much had been done to assist the progress of the Gezira cotton scheme. The number of boys in the college has risen from 86 in 1918 to 554 in 1930. During the year nine boys passed out of the college into the Kitchener School of Medicine.

Sterilization of Mental Defectives

Dr. B. DUNLOP (London, S.W.7) writes: The Eugenics Society announces in its quarterly review that it has drafted a Bill, which may soon be introduced in the House of Commons, to legalize voluntary sterilization of the mentally deficient. I beg you will allow me to suggest that before the view be thus accepted that voluntary sterilization is illegal, a Ministerial pronouncement on the question should be obtained.

The Certified Patient's Pension

Correction

We much regret an error in the paragraph published on February 21st (p. 325), under the heading "The Certified Patient's Old Age Pension." In the seventh line the word "an" should read "no."

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 51, 52, 53, 54, 55, 56, 57, and 60 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 58 and 59.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 75.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

219 Acute Benign Infectious Myelitis

As a rule myelitis caused by such organisms and toxins as those of the typhoid and influenza groups, if not fatal, usually results in prolonged illness and chronic invalidism. The sensory and motor disturbances in these patients invariably remain. There is, however, a recoverable type of myelitis, as has been reported by Strauss and Rabiner, and I. J. SANDS (*Journ. Amer. Med. Assoc.*, January 3rd, 1931, p. 23) records four such cases. Following infection of the upper respiratory tracts, there occurs in young patients paralysis of the lower extremities, with loss of the deep tendon and abdominal reflexes, retention of urine, and subjective and objective sensory disorders which show a segmental distribution. Slight leucocytosis is present, and the spinal fluid has an increased protein content and shows relatively slight evidence of any cellular reaction. Recovery is apparently rapid and complete. The present cases were evidently due to an unknown infectious agent producing an invasion chiefly of the cord and, to a lesser extent, of the roots, causing radiculitis and paraplegia with bladder disturbance. Recovery was complete in all but one instance, in which residual pyramidal tract involvement persisted. Even in this patient the only complaint was constipation. No specific treatment was tried. While such cases may be due to a new organism, Sands suggests that they may represent an attenuated form of epidemic encephalitis. Strauss has recommended the use of foreign protein intravenously, and Sands adds that he has employed this in other forms of subacute inflammatory cord and brain diseases with considerable benefit.

220 Epidemics of Acute Myalgia in Iceland

R. K. RASMUSSEN (*Ugeskrift for Laeger*, January 15th, 1931, p. 56) traces the development of the seven epidemics of acute myalgia which have been observed since 1856 in Iceland. The second occurred in 1865, the third in 1900, the fourth in 1911, the fifth in 1915–1917, the sixth in 1926-1927, and the seventh and last in 1928. These outbreaks were characterized by stabbing pains in the muscles of the chest and abdomen and, in some cases, by dry pleurisy and catarrhal phenomena. The incubation period was always less than ten days, and adults, principally males, were most often attacked. The overwhelming majority of the cases occurred in the summer and autumn. In the first, second, fourth, and fifth epidemics the disease was limited to one particular district. It was this district which suffered most in the sixth outbreak, which began in Reykjavik in June, 1926, and spread rapidly over large parts of the island; 565 cases were notified in that year. Though the leading clinical characteristics were sufficiently uniform in all seven epidemics to justify the conclusion that their etiology was identical, the incidence of fever and pleurisy varied very much in the different epidemics. Thus it was only during the fourth epidemic that the patients were invariably febrile; in the others (apart from the first two, in which observations on the temperature were lacking) cases of high fever alternated with subfebrile cases and with those in which the temperature was not raised at all. In the fifth epidemic all the patients suffered from pleurisy, the outbreak earning for itself the term " pleuritis epidemica." In the other epidemics pleurisy occurred only now and then, and it was conspicuous by its absence in certain areas in the epidemic of 1926. It would therefore seem that pleurisy was no more than a complication which occurred with variable frequency in different outbreaks of one and the same disease, and was not to be regarded as a cardinal and pathognomonic symptom. The author considers that a better term for this disease is " rheumatoid infection."

221 Pernicious Anaemia

J. F. WILKINSON and W. BROCKBANK (*Acta Med. Scand.*, December 16th, 1930, p. 211), after discussing the vague gastro-intestinal, cardiac, and nervous symptoms which often precede the recognition of the typical pernicious anaemia, characterized by raised colour index, anisocytosis, and relative lymphocytosis, have selected seven out of a series of 150 cases to illustrate the difficulties often met with in making an early diagnosis of this disease. They suggest that, besides a complete blood examination, a fractional test meal should be a routine procedure in all cases of weakness and anaemia, persistent diarrhoea, and soreness of the tongue, all cases of paraesthesia, and all undiagnosed cases of gastro-intestinal disease, particularly those of doubtful carcinoma of the stomach.

222 Tetany Complicating Enteric Fever

C. GARDÈRE and J. SAVOYE (*Journ. de Méd. de Lyon*, January 5th, 1931, p. 21) state that tetany may occur during the progress of any of the exanthemata, but it appears to be a rather rare complication of enteric fever, occurring usually in moderately severe cases, and with equal frequency among children and adults. The complication exhibits the classic symptoms of carpo-pedal spasm, associated with flexure of the distal portions of the limbs upon the proximal segments. The prognosis is favourable, and the tetany runs a clinical course corresponding to that of the enteric fever, spontaneous recovery being the general rule. The etiology is obscure. Among several hypotheses it has been suggested that *B. typhosus* has a specific toxic action on the parathyroid glands, but this has not been demonstrated. It may be that enteric fever excites tetany in patients who have a latent spasmophilia. The authors refer to many cases recorded since 1855. They describe the case of a delicate boy, aged 3 years, who recovered from a moderately severe attack of enteric fever. Although the intermittent spasms were severe, there was no trismus, nor symptoms of meningitis. Parathyroid extract was given daily, and calcium chloride later; as no improvement resulted from twelve days' administration, the authors resorted to ultra-violet irradiation. The blood calcium content was practically normal. They add that there is on record a case of tetany supervening two years after an attack of enteric fever. No familial history of spasmophilia has been noted in any of the recorded cases.

Surgery

223 Volvulus of the Stomach

G. BARBERA (*Il Policlinico*, Sez. Chir., January 15th, 1931, p. 1), who records a fatal case in a woman aged 48, illustrates the rarity of volvulus of the stomach by the fact that Boppe could find only 44 cases in the literature up to the end of 1928, the first case having been reported by Mazzotti of Bologna in 1874. According to Heberer and Kocher, the stomach may undergo torsion on its two axes. The first of these passes from the cardia to the pylorus, constituting the axis of the stomach; torsion on this axis is known as " organo-axial." The second axis passes perpendicularly to the first through the lesser omentum, uniting the two curvatures at the central point, and being continued below the greater curvature on the gastro-colic ligament. Volvulus on this axis is called " mesenterico-axial." Of the 44 cases collected by Boppe, 23 were of the organo-axial and 18 of the mesenterico-axial type; in three the nature of the volvulus was not sufficiently described for identification. Ulcer of the lesser curvature is a frequent cause, having been found in 15 cases owing to adhesions or perigastritis to which it gives rise. In the majority of cases, as in Barbera's patient,

the cause is ptosis, gastric dilatation, or laxity of the ligaments. The principal symptoms are violent attacks of pain, tympanitic swelling of the epigastrium, absence of vomiting (contrasting with intestinal obstruction), and inability to pass a sound into the stomach. The mortality is always very high. Treatment consists in simple untwisting of the torsion (7 recoveries and 3 deaths), or untwisting the torsion followed by an operation such as resection or gastro-enterostomy (14 cases).

224 Prevention of Peritonitis in Colon Surgery

According to F. W. RANKIN and J. A. BARGEN (*Arch. Surg.*, January, 1931, p. 98), prophylactic value attaches to the injection of a vaccine prepared from streptococci and colon bacilli with a view to preventing peritonitis from following surgical operations on the colon. This conclusion is based upon a series of 222 vaccinated cases, which is contrasted with another of 58 cases during the same period operated upon for similar conditions, no vaccine being given. Eleven deaths from peritonitis occurred among the 222 cases, while there were thirteen deaths among the 58 non-vaccinated patients. The vaccine is prepared from streptococci and colon bacilli recovered from the peritoneal exudate in a case of peritonitis. It is suspended in sodium chloride solution and introduced by a blunted spinal puncture needle into the peritoneal cavity. Other preventive measures include the thorough cleansing of the large intestine and relieving any obstruction by supplying a residue-free diet, and administering laxatives and colon irrigations. The authors mention that in one week the same surgeon operated upon two patients of similar build, age, surgical risk, and identical lesions; the unvaccinated one died within a week from general peritonitis, while the vaccinated one made a smooth, uneventful recovery. The pre-operative measures, with the exception of the vaccine, were the same in both. Animal experiments have shown that protection can be established against otherwise fatal peritonitis. Since the immunity obtained by the vaccine injection is relatively transient, the operation should take place within twenty-four hours after the administration of the vaccine; the peritoneal injection and hyperaemia in these cases was found to be marked, and indicated increase of the blood supply of the part, and its flushing with an increased number of phagocytes.

225 Causes of Thrombosis

W. KÖNIG (*Zentralbl. f. Chir.*, January 17th, 1931, p. 130) comments on the great increase of post-operative thrombosis and embolism in recent years. The three necessary factors are circulatory changes, damage to the vessel walls, and alterations in the blood itself. A fresh extract of crushed muscle injected into an animal will produce all these changes, as will also the toxin which Freund found in defibrinated blood. After injection of either of these substances there is a fall of blood pressure; congestion in the lungs, liver, extremities, and right ventricle; and a diminution in the number of platelets in the blood. The platelets also break down more readily than usual, and are more easily agglutinated. Chemical changes in the blood, such as increased protein breakdown and a rise in the non-protein nitrogen figure, also occur. These changes also take place after operation, the vascular engorgement of the extremities being shown by the temperature of the sole of the foot, which is raised for several days. There is a special tendency to thrombosis if the low platelet count fails to rise in a few days' time. Several substances may be responsible for these effects and thus predispose towards thrombosis, but adenosin—a product of nuclear destruction—is probably the most important. Statistics show that thrombosis is commonest in cases of tumours, fractures, and inflammatory conditions where nuclear breakdown is especially likely to occur. The bearing of these considerations on the prophylaxis and treatment of thrombosis has not yet given rise to practical results, but there is evidence that the injection of the patient's own blood prevents the fall of the platelet count after operation.

Therapeutics

226 Hyperpyrexial Treatment of Dementia Paralytica

C. A. NEYMANN and S. L. OSBORNE (*Journ. Amer. Med. Assoc.*, January 3rd, 1931, p. 7) describe the results obtained by treating with diathermy 25 patients suffering from dementia paralytica. Large electrodes were applied over the chest and back of the patient, and currents of between 4,000 and 6,500 milliamperes were passed; precautions were taken to avoid the occurrence of burns, the most dangerous sites being near the iliac crests. Clinical remissions occurred in 16 cases, and lasted for not less than four months. All the patients showed reduction of blood pressure, and the authors consider that this and the changes in the blood chemistry which were observed were due to the profuse perspiration which ensued. No harm of any kind was caused, and this the authors attribute to the fact that great care was taken to prevent the temperature from rising too rapidly or above 105°, the optimum degree being stated as 103.5°.

227 Local Treatment of Varicose Ulcers

C. FOUQUET (*Bull. Soc. Franç. de Derm. et de Syph.*, December 9th, 1930, p. 1306) claims to have improved all cases treated by Bourggraff's method since commencing outpatient treatment at Nanterre in June, 1930, and to have cured many patients in periods varying from a few weeks to a few months, according to the extent of their lesions. The method consists in cleaning the ulcer with ether, and then applying a layer, one centimetre thick, of a paste of bioxyol, which has a basis of zinc peroxide; in contact with alkaline serous discharges this liberates ozonized oxygen. Around the ulcer, and covering the area of dermatitis which usually surrounds it, is spread a layer of a substance with an ichthyol base; the whole region is then covered with sterile gauze, and bandaged with a tarlatan (not cotton) bandage. The patient is recommended to put on an elastic bandage, with the leg elevated, before getting up in the morning, and to keep this on all day. In contrast with methods depending mainly on correction of the venous stasis, the dressing requires changing every two or three days. It is claimed that the ozonized oxygen has both a healing and an anaesthetic action, and that the pain of an ulcer frequently disappears after the first application.

228 Pyloric Obstruction Relieved by Medical Treatment

W. DE SCRIVER (*Canadian Med. Assoc. Journ.*, January, 1931, p. 99) describes the case of a man, aged 73, who presented clinical and radiographical evidence of well-marked pyloric stenosis, but who responded nevertheless to medical measures, an operation having been refused. When first seen he had abdominal pain with marked emaciation and debility, a moderate degree of arteriosclerosis, and pronounced dehydration. The abdomen was full in the upper half, but flattened below; no peristalsis could be detected, but there was a palpable and easily heard succussion splash. The *x*-ray diagnosis was pyloric stenosis caused probably by a duodenal ulcer, and giving rise to at least twenty-four-hour gastric retention. Atropine administration having proved useless, the stomach was washed out twice daily, and intravenous injections of glucose (400 c.cm. of a 20 per cent. solution) and normal saline solution were given. Feedings of orange juice, egg-nog, and milk were added on the third day; however, when the tube was passed in the morning there was always a large residue from the previous day. After five days the patient's condition was much better, but an operation was still refused; the feedings were therefore increased, and the patient was trained to pass the stomach tube. The gastric residue gradually decreased in amount, and the patient eventually returned to his work. A later *x*-ray examination showed the stomach empty after six hours. The three points on which Scriver bases his success in this case are the intravenous therapy which arrested the dehydration, the frequent lavages, and the small fluid feeds.

Laryngology and Otology

229 **Chronic Otitis Media**

G. F. SHAMBAUGH (*Arch. of Otolaryngol.*, December, 1930, p. 753) believes that only in exceptional cases of chronic suppurative otitis media is there any serious menace of complications arising, and only for such cases are operative measures advisable. It may be necessary to eradicate a focus of bone-invading disease, such as a caries or cholesteatoma in the attic, the aditus, or the antrum, but such a procedure is not to be classed as unsuccessful if, as is often the case, the otorrhoea persists subsequently. Shambaugh distinguishes between two forms of chronic otitis media. In the first the disease involves the mucosa lining the cavities of the middle ear, and serious complications do not ensue. In the second the underlying bone is also affected, and there may be dangerous sequels. In differentiating between the two types the history is important; thus most cases referable primarily to scarlet fever or measles are not complicated by caries or steatoma, the infection involving only the mucosa, and the discharge being stringy and mucoid. In bone-invading disease there is often a persistent offensive odour, a granular residue in the discharge, and the presence of the white flakes characteristic of cholesteatoma. The author supports his cautious attitude towards extensive operations by arguments based an anatomical conditions. He outlines the possibilities of conservative local treatment, recommending irrigation, the instillation of hydrogen peroxide and boric acid in alcohol, and the insufflation of powdered boric acid.

230 **Examination of the Upper Respiratory Tract**

H. K. PANCOAST (*Journ. Amer. Med. Assoc.*, November, 1st, 1930, p. 1318) emphasizes the value of *x*-ray examination in cases of laryngeal disease, and describes his own technique. Careful screen examination precedes the taking of films, and the condition of the laryngeal ventricles, both at rest and on phonation of the vowel sound A, is carefully noted. In a normal larynx the cigar-shaped air-containing ventricle is well seen, and the arytenoids, being surrounded by air, are also easily seen; their position and mobility must be observed. The pharynx, pyriform sinuses, and trachea are examined in this order. The patient is then given thin barium cream, and the swallowing act observed. The author distinguishes four stages of deglutition as seen on the *x*-ray screen: (1) the mouth is full of the opaque mixture, and the tongue moves backwards; (2) the mixture enters the pharynx, the epiglottis moves backwards, and the larynx rises until the arytenoids touch the epiglottis; (3) the oropharynx is obliterated and the larynx still further elevated, differentiation of the arytenoids and epiglottis being no longer possible; and (4) the pharynx and pyriform sinuses empty, and all structures return to their normal position. In tumours of the larynx there is direct evidence of a localized nodule encroaching on the air spaces, and obliteration of the ventricles, which occurs also in inflammatory conditions and in paralysis of the cord; in the latter the cigar-shaped ventricle is obliterated entirely, or in the lower half or in the lower posterior portion only. Inflammatory conditions are manifested by swollen arytenoids, retrolaryngeal swelling, obliteration of the ventricles, and narrowing of the tracheal opening. The presence and extent of post-inflammatory stenosis is always well indicated; the ventricles are obliterated and the vestibule is narrowed. The upper portion of the trachea becomes funnel-shaped, or is entirely shut off some distance below the larynx. The author describes the *x*-ray appearances seen during speech in two patients who had been subjected to total laryngectomy. In the first case the pharynx and upper oesophagus filled with air, the cricopharyngeus muscle appeared as a distinct band, and the air reservoir slowly emptied while the patient counted from one to eight. In the second case the reservoir did not fill so well, but a continuous supply was maintained, and the patient was able to talk for a long period by taking in air through the nose.

231 **Tonsillectomy**

I. SYK (*Nordisk Medicinsk Tidskrift*, November 8th, 1930, p. 711) of Stockholm has performed approximately 2,500 tonsillectomies during the past eight years without a single death in the course of the operation or the subsequent convalescence. He attributes this achievement to his technique, the details of which were described in 1924 in *Acta Oto-Laryngologica*, vol. vi. He prefers the complete operation, irrespective of anatomical and pathological conditions, extensive adhesions, and other complications. The normal structures of the palate are retained, and the operation is always performed under light general anaesthesia, whatever the age of the patient. The operation itself taking only 25 to 40 seconds, the general anaesthesia is so light that, though consciousness is lost momentarily, the reflexes associated with swallowing and coughing are retained. With regard to pulmonary abscesses as a sequel to tonsillectomy under general anaesthesia, the author suggests that their comparative frequency in the Anglo-Saxon countries is entirely due to the completeness of the general anaesthesia induced. He thinks that the rarity of the operative and post-operative haemorrhages occurring in his cases is due to a detail in the technique. Under the general anaesthesia it is possible to pull the tonsils out of their bed in such a way that the tortuous blood vessels are stretched; accordingly, when they are divided, they retract within the muscular bed, in which they soon cease to bleed. On no occasion did he find it necessary to ligature blood vessels in a child. In view of this successful series Syk concludes that with the technique advocated no objection can be raised to the removal of the tonsils by a specialist. Tonsillotomy, on the other hand, is, in his opinion, a gamble so far as its technical execution is concerned. The operator may not succeed in removing what he wishes to remove, and the results are not infrequently complicated and impaired by cicatricial adhesions and other undesirable sequels.

Obstetrics and Gynaecology

232 **Full-term Ectopic Pregnancy**

A. S. WILSON (*Journ. Med. Assoc. of South Africa*, December 27th, 1930, p. 761) reports a case of an ectopic pregnancy in a 6-para which went to full term. After the patient, an Indian woman, had been in labour for two days medical aid was obtained. Although the labia were tremendously swollen, the head was well up and partially fixed. Owing to the patient's condition internal version was performed. With some difficulty the legs were pulled down; there was slight trouble with one arm, and then the after-coming head became fixed; forceps were applied, and it was delivered. Resuscitation failed, but it was concluded that had there been no delay in delivering the head, the child, which was normal in every respect, would have survived. While trying to express the placenta it was noticed that the cord did not descend. The patient was then removed to hospital, but manual delivery of the placenta was impeded by a cord-like structure, which on removal was found to be the intact uterus. On the fifth day a large recto-vaginal fistula developed, and five days later in another hospital a small piece of the anterior lip of cervix was found to be still attached to the vaginal wall; behind this the examining finger passed into a thick-walled cavity closely resembling the uterus. When the abdomen was opened two bands of yellow omentum were found shutting off the vagina below and forming a mass about the size of a normal uterus; the rest of the abdomen was clear. There were no adhesions and no free fluid. Loops of bowel were free and uninjected, and there was no boggy vascular mass indicating where a placenta might have been attached. Two later operative attempts reduced the fistula to a pin-point in the left posterior fornix. Wilson concludes that the case was one of a full-time ectopic pregnancy, and that the foetus had been violently driven through the pouch of Douglas, ripping the uterus almost completely from its attachments.

233 Nephritis in Pregnancy

E. J. STIEGLITZ (*Amer. Journ. of Obstet. and Gynecol.*, January, 1931, p. 26) records statistics of 55 cases of nephritis in pregnancy, and defines three main classes: the nephritis of pregnancy—a syndrome of renal fatigue; eclamptic intoxication; and pre-existing renal and/or vascular disease which has been exacerbated by the pregnancy. In a fourth group he places cases having other complications such as cardiac disease, thyrotoxicosis, infections, and obstetric difficulties. In the first of these classes, comprising about 40 per cent. of cases of nephritis in pregnancy, the most notable characteristics are the abrupt onset of symptoms at eight months; slight raising of the arterial tension; albuminuria and moderate oedema; the late average date of delivery; and the excellence of the late results. These cases contrast sharply with the abrupt onset of acute symptoms in the eclamptic class. In the author's opinion the evidence incriminating the placenta is stronger than that which points to other factors, such as foetal elements. He believes that administration of alkalis to the point of alkalinization of the urine in nephritic patients is inadvisable and risky. Diuresis is best induced by giving water and acid salts, if necessary, such as calcium chloride, calcium nitrate, or ammonium chloride. The reduction of excessive arterial tension is accomplished by administering orally bismuth subnitrate in daily doses of 10 grains. Prognosis may be based on the degree of anaemia and of renal functional impairment; the age of the patient; and the promptness with which improvement follows delivery.

234 Intrauterine Lipiodol Injections in Sterility

G. COTTE (*Lyon Méd.*, January 4th, 1931, p. 3) concludes from his own experience and from cases reported in the literature that the employment of lipiodol injections of the uterus and tubes for the diagnosis of sterility of tubal origin in certain cases cures the sterility itself. He prefers this method to insufflation with air or carbon dioxide, since with it more cures are obtained. Two reasons are given to explain this action of lipiodol: as in insufflation, tubes with impaired permeability are cleared of all obstruction; and secondly, owing to its high iodine content, the drug has a local action on the tubal epithelium. Cotte believes that the accidents which have been reported are due much less to the method than to its ill-timed use. Nevertheless, as with all intrauterine instrumentation, these injections are not without some risk, and should only be given in those clinically negative cases in which they can furnish necessary diagnostic information. Before their administration a minute clinical examination should be made to determine the absence of gynaecological lesions, such as lesions of the adnexa or recent salpingitis, which would contraindicate their use. To avoid all inflammatory reactions, the injections should preferably be given during the week following the menstrual period. It is advisable that in all cases when radiography shows that the lipiodol has overflowed from the os the patients should be kept in bed for twenty-four hours.

235 Pregnancy Complicated by Tabes

The occurrence of repeated pregnancies in a tabetic patient is reported by J. T. WILLIAMS (*New England Journ. Med.*, January 15th, 1931, p. 119), who states that in such circumstances the gastric crises may be interpreted erroneously as pernicious vomiting, or as the onset of premature labour. Typically, however, the pains are often unperceived by the patient, affects and thus painless; the second stage, however, is often painful, owing to the failure of the abdominal muscles, especially the uterine contractions. The most important in cases of pregnancy is the temporary increase in the ataxia, due to the change in the patient's centre of gravity. The degeneration in the column of Goll in tabes results in uterine anaesthesia, and also in rapid dilatation of the cervix. Discussing the nervous supply of the uterus, Williams suggests that the cerebrum may exert an inhibitory action, one indication of this being the augmentation of uterine contractions, which can be observed during Caesarean section under spinal anaesthesia.

Pathology

236 The Influence of Intense Effort upon the Leucocyte Count

H. GOUNELLE and J. WARTER (*Arch. des Mal. du Cœur*, December, 1930, p. 757) have investigated the effect of intense muscular exertion upon the total and differential leucocyte counts in trained and untrained men. The subjects of the first group were young soldiers, while the second consisted of medical students; the test exercise was running a distance of one or two kilometres, examinations of the blood being made before, immediately after, and half an hour after the test. It was found that this exercise was followed at once by an increase of 30 to 40 per cent. in the total leucocytes in the trained individuals, whereas in the untrained an increase of 70 to 100 per cent. was produced. The "leucocytosis of movement" was only transient, and in all the subjects had disappeared within half an hour after the test. A reduction in the percentage of polymorphonuclear neutrophils was observed to follow intense effort, but the *actual numbers of these cells were, if anything,* increased. A large percentage of and actual increase in the numbers of circulating lymphocytes and monocytes accompanied the relative reduction in neutrophil polymorphs. The differential white count returned to normal within half an hour of the test exercise. The authors refer to earlier work in which contraction of the spleen and increase in red cells of the blood were found to accompany muscular exertion. They believe that this action of the spleen underlies the change they have demonstrated in the leucocyte count, but that other factors also play a part. The practical importance of their work lies in the technique of the leucocyte count; a patient in whom this examination is to be made should remain at rest for about half an hour before the blood is drawn.

237 The Action of Liver Extract on Blood Regeneration

M. P. CRANE, ISABEL HOWARD, and W. P. MURPHY (*Amer. Journ. Med. Sci.*, December, 1930, p. 803) have investigated the effect of administering daily a potent liver extract, equivalent to 800 grams of liver, for a period of 14 days to four normal young men; there were no striking changes in the blood. There was a small rise in the number of the red cells, but it was never more than 700,000 per c.cm. above the average control figure. There was a similar tendency to raise the haemoglobin figure during the latter days of the test, and a slight rise in the reticulocytes reaching 3, 1.3, 1.4, and 1.1 per cent. respectively. The authors point out that, although this percentage is small on a basis of 5 million red cells per c.mm. in circulation, it would correspond with actual reticulocyte figures of between 150,000 and 55,000 per c.mm., and with a 15 per cent. reticulocyte rise in a patient with 1 million red cells, as met with in severe pernicious anaemia. The rise was transitory, persisting only for one to three days.

238 Structure of Rheumatic Nodules

M. H. DAWSON and R. H. BOOTS (*Journ. Amer. Med. Assoc.*, December 20th, 1930, p. 1894) comment on the close histological similarity between the subcutaneous nodules which occur in rheumatic fever and rheumatoid arthritis. Each nodule consists of a central area of necrosis, due apparently to gelatinous swelling and disintegration of collagen bundles; round this is a zone of large mononuclear cells disposed radially, and, further outwards, a sheath of dense and avascular fibrous tissue. The arterioles and capillaries in the surrounding tissues show a subendothelial deposit of fibrin, with hyperplasia of the subendothelial cells, narrowing or occlusion of the lumen, and in some instances canalization of the hyperplastic intima. Their elastic coats are split, and there may be polypoid protrusions into the vessel lumen. Around the vessels there may be detected an infiltration by large mononuclear and small round cells. Bacteriological investigations were entirely negative. No relationship was demonstrated between these nodules and those of syphilis, gout, or tuberculosis.

THE FOETUS AND VITAMIN D

THE GOULSTONIAN LECTURER for 1930, considering the significance to clinical medicine of studies in calcium and phosphorus metabolism, said of pregnancy: "a high calcium diet of adequate vitamin content is required by pregnant and lactating women to allow for the drain of calcium into the foetus, and especially through the mother's milk."

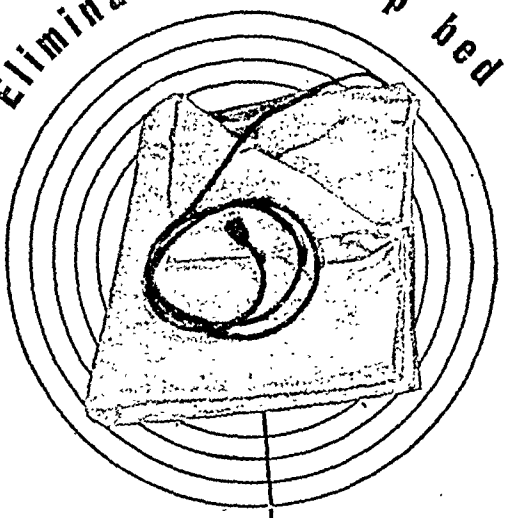
Ostelin vitamin D is physiologically standardised, and is available in combination with calcium in the following forms especially suited to the mother's requirements during pregnancy:

1. OSTELIN TABLETS. Ostelin m. iii with calcium glycerophosphate gr. ii.
2. OSTELIN EMULSION. The same in the form of emulsion.
3. GLAX-OVO. Supplies milk, with its natural lime salts; vitamin D in the form of Ostelin; the whole pleasantly flavoured with chocolate.

Ostelin vitamin D is also incorporated in Sunshine Glaxo, a fully humanised milk food for infants.

Free trials of any of these preparations may be had on application to Glaxo Laboratories, 56, Osnaburgh Street, London, N.W.1

Eliminate the damp bed



Electrically aired and warmed

With THERMEGA ELECTRIC BLANKETS and PADS, constant regulated heat can be supplied to beds immediately from any wall plug or lamp socket on any voltage (100—250).

A THERMEGA BLANKET will warm and air a bed all through well within the hour. Thus all risk of rheumatism is avoided. By means of the THERMEGA PAD, steady warmth can be applied locally at a moment's notice, and maintained for as long as is desired. The pad is no larger than an ordinary hot-water bottle.

Their average cost of current works out at ½d. an hour (at 6d. a unit). By a special Thermostat device the heat is constantly regulated and overheating made impossible. Prices from 33/- complete.

Ask for demonstration and particulars from medical stores, electrical firms, leading stores, or direct from the manufacturers,
Thermega Ltd.,
53, Victoria Street,
London, S.W.1.

Thermega

THERMEGA LIMITED, 53, VICTORIA STREET, LONDON, S.W.1

BUY BRITISH AND SAVE 33⅓% IMPORTATION TAX

The field for Diathermy Current applications is rapidly increasing

DIATHERMY

MEDICAL AND SURGICAL

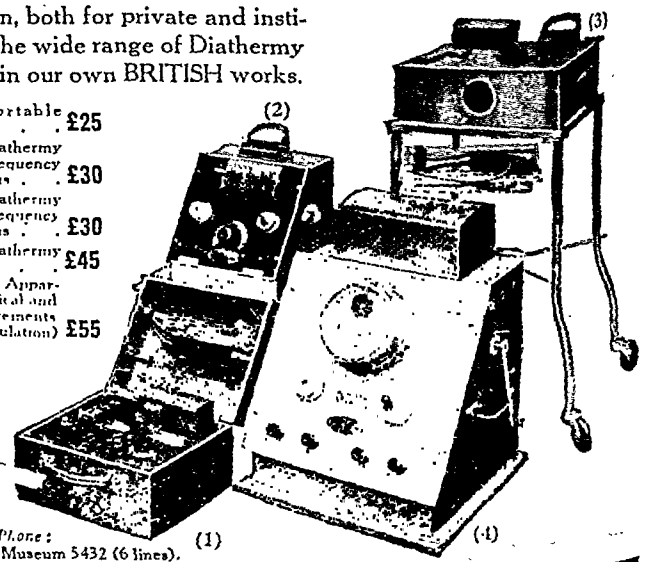
EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available :—

FOR SURGERY
e.g.: Surgical cutting by High Frequency indulations or coagulation.

FOR THE PHYSICIAN
for treatment purposes only.
also
FOR BOTH SURGICAL and MEDICAL.

No. 1. "EMESAY" Portable Diathermy £25
No. 2. "AMAZON" Diathermy and High Frequency Current Apparatus . . £30
No. 3. "MERIDIAN" Diathermy and High Frequency Current Apparatus . . £30
No. 4. "EQUATOR" Diathermy Apparatus £45
No. 5. "MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation) £55



Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

MEDICAL SUPPLY ASSOCIATION LTD.
167-185, Gray's Inn Road, London, W.C.1.
ACTUAL BRITISH MANUFACTURERS

Phone: Museum 5432 (6 lines).

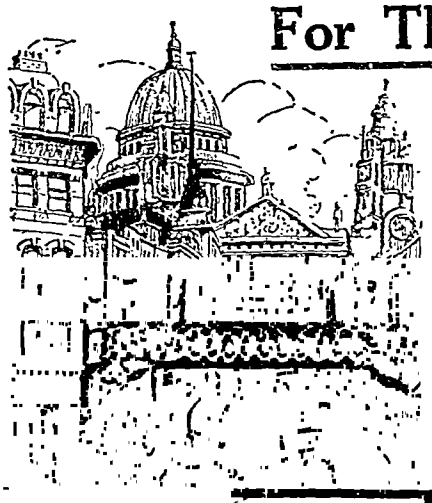
SURGICAL SERVICE
SALTAIR

SALTAIR SURGICAL SERVICE

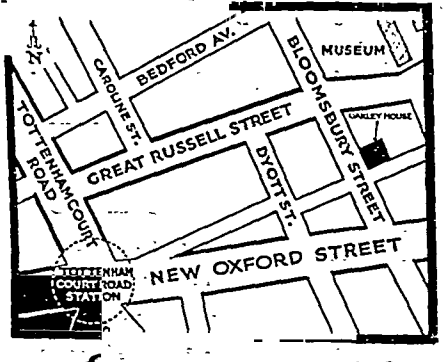
Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.



For The Convenience of London Practitioners



'PHONE
MUSEUM 3845
'Phone Birmingham,
Midland 5455.

The special attention of London Medical Men is drawn to the easy accessibility from all parts of our London Branch at

OAKLEY HOUSE,
14/18, Bloomsbury Street, W.C.
(Underground Station—Tottenham Court Road)

where qualified female Fitters are always in attendance and the services of an Orthopaedic Mechanist are available each Wednesday. Appointments should always be made.

It is hardly necessary to emphasize the advantages of being able to send a patient to be fitted by Surgical Experts for the exact type of appliance prescribed.

N.B.—The requirements of Provincial Medical Men are equally catered for by our various Depots and Fitting Rooms in other parts of the country.

All correspondence (excepting regarding Appointments) should be addressed to Birmingham.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT. ESTABLISHED 1793.

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.
EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel.

SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ½-doz. SOAP TABLETS.

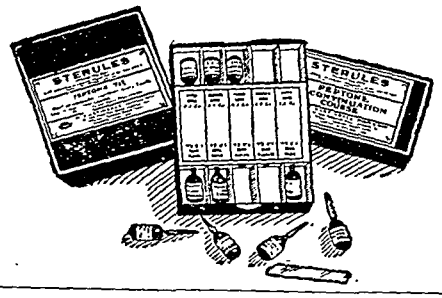
Samples and Literature on Request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.

BOVRIL

There are years of recorded medical experience to confirm the value of BOVRIL as a quick stimulant and safe restorative.



PEPTONE "STERULES" in ASTHMA (REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic œdema, cyclic vomiting, periodic diarrhœa, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Leaflet on application.

W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON." Telephone Nos.: LANGHAM 2440 and 2441.

Veramon
TRADE MARK

Strikingly successful in

DYSMENORRHOEA

Schering Ltd., 3, Lloyd's Ave., London, E.C.3.

ORAL SEPSIS.

'EUMENTHOL JUJUBES" (HUDSON)

Made in Australia.

ARMFUL THROAT TABLETS. Throat blets and Lozenges containing Formalin ormaldehyde) are harmful. Wiley, of the ited States, investigated the effects of small ses of For with ilk, on 12 ing in e throat, body ight were All untries which have made legal enactments d laws regarding the purity of its food supply dition of Formaldehyde eservative of food. JUJUBES contain no her harmful or poison- is drug. Sold everywhere.

REE SAMPLES forwarded to Physicians on ceipt of professional card by F. NEWBERY & NS, Ltd., 31-33, Banner St., London, E.C.1. UNCAN FLOCKHART & Co., Agents, Edinburgh, Scotland.

Manufactured by
G. INGLIS HUDSON, Chemist, for
HUDSON'S EUMENTHOL CHEMICAL CO., LTD.,
anufacturing Chemists, 31, BAY STREET, SYDNEY, AUSTRALIA.
istillers of Eucalyptus Oil Rectified by Steam Distillation.
anufacturers of Pure Eucalyptol (Cineol).

ORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

VACCINE LYMPH

(REBMAN'S PURE ASEPTIC CALF LYMPH)
for reliability and normal reaction.

Prepared under Swiss Government control in accordance with the requirements of the Therapeutic Substances Regulations, 1927. As Supplied to the Bacteriological Department, Guy's Hospital, London.

Price: 9d. per small tube (6 for 3/9).

Sole Agents:
WILLIAM HEINEMANN (Medical Books), Ltd.,
99, Gt. Russell St., London, W.C.1.
Telephone: MUSEUM 0878. *Telegrams:* SUNLOCKS, LONDON.

RELIEVES CONSTIPATION

Test Sal Hepatica for yourself and you will agree that it is by far the most satisfactory laxative yet developed. There is no pleasanter or more effective way of eliminating from the system harmful toxic amino acids. The presence of such evils in the system gives rise to rheumatism, lumbago, neuritis and many other maladies that have their source in auto-intoxication. Remember too that Sal Hepatica is essentially non-habit-forming. It's daily administration leads to a "time habit" which is invaluable in combating chronic constipation.

Sal Hepatica contains sodium sulphate, sodium phosphate, sodium chloride and lithia citrate in an effervescent medium.

Samples for clinical trial will be forwarded on request to duly qualified members of the medical profession on application to Bristol-Myers Company, 112, Cheapside, London, E.C 2.

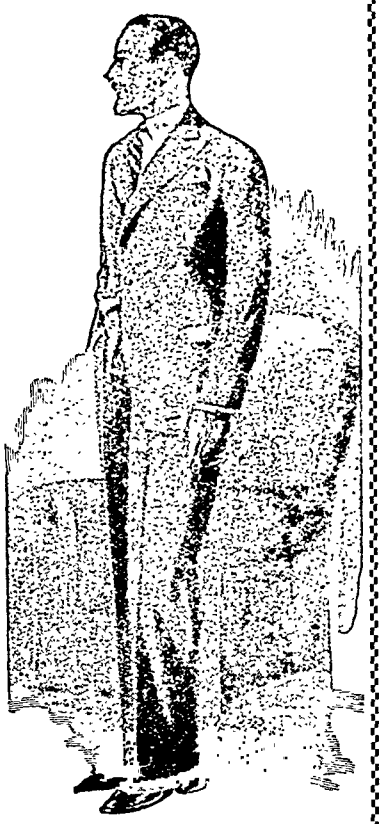
Sal the proved, medicinal, Hepatica

saline laxative and cholagogue.

STUDDINGTON

HAND-TAILORED SUITS

Put You at once on Good Terms with the World at large.



LOUNGE SUITS FROM 7 GNS.
Call or write for patterns and new Catalogue sent post free.

STUDD & MILLINGTON LIMITED
SPORTING AND MILITARY TAILORS
67-69, CHANCERY LANE, HOLBORN, W.C.
51, CONDUIT STREET, BOND STREET, W.
81, GRACECHURCH STREET, E.C.
ABBEY HOUSE, VICTORIA STREET, WESTMINSTER, LONDON, S.W.1.

KEROL CAPSULES

BRASS NAME PLATES.
BRONZE PLATES (ENAMEL LETTERS).
SKETCH & ESTIMATE UPON REQUEST.
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

THE POSTAL ACCOUNT

It is often supposed that to live a long way from the nearest branch of a bank, or to be constantly unable to go to the bank in person, is a handicap to the enjoyment of the full advantages which, it is admitted, a banking account offers. Perhaps it is assumed that to conduct an account by post involves 'more letter writing', or is costly, or is not welcomed by the Bank. It is the aim of the Westminster Bank to dispel such misconceptions by a leaflet entitled *The Postal Account*, which explains the convenience of the method, and offers some clear suggestions.

The Secretary of the Bank will be pleased to send a copy on application

WESTMINSTER BANK LIMITED
HEAD OFFICE: 41 LOTHBURY, LONDON, E.C.2

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE. Telephone: Temple Bar 2205

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

J. H. HAMILTON & CO. LTD.
21, SAVILE ROW, LONDON, W.1.
Established 1850.

"SPECIALITE" LOUNGE COAT & VEST
Black or Grey
£7 : 7 : 0

STRIPED CASHMERE TROUSERS
£3 : 3 : 0

Patterns and self-measurement form on application.

'Phone: Regent 4572.

Covers for Binding

Vols. I and II of the BRITISH MEDICAL JOURNAL for 1930 and previous years can be had, price 2s. 6d., by parcel post 2s. 10d. each.

Remittances must accompany all orders. Apply at the office, B.M.A. House, Tavistock Square, W.C.1.

GRAPE FRUIT CALVES' FEET JELLY

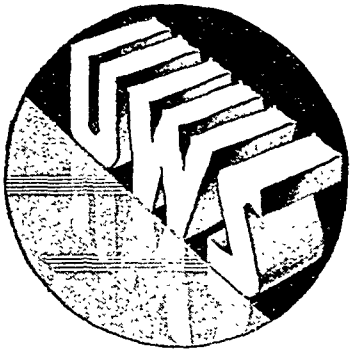
Freshly made by our Chef 3/- a bottle, post free

Dainties for Invalids from

FORTNUM & MASON

182, Piccadilly, W.1 Regent 8040

THE MOST SATISFACTORY METHOD OF ENSURING A SOFT WATER SUPPLY



Special Booklet Sent Free on Request
"Soft Water in the Home," an illustrated sixty-four page booklet, will gladly be sent to any doctor upon request.

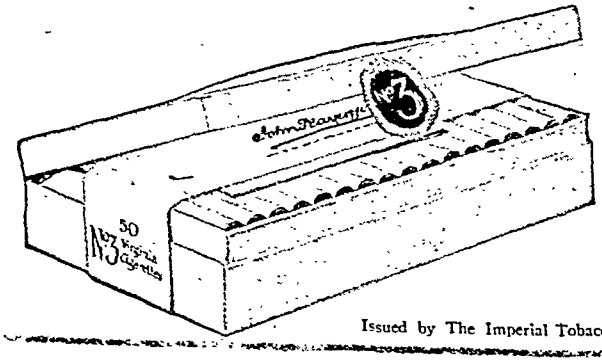
It is a fact of considerable significance that 'Permutit' Water Softening Plants are to-day to be found in over 15,000 homes, and in the leading hospitals, clubs and hotels. No chemicals are used in the 'Permutit' System. This plant provides a soft water which is healthful and palatable to drink, at a moderate initial outlay and an infinitesimal running cost. The plant can be fitted without any alteration to existing arrangements.

'PERMUTIT' REGD
WATER SOFTENER

UNITED WATER SOFTENERS LTD., ALDWYCH HOUSE, LONDON, W.C.2

PLAYER'S No. 3

Made from a delightful blend of specially selected fine Old Virginia Tobacco



10 for 8D
20 for 1/4
50 for 3/3
100 for 6/4
WITH OR WITHOUT CORK TIPS

EXTRA QUALITY VIRGINIA

Issued by The Imperial Tobacco Company (of Great Britain and Ireland), Ltd.

West End Clothes

TERMS £1 MONTHLY

Special introductory offer to 100 new customers

BEFORE Easter we are desirous of obtaining one hundred new customers. To make quite sure this objective is reached we are making a special introductory offer, which for the sake of brevity is summarized as follows :—

★ Clothing with the hall mark of the West End tailor at extremely modest prices as detailed below.
★ A Free Valeting Service for sponging, pressing and repairing all garments after purchase as often as you wish.
★ CONVENIENT PAYMENTS FROM £1 PER MONTH without references or enquiries.
★ A special discount of 10/6 from your first order because we are convinced that the quality of our goods and service will merit your continued patronage.

Lounge Suits and Overcoats - - from 5 gns.
Dinner Clothes and Evening Dress „ 6 gns.
Catalogue and patterns gladly sent on request.

KEITH BRADBURY LTD.

Tailors of Credit

137/141 REGENT STREET, LONDON, W.1

Hours of business 9-7. Saturdays 9-1. Telephone: REGENT 5288

Greater Comfort for your Patients.

"The Rose Corset-Belt"

which has set a new standard and proved so effectual in all abdominal cases where support is required. The X-rays have shown the actual uplift.

Each Corset-Belt is cut and fitted to individual requirements, and the patient is kept under observation until every satisfaction is given to both patient and doctor.

I have also invented an improved Colotomy Belt for both male and female patients.

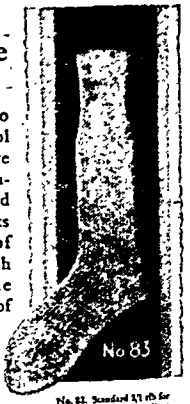
My work is recommended by eminent members of the medical profession, and the following hospitals: St. Bartholomew's Hospital, Metropolitan, Charing Cross, Middlesex, London Temperance.

MADAME ROSE, 97, Mortimer St., Regent St., W.1. LANGHAM 1575.

Two Steeples St. Wolstan Wool Socks

Always the same quality

When you buy Two Steeples St. Wolstan Wool Socks you can be sure always of the same high-grade quality time and time again. These socks are the production of highly skilled English Stockingers and the St. Wolstan Wool is of one regular quality, the richest long staple pure botany obtainable.



No. 83. Standard 3/4 rib for general wear. A good medium weight for walking 10 hand-some Ingrain shades to blend with all fashionable outings.

Write for descriptive booklet containing actual patterns of the various styles of St. Wolstan Wool Socks and Underwear.

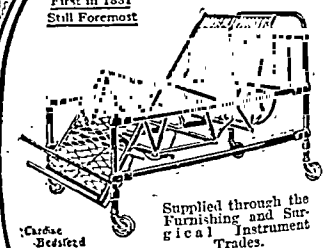
DEPT. 4, TWO STEEPLES LTD. WIGSTON, LEICESTERSHIRE

A Bedstead for Every Purpose

LAWSON TAIT HOSPITAL BEDSTEAD

Permanently Guaranteed.

First in 1881
Still Foremost



Supplied through the Furnishing and Surgical Instrument Trades.

Cardiac Bedstead

LAWSON TAIT (NOT TUBE FRAME) SPRING BEDSTEAD

PERMANENTLY GUARANTEED AGAINST BREAKING OR SAGGING IN USE

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 123, Douglas Street, Glasgow, C.2.

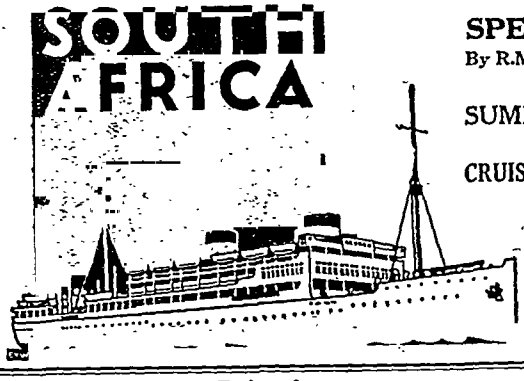
BRONZE NAME PLATES

Cream enamelled lettering, no cleaning required

BRASS NAME PLATES

Museum 2264. *Send for Book* 18.

F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1



SOUTH AFRICA

SPECIAL TOUR TO SOUTH AFRICA
By R.M.S. "Kenilworth Castle." From Southampton 24th July, 1931.
Reduced Return Fares.

SUMMER TOURS TO MADEIRA or CANARY ISLES
at Reduced Return Fares.

CRUISES TO ANTWERP, ROTTERDAM, HAMBURG and back.
Fortnightly from London. 13-14 days.

UNION-CASTLE LINE
Write for full particulars to:—
Head Office: 3, Fenchurch St., London, E.C.3.
West End Agency: 125, Pall Mall, S.W.1.

BANTAM Coffee

Pure groundless coffee in powder form which dissolves instantly when hot water or milk is added. No preparation is necessary. A little Bantam Coffee added to hot milk makes a very palatable beverage and a welcome change to persons who must take milk regularly. Bantam Coffee is prepared from a blend of selected Empire-grown beans, and has been awarded the Certificate of the Institute of Hygiene.

Economical in use. A 2/- tin will yield 50 cups of delicious coffee. From Grocers or Post Free from
DEPT. 30, BANTAM PRODUCTS LTD., BANTAM WORKS, LEEDS.
Samples for Testing will gladly be sent on request.

If you have a difficult case of Hernia send your patient to be properly fitted with a
SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency. Perfect freedom of movement
The most scientific truss ever devised.

SALMON ODY LTD.
Highly recommended by the Medical Profession
7, NEW OXFORD STREET, LONDON, W.C.1
Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS
The best Medical authorities are

rheumatic pains, 15/6 per pair. Metatarsal 18/6 per pair. State size of footwear when ordering.
Estab. 120 years.

As good as Two Hands and a long Arm

COOK'S Non-Scratch Motor Mop (Improved Patt.)

Cannot injure the Paint-work.

Note Rubber Guard Pad over Back and 36in. Long Handle.

This is the Right Way to use it. Lead Hose into Pail and dip Mop frequently into the water. This gives the action of a sponge and a Brush combined, and leaves both hands free to handle Mop.

The only Mop that will get everywhere—even on a baby car!

PRICE NET 7/9 CARRIAGE PAID U.K.

Mention B.M.J. for 7 days' approval.

Direct from the Sole Makers:
COOK'S, Brush Specialists,
DAVEY PLACE, NORWICH
ESTAB. 1814.

BRASS and BRONZE
NAME PLATES
by the Actual Maker. Send for List.
FORD, 37, Palace Rd., Bromley, Kent.

CLARENCE LODGE,
CLAPHAM PARK, LONDON.
Situated in 3½ acres of secluded gardens.
HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.
Station: *Telephone:* Brixton 0494.
Clapham Common Tube. Apply, Miss THWAITES.

CHISWICK HOUSE.
A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.
Now removed to:
CHISWICK HOUSE, PINNER, MIDDLESEX.
Telephone: PINNER 234.
A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.
Fees from 10 guineas per week.
Voluntary Patients received for treatment.
Special provision for "Temporary" patients under the new Mental Treatment Act.
DOUGLAS MACAULAY, M.D., D.P.M.

NORMANSFIELD
For Mental Defectives of all ages.
Under private management.
Apply to Dr. Langdon-Down,
Normansfield, Teddington.

ST. ALBANS, HERTS.
(20 miles from London.)
Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as "HIGHFIELD HALL," situate about a mile away from the Hospital.
Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

EPILEPSY.
Owing to extensions there are at present a few Vacancies at the
DAVID LEWIS COLONY
for Ladies and Gentlemen who have Epilepsy, but are of good intelligence and sound mind.
Colony life gives to most people who have epilepsy the best chance of happiness and contentment.
Apply to the Medical Superintendent,
The David Lewis Colony, Warford, Alderley Edge.

BOURNEMOUTH.
West Haven, Chine Crescent Road.
FUNCTIONAL NERVOUS DISORDERS,
MEDICAL AND CONVALESCENT CASES.
The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.
Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

"BANKSEA," Dovercourt Bay, ESSEX.
CONVALESCENT HOME FOR GIRLS.
This Home, conducted by the Dominican Sisters, is certified by the Essex County Council under the Ministry of Health.
Beautifully situated on the sea front. Bracing air. Bright and airy dormitories. Central heating. Pleasure Park adjoins Convent grounds. Individual attention. Trained Certificated Nurse. Infectious or Epilepsy cases not received.
Terms moderate. Vouchers issued for reduced railway fares. — Apply, MOTHER PRIORESS, Dominican Convent, Dovercourt, Essex.

Bishopstone House, Bedford.
PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone:* 2708.

ST. ANDREW'S HOSPITAL

FOR MENTAL DISORDERS,

NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

HAYDOCK LODGE,

NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-contained villas and gardens, in which patients are encouraged to occupy themselves in farming, gardening, indoor and out-door recreation. For terms, prospectus, etc., apply

TYKEFORD ABBEY, NEWPORT PAGNELL,

BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, [illegible] miles from London. Both sexes are accommodated. Psycho-therapeutic treatment is used freely in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, golf. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS MORRIS. *Telephone*: Newport Pagnell 121.

The MAUDSLEY HOSPITAL

DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: (*a*) 189 beds (both sexes) in wards or separate rooms. (*b*) 13 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS:

(*a*) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(*b*) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

BAILBROOK HOUSE,

BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician.
Telephone No.: Batheaston 8189.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 481 GATLEY.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:

A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

CITY OF LONDON MENTAL HOSPITAL,

DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E. Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"

STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281. Matron: Mrs. Ellen Allfrey, S.R.N.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone:* RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acr id Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Se rt James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone:* NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.

Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—**WOODBRIDGE, SUFFOLK.**

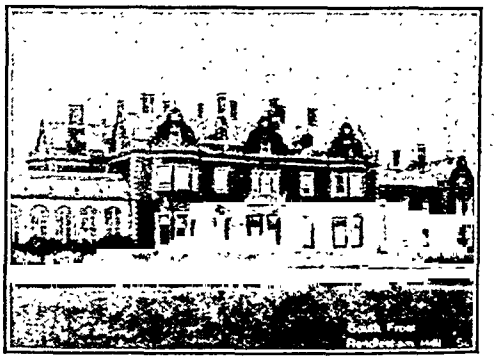
Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16.
(Toll Call from London.)



RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham, as carried on for the last twenty years, is available. Booklet and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: The Norwood Sanatorium, Limited.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone:* PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 241.

FENSTANTON,

CHRISTCHURCH ROAD,

STREATHAM HILL, S.W.2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2254.) Apply J. H. EARLS, M.D., Resident Physician. Telephone: Streatham 8430.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE,

BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

The Devon Mental Hospital,

Exminster, near Exeter.

The Committee of the above Hospital have accommodation for the reception of PRIVATE PATIENTS of both sexes, in special wards, which are healthily situated, with extensive views of the Exe Valley and surrounding scenery. The Hospital is fully equipped with Operating Theatre and X-ray departments, and has facilities for Ultra-violet Light treatment and modern Hydrotherapy.

Charges: £3 3s. per week, including all necessaries except clothing. Apply to the Medical Superintendent.

Tel.: Deepway, Exeter. 'Phone: 3580: Exeter.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

[illegible] the TREATMENT of [illegible] *from* NERVOUS and [illegible] Voluntary patients [illegible]pply to the Resident [illegible]phone: Tamworth 108.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.

Resident Physician: CEDRIC W. BOWER.

Ordinary Terms: Five Guineas per week.

(Including Separate Bedrooms where suitable.)

Interviews in London by appointment.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE,"

CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams:* "Masters," Chislehurst.

KINGSDOWN HOUSE

BOX, near BATH.

For the CARE and TREATMENT of NERVOUS and MENTAL DISORDERS in BOTH SEXES.

Separate accommodation for Voluntary Boarders of the Female Sex. Applications received at the above or at 17, Belmont, Bath, by—

Dr. H. C. MACBRYAN or [illegible] Medical Superintendents

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

EAST ANGLIAN SANATORIUM.

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

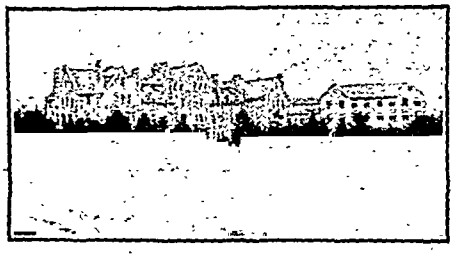
TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus, etc., apply to the SECRETARY, East Anglian Sanatorium, Nayland, near Colchester. *Tel. and Telegrams*: NAYLAND 1.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), R. M. Bremner, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

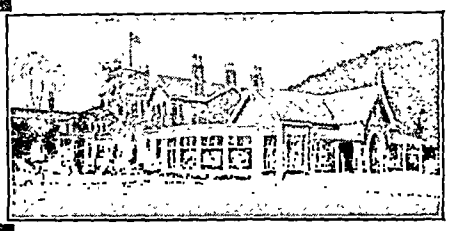
NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams*: Nordrach, Blagdon. *Telephone*: Blagdon 23.

BRIDGE of ALLAN SPA
Stirlingshire



INHALATION TREATMENT with vaporized Mineral Water is strongly recommended for asthma, bronchitis, and other catarrhal affections.

Bridge of Allan is an Ideal Spring Resort, being mild, sunny, and sheltered from North and East winds.

The Allan Water and Spa Hotel has covered communication with the Spa.

For further particulars apply SPA DIRECTOR.

BAD-NAUHEIM

near Frankfurt-on-Main, from Victoria about 21 hours.

A Charming and Restful Place.

Saline Thermal Springs

Rich in Carbonic Acid

Quite exceptional cures for cardiac affections, arterial sclerosis, muscular rheumatism, rheumatoid arthritis, gout, bronchial diseases, spinal diseases and diseases of the nervous system, shock and exhaustion, reconvalescence, injuries to the bones and joints, etc. All up-to-date treatments.

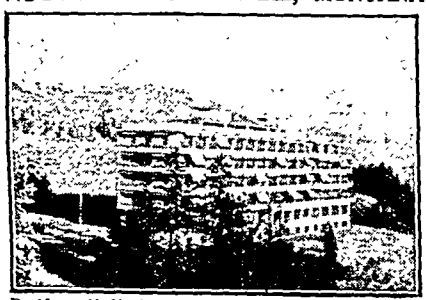
BALNEOLOGICAL UNIVERSITY-INSTITUTE.—KERCKHOFF-INSTITUTE FOR INVESTIGATION AND COMBATING HEART DISEASES.

Golf and other outdoor sports.

Reduced prices to Physicians and their families.

For all particulars apply to the Special Representative, R. O. ROHME, 90, Sheaveshill Avenue, Colindale, London, N.W.9.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical [illegible]: HILARY ROCHE, Tuberculous Dis., 1 House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: [illegible] M.B., B.S.(Lond.), to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

'Grams: "SMEDLEY'S MATLOCK."
'Phone: No. 17.
For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

VICTORIA SANATORIUM : : DAVOS

SWITZERLAND

(BRITISH SANATORIUM), 5,200 feet above sea-level.

ALTERED AND MODERNISED IN SUMMER 1930.

Terms from £5 . 12 . 0 per week.

Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of [illegible] Mental or Nervous [illegible] allied disorders of [illegible] Habit. All types of [illegible] cases are received [illegible] Voluntary Boarders. [illegible] See *Medical Directory*, p. 2156.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

Upton Lodge Nursing Home,

BIRCHINGTON, THANET.

All types of cases taken; special care for aged; shelters in garden; charming comfort, home; nr. sea Terms mod.—MISS ROBERTSON, Matron.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

Vacancy for a Permanent or [illegible] fully equipped [illegible] n a sheltered [illegible] coast. Terms [illegible] B.M.A. House,

The Medical Profession are notified that the Director of the

STRONGEST RADIUM MINERAL SPRINGS IN THE WORLD

BAD BRAMBACH, SAXONY,

will be in London from March 16th to 21st, at Thos. Cook & Son, Berkeley Street, daily from 11 a.m. to 1 p.m., and 3 p.m. to 5 p.m., to give information about the Cures and Waters. Mr. A. Hayer will be pleased to call on any Physician by appointment. The Spa is famous for remarkable Cures of High Blood Pressure, Gout, Rheumatism, Sciatica, Arterio-sclerosis, Nerves, etc., etc.

For appointments please apply to Mr. A. HAYER, Claridges Hotel.

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

HOTEL ANNONCIATA, MENTONE, FRANCE.

Unique situation commanding the maximum of sunshine, overlooking Mediterranean at an altitude of 750 feet.
Dry, bracing mountain air, semi-tropical terraced garden of oranges, lemons, and mimosas, adjoining pine and olive woods.
Easy access to Town. Up-to-date comfortable Hotel, moderate charges.
Under French and English Management.
Teleg.: Annonciata, Menton. *Teleph.*: 1.06.

GRAMPIAN SANATORIUM, *KINGUSSIE, INVERNESS-SHIRE.*

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 ft. above sea-level. Sheltered situation in pine wood. Graduated walks. Physician visits daily. Building and fittings equipped in accordance with latest requirements. X-ray apparatus available for diagnosis and treatment. Resident Physician on duty all night. Terms £4 6s. 8d. to £6 6s. *inclusive p.w.* Med. Supt.—FELIX SAVY, M.D. For particulars apply to the Secretary.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.
All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.
IDEAL HEALTH RESORT.
Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.
Every kind of Bath. Plombière Lavage.
Every kind of Massage. *Ultra-violet* Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.
Resident Physicians: W. JOHNSON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

Accouchement. — Lady receives confidential CASES; strict privacy. Comfortable, well-appointed house in Surbiton. Central heating, telephone. Resident C.M.B. Nurse. Doctor in attendance.—Address, No. 1532, B.M.A. House, Tavistock Square, W.C.1.

LONDON SCHOOL OF DERMATOLOGY.

St. John's Hospital for Diseases of the Skin,

Leicester Square, W.C.2.

Conducted by the Honorary Staff of the Hospital, together with the Physicians in charge of the Dermatological Departments of the London Teaching Hospitals. Lectures and Demonstrations every Tuesday and Thursday, at 5 p.m., from October to March, and four times weekly during May. Clinics daily at 2 p.m. and 6 p.m., Saturdays, 2 p.m. only. Pathological Laboratory for Instruction or Research work.
For further particulars, fees, etc., apply to J. E. M. WIGLEY, M.B., Dean.

CITY OF LONDON MATERNITY HOSPITAL, CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.
MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. *Monthly* or Fortnightly Courses.
PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.
PRIVATE WARDS for paying patients.
MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL, TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.
Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.
New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)
For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

GUY'S HOSPITAL DENTAL SCHOOL.

DENTAL TRAVELLING SCHOLARSHIP.

A Scholarship enabling the holder to take out a Course of at least six months' practical work in Dental Surgery at one or more Colonial or Foreign Dental Schools will be awarded in March, 1931. The conditions attached to the award are as follows:

1. Candidates must be registered Licentiates in Dental Surgery of the Royal College of Surgeons of England, or holders of a Dental Degree of a British University who have been educated at Guy's Hospital Dental School.
2. The Scholar will be required, within the twelve months succeeding his appointment, to take out a course of at least six months' practical work at one or more Colonial or Foreign Dental Schools or Colleges previously approved by the Dental Council of the School.
3. The Scholar will be required to present to the Dental Council of the School a report of the work which he has done during the period of his Scholarship, and a certificate from the Dean or other responsible official of the School or Schools to which he has been attached, giving details of such work done and the time occupied thereon.
4. The total value of the Scholarship will be £250, of which, unless otherwise ordered, £150 will be awarded upon the appointment of the Scholar, and the remainder upon the completion of the Scholarship and the approval of the report by the Dental Council of the School.
5. The Scholar may be required to act as a staff or extra Demonstrator of Operative Dental Surgery during the academic year following his residence abroad.

The Scholar will not be required to proceed abroad until September, 1931.
Applications should be lodged with the Dean, Guy's Hospital Dental School, London, S.E.1, not later than March 16th, 1931.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) *prospectuses and* TRUSTWORTHY INFORMATION and ADVICE.
The age of the pupil, district preferred, and rough idea of fees should be given.
J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to
The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5
for practical fortnightly *Courses in Midwifery.* These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary* 1906-30)	162
	Final	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	
	bove and also for for all examinations L.R.C.P., or M.B. of for D.P.M., D.O.M.S., , D.M.R.E., M.M.S.A., successes.	

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral [illegible] higher Medical [illegible] he higher Surg[illegible] for the Special [illegible] Course. Openings for Women. Hints for writing theses.

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times." "Thoroughly physiological principles."—"Lancet." "The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/8 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE.

FACULTY OF MEDICAL SCIENCES.

SPECIAL COURSE FOR THE PRIMARY FELLOWSHIP EXAMINATION OF THE ROYAL COLLEGE OF SURGEONS.

Special SHORT COURSES in ANATOMY and PHYSIOLOGY will begin on MONDAY, MARCH 9th, 1931, in preparation for the June Examination.

ANATOMY: J. KIRK, M.B., Ch.B., F.R.C.S.E.
PHYSIOLOGY: H. P. GILDING, M.A., B.M., B.Ch.; W. H. NEWTON, M.Sc., M.B., Ch.B.

The Course in Anatomy (including Embryology) is made up of lectures and demonstrations. Students are permitted to use the Dissecting Room and Museum of Anatomy at other times. The Courses in Physiology, Bio-[illegible] consist of lectures [illegible] with revision of [illegible] ches of the subject which are of particular importance in Medical Practice.

Full particulars may be obtained on application to—

University College, London. C. O. G. DOUIE, Secretary.
(Gower Street, W.C.1.)

UNIVERSITY OF GLASGOW.

FACULTY OF MEDICINE.

Forms of application for permission to commence the study of MEDICINE in October, 1931, may now be obtained from the undersigned. These forms should be returned by applicants from foreign countries not later than June 15th, 1931, and by applicants from Home and British Dominions Overseas not later than September 14th, 1931.

ROBT. BROUGH, Registrar.
March, 1931.

University of London.

A Course of Two Lectures on "*The Central Nervous System*" will be given (in English) by Professor Dr. B. BROUWER (Professor of Neurology in the University of Amsterdam), at UNIVERSITY COLLEGE, LONDON, Gower St., W.C.1, on Monday and Tuesday, MARCH 16th and 17th, 1931, at 5.30 p.m. At the first Lecture the Chair will be taken by Professor G. ELLIOT SMITH, M.D., Litt.D., F.R.S., Professor of Anatomy in the University. Lantern illustrations.

A Course of Three Lectures on "*Problems in the Physiology of Behaviour*" will be given by Professor K. S. LASHLEY (Professor of Psychology in the University of Chicago), at KING'S COLLEGE, Strand, W.C.2, on Monday, Wednesday, and Thursday, MARCH 16th, 18th, and 19th, 1931, at 5.30 p.m. At the first Lecture the Chair will be taken by Professor C. E. SPEARMAN, LL.D., Ph.D., F.R.S., Professor of Psychology in the University.

Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

University of Leeds.

POST-GRADUATE COURSES IN OBSTETRICS AND ANTE-NATAL WORK AT THE LEEDS MATERNITY HOSPITAL. (108 Beds.)

Registered Medical Practitioners are admitted to the Hospital Practice, comprising Ante-natal, Labour and Isolation Departments, for periods of 2—4 weeks.

For particulars as to vacancies at the Uni[illegible]

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

CONJOINT BOARD EXAMINATIONS

Candidates taking the First, Second, or Final Conjoint Examination in March and April, 1931, should make sure of passing at the first attempt by enrolling for the short intensive Revision Courses of the College.

POSTAL, ORAL, PRACTICAL, CLINICAL COURSES. MICROSCOPE AND MUSEUM WORK.

Highly qualified Tutors with accurate knowledge of the special features of these examinations.

Write at once for booklet, "How to Pass the Conjoint Board Examinations." Sent free on application.

Address: The Secretary, MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1.

Royal College of Surgeons of ENGLAND.

LICENCE IN DENTAL SURGERY.

Notice is hereby given that the FIRST [illegible] will commence at the SECOND [illegible] will commence

Candidates are required to give not less than twenty-one days' notice in writing of their desire to present themselves for examination to the Director of Examinations, Examination Hall, Queen Square, London, W.C.1, from whom all particulars relating thereto may be obtained.

DIPLOMA OF FELLOW.

Notice is hereby given that the next PRIMARY and FINAL EXAMINATIONS for the Diploma of Fellow will commence on TUESDAY, JUNE 2nd, and THURSDAY, MAY 14th, 1931, respectively.

Candidates are required to give not less than fourteen days' notice of their desire to present themselves for examination.

Particulars relating to these examinations may be obtained from the Director of Examinations, as above.

March 2nd, 1931.

Royal College of Physicians.

Dr. MACDONALD CRITCHLEY will deliver the GOULSTONIAN LECTURES on March 10th, 12th and 17th, at 5 o'clock, at the Royal College of Physicians, Pall Mall East, S.W.1.

Subject: "*The Neurology of Old Age.*"

Any Member of the Medical Profession admitted on presentation of card.

By Order of the President,
H. M. BARLOW, Bedell & Secretary.

P. & O. CADETS.

ORIENTAL STEAM ... will, on Thursday, ... examination at their offices for the entry of CADETS, with a view to their future employment as Officers in the Company's service. Candidates must be between 14½ and 16 years of age, and must pass the Company's Medical Inspector.

The successful candidates will be entered the following September for two years' training on board the "Worcester," the Company paying one-half of their annual educational fees. After the "Worcester" Course they can be appointed to serve the usual apprenticeship of three years (unpaid) on board the Company's steamers, without premium.

Particulars on application to the Secretary, Peninsular & Oriental Steam Navigation Co., 122, Leadenhall Street, London, E.C.3.

SOCIETY OF APOTHECARIES OF LONDON.

MASTERY OF MIDWIFERY.

Examinations will be held beginning Monday, May 18th, and Monday, November 16th, 1931. For regulations apply to the REGISTRAR, Water Lane, E.C.4.

University of Birmingham.

POST-GRADUATE LECTURES, 1931.

LECTURE ON SPA TREATMENT.

THE DEAN AND THE FACULTY OF MEDICINE invite the attendance of Members of the Medical Profession at a LECTURE (illustrated by lantern slides and film) on WEDNESDAY, MARCH 18th, at 4 o'clock, in the MEDICAL LECTURE THEATRE (Edmund Street Buildings), by GEOFFREY HOLMES, M.B., B.Ch., Senior Honorary Physician, Royal Bath Hospital and Rawson Convalescent Home, Harrogate; Honorary Secretary, Committee for the Study of Medical Hydrology in Great Britain.

Subject: *"The General Therapeutics of Spa Treatment."*

Doctor-Schoolmaster (ex public ...

school resident medical officer and master, and preparatory school housemaster and doctor) has opened sunny house on Kent Coast as small HOME-SCHOOL for DELICATE and BACKWARD BOYS from 9 to 15 years of age; individual care and tuition; ... schools, or Comme ...; resident trained ... tory school matron and nurse in charge); home doctor's orders carried out.—Prospectus and all particulars from W. R. L. DRAWBRIDGE, M.R.C.S., L.R.C.P., St. Alban's Lodge, Westgate-on-Sea, Thanet. Tel.: Westgate 107. Summer Term commences May 1st.

Egyptian Government.

PUBLIC HEALTH DEPARTMENT.

Applications are invited for the post of DEPUTY DIRECTOR OF THE PUBLIC HEALTH LABORATORIES, CAIRO.

These laboratories carry out the general laboratory work (bacteriological, chemical, parasitological, and pathological) of the Public Health Department of the Egyptian Government, such work including diagnosis and the examination of water, food, and drugs.

There are also under the control of the laboratories a Vaccine Lymph Institute and an Antirabic Institute.

The Deputy Director, in so far as his duties are concerned, will assist the Director in the direction and the control of the scientific work of the laboratories and its affiliated sections. He must possess a registrable medical qualification and have practised bacteriology in recognised institutes for a period not less than six years. Preference will be given to applicants who have occupied a University teaching post or those who have had past experience in laboratory administration and have carried out and published original works in bacteriology. Age should not exceed 45 years.

Salary will be between £E.1,140 and £E.1,390 per annum, to be fixed in accordance with ... ...is and experience ... ...und Egyptian (£E. ... ... to £1 0s. 6d. in ... ...esent rate of exchange. No increments are granted and no private practice is allowed.

Conditions of appointment, which will be for a period of 5 years, may be obtained from the Egyptian Legation, London (75, South Audley Street, W.1).

Applications, stating age, qualifications, and past experience, and accompanied by copies of recent testimonials, should be submitted before April 15th to the Under-Secretary of State, Department of Public Health, Cairo.

The selected candidate will be required to take up his duties as soon as possible after appointment.

County Borough of West Bromwich.

HALLAM HOSPITAL.

RESIDENT HOUSE PHYSICIAN AND RESIDENT HOUSE SURGEON.

Applications are invited from fully qualified male registered Practitioners (single) for the above appointments.

The appointments are for twelve months, but either party may give six weeks' notice terminating the engagement. The Hospital has 474 beds and is equipped with up-to-date Special Departments. There is a visiting staff of eight Consultant Physicians and Surgeons.

Preference will be given to applicants with previous Hospital experience.

Salary £250 per annum.

Canvassing, either directly or indirectly, is strictly prohibited and will be deemed a disqualification.

Applications, stating age, experience, and qualifications, together with copies of three recent testimonials, must be forwarded to the Medical Officer of Health, 2, Lodge Road, West Bromwich, so as to arrive not later than by first post on Wednesday, March 18th.

Town Hall, ALFRED WICKHAM,
West Bromwich. Town Clerk.

County Borough of Southend-on-Sea.

SOUTHEND MUNICIPAL HOSPITAL.

JUNIOR ASSISTANT MEDICAL OFFICER.

Applications are invited for the appointment of Junior Assistant Medical Officer at the Southend Municipal Hospital, Rochford, Essex. Salary at the rate of £275 per annum, with full ... salary and value ... bject to deductions ... and Other Officers ... 12 months and is ... subject to one month's notice on either side.

Preference will be given to applicants with resident Hospital experience.

Further information relating to the appointment may be obtained from the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex, to whom applications, with full particulars and copies of three recent testimonials, should be sent not later than Wednesday, March 18th.

Town Clerk's Office, H. J. WORWOOD,
Southend-on-Sea. Town Clerk.
March, 1931.

City of Liverpool.

RESIDENT ASSISTANT MEDICAL OFFICERS.

Applications are invited for the appointment of Resident Assistant Medical Officers at the WALTON HOSPITAL (1,650 beds), Rice Lane, Liverpool, for a period of one year from April 1st, at a salary after the rate of £200 per annum, together with the usual residential allowances.

The appointments will be made in accordance with the Standing Orders of the City Council.

Candidates must be single, fully qualified, and registered.

Specialised work is carried out at the Hospital, including Medical, Surgical, Gynæcological, Obstetrical, Pathological, X-Ray, Electro-Therapeutic, Massage, and Sunlight. Various Consultant Specialists are attached to the Staff, and the Hospital is a recognised Training School for Nurses. A large number of operations are performed.

Applications, stating age, qualifications, etc., with copies of three recent testimonials, to be received by the undersigned not later than March 14th.

WALTER MOON,
March 3rd, 1931. Town Clerk.

Metropolitan Hospital, Kingsland Road, E.8.

There are vacancies for the following:
(a) SENIOR HOUSE PHYSICIAN;
(b) SENIOR HOUSE SURGEON;
(c) JUNIOR HOUSE PHYSICIAN;
(d) JUNIOR HOUSE SURGEON;
(e) Two CASUALTY OFFICERS; males.

Salary £100 per annum. Appointments in the first place will be for a period of six months dating from May 1st.

Candidates must possess a registered Medical and Surgical qualification of the United Kingdom.

Applications, with copies of three recent testimonials, and a certificate of ability to administer Anæsthetics, should be sent to the undermentioned not later than the first post on Wednesday, April 1st.

Two members of the resident staff are candidates for the two Senior appointments.

HERBERT F. RUTHERFORD,
Secretary and House Governor.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

WITHINGTON HOSPITAL.

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Assistant Medical Officer at the Withington Hospital (1,200 beds) and Institution (1,150 beds), Nell Lane, West Didsbury, Manchester.

The successful candidate will be required to have the care of the wards for patients suffering from Pulmonary Tuberculosis (150 Beds).

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous hospital experience.

The Hospital is a recognised Training School for Nurses and is equipped with all modern requirements.

Salary £350 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made in the first instance for a period of six months, renewable at the end of that period for a further six months.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Officer, Withington Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, March 19th.

The candidate appointed will be required to commence duty as soon as possible after appointment, to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

Town Hall, F. E. WARBRECK HOWELL,
Manchester. Town Clerk.
March 2nd, 1931.

City of Manchester.

MONSALL HOSPITAL FOR INFECTIOUS DISEASES. (600 Beds.)

APPOINTMENT OF JUNIOR MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Junior Medical Officer at Monsall Hospital.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants who have held Resident Surgical and Medical posts in a General Hospital.

The candidate appointed will be required to assist in the teaching of the nursing staff and to reside at the Hospital.

Salary £350 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made in the first instance for a period of six months, renewable at the end of that period for a further six months.

... ...fully the training, ... of the candidate, three recent testimonials, and endorsed on the envelope "Junior Medical Officer, Monsall Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, March 19th.

The candidate appointed will be required to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct, or indirect, is prohibited.

Town Hall, F. E. WARBRECK HOWELL,
Manchester. Town Clerk.
March 2nd, 1931.

Montagu Hospital, Mexborough, YORKS.

JUNIOR HOUSE SURGEON (lady) required, to commence duty beginning of April. Commencing salary £100 per annum, with the usual residential allowances. One month's holiday yearly.

The capacity of the Hospital is 84 beds; 10 are reserved for Maternity cases; the remainder are Surgical. Applications, giving full particulars, should be addressed to the undersigned so as to be received not later than Monday, March 23rd.

DONALD WILSON, Secretary.

THE MEDICAL AND DENTAL DEFENCE UNION OF SCOTLAND, LIMITED.

Secretaries and Registered Office: Millar, Thomson & Dunlop, C.A., 113, St. Vincent Street, Glasgow.

ANNUAL SUBSCRIPTION £1. ENTRANCE FEE 10/-.

No entrance fee to those joining within 12 months of obtaining qualification. Benefits include defence of claims for alleged negligence in professional work, including indemnity of £2,500 and costs, and advice on professional difficulties.

Particulars and forms of application can be obtained from the Secretaries at the above address.

County Borough of West Ham.

EDUCATION COMMITTEE.

APPOINTMENT OF CHIEF ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from fully qualified and registered Medical Practitioners for appointment as Chief Assistant School Medical Officer.

The person appointed will be required to work under the supervision of the School Medical Officer, and to devote the whole of his or her time to the service of the Education Committee.

Salary £750 per annum, rising by biennial increments of £50 to a maximum of £900 per annum.

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are also invited from fully qualified and registered Medical Practitioners, with special experience in Refraction, for appointment as an Assistant School Medical Officer under the direction of the School Medical Officer. The person appointed will be required to devote his or her whole time (mainly in connection with defective vision) to the service of the Education Committee. Salary £500 per annum, rising by annual increments of £25 to a maximum of £700 per annum, allowance being made in respect of similar service under other Local Authorities in fixing the commencing salary in accordance with the scale agreed between the British Medical Association and the Local Education Authorities.

Applicants must have had not less than three years' experience since qualification, and should have had previous experience in the medical inspection and treatment of school children. A diploma in Public Health will be an advantage.

General conditions applicable to the above appointments—

Application will be made for the recognition of the above appointments as designated posts under the Local Government and Other Officers Superannuation Act, 1922, and subject to such recognition the successful applicants will be required to pass a medical examination as required by the Council for the purposes of that Act, and the statutory contributions of five per cent. to the Superannuation Fund will be deducted from their salary. In the event of the appointment of a woman, such appointment will be automatically terminated on marriage.

Canvassing members of the Education Committee or the Council, either directly or indirectly, will be considered a disqualification

Forms of application, together with particulars of duties, may be obtained from the School Medical Officer, Town Hall, West Ham, E.15, upon receipt of a stamped addressed envelope, and should be returned to the undersigned not later than Monday, March 23rd.

CHARLES E. CRANFIELD,
Town Clerk and Education Officer.

Education Office,
95, The Grove, Stratford, E.15.
February 28th, 1931.

Royal Burgh of Ayr.

MEDICAL OFFICER OF HEALTH.

The Town Council invite applications from duly qualified and registered Medical Practitioners holding Diploma in Public Health or an equivalent qualification, for the appointment of Medical Officer of Health for the Burgh. Candidates must not exceed 45 years of age.

In addition to his duties as Medical Officer, the person appointed will act as Medical Superintendent of the Infectious Diseases Hospitals, and will be Officer for Maternity and Child Welfare, Venereal Diseases, and Tuberculosis, and also for the medical treatment of sick poor at their homes. Subject to arrangements being made with the County Council, he will also attend to the medical inspection and treatment of school children in the Burgh.

The inclusive salary will be £800, and the appointment will be subject to the approval of the Department of Health for Scotland.

A qualified Assistant will be provided.

Copies of the full specification of duties and conditions of appointment may be obtained from me, and applications, stating age, qualifications, previous experience, and present employment, together with one copy of all recent testimonials, should be lodged with me by March 16th.

P. A. THOMSON,
Town Clerk.

Council Chambers,
Ayr. February 25th, 1931.

Nottinghamshire County Council

MANSFIELD WOODHOUSE URBAN DISTRICT COUNCIL.

APPOINTMENT OF JOINT MEDICAL OFFICER.

The Nottinghamshire County Council and the Mansfield Woodhouse Urban District Council invite applications from duly qualified and registered Medical Practitioners for the joint whole-time appointment of ASSISTANT SCHOOL MEDICAL and DISTRICT MEDICAL OFFICER OF HEALTH.

The salary attaching to the position will be £800 per annum, with reasonable travelling and subsistence allowances.

Applicants must have had experience in the duties of a Medical Officer of Health, and also possess the Diploma in Public Health. Experience in Refraction work and the examination of Mentally Defective Children will be considered an advantage.

The person appointed will be required to reside in the Urban District of Mansfield Woodhouse or within a radius of three miles from the Mansfield Woodhouse Post Office.

As regards his duties under the County Council, the officer will act under the general control and supervision of the County Medical Officer, and will be required to perform such duties, either as School Medical Officer or otherwise, as may be from time to time prescribed.

As regards his duties as District Medical Officer of Health, the officer will also be required to act as Medical Officer for Maternity and Child Welfare in the Urban District, and will be subject to the sole control and direction of the Mansfield Woodhouse Urban District Council.

The appointment will be determinable on three months' notice, and, as far as the office of District Medical Officer is concerned, will be subject to the approval of the Ministry of Health and the provisions of the Sanitary Officers Order, 1926.

Applications, on forms to be obtained from the undersigned, of not more than three reach me not later tha h.

Shire Hall,
Nottingham. Council.
March 1st, 1931.

City of Liverpool.

SEAMEN'S DISPENSARY.

The Port Sanitary and Hospitals of the Liverpool City Council' [illegible]
post of PART-TI'
DISEASES MEDIC
Dispensary at a
Applicants must be registered Medical Practitioners with experience in modern methods of treating these diseases.

The person appointed will act under the direction of the Medical Officer of Health.

Applications, stating age, qualifications, training, and experience, accompanied by copies of not more than three recent testimonials, to be addressed to me not later than March 16th.

Canvassing of Members of the City Council will be considered a disqualification.

Envelopes should be endorsed "V.D. Medical Officer."

Municipal Offices, WALTER MOON,
Liverpool. Town Clerk.
February 24th, 1931.

Borough of Batley.

ASSISTANT MEDICAL OFFICER OF HEALTH (Part-time).

Applications are invited for the above appointment. Candidates must be registered Medical Women possessing the qualifications prescribed by the Ministry of Health, paragraph 7 of the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930. The duties will entail attendance at an Ante-Natal Clinic and Infant Welfare Centres on two afternoons per week. The remuneration will be 1½ guineas per session of two hours in accordance with the B.M.A. scale, plus travelling expenses.

Applications to be sent forthwith to the undersigned

G. H. PEARCE,
Medical Officer's Dept., Medical Officer
Batley, Yorks. of Health.

Monmouthshire County Council.

ASSISTANT MEDICAL OFFICER (Woman).

The Council invite applications from duly qualified and registered Medical Practitioners, not exceeding 35 years of age, holding a Diploma in Public Health and State Medicine, for the appointment of One Assistant Medical Officer (woman), to undertake mainly the Medical Inspection and Treatment of School Children, and, in addition, Maternity and Child Welfare work.

Special experience in Refraction and Ophthalmic work is obligatory, the lack of which will be a disqualification.

Salary £500 per annum, rising by annual increments of £25 to £750, with third-class rail fares and reasonable subsistence allowance.

The successful candidate will be required to act under the direction and supervision of the County Medical Officer; to devote whole time to the service of the County Council; and to reside in such place as the Council may determine.

The post will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

A schedule of the duties to be performed, together with conditions of appointment and a form of application, can be obtained from the undersigned, to whom applications, accompanied by copies of not more than three recent testimonials, are to be sent by March 13th.

The County Hall, D. ROCYN JONES,
Newport, Mon. County Medical
February 21st, 1931. Officer.

Borough of Stalybridge.

MEDICAL OFFICER OF HEALTH.

Applications are invited for the position of Medical Officer of Health, School Medical Officer, and Maternity and Child Welfare Medical Officer (male) for the Borough.

The salary will be at the rate of £800 per annum, payable monthly.

Candidates must be duly qualified Medical Practitioners and possess a recognised diploma in Public Health and the requisite qualifications required by the Sanitary Officers Order, 1926, and the regulations of the Ministry of Health, to whose approval the appointment will be subject.

The officer appointed will be required to reside in the Borough and devote the whole of his time to the duties of the office and not engage in private practice.

Office accommodation will be provided.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and may be determined at any time by three months' notice in writing.

Applications, accompanied by copies of not more than three recent testimonials, must be sent to the undersigned not later than Monday, March 23rd.

Canvassing, either directly or indirectly, will disqualify a candidate.

FRANK H. WORSLEY,
Town Clerk.

City of Birmingham.

SELLY OAK HOSPITAL.

MALE RADIOGRAPHER.

Applications are invited from fully qualified Radiographers for the above whole-time appointment.

The scale of salary will be £250 per annum, rising, subject to satisfactory service, by annual increments of £20 to a maximum of £350 per annum. The commencing salary will be placed within this scale according to qualifications and experience.

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme, and to the candidate passing a medical examination, and will be subject to one month's notice on either side.

Further particulars of the appointment may be obtained from the Medical Superintendent, R. P. S. KULMAN, Esq., M.B., Ch.B., F.R.C.S. Eng. and Edin.), to whom applications, stating age, experience, and qualifications, accompanied by copies of recer [illegible] should be forwarded not later th.

The Council Hou[illegible] G.
Birmingham.

Hull Royal Infirmary.
(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments, vacant March 31st.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in Laryngology and Otology.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, with copies of testimonials, should be sent to the undersigned on or before February 17th.

R. J. CARLESS,
February 27th, 1931. House Governor.

Hull Royal Infirmary.

The Appointing Committee invite applications for the office of HONORARY PHYSICIAN to the Institution.

Applicants must have obtained a degree in Medicine at one of the Universities of the United Kingdom, be a Fellow or Member of the Royal College of Physicians of London, Edinburgh, or Ireland, and be duly registered under the Medical Acts.

Honorary Physicians are appointed for a period not exceeding 20 years, or until attaining 60 years of age, and in accordance with the terms of the Royal Charter.

Applicants are prohibited from personally canvassing, but may send copies of their applications and testimonials to the members of the Appointing Committee.

Applications should be addressed to the Chairman of the Managing Committee.

R. J. CARLESS,
March 2nd, 1931. House Governor.

Hull Royal Infirmary.

SUTTON BRANCH.

The above Branch has been recently opened and is a self-contained modern General Hospital of 100 Beds. There are two Resident posts.

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum, plus board, residence, and laundry. The appointment will be for six months in the first instance, and will be terminable by one month's notice on either side.

The House Physician will have charge, under the direction of the Honorary Staff, of 46 medical beds.

Applications, stating age, qualifications, and nationality, and with copies of testimonials, should be sent to the undersigned.

Hull Royal Infirmary, R. J. CARLESS,
Hull. House Governor.
February 23rd, 1931.

Chesterfield and North Derbyshire Royal Hospital.
(190 Surgical and Medical Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post.

The appointment is for six months.

Salary from £100 to £175 per annum, according to experience, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned on or before the 12th instant.

G. SUNNUCK,
March 2nd, 1931. Supt. & Secretary.

Loughborough and District General Hospital.

Wanted, to commence duties at end of March, RESIDENT HOUSE SURGEON (male or female, and unmarried), possessing a Medical and Surgical registered qualification. Practical experience in the administration of Anaesthetics is required. Salary £175, with apartments, board, and laundry. All applications, stating age, etc., with copies of testimonials, to be sent to me at once.

9, Leicester Road, FRANK H. TOONE,
Loughborough. Secretary.

Walsall General Hospital.

The Committee invite applications from men for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months. The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, must be received by the undersigned not later than first post Tuesday, March 17th.

WALTER FRANCOMBE, Secretary.

The Royal Portsmouth Hospital.
(Five Resident Medical Officers.)

Applications are invited for the posts of:

SECOND HOUSE SURGEON, male, (qualified). Salary at the rate of £130 per annum, with board, etc. To commence about March 7th.

CASUALTY OFFICER, male (qualified). Salary at the rate of £100 per annum, with board, etc. To commence March 23rd.

Six months' appointments and eligible on completion of term for extension or other resident posts.

Applications, stating age, nationality, and full details, with copies of three testimonials, to be sent to the undersigned as soon as possible, from whom all particulars can be obtained.

B. WAGSTAFF, Secretary.

Peterborough and District MEMORIAL HOSPITAL.
(154 Beds and Out-patient Department.)

RESIDENT HOUSE SURGEON required.

Applications are invited from fully qualified male Practitioners for the above post.

Salary £135 per annum, with board, residence, and laundry.

Appointments will be for a minimum period of six months.

Applications, stating age, qualifications, and experience, with copies of recent testimonials, to be sent to the undersigned, from whom further particulars may be obtained.

FRANK A. C. TAYLOR,
Secretary-Superintendent.

Princess Louise Kensington HOSPITAL FOR CHILDREN,
St. Quintin Avenue, North Kensington, W.10.
(50 Beds.)

HOUSE PHYSICIAN, male or female, required for six months from April 1st. Salary for first three months at the rate of £100 a year, after which, should he or she be appointed Senior Resident (of two), the salary would be at the rate of £125 a year, with board, residence, and laundry in each case. It is desirable that applicants should have held a responsible Hospital post. Applications, with copies of three testimonials, must be submitted on a form to be obtained from the Secretary. Applications must reach the Secretary not later than first post on Wednesday, March 18th.

Miller General Hospital,
Greenwich Road, S.E.10.
(151 Beds.)

Applications are invited for the following posts:

CASUALTY OFFICER. Salary £150 p.a.
HOUSE PHYSICIAN. Salary £125 p.a.
HOUSE SURGEON. Salary £125 p.a.

There are six Resident Officers. Candidates (male) must be unmarried. Board, residence, and laundry are provided. Each appointment is for six months from April 1st next. Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary as soon as possible.

February 23rd, 1931.

Miller General Hospital,
Greenwich Road, S.E.10.

ANAESTHETIST.

Applications are invited for the post of Anaesthetist from those who are specially engaged in the practice of anaesthetics. Attendance on Tuesday afternoons. Honorarium at the rate of 52 guineas per annum for one attendance a week. All particulars to be obtained on application to the Secretary.

February 21st, 1931.

King Edward VII Hospital,
WINDSOR. (181 Beds.)

HOUSE SURGEON required for six months from March 31st. Applicants must be fully qualified women, registered, and have had experience in Ear, Nose, and Throat work.

Salary at the rate of £100 per annum, together with board, residence, and laundry.

Applications, stating age, qualifications, and experience, accompanied by testimonials, should be sent to the undersigned not later than March 14th.

ARTHUR E. CHURCHER, Secretary.

Brighton, Hove and Preston DISPENSARY AND HOVE HOSPITAL.

The Boar[illegible] ations for the pos[illegible] Hove Hospital. [illegible] Fellowship of on[illegible] geons. Applicatio[illegible] should be made b[illegible] undersigned at [illegible] Hove.

General Secretary.

Hospital of St. Cross, Rugby.
(114 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the Hospital of St. Cross.

Candidates must be registered Medical Practitioners, and must be prepared to begin duties immediately.

Salary at the rate of £100 per year, with board and residence in the Hospital.

The appointment is for a period of six months only.

Applications, stating age, qualifications, with copies of three recent testimonials, should be sent to me as early as possible.

W. COCKBURN,
Supt. & Secretary.

South London Hospital for WOMEN.
South Side, Clapham Common, S.W.4.

The Board of Management invite applications from fully qualified Medical Women for the underment[illegible]

HOUSE [illegible] SURGEON
(each for [illegible] May 1st).

Salary at the rate of £100 per annum, with board, residence, and laundry. Candidates are expected to call on members of the Hon. Medical Staff (particulars to be obtained from the Secretary) before Saturday, March 28th, by which date applications and copies of testimonials must reach the Secretary at the Hospital.

Ear and Throat Hospital,
Edmund Street, BIRMINGHAM.

HOUSE SURGEON wanted (non-resident) to assist chiefly in Out-patient Department. Must be qualified, and with clinical experience. Duties to commence May 1st. Appointment to September 30th, when one of the other House Surgeon appointments will be vacant. Salary at the rate of £150 per annum, with lunch on week-days, and an allowance at the rate of £50 per annum in lieu of full board and lodging. Applications and testimonials to be forwarded on or before March 21st to the undersigned.

S. G. GREW,
March, 1931. Secretary.

Addenbrooke's Hospital,
CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON. The appointment will be for six months from April 1st, but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum, with board, residence, and laundry.

Candidates (male), who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials, to the undersigned on or before Wednesday, March 18th.

W. H. HEAD,
Secretary-Superintendent.

Addenbrooke's Hospital,
CAMBRIDGE.

Applications are invited for the post of RESIDENT ANAESTHETIST and EMERGENCY OFFICER (male). The appointment will be for three months from April 1st. Salary at the rate of £130 per annum, with board, residence, and laundry. Candidates, who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four recent testimonials, to the undersigned on or before Wednesday, March 18th.

W. H. HEAD,
Secretary-Superintendent.

District Infirmary,
ASHTON-UNDER-LYNE.
(General Hospital, 200 Beds, mainly Surgical.)

Wanted, a male HOUSE SURGEON. Six months' appointment, renewable.

Salary at the rate of £150 per annum, with board, residence, and laundry.

The Resident Staff comprises a Resident Surgical Officer and three House Surgeons.

Applications, with testimonials, to be sent at once to the undersigned.

FRANK OLIVER,
General Supt. and Secretary.
February 23rd, 1931.

Victoria Central Hospital,
WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry. Candidate chosen would be appointed for six months.

Applications, with copies of recent testimonials, to be sent to the Secretary.

The London Female Lock Hospital,
283, Harrow Road, London, W.9.

The Board of Management invite applications for the post of HOUSE SURGEON (male or female) at the Female Lock Hospital. Salary at the rate of £150 per annum, with furnished rooms, full board, and washing. Candidates, who must be doubly qualified and duly registered, should send in their applications by March 9th, accompanied by copies of three recent testimonials, to the Secretary, from whom further particulars can be obtained. The appointment is for six months, commencing April 4th.

Preference will be given to candidates having previous Obstetric experience.

By Order of the Board,
Feb. 20th, 1931. HY. J. EASON.

Ancoats Hospital, Manchester.

RESIDENT MEDICAL OFFICER required at once. Appointment for six months. Salary at the rate of £150 per annum, with board and residence, etc. Previous experience in a similar position preferred.

HOUSE SURGEONS (Two) required to commence duty on April 1st. Appointments for six months. Salary at the rate of £100 per annum, with board and residence, etc.

Applications, stating age, qualifications, experience (if any), etc., and full particulars, to be forwarded to the undersigned on or before March 18th, together with copies of three testimonials.

By Order of the Board,
HERBERT J. DAFFORNE,
General Supt. & Secretary.

Lincoln County Hospital.

Wanted, JUNIOR HOUSE SURGEON, male, unmarried. Salary at the rate of £150 per annum, rising to £200 per annum at the conclusion of six months' approved service. Board, residence, and washing will also be provided.

Every candidate for the appointment must be registered under the Medical Acts.

Applications, stating age and other particulars, with copies of testimonials (not more than three), are to be sent to the undersigned, from whom further particulars may be obtained.

Lincoln. ARTHUR MOORE,
February 26th, 1931. Secretary-Supt.

Royal Northern Hospital,
Holloway, N.7.

Applications are invited for the post of HOUSE PHYSICIAN vacant on April 15th.

The appointment is for 10 months (seven months as House Physician and three months as Out-patient Medical Officer. Salary at the rate of £70 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be sent by March 14th to the undersigned, from whom forms of application and rules can be obtained.

GILBERT G. PANTER, Secretary.

St. Bartholomew's Hospital.

APPOINTMENT OF ASSISTANT SURGEON.

Notice is hereby given that a meeting of the Election Committee will be held on Tuesday, April 14th, at 4 o'clock in the afternoon, to elect an Assistant Surgeon to this Hospital.

Candidates, who must be Fellows of the Royal College of Surgeons of England, are required to lodge 50 copies of their applications and testimonials with the undersigned, on or before Saturday, March 21st.

THOMAS HAYES,
Clerk to the Governors.
February 27th, 1931.

The Sheffield Royal Hospital.
(340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum, also RESIDENT ANÆSTHETIST, salary £80 per annum, rising to £100 in six months, to commence duties at once (males). Board, residence, and laundry. There are twelve Resident Medical Officers. Applications should be forwarded at once to—

W. H. BOOTH,
January 5th 1931. Supt. & Secretary.

St. John's Hospital, Lewisham, S.E.13

Applications are invited for the appointment of HONORARY PHYSICIAN to the Hospital. The successful applicant will take charge of beds, and will be required to take one Out-patient Clinic weekly. Applications, together with copies of testimonials, should reach the undersigned not later than Tuesday, March 17th.

J. C. GILBERT, Secretary-Supt.

West London Hospital,
Hammersmith Road, W.6. (234 Beds.)

Required, One HOUSE PHYSICIAN, Two HOUSE SURGEONS (males), and One RESIDENT ANÆSTHETIST for six months from April 1st next, subject to one month's notice on either side. Salary at the rate of £100 per annum, with board, lodging, and laundry allowance. Candidates must be registered under the Medical Act. Applications (which must be made on printed forms obtained from me) must reach me not later than first post on Monday, March 16th. Selected candidates will be required to call upon such Members of the Medical Staff as directed, to be in attendance at a meeting of the Medical Council on Friday, March 27th, at 4 p.m., and the House Committee meeting at 4.45 p.m. the same day, when the appointments will be made.

H. A. MADGE, Secretary.

The Hostel of St. Luke
(Clergy Nursing Home),
14, Fitzroy Square, London, W.1.

The Committee of Management invite applications for the post of RESIDENT MEDICAL OFFICER (male) to the above Hostel.

Candidates must have had previous experience as House Surgeon at a General Hospital. The appointment is for six months and may be renewable for a further period of six months. Salary at the rate of £200 per annum, with board, residence, and laundry. A fortnight's holiday will be allowed every six months and the locum will be paid by the Committee of the Hostel.

Applications and enquiries should be addressed to the Secretary of the Hostel at 14, Fitzroy Square, London, W.1, and reach him before March 21st. The successful applicant will be required to take up his duties on April 1st.

The Cancer Hospital (Free)
(Incorporated under the Royal Charter),
Fulham Road, London, S.W.3.

The Committee are prepared to receive applications for the post of HOUSE SURGEON. Salary at the rate of £100 per annum. The appointment is for six months and subject to rules. Candidates must call upon each member of the Medical Committee not later than Monday, March 23rd. A copy of the rules and the names and addresses of the Medical Committee may be obtained from the Secretary. Previous experience as a House Surgeon is indispensable.

Applications, with three (copies only) testimonials, to be sent to the undersigned not later than the first post on Saturday, March 14th.

J. COURTNEY BUCHANAN,
Secretary.

National Hospital for Diseases of THE HEART,
Westmoreland Street, W.1.

RESIDENT MEDICAL OFFICER.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male). The appointment is for a period of six months from April 1st, but may be renewed for a further period not exceeding six months.

Salary at the rate of £150 per annum, with board, residence, and washing.

Candidates, who must be duly registered Medical Practitioners, will not be expected to call on the Honorary Medical Staff, but should send their applications, with copies of three recent testimonials, to me at the Hospital not later than Friday, March 13th.

ROBERT G. E. WHITNEY,
Secretary.

The Willesden General Hospital
(Incorporated), N.W.10.
(106 Beds.)

APPOINTMENT OF HOUSE PHYSICIAN.

Applications are invited from fully qualified and registered candidates for the appointment of House Physician. Candidates must be unmarried. Salary at the rate of £100 per annum. Detailed applications, with copies of testimonials, should be sent addressed to the Secretary, The Willesden General Hospital, N.W.10. not later than Monday, March 16th.

February 27th, 1931.

The Willesden General Hospital
(Incorporated), N.W.10.

CLINICAL ASSISTANT to the Medical Out-patient Department (Friday morning).

Applications are invited for the above honorary appointment, for a period of six months from April 1st.

Applications must be received by the Secretary of the Hospital not later than first post on Friday, March 20th, from whom details of the appointment may be obtained.

February 27th, 1931.

North Riding Infirmary,
MIDDLESBROUGH.
(General Hospital—150 Beds.)

SECOND HOUSE SURGEON (male) wanted to take up duties as early as possible. (Three on Resident Staff.)

The appointment will be for a definite period of six months, with salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three testimonials, should be sent forthwith to the undersigned.

N.B.—The successful candidate will be eligible to apply for the Senior House Surgeon's post at the expiration of the above term.

CHARLES POSTGATE,
Secretary-Superintendent.

Dorset Mental Hospital,
HERRISON, DORCHESTER.

JUNIOR ASSISTANT MEDICAL OFFICER.

Applications are invited from candidates duly qualified, registered, and unmarried. Commencing salary £400 per annum, rising by two yearly increments of £25 to £450, and further increases on promotion, with board, apartments, laundry, and attendance. Excellent laboratory facilities exist, with skilled assistance, for research and clinical medicine. (960 beds.)

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909. Applications, stating age and qualifications, with copies of recent testimonials, should be sent to the Medical Superintendent at once.

Portsmouth City Mental Hospital

JUNIOR ASSISTANT MEDICAL OFFICER (male) required. Age not to exceed 30. Previous experience in a Mental Hospital a recommendation but not essential. Salary £350 per annum, rising by annual increments of £25 to £450 per annum, together with emoluments of apartments, board, and laundry, valued at £125 per annum. The possession of a Diploma in Psychological Medicine will entitle the officer to an additional £50 per annum. The appointment will be subject to deductions under the Asylum Officers Superannuation Act, 1909.

Applications, with copies of testimonials, should be addressed to the Medical Superintendent, Portsmouth City Mental Hospital, Milton, Portsmouth, to be delivered before 10 a.m. on Monday, March 23rd.

Acton Hospital, W.

Applications are invited for the appointment of—

(a) SENIOR RESIDENT MEDICAL OFFICER (male, unmarried). Salary £150 per annum, with board, residence, and laundry. Duties to commence April 1st.

(b) JUNIOR RESIDENT MEDICAL OFFICER (male, unmarried). Salary £100 per annum, with board, residence, and laundry. Duties to commence July 1st.

Candidates must be fully qualified and registered. Applications, stating age, nationality, and qualifications, together with a copy of three recent testimonials, should reach the Secretary, Acton Hospital, Gunnersbury Lane, W.3, by Tuesday, March 10th.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIMB, Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

[illegible]ge of Women's and

[illegible]ge of Male Wards.
[illegible]ge of Out-Patients (in this post a [illegible] is desirable).
[illegible] with board, residence, [illegible] tenable for six [illegible] may re-apply for a [illegible].

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH** *(contd.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	EAST SUFFOLK COUNTY COUNCIL. *(Male Assistant County Medical Officer of Health.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	**PUBLIC HEALTH.**	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	CAERNARVONSHIRE EDUCATION COMMITTEE. *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	[illegible]	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

March 4th, 1931. *By Order of the Council.* *ALFRED COX, Medical Secretary.*

Salford Royal Hospital.
(265 Beds.)

Applications are invited for the following vacancies, which will occur in the Resident Medical Staff (male) on March 31st next:

HOUSE SURGEON (attached to the Orthopaedic Department). Salary at the rate of £125 per annum.

HOUSE SURGEON. Salary at the rate of £125 per annum.

HOUSE SURGEON to Aural, Skin, and Gynaecological Departments. Salary at the rate of £125 per annum.

CASUALTY HOUSE SURGEON. Salary at the rate of £125 per annum.

The appointments are for a period of six months, with board and residence.

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England, and appointments here are recognised for the English Fellowship (Final).

Forms of application, which may be obtained from the undersigned, must be delivered on or before March 10th.

By Order of the Board,
Salford Royal Hospital. GEORGE RUDDLE, Gen. Supt. & Secretary.
February 23rd, 1931.

Freemasons Hospital and
NURSING HOME,
237, Fulham Road, Chelsea, S.W.3.

The post of RESIDENT MEDICAL OFFICER (male) will be vacant on April 1st next. Salary at the rate of £250 per annum, with board, residence, and laundry. The appointment is for six months. Candidates must be registered and must have held resident appointments at a General Hospital. The Institution (46 beds) is for paying patients of both sexes of moderate means unable to afford ordinary Nursing Home treatment, etc.

Selected candidates interviewed March 9th.

Applications, stating full particulars, to be sent on or before March 7th next to the Honorary Secretaries, from whom further information may be obtained.

All Saints' Hospital (for Genito-
URINARY DISEASES.
In-patient Dept.: 91, Finchley Road, N.W.8.
Out-patient Dept. & Secretary's Office: 49/55, Vauxhall Bridge Road, S.W.1.

HOUSE SURGEON (male) required on *April 1st for period of six months*; the first two (or possibly three) months as Junior House Surgeon (non-resident), and the remainder of the period, subject to the approval of the Board, as Resident Senior House Surgeon. Salary will be at the rate of £150 per annum, with board and laundry during the resident period. The duties of the non-resident House Surgeon consist of attendance at the Out-patient Department every afternoon and three evenings weekly.

Applications, stating age, qualifications, experience, and enclosing copies of recent testimonials, should reach me not later than March 14th.

D. H. EADE, Secretary.

Birkenhead & Wirral Children's
HOSPITAL, Woodchurch Road, BIRKENHEAD.

HOUSE SURGEON (SECOND).

The Board invite applications for the post of Second House Surgeon (female) for a period of *six months from April 1st. Honorarium at the* rate of £75 per annum, with board, residence, and laundry.

Applications, together with copies of testimonials, should be addressed to the Secretary, *at the Hospital, not later than March 16th.*

General Infirmary, Salisbury.

The Committee are desirous of appointing an *ASSISTANT MEDICAL OFFICER to the Venereal* Diseases Department. Applications to be sent to the House Governor and Secretary not later than March 27th.

The successful candidate will be appointed, subject to the approval of the Ministry of Health.

By Order of the Committee,
J. G. ELGAR,
House Governor & Secretary.

Addenbrooke's Hospital,
CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON to the Special Departments, with care of beds for ear, nose and throat, eye, gynaecological and maternity cases.

The appointment will be for a period of six months from March 26th, but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum, with board, residence, and laundry.

Candidates (male), who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials, to the undersigned on or before Wednesday, March 11th.

W. H. HEAD,
Secretary-Superintendent.

Royal National Orthopaedic
HOSPITAL,
(Country Branch: Brockley Hill, Stanmore, Middlesex).

Applications are invited for the post of HOUSE SURGEON (male). £150 per annum, with board, quarters, and laundry.

The appointment is for six months commencing April 1st, renewable for a further period of six [illegible] by the Medical [illegible] copies of [illegible] tary at 234, [illegible], not later than March 11th.

Royal National Orthopaedic
HOSPITAL,
234, Gt. Portland Street, W.1.

Applications are invited for the posts of HOUSE SURGEON (Male, Two). £150 per annum, with board, quarters, and laundry.

The appointments are for six months commencing April 1st, renewable for a further period of six m[illegible] the Medical Bo[illegible] by copies of [illegible] Secretary not later than March 11th.

(Appointments continued on p. 58.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.

T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s. Each Additional Line, 1s. 6d.

(a line averages 6 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted.—Lady Medical Assistant, light work, no night visits, indoor. Experience in general practice and refractions. State age and height; send photograph (returnable).—Apply to "L. M. A.," c/o Messrs. R. SUMNER & CO., LTD., Manufacturing Chemists, 40, Hanover Street, Liverpool.

Wanted.—Assistant, with a view to early Partnership in good-class Practice in residential town near London. Well qualified, experienced man about 30 required. —Address, No. 1520, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Part - time indoor ASSISTANTSHIP in Central London by Post-graduate, aged 24, working at London Hospital. To live at Surgery. At liberty April 26th. Ref. if required. Experienced general practice. — Address, No. 1503, B.M.A. House, Tavistock Square, W.C.1.

Wanted, an Assistant in pleasant Country Practice, 30 miles North of London. Light work, hardly any at night. Must be English or Scotch. Time for reading. Salary £250 per annum. Send photo and refs.—No. 1502, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship by Woman M.B., Ch.B., D.P.H. (Scotch). Over 6 years' experience panel and private practice. Experienced minor surgery. Own car. Excellent references.—Address, No. 1529, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant (male), with or without view. £6 10s. weekly (indoor). Eye work a recommendation, but not essential. State available capital. Send photo. State height, etc., and experience. — Address, No. 1558, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Beginning April.— [illegible], mixed Practice, [illegible] as experience, £250— [illegible] giving references, age, [illegible] particulars, No. 1539, [illegible] Square, W.C.1.

Wanted immediately, Assistantship, by lady Doctor, well-qualified, experience Hospital and G.P. Drive car. Keen. Testimonials. Interview if required. London area preferred. — Particulars, address, No. 1431, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Lady Assistant, commencing April, young, outdoor, salary £300 per annum, in panel and industrial Practice, North Wales. Dispenser kept. Three-mile radius.—Address, No. 1523, B.M.A. House Tavistock Square, W.C.1.

Wanted.—Male single Assistant, Partnership Leeds. April 1st. Live in Branch Surgery. Salary £250—£300. No immediate view, but splendid opportunity gaining first class general experience.—Address, No. 1524, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Part-time Assistant, few hours daily. S.W. London district. Young man preferred — recently qualified. Duties begin early March. State age, nationality, and full particulars.—Address, No. 1555, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, with view, British. Mixed compact Practice. Midlands. — Address, No. 1551, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship by woman Doctor, M.B., Ch.B., aged 28; 3 years' General Hospital experience. Special experience Midwifery. — Address, No. 1403, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Indoor Assistant, young, energetic, for large mixed Practice, with scope for experience. Salary £360. References.—Address, No. 1508, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, indoor, British, for Colliery and Panel Practice in County Durham, for end of March. Usual bond.—Address, No. 1534, B.M.A. House, Tavistock Square, W.C.1.

Assistant required for East London panel and private Practice. One with experience in tonsil and adenoid operations preferred. Excellent opportunity of future Partnership on convenient terms.—Address, No. 1505, B.M.A. House, Tavistock Square, W.C.1.

Assistant required, industrial Practice, view Partnership. One-quarter share available, producing over £800. 1½ yrs.' purchase. Fellowship advisable. Much major surgery. — Address, No. 1559, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, with view, wanted by Scotsman, 30, single, M.A., M.B., in good-class Practice in or near London. Five years' experience. Interview by arrangement. Other large city considered.—Address, No. 1518, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, view to Partnership in mixed Practice, desired by M.D., Scotch. Exper. G.P., late House Physician, House Obstetrician, Sen. H.S., Eye H.S., Fevers. Limited capital. — Address, No. 1531, B.M.A. House, Tavistock Square, W.C.1.

Assistant-Successor, three years at latest. Scotland, University City. Panel, General, and Eye. House and Practice about £6,000. — Address, No. 1425, B.M.A. House, Tavistock Square, W.C.1.

Assistant wanted, view early Partnership. Sound Practice, actively growing district within 12 miles. New house. Scotch or E[illegible] No. 1557, B

G.P., [illegible] having some spare time, is willing to ASSIST (part-time) or Deputise for Practitioners in Bristol district.—Address, No. 1535, B.M.A. House, Tavistock Square, W.C.1.

Indian Graduate, higher British qualifications, experienced Hospital and G.P. (including London), requires PART-TIME ASSISTANTSHIP. London or suburbs. Single, aet. 30. — Address, No. 1521, B.M.A. House, Tavistock Square, W.C.1.

M.B., B.Ch., D.P.H., seeks ASSISTANTSHIP, pref. outdoor. Experienced G.P., Post-grad. Mid.; aet. 30.—Address, No. 1515, B.M.A. House, Tavistock Sq., W.C.1.

Part-time Assistant required, mostly for evening surgeries, within easy reach of West End. To live in.—Address, No. 1556, B.M.A. House, Tavistock Square, W.C.1.

Progressive G.P. wants competent outdoor ASSISTANT, mid-March, near Manchester. Abstainer, Scot preferred. Own car. Two years' agreement. Salary to £400. — Address, No. 1406, B.M.A. House, Tavistock Square, W.C.1.

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE,
15, YORK BUILDINGS, ADELPHI, W.C.2.
Tel. { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams:
"REASIDE, TUBERCLE, WESTRAND, LONDON."

Wanted.—Locums or Assistantship (outdoor) by Medical Woman, L.R.C.P.S., L.M., D.P.H., 7 years' qualified. Accustomed sole charge and dispensing. London or S. of England pref., but will go anywhere.—No. 1537, B.M.A. House, Tavistock Sq., W.C.1.

Locum Tenens. — Medical Man needs EMPLOYMENT. Days, Evenings, Week-ends, etc. Very moderate terms.—Address, No. 1554, B.M.A. House, Tavistock Sq., W.C.1.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Locum wanted to do Surgery, Tuesday and/or Saturday morning (10—12). S.E. district.—Address, No. 1511, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

Wanted.—Lady Resident Medical SUPERINTENDENT for THE RETREAT, ARMAGH, MENTAL HOME.—Apply THE PROPRIETOR.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

A qualified Masseuse-Secretary with Electrical experience, young, well educated, desires Daily or Part-time WORK.—H912, c/o B.M.P.S., 26, Langham St., W.1.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

D[illegible]res post [illegible] Experienced dri[illegible] keep books if [illegible] L.A. House, Tavistock Square, W.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Doctor's widow, capable, domesticated, desires position of HOUSEKEEPER to Doctor, lady or gentleman. — Address, No. 1552, B.M.A. House, Tavistock Square, W.C.1.

Gentleman (30), seeks Progressive POSITION in Secretarial capacity. Medical Profession, Hospital, or similar Institution. London or Provinces. Public School. 11 yrs.' exp. Moderate salary to com. Ex. refs. —No. 1561, B.M.A. House, Tavistock Sq., W.C.1.

Gordon Hall School of Pharmacy TRAINS WOMEN in Pharmacy and Dispensing, and can SUPPLY qualified Dispensers without charge. — Apply, PRINCIPALS, Gordon Hall, Drayton House, W.C.1. 'Phone Museum 3930.

Lady Dispenser (Hall), receptionist, seeks POST with Doctor, whole-time, part-time, or locum. Hospital experience with testimonials. London preferred.—SOUTHERN, 107, Highbury New Park, N.5.

Lady Dispenser - Secretary - Chauffeuse seeks POST (with Doctor preferred). Young, energetic, good experience and testimonials. Willing to help in family.—Address, No. 1517, B.M.A. House, Tavistock Square, W.C.1.

Lady Secretary or Receptionist, 35, seeks POST with Doctor, London. Shorthand, typing, bookkeeping. Accustomed to receiving patients. Knowledge of nursing. Free. Personal interview. References.—Address, No. 1536, B.M.A. House, Tavistock Sq., W.C.1.

Married woman, age 37, after ten years' responsible position voluntary work East End, excellent testimonials, seeks WHOLE-DAY OCCUPATION. Private Secretary, Medical Profession favoured.—Reply, "J. M. G.," 16, Ovington Street, S.W.3.

The Royal Army Medical Corps [illegible]eston Square, S.W. [illegible] supplies qualified [illegible] oratory Assistants, [illegible] Nurses, Mental and [illegible] Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers

Spare-time Bookkeeper. — Young gentleman, highly qualified, seeks OCCUPATION in the above capacity for evenings and week-ends. Previous experience in large Medical Practice. — Address, No. 1512, B.M.A. House, Tavistock Square, W.C.1.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE BADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted by M.D., F.R.C.S. (Eng.), with good hospital and surgical experience, PARTNERSHIP with Surgical scope in hospital town in South of England within 100 miles. Coast preferred. Panel no objection. Schools. House to rent. Share worth £1,000 required. Age 31.—Address, No. 1504, B.M.A. House, Tavistock Square, W.C.1.

A Woman Doctor requires a PARTNER at once.—Address, No. 1560, B.M.A. House, Tavistock Square, W.C.1.

Liverpool. — One-third Share, large panel and cash PRACTICE, for sale, 2 years' purchase. Suit young, energetic, and *steady man*; or six months' Assistantship with view entertained. Capital can be arranged. —No. 1530, B.M.A. House, Tavistock Sq., W.C.1.

M.D. requires Partnership in good-class South Country Practice towards end of year. Scope necessary. Present Partnership North. Excellent experience, energetic, 9 years qualified. Shall have to dispose own practice. No agents.—Address, No. 1208, B.M.A. House, Tavistock Square, W.C.1.

North Midlands. — Partnership. One-half share 1½ years' purchase in old-established Practice. Receipts £2,000 p.a. Large panel, very little midwifery or night work. Ample time for man wishing specialise. —No. 1408, B.M.A. House, Tavistock Sq., W.C.1.

Partner in a well-established firm of four, in a prosperous town within 35 miles of London, wishes to DISPOSE of his SHARE (one-sixth). Premium 1½ yrs.' purchase, cash. Average receipts over £10,000 per annum and increasing. Accountant's certificate available. Short preliminary Assistancy. House at moderate rental. — Address, No. 1519, B.M.A. House, Tavistock Square, W.C.1.

Partner wanted. — Third Share; panel nearly 2,900; private, small, but could be worked up. £1,000. Live in. Cash. —Address, No. 1506, B.M.A. House, Tavistock Square, W.C.1.

Partnership in good middle-class old-established Practice, London, S.W., rapidly increasing. One-third share producing about £1,800 at 2 years' purchase. Modern house available to rent in excel. locality and position. Exp., well qualified man required. —No. 1413, B.M.A. House, Tavistock Sq., W.C.1.

PRACTICES.

Wanted in London or suburbs, good-class PRACTICE. Minimum income £1,000. House or flat to rent if possible. Partnership with early succession considered.—Address, No. 1237, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Preferably near London or S. Coast, a sound General PRACTICE, with panel. Income about £1,200. Would like good house and garage on lease.—Address, No. 1501, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately in Southampton or district, a PRACTICE or PARTNERSHIP, with view early succession, income about £1,000, with scope, with or without panel, by Medical Man with over 12 years' experience in general practice. Ex H.P. and H.S. Some capital available.—Apply, 13, Cavendish Road, New Brighton, Cheshire.

Death Vacancy.—Chester.—Good-class Surgical PRACTICE. Large area covered. Appointments at three Hospitals. Great scope for [illegible] Surgeon. Roomy, to purchaser at £ 1522, B.M.A. Hou

Wanted. — Practice or Partnership, South Manchester or North Cheshire district. Income about £1,200/£1,500. —Address, No. 1526, B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Town or country. Good house. Income £1,000—£1,500. Strict confidence.—No. 1533, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by experienced Practitioner, WINTER PRACTICE in ITALY (Riviera or in large town). Income from £400 upwards. — Address, No. 1516, B.M.A. House, Tavistock Square, W.C.1.

For Disposal. — Old-established unopposed PRACTICE within few miles of South Coast. £750 p.a., and scope to £1,000. *Visits 3/6 to 10/6, med. extra. Panel* 283. Very little midy. Premium 1½ years. Easy terms of payment. Single man or married without family could live with Vendor or secure accomm. near by. Personally visited and recommended.—No. 8812, PERCIVAL TURNER, LTD., 4 and 5, Adam Street, Adelphi, Strand, W.C.2.

For Sale.—Old-established PRACTICE in the County of Durham. Receipts with appointments, £1,500 to £2,000 p.a. Large house, garden, garages; electric light. The house can be rented or purch. Prem. £2,000. —No. 1509, B.M.A. House, Tavistock Sq., W.C.1.

Hull.—Death Vacancy.—Opportunity occurs for M.R.C.P. to acquire well-established Consulting Physician's PRACTICE.—Apply, SHACKLES, DUNKERLY & BARTON, Solicitors, 7, Land of Green Ginger, Hull.

Lancashire.—Near Manchester.—Old-established large and increasing mixed PRACTICE. Average £3,000 p.a. (panel £1,100). One-third share or more now and later one-half share. Scope in several directions. Good house. Premium 1½ years. Vacant about July. Good introduction.—Address, No. 1528, B.M.A. House, Tavistock Square, W.C.1.

Lancs Town. — Old-established. *Vendor leaving England. Good house,* garage, garden, rapidly growing district. Receipts £1,200. Panel 900. House and Practice £2,200, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Lancs Town. — Old-established. Receipts £2,500. Panel 1,850. Excellent scope surgery. Appointment £120. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, E.—Cash Practice for *Disposal on very favourable terms.* Receipts last 12 months £900. Rent moderate, part sub-let. Suit lady or gent. Scope for panel if desired.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

London, S.E. (15 mins. Charing Cross).—Old-established middle and working-class PRACTICE. Receipts average £950 a year, panel 800. Large house and garden, rent £115, part sub-let. Premium £1,500. Good scope.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

London Suburb. — £2,000 p.a. good-class general PRACTICE, capable incr. Estab. 25 years. Small panel. Practically no night work. Excel. educational facilities. Partnership introduction. Prem. £3,500. Good house, with garden and garage. Rent £150 p.a. —No. 1507, B.M.A. House, Tavistock Sq., W.C.1.

Old-established Country Practice for disposal, South Midlands. Receipts over £500. Panel 400. Expenses very low.—Address, No. 1538, B.M.A. House, Tavistock Square, *W.C.1.*

X-Ray Practice. — For Sale owing to ill health. Receipts average £950. Low price for quick sale. Vendor holds honorary Hospital appointment.—Address, No. 354, B.M.A. House, Tavistock Square, W.C.1.

London, S.W.—Well-established Cash and Panel PRACTICE. Receipts over £2,500 p.a., panel over 2,000. Lock-up Surgery, rent £100. Premium moderate. — Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Manchester (residential district). —PRACTICE with small panel. Average £960. Good house, garden, and garage, on lease, or can be bought if desired. Moderate premium for quick sale.—Address, No. 1428, B.M.A. House, Tavistock Square, W.C.1.

Scotland.—Large Town.—Well-established PRACTICE. Receipts over £2,000 p.a., panel 1,816. Very good house, rent £78 p.a. Premium 1½ years' purchase, part payable by instalments.—Apply, PEACOCK & HADLEY, LTD., 19, Craven St., Strand, W.C.2.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C 2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

West Riding Town. — Old-established PRACTICE. *Average receipts* £1,725. Panel 1,070. Good house, built for Doctor, 7 years' lease to run.—Apply, 2605, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

HOUSES, CONSULTING ROOMS.

re Mrs. I. E. Stock, deceased.
By Order of the Beneficiary.
To Boarding House Proprietors, Doctors, Dentists, and Others.
THE HARLEY STREET OF BOURNEMOUTH.
BOURNEMOUTH WEST.
In a prominent position on the main Bournemouth to Poole Road, close to station, shops, and sea front.

The attractive pre-war Leasehold RESIDENCE, known as "MELITA," 21, *POOLE ROAD.*
The accommodation comprises: porch, lobby, hall, 3 reception rooms, complete domestic offices, 9 bedrooms, 2 bathrooms, w.c's., etc.
In addition there is a very large block of stabling, with living accommodation over, also very large garden, the whole forming a very attractive and compact property, with VACANT POSSESSION.
HANKINSON & SON, F.A.I., P.A.S.I., will offer the above for SALE by AUCTION (unless previously disposed of) at the CENTRAL HOTEL, BOURNEMOUTH, on TUESDAY, APRIL 14th, 1931, at 3 p.m.
Further particulars can be obtained from the Vendor's Solicitors, Messrs. WALTERS & Co., 9, New Square, Lincoln's Inn, London, W.C.2, or the Auctioneers, Messrs. HANKINSON & SON, The Square, Bournemouth; 8, Southbourne Grove, West Southbourne; and Camberley, Surrey.

BRACING KENT COAST.

(7 miles from Margate, 9 from Canterbury, 2½ from Birchington.)
Messrs. KNIGHT, FRANK & RUTLEY, in conjunction with Messrs. W. T. MILLS & CO., are *instructed to offer for Sale by Auction,* at the Royal Fountain Hotel, Canterbury, on Saturday, March 28th, 1931 (unless previously sold privately), the Freehold Property

ST. NICHOLAS LODGE,
near BIRCHINGTON-ON-SEA.

A Commodious MODERN RESIDENCE lately occupied as a FIRST-CLASS PREPARATORY SCHOOL, or otherwise admirably suitable for CONVALESCENT, NURSING, or SEASIDE HOME, fitted and equipped with modern appointments and having accommodation for 40/50 boys with Masters' quarters, also gymnasium, sanatorium, workshops, and garage. Electric lighting, company's water, gas. Gardens, grounds and playing fields of six acres.
Auctioneers: Messrs. KNIGHT, FRANK AND RUTLEY, *Ashford, Kent, and 20, Hanover Sq.,* W.1, and Messrs. W. T. MILLS & Co., 288, High Road, Streatham, S.W.16.

East Ham. — Capital Freehold Corner HOUSE, for sale or let on lease. Exc. opport. for Medical Practitioner. 4 bed., 2 recep., bathroom and lav., kitchen, scullery, and offices; h.w. install.; side gates and garage; gas and e.l.; teleph.—BUILDER, 3, Gooseley Lane, East Ham, E.6. Teleph.: Grangewood 0145.

Harley Street.—Large Consulting ROOM, handsome Waiting Room. Address in telephone directory, but no plate. Letters and 'phone calls forwarded and appts. made. Tues. 2 to 6, Wed. 10 to 1 (£40—£50 per annum. Other times might be arranged.—No. 1514, B.M.A. House, Tavistock Sq., W.C.1.

Three Rooms, intercommunicating, suitable for Doctor's reception, waiting and consulting rooms; off Piccadilly, close to Mayfair, Ritz, and Berkeley Hotels. Can be seen any time during day by appointment.—No. 1206, B.M.A. House, Tavistock Sq., W.C.1.

M.D., engaged Pathology and Research, seeks ACCOMMODATION in London Doctor's house, Central or West End.—Address, No. 1525, B.M.A. House, Tavistock Square, W.C.1.

Consulting Room (adjoining ... Harley Street), together with use of comprehensive range of Medico-Electrical Appliances, offered on Tuesday, Thursday, and Saturday, to ... address, No. 1527, ... are, W.C.1.

(... to Let.— ... ct.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & Co., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Devonshire Place. — Part-time CONSULTING ROOM, without door-plate, to Let. Use of waiting room and telephone. Well-appointed house. Excellent service. Garage available. — Address, No. 1409, B.M.A. House, Tavistock Square, W.C.1.

Doctor, country Practice West of England, offers SEPARATE RESIDENCE at low rental to retired Practitioner willing to do OCCASIONAL WORK. Other locum work is also available in district.—Address, No. 1510, B.M.A. House, Tavistock Square, W.C.1.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE
to MEMBERS of the
MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.
JACKET & VEST (In black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS ... £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.
Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.
Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.
Governing Director: HARRY HALL.
"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.
Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX
As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.
HARDY & HARDY
TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phon[illegible]

Sai[illegible] ... hundr[illegible] their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

Medical Surgical Sundries Ltd.
Supply Instruments, etc. "Essell" Inhaling Apparatus, price £12 10s (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom:* 97, Swinderby Road, Wembley.

For Sale.-Mercury Vapour Ultra-VIOLET RAY LAMP. Adapted for A/C. Hanging model. British make. Any reasonable offer considered.—Address, No. 1533, B.M.A. House, Tavistock Square, W.C.1.

East Ham Memorial Hospital,
Shrewsbury Road, London, E.7.
(100 Beds.)

Applications are invited for the post of ... ial Departments and ... r six months com... at the rate of £120 per annum, with board, residence, and laundry.
Applications, stating age, experience, and full particulars, together with copies of testimonials, should be forwarded to the undersigned not later than March 16th.
REGINALD PERRY, Secretary.

East Ham Memorial Hospital,
Shrewsbury Road, London, E.7.
(100 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN for six months commencing April 1st. Salary at the rate of £150 per annum, with board, residence, and laundry.
Applications, stating age, experience, and full particulars, together with copies of testimonials, should be forwarded to the undersigned not later than March 16th.
REGINALD PERRY, Secretary.

East Ham Memorial Hospital,
E.7. (100 Beds.)

The Committee of Management invite applications for the post of HONORARY OPHTHALMIC SURGEON. Candidates must be Fellows of the Royal College of Surgeons and not engaged in general practice.
Applications, in triplicate, should reach the undersigned on or before March 9th.
REGINALD PERRY, Secretary.

Derbyshire Hospital for Women,
DERBY. (54 Beds.)

Applications are invited for the post of HOUSE SURGEON. Salary £150 per annum, with apartments, board, etc. The appointment is tenable for six months, with a possibility of extension for a further period of six months.
Applications, with copies of not more than three testimonials, to be sent to the undersigned not later than March 21st; duties to commence March 30th.
W. T. COCKER, Secretary.

London Hospital, E.1.
There is a vacancy for the post of ASSISTANT OBSTETRIC and GYNAECOLOGICAL SURGEON. Candidates must be Fellows of the Royal College of Surgeons, England, or Masters of Surgery of a recognized University
Applications, with testimonials, should be sent to the House Governor, and should arrive not later than Saturday, March 14th.
ARTHUR G. ELLIOTT,
House Governor.

Jewish Maternity Hospital,
Underwood Street, E.1.

... ...ed for the post of ...FICER. Duties com...period of six months. ...0 per annum, ... with copies of three ...e sent to the under...rch 10th.
...RICE MODEL, Secretary.

Manchester and District Radium INSTITUTE, Nelson St., MANCHESTER.

Required Medical Man, thoroughly experienced in radium work, to act as DIRECTOR of The Radium Institute. Terms and conditions to be obtained from the Hon. Secretary.
Applications to be received not later than March 14th.

Manchester Royal Eye Hospital.
JUNIOR HOUSE SURGEON required. Salary £120 per annum, with residence, board, etc.
Applications (with copies of testimonials), endorsed "House Surgeon," to be addressed to the Chairman of the Board of Management not later than March 14th.
H. R. NORTH, Secretary.

Royal Surrey County Hospital,
GUILDFORD. (180 Beds.)

Wanted, HOUSE SURGEON. Salary £150 per annum, with board, residence, and laundry.
Applications, stating essential particulars, with copies of testimonials, to be sent to Secretary-Superintendent not later than March 7th.

Deaconess Hospital, Edinburgh.
—Wanted, SENIOR RESIDENT HOUSE PHYSICIAN and SURGEON for six months as from April 1st. Must be Graduate. Honorarium paid. Applications, with testimonials, to Mr. G. MCALPINE, 22, Queen Street, Edinburgh.

East Suffolk and Ipswich HOSPITAL.
(265 Beds—7 Residents.)

Wanted immediately, TWO HOUSE SURGEONS (male, British). One with experience in Ear, Throat, and Nose work. Salary at the rate of £120 per annum. Board, residence, and laundry. Previous experience essential.
Applications, stating age, qualifications, and experience, and accompanied by three recent testimonials, to be sent to the undersigned.
ARTHUR GRIFFITHS,
The Hospital, Secretary.
Ipswich.

The Royal Gwent Hospital,
NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER, to act as House Surgeon to Out-patients and as House Physician.
Salary £135, with board, lodging, and laundry. Resident Medical Staff 5. Eligible for promotion. Large Out-patient Department.
Applications, stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.
Applications from ladies not entertained.
J. K. MILLWARD,
Secretary-Superintendent.
March 3rd, 1931.

Scarborough Hospital and DISPENSARY. (70 Beds.)

Wanted May 1st, Two HOUSE SURGEONS (male or female). Duties include Home Visiting. Salary £126 per annum, with board, residence, etc. Appointment for six months.
Applications, stating age, with copies of testimonials and essential particulars, to be sent to the undersigned by March 25th, from whom further particulars may be obtained.
J. DOUGLAS MUNBY,
Hon. Secretary.

Liverpool Stanley Hospital,
STANLEY ROAD, LIVERPOOL.

... ...ril 1st next ... Two Male ... ale HOUSE ... ry in each ... with board, laundry, etc. Candidates must be on the Medical Register, and submit their applications, with copies of three recent testimonials, addressed to the undersigned, by March 15th.
E. W. OSBORN, Secretary.

Woodside Nerve Hospital,
Woodside Avenue, Muswell Hill, London, N.

RESIDENT HOUSE PHYSICIAN wanted immediately.
Candidates must be duly registered, but no specialised experience necessary.
Honorarium at the rate of £100 per annum, with board, residence, and laundry.
Applications, stating age and qualifications, accompanied by copies of two recent testimonials, to be forwarded to the Physician in charge.

Peace Memorial Hospital,
WATFORD, HERTS.

RESIDENT MEDICAL OFFICER (female), ... for six months, £150 I... stating eligible ... st three age a... not later recent ... nvassing March ... ch 24th permiti... next.

Coventry and Warwickshire HOSPITAL. (307 Beds.)

RESIDENT HOUSE SURGEON (male) wanted. Salary £125 per annum, with board, laundry, and attendance provided. Candidates must be duly qualified and registered.
Applications, stating age, and enclosing copies of recent testimonials, should be sent to the undersigned on or before March 9th.
(Miss) R. HOOPER, Secretary.

The Middlesex Hospital,
Mortimer Street, W.1.

ANAESTHETIST required for the Dental Department (3 mornings weekly). Honorarium 10/6 per session.
Applications, with copies of not more than three testimonials, to be sent to the Secretary-Superintendent by Saturday, March 14th.

Applications for the post of ... ANAESTHETIST ... the MARIE CURIE ... Avenue, N.W.3, are ... Medical Women. State-ments of past experience and of careers of applicants, with copies of recent testimonials, to be sent to the Secretary before March 17th.

Administrative County of LONDON.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the undermentioned position. The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent, and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council. The successful candidate will be required to live in the Hospital.

ST. ALFEGE'S HOSPITAL, 48, Vanbrugh Hill, Greenwich, S.E.10.

ASSISTANT MEDICAL OFFICER. — Salary £350 a year, together with board, lodging, and washing. Candidates must have held a resident appointment in a General Hospital for at least six months. Preference will be given to a candidate with experience of Surgical work. There is no accommodation for a married man.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by March 20th. Canvassing disqualifies. Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the Hospital.

MONTAGU H. COX,
Clerk of the London County Council.

Administrative County of LONDON.

The LONDON COUNTY COUNCIL invites applications from registered Medical Practitioners for a temporary position of ASSISTANT AURIST (part-time) in the Public Health Department of the London County Council. The position is in connection with the Council's School Medical Service, and will be for four sessions a week (each session 2½ hours) during school terms. Remuneration at present 34s. 6d. a session. Applicants must hold the M.S. degree of a British University or the F.R.C.S. qualification of England Scotland, or Ireland, and experience in Ionisation is essential.

Candidates must be natural born or naturalised British subjects not more than 45 years of age.

Applications (in letter form), stating age, war service (if any), qualifications, and experience, should be addressed to the School Medical Officer (S.D.5), The County Hall, Westminster Bridge S.E.1. Copies of testimonials should be forwarded.

Last date for the receipt of applications March 18th.

MONTAGU H. COX,
Clerk of the London County Council.

County of London.

The LONDON COUNTY COUNCIL invites applications for appointment as JUNIOR ASSISTANT MEDICAL OFFICER (man) in the Mental Hospital Service. Candidates must be under 55 years of age, and be registered to practise both in Medicine and Surgery in England. Commencing salary (subject to review) £500 a year. No emoluments. Charges for board, lodging, etc. (at present £130 a year) if required to l under
Asylums Offic 309.
Application culars,
obtainable fr spitals
Department, Row,
S.W.1. Com ble by
March 31st.

Clerk of the London County Council.

County Borough of Croydon.

SENIOR DENTAL SURGEON.

Applications are invited from Male Licentiates in Dental Surgery for the post of Whole-time Senior Dental Surgeon. Salary £600, rising by £25 per annum to £700 p.a.

The person appointed will be in charge of the Dental arrangements under the supervision and control of the School Medical Officer. The duties will consist chiefly in the inspection, re-inspection, and treatment of children attending the elementary schools of the Borough, but will also include dental work under the Council's and Child Welfare and Tuberculosis Schemes. The person appointed will also be expected to give instruction in dental hygiene as and where required. There are two whole-time Assistant Dental Surgeons.

Previous experience in the dental treatment of children is essential.

Applications, on a form to be obtained from the undersigned, accompanied by copies of not more than three testimonials, must be received by me not later than 11 a.m. on Monday, March 16th, endorsed "Senior Dental Surgeon."

Town Hall, Croydon. JOHN M. NEWNHAM, Town Clerk.
February 25th, 1931.

The Rural District Council of CHESTERFIELD.

MEDICAL OFFICER OF HEALTH.

Applications are invited from registered Medical Practitioners for the above appointment.

Candidates must possess a Diploma in Public Health and must have had administrative experience in Public Health.

The area of the district is 68,158 acres and the estimated population 85,000, but one of the terms of the appointment requires the gentleman appointed to accept the appointment of Medical Officer of Health in the Clay Cross Urban, Dronfield Urban, and Norton Rural Districts, on a vacancy arising in those Districts.

The salary will be £900 per annum, plus a travelling allowance of £70 per annum.

The appointment, which is a designated post under the Local Government and Other Officers Superannuation Act, 1922, will be made subject to the approval of the Minister of Health.

The gentleman appointed will be required to perform all the duties of a Medical Officer of Health as defined by Orders made from time to time by the Minister of Health, to devote his whole time to the duties of his office, not to engage in private practice, and to reside at a place approved of by the Council.

Applications, stating age, qualifications, and experience, together with copies of not more than four recent testimonials, which will not be returned, should reach the undersigned not later than March 17th.

Public Assistance Offices, Newbold Rd., Chesterfield. F. W. BROOM, Clerk to the Council.
February 28th, 1931.

Corporation of London.

PUBLIC HEALTH DEPARTMENT.

THE PUBLIC HEALTH (LONDON) ACT, 1891.

COMPULSORY NOTIFICATION OF CHICKEN-POX.

Notice is herby given that the Mayor and Commonalty and Citizens of the City of London, as the Sanitary Authority for the City of London, do hereby, by virtue of the powers vested in them by Section 56 of the Public Health (London) Act, 1891, and with the approval of the Minister of Health, order that the provisions of the said Act, with respect to infectious disease, shall apply in the City of London to the disease known as Chicken-pox, in addition to the diseases specifically mentioned in Section 55 of the said Act (or any Order extending or amending the same), and that for a period of twelve months from the 18th day of March, 1931, Chicken-pox shall be a compulsorily notifiable disease within the City of London.

Guildhall, E.C.2. BELL.
February 26th, 1931.

Urban District Council of HENDON.

APPOINTMENT OF DENTIST.

Applications are invited from qualified registered Dental Surgeons for the above appointment.

Candidates must be not more than 40 years of age and have had previous experience in a similar capacity.

The salary will commence at £550 per annum, rising by annual increments of £25 to a maximum of £650 per annum. The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications, stating age, qualifications, and experience (especially with regard to children), together with copies of not more than three recent testimonials, and a copy of applicant's birth certificate, to be sent to the undersigned not later than March 17th.

Canvassing, either directly or indirectly, will be deemed a
Dated this
Town Hall,
Hendon, ll.

Royal Hospital, Richmond, SURREY.

JUNIOR HOUSE SURGEON (male) required to take up duties April 1st. Salary at the rate of £100 per annum, with board, furnished apartments, and washing. Candidates must be fully qualified, registered, and single. The appointment will be for six months, after which the successful candidate will be eligible for the senior post.

Applications, stating age, experience, and copies of three recent testimonials, must be forwarded to me not later than March 18th.

RICHARD ALLEN, Secretary.

West Norfolk and King's Lynn GENERAL HOSPITAL. (75 Beds.)

The Board of Management of the above Hospital invite applications for the post of SENIOR HOUSE SURGEON (male or female). Duty to commence April 22nd. Salary £175 per annum. Sixty Surgical beds. Over 1,900 operations in 1930.

Also JUNIOR HOUSE SURGEON required (male or female). Duty to commence March 25th. Salary £125 per annum. To have charge of Medical and Ophthalmic beds.

Preference given to candidates with previous experience. Appointments are for six months in first instance.

Applications, stating experience and full particulars, together with copies of three recent testimonials, to be received not later than March 16th, and sent to

JOSEPH E. SEARJEANT,
House Governor & Secretary.
West Norfolk and King's Lynn General Hospital. March 3rd, 1931.

City and County of Newcastle-UPON-TYNE.

NEWCASTLE GENERAL HOSPITAL.

HOUSE PHYSICIAN AND HOUSE SURGEON (Male or Female).

Applications are invited for the above posts.

The salary in respect of each of the appointments, which are tenable for six months, is at the rate of £100 per annum, with board, lodging, etc.

Applications, stating age and qualifications, together with copies of not more than three recent testimonials, to be addressed to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne.

March 3rd, 1931.

Harrow Hospital, HARROW-ON-THE-HILL, MIDDLESEX.

RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Resident Medical Officer (male). The appointment is for a period of six months from April 1st, after which period applications will be considered for re-appointment for further periods not exceeding two years in all.

Salary at the rate of 140 guineas per annum, with board, residence, and washing.

Candidates, who must be duly registered Medical Practitioners and have held a previous house appointment, will not be expected to call on the Honorary Medical Staff, but should send their applications, with copies of three recent testimonials, to me at the Hospital not later than Friday, March 20th.

SYDNEY GARBUTT, Secretary.

Royal Free Hospital, Gray's Inn Road, W.C.1.

Applications are invited for the post of FIRST ASSISTANT in the Children's Department, £100 per annum honorarium. Candidates, who must be duly qualified registered Medical Practitioners and have had experience of Children's Diseases, should submit applications, stating age, and accompanied by copies of three testimonials, to the undersigned on or before March 16th, from whom further information may be obtained. Preference will be given to former Students of the London (R.F.H.) School of Medicine for Women.

REGINALD R. GARRATT,
Secretary.

St. Mary's Hospitals, Manchester

JUNIOR ASSISTANT MEDICAL OFFICER for the Children's Out-patient Department (non-resident). Salary at the rate of £50 per annum. The appointment is for a period of six months commencing March 23rd, and is suitable for Graduate work for higher qualifications. Applications, with copies of three testimonials, to be sent to the undersigned on or before March 11th.

R. RATCLIFFE, Secretary.

Newark General Hospital (50 Beds).

Wanted, a fully qualified RESIDENT HOUSE SURGEON (male or female), unmarried. Salary £175 per annum, with board, residence, and laundry. Appointment for six or twelve months if mutually desired. Applications, with copy testimonials, to be sent to W. T. CRAMPTON, Secretary, 27, Kirk Gate, Newark, Notts.

House Physician wanted for PERTH INFIRMARY (male).

Salary £120, with board and residence. Candidates must have a knowledge of Midwifery. Commence duty April 1st. Applications, with testimonials, to be lodged with Mr. J. C. CAMPBON, Solicitor, 2, Charlotte Street, Perth, not later than March 23rd.

St. Peter's Hospital for Stone, ETC.,

Henrietta Street, Covent Garden, W.C.2.

The office of HOUSE SURGEON will fall vacant on April 1st, and applications are invited from male candidates with previous experience in a similar office at a General Hospital. The salary offered is at the rate of £75 per annum, with board, lodging, and laundry.

At the expiration of six months' term of office, and subject to the recommendation of the Medical Committee, the House Surgeon is appointed Resident Surgical Officer for a further similar period. Candidates should therefore be prepared, if successful, to remain at the Hospital for twelve months in all.

Applications, accompanied by copies of testimonials, will be received by the undersigned not later than the first post on Wednesday, March 11th.

BEECHEY ROGERS, Secretary.

Seamen's Hospital Society,

Greenwich.

The Committee invite candidates for the appointment of HOUSE PHYSICIAN at the HOSPITAL FOR TROPICAL DISEASES, Endsleigh Gardens, W.C. Candidates must be male, doubly qualified and registered. The elected candidate will be required to take up duty on April 1st. Salary at the rate of £150 per annum, with board, residence, and washing. The appointment will be for six months.

Applications, stating age, together with copies of not more than three recent testimonials, to be sent in on or before March 10th to the undersigned, from whom further particulars can be obtained.

Greenwich. R. E. V. BAX,
February 23rd, 1931. Secretary.

Seamen's Hospital Society.

KING GEORGE'S SANATORIUM FOR SAILORS, LIPHOOK, HANTS, for the Treatment of Pulmonary and Non-pulmonary Tuberculosis.

Applications are invited for the post of ASSISTANT MEDICAL OFFICER. Commencing salary at the rate of £200 per annum, with quarters and board. The appointment is for six months in the first instance. There is no accommodation for a married man.

Applications, with copies of three recent testimonials, to be sent in by March 17th to the undersigned.

Seamen's Hospital, R. E. V. BAX,
Greenwich, S.E.10. Secretary.
February 23rd, 1931.

Seamen's Hospital Society,

Greenwich.

HOUSE PHYSICIAN and HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich, for six months from April 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male.

Applications, with copies of three testimonials, to be sent in by March 10th to the undersigned.

Greenwich. R. E. V. BAX,
February 23rd, 1931. Secretary.

Lowestoft and North Suffolk HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required at once. Salary £120 per annum, with board, residence, and laundry [illegible] with copies of three [illegible] sent to the Honorary [illegible]

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,
19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected. LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,

The oldest Medical Agency in Manchester,
6, BROWN STREET.

Telegraphic address: "STUDENT, MANCHESTER."
Telephone: 6952 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,

(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.

Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

London, S.E. — Woman's Practice. £550 or more. Panel 148. Fees 3/6 to 21/-. Small flat, with chance of additional accommodation.—No. 8811.

S. W. Scotland.—Near Coast.—£1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

London, S.E., near River. — Over £1,200. Half Partnership with succession in 12 months. 35 years in present hands. Dispensing, industrial. No midwifery. Panel £560. Bachelor could live in. £1,200, £800 down, for half.—No. 8806.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

S. W. County. — Country. — £1,000. Panel brings £240. Visits 3/6—10/6. Large house and garden. £60 p.a. £1,500.—No. 8800.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 3/6 to 21/-. No dispensing. Small panel.—No. 8799.

West Riding.—£1,030 p.a., increasing. Panel 400. Appts. £45. Fees 3/6 to 10/6 and up. Midy. 3 to 7 gns. Small modern house to rent or on mortgage.—No. 8797.

S. Midland. — Country. — £480 and scope to young man. Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. Premium only £300.—No. 8796.

Yorks.—Death Vacancy.—£1,000 or more Panel 950. Not much midy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. £600 down, bal. deferred.—No. 8795.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No midy. Fees 3/6 to 10/6. House to rent. —No. 8791.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

London Suburb, S.W. — About £1,100. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 3/6 up. House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London Suburb, S.W. — £2,800. Old-estab. General Practice. Half share. Panel 1,250. Detached house (7 bed.) and garden. Exper. of Eye work essen.—No. 8768.

Scotland, N. — £864, easily worked. Panel and appts. £614. Visits 3/6 up. Detached house, 3 recep., 5 bed., etc. Rent £25. Prem. £800, incl. furn.—No. 8766.

Favourite South Coast Resort.—Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

S. Midlands.—Average £756 p.a. Town of 45,000. Small panel. Fees 3/6 to £1 1s. Large house and garden. Smaller ones available.—No. 8750.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES

MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)

Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER*: 176, *Oxford Rd.*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3162 Ardwick.
Dub., 531 [illegible] 7 Douglas
Tactear, Glasgow.
Tactear, Manchester. Tactear, Dublin.

THE

NEW MENTAL NURSES CO-OPERATION,

139, Edgware Road, Marble Arch, W.

Specially trained Nurses for Mental and Nerve cases. (All Nurses are insured under the Employers Liability Act, 1906.) Apply the Supt.
Telegrams: *Telephone*:
"Psyconurse, Padd., Lond." No. 6105 Padd.

THE CENTURY INSURANCE COMPANY LTD.,

7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS TO PURCHASE A PRACTICE OR PARTNERSHIP

NO GUARANTORS REQUIRED. REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

[illegible] OUNTRY PRACTICE.—Beautiful [illegible] ipts 1930—£1,600. Panel 800. [illegible] 5 p.a. Excellent house, 2 recep- [illegible] large garden. Electric light. (to include drugs, fittings, etc.). —No. 242.

YORKSHIRE (W.R.).—PARTNERSHIP in Industrial Practice, £2,500 p.a. Large panel. One-third share offered after preliminary assistantship at £400 p.a., with house rent free.—No. 243.

NEAR NORTH-EAST COAST.—SEASIDE RESORT.—Country PRACTICE. —Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms, Garage and large garden. Rent £55 p.a. Premium £600 for quick sale. —No. 220.

MANCHESTER. — Old-established PRACTICE. Average cash receipts £2,361 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 63.

LARGE LANCS TOWN.—Sound old-established PRACTICE. Cash receipts 1930, £1,581. Panel 1,300. Appointment (transferable) £175. Good house 2 reception, 4 bedrooms. Garage and garden. Premium—Practice and house—£2,500, part by arrangement.—No. 235.

CHESHIRE. — COUNTRY TOWN. — Old-established PRACTICE. Cash receipts 1930, £1,098. Panel 713. Local Hospital. Excellent house, 2 reception, 5 bedrooms. Garage, garden, and orchard. Rent £60 per annum. Premium 1½ years' purchase.—No. 241.

LIVERPOOL (near).—PARTNERSHIP in excellent middle-class Practice. Average cash receipts £2,194 p.a. Panel over 1,000. Good scope. Nice house, 2 reception, 4 bedrooms. Garage and garden. Rent £70 p.a. Premium 1/2 share 1½ years' purchase. —No. 228.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No 234.

DEATH VACANCY.—Cheshire Town, near Manchester. Average cash receipts £838 p.a. Panel 800. Scope. Good house, 2 reception, 4 bedrooms. Garage and garden. Rent £52 p.a. Premium £700.—No. 240.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Rent £90 p.a. Premium £1,500.—No. 222.

NORTH WALES.—RAPIDLY GROWING SEASIDE RESORT — PRACTICE. Average cash receipts £627 p.a Panel £123. Excellent modern house (freehold) to rent, 2 reception. 6 bedrooms. Garage and garden. Premium — Best offer for quick sale. — No. 223.

MANCHESTER.—INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase — No. 190.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

ISLE OF MAN —SEASIDE TOWN — Old-established PRACTICE Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium — Practice and house — any reasonable offer.—No. 173.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

NORTH-WEST COAST. — SEASIDE RESORT — Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 550. Excellent freehold house in good position facing Sea, 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

LIVERPOOL (Near)—Old-established middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

ISLE OF MAN.—SEASIDE RESORT.—PRACTICE. Cash receipts 1930, £861. Panel. Excellent house to rent, 3 reception, 7 bedrooms. Garage and garden. Prem. £700 (or near offer).—No. 225.

LANCS. TOWN.—PRACTICE. Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE. Average cash receipts £745 p.a. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 197.

LINCOLNSHIRE.—COUNTRY PRACTICE Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a Premium—Practice—£1,600.—No. 195.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Prem.—Practice—1½ yrs.' pur.—No. 194.

WANTED IMMEDIATELY —INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 / 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the **British Medical Bureau** is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the **British Medical Bureau.** Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the **British Medical Bureau** to ensure that only the most **Trustworthy and Reliable** Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the **British Medical Bureau.** A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The **British Medical Bureau** has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. Full particulars sent free.

1 SOUTH OF ENGLAND.—Seaport Town. Non-panel PRACTICE of over £1,900 p.a. Suitable flat to rent. Premium £1,500.

2 MIDDLESEX.—Partnership in good residential outlying suburban district. Very attractive detached house (6 bed and dressing rooms) in own grounds, with garage and good garden, to rent. Cottage Hospital. Share worth £1,020 p.a. at 2 years' purchase.

3 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

4 S. DEVON.—Country Practice in beautifully situated village (elevation 500 feet) easy distance of coast. Receipts about £800. Panel 430. House (4 bedrooms, bathroom, etc.), garage, garden, and paddock, to rent Salmon and trout fishing. Cottage Hospital. Premium 1½ years' purchase.

5 S. AFRICA.—Easily worked non-dispensing PRACTICE in large and important Coastal Town in Cape Province. Receipts last year £1,600. Pleasant house overlooking the sea to rent. Good Hospital, etc. Premium £1,800.

6 W. MIDLANDS. — Unopposed Country PRACTICE over £600 p.a., six miles from county town. Panel over 300. House (5 bedrooms), with garden, orchard, etc., to rent. Premium 1 year's purchase.

7 ESSEX.—Easily worked Practice in thickly populated outlying suburban district. Receipts about £1,600 p.a., including about £900 from the panel. Good shop-fronted residence to rent. Premium £3,200, cash.

8 SURREY.—Practice averaging £900 p.a. in attractive residential country district. Panel 300. House (6 bedrooms), garden one and a half acres, garage, to rent on lease. Premium £1,700

9 LONDON, N.—Practice (held by Medical Woman) in populous working-class district. Receipts £1,130 p.a., including panel over 1,300. Well-situated Surgery premises on busy main road for sale, also private residence to be purchased, if required. Great scope. Premium 1½ years' purchase.

10 S. COAST. — Partnership in Practice between £1,600 £2,000 p.a. in fashionable watering-place. Panel over 900. Partner should be young, with knowledge of minor Surgery. Premium one half share 2 years' purchase.

11 LONDON, W. — Middle-class Practice of over £800 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,100.

12 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

13 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

14 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). Premium £550.

15 WEST SCOTLAND. — Practice (held by Medical Woman) in small town with ample scope. Midwifery essential. Panel 600. Last year's receipts over £700. Modern villa. Premium—house and Practice—£1,600.

16 DEATH VACANCY.—ESSEX.—Practice in outlying suburban district. Receipts average nearly £1,000 p.a. (including £300 p.a. from panel). Well-situated house (5 bedrooms) in own grounds, with good garden and garage, for sale.

17 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., to rent. Golf. Premium £1,000.

18 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

19 S.W. OF ENGLAND. — Third Partner required in Practice, over £5,600 p.a., in small Industrial Town. Panel 4,100. Suitable house to purchase. Excellent scope for Surgery. One-sixth share at first at 2 years' purchase. Preliminary Assistantship.

20 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

21 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair 1782 1783

Practices and Partnerships for Disposal (continued).

22 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a. at 1½ years' pur.

23 SCOTLAND. — Nucleus of Consulting Practice, with appointments, together worth about £300 p.a., in University City. House situate in high-class residential quarter. Premium (house and Practice) £1,750.

24 ITALY. — Partnership in easily worked, good-class Practice of £1,400 p.a. in world-renowned Mediterranean Sea Coast Town. Established over fifty years. Fees chiefly 21/- (permanent residents less). Vendor purposes retiring from general practice in the near future, and his charmingly situated apartment would be available if wanted. No midwifery. No language difficulty. Premium 1½ years' purchase. Vendor well known to Bureau.

25 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

26 LIVERPOOL.—Middle-class non-dispensing PRACTICE of nearly £1,200 p.a. in residential part. Small panel. Good house to rent. Premium 1½ years' purchase.

27 CHANNEL ISLANDS.—Practice of nearly £1,900 p.a. Good house (6 bedrooms, 4 attics), with large garden, for sale. Excellent climate.

28 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

29 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwifery. Six-roomed house to rent. Premium £800, to include drugs, etc.

30 ESSEX.—Practice averaging £370 p.a. in well-populated outlying suburban district. Panel 225. Double-fronted house (4 bedrooms), with nice garden, for sale. Good scope for young energetic man. Premium £450.

31 ISLE OF WIGHT. — Country Practice averaging £750 p.a. Panel over 380. Plenty of sport. Premium 1½ years' purchase.

32 BRITISH WEST INDIES. — X-ray and General PRACTICE in one of the Principal Towns. Receipts about £500 per month. Premium, to include X-ray installation, etc., £700.

33 S. OF ENGLAND. — Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one-fourth share, £1,750. Preliminary Assistantship.

34 YORKSHIRE (N.R.). — Assistantship with view to Partnership in good-class Country Practice. Fees 5/- to £1 1s. Share worth about £750 p.a., with considerable scope. Cottage Hospital.

35 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

36 WITHIN 50 MILES OF LONDON.— PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate County Town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P appointments. Preliminary Assistantship.

37 S. DEVON. — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House, containing 5/6 bedrooms, for sale. Prem. one-half share £1,320, include drugs, etc. Work very light.

38 S. MIDLANDS.—Practice averaging over £1,200 p.a in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

39 N. DEVON.—Country Practice about £1,000 p.a. in attractive Agricultural and Sporting District. Panel 330. House (7 bed and dressing rooms and attics), garage, and about half an acre of garden, to rent. Well-equipped Hospital. Premium £1,500.

40 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

41 HIGH-CLASS NURSING HOME (held by Medical Man) in delightful Country District (500 ft. above sea-level) within 35 miles of London. Receipts over £5,000 p.a. Net profits between £1,000/£1,200 p.a. Beautiful house, with extensive grounds, etc., to rent. Premium for goodwill £1,500.

42 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice in residential town and Health Resort. Panel 800. After preliminary Assistantship, share gradually increasing to one-half (worth about £1,600 p.a.) at 2 yrs.' purchase.

43 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

44 NEW ZEALAND.—Practice of £1,500 p.a. in Country Township in North Island. Visits range from 10/6 to £3 13s. 6d. Well-situated house (4 bedrooms, bathroom, etc.), and half acre of garden, for sale. Good private Hospital, with scope for Surgery. Premium £1,250.

45 ISLE OF MAN.—Practice in small watering-place. Receipts 1930, £861. Double-fronted house in best road (7 bedrooms, etc.), garage and large garden, for sale. Educational facilities. Excellent scope. Premium £700.

46 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

47 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

48 S. COAST.—Partnership after preliminary Assistantship in well-established Practice in Seaside Resort. Share worth £1,000 p.a. to suitable man after six months. Premium 2 years' purchase. Considerable scope and excellent opportunity for young man.

49 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

50 LONDON, N.—Cash and Panel Practice of £1,500 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

51 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

52 KENSINGTON. — Small good-class non-dispensing PRACTICE of about £450 p.a. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

53 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

54 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

55 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

"*MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS*" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

HOME COUNTIES (North).—PARTNERSHIP after Preliminary Assistantship, with view to succession, in old-established mixed Practice. Receipts nearly £1,800. Panel 1,500. Fees 2/6 up. Excellent scope. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share.

SURREY.—PARTNERSHIP in busy town in close proximity to London. Receipts approximately £1,000 p.a. (increasing rapidly). Panel nearly 1,000. Premium for half share £1,500.

KENT.—Within easy reach of London. — Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Premium £1,300. Excellent scope for energetic man.

BELGRAVIA. — Well-situated non-panel PRACTICE (with scope for panel if desired) in good thoroughfare. House for sale or would be rented. Receipts approximately £1,000 p.a. Premium 1½ years' purchase, cash.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three Hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640 or near offer. Partnership considered.

MIDDLESEX (W.). — Middle and working-class PRACTICE in rapidly growing residential locality. Fees 5/- up. House (9 rooms), freehold property of the Vendor. Garden, garage, etc. Receipts nearly £800. Panel 300. Scope for surgery. Cottage Hospital. Premium for Practice £1,100. House £1,700, mortgage to remain.

BLACKPOOL (Near).—Well-established middle and working-class PRACTICE. Suitable 8-roomed house available, with garden, garage, etc. Receipts nearly £1,200. Panel (about) 250. Premium for house and Practice £3,250.

BERKS.—PARTNERSHIP.—Country Town Practice in sporting district. Receipts average nearly £1,150. Panel nearly 600. Fees 2/6 up. Short preliminary Assistantship. 1/3 to 1/2 share for disposal at 1¾ years' purchase. Suitable to experienced man, British, aged 27 upwards.

SURREY (near Windsor). — Well-established middle-class PRACTICE. Double-fronted detached house, with charming garden, to rent on lease at £120 p.a., or may be purchased freehold. Receipts over £700 p.a. Panel 220. Fees 2/6 up. Cottage Hospital. Good social life. Good schools. Premium for Practice £900.

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220, growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £300.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approximately £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

LIVERPOOL (near).—Mixed G.P.—Medium-sized house, with large garden. Branch Surgery. Receipts £2,500. Panel 2,600. Fees 2/6 up. Scope for Surgery if desired. Premium 1½ years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. NORTH OF ENGLAND. — Panel, Private, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appts. £350. Good house to rent. Considerable scope for energetic man.
2. MANCHESTER (Suburb).—Lock-up Surgery. Industrial PRACTICE. Receipts £350. Panel 600, and increasing. Excellent scope.
3. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing [illegible] ppt. £30 p.a., [illegible] age, and all
5. [illegible] PRACTICE [illegible] town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts average £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.
7. LANCASHIRE. [illegible] Industrial PRACTICE. Receipts £1,[illegible]. Panel [illegible], and increasing. Appointments worth about £95. Good house to rent.
8. MIDLANDS. — COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

THE WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)

PHOENIX CHAMBERS, 22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS. PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. SOUTH DEVON. — PARTNERSHIP. — Half share in old-estab. Country PRACTICE, ret. over £1,400 p.a. Good house for sale, other arrangem'ts poss. All sports, nr. sea. Scope.
2. SOUTH WALES. — Large City. — Industrial PRACTICE averaging £600 p.a. Panel 600. Opposition not strong. Good house to buy or rent. Premium £600.
3. CHESHIRE BORDERS.—One-third share of PARTNERSHIP, averaging £2,000 p.a., for sale. Pleas. country dist. Panel over 1,700. Plenty of scope. Prem. £1,000. Suit young doctor. Purchaser could live with Vendor.
4. SOUTH-WEST WALES.—General PRACTICE, returning £1,000 p.a. Present hands 10 yrs. Seaside and Country Town. Panel 750. Good house to rent. Prem. 1½ yrs. No collieries.
5. WEST OF ENGLAND CITY. — PARTNERSHIP.—Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Prem. 1½ years. Choice of resid.
6. SOUTH-WESTERN COUNTY. — One-sixth to one-third share of Partnership aver. over £5,500 p.a. Great scope for Surgeon. Four Hospitals and Nursing Home near. Applicants should have F.R.C.S. and be about 30-35. Panel 4,100. Several appts. Good house. Near sea. All sport. Prem. 2 years' pur.
7. S. DEVON. — Old-established PRACTICE, averaging £2,400 p.a., for sale in favourite town. Panel 1,500, increasing. Large house in grounds, for sale or rent. Seaside. Ideal climate.

WANTED.—We have many applicants for unopposed Country PRACTICES, and in large towns, such as Bristol, Plymouth, Exeter, and Bournemouth.

WANTED.—Well-qualified LOCUMS.

FINANCIAL ASSISTANCE can be arranged for the PURCHASE of PRACTICES and PARTNERSHIPS. Full particulars on application.

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.

(Temple Bar 3873.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. HALF SHARE of Country Practice of £2,000 p.a. on the outskirts of a favourite Midland City within 2 hours' run. Panel £1,000. Suitable house obtainable. Prem. £2,000, half on entry, balance on senior's retirement at end of year.
2. LONDON, N.—PARTNERSHIP with Succession in 12 months to old-estab. Practice averaging over £1,200 p.a., including panel of 1,100. Ample scope. No midwifery. Suit active junior. Price £1,100, cash. Similar sum on retirement.
3. LONDON (South).—Panel and Cash PRAC[illegible] p.a. List 1,200, in[illegible] premises on long [illegible]ited. Prem. £3,000.
4. [illegible] residential locality, within an hour's [illegible]RACTICE of about [illegible]0. Good scope for active junior. Premium £1,200. Purchase of Vendor's freehold a condition of sale.
5. PRACTICE of about £1,200, situate in an attractive industrial country district within an hour's run of Paddington. Rapidly incr. Good educat. and shopping facilities. Panel £300. Small, convenient mod. res., garden and garage, on lease. Premium £1,650.
6. LONDON SUBURB, W. — PARTNERSHIP in an old-established middle-class Practice. A Share worth £800 p.a. at 2 years' purchase. Panel 1,600. Good modern residence, garden, and garage, at £100. Easily worked, but offering scope for extension.
7. YORKS COAST.—Unopposed PRACTICE in pleasant locality. Av. inc. £1,000, incl. panel of £470 and appts. Capital house, gard., gar., at £55. Price, quick sale, only £800.
8. HANTS. — Country PRACTICE in pleasant residential locality. Income about £750, including panel and appts. Cap. f'hd. res., garden, and all conveniences. Prem. £1,050. Capital sporting and social facilities.
9. REQUIRED by M.B.Cantab., PARTNERSHIP of about £1,200 in good London suburb or outlying district, preferably S. or W., within 50 miles.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES
who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. LONDON, S.W.—Favourite Locality.—Well-established PRACTICE, averaging about £1,500 p.a., including panel of nearly 2,000. Suitable house can be rented on lease. Premium £3,000.
2. PARTNERSHIP.—In a most desirable outlying residential suburb of London a suitable Partner (experienced, used to good-class society, well-qualified, 35 to 40 years of age, and married) can acquire the fourth or fifth share (to commence) in an old-established Practice averaging over £10,500 p.a., including valuable appts. Good house with ample accommodation, garden. Premium 2 years' purchase. Personal application desired if possible.
3. BRIGHTON.—Very old-established PRACTICE, producing last financial year £1,121, including transferable appts. £160, and panel of 700 to 800. Consultations and visits 3/6, 7/6, and 10/6. No midwifery. Large house with good professional accommodation. Rent on lease £150 p.a. Premium 1½ years' purchase. Ill-health reason for sale. Efficient introduction given.
4. WEST MIDLANDS.—Easily worked PRACTICE in residential village within easy reach of two good towns, and having very pretty surrounding country. Receipts average over £1,000 p.a., including panel of 500 and an appt. worth £150. Nice house with good garden and land of about 2 acres. Price for freehold £1,600. Fishing, hunting, etc. Premium 1½ years' purchase.
5. YORKS.—LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,300 p.a., including panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and dressing room, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase.
6. PARTNERSHIP.—LONDON, NORTH.—A two-fifths share (to commence with) is offered in a well-established non-dispensing Practice, situated in pleasant and rapidly developing residential suburb. Cash receipts £2,600 to £2,700 p.a. There is considerable scope for surgery at good fees, which latter it is proposed ingoing Partner should retain. Patients good middle-class. Incomer, if unmarried, can live with Vendor, but no difficulty anticipated in obtaining suitable house. Premium two years' purchase.
7. NORTH OF ENGLAND.—Prosperous Town.—Very sound steadily increasing middle and working-class PRACTICE, offering good scope. Gross cash receipts for last twelve months £3,408, including panel of 2,794. Fees from 3/6. Suitable house with 3 reception, 5 bedrooms, etc. Price £1,600, £1,000 on mortgage. Good sport and schools. Premium 1½ years' purchase. Very suitable for two friends in partnership.
8. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.
9. WITHIN 25 MILES OF LONDON.—GROWING RESIDENTIAL DISTRICT.—Well-established mixed-class PRACTICE, offering good surgical scope if desired. Gross cash receipts for past twelve months £3,184. Panel of 900. Visits 5/- to 21/-. Commodious house with 3 reception, 7 bedrooms, etc.; separate professional accommodation. Rent on lease £150 p.a. Good sporting, social, and educational facilities. Premium £6,000.
10. WITHIN 15 MILES OF LONDON.—Developing neighbourhood.—PARTNERSHIP.—A one-half share is offered in a steadily increasing PRACTICE owing to the retirement of the senior partner. Gross cash receipts for last twelve months £2,696. Panel of over 1,000. Good house with 3 reception, 6 bedrooms, etc. Nice garden. Price £1,400, part on mortgage. Good sport and schools. Premium 2 years' purchase. Ingoing partner should be married, 35 to 40 years of age, and preferably English or Scotch.
11. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.
12. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase, payable by arrangement. Price for sale.
13. SOUTH [illegible]—A one-half share is [illegible] and working-class Practice, averaging over £2,900 p.a., including panel bringing in over £700 p.a. Suitable house, with 2 reception, 4 bedrooms, etc., and professional rooms. Small but secluded garden. Rent on lease £75 p.a. Sport of all kinds, and first-rate schools. Premium 2 years' purchase. Ingoing partner should be English or Scotch.
14. YORKS.—FAVOURITE RESIDENTIAL TOWN.—PARTNERSHIP.—A third partner is required to take over a one-sixth share (with increase later) in a very well-estab. non-dispensing Practice, averaging over £4,000 p.a. Well-equipped Hospital, affording good scope for surgery. Premium 2 years' purchase. Preliminary assistantship of 6 to 12 months.
15. NORTH DEVON.—Very old-established unopposed Country PRACTICE, situated in a beautiful district, and producing last year £940, including panel and appts. worth about £300. Excellent residence (3 reception, 6 bedrooms, bathroom, etc.), in about 1/2 an acre of garden, with tennis court, garage. Rent on lease £60 p.a. Premium £1,500. Good hunting, shooting, and fishing.
16. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.
17. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase
18. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
19. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.
20. DEATH VACANCY.—YORKS.—Village PRACTICE near large town. Old-established mixed-class Practice averaging £1,200 p.a., including panel of 950. Fees from 3/6, with medicine extra. Suitable house, with 3 reception, 4 bedrooms, bathroom, etc. Electric light. Small garden. Rent £56 p.a. Premium £1,000, payable £700 down and balance by instalments. Locum in charge.
21. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts average about £1,700 p.a., including appt. £70 and panel of over 1,000. Good house, with ample accommodation. Small garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.
22. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,157, including panel of 759 Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.
23. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.
24. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
25. MIDLANDS.—COUNTY TOWN.—Old-established better-class PRACTICE, averaging £793 p.a. and offering good scope. Panel of 500. Fees 5/- upwards. Well situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.
26. SOUTH COAST TOWN.—Rapidly increasing PRACTICE, producing over £500 p.a. No panel. Visits 5/- up. Suitable house, with 2 reception, 3 bedrooms, etc. Rent on lease £130. Premium £750.
27. SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery, and pref. holding the F.R.C.S. Rapidly increasing practice, having large scope. Panel of over 1,400. Fees from 3/6. Suitable house can be secured. Premium 2 years' purchase.
28. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down.
29. WITHIN 20 MILES OF LONDON (West).—Rapidly developing district.—PARTNERSHIP.—A one half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100, and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
30. SURREY.—In a beautiful residential district within 40 miles of London (good train service) a small mixed-class PRACTICE worth about £600 p.a., and offering scope. Select panel of 200. Charming house, in very pretty grounds, with ample accommodation. Price, freehold, £3,500. Premium 1½ years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Valentine's Meat-Juice

In the **Gastric Form of Influenza** and its **Debility,** in **Typhoid** and **Acute Pneumonia,** in the **Exhaustion** of **Phthisis** and **Pulmonary Diseases, Valentine's Meat-Juice Sustains** and **Strengthens**

When Other Food Fails

THE quickness and power with which VALENTINE'S MEAT-JUICE acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

Physicians are invited to send for brochures containing clinical reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

Richmond, Virginia, U. S. A.

WB 231

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SAVED BABY'S LIFE!

PORTE'S CAESAREAN OPERATION

In 'The Scottish Nurse' for January 1931 appeared an article by a Scottish State Registered Nurse describing an exceedingly severe operation—*Porte's Caesarean Section* which she underwent in Malta at the hands of a well-known surgeon.

Twenty-four hours after the second stage of labour had begun it was discovered that delivery was impossible. The womb had become septic and the Porte Caesarean was performed, the baby being safely extracted.

The condition of the mother was then highly critical, and the baby had to be revived by artificial respiration. For a week after birth she weighed only five pounds. The mother, despite intense pain and weakness, endeavoured to nurse her, but as progress appeared stationary she was put on alternate feeds of Cow & Gate Full Cream Milk Food and Breast.

From then onwards she made rapid progress and at four months the mother weaned her altogether.

Now eight months old, the child is the picture of contentment and happiness and weighs over 17 pounds.

"Smiler" fed on Cow & Gate

COW & GATE MILK FOOD

has saved more baby lives than any other preparation in the world

MANUFACTURERS OF THE CELEBRATED COW & GATE MILK FOOD

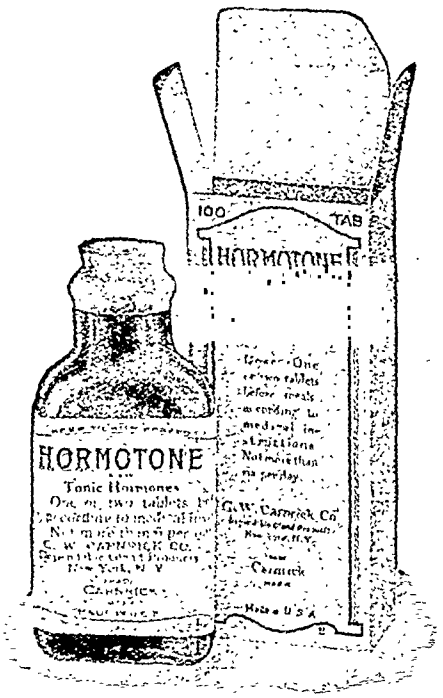
Cow & Gate Milk Food

COW & GATE LTD, GUILDFORD SURREY

B.M.J., March 7th, 1931.

ASTHENIA and the Fatigue Syndrome

are usually conditions in which a definite pathology cannot be demonstrated.



Hormotone
BRAND

has proved its value in treatment, through its action in:

Stimulating cell metabolism,
Increasing the respiratory exchange,

and

Raising to normal the low blood pressure usually attendant upon such conditions.

Dose: One or two tablets three times daily before meals.

G. W. CARNRICK CO.
2-24, Mt. Pleasant Avenue,
NEWARK, NEW JERSEY.
Dependable Gland Products.

London Agents:
BROOKS & WARBURTON Ltd.,
232-240, Vauxhall Bridge Rd., S.W.1

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3662 SATURDAY, MARCH 14, 1931 Price 1/3

SOME BARGAINS

Extended Terms
Up to TWO YEARS at Special Rate of Interest to Doctors.

Part Exchanges
Highest Allowances.

Cars loaned during Repairs
A smart Car loaned whilst yours is being repaired at our Works.

M.E. Special After Sales Service

Specially Selected for Doctors and subject to full Guarantee

VAUXHALL, 1930 20/60 h.p. "Velox" Saloon; as brand new - - - £315

ROVER, 1930, Light Six Saloon-Coupe, ideal for Doctor's use; Regal Model; Servo brakes; faultless condition £235

AUSTIN, 16 h.p. 6-cyl. Selection of 1928/9/30 Models with various types of coachwork. From £160

MORRIS OXFORD, 1930 series, 6-cyl. 4-door Saloon; Triplex; leather upholstery £165

OVER 100 OTHER EQUALLY ATTRACTIVE BARGAINS AVAILABLE.
LISTS POST FREE FROM THE OFFICIALLY APPOINTED CONSULTING ENGINEERS TO THE MEDICAL INSURANCE AGENCY.

MANN EGERTON & Co LTD

West End Showrooms: 156, NEW BOND STREET, W.1. *Gerrard 9060*
Super Service Works: CHURCH ST., EDGWARE RD. *Padd. 9011*
Also Norwich · Ipswich · Bury St. Edmunds · Lowestoft. *Five Minutes Marble Arch.*

PIONEERS AND EMPIRE BUILDERS: No. 588
NINTH PERIOD—circa A.D. 300 to c. 1300

Pernicious Anæmia

TRADE MARK 'WELLCOME' BRAND
LIVER EXTRACT

(An Active Selected Fraction of an Extract of Fresh Liver)

Prepared by a process tested and found efficient by the Medical Research Council. Clinical evidence has established the value of 'WELLCOME' LIVER EXTRACT in pernicious anæmia.

Liver treatment is also indicated in cases of secondary anæmia due to hæmorrhage, such as hæmatemesis or post-partum hæmorrhage; suggested in conditions due to liver dysfunction, in the vomiting of pregnancy and pre-eclamptic conditions and in the anæmia of sprue.

(See Wellcome's Medical Diary, 1931, pages 111-113)

Reduced facsimile

In tubes, each containing an active selected fraction of an extract derived from half-a-pound of fresh liver.

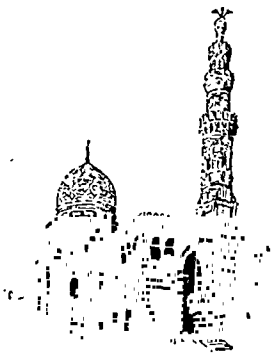
DIRECTION.—
The contents of one tube, or more, daily, in soup or water.

Price in London to the Medical Profession
32/5 *per box of* 12 *tubes*

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

A MASTERPIECE OF ARCHITECTURE, IN WHICH ARE ILLUSTRATED TWO FEATURES CREATED BY THE ISLAMIC CIVILISATION.—Byzantium, Egypt, Persia, India and Latin Spain contributed elements out of which, with additions of their own, the architects of Islam constructed a beautiful, original and characteristic style, recognisable, wherever seen, by the minaret and the bulbous dome. The earlier mosques had no minaret, the idea having apparently been first suggested about A.D. 700 by the great lighthouse at Alexandria, the top of which the Moslems converted into a prayer chamber. The name applied to the tower of lighthouse form, which henceforth became an essential feature of the mosque in all countries, was the Arabic MANARAT—a lighthouse. From it was made the call to prayer.



DATE A.D. 1456

COPYRIGHT

British Medical Journal

CONTENTS

MARCH 14, 1931

ORIGINAL ARTICLES

Acidosis from the Clinician's Point of View. By LEONARD FINDLAY, M.D. 433

The Treatment of Gastric and Duodenal Ulcer. By A. RENDLE SHORT, M.D., B.S., F.R.C.S. 435

Convulsions During Surgical Anaesthesia. By J. ROSS MACKENZIE, M.D. 440

Unilateral Exophthalmos Following Administration of Thyroid Extract. By T. GILLMAN MOORHEAD, M.D., F.R.C.P.I. 442

Hallux Valgus: A Note on Operative Technique. By PAUL BERNARD ROTH, F.R.C.S. 443

Amoebic Hepatitis with Haematemesis. By R. E. DRAKE-BROCKMAN, M.D. 444

Congenital Aneurysm of the Brain. By HUGH REID, M.B., Ch.B., F.R.C.S., and HUMPHREY H. GLEAVE, M.B., Ch.B., M.R.C.P. 445

MEMORANDA

Lactation in Accessory Breasts. By ARNOLD HINDHAUGH, M.B. 446

A Case of Glandular Fever. By E. C. WHITEHALL COOKE, B.M., B.Ch. (With Chart) 446

REPORTS OF SOCIETIES

MEDICAL SOCIETY OF LONDON:
The Treatment of Pneumonia 446

[illegible] 449

[illegible] 450

[illegible] Infants 451

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY:
Vaginal Hysterectomy 451

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION:
[illegible] 452

[illegible] 452

ROYAL SOCIETY 453

REVIEWS

History of Paediatrics 454
Diseases and Injuries of the Eye 454
Practice of Gynaecology 455
Nutrition and Food Chemistry 455
The Art of Prolonging Life 455
Notes on Books 456

LEADING ARTICLES

INTERNATIONAL ASSOCIATION FOR PREVENTION OF BLINDNESS 459
TREATMENT OF CANCER OF THE BLADDER 459

THE WEEK

Iodine Supply and Endemic Goitre in Great Britain 460
A Medical Survey of Canada 461
The Census and the Common Health ... 461
River Investigations 462
The Discovery of Oxygen 462
Portraits of Surgeons 463
Oxford Ophthalmological Congress 463
Clio Medica 463

GENERAL ARTICLES AND NEWS

Annual Meeting of the Association, Eastbourne, 1931:
EASTBOURNE IN HISTORY AND TO-DAY. (Illustrated) 464

The International Association for the Prevention of Blindness. By A. BERNARD CRIDLAND, F.R.C.S.Ed. ... 457

Medical Research Council. Annual Report, 1929-30. (Concluding Notice) 466

S[illegible] 468

P[illegible] trated) 456

MEDICAL NOTES IN PARLIAMENT 477
MEDICAL NEWS 478

LOCAL NEWS

ENGLAND AND WALES—
Medical Society of London 469
The [illegible] 470
Cent[illegible] 470
Sund[illegible] logical Block 470

SCOTLAND—
Scientific Advisory Committee 471
Presentation to Dr. W. T. Barrie 471
Edinburgh Social Union 471
Edinburgh Foot Clinic 471

OBITUARY

Douglas Drew, M.D., F.R.C.S. 475
Stanley E. Denyer, M.D., F.R.C.S. 476
Ralph Smith Miller, M.D. 476
Julian Hora, M.B., B.S. 476
David Lennox, M.D. 476
James Cameron, M.D. 477

UNIVERSITIES AND COLLEGES

University of Cambridge 478
University of London 478
University of Birmingham 478
University of Liverpool 478
National University of Ireland 478
Royal College of Surgeons of England ... 478

CORRESPONDENCE

Mortality in Acute Appendicitis. By D. P. D. Wilkie, M.D., F.R.C.S.Ed. . 471
The Incision for Appendicectomy. By A. Ernest Sawday, F.R.C.S.Ed. ... 472
Backache in Women. By T. Stacey Wilson, M.D., F.R.C.P. 472
X-Ray Therapy in Cancer of the Lung. By G. Cooper, M.D. 473
Thallium and its Risks. By James A. Milne, M.D.; and J. H. Twiston Davies, M.B. 473
The Electrocardiogram. By C. B. Levick, M.B., Ch.M. 473
Diverticula of the Duodenum. By W. R. Thrower, M.B. 474
Routine Anaesthesia in Midwifery. By J. E. Williams 474
Disseminated Sclerosis Research. By B. Halley Stewart, M.D. 474
Epsom College. By H. G. L. Haynes, M.R.C.S. 474
Mary Scharlieb Memorial. By Mrs. Kinnell and others 475
Medical Reciprocity with France. By D. W. Samways, M.D. 475

MEDICO-LEGAL

Extreme Deafness a Disability for Motor Drivers 478

LETTERS AND ANSWERS

Income Tax 480
Mammary Abscess 480
Graves's Disease: Intercurrent Pyrexia 480
A Twin Monster. (Illustrated) 480
Pronunciation of "Laboratory" 480
Treatment of Addison's Disease 480
Corrigendum 480

VACANCIES 480

(See also page 83 of SUPPLEMENT)

The SUPPLEMENT contains:

Metropolitan Counties Branch: Reception to Young Practitioners and Senior Students.

CURRENT NOTES:
Prizes for Essays by Senior Students.
Middlemore Prize, 1932.

NATIONAL INSURANCE:
Medical Benefit Amendment Regulations.

Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., P.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-. Telephone: REGENT 0611.

Those who join within one year of Registration are exempt from Entrance Fee.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Cambridge University Press.
Hope, E. W.—
Health at the Gateway..... 4

Churchill, J. & A.
[illegible]
Textbook of Biochemistry 3
Cameron & White—
Practical Biochemistry. 3
Connor, F. P.—Surg. in the Tropics 3
Culpin, M.—The Psychoneuroses. 3
Devine, H.—Psychiatry.. 3
Dible, J. H.—Bacteriology. .. 3
Duke-Elder, W. S.—
[illegible]
Piney, A.—
Diseases of the Blood. 3
Haematology 3
Poynton & Schlesinger—
Rheumatism. 3
Pryde, J.—Biochemistry . 3
Rogers, L.—Tropical Medicine 3
Rogers & Megaw—Tropical Med. . .. 3
Romanis & Mitchiner— 3
[illegible]

Constable & Co., Ltd.
Russell & Hamilton—
Heart Disease in Childhood. . 5

Routledge—Kegan Paul
Crookshank, F. G.—
[illegible] 5
[illegible] 5
Principles of Epidemiology.. 5

Simpkin Marshall Ltd.
Taplin, A. B.—
Hypnotic Suggestion, etc. 4
Hypnotism, etc.. 4

Wright & Sons, Ltd.
Tidy, H. L.—Symtomatology. .. 5
Turner, A. L.—
Diseases of the Nose, etc... 5

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 55

ASSURANCE COMPANIES—
London Med. Protection Society.. 1
Medical Insurance Agency 42,59
Med. Sickness, Annuity, &c. 39

BATHS, SPAS, &c.—
Bad Brambach, Saxony..... 42
Italian Health Resorts 48
Pistany Spa, Czechoslovakia . . . 42

BRASS NAME PLATES, &c.—
Cooke's Name Plates 47
Herd, S. J. & A.—Name Plates . . 4
Lewis & Co. Ltd.—Name Plates .. 4
Osborne, F. & Co.—Name Plates 43

HOSPITAL, &c., FURNITURE—
Furniture, &c., Depositories, Ltd.—
Second-hand Furniture 43
Ward, Ltd.—Invalid Chairs 4

HOUSE AGENTS—
Bedford & Co 53
Elliott, Son & Boyton 52

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
Insulin 'A.B.' 41
Preparations 31
Vapo-Cresolene 41
Alliance Drug & Chemical Co.—
Price List 43
Anglo-French Drug Co., Ltd.—
Preparations. 32
Boots Products 21,25
British Drug Houses Ltd.—
Caprokol 23
Insulin 'A.B.' 41
Vitamin A. 15
Burroughs Wellcome & Co.—
Liver Extract .. . . .. Cover ii
Christy & Co.—Magnesia Oil .. . 14
Cranbux Ltd.—Odol .. 17
Crookes Laboratories—Pastilles . 29
Cuxson, Gerrard & Co., Ltd.—
Regulol 40
Duncan Flockhart & Co.—
Ethyl Chloride 22
Evans Sons Lescher & Webb Ltd.—
Varixol 25
[illegible] 28
[illegible] 19
[illegible] 21
Hewlett & Son, Ltd.—Preparations 30
Hommel's Haematogen & Drug Co.— 40
[illegible] 16
[illegible] 12
[illegible] 18
[illegible] 33
'Sterules' 40
'Trilactine' 41
May & Baker, Ltd.—'Arthritin'. . . 19
Newbery & Sons—
Agarol . ..... Cover iii
Suppositories 24
Reed & Carnrick—Nephritin 16
[illegible] 13
[illegible] 13
[illegible] 33

SURGICAL APPLIANCES—
Bailey & Son—Patent Belts 37
Coles & Co.—Spiral Spring Truss... 4
Davidson, F. & Co.—
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
Watson Bard Co.
Collender's Splints 38
Wostenholm, G.—Doctor's Knives .. 7

FOOD PREPARATIONS—
Allen & Hanburys Ltd.—
Diabetic Flour. 31
Bantam Products Ltd.—Coffee 41
Battle Creek Food Co.—
[illegible] 15
[illegible] 17
[illegible] 27
[illegible] 26
[illegible] 8
[illegible] 21
[illegible] 32
Valentine's Meat-Juice 18

DEBT COLLECTION—
Brit. Med. Protection Society..... 38

MINERAL WATERS—
Ingram & Royle, Ltd.—
Vichy-Celestins 20

MOTOR CARS, TYRES, &c.—
Mann Egerton & Co., Ltd.—
Motors ....Cover i
Second-hand Motors for Sale 58

PRINTING & STATIONERY—
Anderson & Son—Account Forms 43
[illegible] 4
[illegible] 33
[illegible] . 4

HOSPITAL, &c., VACANCIES—
[illegible] 54

HOMES & ASYLUMS—
Bailbrook House, Bath 45
[illegible] 45
[illegible] 46
[illegible] 43
Boreatton Park, Salop 44
Brooke House, Clapton, E. 44
Brynton House, Lancaster 43
[illegible] 46
[illegible] 45
[illegible] 45
[illegible] 45
[illegible] 44
[illegible] 65
[illegible] 43
[illegible] 44
[illegible] 45
[illegible] 43
[illegible] 43
[illegible] 44
[illegible] 45
[illegible] 45
[illegible] 45
[illegible] 41
[illegible] 45
[illegible] 44
[illegible] 43
[illegible] 45
[illegible] 44
[illegible] 43

WINES & SPIRITS—
Anderson Dobson & Co. Ltd.—
Ackerman-Laurance 12

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 41
Peebles Hydro 41
Ruthin Castle, North Wales..... 45
Smedley's Hydro, Matlock 41

INEBRIETY—
Albion House, Beverley, E. Yorks. 41
Bay Mount, Paignton 41
Caldecote Hall, Nuneaton 41,65
Dalrymple House, Rickmansworth 41
Ecclesfield, Ashford, Middlesex . 41
'Old Hill House,' Chislehurst..... 41

SANATORIA—
[illegible] 47
[illegible] 47
[illegible] 47
[illegible] 43
[illegible] 47
[illegible] 47
[illegible] 47

TAILORING & UNDERCLOTHING—
Hall, H.—Medical Service Dress .. 58
Keith Bradbury Ltd.—Tailors . .. 4
Regent Dress Co.—Tailors 43

TOBACCO & CIGARETTES—
Player's Navy Cut 39

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 57

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub. Hlth. 4
Roberts & Co.—Vaccine Lymph 38

X-RAY & ELECTRO-MEDICAL APPARATUS—
British Hanovia Quartz Lamp Co.—
Actinotherapy Equipment 19
Newton & Wright Ltd.—
Mobile X-Ray Unit.. 6
Gen. Radio. & Surg. Appar. Co—
Diathermy Apparatus 9
Sunlight Generator 6

SCHOOLS, &c.—
Taunton School, Taunton 50

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital 51
Edinburgh University. 49
Liverpool School of Trop. Medicine 50
N.-E. Lond. Post-Graduate College 53
Q. Charlotte's Maternity Hospital 49
St. Mary's Hosp. Med. School, W.2 50
Salvation Army, Mothers' Hospital 50
West London Hospital 49

TUTORS & LECTURERS—
E. London Hospital for Children .. 50
Exams.—Med. Corresp. College. . 48
F.R.C.S. Edin. Classes—H. C. Orrm 49
F.R.C.S. Ed. Classes—C. Whittaker 50
[illegible] 50
[illegible] 49
[illegible] 50
[illegible] 49
[illegible] 50
[illegible] tion 50

TRANSFER AGENTS—
Bovril Medical Agency, Ltd 64
British Medical Bureau 59,61,62,63
Lee & Martin, Ltd. 60
Manchester Medical & Schol. Assoc. 59
Needes, H. 60
Peacock & Hadley, Ltd. 56,63
The Medical Agency 56,59
Turner, P., Ltd. 60
Western Medical Agency, Bristol... 60

ASSISTANTS, PRACTICES, &c.—
[illegible] 56
[illegible] 56,57
[illegible] 55
[illegible] 57
[illegible] 57
Practices Transfer

NURSING INSTITUTES—
Cavendish Nurses 53
Nurses' Association 53

MISCELLANEOUS—
Consulting Rooms, &c., to Let 53
Income Tax Consultant—Hardy . . 58
Middlesex Co. Council—Tenders. . 58
Miscellaneous Sales &c..... 54
'Vita' Glass 43
Waterloo Goldfishery Co.—Frogs .. 43

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

J. & A. CHURCHILL

THE EMPIRE SERIES

PUBLIC HEALTH PRACTICE IN THE TROPICS
J. BALFOUR KIRK, M.B., D.P.H., D.T.M. & H., Director, Medical and Health Department, Mauritius. 80 Illustrations. 15s.

TROPICAL MEDICINE
Sir LEONARD ROGERS, C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S., and Maj.-Gen. JOHN W. D. MEGAW, I.M.S., C.I.E., V.H.S., M.B. 1 Coloured Plate, 77 Text-figures. 14s. Post. 9d.

SURGERY IN THE TROPICS
Sir FRANK P. CONNOR, D.S.O., F.R.C.S., D.T.M. & H. 99 Illustrations. 12s. 6d. Post. 6d.

CHEMICAL METHODS IN CLINICAL MEDICINE
G. A. HARRISON, M.D., M.R.C.S., Reader and Lecturer in Chemical Pathology, St. Bartholomew's Hospital. 65 Illustrations. 18s. Post. 9d.

CLINICAL ATLAS OF BLOOD DISEASES
A. PINEY, M.D., M.R.C.P., and STANLEY WYARD, M.D., M.R.C.P. 36 Plates. 32 Coloured. 12s. 6d. Post. 6d.

SURGICAL EMERGENCIES IN PRACTICE
W. H. C. ROMANIS and PHILIP H. MITCHINER, Surgeons, St. Thomas's Hospital. 158 Illustrations. 18s. Post 9d.

SURGICAL ANATOMY
GRANT MASSIE, M.B., M.S.(Lond.), F.R.C.S. (Eng.). 121 Illustrations. 15s. Post. 6d.

A TEXTBOOK OF BIOCHEMISTRY
A. T. CAMERON, D.Sc., F.I.C., F.R.S.C. Second Edition. 2 Plates, 12 Text-figures. 15s. Post. 6d.

A COURSE IN PRACTICAL BIOCHEMISTRY
A. T. CAMERON, D.Sc., F.I.C., F.R.S.C., and FRANK D. WHITE, A.R.T.C., Ph.D., F.I.C. 4 Plates. 23 Text-figures. 8s. 6d. Post. 6d.

MEDICAL BACTERIOLOGY
L. E. H. WHITBY, C.V.O., M.D., D.P.H. 75 Illustrations. 10s. 6d. Post. 6d.

CLINICAL CHEMICAL PATHOLOGY
F. S. FOWWEATHER, M.D., M.Sc., D.P.H. 18 Illustrations. 8s. 6d. Post. 4d.

THE PRACTICE OF REFRACTION
W. STEWART DUKE-ELDER, D.Sc., M.D., F.R.C.S. 208 Illustrations. 12s. 6d. Post. 6d.

THE CAUSES AND PREVENTION OF MATERNAL MORTALITY
HENRY JELLETT, M.D., F.R.C.P.I., late Master, Rotunda Hospital, Dublin. 15s. Post. 6d.

DISEASES OF THE BLOOD
A. PINEY, M.D., M.R.C.P., Research Pathologist, Cancer Hospital. 20 Illustrations, including 6 Coloured Plates. 12s. 6d. Post. 6d.

A HANDBOOK OF MIDWIFERY
RICHARD E. TOTTENHAM, M.D., F.C.O.G., F.R.C.P.I., Professor of Obstetrics and Gynaec., University of Hong-Kong. 10s. 6d. Post. 6d.

THE "RECENT ADVANCES" SERIES

"Methods of treatment change so quickly that such publications as the 'Recent Advances' Series are invaluable to the general practitioner, too busy, as he usually is, for post-graduate study."
—BRITISH MEDICAL JOURNAL.

"The 'Recent Advances' Series published by Messrs. J. & A. Churchill meets a want in medical literature by providing a concise, yet sufficiently detailed summary of developments in the theory as well as in the practice of the various specialities into which medicine is gradually resolving itself."
—EDINBURGH MEDICAL JOURNAL.

RHEUMATISM
F. J. POYNTON, M.D., F.R.C.P., and BERNARD SCHLESINGER, M.D. 25 Illus. 12s. 6d.

CHEMOTHERAPY
G. M. FINDLAY, O.B.E., M.D. 15 Illustrations. 15s.

PREVENTIVE MEDICINE
J. F. C. HASLAM, M.C., M.D. 30 Illustrations. 12s. 6d.

SURGERY
W. H. OGILVIE, F.R.C.S. 2nd Edition. 115 Illustrations. 15s.

OPHTHALMOLOGY
W. S. DUKE-ELDER, D.Sc., M.D., F.R.C.S. 2nd Ed. 4 Coloured Plates. 110 Figures. 12s. 6d.

DISEASES OF CHILDREN
W. J. PEARSON, D.S.O., D.M., and W. G. WYLLIE, M.D. 2nd Ed. 20 Plates. 34 Figs. 15s.

TROPICAL MEDICINE
Sir LEONARD ROGERS, C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S. 2nd Edition. 16 Illustrations. 12s. 6d.

BACTERIOLOGY
J. H. DIBLE, M.B., B.Ch. 24 Illus. 12s. 6d.

OBSTETRICS & GYNAECOLOGY
ALECK W BOURNE, M.B., F.R.C.S. 2nd Edition. 67 Illustrations. 12s. 6d.

NEUROLOGY
W RUSSELL BRAIN, M.D., and E. B. STRAUSS, B.M. Second Edition. 39 Illustrations. 12s. 6d.

MEDICINE
G. E. BEAUMONT, D.M., and E. C DODDS, M.V.O., M.D. 5th Ed. 49 Illus. 12s. 6d.

FORENSIC MEDICINE
SYDNEY SMITH, M.D., and J. GLAISTER, Jnr., M.D. 66 Illustrations. 12s. 6d.

PLANT PHYSIOLOGY
E. BARTON-WRIGHT, M.Sc. 51 Illustrations. 12s. 6d.

CARDIOLOGY
C. F. TERENCE EAST, M.D., F.R.C.P., and C. W. CURTIS BAIN, M.C., M.B. 2nd Edition. 10 Plates. 62 Figures. 12s. 6d.

PULMONARY TUBERCULOSIS
L. S. T. BURRELL, M.D., F.R.C.P. 2nd Edition. 32 Plates. 17 Figs. 12s. 6d.

ENTOMOLOGY
A. D. IMMS, D.Sc., F.R.S. 84 Illustrations. 12s. 6d.

RADIOLOGY
PETER KERLEY, M.B., B.Ch., D.M.R.E., Asst. Radiologist, Westminster Hospital. 120 Illustrations. 12s. 6d.

BIOCHEMISTRY
J. PRYDE, M.Sc. 3rd Edition. 42 Illustrations. 12s. 6d.

ANATOMY
H. WOOLLARD, M.D., B.S. 4 Col. Plates. 73 Figs. 12s. 6d.

PHYSIOLOGY
C. LOVATT EVANS, D.Sc., F.R.C.P., F.R.S. 4th Edition. 113 Illustrations. 12s. 6d.

HAEMATOLOGY
A. PINEY, M.D. 3rd Edition. 6 Col. Plates. 18 Figs. 12s. 6d.

PSYCHIATRY
H. DEVINE, O.B.E., M.D., F.R.C.P. 4 Illustrations. 12s. 6d.

THE PSYCHONEUROSES
MILLAIS CULPIN, M.D., F.R.C.S. 12s. 6d.

ANALYTICAL CHEMISTRY
C. A. MITCHELL D.Sc., M.A., F.I.C. Vol. I, Organic. 6 Plates, 17 Text-figures. 12s. 6d. Vol. II, Inorganic. In the Press.

"The 'Recent Advances' Series has established such a high standard of excellence that one expects much in any book included in it."—MEDICAL PRESS.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1

HEALTH AT THE GATEWAY

By E. W. HOPE,

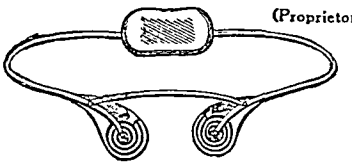
Professor of Public Health in the University of Liverpool.

With 25 Plates, Maps, and Plans. Demy 8vo. 15s. net.

A history of the administrative developments affecting the Public Health of the city and port of Liverpool. Few workers for the public good in great cities have the inclination or the opportunity to record for the benefit of their colleagues the results of their own experience in administration and the history of past efforts. In this book Professor Hope has told the story of the growth of a great city and the gradual assumption by competent authority of power to control the public services.

CAMBRIDGE UNIVERSITY PRESS

WM. COLES & CO.



(Proprietor—A. E. GRAY)

TRUSS SPECIALISTS.

Inventors of

THE SPIRAL SPRING TRUSS.

22, Panton St., Haymarket, S.W.1.

(Removed from 5, Sackville Street, Piccadilly.)

Telephone—2207 Gerrard.

Second Edition. Cloth. 10/6 net; postage 6d.

HYPNOTIC SUGGESTION AND PSYCHO-THERAPEUTICS

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin., Member of Council and late President of the Psycho-Medical Society of Great Britain, and late President of the Liverpool Psychological Society (Liverpool University).

ALSO

HYPNOTISM AND TREATMENT BY SUGGESTION,

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin. Fourth Edition. 2/6 net; postage 3d.

Publishers:

LITTLEBURY BROS. LTD., Crosshall St., Liverpool.

SIMPKIN MARSHALL LTD., LONDON.

SEND for our NEW SAMPLES of the very BEST TATIONERY, Etc.

HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

POCKET MONEY ADDING MACHINES 15/- post free

TAYLOR'S TYPEWRITERS

Desks, Tables & Chairs

Est. 1884.

Write for Bargain List 82.

Phone—Holborn 3793.

BUY A BIJOU FOR 5/- per week.

THE BIJOU

The best portable Writer Complete in Travelling Case, from £9 9s.

74, CHANCERY LANE (Holborn End), W.C.2

NAME PLATES

In BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd.,

Medical and Scientific Stationers,

136, GOWER STREET, LONDON, W.C.1.

Tycos

MANUFACTURED by SHORT & MASON LTD. WALTHAMSTOW LONDON, E.17.

SPHYGMOMANOMETERS

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

FREQUENT MICTURITION.

"YBWET"

NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 123, Douglas Street, Glasgow, C.2.

NAME PLATES

in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet.

S. J. & A. HERD,

30, CLERKENWELL ROAD, E.C.1.

West End Clothes

Special Introductory Offer to 100 New Customers

TERMS from £1 Monthly

BEFORE Easter we are anxious to obtain 100 new customers. To make quite sure this objective is reached we are making a special introductory offer, which for the sake of brevity is crystallized as follows:—

★ Clothing with the hall mark of the West End tailor at extremely modest prices as detailed below.

★ A Free Valeting Service for Sponging, Pressing and Repairing all garments after purchase as often as you wish.

★ CONVENIENT PAYMENTS FROM £1 PER MONTH without references or enquiries.

★ A special discount of 10/6 from your first order because we are convinced that the quality of our goods and service will merit your continued patronage.

Lounge Suits and Overcoats from 5 gns.

Dinner Clothes and Evening Dress from 6 gns.

Catalogue and patterns gladly sent on request

Keith Bradbury Ltd

Tailors of Credit

137/141 REGENT STREET LONDON, W.1

Hours of business 9–7. Saturdays 9-1

Telephone: REGENT 5288

JOHN WARD LTD

TOTTENHAM COURT ROAD, LONDON.

ROUTLEDGE KEGAN PAUL

Just Published

THE PRINCIPLES OF EPIDEMIOLOGY

AND THE PROCESS OF INFECTION

By C. O. STALLYBRASS, M.D., D.P.H.,

Chief Assistant Medical Officer, City and Port of Liverpool.

Fully illustrated. 30s. net.

Clinical medicine, pathology, bacteriology, and immunology all bring grist to the epidemiologist's mill. Latterly, mathematical and experimental methods have been applied to his problems, and the author has endeavoured to present in this volume a systematic summary of the knowledge so obtained. His book is intended primarily for the Medical Officer of Health who has little leisure to read the ever-increasing volume of specialized writings on the subject.

THE CONCENTRIC METHOD

IN THE DIAGNOSIS OF PSYCHONEUROTICS

By M. LAIGNEL-LAVASTINE,

Professor in the Faculty of Medicine of Paris.

10s. 6d. net.

The author enjoys an international reputation for his work on the Sympathetic Nervous System, which he here relates to general diagnosis in a series of ten clinical lectures. One feature of the book of particular interest is that it shows the attitude adopted by the author and his school to what he calls "certain psychometaphysical wanderings born of the work of Freud."

THE MONGOL IN OUR MIDST

By F. G. CROOKSHANK, M.D., F.R.C.P.

31 plates and diagrams. 21s. net.

An entirely re-written and greatly enlarged version of a book which appeared, some years ago, in the TO-DAY and TO-MORROW series. In the present volume, enlarged to over 500 pages, Dr. Crookshank takes up with considerable spirit the challenges laid down by those who queried the validity of the opinions set forth in the earlier book. The broader issues involved are treated in a spirit of independence and humanity.

BROADWAY HOUSE, 68-74, CARTER LANE, LONDON, E.C.

HEART DISEASE IN CHILDHOOD

By

H. B. RUSSELL, M.D., M.R.C.P., and C. K. J. HAMILTON, B.M., M.R.C.P.

Demy 8vo. *104 pages.* *7s. 6d. net.*

British Medical Journal:—"It is a compact volume containing much useful information."

Nursing Mirror: — "Especially would we recommend it to the attention of all the nurses in the special homes for prolonged treatment for children with cardiac conditions."

Edinburgh Medical Journal:—"The book can be recommended as a brief, reliable, and scientific account of the subject it deals with."

The newest volume in the series MODERN MEDICAL MONOGRAPHS *of which a complete prospectus will be sent on request.*

10 & 12 Orange Street CONSTABLE Leicester Square WC2

SECOND EDITION. Fully Revised. Demy 8vo. 464 pp. With 254 Text Illustrations and 12 Plates (8 in colour). 20s. net. Postage 9d.

DISEASES OF THE

NOSE, THROAT & EAR

Edited by A. LOGAN TURNER,

M.D., LL.D., F.R.C.S.E.,

Consulting Surgeon, Ear and Throat Department, Royal Infirmary, Edinburgh.

With the collaboration of J. S. FRASER, M.B., F.R.C.S.E., W. T. GARDINER, M.C., M.B., F.R.C.S.E., J. D. LITHGOW, M.B., F.R.C.S.E., G. EWART MARTIN, M.B., F.R.C.S.E., and DOUGLAS GUTHRIE, M.D., F.R.C.S.E.

"There is no other book which includes laryngology and otology with such success."—BRITISH MEDICAL JOURNAL.

"Gives an admirably clear and concise account of diseases of the specialty. . . . May confidently be recommended."—LANCET.

With 130 Illustrations (some in colour). Sup. Roy. 8vo. 722 pp. Bevelled Boards. £2 2s. net. Postage 1s.

AN INDEX OF

SYMPTOMATOLOGY

Edited by H. LETHEBY TIDY,

M.A., M.D., B.Ch.(Oxon.), F.R.C.P.(Lond.),

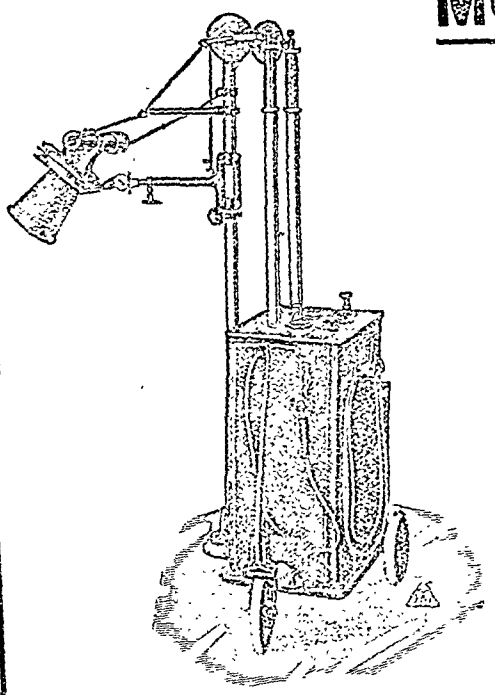
Physician, St. Thomas's Hospital; Consulting Physician, Royal Northern Hospital.

In conjunction with 25 Representative Contributors.

"Should help considerably in the solution of difficult diagnostic problems. The articles are tersely written and well up to date. . . . a volume worthy of the series to which it belongs."—BRITISH MEDICAL JOURNAL.

"Each article has been written by an expert, and could hardly be made more lucid or concise."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.



MOBILE X-RAY UNIT

A recent N. and W. product

The "Holway" No. II. 30/90 Trolley Ward Unit embodies several outstanding features.

FULL PARTICULARS ON REQUEST

Newton & Wright Ltd.

HEAD OFFICE AND WORKS:

471-3, HORNSEY ROAD, LONDON, N.19

Telephone: Archway 2621 (3 lines)

Since Aneroid Gauges depend for their action on the stretching, under pressure, of metal diaphragms, they are subject to the usual errors arising from the elastic properties of metals.

The Lifetime Baumanometer, on the other hand, operates on the immutable law of gravitation—and does not depend for its action on the material used in construction.

Portability, the only excuse in the past for using aneroid instruments, of doubtful accuracy, is now equally obtainable in the Lifetime Baumanometer.

Moreover, all Lifetime Baumanometers are individually calibrated, scientifically accurate, and guaranteed to remain so. Everyone is a MASTER instrument and carries our exclusive guarantee against glass breakage.

The Lifetime Baumanometer's distinguishing specifications, have won for it the approval of more than one hundred thousand doctors the world over.

Among the many models to choose from, is the New Kompak Model—the smallest, lightest, handiest, mercurial instrument.

Your surgical instrument dealer will gladly demonstrate it or send one to you.

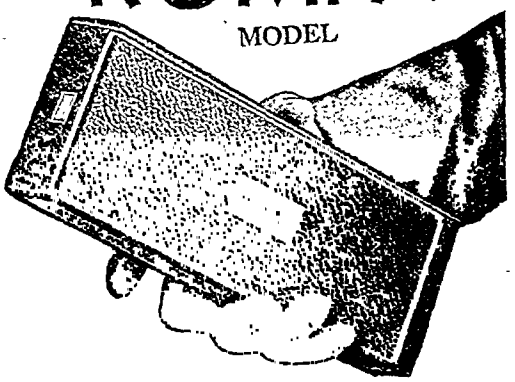
Lifetime Baumanometer
STANDARD FOR BLOODPRESSURE

Obtainable from leading Surgical Equipment Houses, or
HAWKSLEY & SONS, Ltd., 83 Wigmore St. London, W. 1.

THE NEW

KOMPAK

MODEL



SMALLEST - LIGHTEST - HANDIEST

Calibration: 260 mm.
Size: 1⅝" x 3⅞" x 11⅝".
Weight: 30 oz.
Inflation System Self-Contained.
Duralumin case with baked enamel edges.
Genuine Morocco grain leather.
Entire manometer unit chromium plated.
Individual nameplate cast in cover.
Table of clinical averages embossed in case.
Lifetime Guarantee against glass breakage.
Perpetual Guarantee for accuracy.

eitz

COLORIMETERS

FOR CLINICAL INVESTIGATIONS.

Unsurpassed Optical and Mechanical Accuracy.
Uncemented Vessels. Top Reading by Verniers.

The UNIVERSAL COLORIMETER

ensures perfect optical symmetry. Effects of solvent or secondary constituents entirely eliminated by compensating device.

Closed or open vessels for standards.

Interchangeable Micro. Vessels and Plungers.

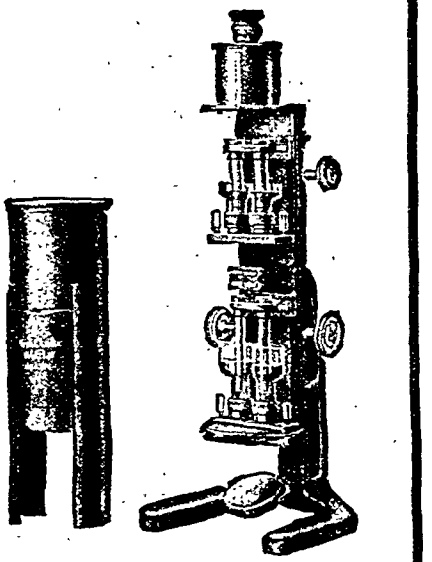
Nephelometer Attachment.

ILLUMINANTS for attachment to all models.

DUBOSCQ Colorimeters from £22 2 0

NEW MIXED COLOUR COLORIMETER
for pH measurements.

List No. 0.12 post free on application.



Universal Colorimeter with Compensating Device.

E. LEITZ (London), 20, Mortimer Street, W.1

The I·XL STAINLESS STEEL PHYSICIAN'S POCKET KNIFE

A pleasure to own and delightful to use.

Polished Buffalo Horn Handle

4/-

Each

No. 7222.—*This is a knife we have made for nearly 100 years. Its description appears in one of our old pattern books dated 1858, and was probably copied from an older one.*

ORIGINALLY designed for the Physician, this knife, by virtue of its long, useful, highly polished blade, now made of Stainless Steel, is to-day being used most extensively as a Fruit Knife—in fact, no better knife could be found for this purpose. It is also most useful for opening letters, cutting the leaves of a book, sharpening pencils, and many more purposes which a good knife can serve. The Nickel Silver cap on the end can be used on sealing-wax, or for pressing down tobacco in the pipe. The Physician will still find the long blade of this knife extremely useful for its original purpose—that of taking powder from broad-necked bottles.

There is an I·XL stockist in every district, but as this is a knife designed mainly for Physicians, and there is not a large sale, we are not asking our dealers to stock it.

If you wish for one of the knives, send us Postal Order for 4/-, and we will send it to you through our local dealer.

Before buying Cutlery, fill in the Coupon, place a halfpenny stamp on the envelope and post to-day. →

OUR GUARANTEE

We are sure you will like the knife, but if for any reason you are not entirely satisfied, please return the knife to us within 7 days, and we will promptly refund your money in full.

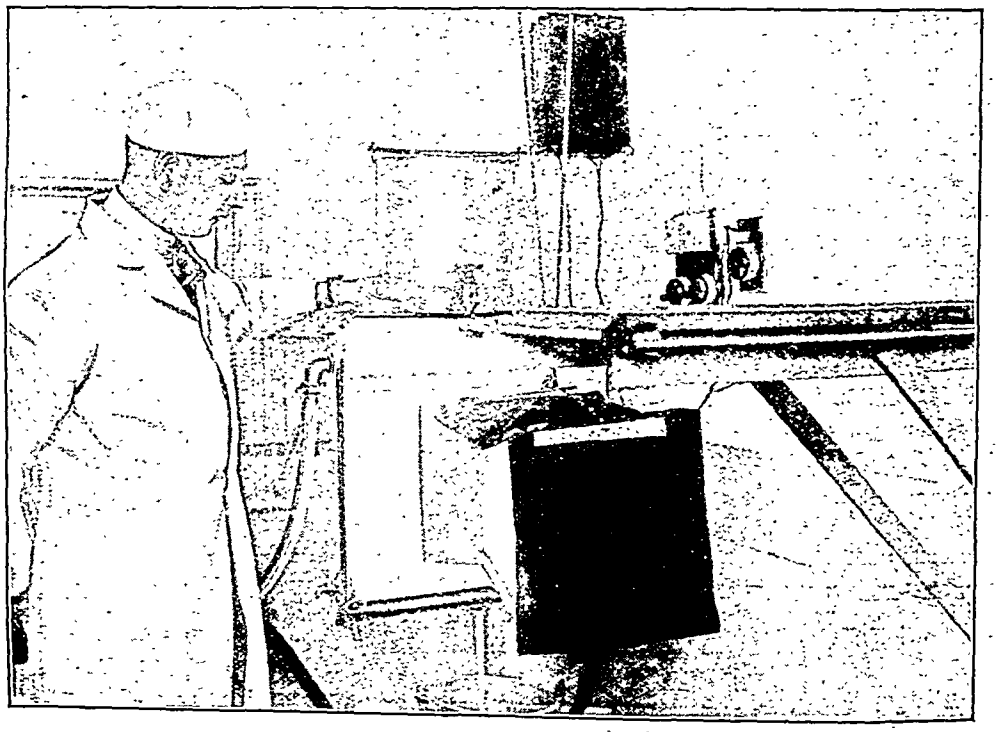
To GEORGE WOSTENHOLM & SON Ltd., 105, WELLINGTON STREET, SHEFFIELD.

Please send me free of charge your new 28-page Catalogue of the celebrated I·XL Cutlery, illustrating and describing a wide range of Pocket Knives, Table Knives, Razors, Scissors, Carvers, and the wonderful I·XL Saw-Edged Bread, Salad and Grape Fruit Knives, with the name of the Dealer in my district who sells I·XL Cutlery.

Name .....

Address .....

MICKLEFIELD IRRADIATED MILK



TREATING THE MILK

By this Process—

(1) VITAMIN A AND NATURAL FLAVOUR ARE PRESERVED.
(2) VITAMIN D CONTENT IS INCREASED 1,800 PER CENT., OR TEN TIMES THAT OF ANY OTHER IRRADIATED MILK.

One pint equivalent in Vitamin D to 600 drops or 12 grammes of average Cod-Liver Oil.

A ten weeks' test recently conducted at the Infants' School, Rickmansworth, under the supervision of the Medical Officer of Health, gave the following results:—

(1) 18 children (controls) had their usual ordinary milk.
(2) 29 " 1/3-pint of Grade A (T.T.) milk five days a week.
(3) 30 " " Micklefield " " "

(1) Average increase in height .605-in. (2) Average increase in weight 9.72 ozs. more than (1).
(2) " " " .610-in. (3) " " " 10.9 ozs. more than (1).
(3) " " " .744-in.

Full particulars appeared in an article in the LANCET, January 18, 1930, p. 127, et seq., a reprint of which will be sent post free on request.

The milk is delivered every week-day in London; elsewhere by arrangement.

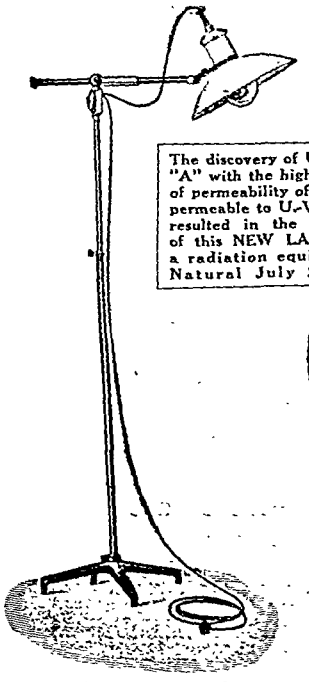
Write to J. O. HICKMAN, MICKLEFIELD GREEN, RICKMANSWORTH.

GRSA

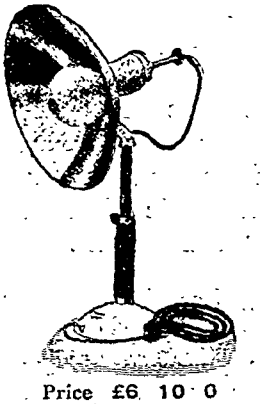
NERON VITALUX

The Sunlight Generator

HEAT, LIGHT, ULTRA-VIOLET



The discovery of U.-V. Glass "A" with the highest degree of permeability of all glasses permeable to U.-V. Rays has resulted in the production of this NEW LAMP giving a radiation equivalent to Natural July Sunlight.



Price £8 10 0 Price £6 10 0

Complete with bulb.

An indication as to some of its uses:

Rachitis prophylaxis, tubercular cervical glands, surgical and cutaneous tuberculosis, neuralgia, rheumatism (neuritis, myalgia), catarrhal diseases (colds), inflammation of the lungs (pleurisy), treatment of wounds, abscesses, furuncles, fungoid diseases of the skin, barber's rash, frontal sinus catarrh.

Extract from letter recently received from a doctor:

"The lamp is giving me thorough satisfaction, being a great improvement on the carbon arc lamp I was using, owing to the absence of fumes and greater ease of working, as well as giving a more satisfactory spectrum."

A SUSPENSION MODEL is available for Group treatment. Plans prepared free of cost for Hospital Sun Rooms.

NERON VITALUX LAMPS ARE BEING INSTALLED IN VARIOUS HOSPITALS, Etc.

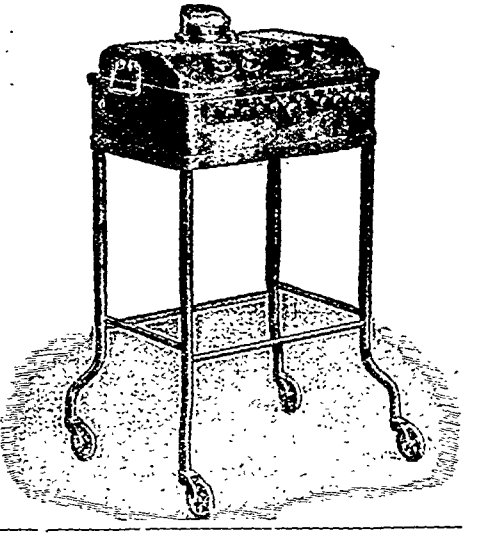
NEW DIATHERMY APPARATUS

THERMOFLUX D4

(as illustrated)

This Large Portable Model has a greater output than our well-known C type, viz., 280 watts. Designed to treat up to four patients, or four separate circuits with one patient. Current read in each circuit separately.

Price £50 0 0 Trolly £4 10 0



THERMOFLUX A, for Small Surgical Operations, £30 0 0
THERMOFLUX M, for Major Surgical Operations, £80 0 0
OTHER MODELS:—Thermoflux C, £37 10 0; D2, £47 10 0; CK, £40 0 0; K, £55 0 0; G, £85 0 0

Many New Designs in Electrodes available.

Write for particulars of our ELECTRO-ATMOS for use with our surgical model machines when being used for Ear, Nose, and Throat operations, etc.

The General Radiological & Surgical Apparatus Co. Ltd.

204-206, Great Portland Street, London, W.1

'Phone: Museum 1719 and 8326. Showrooms: FIRST FLOOR. 'Grams: Equispital, Wesdo, London.

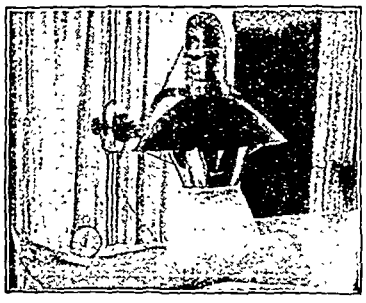
Agents for Scotland:
THE MEDICAL SUPPLY ASSOCIATION LTD.,
10/13, Teviot Place,
EDINBURGH.

Agents for Ireland:
THE IRISH RADIOLOGICAL & SURGICAL SUPPLY CO., LTD.,
7, Lower Pembroke Street, DUBLIN.

LUMINOUS HEAT RAYS

Relief of pain in conditions of acute inflammation . . .

A new booklet!



The Sollux lamp in use.

"In pleurisy and inflammation of the lungs, irradiation with the large Sollux Lamp quickly relieves pain. *If for this reason only, no doctor should be without the Sollux Lamp.*"
—One leading authority's opinion.

This booklet summarises for you actual clinical experiences in the treatment of many acute and chronic conditions, including:—Abscesses, boils, bruises, extravasations, sprains, synovitis, torticollis, lumbago, rheumatism, neuritis, sciatica, mastoiditis, otitis, sinusitis, rhinitis, prostatitis, epididymitis, orchitis, acute dental conditions, etc.

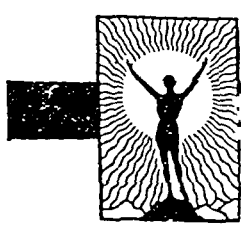
Send in your request TO-DAY

HYPERAEMIA therapy with luminous heat rays gives prompt relief of pain and speedy resolution in many conditions. Acute inflammatory pain, chronic neuritic and rheumatic disorders—these are outstanding indications.

The new booklet published by the Hanovia Company on this subject gives much valuable information and evidence in many cases of this kind. In special conditions, too, this booklet summarises results from a large number of cases of interest, collected together in a simple, compact form.

This is a little work you should not be without. A copy will be sent to you free upon request to the address on the coupon below.

THE BRITISH HANOVIA QUARTZ LAMP CO. LTD., Slough, Bucks. (Dept. 9.)
Please send me a free copy of your new booklet on "Hanovia Equipment for Luminous Heat Therapy."
Name .....
Address .....



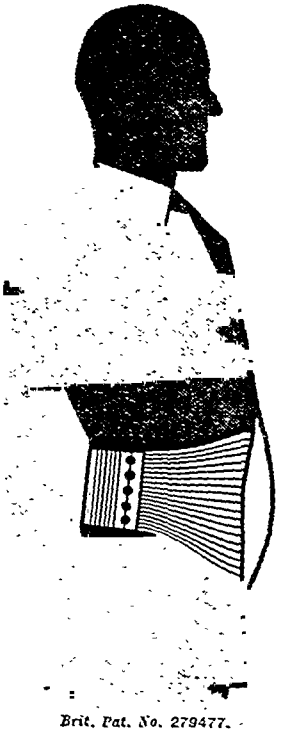
HANOVIA

Specialists in Actinotherapy Equipment
LONDON OFFICE: 3, VICTORIA STREET, S.W.1

Makers of the ALPINE SUN *(Ultra-violet)* and SOLLUX *(Luminous Heat)* Lamps.
Equipment and service also through all electro-medical dealers.

320

Leading Surgical Opinion approves this strong flexible support

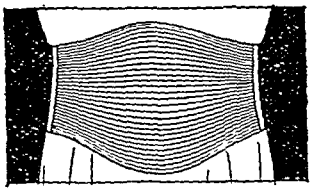


Brit. Pat. No. 279477.

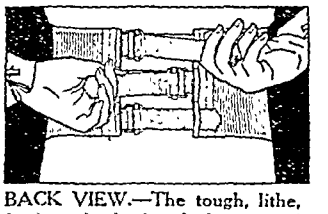
Being Pliable, it Exerts a Firm yet Natural Compression without Restriction

The Linia Belt represents a definite step forward in modern surgical belt construction, and its patented principles are widely approved by leading professional opinion.

This belt, designed by anatomical experts, is the result of 25 years' research and experiment in making elastic supports to medical requirements. The efficiency and comfort of this method of abdominal control is vouched for by the many prominent medical men who have adopted the Linia Belt for their personal use.



FRONT VIEW.—At the front of the belt the thin tricot of great strength can be extended to the required depth, so that a gentle pressure is exerted on the full area of the abdomen. Pressure is applied from pubis to groins as a safeguard against rupture.



BACK VIEW.—The tough, lithe, horizontal elastic of this special tricot can be regulated to the required tension by means of slide buckles. Thus its lifting and massaging powers are easily controlled. As the abdomen resumes its normal conformation, further adjustments of the slide buckles can be made.

THE ACTION OF THE LINIA BELT

The Linia Belt, being made entirely in an exceptionally tough elastic tricot, with firm back and strong extendible front, gives the firm and efficient support so necessary for post-operation wear *without employing any rigid components.* Thus it allows complete freedom in movement and breathing. Corpulence is reduced by a gentle massage action and a *natural* compression exerted which restores any displaced muscles and organs to their natural conformation. Recommended for post-operation wear in cases of Intestinal Ptosis, Enteroptosis, Visceroptosis, Gastroptosis, Nephroptosis.

We invite you to submit this belt to your own tests

We shall be pleased to forward a Linia Belt for your inspection free of charge. *POST ORDERS* can be carried out to your direction on receipt of exact measurement round girth and required depth from pubis upwards. Standard depths, 9, 10, and 11 inches. *Prices:* Popular Model, 2½ guineas. In black, 3 guineas. De Luxe Models, in pure silk and elastic, 5 guineas; black, 6 guineas. Standard Model, 35/-. Post free in United Kingdom.

The Linia Belt

is on sale only at

ROUSSEL, 173, Regent Street, W.1 *(Special Branch for Men's Abdominal Belts)*

M 3

ALLERGIC CONDITIONS AND PROTEIN SENSITISATION

MUCH attention has of late been directed to states in which the subject has become sensitised to some substance, and on exposure to the same substance reacts in a characteristic manner.

The substances which may sensitise are very varied (*e.g.*, animal dandruff and hairs, plant pollens and hairs, animal and vegetable proteins of foods, bacteria and their products) and the reaction may take the form of epileptic attacks, fainting fits, skin eruptions, asthma, etc.

In many instances the sensitisation is produced by bacteria or their products in the bowel, and by the exhibition of an efficient intestinal disinfectant the subject is cured. This has been found to occur in many cases of asthma, eczema and other skin diseases.

The best of all intestinal disinfectants is Kerol, which acts as a specific cure in many of these cases.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

Kerol Capsules

KEROL LTD.
Ravens Lane, Berkhamsted, England.

21871

ACKERMAN-LAURANCE

"Brut-Royal"
and
"Dry-Royal"

"may be recommended with every confidence. By reason of the very low content of sugar these wines are specially suitable for persons with a rheumatic or gouty tendency."

(Vide Report: Institute of Hygiene, Feb. 1927)

Obtainable everywhere

Per bottle	9/-
Per half-bottle	4/9
Per quarter-bottle	2/6

General Agents (Wholesale only) for U.K. and Colonies

ANDERSON DOBSON & CO., LTD.
13, COOPER'S ROW, LONDON, E.C.3

A useful attachment for U.K. Telephone, holding Memo Block, sent post free on application.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.
WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ROYAL LONDON OPHTHALMIC HOSPITAL.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.
THE LONDON HOSPITAL.
WALTHAMSTOW HOSPITAL.
BRADFORD EYE AND EAR HOSPITAL.
BIRKENHEAD GENERAL HOSPITAL.
BURNLEY VICTORIA HOSPITAL.
HARTLEPOOL HOSPITAL.
HUDDERSFIELD ROYAL INFIRMARY.
HUDDERSFIELD ROYAL HOSPITAL.
KENT COUNTY OPHTHALMIC HOSPITAL, MAIDSTONE.
NEWPORT, ROYAL GWENT HOSPITAL.
NEWCASTLE-ON-TYNE, ROYAL VICTORIA INFIRMARY.
OXFORD EYE HOSPITAL.
...OOL.
BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:
THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.
Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8095.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

DISMENOL for instantaneous relief of pain in DYSMENORRHOEA

In spasmodic Dysmenorrhoea the primary call is for the elimination of pain, and the physician has a valuable weapon in Dismenol Tablets, which are entirely *free from narcotics.* This product is a sure and safe sedative in all cases of Dysmenorrhoea, possessing anti-spasmodic properties of a remarkable kind. A feeling of general well-being is substituted for the state of lassitude in the patient.

Please write for samples and literature (also formula) to—

ROBERTS & Co., 76, NEW BOND STREET, LONDON, W.1.
Pharmaciens to H.M. the King.

The Dual Therapeusis of MAGNESIA-OIL
(MUSTEROLE BRAND)

Attained by Clinical Experiment
Established by Clinical Trials
And abundant Clinical Evidence

M-O is definitely Laxative—it softens the contents of the colon throughout its length

DUAL THERAPEUSIS

M-O is definitely Adsorptive—inhibiting Colonic Bacteria and their toxic products

THE phenomenal state of ultra-sub-division which obtains in M-O has made possible what is unobtainable from mere mixtures of Liquid Paraffin and Magnesia. It possesses characteristics that place it in a class by itself. It is palatable, neither "leaks" nor "repeats," and does not cause either distension or a drug-habit. M-O acts upon the bowel contents rather than upon the bowel itself, thereby softening the fæces without irritating the mucosa. It is suitable for patients of all ages, and is especially valuable in gestation and pathological conditions referable to toxæmias.

N.B.—A generous Clinical Sample will be sent free of charge on receipt of your professional card.

THOS. CHRISTY & CO., 4-12, OLD SWAN LANE, LONDON, E.C. 4.

Chief Indications

Constipation of Pregnancy, Infancy, Age
Flatulence .. .. Acid Eructations
Nausea .. .. Vomiting
Hyperæmias .. .. Toxæmias
Hyper-Acidity .. .. .. Dyspepsia
Simple and Ulcerative Colitis, etc. etc.

M-O
MAGNESIA-OIL
(Musterole Brand)

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative. "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

M 233

ANNOUNCING

the Issue of a New Highly-Concentrated Solution of

VITAMIN A

The Medical Research Council in their Sixteenth Annual Report draw attention to the great possibilities opened up by the recen scientific and clinical work on Vitamin A and the result obtained from the administration of large doses.

The British Drug Houses, who have for a long time manufactured and issued concentrated Vitamin A preparations, announce that, guided by these results, they have arranged to place in the hands of physicians this important anti-infective vitamin in an even more highly-concentrated form than previously, but without the admixture of Vitamin D.

The British Drug Houses will continue to issue Radiostoleum as before. This product, which has been found to yield such excellent results wherever both Vitamin A and Vitamin D are required, continues to be prescribed for prophylactic and general curative work.

The new concentrate of Vitamin A is issued in capsules. Further particulars are available on application.

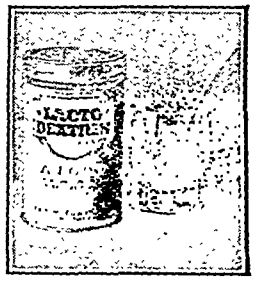
THE BRITISH DRUG HOUSES LTD. LONDON N-1

Vit.A/1

Of special service in FISSURE or HAEMORRHOIDS

"PSYLLIUM seeds when immersed in water yield a mucilaginous substance which is able to take up relatively large quantities of water to form a gelatinous mass. They become in this way a useful lubricant, while the emollient character of the mass renders it of special service in fissure or haemorrhoids."—*Lancet*, Jan. 10th, 1931.

Another preparation of importance as a laxative agent is Lacto-Dextrin—a palatable combination of lactose and dextrin for changing the intestinal flora.



Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, 41, Great Tower Street, London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA *(Psyllium Seed)*

LACTO-DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

Post-Influenzal Depression

is partly a direct effect of influenzal toxins, but is largely due to toxaemia arising from the debilitated digestive tract.

Kaylene-ol

prevents intestinal toxaemia and thus shortens convalescence and enables the patient to resist secondary infection.

Literature and supply for clinical trial obtainable from the Manufacturers:

KAYLENE LIMITED,

Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone— GLADSTONE 1071 (2 lines). *Telegrams*— KAYLOIDOL, CRICKLE, LONDON. *Cables*— KAYLOIDOL, LONDON. *Code*— BENTLEY'S.

R AND C

Specially indicated in

NEPHRITIS - URÆMIA - ECLAMPSIA - ALBUMINURIA

and allied conditions.

PROMPT and proper diagnosis of kidney conditions is necessary in cases of Bright's disease and all types of renal disorders. In nine cases out of ten the administration of a specific capable of producing real results in compensating for the loss of kidney function is also necessary.

For more than a quarter of a century Nephritin has been a sheet anchor to physicians in treating such disorders. Nephritin Tablets induce a marked increase in nitrogenous waste elimination. They reactivate the cells of the kidney, increase urinary secretion, and induce a greater output of urea.

Given in sufficient dosage these tablets produce marked results, and restoration to normal is quickly stimulated. They are invaluable also as a prophylactic in renal complications of infectious diseases and during pregnancy. The tablets are composed of the hormones of the normal kidney as they appear in nature—*absolutely unaltered.*

Samples and Descriptive Literature from Sole Distributing Agents for U.K. and Irish Free State: COATES & COOPER, 41, Great Tower Street, London, E.C.3.

Nephritin

TRADE MARK BRAND

DIURETIC RE-ZYME TABLETS

Manufactured by

REED AND CARNRICK

Pioneers in Endocrine Therapy

Jersey City, New Jersey.

WHEN THE PATIENT'S RECOVERY IS HAMPERED BY ANOREXIA . . .

these essences supply stimulus and energy without strain to the digestive system . . .

BECAUSE they are suave and non-irritant in action; because recent scientific tests have shown that they can be assimilated by the digestive organs forty minutes quicker than ordinary foods and without the formation of any residue, Brand's Essences of Beef or Chicken have come to be a preferred invalid food.

99 out of every 100 doctors, recently interviewed, recommended them in cases of intestinal disturbances, in states of exhaustion, in specific fevers, in all disorders associated with pyrexia, and before and after operations.

To-day doctors everywhere are finding these Essences indispensable in the post-influenzal state because they supply energy quickly and prepare the system to accept a more solid diet.

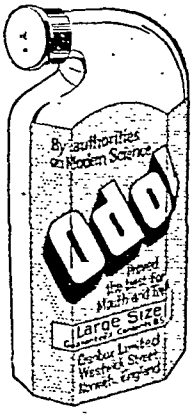
Brand's Essences of Beef or Chicken are prepared by an exclusive process from the finest freshly killed English meats without the addition of colouring matter or preservatives. Patients welcome them because they are delicious to taste and easy to swallow.

Samples will be gladly sent on receipt of a professional card.

Brand & Co., Ltd., Dept. F.27, Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S
ESSENCES OF BEEF OR CHICKEN

A STRONGLY ACTING ANTISEPTIC — Odol



ODOL will actually destroy Bacillus Typhosus within 30 seconds if used at a strength of 4%.

Samples and literature will gladly be sent to any member of the Medical profession on application to:

CRANBUX LTD. of NORWICH.
BRITISH MADE THROUGHOUT.

"I find ODOL a most agreeable preparation, combining the qualities of an efficient and purifying medium with the penetrating power of a strongly acting but innocuous antiseptic solution, and meeting in this way the greatest desiderata in the hygiene of the mouth."

Signed . . . . M.B., Ch.B.
(Didsbury, Manchester.)

ANTI-ACID NON-CAUSTIC NON-TOXIC

Aldwych

Valentine's Meat-Juice

"For a Tired Stomach"

In **Phthisis, Pneumonia, Influenza** and other **Wasting, Acute** or **Febrile Diseases, When Other Food Fails** and it is **Essential** to **Aid** the **Digestion** and **Sustain** the **Exhausted Patient, Valentine's Meat-Juice** demonstrates its **Ease** of **Assimilation** and **Power** to **Restore** and **Strengthen.**

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 97

RADICAL TREATMENT

of DISEASES of the VEINS and their COMPLICATIONS

In Tablets { Formula M — red — for men
Formula F — violet — for women

A synergic medication based on organotherapeutic extracts irradiated with ultra-violet rays

VEINOTROPE

LABORATOIRES LOBICA, *46, Avenue des Ternes, PARIS*
Distributors in British Isles: CONTINENTAL LABORATORIES Ltd., *30, Marsham St., LONDON, S.W.1*

For the Treatment of Arthritis and Neuritis

"ARTHRYTIN" Mark

Trade BRAND

Ammonium ortho-iodoxy benzoate

"ARTHRYTIN" possesses an action resembling that of the salicylates, but is much more potent in its effects. It is indicated in all forms of acute arthritis, and has given strikingly successful results in many cases of chronic arthropathy.

Supplied in capsules for oral administration, and powder for intravenous and rectal injection.

Clinical trial sample and literature on request.

Prepared in the Laboratories of

MAY & BAKER, LTD.

BATTERSEA LONDON, S.W.11

Telegrams: Bismuth, London.

Telephone: Battersea 1813 (6 lines)

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark

ITS FORMULA

Combines Mineral Foods and Synergistic Agents.

ITS POSOLOGY

One to two teaspoonfuls after meals.

ITS EFFICACY

Is such that under its influence one observes a rapid increase of appetite and a marked elevation of tone.

ATONY

DEBILITY

CONVALESCENCE

DEMINERALIZATION

FELLOWS MEDICAL MFG. CO., INC.

26 Christopher St.

New York City, U. S. A.

Samples on Request

COD-LIVER OIL CREAM

Whenever there is occasion to prescribe Cod-Liver Oil this preparation will be found to fulfil all requirements as to palatability, ease of assimilation, and freedom from causing digestive disturbance.

It is specially indicated in cases of—

Delicate Children,

Bronchial conditions,

Enlarged Cervical Glands,

Persistent Coughs, etc.,

and as an ideal nutrient and strengthening agent after illness.

Supplied freshly prepared in bottles, 4/-, 7/-, and 10/-, by return, post free.

R. THOMSON, Chemist, 21, Abbey Street, ELGIN.

London Agents:

Messrs. SQUIRE & SONS, Chemists to H.M. the King, 413, OXFORD STREET.

THE FRENCH NATURAL MINERAL WATER

VICHY-CELESTINS

And the other State Springs of Vichy
(Property of the FRENCH STATE)

¶ This Natural Alkaline Mineral Water may be prescribed with absolute confidence with regard to its purity and natural condition. It is bottled at the Springs under the most careful supervision, and to ensure fresh supplies is imported with regular frequency.

¶ The VICHY WATERS, being almost devoid of Sulphates, are most agreeable to the taste, and are daily relied upon by Physicians the world over in the treatment of Gout and Rheumatism and for Affections of the Liver, Stomach, etc.

NATURAL VICHY SALTS for Drinking and Baths.
VICHY DIGESTIVE PASTILLES prepared with Natural Vichy Salts.

CAUTION.—Each bottle from the STATE SPRINGS bears a neck label with the word "VICHY-ETAT" and the name of the SOLE AGENTS:

INGRAM & ROYLE, LIMITED,
Bangor Wharf, 45, Belvedere Road - - - - - - London, S.I

And at LIVERPOOL and BRISTOL.

Samples free to Members of the Medical Profession.

In General Debility

"Glycerophosphates favour the assimilation of phosphates from the food and protect the combined phosphorus of the nervous system from wasting."

Prof. A. Robin

"In Sanatogen we are offered an ideal combination to combat the wasting effect of chronic or acute illness. In fact, a better cell-reconstituent can hardly be imagined, for the casein and glycerophosphates in combination fulfil every demand for perfect nutrition."

PROF. GOLDWATER in "Therapeutic Medicine."

"I have used Sanatogen and am very pleased with the results obtained."

PROF. VON EISELSBERG of Vienna, recipient of the Lister Medal, July, 1927.

SANATOGEN

CASEIN-SODIUM-GLYCEROPHOSPHATE

Samples and literature will gladly be sent on application to

GENATOSAN LTD., LOUGHBOROUGH, LEICESTERSHIRE.

BOOTS PRODUCTS

OBTAINABLE THROUGH ALL BRANCHES OF

The Boots Chemists

WHOLESALE AND EXPORT DEPARTMENT,

BOOTS PURE DRUG Co. Ltd.,

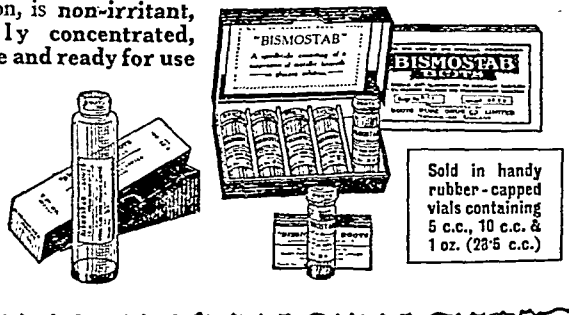
NOTTINGHAM, ENGLAND.

Telephone: Nottingham 45501.
Telegrams: "Drug," Nottingham.

Bismostab (BOOTS)

METALLIC BISMUTH SUSPENSION

THE Standard Bismuth Preparation for the treatment of **Syphilis** and other **spirochætal diseases** (Bismuth having largely replaced Mercury as an adjunct to Arsenobenzol Therapy). Bismostab (Boots), a suspension of specially prepared, finely divided, pure Bismuth metal in 5% Glucose solution, is **non-irritant, highly concentrated, sterile and ready for use**



Sold in handy rubber-capped vials containing 5 c.c., 10 c.c. & 1 oz. (28·5 c.c.)

BOOTS PURE DRUG CO. LTD., NOTTINGHAM.

Influenza and Capillary Tone

Another influenza epidemic finds us still without a specific preventive or a specific remedy. Fortunately, both the incidence and the course of the disease can be favourably modified by the observance of such rules as medical experience teaches.

It is essential to maintain vigorous metabolism and healthy capillary tone, whilst avoiding undue cold and damp. Adequate stimulation of the sensory nerve-fibrils of the skin, also, is of supreme importance in keeping the body's resisting power at its highest, and in increasing its recovery-capacity. For these purposes THERMOGENE has been found by many medical men and their patients to be convenient, cleanly and effective.

Thermogene is a carefully prepared pure cotton wadding, remarkably soft and fleecy, freed from dust and other impurities, and impregnated with skin-stimulating vegetable essences.

THERMOGENE

MEDICATED WADDING

A full-size box of Thermogene, with an interesting booklet on Surface Therapy, will be sent FREE to any medical man who is unfamilar with Thermogene and its many uses in practice.
The Thermogene Co., Ltd., Queen's Road, Hayward's Heath, Sussex.

ETHYL CHLORIDE

CHLORYL ANAESTHETIC
(DUNCAN)

FOR GENERAL and LOCAL ANÆSTHESIA
IT IS INDISPENSABLE IN THE SURGERY

Ethyl Chloride (Duncan) is perfectly free from hydrochloric acid, empyreumatic bodies, etc. It has a pleasant ethereal odour and its vapour is non-irritating.

Descriptive Booklet and Prices on Application

Supplied in 60 c.c. graduated flasks or in 5 c.c. hermetically sealed ampoules.

May be had perfumed with Eau de Cologne if desired.

DUNCAN, FLOCKHART & CO.
EDINBURGH and LONDON
104, Holyrood Road. 155, Farringdon Road, E.C.1.

'CAPROKOL'

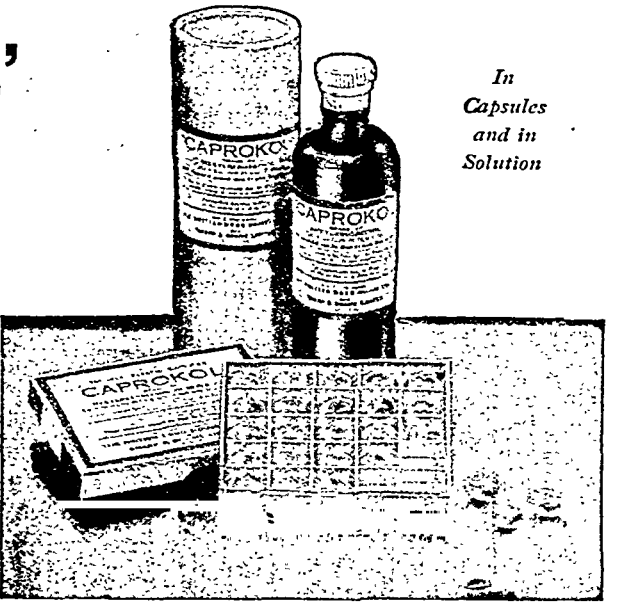
Brand of Hexyl-Resorcinol

In genito-urinary infections 'Caprokol' has a soothing analgesic action upon the mucosa of the urinary tract and a highly bactericidal effect upon the invading micro-organism.

Hence the first result of 'Caprokol' treatment is quick relief from pain followed by the rapid disappearance of other unpleasant symptoms.

Persistent treatment leads to complete sterilisation of the whole urinary system.

Literature on request



In Capsules and in Solution

Sole Selling Agents:

THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Cap/35

Full size trial sample free to any medical practitioner, in British Isles, on application by postcard to Boots the Chemists, Station Street, Nottingham.

OBTAINABLE FROM BRANCHES OF

The Boots Chemists

Over 900 Branches in Great Britain

REGETHERM POULTICE

CLEAN & CONVENIENT IN USE

More certain in action than the old-fashioned poultice

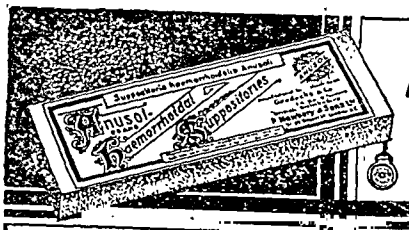
The healing action of Regetherm Antiphlogistic Poultice is governed by its ability to prolong and maintain an even degree of heat over a lengthy period. Moreover, the ingredients are so balanced that this action does not set up any counter-irritation, but allays pain, ensures an even circulation through the congested areas, and thus induces natural and pain-free rest.

The Medical Profession will appreciate the fact that the action of Regetherm Poultice is much superior to that of fomentations or linseed poultices, and can be relied upon as an efficient aid in the treatment of all types of inflammation—whether local and superficial, or of deep-seated origin.

PRICE 2/- PER 1-lb. TIN
(NOTE THE WEIGHT).

SPECIAL DISCOUNT TO THE MEDICAL PROFESSION.

BOOTS PURE DRUG CO. LTD., NOTTINGHAM



Removing one burden of pregnancy

Haemorrhoids not infrequently add to the discomforts of pregnancy. Whether caused by pressure from the gravid uterus, or previously existent, they are aggravated by this condition.

Anusol BRAND Haemorrhoidal Suppositories

afford prompt relief from the pain, they allay the inflammation and control haemorrhage.

In pregnancy, indeed, Anusol Brand Suppositories find their most important field of usefulness.

A trial of Anusol Brand Suppositories will prove a satisfying experience. May we send you a liberal trial package?

British Distributors:
FRANCIS NEWBERY & SONS, Ltd.,
31-33, Banner Street, London, E.C.1.
Manufactured by GOEDECKE & CO., LEIPZIG (Germany)

HORLICK'S

MALTED MILK has been demonstrated to be an excellent food for the expectant mother. Pregnancy is a period when every attention must be given to the diet; extra nourishment is necessary, but *quality* is as essential as quantity. Digestive disturbances and constipation must be avoided as far as possible since they hinder the assimilation of food and lead to anxiety and exhaustion. The diet must be a simple and easily digested one, and, for many patients, modified forms of milk will be found to be more suitable than whole milk. HORLICK'S MALTED MILK is a modified milk providing the essential food elements in well-balanced proportions. It is partially pre-digested and can be absorbed by the most delicate constitutions; also its proportion of dextrin and maltose corrects any tendency to constipation, and leads to regular bowel habits. It thus ensures the efficient nourishment of the expectant mother and offspring. HORLICK'S taken at night and before rising prevents and relieves morning sickness.

2378

(*Æsculapius*)

INJECTION TREATMENT OF

VARICOSE VEINS

Quinine and Urethane Method.

The injection treatment of Varicose Veins with a solution of Quinine and Urethane, introduced by Genevrier, gives excellent results. It is safe (no fatality after thousands of injections as yet has been recorded), it is non-toxic, non-caustic, and produces no general reaction or febrile disturbances.

VARIXOL

This is the scientifically prepared solution made at Evans' Biological Institute. It contains 4 grammes of Quinine Hydrochloride and 2 grammes of Urethane in a 30 c.c. bottle and is a stable and effective preparation. It is issued in 30 c.c. rubber-capped bottles and in ampoules of 1 c.c. and 2 c.c.

Sodium Morrhuate Method.

Sodium Morrhuate Solution is also used for the injection treatment of Varicose Veins. The effect is prompt and striking; it is harmless to the subcutaneous tissues, and very little discomfort arises from its injection.

EVANS' Sodium Morrhuate Solution 5%

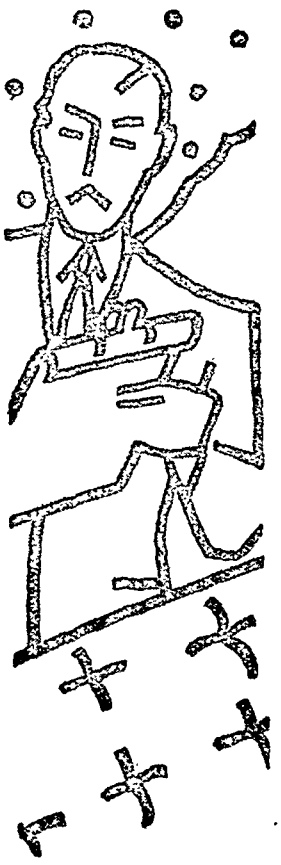
is issued in rubber-capped bottles of 5 c.c., 10 c.c., 20 c.c., and 30 c.c. ampoules of 0.5 c.c., 1 c.c., and 2 c.c.

Further particulars on application to—

Evans' Biological Institute, Runcorn.

EVANS SONS LESCHER & WEBB Ltd

LIVERPOOL 56 Hanover St. DUBLIN LONDON 50 Bartholomew Close



now you can give up saying "Give up coffee"

There was a time when the physician said "Give up coffee" and fervently prayed that the patient would have sufficient will-power to resist the tempting flavour and aroma of "the beloved beverage."

To-day the physician says "Give up caffein—drink H.A.G. Coffee." For H.A.G. Coffee is genuine, delicious coffee with the effects of caffein minimized. H.A.G. Coffee has two virtues that endear it to the medical profession. It can be enjoyed without danger of caffein effect. And it is so rich and satisfying in flavour that the patient is no longer tempted to drink caffein-containing coffee.

A blend of the world's finest coffees

H.A.G. Coffee is real coffee—a superior blend of the choicest Central and South American coffees. The de-caffeination process takes place *before* the coffee beans are roasted. This leaves intact all the mellow flavour and fragrance that have made coffee the world's favourite beverage. Coffee experts recognize that no other blend is finer.

H.A.G. Coffee is under the independent control of The Institute of Hygiene and British Analytical Control.

Your grocer stocks H.A.G. Coffee—ground or in the bean and in vacuum tins that preserve its freshness and its fragrance. Or send the coupon below for a liberal sample tin of H.A.G. Coffee. With it we shall be pleased to send a copy of "Some Observations of the Action of Caffein," a more complete discussion of H.A.G. Coffee. Send the coupon now.

H.A.G.

GENUINE = DELICIOUS

COFFEE

WITH THE EFFECTS OF CAFFEIN MINIMIZED

H.A.G. COFFEE COMPANY,
40 Theobald's Road, W.C.1

Please send me free of charge a liberal sample of H.A.G. Coffee—also the booklet "Some Observations of the Action of Caffein."

Name _____

Address _____

_____

B.M.J.2.

THE TUBERCULOSIS DANGER!

It has been stated in Parliament that *over two thousand children die every year through tuberculous milk.* How many children who survive grow up weaklings through the taint of bovine tuberculosis? This hardly bears thinking about. Cow & Gate Milk Food is guaranteed absolutely free from tuberculosis and other pathogenic organisms.

Read the following extract from the Presidential Address at the Royal Sanitary Institute Congress at Margate, it is of vital significance to the medical and nursing professions:

"The loss on the agricultural and veterinary side of 52,222 bovines during the three years 1926, 1927, 1928, slaughtered under the Tuberculosis Order of 1925, and at least twice that number not reported but otherwise disposed of, the estimate that 40 per cent. of the cows of our dairy herds producing milk for human consumption are tuberculous, are circumstances in themselves that demand immediate attention. But when to this is added the fact that in England 31.5 per cent. of tuberculosis in children up to 15 years is of bovine origin, and deaths from tuberculosis in children up to 5 years is 29.7 per cent. of bovine origin, that 57 per cent. of cervical adenitis in the same age is of bovine origin, that 33 per cent. of joint tuberculosis in children under 5 years and 24 per cent. in children from 5 to 10 years is of bovine origin, that in Scotland it is recorded that in certain hospitals in Edinburgh as much as 90.3 per cent. of cervical adenitis and 61.2 per cent. of bone and joint tuberculosis in children up to 12 years is of bovine origin, it is high time that this grave condition and this very serious menace to public health should be mended and ended. It is no credit to us as scientists and protectors of public health that such a state of affairs should be permitted to continue, or even to exist."

-IS SAFE!

Another remark made at the meeting was as follows:

'It would be better to have no milk supplied at all than to feed children on diseased milk as is being done at present.'

Cow & Gate Milk Food

COW & GATE MILK FOOD

is prepared by our Special Improved Roller Process employing a short heat treatment which destroys all disease organisms but leaves the natural vitamins unimpaired. It is a basic milk food which can be modified by the profession as they desire to suit each and every case.

WRITE FOR PARTICULARS OF OUR SPECIAL MILK FOODS FOR DIFFICULT INFANT CASES

Dept. 20 COW & GATE LTD., GUILDFORD, SURREY · *B.M.J., March 14/31.*

HEWLETT'S
ORIGINAL PREPARATIONS.

HORMONIGEN
(HEWLETT'S)

Hormonigen Tablets (Hewlett's) contain the hormones of the thyroid, pituitary, ovary, and testes.

Useful in Neurasthenia and all asthenic conditions, obesity, chronic cardiac cases, aplasias of the pluriglandular system, and in anæmia. In Amenorrhœa, Dysmenorrhœa, and at the Menopause, Hormonigen is particularly effective, and even in chlorosis.

If there is high blood pressure, Hormonigen Sine Pituitary is indicated.

PRICE: HORMONIGEN, OR HORMONIGEN SINE PITUITARY,

3/3 PER 100; 30/- PER 1,000.

UNG. IODERMIOL

An ointment of IODERMIOL that contains about 5 per cent. of Iodine, and is, therefore, stronger than the B.P. Ointment, whilst it does not harden or discolour the skin.

It has been found most useful for Enlarged Glands, Rheumatic and Gouty Affections, Lumbago, Sciatica, Swollen and Stiff Joints, Skin Diseases, Ringworm, etc. Ung. Iodermiol has also been used in cases of burns and scalds, and in the treatment of Chronic Lymphadenitis, Simple Bronchocele, and Atrophic Rhinitis, and in Purulent Ulcerative Otitis.

PRICE 6/- PER LB.

UNGUENTUM IODERMIOL et METHYL SALICYL. (HEWLETT'S)

Useful in the treatment of Enlarged Joints, Synovitis, Rheumatoid Affections, etc.

PRICE 7/6 PER LB.

LIN. BETULAE CO.
(HEWLETT'S)

Therapeutically equivalent to several times its weight of Sodium Salicylate without causing headache, tinnitus, etc. Has proved most useful in the external treatment of pure Rheumatism, Sciatica, Lumbago, etc. The external dose is about one drachm rubbed over the affected parts.

In 5, 10, 22, 40, and 90-oz Bottles.

PRICE 10/6 PER LB.

VERONIGEN
(Formerly known as MIST. VERONAL CO.)
(HEWLETT'S)

A liquid Preparation of this prompt and reliable HYPNOTIC has long been desired as a useful means of procuring sleep. When given in reasonable doses it is claimed that it does not produce any toxic symptoms whatever, and in ordinary cases of insomnia one fluid drachm of Veronigen (Hewlett's) is quite sufficient dose for an adult.

Dose for Adults.—One fluid drachm diluted, about one hour before going to bed.

For Nervous Sleeplessness in Children.—10 to 20 minims diluted.

VERONIGEN, 10/6 PER LB.

MIST. PRUNI VIRG. CONC.
(HEWLETT'S)

A valuable stimulant and expectorant cough mixture, containing Carbonate of Ammonium, Ipecacuanha, Senega, Squill, and Syrup of Wild Cherry Bark. Quite free from Morphine, Opium, or poisons, so can be safely administered to children.

Dose: 1 to 2 drachms diluted.

In 22, 40, and 90-oz. Bottles only.

PRICE 3/3 PER LB.

MIST. TUSSI RUB. CONC.
(HEWLETT'S)

A favourite and economical cough mixture, containing Hydrobromic Acid, Chlorodyne, Dilute Hydrocyanic Acid, etc. Most successful in allaying post-influenza coughs that are so persistent. One or two ounces diluted with water to make eight ounces forms one of the most effective and elegant mixtures that can be made, and certainly the least expensive.

In 22-oz., 40-oz., 4½-lb., and 8-lb. Bottles only.

PRICE 2/9 PER LB.

C. J. HEWLETT & SON, LTD., 35 to 42, Charlotte Street, LONDON, E.C.2.

Telegraphic Address: "PEPSINE, FINSQUARE, LONDON."

[ESTAB. 1832.]

Telephones: BISHOPSGATE 1172 and 1173.

Stomach Tissue

in the treatment of

Pernicious Anæmia

'Byno Eugastrol'

A combination of hog's stomach tissue extract with 'Bynin' Liquid Malt.

The usually recommended daily dose is three tablespoonfuls, which represents an amount of extract equivalent to 100 grammes of fresh stomach tissue.

A very palatable preparation.

In bottles, 4 oz., 10 oz. and 20 oz.

'Kapsol Eugastrol'

Presents hog's stomach tissue extract in the form of capsules, each equivalent to 25 grammes of fresh stomach tissue.

The usual daily dose is four capsules.

In tins containing 20, 40 and 80 capsules.

Further particulars sent on request.

Allen & Hanburys Ltd., London, E. 2

Telephone: 3201 Bishopsgate (10 lines). *Telegrams*: "Greenburys Edo London."

THE 'ALLENBURYS' DIABETIC FLOUR

A special preparation of caseins and lactalbumen to which leavening agents are added.

It is a satisfactory and convenient product for the preparation of special foods, free from carbohydrates, and containing a minimum of fat; or definite proportions of these may be added as tolerance increases with the progress of the treatment. The 'Allenburys' Diabetic Flour is convenient to use, and keeps well. From it may be prepared a variety of palatable and highly nutritious foods of special composition. Recipes and directions for use are enclosed with each packet.

Further particulars and clinical trial sample will be sent on request.

ALLEN & HANBURYS LTD.

Telephone— Bishopsgate 3201 (10 lines).

LONDON, E.2.

Telegrams— "Greenburys Edo London."

BACTÉ-PHAGES

preparations of

THERAPEUTIC BACTERIOPHAGES

BACTÉ-INTESTI-PHAGE—For Intestinal Infections.

BACTÉ-COLI-PHAGE—For Bacillus Coli Infections.

BACTÉ-RHINO-PHAGE—For Respiratory Tract Infections.

BACTÉ-PYO-PHAGE and

BACTÉ-STAPHY-PHAGE—For various Purulent Infections.

BACTÉ-DYSENTERI-PHAGE—For Acute Bacillary Dysentery.

Manufactured by Le Laboratoire du Bacteriophage, Paris, under the scientific control of Prof. d'Herelle, and imported under Licence granted by the Ministry of Health.

Literature and Samples on request.

THE ANGLO-FRENCH DRUG CO., LTD.

238a, Gray's Inn Road, LONDON, W.C.1

Over 12,000 Doctors now obtain their own supplies of Ty.phoo tea from us.

a Physician writes re....

FLATULENCE AFTER TEA

Copy of M.0208.

"Since you brought 'Ty.phoo' tea to my notice I have drunk no other kind, and I know that I have no flatulence now.

I have prescribed it to my dyspeptic patients, who all find benefit from its use."

WE print here one of the many Medical testimonials we are constantly receiving as to the undoubted value to dyspeptics of the pure natural "leaf-edge" tea in which we specialise.

Ask Sumner's Ty.phoo Tea Ltd., Dept. B/MD, Birmingham,

for a free sample of "Ty.phoo" natural leaf-edge tea and full particulars.

TRY "Ty.phoo" TEA in Indigestion.

Remarks
ON
ACIDOSIS FROM THE CLINICIAN'S POINT OF VIEW*

BY
LEONARD FINDLAY, M.D., D.Sc., M.R.C.P.
PHYSICIAN, EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL

I have selected the topic of acidosis because it is a subject which has become in recent years of considerable importance in explaining the pathogenesis of many pathological conditions, especially those occurring in the early years of life. To my mind there has been, and still is, much loose thinking and talking about the matter, because there is little evidence of a definite nature to support many of the opinions expressed.

Broadly speaking, acidosis may be looked upon as a disorder of metabolism accompanying many diseased processes. I would compare it in this respect with fever. In both, the disturbing factor, acid in the one case and heat in the other, is produced under normal conditions, and the abnormal state results from a disturbance of the balance between production and loss. It cannot be too strongly stated that in neither case have we got to the root of matters by merely recognizing an increased accumulation of acid or of heat in the body. We are only detecting the general results of disordered action of the tissues, which is in no way pathognomonic of any particular diseased process, though there may be variations in degree and in type in different diseases. Hence to raise acidosis to the position of a clinical entity, far from being an advance in the classification of disease, as some writers would appear to think, is as retrograde a step as it would be to classify disease according to the presence or absence of fever. Testing for acidosis is, like taking the temperature, of help in deciding if there is any evidence of abnormal action of the tissues, and probably therefore of active disease. Good comparable examples of the value of the thermometer and of the test for acetonuria are tuberculosis and diabetes.

I admit that we may be forced occasionally to a diagnosis of febricula, but it is a confession of our ignorance, and a diagnosis of which, I think, we are always ashamed. In the same way a diagnosis of acidosis should be equally guarded against. It may sometimes be the only abnormality detectable, but that does not mean that we understand what is wrong with the patient. Our predecessors frequently spoke of death from hyperpyrexia when the temperature of the body was above a certain level, but hyperpyrexia as a cause of death is seldom heard of to-day, because it is known that it is not a means of differentiating one type of a particular disease from another, far less different diseases from each other. Nevertheless, it is found advisable in treatment to try to prevent the heat of the body from rising above a certain level, and it is without doubt equally advisable to control the accumulation of the acid elements in the blood and tissue juices, because the tissues have their optimum activity at a certain definite temperature and a certain definite reaction of the blood and of the fluids which bathe them.

Meaning of Acidosis

What do we really mean by the term acidosis? It must be appreciated right away that a true acid state of the blood never occurs in life. The circulation of a free acid (that is, one not combined with its equivalent amount of base) is impossible with the exception of carbonic acid, which is the only free acid found in blood, whether normal or pathological. Of the total carbonic acid in the blood, only one-twentieth is normally present in the free state, the remainder being combined with alkali. The ratio between the free and combined carbonic acid is the ultimate factor in determining the reaction of the blood. The circulation of free acid (other than carbonic) or a really acid reaction of the blood is incompatible with life. What we understand by acidosis is a tendency to the production of such a state if matters were allowed to go on uncontrolled. The symptoms of the condition, as well as the tests available, are evidence of the means the body adopts to hinder this from coming about.

Acid is always being produced in the body as a result of katabolic activity, but its neutralization and excretion are provided for through the activity of the transport organ (the blood) and the excretory organs (lungs and kidneys). So long as this production of acid remains within normal limits, and the organs engaged in its removal are healthy, there is no evidence of any disturbance. When, however, the production of acid is excessive or pathological in amount, or abnormal or pathological in kind, the efforts of the body must be increased. Further, if the organs employed in the removal of these acids are diseased, not only will the difficulty experienced in their elimination appear earlier, but it will be proportionately greater, as in the case of a diseased heart. It is again a question of balancing the loss with the production, for the body will avoid at all costs the production of a too acid tissue plasma. Signs and symptoms are commensurate with the difficulty encountered in keeping the acid tide under way, and the task may be more than the body can perform. It is probably for this reason that there is the greatest difference between the effects of acidosis arising during the course of a disease and that experimentally or even therapeutically induced. In both, the chemical tests may reveal in equal degree the methods adopted by the body in coping with the rise in the acid tide, but symptoms are noticeably absent when acidosis is experimentally induced and the organs are apparently healthy.

THE ROLE OF THE BLOOD IN CONTROLLING ACIDOSIS

It has already been stated that no free acid can circulate in the blood except CO_2. All other acids must be combined with base. It is also a fundamental law that the total acid and basic elements which go to form the reaction of the blood are practically constant and perfectly balanced with each other. So far as the acid elements are concerned, therefore, a certain definite amount only can be carried; if some abnormal acid is present, or if one of those normally present is increased in amount, it will only be at the expense of and by replacing so much of one of the others—usually CO_2, since it is the most volatile acid: hence the indication of an increased formation of acid in the body, and of a tendency to the production of a more acid reaction of the blood and tissue juices, is a low CO_2 blood content. It is on account of the lessened power of the blood to carry CO_2, and the consequence that a larger proportion is free, that the respiratory centre is stimulated to a greater activity, with the resulting characteristic symptom of hyperpnoea. It must be appreciated, however, that a low CO_2 blood content does not always indicate a tendency to the production of a more acid state of the blood. It depends entirely on how the diminished CO_2 content is produced. In the above example the reason for the low CO_2 content is that some other acid has in part replaced it. If, however, the diminished CO_2 content results from a more rapid loss of CO_2 than normal, if it is, as it were, pulled out and not pushed out—for example, by forced

* Introduction to discussion at the Leeds and West Riding Medico-Chirurgical Society, January 9th, 1931.

respiration, which may be performed voluntarily, or as the result of high altitudes (mountain sickness), or in consequence of the hyperpnoea, which is at times a manifestation of encephalitis lethargica—then the primary change is a loss of normal acid, and the tendency will be towards the production of a more alkaline blood—the state of so-called alkalosis. This will tend to be rectified by an increase in some of the other acid elements in the body, the chlorine or organic acids. In fact, we know that in alkalosis produced at high altitudes from the loss of CO_2, and in the alkalosis found in pyloric stenosis due to a diminution of the chlorine, acetonuria does occur, this being significant of an increased formation of the organic acids of the oxybutyric series. Surely this should give the death blow to the current opinion that the presence of acetonuria indicates acidosis. Acetone in the urine simply results from incomplete combustion of fats, and may be present both in acidosis and in alkalosis. In the former it is the primary change producing a rise in the total acids, whereas in the latter the formation of excess of ketone acids, probably the result of defective oxidation, makes up for a deficiency of acid, and so helps to bring the reaction from the alkaline side back to normal.

Thus we are studying by our tests the different directions in which these abnormal changes in the blood are brought about, and the methods of the body in rectifying or compensating for a loss or an increase in the acid elements, rather than the true reaction so far as acidity and alkalinity are concerned. It is apparent, too, that for a true reading of the condition a knowledge of the factors leading up to the change—that is, the clinical history—is essential.

EXCRETORY FUNCTION OF LUNGS AND KIDNEYS

This so-called "buffer action" of the blood, which comprises a complex physico-chemical mechanism involving practically all the constituents of the blood, is not the sole means of the body's protection, since the excretory functions of the lungs and kidneys, and probably intestines also, play an important part. Excessive amounts of CO_2 are got rid of by the lungs; this may be revealed by the characteristic hyperpnoea of acidosis. The volatile acids of the oxybutyric series are also in part expelled by the lungs, and consequently we have another characteristic symptom, the smell of acetone in the breath. By the kidneys there is increased acid excretion, increase in ammonia formation to aid in the excretion of acids and to neutralize tissue juices, increase in fixed base excretion—for example, Ca from the bones and Na and K from the tissues generally—and, as it is the salts of the body which in great part retain fluid, this resulting diminution in their amount allows of the escape of fluid. In view of this function of the lungs and kidneys in rectifying any tendency towards the production of a hyperacid blood and plasma fluid, the importance of the health of these organs is apparent.

EXAMPLES OF ACIDOSIS IN DISEASE

I shall now attempt to explain how acidosis is produced in several clinical states with which we are familiar. This will be helpful, not only in fixing in our minds the more or less theoretical considerations outlined above, but in applying a sane therapy.

Gastro-enteritis

In fatal cases of gastro-enteritis a state of acidosis is often observed. This arises both from the increased production of acid in the body and an increased loss of base available for its neutralization. The former is due to the necessary concomitant starvation in consequence of the vomiting and defective absorption from the gut, apart altogether from any therapeutic deprivation of food; the latter accompanies the loss of fluid by vomiting and diarrhoea. The acidosis in gastro-enteritis is merely an indication of the severity of the lesion, and is in no way concerned with an explanation of the etiology of the condition. Nevertheless, it shows how the fatal termination may be contributed to, and it certainly suggests that the rational treatment is to replace the loss of fluid and to hinder the production of acetone bodies by the administration of water, salts, and glucose. This should be done at all costs; if they cannot be retained in the usual way, they must be administered either by the venous or the peritoneal route.

Diabetes Mellitus

Diabetes mellitus is of course the classical example of a disease in which a state of acidosis results. Owing to disease of the pancreas the patient is unable to utilize or combust sugar, and so fats are incompletely burned with the production of ketones (the acetone series). These bodies accumulate and compete with the CO_2 for the available alkali of the blood. This results not only in a diminished amount of CO_2 per unit of blood, but in a relatively increased proportion being in the free state—hence the hyperpnoea. In diabetes there is another factor working in the same direction. In consequence of the diuresis there is a washing out of the fixed alkali (Na, K, and Ca) available in the body for neutralizing the increased formation of acid. The kidney itself, however, plays an important part in minimizing this loss of base by a great increase in the formation of ammonia, which to a large extent takes the place of the fixed alkali. It is well known that renal disease increases the gravity of diabetes mellitus, and it is probable that the impaired formation of ammonia is the serious factor.

Nephritis

It is appropriate that nephritis should be considered as a disease contributing towards acidosis, since it is an example of interference with the normal excretion of the acid products formed during the processes of metabolism rather than of the production within the body itself of increased or abnormal acid. In importance or in degree, however, the acidosis produced in this way falls far behind that mentioned above.

IMPORTANCE OF HEALTH OF THE TISSUES

To illustrate the importance of the excretory organs in hindering a progressive acidosis, and to indicate the complexity of the whole problem, it is interesting to consider acidosis artificially induced, as not infrequently happens for therapeutic purposes. A state of acidosis may be induced by adding to the body one of its acid elements—chlorine—or by encouraging the incomplete combustion of fat with the production of ketones.

1. The first type of acidosis may be produced by the administration of either $CaCl_2$ or NH_4Cl. In the case of the former drug the Ca is split off in the gut and the Cl alone is to all intents and purposes absorbed. In the case of NH_4Cl the ammonia factor is converted into urea and leaves the Cl free. In both instances the chlorine content of the blood rises and competes with the CO_2 for the available base. Thus in both instances there is a fall in the CO_2 content of the blood, which, with certain provisos, is not only our evidence, but also our measure of the degree of acidosis.

2. In the second type of induced acidosis the incomplete combustion of fat with the production of ketones is brought about by the withdrawal of food (starvation), or by disturbing the balance of fat and carbohydrate in the diet (poor carbohydrate and rich fat). In this case the acetone bodies (ketones) compete with the CO_2 for the alkali of the blood and tissue juices, and again the CO_2 content of the blood is diminished.

It is a striking fact, however, that although by estimation of the CO_2 content of the blood in either of these two types of acidosis there might appear to be a degree equal to that met with when the condition arises spontaneously, yet no symptoms are apparent. It is admitted, of course, that if the doses of the salts of chlorine are enormous, symptoms do arise, but I have seen as severe an acidosis, at least as revealed by CO_2 content of the blood and the amount of acetone in the blood and urine, induced by a ketogenic diet as in many an example of gastro-enteritis or of cyclical vomiting, but I have never seen vomiting and hyperpnoea. Moreover, almost always within a day or two, in spite of a continuation of the ketogenic diet or administration of the drugs ($CaCl_2$ and NH_4Cl), the degree of the blood changes becomes modified. This brings home to us the remarkable powers of the body in accommodating itself to new conditions, and the completeness of these powers so long as the tissues are healthy. It also demonstrates that the symptoms of acidosis, and the progressive and cumulative nature of the condition as met with clinically, are not so much due to any peculiar pathological process as to the inability of the tissues, in consequence of the effect of disease in general on the cells, to exert their inherent regulating mechanism.

THE TREATMENT OF GASTRIC AND DUODENAL ULCER

A STATISTICAL INQUIRY

BY

A. RENDLE SHORT, M.D., B.S., B.Sc. F.R.C.S.

SURGEON TO THE BRISTOL ROYAL INFIRMARY

It is useless to discuss the prognosis and end-results of the treatment of these ailments unless there is a clear understanding of what we mean by the terms in question. There was a time, up to, shall we say, 1910, when it was generally supposed that a patient with haematemesis, with or without other symptoms, had an ulcer, and that many patients with intractable dyspepsia had either ulcer or "gastritis." Needless to say, any conclusions as to the value of medical treatment derived from those days are not trustworthy. Then we learned that haematemesis without pain was seldom, if ever, due to an ulcer, or at any rate to an ulcer that a surgeon could demonstrate, but was the result of bleeding from multiple gastric erosions, or, less often, from a single soft acute ulcer. Haematemesis with pain did not necessarily mean peptic ulcer; it might be associated with a tiny, withered-up appendix. Again, it was thought that hunger-pain meant duodenal ulcer, but many fruitless operations revealed that this was also misleading; hyperchlorhydria, often of reflex origin, might give this symptom without any ulcer. There was an unhappy period—up to 1920, or a little after—during which we were all at sea with regard to the diagnosis of gastric conditions; our methods were inadequate, and we no longer believed, as we had done before surgery taught us otherwise, that gastric or duodenal ulcer could be recognized with certainty. In this period, therefore, we get little or no help towards reading the natural prognosis of peptic ulcer, or the end-results of medical treatment. Shortly after 1920, methods of *x*-ray examination were worked out, perfected, and came into general use, and the study of symptoms and of chemical analyses made advances, so that now the diagnosis can be made with reasonable accuracy, and often with absolute certainty. The time has come at last, by using the material collected since 1920, to form some conclusions as to the prognosis.

RESULTS OF MEDICAL TREATMENT

That cases of gastric ulcer, even when deeply adherent, can and do heal, either spontaneously or with medical treatment, is certain, partly on clinical, partly on post-mortem evidence, the scars being found at necropsy. According to Stewart, 5 per cent. of the cases examined in the post-mortem room at Leeds showed open or healed gastric ulcers. Simple pyloric stenosis nearly always indicates the presence of an ancient healed duodenal ulcer, just as hour-glass stomach means an ancient healed gastric ulcer. It is also certain that chronic gastric and duodenal ulcers, untreated or treated, may lead to fatal haemorrhage or perforation, and that these catastrophes are not infrequent. They are nearly always the result of chronic, not acute, ulcer. Lord Moynihan and Stewart found over a period of twelve years that of 61 cases of fatal perforated gastric ulcer, 60 were chronic ulcer and 1 was acute; of 14 cases of gastric ulcer with fatal bleeding, 13 were chronic ulcer and 1 was acute; and that of 117 cases of fatal perforated duodenal ulcer, 109 were chronic ulcer and 12 were acute. Acute and chronic ulcers were found in 4 cases.

Of 100 cases of chronic peptic ulcer there is no reliable evidence to indicate how many would heal, or bleed, or perforate. At Leeds, out of 96 cases in which death was attributed to gastric ulcer, 68 had perforated; this had occurred in 178 out of 200 cases due to duodenal ulcer. On the other hand, of 164 patients treated at New Lodge Clinic for gastric or duodenal ulcer between 1921 and 1927, only 3 are *known* to have perforated. The majority of these 164 cases have a long history; cases of perforated ulcer usually give a history of less than a year, so that the true incidence of perforation must be higher. It is the anterior ulcer that perforates into the general peritoneal cavity, whereas the long-standing ulcer is usually on the lesser curvature or posterior wall. According to Hurst, Moynihan, and Balfour, about 20 to 25 per cent. of cases of gastro-duodenal ulcer bleed. At Guy's Hospital, during the period 1911 to 1920 (Conybeare), 600 cases of haematemesis were admitted, and the mortality was about 2.5 per cent. Crohn of New York gives 94 cases treated medically, with 4 deaths; but Bulmer, at Birmingham, mentions 526 cases with 67 deaths, or 12.7 per cent.

In regard to recent statistical evidence relating to the results of medical treatment for gastric and duodenal ulcer, the following studies are available. The medical treatment adopted was, generally speaking, rest in bed, a milk diet, and alkalization.

Einhorn and Crohn, writing in 1926, present the results of a careful follow-up of 100 cases. One year after treatment, 67.5 per cent. were cured, and 22 per cent. were better; four years after treatment, 27 per cent. were cured, and 23 per cent. were better. Their statistics show very little difference between gastric and duodenal ulcers.

David Smith gives the immediate results in 214 cases treated between 1913 and 1922 as follows: 67 per cent. of the males "cured," 2 per cent. dead; 76 per cent. of the females "cured," 5 per cent. dead. In cases observed five to fifteen years later, 29 per cent. of the males were "cured," 19 per cent. were dead; while the corresponding figures for females were 40 per cent. and 15 per cent. The percentages were calculated on the original number of cases.

Forman, at Guy's Hospital, studying a series of 41 cases five years after treatment, found 22 per cent. of the patients well, 20 per cent. better, and 57 per cent. no better. Franklin White, in a series of 206 private cases followed up from three to five years, reported that 30 per cent. of the gastric patients were well and 24 per cent. better; while 57 per cent. of the duodenal patients were well, and 21 per cent. better. Of the gastric cases,

42 per cent. of the patients came to operation, and 4 died under medical treatment; of the duodenal cases 4 per cent. of the patients were no better, and 18 per cent. came to operation.

Barford, studying the late results of all the 160 cases treated at the New Lodge Clinic since 1921 (the diagnosis therefore being as accurate as possible), found that of the gastric cases (about 30) 39 per cent. were quite satisfactory, 13 per cent. fairly good, and that one-third had relapsed. Of about 130 duodenal cases, 41 per cent. were very satisfactory, 28 per cent. fairly good, and there was recurrence in 24 per cent., about half of these being ultimately operated upon. R. Hutchison comments: "Considering that these results were obtained in private patients treated under the best conditions, they must be regarded as disappointing."

Enthusiastic physicians often claim that they can see large deep gastric ulcers heal in a few weeks under *x* rays. There is a serious fallacy here. Large, deep ulcers on the leg do not heal so readily; why should gastric ulcers? After a jejunostomy for an ulcer too big to resect, months or years are necessary before it heals. I have myself operated on cases of ulcer supposed to have healed as shown by disappearance of the crater in the skiagram, and found the ulcer as large as ever.

The principal factor determining the probability of cure in any particular patient is the duration of symptoms. Nielsen believes that if relapse is going to take place it will nearly always occur within two years; he therefore made a study at the end of two and a half years after medical treatment, to see how patients with ulcers of various durations had fared. The results are given below.

Duration of Symptoms	Cured (per cent.)	Better (per cent.)
6 months	60	17
½ to 1 year	54	17
1 to 3 years	37	21
3 to 5 years	20	27
5 to 10 years	11	11
Over 10 years	5·3	17.6

We conclude, therefore, that given the best medical treatment, three out of four cases of gastric or duodenal ulcer, probably more, will become symptom-free. Only 40 per cent. of the patients will remain well, and from 15 to 19 per cent. will be dead in about ten years. Early cases do well, long-standing cases badly.

Obviously, every patient without mechanical obstruction ought to have a fair trial of medical treatment, but it is also clear that there comes a time when surgery is called for in a substantial minority of the patients.

RESULTS OF SURGICAL TREATMENT

We are, fortunately, in possession of unusually reliable information on this subject, thanks to the report drawn up by a physician, Dr. Luff, of the Collective Investigation, by the British Medical Association, into the After-History of Gastro-enterostomy, published in 1930.

Reports of 2,609 operations, performed by 86 surgeons—the after-results being for the most part reported by the family doctor—were sent in. These should at least be fair, and represent the work, not of a few picked surgeons, but of the rank and file—as seen not by themselves, but by others. Besides, the records are not vitiated by too early reporting; the operations were performed between the years 1920 and 1924, and the figures were collected in 1928. The general results may be gathered from Table I.

TABLE I.—*B.M.A. Collective Investigation: After-History Results of Gastro-enterostomy*

	Duodenal	Pyloric	Gastric Ulcer	Hour-glass Stomach
Cases	995	451	533	65
Males	83.6%	72.4%	66.2%	15.4%
Females	16.4%	27.6%	33.8%	84.6%
Operative mortality	5.0%	2.6%	8.9%	12.3%
Good recovery ...	91.5%	95.4%	90.5%	84.6%
Delayed recovery ...	3.5%	2.0%	0.6%	3.1%
Results.				
Very good ...	67.2	76.3	74.3	83.7
Good	22.3 } 89.5%	16.2 } 92.5%	16.1 } 90.4%	7.0 } 90.7%
Fair	5.1%	4.1%	5.4%	7.0%
Poor	5.4%	3.4%	4.2%	2.3%
Secondary gastro-jejunal ulcers	2.8%	0.9%	0.8%	—
Secondary haemorrhage	2.4%	1.2%	1.0%	—
Secondary haemorrhage fatal	0	0	0	—
Post-operative cancer	0	0	2 doubtful cases	—

As Lord Moynihan pointed out, the term "pyloric ulcer" is not a very satisfactory one; probably these ulcers are nearly all of duodenal origin. It will be observed that for both gastric and duodenal ulcer the good results are about nine out of ten, and the failures 5 per cent. The alarmist statements of certain Americans as to the frequency of gastro-jejunal ulcer are discounted; it was recognized only in 3 per cent. of the duodenal cases, and in 1 per cent. of the gastric cases. There was no known instance of secondary cancer among the duodenal and pyloric cases, and only two, both open to doubt, after gastric ulcer. Diarrhoea was reported to be slight in about 5 per cent., and severe only in 0.5; constipation was commoner. Patients returned to work within three months in 73 per cent. of the duodenal cases and in 75 per cent. of the gastric; more than 90 per cent. were able to return to full work.

Lord Moynihan has analysed the figures to determine the difference between a mere gastro-enterostomy and a gastro-enterostomy combined with removal or infolding of the ulcer (Tables II and III).

TABLE II.—*Percentage Mortality According to Treatment*

Operation	Duodenal Ulcer	Pyloric Ulcer	Gastric Ulcer
Gastro-jejunostomy with removal or infolding of ulcer ...	1.8	1.3	4.6
Gastro-jejunostomy only... ...	5.7	2.5	11.4

TABLE III.—*Percentage of "Very Good" Results According to Treatment*

Operation	Duodenal Ulcer	Pyloric Ulcer	Gastric Ulcer
Gastro-jejunostomy with removal or infolding of ulcer ...	81.2	72.4	81.7
Gastro-jejunostomy only... ...	61.5	44.7	50.9

The report presents some surprises. The death rate is too high; in the best hands it is less than half that given in the report. It was generally thought that the end-results of operation for gastric ulcer, apart from big resections, were not nearly as good as for duodenal ulcer, but these figures reveal little difference, except a rather higher operation mortality.

The results of the inquiry have been criticized by physicians, notably A. F. Hurst, on the grounds that many cases were lost sight of, and perhaps did badly, and that four to eight years is not a sufficiently long period to give true end-results. This may be admitted, but the general experience is that our successes pass right away from us, and our failures hang around our necks for ever, so there is no reason to believe that the lost cases did worse than those followed up. If there is to be a controversy about end-results between the physician and the surgeon, is it not probable that a more extensive observation period will disconcert the former at least as much as the latter by bringing to light some late relapses?

Turning to the results of individual surgeons, or particular hospitals, we have to take into account the nature of the operation performed. Those coming under consideration are: gastro-jejunostomy only; gastro-jejunostomy with local excision of ulcer; pyloroplasty; partial gastrectomy.

The following tables, culled from recent publications, give representative results in England, America, Russia, Germany, Rumania, France, and Hungary.

TABLE IV.—*Mortality of Gastro-jejunostomy for Gastric and Duodenal Ulcer*

	Cases	Mortality per cent.
A. Gastric and duodenal ulcer:		
Paterson	499	0.8
Coffey	375	2.4
Solkov and Iljin	1022	3
Sawkoff	617	3.2
Schwarz: Anterior	203	20
Posterior	65	10 8
Total	273	17.5
Tanasesco	170	4
De Takats	270	5 8
B. Duodenal ulcer:		
Sherren	763	2
Walton	172	2.3
Fremont Smith and McIver (some infolding of ulcer)	393	6
C. Gastric ulcer:		
Sherren	630	4.6
Walton (+ wedge excision)	67	3
Fremont Smith and McIver (often + infolding or excision)	251	9

TABLE V.—*End-results of Gastro-jejunostomy*

A. Gastric and Duodenal Ulcers	Cases Followed	Quite Well (per cent.)	Better (per cent.)	Poor (per cent.)
Paterson	447	78	14	8
Solkov and Iljin	580*	71	3.6	2.6
Sawkoff	327	69	13	18
Schwarz	221	50	14	36
Coffey	305	73	14	4
De Takats	270	50	22	28

* Figures given do not tally. Many died of unconnected causes.

B.	Cases Followed	Better	Not Better	Died Since
Walton:				
Duodenal ulcer	157	146 (93.4%)	7	4
Gastric ulcer	66	59 (92%)	4	3

TABLE V (*continued*).

C.	Cases Followed	Quite Well	Mild Symptoms	Poor Result
Fremont Smith and McIver:				
Duodenal ulcer	261	66%	15%	19%
Gastric ulcer	151	69%	12.5%	18.5%

D.	Cases Followed	Quite Well	—	—
Sherren:				
Duodenal ulcer	500	92%	—	—
Gastric ulcer	403	78%	—	—

Gastro-jejunostomy

English surgery is represented by the writings of J. Sherren and of A. J. Walton of the London Hospital, published in 1928, and of H. Paterson, published in 1927. Sherren used gastro-jejunostomy in all cases of duodenal ulcer operated on, and in most cases of gastric ulcer; large, deep, adherent gastric ulcers were treated by partial gastrectomy. His statistics represent cases followed up for two or more years. Walton treats gastric ulcer as a routine by a wedge excision plus gastro-jejunostomy. Paterson, unlike the great majority of surgeons, practises an anterior gastro-jejunostomy by itself for both duodenal and gastric ulcers. The results relating to operation mortality are given in Table IV, and those relating to end-results, collected some years later, in Table V. It will be observed that the death rate is a good deal lower than that recorded in the Collective Investigation, that Walton's end-results are about the same, but that Paterson's and Sherren's, for gastric ulcer, are not so good, which may be attributed to leaving the ulcer behind.

Fremont Smith and McIver, writing from Boston, made a special study of the later end-results. They found that there was little difference between the gastric and duodenal cases. The proportion of poor results rose from 10 per cent. after one year, 15 per cent. after four years, to 20 per cent. after six years, but fell to 14 per cent. after ten years. Coffey also represents American surgery.

Solkov and Iljin report a huge series of Russian cases extending over many years, gastro-jejunostomy being performed almost to the exclusion of resection or excision operations. Another similar series is given by Sawkoff, also of Russia. These cases were published in 1927 and 1928 respectively. The immediate mortality was low, but the end-results poor, with many deaths from unconnected causes. This is not surprising in view of social conditions in Russia. German figures, given by Schwarz of Rostock, are truly dreadful, and can scarcely represent the best surgery in that country. The operation mortality at Jassy (Rumania), given by Tanasesco in 1928 (rather complicated by the inclusion of a certain number of resections, etc.), is much the same as in England, as are the French results published by Gosset and Loewy (also mixed with a few resections).

De Takats of Budapest shows a death rate of 5.8 per cent., but agrees with other Central European surgeons that the end-results are bad; only half the patients are really well, and in 28 per cent. the sequel was disappointing. It may be that food habits in America and on the Continent are more conducive than those in the British Isles to recurrence of ulcer symptoms, but there is a strange difference, which can scarcely be due to varying methods of appraising the results, between the 25 per cent. of bad results abroad, as compared with only 5 per cent. *in this country. Balfour, at the Mayo Clinic,* has published the end-results of gastro-jejunostomy in 100 doctors suffering from duodenal ulcer. There were 90 who were

quite well, 5 better, and 5 no better—a singular resemblance to the British figures.

Pyloroplasty

For many years at Finney's clinic it has been maintained that pyloroplasty is a more physiological treatment for gastro-duodenal ulcer than gastro-enterostomy. The comparative results, for a series of patients operated on between 1900 and 1925 at the Johns Hopkins and Union Memorial Hospitals, were found in 1929 to be as follows:

TABLE VI.—*Results following Gastro-enterostomy and Pyloroplasty for Duodenal Ulcer*

	Gastro-enterostomy	Pyloroplasty
Number of cases	95	139
Died within six months	16 (16.6%)	8 (5.8%)
Not traced	15	25
New total	65	106
Living:		
Improved	54	91
Unimproved	4	11
Dead:		
Causes related to original condition ...	2	0
Causes unrelated to original condition ...	5	4
Improved by operation	59 (90 8%)	95 (89.6%)
Not improved by operation	6 (9.2%)	11 (10.4%)

It will be observed that, as far as the end-results are concerned, the benefits of gastro-enterostomy and of pyloroplasty are practically identical, but that at this clinic there is a high post-operative mortality, mostly from obstruction, after gastro-jejunostomy. This does not accord with the experience of others (see the figures of the British Medical Association Inquiry).

Resection Operations

The large proportion of poor end-results, and certain theoretical considerations, have led most of the prominent American and Continental surgeons, and some British, to advocate big resection operations for both gastric and duodenal ulcers. It has been maintained by Lewisohn, for instance, that gastro-jejunal ulcer, a most unpleasant complication which usually needs a second serious operation and even then may relapse, follows gastro-enterostomy for duodenal ulcer in as many as 34 per cent. of the cases, in his experience. English surgeons put it at less than 4 per cent. Digby Chamberlain, searching the records of Lord Moynihan's cases over twelve years, reported after a two-year interval that he had found 1.8 per cent. of gastro-jejunal ulcers. Walton admits 3.4 per cent. Sherren had 29 cases of secondary ulcer out of 903 followed up for two years or more (0.4 per cent.). I do not know of a case following my own gastro-duodenal operations, though I have treated a good many patients who had been operated on by others. The B.M.A. Collective Inquiry brought to light 2.8 per cent. of cases of gastro-jejunal ulcer after an anastomosis operation for duodenal ulcer.

More serious even than gastro-jejunal ulcer is gastro-jejuno-colic fistula, which is usually fatal in spite of treatment. Fortunately it is quite rare. Only two cases, both originally operated on elsewhere, have come under my care.

There has been some difference of opinion as to the frequency with which a carcinoma may develop in an old ulcer of the stomach. According to Wilson and McCarty of the Mayo Clinic (1910), 71 per cent. of their cases of cancer of the stomach started in ulcer, and 68 per cent. of the resected ulcers showed commencing malignant changes. Obviously, if this were true, gastro-jejunostomy without excision of a gastric ulcer would more often than not be followed by the development of a cancer, and resection ought to replace short-circuiting. This is contrary to all sound experience. It is true that, at the same clinic, Balfour found that there was a rather high death rate during the first few years following gastric operations—three times that of the general population—and in 40 per cent. these deaths were due to cancer. On the other hand, most pathologists discount the theory that there is a very great risk of cancer in cases of gastric ulcer. Stewart of Leeds found that of 70 cancers, 11 (or 15.7 per cent.) arose in ulcer, and of 180 chronic ulcers resected, 11 (or 6 per cent.) showed cancer in the margin. Most surgeons, myself included, have seen cases of ulcer excised which unexpectedly displayed early cancer on histological examination; and, again, most surgeons have seen a few, but only a few, of their patients with gastric ulcer treated by gastro-jejunostomy return with a cancer. The figures published are as follows: Paterson (1914) 1 per cent.; Rehfuss (1924) 1.2 per cent.; Exalto (1918) 2 per cent.; Anschutz and Konjetzy (1920) 3.3 to 6.9 per cent. In the B.M.A. Collective Report there were only 2 cases among 538 followed up, and both of these were doubtful. Cancer never develops on the site of a duodenal ulcer.

We may conclude, therefore, that a simple gastro-jejunostomy may be followed by gastro-jejunal ulcer in about 4 per cent. of the cases, and by cancer in, say, 2 per cent. If the surgeon contented himself with a mere anastomosis, even in cases of thickened and adherent ulcer, the latter figure would probably be nearer 10 per cent.

Turning now to the results of partial gastrectomy for gastric ulcer, recent publications are summarized in the appended tables. The B.M.A. Collective Report is here somewhat misleading; only 101 gastrectomies are included, with a death rate of 6 per cent. (which is very reasonable), but only 63.6 per cent. showed "very good" results. Lord Moynihan remarks that he himself had had far more gastrectomies than 101, with excellent end-results.

English surgery is represented by Garnett Wright, Morley, and Lake, whose mortality figures vary from 3 to 9 per cent. Bastianelli of Rome has lost only 1.5 per cent. Louria, reporting from von Haberer's clinic at Graz, Austria, records 150 cases resected by the Billroth I method, with 6 per cent. of deaths, and 134 by the Billroth II method, with 11 per cent. In Finsterer's clinic at Vienna, of 175 resections for gastric ulcer, 4 per cent. of the patients died; and of 357 resections for duodenal ulcer, 2 per cent. died. Schwarz of Rostock has again a high mortality, 18 per cent., and de Takats of Budapest reports 226 cases with 5.4 per cent. of deaths. The general mortality, then, in good clinics, is from 4 to 10 per cent.

TABLE VII.—*Mortality of Resection Operations for Gastric Ulcer*

	Cases	Mortality (per cent.)
Garnett Wright	62	4
Lake	65	9
Morley: Pólya method	47	6
Schoemaker	68	3
Bastianelli	137	1.5
Schwarz	210	13
Von Haberer—Billroth I	150	6
Billroth II	134	11
Finsterer	175	4
De Takats	226	5.4

TABLE VIII.—*Results of Resection Operations for Gastric Ulcer*

	Cases Followed	Excellent (per cent.)	Fair (per cent.)	Poor (per cent.)	Died Since (per cent.)
Morley	82	74	12	5	9
Lake	51	98	—	2	—
Garnett Wright	44	75	13	2	8
Friedemann—Billroth I	221	78.5	17	4.5	—
Billroth II	153	80	15	5	—
De Takats	226	84	10	6	—
Schwarz	161	90	7	3	—
Von Haberer	54	83	17	—	—

The "follow-up" works out as follows. The three English authors have 75 to 98 per cent. of "excellent" results, and 2 to 5 per cent. of failures. De Takats and Schwarz have 84 to 90 per cent. "excellent," and 6 to 3 per cent. poor. Friedemann finds no difference between the end-results after Billroth I and Billroth II operations; both give about 80 per cent. of "excellent" results, and 5 per cent. of failures. In von Haberer's clinic, also, the perfect results are about 83 per cent. We may summarize the whole by regarding 80 per cent. as perfectly well, and 5 per cent. as unrelieved.

Comparing these figures with those of gastro-jejunostomy, with or without excision or destruction of the ulcer, the confident claims that have been made out for better end-results following resection seem to lack proof. The mortality is much the same as that given for gastric ulcer in the B.M.A. Report on gastro-enterostomy; the failures are about the same, and over against 80 per cent. of "excellent" results after resection, we have 74 per cent. "very good" and 16 per cent. "good." In expert hands, of course, the death rate after gastro-enterostomy is less, say 3 per cent. Admittedly, on the Continent and in America, gastro-jejunostomy has been much less successful.

There is, however, another aspect of the question to be considered. It is well known that patients with pernicious anaemia have usually an underlying achlorhydria. It has been stated by A. F. Hurst and others that an artificial achlorhydria induced by removal of the acid-bearing area of the stomach occasionally induces a grave anaemia. One such case has occurred in my own practice. The matter has been investigated by Gordon Taylor and collaborators, and also by Morley. In the series of 52 gastric resections investigated at Gordon Taylor's clinic some degree of secondary anaemia was found in 44 per cent., but it produced no symptoms. Of Morley's 115 cases, 16 were found to have become anaemic (that is, haemoglobin below 60 per cent.). He concludes that the Pólya operation carries with it a serious liability to future anaemia; with the Schoemaker method this is less marked.

The special danger following gastro-enterostomy, therefore, is gastro-jejunal ulcer; and the special danger after a big resection is a serious anaemia. Occasionally, gastro-jejunal ulcer follows a partial gastrectomy (0.6 per cent. in 2,310 operations—von Haberer).

Treatment of Large Gastric Ulcers

The very large gastric ulcer, often adherent to the liver or pancreas, requires special consideration. A simple gastro-jejunostomy is not likely to cure, though quite good results are often obtained when there is a large adherent mass at the pylorus, with a deep ulcer in the middle of it. Local excision with gastro-enterostomy is difficult and dangerous for a large, deep ulcer of the posterior wall of the stomach. If partial gastrectomy is possible, it is the best treatment, especially as there is always a danger of malignancy with this type of ulcer. If it is too large for resection, the choice lies between cholecysto-gastrostomy, in the hope that the bile will neutralize the gastric juice and promote healing, and a jejunostomy to allow of direct feeding into the jejunum instead of the stomach. We have no adequate statistical evidence to enable us to judge of these procedures. According to Frenkel, the result of cholecysto-gastrostomy was good in 83.6 per cent. of 68 cases in Bogoras's clinic.

Excision of Duodenal Ulcer

A number of surgeons have tried to improve the end-results in cases of duodenal ulcer by resecting the first part of the duodenum. Many surgeons, of course, make a small incision and cut out an anterior duodenal ulcer in the course of performing a gastro-enterostomy, but this is a simple matter compared with resection of the first part of the duodenum.

Pannett declared that resection is possible in 71 per cent. of his cases, that the mortality is only 4 per cent., and that it cures 85 per cent., whereas in his hands gastro-jejunostomy cures only 55 per cent. At von Haberer's clinic, where a partial gastrectomy is used for duodenal ulcer, according to Louria, 8.4 per cent. of the patients died, and of 107 cases followed up, 83 per cent. were excellent, 16 fair, and 5 poor (2 developed a gastro-jejunal ulcer). At Finsterer's clinic, of 357 cases, 2 per cent. of the patients died.

At the Mayo Clinic, according to Judd and Nagel, a smaller operation has often been performed; in the first series a simple excision of the ulcer, in a later series combined with removal of the front of the pyloric sphincter. The results were as follows:

In 140 cases of simple excision of ulcer there were 4 deaths. Of 108 patients followed up, 57 per cent. were cured and 24 per cent. were better, failure resulting in 19 per cent.

Of the series of 85 cases of excision of ulcer with partial resection of the pylorus 2 patients died; and of the 58 followed up 60 per cent. were cured, 32 per cent. showed improvement, and 7 reported failure.

It does not appear that any of these results are better than those of a simple gastro-jejunostomy.

CONCLUSIONS

1. Until about ten years ago the diagnosis of gastric and duodenal ulcer, unless verified by perforation, operation, or necropsy, was so precarious that the older statistics of medical treatment are untrustworthy.

2. Spontaneous healing can undoubtedly occur, and is not infrequent. Perforation and haemorrhage are marks of the chronic rather than the acute ulcer. About 25 per cent. of cases of peptic ulcer bleed. Perforation is common in ulcers of the anterior wall and usually occurs within a year or two of the onset; only a few, under 3 per cent., of ulcers of the posterior wall, of long standing, perforate.

3. The medical treatment of gastro-duodenal ulcer, in the best clinics, gives good immediate results. At least 75 per cent. become symptom-free. Only 40 per cent. remain so. From 15 to 20 per cent. of the patients will die within ten years. If the duration of symptoms was under a year, more than half the patients remain well; over a year, far fewer.

4. Obviously, therefore, efficient medical treatment should have a good trial. Equally obviously, a considerable number of the patients ought eventually to be operated on. Mechanical obstruction, or a large, deep ulcer that may be malignant, demands early operation.

5. The mortality and end-results of gastro-jejunostomy are set forth fairly, in an adequate number of cases treated by rank-and-file surgeons, followed up for at least four years, in the B.M.A. Collective Report. The operation mortality for duodenal, pyloric, and gastric ulcer was 5, 2.6, and 9 per cent. The follow-up, for both gastric and duodenal ulcer, showed 90 per cent. of successes (75 per cent. perfect) and about 4 per cent. of failures. Secondary gastro-jejunal ulcers followed in 2.8 per cent. of the duodenal and 0.8 per cent. of the gastric cases. Subsequent cancer was rarely, if ever, reported.

6 Individual English surgeons report a lower mortality (1 to 2 per cent. in duodenal and 3 to 4 per cent. in gastric cases). End-results are about the same as in the Collective Report, except that when a gastric ulcer is not removed the cure rate is at least 10 per cent. lower.

7. Continental and American results for gastro-jejunostomy are, for some reason not well understood, far less satisfactory. The mortality is about the same as in the Collective Report, but only 50 to 70 per cent. are cured, and 20 to 30 per cent. do badly.

8. Pyloroplasty gives results very similar to those of gastro-enterostomy.

9. Partial gastrectomy is advocated, to avoid gastro-jejunal ulcer or cancer, and to obtain a larger percentage of cures. Gastro-jejunal ulcer in England follows gastro-jejunostomy in 0.4 to 3.4 per cent. of the patients operated on. Cancer follows in about 2 per cent. of the cases. After partial gastrectomy, gastro-jejunal ulcer follows in about 0.6 per cent. of cases. Some anaemia may result from an extensive gastrectomy—mild in nearly half, serious in perhaps 10 per cent.; in a few cases, quite severe.

10. The operative mortality of partial gastrectomy for gastric ulcer is from 4 to 10 per cent. Excellent results are obtained in about 80 per cent.; poor results in 5 per cent.

11. Except in cases of large, deep, adherent gastric ulcers, which call for a resection, the results of partial gastrectomy for gastric ulcer are no better than those of simple gastro-enterostomy, in spite of a doubled operation mortality. They are not as good as those of gastro-enterostomy with wedge excision of the ulcer. This apparently does not hold good on the Continent or in America, owing to the poor results following gastro-jejunostomy in those countries. The end-results of this operation on 100 doctors at the Mayo Clinic, however, accord well with the figures obtained by English surgeons.

12. In cases of duodenal ulcer, partial gastrectomy or duodenectomy gives results no better than those of the B.M.A. report on gastro-jejunostomy, and the mortality is higher. Local excision of the ulcer, by itself, gives poor results (57 per cent. cured, 19 per cent. no better). Local excision with partial resection of the pyloric sphincter is better, but not as good as gastro-jejunostomy.

13. The deductions for treatment are: (*a*) If mechanical obstruction is not present, and cancer can be excluded with confidence, efficient medical treatment ought to be given a fair trial. (*b*) If it fails, or recurrence takes place, operation is indicated. For gastric ulcer the best operation is gastro-enterostomy with local removal of the ulcer. If the ulcer is large, deep, and adherent a partial gastrectomy is often better. (*c*) For simple pyloric stenosis, gastro-jejunostomy is best. It is safe and satisfactory. (*d*) For duodenal ulcer, gastro-jejunostomy is the best treatment. If the ulcer is readily accessible it should be excised.

It is a trite saying that statistics can be made to prove anything. It may be desirable to add, therefore, that the conclusions we have drawn from our statistical study coincide exactly with my own experience of the results of medical and surgical treatment of gastric and duodenal ulcer.

BIBLIOGRAPHY

Hurst and Stewart: *Gastric and Duodenal Ulcer*, 1929.
Moynihan: *British Medical Journal*, 1928, ii, 1021.
Conybeare: See Hurst and Stewart.
Crohn: *Affections of the Stomach*, 1927.
Bulmer: *Lancet*, 1927, ii, 168.
Einhorn and Crohn: *Amer. Journ. Med. Sci.*, 1926, ii, 691.
Smith, David: *British Medical Journal*, 1928, ii, 293.
Forman: Ibid., 1927, i, 926.
Franklin White: *Boston Med. and Surg. Journ.*, 1926, cxcv, 986.
Barford: *Guy's Hospital Reports*, April, 1928, 127.
Nielsen: *Acta med. Scand.*, 1923, lviii, 1.
Luff: *British Medical Journal*, 1929, ii, 1074, 1125; 1930, i, 348.
Moynihan: Ibid., 1930, i, 458.
Paterson: *Med. Press and Circular*, November, 1927, 385.
Coffey: *Journ. Amer. Med. Assoc.*, July, 1928, 1.
Sherren: *Lancet*, 1924, i, 477.
Solkov and Iljin: *Nov. Chir. Arch.*, 1927, xiii, 368.
Sawkoff: *Rev. de Chir.*, 1928, 353.
Schwarz: *Arch. f. klin. Chir.*, August, 1928, 280; September, 445.
Tanasesco: *Bull. et Mém. Soc. Nat. de Chir.*, July, 1928, 935.
De Takats: *Amer. Journ. Med. Sci.*, July, 1926, 45.
Walton: *British Medical Journal*, 1928, ii, 784.
Fremont Smith and McIver: *Amer. Journ. Med. Sci.*, January, 1929, 33.
Gosset and Loewy: *Presse méd.*, June, 1929, 797.
Finney: *Annals of Surgery*, November, 1929, 904.
Balfour: Ibid., November, 1927, 691.
Wilson and McCarty: *Amer. Journ. Med. Sci.*, 1909, cxxxviii, 846.
Garnett Wright: *Brit. Journ. of Surg.*, October, 1928, 253.
Balfour: *Annals of Surgery*, 1919, lxx, 522; 1922, lxxvi, 405.
Morley: *Brit. Journ. of Surg.*, October, 1928, 239.
Lake: *Lancet*, 1928, ii, 268.
Bastianelli: *Arch. Ital. di. Chir.*, 1928, i, 22.
Louria: *Surg., Gynecol. and Obstet.*, October, 1928, 493.
Finsterer: *British Medical Journal*, 1926, ii, 557.
Von Haberer: *Zentralbl. f. Chir.*, January, 1930, 66.
Friedemann: Ibid., 1927, liv, 3015.
Gordon Taylor: *Brit. Journ. of Surg.*, April, 1929, 641.
Frenkel: *Arch. f. klin. Chir.*, December, 1928, 407.
Pannett: *Lancet*, 1927, i, 966.
Judd and Nagel: *Surg., Gynecol. and Obstet.*, July, 1927, 17.

CONVULSIONS DURING SURGICAL ANAESTHESIA

NOTES ON A SERIES OF CASES*

BY

J. ROSS MACKENZIE, M.D.

LECTURER ON ANAESTHETICS, UNIVERSITY OF ABERDEEN; ANAESTHETIST, ROYAL HOSPITAL FOR SICK CHILDREN, AND ROYAL INFIRMARY, ABERDEEN

The convulsions in these cases must not be confused with ether clonus. They are generalized, epileptiform convulsions, commencing in most cases on the left side of the face and rapidly affecting the whole body. The movements may become so violent that the surgeon is compelled to discontinue the operation, and in some cases the patient has had to be protected against personal injury. Seven cases have come under my observation, and the salient features which characterize this alarming and serious complication of surgical anaesthesia will be narrated.

The subjects of these convulsions were all young people. They occur at a time in life when the central nervous system is very unstable, and therefore very vulnerable. They all had a temperature and a rapid pulse. They were all suffering from an acute septic condition with general toxaemia. In two cases a haemolytic streptococcus was found in the discharge, and in one case in the blood. In the seven cases ether, unheated,[1] formed part of the anaesthetic agent during the induction or maintenance of anaesthesia, and the convulsion appeared after the operation was well under way.

Appended are brief notes of the first, fourth, fifth, and sixth cases.

The first case occurred in March, 1926. It was of special interest to me as I had, until then, never seen anything of the kind during surgical anaesthesia.

A female, aged 5, very ill with an acute abdomen. Temperature was 102.6°, pulse rate 130. Atropine sulphate

* Delivered to the Aberdeen Medico-Chirurgical Society on January 15th, 1931.

/100 grain preceded nitrous oxide, oxygen, and ether anaesthesia, with carbon dioxide during the induction. A considerable quantity of foul-smelling purulent fluid was found in the abdomen, and the appendix was removed. Suddenly, as the surgeon was about to close the peritoneum, clonic contractions commenced on the left side of the face, left arm, body, and leg, followed rapidly on the right side. The convulsion was epileptiform in character, and continued for fifteen minutes, during which time the surgeon was unable to continue the operation. The treatment consisted of cutting out the anaesthetic and of giving oxygen only. The cause of the convulsion is noted thus: query carbon dioxide, query impure ether, query toxaemia, probably a combination of these and toxaemia very important. This child made a good recovery.

The fourth case occurred in December, 1927.

A female, aged 7, with a temperature of 103°, pulse rate 160, and respiration 40. Very ill with acute osteomyelitis of left tibia and fibula. Atropine sulphate 1/100 grain preceded a simple open ether anaesthesia. The operation had been in progress fifteen minutes when twitching commenced in the muscles of the left side of the face and spread to the arms, legs, and body. The convulsion continued for eighteen minutes. On the first sign of twitching the ether was withdrawn and oxygen given through the nose. The pus from the tibia and the blood gave a pure culture of haemolytic streptococci. This child died some hours later.

The fifth case occurred in March, 1928.

This was a female, aged 3. Temperature was 101.5°, pulse rate 120. There was a scarlatiniform rash over the body, which turned out on evidence to be a septic rash. The diagnosis was an acute abdomen. Atropine sulphate 1/150 grain preceded a nitrous oxide, oxygen, and ether anaesthesia, with carbon dioxide for the induction. The abdomen was opened, and pus welled up from the region of the pelvis. The pus gave a pure culture of haemolytic streptococci. There was a considerable degree of peritonitis. While the appendix was being removed clonic contractions of both arms and legs commenced. The convulsion rapidly became generalized, and with considerable difficulty the peritoneum was closed, when the anaesthetic was discontinued and oxygen given. There was considerable respiratory distress and cyanosis. The convulsion lasted for fifteen minutes. This child made an excellent recovery.

The sixth case occurred in October, 1929.

A male patient, aged 6, with very acute abdomen. Temperature was 104.8°, pulse rate 130. Atropine sulphate 1/150 grain preceded nitrous oxide, oxygen, and ether anaesthesia. Carbon dioxide was not used. The abdomen was full of evil-smelling pus, and a gangrenous appendix was removed. Soon after the peritoneum was opened the patient became restless and dusky in colour, with slight respiratory difficulty. This was quickly followed by clonic contraction, bilateral, of the face, and quickly spread over the whole body, and continued throughout the operation. Temperature in the axilla was 108.2°; it was impossible to count the pulse rate. The respiration was laboured, and cyanosis appeared, in spite of oxygen. The temperature was brought down to 106° on the table by sponging and ice. Heroin 1/48 grain was given. Sponging continued until the convulsion ceased. The child was then put back to bed. The temperature rose to 106.8°, and convulsions commenced again. It was sponged until the temperature went down to 103.8°, and the convulsions ceased, except for twitching of the face and neck. Heroin 1/48 and digitaline 1/300 grain was given. The convulsion in this case was more or less continuous. Consciousness was never regained, and the patient died some hours after the operation.

Fortunately for the anaesthetist and the surgeon convulsions are a comparatively rare complication of surgical anaesthesia. They arise in young patients, when the nervous system is readily excited into abnormal activity by any form of toxaemia, and they have an analogy in the convulsions which occur in infants and young children as the result of reflex irritation and gastro-intestinal toxaemia.

ETIOLOGY

Many factors[2,3,4] connected with surgical anaesthesia have been challenged in an attempt to elucidate the cause of these convulsions, but there are three which call for serious consideration: (1) impurities in the ether; (2) carbon dioxide; (3) acute suppuration and toxaemia.

Impurities in the Ether

In 1926 Wesley Bourne[5] demonstrated by experiments on animals that acetaldehyde, ether peroxide, and sulphides, which are frequently present in anaesthetic ether, render ether a serious toxic agent. He showed that 1 per cent. of acetaldehyde, or 1/2 per cent. of peroxide, caused depression of the respiration and the circulation, while 1 per cent. of ethyl sulphide caused severe gastro-enteritis. In 1927 the late S. R. Wilson[6] suggested that convulsions occurring during surgical anaesthesia, of which they had had a number of fatal cases in Manchester, were due to acetaldehyde and peroxide in the ether used for anaesthesia.

Ether is formed by a process of dehydration of ethyl alcohol. The chief method of manufacture is to heat strong sulphuric acid to 140° C. and pour the alcohol into the sulphuric acid, allowing the ether to distil over into a receiver. Any undesirable ethers that may occur are purged from the final product by fractional distillation and redistillation. Diethyl ether is a fully saturated body, and should therefore be a stable body, but it contains one atom of oxygen, which renders it liable to oxidation processes when exposed to light and air, or when oxygen is passed over or through it, as occurs in using a gas, oxygen, and ether apparatus.

The impurities that occur in anaesthetic ether are: (1) Those arising from the material of its manufacture—alcohol, water, aldehyde, sulphides, sulphates, and acetone. (2) Those arising during storage and during the process of its administration and after. Organic peroxide is the first product of the decomposition of ether. It is formed by the action of light and air upon ether containing aldehyde. In the further process of decomposition of ether, organic peroxide breaks up, forming acetaldehyde, hydrogen peroxide, acetic acid, and carbon dioxide.

The presence of water in ether may give rise to alcohol, and consequently to aldehyde, by a process of hydrolysis. This is very important, since in the water sight feed gas and oxygen apparatus, water vapour is carried by the gases into the ether bottle. It is known that the chemical properties of acetaldehyde and peroxide interfere with the normal oxidation processes of the tissue cells, but whether they are ever present in high-grade anaesthetic ether to such an extent as alone to excite generalized convulsions is highly improbable.

In all my cases the ether used was subjected to expert chemical analysis, and each sample was reported to contain a minute quantity of peroxide and aldehyde. The largest amount of the former was 0.65 part per million, and of the latter 0.05 part per million. In several of the ethers there was a trace of acetone. Wilson was of opinion that 1/2 per cent. of peroxide or of aldehyde in ether was toxic.

Carbon Dioxide

The first case of convulsions occurred soon after I had commenced the use of carbon dioxide in general anaesthesia. Quite properly the question exercised my mind: Had the carbon dioxide anything to do with this convulsive state? It was certainly a new complication of which nothing was known, and there was no literature on the subject.

It was known[7] that surgical anaesthesia had been induced in animals with carbon dioxide, and, in order to

find out the effect of percentages of carbon dioxide, a series of experiments was carried out on rabbits in the pharmacological laboratory with Professor Marshall and Dr. Macdonald. All the signs of surgical anaesthesia, including muscular relaxation, were produced in the rabbit with a concentration of 35 to 40 per cent. of carbon dioxide, and quiet anaesthesia continued as long as this percentage was maintained. The rapid replacement of carbon dioxide by oxygen, or the sudden removal of the rabbit to atmospheric air, gave rise to a clonic convulsion during the recovery from anaesthesia, whereas, if the carbon dioxide was slowly replaced by oxygen, no convulsion occurred. It appeared evident that the exciting cause of the convulsion was the excessive stimulation of the central nervous system of an anaesthetized animal by the rapid inrush of oxygen.

Mennell[8] suggested that the convulsions were caused by deep ether anaesthesia and an excess of oxygen. In 1927 Pinson,[9] who had had experience of a number of cases in Manchester, considered that the convulsions were due to modern methods of anaesthesia, which tend to the accumulation and rebreathing of carbon dioxide. It must be pointed out that closed and perhalation methods of ether anaesthesia have been in general use for many years, and more recently carbon dioxide has been administered in many thousands of surgical cases without giving any clinical evidence of convulsive phenomena, while convulsions occur during a simple open ether administration.

Suppuration and Toxaemia

In all these cases an acute suppurative process with a high degree of toxaemia or septicaemia was in operation. One case had a virulent pneumococcal peritonitis, one had a haemolytic streptococcal peritonitis, and one gave a pure culture of haemolytic streptococci from the pus and from the blood. In my judgement the degree of toxaemia or of septicaemia is of the greatest importance, and forms the chief factor in the causation of these convulsions.

Ether, containing acetaldehyde and peroxide in quantities known to be many times greater than was found in the ether used when convulsions occurred, has been administered by me to non-toxic patients without any clinical evidence of convulsive phenomena.

I have arrived at the conclusion that these convulsions owe their origin to two main factors. The essential and predisposing condition is acute toxaemia, and the exciting cause is ether, itself a toxic agent, which stimulates an increased circulation of blood loaded with toxins or bacteria, or both, to the central nervous system and initiates acute cerebral irritation. The severity of the convulsion is in proportion to the virulence and acuteness of the toxaemia or septicaemia, and may be aggravated by any impurities in the ether.

PROPHYLACTIC TREATMENT

The duration of the anaesthesia would appear to be an important element. In none of the cases did the convulsion appear until the anaesthesia had continued for at least fifteen minutes. In young patients, therefore, with acute suppuration, toxaemia, and high temperature the surgeon might well merely evacuate and drain, doing the least possible until the acute phase of the toxaemia has passed. This would reduce to a minimum the period of anaesthesia, the amount of the anaesthetic agent, and the sensory stimuli from the operation area to the central nervous system.

Aldehydes and peroxides in ether have undoubted toxic properties, and tend to inhibit normal oxidation in the nerve cells. The passage of gas and oxygen over or through ether causes it to deteriorate rapidly. This is a point of considerable importance, and ether which has been used with gas and oxygen should not be used in successive cases, more especially in children with acute toxaemia and high temperature. The purest ether from a bottle opened for the occasion is the ideal.

The treatment of the actual convulsion with inhalation of oxygen was inspired by the respiratory distress and cyanosis. It appeared to benefit the patient, and 90 per cent. of oxygen with 10 per cent. of carbon dioxide[10] has been used and recommended to control the convulsion. The etiology, prevention, and treatment of these convulsions is still obscure, and demands further investigation.

Three patients have had convulsions since this article was written—two at the Sick Children's Hospital, and one, who died on the table, at the Royal Infirmary.

REFERENCES

1 Fairlie, H. P.: *British Medical Journal*, 1927, ii, 703.
2 Hornabrook, R. W.: Ibid., 1927, ii, 471.
3 Gwathmey, J. T.: *Lancet*, 1927, i, 1369.
4 Sykes, W. S.: *British Medical Journal*, 1930, i, 1128.
5 Wesley Bourne: *Anesthesia and Analgesia*, vi, No. 3, 131.
6 Wilson, S. R.: *Lancet*, 1927, i, 1117.
7 C. J. S. T.: *British Medical Journal*, 1912, i, 843.
8 Menneli, Z.: *Proc. Roy. Soc. Med.*, xxi, No. 10, 1705.
9 Pinson, K. B.: *British Medical Journal*, 1927, i, 956.
10 Hewer, Langton: Ibid., 1927, ii, 703.

UNILATERAL EXOPHTHALMOS FOLLOWING ADMINISTRATION OF THYROID EXTRACT

BY

T. GILLMAN MOORHEAD, M.D., F.R.C.P.I.

CONSULTING PHYSICIAN, MERCER'S HOSPITAL, DUBLIN

The interesting point in the case reported below is the apparent production of exophthalmos by oral administration of thyroid extract, and the fact that the exophthalmos was unilateral.

Although physiologists as a body seem to agree that it is not possible to produce exophthalmos in animals by experimental administration of thyroid substance, there are some experiments on record which throw doubt on this conclusion. Edmunds[1] quotes Cunningham[2] to the effect that the latter succeeded in producing exophthalmos in rabbits by giving thyroid extract, and adds that he himself produced the same effect on whom he had given about one-half of a sheep's thyroid daily. The period over which this dose was maintained is not stated. In the same paper reference is made to the report by Béclère[3] of a case of myxoedema in which the taking of excessive doses of thyroid extract was followed by a certain degree of exophthalmos, while in the discussion that followed the reading of Edmunds's paper Lawford referred to a case seen at Moorfields Hospital in which bilateral exophthalmos, better marked on the right than on the left side, was apparently the result of the excessive administration of thyroid extract. The condition must be rare, however, and is of undoubted interest from a physiological standpoint.

Mrs. M., aged 54, who was brought to me in March, 1927, had the following history. Up to 1924 she had enjoyed perfect health, but in that year she began to feel vaguely unwell and consulted a doctor, who told her that she was suffering from myxoedema. Thyroid extract was prescribed, and immediate improvement followed. Any attempt to discontinue the extract was followed by a return of ill-health. At the beginning of 1926 the dose of thyroid extract had been increased to 12½ grains daily, and this dose was taken continuously throughout that year and up to the date of her visit to me. Early in 1927 she did not feel well, and in February noticed for the first time that her right eye was much more prominent than her left. She immediately consulted an oculist, who, after a thorough examination, assured her that there was nothing the matter with her eye or orbital tissues, and expressed the opinion that she was suffering from Graves's disease with unilateral exophthalmos. She

xt consulted a rhinologist, who told her that her nasal nuses were perfectly normal. An *x*-ray examination was rried out at this time also, and revealed nothing abnormal. inally, as already stated, she consulted me.

On examination I found that she was suffering from obvious mptoms of thyroid intoxication, with tachycardia, pulse te being 140, palpitation, extreme nervousness and restless-ss, insomnia, and loss of weight. She refused to have her sal metabolism estimated, but calculation made from the lse pressure formula gave an estimated metabolism of 118. he right eye was extremely prominent, and showed a well-narked von Graefe's sign. The left eye appeared normal. o vestige of a thyroid gland could be felt by the most careful alpation. After consideration the only possible diagnosis emed to be that all the patient's symptoms, including the xophthalmos, were due to an overdosage of thyroid extract. n consequence, the extract was stopped, and the patient was ut to bed for some time and treated with bromides. In the ourse of a couple of months the symptoms had largely isappeared, and after six months the patient was practically estored to health. As the general symptoms subsided, the xophthalmos diminished, but up to the date of my last eeing her—in June, 1928—the right eye was still somewhat nore prominent than the left.

THE SALE OF THYROID PRODUCTS

Although the object of this note is to call attention o the occasional production of ocular symptoms from hyroid administration, opportunity is taken of urging he necessity of introducing some restrictions in the sale of thyroid products. Since the earliest days of thyroid medication it has been recognized that overdosage can produce serious symptoms. These symptoms are attributed by some to the thyroid substance itself, and by others to decomposition products contained in extracts. However this may be, any physician of experience must have met with many cases in which long-standing ill-health with hyperthyroid symptoms has been caused by excess of this drug, and also certain acute cases in which sudden palpitation, giddiness, dyspnoea, and nervous terror have been brought about by prolonged overdosage. Möller, writing in the *Acta Medica Scandinavica*, has recently called attention to the subject, and suggests that thyroid substance should be put on the list of dangerous drugs. In most cases the fault lies not with the physician but with the patient. Patients learn that thyroid substance is efficacious in obesity, and without professional advice obtain thyroid tablets from a chemist, and, quite unaware of any possible harmful results, continue to take large doses for prolonged periods. If thyroid substance could be obtained only on a doctor's prescription, and that only for a limited period, the present by no means uncommon ill results could be avoided.

REFERENCES

[1] Edmunds: Experimental Exophthalmos and Enophthalmos, *Trans. Ophth. Soc. of the United Kingdom*, 1900, xx, 243.
[2] Cunningham: *Journ. Exper. Med.*, 1898.
[3] Béclère: *Gaz. des Hôp.*, October 16th, 1894.

HALLUX VALGUS: A NOTE ON OPERATIVE TECHNIQUE

BY

PAUL BERNARD ROTH, F.R.C.S.

From a large experience of the treatment of this deformity at the Orthopaedic Department of the Miller Hospital a routine operation has gradually evolved, which has been attended by such gratifying results that a description of it may be of interest.

CHOICE OF PATIENT

Any patient who has a painful bunion over the inner side of the big toe joint, with deflection of the toe outwards, causing the second toe to override it, is judged suitable. This is the typical condition for which the patient seeks relief. Sometimes it is the unsightly appearance, sometimes the pain, sometimes the impossibility of getting shoes to fit, which sends the patient to hospital: sometimes all three together. The fact that the bunion is acutely inflamed does not contraindicate operation; it is an additional reason for it.

Age is no bar. The trouble may be present in a child aged 12 or in a man 60 or over; all react to the operation in just the same way, and are entirely relieved. Convalescence may be slightly longer in an elderly person—that is all.

The nature of the patient's occupation is certainly of influence in coming to a decision. One does not operate for choice on a person who will go back to employment which requires prolonged standing. Yet where no other work can be found, as in the case of a nurse, the operation may be performed with confidence, provided the period of convalescence is longer than usual. I should refuse, however, to operate on a toe-dancer or a professional footballer.

Women who wear high heels ask if they will be able to do so afterwards. In my experience there has never been any difficulty about this; the high heel position is always perfectly comfortable after the operation has been performed.

PREPARATION OF PATIENT

After thorough washing with soap and water, with special attention to the nails and nail folds, the feet are painted with tincture of iodine and wrapped in a sterile towel. The painting with iodine is repeated on the table. If the bunion is inflamed, the inflammation must be allowed to subside by rest in bed for two or three days. Under no circumstances is the operation performed in the presence of inflammation.

THE OPERATION

No tourniquet is used. The foot lies on its outer side, and a horizontal incision 2 inches long, parallel with the length of the toe, is made through the bunion, extending equally beyond it in both directions; it is planned to lie rather nearer the dorsum than the sole. The knife cuts down on to the neck of the metatarsal and through the layers of the bunion, exposing the head, the line of the joint, and the base of the phalanx, all in one sweep. The neck is cleared of periosteum by inserting two periosteal detachers in the line of the incision, one detaching everything above and levering it up, the other detaching everything below and levering it down. These two detachers are held with their points at right angles to each other by an assistant, and the now tense capsule is freed from the head by a few touches of the knife. Finally, the capsule is cut through vertically, opposite the joint interval, exposing the head completely. The blades of the bone-cutting forceps are insinuated above and below the neck one at a time, the detachers being separately withdrawn to make way for them, and are adjusted as close to the head as possible, with their bevelled edges turned towards it. Only the head is removed, not half an inch of the shaft as well. When the blades are in position the neck is cut through, and the severed head levered out with the closed bone-cutting forceps and the two detachers, so that it is grasped with Lane's small bone-holding forceps, twisted off, and removed. The skin edges are brought together with tissue forceps, sutured with continuous horsehair, and the operation finished by painting with iodine, inserting a gauze pad between the first and second toes, and applying a gauze dressing.

No part of the bunion itself is removed. When the patient is returned to the ward, the end of the bed is raised on 6-inch blocks, and a cradle placed over the operated foot.

AFTER-TREATMENT

This is of great importance. On the second day, strips of adhesive plaster, half an inch wide, are applied to the dorsal and plantar aspects of the big toe, and their long ends are carried up and fixed to the cross-bar of the cradle to act as an extension to pull the toe straight and make certain that there will be an appreciable space between the base of the phalanx and the cut surface of the metatarsal shaft. It is found that the patient is quite able to regulate the amount of this extension suitably by withdrawing the feet slightly up into the bed. At night the strips are undone from the cross-bar and fixed again in the morning. After four or five days the patient is shown how to pull on these strips with his hands many times in the twenty-four hours, and to assist in obtaining a straight but movable new joint. The attachment to the cradle is discontinued. After ten days the stitches are removed, but not the strips; and gentle massage to the scar is begun. In fourteen days the patient is allowed to walk in soft bedroom slippers; the strips are dispensed with altogether, and exercises are started. These consist of frequently repeated flexion and extension movements of the toes, at certain stated times every day.

In a severe and long-standing case the four outer toes have all become deflected too; these must be made to lie in their normal position again. This can be done by active and passive movements, by pulling and stretching, and by inserting small pads of gauze between the second, third, fourth, and fifth toes. Then the pressure of the slipper on the fifth toe is enough to keep all these toes straight, the malposition of the big toe having been corrected.

After three weeks the patient must be fitted with walking shoes to fit the new shape of the feet, with stout soles, ample width in the tread, and straight on the inside. Patients find a flat heel less comfortable than a moderate one, especially if accustomed to wearing a high heel. In six weeks the patient can return to work, provided it does not consist in standing all day: if it does, or if both feet have been operated on, the period of convalescence must be longer.

Massage and exercises are continued throughout the whole of this period, and at night the small pads are placed between the toes. If tenderness is complained of at first when walking, it can be relieved by binding the front part of the foot firmly with one or two encircling strips of adhesive plaster.

REMARKS

The bunion—which I take to mean all the soft parts which form over the prominent bone, consisting of a bursa, fibrous tissue, and thickened skin—is left completely alone, except for the necessary incision at the operation. It has acted as a protection for years, and had better continue to do so. What is not wanted will gradually be absorbed. If it is cut away, there is a danger of the skin becoming adherent to the bone and causing a painful scar—the last thing desired.

No artery forceps are applied. If the operation is performed quickly, say five minutes from start to finish, the periosteal detachers stop all bleeding when in position, and no ligatures are required.

The bone is cut cleanly through, subperiosteally; this means that no bone dust or splinters are left in the wound, and that a cuff of periosteum remains to cover the cut end of the shaft.

Occasionally the extensor tendons of one or more of the toes may be found contracted, and are lengthened by subcutaneous tenotomy, but this is not a routine measure. If extension is not applied, the big toe shrinks back into the foot too much (the operation always shortens the foot slightly) and may become stiff from fibrous ankylosis between the phalanx and the metatarsal shaft. Surgeons have tried to prevent this by removing some of the shaft as well as the head; but this is weakening the foot unnecessarily.

CONCLUSIONS

The important points are:

1. Cut the bone correctly.
2. Leave the bunion.
3. Apply extension.
4. Give exercises and massage.
5. Order shoes that fit the newly constructed foot.

AMOEBIC HEPATITIS WITH HAEMATEMESIS

BY

R. E. DRAKE-BROCKMAN, D.S.O., M.D.

TROPICAL SPECIALIST TO THE MINISTRY OF PENSIONS; LATE MEDICAL OFFICER, UGANDA, EAST AFRICA, AND SOMALILAND PROTECTORATE.

The following account of a case of amoebic hepatitis with severe haematemesis is worthy of record, as I have been unable to find a similar case in the literature.

A nurse, aged 40, who served for two years in Mesopotamia during the war, came under my care in 1925. The only sickness recorded during her war service was as follows: appendicectomy in August, 1916; pain in the lower part of the abdomen in January, 1918; sand-fly fever in August of the same year; anaemia and debility with abdominal pain and vomiting in September, 1919. She was invalided to England. Laparotomy was performed in April, 1920. The gall-bladder was excised and thirty-nine stones were removed. The right ovary was cystic. In August, 1920, she complained of pain in the epigastrium. Amoebic hepatitis was diagnosed in November, 1923. *Entamoeba histolytica* was found in the stools. The liver was two finger-breadths below the costal margin.

After the last diagnosis she received a disability pension in 1924, and came under my care in the following year. She had then a definitely enlarged liver, and suffered from chronic constipation. From 1925 to 1929 she remained at work at her hospital and reported to me once a month for treatment. During this time she only had an occasional "flare-up," which rapidly subsided under appropriate treatment. While under my care no *E. histolytica* cysts were found in the stools in the course of numerous examinations. Towards the end of 1929, as her health had been much the same for several years, her disability pension was made final, and I did not see her again until quite recently. In January, 1930, after having more or less acute pain in the liver for some days, she had a severe haematemesis, vomiting about two pints of blood, and melaena. She was still more or less constipated, and the stools were very pale in colour. As her condition had worsened since her pension was made final, her case was reopened for further adjudication, and I saw her again. The question had arisen whether the haematemesis could be regarded as a sequel of her invaliding disability. On examination in October, 1930, I found that she had so far recovered that her condition was much the same as it was in 1929. There was no jaundice or apparent anaemia, and no enlargement or increase in liver dullness. The heart and lungs were healthy. There was some tenderness in the epigastrium on light palpation, but no mass could be felt. The ascending colon was palpable and tender. The stool examination was negative. A complete radiological examination was made of the whole intestinal tract, and the report was as follows:

"Considerable elongation of stomach. Stomach is hypotonic. Intermittent hyperperistalsis. No evidence of gastric ulcer. Duodenal cap showed persistent deformity; the second part is pulled over to right. Deformity more suggestive of adhesions than that due to an ulcer. Marked ptosis of

xures of colon, but apart from this no definite evidence of ganic disease."

The blood count showed: red blood cells 4,500,000 r c.mm., white blood cells 8,000; polymorphonuclears 74 per nt., large mononuclears 4 per cent., lymphocytes 20 per nt., eosinophils 2 per cent.; haemoglobin 90 per cent.; lour index 1.1. No abnormal cells were seen.

COMMENTARY

The interesting point about this case is that the clinical, adiological, and microscopical examinations appear to xclude all the commoner conditions giving rise to a aematemesis of such severity. The patient stated that he had never suffered from any gastric symptoms in her fe, nor did the radiological examination show any vidence of gastric or duodenal ulcer, nor had she been reated for either at any time. There is certainly a possiility that the deformity of the duodenal cap was due o an ulcer as well as to adhesions. The past clinical istory undoubtedly points to the latter cause. At the ame time it seems incredible, if an ulcer did exist, hat it would give rise to no clinical symptoms save a udden and severe haematemesis, which did not recur and or which no special treatment was given.

There had never been any evidence of cirrhotic changes n the liver. Thrombosis of the portal vein can be liminated, as the other usual sequels—namely, enlargement of the spleen and ascites—were entirely absent, and the haemorrhage had not recurred. The normal blood count, together with a normal spleen, excluded early splenic anaemia and leukaemia. What, then, was the cause of the haematemesis? We appear to be left with a gastrostaxis occurring by diapedesis. Might this not be the result of a very sluggish liver of long duration giving rise to a more or less constant hyperaemia of the gastric mucosa? However sceptical one may be in regarding the haematemesis as a sequel of the amoebic hepatitis, it is difficult to exclude the contingency occurring in such an obstinate and long-standing case.

It must be borne in mind that the patient is a nurse on duty in a fair-sized hospital, where she has always had constant and immediate medical attention from a highly competent staff of medical practitioners, so that any gastric disturbances would have been promptly treated.

I have to thank the Director-General of Medical Services, Ministry of Pensions, for permission to record this case.

CONGENITAL ANEURYSM OF THE BRAIN

BY

HUGH REID, M.B., CH.B., F.R.C.S.

HONORARY ASSISTANT SURGEON, ROYAL INFIRMARY; DEMONSTRATOR OF SURGICAL PATHOLOGY, UNIVERSITY OF LIVERPOOL

AND

HUMPHREY H. GLEAVE, M.B., CH.B., M.R.C.P.

LECTURER IN PATHOLOGY, UNIVERSITY OF LIVERPOOL

The problems of differential diagnosis are nowhere more strikingly illustrated than in aneurysms of the base of the brain. It is now well recognized that besides those instances in which the condition is associated with infective endocarditis or cerebral arterio-sclerosis, there is a group of cases in which the aneurysm is congenital, or depends on a congenital weakness in the arterial wall at certain points. To this congenital weakness of the arterial wall the case reported owes its interest.

CASE NOTES

History.—The patient, a married woman aged 33, was quite well until a month ago, when she had a slight attack of vomiting and complained of a vague headache. Since then she had not felt really well. On September 8th she fainted twice and vomited without warning. During the following week she complained of low occipital headache and pain in the back, and felt "feverish." On September 16th she walked to her doctor's house at 8 p.m. While in the surgery she suddenly collapsed and became comatose. The doctor applied artificial respiration and made arrangements for her admission to hospital.

Condition on Admission.—The patient was deeply comatose. The face and body were pale and cold. The muscles were flaccid and all reflexes absent. The pupils were widely dilated. Examination of the discs showed nothing abnormal. The systolic blood pressure was 110, and the heart rate 70, irregular, but not fibrillating. The urine contained no sugar, but a trace of albumin. No incontinence. Lumbar puncture obtained blood.

Progress.—Artificial respiration was maintained until 2.30 a.m., when intratracheal air was given. Fibrillation was noted at 3 a.m. Death occurred at 3.30 a.m.

Necropsy.—A complete post-mortem examination was made with the following findings. The convolutions of the cerebrum were flattened, and there was a large amount of blood clot in the pia-arachnoid at the base of the brain. The haemorrhage extended along the sulci over the right side of the cerebrum. The fourth ventricle contained blood clot, the lateral ventricles blood-stained cerebro-spinal fluid. Over the junction of the right anterior cerebral and anterior communicating artery was a pale fibrinous clot, about the size of a pea, evidently the remains of an older haemorrhage. The two frontal lobes were adherent to each other in this area. On lifting off this clot there was found a saccular aneurysm measuring 1 by 0.5 by 0.5 cm. occupying the space between the two anterior cerebrals and springing from the junction of the above arteries. The aneurysm showed a white fibrous-looking wall, thinned on the lower side, where it was ruptured. The other blood vessels of the brain showed no abnormality. The pericardium was adherent to the posterior aspect of the left ventricle by some old cord-like adhesions over an area of 2 cm. square. No other abnormality was found in the body. Microscopical examination of the liver and kidneys revealed no sign of disease. The Wassermann reaction of the blood obtained at the post-mortem examination was negative.

COMMENTARY

On reviewing the case in the light of the necropsy, it is evident that the attack on September 8th was due to a leakage from the aneurysm causing a small subarachnoid haemorrhage, which became arrested before causing material damage to the brain or cranial nerves. The subsequent attack was due to a sudden large haemorrhage causing a rapid and fatal compression of the medulla. No evidence of the presence of an aneurysm was detectable before rupture.

The clinical symptoms of a congenital aneurysm may be conveniently divided into symptoms prior to rupture and those following rupture.

Before rupture, localizing symptoms causing pressure on neighbouring structures may be recognized. In the region of the anterior half of the circle of Willis the second, third, fourth, fifth, or sixth nerve may be irritated. Thus a case has been reported where an intractable and apparently idiopathic trigeminal neuralgia was the only symptom. Again, an irregularity of the pupil on one side might be the only tell-tale sign. In the posterior half of the circle of Willis, pressure on the brain stem, in addition to paralyses of the last four cranial nerves, might give rise to paraplegia, cerebellar symptoms, dysarthria, dysphagia, or contralateral hemianaesthesia.

After rupture, leakage of blood into the subarachnoid space at the base of the brain gives rise to clinical signs upon which a diagnosis may be made with reasonable certainty, although meningitis or influenza may be closely simulated. Depending upon the rate of the haemorrhage, the intensity of the symptoms varies. Loss of consciousness passes on to deep coma with a severe haemorrhage, while with a small one, giddiness, headache, and vomiting may be the only

effect. Moderate pyrexia, stiffness of the neck, and positive Kernig's sign may be present, so that except for the difference in the cerebro-spinal fluid or the suddenness of onset or a possible previous attack, a diagnosis of meningitis might well be made.

C. P. Symonds gives a full report on this type of haemorrhage, and points out that Sir William Gull in 1859 was the first to recognize its comparative frequency.

BIBLIOGRAPHY

Green, S. K. H.: *Quart. Journ. Med.*, 1928, xxi, 419.
Maclean, Bruce: *Lancet*, 1928, i, 1279.
Forbus, W. D.: *Bull. Johns Hopkins Hosp.*, 1930, xlvii, 239.
Symonds, C. P.: *Quart. Journ. Med.*, 1924, xviii, 93.
Pollock, L. J.: *Med. Clinics of North America*, 1927, ii, 1.
Sands, I. J.: *Arch. Neur. and Psych.*, 1929, xxi, 37.
Shore, B. R.: Ibid., p. 607.
Hassin, G. B: Ibid., 1927, xvii, 770.
Nonne: *Deut. med. Woch.*, 1927, liii, 132.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

LACTATION IN ACCESSORY BREASTS

While the occurrence of accessory breasts is not uncommon, a case in which they actively functioned may deserve recording.

I attended, in September last, the confinement of a primipara, aged 23. She had a normal pregnancy up to the third month, when she noticed for the first time a lump in the right axilla immediately behind the anterior fold. At the eighth month a similar lump appeared in the left axilla. These lumps presented no true nipples, but in each there was a small dilated pore in the middle of the overlying skin. On the right side, midway between the true nipple and the umbilicus, was a small elevated nipple without any appreciable breast tissue beneath it.

On the second day after delivery the axillary lumps swelled concurrently with the true breasts, and reached the size of small oranges. A considerable quantity of milk exuded from the central pore of each. There was no change in the right accessory nipple. The accessory breasts gave an insufficient supply of milk to be of use to the child, and caused inconvenience to the mother by reason of pain and wetting of the clothes. They decreased in size in the absence of the sucking stimulus, and there was an uneventful puerperium.

I have seen several other cases of accessory breasts, but it is so rare for lactation to occur in axillary breasts that I think this case is of much interest.

I am indebted to Dr. E. Robertson for permission to publish this short account of the case.

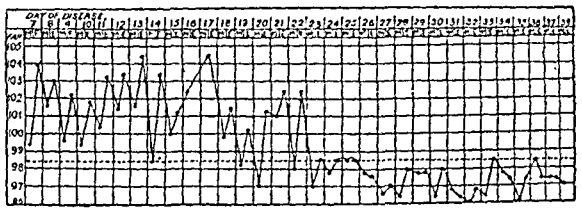
ARNOLD HINDHAUGH,
M.B., B.S., M.R.C.S.
London Hospital, E.1.

A CASE OF GLANDULAR FEVER

In view of the recent correspondence in the *Journal* on this subject, the following case may be of interest, especially in view of the fact that at no time during the illness was there any rash, a symptom which appears to have been a feature in some of the cases described by your correspondents.

J. M., aged 13, was taken ill on June 14th, 1930. When I first saw him he was listless and suffering from general malaise and a severe headache. He had a temperature of 103° F.; pulse 80. He gave a history of being on the river in a boat in strong sunshine, wearing only his school cap. After a short interval of three or four days, during which his temperature became normal, he again suffered from a rise of temperature, and complained of sore throat, pain in the neck, and general malaise.

On examination the throat was slightly red, tongue furred and dry, chest organs normal, but the spleen was distinctly palpable. The cervical lymph glands were enlarged on both sides, and the glands in both the carotid and posterior triangles were involved. Further search revealed slight enlargement of the lymph glands in the axillae. As the illness progressed the cervical glands became larger, very swollen and tender, and extremely painful. This persisted throughout the disease, during which there was considerable pyrexia. I enclose the temperature chart, from which it will be seen that the range was from 97° to over 104°. After a preliminary diagnosis of heat stroke, which had hurriedly to be revised, I came to the conclusion that I was dealing with a case of glandular fever, and this diagnosis was borne



out by the blood count, the details of which are as follows: red blood cells, 6,000,000 per c.mm.; haemoglobin, 80 per cent.; colour index, 0.7. White blood cells, 18,000 per c.mm. Differential white cell count: polymorphs, 9,180 (51 per cent).; lymphocytes, 8,640 (48 per cent.); large mononuclears, 180 (1 per cent.); eosinophils, *nil*.

After lasting for twenty-two days, the temperature fell by crisis, and the glands gradually began to recede in size. Recovery has been uneventful, except that the convalescence has been slow, and the boy has even now not yet regained his usual spirits. There was never at any time any suspicion of a rash.

In my view the chief points of interest in this case are: (1) the blood count, which revealed a moderate degree of leucocytosis, but mainly of the small lymphocytes, whereas some of your correspondents found that the increase was in the large lymphocytes; (2) the absence of rash.

I am indebted to Dr. W. H. McKinstry, pathologist to the Willesden General Hospital, who kindly did the blood count, and to Dr. C. R. Box, F.R.C.P., physician to the London Fever Hospital, who came at my request and confirmed the diagnosis.

London, N.W.2. E. C. WHITEHALL COOKE.

Reports of Societies

THE TREATMENT OF PNEUMONIA

At the meeting of the Medical Society of London on March 10th, with Dr. R. A. YOUNG in the chair, a discussion took place on the treatment of pneumonia.

Lord DAWSON OF PENN said that the treatment of lobar pneumonia had for centuries caused concern and controversy, justified by the prevalence and high mortality of the disease, and by the way in which it attacked both the robust and the unhealthy. One out of every 1,300 of the population succumbed to it every year. The attitude of mind towards the treatment of pneumonia changed from the time when it was established as an infection by a pneumococcus usually localized in the lung and pleura. He believed that specific therapy gave the greatest hope. The development of the serum treatment of pneumonia had followed the classification of the pneumococcus by Cole and other workers into four etiological groups. Of these the first, second, and third were specific types, while the fourth was a motley collection of serological strains. The serum contained protective substances similar to those which the patient's body was trying to produce, and did in fact produce, at the crisis in large amount if prognosis was favourable. These substances were antibacterial, not antitoxic. Their efficacy was commonly tested by their ability to protect mice from death when injected simultaneously with a lethal dose of organisms. Groups 1 and 2 accounted for 50 to 75 per cent. of the total cases. If, therefore, something could be done for these two groups, material progress would be made. Yet, in practice, serum treatment had not made much headway; probably

the explanation lay in the inevitable delay in deciding as to type. In acute disease, serum must be administered early. The bulk of the injections and the frequency with which they had to be given in the early stages was a serious handicap. It was a big proposition to have to give 100 c.cm. intravenously every eight hours for the first two days. These objections had in large measure been removed, however, by the introduction of Felton's serum, which was polyvalent to Groups 1 and 2, was in a concentrated and refined form, and in the making of which a considerable number of the chances of anaphylaxis were eliminated. Without "typing" the doctor could give the serum at the moment he made the diagnosis of pneumonia, for the chances were that the group would be 1 or 2, and if it were 3 or 4 no harm would be done. The fact that it was immediately possible to give a serum in a disease so severe and so brief in its course was a great gain. Tests for hypersensitiveness had to be made; one was that of putting two drops of undiluted horse serum into the conjunctiva, another was the intradermal injection of a 10 per cent. solution in normal saline. The results of this serum treatment were encouraging, though it was too early to say that they were conclusive. Lord Dawson referred to two recent reports, from the Royal Infirmaries of Edinburgh and Glasgow, dealing respectively with 89 and 57 cases, but sufficient for the formation of impressions. There was ground for thinking that, besides reducing the mortality, the prompt use of polyvalent serum, at any rate as regards Type I, cut short the attack, the day of the crisis being brought nearer to the sixth. Further, in Edinburgh the feeling was that the severity of the disease was less. The time had come for the more widespread employment of Felton's serum, used promptly as soon as pneumonia was diagnosed, with doses given intravenously, after rapid tests for hypersensitization, every eight hours during the first twenty-four, and subsequently twice or three times in the twenty-four hours, according to the temperature, pulse, and condition of the patient. Everything was to be gained by being bold in the early stages.

Turning to the problems of the treatment of pneumonia outside the acquirement of immunity, Lord Dawson said that anoxaemia showed itself in blueness of the lips and nails, and it had been suggested that the blocking of the alveoli with exudate must cut down oxygen intake and the output of CO_2 and waste products. But was that an adequate explanation? Cases could be recalled, ominously stricken from the commencement, in which cyanosis and blueness were prominent, yet there had been no time for consolidation in the lung. What happened was that the pneumococci damaged the alveolar epithelium and deprived it of its functional efficiency. In this way anoxaemia would be linked with toxaemia, which was known to exist clinically. This association explained why the alleviation of symptoms by oxygen was sometimes partial and transient. Oxygen administration was a supportive rather than a curative measure. It improved the appearance of the patient, and caused diminution of pulse rate, restlessness, and delirium, but it was transient; its chief value was that it enabled the patient to "hang on" in the hope that immunity might be reached. He discussed the methods of oxygen administration. The mask was of little use because it distressed the patient, who felt himself encompassed. In Chicago he had seen a small two-bed oxygen ward, in which any quantity of oxygen desired could be produced, with adequate ventilation and means of regulating temperature and humidity. An oxygen concentration of 60 per cent. was not good for the attendants, and was unnecessary for the patient; about 40 per cent. was nearly always adequate. Portable oxygen tents were employed in many places; they were like small sedan chairs, with windows on every side; these prevented the patient from feeling himself encompassed, and a saturation of 40 or 50 per cent. could be secured. With regard to oxygen catheters, if one of the calibrated reducing valves was used, the supply of oxygen could be regulated easily, 2 litres per minute being delivered through the catheter, giving a richness of oxygen equal to 30 per cent.

Discussing alleviative measures, Lord Dawson said that opium, its alkaloids and allies, were beyond value. Some patients, who were fully conscious, endured anguish of thought as well as bodily stress and pain. If that load could be lightened it was great gain—and what was better in many instances than morphine? The hesitancy to use morphine or its allies—for example, heroin—was not justified. The only condition under which morphine might require to be withheld or used with great restraint was a generalized bronchitis, with an exudate blocking the tubes. When a patient was merely restless and sleepless a hypnotic was better than morphine. A little nepenthe might be given to ease the cough, and the hypnotic allowed to do the rest. Bromide and chloral were valuable sedatives, and occasionally it was found that some of the synthetic hypnotics reduced an uncomfortable blueness in certain patients. Alcohol had the advantage of being a food that did not require digestion, and therefore saved the administration of other forms of nourishment. Moreover, it lightened worries and assisted sleep. It was often a mistake to order brandy, for how many people in these days could afford brandy that was worth taking? On the other hand, good whisky could be obtained for a relatively small price. It was seldom wise to press alcohol on those who disliked it.

Professor W. H. WYNN confined himself to the discussion of vaccine treatment. It was unfortunate that the early work with vaccines was on subjects of chronic infection who were sensitized and reacted easily. It was assumed that these phenomena, found in chronic infections, were present in all states of infection, hence the fear of using vaccines in acute infections such as pneumonia. In acute infections specific antibodies were present only after a certain interval, as their formation was comparatively slow. Until the antibodies were produced the patient was unsensitized, and there was an interval before sensitization occurred, which afforded the opportunity of intervening safely with an adequate amount of vaccine. These antibodies were strictly specific, and if they only were to be depended upon it would be impossible to get a rapid result. But fortunately the vaccine had an immediate action in producing non-specific antibodies. Early work on vaccines was concerned almost entirely with the production of specific antibodies, but it was frequently observed that immediate improvement occurred after the single injection of the vaccine, a fact impossible to explain by any of the then understood theories of immunity. Wright and others had shown that the adding of a vaccine to blood produced a mobilization of non-specific antibodies, and the blood became bactericidal. It was this non-specific form of immunity which was illustrated in the early treatment of acute infections. It was probable that any given vaccine would cause a similar effect, because this was a non-specific action, which affected other microbes besides those contained in the actual vaccine. The object of vaccine treatment in pneumonia was to produce a real immunity while the curve of toxaemia was rising. In this early stage the circulation through the lung was unimpeded, and the antibodies in the blood were able to obtain access to the organisms. In pneumonia there was thus an interval during which the patient was unsensitized, and in which prompt action might control or abort the infection. He urged the importance, therefore, of early treatment. The result in any case of pneumonia probably

depended upon the happenings of the first forty-eight hours. The vaccine was a straightforward emulsion of the organisms, sterilized by heat, and produced from primary growth as far as possible under twenty-four hours old. At first, for lobar pneumonia, he had used a vaccine containing only the pneumococcus, and for influenzal broncho-pneumonia a vaccine containing equal numbers of pneumococcic, streptococcic, and influenzal strains, but in recent years he had used the mixed vaccine for all cases. For the adult the minimum dose was 100 million, but even twice or three times that was often given, and for children the doses were proportionately smaller, though he was approximating the child to the adult dose. If the vaccine was injected within the first twenty-four hours the temperature would fall during the next twenty-four to forty-eight hours, and this rapid fall was one of the most striking things he had seen in the whole range of therapeutics. On the second or third day it was, of course, harder to overtake the infection. In a hundred consecutive cases of lobar pneumonia, all severe, forty-nine patients were injected during the first three days, and of these only one died.

Dr. R. A. O'BRIEN confessed that he was still far from convinced of the efficacy of antipneumococcus serum. He said this unwillingly, because for twenty years his job had been serology, and if serum did not prove to be one of those things which had come to stay it would be a great disappointment to him. But he must hold that only those things had come to stay the utility of which could be proved in the laboratory with laboratory animals. He then went on to examine the evidence afforded from the Rockefeller Institute relating to the use of serum in pneumonia, and after passing in review the work of Avery, Park, Rosenbluth, and others, he said that Type I was the only type in which the figures even of the Americans themselves showed a definitely favourable result, obtained in a long series of cases. On the question of dosage and units Dr. O'Brien said he found great difficulty in understanding the American work, and for the moment he did not see, from the point of view of laboratory experiment, how it was possible to get any further in this matter in England; he was very despondent about it. The clinical testimony made one feel that, given a case of Type I or Type II infection, serum ought to be used, because it might tip the balance, and yet on the laboratory side he felt that justification was lacking. Even to-day in New York the note was not one of complete conviction, though Park had told him that he was as convinced of the utility of Type I serum as of diphtheria antibody. But the laboratory control of treatment was going to be a very troublesome matter, and he was doubtful whether in England the method would pass the sceptical statistician.

Dr. NATHAN RAW said that some years ago he had carried out a prolonged observation of vaccine therapy, using the Burroughs Wellcome stock pneumococcic vaccine. He treated 250 consecutive cases with this preparation, and in some the effects were theatrical, but on the whole the death rate was lowered only by some 3 per cent. As the vaccine was a stock one it was, more or less, a shot in the dark, but he felt convinced that if a specific vaccine from the pneumococcus were available the results would be extremely good. A recent paper by Park stated that there were thirty distinct types of pneumococci. The difficulty up to now had been that it had not been possible to obtain for the vaccine treatment of pneumonia the exact type of pneumococcus causing the disease.

Dr. R. S JOHNSON described some work on serum treatment on which he, with Dr. Armstrong, had been engaged for the last five months. The investigation was begun at St. Bartholomew's, though it later extended to other hospitals, on Types I and II cases, with the serum prepared by Felton. The results (which, when the work was completed, would be published in full) had shown the great value of serum. An additional help had been a method of determining the pneumococcal type before serum treatment was begun; this was a rapid method of typing by exposition of the peritoneum of the living mouse and the microscopical agglutination test. Of fifteen cases of Type I treated, eight were early cases (first three days), and all showed a striking improvement; of the seven late cases, four were markedly improved, two improved, and one uninfluenced. Of eight cases of Type II treated, four were early cases, and three of these patients improved dramatically; the other, after an initial improvement, had a relapse and died of oedema of the lung; of the four late cases, two were greatly improved and two showed no benefit. The aim of dosage was to give initially 20,000 protective units of the homologous type antibody. Dr. R. ARMSTRONG added a few words on the same series of observations. He asked whether one was justified in regarding only mortality experience and statistics in connexion with pneumonia. There was an infinite variety of conditions which prejudiced the course of pneumonia by itself, and might lead to the death of the patient irrespective of his pneumonic condition. What impressed one in this new treatment was the striking improvement in the patient's general condition. He believed, with Park, that the serum had come to stay, and he thought that the method of rapid typing would revolutionize the treatment.

Dr. WALTER BROADBENT mentioned that he used an Italian serum in 1910, which was very effective until about 1916, when it became completely useless, presumably because the type of pneumonia had changed. A serum made at the Pasteur Institute was very effective in England up to about 1923, when it also failed completely. Dr. EAST showed graphs of a small series of cases treated with the Lister Institute serum, from which he thought some advantage had been gained. Dr. C. B. HEALD asked for any experiences of the use of diathermy in the treatment of pneumonia. Professor WYNN said that his experience in Birmingham was that the majority of pneumonias were not purely of the pneumococcal type; a very large number were influenzal pneumonias in which the streptococcus was the important organism, so that serum had not much application towards those. With regard to alcohol, he related an observation in which on one side of the ward practically every patient had alcohol, and on the other side no patient had alcohol. Among those who had alcohol the mortality was 68 per cent., among those who took none it was 21 per cent.

Lord DAWSON, in reply, said, with regard to alcohol, that he could not conceive of any remedy in pneumonia being used as a routine unless it were something which claimed to be a specific treatment. To use alcohol in every case would be an act of folly. All endeavours to reduce remedies and the testing of their virtues to the level of statistics did not lend themselves effectively to treatment. When they got to logarithms, he wondered whether they were not getting far away from the actualities of their work. He appreciated the scepticism of the laboratory, but he hoped the clinician would not be discouraged by it. Greatly as he admired American methods, he always came back to this country feeling that here was a "clinical wisdom which is not excelled in any other country in the world." With regard to serum therapy, his attitude was one of chastened optimism, and he believed it was worth while going forward with this investigation. He thought that too much stress had been laid on the value of autogenous vaccines in acute infections. He thought the balance was in favour of an efficient standardized vaccine with a good antigen content.

FRACTURED BASE: EFFECTS ON HEARING

At a meeting of the Section of Otology of the Royal Society of Medicine on March 6th, with Mr. ALEXANDER TWEEDIE in the chair, a discussion took place on the effects on hearing following fractured base of the skull.

Mr. E. D. D. DAVIS, in an opening paper, after a reference to the increased frequency of such injuries, due largely to motor and especially motor cycle accidents, said that the extent of the injury varied considerably with the degree of violence and the exact situation at which the blow was received. The capsule of the internal ear or labyrinth was rarely found fractured except in fatal cases; among the patients who survived it was the middle ear which was practically always damaged. The auditory meatus was often involved in the fracture, which appeared to split the meatus longitudinally, dividing it into an upper and a lower half. A moderate blow on the temporal fossa might produce a radiating fracture which cracked the roof of the middle ear without rupturing the drum. He had observed four such cases, and the only outward indication was deafness. More commonly the upper half of the drum was ruptured and the blood escaped through the auditory meatus, and also into the nasal and pharyngeal passages. It was significant that in a number of recorded cases where the internal ear had been fractured cerebro-spinal fluid had been present in the discharge. Haemorrhage from both ears was always an unfavourable sign, and the mortality was 66 per cent., whereas when there was haemorrhage from one ear only, the mortality was 39 per cent. The average mortality for all cases of fractured skull was 40 per cent. Where a middle-ear suppuration had existed before the injury the probability of meningeal infection was very great, and the prognosis correspondingly unfavourable. In some cases the injury to the ear was followed by an open suppuration, which materially added to the damage. Mastoid suppuration has also been known to follow a fracture, and such a complication was likely to lead to meningeal infection. Some of these cases of local suppuration, when seen late, could not be distinguished from the ordinary chronic middle-ear suppuration occurring without injury; hence the necessity of examining these patients as soon after injury as possible. The degree of deafness arising from fractures of the skull naturally varied considerably with the extent of the damage. There were roughly three grades of injury to the ear: (1) haemorrhage into the middle ear only, without rupture of the drum, possibly due to a crack in the roof of the middle ear, and detected by the typical bluish appearance of the drum; (2) rupture of the drum and comminution of the roof of the tympanum and meatus; (3) severe fractures in which the capsule of the internal ear had been fractured. Patients in whom fracture was followed by local suppuration suffered most loss of hearing, and the deafness often became permanent. Any improvement in hearing usually became manifest eight weeks after the injury, and if deafness remained after that period it was likely to be permanent. Tinnitus occurred in some of the severe injuries, and also in injuries, not severe, to highly strung patients. The response to treatment of these cases of tinnitus was slow and indifferent. The lesion was not always of the internal ear; most cases of tinnitus showed deafness of the middle-ear type and excitability of labyrinth, and no other abnormality. It was possible that the tinnitus was of central origin, and due to injury of the brain or central nervous mechanism. As to the treatment of the ears following head injuries, a careful watch should be maintained for the onset of suppuration. Absolute rest in bed over a long period was essential, and the less done to the ear the better. As soon as there was recovery from the original shock, the head should be raised by means of pillows, and the auditory meatus gently cleansed with spirit. If there was any discharge of cerebro-spinal fluid the skin should be dried and smeared with an antiseptic ointment, for cerebro-spinal fluid caused a good deal of skin irritation. Packing the meatus with gauze, and, of course, syringing and drops, were to be deprecated. One had always to consider intracranial haemorrhage, for which there should be a free escape. If suppuration occurred, vigorous methods should be adopted to establish free drainage. The tympanic membrane should be incised if necessary, and there should be no hesitation in performing a simple mastoid operation. The early recognition and treatment of suppuration was essential for the prevention of dangerous meningeal or intracranial infection.

The PRESIDENT said that the otologist, notwithstanding requests which he made to his colleagues, did not see cases of concussion sufficiently early; they were referred for deafness weeks or months after the injury. It was curious to note how there might be a good recovery of hearing after a complete filling of the tympanum, with distension of the membrane. He narrated a recent case of a young man who sustained injury while playing Rugby football, being unconscious for twenty minutes. He insisted, however, on going to a dance the next day, and to a boxing contest later, and the following week he again played football, and was knocked out. Some bleeding was then noticed from his ear, and a regular slit was discovered in the membrane, the well-known blue-black distension being observable. The young man, however, scoffed at the idea of a few days' rest in bed, and, so far as the speaker knew, undertook no treatment, and got better!

Dr. DAN MCKENZIE said that fracture of the skull was one of the commonest lesions found in motor accidents, and he thought that surgeons should be encouraged to call in the aid of the otologist with regard to both diagnosis and treatment. Obviously a fracture which went through the middle ear, and possibly up the membrane, was in a sense a compound fracture. A large number of the patients died from meningitis, sometimes months after the accident, due to infection through the meatus and internal ear, as a result of fracture of the temporal bone. In such cases the right thing to do was to operate very early indeed in order to prevent extension to the meninges. Apart from this, the cases called for a "masterly inactivity," lest the very danger it was desired to obviate should be incurred.

Mr. L. GRAHAM BROWN agreed with Mr. Davis that the best method of treating the meatus was by means of spirit, and if suppuration occurred more drastic methods of cleaning must be adopted. He believed that drainage was essential, because in these cases a fatal ending was due to meningitis. In cases coming up for an opinion with a view to compensation there was very often the complication of suppurative otitis media, and it was difficult to say whether the accident caused the otitis media or whether that was a pre-existing condition. To get any decided opinion the case must be seen early.

Mr. HAROLD KISCH spoke of the value of x-ray examination in the diagnosis of difficult cases. The otologist was usually requested to give an opinion on three points: whether the bleeding from the ear was due to a fractured base, whether deafness was likely to be permanent, and what was the prognosis as regards life. Occasionally bleeding from the ear might be due to an injury to the external auditory meatus alone. He wondered why Mr. Davis had described the cerebro-spinal fluid as having an irritating effect on the skin. What constituent in the fluid caused irritation?

Mr. F. W. WATKYN-THOMAS suggested that the development of late meningitis was explained by the fact that the labyrinth, when fractured, in a large number of cases did not heal by bone but by scar tissue. Therefore they

depended upon the happenings of the first forty-eight hours. The vaccine was a straightforward emulsion of the organisms, sterilized by heat, and produced from primary growth as far as possible under twenty-four hours old. At first, for lobar pneumonia, he had used a vaccine containing only the pneumococcus, and for influenzal broncho-pneumonia a vaccine containing equal numbers of pneumococcic, streptococcic, and influenzal strains, but in recent years he had used the mixed vaccine for all cases. For the adult the minimum dose was 100 million, but even twice or three times that was often given, and for children the doses were proportionately smaller, though he was approximating the child to the adult dose. If the vaccine was injected within the first twenty-four hours the temperature would fall during the next twenty-four to forty-eight hours, and this rapid fall was one of the most striking things he had seen in the whole range of therapeutics. On the second or third day it was, of course, harder to overtake the infection. In a hundred consecutive cases of lobar pneumonia, all severe, forty-nine patients were injected during the first three days, and of these only one died.

Dr. R. A. O'BRIEN confessed that he was still far from convinced of the efficacy of antipneumococcus serum. He said this unwillingly, because for twenty years his job had been serology, and if serum did not prove to be one of those things which had come to stay it would be a great disappointment to him. But he must hold that only those things had come to stay the utility of which could be proved in the laboratory with laboratory animals. He then went on to examine the evidence afforded from the Rockefeller Institute relating to the use of serum in pneumonia, and after passing in review the work of Avery, Park, Rosenbluth, and others, he said that Type I was the only type in which the figures even of the Americans themselves showed a definitely favourable result, obtained in a long series of cases. On the question of dosage and units Dr. O'Brien said he found great difficulty in understanding the American work, and for the moment he did not see, from the point of view of laboratory experiment, how it was possible to get any further in this matter in England; he was very despondent about it. The clinical testimony made one feel that, given a case of Type I or Type II infection, serum ought to be used, because it might tip the balance, and yet on the laboratory side he felt that justification was lacking. Even to-day in New York the note was not one of complete conviction, though Park had told him that he was as convinced of the utility of Type I serum as of diphtheria antibody. But the laboratory control of treatment was going to be a very troublesome matter, and he was doubtful whether in England the method would pass the sceptical statistician.

Dr. NATHAN RAW said that some years ago he had carried out a prolonged observation of vaccine therapy, using the Burroughs Wellcome stock pneumococcic vaccine. He treated 250 consecutive cases with this preparation, and in some the effects were theatrical, but on the whole the death rate was lowered only by some 3 per cent. As the vaccine was a stock one it was, more or less, a shot in the dark, but he felt convinced that if a specific vaccine from the pneumococcus were available the results would be extremely good. A recent paper by Park stated that there were thirty distinct types of pneumococci. The difficulty up to now had been that it had not been possible to obtain for the vaccine treatment of pneumonia the exact type of pneumococcus causing the disease.

Dr. R. S. JOHNSON described some work on serum treatment on which he, with Dr. Armstrong, had been engaged for the last five months. The investigation was begun at St. Bartholomew's, though it later extended to other hospitals, on Types I and II cases, with the serum prepared by Felton. The results (which, when the work was completed, would be published in full) had shown the great value of serum. An additional help had been a method of determining the pneumococcal type before serum treatment was begun; this was a rapid method of typing by exposition of the peritoneum of the living mouse and the microscopical agglutination test. Of fifteen cases of Type I treated, eight were early cases (first three days), and all showed a striking improvement; of the seven late cases, four were markedly improved, two improved, and one uninfluenced. Of eight cases of Type II treated, four were early cases, and three of these patients improved dramatically; the other, after an initial improvement, had a relapse and died of oedema of the lung; of the four late cases, two were greatly improved and two showed no benefit. The aim of dosage was to give initially 20,000 protective units of the homologous type antibody. Dr. R. ARMSTRONG added a few words on the same series of observations. He asked whether one was justified in regarding only mortality experience and statistics in connexion with pneumonia. There was an infinite variety of conditions which prejudiced the course of pneumonia by itself, and might lead to the death of the patient irrespective of his pneumonic condition. What impressed one in this new treatment was the striking improvement in the patient's general condition. He believed, with Park, that the serum had come to stay, and he thought that the method of rapid typing would revolutionize the treatment.

Dr. WALTER BROADBENT mentioned that he used an Italian serum in 1910, which was very effective until about 1916, when it became completely useless, presumably because the type of pneumonia had changed. A serum made at the Pasteur Institute was very effective in England up to about 1923, when it also failed completely. Dr. EAST showed graphs of a small series of cases treated with the Lister Institute serum, from which he thought some advantage had been gained. Dr. C. B. HEALD asked for any experiences of the use of diathermy in the treatment of pneumonia. Professor WYNN said that his experience in Birmingham was that the majority of pneumonias were not purely of the pneumococcal type; a very large number were influenzal pneumonias in which the streptococcus was the important organism, so that serum had not much application towards those. With regard to alcohol, he related an observation in which on one side of the ward practically every patient had alcohol, and on the other side no patient had alcohol. Among those who had alcohol the mortality was 68 per cent., among those who took none it was 21 per cent.

Lord DAWSON, in reply, said, with regard to alcohol, that he could not conceive of any remedy in pneumonia being used as a routine unless it were something which claimed to be a specific treatment. To use alcohol in every case would be an act of folly. All endeavours to reduce remedies and the testing of their virtues to the level of statistics did not lend themselves effectively to treatment. When they got to logarithms, he wondered whether they were not getting far away from the actualities of their work. He appreciated the scepticism of the laboratory, but he hoped the clinician would not be discouraged by it. Greatly as he admired American methods, he always came back to this country feeling that here was a "clinical wisdom which is not excelled in any other country in the world." With regard to serum therapy, his attitude was one of chastened optimism, and he believed it was worth while going forward with this investigation. He thought that too much stress had been laid on the value of autogenous vaccines in acute infections. He thought the balance was in favour of an efficient standardized vaccine with a good antigen content.

FRACTURED BASE: EFFECTS ON HEARING

At a meeting of the Section of Otology of the Royal Society of Medicine on March 6th, with Mr. ALEXANDER TWEEDIE in the chair, a discussion took place on the effects on hearing following fractured base of the skull.

Mr. E. D. D. DAVIS, in an opening paper, after a reference to the increased frequency of such injuries, due largely to motor and especially motor cycle accidents, said that the extent of the injury varied considerably with the degree of violence and the exact situation at which the blow was received. The capsule of the internal ear or labyrinth was rarely found fractured except in fatal cases; among the patients who survived it was the middle ear which was practically always damaged. The auditory meatus was often involved in the fracture, which appeared to split the meatus longitudinally, dividing it into an upper and a lower half. A moderate blow on the temporal fossa might produce a radiating fracture which cracked the roof of the middle ear without rupturing the drum. He had observed four such cases, and the only outward indication was deafness. More commonly the upper half of the drum was ruptured and the blood escaped through the auditory meatus, and also into the nasal and pharyngeal passages. It was significant that in a number of recorded cases where the internal ear had been fractured cerebro-spinal fluid had been present in the discharge. Haemorrhage from both ears was always an unfavourable sign, and the mortality was 66 per cent., whereas when there was haemorrhage from one ear only, the mortality was 39 per cent. The average mortality for all cases of fractured skull was 40 per cent. Where a middle-ear suppuration had existed before the injury the probability of meningeal infection was very great, and the prognosis correspondingly unfavourable. In some cases the injury to the ear was followed by an open suppuration, which materially added to the damage. Mastoid suppuration has also been known to follow a fracture, and such a complication was likely to lead to meningeal infection. Some of these cases of local suppuration, when seen late, could not be distinguished from the ordinary chronic middle-ear suppuration occurring without injury; hence the necessity of examining these patients as soon after injury as possible. The degree of deafness arising from fractures of the skull naturally varied considerably with the extent of the damage. There were roughly three grades of injury to the ear: (1) haemorrhage into the middle ear only, without rupture of the drum, possibly due to a crack in the roof of the middle ear, and detected by the typical bluish appearance of the drum; (2) rupture of the drum and comminution of the roof of the tympanum and meatus; (3) severe fractures in which the capsule of the internal ear had been fractured. Patients in whom fracture was followed by local suppuration suffered most loss of hearing, and the deafness often became permanent. Any improvement in hearing usually became manifest eight weeks after the injury, and if deafness remained after that period it was likely to be permanent. Tinnitus occurred in some of the severe injuries, and also in injuries, not severe, to highly strung patients. The response to treatment of these cases of tinnitus was slow and indifferent. The lesion was not always of the internal ear; most cases of tinnitus showed deafness of the middle-ear type and excitability of labyrinth, and no other abnormality. It was possible that the tinnitus was of central origin, and due to injury of the brain or central nervous mechanism. As to the treatment of the ears following head injuries, a careful watch should be maintained for the onset of suppuration. Absolute rest in bed over a long period was essential, and the less done to the ear the better. As soon as there was recovery from the original shock, the head should be raised by means of pillows, and the auditory meatus gently cleansed with spirit. If there was any discharge of cerebro-spinal fluid the skin should be dried and smeared with an antiseptic ointment, for cerebro-spinal fluid caused a good deal of skin irritation. Packing the meatus with gauze, and, of course, syringing and drops, were to be deprecated. One had always to consider intracranial haemorrhage, for which there should be a free escape. If suppuration occurred, vigorous methods should be adopted to establish free drainage. The tympanic membrane should be incised if necessary, and there should be no hesitation in performing a simple mastoid operation. The early recognition and treatment of suppuration was essential for the prevention of dangerous meningeal or intracranial infection.

The PRESIDENT said that the otologist, notwithstanding requests which he made to his colleagues, did not see cases of concussion sufficiently early; they were referred for deafness weeks or months after the injury. It was curious to note how there might be a good recovery of hearing after a complete filling of the tympanum, with distension of the membrane. He narrated a recent case of a young man who sustained injury while playing Rugby football, being unconscious for twenty minutes. He insisted, however, on going to a dance the next day, and to a boxing contest later, and the following week he again played football, and was knocked out. Some bleeding was then noticed from his ear, and a regular slit was discovered in the membrane, the well-known blue-black distension being observable. The young man, however, scoffed at the idea of a few days' rest in bed, and, so far as the speaker knew, undertook no treatment, and got better!

Dr. DAN MCKENZIE said that fracture of the skull was one of the commonest lesions found in motor accidents, and he thought that surgeons should be encouraged to call in the aid of the otologist with regard to both diagnosis and treatment. Obviously a fracture which went through the middle ear, and possibly up the membrane, was in a sense a compound fracture. A large number of the patients died from meningitis, sometimes months after the accident, due to infection through the meatus and internal ear, as a result of fracture of the temporal bone. In such cases the right thing to do was to operate very early indeed in order to prevent extension to the meninges. Apart from this, the cases called for a "masterly inactivity," lest the very danger it was desired to obviate should be incurred.

Mr. L. GRAHAM BROWN agreed with Mr. Davis that the best method of treating the meatus was by means of spirit, and if suppuration occurred more drastic methods of cleaning must be adopted. He believed that drainage was essential, because in these cases a fatal ending was due to meningitis. In cases coming up for an opinion with a view to compensation there was very often the complication of suppurative otitis media, and it was difficult to say whether the accident caused the otitis media or whether that was a pre-existing condition. To get any decided opinion the case must be seen early.

Mr. HAROLD KISCH spoke of the value of *x*-ray examination in the diagnosis of difficult cases. The otologist was usually requested to give an opinion on three points: whether the bleeding from the ear was due to a fractured base, whether deafness was likely to be permanent, and what was the prognosis as regards life. Occasionally bleeding from the ear might be due to an injury to the external auditory meatus alone. He wondered why Mr. Davis had described the cerebro-spinal fluid as having an irritating effect on the skin. What constituent in the fluid caused irritation?

Mr. F. W. WATKYN-THOMAS suggested that the development of late meningitis was explained by the fact that the labyrinth, when fractured, in a large number of cases did not heal by bone but by scar tissue. Therefore any

succeeding infection of the ear was apt to set up a meningitis through an ill-guarded labyrinth. Mr. C. HAMBLEN THOMAS raised the question of the positive inferences to be drawn from the *x*-ray picture. Mr. HERBERT TILLEY thought that the cerebro-spinal fluid did have an irritative action on a sensitive skin. With regard to the treatment of fractured skulls associated with deafness and distended drums, he agreed that the less that was done the better. One important point to be borne in mind was that, apart from the condition of the ear, there might be concussion of the brain at the same time. Mr. J. F. O'MALLEY considered that the escape of cerebro-spinal fluid was not sufficient alone to give a bad prognosis; it was the underlying lesion that was of real importance. He gave an instance of a patient who lost an extraordinary amount of cerebro-spinal fluid, and apparently it had not affected his health in the least. Sir JAMES DUNDAS-GRANT said that the condition of the Eustachian tube afforded some indication as to the origin of the bleeding or suppuration. A narrow tube suggested that the suppuration was of old standing; if wide, it might be assumed that it was due to damage to the ear itself, and not to an old suppurative disease. Tinnitus or vertigo was often as much due to concussion as to the local damage to the ears. Mr. N. S. CARRUTHERS said that most of those who saw a patient with profuse sanious discharge from the ear after an accident were too apt to conclude that it was cerebro-spinal fluid. He had found sanious discharges coming from the ear which, on test, proved not to be cerebro-spinal fluid. Further experiences of particular cases were described by Mr. LIONEL COLLEDGE, Mr. BROUGHTON BARNES, and others.

Mr. DAVIS, in reply, said that he had had a number of cases radiographed, but in only one could he be reasonably sure from the *x*-ray result that there was a fracture. The objection to moving these patients to the *x*-ray room had to be considered, and the lack of positiveness in the *x*-ray findings was disappointing. With regard to cerebro-spinal fluid, he had noticed a skin irritation in two cases, but the point had also been emphasized in literature that the skin became sodden and there was a tendency to infection. The escape of the cerebro-spinal fluid appeared to indicate a serious lesion. There were cases which recovered after a profuse discharge, but he still maintained that the prognosis was bad. Some held the view, however, that a free discharge of cerebro-spinal fluid washed away any infection from the wound.

TREATMENT OF TOXIC GOITRE

At the February meeting of the Manchester Medical Society, with the president, Mr. J. HOWSON RAY, in the chair, a discussion took place on the treatment of toxic goitre.

Dr. J. CRIGHTON BRAMWELL briefly reviewed the principal therapeutic measures which had been employed in the past in the treatment of toxic goitre. He discussed the relative merits of surgical and non-surgical methods of treatment in primary and secondary Graves's disease. He concluded that at the present time surgical treatment was the method of choice in the more advanced cases, but expressed the opinion that, in the future, earlier diagnosis would render most cases of primary Graves's disease curable without surgical intervention.

Mr. JOHN MORLEY based his remarks on a series of 120 cases of primary exophthalmic goitre and 72 cases of toxic adenoma upon which he had operated. The mortality in the former group was 5 per cent., and in the latter 6.9 per cent. The tendency in and around Manchester to refer only the more severe cases to the surgeon inevitably involved a somewhat higher mortality than was found in surgical centres, where all cases, including the mildest, were treated by operation. The cause of death in most cases was myocardial weakness. The end-results of operation had been assessed by a questionary as to increase in weight since operation, continuance of palpitation, and ability to resume normal work. This was supplemented by personal interview when possible. The results of this investigation were tabulated as follows:

	Very Good	Good	Moderate	Poor
Primary exophthalmic goitre (97 cases)	60	24	6	7
Toxic adenoma (54 cases) ...	38	13	2	1

While there was general agreement that all cases of toxic adenoma or secondary toxic goitre should be operated on without undue delay, there was still much difference of opinion with regard to the indications for *x*-ray treatment or operation in primary exophthalmic goitre. Mr. Morley believed that *x*-ray treatment gave the best results in the less severe cases with small goitres. In such cases he favoured a course of *x*-ray treatment lasting three months, rigidly controlled by the effect on weight, pulse rate, and basal metabolic rate. If at the end of this test period there was no really striking improvement, he considered it wiser to advise operation at once in order to relieve the strain on the heart muscle. He drew attention to the fact that one-third of his cases of primary exophthalmic goitre had been treated without success by *x* rays before they came to operation. One patient who had undergone intensive *x*-ray treatment developed tetany after operation, but it was found, on going into her history again, that she had noticed similar attacks of tetany for four months before operation. This suggested that the *x*-ray treatment had damaged the parathyroids in her case. The effect of iodine medication was usually transient, and the early favourable effect of iodine on the pulse rate could not be repeated in many cases. He pleaded that iodine should be reserved as a powerful safeguard for the patient in the fortnight or so before operation. A sufficiently long period of pre-operative rest, with the closest co-operation of the physician in the treatment of the heart by digitalis, contributed largely to the safety of operation. Although general anaesthesia by gas and oxygen was safe in an average case, Mr. Morley expressed a growing preference for local anaesthesia in the more severe types and regarded it as especially necessary in those with auricular fibrillation. While operation was not the last word in the treatment of exophthalmic goitre, in the present state of our knowledge it must be regarded as the most rapid and most efficient form of treatment available.

Dr. E. O. GRAY reviewed in detail the results of medium voltage *x*-ray therapy in ninety-nine cases of toxic goitre treated at the Manchester Royal Infirmary during 1928. In his opinion, *x*-ray therapy was a valuable form of treatment in cases of exophthalmic goitre without visceral complications, and a four months' trial was indicated, provided the patient was able to attend regularly and had reasonably comfortable home conditions. If careful records of the symptoms, pulse rate, and weight were kept, it was usually possible at the end of this period to decide whether *x*-ray treatment would be successful in a particular case. A perfect functional result was obtained in 50 per cent. of the cases of exophthalmic goitre in this series, and a further 33 per cent. were markedly improved. *X*-ray therapy had also something to offer in cases of toxic adenoma, as, with a longer course of treatment, good palliative results were frequently obtained. Until it was proved that patients suffering from this type of toxic goitre inevitably developed cardiovascular damage in the course of time, *x*-ray treatment could be recommended if operation was undesirable.

DIGESTIVE DISORDERS IN BREAST-FED INFANTS

At the February meeting of the Edinburgh Obstetrical Society, with Dr. H. S. DAVIDSON in the chair, Dr. CHARLES MCNEIL read a paper on some minor digestive disorders in breast-fed infants during the first month.

Dr. McNeil said that the difficulties attending breast-feeding were not often discussed, but they were not infrequent, and were especially common in the first month—a critical period for the digestive system of the infant. The following four clinical groups included most of the digestive troubles of the baby at this time: (1) mild diarrhoea with green stools; (2) a special type of vomiting; (3) a special type of constipation; (4) failure to gain weight. All the groups had certain common features. At the outset, all were trivial in their effect on health and digestion, but were apt to become chronic and more serious. They were commonly ascribed to some fault in the mother's milk and often led to weaning. A great many of them began about the end of the first week of life, at a time when the first free flow of maternal milk took place. The fourth large group of cases, where the symptom was a failure to gain weight, was produced by a variety of conditions in the mother or child, and demanded a careful examination of both, and weaning was very seldom indicated. The first group, with the symptom of green and frequent stools, was also a large one. The condition was very common, and at first not pathological. It often righted itself, but it was easily overlooked, and might drift into a condition of true chronic dyspepsia. It often appeared about the end of the first week. There was no evidence of dyspepsia at the outset, and it was due to increased peristaltic action of the bowel, associated with the free flow of milk. At first no treatment was required. If it continued simple measures such as a small dose of castor oil combined with a temporary reduction in breast-nursing, were usually sufficient. If these failed, the use of a plain petroleum emulsion, half a teaspoonful well diluted, twice daily, was recommended as an effective and simple remedy. The second group, that in which the symptom was vomiting, had special clinical features which distinguished it from other types of vomiting in the early weeks of life. This type also appeared usually at the end of the first week. Although the vomiting was frequent and explosive, the baby looked well and continued to gain weight for a time; there might or might not be air swallowing as well. It was much commoner in girls especially the nervous and impatient type. The condition was not easy to put right at once, but general measures directed to soothing the baby during and after suckling, and the giving of one or two grains of sodium citrate in a tablespoonful of warm water before nursing, always improved it, and even if vomiting did not stop, the baby continued to thrive. The condition was due to maladjustment of peristalsis and sphincter action in the stomach, or pyloric spasm, and was never an indication for weaning. It had, however, to be distinguished from pyloric stenosis, which might occur in girls, and from the very rare cases of true idiosyncrasy to maternal milk. The third group referred to a special type of constipation in breast-fed babies. The symptom might appear suddenly after a period of loose green motions; the stool was at first of normal consistence and colour, and in all other respects the baby was quite well. The condition here was one of anal spasm. In its treatment, aperient medicine or the usual anal suppositories were either useless or merely palliative, but anal dilatation with the finger, combined with the use of a simple ointment such as 2 per cent. ichthyol, rapidly cured the condition. These first three groups made up a large number of the minor digestive disorders of the breast-fed infant in the first month of life. They were due neither to a fault in the maternal milk nor to disorder of the chemical processes of digestion, but to some maladjustment in the mechanism of peristaltic action and sphincter control in the stomach and large bowel. This maladjustment was specially likely to happen at that time when the first free flow of milk took place—that is, about the end of the first week. Although at first trivial in their effect, these types of minor disorders were liable, if uncorrected, to lead to more serious chronic dyspepsia.

VAGINAL HYSTERECTOMY

At the last meeting of the North of England Obstetrical and Gynaecological Society, held in Manchester, Mr. W. W. KING (Sheffield) was installed as president for the ensuing year.

Dr. S. B. HERD (Liverpool), in a paper on vaginal hysterectomy, pointed out that little support for the operation was to be found in the textbooks, some being frankly antagonistic. There was also need of agreement as to the indications and technique. The present communication was based on a series of fifty cases. In the majority of these the vagina was prepared by hyperchlorite packs and douches for two days before operation. The cervix was closed by three or four silk sutures, which also acted as tractors. The utero-vesicle pouch and Douglas's pouch were opened in the usual way. Dr. Herd recommended early ligature and division of the utero-sacral ligaments to give greater mobility, after which it was easy to work up the sides and secure the uterine arteries. He had not found it necessary to bisect the uterus or remove fibroids piecemeal. The appendages could be removed with the uterus or dealt with separately where removal was advisable. All stumps were fixed to the vault, with their cut surfaces projecting into the vagina after partial closure of the peritoneal cavity. In cases of prolapse a vaginal repair was combined with hysterectomy. The contraindications given were carcinoma of the body or cervix, inflamed appendages, fixation of the body or uterine enlargement out of proportion to the vagina. Of the cases reported by Dr. Herd only six patients were under 40 years of age, the average age being 44, and the average stay in hospital after operation seventeen days. Four were cases of carcinoma; these did not do well. Or the remaining forty-six, forty-three made excellent recoveries. There was one death from broncho-pneumonia, one case of haemorrhage on the tenth day controlled by packing, and one case of pyelitis. The most noteworthy feature of the series of cases was the complete absence of shock and the rapidity with which recovery occurred.

The PRESIDENT, Mr. A. GOUGH, and Professor MILES PHILLIPS spoke strongly in favour of the method, Professor Phillips remarking that no one had the right to call himself a gynaecologist who did not choose this route in as many cases as possible.

Appearance of Ovum during Pregnancy

Dr. R. NEWTON (Manchester) read a preliminary communication on the appearance of the ovary during pregnancy. In October, 1928, Professor D. Dougal had described small, rusty-coloured areas on the surface of the ovaries as noted during Caesarean section. Dr. Newton had looked for these since in a series of Caesarean sections, and found them invariably present in both ovaries. He described the methods of fixing and staining employed, and demonstrated the microscopical findings in several specimens he had obtained. These rusty-coloured areas he found to consist of groups of decidua-like cells lying at varying depths in the cortex, but always with at least

three or four layers of cells separating them from the surface. The cells were apparently in every respect similar to decidual cells. They were large, oval, with faintly granular protoplasm and a prominent nucleus, lying in a loose matrix, with fibrils running between the cells. The presence of glycogen was demonstrated by Best's carmine stain. Dr. Newton stressed the point that he had not found any of these areas absolutely on the surface of the ovary, nor had he been able to find glands present in these decidual groups of cells.

The PRESIDENT, Professor D. DOUGAL, and Professor MILES PHILLIPS expressed the hope that Dr. Newton would continue what they considered likely to prove an investigation of the first importance.

CAESAREAN SECTION

At a meeting of the London Association of the Medical Women's Federation held on February 24th, with the president, Dr. LETITIA FAIRFIELD, in the chair, Mrs. IVENS-KNOWLES read a paper on the technique in low classical Caesarean section, and gave a résumé of results in 352 cases which had been under her care from 1919 to 1930. The development of the Caesarean operation was traced through the stages of its evolution, and the advantages and disadvantages of various suggested modifications were discussed. The cases recorded were consecutive ones. No craniotomy on a living child or panhysterectomy (except for fibroid tumours) had been performed during that period. Of the 352 cases, 99 were repeat operations—67 were for the second time, 25 for the third, and 7 for the fourth. It was possible at these repeat operations to make observations on the condition of the uterine scar and on the presence of intestinal or omental adhesions, from which conclusions might be drawn as to the relative safety or limitations of the classical operation. In 266 operations the indication was a contracted pelvis, with a total maternal mortality of 4—that is, 1.5 per cent. ; 168 were performed before or early in labour, with a mortality of 1.2 per cent. ; 66 late in labour (including cases of obstructed labour), with a mortality of 1.5 per cent. ; 24 after instrumental induction of premature labour, without mortality ; and 8 after attempted forceps delivery, with 1 death from *Staphylococcus aureus* septicaemia after two separate trials of forceps delivery. For eclampsia and other toxaemias 14 cases were operated on, with 1 death, and for accidental haemorrhage 5 cases, with 1 death. Central placenta praevia was the indication in 25 cases ; in this group, all the mothers survived, and only two infants were stillborn. Other conditions—namely, fibroid tumours, ovarian cysts, atresia of the cervix, excessive size of the foetus, brow presentation, advanced age of the mother, and bicornuate uterus—accounted for 27 cases, with no mortality. There were 10 cases of cardiac or pulmonary disease, with 1 death from sepsis, and a foetal mortality of 8.8 per cent. Of the total, 129 patients were primigravidae and 223 were multigravidae. Of the latter, 12 had previously had a craniotomy performed, and 40 had stillbirths—29 had one stillbirth, 10 had two, and 1 had three stillbirths. Cases operated upon early in labour showed a very low rate of morbidity, whereas cases of obstructed or protracted labour showed a morbidity rate of nearly 50 per cent. Two instances were known in which rupture occurred in a later pregnancy, both at about twenty-eight weeks, and both cases of advanced chronic nephritis. It was noteworthy that even in cases where the operation had been performed late in labour and the puerperium had been morbid the uterine scar was sound. Six cases were known to have stood, later, the test of vaginal delivery, two only requiring forceps.

After careful consideration of the results obtained, Mrs. Ivens-Knowles was of opinion that there was much to be said for the low classical operation, which is rapid, easy, and can be adopted for all cases, even when the head is firmly fixed as in a funnel pelvis. It was certainly advantageous to the child. A long enough time had not elapsed for statistics to show whether uterine rupture was less frequent after the lower segment operation, but cases had been reported by Ridler in which the upper segment scar held in a later pregnancy while the lower segment itself had ruptured, and the extraperitoneal operation appeared to be followed by a high morbidity rate from suppuration of the abdominal wound, uterine infection, phlegmasia alba dolens, and vesical fistulae. Recently a death from venous haemorrhage between the bladder and cervix in the transperitoneal operation had been recorded.

THE PSYCHIATRIC OUT-PATIENT CLINIC

At a meeting of the Royal Medico-Psychological Association held in the British Medical Association House on February 25th, with the president, Dr. T. SANTY GOOD, in the chair, Dr. IAN SKOTTOWE read a paper entitled "The utility of the psychiatric out-patient clinic." He referred first to Dr. Good's paper read at the annual meeting in 1921, which described the Oxford clinic. In the following year Dr. Ninian Bruce described Ministry of Pensions clinics. In the ensuing ten years these methods had been used at a number of clinics, legislation on the subject had been changed, and one of the primary aims of this paper was to record a number of small but important points which did not clearly emerge from formal reports. Pioneer work in this country was done by the late Dr. Henry Rayner, who set up a clinic at St. Thomas's Hospital about 1889, and gave his experiences at a meeting of the British Medical Association in 1893. In setting out the aims of his clinic, Dr. Rayner said that one purpose was to rid the public mind of the idea that mental disease was something apart from all other diseases. This broke down the isolation of alienism hitherto existing. The new Mental Treatment Act (Dr. Skottowe continued) brought the subject into sharp focus at the present time, as local authorities were empowered to open such clinics for the management of early cases. Two types of psychiatric clinic were already at work in this country: (1) the psychiatric institute type, the whole building being devoted to the in-patient and out-patient classes, the Maudsley Hospital and the Jordanburn Nerve Hospital being examples ; (2) the psychiatric out-patient department at a general hospital, usually run by members of the staff of a neighbouring mental hospital. In these out-patient departments it was surprising how few new cases were seen. Glasgow and Cardiff, concerned with large industrial populations, received only 100 to 120 new cases annually. The chief conclusion this probably pointed to was that, on the whole, neither the general public nor the family practitioner had realized that this consulting psychiatric service was so easily available. A wider publicity in Boston, U.S.A., resulted in 4,000 new cases of the kind annually, with no larger a population to draw from.

At Cardiff, the medical superintendent of the mental hospital was the senior consultant at the clinic, and he was assisted by the medical officers of the male and female sides of the mental hospital (a woman for the latter). The nurse at the clinic was a trained mental nurse from the mental hospital. The social worker was a fully trained person, and was in touch with the social conditions of the patients, as well as with the various social agencies. Each new patient was seen first by the senior psychiatrist, who made a preliminary survey of the case. Should organic disease be discovered, further investigation and treatment was arranged at a general hospital. Organic disease cases, however, formed only about 5 per cent. of the total. About 25 per cent. of the cases were obviously

fully developed mental cases—schizophrenia, mental deficiency, epilepsy with psychoses, etc. Usually the general practitioner knew that certification would be necessary, but it was a difficult class of case to handle, as the relatives would not consider the doctor's suggestion that the patient was mentally ill. Dr. Skottowe did not deprecate the sending of such cases to the clinic in the first instance, as even by a single consultation the clinic could render a real service to the practitioner, his patient, and the relatives. Dealing with less pronounced types, he said that 60 to 70 per cent. of the cases coming to the clinic were those of anxiety states, neurasthenia, hysteria, early depressions, and behaviour problems. Patients were always managed by a psychiatrist of their own sex. Concerning forms of therapy, he stressed the importance of the modern dynamic conception of mental illness, as one was dealing with individuals having peculiarly personal hopes, fears, beliefs, upbringings, who had met with a great obstruction in their lives. Apart from special physical measures, such as malaria and surgical operation where needed, the major forms of treatment available were psychotherapy and social service. Of the former, no particular school was adhered to, but Dejerine's "persuasionist" doctrines were chiefly used. Most of the patients were not of the deeply thoughtful class, and the psychotherapy must be of the common-sense order. Social service was not only valuable for collecting facts, but it had a definite therapeutic value. The out-patient clinic was primarily a utility organization, serving the needs of people whose lives were a tangle, who were mentally ill, but not ill enough to need mental hospital care.

Sir ROBERT ARMSTRONG-JONES said that when he started such a clinic at St. Bartholomew's he found that a definite proportion of the patients needed beds, and it was very difficult to ascertain the facts about the patients' home life, especially as the people themselves resented inquiries. There was now a better attitude towards mental illness, and this was greatly helped by the Mental Treatment Act of 1930.

Dr. F. R. P. TAYLOR expressed warm agreement with the contention that the medical officer from the local mental hospital should be attached to the clinic; it not only gave the patient confidence, but also ensured continuity of treatment if the patient should have to go to the mental hospital. Unless treatment could include bed accommodation the work was sure to be much limited and hampered.

Dr. W. DAWSON (Belfast) spoke of the favourable impression he had derived from a visit to Dr. Skottowe's clinic. He saw only the new cases, but they represented nearly all the leading forms of insanity or neurosis. The accommodation was adequate but not elaborate; it was such as any town with a general hospital could provide. He cordially believed in starting such clinics in conjunction with the local hospital; in most cases it would be impossible to provide a psychiatric clinic independently of the hospital. Moreover, the association ensured any kind of examination and thorough investigation of the patients.

Professor G. M. ROBERTSON said that this departure was one of the most hopeful and important which had taken place in the last generation. As Dr. Skottowe had stated, the numbers now coming to these clinics were not large, but every year showed an increased attendance figure as the existence and the value of such clinics became more widely known by the public, and the general practitioner knew more of their work. He agreed that the first interview with new patients was that from which students derived the greatest benefit. At Edinburgh the students who had taken out a course of psychiatry and medical psychology must subsequently attend the out-patient clinic, to take notes of the patients, and subsequently write a report on the cases seen. He also agreed that beds should be available for early mental cases; he estimated that one-fifth or one-sixth of the patients needed bed treatment. Almost all the troubles met with in regard to cases of mental disorder rested with certification.

Sir HUBERT BOND did not think public mental hospitals would get any voluntary patients, except a stray one here and there, unless there were a psychiatric out-patient department. The staff of the mental hospital should, he thought, be associated with the psychiatric out-patient clinic, though not necessarily as a dominant partner, as there might already be an honorary physician connected with the venture.

Dr. PERCY SMITH added his tribute to the pioneer work in this domain done by Dr. Rayner at St. Thomas's and Dr. Carswell in Scotland, and spoke of his own efforts in the same way at Charing Cross Hospital. Similar departments were now at work at St. Bartholomew's, Guy's, Westminster, Middlesex, and St. Mary's. At the Middlesex a small number of beds were allocated to these early mental cases, but not a special ward.

The PRESIDENT emphasized the importance of seeing medicine as one great whole; the work should be expanded in all directions. If these clinics were named psychiatric or mental it would, he feared, keep a large number of the people for whom they were meant from attending. In taking notes of these cases it must be remembered that the important aspect of a case was practically never that of which the patient made chief complaint. Everything possible should be done to encourage people to regard mental and physical conditions as one and the same.

Dr. J. G. SOUTAR noted with satisfaction that Dr. Skottowe was not wedded to any particular school of psychology; he recognized that there were a multitude of avenues of approach to the mind of the patient, and in consequence he did not marshal the facts about a patient as supporting any particular school, but as affording an insight into the patient's complexes.

Dr. MACRAE emphasized the importance of making mental hospitals as cheerful and comfortable as possible, so as to minimize the prejudice felt against such institutions. Some 95 per cent. of his patients were certified, but there were no grumbles, and the fact of certification seemed to possess no terrors. Relatives were shown round the wards, and seemed struck by the homelike appearance of the place; some regretted that asylum treatment had not been sought earlier. Most of the patients were inoffensive and not uncompanionable.

At the meeting of the Royal Society, on March 12th, a paper by Mr. E. W. FISH, on the reaction of the dental pulp to peripheral injury of the dentine, was communicated by Professor LOVATT EVANS. A series of earlier experiments in which diffusible dyes were placed in the pulps of human teeth indicated that when primary dentine was injured at the periphery, either by caries or attrition, the whole tract of affected tubules died and became walled off from the pulp by secondary dentine. The experiments upon which the report was based were carried out to investigate the nature of this reaction, and consisted in grinding a shallow cavity in the surface of the dentine and cutting serial sections of the teeth 2, 4, 8, 12, and 16 weeks later. The nature of the reaction varied with the severity of the lesion. The usual result was that the pulp ends of the injured tubules were sealed off by a deposit of calcium salts, and this was followed by a deposit of secondary dentine. The secondary dentine coincided exactly with the extent of the lesion, the injured tubules only being covered by it. The odontoblasts associated with the injured tubules underwent degeneration and most of them died; a proportion survived, showing regenerative changes, and laid down the tubules in the secondary dentine. When, as sometimes happened, all the odontoblasts died, under the affected tubules hyaline secondary dentine was formed, and large connective tissue cells with single nucleoli were found at the edge of the forming secondary dentine. A frequent result of cutting an experimental cavity in normal dentine was the production of small haemorrhages in the general pulp tissue, which persisted for some months, showing only a slight round-cell infiltration.

Reviews

HISTORY OF PAEDIATRICS

In the preface to his *History of Paediatrics*[1] Dr. STILL has told us something of the genesis of the volume: that it had its origin in the preparation of his FitzPatrick Lectures at the Royal College of Physicians. We read that he started on this enterprise a little more than two years ago. In that short space of time he has succeeded in producing a survey of his subject which is the first attempt in England to explore this field of medical history. Dr. Still himself reminds us of the work of John Ruhrah of Baltimore; and there is no one acquainted with Ruhrah's *Paediatrics of the Past* but would re-echo Dr. Still's epithets—"masterly and delightful." Still's work, however, is, as we have just now indicated, cast on somewhat different lines. It is his aim to produce an ordered account of the evolution of paediatrics, especially in England, since its early beginnings in the sixteenth century. To accomplish this aim he must needs give us some review of the state of knowledge at the time when our ancestors began to take a special interest in the subject, and therefore his earliest chapters deal with Greece and Rome, with the Arabians and the mediaeval Italians, before he can present to us the atmosphere in which Thomas Phaer conceived his *Boke of Children*. From this point the author moves onward through the next three centuries, showing the progress of knowledge not only in this country, but on the Continent—an ordered progress tracing the gradual emancipation of the medical mind from the traditional learning of the distant past till he leaves us at the dawn of the nineteenth century. Such an achievement is in itself remarkable, but its magnitude can only be appreciated when one has read the book and realized what has gone to its building. Dr. Still has always been known to his fellows as a scholar and a man of curious learning, but this volume must have meant to him hours of research and literary toil such as few but himself are fitted to undertake. On almost every page the reader who knows anything at all of medical history will recognize the evidence of careful examination of the original sources and critical appreciation of the attainments of the older writers, with due allowance made (and what store of knowledge this implies!) to the atmosphere in which they wrote. All who know Dr. Still will feel little surprise, because his passion for accuracy, his economy of statement, and his balanced judgement are familiar; but even so, they may well wonder how he has in so brief a period absorbed so large a mass of material, reduced it to order, and set it forth in so terse and yet conclusive a form.

The first impression, then, which is left on the reader is admiration for the scope and magnitude of the achievement. The next is perhaps a faint regret that the canvas was spread so large. So long as Dr. Still is strictly faithful to his main design, even he can fail to draw in sufficient detail to make the past live again for us. It is chiefly when he is (as no doubt he would express it himself) betrayed into digressions that he can give a living charm to his pages. In the earlier chapters one of the most delightful features of the book is the felicitous translation from foreign tongues. Whether these are all the work of the author we are not told, but at least the verse translations from the Latin are so skilful and so exact, and yet so melodious, that we cannot be wrong in attributing them to his classical taste. In other pages he has permitted himself to stray slightly from his main theme and consider the ideas of our forefathers on the education, the feeding, and the clothing of their progeny. For our part we could have wished even a larger licence. Just as in the exploration of a buried site the most accurate scientific observations are essential to the proper estimation of the value of the finds, and yet require selection, and even speculation, before they can take their ordered place in the elucidation of the site, so in a scientific history the real significance of many records requires a running commentary before they can combine into a picture. It is here that Dr. Still's scheme has, we believe, proved something of a drawback to the completed design. We could spare something of the dead words if we were given more of the living picture. What Dr. Still can do in that way is shown well by his sketch of Dr. Whistler. It is in such digressions that the student of humanity triumphs over the encyclopaedic historian.

It remains to add that anyone who desires accurate information upon the history of paediatrics will find no point neglected; that the detail compressed by Dr. Still's learning into a small compass may well be called minute; that the illustrations, though few, are good; and that at least one reader cherishes the hope that Dr. Still will shortly use this, and no doubt new matter as well, in a book of a design which will allow the poet and the story-teller in him to get the better of the scientific historian.

DISEASES AND INJURIES OF THE EYE

Dr. SYM'S *Diseases and Injuries of the Eye*,[2] which was first published in 1915, has now appeared in its third edition. It is a readable manual of convenient size for the public for which it is written—the medical student and the general practitioner. Omitting the introductory chapters on anatomy, which are found in most books of this kind, the author opens with a very useful chapter on the general examination of the eye and a discussion of the significance of the main symptoms presented by ophthalmological patients. Refraction is then dealt with, and there follows a series of chapters on systematic diseases and injuries of the eye and its adnexa, and operative technique. Two very useful chapters deal with medico-legal questions and points in the nursing of patients suffering from diseases of the eye—unusual features in a student's handbook, but extremely valuable. The book concludes with a chapter on therapeutic agents, and another on the visual requirements for the public services.

In so far as it is a book intended primarily for the instruction of students there are some small points to which attention might well be drawn. It is surely a mistake to speak of the tarsal plates in the lids as cartilages when they have no resemblance to this type of structure, but are composed entirely of fibrous tissue; and most authorities are agreed that a chalazion is not usually a retention cyst, but is rather of a granulomatous nature following a mild infection. Further, in order to obtain anaesthesia in operations on the lids we would feel safer with the use of novocain as an injection than with cocaine, as is recommended. It might also be debatable whether slitting of the canaliculus should be recommended without qualifications for the treatment of epiphora. Among embryological questions it is perhaps misleading to speak of cryptophthalmus as a fusion of the lids over the globe of the eye, or of the pupillary membrane as being formed by a persistence of the endothelium of the iris which at one time stretched across the pupil; while many would deny that all colobomata (of the iris, ciliary body, fundus, and optic nerve) are due to an aberration of the development of the vascular tissues of the uvea.

[1] *The History of Paediatrics.* By George Frederic Still, M.D., Hon. LL.D.Ed., F.R.C.P. London: Milford, Oxford University Press. 1931. (Pp. xxiii + 526; illustrated 25s. net.)

[2] *Diseases and Injuries of the Eye.* By William George Sym, M.D., F.R.C.S.Ed. Third edition. The Edinburgh Medical Series. London: A. and C. Black, Ltd. 1930. (Pp. xvi + 493; 87 figures, 24 plates. 12s. 6d. net.)

In the treatment of detachment of the retina, while operative procedures of any kind are discounted, the author suggests that the presence of a retinal hole aids the process of resolution by allowing the subretinal fluid to escape, which is not the experience of many ophthalmologists. Finally, no mention is made of arterio-sclerotic retinitis, and it must be admitted that in general practice the ocular manifestations of arterio-sclerosis are of clinical importance.

PRACTICE OF GYNAECOLOGY

The sixth edition of Dr. JELLETT's *Short Practice of Gynaecology*[3] has been edited by Professor R. E. TOTTENHAM of the University of Hong-Kong. In its general arrangement this edition follows its predecessors, but it has been brought up to date in many respects. It is doubtful, however, whether a book consisting of 512 large pages can justifiably be called a " short " practice of gynaecology. It seems doubtful also whether in any book addressed primarily to students and practitioners so much space ought to be devoted to the description of various methods of performing operations. The operative section occupies about 140 pages, and is most beautifully illustrated with the type of illustration that makes the operative procedure seem to the uninitiated a matter of tempting ease. Several of the operations described are not commonly practised, and some of them are certainly procedures which should not be attempted by anyone who is inexperienced in gynaecological operating, as, for example, the Mayo operation for prolapse as modified by Kelly. This is an admirable operation, but a description of it might well be relegated to what is avowedly a full treatise on gynaecology.

In the section on menstruation Professor Tottenham describes the menstrual cycle as beginning with the interval stage. The usual method of dating the beginning of the cycle from the beginning of menstruation seems to him illogical. But inasmuch as he states that " it begins *approximately about the fifth day* after the cessation of the last menstrual period " (the italics are ours), it seems that his method is still more illogical, as the starting point is so indefinite. Furthermore, this teaching, being at variance with that usually adopted, is likely to lead his students and readers into confusion in regard to what they find in other textbooks and writings. The section on cystoscopy may also be challenged, because that is a subject not usually regarded as coming within the scope of gynaecology; and the devotion of two pages to ureteral stricture is uncalled for. This is a condition whose very existence, except as a rarity, is denied by many competent urologists, and its detection and treatment are certainly matters only for one long practised in such work.

So far our criticisms have been concerned mainly with the amplitude of the fare provided, and, where there is so much that is really excellent, fault-finding is an ungrateful task, but the chapter on displacements of the uterus seems to us to call for adverse comment. The authors make a great deal too much of the mere matter of position, and when it comes to describing conditions such as " sinistro-version " or " dextro-version," or even worse, " sinistro-version with dextro-flexion," one feels as if one were reading a textbook of the period which called forth Clifford Allbutt's famous satire. Most British gynaecologists, at any rate, will disagree with the statement that " as a general rule it is advisable to adopt either operative or radical treatment in most cases in which a retrodeviation of the uterus is met with. Even if the displacement is not at the moment giving rise to any symptoms it will most probably do so in the future. . . ." We have found in the book no statement of the many conditions and circumstances in which a backward displacement needs no treatment whatsoever. It is a great pity that this chapter has not been brought into line with modern thought on the subject of displacements of the uterus.

[3] *A Short Practice of Gynaecology*. By Henry Jellett, M.D., F.R.C.P.I., and Richard E. Tottenham, M.D., F.R.C.P.I. Sixth edition. London: J. and A. Churchill. 1930. (Pp. x + 525; 360 figures, 4 plates. 21s.)

NUTRITION AND FOOD CHEMISTRY

In his preface to *Nutrition and Food Chemistry*[4] Dr. BRONSON says that the book was written primarily for classes of students possessing very little knowledge of physiology and none of organic chemistry. If that be so, we must conclude that the American student is much brighter than his English counterpart, for it contains a detailed and fairly advanced study of nutrition, and of those parts of biochemistry which bear on the different phases of the subject. Indeed, we doubt whether many medical students, at the end of their pre-clinical studies, would care to face an exhaustive examination on the subject-matter of this book. We should prefer to consider it, not as a medium of instruction for students with a slender groundwork of chemical and physiological knowledge, but as a textbook, suitable for reference rather than for continuous reading, addressed to medical men and senior medical students, and those making a special study of dietetics. For such it would be eminently useful. It treats quite adequately the modern facts of nutrition and of food chemistry, and the author has contrived to embody much very recent work. The data have, of necessity, been presented in the form of definite statements. There is no space in a book of less than 500 pages for lengthy criticism or for the weighing of evidence; this must be supplied by the reader himself. Since much of the matter is still more or less controversial, a critical spirit is highly desirable. We say this with no intention of reflecting on the accuracy of the author's statements or on the soundness of his judgement. A book that includes an account of most of the recent developments of a large subject must contain a certain number of statements which will have to be contradicted or modified within a few years. Outstanding examples are the sections on vitamins, on the chemistry of muscle, and on the role of phosphorus.

In science, as in other departments of life, America is evolving for herself a new language. To the English reader it is not always pleasing and is sometimes obscure. The book under consideration exemplifies this. So long, however, as it is not claimed to be " English," we have no right to complain. Dr. Bronson deserves congratulations on having brought to a successful issue a difficult and laborious task, which it must have needed no little courage to undertake.

THE ART OF PROLONGING LIFE

In *Pour vivre cent ans, ou l'art de prolonger ses jours*[5] Dr. A. GUÉNIOT, president of the Académie de Médecine of Paris in 1906, writes with the authority of good health in his ninety-ninth year about a subject upon which C. W. Hufeland and Sir Hermann Weber in the last century had published books with almost the same title. He believes that a hundred years is the natural term of years, and with the mellowed experience of a long and distinguished medical life does not exclude the enjoyment of tobacco or alcohol, in strict moderation, from the amenities of existence. There are many interesting accounts of centenarians, such as the eminent chemist Chevreul, who might have been a multi-millionaire had

[4] *Nutrition and Food Chemistry*. By Barnard S. Bronson. New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd. 1930. (Pp. viii + 467; 34 figures. 18s. 6d. net.)

[5] *Pour vivre cent ans, ou l'art de prolonger ses jours*. Par le Dr. A. Guéniot. Paris: J. B. Baillière et fils. 1931. (Pp. 205. 14 fr.)

he patented his discoveries; it is to be hoped that our author will surpass his fellow-countryman's 103 years. He quotes this remarkable example of hereditary old age: On July 31st, 1554, Cardinal Armagnac found a man of 81 crying in the street, and on inquiry was informed that his father, aged 113 years, had whipped him for failing to salute, when they met, his grandfather, aged 143 years. The influence of the endocrine glands is discussed, and a very cautious attitude is adopted with regard to Voronoff's operation. The book is full of sound common sense, and this is especially concentrated in a chapter on the code of longevity or rules for reaching the natural tale of days.

NOTES ON BOOKS

Although the title of BALLENGER'S *Diseases of the Nose, Throat, and Ear*[6] has not been changed for the sixth edition, the section on the ear is now placed first. This rearrangement is appropriate because that section has always been the most important and carried the greatest authority, and it remains so, although a complete revision of the whole book has been undertaken. Dr. Alfred Lewy has rewritten the chapters relating to the labyrinth, and gives a helpful account of the problems in diagnosis and treatment which beset this complicated and controversial subject. The book has also been strengthened at the other end by separate chapters on direct laryngoscopy, bronchoscopy, and oesophagoscopy by Dr. Gabriel Tucker and Dr. Chevalier L. Jackson. This presents in concise but adequate form the teaching of the Philadelphia Bronchoscopic Clinic. The main body of the book remains unaltered in style and spirit, although it has been revised throughout. This revision has been accomplished rather unevenly, so that the latest opinions on one point are sometimes found adjacent to paragraphs which have not been touched since the first edition. This inequality suggests that the plan of calling upon special contributors might be extended still further with advantage. The editor, however, has grappled with the difficulties of selecting new material and eliminating the old with a large measure of success, and the new edition will surely retain the place which the book has long held among the larger treatises of its kind.

The nineteenth volume of *Annali di Clinica Medica e di Medicina Sperimentale* consisting of 853 pages is dedicated to its founder, Dr. Liborio Giuffrè, professor of clinical medicine at Palermo. It contains fifty-one papers dealing mainly with various aspects of tuberculosis, metabolic and digestive disorders, and neuropathology. A portrait of Professor Giuffrè and a sketch of his career by Professor A. Pitini are prefixed to the volume.

The Leper's Cross,[7] by Dr. DENIS MULDER, director of the Radiological Institute at Bandoeng, Java, contains an account of the thirty years' campaign against leprosy in Java, together with the first report of the Light Institute, founded by the late Mr. K. A. R. Bosscha, a wealthy planter, at the Salvation Army's Plantoengan Leper Colony. A series of photographs is reproduced showing the improvement following the light treatment.

Inspection of the *Medical Register* for 1931 reveals that 1,490 names were added last year. New registrations numbered 768 in England, 350 in Scotland, 164 in Ireland, and 208 in the Colonies and abroad. This total exceeds the corresponding figure for 1929 by 80. Membership of the medical profession was 55,291 at the end of 1930, an increase of 421. The number of names removed from the *Register* during the year was 1,105, compared with 920 in the preceding year. Of these, 887 were removed on evidence of death, 214 for failure to comply with the inquiries of the registrar as to cessation of practice or change of address, and 4 were struck off under the disciplinary powers conferred by the Medical Act.

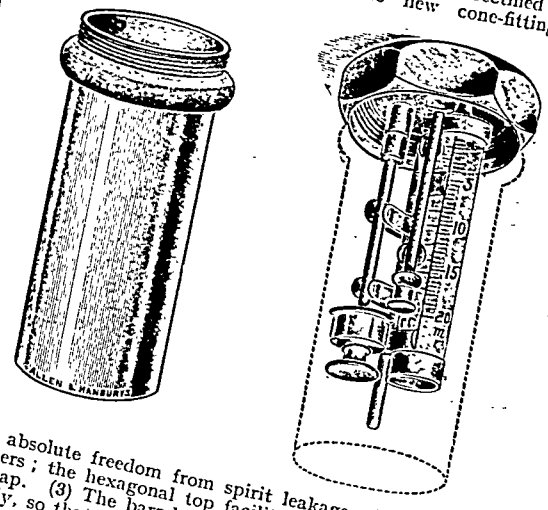
The number of dentists appearing on the *Dentists Register* for 1931 is 14,422, of whom 7,136, or 49.48 per cent., are registered with medical, surgical, or dental qualifications, compared with 6,825, or 47.46 per cent., so registered in the previous year out of a total of 14,381. Of the 280 British registrations that were added to the *Register* during 1930, 253 were registered with qualifications, and 27 under the Dentists Act of 1921—increases of 5 and 2 respectively. The number of names restored during the year was 306, and the number removed through death and other causes was 548. As formerly, the *Register* contains a local address list.

The *Medical and Dental Students Register*, issued by the General Medical Council, records that the number of medical students registered in 1930 was 1,792—290 more than in the previous year. Scottish registrations numbered 662, an increase of 36; English registrations 791, an increase of 161; and Irish registrations 339, an increase of 93. Dental students registered in 1930 numbered 306, which exceeds by 8 the figure of the previous year.

PREPARATIONS AND APPLIANCES

A SYRINGE CASE.

Mr. MILROY PAUL, F.R.C.S. (Ceylon Medical Service), writes: Messrs. Allen and Hanburys of Wigmore Street, W.1, have made to my specification a syringe case (illustrated herewith) which has the following advantages: (1) It is an all-metal nickel-plated case intended to be filled with rectified spirits, to sterilize the contents. (2) The new cone-fitting cap



ensures absolute freedom from spirit leakage without the use of washers; the hexagonal top facilitates opening and closing of the cap. (3) The barrel, piston, and needles are mounted separately, so that there is no possibility of the piston getting stuck in the barrel if the syringe is not used frequently. (4) In use the cap is unscrewed and placed on the table upside down, when it will act as a stand on which the components of the syringe are mounted. The pillar of the stand is attached to the cap, so that the withdrawal of the cap removes the components of the syringe at the same time.

AN ARTIFICIAL SUNLIGHT GENERATOR

We have received from the General Radiological and Surgical Apparatus Company, Limited (204–6, Great Portland Street, W.), particulars of the Neron Vitalux sunlight generator which they are placing on the British market. It is claimed for this lamp that it is "practically equivalent to natural sunlight." It is a hot filament lamp with a blue frosted glass bulb which is permeable, not only to light and heat, but also to the therapeutically active ultra-violet rays emitted by the filament. With the lamp is a reflector, which collects the spread of rays and concentrates them on a given area. The models, in stand and table form, can be connected to any plug carrying six or more amperes, the lamp consuming only 500 watts; the initial cost also is low. The lamp is not designed for the treatment of skin diseases, where a rapid "provocative" treatment with a high concentration of ultra-violet radiation, far exceeding that of sunlight, is called for, but it is offered for conditions in which mild ultra-violet radiation combined with light and heat rays—in other words, a sunlike emission—is desired.

[6] *Diseases of the Nose, Throat, and Ear: Medical and Surgical.* By William Lincoln Ballenger, M.D., F.A.C.S. Revised by Howard Charles Ballenger, M.D., F.A.C.S. Sixth edition, thoroughly revised. London: H. Kimpton. 1930. (Pp. x + 1138; 583 figures. 50s. net.)

[7] *Het Kruis der Leprozen.* Von Dr. Denis Mulder. Bandoeng: Maks and van der Klits. 1930. (Pp. vi + 135; 24 plates.)

THE INTERNATIONAL ASSOCIATION FOR THE PREVENTION OF BLINDNESS

BY

A. BERNARD CRIDLAND, F.R.C.S.Ed., D.O.Oxon.

WOLVERHAMPTON

(British Representative on the Executive Committee)

The International Association for the Prevention of Blindness was founded and held its first session on September 14th, 1929, at a meeting of ophthalmic surgeons and others interested, at Scheveningen, Holland, on the conclusion of the International Congress of Ophthalmology, which had taken place there and at Amsterdam.

It had been in the minds of a number of ophthalmic surgeons of international repute that the time had arrived when a concerted attempt by all nations should be made to combat the affliction of blindness throughout the world. Although much in this direction has been achieved in the past, yet much more awaits accomplishment, as will be realized later in this article. At the outset, it may perhaps be of interest to recall briefly the attempts that have already been made to reduce the incidence of blindness generally.

It is with some satisfaction that it can be said that the first organized attempt was the formation of the London Society for the Prevention of Blindness about fifty years ago, at about the same time that Crédé's great work on ophthalmia neonatorum became known, and the first task that this society attempted was to make known the value of this epoch-making discovery. Its next step was to offer, at the fourth International Congress of Hygiene in 1882, a generous money prize for the best essay on the prevention of blindness; this was awarded at the fifth congress in 1884 to the late Professor Ernst Fuchs, at that time of Liége and later of Vienna, and his essay stands to the present day as one of the best papers on the subject.

Popular interest in the matter then appeared to wane, although much work was being carried on quietly by the medical profession itself in all the more civilized countries, Great Britain bearing its full share. Then in 1903, and again in 1906, American legislation took a hand by making an investigation into the condition of the blind and the causes of blindness in the State of New York. In 1908 Bishop Harman, in this country, established "myopia schools," in which special education was carried out for children suffering from progressive high myopia and defective sight from other causes.

In 1909 the notification of cases of ophthalmia neonatorum was made compulsory in Stoke-on-Trent and a little later in the county of Staffordshire generally, the rest of the country following. In 1914, owing largely to the foresight and energy of a great philanthropic lady, Miss Louisa Lee Schuyler, the United States National Committee (now Society) for the Prevention of Blindness, an entirely voluntary organization, was founded, and has progressed with such success that now, with a membership of 25,000 and an annual budget of 140,000 dollars a year, it stands as an example to all civilized countries.

In 1918 the Council of British Ophthalmologists was formed, its task being to act as an authoritative and representative body to assist Government departments and other representative bodies in, among other things, measures for the preservation and welfare of the eyesight of the community. Space does not permit me to detail the valuable and comprehensive work the council has already accomplished in the twelve years of its existence and what is expected of it in the future.

In 1922, in this country, the Departmental Committee on the Causes and Prevention of Blindness published its second and final report, a work which has been accepted as authoritative throughout the world. In 1924 the International Association for the Prevention of Blindness in China was formed, and the task which lies before it is tremendous. In the same year Dr. Park Lewis, vice-president of the United States Society for the Prevention of Blindness, delivered an interesting address at the Oxford Ophthalmological Congress, in which he put forward a plea for international co-operation. In 1925 Mr. Treacher Collins, the honorary president of the International Congress of Ophthalmology, made the elimination of eye disease the subject of his address when presiding in London over the Congress of English-speaking Ophthalmological Societies, and at the conclusion urged that "international co-operation against a common foe such as disease is the most likely way to secure international peace."

INAUGURAL MEETING IN HOLLAND

In 1928 and 1929 a provisional committee studied the possibilities of international co-operation for the prevention of blindness, and decided that the time had arrived for a definite movement of an international character towards this end. Accordingly the meeting referred to at the commencement of this article was convened by this provisional committee, acting with the League of Red Cross Societies and the American Society for the Prevention of Blindness.

Twenty-six different nations were represented on September 14th, 1929, by delegates from Red Cross Societies, societies concerned with public hygiene, infant welfare, prevention of venereal disease, and ophthalmology under the presidency of General Van Diehl of the Red Cross Society of the Netherlands. After a welcome by the president, the chairman of the provisional committee, Professor de Lapersonne (Paris), delivered an address, indicating the extent to which blindness is prevalent throughout the world, and urging the need for an international effort to combat blindness, especially in countries in which little or nothing has so far been done.

After speeches by Dr. Park Lewis (vice-president of the American National Society for the Prevention of Blindness); the late Professor Fuchs; Dr. Josephus Jitta (Health Section of the League of Nations); Professor Van der Hoeve (Netherlands), president of the thirteenth International Ophthalmological Congress; Dr. Humbert (secretary of the provisional committee); Mademoiselle Ferrière (Switzerland), representing the International Emigration Service; Dr. Cavaillon (France), secretary-general of the International Union against Venereal Diseases; and Mr. Gordon Berry, representative of the Near East Relief Association and the Golden Rule Foundation, Professor de Lapersonne then put the following resolution:

> After two preliminary meetings held in 1928 and 1929 by a provisional committee studying the possibilities of international co-operation for the prevention of blindness, and after consideration by this committee and other interested persons of the report published by the League of Red Cross Societies, the meeting composed of the provisional committee and other persons invited by the committee at Scheveningen, September 14th, 1929, recognizes the utility of constituting a permanent organization. This meeting, placed like the provisional committee, under the chairmanship of Professor de Lapersonne, Paris, recommends the formation of an International Association for the Prevention of Blindness.

This resolution was carried unanimously.

The officers of the association, together with the executive committee, were then elected as follows:

President, Professor de Lapersonne (France); vice-president, Dr. Park Lewis (United States of America); secretary-general, Dr. F. Humbert (Switzerland); treasurer, Monsieur Demachy (treasurer of the League of Red Cross Societies); and Professor von Szily (Germany), Dr. Roffo (Argentine), Professor Van Duyse (Belgium), Professor Marquez (Spain), Dr. Cridland (Great Britain), Professor Trantas (Greece), Professor Van der Hoeve (Holland), Professor de Grosz (Hungary), Professor Maggiore (Italy), Dr. Shinobu Ishihara (Japan), Dr. Villarreal (Mexico), and Professor Szymanski (Poland).

CONSTITUTION OF THE ASSOCIATION

A draft of the statutes of the new organization was then considered, and after some amendment a series of fifteen Articles were agreed upon, defining the objects, constitution, and procedure of the International Association for the Prevention of Blindness. The objects of the association are:

(*a*) To study through international investigations the causes, direct and indirect, which may result in blindness or impaired vision.

(*b*) To encourage and promote measures calculated to eliminate such causes.

(*c*) To disseminate knowledge on all matters pertaining to the care and use of the eyes.

The direction of the association is in the hands of a governing body.

The governing body may form, from its own members, medical or non-medical, technical subcommittees, to prepare and present technical advice, upon which the association may act. For the study of all scientific questions the majority of the subcommittees must be composed of ophthalmologists. For the general supervision of the work of the association in the intervals between annual meetings there is an executive committee, composed of the chairman, vice-chairman, and at least five members chosen from different nationalities, and able to meet at regular intervals.

The secretary-general and the honorary treasurer are *ex-officio* members of the executive committee. Article X provides that the executive committee shall have all the administrative and financial powers of the governing body, to whom it transfers its authority when not in session. An official report, including a detailed account of income and expenditure, shall be published yearly by the executive committee and submitted to each meeting of the governing body. Article XII provides for the establishment of a permanent secretariat, whose organization and work shall be directed by the secretary-general, subject to the instructions by the chairman and decisions of the governing body. The functions of the secretariat as defined in Article XIII are to:

(*a*) Act as a clearing-house for all national or local agencies interested primarily in sight conservation.

(*b*) Provide information to agencies indirectly concerned, which may wish to include prevention of blindness as part of a larger programme.

(*c*) Collect, evaluate, and consider information concerning all public and voluntary activities for the prevention of blindness; summarize publications, possibly publishing a periodical which may be distributed to all agencies interested in sight saving; issue translations in current languages of material believed to be of value.

(*d*) Suggest legislation and regulation.

(*e*) Promote international, national, and local organization, dealing with the preservation of sight.

(*f*) Promote research as to the causes of blindness.

(*g*) Undertake all necessary steps to provide resources for the association.

Article XIV provides that the headquarters of the association shall be located in Paris for the present.

At the conclusion of the inaugural meeting it was decided that the executive committee of the association should formulate a general appeal to be circulated in all countries of the world, and signed by all members of the executive committee.

RECENT PROGRESS

The second annual meeting of the board of governors was held on October 10th, 1930, at the Palais des Académies in Brussels. Professor de Lapersonne was supported by the members of the executive committee and of the bureau of the secretariat, and there were also present representatives of many sympathetic societies, which have become affiliated to the association, together with a number of well-wishers. The morning was occupied by administrative matters, and in his presidential address, Professor de Lapersonne stated that the work of the association in this, the initial stage of its career, had been conducted on three main lines, as follows: first, in the endeavour to find people who were in sympathy with the work and who might help; secondly, in the preparation and issue of a world-wide appeal, together with plans for the organization of national committees; and thirdly, in the study of several medico-social problems which come within the compass of the association's programme. With reference to the first, many people had come forward with offers of help, while support and approval had been received from different countries. Under the third heading, an inquiry was being made into industrial eye accidents by ophthalmologists practising in industrial areas. In France this work was being carried on in conjunction with the General Insurance Companies Committee, which included all the insurance companies of that country, and it had already yielded much valuable information. A report on sight-saving classes for children had been drawn up and presented to various public bodies, and further work in this direction was being carried out. Finally, the association was represented, with voting rights, on the executive committee of the Anti-Trachoma League, so that these two bodies would work together without trespassing on each other's spheres of action.

The general secretary, Dr. Humbert, then presented his report, in which he referred to the time of financial difficulty at which the association had come into being, and it was on this account that the issue of the world appeal had not been generally made, but only issued to a limited number of well-wishers. The response to this, almost wholly from members of the medical profession, had been generous. Twenty-three national Red Cross societies had now adhered to the association, and the United States National Society for the Prevention of Blindness had voted a contribution of 1,000 dollars, besides its annual subscription. In conclusion, Dr. Humbert laid the greatest stress on propaganda as the key-note, not only in the work of the association, but in creating the means by which its work can be carried on.

A very interesting address was then delivered by Mr. C. J. Henderson, the president of the All-India Blind Relief Association (the Green Star Society), in which he showed clearly the enormous field of work in India that lay waiting to be attacked. Blindness in that country is, according to more detailed inquiry, something like three times the amount that the official census returns give, and must total quite a million and a half, much of which can be prevented. The conditions in China were then described by Dr. Lossouarn of the School of Medicine, Tientsin. It was impossible not to be impressed with the need for help in that country. Dr. Lossouarn's investigations show that half a million have lost their sight in China from small-pox alone, constituting 35 per cent. of the total number of blind. Xerosis from faulty hygiene ranks next, although it must be presumed that this is a temporary cause only. Trachoma is the third numerical cause, followed by syphilis (50 per cent. of the population in the towns are infected) and gonorrhoea, whilst a common cause is injury to an eye by the pricking of any part of the organ by a relative or quack.

The afternoon was mainly occupied by scientific papers, the first of which was a report by the president, giving the results of an inquiry made by the association into industrial accidents. The information obtained so far has emphasized the considerable part played by these accidents as a cause of unilateral or total blindness, and has shown that the proportion is increasing with the progress of industry, as might be expected. Professor de Lapersonne then spoke on sight-saving classes for children with defective vision. After paying a well-deserved tribute to the pioneer work of Mr. Bishop Harman—who in 1908 in London was the first to establish a class of this kind—he referred to what had followed in Germany and the United States. Mr. Lewis Carris, speaking from his long experience as a school administrator, gave an account of similar work which was being done in the United States. There they had recognized the need for extending the benefit of this special education to country children, among whom defective sight was more prevalent than in town children, for reasons not yet satisfactorily explained.

The session concluded with an address on trachoma by Professor Angelucci (Naples), in which he discussed the relationship of trachoma, follicular conjunctivitis, and adenoidism. From the interest displayed throughout the meeting it may be concluded that the association has made an excellent start. As the result of the decision that the time for issuing the world appeal was inopportune on account of the general financial depression, it has been agreed that national committees should be set up in the affiliated countries, and a British committee is now in process of formation.

British Medical Journal

SATURDAY, MARCH 14th, 1931

INTERNATIONAL ASSOCIATION FOR PREVENTION OF BLINDNESS

The International Association for the Prevention of Blindness, some details of which are given by Mr. Bernard Cridland in his paper appearing elsewhere in this issue of the *British Medical Journal* (p. 457), represents a united attempt on the part of ophthalmic surgeons of all nationalities, working in conjunction with the League of Red Cross Societies, to reduce the incidence of blindness throughout the world, particularly in those countries in which but little is being done in this direction. Such a task must be recognized as gigantic, but a consideration of the facts will show that the attempt had to be made, and that the establishment of an association with this aim in view is fully justified.

According to the statistics now available, there are to-day some five million sightless human beings in the world, but this figure falls far short of the actual amount, for, where it has been possible to make a more detailed investigation, the number is found to be thrice as large, and probably it would be no exaggeration to say that from twelve to fifteen million is the more accurate estimate. If it was inevitable that this should happen, the recognition of the fact would probably be passed over with regret and sealed with the word "Kismet," but all who realize that at least 50 to 60 per cent. of this blindness need not have occurred must admit that such an effort as the International Association for the Prevention of Blindness is now making is long overdue, and will share our satisfaction that it has been begun. In attempting to grapple with a problem of these dimensions the first thing necessary to be considered is finance, and those who are willing to give will naturally want to know how the money is to be spent. The answer to their question is that the method must be one of propaganda. It would be impossible for an international body to say to any country, "You must take steps to prevent this blindness that is occurring among your people, and you must do so-and-so to put a stop to it." But it is possible to stimulate national interest in the incidence of this terrible disability, to encourage an investigation into its causes, to indicate hygienic measures for combating those causes, and to promote the formation of societies for the prevention of blindness in the countries where there are none at present, and, furthermore, to assist financially such societies as already exist. A good example of an existing body in need of help is afforded by the International League for the Prevention of Blindness in China; this was established in 1924, but Dr. Lossouarn, its vice-president, has stated that it will have to close down its activities and disappear unless financial aid is forthcoming. When it is remembered that the population of China is about 445 million, and that officially there are about three eye hospitals for the whole country, as compared with forty-eight eye hospitals for the forty-seven and a half million of population in Great Britain, Northern Ireland, and the Irish Free State, it will be seen that there is need for international stimulation and for remedial measures in China. There also remains much to be done in our own country in the direction of the prevention of industrial accidents to the eye, while a vast field of ophthalmic work lies open in India, our own particular care.

It is unfortunate that the International Association for the Prevention of Blindness should be launched at a time so unfavourable for any financial project; and it has been decided to postpone the world-wide appeal which it was intended to make in all countries simultaneously, and meanwhile to form a national committee in every country affiliated to the Association. The task before each committee will be to stimulate interest in the prevention of blindness, not only in the world generally, but more especially in its own country, and to seek financial aid. Funds collected in any country will go direct to the central bureau of the International Association in Paris, and will be allocated for use by the executive committee, but on the understanding that the contribution so made can be earmarked for use in the particular country and its dependencies, through the medium of its representative on that committee. The British committee is in process of formation.

TREATMENT OF CANCER OF THE BLADDER

The treatment of carcinoma of the bladder is at the present time profoundly unsatisfactory, and, for that reason no doubt, it has lately been very prominent in medical discussions both in this country and abroad. In the *Journal of the American Medical Association* of December 6th, 1930, appears a group of papers on various aspects of this important problem in genito-urinary surgery, read at the annual meeting in Detroit last summer. Dr. Herman L. Kretschmer of Chicago considers it from the point of view of surgical diathermy, Dr. George Gilbert Smith of Boston from that of diathermy supplemented by radium; Dr. B. S. Barringer of New York discusses treatment by radium alone; while Dr. Harold D. Caylor of Bluffton devotes himself to the pathology of the subject. Each writer supports his arguments by bringing forward statistics of the results obtained from the form of treatment with which his paper deals; and it is, of course, upon such evidence that a decision as to the value of any particular remedy must rest. But after studying these four papers the reader must conclude that a comparison of remedies for carcinoma of the bladder based on statistics is at present of little value owing to the difficulty of classifying vesical growths.

As Dr. Caylor points out, when the dividing line between malignant and benign tumours is approached,

their histological, and, still more, their clinical differentiation, becomes a matter of the very greatest difficulty. Consequently, in the statistical tables drawn up by different writers are included cases which would be excluded from those supplied by other authorities, and until greater precision is reached in the classification of bladder growths no statistical comparison of methods of treatment is possible. For this reason the method of grading epitheliomata, elaborated by A. C. Broders at intervals during the past ten years, has been a move in the right direction. His method is based on the completeness of the differentiation of the cells forming the tumour, for the more completely differentiated the cells the less is the malignancy of the growth. To quote Broders's words when discussing tumours of the bladder, "a neoplasm can accomplish only what its cells can accomplish; if its cells are active, it is active. A neoplasm may be of papillary form and of a low degree of malignancy, or it may be papillary and of a high degree of malignancy. It may be flat or ulcerated and of a high degree of malignancy, or it may be flat or ulcerated and of a low degree of malignancy."[1] A grading of bladder growths must therefore rest on histology rather than on clinical appearances, and hence the obtaining of a microscopical section would appear to be an essential preliminary to a decision as to what form of treatment is most likely to be successful. An objection may be raised that even the histological examination of a fragment removed from a growth is liable to error, owing to the fact that different portions of the tumour may exhibit different degrees of malignancy. Kenneth Frater, however, denies that this is the case. According to him there is no important variation in the grade of malignancy between the surface and the base of a bladder growth, and even when specimens are removed at different times from the same epithelioma no difference in the grade of malignancy is discoverable.

Returning to the subject of treatment, we are forced to agree with Dr. George Gilbert Smith when he says that no one method is suitable for all cases. Excision, electro-coagulation, and irradiation, all have their places. For growths occurring in a situation that permits of complete removal, excision is undoubtedly the method of choice; for those which cannot safely be removed by the knife, electro-coagulation or electro-coagulation supplemented by the implantation of radon seeds must be employed. Combining the statistics supplied by the different writers, it would appear that, for the time being, successful results are only to be expected in some 25 per cent. of cases of carcinoma of the bladder presenting themselves for treatment. It is of interest to note that among those patients who died immediately, and those who died in hospital as the result of treatment, the commonest cause of death appears to have been pulmonary complications. Even where treatment was by diathermy pulmonary trouble was responsible for the greatest number of deaths. Of twenty-five patients who died in hospital after open diathermy Dr. Kretschmer states that seven died as a result of pulmonary embolism, and four from pneumonia. Thus pulmonary complications were responsible for 44 per cent. of post-operative deaths. Next in importance as a cause of post-operative death were renal lesions, which accounted for 32 per cent. of the fatalities.

[1] *Annals of Surgery*, May, 1922.

IODINE SUPPLY AND ENDEMIC GOITRE IN GREAT BRITAIN

Interest in the problem of the relation of the amount of iodine in the environment to the incidence of endemic goitre has been revived by the publication of researches carried out in America, New Zealand, Switzerland, and the Scandinavian countries since the war. Under modern conditions, with a mixed and moving population, and the constant interchange of foodstuffs in civilized communities, the error of statistical observations must be great when so many unknown factors are concerned. Nevertheless, though some discrepancies naturally occur, there is a general agreement which is rather striking, that in places where endemic goitre is prevalent the iodine content of the water, soil, and foodstuffs tends to be low. The Medical Research Council has taken measures since 1927 to investigate systematically the geographical distribution of goitre in this country, and particularly its relation to local deficiencies of iodine in drinking water and common foodstuffs. In a preliminary report just published, Dr. J. B. Orr[1] of the Rowett Research Institute, Aberdeen, gives the results of a survey undertaken to determine whether any striking difference between the iodine content of public water supplies and of locally grown foodstuffs occurred in goitre and non-goitre districts. Analyses of drinking water from the supplies of eleven towns or cities, and eight rural areas, showed no correlation between the concentration of iodine in the water and the incidence of goitre in the area from which it came. A similar result was obtained by Shore and Andrew[2] in a carefully conducted investigation of the conditions in the North Island of New Zealand, where in some districts goitre is endemic. Dr. Orr then turned his attention to the investigation of the iodine content of foodstuffs and of sheep thyroids. In choosing areas for the collection of samples use was made of the Board of Education survey of the incidence of goitre among school children. From this survey the counties of highest and lowest incidence were chosen: Somerset and Cornwall, high, and Essex, low. Other counties, too, were selected in which the county medical officers reported an abnormal goitre incidence. As an additional control samples were obtained from counties in the north-east of Scotland, where endemic goitre appears to be non-existent. Samples were taken of soil, pastures, milk, eggs, and vegetables, and the analyses were made by the same worker throughout, whose results were controlled by duplicate analyses made by one or other of two additional chemists. No precise survey was made of the incidence of goitre in the areas investigated. Nevertheless, there are indications that the iodine supply, as judged from analyses

[1] Medical Research Council. Special Report Series, No. 154. *Iodine Supply and the Incidence of Endemic Goitre.* By J. B. Orr. London: H. M. Stationery Office. 1931. (4d. net.)
[2] *British Medical Journal*, February 28th, 1931, p. 361.

of milk, eggs, and cabbage, is higher in the Scottish area which is known to be goitre-free, than in the English counties where goitre is, to a greater or less extent, endemic. On the other hand, there is no indication of any definite difference between those areas in England which were reported to have a low goitre incidence and those reported to have a high goitre incidence. Besides the results of the Board of Education survey of school children, the English counties were graded as to the incidence of goitre according to reports of the local medical officers of health, but, unfortunately, in this way no uniform basis of diagnosis could be used for correlation with the chemical findings. In the well-planned New Zealand observations of Shore and Andrew referred to above, the goitre statistics were as carefully compiled by one observer as the chemical analyses by one investigator. The results of Shore and Andrew pointed to a fairly close inverse relationship between the incidence of goitre and the amount of iodine in the soil.[1] Dr. Orr has also investigated the thyroids of sheep grazed in goitre and non-goitre districts, and his results suggest that a low level of thyroid iodine may be correlated with a low level in pasture and milk. A serious difficulty commented on by all workers on the subject is that of estimating iodine accurately in the presence of organic matter. The process of ashing the material in the course of chemical analysis involves a certain amount of loss of iodine. An improved standard method that will give results closely approximating to accuracy, or results in which the error is constant and known, is needed. The Medical Research Council has appointed a special committee of chemists to investigate this problem, and it is to be hoped that a standard method may be evolved which can be used in the study of all problems of iodine deficiency, whether in relation to endemic goitre or to the processes of health and disease in general.

[1] *British Medical Journal*, February 28th, 1931, p. 361.

A MEDICAL SURVEY OF CANADA

In 1929 the Council of the Canadian Medical Association at Montreal decided to send out a questionary to the medical profession in Canada with a view to discovering the conditions under which practice was being carried on in the various parts of the Dominion. Of 9,000 forms sent out 1,400 were returned completed, and this is judged to be very satisfactory in view of the fact that many of the recipients were engaged in full-time administrative work, had retired, or were otherwise not in a position to furnish the data asked for. The replies have been tabulated, and a report by Dr. Harvey Agnew, associate secretary of the C.M.A., was published in the January issue of its journal, one part dealing with the practice of medicine, and the other with medical education. Doctors in villages might have been expected to return a greater mileage than those practising in towns, but in Alberta, Saskatchewan, Quebec, and Prince Edward Island the reverse was found to be the case. Journeys for special consultations in towns and villages were affected very little by winter, except in Winnipeg, Montreal, Halifax, and Charlottetown. A curiously low mileage return for towns and villages in Ontario, and to a lesser extent in Quebec, New Brunswick, and the towns of Nova Scotia, is attributed to industrial practice and the custom in rural areas of patients travelling to consult the doctor, the existence of the small local rural hospital being a determining factor in this connexion. No serious shortage of doctors has been reported in any districts, but a few replies (1.7 per cent.) to this effect were received from village areas and one or two towns. From other sources it is known, however, that areas in the northern and more sparsely inhabited parts of some Provinces have little or no medical supervision, and are therefore not covered by these reports from medical practitioners. The problem appears to be how these areas can best be assisted, for it is undeniable that medical services are urgently required by the more pioneer districts and by certain village communities. Considering Canada as a whole, and analysing the returns on the urban-rural basis, the conclusion is reached that in large cities there is one doctor to 1,086 population ; in small cities one to 1,071 ; in towns one to 1,248 ; and in villages one to 1,346. As a whole the Dominion has 97 medical practitioners to 100,000 population, the comparable figures for doctors elsewhere being 127 in the United States, 80 in Switzerland, 73 in Japan and Hungary, 67 in England and Wales, 64 in Germany and Argentina, 59 in France, and 35 in Sweden. Good consultant service appears to be available in all the cities, whether large or small, but the towns are worse off, particularly in British Columbia. Each Province, however, reports a distinct shortage of hospital accommodation. Medical education in Canada was commended in the replies to the questionary, but a number of suggestions for its improvement were made, especially as regards the provision of more practical training in some subjects. In an editorial reference to this survey in the same issue of the *Canadian Medical Association Journal* it is noted that many of the young doctors are settling in the smaller towns and cities, but that two out of fifteen of those replying did not think that they were making a fair living a year ago. In the rural areas the consultation service is regarded as insufficient, and there is also a lack of laboratory and *x*-ray facilities. The C.M.A. is to be complimented on the valuable information it has obtained by conducting this inquiry, the benefits of which will be even more appreciable when the medical schools and local authorities have had time to assimilate the facts thus brought to light.

THE CENSUS AND THE COMMON HEALTH

As already announced in these columns the next census will be taken on April 26th, and the Government has been at pains to issue an official pamphlet[1] to show how a census discovers the social and economic condition of the people. Obviously certain matters, such as old-age pension administration and the provision of schools, depend upon a knowledge of the ages of the population, while other matters, such as those relating to unemployment, and health insurance, and compensation, require a knowledge of the number of persons engaged in various kinds of occupations. The census figures assist in the keeping of a watch upon the health of people living in various localities or engaged in certain trades, and with their aid it is possible to make effective comparisons whereby unhealthy localities and

[1] *Notes on Census-taking*. Prepared with the authority of the Registrar-General. Harrison and Sons, Ltd.

callings can be identified. The fact that one urban district shows a higher death rate per 1,000 living than another does not in itself prove very much, because in the area with the higher death rate there may be a larger number of old people. The census permits due allowance for age distribution to be made. It is possible by the same means to pick out occupations which have a death rate so much higher than others as to call for special attention. The census figures also serve as a basis for the distribution of Exchequer grants to local authorities for the provision of necessary services, as a measure by which the demand for public utilities and amenities can be gauged, as a means of reckoning the average consumption of commodities per head, and as an aid to estimating industrial and social conditions in different areas. In the multitude of figures the expert eye can detect changes or drifts in the habits, the customs, and the circumstances of the people, without some knowledge of which the efforts for betterment, however unselfishly and enthusiastically pursued, may be sadly misdirected. We are puzzled by one remark in this Government leaflet, where it is stated, speaking of the first census taken, in 1801, that the result "gave a total population for England and Wales of about 9 million. It is interesting to note that there was no disparity in the numbers of the sexes. The position was thus in marked contrast to the present excess of nearly 2 million females over males." But in 1801 the number of males in England and Wales was 4,254,735, and of females, 4,637,801, and the proportion of females, namely, 52.15 per cent. of the total population, was almost the same as the proportion in 1921, namely, 52.29 per cent., though in the meantime the population had multiplied by more than four. The exceptional effect of the war upon the male population is no doubt reflected in the 1921 figures; in 1911 the percentage of females was 51.6, almost exactly the same as the proportion a hundred years ago. The proportion of females to males, in fact, has remained fairly constant throughout the period covered by census-taking. Since the beginning of the nineteenth century, at any rate, there have always been in this country about 103 or 104 females to 100 males.

RIVER INVESTIGATIONS

While the self-purification of polluted rivers is well known to occur, there is at present a lack of exact information regarding the natural processes involved, and also regarding the quantities of polluting effluents from sewage works and other sources which may be received without damage. With a view to the acquisition of more precise knowledge on this subject the Water Pollution Research Board, as narrated in its report for the year ended June 30th, 1930,[1] has undertaken a scientific survey of the River Tees, which is regarded as a typical river flowing through an industrial community. The observations hitherto made have revealed the changes which take place in the composition of the river water, and in its fauna and its flora, under many conditions of tide and rainfall, from source to mouth. Another investigation of the Board has reference to the waste from beet sugar factories, a difficult problem to the settlement of which the researches of the Board have substantially contributed. The Board's view, as expressed in 1928, was that the ideal solution would be to discharge no beet sugar waste at all, and towards this end the Director of Water Pollution Research recommended the re-use of waste waters. As this plan involved some accumulation of substances in the re-used water it became necessary to contemplate the discharge of some portion of it, and the Board has shown that for the moiety of water so required to be discharged the necessary degree of purification can be effected by means of biological filters. The report refers also to the continuation of an inquiry concerning the base exchange or zeolite process of water softening, from which it emerges that under ordinary conditions the amount of silica taken up by the softened water is in most cases too small to be measured, and that the bacterial content of the water is unaffected.

[1] Department of Scientific and Industrial Research. Report of the Water Pollution Research Board for the year ended June 30th, 1930. With report of the Director of Water Pollution Research. H.M. Stationery Office. 1930. (9d. net.)

THE DISCOVERY OF OXYGEN

A very just account of the events leading to the eighteenth century revolution in science is contained in Dr. A. N. Meldrum's critical study of the first phase of the movement—namely, that which terminated in the discovery of oxygen.[1] The respective parts played by the two principal actors in the movement, Lavoisier and Priestley, have been the subject of debate, but the conclusions reached by Dr. Meldrum after close consideration of the facts seem to be unexceptionable and to remove all obscurities. He portrays the two men as deeply engaged, during this first phase, in the study of gases, but studying them with very different objects, corresponding to an essential difference in their order of mind. Lavoisier, on the one hand, with prophetic insight, was convinced that a solution of the problem of combustion would result in a complete revolution in physical and chemical science. But the solution of the problem required the discovery of the particular gas which was concerned in the process of combustion. Hence, his interest in gases was limited to an endeavour to discover the one gas which would enable him to bring about the revolution of which he dreamed. Priestley, on the other hand, was interested in gases generally and for their own sake. He was able, apparently, to produce new gases at will, and was a master in their manipulation, but he had no idea of revolutioning the science. Among his new gases there was one, obtained by focusing the sun's rays on oxide of mercury, which evidently gave him peculiar satisfaction, for he writes:

"The most remarkable of all kinds of air that I have produced by this process is one that is five or six times better than common air, for the purposes of respiration, inflammation, and, I believe, every other use of common air. . . . I easily conjectured that inflammable air (hydrogen) would explode with more violence, and a louder report, by the help of dephlogisticated than of common air; but the effect far exceeded my expectations, and it never has failed to surprise every person before whom I have made the experiment. The dipping of a lighted candle into a jar filled with dephlogisticated air is alone a very beautiful experiment."

[1] *The Eighteenth Century Revolution in Science—The First Phase.* By Andrew Norman Meldrum, I.E.S., A.R.C.Sc., D.Sc. London and Bombay: Longmans, Green and Co., Ltd. 1930. (4s. 6d. net; Rs.3 net.)

Priestley playfully suggested that in time the gas might become a fashionable article of luxury, and he foresaw its medicinal utility as an inhalation in certain pulmonary affections. But to Lavoisier, to whom Priestley incidentally mentioned the discovery in the course of conversation, it bore a very different significance; it was the gas he was seeking, and he was thenceforth enabled to proceed with his scientific revolution, until his head was severed from his body by the other revolution then in progress. Priestley undoubtedly discovered oxygen; can it be said that Lavoisier discovered it independently? Lavoisier speaks with an uncertain voice on this point—he suggests that perhaps Priestley was before him. But Lavoisier was particularly careful to make records of all his experiments, and it seems unlikely that he would have failed to record the circumstances of a discovery so important to him as that of oxygen. No such record has, however, been forthcoming up to the present; but we can hardly doubt that, even if he had not then discovered the gas, he would ultimately have succeeded in doing so, for he knew what he was seeking, and was working on much the same lines as Priestley himself.

PORTRAITS OF SURGEONS

It needs the publication of a new *Catalogue of Portraits and Busts in the Royal College of Surgeons of England*[1] to remind us that besides its unrivalled anatomical and pathological possessions the College has no mean claim to notice on account of its collection of works of art. The former catalogue with short biographies published in 1892 is now out of print, and since that date the College has acquired a number of works, including fifteen portraits and two groups of the Council in 1884–5 and 1927–8. The Council, therefore, is to be applauded for authorizing the preparation of a revised catalogue with similar biographies of those who are no longer living, and for entrusting the work to the capable hands of Sir Frederick Hallett. Thirty-eight years have necessarily played havoc with the leaders of the profession of surgery, and Sir Frederick Hallett has had to provide biographical notes of many of the great Victorian surgeons. To take them as they come, alphabetically, Bowlby, Bryant, Butlin, Erichsen, Fergusson, Godlee, Heath, Holmes, Hulke, Hutchinson, Lister, MacCormac, Morris, Paget, Power, Savory, Spencer Wells, and Erasmus Wilson are all names which are not yet forgotten, and some of which will not be forgotten for generations to come. The busts at the College are particularly striking. Such portraits in marble as those of Lister and Paget bring their originals vividly before the eyes of the observer. This kind of portraiture may be sneered at by the modern school as "representative," but we venture to think that representative art alone is capable of raising up for us and our successors the expressions and personalities of the mighty dead of surgery. Among recent acquisitions of older paintings are those of the two Hunters. The fine portrait of William, by R. E. Pine, which was presented by Captain William Hunter Baillie in 1895, is here well reproduced. By the liberality of Mr. G. Buckston Browne in 1925 the College acquired an additional portrait, believed to be that of John. Among portraits of officials of the College is one by William Oliver of that great artist of the blackboard, and Conservator, Charles Stewart, and that by Onslow Ford of the Prosector, William Pearson, the representative of a family which has served the Museum for 145 years in three generations.

[1] *Catalogue of Portraits and Busts in the Royal College of Surgeons of England.* Revised to January, 1930. (Pp. 95. 3s.)

OXFORD OPHTHALMOLOGICAL CONGRESS

The twenty-first Oxford Ophthalmological Congress will be held, under the presidency of Mr. Bernard Cridland, on July 9th, 10th, and 11th. The members will assemble at Keble College on the evening of Wednesday, July 8th, and on the following morning there will be a symposium on "The diagnosis of intracranial new growths," to be introduced from the ophthalmological standpoint by Mr. Leslie Paton; from that of the neurological surgeon by Sir Percy Sargent; from the perimetric aspect by Dr. H. M. Traquair and Mr. Norman Dott of Edinburgh; and Professor Artur Schüller of Vienna will discuss the subject in connexion with radiology. In the afternoon Professor G. Elliot Smith will give an address on "The evolution of the instruments of vision." The Doyne Memorial Lecture will be delivered on the morning of July 10th by Mr. Philip E. H. Adams, Margaret Ogilvie Reader in Ophthalmology in Oxford University. Professor Bailliart of Paris will give an address on tonometry, and a discussion on penetrating wounds of the eyeball will be introduced by Mr. James Craig of Belfast and Professor Schüller. A number of independent papers have already been promised, and there will be demonstrations in the scientific and commercial museums. The annual dinner will take place in the Hall of Keble College on July 9th. The full programme of the congress is to be issued in June. All communications should be addressed to Mr. C. G. Russ Wood (12, St. John's Hill, Shrewsbury), who is again acting as honorary secretary.

CLIO MEDICA

In our issue of October 18th, 1930 (p. 655) we mentioned the series of primers on the history of medicine, which Professor E. B. Krumbhaar of Philadelphia is editing, under the general title of "Clio Medica." At that time three volumes had been issued—namely, *The Beginnings: Egypt and Assyria,* by Mr. Warren R. Dawson; *Medicine in the British Isles,* by Sir D'Arcy Power; and *Internal Medicine,* by Sir Humphry Rolleston. Two more have now been added to the series: *Anatomy,* by Dr. George W. Corner of the University of Rochester; and *Physiology,* by Dr. John F. Fulton, Sterling professor of physiology at Yale University. These handy little books, each written by an acknowledged authority, are published by Paul B. Hoeber, Inc., of New York, at the price of 1.50 dollars each.

We regret to announce the death of Dr. David Hepburn, C.M.G., Emeritus Professor of Anatomy in the University of Wales, and Past-President of the Anatomical Society of Great Britain and Ireland.

NINETY-NINTH ANNUAL MEETING
of the
British Medical Association
EASTBOURNE, 1931

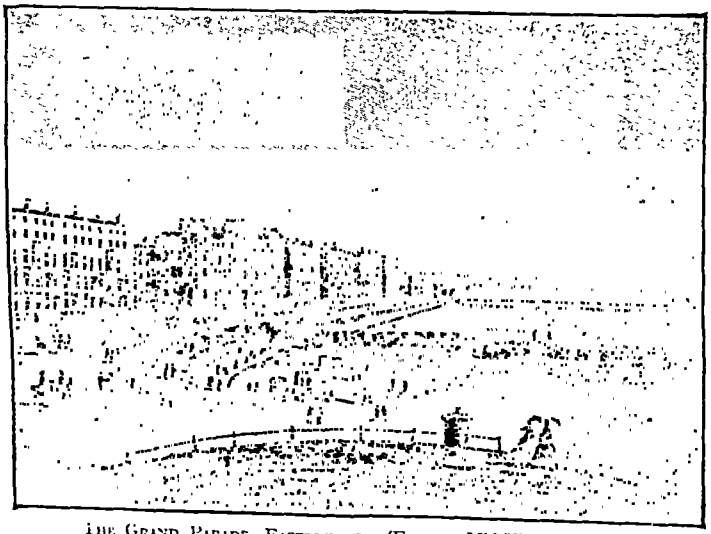
BEACHY HEAD

THE ninety-ninth Annual Meeting of the British Medical Association will be held at Eastbourne this summer under the presidency of Dr. W. G. Willoughby, medical officer of health for Eastbourne, who will deliver his address to the Association on the afternoon of Tuesday, July 21st. The sectional meetings for scientific and clinical work will be held, as usual, on the three following days, the morning sessions being given up to discussions and the reading of papers, and the afternoons to demonstrations. The Annual Representative Meeting, for the transaction of medico-political business, will begin on the previous Friday, July 17th. The provisional programme for the work of the fourteen Scientific Sections is being drawn up by an Arrangements Committee, consisting partly of Eastbourne representatives and partly of members appointed by the Council of the Association. The full list of presidents, vice-presidents, and honorary secretaries of the Sections, together with the provisional time-table, was published in the *Supplement* of March 7th. Other details of the arrangements for the Annual Meeting will appear in later issues. During the week, and in particular on the last day of the meeting (Saturday, July 25th), there will be excursions to neighbouring places of interest. We publish below the first of a series of illustrated articles dealing with the history of Eastbourne, and describing some noteworthy features of the town and its neighbourhood, with special reference to medical institutions.

EASTBOURNE IN HISTORY AND TO-DAY

The famous Sussex range of chalk hills, known as the South Downs, reaches its eastern extremity at Beachy Head, whose sheer cliff of 470 feet is the second highest in England. On the lower slopes of Beachy Head, the foothills of the Downs, and the beginning of the level country beyond, stands the town of Eastbourne.

As a town Eastbourne is new; as an inhabited part of the country it has a history pointing back at least as far as the Roman occupation. Extensive Roman remains have been found, including a tessellated pavement, coins, and a bath. Since it is known that the Roman town of Anderida was somewhere in the vicinity, it is possible that Eastbourne itself is on the site of it, but it is more likely that Anderida was where Pevensey now is, and that some person or persons of note—perhaps the commanding officer himself—chose to live on the pleasant sea coast west of the garrison town.



THE GRAND PARADE, EASTBOURNE. (From a Mid-Victorian print.)

The first written record is that contained in Domesday Book, where the town or village is referred to as Borne, and a brief note is given of its condition in the then ended Saxon times. Borne was always of sufficient importance to form a Hundred by itself, without the inclusion of other parishes. It had its own moot, whose existence is commemorated in the name of Motcombe, a farm (no longer extant as such, though the name still lingers) to the north of the Parish Church. The Hundred was divided into six districts; all six names are recorded, but only two are now used — Upperton, a residential district and a ward of the modern town, and Upwick, to the west of Upperton, whose name is recognized in Upwick Road.

The most ancient part of Eastbourne (leaving out of account pre-Norman civilization) is the part now known as Old Town, clustered about the Parish Church of St. Mary and the head of the Bourne stream, which gave the town its name. Here will be found many ancient buildings, foremost the church itself, and then the Lamb Inn, which is connected with the church by an underground passage. It is said to have been a custom for baptismal parties to use this passage to repair to the inn for refreshment after the ceremony.

St. Mary's was built in the twelfth century, in Transitional-Norman style, on the site of an earlier

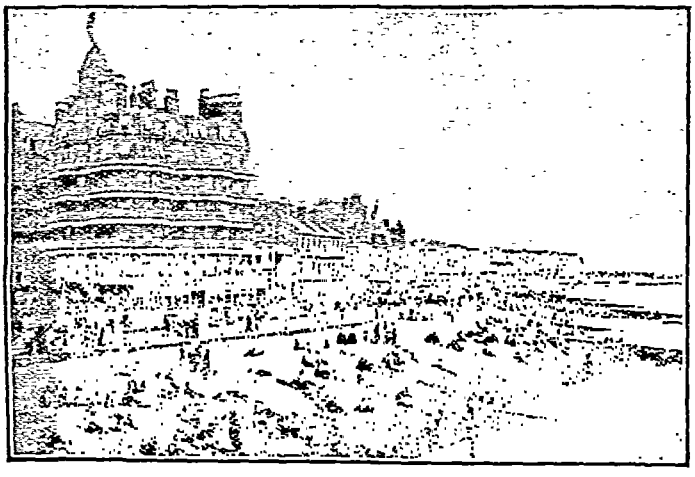
rch. As to this latter, there is a tradition that it a wooden church dating as far back as 680. However may be, the present building will be a delight to one interested in English churches. Naturally there e been additions and restorations at various periods n the fourteenth century onwards, but with little riment to the original building. St. Mary's has the racteristic squat tower, with low red-tiled pointed f, of the Sussex church. It will be noted that the e is set at an angle to the chancel, as in the cases of ne other ancient churches.

To the north of the church, down the hill, is the old rsonage, and below this again are Motcombe Gardens. ese gardens, though small and recently laid out, are ll worth a visit, for two reasons. The first is simply eir beauty; they are excellently kept, and the roses pecially are delightful. The second is that they contain source of the Bourne. The stream rises in Motcombe nd, now a formal ornamental water in the gardens, t until quite recent years a large irregular lake. It can seen issuing from the south-east corner of the pond, d passes thence under the road and the Star brewery; it then visible in Star Road, but after this it passes out sight for the rest of its course, at any rate as far as the iblic are concerned, ough it flows rough several ivate gardens.

At the corner of tar and Moat Croft oads is the old ourt House. The ourne is on the pposite side of Star oad; it flows under he very noticeable ip in the centre of loat Croft Road, nd then through ie gardens of houses a The Goffs. In the niddle of this reach vas one of the several nills which the Bourne was able to work before the municipal water schemes reduced the flow. It crosses The Goffs into Southfields Road (formerly Water Lane) at the beginning of the latter road. Here was another mill. After passing down the right-hand side of Southfields Road it flows (though still out of sight) behind the Technical Institute and Free Library. Within the memory of many living residents of the town there was a pond at this point. It then crosses under the busy centre of the town, and has been diverted into a part of the town's surface water system, but its original course may still be traced by the lie of the land, the lay-out of the streets, and even by the name of one of the streets—Bourne Street—along which it flowed to the point where it ran out into the sea through the shingle. This was near where Leaf Hall now stands—a fare stage on the bus route from the station to Archery or Langney. At this end of Bourne Street some cottages of obvious antiquity still stand, and the place is close to the old hamlet of Sea Houses. Some of the old Sea Houses can be seen on the front, a little east of the pier.

The main road from London enters Eastbourne just after passing through the village of Willingdon. A little way to the left at this point is the inland suburb of Hampden Park, brought within the town in 1911. The park itself was laid out in the earliest years of the present century upon the Decoy, a tract of wooded and watered country purchased from Mr. Freeman Thomas, now Lord Willingdon. Victoria Drive branches off the main road to the right, and passes through a populous district of post-war growth. The main road itself ascends a hill, the top of which is 215 feet above sea-level. From here a very fine view of nearly the whole town can be obtained. Down on the left is Rodmill Farm, several centuries old. Next, one enters Ocklynge; the name is now always pronounced so as to make the latter syllable rhyme with "hinge," but, as the spelling in an old map is "Ockling," it may be supposed that the soft "g" is new. Ocklynge was a chosen spot for windmills. Two still stand, now both without sails and one in ruins, though the other was in actual use until about the beginning of the war. On lower ground to the right is Old Town, from which The Goffs, passing the old Gildredge Manor House and Gildredge Park, joins the main road close by Upperton farm house, the last remaining building of old Upperton.

The main road continues as Upperton Road to the railway station, after which it becomes Terminus Road (the town's main thoroughfare), and later, as Victoria Place, meets the front. Just before the station, Grove Road branches off to the right, leads to the Town Hall, and then becomes Meads Road, leading to Meads Village (still spoken of as such) under the shadow of the Downs. The wider district of Meads embraces a large area with the village on its south-western edge, and includes the site of the now vanished hamlet of Prentice Street. Compton Place (the Eastbourne seat of the Dukes of Devonshire), the Royal Eastbourne Golf Club, and Paradise lie to the north-west.



ROYAL AND MARINE PARADES, EASTBOURNE

South Street, which begins opposite the Town Hall, is a very ancient thoroughfare, and is, in fact, said to be partly Roman. The buildings are now nearly all modern, but some old cottages remain, part-way down on the right. Before modern Eastbourne came into being, the area at the head of South Street constituted the village of South Bourne, which was, however, within East Bourne Hundred and Parish. These extended to the sea, and were not much smaller in area than the main part of the modern town.

Further down, Cornfield Road joins South Street with Terminus Road, and here were actual cornfields within living memory. These gave place to residences, which in turn are now giving way to shops, though some side roads remain purely residential. Cornfield Terrace, on the other side of South Street, leads to Devonshire Park, famous for the South of England lawn tennis tournament and many other attractions. On the left of Terminus Road is all the eastern part of the town, extending for about a couple of miles on level ground. At the extreme eastern end is Langney, both originally and now so spelt, though at an intermediate period the name was corrupted into "Langley," perhaps by false analogy with the many true Langleys which exist in the country.

The road passes through Langney to Pevensey Bay, and on its seaward side lie the Crumbles, an expanse of shingle several square miles in extent, the haunt of some rare species of birds. Langney Point is a tongue of the Crumbles stretching out into the sea and forming a dividing mark between the bay in which Eastbourne is situate and Pevensey Bay. There is an old brick fort on the point (much affected by coast erosion), one of the series of coastal defence works erected to meet the threatened invasion by Napoleon. More conspicuous are the Martello towers all along the seaward edge of the Crumbles, and extending even into Eastbourne itself; for the Wish Tower is one of these, and until recently another stood on an eminence at the eastern end of the town

(St. Anthony's Hill). The Martello towers, the Great Redoubt at the eastern end of Eastbourne front, and Langney Fort were all erected at the same period and for the same purpose. In the Wish Tower and the Redoubt, therefore, Eastbourne has a valuable reminder of one of the greatest crises in English history.

It will be seen from the foregoing that Eastbourne consists, in the main, of a valley leading to the sea and a sea front approximately at right angles to it. The town is thus roughly T-shaped, but the ridges to right and left of the valley are now covered with houses, and the cross-bar of the T has extended a very long way to the north-east, while being prevented by the natural obstacle of Beachy Head from extending far in the other direction.

The geographical situation of Eastbourne is ideal for a health resort, providing breezy heights in conjunction with proximity to the sea. The highest point in the county borough is 590 feet above sea-level. The sea front faces south-east and south; beyond Langney Point, Bexhill and Hastings can be seen in the distance.

The diversity of the surrounding scenery is remarkable, being different on all four sides; as one approaches the town, whether by road or by rail, there is the sea ahead, ordinary (though beautiful) country behind, lofty hills on the right, and a wide plain on the left.

Sunshine records are excellent. In 1929, not for the first time, Eastbourne headed the list of health resorts for the country, and in 1930 it secured second place. The subsoil is mostly chalk, but there is a strip of upper greensand, and clay appears over a small area in the centre of the town and also at Hampden Park, which is just beyond the end of the chalk. The eastern end of the town is on shingle.

One of the outstanding features of Eastbourne is the abundance of trees. This is no modern feature; in lining all the principal streets with trees the large estates have merely shown their good taste by perpetuating a tradition. References to Eastbourne over a century ago, when the town as a town did not exist, show that its thickly wooded character was one of its chief features. In view of these facts it is curious that one of the best-known species of British trees is conspicuous by its absence. This is the common deciduous oak. In Hampden Park it is abundant, and all over the town the evergreen oak finds no difficulty in growing, but in the main part of Eastbourne there is only one rather undersized specimen of the common oak, and that is sufficient of a phenomenon to have given names to two adjoining houses. The trees which line the streets are mostly elms, either ordinary or of the Cornish variety. The latter are somewhat preferred, since by reason of their conical shape they do not unduly darken the houses. Terminus Road has planes, reminiscent of London. There is at least one acacia in the centre of the town, and there are several horse-chestnuts; Compton Place and Paradise have fine beeches.

Eastbourne is situated in Lat. 50° 46′ N. and Long. 0° 17′ E. The Greenwich meridian passes through Lewes, the county town of Sussex, about sixteen miles by road from Eastbourne. The acreage of the county borough is 6,847, including 19 acres of inland water and 332 acres of foreshore. Much of its area consists of open spaces, in spite of the great and increasing population.

In 1859 the first local board was set up; in 1883 the town was incorporated, and in 1911 it was made a county borough, a distinction which among Sussex towns it shares with Brighton and Hastings. In 1926 the boundaries were further extended, and in 1929 a large area of the Downs was purchased for the town.

As one looks back at the population figures, one sees the rapidity of Eastbourne's increase in size. In 1801 the population was 1,668, in 1861 still under 6,000; in 1891 over 34,000, and in 1921 over 62,000. Much of the town's prosperity, and its fine terraced parades, are due to the foresight of successive Dukes of Devonshire. The construction of the sea wall has driven the fishermen east of the Redoubt, but Eastbourne was never primarily a fishing village, and this occupation has now for many years been less prominent locally than the letting of pleasure boats. Schemes for a harbour have been propounded from time to time, but not carried out. The continual eastward drift of shingle is a serious difficulty, and would indeed be a menace to the front itself were it not for the groynes.

It is fair, and by no means unduly flattering, to describe Eastbourne as a model of how a town should develop. It has increased enormously in a very short space of time, yet harmoniously always, and without ever acquiring the ugliness of uncontrolled expansion. The wise policy of the Duke's, the Gilbert, and other estates, and of the town's own authorities has borne, and is still bearing, a rich harvest.

Those who wish to go further into the history of Eastbourne are referred to *Bygone Eastbourne*, by Mr. J. C. Wright, published by Spottiswoode and Co., Ltd., to which, and to other works upon the subject, acknowledgements are due.

MEDICAL RESEARCH COUNCIL

ANNUAL REPORT, 1929-30

(*Concluded from page 413*)

THE NATIONAL SUPPLY OF INSULIN

Since 1922 the Medical Research Council has taken an active part in promoting the manufacture, availability, and clinical use of insulin in Great Britain, and a section in the report under review is devoted to a particularly important survey of some of the prevailing conditions of its administration. At first the supply fell short of the demand, but in 1923 the position was reversed, and since that time there has always been a sufficiency for the medical practitioners in this country, and a surplus for export. Early in 1930 the consumption of insulin in Great Britain was 50 per cent. greater than at the corresponding period in 1928, and nearly four times the figure for 1925. It is thus apparent that very many patients in 1925 needing this remedy were not receiving it; moreover, the present figures indicate that it is still being inadequately used, and this accounts for the disappointing slowness in the rise of its consumption since 1923. It is probable also that a large number of patients are not receiving insulin under proper conditions of biochemical control and dietetic balance, for there is a sharp discrepancy between the recorded success at all the chief medical institutions and the apparent steadiness of the death rate from diabetes for the country as a whole. This failure to diminish the death rate has been used as an argument against the value of insulin, despite the indisputable evidence of its life-saving properties, which is a matter of common knowledge to all practitioners. The death rate seems, in short, to demonstrate the failure of insulin, and yet there is ample clinical evidence to the contrary. This contradiction is examined critically in the report.

Since the war diabetes has apparently become commoner. Death certificates record the contributory as well as the immediate causes of the actual fatal termination, and the patient with an incurable disease is likely to be certified as dying from it, even if death is actually due to an intercurrent disease, or occurs at an advanced age. It is often forgotten, especially by prejudiced propagandists against such preparations as insulin, that it does not pretend to afford a cure, but only to prolong life, and to restore some considerable measure of health. Yet, even so, there should still be recorded some diminution in the deaths from diabetes at earlier ages; and this is actually the case, though not to the extent that might reasonably have been expected, had this preparation been used freely. In the Registrar-General's statistical review for England and Wales for 1928 it is stated that since the introduction of insulin

1923 the mortality of males with diabetes under the ge of 55 has been reduced by 37 per cent., and that of males by 21. The male rate for the period 25 to 45 as fallen by 45 per cent. But this fall is masked in the otal death rate by a concurrent increase in the mortality t ages over 55, which for males almost neutralizes, and or females outweighs, the reduction in earlier life. This ncrease, adds the Registrar-General, has evidently a ietetic origin, since the mortality at these more advanced ges was greatly reduced during the war, and has been ising again since 1918. It is pointed out, therefore, in he report of the Medical Research Council, that the nevitable conclusion is that the general use of insulin hroughout the country has been advancing only gradually, nd is still below the level of the maximum need. The ncreasing mortality among elderly diabetics, for whom nsulin treatment is less frequently used, indicates an bsolute increase in sufferers of this type ; moreover, the umber of deaths among the older patients must naturally ncrease with the extension of life among the younger ufferers from this complaint.

Such considerations are obviously of great practical mportance, and once again there is presented a tragic xample of the delay which occurs between the intro- luction of a new remedy and the time when the com- munity as a whole is educated sufficiently to reap the ull advantage of the discovery. The Medical Research Council has done well to direct attention to these facts ; it proposes to inquire during the present year into the results of insulin treatment at special centres, with a view to defining more precisely the standard of success attain- able under the best conditions, and so to measuring the results obtained for the country as a whole.

WORK AT HAMPSTEAD AND MILL HILL

Virus Infections

Captain Douglas and Dr. Wilson Smith have found that the blood and tissue cells of a normal animal possess a limited power of killing the vaccinia virus outside the body, a power due to a normal constituent of the serum which is easily destroyed by heat. The blood and tissue cells of an animal rendered immune to vaccinia were found to have acquired a greatly enhanced lethal activity towards the vaccinia virus. The washed tissue cells have, by themselves, an increased power of killing the virus, but it is clear that a specific antibody in the serum must contribute largely to the total effect. Dr. Wilson Smith has shown that each of the viruses of vaccinia and herpes absorbs from a mixture of the two corresponding anti- bodies its own specific antibody, leaving the other intact. Dr. Andrewes has been able to demonstrate that the union of the antibody of fowl plague with its antiserum becomes firmer with time, after being at first dissociable by dilution. At the ordinary room temperature some days may be required for this fixation—an interesting observation in view of the fact that immediate suscepti- bility to a virus may be conferred by injection of its specific antibody into a living animal. He has also found that the herpes virus is prevented from infecting normal cells when these are cultivated in the presence of an immune serum ; on the other hand, cells from an animal immunized to herpes are susceptible to infection by this virus if cultivated in normal serum. Dr. Wilson Smith has been able to confer on a definitely neuro- tropic strain of herpes virus the power of infecting the skin, and of producing reactions even in high dilutions.

Dr. P. P. Laidlaw and Mr. G. W. Dunkin have been investigating difficulties which have arisen in the practical immunization of dogs against distemper. After very successful results had been reported for some months it was discovered that in an increasing number of cases the expected immunity was not making its appearance. The processes of the preparation of both the virus and the vaccine were carefully scrutinized, and certain faulty details were brought to light and remedied. Preventive inoculation on a large scale will shortly be resumed, it is stated, with fuller knowledge and greater security. These two investigators have also been studying the complement-fixing antibody in the blood serum which confers immunity on a dog which has recovered from an infection with distemper or has been artificially im- munized. A possibility of standardizing the strength of both the virus and the vaccine seems to be now in sight, and also an improved method of preventive immunization which can be applied on a single occasion, obviating the need of repeating the injections.

Drs. Gye and Purdy have continued their work on the malignant tumours of birds and mammals, with special reference to the transmission of a myxosarcoma of the fowl by cell-free filtrates. The nature of immunity to certain types of tumour growth is being followed up, and in close co-operation with Dr. Andrewes it has been shown that the blood of a fowl which is offering good resistance to a slowly growing fibrosarcoma is particularly rich in antibodies which neutralize the infective property of filtrates from rapidly growing fowl tumours of quite different histological types. This evidence that the in- fective agents, producing fowl tumours of widely different types histologically, may be similar antigenically is highly suggestive.

Dr. Perdrau has been proceeding with his studies of a group of diseases of the brain and spinal cord which are characterized by the loss of the myelin sheath of nerve fibres. Although some of these conditions occur as a sequel to general infections by known viruses, such as the encephalitis which has followed vaccination in a small percentage of cases, Dr. Perdrau has in no instance been able to detect the virus in the nerve tissues. The hypothesis that the cause is a latent virus, which is awakened to activity by an acute infection, is being tested. Dr. Carmichael is investigating the possibility of the presence of a virus in the spinal fluids of patients suffering from disseminated sclerosis, and Mr. Galloway is co-operating with Dr. S. Nicolau of the Pasteur Institute in Paris on the conditions affecting the stability of the Borna virus of the enzootic encephalomyelitis of horses, cattle, and sheep.

Amoebic Dysentery.—Mr. Clifford Dobell, who has been studying the organism of amoebic dysentery at the Institute for six years, has been publishing at intervals his discoveries with regard to the varieties of *Entamoeba histolytica* met with in man and monkeys. He has been able by assiduous care to isolate any desired strain of this amoeba from a man or a monkey, and to maintain it in artificial culture for any period ; to obtain any stage in its life-history—for example, encystment—in the laboratory at any chosen time ; to introduce it naturally to a fresh simian host ; and to eradicate it at will by therapeutic means. Either the simian or the human strain can be shown to produce amoebic dysentery in kittens. Host and parasite can therefore be separated or united, and again separated, at will, and any desired experiment can be made with either or with both com- bined. No such power of control has yet been obtained with any other human or animal endoparasite.

Determination of Biological Standards.—The work of this kind now in progress includes the sterility testing of more than 100 varieties of catgut ; the standardization of vaccine lymph ; the assaying of a dried antiserum for the toxin of *B. welchii* and of antidysentery serum ; the estimation of strophanthus tinctures ; and the testing of the toxicity and potency of every batch of products of the arsenobenzine group made in this country.

WORK AT OTHER CENTRES

At the James Mackenzie Institute for Clinical Research, St. Andrews, Dr. A. Rowand is investigating 500 children in respect of their family history and environmental conditions, diet and general nutrition, dental disease, and sickness incidence. Records of 232 children are already complete, and are being analysed. A direct result of this inquiry has been the formation of a child welfare centre at St. Andrews, with special facilities for the continued observation of these children. Concentrated pneumococcal serum is being tried in pneumonia patients in London and Edinburgh; very favourable results have been reported from America following the use of this serum, but it is as yet too early to draw conclusions in Great Britain. At Sheffield Professor Mellanby and Dr. Roberts are studying the effects of carotene and vitamin A in pneumonia, rheumatic fever, and other infections. The part played by this vitamin in preventing the neurological changes in ergotism is also receiving attention, and an attempt is being made to discover the effective chemical factor in ergot. Dr. G. H. Oriel at Guy's Hospital, continuing his study of the allergic states, has obtained evidence that the "proteose" isolated from the urine in asthma and urticaria contains the specific antigen to which the patients are sensitized; encouraging clinical results have been obtained by desensitization. At St. Bartholomew's Hospital Dr. R. Hilton has made further observations on the effects of deep *x*-ray therapy on the lungs. Acute lesions are produced, but no appreciable fibrosis was discovered, even at the end of five months. If the lung has been previously collapsed by pneumothorax the effects of radiation are reduced.

The incidence of rheumatic heart disease is being investigated at Bristol by Dr. Carey Coombs, with special reference to the influence of soil and locality. The etiology of acute rheumatism is being studied by Dr. R. C. Lightwood in Kensington, and a rheumatic supervisory centre has been conducted at the Princess Louise Hospital for Children, where careful inquiry is being made into the possibly predisposing home and family conditions. The Council is assisting also an intensive search, now in progress at Great Ormond Street Hospital, into the etiology and treatment of rheumatic fever. At Guy's Hospital Dr. E. C. Warner is studying the nutritional history of children with rheumatic diseases. The vitamin food content of various Empire food substances is being determined at the Lister Institute, and a report has been published by the Council on the vitamin C content of apples. Dr. L. J. Harris, at the Dunn Nutritional Laboratory, Cambridge, has continued his work on the effects of overdosage with vitamin D, and in collaboration with Dr. A. N. Drury has made further studies of the relation of vitamin B deficiency to heart function. An inquiry into the changes in tooth structure produced by erosion, injury, and caries is being continued by Dr. E. W. Fish, and it has been found that the lymphatic tubules of the dentine, when injured, become isolated from the tooth pulp by a formation of "secondary dentine," and from the surrounding normal tubules by a local deposition of lime salts. Further studies of the response of dentine to injury have been made at the London Hospital by Mr. E. Sprawson, who has also been examining the changes in the lime salts of tooth enamel produced by injury and advancing age.

An exhaustive investigation of the common form of Raynaud's disease has been in progress at University College Hospital under the supervision and active direction of Sir Thomas Lewis. It has been shown now that the affected vessels are still capable of expanding fully, or almost fully, under suitable conditions, and that the veins do not ordinarily become closed in spasm. The arteries behave abnormally when there are changes in the local temperature, this being a direct reaction, due to a peculiar condition of the vessel wall and not to a vasomotor nervous reflex. The state of the vasomotor nerves naturally influences the tone of the vessels in these patients, as it does in normal people, but the pathological element in the vascular spasm is not of nervous origin. Another mechanism, demonstrated in this connexion, is the vaso-dilatation in the skin of the finger after it has been immersed in cold water for five to ten minutes. This reaction has also been obtained in the ears and other parts of the face. It is independent of the sympathetic nerves, but is dependent upon the sensory nerves, and due to an axon reflex in them. This mechanism, which is brought into frequent play during cold weather, has an important function in protecting exposed parts of the skin from excessive cooling and resulting injury. Sir Thomas Lewis has also compiled the results of many years of observation of cardiac failure of the congestive type, with a view to showing how the stages of this malady may be recognized by simple bedside tests.

STATUS LYMPHATICUS

INVESTIGATION COMMITTEE'S REPORT

In January, 1926, the Medical Research Council and the Pathological Society of Great Britain and Ireland jointly formed a committee for the investigation of "status lymphaticus," and for the collection of information on a large scale on the weights and measurements of the thymus gland. An earlier inquiry, organized by the late Professor Emrys-Roberts, resulted in the accumulation of a certain amount of material and the publication of an interim report,[1] but the number of records was too small to permit of the deduction of any authoritative conclusions. The present scheme was initiated in an endeavour to collect a much larger mass of material.

The special objects of the investigation were primarily: (1) to establish by means of a large series of weights and measurements the standards of weight for age and proportion to body weight of the normal thymus at all ages; and (2) to investigate closely the precise cause of death in persons dying suddenly from unexplained or trivial causes where the only apparent abnormality was the presence of a large thymus. A number of investigators were appointed in certain large centres of population, and special record cards were issued. The cases in which information was specially desired were divided into two categories: (*a*) cases of sudden death in apparently healthy persons of any age, and (*b*) cases of death in persons of 15 years or over who had an apparently glandular thymus. After the inquiry had been in progress for some time, coroners began to cease ordering necropsies in ordinary street accident cases, with the result that there was a great reduction in the amount of available material. At the termination of the inquiry a total of 710 record cards had been collected by the secretary of the committee, Dr. Howel Evans. Of these, 30 had to be discarded on account of their giving insufficient information, leaving 680 available for analysis.

A preliminary pathological scrutiny and classification of the available material was undertaken by Professor H. M. Turnbull of the London Hospital, and the final statistical analysis by Dr. Matthew Young of the Medical Research Council, both of whom were members of the "Status Lymphaticus" Committee. Their report appears in the current issue of the *Journal of Pathology and Bacteriology*.[2] The value of the results obtained is

[1] *Journ. Path. and Bact.*, 1925, xxviii, 132.
[2] Ibid., 1931, xxxiv, 213.

enhanced by comparison at every stage with the figures of Hammar, Bratton, and Greenwood and Woods.

The conclusions of the authors (the actual figures are given in a series of fifteen tables) may be summarized as follows:

The average weights of the normal thymus shown for the several ages from 1 year upwards and the mean percentage proportions of thymic weight to body weight may be considered to be well established within narrow limits as they are in close agreement with those of other recent observers. The mean absolute weight of the thymus and the mean ratio of thymic weight to body weight at ages 0 to 1 year sensibly exceed the corresponding values based on data published by Greenwood and Woods and by Bratton from the London Hospital, but the data are not numerically adequate to warrant any emphasis being laid on the differences observed.

There is no evidence in the relatively few data available that acute diseases of short duration—that is, under three days—reduce the average weight of the thymus to an appreciable degree.

An abnormally large thymus *in itself* cannot be considered to be indicative of " status thymico-lymphaticus " when no obvious cause of death is found post mortem. In the series of *normal* cases under investigation a thymus which may be considered abnormally large for the age was found in twenty subjects, ten of whom were under and ten over 16 years of age, but of this number in only four, in which the death was attributed to anaesthesia or shock, can any special liability to death be assumed to have possibly existed or the cause of death be regarded as possibly inadequately explained. It is impossible to judge the adequacy of anaesthetics or shock as causes of death because their effects cannot be measured in the dead body. The cases in which death was attributed to anaesthetics or shock are therefore most important, and have been given in detail. There were twenty-three such cases. Of the four in which the thymus can be considered to be abnormally large for the age ; in one a major operation had been performed, in one purulent bronchitis, dilatation of the right ventricle and hypertrophy of the left ventricle were noted at necropsy ; in the other two the conditions were apparently similar to those in other cases in which the thymus was not unusually large.

In the normal series of cases at ages 0 to 16 years there appears to be little if any association between the weight of the thymus and the amount of lymphoid tissue in the various parts of the body, in so far as this amount can be indicated by volumetric measurements of the faucial and lingual tonsils, selected lymph glands from certain sites, Peyer's patches, etc. There is no definite evidence in the relatively few data available of any concomitant general hyperplasia of lymphoid structures in cases with an abnormally large thymus. The amounts of lymphoid tissue in the several parts of the body, in so far as they can be considered to be represented by the selected criteria, seem to show practically no association with one another to which any significance can be attached.

In a series of subjects with Graves's disease, there is evidence that the average gross weight of the thymus is distinctly above the normal, thus providing confirmation of what is more or less general opinion based on naked-eye observation that the thymus almost invariably appears to be abnormally large in this affection. Though the relatively few data available do not warrant any definite conclusions they suggest strongly that the percentage proportion of glandular tissue in the thymus is above normal, but that there is no definite general hyperplasia of lymphoid structures in this affection.

There is no evidence, in the series examined, of an association between arterial hypoplasia and an abnormally large thymus.

In the opinion of the committee the facts elicited in the present inquiry are in harmony with those of Hammar and Greenwood and Woods in affording no evidence that so-called "status thymico-lymphaticus" has any existence as a pathological entity.

England and Wales

Medical Society of London

The 158th anniversary dinner of the Medical Society of London was held on March 6th at the Trocadero Restaurant, with the president, Dr. R. A. Young, in the chair. The guests at the high table included Sir John Rose Bradford, Bt., President of the Royal College of Physicians, Surgeon Vice-Admiral Sir Arthur Gaskell, Medical Director-General, R.N., Lieut.-General Sir H. B. Fawcus, *D.G.A.M.S., Lieut.-Colonel C. T. Samman*, Master of the Society of Apothecaries, Dr. T. Watts Eden, President of the Royal Society of Medicine, and the presidents of other kindred societies, Dr. H. B. Brackenbury, Chairman of Council of the British Medical Association, Sir Thomas Horder, Bt., and Sir William Rothenstein (who delivered the Lloyd Roberts Lecture in the Society's House last autumn). After the loyal toasts had been honoured, Mr. Norman Birkett, K.C., M.P., proposed prosperity to the Medical Society of London. Remarking that extempore speeches were " seldom worth the paper they were written on," Mr. Birkett said he had conferred with his junior on analogies and contrasts between medicine and the law, and was told that the dominant thought in the lawyer's mind when finishing a case was, " Have we left anything *out*?" The impression he had formed of the Society, after reading its rules, with their kind and considerate tone, and their air of hospitality and good-fellowship, was amply confirmed by dining with the Fellows. The President, in responding to the toast, remarked that while lawyers and doctors had this in common—that they both saw human nature in difficulties—he envied lawyers for the crispness of their medical knowledge and its tidy arrangement in compartments. He was proud to be the head of the oldest public medical society in London, one which attracted in a peculiar degree the esteem and affection of all its Fellows. Quoting from Sir Thomas Browne, " 'Tis opportune to look back upon old times and contemplate our Forefathers," Dr. Young said that the spirit of Lettsom still seemed to brood over the Society ; through all its proceedings a gentle friendliness prevailed. It now owned its own house, its finances were satisfactory, and steps were being taken to raise an endowment fund. Its debt to the honorary officers and the registrar was great, and it owed much, also, to the two medical journals. The health of the visitors was proposed by Lord Dawson of Penn, who said that to do justice to so many distinguished persons could only be attempted in the spirit of the two American girls who " did " Westminster Abbey in ten minutes and then aggregated their observations. He welcomed the editors of the *Lancet* and *British Medical Journal*, and paid compliments to both papers for their strength and independence, their comprehensiveness, and their unity in diversity. Speaking of Mr. Birkett, Lord Dawson said that in the nature of things lawyers always differed, and if doctors also occasionally disagreed it was out of differences of opinion that progress grew. Unlike journalists, but like the practising doctor, the lawyer could not afford to make mistakes. Among the other guests

whom they had the pleasure of greeting that night, Sir William Rothenstein appealed in a special degree to doctors, because he was both artist and teacher. Their President, too, was an artist in his profession and a lover of the arts. Lord Dawson coupled the toast with the name of Mr. E. R. Peacock, whom he described as "the man who does things."

The Trend of Medical Practice

At the last meeting of the London Jewish Hospital Medical Society, Mr. Somerville Hastings, M.P., delivered an address on "The trend of medical practice." In this he pointed out the tendency in modern medicine to take many branches of practice out of the hands of the family doctor and concentrate them in some form of State organization—for example, preventive medicine and public health, infectious diseases, lunacy, venereal disease, tuberculosis, and maternal and child welfare. The exigencies of research were demanding further centralization in the campaigns against cancer and rheumatism and maternal mortality, and in the grouping of orthopaedic cases. This process was bound to continue, partly because it tended to greater efficiency and had contributed much to the improvement in the general standard of physical well-being; and partly because the spirit of the age demanded collective action in meeting its needs. It was being recognized that the team and not the individual was the true unit in medical practice, a principle exemplified in the work of the modern general hospital. The general practitioner should act as a liaison officer, maintaining contact with his patient throughout his treatment and co-ordinating the work of the team. He should have his definite place in the hospital system, and, in fact, an ideal scheme demanded the institution of district clinics as the places of first resort, rather than the private surgery or the out-patient department of a hospital. The inability of the voluntary hospitals to provide the necessary accommodation would throw more and more work upon the new council hospitals, which must eventually rival the voluntary hospitals in the quality of their work, by reason both of greater financial backing and greater resources of material for practice, teaching, and research. Mr. Hastings advocated the inclusion of dependants in the National Insurance scheme, but would extend it to all classes irrespective of income, and make it non-contributory, thus providing a free national medical service, complete with specialist service, and opening all the resources of medicine equally to all. The cost must be borne by State funds, so that the burden would be distributed in accordance with the age-long principle of medical practice—namely, "from each according to his means." Mr. Hastings was of the opinion that the increasing demand among the public for a form of State medical service must result in the setting up of some such system; and it behoved the medical profession to anticipate this, and ensure the creation of a fair and efficient scheme by close and sympathetic attention to the problem.

Central Council for District Nursing

The annual meeting of the Central Council for District Nursing in London, under the chairmanship of Sir William Collins, was held at the County Hall on February 26th. The annual report, which was presented to the meeting, stated that the past year had been eventful for those concerned in district nursing owing to the changes brought about by the Local Government Act, 1929, also by the expansion and reorganization of services required in the growing "dormitory" districts of London, and extension in districts of Middlesex, hitherto rural, which are becoming considerable towns. In the main the old-established associations of district nursing in London adhere to their system of voluntary subscriptions and donations, but the new associations, owing to changed economic conditions, are formed oftener on a provident basis, and the difficulty of a provident system lies in creating and sustaining local interest. The finances of the council, which is charged with the duty of systematizing arrangements for district nursing throughout the metropolitan area and promoting the adequacy and efficiency of such nursing, are at present very much diminished, and its activities are hampered thereby. The donations received during the year, principally from the trustees of the London parochial charities, amounted to £4,836; this sum includes £533 voted by the London County Council for midwifery and maternity nursing. A sum of £4,553 was distributed to the district nursing associations, and small sums by way of grants were paid for midwifery bursaries and for extension of nursing services. It is stated to be increasingly difficult to tap fresh sources of income, and King Edward's Hospital Fund does not see its way to give further help. One matter reported was that a number of members of the Hospital Saving Association are under the mistaken impression that as members of that association they are entitled to free district nursing. The awards of the Hospital Saving Association go entirely to hospitals, and the association does not think it feasible to include district nursing within the purview of its scheme. It is proposed that the executive committee of the Central Council should conduct an inquiry as to the adequacy and efficiency of the provision of district nursing within the county of London, making such recommendations as may be desirable for systematizing and improving the arrangements; also that it should report on the extension of the work of the Central Council beyond the area of the county of London. The representatives of the British Medical Association on the council are Dr. William Paterson and Dr. David Roxburgh. The former is a member of the executive.

Sunderland Royal Infirmary Pathological Block

A new pathological block, which has been provided at a cost of £7,000, was opened at the Sunderland Royal Infirmary by Lord Dawson of Penn on February 7th. Mr. Samuel Storey, chairman of the Infirmary, said that the block was one of the schemes of reconstruction of the Infirmary organized with a view to extending its service and developing its site to full capacity. The institution was ready to co-operate with the other voluntary hospitals of the district and also with the municipal hospitals in the provision of thoroughly up-to-date facilities, but he felt that it could best take its part in such a system by first making itself as efficient as possible. The first step in the scheme had been the provision of new wards, known as the Princess Mary's block; the erection of a new administrative block was now going forward, and when this was completed it would be possible to add another block of wards, increasing the capacity of the hospital by 80 or 90 beds. It had largely been due to the work given to the hospital by the local authority and by other hospitals of County Durham that the pathological department had been established; those responsible had felt justified in going ahead and putting up new laboratories of the most modern type. Lord Dawson then spoke of the courage of a community, in a time of almost unexampled depression, in taking upon itself such a piece of work as this. The new block would represent in a special sense the power of knowledge. The sciences of pathology, biochemistry, and bacteriology would be applied, and here physicians, surgeons, and pathologists would discuss their common problems. In passing, he mentioned the prejudice which still existed against post-mortem examinations. If a person consented, while alive, to surgical operations, why

should we object if equally skilful and reverent operation were performed after death? Often vital knowledge had been lost because it had not been possible to complete an investigation in that way. He complimented the institution on making good provision for post-mortem investigation of such cases as were likely to benefit the cause of knowledge. Lord Dawson also spoke of the hospital problem in general, and of the need for co-ordination among groups, in which respect Sunderland and the county of Durham were well to the fore. The Bishop of Durham proposed, and Sir John Priestman, chairman of the Monkwearmouth and Southwick Hospital, seconded, a vote of thanks to Lord Dawson, who then opened the new department with a golden key.

Scotland

Scottish Scientific Advisory Committee

The Secretary of State for Scotland has appointed Professor *D. P. D. Wilkie of Edinburgh to be a member* of the Scientific Advisory Committee on Medical Administration and Investigation. This committee was constituted a year ago to advise the Department of Health for Scotland on the application of the results of scientific research to public health administration, and to promote medical investigations under the Department of Health and the Scottish local authorities.

Presentation to Dr. W. T. Barrie

Dr. William Turnbull Barrie has been presented with a public testimonial on completion of fifty years of practice in Hawick. Dr. Barrie graduated at Edinburgh in 1880, and has been one of the best-known practitioners in Hawick district since that time. The sum subscribed was 1,000 guineas, and in making the presentation the executive committee handed to Dr. Barrie an illuminated address. In acknowledging the gift Dr. Barrie said his ambition had been to deserve the confidence of his patients and fellow citizens, and this presentation indicated that he had succeeded better than he knew.

Edinburgh Social Union

Progress in public health administration during the last half-century, especially in regard to housing and sanitary conditions, is referred to in the annual report of the Edinburgh Social Union for the year ended November, 1930. Forty-six years ago, when the union was founded, the powers conferred by the Public Health Act of 1867 were only beginning to be enforced. Organized interest in slum property was negligible, and heavy rents were charged for filthy and dilapidated rooms. In London the evils of degraded surroundings were early recognized by Miss Octavia Hill, who assumed the duties of a slum landlord by purchasing the fifty-six years' lease of three houses in one of the poorest courts in Marylebone. *Her success was remarkable*, and the system she devised, based on regular repairs and personal supervision, was adopted by the union in Edinburgh on its establishment. Since then the administration of the Public Health Acts through the co-operation of medical officers of health and chief sanitary inspectors has become an integral part of local government. At present the work of the union is confined to maintaining a standard of comfort in old houses until new accommodation is available; but efforts are hampered, and apparently often frustrated, by acute conditions of overcrowding. While the Edinburgh Corporation has built a number of new houses suitable for the small wage-earner, it is obliged by various Housing Acts to provide accommodation, first, for persons whose houses have been condemned in slum areas, and secondly, for the homeless—those living in lodgings, unfurnished houses, or with relatives. Hence it has been found impossible to relieve congestion by removing large families to more spacious dwellings. The report mentions, however, that there is a prospect of a steady supply of new houses for which families living in overcrowded conditions will be eligible tenants. Some concluding remarks emphasize the need for extreme care in slum management and direct attention to the outstanding difficulties that have retarded achievement since the end of the war.

Edinburgh Foot Clinic

At the annual meeting of the Edinburgh Foot Clinic, held on March 5th, Viscount Novar, who presided, referred to the importance of the work that had been done by Mr. and Mrs. Norrie, the founders of the clinic. Skilled attention of the highest kind, he said, was always available for major operations and for the treatment of fashionable complaints like appendicitis, but comparatively little provision had been made for the treatment of minor ailments of the feet. Were it not for the cheap, voluntary, and efficiently organized service provided by the Edinburgh Clinic, thousands of men and women would continue to suffer from foot infirmities. He intimated that Her Majesty the Queen had taken a great interest in the work of the clinic, and had given contributions to it on several occasions.

Correspondence

MORTALITY IN ACUTE APPENDICULAR DISEASE

SIR,—I am most gratified to find from the letters in the *Journal*, and from many which have come to me directly, that acute obstruction of the appendix is now widely recognized as a pathological and clinical entity.

Mr. Rayner and Mr. Blair question my conclusions on the subject of mortality. Possibly I did not make my position quite clear. I should not suggest that of all the cases diagnosed as acute appendicular disease the percentage mortality is higher now than twenty years ago. What we cannot get away from, however, is the fact that in this island there are more than three thousand deaths every year from this disease. I maintain that over three-fourths of these deaths occur in cases of the obstructive type. The tens of thousands of operations for acute appendicitis performed annually in this country have not reduced this absolute figure of three thousand odd deaths. Why? Either early operation is not a life-saving measure or the fatal type of case is not being operated on sufficiently early. The first answer is manifestly absurd; the second is, I believe, the true explanation.

The majority of the present-day operations for acute appendicitis are "luxury" operations in the sense that, whilst desirable as a safeguard against possible immediate and future trouble, they are not really life-saving. The cry for early operation has brought into our hospital figures more and more cases of the early inflammatory type of the disease which does not threaten life. Consequently our percentage recovery rate improves and flatters our surgical skill.

I do not for a moment condemn early operation in this type of case, but I do maintain that we must make a resolute effort on the "three thousand." This can be done if, in our teaching of medical students, nurses,

health visitors, and child welfare workers, we concentrate on the grave significance of severe afebrile epigastric colic associated with vomiting and the immediate necessity for a surgical opinion when such symptoms are met with.—I am, etc.,

Edinburgh, March 2nd. D. P. D. WILKIE.

THE INCISION FOR APPENDICECTOMY

SIR,—Mr. A. H. Southam, in his interesting article on the incision for appendicectomy (*Journal*, February 14th, p. 258), confines himself to a consideration of three incisions—the McBurney gridiron incision, Battle's incision, and the paramedian incision. When the diagnosis is in doubt, or when a general exploration of the abdominal cavity is required, it is agreed that the last incision is to be preferred. In cases of frank appendicitis there is considerable divergence of opinion among surgeons as to the best incision to be used. In addition to the incisions mentioned above there are at least two others to be considered. Some surgeons prefer to make a blunt dissection incision through the middle of the rectus muscle, retracting any nerves encountered up or down as may be convenient. I learnt this incision and used it for a time, but abandoned it as I was not satisfied that the part of the muscle central to the incision retained its innervation unimpaired.

The incision to which I would particularly draw attention is the transverse incision of G. G. Davis of Pennsylvania. For the past few years I have used this incision as a routine in children and in thin adults. The method gives extremely good access to the caecal area, and has the added advantage that if drainage is required the drain can be brought out right up against the anterior superior spine, where the risk of subsequent hernia is very slight. The skin incision extends from the mid-line to the anterior superior spine. Rather more superficial vessels are encountered than in the gridiron incision. It has been stated that the skin below the incision is apt to become oedematous, but this objection is in my experience entirely unfounded. The aponeurosis of the external oblique is now incised in the line of the skin incision. The method of splitting the aponeurosis is a matter of some anatomical importance. If it is desired not to open the rectus sheath the aponeurosis is incised at the outer end and the incision prolonged inwards with blunt-ended scissors. This is not advisable in small children, as it hardly gives a sufficient exposure. The incision is therefore commenced at the inner end, and the rectus muscle at once exposed by incising both layers of its anterior sheath. These layers are quite distinct, and the anterior layer, which is really the aponeurosis of the external oblique, is then picked up and divided for the full length of the skin incision. The deep layer of the anterior sheath of the rectus is then divided outwards as far as the edge of the internal oblique, the muscle fibres of which are separated by blunt dissection in the same line. At a deeper level the fibres of the transversus abdominis are separated in a similar manner. By sweeping the muscle fibres apart with two fingers a wide area of transversalis fascia is exposed. The peritoneum is opened in the line of the incision, and the caecum is at once exposed. In closing the abdomen a single Z suture brings the deep muscles lightly together. A second suture then picks up both layers of the anterior rectus sheath. At the margin of the sheath the suture is continued in the anterior layer or aponeurosis of the external oblique.

The fact that the aponeurosis of the external oblique is divided in a line which crosses the direction of most of the fibres does not appear to be any disadvantage. Tendinous fibres almost always unite soundly, and it is possible that the resulting scar is firmer than that of the gridiron incision, where the fibres are separated in the direction of their length; at any rate I have not encountered any subsequent hernia or even weakness after this incision. The skin incision lies along the line of the abdominal creases, and is inconspicuous.—I am, etc.,

London, N.8, March 3rd. A. ERNEST SAWDAY.

BACKACHE IN WOMEN

SIR,—The article upon the above subject in the *Journal* of February 28th calls for some comment on account of the incorrectness of its physics, as well as on account of its omissions.

In the first place it is a well-known law that pressure exerted by fluids, such as air or liquids, is equal in all directions, and therefore the projection of the upper portion of the sacrum into the pelvic canal can have no appreciable influence in protecting the pelvic viscera from the general intra-abdominal pressure. If anyone doubts the truth of this statement a very simple experiment with a couple of pressure gauges will prove its accuracy.

With regard to the occurrence of the true backache which follows exertion (more especially that which involves stooping) a careful study of the spinous processes of the vertebrae will in many cases show that there is deficient mobility of certain vertebrae or groups of vertebrae, and that they do not take their normal part in the movements of flexion and extension of the spinal column. Such fixation of vertebrae is most frequently due to persistent habit-spasm of the short muscles. The spasm can be overcome by relaxing movements such as those which are commonly used by the osteopaths, or, if not too habitual, it may be relieved by rapid, rhythmical, rotating movements of the body when sitting erect, which can be practised by the patient. In cases where there is no vertebral disease (such as that which may occur in rheumatoid arthritis) this treatment will usually suffice to restore the mobility of the intervertebral joints and completely cure the patient's backache.

A far commoner cause of backache is, however, one which may follow simple weariness, quite apart from stooping, and may also be troublesome and prevent sleep at night. This pain will be located in the region of one or both sacro-iliac joints. It is not of spinal origin, but is a referred pain, and the area concerned is that which is in relationship with the twelfth dorsal segment of the cord. Adequate irritation of any abdominal organ which is in relationship with the twelfth segment of the cord may originate such a pain. The commonest source of such pain is the colon. In cases where the colon is hardened and tender on palpation, a sudden sharp pressure upon it (in either the left or the right iliac fossa) may elicit this type of back pain. Such patients are, as a rule, speedily relieved by treatment of the colon ailment with an intestinal antiseptic and 20 minims of tincture of hyoscyamus, combined with the careful elimination from the diet of the type of cellulose-containing vegetable material which is normally digested in the colon.

There are also other omissions, such as the backache due to a prolapsed left ovary being compressed behind a uterus which is slightly prolapsed and retroverted, and the backache due to a dropped kidney. Very many of the cases of persistent backache which are met with in practice will, however, be found to fall into one or other of the two classes above described.—I am, etc.,

Birmingham, March 3rd. T. STACEY WILSON.

X-RAY THERAPY IN CANCER OF THE LUNG

SIR,—In response to Dr. Chalmers's request for results obtained in other centres in the treatment of malignant disease of the lungs by *x* rays, I append notes of cases of this type treated by me during the years 1928-30. I have not gone back further than 1928, as none of the patients whom I have treated during the last ten years have survived more than three years from the beginning of treatment. My results, however, do not appear to be so disappointing as those given by Dr. Chalmers and Mr. Tudor Edwards. Out of a total of twenty-four cases of primary carcinoma of the lung, twelve patients showed no response to treatment, and died within three months; of the remaining twelve, all showed improvement in general health, and gave evidence either of regression or of arrest of the spread of the disease. Six of these patients survived for six months, four survived for over one year, and two for just over two years.

The response in secondary lesions was much better. Twenty of these cases were treated during the same period, and fourteen of the patients reacted favourably to *x* rays; all were practically free from symptoms nine months later, eight survived for twelve months, five for two years, and three are still alive to-day. In all these cases improvement in clinical signs corresponded with disappearance of the radiographic features of the disease. It would appear, therefore, that *x*-ray therapy in pulmonary invasion does afford some measure of control, and it is certainly deserving of wider trial and of further investigation. As administered at present it causes but little discomfort to the patient, and it is attended with comparatively trifling risk.—I am, etc.,

Leeds, March 6th. G. COOPER.

THALLIUM AND ITS RISKS

SIR,—I think I have read all the articles published in the *British Medical Journal* during the past four years on the subject of the treatment of ringworm of the scalp by thallium acetate; but I have not noticed any mention of the added risk in giving a second dose. The only serious toxic results I have seen have been in cases where a second dose had been given on account of the failure of a single dose to secure efficient epilation. The following is an example.

A female, aged 5, received her first dose of thallium acetate on August 26th, 1927. Inefficient depilation followed, leaving many infected stumps. A second dose was given on October 24th. On November 7th the child was admitted to hospital suffering from severe collapse and repeated vomiting. By November 9th the vomiting had ceased, but there was marked mental aberration, drowsiness, and irritability. Next day she was better. The legs remained very stiff for some two or three weeks. There were no toxic symptoms following the first dose.

The child's sister, aged 6, also had two doses, without any toxic signs. I may say that I personally examined and weighed the children, and also dispensed the drug in all cases. Other patients to whom a second dose was given had less severe toxaemia.—I am, etc.,

JAMES A. MILNE, M.D., D.P.H.,
Joint Medical Officer to Dr. Barnardo's Homes.

Woodford Bridge, Essex, March 4th.

SIR,—I should like to add my testimony in favour of the treatment of ringworm of the scalp with thallium acetate to that of Dr. Gardiner and Dr. Hector Percival in your issue of February 28th.

I have records of thirty-two cases treated in my out-patient department at the Royal Alexandra Hospital for Children, Brighton, since 1927. Of these, thirty-one were cured, and one discontinued treatment. One of those cured exhibited serious toxic symptoms, which were reported by Dr. M. C. Andrews and myself in the *British Medical Journal* of December 17th, 1927. This was a patient 9 years of age, weighing 65 lb., who received a dose of 8.5 mg. per kilo of body weight. All the rest had 8.75 mg. per kilo; no symptoms beyond slight transient pains in the knee-joints were observed. Of these, four were over 8 years of age, and averaged 56 lb. The youngest child treated was aged 3, and the average age was 5½ years. The longest time taken to achieve cure was 20 weeks, the shortest 4 weeks, and the average 8.3 weeks, reckoning from administration of the thallium to final discharge of the patient with leave to return to school, etc.

While every effort is made to obtain *x*-ray treatment for those children who are entitled to it from the school authorities, I myself shall continue to use thallium with the greatest confidence. Five years' experience of it has convinced me that its after-treatment is only slightly more difficult and troublesome than that of *x* rays. It would be a great pity if this really valuable method of treatment were to fall into undeserved disrepute merely because somebody once made an error of over 500 per cent. in dispensing the drug—well known to be poisonous.—I am, etc.,

Hove, March 5th. J. H. TWISTON DAVIES.

THE ELECTROCARDIOGRAM

SIR,—I venture to suggest that your leading article on the electrocardiogram in to-day's issue misrepresents the significance of Dr. Craib's work, and it is extremely doubtful whether Dr. Craib himself would be ready to defend the sweeping conclusions which are based upon it. The value of his work, which has always been of the highest order, lies in its contribution to the academic and physiological side, and it cannot close the door to the importance of further clinical electrocardiographic study. Just as academic pharmacology can frequently find no sound basis for the known clinical effects of many drugs, so electrocardiograms of the diseased human heart may be difficult to read even in the light of the most careful experimental physiological work.

It is implied in your leader that "the electrical record of a regularly beating heart" is of no value whatever. Yet an electrocardiogram in a case of A-V heart-block or of branch-bundle block, to mention only two examples, may be of the utmost value in diagnosis, prognosis, and treatment; and in each case the pulse may be regular and normal in rate.

The conclusions of the last paragraph need to be qualified. That myocardial infarction can occur under certain circumstances without affecting the galvanometer is well known; yet in clinical work it is not unusual in suspicious cases to use leads in a plane transecting the plane of the ordinary leads. Without questioning the accuracy of the second conclusion, a low voltage in all leads is of serious import in many cases of heart disease, though the converse is not true. And the final sentence, though it may be correct as it stands, conveys a far more sweeping implication than the nature of the work done has justified. Without being unduly "vociferous" or "enthusiastic" I am not alone in the belief that correlation of clinical features with electrocardiograms, if possible periodically repeated, is becoming increasingly important in cases of chronic myocardial disease.—I am, etc.,

C. BLANLAND LEVICK.

Cardiographic Department, St. George's Hospital, March 7th.

DIVERTICULA OF THE DUODENUM

SIR,—The article by Dr. S. Gilbert Scott in the *Journal* of February 28th raises the interesting point as to the symptomatology of this condition. About a year ago I saw a man, aged 60, who for some weeks had had vague central abdominal pain soon after food associated with obstinate constipation ; he had never previously suffered in this way. Physical examination failed to reveal anything abnormal, and so he was put on a suitable diet and treated on general lines for a week or so to watch progress. The lack of improvement under this regime suggested the possibility of malignant disease of the bowel, and a complete *x*-ray investigation was instituted, with the result that there was found to be hyperactivity of the stomach and also a small diverticulum 1 inch long at the end of the first part of the duodenum. With this knowledge the patient was given further instructions as to the importance of diet and was treated with alkalis, so that at the end of two months his symptoms had disappeared, and he had put on nearly a stone in weight; since then he has been quite well, though the question still remains whether the diverticulum *per se* was the cause of the trouble.—I am, etc.,

W. R. THROWER, M.B., M.R.C.P.

Weymouth, March 4th.

ROUTINE ANAESTHESIA IN MIDWIFERY

SIR,—In the article entitled " Routine anaesthesia in midwifery " in your issue of February 28th it is suggested that there is some doubt as to the number of patients who would accept anaesthesia if offered it. This doubt can, I think, be entirely resolved by the study of the figures of anaesthetics given in Queen Charlotte's Hospital, where the policy of giving light anaesthesia to as many cases as possible has been adopted since May, 1928. I enclose the report of the resident anaesthetists for January, 1931, which shows that out of 127 patients only one refused anaesthesia. In previous months there have frequently been no such refusals, and never more than two, making an average of less than 1 per cent. It thus appears that there is no foundation for the belief that patients object to anaesthesia during labour; on the contrary, it is most ardently desired.—I am, etc.,

J. E. WILLIAMS,
Honorary Treasurer, Queen Charlotte's Hospital Anaesthetic Fund.

March 6th.

DISSEMINATED SCLEROSIS RESEARCH

SIR,—In your issue of March 7th there is a joint letter from Dr. Braxton Hicks and Dr. Hocking, who, among other statements, make the following: that Miss Chevassut's recent refusal to demonstrate a spherule in disseminated sclerosis under her own conditions in another London laboratory has led Sir James Purves-Stewart to dissociate himself from further collaboration with her. There are also references to Miss Chevassut's " negative findings," and a further statement that Dr. Hicks and Dr. Hocking are unable to confirm many of her results. In order to place the position in its true perspective, and also in fairness to Miss Chevassut, I venture to call your attention to the following facts.

1. Miss Chevassut cannot be responsible for the inability of any persons to confirm her findings, in the particular technique involved, who have not been trained under the guidance of Mr. J. E. Barnard, F.R.S., who made her own research possible by his invaluable assistance.

2. Sir James Purves-Stewart has stated quite openly that Miss Chevassut is the only person who is thoroughly conversant with the technique, which is highly complicated, and that she is the only one who is competent to make the vaccine satisfactorily. He stated in the *Lancet*[1] that as the result of it we are now enabled to *diagnose* disseminated sclerosis at an earlier stage than was formerly possible.

3. It is true that Miss Chevassut could not accept the invitation of the Medical Research Council to work at the National Hospital, or the request of Dr. Carmichael to demonstrate positive cultures there. The matter between Dr. Carmichael and Miss Chevassut she regarded as entirely a private concern, and on February 7th she agreed to co-operate with Dr. Carmichael as regards the demonstration of cultures, etc., under new conditions. Furthermore, in her original publication, in March, 1930, on the etiology of disseminated sclerosis, Miss Chevassut states that " transference of material either before culturing or before microscopical examination of the cultures is very undesirable ; such a procedure leads to unreliable and inconstant results." Having regard to this statement it is obvious that the " negative findings " were due to non-fulfilment of this primary condition laid down by her for the obtaining of positive cultures. Without exception, all the fluids received in the test series referred to were negative, in spite of an erroneous statement to the contrary. Miss Chevassut has on many occasions demonstrated to medical men of this country, and of foreign countries, the appearance she believes to be characteristic of cultures made from cerebro-spinal fluid in cases of disseminated sclerosis.

4. In his letter dated January 21st, 1931, to the chairman of the Halley Stewart Trust, Sir James Purves-Stewart writes in glowing terms of Miss Chevassut's work. The Trust refused an application for a grant of £20,000 to establish a separate unit for Westminster Hospital, where Miss Chevassut could carry on her work in neurological research. But the Trust is now establishing an independent institute at Hampstead, equipped with every modern appliance, in order to place her services at the command of the entire profession without favour to any individual or hospital. Consequently, when Sir James Purves-Stewart wrote to her demanding her presence at the laboratory to discuss the results of her " obstinate refusal " to obey his wishes regarding the National Hospital, she declined to comply with his demand, and wrote, finally dissociating herself from him. All the technical staff who worked with Miss Chevassut in the Westminster Hospital Neurological Research Laboratory are now working under the auspices of the Halley Stewart Trust in the new research institute.—I am, etc.,

B. HALLEY STEWART, M.D., B.Ch.,
Trustee, Halley Stewart Trust.

Totteridge, March 9th.

EPSOM COLLEGE

SIR,—The issue of a voting postcard, together with a very strongly worded recommendation, on the question of the abolition of voting for foundationers and pensioners at Epsom College raises, to my mind, another most important matter. Would it not prove a very beneficial plan both for the charity and for the school if they were separated, except as regards the actual education of the foundationers?

Legislation would be necessary before the trust funds, etc., could be handed over, but that should present no difficulty if there were an agreed scheme. The school would then be administered by a body partly nominated by such bodies as the British Medical Association, the Royal Colleges, and the Universities, and partly co-opted. The charity would be administered by (I would suggest) the Royal Medical Benevolent Fund. This society would be represented on the school governing body and would

[1] *Lancet*, March 15th, 1930, p. 564.

pay full fees for the foundationers. To my mind the advantages of this arrangement would be:

1. Economy—one London office instead of two.
2. One appeal to the medical profession instead of two.
3. No possibility of legal trouble as to which body is meant in a will—such trouble has occurred in the past.
4. The idea that all boys at Epsom receive charitable help would fade.
5. Investigation of the needs of pensioners, etc., would be carried out by one body instead of two.
6. The education of needy boys too young for Epsom could be arranged. The recent raising of the minimum age for foundationers emphasizes the desirability of this.

Probably other readers have some views on this subject. If so, it would be interesting to hear them.—I am, etc.,

Brentwood, Feb. 28th. H. G. L. HAYNES.

MARY SCHARLIEB MEMORIAL

SIR,—The memorial to Dame Mary Scharlieb, D.B.E., Litt.D., M.D., M.S., is to take the form of a ward in the new gynaecological and obstetrical unit of the Royal Free Hospital, which will bear her name and be for ever associated with the work in which she was the great and beneficent pioneer.

Mary Scharlieb was a student of the London School of Medicine for Women and the Royal Free Hospital from 1879 to 1882. She was appointed gynaecologist to the hospital, and was the first woman to be elected to the honorary visiting staff of this or any other general hospital in the kingdom. She filled the post with great distinction from 1902 to 1908. She was lecturer in midwifery from 1887 to 1913, and president of the school from 1918 to 1930. A year before her death on November 21st, 1930, it was decided that her name should be attached to the new unit, and the "Mary Scharlieb Ward" will fittingly connect her own work for women with the hope and healing to be brought to future generations of patients. We ask that those who appreciate the work which Mary Scharlieb did for humanity, and in particular for motherhood, will help to build this ward.

Subscriptions, including gifts from her family, who earnestly desire the success of this memorial, already amount to £620, and further donations should be sent to the Lady Sybil Smith, honorary treasurer of the Appeal Fund, 8, Hunter Street, Brunswick Square, W.C.1.—We are, etc.,

GERTRUDE KINNELL
Chairman
A. LOUISE MCILROY
Convener of the Fund
FLORENCE E. BARRETT
ELIZABETH BOLTON
JANET AITKEN
WINIFRED C. CULLIS

London, March 5th.

MEDICAL RECIPROCITY WITH FRANCE

SIR,—The only definite objection which has been raised by your correspondents to applying for medical reciprocity with France is that it would not be successful. That is surely not for us to determine. At present we are not receiving fair treatment, and the French Foreign Office, now directed by so sympathetic a head as M. Aristide Briand, would recognize that at once. At first the French medical faculty might raise objections, but if the application be limited to a small maximum number—say, to 50 or 100, which would meet the case—the objections would probably not be pressed, especially if it be made clear that climatic and thermal stations would profit, as heretofore, by the presence of one or more British medical men, who attract visitors, and so help the stations.

It seems monstrous that British medical men should be allowed to practise in Italy and excluded from France, especially when such easy terms are allowed to a Frenchman who desires a British qualification. Possible openings for British medical men abroad ought not to be thrown away by us on the lazy plea that it is no use trying to secure them. The Colleges, or the British Medical Association, would, I believe, secure a favourable hearing.—I am, etc.,

Menton, March 7th. D. W. SAMWAYS.

Obituary

DOUGLAS DREW, M.D., F.R.C.S.

Consulting Surgeon, Queen's Hospital for Children

Douglas Drew, whose death occurred at Cooden on February 25th, after a long and trying illness, was born in London in June, 1867, and received his early education at Amersham Hall, Reading, whence he matriculated at London University, and joined University College as a medical student. All his early professional studies were conducted at that institution, and there his bias towards surgery was encouraged and early determined by the award of the Atkinson Morley scholarship in surgery, and shortly afterwards by his appointment as surgical registrar and assistant demonstrator of anatomy at the hospital. He obtained the F.R.C.S.Eng. in 1892, and the M.D.Lond. in the same year. The first post outside the hospital to which he was appointed was resident medical officer at the Infirmary, Stoke-on-Trent, but at the conclusion of his term of office in this capacity he returned to London, and acted as private assistant to Sir Victor Horsley. In 1899 he was appointed assistant surgeon to the North-Eastern Hospital for Children, as it was then called, though subsequently renamed the Queen's Hospital for Children. Shortly after this he was appointed surgeon to the Hospital for Women, Soho. With both of these institutions he was connected at the time of his death, in the position of consulting surgeon.

Drew's surgical career in London was interrupted by the events of the South African war, which called for the volunteer services of experienced surgeons. He was offered, and accepted, the post of surgeon to the Imperial Yeomanry Hospital at Pretoria, where he profited by a very extensive experience in operative surgery. There he collected material for a very valuable paper on "The extraction of a bullet from the motor region of the brain," which was published in the *British Medical Journal* in 1902. His contributions to surgical literature, though very much to the point, were not numerous. He always felt much more at home at the operating than at the writing table; in fact, he took very little trouble to disguise his contempt for those whose success mainly depended on the arts of publicity or advertisement, and he probably made more than one enemy by his outspoken expressions of disapproval of such methods. His best surgical successes were made in connexion with operations for malignant disease of the rectum, and he was one of the pioneer exponents of the method of radical excision of malignant disease of the breast by the simultaneous removal of the pectoral muscles and underlying tissues. In the days when excision of the hip was practised for tuberculous disease, he carried out this procedure in a large number of cases at the Queen's Hospital for Children, and acquired a great reputation for his skill and technique in this difficult operation. He also obtained many successes in the removal of haemorrhoids by a special method of his own designing. In 1919, when the London County Council was making arrangements with the voluntary

hospitals for the treatment of school children, he did good service to the cause of child welfare by insisting that the operation for the removal of tonsils and adenoids was not a trivial procedure to be lightly undertaken, but one that required as much care in the after-treatment as many a major operation.

Towards the end of 1914 his career as an active operating and hospital surgeon practically came to an end through a serious illness which necessitated several operations. Shortly afterwards, he retired from whole-time work in London and took up partial residence in Cooden near Bexhill, where, as far as the painful and severe nature of his infirmities allowed, he conducted a considerable consulting practice. During a prolonged and very painful illness he showed remarkable courage by undertaking large and important operations which caused great bodily distress and fatigue. He also carried out under the same difficult circumstances a considerable amount of war work at King George's War Hospital, as well as at the local war hospital at Cooden. Apart from his purely professional work, Douglas Drew did good service to his medical brethren in the capacity of vice-president of the Medical Defence Union (1904), and as an elected member of the council from 1922 until 1928, when he resigned owing to ill-health. He played a particularly active part in the defence of Dr. Mary Thorne in 1904, one of the many medical victims of judicial misunderstanding.

In social life Douglas Drew was a very popular man, and he had a very large circle of friends both in London and in Cooden. He was an esteemed member of both the Savile and Arts Clubs, where he spent a good deal of his time when in London after his semi-retirement to Cooden. He was a very successful gardener, a keen fisherman, and a good though somewhat temperamental golfer. On river or golf course his manual dexterity and neatness of fingers stood him in good stead. His natural impetuosity, which occasionally manifested itself in the serious affairs of life as well as during his lighter occupations, has been anonymously immortalized in one of Mr. A. C. M. Croome's best golfing stories (*Pall Mall Gazette*, June 3rd, 1906), which refers to an incident in which Douglas Drew was the unconscious hero. He was particularly happy and fortunate in his family life, and leaves behind him a devoted wife, one son, and one daughter.

STANLEY EDWARD DENYER, C.M.G., M.D., F.R.C.S., M.R.C.P.

Consulting Physician, Hull Royal Infirmary

By the death of Dr. Stanley E. Denyer the medical profession in Hull has lost a very distinguished member, at the age of 61. His medical degrees and diplomas showed much versatility, including as they did the M.D. and M.A. of Cambridge, the M.R.C.P.Lond. and F.R.C.S. Eng., and the D.P.H. of the English Conjoint Board. At Cambridge he was demonstrator and examiner in anatomy, and director of studies in natural sciences at Queen's College. At Guy's Hospital he was pathological assistant, and held the Gee Fellowship. In the South African war, serving in the R.A.M.C., he was awarded the C.M.G. and the South African medal with five clasps. In the great war he became medical inspector of the Humber garrison, and was later, at Alder Hey Hospital, on the staff of Sir Robert Jones, who spoke of him enthusiastically as "one of our great assets." He was twice mentioned in dispatches. In Liverpool University he was temporarily lecturer in anatomy.

For the last sixteen years Dr. Denyer had been in practice in Hull, including ten years as honorary physician to the Royal Infirmary. His keen interest in clinical medicine was shown by his industrious hospital work, by his regular participation in all clinical meetings, and by his articles in the medical journals. He felt strongly that the value of the scientific clinician—particularly in collating and focusing the many-sided evidence—was at present greatly underestimated. He served as librarian and as president of the Hull Medical Society, and as chairman of the East Yorks and North Lincolnshire Division of the British Medical Association. Up to the end he was one of the representatives of the Division at the Annual Meetings of the Association.

Perhaps the outstanding features of his personal character were enthusiasm and an industry unsparing of self. He was an excellent colleague, was beloved of his patients, and had a happy way with children. He was very fond of the country, and at any beauty spot within reach of Hull his large touring car might often be seen unloading his young family for a picnic. He leaves a widow, two sons, and three daughters, one recently married in South Africa.

Dr. RALPH SMITH MILLER, who died at Codford, Wilts, on February 16th, was born in January, 1861, the son of William Miller of Shotts, Lanarkshire. He studied medicine at Edinburgh University, where he graduated M.B., C.M. in 1883 and M.D. in 1889. He started practice at Tollerton, Easingwold, Yorkshire, where to this day he is remembered with gratitude by many of his old patients. Later, he was invited to undertake a locumtenency at Kiu-Kiang on the Yang-tse-Kiang for eighteen months, and on completion he joined, as a partner, Dr. T. C. Thornicraft at Kobe, Japan, where he remained for twenty-five years. He then specialized in the treatment of drug addicts, and eventually took up practice in London, until a breakdown in health compelled him to retire from active work six years ago. He is survived by one son and two daughters, his wife having predeceased him. Dr. Miller was a man of rare charm of manner and acute insight into human nature. His passing will be regretted by his many friends and patients.

Dr. JULIAN HORA died on February 25th, aged 60. He was the son of Mr. H. W. Hora, a deputy of the City of London and a member of the Common Council for Portsoken Ward. He was educated at Guy's Hospital Medical School, and graduated M.B., B.S.Lond. in 1895, in which year he also took the diplomas of the English Conjoint Board. He was formerly medical officer to King's Norton Union Workhouse and Infirmary, assistant house-surgeon to the Cardiff Infirmary, and assistant medical officer at the County Asylum, Prestwick. He had been in practice at Cambridge Road, E., for over twenty years. Dr. Hora, who was a freeman of the City of London, is survived by his wife and two daughters.

The death took place at St. Andrews, on February 26th, of Dr. DAVID LENNOX, who had been lecturer and reader in forensic medicine at University College, Dundee. Born in 1859, Dr. Lennox graduated M.B., C.M. at Edinburgh in 1880, proceeding to the degree of M.D. in 1884. For a time he was surgeon, R.N., and was for many years lieutenant-colonel in the R.A.M.C.(T.F.), being awarded the Territorial Decoration for length of service. He took much interest in anthropology and antiquarian questions, and was a Fellow of both the Royal Anthropological Institute of Great Britain and of the Society of Antiquaries of Scotland. He published a small work on the elements of physical education, and contributed an article on the evolution of race in Forfarshire to the *British Association Handbook*, 1912. The interment took place on March 2nd in the Western Cemetery, St. Andrews, after a service in the University Chapel, which was attended by a large number of representatives of the University teaching staff.

Dr. JAMES CAMERON died on January 11th at the Beverley Cottage Hospital from septicaemia following an accident on Christmas Day. He was the elder son of the late Dr. James Cameron, who practised at Braemar and afterwards at Batley Carr, Dewsbury. Receiving his early education at Batley Grammar School, he studied medicine at Edinburgh University and the London Hospital. He graduated M.B., C.M.Ed. with honours in 1887, and proceeded to the M.D. in 1894. He also took the M.B. degree of London University in 1900 and the M.D. in 1910. After holding several appointments in Scotland he became a ship surgeon, in which capacity he made many voyages to India, China, and other parts of the world. He was an accomplished Gaelic scholar and was proficient in eight languages—including Hindustani and Chinese. In 1914 he received a temporary commission in the R.A.M.C., retiring at the close of the war with the rank of captain. He succeeded to the practice of the late Dr. Watson of Beverley about five years ago, and soon became popular in the district. He was medical officer to the Beverley Cottage Hospital, and a member of the East Yorkshire Division of the British Medical Association.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons discussed this week the Estimates for the Army and Navy; discussion on those for the Air Force was postponed. A motion was carried approving the adherence of the United Kingdom to the Act for the Pacific Settlement of International Disputes, and a debate was arranged on India.

In the House of Lords the second reading of the Pharmacy and Poisons Bill was set down. Lord Ponsonby has taken charge of this measure in succession to the late Earl Russell, and Lord Dawson of Penn proposed to speak on it.

Next week the Parliamentary Medical Committee will meet to discuss a Bill for the regulation of proprietary medicines.

In the House of Lords, on March 10th, the Yarmouth Naval Hospital Bill passed through committee.

The Protection of Dogs Bill, the Nursing Profession (Wages and Hours) Bill, and the Hospitals (Relief from Rating) Bill were down for second reading on March 6th, but were not reached. This was the last day available for second readings of private Bills.

Small-pox and Vaccination

In reply to Mr. Freeman on March 5th, Mr. GREENWOOD stated that the total numbers of deaths of children under 2 years of age in England and Wales which were registered in the years 1911-30 and classified to vaccinia and small-pox respectively were 37 and 64. In addition, there were 99 deaths in regard to which reference was made to vaccination either on the medical certificate or in reply to inquiry from the Registrar-General.

Mr. GREENWOOD told Dr. Fremantle, on March 5th, that local authorities were charged at the rate of 6d. a tube for lymph for use in their institutions. No charge was made to public vaccinators or medical officers of health. The gross and net costs of the Government lymph establishment for the year 1929-30 were approximately £15,000 and £13,000 respectively. Asked if there was any reason why public authorities who used this lymph should not be charged, and that charge set against the cost of the establishment, Mr. Greenwood said it was the common practice for public vaccinators to make no charge, and public institutions charged only a low fee.

Immunization of Cattle against Tuberculosis

Answering Sir A. Sinclair on March 5th, Dr. ADDISON said his attention had been drawn to experiments carried out by M. Spahlinger on a farm in Norfolk by Captain Richard Buxton, who had presented him with a summary of the report on experiments. He had suggested to him that in the interest of all concerned there should be a complete test by and under the independent control of recognized authorities who are experienced in research in tuberculosis. Research work was being actively carried on at the Research Institute of Animal Pathology, Cambridge, and at the Ministry's Veterinary Laboratory, Weybridge, with a view to devising an effective and cheap method of immunizing cattle against tuberculosis. The Calmette and other methods were being studied. Future plans depended to a large extent on the result of research work now in progress.

Dr. ADDISON told Mr. Hurd, on March 9th, that he was informed that the Minister of Agriculture for Northern Ireland had not yet issued a report on the progress of the tests of the efficacy of serum treatment for bovine tuberculosis which were being carried out by the Government of Northern Ireland.

Paratyphoid in Essex

In reply to a question put by Mr. Groves on March 4th concerning the outbreak of paratyphoid fever at Epping, Mr. GREENWOOD said that a medical officer of his Department visited the district on February 10th and made a brief report on that day. The farm hand who was suspected of being a carrier ceased handling the milk on January 24th and was removed to hospital on February 11th; 223 cases of paratyphoid were notified in the Epping urban district and neighbouring districts between February 10th and 28th, some of these being cases of delayed notification. A few further cases were notified as late as March 2nd.

National Insurance Funds.—Mr. GREENWOOD told Major Beaumont Thomas on March 5th that the total amount of accumulated funds in hand in Great Britain under the National Health Insurance Acts at December 31st, 1929, was £126,000,000 approximately. The interest accrued during the year ended December 31st, 1929, was £5,600,000, and the cost of administration—including central administration—for the year was £5,400,000.

River Pollution.—Replying to Mr. Ramsbotham on March 5th, Mr. GREENWOOD said he had received two applications from county councils, under Section 14 of the Local Government Act, 1888, for setting up joint committees to enforce the provisions of the Rivers Pollution Prevention Acts. When the catchment boards appointed under the Land Drainage Act, 1930, had had a reasonable time to function, he proposed to review the position in the light of the power conferred on him by that Act of taking the initiative in securing establishment of joint committees for preventing pollution.

Rate-aided Mental Patients.—In reply to Mr. Sorensen on March 5th, Mr. GREENWOOD stated that local authorities were entitled under the statute to recover expenses of maintenance against the property of rate-aided mental patients. He was not empowered to prevent such action. He would make inquiries into any specific case of hardship.

Medical Officers on the Gold Coast.—Dr. SHIELS told Mr. Rennie Smith on March 4th that there were twelve women medical officers in the service of the Gold Coast Government, of whom one was an African. There were also a few European women doctors working with missionary societies in the Colony. There were no facilities in the Gold Coast for students of either sex to undergo locally the training necessary to qualify as medical practitioners. In the case of Government medical officers, the same facilities for post-graduate training were provided for both men and women doctors. There was no difficulty in meeting the demand for women medical officers for Government service.

Experiments on Dogs.—Mr. CLYNES told Mr. Freeman on March 5th that there was no record of the number of dogs used for the purpose of vivisection, but no dogs were used for this purpose at the Royal Veterinary College in 1930.

Housing.—Replying to Mr. Somerville Hastings on March 5th, Mr. GREENWOOD said that 117 areas in England and Wales, occupied by 24,237 persons, had been declared to be clearance areas under the Housing Act, 1930. These declarations did not require his sanction. Mr. Greenwood said he

was not satisfied with the progress made, and would not be for a long time, but pressure was being exercised on those local authorities whose programmes did not appear to be commensurate with their needs.

Foot-and-Mouth Disease.—Dr. ADDISON, on March 2nd, said that ten cases of foot-and-mouth disease, distributed between six separate centres, had been confirmed by the Ministry of Agriculture during the six months ended February 26th last. In none of the initial cases was it possible definitely to identify the origin of infection.

Notes in Brief

India's opium exports in 1927 were 1,120,900 lb.; in 1928, 1,008,635 lb.; and in 1929, 888,801 lb.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

At a congregation held on March 7th the following medical degrees were conferred:

M.B., B.CHIR.—T. I. Evans.
M.B.—C. J. Grosch.

UNIVERSITY OF LONDON

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The following passed the examination at the eighty-ninth term (October, 1930, to February, 1931):

*T. T. Mackie (Duncan Medal), *N. J. Abbensetts, *J. Cairns, *S. Dakshinamurty, *W. P. Jones, *R. M. Kasliwal, *E. W. Martindell, *M. Noronha, *R. B. Wallace, *J. Welch, A. J. Abeyesundere, E. R. Abeyesundere, F. V. Adams, A. S. Agbaje, M. Akram, C. D. Amarasinha, J. Barclay, L. Brown, H. G. Calwell, O. P. Campion, M. M. U. D. Chughtai, G. J. Clarke, A. E. Connan, T. F. Crabbe, T. H. Dalrymple, W. C. E. Diamond, R. F. G. Dickson, M Edwards, D. Ellis, H. G. Floyd, A. J. Garde, J. R. Jensen, R. A. B. Leakey, Ah Ma, P. B. P. Mellows, W. E. S. Merrett, B. A. Moss, S. Noronha, L. D. Pringle, J. A. S. de Sampayo, M. Sangarapillai, C. F. W. de Saram, D. W. Semmens, J. M. Shapiro, S. Thambiah, D. P. Turner, E. M. Weir, G. F. West, R. N. Wilcox, W. A. Wilson, W. E. S. Winn.

* With distinction.

UNIVERSITY OF BIRMINGHAM

Miss K. M. Maclaren, M.R.C.S., L.R.C.P., has been appointed as researcher in tissue culture, and Mr. C. J. Bond, F.R.C.S., as William Withering lecturer for 1932.

UNIVERSITY OF LIVERPOOL

The title of Professor Emeritus has been conferred upon Dr. Walter Ramsden, who recently resigned the Johnstone chair of biochemistry.

NATIONAL UNIVERSITY OF IRELAND

The degree of M.D. has been granted to Joseph A. O'Flynn, M.B., B.Ch., B.A.O.

Dr. Theobald W. T. Dillon has been appointed professor of medicine at University College, Dublin, and Dr. Charles C. O'Malley professor of ophthalmology and otology at University College, Galway.

Dr. Denis J. Coffey has been appointed to represent the University at the celebrations of the fourth centenary of the Collège de France, to be held in Paris in June, and Professor William D. O'Kelly will be the representative at the Conference of the National Association for the Prevention of Tuberculosis at Margate in June.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Macloghlin Scholarships

Mrs. Eliza Macloghlin, who died in May, 1928, left by her will to the Royal College of Surgeons a sum of money for the purpose of founding and endowing scholarships for medical students, in memory of her husband, the late Mr. E. P. P. Macloghlin, M.R.C.S., formerly in practice at Wigan. One scholarship, tenable for five years, of an approximate value of £100 per annum, is awarded annually in July. The scholarships are given to candidates, between the ages of 16 and 22, whose means would otherwise be insufficient to cover the cost of medical education. In 1930, at the first competition, there were five candidates.

Forms of petition, completed by intending candidates, must reach the secretary of the College not later than June 1st. They must be accompanied by: (1) a duly certified copy of the register of birth of the petitioner; (2) a testimonial of character and conduct from the head master of his school; (3) a certificate of having passed a preliminary examination in general education recognized by the Conjoint Examining Board for admission to its pre-medical examination. The pre-medical examination for which candidates will be required to sit will be held on June 30th and following days. Copies of the regulations relating to the award of the scholarships and forms of petition may be obtained from the secretary, Royal College of Surgeons, Lincoln's Inn Fields, W.C.2. Copies of the regulations of the Conjoint Examining Board in England relating to the pre-medical examination, with synopses indicating the range of the examination in chemistry and physics, may be obtained from the secretary, Examination Hall, Queen Square, W.C.1.

Medico-Legal

EXTREME DEAFNESS A DISABILITY FOR MOTOR DRIVERS

Tests for hearing were not much considered during the discussions which took place last year on the physical fitness of motor drivers, but a case which came before the Lord Mayor of London (Sir W. Phené Neal) at the Mansion House police court on March 5th raised the question in an acute form, and it was decided by his lordship that extreme deafness was a "physical disability" within the meaning of the Road Traffic Act, 1930, such as rendered the driver of the motor vehicle a source of danger to the public.

According to the police, the defendant was driving dangerously in Ludgate Circus, and on being stopped it was discovered that he was so deaf that only his wife could make him understand. He was a foreigner who had been living in the Canary Islands for some years, and did not know the London traffic regulations. The summons was dismissed on payment of costs.

Section 5 of the Road Traffic Act requires an applicant for a licence to make a declaration in the prescribed form as to whether or not he is suffering, not only from any disease or physical disability specified in the form, but from any other disease or physical disability likely to cause the driving of a motor vehicle by him to be a source of danger to the public.

Medical News

The St. Patrick's Day dinner of the Irish Medical Schools' and Graduates' Association will be held this year at the Piccadilly Hotel, on March 17th, at 7.30 for 7.45 p.m. The guest of honour will be Lord Russell of Killowen.

Sir Percy Sargent will deliver the Harveian Lecture on "The romance of the pituitary gland," before the Harveian Society of London, on Thursday, March 19th, at 8.30 p.m., at 11, Chandos Street, W.1. The lecture will be illustrated by lantern slides. The society extends a cordial invitation to all practitioners to attend.

The Tuberculosis Association will hold a provincial meeting at Oxford on March 26th, 27th, and 28th. On the first day there will be a discussion on stereoscopic and postural radiography of the chest. On March 27th, at 10 a.m., Dr. Jacquerod will read a paper on the natural processes of healing in pulmonary tuberculosis, and at 5 p.m. Drs. L. S. T. Burrell and N. Tattersall will open a discussion on the future of artificial pneumothorax treatment. On the last day of the meeting, Mr. H. Morriston Davies will show a cinematograph film of thoracoplasty, and Dr. J. Crockett will discuss gelatino-thorax; there will also be an exhibition of *x*-ray films. The meetings will be held in the Dunn Laboratory, South Parks Road. Further information may be obtained from the honorary secretary, Dr. G. T. Hebert, Tuberculosis Department, St. Thomas's Hospital, S.E.1.

At the meeting of the Child Study Association to be held at 90, Buckingham Palace Road, S.W., on April 16th, at 6 p.m., Dr. J. Norman Glaister will read a paper entitled "Does the developing mind recapitulate ancestral history?" On May 7th a discussion on "The nursery school" will be opened by Miss E. Stevenson.

The London Clinical Society will hold a clinical evening, at the London Temperance Hospital, on Tuesday, March 17th, at 8.45 p.m.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-Graduate Courses, published in the *Supplement* at page 84. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1.

A three months' course of lectures and demonstrations on clinical practice and in hospital administration for the diploma in public health will be given at the North-Eastern Hospital, St. Ann's Road, Tottenham, N.15, by the medical superintendent, Dr. F. H. Thomson, on Mondays and Wednesdays at 4.15 p.m., and alternate Saturdays at 11 a.m., beginning on Wednesday, April 8th. The fee for the course, which complies with the revised regulations of the General Medical Council, is £4 4s. A course under the old regulations may be taken for £3 3s.

At a meeting of the British Institute of Philosophical Studies to be held at the Royal Society of Arts, 18, John Street, Adelphi, W.C., on Tuesday, March 17th, at 8.15 p.m., Mr. R. G. Collingwood will give a lecture entitled "The purpose of aesthetics." Cards of admission may be obtained from the Director of Studies, University Hall, 14, Gordon Square, W.C.1.

The following members of the medical profession were among those elected Fellows of the Royal Society of Edinburgh on March 2nd: Dr. W. R. D. Fairbairn, lecturer in psychology, University of Edinburgh; Dr. J. du P. Langrishe, lecturer in public health, University of Edinburgh; Dr. J. B. McDougall, medical director, British Legion Village, Preston Hall, Kent; and Mr. J. J. McIntosh Shaw, lecturer in clinical surgery, University of Edinburgh.

We are asked to state that hospitals situated within eleven miles of St. Paul's desiring to participate in the grants made by King Edward's Hospital Fund for London for the year 1931 must make application before March 31st to the honorary secretaries of the Fund at 7, Walbrook, E.C.4 (G.P.O. Box 465A). Applications will also be considered from convalescent homes which are situated within the above area or which, being situated outside, take a large proportion of patients from London.

The next congress of the Jugoslavian Dermatological Society will be held at Belgrade in May next, under the presidency of Professor Gjorgjevic.

In connexion with the sixth International Congress of Thalassotherapy, which will be held at Berck-sur-Mer from May 25th to 30th, visits will be arranged to the Artois battlefields, the northern weaving manufactures at Tourcoing and Roubaix, and to other centres of interest. Communications are invited from British practitioners on the treatment of coxalgia and its complications by climatic and hydrotherapeutic measures. The congress fee for non-members of the Association of Thalassotherapy is 60 francs. Further information may be obtained from the secretary, Dr. Mozer, Hôpital Maritime de Berck-Plage, Pas-de-Calais, France.

The annual congress known as the Journées Médicales de Lille will be held at Lille on May 2nd and 3rd.

The second International Congress of Sanitary Technique and Urban Hygiene will be held at Milan from April 20th to 25th, and will consist of six sections, devoted respectively to general questions of public and private hygiene, urban sanitary technique, sanitary technique of houses and public buildings, rural and colonial sanitary technique, sanitary technique of shops and laboratories, and urban, industrial, and rural sanitary technique. Further information can be obtained from the general secretary, Piazza del Duomo 17, Milan.

Dr. Wu Lien Teh has given 20,000 taels (£3,000 sterling) to the Royal-Asiatic Society, China, towards the rebuilding of the Institute in Shanghai which maintains libraries and facilities for the encouragement of co-operation between Chinese and Western thought. This gift is an expression of gratitude for the help that Dr. Wu Lien Teh (then G. L. Tuck) received when, in 1896, he was awarded a Queen's Scholarship of £200 a year from the Straits Settlements, and was thus enabled to secure his education in English medicine at Emmanuel College, Cambridge, and subsequently at St. Mary's Hospital, London. Dr. Wu Lien Teh now holds positions of high responsibility under the National Government in China, having been appointed in 1930 as chief technical expert of the Ministry of Health, and director-general of the National Quarantine Service based at Shanghai, while he still retains charge of the North Manchurian Plague Prevention Service, for which he was chosen in 1912.

The Fight Against Disease is published quarterly by the Research Defence Society, and placed on sale by Macmillan and Co., Ltd., price 6d. The last issue (Winter, 1930–31) includes a note on the use of animals for the standardization of remedies, by Dr. J. H. Burn, and an appreciation, by Professor Winifred Cullis, of the late Dame Mary Scharlieb, who up to the time of her death was keenly interested in the work of the society, and remained a member of its general committee.

Dr. Rouvière, professor of anatomy in the Paris faculty of medicine, has been elected a member of the Académie de Médecine.

The fourth centenary of the Collège de France will be celebrated from June 18th to 20th inclusive.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The TELEGRAPHIC ADDRESSES are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Miscarriage of One Twin

Dr. A. Boyd Roberts (London, W.9) writes: About a year ago I was called to treat Mrs. C. for a miscarriage, and found that a foetus and placenta had been expelled. It was apparently a four weeks' pregnancy. The mother, who already had one child, six years old, was quite conscious that she was still pregnant following the miscarriage. Two months later I was called again, and diagnosed a three months' pregnancy. On November 13th I delivered the patient of a fully matured female child. I take it that there were two separate placentas and that the expulsion of the first did not destroy the second. Is not this miscarriage of one of a twin pregnancy very uncommon? It would be interesting to know the experience of other practitioners in such cases.

Income Tax

Colonial Appointment—Remittances

"C. C." is employed in West Africa, and usually visits the United Kingdom, where he maintains a home, every twelve months. He pays British income tax on that portion of his earnings which he sends or brings to this country. He will not, however, be in the United Kingdom between March 25th, 1930, and April 25th, 1931. Will he be liable to income tax here in respect of the financial year ending April 5th, 1931?

*** No. During a year in which "C. C." does not return to the United Kingdom his wife is liable to taxation as a feme-sole, but only in respect of remittances made to her out of "property"; remittances made out of the husband's earnings do not fall within that category, and in such circumstances are not liable to British income tax.

Replacement of Car

"C. H. C." bought a car in 1920 for £550, and in January, 1931, sold it for £20, and bought a new car for £237 10s. Depreciation has not been claimed for income tax purposes. The car is used only partly for professional visits, and only one-half of the running cost has been debited to professional earnings. What can he claim?

*** He can claim as a professional expense a reasonable proportion (apparently one-half) of the out-of-pocket cost of replacement—that is, one-half of £217 10s. = £108 15s. That amount will have to be regarded as expended in January, 1931; consequently, if he makes his statement of accounts out to December 31st the deduction will affect his profits for the year 1931 and his income tax liability for the year 1932–33, but if his annual accounts are made out to, say, March 31st, then it will operate to reduce his liability for 1931–32.

First Year of Partnership

"C. D." became a partner in a firm as from April 1st, 1930; prior to that date he had been acting as a locumtenent. How should his liability for 1930–31 be calculated?

*** He will be liable to account for tax on his share (less his personal allowances, etc.) of the firm's gross assessment for 1930–31, and that assessment will presumably be calculated in the usual way on the amount of the profits earned in 1929–30 by the then existing firm. His liability to assessment as a locumtenent does not extend to periods subsequent to April 1st, 1930.

LETTERS, NOTES, ETC.

Mammary Abscess

"SUBURBAN G.P." writes: Within the past few weeks I have had three cases of mammary abscess occurring in primiparae three to five weeks after confinement. All the patients had been confined at a maternity home under excellent conditions, and were discharged after a normal fourteen days' puerperium. Breast abscess results in a good deal of distress, physical and domestic, while the life of the young infant can be seriously jeopardized; it may be a question of months before the mother completely recovers. In searching for a possible causation I feel strongly that the application of hardening agents—for example, spirit—to the nipple ante-natally may constitute a weak link in the chain of ante-natal "do's" and "don'ts." Curiously enough, the left breast was involved in each case. I do not offer any explanation, but I should be glad to know the opinions of some of your more experienced readers.

Graves's Disease: Intercurrent Pyrexia

Dr. J. G. BENNETT (Hyde, Cheshire) writes: Of late we have had quite a number of demonstrations illustrating the effect of one disease upon another, often with a markedly beneficial result. Of such a type is the benign alteration which ensues when suitable cases of general paralysis of the insane are inoculated with the virus of malaria. I have a case which illustrates a similar phenomenon, but here the primary disease is exophthalmic goitre. The patient is a cotton cloth tester, and he is a typical sufferer from moderate Graves's disease, having all the cardinal signs of the complaint, including a constantly rapid pulse, usually 110 to 120 per minute. There is also extrasystole. As a rule he can do his work well, and for his age (62) he does not suffer great handicap. Whenever he gets an influenzal cold, with its subsequent deflorescent perspiration, the latter heralds a wonderful slowing and regularity of his pulse. For weeks after such an attack his heart beats regularly and slowly, he feels in splendid condition, and can work much better and with less fatigue than before the attack. This beneficial result has occurred on four or five occasions since I first treated him ten years ago, and the connexion between the two diseases is, to my mind, undoubted. Whether the antibodies brought into being by his influenza have neutralized toxin due to the exophthalmic goitre, or whether the influenza has reduced secretion at its source in the thyroid gland, I do not know, nor can I say whether treatment on these lines in every case of Graves's disease would be a specific, but the phenomenon appears to me to be well worth further investigation in the laboratory.

A Twin Monster

DR. M. Y. LUM (Kuala Lumpur) reports the birth, on September 19th, 1930, in the Chinese Maternity Hospital, Kuala Lumpur, of a double monster. The first head delivered was followed by the corresponding arms. Then the breech had to be extracted manually. The breech of the second child was delivered next, followed by the head. Dr. Lum adds: There was only one placenta, and one cord, which was attached to the lower surface of the band connecting the twins; the connecting band measured 10 inches in circumference. The twins were healthy, and weighed 8½ lb. together. There was a distinct systolic murmur in the smaller child. Both children had to be fed independently. The parents, poor vegetable gardeners, sold the twins to a friend, who put them up for exhibition on the tenth day. In consequence, apparently, of continuous exposure and bad artificial feeding, the twins contracted diarrhoea and fever on the eighteenth day, and died on the twenty-first day after birth. The smaller one died first, followed three hours later by the larger one. At the post-mortem examination all the organs were found separate, with the exception of the livers, which were so closely joined together that there was only a faint line of demarcation. There were two gall-bladders. The foramen ovale was patent in the smaller child. The photograph reproduced was taken on the fourth day after birth; the smaller child is on the right.

Pronunciation of Laboratory

"M.A., M.B." writes: The B.B.C. has adopted the very ugly pronunciation of laboratory thus, labōratory. All the eminent scientists at the studio talks have adhered to the old form labŏrătŏry, including Lord Moynihan and Sir William Bragg. It would be ugly were we to say elabōrate, and equally ugly is the pronunciation of rātions as rătions, as the B.B.C. studio has pronounced it.

Treatment of Addison's Disease

Several cases of Addison's disease have been treated in this country with extract of suprarenal cortex prepared according to the process of Swingle and Pfiffner (*Science*, March 21st, 1930). Messrs. Allen and Hanburys inform us that they have a limited supply of this extract, particulars of which can be given on application.

Corrigendum

The Librarian of the Liverpool Medical Institution writes: The paper read at this institution entitled "Cardiac output and oxygen utilization in heart disease" was the joint work of Drs. I. Harris and I. J. Lipkin. Owing to an oversight Dr. Lipkin's name was omitted in the account of the meeting sent for publication and appearing in the *British Medical Journal* of February 28th.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 50, 51, 52, 53, 54, 55, 58, and 59 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 56 and 57.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 83.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

239 Respiratory Disorders and Dental Infection

Discussing the part played by diseased teeth in the causation of various respiratory disorders, W. LINTZ (*Med. Journ. and Record*, January 21st, 1931, p. 62) records a series of 100 patients, and concludes that focal dental infections give rise to respiratory affections through the circulation, and not as the result of aspiration. Bacterial sensitization and autogenous immunization are, moreover, important factors in respiratory allergic conditions. Without radiological examination it is impossible to be certain that dental disease is not present. In the author's series the average loss of teeth for pleurisy was 37.5 per cent., for bronchial asthma 37 per cent., for tuberculosis 25 per cent., and for bronchitis 15.75 per cent., the normal figure for the general population. In the case of asthma, Lintz found that the best results were obtained only after the eradication of all focal infection and the immunization of the patient with an autogenous vaccine prepared from the saliva or the pus from decayed teeth sockets. He adds that the same holds good in hay fever. Immunization before dental extraction averts the occurrence of aggravated symptoms.

240 Uraemia without Kidney Disease

P. MEYER (*Klin. Woch.*, January 24th, 1931, p. 155) refers to several recorded cases in which prolonged vomiting led to uraemic symptoms, sometimes with convulsions. Diagnosis is rendered difficult by the presence of a high non-protein nitrogen and uric acid content of the blood, and in some cases also by the presence of albuminuria or anuria. At the necropsy no significant changes are found in the kidney. Meyer records two cases in detail; in one the vomiting was due to malignant pyloric stenosis, and in the other to the occurrence of a "vicious circle" after gastro-enterostomy. The second patient recovered rapidly on insulin and carbohydrates, and the blood non-protein nitrogen fell from 163 to 31 mg. per 100 c.cm. in five days. The author discusses the possible parts played by acidosis, chloride loss, dehydration, and starvation in the causation of the syndrome. The high non-protein nitrogen may, he thinks, be an attempt at compensation for the loss of other crystalloids (especially sodium chloride), or may represent breakdown of proteins owing to starvation. Anuria due to dehydration will increase the blood nitrogen still further. The occurrence of albuminuria is possibly due to a change in the constitution of the blood proteins.

241 Localization of Myocardial Infarction by the Electrocardiogram

T. PADILLA and P. COSSIO (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, January 16th, 1931, p. 54) refer to earlier investigations in which the electrocardiographic modifications characteristic of myocardial infarction have been established. The usual changes are an early alteration in the ST or RT segment, and, later, deformity or inversion of the T-wave. From a study of 35 patients, of whom 25 were observed and examined by the electrocardiograph at the onset of the illness, the authors describe the features representing apical infarctions and those corresponding to necrosis at the base of the ventricles. In the former group there is an initial convexity of the RT segment upward in Lead I and downward in Lead III, leading later to inversion of the T-wave in Lead I. In basal infarctions the initial deviation of the RT segment is downward in Lead I and upward in Lead III; consequently, in the later stages an inversion of the T-wave in Lead III develops. Occasionally it is found that the electrocardiographic changes indicate myocardial infarction while suggesting no definite apical or basal localization. In such patients certain other electrical anomalies not in themselves characteristic of infarction may give some information as to the site of necrosis. These are extrasystoles, defects in conduction of the bundle of His or of its branches, and auricular fibrillation. The various grades and varieties of heart-block are of most value in localization, and the authors describe a case in which complete heart-block associated with a basal type of ST deviation pointed to thrombosis in the right coronary artery, leading to infarction in the upper part of the posterior wall of the left ventricle and the septum. Auricular fibrillation has also been observed in association with curves pointing to basal necrosis, but this arrhythmia and that due to extrasystoles are of doubtful value in localization.

242 Incidence of Diphtheria

BÜRGERS (*Deut. med. Woch.*, January 2nd, 1931, p. 6) cites statistics to show that diphtheria has presented an increased incidence and severity in recent years throughout Europe. It is noteworthy that the last peak of epidemic diphtheria in Germany was during the years 1849–80, and in America in 1860–81; subsequently the curve fell, reaching its lowest level in 1923. Although diphtheria is known to have been very prevalent in the 16th and 17th centuries, too little is established about the behaviour of this infection to justify precluding a fresh rise during the next thirty years of the present century. Bürgers thinks it best in any case to contemplate the possibility of such an occurrence, and to institute prophylactic methods accordingly, especially in the form of active immunization by inunction. He adds that the fact that the increased incidence of diphtheria during the war was strictly circumscribed and only of transient duration, while the latest outbreak has involved almost every district in Prussia and considerable parts of Europe, should at least awaken apprehension.

Surgery

243 Surgical Treatment of Goitre

J. L. DE COURCY (*Amer. Journ. Surg.*, December, 1930, p. 482) discusses the surgical aspects of goitre, including pre-operative and post-operative care, the anaesthesia of choice, and the results of thyroidectomy in a large number of cases. Lugol's solution, in 10-minim doses, was given three times a day for the first ten days, and continued up to the time of operation and throughout the post-operative reaction, after which 10 minims were given daily for eight weeks. This procedure has been found of great benefit, the surgical mortality being reduced to 1 per cent. and the pre-operative mortality to 0.2 per cent.; it controls the symptoms, lowers the metabolic rate, and renders the thyroid gland oedematous, thus putting the secreting cells out of action and preventing the absorption of toxic substances. The most satisfactory form of anaesthesia in goitre operations was found to be nitrous oxide and oxygen. Treatment of toxic goitre must be by thyroidectomy; in mild cases a one-stage bilateral partial lobectomy may be performed, the wound being closed without drainage, but for very large hyperplastic thyroids a two-stage operation is desirable. If thyrotoxicosis is to be relieved completely, not less than four-fifths of the glandular substance must be removed, and in all cases extreme gentleness is required in handling the gland. In a series of 388 operations, 92 per cent. of which were for cases of toxic goitre, there was only one death. It has been found that thyroidectomy was of value in cases of mental disturbance associated with goitre, and of fourteen patients so treated, twelve have made complete mental recoveries; in thirteen of these patients there was a hyperplastic goitre. Mental improvement was gradual during a period of several months.

244 Treatment of Urethral Stricture

In tight strictures of the urethra J. W. VISHER (*Med. Journ. and Record*, January 21st, 1931, p. 87) recommends the injection of 15 minims of adrenaline added to half an ounce of 4 per cent. novocain solution, some being carefully forced through the strictured area, where it is retained for fifteen minutes. If there has been recent instrumentation, sterile water should be used to dilute the adrenaline, since the novocain may be rapidly absorbed from the damaged surfaces. The urethra is later filled with sterile olive oil, and the penis is raised so that all the oil does not escape. Filiform bougies are now introduced, one after another, and a careful search is made for the opening. Sometimes, if they fail to pass, it is well to depress the penis and to make a fresh attempt, since this may direct them towards the opening in the urethra. The author has found this procedure successful in a large percentage of cases. The adrenaline relieves the oedema and congestion in the strictured area, and greatly facilitates the passage of the bougie.

245 Total Resection of the Stomach

E. BERESOW (*Zentralbl. f. Chir.*, January 31st, 1931, p. 266), who records two personal cases, states that total resection of the stomach was first performed by Schlatter in 1897. In 1927 Uhlhorn was able to collect 30 cases which had ended in recovery. In most of them the Billroth II operation had been performed, since it is an undoubtedly milder operation; it is apparently less dangerous than any other owing to the lesser degree of tension which it entails. The author remarks that, although the first statement is incontestable, there is some doubt as to the truth of the second, since with proper technique the oesophagus and duodenum can be brought together with hardly any tension. Beresow's patients were both operated on by the Billroth I method under local anaesthesia for carcinoma of the stomach. The first was a man, aged 51, whose illness was of ten months' duration; death ensued on the day after operation. The second patient was a man, aged 50, who had been ill for five months; his recovery was uneventful.

246 Adenomatous Goitres

M. SCHTEINGART (*Rev. Sud-Amér. de Méd. et de Chir.*, December, 1930, p. 1193) discusses the different varieties of thyroid enlargements and their corresponding treatments. He rejects the view that all goitres should be operated on without delay, and calls attention to the fact that in some cases the primary cause of the abnormality is to be sought outside the thyroid gland. Radiotherapy and iodine are not necessarily always contraindicated in the case of adenomatous goitre associated with toxaemia; the first form of treatment is, however, unsuitable for adenomatous goitres without hyperthyroidism, and for patients whose metabolism is normal or subnormal. Early operation is required in cases of thyroid enlargement causing respiratory embarrassment, and when large toxic adenomatous growths are associated with symptoms of hyperthyroidism. The author reports observations on 50 cases of non-toxic adenomatous goitre and 125 cases of hyperthyroidism complicating adenomatous enlargement of the thyroid gland.

247 Treatment of Urethral Caruncle

A. G. FLEISCHMAN (*Urol. and Cut. Rev.*, January, 1931, p. 42) states that for a number of years surgical excision has been regarded as the accepted procedure for dealing with urethral caruncle. It presents, however, the following disadvantages: difficulty in checking haemorrhage; development of cicatrices which later become urethral strictures; greater frequency of recurrences; delay in healing of the wound; and predisposition to future urethral deformity. Cauterization by chemical agents or the actual cautery entails similar disadvantages. On the other hand, destruction of caruncles by the high-frequency current, first introduced by Ballenger in 1917, has the disadvantages that there is no haemorrhage nor charring of the tissues, it has deep penetrative properties, and recurrences are few. Urethral deformity is rare. The procedure can be performed under local anaesthesia.

Therapeutics

248 Lipiodol Injections in Neuralgia and Rheumatic Pains

Following Sicard in using local injections of lipiodol for the relief of pain; F. COSTE (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 2nd, 1931, p. 103) finds that this drug is harmless to the tissues, and tends to produce circulatory changes modifying pathological processes; although it lacks the immediate anaesthetic effect of novocain the relief induced is more permanent. In some cases the subperiosteal injection of lipiodol, at the point where the sciatic nerve crosses the ischial ramus, appears to cause the rapid breaking down of adhesions. When the seat of trouble is high the paravertebral injection of novocain at the level of the fifth lumbar vertebra often gives good immediate results, which may be maintained by immediately introducing a solution of sodium iodide. Coste tries novocain first, and if the improvement lasts several days he repeats the injection. If it is fleeting, he follows up with 15 c.cm. of lipiodol, given by the low epidural route. Another class of cases, well treated by local injection is the "dry arthritis" group, especially monoarthritic conditions such as the "lipo-arthritis" of Weinenbach and Francon, common in women at the menopause and affecting the knee-joint. Sicard injects lipiodol subperiosteally at the inner aspect of the upper tibial surface to infiltrate the peri-articular tissues; intra-articular injection is to be avoided, since it does no good, and often causes painful inflammatory reactions. Coste remarks that this method has proved less successful in "morbus coxae senilis," in which condition radiant heat is still the treatment of choice. In lipo-arthritis of the knee, however, the injection of lipiodol has given far better results.

249 Treatment of Uraemia by X Rays and Thyroxine

Several observers have recorded a diuretic effect from radiation of the kidney by *x* rays, and A. H. MÜLLER (*Deut. med. Woch.*, February 6th, 1931, p. 230) describes two cases of uraemia which were treated by a combination of *x*-ray and thyroid therapy with good results. The first case was one of arterio-sclerotic kidney with pre-uraemic symptoms, in which diuresis, with improvement in subjective symptoms, occurred nine days after treatment was commenced. The non-protein nitrogen of the blood sank from 100 to 40 mg. per 100 c.cm., and the patient was later discharged much improved. The second case—subchronic glomerulonephritis becoming uraemic (non-protein nitrogen, 97 mg.)—showed a diuresis with diminution of oedema in seven days, and the patient was discharged without oedema or uraemic symptoms. Six months later he showed no fresh signs of renal failure, though albuminuria continued. Both patients had previously failed to respond to the usual dietetic treatment.

250 Administration of Iron

S. R. METTIER and G. R. MINOT (*Amer. Journ. Med. Sci.*, January, 1931, p. 25) report 10 cases of secondary anaemia associated with defective diet or chronic blood loss which responded well to iron therapy. The daily administration of iron was: (1) small doses with an acid beefsteak meal; (2) small doses with an alkaline beefsteak followed (3) by a fourfold to twelvefold increase in the dose of iron. The reticulocyte response following each of these procedures was recorded. The meat had no demonstrable effect on blood formation, and was used only as a medium to maintain the *p*H of the upper gastrointestinal contents approximately constant. The response of the bone marrow to (1) was slightly less than to (2), and it was concluded (particularly because the same dose of iron administered with meat at acid *p*H caused a prompt second response of reticulocytes) that iron is more potent for blood formation when absorbed from an acid than from an alkaline medium. The response induced by procedure (3) indicated that the small dose was not optimum, and emphasized the importance of giving full doses of iron to anaemic patients.

Dermatology

251 Yeast Factors in Superficial Dermatitis

S. W. BECKER and E. B. RITCHIE (*Arch. Derm. and Syph.*, November, 1930, p. 790) believe that fungous infections are more common now, and are recognized more frequently. Several dermatoses of unknown origin yield fungi on culture, and it is uncertain whether these are causal agents or secondary invaders. The presence of hyphae denotes fungous infection of which antecedent (plantar) dysidrosis or intertrigo may be a predisposing cause. Cryptococci have been found in seborrhoeic dermatitis and infantile eczema, while these organisms and yeasts have been obtained from various forms of intertrigo as the result of macerating epidermal scales or scrapings in an aqueous solution of caustic potash, followed by subculture. The present authors conclude that while thrush is due probably to the *Oïdium albicans*, interdigital and genital erosions offer a soil favourable to other organisms. Oïdium was found in all cases of blastomycetic interdigital erosion; *Monilia* and hyphal forms have been found in the same interdigital space. Several cases of genital thrush occurred in diabetic women, but it is not confined to that sex. The authors regard oïdium as causative because it is so constantly present in thrush, and parasiticide treatment is quickly curative while soothing and protective applications are not. Other organisms do not react so readily to parasiticides. The so-called mosaic fungus is, they find, really a collection of organic material, possibly derived from inflammatory dermal changes. Caution is advised in attributing pathogenicity on insufficient evidence.

252 Cutis Marmorata (Livedo Reticularis)

N. E. ARONSTAM (*Urol. and Cut. Rev.*, December, 1930, p. 813), who records an illustrative case, states that this condition, which is also known as cutis marmorata or marble skin, consists in a mottling or speckling of the skin in grotesque reticulated formations, bearing a violaceous or dusky marbling almost bordering on the livid. Its configuration resembles serpentine segments of circles, semicircles, and triangles, occasionally relieved by annular or circinate figures. It occurs as a rule in young people, very rarely during middle age, and is extremely rare in senescence. Aronstam's patients were mainly girls at the age of puberty, in whom it constitutes a source of physical and mental annoyance. Livedo reticularis has been found associated with hepatic cirrhosis, varicosities, erysipelas, colds and arthritic conditions, congenital myxoedema, mongolian idiocy, syphilis, tuberculosis, and scrofula. Alcoholism and rickets have also been regarded as probable etiological factors. Aronstam suggests that the condition is due to hormonic deficiency, since in the majority of cases it appears in girls at the onset of puberty. Pathologically, as Renaut has shown, livedo is the result of the tuft-like arrangements of the blood vessels distributed throughout the affected parts.

253 Heredity in Psoriasis

H. D. NILES (*Med. Journ. and Record*, January 21st, 1931, p. 80) denies that psoriasis is a congenital disease in the ordinary sense of the term, but agrees that it depends on an inherited diathesis, though this is associated with an exciting cause. The incidence of the condition is definitely higher in psoriatic families than in the remainder of the population. He found that the familial incidence in a series of 286 private patients was 23.8 per cent., and in 13.28 per cent. of these a parent, grandparent, or child was affected. The familial incidence in 23 clinic patients was, however, 9.5 per cent., and none of the parents was affected. Niles attributes this discrepancy to the lack of knowledge about their parents shown by his clinic patients, many of whom were of foreign ancestry. He comments on the difference of opinion among authorities as to the inheritability or otherwise of this disease, and adds that in so common a skin affection (4 per cent. of all dermatoses) it is not surprising to find it occurring frequently among the relatives of psoriatics.

Obstetrics and Gynaecology

254 Conservative Operation for Adnexal Inflammation

P. MALCOVATI (*Ann. Ostet. e Ginecol.*, December, 1930, p. 1206) describes favourable results in 52 cases of chronic or latent adnexal inflammation treated under Alfieri's direction by laparotomy, conservation of the whole or occasionally a portion of the uterus, and excision of one or both tubes and/or one or both ovaries. Six cases are included in which salpingostomatoplasty was performed on one or both sides; in two of these the patient subsequently became pregnant. The inflammation was tuberculous in 7, gonorrhoeal in 12, septic in 21, and of doubtful cause in 12. A Mikulicz drain was used after eight of the operations. No deaths occurred, and cure was complete in nine out of ten, the menstrual function being retained; it became regular in over one-half of the cases. Those who after the operation were left with a possibility of conception numbered twenty-four; of these (after one to seven years) five became pregnant and went to term, and one had an abortion. Two of these six conceptions were in patients sterile before operation; these were cases of marital gonorrhoeal infection, in which surgical treatment had not been unduly delayed. Of six cases in which both tubes, and both ovaries excepting a minute fragment, were excised, menstruation continued in two.

255 Cervical Lacerations

W. H. EMRICH (*Amer. Journ. of Surg.*, December, 1930, p. 557) advises the immediate repair of the post-partum cervix as a routine procedure, in order to prevent subsequent chronic ill-health. He describes the use in this connexion of a specially designed vaginal speculum and retractor, which enables good vision of the cervix to be easily obtained. If the cervical tears are bleeding profusely, a suction pump is used until the haemorrhage can be controlled by suture. The cervix is picked up by sponge forceps and its circumference carefully examined, lacerations being closed by interrupted "through-and through" sutures of No. 4 forty-day chromic catgut from their extremities to the os. The anterior and posterior lips are closely approximated, but no sutures are drawn tight. An iodoform gauze strip is retained for twenty-four hours in contact with the cervix; ergot is administered to prevent clot formation and the consequent tearing out of the sutures. Emrich claims that this procedure diminishes the post-partum discharge, shortens convalescence, reduces the liability to leucorrhoeal conditions, and may be considered as a preventive of subsequent malignant development.

256 Treatment of Abortion

In the opinion of T. V. PEARCE (*Journ. Obstet. and Gynaecol. of the British Empire*, Winter, 1930, p. 769) the best treatment of abortion consists in early and gentle evacuation of the uterus, and haemorrhage and sepsis are cardinal indications for this. Each manipulation of a potentially infected uterus after abortion must be regarded as amounting probably to inoculation with living organisms, and any pelvic examination or treatment must therefore be conducted with the utmost gentleness. The first step in treatment consists in intrauterine douching with hot eusol. In emptying the uterus subsequently digital instead of instrumental dilatation of the cervix often suffices; removal of foetal and placental remnants, located by the finger, is best effected with ovum forceps. The administration of morphine will often render a general anaesthetic unnecessary. To empty the uterus is more urgent in haemorrhage than in sepsis. Ecbolic drugs are uncertain in their action on the uterus after an abortion, and before term such a uterus does not respond readily to the intramuscular injection of pituitary extract, even in large doses. The author has, however, found that haemorrhage is controlled immediately by the direct injection of pituitary extract into the fundus uteri; the uterus, which must be known to be empty, is pressed against the suprapubic abdominal wall by one hand in

the vagina, and the needle is thrust into the uterine muscle through the skin and anterior sheath of the rectus. Such administration of pituitary extract renders it unnecessary to pack the uterus or vagina for haemorrhage.

257 Eclampsia in China

G. KING (*Nat. Med. Journ. of China*, December, 1930, p. 653) believes that the incidence of eclampsia is unduly high in China, and agrees that there is a definite preponderance of cases in the autumn and winter. In a series of 33 cases encountered at the Peking Union Medical College Hospital during the eight years 1922 to 1930, 24 of the patients were primiparae, and the average age was 24. Of the 9 multiparae, 6 had already given birth to upwards of six children each, and 4 of these had had previous toxaemic pregnancies. In only 12 per cent. of the cases had there been ante-natal care, and in these no deaths occurred. The importance of regular ante-natal examination of the urine and blood pressure is emphasized. The eclamptic symptoms appeared before labour in 60 per cent. of the cases; during labour in 30 per cent.; and after labour in 10 per cent. Definite changes in the ocular fundus were detected in the majority. Conservative treatment, based upon Stroganoff's method, is favoured by the author, Caesarean section being employed only in exceptional cases.

258 Gonorrhoea of the Rectum

According to N. TEMESVÁRY (*Zentralbl. f. Gynäk.*, December 13th, 1930, p. 3140) gonorrhoea of the rectum was found in one in five women (prostitutes excluded) admitted to hospital for gonorrhoea. Of 261 cases, in 88 the first microscopical examinations, in 70 the second or third, in 55 the fourth to seventh, and in the remainder the eighth to eighteenth revealed the gonococcus in the rectum. Only 5 per cent. had symptoms pointing to affection of the rectum, and gross rectal objective signs were present in but four patients. Treatment, continued conscientiously for an average period of 45 days, is almost certain to be successful. In the morning, after stool, 125 grams of a 2 in 1,000 trypaflavine solution are introduced into the rectum; at night there is injected through a suitable syringe silver nitrate 1 gram, balsam of Peru 10 grams, and yellow vaseline to 100 grams.

Pathology

259 Immunization against Vaccinia by Virus-Serum Mixtures

C. P. RHOADS (*Journ. Exper. Med.*, February, 1931, p. 185) describes the successful immunization of rabbits against vaccinia by the inoculation of neutral mixtures of virus and immune serum. The virus used was a strain of neurovaccine, kept potent by fairly frequent animal passage; it was maintained in the form of a 10 per cent. suspension of rabbit brain. An immune serum was prepared by bleeding rabbits three weeks after recovery from acute pustular vaccinia. In most instances 0.2 c.cm. of serum sufficed to inactivate an equal amount of a 1 in 100 dilution of a virus which gave rise to lesions in a dilution of 1 in 100,000. For purposes of vaccination a 1 in 200 dilution of virus was mixed with immune serum, and the mixture, which gave rise to no reaction when injected intradermally in rabbits, was either instilled into the nose or inoculated subcutaneously. The nasal instillations were given at one-day or two-day intervals until three to five doses had been applied; in the subcutaneous series three injections were given of 2 c.cm. at intervals of four days. Six weeks after the last inoculation the rabbits were tested for immunity by the intradermal inoculation of graded doses of virus. The results showed that, provided the serum was neither under- nor over-neutralized, the virus-serum mixtures produced a satisfactory immunity response. If an excess of serum was present the resulting immunity was slight; if insufficient serum was used, a typically delayed vaccinia lesion appeared when the mixture was inoculated intradermally into a control animal. By suitable mixtures the author has therefore produced immunity in rabbits with no local lesion and only a minimum systemic reaction.

260 Serum Reactions in Carcinoma

O. SIEVERS (*Finska Läkaresällsk. Handlingar*, January, 1931, p. 7) has carried out at the Sero-Bacteriological Laboratory of the University in Helsingfors investigations into the specificity of Hirszfeld's complement-fixation test and Kahn's albumin-A test in relation to carcinoma. In 46.8 per cent. of 62 cases of carcinoma a positive reaction was obtained to Hirszfield's complement-fixation test, which was performed altogether on 296 serums. The reaction was usually negative in those cases in which the carcinoma was of recent origin or superficially situated. It was also negative, as a rule, when the diagnosis of carcinoma was uncertain and in the presence of other types of new growth. In all the 25 Wassermann-positive serums examined the carcinoma reaction was also positive. In certain other cases, with a negative Wassermann reaction but with a history of syphilis, a positive carcinoma reaction was obtained. This reaction was positive, however, in only 10.7 per cent. of the non-syphilitic controls. Kahn's albumin-A reaction was investigated in 341 serums, and was found to be positive in 80.8 per cent. of the cases associated with new growths. When the tumours were small or superficial this reaction was usually negative. Repetitions of the test, when a positive reaction had been obtained to the serum of a tumour case, continued to be consistently positive. Among 233 control cases without new growths, positive reactions were obtained in 30 per cent.; and when some of these tests were repeated the reaction was sometimes negative. Sievers concludes that an albumin-A reaction, which is sometimes positive and sometimes negative in the same case, is suggestive of the absence of a new growth.

261 Etiology of Psittacosis

G. EIGLER (*Zentralbl. f. Bakt.*, February 3rd, 1931, p. 406) describes the finding of a tiny Gram-negative influenza-like cocco-bacillus in the sputum of nineteen patients suffering from psittacosis and in two parrots. During the height of the disease this organism was present in enormous numbers in the sputum, and could be cultivated on blood agar; during convalescence, though it was found in some patients in large numbers, mostly intracellularly, it could not be recovered in culture. The organism would grow only on media containing blood; blood agar and Levinthal's medium were found the most satisfactory. For isolation, blood agar plates were best; on this medium the colonies after twenty-four hours appeared as clear transparent droplets 0.5 mm. in diameter; after two or three days they increased in size, became flatter, and took on a greenish tinge. Injection of parrots with pure cultures of this organism, even in small doses such as 1/100 of a loopful, gave rise as a rule to a fatal disease resembling natural psittacosis. Of great interest was the discovery that pure cultures were able to pass through Berkefeld V and N candles, though not through W candles. In the author's opinion this observation may help to bridge the gap between his findings and those of the English workers who believe that psittacosis is due to a filterable virus.

262 The Bactericidal Power of the Blood in Alcoholism

S. SEGRE and A. ANGYAL (*Giorn. di Batteriol. e Immunol.*, January, 1931, p. 80) examined the bactericidal power of the whole blood and plasma on *B. typhosus* and the cholera vibrio both in normal persons and in alcoholic subjects, and found that the latter showed a marked diminution of this power without there being any numerical change in the leucocyte count. The alcoholic subjects were inmates of an asylum and were mostly suffering from confusional states, hallucinatory psychoses, and tremors, while the controls, though not complete abstainers, were very moderate in their use of alcoholic beverages.

IODINE AND BROMINE DERIVATIVES OF ASPIRIN

With regard to the article in last week's *British Medical Journal* (p. 383), on "The Medicinal Treatment of Chronic Arthritis," we wish to point out that:

"ASPRIODINE" - - - contains over **41% of Iodine,** the balance being the Aspirin radical.

"SEDASPRIN" - - - contains over **30% of Bromine,** the balance being the Aspirin radical.

"METHYL-ASPRIODINE" contains over **39% of Iodine,** and the acidic radical is not Salicylic, but is the Aspirin radical.

It will be seen therefore that "Aspriodine" and "Sedasprin" are not the same chemically as Aspirin, nor is "Methyl-Aspriodine" an equivalent to Methyl Salicylate.

Please write for particulars of these and other Martindale preparations.

W. MARTINDALE, 12, New Cavendish Street, LONDON, W.1

Telephone: LANGHAM 2440. Telegrams: "MARTINDALE, CHEMIST, LONDON."

FELAMINE BRAND SANDOZ

SANDOZ

An association of the most powerful cholagogue—pure crystallised cholic acid—and the classical biliary disinfectant—hexamine, entirely free from accessory substances.

Indications:

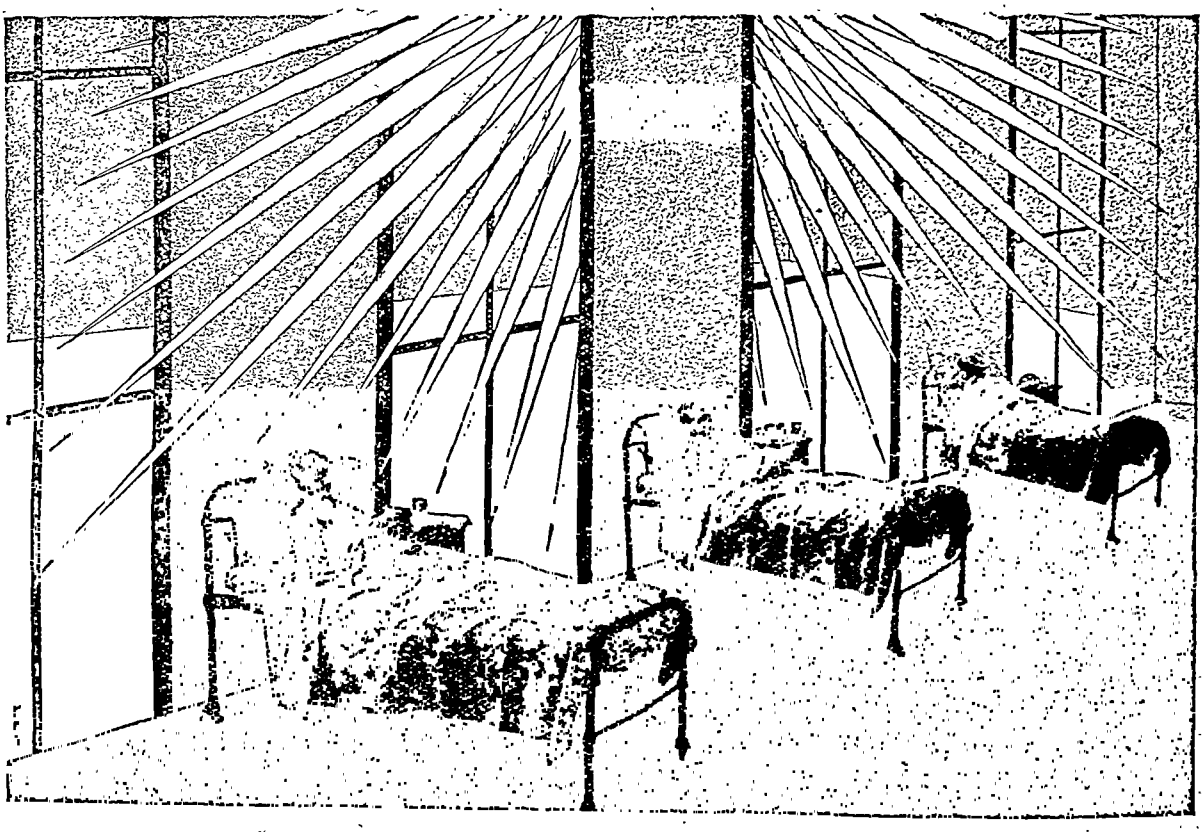
CHOLANGITIS, CHOLECYSTITIS, HEPATIC INSUFFICIENCY, HEPATIC CONGESTION, JAUNDICE, CHRONIC CONSTIPATION.

Felamine is supplied in Bottles of 50 and 250 Tablets.

AGENCY:-

SANDOZ CHEMICAL WORKS PHARMACEUTICAL DEPT.

5, WIGMORE STREET, LONDON. W. 1.



TUBERCULOSIS...
"A disease of houses"

Tuberculosis has been well described as "a disease of houses." Although we cannot hope to cure individual cases of tuberculosis by making our houses healthier we can do much to *prevent* this dread disease by admitting fresh air and "whole" daylight into every kind of building where people live and work indoors.

"Vita" Glass offers the simplest and most practicable means of bringing the ultra-violet rays to indoor workers. Its permanence is guaranteed and the new stabilised prices, from 1/- per square foot, make its cost reasonable whether recommended by the general practitioner for private patients or by the medical officer for buildings under his control.

Write for further particulars to the "Vita" Glass Marketing Board, 9, Crown Works, St. Helens, Lancashire.

"Vita" Glass is obtainable from local Glass Merchants, Plumbers, Glaziers and Builders.

"VITA" GLASS

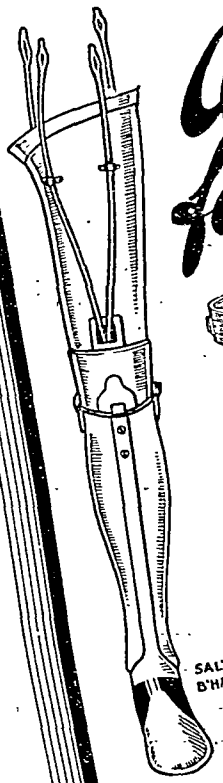
"Vita" is the registered Trade Mark of Pilkington Brothers Limited, St. Helens

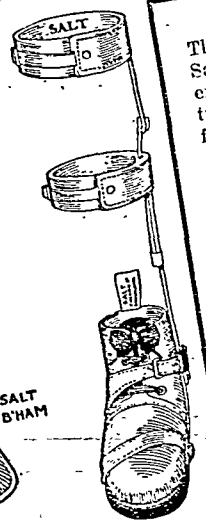
V.126

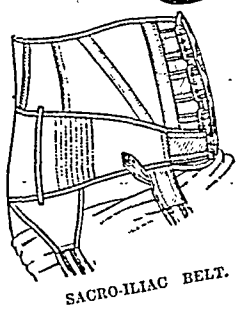
Saltair Surgical Service

SURGICAL SERVICE
SALTAIR

Appliances for every need







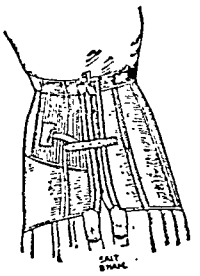
SACRO-ILIAC BELT.

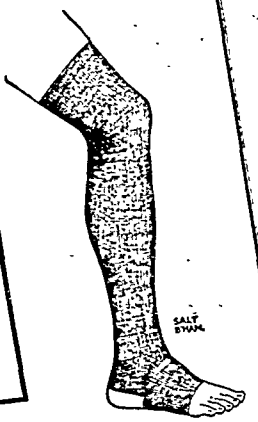
The comprehensiveness of Saltair Surgical Service is exemplified in the variety of types of appliances manufactured.

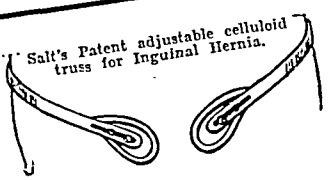
We are constantly adding new types of supports and invite the Medical Profession to co-operate with us in experimenting with new designs—at our expense.

Every appliance is specially made for each individual requirement as prescribed by the attending practitioner and is covered by our Guarantee.

Saltair Surgical Service has co-operated with the Medical Profession since 1793.







Salt's Patent adjustable celluloid truss for Inguinal Hernia.

London Consulting Rooms:
"OAKLEY HOUSE"
14-18, Bloomsbury Street, W.C.1
Female fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

SALT AND SON Ltd.

7, CHERRY ST., BIRMINGHAM

'Phone (B'ham): Mid. 5455. *'Phone (London): Museum 3845.*

DEAF DOCTORS
AND DEAF PATIENTS

have proved "ARDENTE" a boon—a Heart Specialist whose work is so dependent on his hearing writes: *"'Ardente' is a godsend to me"*; without "ARDENTE" he is, to all intents and purposes, "stone" deaf; with "ARDENTE" he carries on his work—what better testimony to "ARDENTE" merit?

Mr. Dent makes a Stethoscope specially for deaf Doctors—the only one of its kind, which is widely used and praised. Doctors whose work lies amongst the deaf prefer to prescribe "ARDENTE" because they know that "ARDENTE" is the only individual method in the whole deaf world (no mass production way can ever succeed with human disabilities) and they know what "ARDENTE" service stands for to the deaf. Many doctors who are deaf use "ARDENTE."

"ARDENTE" is entirely different and uncopyable and succeeds in widely differing cases. A full range covers the needs of those suffering from varying forms and degrees of deafness and tinnitus. Minutely adjusted to the requirements of the case for young, middle-aged, or old, and so sensitive as to have the desired effect even in middle-ear and nerve cases, bringing into action and stimulating the auditory system, enabling it to function naturally and saving atrophy. "ARDENTE" can be used or not at will, and is sold under guarantee.

"ARDENTE" is the choice of Doctor and patient—only after test and hearing, or from prescription or particulars, is "ARDENTE" fitted, toned, tried, adjusted, supplied, and serviced.

Tests and demonstrations given at Doctors', patients' or our addresses, without fee or obligation.

MR R.H.DENT'S **ArdenTE** FOR DEAF EARS

309, OXFORD STREET, LONDON, W.1

(Midway between Oxford Circus & Bond Street). *Telephone:* MAYFAIR 1380/1718.

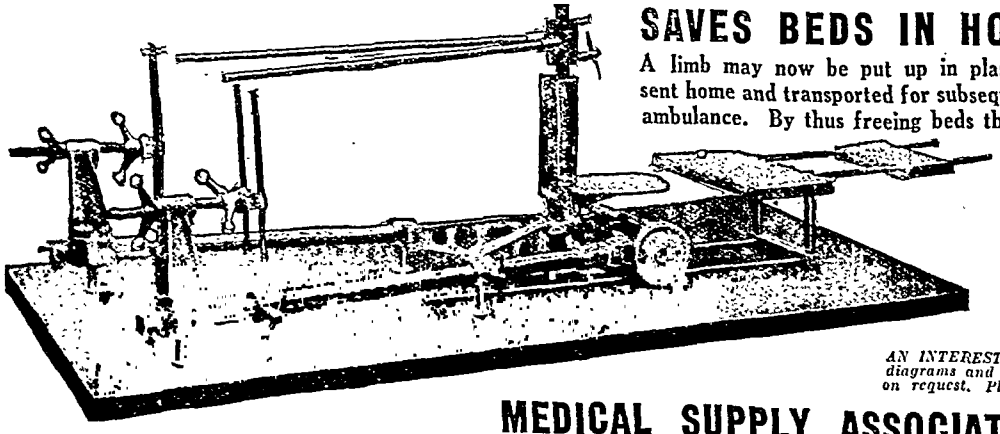
9, Duke Street, CARDIFF.
118, New Street, BIRMINGHAM.
27, King Street, MANCHESTER.
37, Jameson Street, HULL.
271, High Street, EXETER.
64, Park Street, BRISTOL.
23, Blackett Street, NEWCASTLE.
206, Sauchiehall Street, GLASGOW.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.

An IMPROVED and MODIFIED
Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

167/185, Gray's Inn Road, LONDON, W.C.1.
12, Holly Street, SHEFFIELD.
10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines).

LIFT TO FITTING ROOMS
Competent Assistants

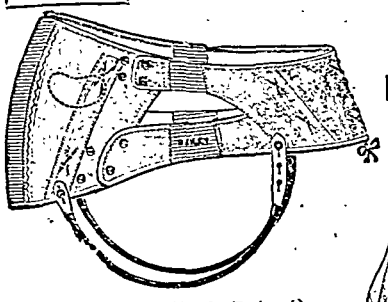
W. H. BAILEY & SON

45, OXFORD STREET, LONDON, W.1.

SPECIALISTS IN ABDOMINAL BELTS, TRUSSES, AND ELASTIC STOCKINGS.

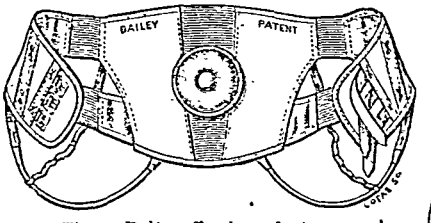
WRITE FOR CATALOGUE
Sent post free

BAILEY'S PATENT BELTS



No. 5a. BELT (Bailey's Patent) FOR FLOATING KIDNEY.

No. 4 BELT (Bailey's Patent) FOR UMBILICAL HERNIA.



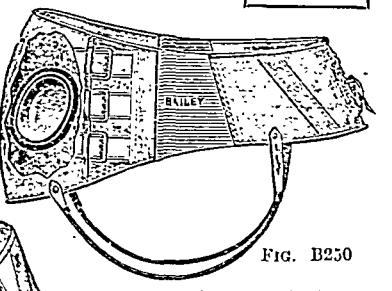


FIG. B250
(Showing Interior of Cup.)
SPECIAL BELT FOR AFTER COLOSTOMY.

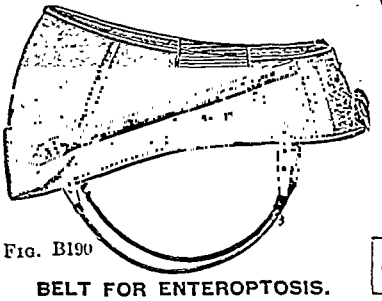
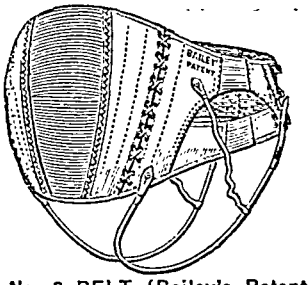


FIG. B190
BELT FOR ENTEROPTOSIS.

These Belts afford perfect general support to the Abdominal Parietes, and can be fitted with any kind of pad suitable to the hernia aperture.

SPECIAL DEPARTMENT FOR LADIES
LIFT ON THE PREMISES.

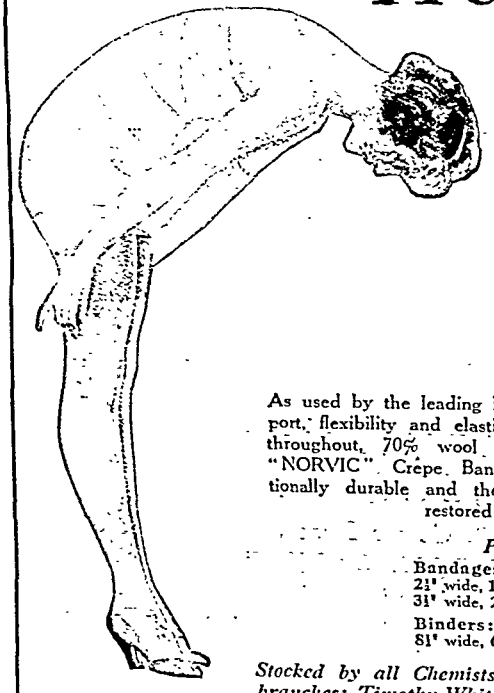
Telephone: Gerr. 3185 „ 2313
CATALOGUE FREE ON APPLICATION.
Telegrams: "Bayleaf, London."



No. 2 BELT (Bailey's Patent) FOR PREGNANCY.

Prescribe

NORVIC Regd CRÊPE BANDAGES *and* BINDERS



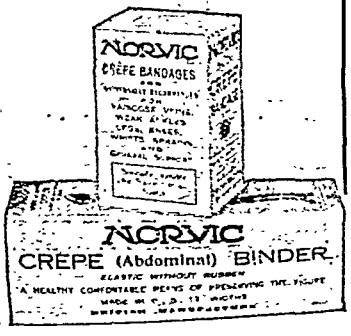
As used by the leading hospitals in all cases where support, flexibility and elasticity are needed. British made throughout, 70% wool quality and fully guaranteed, "NORVIC" Crepe Bandages and Binders are exceptionally durable and their elastic properties are easily restored by washing.

PRICES.

Bandages:—2" wide, 1/6; 2½" wide, 1/11; 3" wide, 2/3; 3½" wide, 2/8; 4" wide, 3/-.

Binders:—6" wide, 4/6; 8½" wide, 6/-; 11" wide, 8/3.

Stocked by all Chemists and Druggists, Boots 904 branches; Timothy White, Ltd.; Taylors Drug Stores; and Parkes Chemists, Ltd.



WITHOUT OFFENCE

The Collection of Overdue Accounts

MEMBER'S STATEMENT: *Gloucester, 19-1-31.*

Dear Sir,

I enclose cheque for £1-8-0, balance of my second Annual Subscription due to the Society.

I wish to thank you for the work you have done for me.

DEBTOR'S STATEMENT: *Halifax, 21-11-30.*

Dear Sir,

I enclose postal orders to close the account. May I congratulate you on your method; it almost makes it a pleasure to pay.

Your visiting card marked "B" placed in an envelope will produce all information

Telephones: Langham 1411-1412. Secretary: N. Rutherford Watson.

THE BRITISH MEDICAL PROTECTION SOCIETY

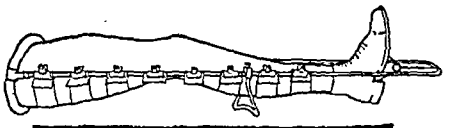
(B.M.P.S. Ltd.) Established 1891.

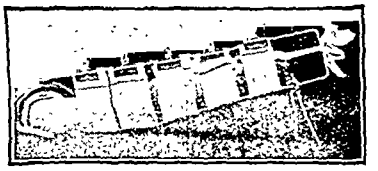
26, Langham Street, Portland Place, London, W.1

All Medical Institutions and Nursing Homes are included in our scope.

The most modern method of accurate extension and safe transport is provided by

COLLENDER'S SPLINTS





(Patented in the leading countries of the world.)

An evolution of the Thomas splint, preserving all its advantages with many improvements.

Invaluable for Hospital, Emergency, and District Surgeons' work. Indispensable for Mines, Ranches, Lumber Camps, Railways, Shipping Cos., and all places remote from surgical aid. *Made of Duralumin*, untarnishable, light, and of great tensile strength. All parts interchangeable. Complete splints constructed in a few minutes for limbs of any dimensions. Sufficient members to accommodate ten fractures simultaneously. Supplied in strong fitted case.

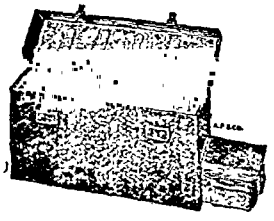
Write for full descriptive booklet, post free.

WATSON BAKER COMPANY, WEST END LANE, BARNET, HERTS, ENGLAND

A. FLEMING & CO. (Dept. "A"), 39, Victoria Street, LONDON, S.W.1. Tel: Victoria 4677.

SURGICAL INSTRUMENTS, FURNITURE, AND APPLIANCES.

BEST QUALITY. LOWEST PRICES.



SURGICAL "ATTACHE" CASE, in black or brown cowhide, overall size 17¾in. x 10¼in. x 5in., with side pocket for 16in. sterilizer as illustrated. Complete with removable lining, with loops for instruments and top compartment for bottles, etc. Price for case only . . 45/-

SURGICAL "ATTACHE" CASE, in black or brown cowhide, overall size 17¾in. x 10¼in. x 5in. [illegible] fall . . two . . for 1 . . tray for bottles and sundries. Price for case only . . 40/-

INSPECTION CORDIALLY INVITED. NO OBLIGATION TO PURCHASE.

COMPLETE PRICE LIST, INCLUDING ENORMOUS RANGE BRAND-NEW GOVERNMENT SURPLUS INSTRUMENTS AND APPLIANCES. POST FREE.

MIDWIFERY OUTFITS.

COMPRISING: MIDWIFERY BAG, ATTACHE CASE PATTERN, brown cowhide, size 17 in. x 10 in. x 8 in., removable washable lining, with loop for instruments, etc. Two separate compartments at side to take bottle rack and sterilizer. Case with bottle rack only ... ... £2. 12. 6.

STERILIZER FOR BAG, SEAMLESS BOILER, heavily nickel-plated, with folding stand and lamp. *Size* 16 in. x 4 in. x 3¾ in. ... ... £1. 12. 6.

*Axis Traction Forcep, Neville's	... ...	35/-	*Uterine Forcep 6/-
*Catheter, Female, Metal	...	1/-	*Vulsellum Forcep 2/6
*Perforator, Denman's	...	8/6	*Schimmelbusch Mask 8/6
*Playfair's Probe	... ...	1/9	*Pelvimeter, Collins 2/3
*6 x 1 oz. Botts. in Cases	...	16/6	*Sound, Sims 2/3
*Uterine Tube, Boozemann's	..	4/6	*Ovum, Forceps, Greenhalgh's 7/-
*Blunt Hook and Crochet	...	3/3	*Perineum Needle 4/9
			*Chloroform Drop Bottle .. 3/3

THE COMPLETE OUTFIT as described above £9 . 7 . 6

**Indicates Foreign Origin. All Items Supplied at Individual Prices as Quoted*

QUOTATIONS FOR BRITISH-MADE GOODS ON APPLICATION.

COMPETITIVE QUOTATIONS GIVEN FOR ALL YOUR NEEDS. VISIT OUR SHOWROOMS AND SELECT YOUR REQUIREMENTS.

ARE YOU SATISFIED with YOUR BOOK-KEEPING SYSTEM?

LEWIS'S CARD INDEX SYSTEM is the simplest and most practical.

It is an efficient and increasingly popular one.

Sample Cards and Particulars sent post free on application.

H. K. LEWIS & CO. LTD. (MEDICAL STATIONERY DEPT.), 136, Gower Street, London, W.C.1

FOR SUCCESSFUL VACCINATION USE CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens to H.M. the King* 76, NEW BOND STREET, LONDON, W.1

Telephone: Mayfair 4173—4.

PERMANENT ALL SICKNESS AND ACCIDENT INSURANCE
FOR MEDICAL MEN
AT THE LOWEST RATES

The following specimen rates show the cost of each guinea per week payable during total incapacity arising from any form of Sickness or Accident, except those due to the wilful misconduct of the insured.

The full sum insured is payable for the first 26 weeks, and thereafter half that amount so long as the total incapacity lasts, up to the age of 65.

Age 25, £1 : 12 : 8	Age 35, £2 : 1 : 0
„ 30, £1 : 16 : 5	„ 40, £2 : 6 : 7

A Reversionary Bonus of 15/- per guinea per annum was declared on these Policies at the last valuation.

SICKNESS FUND exceeds £370,000

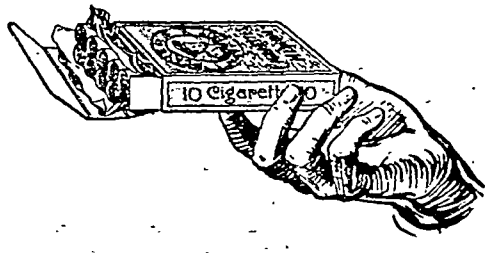
Write for full particulars and Booklet "B. 17" to the Manager and Secretary,

The MEDICAL SICKNESS, ANNUITY, & LIFE ASSURANCE SOCIETY, Ltd.

300, HIGH HOLBORN, LONDON, W.C.1.

Have one of mine!

Smokers of good taste offer their friends a full value cigarette



PLAYER'S
GIVE
FULL VALUE

10 for 6D 20 for 11½D

NCC.19b.

"HOMMEL'S HAEMATOGEN"

A natural organic TONIC associated with nourishing albuminous proteids.

AN EFFICACIOUS REMEDY IN ALL FORMS OF ANAEMIA

associated with constitutional diseases.

Obtainable in Syrup *and* Tablets.

"SEDIN"

Nervinum-Sedativum

Consisting of

Pot. Brom.	0.4	gramme	(grains 6½ approx.)
Sod. „	0.4	„	(grains 6½ approx.)
Ammon.„	0.2	„	(grains 3 approx.)
Salt „	0.1	„	

combined with Vegetable Extract in form of soup tablets. (A disguised dietetic form.)

Samples free and carriage paid on application to—

HOMMEL'S HAEMATOGEN & DRUG CO., 121, Norwood Road, Herne Hill, London, S.E.2

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is contra-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A anacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Klinick (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

"STERULES" Regd.

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

Telegrams: "MARTINDALE, CHEMIST, LONDON." Telephone: LANGHAM 2440.

The Ideal Laxative

REGULOL REGD.

"REGULOL" IS AVAILABLE IN TWO FORMS: "PLAIN" or "COMPOUND." The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient

CUXSON, GERRARD & Co., Ltd.

Oldbury, *Birmingham.*

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

SAMPLE 1-lb. JAR FREE ON REQUEST.

Please indicate whether Plain or Compound is required.

(This offer is limited to the British Isles.)

Purity, Activity and Stability

INSULIN "A.B."

TRADE MARK **Brand**

The world-wide supremacy of Insulin 'A.B.' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions.

Supplied in three strengths:

20 units per c.c. Packed in bottles containing:
5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing:
5 c.c. (200 units or 20 doses) 4/- each

80 units per c.c. Packed in bottles containing:
5 c.c. (400 units) - - - 8/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession.

Joint Licencees and Manufacturers:

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

The British Drug Houses Ltd.
Graham Street, London, N.1

"TRILACTINE"

(R.T.M.)

A good Lactic Acid Bacillus preparation for the treatment of

CONSTIPATION, COLITIS,

and many intestinal infections.

"Trilactine" Tablets for taking with sugar, or for making curdled milk at home, are supplied in boxes of 48, 4/-.

W. MARTINDALE, 12, New Cavendish Street, LONDON, W.1.

Telephone: LANGHAM 2440. Telegrams: "MARTINDALE, CHEMIST, LONDON."

BANTAM Coffee

Bantam Coffee is prepared from the finest selected Empire grown beans which are powdered and all the waste grounds extracted so that it dissolves instantly and completely when hot water or milk is added. A little Bantam Coffee dropped in a glass of warm milk makes a very palatable beverage. Bantam Coffee is absolutely free from adulterants and has been awarded the certificate of the Institute of Hygiene.

A 2/- tin yields 50 cups of delicious coffee.

Dept. 68. BANTAM PRODUCTS LTD., LEEDS.

Samples for testing will be sent on application.

Vapo-Cresolene
Est. 1879
Sold by all Chemists

Write for descriptive Booklet No. 29.

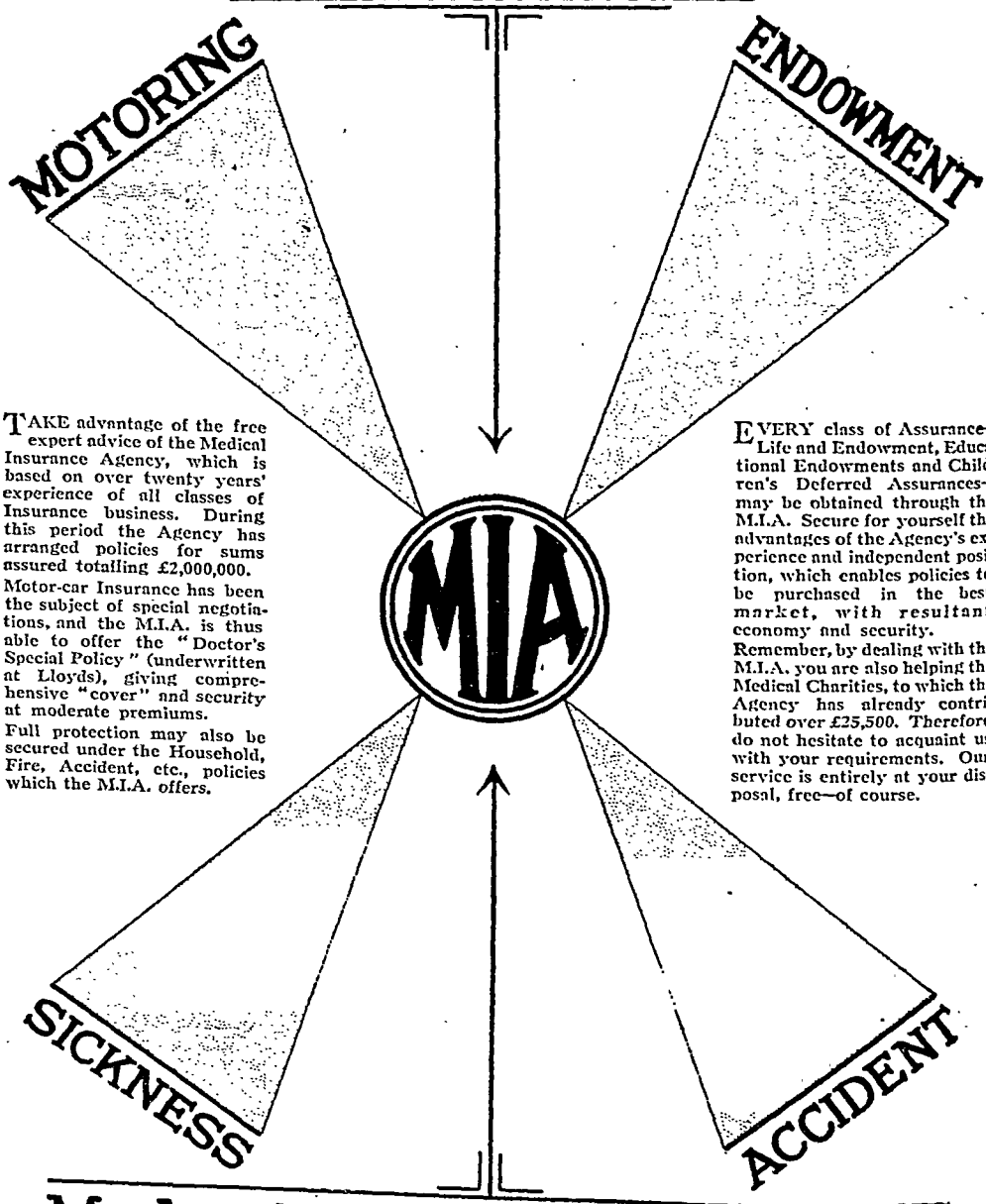
ALLEN & HANBURYS, LTD. :: :: Lombard Street, London, E.C.3.

ASTHMA

There are certain types of chronic asthmatics who require relief of their paroxysms. While adrenaline is generally effective, it must be given hypodermically, and its action is short lived. Vapo-Cresolene (specially prepared cresols of coal tar) vaporized in the bedroom at night will give the desired relief. The patient is not disturbed as he breathes the medicated air of the bedroom.

This antiseptic vapour is particularly effective in bronchial ailments accompanied with cough and difficult breathing—as bronchitis, whooping cough, spasmodic croup.

Insurance



TAKE advantage of the free expert advice of the Medical Insurance Agency, which is based on over twenty years' experience of all classes of Insurance business. During this period the Agency has arranged policies for sums assured totalling £2,000,000.

Motor-car Insurance has been the subject of special negotiations, and the M.I.A. is thus able to offer the "Doctor's Special Policy" (underwritten at Lloyds), giving comprehensive "cover" and security at moderate premiums.

Full protection may also be secured under the Household, Fire, Accident, etc., policies which the M.I.A. offers.

EVERY class of Assurance—Life and Endowment, Educational Endowments and Children's Deferred Assurances—may be obtained through the M.I.A. Secure for yourself the advantages of the Agency's experience and independent position, which enables policies to be purchased in the best market, with resultant economy and security.

Remember, by dealing with the M.I.A. you are also helping the Medical Charities, to which the Agency has already contributed over £25,500. Therefore do not hesitate to acquaint us with your requirements. Our service is entirely at your disposal, free—of course.

Medical Insurance Agency (LTD).

c/o B.M.A House, Tavistock Square, London, W.C.1. &
c/o B.M.A House, 7. Drumsheugh Gardens, Edinburgh

Which Exists to Protect Your Interests & Save Your Money.

ANTIQUE AND MODERN
HIGH-CLASS SECOND-HAND
FURNITURE
FOR IMMEDIATE DISPOSAL.

THE ENTIRE VALUABLE CONTENTS OF SEVERAL NOTABLE MANSIONS, Town and Country Residences, Flats, etc., removed for convenience of sale, including many important items from the following collections.

LANSDOWN HOUSE.
THE PRINCESS PALEY (Paley Palace).
SIR FREDERICK CHARLES HOLIDAY (Decd.).
MARY ANNA DUCHESS OF ABERCORN (Decd.).
THE THIRD EARL OF DURHAM (Decd.).

THE MAGNIFICENT BEDROOM APPOINTMENTS comprise: 500 Complete Suites in English Walnut, Finely Figured Mahogany, Cream, Green, and Black Lacquer, Painted and Figured Satinwood. Fine Oak, ranging in price from £4 10s. to 250 Guineas per suite, many of which originally cost over double, including a special offer of 36 only Club Bedroom Suites in Solid Oak, with Bedsteads complete, £4 10s. set.

GENUINE ANTIQUE FOUR-POST BEDSTEADS, Tallboy and shaped front Chests, Sofa Tables, Corner and other Washstands, Toilet Mirrors, and numerous Dressing Tables, Bow-front Wardrobes, etc. Several Fitted Gentlemen's Wardrobes offered at £4 each.

5,000 CARPETS AND RUGS, including fine Persian, Turkey, Wilton, Axminster, Chinese, and Aubusson, including a large salvage stock now being offered at remarkable bargain prices. A quantity of fine Pile Carpet at 2s. 9d. per yard, together with a large number of Seamless Squares in various designs and colourings from 21s. each.

750 SETTEES AND LOUNGE EASY CHAIRS, some covered Morocco Leather, Tapestry, rich Silk, Hide, etc., removed from a large West End Club and Hotel. A large quantity covered Plain Art Repp, all being of excellent quality and in all cases equal to new. Small Lounge Easy Chairs offered at 21s. each, several in Real Hide, £3 3s. each. Large Club Lounge Chairs, £4 17s. 6d. to 12 gns. Well-made softly-sprung Chesterfield Settees, 3 gns.; and a large quantity of Chesterfield Settees with Loose Pillow Backs and Seats, ranging from £7 15s. to 25 gns.

THE MAGNIFICENT DINING ROOMS, LOUNGES, LIBRARIES, and HALLS comprise a wonderful collection of all periods, Early Tudor, Queen Anne, Chippendale, Hepplewhite, Adams, and Sheraton, in Oak, Mahogany, and Walnut. Complete Dining Room Suites, comprising Sideboard, Set of Chairs, and Dining Tables, being offered for 10 Guineas set, whilst the more elaborate suites range from 25 Guineas to 300 Guineas, many of these exquisite sets having cost over treble the price now asked to clear. Special attention is called to A quantity of Cottage Wheelback Chairs offered at 6s. 9d. each.

A LARGE NUMBER OF PIANOFORTES by eminent makers, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, important collection of Statuary, Pictures, Silver and Sheffield Plate, quantity of fine old Cut Glass, Bed and Table Linen, a large quantity of Office Furniture, including Iron Safes, Roll-top Desks, Pedestal Desks, Bookcases, etc., etc.

PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F.) POST FREE.

ON SALE DAILY, 9 till 7. Any item may be purchased separately, and can remain warehoused free for 12 months or delivered to any part.

SETTLEMENT OF ACCOUNTS CAN BE ARRANGED TO SUIT CUSTOMER'S CONVENIENCE.

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.
(By Royal Appointment to H.M. the King of Spain.)
PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1.
(Within Ten minutes of West End.)
'Phone: North 3580.

ALLIANCE DRUG & CHEMICAL CO.
10, Beer Lane, Gt. Tower St., E.C.3.
Telephone: ROYAL 5885.
Tel. Address: "NALTROT," BILGATE, LONDON.
Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulae as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Lassar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Lin. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/8 lb.
Chloroform Pur., 8 lb. @ 3/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero-Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosp. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillae, B.P., 7 lb. @ 8d. lb.
Sennae, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.
We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Blaud's (Sugar-coated), gr. 5...	3/10
Nitroglycerini, B.P., gr. 1-50th	5/-
Perchloride of Mercury (Coloured)... ...	15/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000.	
Thyroid Gland, gr. 5	12/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.

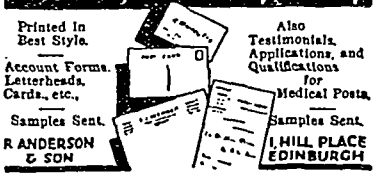
	B.P. Aquos.	B.P. Aquos.
Belladon. ...	4/3	1/6
Benzoin Co. ...	4/7	—
Camph. Co. ...	3/-	1/6
Card. Co. ...	2/6	1/6
Gentianæ Co.	2/8	1/6
Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.		
" Hydrarg., B.P., 7 lb. @ 4/2 lb.		
" " Ammon., 7 lb. @ 1/11 lb.		
" Ichtamoli, B.P.C., 7 lb. @ 1/10 lb.		
" Zinci Ox., Benz., 28 lb. @ 1/- lb.		

Hyoscyam. ... 4/3 2/4
Nucis. Vom. 3/10 1/4
Opii 5/3 4/3
Quin. Ammon. 3/3 —
Rhei Co. ... 2/8 1/9

*Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

FROGS
Can supply any quantity all the year round at 4/6 dozen.
Can supply cheap—Rats, Mice, Guinea Pigs, Birds, and Animals of all descriptions. Lampreys, Crayfish, Axolotls, etc.
WATERLOO GOLDFISHERY CO., Dept. B.M.J., 47, Gt. Guildford Street, Borough, S.E.1.
'Phone: HOP 1712.

NAME PLATES
FOR THE PROFESSION.
Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.
Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.
With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE.
COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

Doctors' Ass Forms a Speciality

Printed in Best Style.
Account Forms. Letterheads. Cards, etc.,
Samples Sent.
Also Testimonials, Applications, and Qualifications for Medical Posts,
Samples Sent.
R ANDERSON & SON
1 HILL PLACE EDINBURGH

A Gentleman Always Looks Well Dressed in Savile Row Clothes.
NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.:—DAVIES & SON, LESLEY & ROBERTS, SCHOLTE, &c. OVERCOATS, LOUNGE, DRESS, SPORTS SUITS, &c., 4 to 9 Gns.
Alterations on Premises.
REGENT DRESS CO., Piccadilly Mansions, 17, Shaftesbury Avenue, Piccadilly Circus, W.1. (Next door to Cafe Monico.) Gerrard 7611
Ladies' Department on First Floor.

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

HOME FOR FEEBLE-MINDED,
BRUNTON HOUSE, LANCASTER.
This well-appointed private establishment overlooks Morecambe Bay, and possesses extensive gardens and grounds, with tennis and croquet lawns. Varied scholastic and manual instruction. Individual attention given by experienced staff under Lady Matron. For terms apply, Dr. W. H. COUPLAND, Med. Supt.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 3417.)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.; 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 150.

Bishopstone House, Bedford.
PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone:* 2708.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

MATLOCK

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.
BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. 'Phone: PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY
DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others *for the study and treatment of alcohol and drug abuse*. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For *particulars apply* to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

INEBRIETY
ECCLESFIELD, ASHFORD, MIDDLESEX.

(*Also private address to secure secrecy.*) Telephone: 158.

Beautiful large Residential Home, with 50 *acres of park land*, attached to R.C. Convent, and under the care of the Sisters. Established 1899. Most successful MEDICAL and PSYCHOLOGICAL TREATMENT for LADIES. Every home comfort, and bright happy social amusements. Splendid results proved by the numbers of former patients who return to the *Home for holiday visits*.

Medical Superintendent: J. YOUNG SCOTT, M.B., Ch.B., and J. KENNEDY.

SHAFTESBURY HOUSE,
FORMBY-BY-THE-SEA, nr. LIVERPOOL.

For the care and treatment of a limited number of Ladies and Gentlemen suffering from NERVOUS or MENTAL breakdown. Voluntary Boarders received. Psychotherapy in suitable cases if desired. Terms moderate. Apply, RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

ALCOHOLISM
DRUG ADDICTION & NEURASTHENIA
CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above *afflictions* is carried out on the most modern scientific principles, both *physical and psychological*, under the supervision of the Res. Med. Supt., Dr A. E. Carver, M.D., D.P.M. *Fees moderate*. Further particulars *from the Central Sec.*, 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

ST. ALBANS, HERTS.
(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for *treatment* at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly. Particulars from the MEDICAL SUPT.

THE MOAT HOUSE,
TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

BOURNEMOUTH.
West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,
MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern *treatment*—*rest cures*, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Mr. TAYLOR STYLES. Tel.: 1599.

THE GRANGE,
near ROTHERHAM.

A HOUSE Licensed for the *reception* of a *limited* number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with [illegible] park, 5 miles from [illegible] Lane, L. & N.E. Rail [illegible] No. 40030 Ecclesfie[illegible]

GILBERT E. MOULD, L.R.C.P., M.R.C.S.

CLARENCE LODGE,
CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed *private* house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone*: Brixton 0494. Apply, MISS THWAITES.

Accouchement. — Lady receives confidential CASES; strict private [illegible] fortable, [illegible] Central [illegible] Nurse. [illegible] 1532, B. Com. biton. M.B. No. C.1

ALCOHOLISM & OTHER DRUG HABITS.
THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The *Norwood Sanatorium*, and author of "*Alcoholism*," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE,"
CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

BROOKE HOUSE,
CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

BOREATTON PARK,
BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.

All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.

IDEAL HEALTH RESORT.

Electric Light, Central Heating, Electric *Lift*, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine *Balcony* on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.

Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

STRETTON HOUSE,
Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or *Nervous* Illness, including the allied disorders of Alcoholism and the Drug Habit. All *types* of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2158.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

ALCOHOLISM AND DRUG HABITS.
ALBION HOUSE,
BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

Grove House, All Stretton,
Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally *afflicted*. Climate healthy and bracing.

Medical Superintendent: Dr. MCCLINTOCK.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE,
PINNER,
MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most *modern kind is carried out under the* personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 481 GATLEY.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

BAILBROOK HOUSE,
BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician.
Telephone No.: Batheaston 8189.

CITY OF LONDON MENTAL HOSPITAL,
DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and *pathological* examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary *boarders* can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy *Douche, Scotch Douche, Electrical bath, Plombières treatment*, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the *Hospital from the farm*, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully *situated in a Park* of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. *Voluntary Boarders or Patients* may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there *are cricket grounds*, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf-courses, and bowling greens. Ladies and gentlemen have their own gardens, and *facilities are provided* for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from *London*. *Both* sexes are accommodated. Psychotherapeutic treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport Pagnell 121.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. *Self-supported by its own farm and gardens*, in which patients are encouraged to occupy themselves. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.

Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

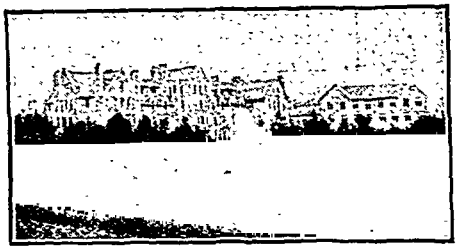
CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

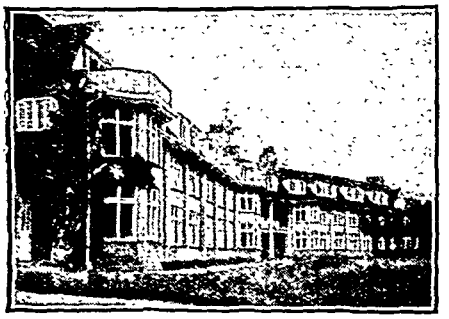
FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

EAST ANGLIAN SANATORIUM.



This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated pr
Anglian Sanatorium, Nayland, near

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4½ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), R. M. Bremner, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1901. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray Plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 6s. 8d. to £6 6s. per week inclusive, no extras.

MEDICAL SUPT.: FELIX SAVY, M.D. *For particulars apply to the Secretary.*

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

THE COTSWOLD SANATORIUM

Specially built in 1893 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 600 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIMPLIP."

ITALIAN HEALTH RESORTS

IN WINTER AND EARLY SPRING there are, in Italy, more SUNNY and WARM RESORTS and SPAS than in any other country in Europe. Many of them have the best all-round climatic conditions to be found in Europe.

IN SUMMER AND AUTUMN. The greater part of Italy is more pleasant in Summer than at any other Season of the year. There are HUNDREDS of DELIGHTFUL ALPINE, DOLOMITE, LAKE and SEA-SIDE RESORTS.

THE SPAS OF ITALY are world famous for their 'cures,' and besides those having seasons in the Spring, Summer, and Autumn there are many that have a pleasant Winter climate.

ENIT ALL THE YEAR ROUND ENIT

The Medical Profession are notified that the Director of the

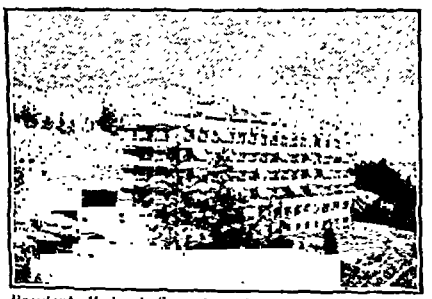
STRONGEST RADIUM MINERAL SPRINGS IN THE WORLD

BAD BRAMBACH, SAXONY,

will be in London from March 16th to 21st, at Thos. Cook & Son, Berkeley Street, daily from 11 a.m. to 1 p.m., and 3 p.m. to 5 p.m., to give information about the Cures and Waters. Mr. A. Hayer will be pleased to call on any Physician by appointment. The Spa is famous for remarkable Cures of High Blood Pressure, Gout, Rheumatism, Sciatica, Arterio-sclerosis, Nerves, etc., etc.

For appointments please apply to Mr. A. HAYER, Claridges Hotel.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana

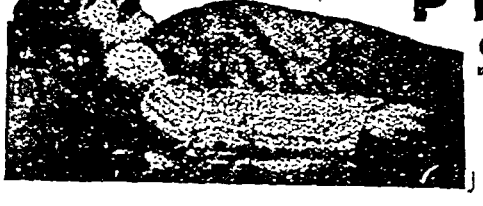
Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

THE TREATMENT OF RHEUMATOID ARTHRITIS

THIS disease, which the medical man is increasingly called upon to combat, may be successfully treated by the correct application of Pistany radio-active Mud Packs.

The packs can be applied in the patient's own home if necessary, and the treatment may be successfully combined with other physio-therapeutic methods.

Pistany (Czecho-Slovakia) offers the most effective treatment for the cure of rheumatoid arthritis. The properties of Pistany's hot volcanic soft mud are quite peculiar. During the season over 26,000 visitors go to this picturesque Spa, and statistics show that of 100% of patients, only less than 5% do not respond to the treatment—30% are completely relieved and 65% are considerably improved. Home treatment can never supersede the cure at the Spa.



PISTANY SPA, CZECHO-SLOVAKIA

36 HOURS FROM LONDON.

Medical and tourist literature from

PISTANY SPA REPRESENTATION, McClure, Young & Co., Ltd., 38, Sackville St., London, W.1. 'Phone: *Regent* 2638.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

M.D. THESIS

All Universities.

Skilled coaching, guidance, and advice, by specialist tutors.

Recent successes include Gold Medals at M.D. Edinburgh, 1929 and 1930, and at M.D. Belfast, 1930, and many "High Commendations" and "Commendations" at other Universities.

Write for free booklet "How to Write a Thesis for the M.D. degree."

M.D. LONDON

Courses by skilled tutors for each branch of the M.D. London.

Oral, clinical, and practical work arranged.

Special courses, postal, oral, and clinical, for all higher medical examinations, M.R.C.P. London, Edinburgh, F.R.F.P.S. Glasgow. Many successes.

Write for free booklet "Guide to the M.D. London" to the Secretary, Medical Correspondence College, 19, Welbeck Street, London, W.1.

UNIVERSITY OF EDINBURGH.

Principal—Sir THOMAS H. HOLLAND, K.C.S.I., K.C.I.E.

The WINTER SESSION, 1931-32, opens on October 6th and closes on March 18th.
The SUMMER SESSION, 1932, opens on April 19th and closes on July 1st.

FACULTY OF MEDICINE.

Dean—Professor J. LORRAIN SMITH, M.A., M.D., LL.D., F.R.S.

The Faculty embraces 18 Professors and 80 Lecturers, and attached to these there are about 40 Assistants and Demonstrators. Instruction is given in all the main branches of Medical Science, viz.:—

PROFESSORS.

Chemistry—George Barger, D.Sc., F.R.S.
Zoology—J. H. Ashworth, D.Sc., F.R.S.
Botany—Wm. Wright Smith, M.A., F.R.S.
Anatomy—Arthur Robinson, M.D.
Physiology—Sir E. Sharpey-Schafer, LL.D., F.R.S.
Materia Medica—Alfred J. Clark, M.C., M.D., F.R.C.P.
Pathology—J. Lorrain Smith, M.D., LL.D., F.R.S.
Bacteriology—Thomas Jones Mackie, M.D.
Forensic Medicine—Sydney A. Smith, M.D., D.P.H.
Public Health—Percy Samuel Lelean, C.B., C.M.G., F.R.C.S.
Medicine—W. T. Ritchie, M.D.
Surgery—D. P. D. Wilkie, M.D., Ch.M.
Johnstone, M.A., M.D.
M., M.D.
M.D., W. T. Ritchie, M.D., and
p, M.D.
Therapeutics—David Murray Lyon, M.D.
Psychiatry—George M. Robertson, M.D.

LECTURERS.

Anatomy—E. B. Jamieson, M.D.
Applied Anatomy—F. E. Jardine, M.B.
Histology—May L. Cameron, M.A., B.Sc., M.B.
Biochemistry—Philip Eggleton, M.Sc., D.Sc.
Biophysics—W. A. Bain, B.Sc.
Physiology of the Nervous System—A. Ninian Bruce, M.D., D.Sc.
Materia Medica—C. M. Scott, M.B., Ph.D.
Pathology—Theodore Rettie, D.Sc., W. G. Millar, M.B.
Morbid Anatomy—J. Davidson, M.B.
Bacteriology—D. G. S. McLachlan, M.B., J. M. Alston, M.B.
Physics—G. A. Carse, M.A., D.Sc.
Chemistry—Edgar Stedman, B.Sc., Ph.D., C. P. Stewart, M.Sc., Ph.D., Ellen Stedman, M.Sc.
Tropical Diseases—Lt.-Col. E. D. W. Greig, C.I.E., M.D.
Medical Entomology and Parasitology—J. H. Ashworth, D.Sc., F.R.S., A. E. Cameron, M.A., D.Sc., T. W. M. Cameron, D.Sc.
Tropical Hygiene—J. du P. Langrishe, D.S.O., M.B., B.Ch. (conjointly with Professor).
Public Health—John Guy, M.D.
Medicine—J. G. McCrie, M.B.
Surgery—J. J. M. Shaw, M.A., M.D.
Clinical Instruction in Infectious Fevers—Alexander James, M.D., W. T. Benson, M.D.
History of Medicine—J. D. Comrie, M.A., B.Sc., M.D.
Surgical Pathology—K. Paterson Brown, M.B.
Venereal Diseases—David Lees, D.S.O., M.B.
Psychology—J. Drever, M.A., B.Sc., D.Phil.
L.B., D.M.R.E.
is, M.D.
M.B.
M.B.
B.Sc.
M.B.
stone, M.D., James Young, M.D., H. S. Davidson, M.B., Douglas Miller, M.D., W. F. T. Haultain, M.B., E. C. Fahmy, M.B., John Sturrock, M.B., Clifford Kennedy, M.B.
Clinical Instruction in Diseases of Children—Charles McNeil, M.D., N. S. Carmichael, M.B., Ch.B., L. H. F. Thatcher, M.D., Gertrude Herzfeld, M.B., and Norman Dott, M.B.

CLINICAL TEACHING STAFF, ROYAL INFIRMARY.

Clinical Surgery—Geo. L. Chiene, M.B., W. J. Stuart, M.B., J. W. Struthers, M.B., D. P. D. Wilkie, M.D., Ch.M., Henry Wade, M.D., John Fraser, M.D., Ch.M., J. M. Graham, Ch.M.
Clinical Medicine—D. Chalmers Watson, M.D., Edwin Bramwell, M.D., Edwin Matthew, M.D., W. T. Ritchie, M.D., John Eason, M.D., D. Murray Lyon, M.D., J. D. Comrie, M.D., Alex. Goodall, M.D.
Clinical Gynaecology—R. W. Johnstone, M.D., H. S. Davidson, M.B., James Young, M.D., W. F. T. Haultain, M.B., Douglas Miller, M.D. E. C. Fahmy, M.D.
Diseases of the Larynx, Ear, and Nose—John S. Fraser, M.B., J. D. Lithgow, M.B., W. T. Gardiner, M.B., G. Ewart Martin, M.B.
Diseases of the Skin—Fredk. Gardiner, M.D., R. Cranston Low, M.D., Robert Aitken, M.D., G. H. Percival, M.B., Ph.D.
Diseases of the Eye—A. H. H. Sinclair, M.D., H. M. Traquair, M.D., E. H. Cameron, M.B., C. W. Graham, M.B.

Practical Instruction is afforded, under the superintendence of the Professors, in Laboratories with the necessary appliances, and in Tutorial and Practical Classes connected with the above Chairs, and opportunities are afforded to Students to extend their practical knowledge and engage in original research.

Opportunities for Hospital Practice are afforded at the Royal Infirmary, the Hospital for Sick Children, Maternity Hospital, the City Fever Hospital, and the Royal Edinburgh Hospital for Mental Disorders. Upwards of 2,760 beds are available for the Clinical Instruction of Students of the University.

Four Degrees in Medicine and Surgery are conferred by the University of Edinburgh, viz., Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.).

The minimum Class Fees for M.B. and Ch.B., including Hospital Fee (£12), amount to about £260, and the Matriculation and Examination Fees to £47 15s. 6d. An additional Fee of £21 is payable by those who proceed to M.D., and £21 by those who proceed to Ch.M.

The annual value of the Bursaries, Prizes, Scholarships, and Fellowships in the Faculty of Medicine amounts to about £3,600, and that of the other Bursaries, etc., tenable by Students of Medicine, amounts to about £1,820.

POST-GRADUATE INSTRUCTION.—Courses of instruction are given for the University Diplomas in Public Health, Tropical Medicine and Hygiene, Psychiatry, and Radiology. These Diplomas are open to approved registered practitioners as well as to graduates in Medicine and Surgery of the University. Courses of instruction for the Diploma in Tropical Veterinary Medicine are also given. This Diploma is open to those holding an approved Veterinary qualifi Royal College of Veterinary Surgeons. The University also takes part in the Courses given under the auspices of the Courses in Medicine. In the departments of the Faculty of Medicine provision is made for research by students of gi University laboratories facilities will be provided for candidates for the Degree of Ph.D. whose applications to engage in research have been accepted by the Senatus.

A Syllabus and further information as to Matriculation, the Curricula of Study for Degrees, etc., may be obtained from the Dean of the Faculty of Medicine; and for Degrees in the Faculties of Arts, Science, Divinity, Law, and Music, from the Deans of these Faculties, or from the Secretary; and full details are given in the University Calendar, published by James Thin, 65, South Bridge, Edinburgh. Price, by post, 6s March, 1931.

By authority of the Senatus, W. A. FLEMING, Secretary.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,300 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment "Times."
"Lancet." perfectly

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £8 8s. for 10 lessons.—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary* 1906-30	162
	Final	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

[illegible] above and also for [illegible]d for all examinations [illegible] L.R.C.P., or M.B. of [illegible] for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Exam[illegible] higher Surgical [illegible] the Special Diplor[illegible]urse. Openings [illegible] theses. Med[illegible] with list of Tutor[illegible] Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

DEFECTIVE SPEECH.

Remedial Tuition on modern lines for Stammer, Aphonia, Cleft Palate, Tracheotomy, and Disturbed Co-ordination, by ERIC MIALL, A.L.C.M., who is Speech Instructor at the Middlesex Hospital.

Short courses in elocution, accent, clarity, and public speaking.

39, WELBECK STREET, W.1.

Welbeck 3238.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BEVANS, F.R.C.S., Dean.

F.R.C.S.(Edin.).

CLASSES, with Museum and *Anatomical Demonstrations*, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London.)

The Second Term of the WINTER SESSION will begin on Tuesday, April 21st, 1931.

The Medical School provides courses in Preliminary, Intermediate, and Final Subjects, and Students can join at once after matriculation.

SITUATION.—Between a large population, providing clinical material, and one of the best residential districts, thus enabling students to live in close proximity to their work.

CLINICAL UNITS IN MEDICINE AND SURGERY.—Certain members of the Medical and Surgical staff devote their whole time to teaching and research.

NEARLY 1,000 beds available for teaching, additional clinical material being provided by affiliation to an Infirmary and other Institutions.

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1,400 are awarded annually.

APPOINTMENTS, varying in value up to £750 per annum, open to students after qualification.

For further particulars and illustrated prospectus, apply to the School Secretary.

C. M. WILSON (*M.C.*), M.D., F.R.C.P., *Dean.*

CITY OF LONDON MATERNITY HOSPITAL, CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL, TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about *three months*) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

SOCIETY OF APOTHECARIES OF LONDON.

The Court invites applications for FOUR EXAMINERSHIPS, three in Medicine and Pathology and one in Physiology and Biology, from teachers at recognized Medical Schools.

Applications should be sent in by April 18th, 1931.

Water Lane, Queen Victoria St., E.C.4. R. SILBY LEWIS, Registrar.

The East London Hospital for CHILDREN, Shadwell, E.1.

There will be a DEMONSTRATION OF CLINICAL CASES on Wednesday, *March 18th*, at 4.30 p.m., to which you are cordially invited. Tea at 4 p.m.

The St. Helens Hospital.

Applications are invited for the position of HOUSE SURGEON to this Hospital at a salary of £200 per annum, plus board, residence, and laundry.

Applications, accompanied by three recent testimonials, to be sent to the Secretary, St. Helens Hospital, Lanes, not later than March 24th. The successful candidate will be required to commence his *duties on April 1st.*

University of London.

A Course of Two Lectures on "*The Central Nervous System*" will be given (in English) by Professor Dr. B. BROUWER (Professor of Neurology in the University of Amsterdam), at UNIVERSITY COLLEGE, LONDON, Gower St., W.C.1, on Monday and Tuesday, MARCH 16th and 17th, 1931, at 5.30 p.m. At the first Lecture the Chair will be taken by Professor G. ELLIOT SMITH, M.D., Litt.D., F.R.S., Professor of Anatomy in the University. Lantern illustrations.

A Course of Three Lectures on "*Problems in the Physiology of Behaviour*" will be given by Professor K. S. LASHLEY (Professor of Psychology in the University of Chicago), at KING'S COLLEGE, Strand, W.C.2, on Monday, Wednesday, and Thursday, MARCH 16th, 18th, and 19th, 1931, at 5.30 p.m. At the first Lecture the Chair will be taken by Professor C. E. SPEARMAN, LL.D., Ph.D., F.R.S., Professor of Psychology in the University.

Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

Royal College of Physicians of LONDON.

Sir WILLIAM WILLCOX, K.C.I.E., C.B., C.M.G., will deliver the LUMLEIAN LECTURES on March 19th, 24th, and 26th, at the College at 5 p.m.

Subject: "*Toxic Jaundice.*"

Any Member of the Medical Profession admitted on presentation of card.

By Order of the President,
H. M. BARLOW,
Bedell & Secretary.

Borough of Bromley.

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners for the post of Assistant Medical Officer of Health and Assistant School Medical Officer, at a salary at the rate of £550, rising by annual increments of £20 to £750 per annum, in accordance with the Council's Salaries and Grading Scheme.

Experience in Diseases of Children, Antenatal and Maternity work, Refraction work and Infectious Diseases, is essential, and the possession of the Diploma of Public Health will be considered an additional qualification.

The appointment will be a whole-time one (any private practice being prohibited) and subject to one month's notice on either side, and will also be subject to the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination.

Forms of application may be obtained from the Medical Officer of Health, Health Department, Municipal Offices, Bromley, Kent, to whom *applications, accompanied* by copies of not more than three recent testimonials, should be delivered not later than Thursday, March 19th.

Canvassing, directly or indirectly, will be a disqualification.

Municipal Offices, Bromley, Kent. S. CRITCHLEY AUTY, Town Clerk.

March 4th, 1931.

Borough of Stalybridge.

MEDICAL OFFICER OF HEALTH.

Applications are invited for the position of Medical Officer of Health, School Medical Officer, and Maternity and Child Welfare Medical Officer (male) for the Borough.

The salary will be at the rate of £800 per annum, payable monthly.

Candidates must be duly qualified Medical Practitioners and possess a recognised diploma in Public Health and the requisite qualifications required by the Sanitary Officers Order, 1926, and the regulations of the Ministry of Health, to whose approval the appointment will be subject.

The officer appointed will be required to reside in the Borough and devote the whole of his time to the duties of the office and not engage in private practice.

Office accommodation will be provided.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and may be determined at any time by three months' notice in writing.

Applications, accompanied by copies of not more than three recent testimonials, must be sent to the undersigned not later than Monday, March 23rd.

Canvassing, either directly or indirectly, will disqualify a candidate.

FRANK H. WORSLEY, Town Clerk.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

WITHINGTON HOSPITAL.

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Assistant Medical Officer at the Withington Hospital (1,200 beds) and Institution (1,150 beds), Nell Lane, West Didsbury, Manchester.

The successful candidate will be required to have the care of the wards for patients suffering from Pulmonary Tuberculosis (150 Beds).

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous hospital experience.

The Hospital is a recognised Training School for Nurses and is equipped with all modern requirements.

Salary £350 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made in the first instance for a period of six months, renewable at the end of that period for a further six months.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Officer, Withington Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, March 19th.

The candidate appointed will be required to commence duty as soon as possible after appointment, to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

Town Hall, Manchester. F. E. WARBRECK HOWELL, Town Clerk.

March 2nd, 1931.

City of Manchester.

MONSALL HOSPITAL FOR INFECTIOUS DISEASES. (600 Beds.)

APPOINTMENT OF JUNIOR MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Junior Medical Officer at Monsall Hospital.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants who have held Resident Surgical and Medical posts in a General Hospital.

The candidate appointed will be required to assist in the teaching of the nursing staff and to reside at the Hospital.

Salary £350 per annum, with board, residence, and laundry in addition. No bonus.

The appointment will be made in the first instance for a period of six months, renewable at the end of that period for a further six months.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Junior Medical Officer, Monsall Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, March 19th.

The candidate appointed will be required to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct, or indirect, is prohibited.

Town Hall, Manchester. F. E. WARBRECK HOWELL, Town Clerk.

March 2nd, 1931.

The Gloucestershire Royal

INFIRMARY AND EYE INSTITUTION, GLOUCESTER.
(153 Beds—4 Residents.)

Applications are invited for the post of FIRST HOUSE SURGEON (male). Salary at the rate of £150 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned.

F. J. SYMONS, Secretary.

March 12th, 1931.

Nottinghamshire County Council

MANSFIELD WOODHOUSE URBAN DISTRICT COUNCIL.

APPOINTMENT OF JOINT MEDICAL OFFICER.

The Nottinghamshire County Council and the Mansfield Woodhouse Urban District Council invite applications from duly qualified and registered Medical Practitioners for the joint whole-time appointment of ASSISTANT SCHOOL MEDICAL and DISTRICT MEDICAL OFFICER OF HEALTH.

The salary attaching to the position will be £800 per annum, with reasonable travelling and subsistence allowances.

Applicants must have had experience in the duties of a Medical Officer of Health, and also possess the Diploma in Public Health. Experience in Refraction work and the examination of Mentally Defective Children will be considered an advantage.

The person appointed will be required to reside in the Urban District of Mansfield Woodhouse or within a radius of three miles from the Mansfield Woodhouse Post Office.

As regards his duties under the County Council, the officer will act under the general control and supervision of the County Medical Officer, and will be required to perform such duties, either as School Medical Officer or otherwise, as may be from time to time prescribed.

As regards his duties as District Medical Officer of Health, the officer will also be required to act as Medical Officer for Maternity and Child Welfare in the Urban District, and will be subject to the sole control and direction of the Mansfield Woodhouse Urban District Council.

The appointment will be determinable on three months' notice, and, as far as the office of District Medical Officer is concerned, will be subject to the approval of the Ministry of Health and the provisions of the Sanitary Officers Order, 1926.

Applications, on forms to be obtained from the undersigned, accompanied by copies of not more than three recent testimonials, must reach me not later than Saturday, March 21st.

K. TWEEDALE MEABY, Clerk of the County Council.

Shire Hall, Nottingham.

March 1st, 1931.

St. Marylebone General

DISPENSARY (Incorporated), 30, Marylebone Lane, W.1.

A vacancy having occurred in the office of HONORARY SURGEON to the Ear, Nose, and Throat Department, the Directors invite applications for the vacant office. Every candidate for the post must be a Fellow of the Royal College of Surgeons, England, and practising as an Ear, Nose, and Throat Surgeon. Full particulars may be obtained from the Secretary, to whom applications and testimonials should be forwarded not later than Friday, March 27th. Candidates will be asked to attend the meeting of the Medical Committee on Tuesday, March 31st.

M. J. ROXBURGH, Secretary.

Bootle General Hospital,

BOOTLE, LANCS. (100 Beds.)

Applications are invited for the posts of SENIOR RESIDENT MEDICAL OFFICER, with previous Hospital experience, and ONE JUNIOR HOUSE SURGEON, for the six months ending September 30th.

Salaries at the rate of £200 per annum Senior Officer and £150 per annum Junior Officer, with board, residence, and laundry. Duties to commence April 1st.

Applications, stating age and qualifications, with copies of testimonials, to be sent to the undersigned on or before March 17th.

J. A. BEARDSALL, Secretary-Supt.

Chester Royal Infirmary.

(211 Beds.)

Wanted, HOUSE SURGEON (male) to the Ear, Nose, and Throat Department, to commence duties forthwith. Salary £150 per annum, with board, lodging, and washing. Large department and good opportunities for experience. Candidates must be doubly qualified and registered. Application list closes on March 26th. Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P., Hon. Supt. of the Resident Medical Staff.

Birkenhead General Hospital.

CASUALTY OFFICER required for six months. Commencing April 1st. Salary £100, with board. Applications, with three testimonials, to be sent to the Secretary as early as possible.

March 10th, 1931.

City of Birmingham.

PUBLIC HEALTH DEPARTMENT.

LITTLE BROMWICH HOSPITAL FOR INFECTIOUS DISEASES.

JUNIOR ASSISTANT MEDICAL OFFICER required.

Candidates must be unmarried and must have held previous resident posts in General or Children's Hospitals.

Salary at the rate of £300 per annum, together with board, etc. This appointment is limited to 12 months.

The officer appointed will be required to pay to the Council all fees, allowances, and emoluments (other than the foregoing) received by him.

It is not feasible to attend classes for Part I of the D.P.H. in conjunction with this appointment.

Forms of application may be obtained from the Medical Superintendent, Dr. E. H. R. HARRIES, and should be returned to him on or before Monday, March 23rd.

F. H. C. WILTSHIRE, Town Clerk.

The Council House, Birmingham.

The Hospital for Sick Children,

Great Ormond Street, London, W.C.1.

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on April 14th.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 12 o'clock on Monday, April 6th, with copies of not more than three testimonials given specially for the purpose, and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months. Salaries at the rate of £100 per annum, laundry allowance £5, board and residence in the Hospital.

Candidates must be unmarried and possess a legal qualification to practise.

All candidates must be in attendance to appear before the Joint Committee, if required, at their meeting on Wednesday, April 8th, at 4.45 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary.

By Order of the Board of Management, JAMES McKAY, Secretary.

March, 1931.

Metropolitan Hospital,

Kingsland Road, E.8.

There are vacancies for the following:
(a) SENIOR HOUSE PHYSICIAN;
(b) SENIOR HOUSE SURGEON;
(c) JUNIOR HOUSE PHYSICIAN;
(d) JUNIOR HOUSE SURGEON;
(e) Two CASUALTY OFFICERS; males.

Salary £100 per annum. Appointments in the first place will be for a period of six months dating from May 1st.

Candidates must possess a registered Medical and Surgical qualification of the United Kingdom.

Applications, with copies of three recent testimonials, and a certificate of ability to act, should be sent to the [illegible] than the first post on

Two members of the resident staff are candidates for the two Senior appointments.

HERBERT F. RUTHERFORD, Secretary and House Governor.

The Willesden General Hospital

(Incorporated), N.W.10.
(106 Beds.)

APPOINTMENT OF HOUSE PHYSICIAN.

Applications are invited from fully qualified and registered candidates for the appointment of House Physician. Candidates must be unmarried. Salary at the rate of £100 per annum. Detailed applications, with copies of testimonials, should be sent addressed to the Secretary, The Willesden General Hospital, N.W.10, not later than Monday, March 16th.

February 27th, 1931.

The Willesden General Hospital

(Incorporated), N.W.10.

CLINICAL ASSISTANT to the Medical Outpatient Department (Friday morning).

Applications are invited for the above honorary appointment, for a period of six months from April 1st.

Applications must be received by the Secretary of the Hospital not later than first post on Friday, March 20th, from whom details of the appointment may be obtained.

February 27th, 1931.

Salford Royal Hospital.
(263 Beds.)

Applications are invited for the following vacancies, which will occur in the Resident Medical Staff (male) on March 31st next:

HOUSE SURGEON (attached to the Orthopaedic Department). Salary at the rate of £125 per annum.

HOUSE SURGEON. Salary at the rate of £125 per annum.

HOUSE SURGEON to Aural, Skin, and Gynaecological Departments. Salary at the rate of £125 per annum.

CASUALTY HOUSE SURGEON. Salary at the rate of £125 per annum.

The appointments are for a period of six months, with board and residence.

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England, and appointments here are recognised for the English Fellowship (Final).

Forms of application, which may be obtained from the undersigned, must be delivered on or before March 17th.

By Order of the Board,
GEORGE RUDDLE,
Gen. Supt. & Secretary.

Salford Royal Hospital.
March 9th, 1931.

London Light and Electrical CLINIC.
Under the authority of the Venerable Order of St. John of Jerusalem.

The Committee of Management will shortly proceed to appoint Three HONORARY VISITING PHYSICIANS, each of whom will be required to attend the Clinic twice weekly.

Each candidate must be a registered Medical Practitioner and a Graduate of a British University, or Fellow or Member of the College of Physicians of London or of Edinburgh.

Applications, with copies of not more than three testimonials, should be addressed on or before April 7th to the Secretary, London Light and Electrical Clinic, 42, Ranelagh Rd., S.W.1, who will furnish information as to the duties of the office.

Nuneaton General Hospital.
(80 Beds.)

Applications are invited for the post of HOUSE SURGEON. The appointment is open to candidates of either sex, and is for six months in the first instance.

The salary will be £120 per annum, together with board, residence, and laundry, and certain other emoluments, and will be raised to £150 per annum after six months for any subsequent period.

Owing to the varied nature of the cases treated this appointment is especially valuable to those contemplating General Practice.

Applications, stating age, qualifications, and experience, if any, together with copies of testimonials, should be sent before March 30th to the Secretary of the Medical Staff, General Hospital, Nuneaton.

Lincoln County Hospital.

Wanted, JUNIOR HOUSE SURGEON, male, unmarried. Salary at the rate of £150 per annum, rising to £200 per annum at the conclusion of six months' approved service. Board, residence, and washing will also be provided.

Every candidate for the appointment must be registered under the Medical Acts.

Applications, stating age and other particulars, with copies of testimonials (not more than three), are to be sent to the undersigned, from whom further particulars may be obtained.

ARTHUR MOORE,
Secretary-Supt.

Lincoln.
February 26th, 1931.

Royal Eye Hospital,
St. George's Circus, S.E.1.

Applications are invited for the appointments of CLINICAL ASSISTANTS to the above Hospital.

Applications to be sent, together with copies of three recent testimonials, not later than Wednesday, March 25th.

By Order of the Council,
F. E. D'ALTON, Secretary.

Royal Eye Hospital,
St. George's Circus, S.E.1.

Applications are invited for the appointment of HONORARY ASSISTANT SURGEON to the above Hospital.

Applications to be sent, together with copies of three recent testimonials, not later than Wednesday, March 25th.

By Order of the Council,
F. E. D'ALTON, Secretary.

Royal Victoria Infirmary,
NEWCASTLE-UPON-TYNE. (576 Beds.)

RESIDENT APPOINTMENTS.

The following Resident appointments will become vacant from Friday, May 1st.

The appointments are tenable for six months except the Gynaecological Department and the Skin and Venereal Department, which will alternate for three months in each Department.

Four HOUSE PHYSICIANS;
Six HOUSE SURGEONS;
Two HOUSE SURGEONS to Accident Dept.;
One HOUSE SURGEON to Throat, Nose, Ear, and Eye Departments;
One HOUSE SURGEON to Gynaecological Department;
One HOUSE SURGEON to Skin and Venereal Department;
One HOUSE SURGEON to Out-patient Dressing Department and ASSISTANT RESIDENT ANAESTHETIST.

Candidates must be registered in Medicine and Surgery and must produce evidence of being able to administer anaesthetics.

Candidates, who have already served in two House appointments will be eligible for Special Departments.

Candidates must be prepared to take any appointment.

As regards applications for the appointments of House Surgeons to Accident Department and House Surgeon to Out-patient Dressing Department and Assistant Resident Anaesthetist, preference will be given to candidates who have previously held two Resident appointments.

Residents are remunerated at the rate of £50 per annum.

Before making application intending candidates are asked to apply to the undermentioned for a copy of the regulations governing the appointments.

Applications, stating age, experience, and qualifications, accompanied by copies of two testimonials, should be sent to the undermentioned not later than Monday, March 23rd.

S. DUNSTAN,
House Gov. & Sec.

March 9th, 1931.

Royal Victoria Infirmary,
NEWCASTLE-UPON-TYNE. (576 Beds.)

Applications are invited for the posts of SENIOR MEDICAL OFFICER and Two JUNIOR MEDICAL OFFICERS for the Pay-Bed Section of the Hospital.

Candidates must be registered in Medicine and in Surgery.

The term of appointment is for six months and is renewable for a further period.

Remuneration: Senior Medical Officer £200 per annum, with board and residence, and for the Two Junior Medical Officers £100 each per annum, with board and residence.

Applications, stating age, experience, and accompanied by three recent testimonials, should be sent not later than Monday, March 23rd, to the undermentioned, from whom further particulars may be obtained.

S. DUNSTAN,
House Gov. & Sec.

March 9th, 1931.

Royal Victoria Infirmary,
NEWCASTLE-UPON-TYNE.

Applications are invited for the post of RESIDENT ANAESTHETIST.

Candidates must be registered in Medicine and in Surgery.

The term of appointment is for three months and is renewable for a further period.

Payment is at the rate of £100 per annum, with board and residence.

Applications, stating age, experience, and accompanied by two recent testimonials, should be addressed to the House Governor & Secretary not later than Wednesday, March 18th.

S. DUNSTAN,
House Gov. & Sec.

March 7th, 1931.

The Royal Infirmary, Sheffield.
(500 Beds.)

OPEN APPOINTMENT.

Applications are invited for the post of CLINICAL ASSISTANT to the Medical Depts., which contain 122 beds and a large Out-patient Department open daily.

The salary attached to the appointment is £300 per annum, and applicants must have had previous Hospital and Laboratory experience.

Applications, stating age and giving particulars of qualifications, etc., should be submitted forthwith to the undersigned, from whom further particulars may be obtained.

JNO. W. BARNES, F.C.I.S.,
Gen. Supt. & Secretary.

Board Room.
March 4th, 1931.

West Norfolk and King's Lynn GENERAL HOSPITAL. (75 Beds)

The Board of Management of the above Hospital invite applications for the post of SENIOR HOUSE SURGEON (male or female). Duty to commence April 22nd. Salary £175 per annum. Sixty Surgical beds. Over 1,900 operations in 1930.

Also JUNIOR HOUSE SURGEON required (male or female). Duty to commence March 25th. Salary £125 per annum. To have charge of Medical and Ophthalmic beds.

Preference given to candidates with previous experience. Appointments are for six months in first instance.

Applications, stating experience and full particulars, together with copies of three recent testimonials, to be received not later than March 16th, and sent to

JOSEPH E. SEARJEANT,
House Governor & Secretary.

West Norfolk and King's Lynn General Hospital. March 3rd, 1931.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIMB, Secretary.

Addenbrooke's Hospital, CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON. The appointment will be for six months from April 1st, but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum, with board, residence, and laundry.

Candidates (male), who must be unmarried [illegible] requested to forward [illegible] age, qualifications, [illegible] not more than four [illegible] signed on or before Wednesday, March 18th.

W. H. HEAD,
Secretary-Superintendent.

Addenbrooke's Hospital, CAMBRIDGE.

Applications are invited for the post of RESID[illegible] EMERGENCY OFFIC[illegible] will be for three [illegible] diary at the rate of £130 per annum, with board, residence, and laundry. Candidates, who must be unmarried and [illegible] requested to forward the [illegible] re fications, etc [illegible] than four [illegible] signed on or

St. John's Hospital, Lewisham, S.E.13.

Applications are invited for the appointment of HONORARY PHYSICIAN to the Hospital. The successful applicant will take charge of beds, and will be required to take one Out-patient Clinic weekly. Applications, together with copies of testimonials, should reach the undersigned not later than Tuesday, March 17th.

J. C. GILBERT, Secretary-Supt.

St. John's Hospital, Lewisham, S.E.13.

There is a vacancy for a THIRD HONORARY SURGEON to the Hospital, for which applications are invited. The successful applicant will have charge of beds, and will be expected to take an Out-patient clinic. Further particulars may be obtained from the undersigned, by whom applications should be received not later than the 24th instant.

J. C. GILBERT,
Secretary-Superintendent.

Deaconess Hospital, Edinburgh.

—Wanted, SENIOR RESIDENT HOUSE PHYSICIAN and SURGEON for six months as from April 1st. Must be Graduate. Honorarium paid. Applications, with testimonials, to Mr. G. MCALPINE, 22, Queen Street, Edinburgh.

Hull Royal Infirmary.
(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments, vacant March 31st.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in Laryngology and Otology.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, with copies of testimonials, should be sent to the undersigned on or before February 17th.

R. J. CARLESS,
February 27th, 1931. House Governor.

The Hostel of St. Luke
(Clergy Nursing Home),
14, Fitzroy Square, London, W.1.

The Committee of Management invite applications for the post of RESIDENT MEDICAL FFICER (male) to the above Hostel.

Candidates must have had previous experience s House Surgeon at a General Hospital. The ppointment is for six months and may be reewable for a further period of six months. alary at the rate of £200 per annum, with oard, residence, and laundry. A fortnight's oliday will be allowed every six months and the ecum will be paid by the Committee of the lostel.

Applications and enquiries should be addressed o the Secretary of the Hostel at 14, Fitzroy quare, London, W.1, and reach him before larch 21st. The successful applicant will be equired to take up his duties on April 1st.

Scarborough Hospital and
DISPENSARY. (70 Beds.)

Wanted May 1st, Two HOUSE SURGEONS male or female). Duties include Home Visiting. Salary £126 per annum, with board, esidence, etc. Appointment for six months.

Applications, stating age, with copies of testimonials and essential particulars, to be sent to he undersigned by March 25th, from whom urther particulars may be obtained.

J. DOUGLAS MUNBY,
Hon. Secretary.

Derbyshire Hospital for Women,
DERBY. (54 Beds.)

Applications are invited for the post of HOUSE SURGEON. Salary £150 per annum, with apartments, board, etc. The appointment is tenable for six months, with a possibility of extension for a further period of six months.

Applications, with copies of not more than three testimonials, to be sent to the undersigned not later than March 21st; duties to commence March 30th.

W. T. COCKER, Secretary.

East Ham Memorial Hospital,
Shrewsbury Road, London, E.7.
(100 Beds.)

d for the post of
ial Departments and
r six months com-
at the rate of £120
idence, and laundry.
experience, and full
opies of testimonials,

should be forwarded to the undersigned not later than March 16th.

REGINALD PERRY, Secretary.

East Ham Memorial Hospital,
Shrewsbury Road, London, E.7.
(100 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN for six months commencing April 1st. Salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, experience, and full particulars, together with copies of testimonials, should be forwarded to the undersigned not later than March 16th.

REGINALD PERRY, Secretary.

East Ham Memorial Hospital,
E.7. (100 Beds.)

The Committee of Management invite applications for the post of HONORARY OPHTHALMIC SURGEON. Candidates must not be engaged in general practice.

Applications, in triplicate, should reach the undersigned as early as possible.

REGINALD PERRY, Secretary.

Cumberland Infirmary, Carlisle.
(160 Beds.)
Resident Medical Staff—Four Qualified Officers.

The following posts are vacant on April 1st, six months' appointment, male, previous experience desirable but not essential. Salary in each case at the rate of £155 per annum, board, residence, etc.

(1) SECOND HOUSE SURGEON.
(2) HOUSE SURGEON to Special Departments (Eyes, Ear, Nose, and Throat).

Applications, stating age, etc., with copies of not more than four testimonials, should be sent in at once to the undersigned, who will supply further particulars if desired.

Separate applications required for each post.

J. G. HOWITT,
March 9th, 1931. Secretary.

Hospital of St. Cross, Rugby.
(114 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the Hospital of St. Cross.

Candidates must be registered Medical Practitioners, and must be prepared to begin duties immediately.

Salary at the rate of £100 per year, with board and residence in the Hospital.

The appointment is for a period of six months only.

Applications, stating age, qualifications, with copies of three recent testimonials, should be sent to me as early as possible.

W. COCKBURN,
Supt. & Secretary.

Ear and Throat Hospital,
Edmund Street, BIRMINGHAM.

HOUSE SURGEON wanted (non-resident) to assist chiefly in Out-patient Department. Must be qualified, and with clinical experience. Duties to commence May 1st. Appointment to September 30th, when one of the other House Surgeon appointments will be vacant. Salary at the rate of £150 per annum, with lunch on week-days, and an allowance at the rate of £50 per annum in lieu of full board and lodging. Applications and testimonials to be forwarded on or before March 21st to the undersigned.

S. G. GREW,
March, 1931. Secretary.

West Bromwich and District
GENERAL HOSPITAL. (130 Beds.)

HOUSE SURGEON (male) wanted immediately. Salary at the rate of £200 per annum, with residence, board, and laundry. Candidates must be doubly qualified and unmarried. The appointment will be for the period ending August 31st, 1931.

Applications, stating age and qualifications, with copies of recent testimonials, should be sent to the undersigned.

By Order,
Edward St., FRANK I. HANCOCK,
West Bromwich. Secretary & Supt.
March 9th, 1931.

The Royal Waterloo Hospital
FOR CHILDREN AND WOMEN,
Waterloo Road, S.E.1.

Applications are invited from qualified male Practitioners for the following post, vacant on April 1st—a CASUALTY OFFICER to work in the Out-patient Department on week days, at £150 per annum, lunch and tea provided.

Applications, with copies of testimonials, should be forwarded by Monday morning, March 23rd, to the Secretary at the Hospital, from whom further particulars can be obtained.

North Lonsdale Hospital,
BARROW-IN-FURNESS.

Applications for a post of HOUSE SURGEON are invited from fully qualified male Practitioners experienced in the administration of Anaesthetics. Salary £175 per annum, with board, residence, and laundry. Applications, stating age, qualifications, experience, and nationality, and accompanied by copies of three recent testimonials, to be sent to the Secretary so as to reach him not later than March 23rd.

House Physician wanted for
PERTH INFIRMARY (male). Salary £120, with board and residence. Candidates must have a knowledge of Midwifery. Commence duty April 1st. Applications, with testimonials, to be lodged with Mr. J. C. CAMERON, Solicitor, 2, Charlotte Street, Perth, not later than March 25rd.

Ancoats Hospital, Manchester.

HOUSE SURGEONS (Two) required to commence duty on April 1st. Appointments for six months. Salary at the rate of £100 per annum, with board and residence, etc.

Applications, stating age, qualifications, experience (if any), etc., and full particulars, to be forwarded to the undersigned on or before March 18th, together with copies of three testimonials.

By Order of the Board,
HERBERT J. DAFFORNE,
General Supt. & Secretary.

Liverpool Open-Air Hospital for
CHILDREN, LEASOWE, MORETON,
WIRRAL.
(260 Beds—Surgical, Tuberculosis, and Orthopaedics)

Vacant on April 1st, the post of JUNIOR RESIDENT MEDICAL OFFICER.

Salary £200 per annum, with board, residence, and laundry.

Applications to be sent not later than March 25th to the Senior Medical Officer.

Liverpool Stanley Hospital,
STANLEY ROAD, LIVERPOOL.

There will be vacancies on April 1st next for One Male HOUSE PHYSICIAN and Two Male HOUSE SURGEONS. Salary in each case at rate of £100 per annum, with board, laundry, etc. Candidates must be on the *Medical Register*, and submit their applications, with copies of three recent testimonials, addressed to the undersigned, by March 20th.

E. W. OSBORN, Secretary.

Loughborough and District
GENERAL HOSPITAL.

Wanted, to commence duties at end of March, RESIDENT HOUSE SURGEON (male or female, and unmarried), possessing a Medical and Surgical registered qualification. Practical experience in the administration of Anaesthetics is required. Salar oard, and laundry. etc., with copies of ne at once.

9, Leicester Road, FRANK H. TOONE,
Loughborough. Secretary.

The Royal Infirmary, Doncaster.
(185 Beds.)

HOUSE SURGEON (male) required. Opportunity for gaining excellent experience. Appointment is for six months, and successful candidate is eligible for re-appointment.

Salary £175 per annum, with board, residence, and laundry. Applications, with full particulars, should be addressed to the undersigned by Wednesday, March 18th.

WALTER R. SMITH,
Secretary-Supt.

The Royal Liverpool Children's
HOSPITAL.

There will be vacancies on April 1st next for Two RESIDENT HOUSE SURGEONS at the CITY BRANCH, Myrtle Street. The appointments will be for a period of six months. Salary in each case at the rate of £100 per annum.

Applications, with copies of recent testimonials, to be sent to the Secretary, Royal Liverpool Children's Hospital, Myrtle Street, Liverpool, on or before Friday, March 20th.

General Hospital, Nottingham.

A HOUSE PHYSICIAN is required at the above Hospital. Appointment for six months. Salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, with copies of testimonials, to be delivered to me not later than Thursday, March 26th.

Duties to commence on or about April 9th.

P. M. MACCOLL,
House Governor & Secretary.

General Hospital, Nottingham.

A CASUALTY OFFICER (male) is required at the above Institution. Appointment for six months Salary at the rate of £200 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, with copies of testimonials, to be delivered to me not later than Saturday, April 4th. Duties to commence on or about April 14th.

P. M. MACCOLL,
House Governor & Secretary.

Administrative County of LONDON.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the undermentioned position. The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent, and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council. The successful candidate will be required to live in the Hospital.

HACKNEY HOSPITAL,
High Street, Homerton, E.9.

ASSISTANT MEDICAL OFFICER. — Salary £350 a year, rising by annual increments of £25 to a maximum of £425 a year, together with board, lodging, and washing. Candidates must have held a resident appointment in a General Hospital for at least six months. Preference will be given to a candidate with experience in Midwifery and Gynaecology who is capable of performing operations appertaining to these subjects. There is no accommodation for a married man.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by March 27th. Canvassing disqualifies. Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the Hospital.

MONTAGU H. COX,
Clerk of the London County Council.

Administrative County of LONDON.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for a position of DISTRICT MEDICAL OFFICER for the City of London, at a provisional salary of £125 a year. The appointment is a part-time one, and will be made until June 30th in the first instance. The salary is subject to review.

The candidate appointed will be required to reside within the district, and to attend daily at the place appointed by the Council, as well as visit applicants for medical relief at their homes at any hour on receipt of a relieving officer's order. Other duties may be assigned to the position in addition to those ordinarily appertaining thereto.

Forms of application, containing full details, can be obtained from the Medical Officer of Health (5.D4a), The County Hall, Westminster Bridge, S.E.1.

A stamped addressed envelope should be enclosed, and forms of application must be returned by March 24th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.
The County Hall,
Westminster Bridge, S.E.1.

London Hospital, E.1.

There is a vacancy for the appointment of SENIOR CLINICAL ASSISTANT in the Skin and Phototherapy Department. The salary of the post is £150 per annum.

Applications, with copies of testimonials, should be sent to the House Governor (from whom further particulars may be obtained), and should arrive not later than on March 23rd.

ARTHUR G. ELLIOTT,
House Governor.

Tunbridge Wells and Counties GENERAL HOSPITAL.

(100 Beds—2 Residents.)

Applications are invited for the post of HOUSE SURGEON (male). Salary £160 per annum, with board, residence, and laundry. The appointment is for twelve months.

Applications, stating age, qualifications, and experience, and accompanied by three recent testimonials, should be sent immediately to the undersigned.

P. E. WINDO, Secretary.

Leicester Royal Infirmary.

(420 Beds.)

HOUSE PHYSICIAN.

A vacancy is expected on April 1st. Salary at the rate of £125 per annum. Applicants must have held a Resident Hospital post or had similar experience of Hospital work. Candidates are desired to send in applications forthwith to—

HARRY JOHNSON,
March 10th, 1931. House Gov. & Sec.

County Council of the West RIDING OF YORKSHIRE.

MIDDLETON-IN-WHARFEDALE SANATORIUM.

RESIDENT MEDICAL OFFICER.

The County Council of the West Riding of Yorkshire invite applications for the appointment of JUNIOR RESIDENT MEDICAL OFFICER at the Middleton-in-Wharfedale Sanatorium, near Ilkley (300 beds). The appointment will be for one year. Salary at the rate of £250 per annum, with board, residence, and laundry.

Hospital experience is an advantage.

Applications, together with copies of recent testimonials, should be sent to the County Medical Officer, County Hall, Wakefield, not later than March 23rd.

J. CHARLES McGRATH,
County Hall, Clerk of the
Wakefield. County Council.

Miller General Hospital,

Greenwich Road, S.E.10.
(151 Beds.)

Applications are invited for the following posts:

CASUALTY OFFICER. Salary £150 p.a.
HOUSE PHYSICIAN. Salary £125 p.a.
HOUSE SURGEON. Salary £125 p.a.

There are six Resident Officers. Candidates (male) must be unmarried. Board, residence, and laundry are provided. Each appointment is for six months from April 1st next. Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary as soon as possible.

February 23rd, 1931.

Miller General Hospital,

Greenwich Road, S.E.10.

ANAESTHETIST.

Applications are invited for the post of Anaesthetist from those who are specially engaged in the practice of anaesthetics. Attendance on Tuesday afternoons. Honorarium at the rate of 52 guineas per annum for one attendance a week. All particulars to be obtained on application to the Secretary.

February 21st, 1931.

Royal Berkshire Hospital,

READING. (243 Beds.)

Wanted, R (male),
and One (male).
Candida and registered. Appointments are for six months. Salaries at the rate of £150 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, to be sent to the undersigned before March 25th.

F. A. LYON,
March 13th, 1931. Secretary.

Swansea Hospital.

(316 Beds.)

HOUSE SURGEON wanted, gentleman, single. Salary £150 per annum, with board, residence, and laundry. Duties to commence on or about March 25th.

Applications, stating age, nationality, qualifications, and experience, together with copies of three testimonials, to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary-Supt.

Victoria Central Hospital,

WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry. Candidate chosen would be appointed for six months.

Applications, with copies of recent testimonials, to be sent to the Secretary.

Liverpool and District Hospital FOR DISEASES OF THE HEART.

Vacancy for RESEARCH FELLOW, male or female. £200 a year. The appointment is for one year in the first instance. Work may be used for M.D. Thesis. Apply Secretary, Heart Hospital, Oxford Street, Liverpool.

Western Skin Hospital,

44/46, Hampstead Road, N.W.1.

Vacancy occurs for HONORARY ASSISTANT PHYSICIAN, for clinics Tuesday 5 p.m. and Friday 1.30 p.m. Applications and testimonials should be sent to the Secretary.

Cardiff Royal Infirmary.

(Associated with Welsh National School of Medicine.)

Applications are invited for the undermentioned posts:

HOUSE
HOUSE
HOUSE

The post Unit is
for six mor Salary
is at the board-
residence.

The post of Ophthalmic House Surgeon is tenable for six months, and the salary is at the rate of £75 per annum, with board-residence. Candidates must have experience of Refractions. This post is open to ladies.

The post of Gynaecological House Surgeon is tenable for six months, commencing April 20th. Salary is at the rate of £50 per annum, with board-residence.

Application forms may be had from the undersigned, and should be returned, with copies of three recent testimonials, at the earliest possible date, as the appointments commence immediately.

In the case of the Gynaecological House Surgeon, applications should be returned on or before Saturday, April 4th.

R. ARMSTRONG,
March 10th, 1931. Medical Supt.

County Mental Hospital,

LANCASTER.

Applications are invited for the post of ASSISTANT MEDICAL OFFICER, male. Candidates must be single and under 35 years of age. Commencing salary £500, rising by annual increments of £25 to £600, with further increase on promotion, subject to a deduction of 3 per cent. under the Asylum Officers Superannuation Act. There are no emoluments. The selected candidate will be required to live in the Hospital, and he will be provided with board, lodging, etc., for which a charge of £150 a year is made.

The possession of a Diploma in Psychological Medicine will entitle the officer to an additional £50 per annum.

Applications, giving full particulars, with testimonials (copies only), should be forwarded to the Medical Superintendent before April 4th.

March 10th 1931.

East Suffolk and Ipswich HOSPITAL.

(265 Beds—7 Residents.)

Wanted immediately, HOUSE SURGEON (male, British), with experience in Ear, Throat, and Nose work. Salary at the rate of £120 per annum. Board, residence, and laundry. Previous experience essential.

Applications, stating age, qualifications, and experience, and accompanied by three recent testimonials, to be sent to the undersigned.

The Hospital, ARTHUR GRIFFITHS,
Ipswich. Secretary.
March 14th, 1931.

Bristol Royal Hospital for Sick CHILDREN AND WOMEN,

St. Michael's Hill.

Applications are invited for the position of HOUSE SURGEON. Salary £125 per annum, with board, rooms, attendance, and laundry.

Applicants should state age, qualifications, experience, and send testimonials to the undersigned not later than March 23rd.

REGINALD C. THOMAS,
Secretary.

The New Sutton and Cheam HOSPITAL, SUTTON, SURREY.

(68 Beds.)

Applications are invited for the post of HONORARY PATHOLOGIST AND BACTERIOLOGIST.

Applications, stating qualifications, and with copies of testimonials, should be sent to the Secretary, from whom all particulars may be obtained.

District Infirmary, ASHTON-UNDER-LYNE.

(General Hospital, 200 Beds, mainly Surgical.)

Wanted, a HOUSE SURGEON. Six months' appointment, renewable.

Salary at the rate of £150 per annum, with board, residence, and laundry.

The Resident Staff comprises a Resident Surgical Officer and three House Surgeons.

Applications, with testimonials, to be sent at once to the undersigned.

FRANK OLIVER,
March 9th, 1931. Gen. Supt. & Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH** *(contd.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	EAST SUFFOLK COUNTY COUNCIL. *(Male Assistant County Medical Officer of Health.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	**PUBLIC HEALTH.**	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	CAERNARVONSHIRE EDUCATION COMMITTEE. *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** (Lodge Appointments.)	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

March 11th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.

HOUSE SURGEON in charge of Male Wards.

HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

North Riding Infirmary, MIDDLESBROUGH.

(General Hospital—150 Beds.)

SECOND HOUSE SURGEON (male) wanted to take up duties as early as possible. (Three on Resident Staff.)

The appointment will be for a definite period of six months, with salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three testimonials, should be sent forthwith to the undersigned.

N.B.—The successful candidate will be eligible to apply for the Senior House Surgeon's post at the expiration of the above term.

CHARLES POSTGATE,
Secretary-Superintendent.

Preston and County of Lancaster ROYAL INFIRMARY.

The Board of Management invite applications from doubly qualified and registered Graduates, of British nationality, for the following posts:

HOUSE SURGEON. Duties under Consulting Surgeon in Male, Female, and Children's Surgical Wards.

HOUSE PHYSICIAN. Duties in Medical, and Eye, Ear, Nose, and Throat Wards.

Salary in each case £150 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, together with copies of testimonials, to be forwarded to the undersigned as soon as possible.

JOHN GIBSON,
March 7th, 1931. Supt. & Secretary.

Portsmouth City Mental Hospital

JUNIOR ASSISTANT MEDICAL OFFICER (male) required. Age not to exceed 30. Previous experience in a Mental Hospital a recommendation but not essential. Salary £350 per annum, rising by annual increments of £25 to £450 per annum, together with emoluments of apartments, board, and laundry, valued at £125 per annum. The possession of a Diploma in Psychological Medicine will entitle the officer to an additional £50 per annum. The appointment will be subject to deductions under the Asylum Officers Superannuation Act, 1909.

Applications, with copies of testimonials, should be addressed to the Medical Superintendent, Portsmouth City Mental Hospital, Milton, Portsmouth, to be delivered before 10 a.m. on Monday, March 23rd.

The Prince of Wales's General HOSPITAL, Tottenham, N.15.

The following Resident posts will be vacant on May 1st next:

SENIOR HOUSE PHYSICIAN, SENIOR HOUSE SURGEON, and SPECIAL HOUSE SURGEON. Salaries at the rate of £120 per annum.

JUNIOR HOUSE PHYSICIAN and Two JUNIOR HOUSE SURGEONS. Salaries at the rate of £90 per annum.

Board, residence, and laundry.

Appointment held for six months, but holders are eligible for re-appointment for a further term.

Candidates (male) must be fully qualified and registered, and applications (on the prescribed form), together with copies of three recent testimonials, should be sent to me on or before the first post on Wednesday, April 1st.

J. B. BURDETT,
March 7th, 1931. Director.

Royal Hospital, Richmond, SURREY.

JUNIOR HOUSE SURGEON (male) required to take up duties April 1st. Salary at the rate of £100 per annum, with board, furnished apartments, and washing. Candidates must be fully qualified, registered, and single. The appointment will be for six months, after which the successful candidate will be eligible for the senior post.

Applications, stating age, experience, and copies of three r be forwarded to me no Secretary.

(Appointments continued on p. 58)

British Medical Journal

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.

T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted at once, outdoor Assistant, male, young, active. Residential Country Town, Cheshire, close to large centres. Able to drive car. Salary £330. Usual bond. Full-time Dispenser kept. Interview. Return expenses paid. Full particulars.—Address, No. 1624, B.M.A. House, Tavistock Square, W.C.1.

Wanted, in panel Practice, Manchester, ASSISTANT, male. Initial salary £250 per annum, indoor. Irish preferred, not essential. Send no testimonials, simply state age, height, degree with date of qualification, religion, and experience if any.—Address, No. 1711, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Lady Medical Assistant. Light work. No night visits. £4 weekly (indoor). Experience in general Practice and Refractions. State age and height. Send photograph (returnable). — Apply to "L.M.A.," c/o Messrs. R. SUMNER & CO., LTD., Manufacturing Chemists, 40, Hanover Street, Liverpool.

Wanted at once, indoor Assistant, young, unmarried, Protestant. English, Scottish or North Ireland preferred. £300 to £350 p.a. To a good man Partnership assured. — Address, No. 1601, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Assistant (male), indoor, single, age over 30, experienced; view Partnership, old-established Country Practice, Devon-Somerset border. Able to dispense. Drive car.—Address, No. 1606, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship by married man, age 30. Triple qualifications; exper. panel and private, mids., and anaesthetics. Own car. London or Home Counties preferred. Avail. interview London.—No. 1635, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, end of March, for mixed Practice, South Wales, outdoor ASSISTANT, male, British, single, under 30. Some experience essential. Own car or ability to drive an advantage. Salary £400.—Address, No. 1709, B.M.A. House, Tavistock Sq., W.C.1.

Wanted for panel and private Practice in South, an exper. ASSISTANT, with view to immed. share prod. £1,500 p.a. Cap. unnecessary; energy and keenness essen. Prof. Irish R.C. Write in full, giving date free. —No. 1639, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Outdoor Assistant, single, ex H.S., for General Practice, North-East Coast Town. Commencing salary £400. Good prospects for suitable man. State age, height, experience, and religion.—No. 1618, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistant, male, single, for General Practice (panel and private). Newcastle-on-Tyne. Prospects later for suitable man.—Address, No. 1715, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, indoor, British, for Colliery and Panel Practice in County Durham, for end of March. Usual bond. Salary £300 p.a.—Address, No. 1620, B.M.A. House, Tavistock Square, W.C.1.

Wanted, end of March. — Part-time ASSISTANTSHIP by M.D. London (N. preferred). Free in mornings or evenings. Interview welcomed.—Address, No. 1607, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Indoor Assistant, young, energetic, for large mixed Practice, with scope for experience. Salary £360. References.—Address, No. 1708, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, woman ASSISTANT, with view, for Woman's Practice, industrial area of London. Particulars and testimonials.—Address, No. 1608, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor and Country Practice: Good salaries. State MEDICAL BUREAU, 33,

Wanted. — Lady Assistant, young, in panel and industrial Practice in North Wales, three-mile radius. Dispenser kept. — Address, No. 1702, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Part-time Assistantship, London or Manchester, by M.B. doing Post-Graduate work. English. Experienced in general and ophthalmic work.—Address, No. 1631, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, view to Partnership in mixed Practice, desired by M.D., Scotch. Exper. G.P., late House Physician, House Obstetrician, Sen. H.S., Eye H.S., Fevers. Limited capital. — Address, No. 1531, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, without view, wanted by M.B.(Edin.), Scot, 6 years' experience hospital and practice. Married. Preferably Bristol, Liverpool, or Edinburgh, and non-panel. — Address, No. 1635, B.M.A. House, Tavistock Square, W.C.1.

Assistant, Scots Graduate, wanted immediately in large mixed Practice in Kent. £5 per week (live in) to commence.—Address, No. 1617, B.M.A. House, Tavistock Square, W.C.1.

Assistant wanted in an industrial Practice, with prospect, some experience, either sex. State full essential particulars. Cyclist or car driver. — Address, No. 1615, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, with view, desired by well-qualified Medical Woman, experienced Hospital and G.P. Keen, energetic. Accustomed sole charge. Would develop Branch. Own car. Full particulars, etc.—Address, No. 1636, B.M.A. House, Tavistock Square, W.C.1.

Assistant (outdoor) required for Town Practice. Young, abstainer. Work light. Salary £350 to commence. Usual bond. —Address, No. 1701, B.M.A. House, Tavistock Square, W.C.1.

Birmingham. — M. R. C. S., L.R.C.P.Lond., wishes to ASSIST in a panel Practice. Permanency desired. Moderate terms.—"MEDICO," Peace Haven, 5, Fountain Road, Edgbaston.

North Wales and Shropshire.—Several outdoor ASSISTANTS wanted; early Partnerships if suitable. Welsh an advantage.—Full particulars to "CHEMICALS," 40, Hamilton Street, Hoole, Chester.

Part-time Assistantship required, London area, by Scotswoman, M.B., Ch.B., 6 years' experience G.P. Drive car. (Engaged morning surgeries only.) Free whole day Sundays. Testimonials and interview on request. — Address, No. 1627, B.M.A. House, Tavistock Square, W.C.1.

Pathological and Bacteriological LABORATORY.—Pathology ... ASSISTANTS ... H. GOODING, Ho ... Grove, Victoria Park, Manchester. No fees.

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

Locum Tenens.—Now available, experienced in Panel and G.P., and Mental work. Qual. 1907, St. Bart's.—Apply, stating terms and particulars, "MEDICUS," The Red House, Lancing, Sussex. Lancing 57.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

MEDICAL POSTS, DISPENSERS, etc.

Wanted.-Bookkeeper-Shorthand-Typist, by Medical Partnership; a desirable South Coast resort (65 miles of London). Send three recent testimonials, which should include one from a clergyman or minister, and statement of exper. gained and salary desired. —No. 1710, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, May 1st, Junior Lady DISPENSER for firm of Doctors. Apply to Dr. J. K. HAWORTH, St. Winifred's, Carshalton Road, Sutton, Surrey, with essential particulars and photograph.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0959), Secretary, 7, Westbourne Park Road, W.2.

At liberty, Lady Dispenser, qualified (Hall). Experienced Doctor's dispensing and booking (also shorthand). References. Country or Midlands preferred.—WALTER, Avon Lodge, Selly Park, Birmingham.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Dispenser and Bookkeeper ... Thoroughly experie ... returns, etc. Good ... now.—Address, Miss LANIEL, Southfield, Liverpool Gardens, Worthing.

Doctor's Daughter, Public School, desires post as SECRETARY-BOOKKEEPER - RECEPTIONIST; shorthand, typing. Can drive car. Midlands preferred. Willing to help in any way.—Address, DICKSON, Northgate House, Bridgnorth.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Doctor's widow desires position as HOUSEKEEPER. Would use own furniture if convenient. Please first write particulars. — Address, No. 1602, B.M.A. House, Tavistock Square, W.C.1.

Efficient Lady Secretary, experienced, desires post as SECRETARY RECEPTIONIST with Doctor. High speeds shorthand, typing. Knowledge of bookkeeping. Able to drive a car.—"G. R.," 24, Welbeck Street, W.1.

General Man for Doctor (Public School); Dispensing (20 years' experience); accs. car, garden, horses. Excellent refs. Country preferred.—"MAC," "Lulworth," Canterbury Road, Herne Bay.

Gentlewoman wishes position as SECRETARY or SECRETARY-CHAUFFEUSE to Doctor. Shorthand, typewriting, bookkeeping. Glasgow or district pref., but any other dist. considered where possible to live in. —No. 1621, B.M.A. House, Tavistock Sq., W.C.1.

Gordon Hall School of Pharmacy TRAINS WOMEN in Pharmacy and Dispensing, and can SUPPLY qualified Dispensers without charge.—Apply, PRINCIPALS, Gordon Hall, Drayton House, W.C.1. 'Phone Museum 3930.

Lady Dispenser - Bookkeeper (Hall) requires POST with Doctors. Experienced in panel, club, and private practice. Good testimonials.—Address, No. 1705, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser (Hall), trained Nurse-Receptionist, good bookkeeper, excellent testimonials, seeks POST with Doctor or Institution.—DISPENSER, 25, Bernard St., Russell Square, London, W.C.1.

Lady Dispenser (Hall), receptionist, seeks POST with Doctor, whole-time, part-time, or locum. Hospital experience with testimonials. London preferred.—SOUTHERN, 107, Highbury New Park, N.5.

Lady Dispenser-Bookkeeper requires POST with Doctor. Country or seaside preferred. Excellent references.—Add., No. 1604, B.M.A. House, Tavistock Sq., W.C.1.

Lady Secretary, experienced, shorthand, typewriting, dictaphone, medical work, requires PART-TIME POSITION. —Address, No. 1605, B.M.A. House, Tavistock Square, W.C.1.

Manufacturing Chemists have OPENING in their Laboratory for qualified BIOCHEMIST.—Address, stating age, qualifications, experience, and salary required, No. 1616, B.M.A. House, Tavistock Sq., W.C.1.

Part-time work required by young Indian Doctor intending to take higher examination. Well experienced in panel and private work and Refraction. London or any other University town.—Address, No. 1632, B.M.A. House, Tavistock Square, W.C.1.

Secretary-Housekeeper or similar post desired by widow (33), experienced all secretarial duties, good cook and manager, first-class testimonial from eminent Leeds Surgeon. Can use own furniture. Low salary if allowed keep two sons (at school).—CAMPBELL, 379, Grovehill Road, Beverley, E. Yorks.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6450 (any hour).

To London Practitioners.—Experienced Doctor will TAKE TWO or THREE SURGERIES weekly.—Telephone: Flaxman 8010.

Young Lady desires Secretarial position. Experienced in medical work. Excellent references. Shorthand, typewriting, bookkeeping. Free March 31st.—Address, No. 1707, B.M.A. House, Tavistock Square, W.C.1.

PARTNERSHIPS.

Cheshire.—Third Partnership in industrial, middle and working-class Practice. Receipts for the past three years average £4,220. Panel 3,744. Rent of house £60 p.a. Premium for 8/25th share £2,500 (including share of instruments, drugs, book debts, etc.). — Apply, 2606, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

Lancs Town. — Partnership (3 months' preliminary Assistantship at £300 per annum) in large panel Practice. Receipts £1,700. Panel £1,200. Price 1/3 share £900; or 2/5 £1,200, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Liverpool. — One-third Share, large panel and cash PRACTICE, for sale, 2 years' purchase. Suit young, energetic, and steady man; or six months' Assistantship with view entertained. Capital can be arranged. —No. 1530, B.M.A. House, Tavistock Sq., W.C.1.

Manchester residential suburb.— HALF SHARE PARTNERSHIP, with view to early succession. Receipts £1,800, with much scope for increase. House available. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Partnership, with Succession in 12 months. — Industrial area, London, S.E. Panel 1,260. Valuable appointment. Receipts 1930, £1,220. Old-established (50 years).—Address, No. 1622, B.M.A. House, Tavistock Square, W.C.1.

Partnership.—Well-qualified and experienced man, aged 41, wishes introduction to advertiser No. 2, under Bovril Medical Agency of last week. Ample capital. Interview urgently desired.—Address, No. 1716, B.M.A. House, Tavistock Square, W.C.1.

Partner-Successor (1—5 years) for increasing panel and private Practice in delightful city. Receipts £5,000. Little night work or midwifery. House available. Excellent schools. Sport. State available cap.—No. 1629, B.M.A. House, Tavistock Sq., W.C.1.

Partner wanted, well qualified, age 30—35, in South-West seaside resort. No panel or dispensing. Hospital, schools. Share worth about £1,000 at 2 years' purchase, more later.—Address, No. 1654, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted, in London, by experienced Practitioner, PRACTICE or PARTNERSHIP [illegible] about £2,000 or more [illegible] panel. Ample capital [illegible] No. 1712, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—London and District. —The Medical Agency has a large clientele seeking suitable INVESTMENTS in the London area with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Wanted in London or suburbs, good-class PRACTICE. Minimum income £1,000. House or flat to rent if possible. Partnership with early succession considered.—Address, No. 1237, B.M.A. House, Tavistock Square, W.C.1.

Wanted by well - qualified Practitioner, good-class PRACTICE, £1,200—£1,500. Pleasant residential district, South or South Midlands. Convenient house essential, garden. Details.—Address, No. 1613, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Preferably near London or S. Coast, a sound General PRACTICE, with panel. Income about £1,200. Would like good house and garage on lease.—Address, No. 1501, B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Town or country. Good house. Income £1,000—£1,500. Strict confidence.—No. 1533, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Practice, Town or Country, £800—£1,200, with panel. Advertiser is London Conjoint and D.P.H. Middle-aged.—Address, No. 1713, B.M.A. House, Tavistock Square, W.C.1.

Wanted by M.D., large panel and cash PRACTICE in working-class district, thickly populated. Cash ready.—Address, No. 1704, B.M.A. House, Tavistock Square, W.C.1.

Central Scotland, within easy reach of all the principal centres. Old-established mixed General PRACTICE; compact and easily worked, with panel of 1,500. *Excellent modern house for sale with Practice.*—For further particulars, address, No. 1619, B.M.A. House, Tavistock Square, W.C.1.

Doctor, married, two children, wishes Branch PRACTICE, or act as Assistant. Willing, as financial position is quite secure, to accept house and moderate fee as salary. Good experience as G.P.; also H.S.—Address, No 1612, B.M.A. House, Tavistock Square, W.C.1.

For Disposal, through death, PRACTICE, with house, Lancashire working-class district. Panel 700 to 750.—Address, No. 1623, B.M.A. House, Tavistock Square, W.C.1.

For Sale by Partners. — Good PRACTICE, with ample scope for development and Surgery, in rapidly growing suburban area, South London. One or two house available. Would suit two men or man and woman. Panel 550, increasing. Income approximately £1,300.
Address, No. 1610, B.M.A. House, Tavistock Square, W.C.1.

For Sale, on account of death.— Old-established Medical PRACTICE in Stornoway, Lewis. Panel 1,556. Appointments held by deceased £276, with, in addition, grant from H. and I. Medical Service Fund. Good private practice. House, with surgery, can be purchased or rented.—Further particulars from STEWART, RULE & CO., Solicitors, Inverness.

For Sale.—Old-established PRACTICE in the County of Durham. Receipts with appointments, £1,500 to £2,000 p.a. Large house, garden, garages; electric light. The house can be rented or purch. Prem. £2,000. —No. 1509, B.M.A. House, Tavistock Sq., W.C.1.

London, E. — Old-established Cash and Panel PRACTICE. Receipts £1,200 p.a. Panel over 1,500. Lease of house. Premium moderate.—Apply, ADLER & PEROWNE, 46, London Wall, E.C.

London, W. — General Practice for Sale. Established 20 years. Receipts £1,000 p.a. Panel over 1,400. Good house at moderate rental. Premium 2 years' purchase. —Address, No. 1703, B.M.A. House, Tavistock Square, W.C.1.

M.D. desires Nucleus in Bournemouth, with scope (including panel); preferably also house to rent. Can purchase at once.—Address, No. 1706, B.M.A. House, Tavistock Square, W.C.1.

New Private and Panel Practice at Hove, in rapidly growing good-class district. Residence available. Separate fitted Surgery, with instruments. Unusual opportunity for live man; unlimited scope.—Address, No 1623, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

Urgent.—Midlands.—Increasing PRACTICE for Sale, about £700. Panel 350 (annual increase 50). January receipts over £125. Eight-roomed house, garden, garage; electricity. Much scope. Prem. £850. —No. 1626, B.M.A. House, Tavistock Sq., W.C.1.

X-Ray Practice for Sale. Great scope; also scope for Electro-therapeutics.—Address, No. 1609, B.M.A. House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.

Telephone: 3204 MAYFAIR.

MAYFAIR.

With uninterrupted views over Hyde Park.
A SMALL HOUSE OF
DISTINCTION AND CHARM.
Modernised and beautifully decorated.
Hall, 3 reception rooms, 7 bedrooms, bath dressing room, bathroom, convenient domestic offices.
Garage with rooms over if desired.
LEASE FOR SALE AT A LOW PRICE.
Sole Agents:
Messrs. KNIGHT, FRANK & RUTLEY,
20, Hanover Square, W.1.
(Mayfair 11355.)

Bed and Breakfast offered by Doctor, near Gower Street, in return for OCCASIONAL NIGHT WORK. — Address, No. 1625, B.M.A. House, Tavistock Square, W.C.1.

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & Co., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Glasgow — Superior suite of ROOMS (suitable for Doctor, Dentist, or similar profession), most central position in Glasgow. Corner Union Street, Gordon Street. Central heating. Passenger lift. Immediate entry.—Apply, PEACOCK & HENRY, C.A., 111, Union Street, Glasgow, C.1.

Hampstead, 5, Cleve Road.—Charming Detached Double-fronted Non-basement Freehold RESIDENCE. Three reception, billiard room, 11 beds., 2 bath., usual offices. Large garden. Central htg., e.l. and htg. Suitable for Nursing Home or Institution. Auction Feb. 18th next.—Apply, AUSTIN & Co., 333, High Road, Kilburn. Maida Vale 3671.

Harley St.—Large ground floor CONSULTING ROOM, with Secretary's Room, to be let immediately, with name plate. —Address, No. 1605, B.M.A. House, Tavistock Square, W.C.1.

Norfolk Coast.—Large Residence for Sale or to Let. Ten bedrooms. Suitable Nursing Home.—Apply, HOWES, Bank Street, Norwich.

ESTABLISHED 1850.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.),
Surveyors, Auctioneers, and Estate Agents,
10, WIGMORE STREET,
CAVENDISH SQUARE, W.1.
SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS
in Harley Street and leading Medical Positions.
Telephone: Langham 3927 and 3928.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the
MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.
The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.
THE Ideal Suit for Professional or Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS ,, ,, £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.
Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.
Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.
Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659. Write for Tax Guide, Free

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

X-Ray Installation, 1914 pattern, for 240 volts D.C. main, comprising 20in. induction coil, switch board, electrolytic and mercury interrupters, diascope, screening couch, treatment stand, gas tubes, etc. Will accept best offer for immediate sale. — Address, No. 1614, B.M.A. House, Tavistock Square, W.C.1.

Covers for Binding

Vols. I and II of the BRITISH MEDICAL JOURNAL for 1930 and previous years can be had, price 2s. 6d., by parcel post 2s. 10d. each.

Remittances must accompany all orders. Apply at the office, B.M.A. House, Tavistock Square, W.C.1.

TENDERS.

County Council of Middlesex.

PUBLIC ASSISTANCE DEPARTMENT.

TENDERS FOR SUPPLIES.

The Middlesex County Council invite Tenders for the supply of the following Goods or Materials, in each case for a period of six months (except where otherwise stated) from April 1st, to their several Public Assistance Hospitals and Institutions:

DRUGS.
MEDICAL AND SURGICAL APPLIANCES.
DRESSINGS.
SURGICAL INSTRUMENTS.
PATHOLOGICAL SUNDRIES.
RADIOLOGICAL REQUISITES.
RADIUM REQUISITES.
DENTAL REQUISITES.

Forms of Tender (upon which only tenders will be received) and conditions of contract may be obtained on application to the Director of Public Assistance, 10, Great George Street, Westminster, S.W.1, accompanied by a stamped, addressed, foolscap envelope.

Sealed Tenders, marked "Tender for —," must be delivered on or before 11 a.m. on Monday, March 23rd, addressed to "The Clerk of the Middlesex County Council, Guildhall, Westminster, S.W.1."

The Council do not bind themselves to accept the lowest or any Tender, and reserve the right to accept any Tender or part only.

Estimated quantities required are stated in the form of Tender, and Tenderers may tender to supply all or any one or more of the Establishments concerned.

Guildhall, Westminster. March, 1931.
E. S. W. HART, Clerk of the County Council.

LITERARY.

Authors and Composers are invited to forward MSS. of all descriptions for prompt PUBLICATION. £50 cash for poems. No reading fees; current catalogues free. —STOCKWELL, Ltd., 29, Ludgate Hill, London.

APPOINTMENTS.—Contd.

Taunton and Somerset Hospital
TAUNTON. (104 Beds.)

SENIOR HOUSE PHYSICIAN (and Anaesthetist) required at the end of March. Two other Resident Officers. Salary at the rate of £100 per annum, with board, residence, and laundry.
Applications, with testimonials, to—
F. J. J. STACEY, Secretary.

Northwoods Private Mental HOSPITAL, WINTERBOURNE, BRISTOL.

HOUSE PHYSICIAN required. The appointment is for one year. Salary £100, with full board, residence, and laundry. There are ample opportunities for Post-graduate work.
Apply to the Medical Superintendent.

Newark General Hospital
(50 Beds).

Wanted, a fully qualified RESIDENT HOUSE SURGEON (male or female), unmarried. Salary £175 per annum, with board, residence, and laundry. Appointment for six or twelve months if mutually desired. Applications, with copy testimonials, to be sent to W. T. CRAMPTON, Secretary, 27, Kirk Gate, Newark, Notts.

Rotherham Hospital.
(130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £120, with board, residence, and laundry.
Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Assistant Medical Officer wanted for PAISLEY DISTRICT ASYLUM, 350 per annum, with ging, etc., valued at purposes. Apply, Medical Superintendent, stating age, qualifications, and experience, with copies of not more than three testimonials.

Evelina Hospital for Children,
Southwark, S.E.

The Committee of Management invites applications for the post of DENTAL SURGEON (Hon.) (attendance Tuesday mornings at 9.30). Candidates (male) must be fully qualified Medical Practitioners, and Licentiates in Dental Surgery of a Royal College of Surgeons of the United Kingdom, or shall hold some other special Dental qualification obtained in the United Kingdom; they must not be engaged in General Medical Practice.

Applications, with copies of four testimonials, to be addressed to the Secretary, at the Hospital, before 25th inst.

Candidates must call on the Members of the Hon. Medical Staff, whose names, also Standing Orders relating to the post, will be furnished by the undersigned.

By Order of Committee of Management.
W. H. SIDNELL,
March 6th, 1931. Secretary-Supt.

Evelina Hospital for Children,
Southwark, S.E.1.

The Committee of Management requires a HOUSE SURGEON (male) for six months from April 12th (during first two months duty in Casualty and Out-patient Department). Salary £120 per annum, with board and residence. Candidates, duly registered, to send applications, giving age, qualifications (with dates), and copies of four testimonials, before 25th inst., to the undersigned at the Hospital. Applicants will be informed if they will be interviewed by the Medical Committee. Selected candidates must attend Committee of Management. Date of meeting will be notified by undersigned, from whom rules and other particulars relating to the post must be obtained.

By Order of Committee of Management,
W. H. SIDNELL,
March 9th, 1931. Secretary-Supt.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIANO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, Oxford Rd.
GLASGOW: 28, Windsor Terr.
DUBLIN: 23, Upper Baggot St.
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 6932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 3873.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

London, W. — £450 p.a., ample scope. Vendor retiring. Select panel 500. Fees 5/- to 21/-. Good house, with garden.—No. 8818.

Country.—Near S. Coast.—£750, scope to £1,000. Small panel. Little midy. Visits 3/6 to 12/6. Easy terms. House to rent shortly.—No. 8812.

London, S.E. — Woman's Practice. £550 or more. Panel 148. Fees 3/6 to 21/-. Small flat, with chance of additional accommodation.—No. 8811.

S.W. Scotland.—Near Coast.—£1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 6 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

London, S.E., near River. — Over £1,200. Half Partnership with succession in 12 months. 35 years in present hands. Dispensing, industrial. No midwifery. Panel £560. Bachelor could live in. £1,200, £800 down, for half.—No. 8806.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, *6 bedrooms, dressing, 2 reception, Surgery, etc.*, separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

S.W. County. — Country. — £1,000. Panel brings £240. Visits 3/6—10/6. Large house and garden. £60 p.a. £1,500.—No. 8800.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 3/6 to 21/-. No dispensing. Small panel.—No. 8799.

West Riding.—£1,030 p.a., increasing. Panel 400. Appts. £45. Fees 3/6 to 10/6 and up. Midy. 5 to 7 gns. Small modern house to rent or on mortgage.—No. 8797.

S. Midland. — Country. — £480 and scope to young man. Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. Premium only £300.—No. 8796.

Yorks.—Death Vacancy.—£1,000 or more Panel 950. Not much midy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. Prem. £850, part deferred.—No. 8795.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No midy. Fees 3/6 to 10/6. House to rent. —No. 8791.

Over £700.—Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

London Suburb, S.W. — £1,100. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, *6 bedrooms, etc., to rent.*—No. 8780.

Northants. — Country.—About £500 p.a. Panel 400. Visits 3/6 up. House, 4 bed., for sale, or smaller, with garden, at £30 p.a. Premium about £650.—No. 8779.

London Suburb, S.W. — £2,800. Old-estab. General Practice. Half share. Panel 1,250. Detached house (7 bed.) and garden. Exper. of Eye work essen.—No. 8768.

Favourite South Coast Resort.—Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden, to rent or buy.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

PROSPECTIVE PURCHASERS

OF PRACTICES

and those seeking

PARTNERSHIPS

should consult

The

BRITISH MEDICAL BUREAU

at

12, Stratford Place, Oxford St., London,

or its Northern Branch at
33, Cross Street, Manchester.

or its Newcastle Branch at
7, Windsor Place, Newcastle - on - Tyne.

Those requiring additional

CAPITAL

should apply to the
Medical Insurance Agency
(Limited by Guarantee)
B.M.A. House, Tavistock Sq.,
London, W.C.1.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT

The

Medical Insurance Agency

(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional accommodation consists of 3 rooms, centrally situated, held on agreement at £100 p.a. Receipts approximately £530. Fees 2/- up. Panel 430. Premium £650 cash. Scope for further development.

LONDON, W.10.—Cash and Panel PRACTICE, situated in middle and working-class locality. Suitable accommodation available to rent at £76 p.a. inclusive. Fees 2/6 up. Midwifery 2 gns. up. Panel 300. Books audited. Receipts £385. Premium £600 or near offer.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for Surgery. Premium third share with view to larger share £1,300.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery, scope. Suitable house available. Premium 1½ years' purchase.

LONDON, E.13.—NUCLEUS working-class Practice (mostly cash), situated in thickly-populated locality. House to rent at £60 p.a. (part sub-let at £26 p.a.). Receipts approximately £350. Panel 400. Fees 1/6 up. Mids. 2 to 3 gns. Premium £400.

SOUTH COAST.—Favourite Holiday Resort.—PARTNERSHIP, with view to succession in 12 months' time, in well-established middle-class Practice. Suitable flat available at reasonable rent. Receipts £1,200. Panel 800. Appointments £100. No midwifery or night work. Premium for half share (with view) 2 years' purchase. Excellent scope. Suitable for English or Scotch Practitioner. Or would sell outright.

S.W. COAST.—Well-established general PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

LINCOLNSHIRE.—NUCLEUS Country Practice with splendid scope, situated within 2 miles of growing seaside resort. Excellent house (5 beds), garden, garage, etc. Receipts £260. Panel 110. Good schools. Excellent sport. Premium £950 house and Practice.

HOME COUNTIES (North).—PARTNERSHIP after Preliminary Assistantship, with view to succession, in old-established mixed Practice. Receipts nearly £1,800. Panel 1,500. Fees 2/6 up. Excellent scope. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share.

If the investment you are seeking is not advertised here, let us know your wants, and we will gladly forward details of others suitable to your requirements.

KENT.—Within easy reach of London.—Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Premium £1,300. Excellent scope for energetic man.

BELGRAVIA.—Well-situated non-panel PRACTICE (with scope for panel if desired) in good thoroughfare. House for sale or would be rented. Receipts approximately £1,000 p.a. Premium 1½ years' purchase, cash.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220, growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £300.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY, 19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.
LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. LONDON, S.E. (7 mins. Charing Cross).—Lady Doctor's PRACTICE for sale. Receipts average £550 p.a., panel 149 Nice flat available, rent £60. Premium £700, or near offer.
2. LONDON, S.E.—Death Vacancy.—Old-established PRACTICE. Receipts average £1,600 a year, panel 1,395. Surgery rent £69. Locum in charge. Premium 2 years' purchase, to include drugs and instruments.
3. Doctor required to take over SURGICAL PART of a Nursing Home in Kensington, and to receive all fees from same. Suit anyone wanting part-time post. Premium only £100.
4. EASTERN SUBURB. — Old-established Cash and Panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by instalments.
5. LONDON, E. (near Liverpool Street).—Mixed-class PRACTICE. Receipts last year £530, including panel 605. Premises 32/6 weekly. Premium £750, or near offer.
6. LONDON, N.W. (near Cricklewood).—Old-established PRACTICE. Receipts about £500 p.a., panel 450. Rent £70 p.a. Suit lady or gent. Premium £650, including new surgery furniture.
7. LONDON, S.E. (15 mins. Charing Cross).—Old-established middle and working-class PRACTICE. Receipts average £950 p.a., panel 800. Large house and garden, rent £115, part sub-let. Prem. £1,500. Good scope.
8. LONDON, S.W.—Well-established Cash and Panel PRACTICE. Receipts over £2,500 p.a., panel over 2,000. Lock-up surgery, rent £100. Premium moderate.
9. N. WALES.—THIRD SHARE of a well-established Practice for disposal. Total receipts £2,000 p.a., panel 1,750. Pleasant district near large town. Suit young active practitioner. Premium £1,000.

No charge to purchasers or for enquiries.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. NORTH OF ENGLAND.—Panel, Private, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appts. £350. Good house to rent. Considerable scope for energetic man.
2. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. nearly 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
3. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP, 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts average £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.
7. LANCASHIRE.—Old-established and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
8. MIDLANDS. — COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

THE

WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)

PHOENIX CHAMBERS, 22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. SOUTH-WESTERN COUNTY. — One-sixth to one-third share of Partnership, over £5,500 p.a. Great scope for Surgeon. Four Hospitals and Nursing Home near. Applicants should have F.R.C.S. and be about 30-35. Panel 4,100. Several appts. Good house. Near sea. All sport. Prem. 2 years' pur.
2. WEST OF ENGLAND CITY. — PARTNERSHIP.—Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Prem. 1½ years. Choice of resid.
3. CHESHIRE BORDERS.—One-third share of PARTNERSHIP, averaging £2,000 p.a. Pleasant country district. Panel over 1,700. Plenty of scope. Prem. £1,000. Suit young doctor. Purchaser could live with Vendor.
4. S. DEVON. — Old-established PRACTICE, averaging £2,400 p.a., for sale in favourite town. Panel 1,500, increasing. Large house in grounds, for sale or rent. Seaside. Ideal climate.
5. SOUTH WALES. — Large City. — Industrial PRACTICE averaging £600 p.a. Opposition not strong. Good house to buy or rent. Premium £600.
6. SOUTH-WEST WALES.—General PRACTICE, returning £1,000 p.a. Present hands 10 yrs. Seaside and Country Town. Panel 750. Good house to rent. Prem. 1½ yrs. No collieries.
7. MIDLANDS.—Cathedral Town.—Good PRACTICE. Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a. Premium 1½ years' purchase.

WANTED AT ONCE.—ASSISTANTS & LOCUMS.

WE ARE THE RECOGNISED AGENCY FOR THE WEST OF ENGLAND AND WALES.

FINANCIAL ASSISTANCE can be arranged for the PURCHASE of PRACTICES or PARTNERSHIPS. Full particulars on application.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

CHESHIRE.—COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Prem. 1½ years' purchase. Vendor retiring.—No. 189.

NEAR NORTH-EAST COAST. — SEASIDE RESORT. — Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £600 for quick sale. —No. 220.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

CHESHIRE BORDERS.—PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistantship. Purchaser could live with Vendor. Premium — one-third share—£1,000.—No. 245.

N.-W. LANCS. — UNOPPOSED COUNTRY PRACTICE. — Beautiful agricultural district. Cash receipts 1930 — £1,600. Panel 800. Appointments (transferable) £405 p.a. Excellent house, 2 reception, 6 bedrooms. Garage and large garden. Electric light. Rent £55 p.a. Premium £2,250 (to include drugs, fittings, etc.)—No. 242.

NORTH-WEST COAST.—SEASIDE RESORT.—Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 550. Excellent freehold house in good position facing Sea, 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

NORTH WALES.—RAPIDLY GROWING SEASIDE RESORT.—PRACTICE. Average cash receipts £627 p.a. Panel £123. Excellent modern house (freehold) to rent, 2 reception, 6 bedrooms. Garage and garden. Premium — Best offer for quick sale. — No. 223.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium—Practice—£1,600.—No. 195.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

MANCHESTER. — INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

SOUTH COAST.—SEASIDE RESORT. —PRACTICE. Average cash receipts £745 p.a. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 197.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium — Practice and house — any reasonable offer.—No. 173.

YORKSHIRE (W.R.).—PARTNERSHIP in Industrial Practice, £2,500 p.a. Large panel. One-third share offered after preliminary assistantship at £400 p.a., with house rent free.—No. 243.

MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,361 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 63.

LANCS TOWN.—Old-established PRACTICE. Average cash receipts £1,200. Panel 900. Great scope. Excellent house, 2 reception, 4 bedrooms. Garage. Premium 1½ years' purchase.—No. 178.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No 234.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. Good house, 2 reception, 3 bedrooms. Prem.—Practice—1½ yrs.' pur.—No. 194.

LANCS. TOWN.—Old-estab. PRACTICE. Average cash receipts £1,156 p.a. Panel 1,260. Much scope. Excellent detached house, 3 reception, 6 bedrooms. Garage and lawn. Rent £90 p.a. Premium £1,500.—No. 222.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

LANCS. TOWN.—PRACTICE. Average cash receipts £751. Panel 450. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

LIVERPOOL (Near).—Old-established middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

ISLE OF MAN.—SEASIDE RESORT.—PRACTICE. Cash receipts 1930, £861. Panel. Excellent house to rent, 3 reception, 7 bedrooms. Garage and garden. Premium £700 (or near offer).—No. 225.

WANTED ... AND OUTDOOR ASSISTANTS FOR ... PRACTICES, WITH AND WITHOUT VIEW ... full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783}

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch.

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 5925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal.

Full particulars sent free.

1 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

2 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

3 MIDDLESEX. — Partnership in Practice nearly £2,800 p.a. in rapidly growing Industrial Town. Panel over 2,500. Suitable house could be obtained. Cottage Hospital. Great scope. Premium one-third share 2 years' purchase.

4 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 2 years' purchase.

5 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

6 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

7 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

8 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

9 S. MIDLANDS. — Practice over £750 in first-rate County Town. Small panel. Suitable house for sale at £1,200. Good Hospital. Scope. Premium 1½ years' purchase.

10 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

11 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main throughfare for sale. Scope for panel and midwifery. Premium £1,200

12 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

13 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

14 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

15 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

16 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase, with ultimate succession.

17 MIDDLESEX.—Partnership in good residential outlying suburban district. Very attractive detached house (8 bed and dressing rooms) in own grounds, with garage and good garden, to rent. Cottage Hospital. Share worth £1,020 p.a. at 2 years' purchase.

18 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

19 S. AFRICA.—Easily worked non-dispensing PRACTICE in large and important Coastal Town in Cape Province. Receipts last year £1,600. Pleasant house overlooking the sea to rent. Good Hospital, etc. Premium £1,800.

20 W. MIDLANDS. — Unopposed Country PRACTICE over £600 p.a., six miles from county town. Panel over 300. House (5 bedrooms), with garden, orchard, etc., to rent. Premium 1 year's purchase.

21 ESSEX.—Easily worked Practice in thickly populated outlying suburban district. Receipts about £1,600 p.a., including about £900 from the panel. Good shop-fronted residence to rent. Premium £3,200, cash.

22 SURREY.—Practice averaging £900 p.a. in attractive residential country district. Panel 300. House (6 bedrooms), garden one and a half acres, garage, to rent on lease. Premium £1,700.

23 S. COAST. — Partnership in Practice between £1,600/£2,000 p.a. in fashionable watering-place. Panel over 900. Partner should be young, with knowledge of minor Surgery. Premium one half share 2 years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

24 LONDON, W. — Middle-class Practice of over £800 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,100.

25 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

26 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

27 MIDLANDS. — County Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). *Premium* £550.

WEST SCOTLAND. — Practice (held by Medical Woman) in small town with ample scope. *Midwifery* essential. Panel 600. Last year's receipts over £700. Modern villa. Premium—house and Practice—£1,600.

29 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. *Panel* 250. Very nice compact house (4 bedrooms), garage and garden, etc., Golf. Premium—house and Practice—£2,750.

30 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

31 S.W. OF ENGLAND. — Third Partner required in Practice, over £5,600 p.a., in small Industrial Town. Panel 4,100. Suitable house to purchase. Excellent scope for Surgery. One-sixth share at first at 2 years' purchase. Preliminary Assistantship.

32 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House *contains* 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

33 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

34 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a. at 1½ years' pur.

35 SCOTLAND. — Nucleus of Consulting Practice, with appointments, together worth about £300 p.a., in University City. House situate in high-class residential quarter. Premium (house and Practice) £1,750.

36 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

37 LIVERPOOL.—Middle-class non-dispensing PRACTICE of nearly £1,200 p.a. in residential part. Small panel. Good house to rent. Premium 1½ years' purchase.

38 CHANNEL ISLANDS.—Practice of nearly £1,900 p.a. Good house (6 bedrooms, 4 attics), with large garden, for sale. Excellent climate.

39 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

40 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwifery. Six-roomed house to rent. *Premium* £800, to include drugs, etc.

41 ESSEX.—Practice averaging £370 p.a. in well-populated outlying suburban district. Panel 225. Double-fronted house (4 bedrooms), with nice garden, for sale. Good scope for young energetic man. Premium £450.

42 ISLE OF WIGHT. — Country Practice averaging £750 p.a. Panel over 380. Plenty of sport. Premium 1½ years' purchase.

43 S. OF ENGLAND. — Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. *Premium one-fourth* share, £1,750. Preliminary Assistantship.

44 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

45 WITHIN 50 MILES OF LONDON.—PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate County Town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent One-third share at 2 years' *purchase. Partner* should be aged 28-35 and have held H.S. and H.P appointments. Preliminary Assistantship.

46 S. MIDLANDS.—Practice averaging over £1,200 p.a in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

47 N. DEVON.—Country Practice about £1,000 p.a. in attractive Agricultural and Sporting District. Panel 330. House (7 bed and dressing rooms and attics), garage, and about half an acre of garden, to rent. Well-equipped Hospital. Premium £1,500.

48 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (*one day's* attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

49 HIGH-CLASS NURSING HOME (held by Medical Man) in delightful Country District (500 ft. above sea-level) within 35 miles of London. Receipts over £5,000 p.a. *Net profits between £1,000/£1,200* p.a. Beautiful house, with extensive grounds, etc., to rent. Premium for goodwill £1,500.

50 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice in residential town and Health Resort. Panel 800. After [illegible] re gradually increasing to one-half 2-yrs.' *purchase.*

51 ISLE OF [illegible] mall watering-place. Receipts [illegible] house in best road (7 bedrooms, etc.), garage and large garden, for sale. Educational facilities. Excellent scope. Premium £700.

52 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. *Scope for large increase.* Premium £400.

53 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 6 or more bedrooms, for sale. Premium £2,100.

54 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

55 LONDON, N.—Cash and Panel Practice of £1,300 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

56 MIDLANDS.—Partnership in easily worked *non-dispensing Practice* in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

57 KENSINGTON. — Small good-class non-dispensing PRACTICE of about £450 p.a. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

58 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

59 OXON.—Partnership in country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. KENT.—Very old-established unopposed Country PRACTICE, in very pretty district within 12 miles of the sea. Cash receipts for past 3 years average nearly £1,300 p.a., including appts. £52 and panel of £250. Very good house, with ample accommodation and all modern conveniences, in several acres of ground. Price (freehold) £2,800. Premium 1½ years' purchase.

2. EASTERN COUNTIES.—About 50 miles from London and within 10 miles of County Town.—Old-established PRACTICE in pretty country district, producing last year over £800, including appt. £60 and panel of 600. House with ample accommodation (bathroom h. and c.). Garden. Garage. Electric light. Gas. Rent £52 p.a., or freehold can be bought. Premium 1½ years' purchase.

3. LONDON, NORTH.—Old-established sound middle-class PRACTICE, producing for last 12 months £1,400. Panel of nearly 900. Fees 2/6 to 10/6. Not much midwifery. Nice house, with 2 reception, 3 bedrooms, and professional rooms. Garden. Rent on lease £65 p.a. Premium £2,100.

4. LONDON, S.E.—Good mixed-class PRACTICE. Income last 12 months £1,400, including panel of 1,100. Fees 2/6 to 5/-. Good house, with 3 reception, 6 bedrooms, and professional rooms. Rent on non-repairing lease £70 p.a. Premium £2,250.

5. SOUTH AFRICA.—Within 8 miles of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.

6. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium 1½ years' purchase. Ill-health reason of sale.

7. PARTNERSHIP.—In a most desirable outlying residential suburb of London a suitable Partner (experienced, used to good-class society, well-qualified, 35 to 40 years of age, and married) can acquire the fourth or fifth share (to commence) in an old-established Practice averaging over £10,500 p.a., including valuable appts. Good house with ample accommodation, garden. Premium 2 years' purchase. Personal application desired if possible.

8. BRIGHTON.—Very old-established PRACTICE, producing last financial year £1,121, including transferable appts. £160, and panel of 700 to 800. Consultations and visits 3/6, 7/6, and 10/6 No midwifery. Large house with good professional accommodation. Rent on lease £150 p.a. Premium 1½ years' purchase. Ill-health reason for sale. Efficient introduction given.

9. WEST MIDLANDS.—Easily worked PRACTICE in residential village within easy reach of two good towns, and having very pretty surrounding country. Receipts average over £1,000 p.a., including panel of 500 and an appt. worth £150. Nice house with good garden and land of about 2 acres. Price for freehold £1,600. Fishing, hunting, etc. Premium 1½ years' purchase.

10. YORKS.—LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,300 p.a., including panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and dressing room, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase.

11. PARTNERSHIP.—LONDON, NORTH.—A two-fifths share (to commence with) is offered in a well-established non-dispensing Practice, situated in pleasant and rapidly developing residential suburb. Cash receipts £2,600 to £2,700 p.a. There is considerable scope for surgery at good fees, which latter it is proposed ingoing Partner should retain. Patients good middle-class. Incomer, if unmarried, can live with Vendor, but no difficulty anticipated in obtaining suitable house. Premium two years' purchase.

12. NORTH OF ENGLAND.—Prosperous Town.—Very sound steadily increasing middle and working-class PRACTICE, offering good scope. Gross cash receipts for last twelve months £3,408, including panel of 2,794 Fees from 3/6. Suitable house with 3 reception, 5 bedrooms, etc Price £1,600. £1,000 on mortgage. Good sport and schools. Premium 1½ years' purchase. Very suitable for two friends in partnership.

13. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds Premium 1½ years' purchase, part by instalments Welsh not necessary.

14. WITHIN 25 MILES OF LONDON.—GROWING RESIDENTIAL DISTRICT.—Well-established mixed-class PRACTICE, offering good surgical scope if desired. Gross cash receipts for past twelve months £3,184. Panel of 900. Visits 5/- to 21/-. Commodious house with 3 reception, 7 bedrooms, etc.; separate professional accommodation. Rent on lease £150 p.a. Good sporting, social, and educational facilities. Premium £6,000.

15. WITHIN 15 MILES OF LONDON.—Developing neighbourhood.—PARTNERSHIP.—A one-half share is offered in a steadily increasing PRACTICE owing to the retirement of the senior partner. Gross cash receipts for last twelve months £2,696. Panel of over 1,000. Good house with 3 reception, 6 bedrooms, etc. Nice garden. Price £1,400, part on mortgage. Good sport and schools. Premium 2 years' purchase. Ingoing partner should be married, 35 to 40 years of age, and preferably English or Scotch.

16. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.

17. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase [illegible] ill-health reason for sale.

18. SOUTH [illegible] —PARTNERSHIP.—A one-half share is [illegible] and good middle and working-class Practice, averaging over £2,900 p.a., including panel bringing in over £700 p.a. Suitable house, with 2 reception, 4 bedrooms, etc., and professional rooms. Small but secluded garden. Rent on lease £75 p.a. Sport of all kinds, and first-rate schools. Premium 2 years' purchase. Ingoing partner should be English or Scotch

19. NORTH DEVON.—Very old-established unopposed Country PRACTICE, situated in a beautiful district, and producing last year £940, including panel and appts. worth about £300. Excellent residence (3 reception, 6 bedrooms, bathroom, etc.), in about 1/2 an acre of garden, with tennis court, garage. Rent on lease £60 p.a. Premium £1,500. Good hunting, shooting, and fishing.

20. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/-. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.

21. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' [illegible]

22. NORTH [illegible] WN.—A one-third share is offered in a ver[illegible]ging about £5,000 p.a. Ingoing partner n[illegible]er 35, and interested in medicine. Suitable [illegible] 2 years' purchase.

23. WITHIN [illegible] TICE, in [illegible]ed-class PRACaverage about £1,700 p.a., Cash receipts 1,000. Good house, with am[illegible] l panel of over freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds. garden. Price,

24. DEATH VACANCY.—YORKS.—Village PRACTICE near large town. Old-established mixed-class Practice averaging £1,200 p.a., including panel of 950. Fees from 3/6, with medicine extra. Suitable house, with 3 reception, 4 bedrooms, bathroom, etc. Electric light. Small garden. Rent £56 p.a. Premium, part by instalments. Locum in charge.

25. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.

26. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.

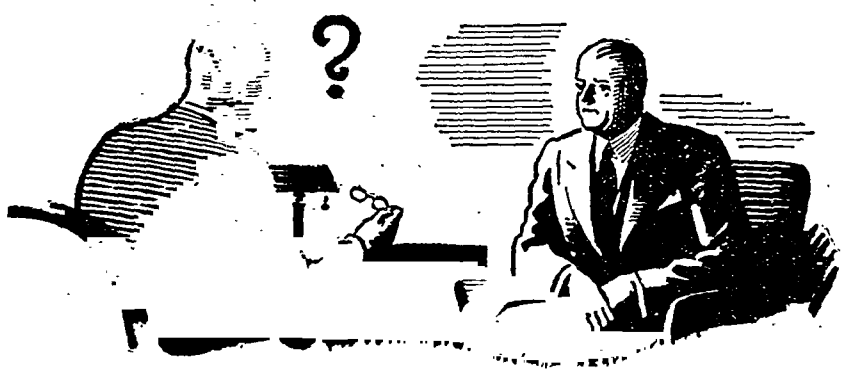
27. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,157, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.

28. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,500.

29. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.



The Answer to the "first Question"

INVARIABLY before prescribing for any ailment, the first question the physician asks the patient concerns the function of the bowels.

He then naturally asks himself what corrective, if any, to prescribe to suit the condition, without interfering with the treatment.

Agarol provides a safe answer to this.

Agarol Brand Compound the original mineral oil and agar-agar emulsion with phenolphthalein, is free from any artificial flavouring, sugar, alkali or alcohol. It is safe in diabetes, in gastric diseases, for children as well as adults. No excess of mineral oil to interfere with digestion or to cause leakage.

In addition, *gentle stimulation* of peristalsis, makes the result certain and the re-establishment of regular habits possible.

One tablespoonful at bedtime —is the adult dose.

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

AGAROL BRAND COMPOUND *for Constipation*

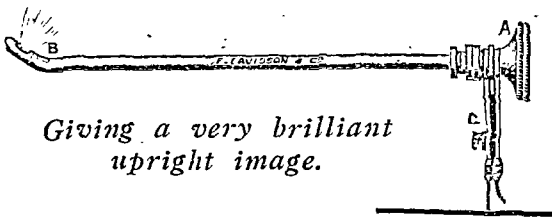
FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC., *Manufacturing Pharmacists Since 1856.*

High-Grade Examination CYSTOSCOPE

Kollmorgen Optical System.

SPECIAL OFFER—**£6 17 6** WITH SPARE LAMP IN CASE Usual Price 9 Guineas.



Giving a very brilliant upright image.

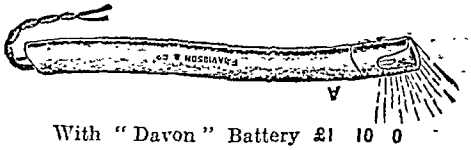
The low price we are able to quote is only possible because we have bought the whole of the large stock of a German manufacturer (in liquidation).

Complete Outfit for Eye, Ear, Nose, and Throat Examination, Transillumination and Light Cautery.

No. 54.	Price	£11 15 0
Ditto without cautery		£9 14 0
Other Outfits from		£3 12 6

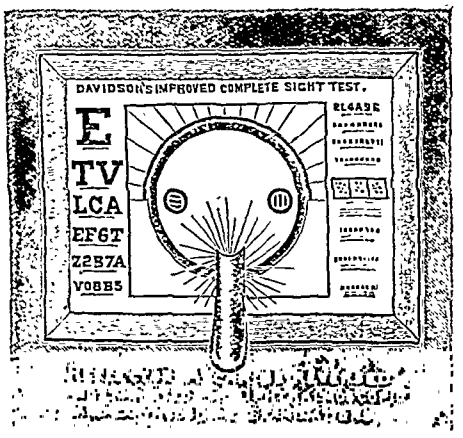
Our "Davon" Battery has been before the profession for over 20 years and maintains its reputation. Many Doctors have used one for 2 years and more. *INSIST UPON HAVING THE "DAVON"* (our registered trade mark) *WITH OUR GUARANTEE BEHIND IT.*

THE "DAVON" SPATULA AND TRANSILLUMINATOR.



With "Davon" Battery £1 10 0

"PARAGON" ILLUMINATED TYPES.



Can be hung on wall, or stood on a shelf or table.

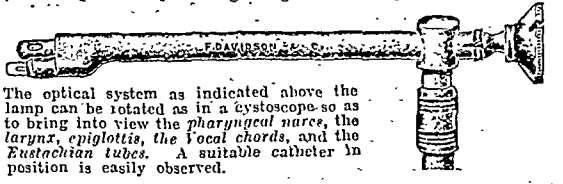
By means of an ingenious arrangement of the light and mirrors, the most brilliant illumination possible is obtained with an ordinary lamp. A metal chimney, asbestos lined, with ground glass shade (for light) and shutter (for reducing the size of illumination) is supplied for Ophthalmoscopic or Laryngoscopic examinations. (Size 18in. × 18in. × 4in.)

Price complete (without bulb) or with Incandescent Gas Burner £3 10 0. Two Sets of Snellen's Types instead of "Complete" Sight Test Card if desired.

ELECTRIC PHARYNGOSCOPE.

(Foreign)

(New Optical System giving much improved view.)



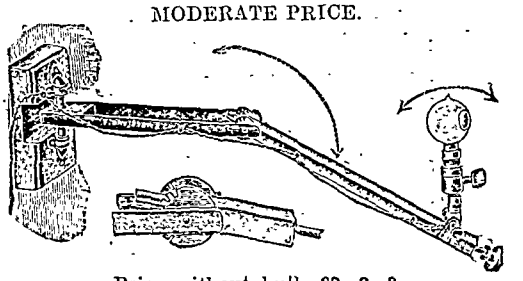
The optical system as indicated above the lamp can be rotated as in a cystoscope so as to bring into view the *pharyngeal nares*, the *larynx*, *epiglottis*, *the Vocal chords*, and the *Eustachian tubes*. A suitable catheter in position is easily observed.

PRICE £5 15 0; in Walnut Box £6 5 0

With "Davon" Battery and Rheostat, contained in Walnut Box, £7 5 6.

THE "DAVON" BRACKET.

Well made and serviceable at a very MODERATE PRICE.



Price without bulb £2 2 0.

Target frosted bulbs (please state voltage) each 3/6.

OCULIST'S TRIAL CASES.

In large variety from £10 10 0 complete. All lenses mounted, and adjustable trial frame. Secondhand cases frequently in stock at tempting prices.

TEST TYPES, &c., of every description.

SEND US YOUR OPTICAL PRESCRIPTIONS. SATISFACTION GUARANTEED and NO FANCY PRICES.

F. DAVIDSON & CO.

143-149, GREAT PORTLAND ST., LONDON, W.1. *(Estab. 1890.)* *Catalogue free.*

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3663 SATURDAY, MARCH 21, 1931 Price 1/3

PARKE, DAVIS & Co.

PILULA CHOLELITHICA,

(CHOLELITH PILL)

Chocolate-coated pills each containing :—

Acid Sodium Oleate	*1-1/2 grs.*
Sodium Salicylate (Natural)	*1-1/2 grs.*
Phenolphthalein	*1/3 gr.*
Menthol	*1/10 gr.*

A soft-mass pill, consequently there is prompt disintegration in the digestive tract.

Stimulates the secretion of bile and overcomes hepatic torpidity.

Has a laxative effect that is not griping.

Exerts an antiseptic influence on the gall-bladder. (An important point, as infectious processes are frequently a predisposing cause of gall-stones).

Indicated also in inflammations of the gall-bladder not due to the presence of stone.

Has given relief in cases not accurately diagnosed but pointing to gall-bladder and ducts by the presence of pain and tenderness.

Supplied in bottles of 25, 100 and 500. The usual dose is 1 to 4 pills. Further particulars will be sent on request.

PARKE, DAVIS & CO. BEAK ST., LONDON, W.1.

Laboratories: Hounslow, Middlesex. Inc. U.S.A. : Liability Ltd

Elastoplast

BRITISH MADE.

Patent No. 253,527.

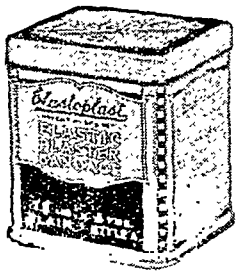
THE ORIGINAL AND FINEST

ELASTIC PLASTER BANDAGES

(STRETCH DOUBLE LENGTH)

As used in the permanent cure of Varicose Ulcers, Varicose Veins, and for general Surgical and Orthopaedic purposes at most Hospitals. With continuous pressure from **Elastoplast,** Varicose Ulcers, no matter how severe, painful, or long-standing, heal at a steady average rate of one square inch per week. *Vide:—*

Proceedings of the Royal Society of Medicine, May, 1930. Vol. 23, No. 7.
The Clinical Journal, 3/12/1930. Page 1032.
The British Medical Journal, 13/12/1930. 3 articles, pp. 996, 998, and 1000.
" " " 21/2/1931 (Correspondence)
The Lancet, 27/2/31, pp. 457-460.



Also

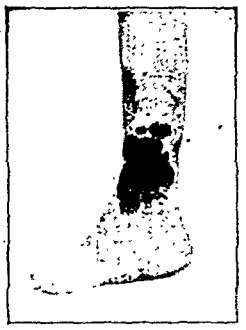
VISCOPASTE—ADHESIVE GELATINE BANDAGES (Unna's Paste Type)
For Varicose Ulcers, Varicose Veins, Eczema, Lymphangitis, Elephantiasis, Oedema after Fractures, &c.

One introductory trial set, with full details of method of treatment, will be sent, upon receipt of P.O. value 2/6, by the Manufacturers—

T. J. SMITH & NEPHEW LTD. (Dept. BM),
Surgical Dressings Manufacturers,
HULL, LONDON, MANCHESTER, GLASGOW.

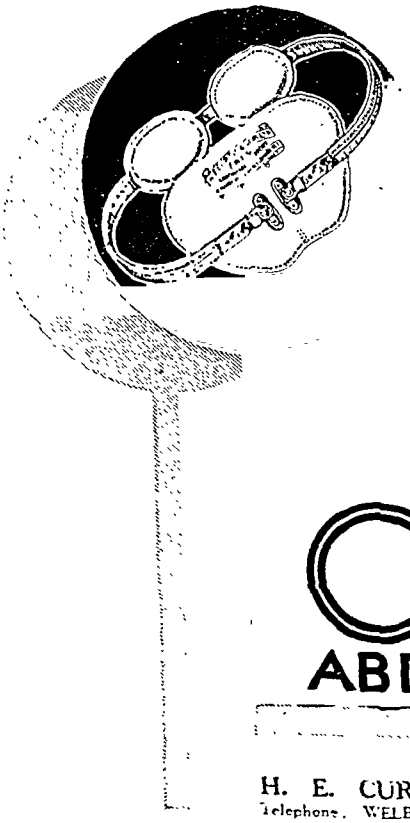
London Office: 42, TAVISTOCK SQ., W.C.1.

Obtainable through all Surgical Supply Houses.



Photograph shows Ulcer of 25 years' duration. Woman patient. Age 63.

After 18 weeks ambulatory treatment with Elastoplast applications. Bandages used—15.



Comfortable, and Correct Support

Assured to all sufferers from abdominal ptosis who wear the Curtis Abdominal Support, Model No. 1. The principle of this support—that of anterior posterior support—has been proved by scientific research to be the most efficient. There is no circumferential pressure, hence the wearer's freedom of movement is in no way restricted. There is no cramping or binding of the hips. It is light in weight, and easy to apply. There are no complicated fastenings.

IN USE IN MOST OF THE LONDON HOSPITALS.

CURTIS
ABDOMINAL SUPPORT

Sole Manufacturers of the Curtis Appliances:—
H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.
Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

British Medical Journal

CONTENTS

MARCH 21, 1931

ORIGINAL ARTICLES

The Treatment of Mitral Disease in Children. By THOMAS F. COTTON, M.D., M.R.C.P. 481

The Prostate in General Practice. By KENNETH WALKER, F.R.C.S. 482

Treatment of Paranasal Suppuration Persisting After Operation. By PERRY G. GOLDSMITH, M.D. 484

Thirty Years of Stomach Surgery. By JAMES PHILLIPS, F.R.C.S.Ed. 489

Muscle Extract Treatment of Some Grave Vascular Diseases. By M. S. SCHWARTZMAN, M.B. 492

A Case of Lipoid Nephrosis. By E. A. LUMLEY, M.B., B.Ch. 494

MEMORANDA

Traumatic Cleft Palate: *Micrococcus catarrhalis* Meningitis: Recovery. By W. R. BETT, M.R.C.S., L.R.C.P. 494

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE AND SOCIETY FOR THE STUDY OF INEBRIETY: Prevention and Treatment of Drug Addiction 495

LIVERPOOL MEDICAL INSTITUTION: Anaesthesia in Childbirth 497

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY: Treatment of Pituitary Disorders 493

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY: Injection Treatment of Haemorrhoids, Pruritus Ani, and Fissure 493

REVIEWS

Recent Advances in Forensic Medicine 499
Post-Encephalitis 499
Clinical Perimetry 499
Dr. Erasmus Darwin 500
Physiological Chemistry 500
Notes on Books 501

OBITUARY

David Hepburn, M.D. 517
Arthur Heygate Vernon, F.R.C.S. 517
S. J. Ross, M.D. 517

LEADING ARTICLES

DIET AND THE TEETH 502
OUT-PATIENTS 503
CHRONIC ULCERATIVE COLITIS 504

THE WEEK

Inquiry into the Incidence of Cancer and its History After Treatment 505
The Service Reports 505
Typhus Research in Malaya 505
International Fellowships for Research 506
The Problem of Race 506
The Teaching of Helminthology 506

GENERAL ARTICLES AND NEWS

The Hastings Lecture. Professor MELLANBY on "Diet and Health" ... 507
PREPARATIONS AND APPLIANCES 501
MEDICAL NOTES IN PARLIAMENT: Poisons and Pharmacy Bill 519
The Army Estimates 521
MEDICAL NEWS 523

LOCAL NEWS

NEW ZEALAND—
Effects of the Earthquake 509
ENGLAND AND WALES—
Maternal Mortality 510
Central London Ophthalmic Hospital: Opening of New Wing 510
Central Midwives Board 511
SCOTLAND—
Anderson College, Glasgow 511
Royal Victoria Tuberculosis Trust ... 511
Scottish Nursing Schemes 512
IRELAND—
Parsimony in Health Services 512
Voluntary Hospitals and the Sick Poor 512
Meals for School Children 512
Traffic Accidents 512

MEDICO-LEGAL

"Nature Cure" Practitioner and Woman's Death 518

UNIVERSITIES AND COLLEGES

University of Cambridge 518
University of London 518
University of Edinburgh 518
Royal College of Surgeons of England ... 519
Royal Faculty of Physicians and Surgeons of Glasgow 519

CORRESPONDENCE

Glycerin as a Germicide. By S. Monckton Copeman, M.D., F.R.C.P. 513
An Unusual Mental Abnormality. By William Brown, M.D., F.R.C.P. 513
Status Lymphaticus. By Temple Grey, Ch.M. 513
Disseminated Sclerosis Research. By Kathleen Chevassut, M.Sc.; and F. M. R. Walshe, M.D., F.R.C.P. 513
Genetic Relationship Between Cretinism and Hypothyroidism. By J. S. Manson, M.D. 514
Treatment of Pyloric Obstruction. By J. R. Murdoch, M.D. 515
Treatment of Varicose Ulcers. By T. Henry Treves Barber, M.D. 515
Mortality in Acute Appendicitis. By Herbert H. Brown, M.D., F.R.C.S.; and W. Rankin, M.B. 516
Serum Anaphylaxis. By W. S. Brindle, M.B. 516
Closed Drainage in the Treatment of Empyema. By William Mitchell, M.B. 516
The Enigma of the Chilblain 516

LETTERS AND ANSWERS

Mammary Abscess 524
Paroxysmal Rhinorrhoea 524
A Headache Powder 524
Miscarriage of One Twin 524
Diverticula of the Duodenum 524
Treatment of Obesity in a Multipara ... 524
Treatment of Cancer of the Bladder ... 524
Analgesia in Childbirth 524
Corrigendum 524

VACANCIES 524

(See also page 95 of SUPPLEMENT*)*

The SUPPLEMENT contains:

The Hastings Popular Lecture on Diet and Health. By EDWARD MELLANBY, M.D., F.R.C.P., F.R.S.

CURRENT NOTES: Inquiry into the Incidence of Cancer. Panel Committees and Medical Charities.

CORRESPONDENCE: Unnecessary Reference to Regional Medical Officers.

DENTAL BOARD.

Association Notices; National Insurance; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. President: Sir HERBERT WATERHOUSE, F.R.C.S. Entrance Fee, 10/-

No entrance fee to those joining within 12 months of registration. Assets exceed £55,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Bailliere, Tindall & Cox.

Churchill, J. & A.
Physiological Books 4

Harrison & Sons, Ltd.
Miles, W. E.—
Cancer of the Rectum. ... 4

Lewis, H. K. & Co. Ltd.
Cowdry's Human Biology, etc. 3
Douthwaite's Treatment of Asthma 3
Fisher, A. G. T.—
Chronic Arthritis ... 3
Internal Derangements, etc 3
... 3
... tions
... Diseases 3
... 3
... 3
... 3
... 3
... 3
... 3
... 3
Sykes' Manual of General Medical Practice . 3
White, R. P.—Affections of Skin 3

Oxford University Press.
Brown, W.—Science & Personality 4

Thacker, Spink & Co.
Indian Journal of Med. Research... 4

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 57

ASSURANCE COMPANIES—
Century Insurance Company 61

BRASS NAME PLATES, &c.—
Cooke's Name Plates ... 44
Ford's Name Plates ... 45
Herd, S. J. & A.—Name Plates ... 44
Lewis & Co. Ltd.—Name Plates ... 45
Osborne, P. & Co.—Name Plates ... 44

SURGICAL APPLIANCES—
Bailey & Son—Sphygmomanometer 36
Bell & Croyden—Medical Sprays.. 37
Burroughs Wellcome & Co.—
'Agla' Syringes 33
Bayer Products Ltd.—
'Behring Venule' ... Cover iii
Curtis & Son—Supports ... Cover ii
Dent's 'Ardente' Stethoscope ... 40
Domen Belts Co. Ltd.—Belts ... 45
... 44
... 41
... 41
... 41
... 60
Instruments, Osteology etc. ... 42
Rose, Maxime—'Corset Belt' ... 4
Salmon Odr—Surgical Appliances 42
Salt's Surgical Service.. ... 10 11
Short & Mason—
Tycos Sphygmomanometers ... 46
Smith & Nephew Ltd.—
Elastic Plaster Bandage ... Cover ii
Thermega Ltd.—Electric Pads ... 41

BOOTMAKERS, &c.—
Dowie & Marshall—Bootmakers.. 42

DISPENSING BOTTLES, &c.—
United Glass Bottle Manufrs. Ltd.—
Sterilized Bottles ... 35

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Lycen' ... Cover iv
... 18
... 12
Armour & Co.—Glanoid Products 28
... 17, 19
... 23
... 21
Burroughs Wellcome & Co.—
Preparations ... 33
Clayton Aniline Co., Ltd.—
Preparations ... 24
Coates & Cooper—Idozan ... 14
Continental Labs., Ltd.—Betol ... 15
Dimol Laboratories—Dimol Snuff.. 13
Evans Sons Lescher & Webb Ltd.—
Hepatex ... 30
Throat Pastilles ... 12
Fairchild Bros. & Foster—
'Zymine' ... 22
... 24
... 44
... 42
... iii
... 35
... 4
Kaylene Ltd.—Kaylene-ol ... 12
Kerol Ltd.—Capsules ... 45
Laboratoires de l'Opocalcium—
... 20
... 21
'Sedatus' ... 43
'Trilactine' ... 43
'Viodar' ... 29
May & Baker, Ltd.—'Arthrytin' ... 15
Midgley, Ltd.—Medisoap Therapy 22
Mond Staffordshire Refining Co.—
Monsol ... 16
Newbery & Sons—
Alka-Zane ... 20
Nujol Laboratories—Mistol ... 18
... Cover i
... 25
... 43
... 1
... 25
Schering, Ltd.—'Neotropin' ... 34
Sharpe & Dohme Ltd.—
Hexylresorcinal Solution.. ... 19
Wyleys Ltd.—
Elixir Iodo-Creosoti Co... ... 43

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee ... 42
Benger's Food ... 26
Brand's Essences ... 14
Cow & Gate Ltd.—Peptulac ... 32
Fortnum & Mason—Jelly ... 44
Mellin's Food ... 23
Nestlé & Anglo-Swiss Con. Milk Co.
Lactogen ... 27
Robb & Co. Ltd.—Biscuits ... 42
Valentine's Meat-Juice ... 16
Wander, Ltd.—Ovaltine ... 17

MOTOR CARS, TYRES, &c.—
Cook's Non-Scratch Motor Mop .. 44
Fiat London Distributors Ltd.—
Fiat Motor Cars. ... 6
Gamages—Chauffeurs' Liveries ... 38
Lodge Sparking Plugs ... 45
Second-hand Motors for Sale ... 59

PRINTING & STATIONERY—
Anderson & Son—Account Forms 44
Carlyle, G.—Duplicate Books. ... 4
Taylor's Typewriters 42

TAILORING & UNDERCLOTHING—
... 59
... 4
... 44
... 45

TOBACCO & CIGARETTES—
Player's No. 3 ... 40

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. ... 58

VACCINES & CULTURE MEDIA—
Allen & Hanburys Ltd.—
Vaccines and Sera ... 31
Laboratories of Path. & Pub. Hlth. 44

X-RAY & ELECTRO-MEDICAL APPARATUS—
Dean & Co.—X-Ray Apparatus. ... 8
Hayes-fft & Son Limited—Lamps ... 45
Kodak—'Duplitized' X-Ray Film 9
Medical Supply Association, Ltd.—
Diathermy Apparatus. ... 35

HOSPITAL, &c., VACANCIES—
Argyll County Council ... 59
... 54
... 54
... 67
... 61
... 55
... 56
... 54
... 60
... 56
... 60
... 56
... 60
Doncaster, Royal Infirmary ... 60
Durham County Council ... 54
East Ham Memorial Hospital ... 60
... 54
... 56
... 60
... 60
... 57
... 56
... 55
... 56
Lancaster County Mental Hosp ... 57
Leicestershire Mental Hospital ... 53
Leicester Royal Infirmary ... 60
... 60
Royal Air Force Med. Service. ... 53
Royal Eye Hospital, S.E.1 ... 57
Royal Free Hospital, W.C.1 ... 60
Royal Waterloo Hospital, S.E.1. ... 57
St. Helens Hospital ... 56
... 56
Weymouth Borough ... 56
Windsor, K. Edward VII Hospital 56

MINERAL WATERS—
Ingram & Royle Ltd.—Carlsbad ... 24

BATHS, SPAS, &c.—
Bridge of Allan Spa ... 52
Italian Spas ... 51
Trefriw Chalybeate Wells ... 51

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro ... 51
Peebles Hydro ... 51
Ruthin Castle, North Wales... ... 50
Smedley's Hydro, Matlock ... 51

INEBRIETY—
Albion House, Beverley, E. Yorks. 47
Bay Mount, Paignton ... 47
Caldecote Hall, Nuneaton ... 47, 43
Dalrymple House, Rickmansworth 47
'Old Hill House,' Chislehurst ... 47
Rendlesham Hall, Woodbridge ... 47

SANATORIA—
... 50
... 50
... 52
... 51
... 50
... 51
... 51

HOMES & ASYLUMS—
... 43
Court Hall, Kenton, Exeter ... 45
'Dunley Hill' Nursing Home ... 49
... 45
... 45
... 51
... 43
... 45
... 43
... 47
... 51
... 43
Moat House, Tamworth, Staffs ... 51
... 45
... 49
... 43
... 49
... 51
... 47
... 43
... 51
... 43
... 47
... 43
... 43
... 45
... 47
... 49
... 51

SCHOOLS, &c.—
Paton—Schools for Girls & Boys ... 53
Taunton School, Taunton ... 53

MEDICAL SCHOOLS, &c.—
Aberdeen Medical School ... 53
City of London Maternity Hospital 52
... 52
West London Hospital ... 53

TUTORS & LECTURERS—
... 59

TRANSFER AGENTS—
... Ltd ... 66
... 61
... 61
... 58, 62
... 59, 61
... mistol. 62

ASSISTANCE PRACTICES &c.—

NURSING INSTITUTES—
Cavendish Nurses ... 61
Nurses' Association ... 61

DEBT COLLECTION—
Brit. Med. Protection Society ... 40

MISCELLANEOUS—
Calvete, Ltd.—'Lightning' Machine 8
... 59
... 1
... 60
... 1
... 9, 63
... 38

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

LEWIS'S PUBLICATIONS

401 + xiv pages. With a Frontispiece of Sir FREDERICK MOTT, and numerous Plates and Text Illustrations. Super Royal 8vo. 21s. net; postage 9d., abroad 1s. 4d.

THE MOTT MEMORIAL VOLUME: CONTRIBUTIONS TO PSYCHIATRY, NEUROLOGY, AND SOCIOLOGY.

Dedicated to the late Sir FREDERICK MOTT, K.B.E., Hon. LL.D., M.D., F.R.C.P., F.R.S.
By his Colleagues, Friends, and Former Pupils.

Edited on behalf of THE MOTT MEMORIAL COMMITTEE by J. R. LORD, C.B.E., M.D., F.R.C.P.E.

With an appreciation by W. D. HALLIBURTON, M.D., F.R.C.P., F.R.S.

"The Editor and the Committee are to be congratulated on the result of their efforts. The memorial volume will be very much valued. It will not only enrich the mind, but will stimulate pleasant memories of an old and valued friend."—BRITISH MEDICAL JOURNAL.

Love's SHORTER SURGERY. A Practical Manual for Senior Students.

By R. J. McNEILL LOVE, M.S.Lond., F.R.C.S.Eng. Second Edition. With 74 Illustrations. Demy 8vo. 16s net; postage 9d.
"A short yet reliable work."—BIRMINGHAM MEDICAL REVIEW.

Goodall's TEXTBOOK OF INFECTIOUS DISEASES.

By E. W. GOODALL, O.B.E., M.D., B.S.Lond. Being the Third Edition of Goodall & Washbourn's "Manual of Infectious Diseases." With 26 Plates (6 Coloured), 15 Diagrams, and 34 Charts. Demy 8vo. 30s. net; post. 9d.
"Well up to date and of value."—BRITISH MEDICAL JOURNAL.

Lindsay's AMONG THE THINKERS: Leaves from my Note-books.

By J. A. LINDSAY, M.A., M.D., F.R.C.P. Crown 8vo. 5s. net; post. 4d.
Just Published.

BY THE SAME AUTHOR.

MEDICAL AXIOMS, APHORISMS, and CLINICAL MEMORANDA.

Second Impression. Crown 8vo. 6s. net; postage 4d.
"... excellent little book."—THE LANCET.

Cowdry's HUMAN BIOLOGY and RACIAL WELFARE.

Edited by E. V. COWDRY, Ph.D. Introduction by E. R. EMBREE. Demy 8vo. With Illustrations. 28s. net; postage 1s.
"A great deal of valuable information."—BRITISH MEDICAL JOURNAL.

Forsdike's STERILITY IN WOMEN: Diagnosis and Treatment.

By S. FORSDIKE, M.D., B.S.Lond., F.R.C.S.Eng. and Edin. With 25 Illustrations, including 17 Plates. 9s. net; postage 5d.
"Shows ... evidence of rich personal experience; will well repay the most careful study."—THE LANCET.

Monrad-Krohn's CLINICAL EXAMINATION OF THE NERVOUS SYSTEM.

By G. H. MONRAD-KROHN, M.D.Oslo, F.R.C.P.Lond., M.R.C.S.Eng. Fifth Edition, with 57 Illustrations. Crown 8vo. 7s. 6d. net, post. 6d.
"... handy, practical, and concise."—JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE.

Douthwaite's TREATMENT OF ASTHMA.

By A. H. DOUTHWAITE, M.D., F.R.C.P.Lond. Crown 8vo. 7s. 6d. net; postage 4d.
"... An up-to-date summary."—BRITISH MEDICAL JOURNAL.

THIRD Edition. Brought fully up to date and based on Modern Principles. 52 Plates. Demy 8vo. 35s. net; post. 1s.

THE DERMATERGOSES OR

OCCUPATIONAL AFFECTIONS OF THE SKIN

Giving Descriptions of the Trade Processes, the responsible agents and their actions.

By R. PROSSER WHITE, M.D.Edin., M.R.C.S., President of the Certifying Factory Surgeons' Association; Life Vice-President, Consulting Dermatologist, Royal Albert Edward Infirmary, Wigan etc.

"Hardly anything in fact could alter our appreciation of its great worth."—ARCHIVES OF DERMATOLOGY AND SYPHILIS.
"A veritable encyclopaedia ... most valuable. ... A generous and complete Index."—BRITISH MEDICAL JOURNAL.

SIXTH Edition. Plates from Original Drawings (6 in Colours) and other Illus. in Text. Demy 8vo. 30s. net; post. 9d.

ON DISEASES OF THE LUNGS AND PLEURAE

Including TUBERCULOSIS AND MEDIASTINAL GROWTHS.

By Sir RICHARD DOUGLAS POWELL, Bt., K.C.V.O., M.D.Lond., F.R.C.P., late Phys.-in-Ordinary to H.M. the King; Consulting Physician to the Middlesex and Brompton Hospitals; and Sir PERCIVAL H.-S. HARTLEY, C.V.O., M.A., M.D.Camb., F.R.C.P., Physician, St. Bart's Hospital; Senior Physician, Brompton Consumption Hospital, etc.

"... can be confidently recommended as a safe guide to the practitioner in search of authoritative medical opinion in this country at the present time."—BRITISH MEDICAL JOURNAL.

By A. G. TIMBRELL FISHER, *M.C.*, F.R.C.S.Eng.

With 186 Illustrations, included in 93 Plates (1 Coloured) and the Text. Demy 8vo. 25s. net; postage 9d.

CHRONIC (Non-Tuberculous) ARTHRITIS

Pathology and Principles of Modern Treatment.

"Mr. Timbrell Fisher has established the existence of facts hitherto unknown and has made valuable contributions to our knowledge. His book is to be recommended."—BRITISH MEDICAL JOURNAL.

With 79 Illustrations on 40 Plates and 1 Text-figure. Demy 8vo. 12s. 6d. net; postage 6d.

INTERNAL DERANGEMENTS OF THE KNEE-JOINT:

Their Pathology and Treatment by Modern Methods.

"An admirable monograph which may be regarded as a type of what a monograph should be."—THE PRACTITIONER.

With 62 Illustrations. Demy 8vo. 9s. net; postage 6d.

TREATMENT BY MANIPULATION

A Practical Handbook for the Practitioner and Student.

"We can strongly recommend this book to all who have to do with the treatment of injuries. ... The illustrations are excellent and there is a good index."—ST. BARTHOLOMEW'S HOSPITAL JOURNAL.

Kenwood's PUBLIC HEALTH LABORATORY WORK (Chemistry).

By HENRY R. KENWOOD, C.M.G., M.B., D.P.H., F.C.S., etc. Eighth Edition. Demy 8vo. 12s. 6d. net. *Lewis's Practical Series.*
"Throughout this text-book Prof. Kenwood shows sound judgment based on ripe experience."—THE LANCET.

Ham's A HANDBOOK OF SANITARY LAW, for the Use of Candidates for Public Health Qualifications.

By B. BURNETT HAM, M.D., D.P.H.Camb. Tenth Edition. Foolscap 8vo. 6s. 6d. net; postage 4d.
"... the candidate who masters it need fear no examiner."
—THE LANCET.

Moxon's PATIENT'S MANUAL OF DIABETES.

By H. W. MOXON, B.A.Camb., M.R.C.S. Crown 8vo. 6s. net; post. 4d.
"... an excellent manual ... should prove invaluable.
—GLASGOW MEDICAL JOURNAL.

Sykes' MANUAL OF GENERAL MEDICAL PRACTICE.

By W. STANLEY SYKES, M.A., M.B., B.Ch. Cantab., D.P.H. Leeds. Crown 8vo. 7s. 6d. net; postage 5d.
"... a readable and competent book ... information of practical value."—THE LANCET.

*** Complete CATALOGUE of publications post free on application.*

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1.
Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 1712 [illegible]

Subscription in India and abroad Rupees 16 per annum. Post free. Payable in advance.

THE INDIAN

JOURNAL OF MEDICAL RESEARCH

Edited by THE DIRECTOR-GENERAL, INDIAN MEDICAL SERVICE, THE PUBLIC HEALTH COMMISSIONER WITH THE GOVERNMENT OF INDIA, *and* THE DIRECTOR, CENTRAL RESEARCH INSTITUTE, *in collaboration with* LEADING AUTHORITIES ON TROPICAL MEDICINE

The Indian Journal of Medical Research is published quarterly. Each number contains about 200 pages and is illustrated with Plates in Colour and Half-tone and with Diagrams and Charts, and is the only medium publishing the results of the best medical research work being carried on by leading scientific medical men in India and the East.

THACKER, SPINK & CO. (P.O. BOX 54) CALCUTTA

LONDON AGENTS: W. Thacker & Co., 2, Creed Lane, E.C.4

SCIENCE AND PERSONALITY

By WILLIAM BROWN, M.A., M.D., F.R.C.P., D.Sc,

Pp. 266. With a Foreword by Sir OLIVER LODGE, D.Sc., F.R.S. 12s. 6d. net.

CONTENTS INCLUDE:—The Physical Sciences—The Biological and Psychological Sciences—Mental Unity and Mental Dissociation—Mind and the Theory of Conditioned Reflexes—Association, Dissociation, and Repression—Instinct, Sentiment, and Value—Theories of Suggestion—The Influence of Mind on Body; the Unconscious Mind—Theories of Mental Analysis—Mental Analysis and Psychotherapy—Suggestion and Will—Religion and Health—Personality and Art—Personality and Psychical Research—Faith, Love, and Personality.

OXFORD UNIVERSITY PRESS, AMEN HOUSE, LONDON, E.C.4

PHYSIOLOGICAL BOOKS

5th Ed. 543 Illus. 21s.
STARLING'S PRINCIPLES OF PHYSIOLOGY
By C. LOVATT EVANS, F.R.S.

227 Illus. 15s.
WINTON & BAYLISS' HUMAN PHYSIOLOGY

4th Ed. 103 Illus. 12s. 6d.
RECENT ADVANCES IN PHYSIOLOGY
By C. LOVATT EVANS, F.R.S.

9th Ed. 281 Illus. 28s.
HAWK'S PHYSIOLOGICAL CHEMISTRY

6th Ed. 267 Illus. 10s 6d.
BUNDY'S ANATOMY AND PHYSIOLOGY

197 Illus. 10s. 6d.
ANREP & HARRIS' PRACTICAL PHYSIOLOGY

LONDON: J & A. CHURCHILL,
40, Gloucester Place, Portman Square, W.1.

CANCER OF THE RECTUM

ITS PATHOLOGY, SYMPTOMATOLOGY, AND TREATMENT.

BY

W. ERNEST MILES, F.R.C.S.,

Surgeon Emeritus (with beds) to the Cancer Hospital; Surgeon to the Gordon Hospital for Diseases of the Rectum, etc.

80 pp. and 33 plates. Bound cloth.
Price 7s. 6d. net, post free 7s. 10d.

"It is the best exposition of the subject with which we are acquainted."
—*British Journal of Surgery.*

"Deserves to rank as a classic in the literature dealing with cancer of the rectum."
—*Bulletin of the Johns Hopkins Hospital.*

"Perhaps no surgeon of to-day has had a greater experience in treating cancer of the rectum."—*Surgery, Gynecology, and Obstetrics.*

HARRISON & SONS, LTD.,
44, ST MARTIN'S LANE, LONDON, W.C.2.

Duplicate Prescription Books

INVALUABLE TO ALL DOCTORS

Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.

Send Postal Order for 1/- for Sample Book, together with Prices and Styles of Printings

To G. CARLYLE,
116, DUKE STREET, LIVERPOOL.

"The Rose Corset-Belt"

for Accurate Abdominal Support and Comfort

Extract from the "British Medical Journal," Dec. 10th, 1927—

"Visceroptosis is the cause of so much discomfort and ill-health . . . and an ill-fitting or wrongly applied belt or corset may aggravate rather than diminish the subjective effects of this condition. . . . Madame Rose has for many years devoted special attention to this problem, and we have good reason to believe that she has given help and comfort to a considerable number of sufferers. We have received assurances from medical men, who have sent patients to her, that she gives personal attention to each patient, that she takes great care in adapting and adjusting the support to the particular needs of the case."

Refer your Patients also to

MADAME ROSE, 97, Mortimer St., Regent St., W.1. LANGHAM 1575

ORAL SEPSIS.

"EUMENTHOL JUJUBES" (HUDSON)

Made in Australia.

HARMFUL THROAT TABLETS. Throat Tablets and Lozenges containing Formalin (Formaldehyde) are harmful. Wiley, of the United States, investigated the effects of small doses of Formalin (Formaldehyde) given with milk, on 12 men during 15 days. Burning in the throat, itching, rash, and loss of body weight were observed.—*Vide* Martindale. All countries which have made legal enactments and laws regarding the purity of its food supply have prohibited the addition of Formaldehyde (Formalin) as a preservative of food. HUDSON'S EUMENTHOL JUJUBES contain no Formalin, Cocaine, or other harmful or poisonous drug. Sold everywhere.

FREE SAMPLES forwarded to Physicians on receipts of professional card by F. NEWBERY & SONS, Ltd., 31-33, Banner St., London, E.C.1. DUNCAN FLOCKHART & CO., Agents, Edinburgh, Scotland.

Manufactured by
G. INGLIS HUDSON, Chemist, for
HUDSON'S EUMENTHOL CHEMICAL CO., LTD.,
Manufacturing Chemists, 31, BAY STREET, SYDNEY, AUSTRALIA.
Distillers of Eucalyptus Oil Rectified by Steam Distillation.
Manufacturers of Pure Eucalyptol (Cineol).

J. H. HAMILTON & CO. LTD.

21, SAVILE ROW, LONDON, W.1.

Established 1850.

"SPECIALITE" LOUNGE COAT & VEST

Black or Grey

£7 : 7 : 0

STRIPED CASHMERE TROUSERS

£3 : 3 : 0

Patterns and self-measurement form on application.

'Phone: Regent 4572.

BAILLIÈRE, TINDALL & COX'S 1931 BOOKS

SECOND EDITION.

HADFIELD'S
PRACTICAL ANAESTHETICS

FOR THE STUDENT AND GENERAL PRACTITIONER.

By CHARLES F. HADFIELD, M.B.E., M.A., M.D.Camb.,
Sen. Hon. Anaesthetist, Prince of Wales's Hospital; Anaesthetist and Lecturer on Anaesthetics, St. Bartholomew's Hospital.
Pp. xvi + 304, with 32 Illustrations. Price 7s. 6d. Postage 6d.; Abroad 9d.

ELEVENTH EDITION. This is a practical Dictionary, including Dental, Veterinary, Chemical, Botanical, and other special terms.

STEDMAN'S MEDICAL DICTIONARY

¶ *"Well-arranged and well-produced work of reference. . . . Its popularity may be judged by the constant demand for fresh editions."* —BRITISH MEDICAL JOURNAL.

Quarto size. Pp. xii + 1,194, double columns, with 22 Plates and over 400 Illustrations, of which 64 are coloured. Limp leather, with thumb-cut index. Price 35s. Postage: Inland 1s.

THE THEORY OF OBSTETRICS

A Functional Study of Child-bearing based on a new definition of Normal Labour and on a new theory of Uterine Inertia, and Illustrated by a Detailed Statistical Analysis of 100 consecutive Labours, and some Records of Cases of Painless Labour.

By M. C. DE GARIS, M.D., Author of "Clinical Notes and Deductions of a Peripatetic."

¶ *"It constitutes a valuable contribution to the literature on the subject. It cannot be ignored."*—MEDICAL TIMES.

Size 5½ × 8½. Pp. × 11 + 272. Price 12s. 6d. Postage 6d.; Abroad 8d.

BRIGHT'S DISEASE

Observations on the Courses of Different Types and on the Resultant Changes in Renal Anatomy

BY A GROUP FROM THE HOSPITAL OF THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH.

¶ *This work presents a series of cases closely observed over periods varying from weeks to years. The data are presented with the hope of adding to the clarity and completeness with which the variable courses of the different types of renal disease can be recognized.*

Size 6 × 9. Pp. 150. With 4 Colour Plates, 36 Half Tones and 66 Charts. Price 13s. 6d. Postage 6d.

¶ *Deals with almost every possible kind of fracture.*

FRACTURES AND THEIR COMPLICATIONS

By G. E. WILSON, M.B., F.R.C.S., Surgeon-in-Chief, St. Michael's Hospital, Toronto; Assistant Professor of Surgery, University of Toronto; formerly Surgeon in Charge of Emergency and Out-patient Department, Toronto General Hospital.

Size 6 × 9½. Pp. viii + 415. With 306 Illustrations. Price 35s. Postage: Inland, 9d.; Abroad, 1s.

THE FACTOR OF INFECTION IN THE RHEUMATIC STATE

By ALVIN F. COBURN, Resident Physician of the Presbyterian Hospital, New York City.

¶ *The purpose of this study is to present a comprehensive description of the rheumatic state in its many phases, to give a clear conception of the disease picture, and to show the role played by the infectious agent.*

Size 7 × 9½. Pp. ix + 288. With 3 Coloured Plates and 48 other Illustrations. Price 27s. Postage 9d.

BIOASSAYS: A Handbook of Quantitative Pharmacology

By JAMES C. MUNCH, Director of Pharmacological Research, Sharp and Dohme; Pharmacologist, Bureau of Biological Survey, U.S. Department of Agriculture.

¶ *"The first critical comprehensive compilation of the widely scattered and voluminous literature on quantitative pharmacology. It contains a great deal of valuable information."*

Size 6 × 9. Pp. 950. With 6 Coloured Plates and many other illustrations, together with a very extensive Bibliography. Price 45s. Postage 9d.

THE PATHOLOGY OF DIABETES MELLITUS

By SHIELDS WARREN, M.D., Director of Massachusetts State Tumour Diagnosis Service; Instructor in Pathology, Harvard Medical School.

Size 6 × 9½. Pp. xii + 212. With 2 Coloured Plates and 83 other Illustrations. Price 21s. Postage 6d. abroad.

NEARLY READY in "The Students Aids Series."
Pocket Size. Pp. + 250. Price 3s. 6d. (postage 2d.).

AIDS TO MEDICAL TREATMENT

By J. T. LEWIS, M.D., B.Sc., M.R.C.P., Assistant Physician, Royal Victoria Hospital, Belfast; Bacteriologist to the Belfast Infirmary; and T. H. CROZIER, M.D., D.P.H., M.R.C.P.Lond., Visiting Physician to the Belfast Infirmary; Assistant Physician, Belfast Hospital for Sick Children.

AIDS TO MEDICAL DIAGNOSIS

By A. J. WHITING, M.D., Physician, Prince of Wales's General Hospital, Tottenham; late Dean, North-East London Post-Graduate College.

FOURTH EDITION. Price 3s. 6d. Post 2d.

HINTS ON EQUIPMENT AND HEALTH IN THE TROPICS

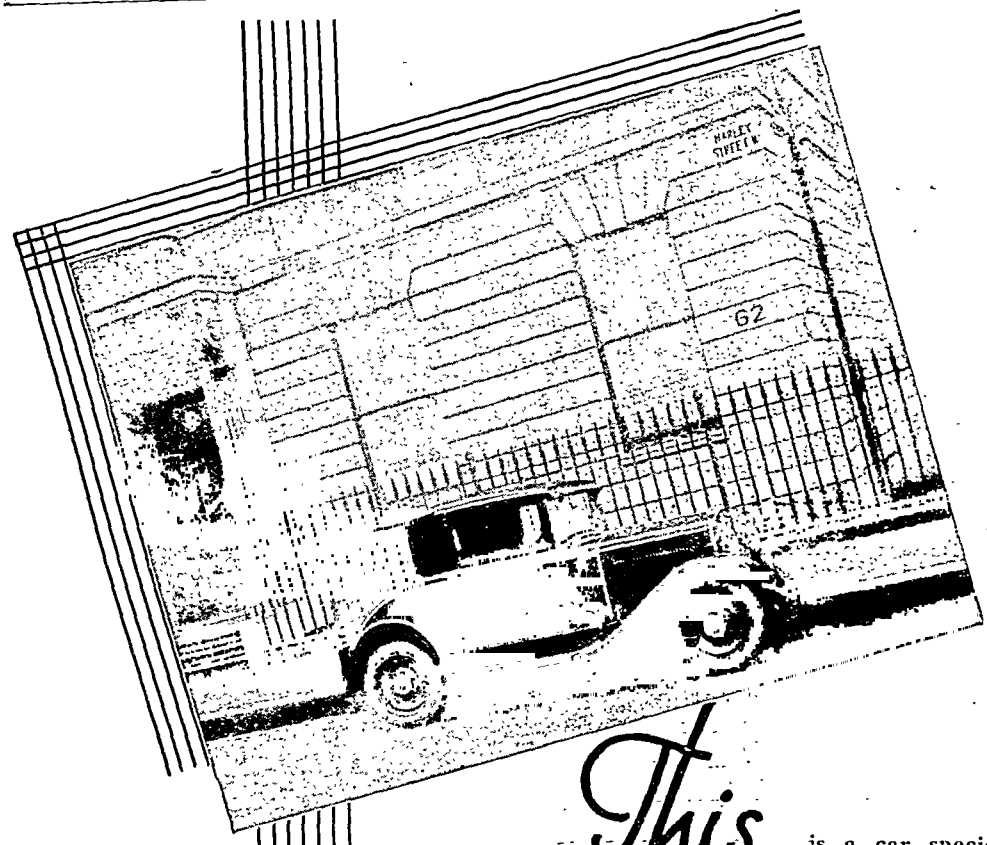
FOR INTENDING RESIDENTS

By J. BALFOUR KIRK, M.B., D.P.H., D.T.M., M.O.H. Port Louis, Mauritius.

"Here we have a common-sense view of the dangers of tropical residence and of the means of forestalling them. . . . Should become part of the equipment of all travellers in the Tropics." —BRIT. MED. JOURN.

SECOND EDITION. Pp. xii + 128.
Price 3s. 6d. Postage 4d.

BAILLIÈRE, TINDALL & COX, 7 & 8, Henrietta Street, London, W.C.2



THE FIAT
10/30 RANGE
Two Seater £220
Torpedo - £225
Saloon - - £250
Coupe (as illustrated)

£250

This is a car specially designed to meet the needs of the Medical Profession.

It is compact, sturdy, flexible and reliable —an ideal car for general purposes or for exclusively professional use.

Its size makes it easy to park where a larger car would be inconvenient. At the same time it is undeniably roomy and comfortable.

It is fitted with an oversize 100 amp. battery, which guarantees electric power for lighting and starting no matter how much the car may be used for short journeys or during dark hours. Anti-theft lock as standard.

True to Fiat traditions, the 514 Coupe will stand up to constant use under most trying conditions; and built as it is to cope with the roughest Continental roads and mountain districts, it will prove itself a useful adjunct to any Continental holiday.

FIAT

May we quote you for your car in exchange?

FIAT LONDON DISTRIBUTORS Ltd.
43/44, Albemarle Street, London, W.1
(Phone GERRARD 7946)
New London Service Station and Repair Works:
FARM LANE, FULHAM, S.W.6

We don't need to tell YOU *the advantages of Refrigeration—*

A page your wife will like to look at

But do you know those of Frigidaire?

its silence—its *automatic* protection of food—its special compartment for fresh vegetables—its cold Control—its new and handy ice cube tray

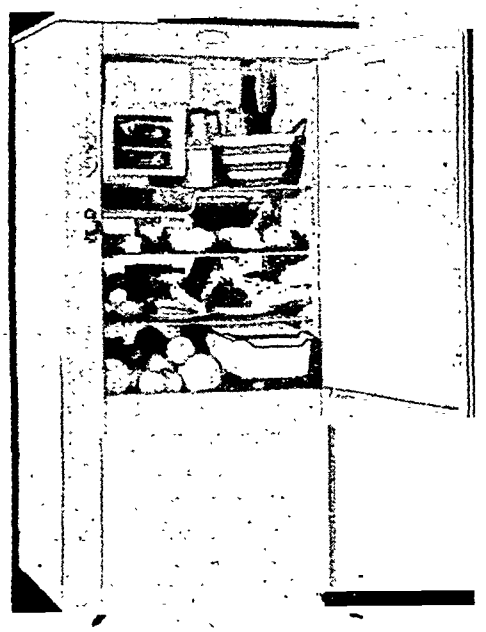
The Quickube Ice Tray, enabling single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the water tap. Your cocktail ice is ready at a moment's notice.

•

The Cold Control, by which the freezing of ice cubes or any other frozen delicacy can be accelerated at will.

•

The automatic feature of Frigidaire is invaluable. It cuts out the human element with its forgetfulness and consequent waste. Frigidaire maintains a dry cold that is *always* under 50°—the only safe temperature for food.



Practical flat top.

•

The Hydrator—a *moist* cold compartment, for fresh vegetables, sandwiches, etc., etc. Even wilted vegetables will regain their crispness here in a few hours.

•

Ease of installation. A Frigidaire only needs connection with your electric supply. No plumbing is necessary.

•

The new Frigidaire is quiet—you can't hear it start, stop or run.

UNQUESTIONABLY, Refrigeration is this decade's most important contribution to Health. Its benefits are enjoyable in the most practical, dependable and economic way through Frigidaire. And Frigidaire is now so easy to buy, on our special terms, that we urge you to get our quotation now by filling in the coupon below. There is, of course, no obligation whatsoever.

Showrooms at 141, New Bond Street, London, W.1, and in all principal towns.

COUPON

FRIGIDAIRE LIMITED (*Incorporated in Canada*)
Dept. BG-213 Edgware Road, The Hyde, Hendon, N.W.9

Please give me by return, without any obligation on my part,
(a) Price of Frigidaire cabinet suitable to my particular needs;
or
(b) Amount to be paid down to cover initial deposit, installation and carriage charges.

Name .....

Address .....

.....

No. in Family .....

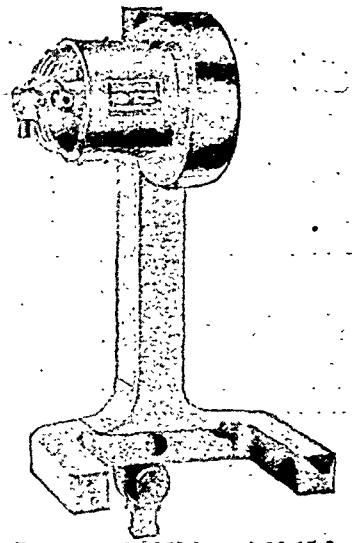
The "LIGHTNING" Machine for drying the Hands

The "LIGHTNING" Electric Machine dries the hands—by a 3-jet blast of warm air, quickly and hygienically—in 30 seconds. It provides the cleanest, safest, and most aseptic method, and the cost of *30 operations* is only *one penny*. The hands being thoroughly dried, all chapping or cracking is prevented. *Eliminates the use of towels and saves laundry charges.*

Invaluable in the Operating Theatre—for general Hospital use—and to Doctors and all those connected with the Medical Profession.

This new machine is a proved success and is making rapid headway. Send postcard for illustrated brochure.

Other "Icall" products include: "Everay" High-Frequency (Violet Ray) Apparatus; "Practicon" Machine for Massage, etc.; Radiant Heat Therapy Lamps; Ultra-Violet Lamps; Massage Vibrators, etc.

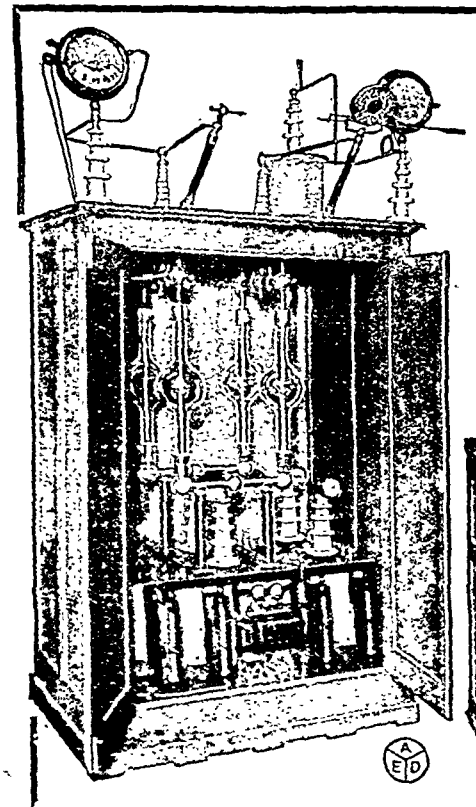


Price (Standard Voltages) £9 15 0
With foot switch £1 10 0 extra.

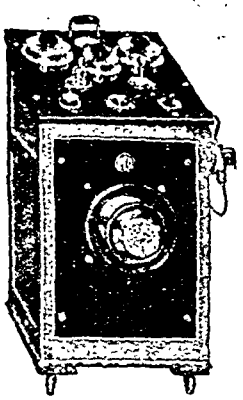
ICALL ELECTRICAL SPECIALITIES

I. Calvete Ltd.

59/61, North Street, LONDON, S.W.4
(Close to Clapham Common Tube Station.)
'Phone: MACAULAY 3202 (3 lines).



KERAPHEN
The Sure Gall Bladder Dye always in stock.



DEAN'S VALVE-RECTIFIED X-RAY APPARATUS

Our latest Four Valve Set for Radiography and Superficial Therapy has very many novel features incorporated.

All Instantaneous Radiography can be undertaken with a large reserve of power.

Lately installed at the New Radiological Department of the London Hospital.

Descriptive Catalogue Section from the Sole Makers:

A. E. DEAN & CO.

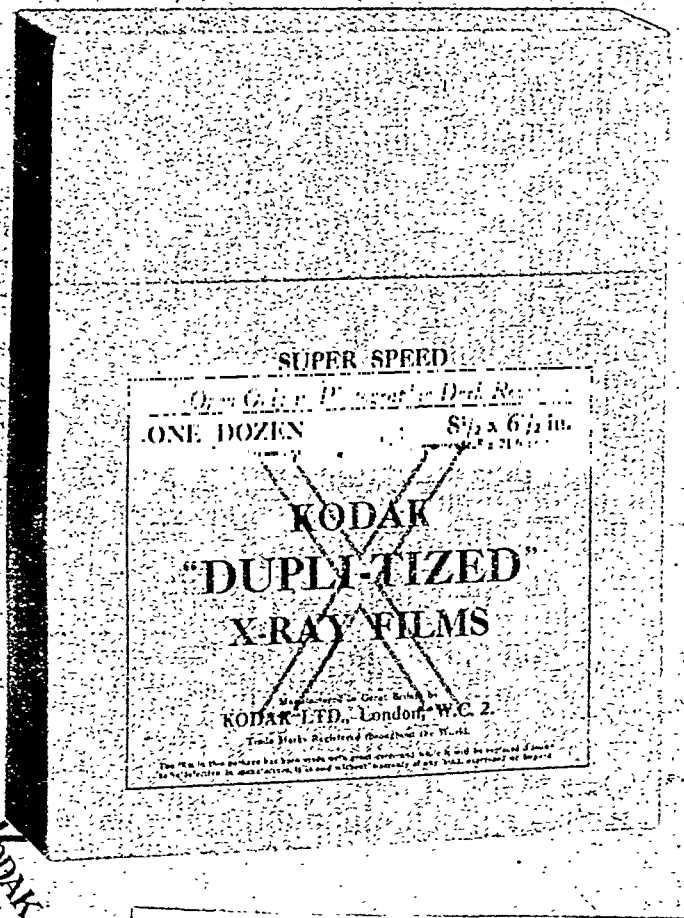
Manufacturers of X-Ray and Electro-Medical Apparatus of the Highest Grade,
LEIGH PLACE, BROOKE ST., HOLBORN
LONDON, E.C.1

Showrooms: 14, BALDWIN'S GARDENS—adjoining.

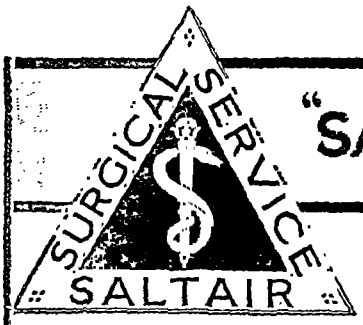
AGENTS FOR MIDLANDS:
WATSON & GLOVER, 2, Easy Row, BIRMINGHAM.

NEW ZEALAND AGENTS:
H. COONEY & SON, The Esplanade, Kohimarama, AUCKLAND.

Kodak "Dupli-Tized" X-Ray Film



Kodak "Dupli-Tized" X-Ray Film – for reliable readings



"SALTAIR SURGICAL SERVICE"

BRIDGING THE GAP

Saltair Surgical Service links up thoroughly the attendant Practitioner's prescribed treatment with the desired after-treatment of an accurately fitting, specially made Appliance.

SALTAIR

Provincial Visits are periodically made by qualified male and female fitters to the following centres—

Bristol
Burton-on-Trent.
Cheltenham
Derby
Gloucester
Leamington
Northampton
Shrewsbury
Stoke-on-Trent
Worcester
Wolverhampton
Walsall

'Phone (Birmingham): Midland 5455.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

"SALTAIR SURGICAL SERVICE"

CO-OPERATION

SALT co-operation with the Medical Profession is represented by 137 years' successful supply of Surgical Appliances, which have been warmly commended and recommended by numbers of Leading Medical Men.

SERVICE

London Consulting Rooms:

"OAKLEY HOUSE"
14-18, Bloomsbury Street, W.C.1.

Female fitters in attendance Mondays to Fridays.

Orthopaedic Mechanician Wednesdays only.

By Appointment.

'Phone (London): Museum 3845.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, though eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted *in the system into potentially basic alkaline* carbonates, thus enabling the blood to keep the uric acid compounds in solution, and *facilitate their removal.*

Write for samples and literature to

COATES & COOPER,
41, Gt. Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.

Two sizes, 4/6 and 7/-.

Salvitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co., New York.

EVANS' THROAT Pastilles

MADE BY

EVANS SONS LESCHER & WEBB Ltd.
56, Hanover Street, LIVERPOOL
and LONDON

THROAT THERAPY.

Evans' Pastilles are prepared to a formula of the Liverpool Throat Hospital. Their action is soothing and demulcent, the formula being carefully balanced with both these objects in view. Evans' Pastilles relieve harshness and irritation and maintain their effect for some time after the pastille has dissolved.

Sold in 1/- tins or in bulk for dispensing.

A physician's sample will be gladly sent on request.

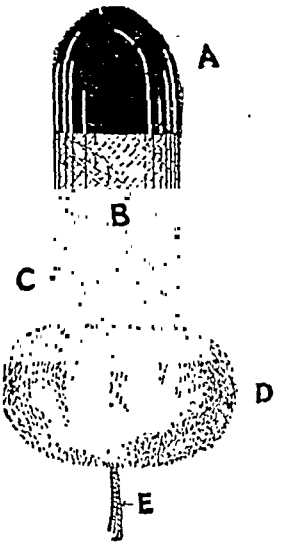
Kaylene

FOR TOXÆMIAS OF INTESTINAL ORIGIN.
KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.
Telephone: GLADSTONE 1071 (2 lines). *Telegrams:* KAYLOIDOL, CRICKLE, LONDON.

REGISTERED TRADE MARK

PONTAMPON

Patented in U.K. Regd. No. 113275.



A Perfect Method of Local Medication for Women.

Combining the medical qualities of a Vaginal Suppository with the mechanical support of a correctly shaped Tampon.

Pontampons consist of a semi-solid, slowly dissolving, medicated cone (A), supported by a compressed, *non-absorbable wool tampon* (B), encased in a thin gelatin shell (C). (D) protruding wool, (E) string for removal.

When introduced into the Vagina the gelatin shell slowly disintegrates; the compressed wool tampon expands, carrying the medicated cone upward against the cervix, where it slowly dissolves, thus affording a continuous application to the inflamed and congested mucous membrane of the entire vaginal tract.

As a means of applying local treatment in **Gonorrhoea Endometrits, Cervicitis, Vaginitis, Leucorrhoea, Dysmenorrhoea, Prolapsus Uteri, &c.,** Pontampons present the most Simple and Satisfactory method.

STOCK MEDICATIONS

(a) Ichthyolatum. (b) Ichthyol 10%. (c) Protargol and Ichthyol āā 2%. (c) Glycerol of Tannin 50%. (f) Ichthyol Compound ō Iodide of Silver. (g) Pure Glycerine.

Special formulae made up: such as Protargol, Argyrol, Ichthyol and Sulphur, Subacetate of Lead, Iodine in Glycerine 1%, &c., &c.

Pontampons are issued in three sizes, small, medium, and large.

SAMPLES will be sent to any physician who will make application to

THE PONTAMPON CO. (V. A. BLENKINSOP) **55, Holborn Viaduct, London, E.C.1.**

CEREBRO-SPINAL MENINGITIS

DURING epidemics, or seasonal rise of prevalence, many become CARRIERS of the MENINGOCOCCUS, the causative agent in the Nasopharynx. DISINFECTION is then the best method of protection from attack.

Of all disinfectants DIMOL SNUFF is the most convenient and efficient. CONVENIENT because it is supplied in powder form in neat pocket containers, available for use at any time, anywhere, without trouble. EFFICIENT because, even when diluted with **10 times its bulk** of mucus, Dimol Snuff KILLS IN 32 SECONDS the meningococcus, the cause of the condition.

By the nature of the snuff, by which it becomes sticky in the presence of moisture, it adheres to the mucus of the nasopharynx and becomes dissolved. Unlike liquids, the action is therefore long-continued.

DIMOL SNUFF

Prices and particlars will be sent on application to DIMOL LABORATORIES LTD., 40, LUDGATE HILL, LONDON, E.C.4

5% of pure iron (Fe) in readily assimilable form

. . . does not constipate, disturb digestion or discolour teeth

Colloidal Iron Concentrate	83%
Pure Alcohol	6%
Sugar	10%
Flavouring	1%

That is the formula of this tonic preparation, which contains a larger percentage of assimilable iron than has hitherto been provided in either a general or colloidal form. A more rapid response may therefore be anticipated from the administration of this preparation, which is very pleasant to take and well tolerated by all patients.

Idozan has no constipating effect, it does not derange the stomach or discolour the teeth. Though incompatible with alkaline salts, it may be combined with Liq. Arsenicalis and vegetable tinctures. It is therefore very suitable for therapeutic administration, where it is desired to give large doses of iron; both as a restorative after illness and in cases of anæmia it can be prescribed either with or without additional drugs with confidence and freedom.

IDOZAN

IDOZAN HAS BEEN REGULARLY PRESCRIBED BY DOCTORS IN FIFTEEN DIFFERENT COUNTRIES

Samples and literature sent post free on request to Sole Distributing Agents:
MESSRS. COATES & COOPER
41, Great Tower St., London, E.C.3.

PREFERRED BY THE MEDICAL PROFESSION FOR NEARLY A CENTURY

these essences rouse appetite and aid digestion

Just on a hundred years ago Brand & Company first introduced their Meat Essences. From that time until now Brand's Essences of Beef or Chicken have achieved fame because of the exclusive process and hygienic conditions under which they are manufactured.

Scientific tests have proved that these Essences are assimilated by the digestive organs 40 minutes quicker than ordinary foods and without the formation of residue.

99 out of every 100 doctors recently interviewed recommend Brand's Essences of Beef or Chicken in cases of intestinal disturbances, in fevers, before and after operations, and particularly in all cases where the patient's recovery is hampered by anorexia.

Brand's Essences are the pure juices of the finest freshly killed English meats, extracted by an exclusive process with no other substance added. Samples will be sent on receipt of a professional card. Dept. F.28, Brand & Co., Ltd., Mayfair Works, Vauxhall, London, S.W.8

BRAND'S
ESSENCES
OF BEEF OR CHICKEN

For the Treatment of Arthritis and Neuritis

"ARTHRYTIN" Trade Mark

BRAND

Ammonium ortho-iodoxy benzoate

"ARTHRYTIN" possesses an action resembling that of the salicylates, but is much more potent in its effects. It is indicated in all forms of acute arthritis, and has given strikingly successful results in many cases of chronic arthropathy.

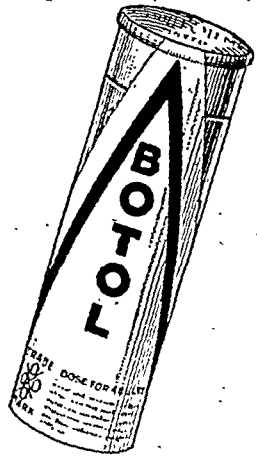
Supplied in capsules for oral administration, and powder for intravenous and rectal injection.

Clinical trial sample and literature on request.

Prepared in the Laboratories of
MAY & BAKER, LTD.
BATTERSEA LONDON, S.W.11
Telegrams: Bismuth, London.
Telephone: Battersea 1813 (6 lines)

BOTOL

REG. TRADE MARK.



A LARYNGEAL NARCOTIC

Prepared by a new process which enables SOLID BROMOFORM to be combined with CODEINE

IN TUBES OF TWENTY TABLETS

CONTINENTAL LABORATORIES LTD
30, Horsham Street, LONDON S.W.1

MONSOL
Liquid GERMICIDE

The power of MONSOL in killing the Streptococcus Pyogenes and notably the Haemolyticus strain is more than 10 times greater than that of pure phenol or of lysol, and being NON-CAUSTIC, Monsol can be used at adequate strength to kill these germs without in any way injuring the delicate tissues. Literature and samples will be sent on request to members of the medical and nursing professions.

Monsol Liquid Germicide means adequate strength with safety.

1/- and 2/- per bottle from all Chemists.

NON-CAUSTIC

SPECIALLY VALUABLE IN MIDWIFERY

10 TIMES STRONGER THAN LYSOL

Valentine's Meat-Juice

"For a Tired Stomach"

In **Dyspepsia, Catarrh** of the **Stomach** or **Intestines,** or **Gastric Irritability** from any cause, when the **Digestive Organs** reject milk and other foods, **Valentine's Meat-Juice** will be **Retained** and demonstrate its Power to **Restore** and **Strengthen.**

It is in constant use in Hospital and Private Practice and endorsed by eminent Medical Men.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 21

VITAMALT

Containing Vitamins A, B and D.

A well-balanced food which ensures an adequate supply of these essential vitamins and which corrects disorders arising from deficiency of these important bodies.

Vitamalt has been skilfully blended to make a preparation which is easily assimilated and provides an acceptable form of vitamin medication.

During expectant and nursing motherhood Vitamalt provides a plentiful supply of vitamins and is a valuable aid to nutrition during this important period.

1/9 and 3/- per jar.

(Special Discount to the Medical Profession)

WHOLESALE AND EXPORT DEPARTMENT

BOOTS PURE DRUG CO. LTD.

NOTTINGHAM, ENGLAND

TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

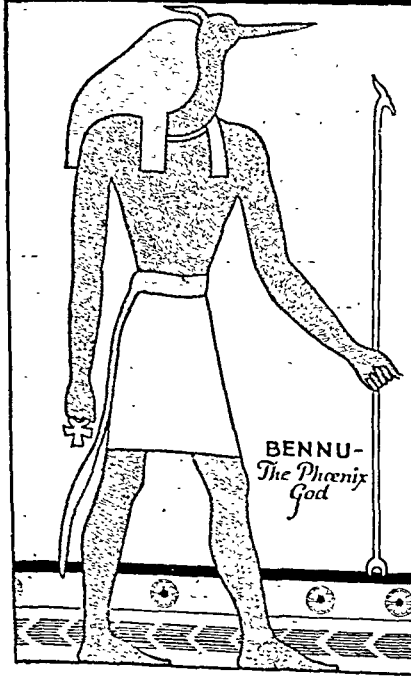
Full size trial sample free to any medical practitioner, in British Isles, on application by postcard to Boots the Chemists, Station Street, Nottingham.

OBTAINABLE FROM

The Boots Chemists

OVER 900 BRANCHES IN GREAT BRITAIN

OVALTINE



IN NEURASTHENIA.

Every potential neurasthenic is greatly assisted by liberal drinking of "Ovaltine." It is recommended as a between meals beverage or as a mid-day "light lunch," and it displaces tea or coffee with complete advantage.

"Ovaltine" is also invaluable when taken at the hour of sleep. Its use in this way has often avoided the need for employing hypnotic drugs.

The value of "Ovaltine" has been proved many times in such cases. It provides nourishment of the right kind, and in a form readily dealt with by the impaired digestive organs. "Ovaltine" permits of the liberal ingestion of food without taxing the digestive power.

"Ovaltine" is a complete natural food, yielding in one cupful a greater food value than three eggs. This delicious beverage is unquestionably a tonic nerve nutrient of a high order.

A liberal supply for clinical trial sent free on request.

A. WANDER, Ltd., 184, Queen's Gate, S.W.7.

Works: KING'S LANGLEY, HERTS.

M 248.

Reaching Laryngeal and Bronchial Inflammations

MANY laryngologists are advising the treatment of laryngeal, tracheal and bronchial inflammations by the direct route, nebulized spray solutions—in addition to the use of oral medication.

Mistol is ideally suited to this form of administration. When used in a nebulizer, it forms *an exceedingly fine, almost invisible, vapour. This spray is unirritating to the upper* respiratory passages and is drawn into the larynx and bronchi with each inspiration. In this way it reaches and exerts its therapeutic action upon the upper respiratory passages.

The ingredients of Mistol—menthol, camphor, eucalyptol, and chlorbutol in high-grade liquid paraffin—are endorsed by all leading rhino-laryngologists.

They relieve congestion and hyperemia in inflamed mucous membranes, diminish abnormal secretions, and aid in the return to normal conditions.

More and more physicians are finding in Mistol administered by means of a nebulizer a valuable ally to oral medication for laryngeal, tracheal, and bronchial inflammations.

Mistol

REG. TRADE MARK

MADE BY THE MAKERS OF NUJOL

Nujol Laboratories:

128 Albert Street, Camden Town, N.W.1.

Stomach Tissue

in the treatment of

Pernicious Anæmia

'Byno Eugastrol'

A combination of hog's stomach tissue extract with 'Bynin' Liquid Malt.

The usually recommended daily dose is three tablespoonfuls, which represents an amount of extract equivalent to 100 grammes of fresh stomach tissue.

A very palatable preparation.

In bottles, 4 oz., 10 oz. and 20 oz.

'Kapsol Eugastrol'

Presents hog's stomach tissue extract in the form of capsules, each equivalent to 25 grammes of fresh stomach tissue.

The usual daily dose is four capsules.

In tins containing 20, 40 and 80 capsules.

Further particulars sent on request.

Allen & Hanburys Ltd., London, E.2

Telephone: 3201 Bishopsgate (10 lines). *Telegrams*: "Greenbarys Edo London."

SAFE and EFFECTIVE

as a gargle, mouth wash and nasal spray

Of value at this season as a prophylactic measure against communicable respiratory disease.

SAFE...

Because it is non-poisonous even if accidently swallowed

EFFECTIVE...

Because it destroys bacteria on contact

HEXYLRESORCINAL SOLUTION S.T. 37

(Liquor Hexylresorcinolis, 1:1000)

SHARP & DOHME, LTD.

Regent Arcade House, 252, Regent Street, London, W.1.

INSULIN (BOOTS)

INSULIN (BOOTS) *is prepared in the Laboratories of Boots Pure Drug Company Ltd., under Licence No. 19 (Therapeutic Substances Act, 1925) of the Ministry of Health.*

It is made from selected ox pancreas which is subject to the strictest examination before use.

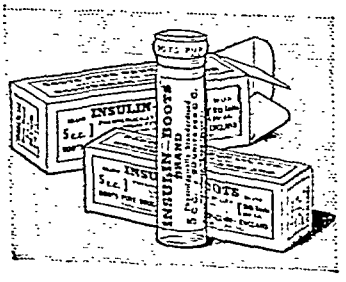
The company possesses specially equipped Analytical, Pharmacological and Bacteriological Laboratories in which all the tests required by the Therapeutic Substances Act are carried out.

Each batch of Insulin (Boots) is tested for potency against the International Standard Insulin and also for sterility—these tests being carried out both before and after filling into ampoules. A sample of each batch, together with a report on the potency and bacteriological tests made, are submitted to the British Medical Research Council whose certificate of correct strength and of sterility is obtained before the batch is issued.

BOOTS PRODUCTS

ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS

(Special Discount to the Medical Profession)



WHOLESALE AND EXPORT DEPARTMENT

BOOTS PURE DRUG CO. LTD.

NOTTINGHAM, ENGLAND

TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

REMINERALISATION
POLYOPOTHERAPY

The oldest and most active of recalcifying agents in endocrino-mineral combination

—•—

OPOCALCIUM

In Tablets and Granules

—•—

Manufacturers
LABORATOIRES de l'OPOCALCIUM
121, Avenue Gambetta
PARIS

Distributors
CONTINENTAL LABORATORIES Ltd.
30, Marsham St., London, S.W.1
TAXOLABS, SOWEST, LONDON VICTORIA 2041

Immunity and Alkalinity

A pleasant, effervescent granular preparation composed of carefully selected salts of Sodium, Potassium, Calcium and Magnesium in physiologically correct proportions.

appear, in the opinion of competent observers, to be in close relationship. At least it is certain that alkalinity is lowered in all infectious diseases, and that excess production or defective elimination of acid products lead to a number of metabolic disturbances.

To correct these conditions, present particularly in gastric and intestinal disorders, rheumatism, gout, and certain cutaneous affections, and to prevent their occurrence as a sequel to undue reduction of the buffer substances of the blood, prescribe

ALKA-ZANE

Literature and samples to physicians on request.

Francis Newbery & Sons, Ltd.,
31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC.,
Manufacturing Pharmacists Since 1856.

Nutritional Necessities of Childhood

'. . . the fundamental problem is one of nutrition . . .' (*Lancet*, Jan. 5, 1929).

The article from which the above quotation is taken deals with the question of the health of children, the prevention of minor ailments and the treatment of serious disease; in it the necessity of the '*nutritional standpoint*' is emphasised.

The average diet of to-day does not furnish a sufficiency of Vitamins A, B and D.

Herein lies the value of Radio-Malt.

Radio-Malt supplies Vitamins A B_1 B_2 and D in standardised amounts and in the proportions harmonised to ensure the production of optimum effects. It builds up reserves of resistance against disease and is definitely anti-infective in action; also it promotes healthy growth and ensures correct calcium metabolism with resulting normal development of bones and teeth.

The pediatrician finds, therefore, in Radio-Malt the key to the problem of the nutritional necessities of childhood.

RADIO-MALT

Literature and sample on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Rm/103

MARSHALL'S Lysol is made to the original Lysol formula and specification. Every bottle is tested for purity and strength. Only the finest grade chemicals are used. Sample will be sent upon request to members of the medical and nursing professions. Lysol Ltd., Dept. K, 14, Raynes Park, London, S.W.1.

NURSES, DOCTORS HOSPITALS, CLINICS *use MARSHALL'S LYSOL*

The preference shown to MARSHALL'S Lysol by the medical profession is not an accidental one. It is not merely a matter of old-established custom . . . It is a matter of experience and knowledge: of reliance placed on an antiseptic that has never betrayed a trust. MARSHALL'S Lysol is SAFE. It is a germicide and antiseptic of *proven* worth . . . harmless to tissue when used in the correct dilution.

SAFE

royds 14

A NEW ISSUE

of the

Medisoaps Blotter

This has been prepared exclusively for the use of the medical profession. Got up in a dignified style, it contains much useful information dealing with Medisoap therapy, i.e., the treatment of skin diseases by means of Medisoaps. A therapeutic index adds to its convenience.

A copy will be sent with pleasure on application to Evans' Biological Institute, Higher Runcorn, Cheshire. The word MEDISOAP is a registered trade mark for the medicated soaps made by Charles Midgley, Ltd., Manchester. In a variety of formulae this method of skin medication has been brought into favour by the ease with which applications can be made and the certainty of absorption through regularity of use by the patient.

CHARLES MIDGLEY, LTD. Medicated Soap Specialists MANCHESTER

Associated with EVANS SONS LESCHER & WEBB, LTD., Liverpool & London.

'ZYMINE' Peptonising Tubes

(FAIRCHILD)

For the preparation of Peptonised Milk and other Predigested Food for the Sick.

'Zymine' Peptonising Tubes have been in use since 1882, making it possible for physicians to assure proper nutrition to their patients, even in cases where digestive power has been reduced to its lowest terms, and enabling chronic dyspeptics, invalids, convalescents, etc., who must live upon fluid foods for more or less prolonged periods, to take milk in quantities sufficient to maintain nutrition and promote restoration.

PEPTONISED MILK presents all the nourishment of plain milk freed from the objectionable qualities which constitute so serious a drawback to the utilisation of milk in the feeding of the sick. And of the many methods employed to make milk an available food for the sick, there is none that approaches the 'Fairchild' peptonising process in the certainty with which it accomplishes the desired purpose.

Supplied in boxes containing 6 and 12 Tubes.

The contents of one Tube will peptonise one pint of milk.

Originated and Manufactured by

Fairchild Bros. & Foster (Inc. N.Y.)

NEW YORK and 65, Holborn Viaduct, London, E.C.1.

Agents:

Burroughs Wellcome & Co.,

LONDON, SYDNEY, and CAPE TOWN.

Nutrition and New Studies of Vitamins

More than ten years ago it was suggested that the yellow pigmentation (due to the presence of carotenoids) of certain foodstuffs was connected with the presence of Vitamin A in those foodstuffs.

As stated in the Report of the Medical Research Council, 1929-1930, more recent investigation has shown that Carotene can effectively replace Vitamin A in the diet; indeed, the work of one investigator seems to prove that Carotene is actually the precursor of this vitamin, inasmuch as when it is fed to animals it causes an accumulation of Vitamin A in the liver fat. Consequently, the administration of Carotene would appear to be for all practical purposes equivalent to the administration of Vitamin A.

The British Drug Houses have been producing Carotene in a pure crystalline state for some twelve months past, and it has been available for medical use since May, 1930.

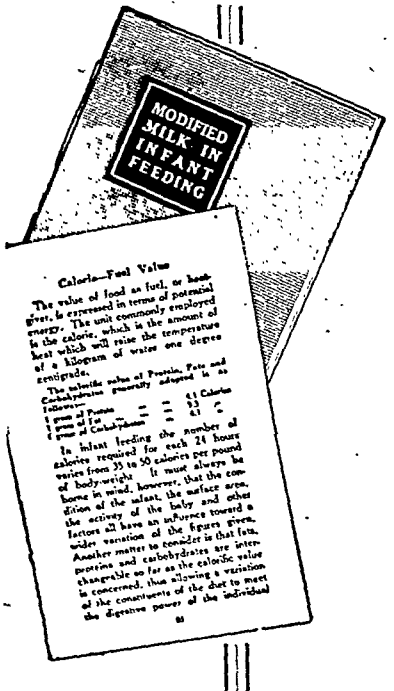
Carotene B.D.H. is issued in sugar-coated pellets, each pellet containing 2 mg. of pure crystalline Carotene. Their administration may be regarded as giving an equivalent dose of Vitamin A.

CAROTENE B.D.H.

The pellets are issued in bottles of 50 and can be obtained through the principal pharmacists at 6/- per bottle—less the usual discount to medical men.

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Car12



"MODIFIED MILK IN INFANT FEEDING"

The above-named booklet of 64 pages will be gladly sent to members of the Medical Profession.

The booklet shows how

Mellin's Food

is very readily adaptable to the needs of both the normal infant as well as the infant requiring a special modification of diet. It contains suggestions respecting milk modifications for use in cases of constipation, marasmus, diarrhoea, etc.

It shows the analysis of the mixture suitable for infants of various ages, the weight of the various food constituents and their calorific value.

Write for a copy to-day.

MELLIN'S FOOD Ltd., LONDON, S.E.15

UNG. SEDRESOL (Ferris).

A Valuable Sedative Antiseptic and Healing Ointment.

UNG. SEDRESOL is a combination of the products obtained by the destructive distillation of the wood and bark of the ***Betula alba*** in combination with Oxide of Zinc and Antiseptics.

UNG. SEDRESOL is supplied to the Medical Profession at the following prices:—
¼-lb. Jars, 1/8 each; ½-lb. Jars, 3/- each; 1-lb. Jars, 5/9 each; 2-lb. Jars, 11/- each; 4-lb. Jars, 21/- each. *(Empty Jars allowed for on return.)*

SEDRESOL DRY DRESSING (Ferris).

A useful surgical dusting powder for cases in which it is not desirable to apply ointments. Sedative, healing, analgesic, stimulating.

Price: 4-oz. tins, 1/6 each; ½-lb. tins, 2/4 each; 1-lb. tins, 4/- each.

SEDRESOL SOAP (Ferris).

A pure superfatted soap for the skin containing the same medication as Ung. Sedresol.

Price: 10d. per tablet, 9/6 per dozen. 30/- per dozen boxes of 3 tablets.

(The word "Sedresol" is registered under the Trade Marks Act and is the sole property of Ferris & Co., Ltd.)

FERRIS & COMPANY, Ltd.

BRISTOL

Wholesale and Export Druggists and Manufacturing Chemists.

THE NATURAL MINERAL WATERS OF

CARLSBAD

Sprudel, Muhlbrunnen, and Schlossbrunnen

These waters act:

(1) By immediate contact with the mucous membrane of the stomach and alimentary canal, allaying pains and spasms in these organs, and stimulating the digestive organs into activity.

(2) Through the blood. That is, they change its condition by increasing the proportion of alkali in the blood as well as in all derivative secretions (gall, urine, etc.).

Largely prescribed in cases of

Chronic Gastric Catarrh, Hyperaemia of the Liver, Diabetes, Gout, Gall-stones, Renal Calculi, Diseases of the Spleen, and of the Kidney and Urinary organs.

Bottled under Official Supervision at Carlsbad and regularly imported by the Sole Agents:

INGRAM & ROYLE, Ltd.,

BANGOR WHARF, 45, BELVEDERE ROAD, LONDON, S.E.1.

And at LIVERPOOL and BRISTOL.

Samples and Descriptive Pamphlet forwarded on application.

Iodine-Medol

Clinical Data in Cases of Psoriasis

collected over a considerable period, show Iodine-Medol to have given good results in this indication. Iodine-Medol is an *Antiseptic Unguentum* presenting Iodine and Creolin in a form possessing peculiar penetrative powers with high germicidal efficiency. Indicated for use whenever Iodine medication would be employed.

Testing samples and full particulars sent on application to :—

Pearson's Antiseptic Co., Ltd., 61, Mark Lane, London, E.C.3.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

OPERATION ON BRAIN.

Typical Case.

A. B., aged 42 years.

Diagnosis: Advanced optic neuritis.

Anaesthesia: 60 c.c. of a 0.7 per cent. Novocain-Adrenaline solution.

Operation: A transverse infiltration block was made above the external ear with a vertical line along the proposed line of incision. The skull was opened over an area of 5 by 7 cm. The dura was opened after the ligation of two arterial branches. The opening was covered by the temporal muscle and the skin closed with silkworm gut.

Note.—The patient remarked at the finish of the operation that if this was all there is to such an operation he would not mind having one every day.

—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

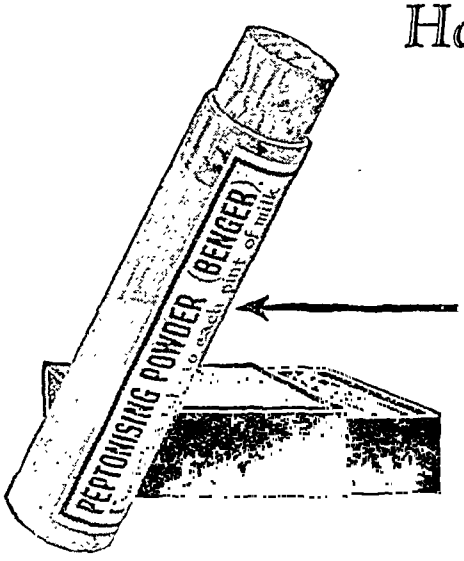
THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

The most efficient Peptonising Powders!



Half a tube of Benger's is enough!

While half a tube of Benger's Peptonising Powders is enough to peptonise a pint of milk, gruel or soup, in most cases in 10 minutes, the extent of the peptonising action can be regulated by either increasing or diminishing the quantity of the powders, and by lengthening or shortening the time during which they are allowed to act on the milk, gruel, etc.

Generally speaking, Benger's Peptonising Powders produce the required result with half the quantity necessary of other preparations, whose initial cost also is higher.

Prices:
No. 1—Box of 6, 1/-; No. 2—Box of 12, 1/8

Benger's Liquor Pancreaticus.

An important aid in the preparation of Peptonised Milk, etc.

Benger's Liquor Pancreaticus is an active solution of the digestive principles of the Pancreas; a really efficient agent for the digestion of milk, gruel, and farinaceous or partly farinaceous foods. Benger's Liquor Pancreaticus is odourless and tasteless.

In 4, 8 and 16-oz. bottles.

Prices: 3/-, 5/6 and 10/6

BENGER'S FOOD, Ltd., MANCHESTER.
Branch Offices—NEW YORK (U.S.A.): 50 Beekman St.
SYDNEY (N.S.W.): 350, George St.
M 139 CAPE TOWN (S.A.): P.O. Box 573.

Medical men may obtain full particulars of Benger's preparations post free on request.

BENGER'S Food

BETTER MILK FOR BABIES

Introducing LACTOGEN

to the British Medical Profession

Lactogen—prepared in England by Nestlé's—is a modified dried milk for use in infant feeding. On reconstitution it closely approaches the maternal standard.

This *correct balance* is secured by a scientific adjustment of the constituents, whilst the full *vitamin content* of the raw milk is carefully conserved.

Lactogen is easily *digested* by reason of the modified character of the fat and protein.

The *hygienic packing* precludes contamination, and the aluminium measure packed in each tin ensures *accurate feeds.*

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

FREE SAMPLES with detailed descriptive literature will be sent to any Member of the Medical Profession upon request.

Lactogen Bureau (Dept. Z1)
Nestlé and Anglo-Swiss
Condensed Milk Co., 6 & 8,
Eastcheap, London, E.C.3.

"LACTOGEN"
REGD. TRADE MARK

BETTER MILK FOR BABIES

A List of

GLANOID MEDICINAL PRODUCTS ANIMAL ORIGIN

Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
Catgut
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Ligatures**
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
*Pituitary, W. G.**
*,, Ant. Lobe**
*,, Post. Lobe**
*,, Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
,, Co.
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

*Literature available on request.

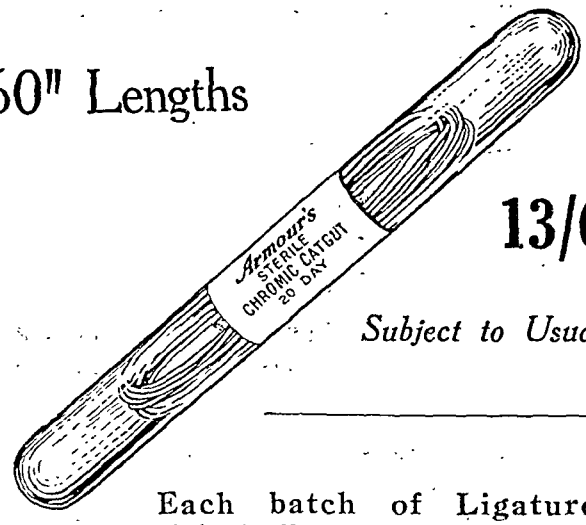
GLANOID BRAND

STERILE CATGUT

LIGATURES

PLAIN and CHROMIC 20-DAY

60" Lengths



13/6 per dozen Tubes.

Subject to Usual Discount.

Each batch of Ligatures is bacteriologically tested, and guaranteed to conform with the requirements of the Ministry of Health.

Full Particulars will be sent to the Medical Profession on request.

Sizes, 0, 00, 000, 1, 2, 3, and 4

LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

"VIODAR"

(R.T.M. applied for)

VIODAR is the new standardised stable antiseptic containing FREE IODINE IN OILY CONDITION, to which its violet colour is due. Viodar is issued in two strengths, namely, 1 in 1,000 and 1 in 200.

VIODAR can be used both Locally and nternally. For many purposes it should replace Tincture of Iodine.

VIODAR is neutral and will not develop acidity on storage. Although stable in stoppered bottles, Iodine is liberated from Viodar on contact with the warmth of the part to which it is applied.

VIODAR does not stain or sting. The 1 in 1,000 strength is tasteless. The oily form of solution enhances the penetrating power, and at the same time the preparation is occlusive and protective. Viodar 1 in 1,000 should prove effective for general purposes—the 1 in 200 may prove too strong on mucous membrane.

VIODAR should be tried in skin affections.

Internally, VIODAR 1 in 1,000 is suggested as a lubricant stomach and intestinal antiseptic. The antiseptic power of Viodar has been demonstrated clinically.

VIODAR 1 in 200 permits of bold dosage—for Free Iodine effect in less vehicle.

In general the preparations have the well-known medicinal properties of the Iodides.

Bottles 3/- & 5/-.

Further details on application.

W. MARTINDALE

12, NEW CAVENDISH ST., LONDON, W.1

Telegrams: MARTINDALE, CHEMIST, LONDON. Telephone: LANGHAM 2440.

(Aesculapius)

THE ANAEMIAS

PERNICIOUS ANAEMIA.

Careful observations of large numbers of cases and the numerous notable reports received during the last four years justify the assertion that if treatment with HEPATEX is properly carried out, marked benefit results in most cases within a few days. Should the improvement not occur within three weeks it is probable that it is not a case of Pernicious Anaemia, or there may be some factor intimately connected with the gastric aspects of the condition which does not respond to Liver Therapy. For such cases attention has recently been turned to the haematopoietic value of stomach tissue with promising results, and in this connection we have produced GASTREXO, a scientifically prepared desiccated and defatted whole stomach substance.

SECONDARY ANAEMIA.

For the treatment of the Severe Secondary Anaemias the use of Hepatex in itself may be of inconstant value, but combined with iron it has proved to be eminently satisfactory. For cases of stubborn Secondary Anaemia, where powerful stimulation of the blood regenerating organs is highly desirable, HEPATEX WITH IRON is strongly recommended. The special form of iron used is greatly superior to ordinary iron preparations as regards assimilation and produces no disagreeable after-effects.

HEPATEX	HEPATEX with IRON.	GASTREXO
issued in 4 oz. bottles. One fluid drachm equals 2 oz. of fresh liver.	issued in 2 oz. bottles. Contains one grain of metallic iron in one drachm.	issued in boxes of 12 × 10 grammes and tins of 240 grammes. 10 grammes is equivalent to 80 grammes of whole substance.

EVANS SONS LESCHER & WEBB, LTD

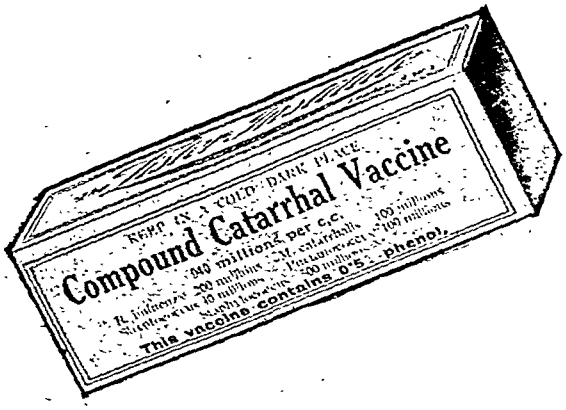
Manufacturers of Fine Chemicals, Pharmaceutical & Biological Products.

LIVERPOOL *56, Hanover Street.* DUBLIN LONDON *50, Bartholomew Close, E.C.1.*

The Lister Institute
OF PREVENTIVE MEDICINE

Therapeutic Substances Act, 1925
Manufacturing Licence No. 9

Vaccines and Sera



Compound Catarrhal Vaccine In phials containing 235, 470, 940 and 1,880 million organisms per c.c.

Concentrated Diphtheria Antitoxin In phials of 500 to 10,000 units.

Compound Influenza Vaccine In phials containing 330 and 660 million organisms per c.c.

Micrococcus Catarrhal Vaccine In phials containing 25, 50, 100 and 250 million organisms per c.c.

Concentrated Tetanus Antitoxin In phials of 1,000 to 40,000 units (=500 to 20,000 U.S.A. units).

Anti-Streptococcus Serum In phials of 10 and 25 c.c.

Anti-Meningococcus Serum In phials of 10, 15 and 30 c.c.

Vaccine Lymph

A descriptive pamphlet, issued under the Authority of the Governing Body of the Lister Institute, will be sent on request.

Sole Agents:

Allen & Hanburys Ltd., London

Telephone: Mayfair 2216 (three lines)

Telegrams: "Vereburys, Wesdo, London."

SCIENTIFIC ENZYME DIGESTION

RICH SELECTED ENGLISH MILK
Pancreatised

PREDIGESTED MILK
(25% Protein Conversion)

SELECTED ENGLISH WHEAT
Dextrinised and Pancreatised

PREDIGESTED WHEAT
(25% Starch Conversion)

Powdered by the
COW & GATE
Improved
Roller Process

Peptalac
REGD.

THE NEW INSTANT PREDIGESTED FOOD

SIX OUTSTANDING ADVANTAGES

1 PEPTALAC is "made in a minute" by the simple addition of hot water giving in an instant a digested milk food of high digestibility.

2 PEPTALAC is fool-proof and requires neither [illegible]

3 PEPTALAC is [illegible]

4 PEPTALAC is a safe and practically sterile powder. In the old methods of peptonisation, the milk was predigested at a temperature which is also favourable to [illegible] genic organisms and practically sterile.

5 PEPTALAC is therefore invaluable for infants, young children, the aged, convalescents, and the weak in health, who are prone to contract milk-borne diseases from ordinary milk or preparations made with it.

6 PEPTALAC is pleasing to the most fastidious palates—salt or chocolate may be added for further flavouring if desired.

SEND THE COUPON FOR

Cow & Gate Milk Food

FREE CLINICAL SAMPLE

Name.....

Address.....

B.M.J., March 21/31

COW & GATE LTD. GUILDFORD, SURREY

PIONEERS AND EMPIRE BUILDERS: No. 589
NINTH PERIOD—circa A.D. 300 to c. 1300

For the Injection Treatment of Varicose Veins

'HYPOLOID' products provide sterile sclerosing solutions in convenient strengths and quantities, ready for immediate use

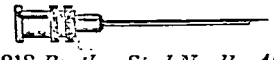
TRADE MARK 'HYPOLOID' BRAND
QUININE AND URETHANE

Quinine Bihydrochloride, 0·26 gm., and Urethane, 0·13 gm., in 2 c.c.
2/- *per box of* 5 *containers* *Rubber-capped bottles of* 25 *c.c.*, 3/- *per bottle*

TRADE MARK 'HYPOLOID' BRAND
SODIUM SALICYLATE

20, 30 *and* 40 *per cent. solutions in* 5 *c.c. phials; boxes of* 5 *containers*, 2/9 *per box*

Specially supplied for use in this treatment—



No. 218 *Rustless Steel Needles*, 10*d. each*
To use these Needles with a 5 c.c. or 10 c.c. 'AGLA' Syringe, an 'AGLA' Nozzle Adapter is required–price 6*d.* each

TRADE MARK 'AGLA' BRAND SYRINGES

For use with 'HYPOLOID' Quinine and Urethane
2 *c.c., price* 11/- *each*
For use with 'HYPOLOID' Sodium Salicylate
5 *c.c., price* 15/- *each*
10 *c.c., price* 20/6 *each*

Prices in London to the Medical Profession *Special literature free on request*

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1
Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

ROMAN RELIEF DEPICTING A GERMANIC LADY AS SHE TRAVELLED DURING THE TEUTONIC MIGRATIONS.—Greek and Roman records, together with archæological finds, show us the Teutonic barbarian tribes in their earliest habitat—in Southern Sweden, Jutland, Schleswig-Holstein, on the coast of what is now Germany eastward as to the Oder, and in the islands as far as Gothland. They seem to have been driven thence by encroachments of the sea and by inundations. This earliest movement led to widespread migrations into the whole of central southern and western Europe, especially from the last quarter of the fourth century to the end of the eighth—with momentous results for modern Europe. The Teutonic movement was not a matter merely of armies setting forth to conquer, but of the migration and re-settling of whole populations, the women and children, goods and chattels being transported in wagons. The illustration here reproduced from a relief upon the column of Marcus Aurelius shows us a Teutonic lady and child of the second century A.D. travelling in an ox-waggon.

DATE:—A.D. c. 370—c. 500 (Pioneering period of the migrations).

COPYRIGHT

The **SPECIFIC OVARIAN HORMONE**

which normally controls and activates the menstrual cycle

SISTOMENSIN

standardised physiologically

dysmenorrhœa, menorrhagia, hæmorrhages of puberty and menopause, hypoplasia of the uterus, disturbances subsequent to menopause or oöphorectomy.

Tablets Ampoules

PROKLIMAN

(Sistomensin Compound)

Association of ovarian hormone with therapeutic agents for the prompt relief of the most pronounced troubles of menopause: cardiovascular and nervous troubles, hot flushes, headache, etc.

Tablets

Hydrosoluble Ovarian Substance

AGOMENSIN

Clinical Reports on request

causes hyperæmia of the female genital organs. Stimulates the function of the genital glands and menstruation.

Functional amenorrhœa, oligomenorrhœa, sterility, vomiting during pregnancy, etc.

Tablets Ampoules

Samples on request

THE CLAYTON ANILINE Co Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1

Telephones: Hop. 6954, 6955 Pharmaceutical Department Telegrams: Cibadyes Boroh London

"The Microscope proves its efficacy"

Trade Mark **'NEOTROPIN'** Brand

Butyloxy-diamino-azo-pyridin

A new non-irritant internal disinfectant and bactericide of marked penetrative power and tissue affinity.

Indicated in:

BACTERIURIA CYSTITIS
PYELITIS PYELONEPHRITIS
GONORRHOEAL COMPLICATIONS
and as a PRE- AND POST-OPERATIVE ANTISEPTIC

Dose: Two dragées to be swallowed thrice daily according to requirements of the case.

Original Packing: Bottles of 30 dragées (1·5 grains).

Sample and illustrated brochure on request.

SCHERING LIMITED, 3, Lloyd's Avenue, London, E.C.3

THE TREATMENT OF MITRAL DISEASE IN CHILDREN*

BY

THOMAS F. COTTON, M.D., C.M., M.R.C.P.

PHYSICIAN TO OUT-PATIENTS, THE NATIONAL HOSPITAL FOR DISEASES OF THE HEART

Mitral disease in children is a serious malady, and ranks in this country among the most important of killing diseases in childhood and adolescence. It is a disease of the school child, and is a principal cause of permanent invalidism among children of the poorer classes attending elementary schools. The State recognizes in juvenile rheumatism, the cause of the disease, a cardiac problem closely related to the environmental conditions associated with their growth and education. It has provided schools for physically defective children, which are available for the child with rheumatic heart disease. At these schools, with good medical supervision, the hours of study, transport, and other conditions of school life are regulated with a view to improving or maintaining their health and providing an education that will help them to earn a living.

Special convalescent homes have also been established for children in the London area with rheumatic heart disease requiring treatment before resuming their school life. The Metropolitan Asylums Board have recently transferred to the London County Council for this purpose one hundred beds at Queen Mary's Hospital, Carshalton, and at Highwood Hospital, Brentwood, and proposals have been accepted for increasing the number. Convalescent homes have been provided, and are controlled and managed by a charity organization working in association with the Board of Education. The Invalid Children's Aid Association, a pioneer in this form of institutional treatment, has two special convalescent homes for children with rheumatic heart affections: one with seventy-five beds for girls at West Wickham, Kent, and the other at Willesden, with twenty-two beds for boys. The Edgar Lee Home at Willesden was founded in 1919, and in June, 1930, 678 boys had been admitted for treatment. There is a matron in charge, assisted by a nurse, and a schoolmistress is provided by the Board of Education. A general practitioner, living in the neighbourhood, makes visits weekly, or oftener if necessary, and there are two consulting physicians. It has been my practice since 1919 to examine all the boys once a month, and make notes on their condition.

General Description of Selected Cases

It seems desirable, now that ten years have elapsed since the home was opened, to review the results of the treatment that has been carried on at this institution. For this purpose I have selected the first 100 boys admitted in the years 1919–22 with rheumatic heart disease, and have obtained the after-histories of all but six of these, after seven years in one group and eight years in the other. Their ages on admission were between 10 and 11 years. All had had rheumatism or chorea, and many were convalescent from a recent rheumatic infection. They were admitted from the general hospitals of the metropolitan area, or from the schools on the recommendation of the school medical officer. All but two of these boys had signs of a rheumatic infection of the heart.

57 were diagnosed as having mitral disease.
23 had signs of mitral stenosis.
14 had signs of mitral stenosis and aortic regurgitation.
4 had aortic regurgitation alone.
2 had no signs of valve disease.

* A British Medical Association Lecture delivered to the Cardiff Division on January 14th.

Mitral disease in children is probably always associated with a rheumatic invasion of the myocardium, and is evidence of carditis. The symptoms in the early years are those of a general infection. At a later period in the advanced stages of the disease they fuse with, or are replaced by, symptoms of a failing myocardium. These children were not advanced cases of myocardial disease, and did not have, on admission to the home, signs of congestive heart failure. The heart, with a few exceptions, was enlarged in the mitral stenosis group; in the mitral systolic group there were no signs of cardiac enlargement in the majority of cases. They had symptoms and signs of a general infection, and our chief concern was to determine whether the infection was active or quiescent, for it was upon this decision that we based the treatment.

Signs of Active Rheumatic Infection

Pyrexia, pallor, loss of weight, nodules, and a rapid pulse rate were regarded as signs of an active infection. The length of treatment in the home averaged four and a half months; 20 per cent. were in a stage of active infection, and during a part of this time were kept in bed on this account. A temperature ranging from 99° to 99.6°, if not accompanied by loss of weight or a rapid pulse rate, did not seem to be affected by rest, and, as a doubtful sign of infection, was disregarded. Pyrexia of more than 99.6° was an indication for rest in bed for several weeks or months, so long as it continued, and was usually accompanied by pallor, loss of weight, tachycardia, and in some cases rheumatic nodules. Nodules might occur without any rise of temperature, and were an indication for complete rest until they had disappeared. A small percentage of patients were kept in bed on account of a tachycardia with a resting pulse rate of 100 or more, as an isolated sign of infection. A rapid heart rate present during the waking hours but absent with the child asleep, without a rise of temperature or loss of weight, was considered a doubtful sign of infection and not an indication for complete rest. Pallor, when conspicuous, was usually associated with some other sign of infection. Arthritis, joint pains, and other articular signs in a large number of cases played a minor part in the diagnosis of a recurring rheumatic infection.

Treatment

If there were no signs of active infection, and no complaint of breathlessness, undue exhaustion, or fatigue at rest, or after running about the house or grounds, such games as football and cricket were allowed, or less strenuous games if the exercise tolerance was poor. The matron's report on the boys' reaction to exercise helped, in deciding what games should be played. The games, study hours, and resting periods were regulated by the presence or absence of signs of infection, symptoms of fatigue and exhaustion, and response to effort, rather than by any variation in the heart signs. A striking feature in the examination of the heart was the constancy of the physical signs. It was found that frequent examinations of the heart were unnecessary in recognizing changes in the condition of the patient.

Salicylates were given a good trial, and were not found helpful in controlling the pulse rate or the pyrexial curve, except in those with a high temperature in the course of an acute rheumatic infection. Digitalis, when given in moderately large doses, did not slow the pulse rate in those with a persistent tachycardia. General tonics were sometimes prescribed. Good healthy food, with plenty of butter and milk, was found to be more important than drugs in the treatment of this disease. It has been our practice to enucleate the tonsils, if they were septic, at the local hospital during the course of treatment.

Results obtained from Investigation of After-Histories

In all but 6 of the 100 cases a diagnosis was made of mitral disease or mitral stenosis. In 57, the larger group, mitral disease with a mitral systolic murmur was diagnosed. As shown in the table, 17, or 29 per cent.,

	Total	Dead	Living	Duration	Untraced	Remarks
Mitral disease, mitral systolic murmur	57	17 (29%)	35 (61%)	7 yrs.	3	2 living after 6 years
Mitral stenosis	23	15 (65%)	6 (25%)	8 yrs.		1 living after 7 years 1 living after 4 years
Aortic regurgitation and mitral stenosis	14	6 (43%)	6 (43%)	8 yrs.	2	
Aortic regurgitation, no valve disease, congenital	6					
	100	38	47		5	

were dead, and 35, or 61 per cent., were alive at the end of seven years, 2 were alive after six years, and 3 could not be traced. In a smaller group of 23 there were definite signs of mitral stenosis ; 15 of these, or 65 per cent., were dead, and 6, or 26 per cent., were living after eight years, 1 was alive at the end of seven years, and another after four years. In the smallest group there were 14 with mitral stenosis and aortic regurgitation ; 6 of these were dead and 6 living, or 43 per cent., after eight years ; 2 could not be traced. No after-histories were obtained in the remaining 6 cases.

Mortality from Mitral Disease and Mitral Stenosis

The mortality rate, as one would expect it to be, is considerably higher in the mitral stenosis group, with 65 per cent. in one, and 43 per cent. in the other, or 57 per cent. if the two groups are combined, than in the mitral disease group with a mitral systolic murmur, and a death rate of 29 per cent. It is well known that a mitral systolic murmur is an unreliable sign of mitral disease. It is a more certain sign in children who have had rheumatism, as was the case in these patients. In this mitral systolic group the murmur may have been functional in some ; the mitral valve may not have been damaged, and the heart not affected by the rheumatic infection. In a few, because of the loudness of the murmur, the short diastolic murmur of early mitral stenosis may have been missed. I do not think these problematic diagnostic errors materially alter the significance of these figures in this group of 57 cases.

There were undoubted signs of mitral stenosis in the remaining 37 cases. There is the possibility of an error in the diagnosis of aortic regurgitation in patients with mitral stenosis. In the 14 cases diagnosed aortic regurgitation and mitral stenosis, the death rate was lower than in the group of 23 with mitral stenosis alone. We might have expected a larger number of deaths in these cases, but the total is too small to stress this point.

Conclusions

In comparing the figures of the two main groups—57 with a mitral systolic murmur, and 37 with mitral stenosis —it has to be noted that the after-histories are for seven years in one and eight years in the other. It is probable that the death rate would have been higher than 29 per cent. at the end of eight years in the mitral systolic group, and lower than 65 per cent. at the end of seven years in the mitral stenosis group. Nevertheless, these figures have an absolute and relative value that the variable factors which have been considered cannot alter. They allow the statement to be made that the prognosis in children with mitral stenosis over a period of eight years who have had treatment in a special convalescent home is a grave one. They raise the question of the value of this form of treatment in mitral stenosis, and whether it is worth while treating such cases in a special convalescent home.

The figures in the mitral systolic group confirm what is well known, that the prognosis is much more favourable in mitral disease in children before the signs of mitral stenosis have developed. They suggest that in early cases treatment in a special convalescent home may play a not unimportant part in controlling the course of the disease.

It has to be admitted that the treatment of a chronic disease like rheumatism, with the cause unknown, is unsatisfactory. This is particularly true in the treatment of children who belong to the poorer classes. On leaving the convalescent home, where they have been more or less protected against reinfection, they return to unhealthy homes, and are again exposed to rheumatic and other infections which cause more damage to the heart muscle and valves. The children of well-to-do parents are better protected against the ravages of rheumatism, for they have home surroundings in which they can live, grow up, and be educated under conditions which are comparable with those which exist in a special convalescent home. The prognosis is more favourable in these children, because the disease is likely to be recognized in its early stages, and suitable treatment given at a time when it is possible to prevent the development of progressive changes leading to a serious cardiac disability.

The mortality rate in mitral disease occurring in children from the elementary schools, I am convinced, can be lowered if they are given treatment in a special convalescent home before signs of mitral stenosis have developed. This treatment should be continued over a longer period than has been possible hitherto from lack of bed accommodation. If treatment were limited to those patients with early signs of disease, more beds would be available and courses could be prolonged.

THE PROSTATE IN GENERAL PRACTICE*

BY

KENNETH WALKER, F.R.C.S.

SURGEON IN CHARGE, GENITO-URINARY DEPARTMENT, ROYAL NORTHERN HOSPITAL ; SURGEON TO ST. PAUL'S HOSPITAL ; SURGEON IN CHARGE, VENEREAL DISEASES DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL

The prostate is an organ which is of far greater importance to the clinician than to the anatomist or the physiologist. To the anatomist it is merely a glandular structure, fitting round the neck of the bladder, and no bigger than a chestnut ; to the physiologist it is an accessory sex gland whose function is so unimportant and so obscure that it has not yet been discovered. To the clinician, however, the prostate is particularly liable to disease, which may occasion disturbances of general health utterly out of proportion to the part the organ plays in the economy of the body. This difference between the roles of the prostate in disease and in health is entirely due to its position at the " cross-roads " of the urinary and genital systems, which are almost bound to suffer when the gland is diseased. For this reason it may be of interest to survey, from the standpoint of the general practitioner, some of the disturbances in general health that may result from a lesion of the prostate.

* Based on a paper read before the St. Pancras Division of the British Medical Association.

TYPES OF DISEASE

It will be convenient for the purpose of this paper to consider prostatic diseases under five headings: (1) inflammatory lesions of the prostate; (2) prostatic enlargement; (3) malignant disease; (4) neuroses; (5) other conditions.

Inflammatory Lesions

A prostatitis may be acute or chronic. If it is acute the symptoms are usually so striking that no doubt is left as to the nature of the disease. Chronic prostatitis, however, may present itself to the practitioner in many guises, and consequently errors in diagnosis are common, even when the patient complains of symptoms (since they are both urinary and genital in character) that should point clearly to the fact that the disease is located at the cross-roads. Most commonly there is frequency and pain on micturition, and deep-seated discomfort in the perineum after sexual excitement. Some patients will come on account of pain felt elsewhere in the genital tract—at the end of the penis, over the sacrum, in the groin, or in either testicle. They may also state that recently, and as far as they can see without reason, their testicles have become swollen. They may even recall that they were plagued with a similar visitation some months or years previously. Possibly they may have noted from time to time a tiny drop of urethral discharge at the meatus, or some inexplicable threads in the urine. Often these helpful observations are lacking.

There are certain points worthy of attention in connexion with chronic inflammation of the prostate. The first is that frequency and pain, a combination we are generally taught to associate with a lesion of the bladder, are just as likely to be the result of a lesion of the prostate. The second is that an absence of history of gonorrhoea does not exclude the possibility of a prostatitis. We are apt to assume that the genital tract is the privileged hunting ground of the gonococcus, and that other organisms find difficulty in establishing a footing in these regions. This is an absurd assumption. The prostate is a favourable field of action for any lucky microbial invader, and once organisms entrench themselves in the labyrinthine passages of the gland they are dislodged only with the greatest difficulty. If a patient complains of symptoms that may be due to a chronic infection of his prostate we must not be put off because he is above gonococcal suspicion. A rectal examination should be insisted upon; the prostate and vesicles should be carefully palpated, and if possible some secretion expressed for microscopical investigation. A chronic focus in the prostate may also give rise to signs and symptoms that seem entirely remote from any lesion of the genital tract. The patient may complain merely of vague pains over the lumbo-sacral region, or he may appear in the consulting room as a case of "sciatica" or of "chronic rheumatism." Sometimes the case is still more carefully disguised as one of *recurrent iritis*. Next to the teeth, the prostate is most commonly the primary focus of infection in cases of chronic fibrositis or synovitis. Droitwich and Harrogate, and other famous watering-places at which rheumatic patients congregate, are full of cases of undetected prostatitis.

Prostatic Enlargement

I need not enlarge upon the obvious cases of prostatic enlargement. An elderly man who complains of increasing difficulty of micturition and of nights disturbed by the necessity of rising is not likely to leave the consulting room without a diagnosis of his case. But sometimes a patient whose troubles are the result of prostatic obstruction consults his doctor about the subject of his general health rather than of micturition troubles. Indeed, I have known a patient whose bladder was half-way to his umbilicus announce on arrival that he had come on account of nausea and vomiting. Only after examination and careful interrogation did it transpire that the gastric symptoms were preceded by a long history of micturition trouble, and that the vomiting was actually symptomatic of commencing uraemia. Such cases are by no means rare. To many men, a certain amount of frequency and difficulty is inevitable in old age. "My bladder has been weak for some years, but of course one has to put up with that sort of inconvenience when one gets on in years," is a familiar statement reflecting a common attitude of mind. Consequently, but little is said of the weakness, and attention is concentrated on other and more serious inconveniences. Even the doctor may be hoodwinked at times, and may be content with a general overhaul of the patient, followed by an examination of the urine and the finding of albuminuria. The dry mouth, anorexia, thirst, headache, nausea, and vomiting, taken in conjunction with the raised blood pressure and albuminuria, all fit in with a diagnosis of chronic nephritis, and the patient may leave the consulting room without the discovery being made that the renal trouble is secondary to a long-standing prostatic obstruction.

In other cases I have known the gastro-intestinal symptoms not uncommonly associated with prostatic enlargement to divert attention to the alimentary canal. A close connexion exists between the reflexes of micturition and defaecation, so that a man with a distended bladder may find it difficult or impossible to empty his rectum naturally; conversely, one with a loaded rectum may have similar trouble with his bladder. When the amount of residual urine in the bladder begins to increase, the action of the bowel is generally hampered, so that the patient, in addition to his urinary difficulty, complains of constipation, abdominal pain, and flatulence. To the Anglo-Saxon an interference with the daily evacuation of the bowels is of far greater moment than a weakness of his bladder, and it is this new development which often induces him to seek medical advice. Unless, therefore, the practitioner is thorough in his examination, his attention may be concentrated on the alimentary disturbances that are only of secondary importance, and miss the primary focus.

Malignant Disease of the Prostate

Carcinoma of the prostate is another example of a "silent" lesion. Not infrequently the chief disturbance of health to which it gives rise is general rather than local, so that the physician's attention is mainly directed to the debility and loss of weight. In other cases, the patient with a malignant prostate may appear in the consulting room complaining of intractable sciatica, or of constant pain in the lumbo-sacral region. The urinary symptoms may be comparatively slight, and the patient may not think it necessary to inform his doctor that his urinary stream has been getting progressively worse. One of the surprising features of the disease may be the smallness of the primary malignant focus as compared with the extensive secondary infiltrations of the sacrum and ilium. Palpation may discover only a slight hardening of one of the lobes, and yet a skiagram may reveal the fact that the pelvis is entirely eroded with growth. Recently I examined under an anaesthetic a patient who had consulted many doctors for pain in the lumbo-sacral region, with increasing debility. Had it not been for the favourable influence of the anaesthetic in facilitating the palpation of the prostate I doubt whether I should have detected a small hard nodule in one of the lobes. Yet a skiagram showed that his pelvis was the site of advanced secondary deposits. The *x*-ray appearances of the bones in these cases are very striking, and cannot be confused

Results obtained from Investigation of After-Histories

In all but 6 of the 100 cases a diagnosis was made of mitral disease or mitral stenosis. In 57, the larger group, mitral disease with a mitral systolic murmur was diagnosed. As shown in the table, 17, or 29 per cent., were dead, and 35, or 61 per cent., were alive at the end of seven years, 2 were alive after six years, and 3 could not be traced. In a smaller group of 23 there were definite signs of mitral stenosis; 15 of these, or 65 per cent., were dead, and 6, or 26 per cent., were living after eight years, 1 was alive at the end of seven years, and another after four years. In the smallest group there were 14 with mitral stenosis and aortic regurgitation; 6 of these were dead and 6 living, or 43 per cent., after eight years; 2 could not be traced. No after-histories were obtained in the remaining 6 cases.

	Total	Dead	Living	Duration	Untraced	Remarks
Mitral disease, mitral systolic murmur	57	17 (29%)	35 (61%)	7 yrs.	3	2 living after 6 years
Mitral stenosis	23	15 (65%)	6 (25%)	8 yrs.		1 living after 7 years
Aortic regurgitation and mitral stenosis	14	6 (43%)	6 (43%)	8 yrs.	2	1 living after 4 years
Aortic regurgitation, no valve disease, congenital	6					
	100	38	47		5	

Mortality from Mitral Disease and Mitral Stenosis

The mortality rate, as one would expect it to be, is considerably higher in the mitral stenosis group, with 65 per cent. in one, and 43 per cent. in the other, or 57 per cent. if the two groups are combined, than in the mitral disease group with a mitral systolic murmur, and a death rate of 29 per cent. It is well known that a mitral systolic murmur is an unreliable sign of mitral disease. It is a more certain sign in children who have had rheumatism, as was the case in these patients. In this mitral systolic group the murmur may have been functional in some; the mitral valve may not have been damaged, and the heart not affected by the rheumatic infection. In a few, because of the loudness of the murmur, the short diastolic murmur of early mitral stenosis may have been missed. I do not think these problematic diagnostic errors materially alter the significance of these figures in this group of 57 cases.

There were undoubted signs of mitral stenosis in the remaining 37 cases. There is the possibility of an error in the diagnosis of aortic regurgitation in patients with mitral stenosis. In the 14 cases diagnosed aortic regurgitation and mitral stenosis, the death rate was lower than in the group of 23 with mitral stenosis alone. We might have expected a larger number of deaths in these cases, but the total is too small to stress this point.

Conclusions

In comparing the figures of the two main groups—57 with a mitral systolic murmur, and 37 with mitral stenosis—it has to be noted that the after-histories are for seven years in one and eight years in the other. It is probable that the death rate would have been higher than 29 per cent. at the end of eight years in the mitral systolic group, and lower than 65 per cent. at the end of seven years in the mitral stenosis group. Nevertheless, these figures have an absolute and relative value that the variable factors which have been considered cannot alter. They allow the statement to be made that the prognosis in children with mitral stenosis over a period of eight years who have had treatment in a special convalescent home is a grave one. They raise the question of the value of this form of treatment in mitral stenosis, and whether it is worth while treating such cases in a special convalescent home.

The figures in the mitral systolic group confirm what is well known, that the prognosis is much more favourable in mitral disease in children before the signs of mitral stenosis have developed. They suggest that in early cases treatment in a special convalescent home may play a not unimportant part in controlling the course of the disease.

It has to be admitted that the treatment of a chronic disease like rheumatism, with the cause unknown, is unsatisfactory. This is particularly true in the treatment of children who belong to the poorer classes. On leaving the convalescent home, where they have been more or less protected against reinfection, they return to unhealthy homes, and are again exposed to rheumatic and other infections which cause more damage to the heart muscle and valves. The children of well-to-do parents are better protected against the ravages of rheumatism, for they have home surroundings in which they can live, grow up, and be educated under conditions which are comparable with those which exist in a special convalescent home.

The prognosis is more favourable in these children, because the disease is likely to be recognized in its early stages and suitable treatment given at a time when it is possible to prevent the development of progressive changes leading to a serious cardiac disability.

The mortality rate in mitral disease occurring in children from the elementary schools, I am convinced, can be lowered if they are given treatment in a special convalescent home before signs of mitral stenosis have developed. This treatment should be continued over a longer period than has been possible hitherto from lack of bed accommodation. If treatment were limited to those patients with early signs of disease, more beds would be available and courses could be prolonged.

THE PROSTATE IN GENERAL PRACTICE

BY

KENNETH WALKER, F.R.C.S.

SURGEON IN CHARGE, GENITO-URINARY DEPARTMENT, ROYAL NORTHERN HOSPITAL; SURGEON TO ST. PAUL'S HOSPITAL; SURGEON IN CHARGE, VENEREAL DISEASES DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL

The prostate is an organ which is of far greater importance to the clinician than to the anatomist or the physiologist. To the anatomist it is merely a glandular structure, fitting round the neck of the bladder, and no bigger than a chestnut; to the physiologist it is an accessory sex gland whose function is so unimportant and so obscure that it has not yet been discovered. To the clinician, however, the prostate is particularly liable to disease, which may occasion disturbances of general health utterly out of proportion to the part the organ plays in the economy of the body. This difference between the roles of the prostate in disease and in health is entirely due to its position at the "cross-roads" of the urinary and genital systems, which are almost bound to suffer when the gland is diseased. For this reason it may be of interest to survey, from the standpoint of the general practitioner, some of the disturbances in general health that may result from a lesion of the prostate.

* Based on a paper read before the St. Pancras Division of the British Medical Association.

TYPES OF DISEASE

It will be convenient for the purpose of this paper to consider prostatic diseases under five headings: (1) inflammatory lesions of the prostate; (2) prostatic enlargement; (3) malignant disease; (4) neuroses; (5) other conditions.

Inflammatory Lesions

A prostatitis may be acute or chronic. If it is acute the symptoms are usually so striking that no doubt is left as to the nature of the disease. Chronic prostatitis, however, may present itself to the practitioner in many guises, and consequently errors in diagnosis are common, even when the patient complains of symptoms (since they are both urinary and genital in character) that should point clearly to the fact that the disease is located at the cross-roads. Most commonly there is frequency and pain on micturition, and deep-seated discomfort in the perineum after sexual excitement. Some patients will come on account of pain felt elsewhere in the genital tract—at the end of the penis, over the sacrum, in the groin, or in either testicle. They may also state that recently, and as far as they can see without reason, their testicles have become swollen. They may even recall that they were plagued with a similar visitation some months or years previously. Possibly they may have noted from time to time a tiny drop of urethral discharge at the meatus, or some inexplicable threads in the urine. Often these helpful observations are lacking.

There are certain points worthy of attention in connexion with chronic inflammation of the prostate. The first is that frequency and pain, a combination we are generally taught to associate with a lesion of the bladder, are just as likely to be the result of a lesion of the prostate. The second is that an absence of history of gonorrhoea does not exclude the possibility of a prostatitis. We are apt to assume that the genital tract is the privileged hunting ground of the gonococcus, and that other organisms find difficulty in establishing a footing in these regions. This is an absurd assumption. The prostate is a favourable field of action for any lucky microbial invader, and once organisms entrench themselves in the labyrinthine passages of the gland they are dislodged only with the greatest difficulty. If a patient complains of symptoms that may be due to a chronic infection of his prostate we must not be put off because he is above gonococcal suspicion. A rectal examination should be insisted upon; the prostate and vesicles should be carefully palpated, and if possible some secretion expressed for microscopical investigation. A chronic focus in the prostate may also give rise to signs and symptoms that seem entirely remote from any lesion of the genital tract. The patient may complain merely of vague pains over the lumbo-sacral region, or he may appear in the consulting room as a case of "sciatica" or of "chronic rheumatism." Sometimes the case is still more carefully disguised as one of recurrent iritis. Next to the teeth, the prostate is most commonly the primary focus of infection in cases of chronic fibrositis or synovitis. Droitwich and Harrogate, and other famous watering-places at which rheumatic patients congregate, are full of cases of undetected prostatitis.

Prostatic Enlargement

I need not enlarge upon the obvious cases of prostatic enlargement. An elderly man who complains of increasing difficulty of micturition and of nights disturbed by the necessity of rising is not likely to leave the consulting room without a diagnosis of his case. But sometimes a patient whose troubles are the result of prostatic obstruction consults his doctor about the subject of his general health rather than of micturition troubles. Indeed, I have known a patient whose bladder was half-way to his umbilicus announce on arrival that he had come on account of nausea and vomiting. Only after examination and careful interrogation did it transpire that the gastric symptoms were preceded by a long history of micturition trouble, and that the vomiting was actually symptomatic of commencing uraemia. Such cases are by no means rare. To many men, a certain amount of frequency and difficulty is inevitable in old age. "My bladder has been weak for some years, but of course one has to put up with that sort of inconvenience when one gets on in years," is a familiar statement reflecting a common attitude of mind. Consequently, but little is said of the weakness, and attention is concentrated on other and more serious inconveniences. Even the doctor may be hoodwinked at times, and may be content with a general overhaul of the patient, followed by an examination of the urine and the finding of albuminuria. The dry mouth, anorexia, thirst, headache, nausea, and vomiting, taken in conjunction with the raised blood pressure and albuminuria, all fit in with a diagnosis of chronic nephritis, and the patient may leave the consulting room without the discovery being made that the renal trouble is secondary to a long-standing prostatic obstruction.

In other cases I have known the gastro-intestinal symptoms not uncommonly associated with prostatic enlargement to divert attention to the alimentary canal. A close connexion exists between the reflexes of micturition and defaecation, so that a man with a distended bladder may find it difficult or impossible to empty his rectum naturally; conversely, one with a loaded rectum may have similar trouble with his bladder. When the amount of residual urine in the bladder begins to increase, the action of the bowel is generally hampered, so that the patient, in addition to his urinary difficulty, complains of constipation, abdominal pain, and flatulence. To the Anglo-Saxon an interference with the daily evacuation of the bowels is of far greater moment than a weakness of his bladder, and it is this new development which often induces him to seek medical advice. Unless, therefore, the practitioner is thorough in his examination, his attention may be concentrated on the alimentary disturbances that are only of secondary importance, and miss the primary focus.

Malignant Disease of the Prostate

Carcinoma of the prostate is another example of a "silent" lesion. Not infrequently the chief disturbance of health to which it gives rise is general rather than local, so that the physician's attention is mainly directed to the debility and loss of weight. In other cases, the patient with a malignant prostate may appear in the consulting room complaining of intractable sciatica, or of constant pain in the lumbo-sacral region. The urinary symptoms may be comparatively slight, and the patient may not think it necessary to inform his doctor that his urinary stream has been getting progressively worse. One of the surprising features of the disease may be the smallness of the primary malignant focus as compared with the extensive secondary infiltrations of the sacrum and ilium. Palpation may discover only a slight hardening of one of the lobes, and yet a skiagram may reveal the fact that the pelvis is entirely eroded with growth. Recently I examined under an anaesthetic a patient who had consulted many doctors for pain in the lumbo-sacral region, with increasing debility. Had it not been for the favourable influence of the anaesthetic in facilitating the palpation of the prostate I doubt whether I should have detected a small hard nodule in one of the lobes. Yet a skiagram showed that his pelvis was the site of advanced secondary deposits. The *x*-ray appearances of the bones in these cases are very striking, and cannot be confused

with those of any other condition except Paget's disease. I would strongly advise any practitioner who suspects that his patient has a malignant prostate to lose no time in obtaining an *x*-ray of the pelvis. I can recall other cases in which even a careful rectal examination gave doubtful results, and yet the whole of the pelvic girdle was infiltrated with disease. Indeed, it may be said that whenever secondary bony deposits are discovered in an elderly man who has no obvious primary lesion, the prostate should be carefully investigated.

The Prostate as a Starting Point of a Sex Neurosis

Under this heading are included many cases of a rather obscure nature. There is no organ in the male body more frequently used as the peg on which to hang a neurosis than the prostate gland. This is undoubtedly due to the fact that the prostate has a large nerve supply, and that as an organ of sex its activity is linked up with the emotions. We have all been consulted by patients who complain of deep-seated pain in the neighbourhood of the prostate for which no cause can be discovered. Some of these patients have previously suffered from chronic gonorrhoea with prostatitis. Although by dint of conscientious treatment the prostatic focus may have cleared up, the pain is apt to remain. An additional symptom sometimes complained of is frequency of micturition, which is not continuous, but comes on in attacks which are likely to be associated with an increase of pain in the perineum, or at the end of the penis. Not uncommonly the sex act is rendered difficult for these patients by the existence of premature ejaculations or post-coital discomfort. The anxiety associated with the condition and the fear that it will lead to impotence is very likely to result in a general neurasthenia. I recollect the case of one patient who had prostatic massage for two years, and finally became so desperate that he attempted to commit suicide. On examining his prostate I could find nothing wrong with it, and a microscopical investigation of the expressed secretion showed a complete absence of pus cells. He was cured by reassurance, complete cessation of all treatment, and a holiday in Switzerland. It is possible that in some cases the symptoms are caused by a condition of congestion of the prostate, and in others to spasm of its muscle fibres. If a routine examination is made of prostates in the post-mortem room, it will be found that thrombosis in the prostatic plexus is of very frequent occurrence, and I am convinced that the pain complained of by some patients in whom no obvious disease exists, is due to circulatory disturbance associated occasionally with this vascular condition. For this type of case I have found gentle prostatic massage and diathermy applied through a rectal electrode of greatest use. Many cases have yielded to this treatment, especially when it is accompanied by assurance, suggestion, and attention to the general physical and mental health. Electricity is associated in all patients' minds with the idea of magic, and, used properly, it often has a magical effect.

Other Conditions

There are many other conditions of the prostate that might be included in this survey of prostatic lesions occurring in general practice. Among these must be mentioned tuberculosis and prostatic calculus. When dealing with chronic prostatitis I said that the patient might appear in the consulting room as a case of unexplained epididymitis. The symptoms of the prostatic disease may be so trifling that it is only when an extension occurs along the vas deferens in the direction of the testicle that the patient considers it necessary to consult a doctor. This holds good of a chronic prostatitis that is tuberculous in nature. Pathologists are still divided in their opinion whether genital tuberculosis is centrifugal or centripetal in its spread. In other words, whether it starts in the prostate and extends to the epididymis, or vice versa. Personally, I hold strongly that genital tuberculosis travels in the same direction as other chronic infections of the genital tract, and that in the majority of cases a focus in the epididymis is secondary to one in the prostate or vesicle. One of my reasons for believing this is that in over 60 per cent. of cases both epididymes become involved through time. This fact should be an additional indication for a careful rectal examination in all cases of suspected genital tuberculosis.

The possibility that prostatic symptoms may be due to the existence of one or more small calculi within its substance is sometimes forgotten. The symptoms produced by a stone in the prostate may be similar to those caused by chronic infection or by malignant disease—namely, pain, frequency, and increasing difficulty in micturition. Rectal examination enables the prostatic calculus to be easily distinguished from chronic infection; in the former, an area of stony hardness and, where numerous stones exist, a characteristic grating can usually be detected. The differential diagnosis from a malignant focus is, however, in many cases difficult or even impossible without the help of an *x*-ray examination. Since an *x*-ray of the pelvis is desirable in all cases of malignant prostate, a skiagram will also serve as a means of distinguishing carcinoma from prostatic calculus.

CONCLUSIONS

It will be seen that to the clinician the prostate is an organ of paramount importance. It seems almost that Nature, having handicapped the female by providing her with reproductive organs liable to disease particularly after the menopause, has seen to it that the male should not be unduly favoured, and has provided him with a prostate. Another point brought out is that prostatic lesions may give rise to a wide range of symptoms, and to disturbances of the general health so marked that they throw the primary trouble into shadow. Finally, the moral has been drawn that if we are to avoid mistakes in diagnosis a careful rectal examination, followed, in cases of doubt, by a microscopical investigation of the expressed fluid, must form part of the routine examination of any male patient complaining of symptoms of an obscure nature.

TREATMENT OF PARANASAL SUPPURATION PERSISTING AFTER OPERATION*

BY

PERRY G. GOLDSMITH, C.B.E., M.D., C.M.

PROFESSOR OF OTO-LARYNGOLOGY, UNIVERSITY OF TORONTO; SURGEON-IN-CHIEF OF THE DEPARTMENT OF OTO-LARYNGOLOGY, TORONTO GENERAL HOSPITAL

I am not alone in my view that there has been a great deal of unnecessary and unwise surgical zeal devoted to the nasal accessory sinuses. Eugene Lewis says: "No great amount of clinical experience is required to realize that for some reason or other patients who have been subjected to extensive surgery of the upper respiratory tract are seldom better of their original ills." I commend his courage in demanding less spectacular surgery and more serious consideration of the underlying principles concerned with inflammatory manifestation of mucous membrane. My contribution is merely an effort to discuss the subject from my own practice and experience.

Persistence of discharge from any nasal accessory sinus following operation does not necessarily demand further

* Read in opening a discussion in the Section of Laryngology and Otology at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

surgical measures of a more radical nature. The main symptoms for which the patient sought advice, such as pain or discomfort in the head, nasal or post-nasal discharge, nasal obstruction, recurring head colds, mental depression, or lessening of the power of concentration, may have been so greatly benefited that even if some nasal or sinus secretion persists, it may not be of sufficient importance to require further instrumental intervention.

The extraordinary efforts made to detect the slightest amount of mucoid secretion in an accessory air cell, and the ridiculous weight attached to its presence, are further evidences of the extent to which the subject of foci of infection has clouded our clinical vision and made us forget our elementary physiology. I do not wish to belittle in the slightest a knowledge of the refinements of nasal diagnosis. The use of the endoscope and the exploral suction method of investigating the nature of the inflammatory process in an air cell, as has been so persistently and successfully advocated by P. Watson-Williams for many years, are diagnostic aids of great value.

The type of patient is of importance in determining the most satisfactory treatment in an individual instance. With the neurotic patient, very uneasy if he has any nasal secretion he can dislodge, fearful that by swallowing some of it he is liable to all sorts of diseases, it may simply be necessary to minimize his fears, to encourage him not to worry, and to assure him that there is nothing likely to cause any future trouble. He may well be told that occasional increase of nasal secretion is to be expected when the weather is damp or when he takes "a cold." Regulation of such a patient's manner of living, habits, diet, and exercise is of more importance than local medication.

Persistence of discharge alone from any sinus that has undergone operative treatment is, as a rule, unsatisfactory to the patient and discomfiting to the surgeon. Taking each cavity by itself I shall endeavour to enumerate some of the reasons for failing, in operative treatment, to secure complete relief from undue secretion.

FRONTAL SINUS

Acute frontal sinus inflammation usually gets well of itself, or may require some minor operation, such as removal of the anterior end of the middle turbinate to facilitate drainage. If the discharge persists after this simple operation, it may be helpful to probe or wash out the sinus. The fronto-nasal duct is a very irregular channel surrounded by ethmoidal cells, and in only a very small percentage of cases can it be probed or irrigated without undue traumatism, especially in recent cases of fronto-ethmoidal disease. Following Mosher's method of first breaking into the agger nasi cell, I have been able to reach and irrigate many frontal sinuses, my previous attempts to find the opening of the fronto-nasal duct under the middle turbinated bone having failed. Lavage alone then may be sufficient to cause the disappearance of the suppurative process in the frontal mucosa. Complete cessation of the discharge may not take place. If only a slight amount of mucus comes into the middle meatus, increasing or becoming purulent on slight provocation, and little or no discomfort or systemic symptoms are associated with it, the patient may choose to continue his nasal toilet rather than submit to further operative procedures which in the end may not entirely rid him of his secretion.

This applies to all the sinuses, and I think if we look upon the subject more from the patient's standpoint we will not allow ourselves or the patient to become unduly alarmed by the continuation of some muco-purulent nasal discharge, or be concerned too much because we are able to see some secretion in the washing from the cavity. The finding of lymphocytes or polymorphonuclears, while probably indicating chronicity of the pathological process, should not by itself demand further operative measures. Proetz very aptly puts the question as follows:

> "In such cases is it justifiable to resort to treatment which experience teaches us is useless, simply to do something? Perhaps in occasional instances, but on those occasions certainly the something should be simple, above all, harmless, and not especially expensive."

If the frontal discharge persists and is not associated with any gross ethmoidal disease, some additional measures will be necessary to restore the frontal mucosa to its normal thin moist condition.

The discharge continues owing to the inability of the frontal mucosa to recover from its oedematous condition, due to ineffective drainage. Oedema with some superficial exfoliation of epithelium and marked round-cell infiltration beneath the epithelial layer is the pathological process with which we have to deal. Deficient drainage may be caused by failure to secure sufficient nasal airway prior to operation—by a highly deflected septum, large middle turbinate, or hypertrophy of the anterior lip of the unciform groove.

In the absence of pain, oedema of the forehead, or evidence of bulging of the inferior wall, I believe the best treatment is to wait a little to see the effect of a change in climate; a few dry sunny days frequently make a great difference in clearing up a tardy resolving sinus infection. A few irrigations with a frontal cannula are of considerable assistance. Should the process not respond to such measures it is advisable to try to estimate how much thickening is present, and also gain a knowledge of the size and depth of the frontal cavity. For this purpose lipiodol and *x* rays are very valuable indeed, and help to forecast the future.

The *x*-ray examination may also reveal very considerable ethmoidal disease situated below the frontal sinus, mounding into or even extending over the orbit. In such cases further ethmoidal removal may be most helpful. If the lipiodol examination shows a very greatly thickened mucosa, when all manifestations of acute frontal inflammation have long subsided, I doubt very much if any intranasal measures are likely to be followed by a cure of the mucosal infection. If, however, only a mucoid discharge is present, periodically becoming purulent with acute coryzal attacks, I do not believe that any further surgical measures are necessary. Should pain, oedema of the forehead, or bulging of the upper and inner angle of the orbit occur, some external operation should be considered.

Before any external operation is attempted, a very thorough ethmoidal removal should be performed and a sufficient time allowed to elapse to see the result. In any case of frontal sinus disease requiring external operation there is so much ethmoidal disease present that it is a *sine qua non* that every effort should be made to secure a satisfactory ethmoidal condition before the external operation, or at any rate before the time of the external attack. The late Christian Holmes advocated a small opening into the floor of the frontal sinus in those very acute frontal attacks when intranasal drainage was not obtained. I have on two occasions found it necessary to open an acute frontal sinus through the upper and inner angle of the orbit.

The operation that has given the most satisfactory result, both from the patient's standpoint and from my own, is that advocated by Mr. Howarth (somehow known in the United States as the Lynch operation). If the frontal cavity is moderate in size and not separated into loculi unapproachable through the floor of the sinus, a very satisfactory result will ensue in a large majority of cases. It is essential, however, that all the ethmoidal cells in the floor of the sinus and over the roof of the orbit should be

thrown into one main chamber. Further, a very wide opening into the nose can be obtained by free removal of the inner orbital wall and the ascending process of the superior maxilla. My greatest difficulty is to keep this opening from closing over, and some other method than a large drainage tube or application of silver nitrate seems to be necessary. Denker's method of making a flap to line the new fronto-nasal channel is a very intricate and difficult procedure. I have no experience of it. Professor Seiffert applies a Thiersch graft to a finger-stall packed with gauze and introduced from the anterior nares into the frontal sinus following an external operation on the frontal and ethmoidal cells. I have no experience with this procedure. If the new channel closes over by a diaphragm of connective tissue, or narrows so much by granulations, I resort to the rasp with or without bougie. In the majority of cases this will accomplish the desired result, and the discharge will rapidly subside. When, however, owing to the large size of the frontal sinus and the formation of many partial partitions, the discharge still persists, the surgeon should seriously consider if it is wise to operate further, for the only operation then available is probably associated with considerable scarring. The Killian operation I have given up; the bridge leaves a blind area and often disappears by necrosis. Sewell of San Francisco does not advocate intranasal surgery for the relief of chronic frontal sinus disease.

If a very radical operation is decided upon because of extensive necrosis of the front table, or an acute osteomyelitis is feared or present, a very thorough removal of all the frontal mucosa is essential, no nooks or corners with polypoid material being left, and the cavity being entirely obliterated by allowing the tissue of the forehead to fall into the depression and fill it completely. In large deep cavities involving both sides this is a formidable procedure, and usually results in a cosmetic catastrophe for the patient. Great gentleness in removing the frontal mucosa is essential, lest the bone is nicked and a spreading infective osteomyelitis initiated. Even in cases where there is an extensive fistula in the orbital wall or above the supra-orbital margin, operative procedure, limited to Howarth's operation, may be quite sufficient, but if the fistula is associated with a former Killian operation with necrosis of the bridge, the resulting bone defect will mean a badly scarred forehead.

Failure, then, to cure the suppuration may be due to: (1) insufficient removal of the diseased mucosa; (2) failure to remove all the ethmoidal prolongations about the floor of the frontal sinus and roof of orbit; (3) failure to secure sufficient permanent drainage into the nose; (4) incompleteness of the preliminary ethmoidal removal; (5) failure to recognize suppuration in a large crista galli cell or the opposite frontal sinus; (6) lack of care in ensuring, by occasional large bougie, that the frontal nasal opening is not narrowing too much; (7) too much interference with the healing process in a well-conducted operation, by excessive douching; (8) frequently the operation fails to cure because the operator does not take time to stop all the bleeding and see every step he takes, so that every possible recess and cell is thoroughly opened into the main channel.

SPHENOIDAL SINUS

Persistence of discharge following operation on the sphenoidal air cell is due, in the vast majority of cases, to failure to make a large enough opening in the anterior wall, or failure to keep it from closing or becoming so small that aeration and drainage are not sufficient. The preliminary operative work on the posterior part of the septum and posterior part of the ethmoidal wedge may not have enabled an unimpeded view of the front face of the sphenoid to be obtained. A sufficiently large window may have been made at the operation, but nature succeeds far too often in narrowing the opening by forming a fibrous diaphragm. A large opening may again be obtained by using a strong solution of silver and punch forceps; but there is always a tendency for it to become small later on. The discharge will persist with varying exacerbations, depending on how much infectious oedematous tissue lines the sinus and how readily it drains away. The mucosa cannot be removed by instrumental means, owing to the thinness of the walls separating it from very important structures. I deprecate any efforts made to remove the sphenoidal lining by instrumental means, even if local oedematous (polypoid) areas are seen. The surgeon runs considerable risk in snaring it off, since he is unable to assure himself that a thin plate of bony wall will not come away also; if this separation happens to originate in the superior or external wall a disaster is threatened. It must not be forgotten that the vessels in the submucous layer communicate freely with those of the orbit at the optic foramen, and that in the lateral wall there are many minute foramina leading to the cavernous sinus. There is a venous connexion, also, through the sella turcica.

Some sphenoidal sinuses are very irregular in shape, and have sulci that pass outward and away into the lesser and greater wing of the sphenoid or forward towards the maxillary antrum. In these depressions, as in other sinuses, the mucosa is usually very thick, and even though the greater part of the sinus cavities available for inspection by anterior rhinoscopy are found to be quite healthy, the discharge originating from these inaccessible areas continues.

Irrigations are helpful in removing the secretion from the deeper recesses, and some of the silver salts, such as argyrol or neo-silvol, are decidedly beneficial. Bismuth and oil is sometimes of value in the more recent cases, but has a tendency to cake up and remain indefinitely.

Although I have very little clinical experience to support me, I feel that ionization with zinc in these large irregular sinuses is likely to be a most useful supplementary treatment. With the patient lying on his back, and the chin well turned up, it is a simple matter to keep the zinc solution in the cavity; ionization may be carried out with a long pliable terminal with little difficulty or inconvenience to the patient. The use of strong silver solutions is apt to be followed by very sharp persistent neuralgia, and if there happens to be a dehiscence on the canal covering the vidian, fourth, ophthalmic division of the fifth, or sixth nerve, or of the optic canal itself, serious results may ensue.

Occasionally the sphenoidal sinus has on its upper or external surfaces a large ethmoidal cell, which, having escaped recognition, may be responsible for the persistence of suppuration in the sinus, because it drains into the sphenoid when the patient is lying down.

When the opening persistently becomes too small, owing to the formation of granulations, and ultimately a fibrous sheet, I think it best to allow all inflammatory changes to run their course, and then, when the membranous wall covering the opening has lost most of its blood supply, and is merely a thin layer of fibrous tissue, we may renew our efforts to bite it away without the same liability of the re-formation. Too early and too persistent attempts to destroy this fibrous wall defeat their own object.

The use of Higginson's syringe with a fairly large pipe is a useful instrument for a patient's use in douching forcibly the posterior region of the nasal cavity. An acute sphenoidal suppuration may exist as a separate disease, and rapidly responds to simple drainage, but the discharge occurring in chronic cases is so often associated with disease of the posterior ethmoidal cells that the success of the treatment of the sphenoidal suppuration depends on our ability to cure the disease in the bordering

air cells. It must always be remembered that the outer two-thirds of the front face of the sphenoid forms a common wall with the last posterior ethmoidal cell. The opening into the sphenoidal sinus may therefore be made much larger by removal of this common wall, even if the last posterior ethmoidal cell is healthy and has to be sacrificed. Occasionally there is a partition dividing the maxillary antrum into an anterior and posterior compartment. Suppuration in the posterior part may simulate disease of the posterior ethmoidal cell or the sphenoidal sinus. The sphenoidal septum may deviate so much to one side that the same sphenoid can be entered from either nostril. I have had one such case.

MAXILLARY ANTRUM

A not uncommon cause of persistent discharge from an antrum that has been operated upon by any method is failure to recognize frontal and ethmoidal disease. The discharge from a suppurating frontal sinus may empty directly into the maxillary antrum, or, owing to a large ethmoidal bulla or a prominent anterior lip of the unciform groove, be directed easily into the antrum. Reduction of these obstructions with removal of the anterior end of the middle turbinate may be all that is necessary to secure a satisfactory result in the antrum.

The intranasal operations for drainage of the maxillary sinus have not, on the whole, given me satisfactory results, except in cases of comparatively recent duration, or what might be termed long-drawn-out acute inflammation. I have found it difficult to secure a large enough opening, especially where the nasal wall bulges into the antrum. A sufficient amount of bone may have been removed, but it does not follow that the thick mucous and fibrous wall is removed in as complete a manner. In many cases where I have opened the canine fossa in patients on whom I have performed intranasal drainage, I have been greatly surprised at the smallness of the opening leading into the inferior nasal meatus and its poor situation. There is no comparison between the thoroughness with which the operator can remove the nasal wall of the inferior nasal meatus in a canine fossa operation and in one through the nose. In the former he can see every step he takes, while in the latter he can only hope for the best.

It is advisable in all cases, I feel sure, to remove the anterior third of the inferior turbinate. Measures directed to preserve this structure frequently prevent the patient washing out the antrum and lessen the value of ventilation. It is curious how some operators persist in thinking that they can thoroughly remove the polypoid oedematous tissue in the antrum by using various curved curettes passed into the intranasal opening. Periscopic magnifying lights introduced into the antrum may give a very exaggerated idea of the oedematous change present.

Operations, such as advocated by Canfield, in which the antrum is entered at the anterior nasal angle give a better approach and permit a direct though small view. Instrumentation may then be carried out, but not in as thorough a manner as I believe should be done.

Failure, then, in these antrum operations has occurred because the operation was unsuitable to the pathological condition causing the discharge—that is, the oedematous change does not respond to simple aeration and drainage. The canine fossa or Caldwell-Luc operation was designed to secure a better approach to the diseased tissue and to obtain more accurate and complete intranasal communication. Removal of diseased tissue was then carried out by direct inspection with various shaped curettes. A marked advance in clearing up antral suppuration followed, but complete cessation of discharge did not by any means ensue. The causes of the persistence of the discharge or its reappearance on slight provocation is due, I am quite sure, to the method of attacking the antral mucosa. Operations performed under general anaesthesia, with the patient lying down, simply mean scraping out the antrum very imperfectly in a sea of blood. Since I have had my patients in a half-sitting position and have peeled out the mucosa in these chronic oedematous cases I have had very much better results. The intranasal openings are made very large, as large as the inferior nasal meatus permits. I endeavour to separate the membrane from the antrum wall until it is attached only at the ostium area, where a slight twist brings the whole mass away, just as a pudding bag is taken out of a pot. In this manner one does not miss the thick pyogenic mucosa in the pre-lacrymal recess, anterior alveolar fossa, or sphenoidal fossa. Further, one is able to observe very accurately the condition of the floor of the antrum and see that carious areas are not permitted to remain associated with suspicious or crowned teeth. It is then also very easy to bite away some of the membranous wall of the middle meatus.

General anaesthesia is not necessary in all cases. Preliminary use of morphine and hyoscine with cocaine pledgets in the outer wall of the nasal meatuses gives very satisfactory anaesthesia. I have carried out bilateral operations many times on females in quite a satisfactory way. It is the method of election in cases of chronic pulmonary conditions. My main contention is that failure to cure the discharge is due to insufficient removal of the diseased mucosa. It is all very well to say one should remove only the diseased mucosa, but how can one say that the comparatively thin lining seen to-day is not many times thicker if viewed at another time? I believe the antral mucosa under slight provocation swells up like a sponge. In my preliminary examination of these antral cases I use lipiodol and olive oil, 1 in 3, and it is surprising how much the *x*-ray picture differs from that found even two weeks following the injection. It is easy, however, for the lipiodol to escape from the antrum during the journey to the *x*-ray department or owing to the dependent position in which the ostium is placed while the plate is being taken. When this occurs it is very easy to be misled as to the amount of thickened mucosa. A mixture of bismuth and liquid paraffin is retained much more readily in the antrum, gives quite as good a shadow, but is difficult to remove even by irrigation. Some beneficial therapeutic value is found when bismuth is used, and even if some remains permanently in the antrum it is not a matter of much consequence. Hunt of London, Canada, advocates the removal of all the mucosa that can be stripped off by blunt dissection. This I think applies to those cases where the oedema and polypoid hypertrophy have not reached such a stage as to involve all the mucosa, and is a commendable effort to be conservatorily radical.

The opening in the nose should be flush with the floor of the antrum, and I think it probably better to lay down a flap so as to lessen the tendency to granulation on the antro-nasal crest. A complete peeling out of the mucosa may not be followed by cessation of discharge, because somehow a membranous curtain has re-formed another antro-nasal wall in the inferior meatus. I have seen this occur in cases where I have felt that my intranasal opening was too large and I have been unnecessarily zealous. I cannot explain this, but I feel that inefficient removal of the anterior part of the turbinate is a factor as well as possibly my failure to use a flap on the antro-nasal ridge. Persistent and forcible douching of the antrum following operation procedures delays the healing and regenerative process that McGregor and Knowleton

have shown takes place after complete evisceration of the antral mucosa. A very foul odour with copious purulent discharge sometimes comes on several days after the operation. It does not last long, and responds readily to monsol and saline irrigations. A piece of packing, a sponge, or a loose piece of bone or tooth is very easily left in, and readily accounts for persistent discharge. If in the removal of the antral mucosa sharp instruments are used, damage to the bone may follow, and areas of granulation tissue with bony necrosis may result and keep up the secretion.

The reparative process in the antral cavity following complete evacuation of the membrane may take a curious course. Discomfort, discharge, even odour with or without crusts, may persist or recur at intervals. Difficulty may be experienced in inserting the curved cannula, and when this state of affairs is found some months after the canine fossa operation, a reasonable inference seems to be that the antro-nasal wall has re-formed. But one may be very easily misled. Experience strengthens my advocacy of reopening antra where persistence of discharge is considered due to a local condition, such as the formation of webs of diaphragms resulting in recesses where retention of secretion easily takes place. Where odour is associated with secretion I think that this procedure is especially advisable.

Assuming that an antrum has been thoroughly cleared of all pyogenic oedematous mucosa and an efficient opening made into the nose, it may be months before all noticeable secretion ceases. Many things may interfere with the reparative process, and this applies to all the other sinuses as well. The patient may have poor recuperative powers owing to ill-health produced by anaemia, tuberculosis, syphilis, chronic nephritis, or any debilitating disease. His manner of living, habits, diet, even the atmosphere in which he works, may have a bearing. The heavy, rapid, immoderate eater and with chronic intestinal sepsis and constipation, clear up well after sinus operations. Lack of and confinement indoors has a definite influence, Canada the excessive heat and dryness of living ments conduces to permanent nasal and sinus con- Extremes of temperature and humidity add terially to the readiness with which oedema of appears. Cold and dampness of the feet have ency to alter very promptly the turgescence of the mucous membrane, as was first shown by Muecke. as many of our patients with oedematous manifesta- ions of their sinus mucosa have as an underlying factor an allergic state, failure to overcome the hypersensitive- ness leads to a persistence of secretion, even though a new mucosal lining forms and is well aerated, because this new tissue still reacts to the same irritant. A family history of allergic manifestations, the presence of positive skin tests and excessive eosinophils in the nasal secretion and the blood, suggests a consideration of allergy as the underlying cause of the oedematous mucosa. Such mucosal reactions do not necessarily come under the classification of infective processes, but the soil is such that acute or chronic infection readily occurs and persists with purulent discharge added to the mucoid material already present. Hansel goes so far as to say:

"Many of the chronic empyemas undoubtedly follow in the wake of an allergic process in which an oedema of the mucosa has occurred. In the non-suppurative hyperplastic or catarrhal group of paranasal sinus disease, clinical and histopathological studies have proven that in the great majority of cases the process is primarily an allergic disease. Therefore, all hyperplastic, non-suppurative sinus diseases should be considered as of allergic origin until proven otherwise."

Allergy may then dominate the picture and may explain those factors that lead some writers to speak of an oedematous diathesis just as we speak of eczema, asthma, or even gall-gladder disease.

THE ETHMOIDAL LABYRINTH

Happy is the surgeon who thinks he has solved the ethmoidal problem, but happier still is he whose patients agree with him. I approach the subject of persistence of suppuration following operations on the ethmoid with much misgiving. Owing to the unusual situation, being within the nose yet partially surrounded by the remaining accessory nasal air cells and without any uniform anatomical formation, inflammatory processes associated with discharge present diagnostic and therapeutic problems that give the surgeon much cause for worry and oftentimes lead him into difficulties where his surgical judgement is put to the severest of tests. Persistence of discharge following operations on the ethmoidal cells is probably the commonest symptom present.

The persistence of suppuration following operations on the ethmoid is in most cases due to failure in providing free, spontaneous, and permanent drainage to those cells whose inflamed oedematous mucosal lining is responsible for the secretion of the discharge. Mosher has made the way into the ethmoid simple, but it remains for someone else to show how to complete the work easily, after this stage has been reached. It may, however, have been quite sufficient to open the ethmoid from the agger to the front face of the sphenoid, and by breaking through the floor to secure free ventilation and drainage, the middle turbinate being left to the last, as it is an excellent landmark to keep us from the cribriform area. The middle turbinate overhang may then be removed. Pratt, however, prefers to leave this in place. The ease with which infection can reach the meninges along the nerve sheath, as shown by Logan Turner, is probably the most outstanding contribution to the pathology of nasal sinus infection in our time. Removal of the whole middle turbinate, and all the ethmoidal cells that can be reached in one sweep, after the manner of Ballinger and Sluder, is an extraordinarily bold procedure, and one not without serious risk to the patient. I do not use this method. It is anatomically impossible to remove all the ethmoidal cells by the intranasal route. In my own practice, when I have decided to remove all the ethmoidal cells I am able to reach safely through the nose, I prefer to proceed in stages and allow sufficient time to elapse between such operations, so that most of the inflammatory oedema has had time to subside. I can then orient myself much better and follow the discharge more directly to its source. Nothing must induce the surgeon to hurry, and, if he is in doubt as to the safety of his manipulations, or fails to see what he is doing all the time, it is better to stop at once, and on some future occasion, maybe a month or more, complete the procedure. When I have cleared out the ethmoidal areas as thoroughly as I can, I allow the patient to douche out his nose for a month or more before doing anything further. He may then be so much relieved that further treatment is not desired; but if there is still suppuration I try to determine if I have overlooked any hidden cells, and also estimate as accurately as I can how much of the ethmoidal disease is dependent on the disease of other nasal air cells.

Suppuration high up in the nose following a thorough cleaning out of the ethmoid cells intranasally is probably due to diseased ethmoid cells running out over the orbit and unapproachable by any intranasal measures. The frontal mucosa may or may not be involved, but, if so, it is not likely to be restored to normal unless the infected ethmoidal cells about its floor are removed.

If the nasal discharge is associated with the formation of multiple nasal polypi, recurring high up in the nose after removal, and the *x* rays show orbital prolongation of the ethmoid, the question of an external approach to this area is to be considered.

If any further operative treatment is thought desirable, I am strongly of the opinion that this should be carried out by external measures, for in this way one can determine the condition of the frontal mucosa and can remove under direct vision all the higher ethmoidal prolongations with little risk to the patient. It is not, however, free from danger, for I have had one fatality, when a very slight leaking of cerebro-spinal fluid was followed, even ten days later, by meningitis. Probably when the ethmoid has been operated upon a number of times, and a mass of polypoid and scar tissue is left, through which purulent material trickles, and all recognizable landmarks have been removed, the surgeon is faced with very considerable responsibility. He must assure himself as to the condition of the other nasal air cells and their probable influence on the present ethmoidal condition. If the sinuses have been to a large degree eliminated and another attempt to clear up the ethmoid area is to be carried out, certain preliminary proceedings are desirable. The more room gained in the approach to the upper and posterior regions of the nasal meatuses, the greater the chance of success, for the surgeon sees and knows better what is being done. Even a moderately deflected septum may be resected with advantage ; Skillern points out the benefit obtained by removal of the uncinate process from its insertion to its end. By this measure a gain of one-quarter to three-eighths of an inch in width is obtained—quite enough to make the difference between success and failure. When so much of intranasal mucous membrane as follows extensive ethmoidal operations has been removed, it is surprising how little crusting ensues.

THIRTY YEARS OF STOMACH SURGERY*

BY

JAMES PHILLIPS, F.R.C.S.ED.

CONSULTING SURGEON TO BRADFORD ROYAL INFIRMARY AND TO BINGLEY HOSPITAL

In 1898 Osler published a volume of clinical lectures on abdominal tumours, fully one-third of which was devoted to tumours of the stomach. He described eighteen cases. Of these three were operated on by Mr. Halsted ; all of them were of the " forlorn hope " variety. Thus of one patient Osler says: " As the case was a desperate one and the man's condition hopeless, the election of operation was left to the patient." Mr. Halsted resected a pyloric growth, but the emaciated patient died two days later.

Early in the new century there was a boom in abdominal surgery. Gastro-enterostomy and other forms of operation on the stomach began to be performed quite regularly, so that in 1905 Moynihan had gathered sufficient material to enable him to publish his first book on the surgical treatment of gastric and duodenal ulcer.

PATHOLOGY OF STRUCTURE AND FUNCTION

There is little difference between the gastro-enterostomy performed twenty years ago and that of to-day, but our ideas of pathology have undergone radical change. In the early days attention was paid chiefly to mechanical difficulties ; to-day we put stress on disorders of function. Then the surgeon was concerning himself with anatomical pathology ; now physiological pathology is believed to be of greatest importance. For example, the condition known as " hour-glass stomach " has practically disappeared as a clinical entity. The radiographer of thirty years ago would develop, from time to time, an *x*-ray photograph of a stomach showing a constriction dividing it into two compartments. It was presumed that an organic stenosis was present, which made it difficult for stomach contents to pass from the proximal pocket into the distal pocket. And gastro-gastrostomy—the construction of a large opening between the two compartments—was the operation usually performed in such cases. We now know that the stenosis is only apparent, and that the narrowing was essentially due to localized spasm of the stomach muscles at a point corresponding to an ulcer on the lesser curvature. The radiographer has ceased to report cases of hour-glass stomach, and the operation of gastro-gastrostomy has fallen into disuse.

Similarly, if an *x*-ray examination revealed the stomach dilated and dropped, it was presumed that the dropped stomach must find it difficult to empty its contents uphill over the held-up arch of the duodenum, and various ingenious operations were devised to overcome this mechanical difficulty. Gastroplication was a method of taking tucks in the big stomach in order to reduce its size. In gastropexy a series of stitches was used to shorten the gastro-hepatic omentum, and so to raise the stomach to a higher level in the abdomen. The great omentum was sometimes stitched to the anterior abdominal wall above the level of the navel in order to make a shelf on which the stomach should rest. In many cases gastro-enterostomy was performed on patients who suffered from gastroptosis in order that a large stoma should be made at the most dependent part of the big stomach through which, it was presumed, the stomach contents would drop by force of gravity into the jejunum. Indeed, that splendid surgeon Mayo Robson, in his book on diseases of the stomach, suggested gastro-enterostomy as the rational treatment for acute paralytic dilatation of the stomach. We have learned by bitter experience that the pathology of the dilated stomach is functional and not mechanical, and that the onward progress of food from stomach to bowel is always the result of peristaltic muscular action, and never due to the force of gravity. A dropped atonic stomach remained flabby, and failed to function normally, even when a large opening had been made in the most dependent part of its greater curvature. Surgeons discovered to their dismay that an occasional complication of gastro-enterostomy, the very operation which Robson had suggested as treatment for this condition, was paralytic dilatation of the stomach.

ACUTE PARALYTIC GASTRIC DILATATION

Over twenty years ago I had my first experience of acute dilatation of the stomach.

A youth had been at a football match on a very cold Saturday afternoon. He came home feeling famished with cold and hunger, and bolted a big, indigestible meal, along with a large quantity of tea. He became ill in the night, with abdominal pain and vomiting. The doctor who was called to see him on Sunday morning found him looking gravely ill, and sent him to the infirmary with a diagnosis of fulminating appendicitis. When I saw him I thought the case was more probably one of duodenal perforation. On opening the abdomen I found the cavity almost entirely filled by an extraordinarily dilated stomach. A stomach tube was passed and an attempt to empty the stomach by siphonage and manipulation was imperfectly successful. I followed this by injections of strychnine, but the stomach showed no sign of contracting. After the patient had been put back to bed I remembered how in my student days the " Saturday-night drunks " had been given apomorphine, and how this drug had made the drunken man vomit " as if."

* A paper read at a meeting of the Bradford Medico-Chirurgical Society.

in the words of an irreverent fellow student, "he was going to bring up his immortal soul"; so apomorphine was given to my poor patient, but without avail. Toxic secretions were poured out into his paralysed stomach, and in a few hours he died, cold and blue and pulseless.

Long ago I realized that I had treated this young man on quite wrong lines. His was a very extreme case, and, in my opinion, the patient would have died whatever treatment he received. Less severe cases, however, can be saved when treated on rational lines.

For example, a man, enfeebled by suppurating gunshot wounds, shared with his ward mates a supper of bacon and beans provided by a good-hearted orderly medical officer. A few hours later I was asked to see him. He was complaining of severe abdominal pain, and had vomited undigested food. When the emaciated abdomen was exposed the outline of the greatly distended stomach, bulging forward in the upper part, was at once apparent. The stomach was immediately washed out, the process being repeated every few hours in order to get rid of the highly toxic materials which were being secreted into the paralysed organ. No food was given by the mouth for some few days, but several pints of saline fluid were injected daily into the cellular tissues of the armpits. After five or six days the stomach regained its power to contract and the patient recovered.

The condition may be likened to the paralysis of the bladder following childbirth or operations about the perineum, of which we have probably all had experience. The method of treatment should be similar in both conditions. When a puerperal woman develops retention of urine we neither make a dependent opening in her bladder nor do we expect to make her bladder contract by giving her strychnine or pituitrin. We arrange for the periodical emptying of the bladder by the catheter, and hopefully await the natural restoration of contractible function.

STOMACH PARALYSIS COMPLICATING GASTRO-ENTEROSTOMY

As I have already mentioned, some degree of gastric paralysis may follow the performance of a gastro-enterostomy, and it may become a most alarming complication. The patient may have made quite satisfactory progress for a few days; then loss of appetite occurs, and either a copious vomit of dark green fluid, or, more commonly, constant nausea and frequent vomiting of small quantities. Sometimes, but by no means always, a succussion splash is obtainable. Recently treatment of this alarming complication has been facilitated by the introduction of Jutte's tube. This is a 4-foot-long rubber tube of less than 1/4 inch diameter; it is passed through the nose into the stomach, which is thus emptied by continuous siphonage. The tube causes the minimum of discomfort, and can if necessary be left in position for several days. It has the enormous advantage over the stomach tube that the thirsty patient may drink water as freely as he likes. The water siphons back through the tube, so that the patient at the same time as he is satisfying his thirst is also effectively washing his stomach.

ACUTE DROPPED STOMACH

In 1922 Barclay published the results of a series of *x*-ray experiments on patients whose stomachs were presumably normal. These investigations demonstrated how rapidly the position and state of the stomach could be made to alter by nervous and mental stimuli. He cited a number of cases. While a woman was being screened in the dark, a noise was made by dropping a heavy weight behind her, and with the fright her stomach was seen quite suddenly to drop from a normal position to that of pronounced dropped stomach. Conversely, he observed the stomach of a brewer's drayman contract when the man was informed that he was going to have a bottle of beer. Barclay made the suggestion that the sinking sensation felt in the epigastrium, say, by a medical student going in for an examination, is probably due to actual physical sagging of the stomach, and later observers have found that the stomachs of examinees were lying lower and were more dilated than when they were again screened after the examination.

EFFECT OF GASTRO-ENTEROSTOMY IN PEPTIC ULCER

With the exception of the rare case in which a cancer or an oedematous ulcer is producing extreme mechanical stenosis of the pylorus, we no longer regard the beneficial result of a gastro-enterostomy as being due to the construction of a dependent opening which permits food to leave the stomach easily. In some way, by no means fully understood, the flooding of the stomach with alkaline jejunal contents appears to be the all-important factor in producing the healing of a peptic ulcer. In common with many other surgeons, I have more than once performed a preliminary gastro-enterostomy for a condition which looked like a pyloric cancer, and on opening the abdomen a second time, perhaps only ten days later, with the intention of resecting the growth, have been pleasantly surprised to find the induration gone and little or no evidence of what must have been an active ulcer surrounded by inflammatory oedema. Those of us who have been operating for a good many years have learned that the local removal of a gastric ulcer is likely to be followed by recurrence unless by gastro-enterostomy or some other method the stomach contents are kept alkaline after the excision operation, whereas we have cases of gastric ulcer which have been cured and have remained healed when a gastro-enterostomy only has been done, the ulcer being left untouched. In view of the possibility of cancer developing on the site of a gastric ulcer it must always be desirable to get rid of the ulcer—by the cautery, by local excision, by sleeve resection, or by partial gastrectomy—whenever this can be done without grave risk to the patient; but I have followed up cases of gastric ulcer which I treated twenty years ago, or more, by gastro-enterostomy alone, and I know that the patients remain quite well.

THE ATTACKS ON GASTRO-ENTEROSTOMY

During the past few years gastro-enterostomy has been subjected to attacks from opposite camps. On one side, some surgeons have claimed that the operation is not sufficiently radical, and, on the other side, some physicians have been teaching that medical treatment has practically done away with the need of operation for ulcer. A number of keen surgeons, almost all of them in the junior ranks, have insisted that the ulcer-bearing area should be excised in every case of either gastric or duodenal ulcer. As I have said, I agree that where its position and condition make it safe to do so, a gastric ulcer is better excised, not because it is unlikely to heal after a simple gastro-enterostomy, but because the ulcer base may contain cells which are liable to become cancerous. No such liability has been found to exist in duodenal ulcers, and gastro-enterostomy results in the cure of these in so high a percentage of cases that I agree with the late Mr. Basil Hall, who said that to advise duodenectomy for the cure of a duodenal ulcer was rather like advising amputation of the limb for the cure of a varicose ulcer of the leg. The attack from the physicians' side is much more plausible. If you cure an ulcer, they say, by an operation which keeps the stomach contents alkaline, why operate? Why not give alkalis by the mouth? Frankly, however appealing and logical this argument may be, it can only be accepted with many limitations.

In the first place, it is not only the making of the gastric contents alkaline which apparently is essential for the curing of an ulcer, but the keeping of the contents alkaline—a very difficult matter. For the patient of leisure who can get specially prepared meals at short intervals, and who has the means and the mind to persevere with alkalis taken persistently over a period which may extend for a year or even longer, I am prepared to believe that medical treatment is likely to result in a cure. One pitfall is that, even without treatment, symptoms in a case of duodenal ulcer may clear up for months on end, only to return when the patient has begun to congratulate himself that he is permanently cured. Similar remission of symptoms following alkaline treatment must not be regarded as necessarily meaning that the ulcer is cured finally and for ever. I wonder what proportion of patients possess the temperament which will allow them to bend their minds continuously to give anxious attention to their health, to refrain from eating or drinking anything forbidden, to give up smoking, to take medicine (alkalis, olive oil, etc.), and to go on doing all these things, day in and day out, over a period of at least many months. We all know that, however willing a patient may be to do this, the working-class man or woman, and those in many other walks of life, must find it quite impossible to carry out such a regime satisfactorily.

For example, I was asked to operate on a patient last year. I found an unhealthy appendix, a gall-bladder containing stones, and a small ulcer on the front of the first part of the duodenum. I removed the appendix and gall-bladder and gladly agreed to the physician's suggestion that medical treatment should be tried for the small ulcer. This was carried out for six weeks in hospital, and for a time after the patient went home; but when he went back to work, he found it impossible to continue the treatment rigidly. He was an intelligent man, doing a foreman's work, and he assured me that he did the best he could. While at work one day he had a big melaena, and about six months after the first operation, I operated again, and successfully did a gastro-enterostomy. The ulcer was found active at this second operation.

STATISTICS OF STOMACH OPERATIONS

I have prepared the statistics of all my stomach operations performed at the Bingley Hospital during the years 1920–29. I have chosen the Bingley figures rather than those of the Bradford Royal Infirmary because I have myself done all the operations at Bingley and taken the notes, and chiefly because it has been possible to follow up every case.

There were in all 87 patients operated on. Of these 53 had gastro-enterostomy performed (3 for inoperable cancer, 6 for gastric ulcer, and 44 for duodenal ulcer). In the same period, however, 22 operations were performed for perforations of ulcers—20 duodenal and 2 gastric. In other words, 25 per cent. of all the stomach operations were for perforations. Most of the patients who "perforated" were known to have ulcers, were taking alkaline medicines, and had been advised to take a modified diet.

ALKALINE TREATMENT AND THE ARTISAN

However ideal medical treatment of chronic peptic ulcer may be in theory, it is practically impossible for the man who has to earn his living in the open market to carry out effectively the regime laid down by the advocates of medical treatment; circumstances make it a sheer impossibility for him to do it, however sincerely he may wish to treat himself correctly. By contrast, of the 38 patients who were treated by gastro-enterostomy and who are still alive, and residing in the neighbourhood of Bingley, I am told by their doctors that every one is able to do his or her work; 7 still require occasional treatment, the other 31 are reported to be "well" or "very well."

A further point with regard to the claim for surgical treatment in cases of peptic ulcer is illustrated by the following:

I operated six weeks ago on a man who had a dyspeptic history lasting many years. Recently symptoms had become more persistent and rather more severe, and so at last he was driven to submit to operation. We found not only a very obvious duodenal ulcer, but also a very unhealthy appendix. This is a very frequent coincidence.

The point I wish to emphasize is that whatever may be done by medicine to cure a duodenal ulcer, even the most enthusiastic advocate of medical treatment of ulcer will not claim that alkaline medication will make a diseased appendix healthy. Diet and drug the patient as you may, the little vermiform test tube goes on manufacturing its toxins and pouring them into the patient's tissues.

Last year I operated on a man who had had a gastro-enterostomy performed a dozen years ago by another surgeon. Symptoms and *x*-ray examination suggested the presence of a jejunal ulcer. I opened the abdomen and found the gastro-enterostomy opening in splendid condition. I removed the appendix; the dyspeptic trouble disappeared soon after and has not recurred.

GASTRIC CANCER

There are two quite distinct types of gastric growth—the cancer which develops at the site of a chronic peptic ulcer, and the cancer which arises *de novo* in the stomach. The symptoms of gastric ulcer are not nearly so characteristic as those of duodenal ulcer. I am sure that many a patient, usually female, who has been treated, perhaps for a number of years, by her doctor for chronic dyspepsia, and because of the indefiniteness and variation of her symptoms has very possibly come to be regarded as a "hopeless neurotic," would, if *x*-rayed, be found to have a chronic gastric ulcer. When a gastric ulcer has been diagnosed, the possibility of malignancy supervening should be an additional reason for suggesting operation.

The *ab initio* cancer symptoms are quite different. Rather sudden loss of appetite is the commonest. When a patient comes complaining that he has no relish for his food, and is losing weight and strength, an *x*-ray examination should be advised without delay. If cancer is present, a "filling defect" in the stomach outline will be found, more often than not, to make the diagnosis clear. In only a small proportion of these cases is radical removal of the growth possible; in the majority of the operated cases, metastases will kill the patient in less than two years. All the cases are not fatal, however, and I know of quite a number of patients who are alive and well years after a gastrectomy for cancer confirmed by the microscope. These "cures," however infrequent, encourage the surgeon to attempt radical operations for these otherwise hopeless cases.

SUMMARY

To summarize very briefly the lessons learned from thirty years' experience of stomach surgery:

1. The pathology which is important in most stomach lesions is functional and not mechanical—a disorder not of anatomy but of physiology.

2. A stomach whose vagus and sympathetic nerve supply is normal will empty itself whether the patient is lying or sitting or standing, or even standing on his head;

gravity plays a negligible part in the emptying of the organ.

3. Acute dilatation of the stomach is a paralytic condition analogous to retention of urine and requiring treatment on similar lines.

4. Acute paralytic dilatation may come on idiopathically, but more usually as a post-operative complication—at times of gastro-enterostomy or partial gastrectomy.

5. There is reason to believe that the cure of peptic ulcer after gastro-enterostomy is due to the continuous neutralization of the gastric acidity which the operation ensures.

6. In many cases treatment of ulcer by diet and alkalis is likely to fail because the patient either cannot or will not submit to a sufficiently prolonged and thorough course of treatment.

7. Of a hospital series of stomach operations, 25 per cent. were for ulcer perforations; most of these patients had had medical treatment.

8. If a diseased appendix is present along with an ulcer there is little likelihood of the ulcer being cured by medical treatment alone.

9. Many cases of chronic gastric ulcer fail to be diagnosed because the symptoms are apt to be both variable and ill defined; *x*-ray examination is desirable in most cases of chronic dyspepsia.

10. Sudden loss of appetite in a patient whose digestion has previously been normal is highly suggestive of stomach growth; an *x*-ray examination should be advised without delay in such cases.

MUSCLE EXTRACT TREATMENT OF SOME GRAVE VASCULAR DISEASES

BY

M. S. SCHWARTZMAN, M.B.

A suggestion was made by me in two previous papers[1,2] to apply in "intermittent claudication" a new method of treatment with injections of muscle extract, the therapeutic value of which in angina pectoris was discovered by Professor J. S. Schwartzman (Odessa)[3,4] and confirmed by a number of authors on the Continent.[5] The object of the present paper is to give a short account of the results obtained in a larger number of cases of vascular diseases of various types. On account of space I shall confine myself to a brief description of three illustrative cases and a summary of the results obtained in forty-two other cases, reserving the details for future publication. The two cases first described were demonstrated before the Clinical Section of the Royal Society of Medicine on February 13th, 1931.

THROMBO-ANGIITIS OBLITERANS WITH ADVANCED GANGRENE

History.—A mechanic, aged 42, with no history of venereal disease, but who had been smoking ten cigarettes a day, complained that since 1924 he had felt pain in his calves on walking. Trophic disorders appeared on the toes and dorsum of the right foot in 1926. Gangrene developed in 1929, when his right leg was amputated, first below the knee (Mr. C. Price Thomas at Westminster Hospital), and soon after above the knee (Mr. Tudor Edwards). At the operation the right popliteal artery was found to be thrombosed. In December, 1929, gangrenous changes appeared on the left big toe. In January, 1930, a periarterial sympathectomy of both left femoral and anterior tibial arteries was performed (Mr. E. Rock Carling). After a short period of relief the condition became gradually worse, and the patient was readmitted to the Westminster Hospital in July, 1930.

Examination.—The left leg, foot, and toes were stone cold, deeply blue, and oedematous. The soft tissues of the big toe were black, sloughing, and hanging in shreds. There was a very offensive discharge from underneath the slough. A black area extended alongside the bases of the toes; no inflammatory reaction was noticeable. The patient suffered such excruciating pain that he threatened to commit suicide. The dorsalis pedis and posterior tibial arteries were pulseless. The angle of circulatory sufficiency was about 70 degrees. The amputation stump of the right thigh ulcerated over a large area. The Wassermann reaction was negative; blood pressure was 135/90.

Treatment.—Treatment with daily injections of muscle extract was started by me on July 5th, and continued till August 9th at the Westminster Hospital (under Mr. E. Rock Carling), and later at the London Jewish Hospital (under Mr. S. I. Levy) till the middle of October. At first the soft tissues of the big toe and at a later date the distal $1\frac{1}{2}$ phalanges separated. The pain and swelling disappeared, the discharge stopped, the leg and foot became normally warm, and the wounds healed up. Neither elevation nor dependent position caused any pain. Return of colour was prompt at horizontal position. Blood pressure fell to 125/70. The arteries were pulseless as before treatment, and no change in oscillometric index could be detected.

The case terminated in spontaneous amputation of a part of the big toe, instead of a high amputation above the knee, which was thought to be indicated before the commencement of this treatment.

COMBINED THROMBO-ANGIITIS OBLITERANS AND RAYNAUD'S DISEASE

History.—A miner, aged 43, with no history of venereal disease, complained that for nine years he had had pain in his legs after walking a distance of about a hundred yards. A few months later he developed attacks of blanching of all his fingers and toes, followed each time by an intensely blue colour and associated with a severe burning sensation. The affected parts became persistently swollen, cold, and cyanotic, and within a few months the tips of eight fingers, and all the toes except one, fell off. The burning sensation became unbearable in December, 1929, when black offensive discharging ulcers appeared on the stumps of the self-amputated parts. The patient slept badly and was almost cachectic in appearance. He was admitted to the Guest Hospital at Dudley on June 11th, 1930 (Dr. G. Walker).

Examination.—The posterior tibial and dorsalis pedis arteries were imperceptible on both sides. The right radial artery could be felt, but not the left. *Postural colour* changes were very slight. The blood pressure was 130/100. *X*-ray examination revealed necrotic changes at the terminal phalanges of fingers and toes. No calcification of arteries was seen.

Treatment.—Treatment with muscle extract was begun on June 15th. Four days later the patient stated that the pain was less severe, and that he could sleep better. After twenty injections the patient slept without hypnotics. A second course was started on July 5th, and continued daily for a month.

The following is an abstract from the hospital notes sent to me by the house-surgeon, Dr. Browne, on August 10th: "All pain is gone except occasional spasms at the bases of the great toes, which are not quite healed. The feet and hands are normal in colour and sensation. The face is rosy and fattened, and the patient is better than he has been for years."

The patient is under my observation at present at the London Jewish Hospital. The pain has never recurred, the gangrenous patches have been replaced by healthy granulations, there is no discharge, and skin is growing over the wounds from the edges. The blood pressure fell to 110/60.

Of two other cases of thrombo-angiitis obliterans with advanced gangrene, the treatment in one resulted

in cessation of pain and complete healing up of the gangrenous patches ; in the other further development of gangrene was arrested, but the pain did not stop in spite of three months' treatment, and the patient was admitted to a hospital with a view to amputation.

Of nineteen cases where there were no gangrenous changes, but where intermittent claudication was the chief complaint, five of them being due to thrombo-angiitis obliterans and fourteen to arterio-sclerotic occlusion, the results were satisfactory in sixteen. The ability to walk without pain or tiredness in the legs increased in some of them from a distance of twenty to thirty yards to two miles ; in others from one hundred to two hundred yards to a mile and over. Some of the patients have been under observation for another six months, the improvement being still maintained ; only in three cases, of which two had treatment for a short period, was no improvement noticed. On the whole, cases of thrombo-angiitis obliterans responded more quickly than those of arterio-sclerotic occlusion. On analysing the results the conclusion reached was that the rapidity of the response to treatment was proportionate to the amount and severity of the vasomotor phenomena. The more prominent the spastic factor in a given case, the quicker and more striking are the results of this treatment.

DIABETIC GANGRENE

Taking into consideration that diabetic gangrene is primarily due to impoverished nutrition resulting from athero-arterio-sclerotic obliteration, I felt justified in trying the same treatment in diabetic gangrene. The following is a brief description of one of three cases treated.

History.—A woman, aged 66, was admitted to the London Jewish Hospital on July 3rd, 1930, with a history of diabetes diagnosed two years previously, and with gangrene of the left fourth toe of three months' duration.

Examination.—The heart was enlarged ; the second aortic sound was markedly accentuated ; there were emphysematous changes in the lungs ; the abdomen was negative. Both feet were cold and bluish. Posterior tibial and dorsalis pedis arteries were pulseless on both sides. The left fourth toe was persistently cyanotic. A discharging sinus was seen at its base. This appeared about three months before admission. Urine was acid, having a specific gravity of 1030 ; albumin was *nil* ; sugar was present ; acetone was *nil*. Blood sugar on fasting stomach was 306 mg. per cent. Wassermann reaction was negative. Radiograms of both legs showed calcified arteries. Blood pressure was 175/110. Local treatment, radiant heat, and rest for two months had no effect.

Treatment.—Daily injections of muscle extract were started on July 5th, 1930, and continued for about a month. On the eighth day the feet became warmer, the colour improved, and the pain disappeared. On the twelfth day the sinus stopped discharging. In three weeks after the commencement of treatment the sinus healed up. The feet were almost of normal colour and temperature. Blood pressure fell to 140/90. The patient was discharged from the hospital, but treatment was continued for another two months three times a week. No insulin or any other treatment was given. At the hospital the patient received the same diet as she had before admission.

In two other cases the results were equally satisfactory, insulin being simultaneously administered in one of them.

ANGINA PECTORIS

Apart from thrombo-angiitis obliterans, arterio-sclerotic obliteration, Raynaud's disease, chronic asphyxia, and diabetic gangrene, treatment with muscle extract was applied by me in nineteen cases of angina pectoris, in eleven of which there was a history of coronary thrombosis and evidence of myocardial disease. Nine patients showed striking improvement, which manifested itself in complete cessation of pain or sensation of constriction on exertion. Some of the patients have been under observation for over a year. No recurrence has been noticed. In three cases the pain recurred, but a few more injections sufficed to ameliorate the condition. In four cases the treatment resulted in a definite improvement, but the patients still complained of occasional pain on walking after meals. In one case of great severity in which cervical sympathectomy had failed, the treatment was followed by a considerable improvement at first, but this was maintained only for three weeks, after which the previous condition recurred, and there was no response to further treatment. In two cases the treatment failed altogether.

REMARKS

A great deal of research has still to be done to elucidate the rationale of this method and the nature of the active principle. It is clinically evident, and confirmed by the physiological experiment, that the extract acts as a powerful depressor. It is most probably by overcoming the vascular spasm, which seems to be an important additional factor even in organic vascular diseases, that the extract partly produces its therapeutic results. The same depressor effect may account to a great extent for its beneficial action in angina pectoris. In our experiments both alcoholic and aqueous protein-free extracts of skeletal muscle of young animals (calves) were used.

There are no doubt present, particularly in an active muscle, some substances (? metabolites) which are partly responsible for the increased blood supply required for exercise. It is likely that these substances form the active principle of the muscle extract. Not much can be said yet about their chemical nature. The extract contains but very little histamine, if any. The substances are not identical with choline, and the depressor action is not counteracted by atropine. They may contain adenosine, as was recently suggested,[6 7] but physiological experiments indicate that they are not likely to be identical with it.

Apart from their central vaso-dilatant action they seem to have also a local vaso-dilatant effect, as some of my clinical experiments tend to show. On this observation and on a technique of treatment of peripheral vascular diseases based on it, I hope to be able to report in the near future.

The investigation has been carried out chiefly with the original extract kindly supplied by Professor J. S. Schwartzman (myol 111). In a few cases an extract prepared by G. Henning of Berlin (myoston) was used. Experiments are being conducted with a view to standardizing the preparation, increasing its potency, and elucidating some problems, such as method of sterilization, concentration, etc., which are still unsettled.

I wish to express my gratitude to Professor J. S. Schwartzman of Odessa, of whose original discovery this research is a further development, and to Sir James Purves-Stewart for the encouragement he has given me. The work has been chiefly carried out at the Westminster and London Jewish Hospitals, and I am greatly indebted to Mr. E. Rock Carling, Mr. G. T. Mullally, Dr. A. Abrahams, Mr. S. I. Levy, Dr. D. Krestin, Dr. G. Konstam, and Dr. N. Pines, for allowing me to treat some of their patients.

REFERENCES

[1] Schwartzman, M. S.: *British Medical Journal*, May 10th, 1930.
[2] Idem: *Münch. med. Woch.*, 1930, xviii.
[3] Schwartzman, J. S.: *Zeit. f. Kreislauffforschung*, 1928, xx.
[4] Idem: *Münch. med. Woch.*, 1929, xxxii, xliii ; 1930, xxvii.
[5] Fahrenkamp, K., and Schneider, H.: *Med. Klin.*, 1930, ii.
[6] Drury, A. N.: *British Medical Journal*, June 1st, 1929.
[7] Rothman, H.: *Arch. f. exper. Path. u. Pharmakol.*, 1930, xv, 155.

A CASE OF LIPOID NEPHROSIS

BY

E. A. LUMLEY, *M.C.*, M.B., B.CH., D.P.H.

SQUADRON LEADER R.A.F.M.S.

The clinical and chemical criteria required to support the diagnosis of lipoid nephrosis as described by Muller, Epstein, and others are as follows: marked oedema and proteinuria (with cylindruria and lipoiduria but no haematuria), oliguria, lipaemia (hypercholesterolaemia), decreased blood proteins with alteration of the albumin-globulin ratio, decreased basal metabolism, no nitrogen retention, and normal or insignificant rise of blood pressure.

The details of the case described below comply with the majority of the conditions specified. One or two omissions of relatively minor importance are explained by the fact that the patient was attended at her home, the distance from the laboratory making it difficult to carry out as systematic an investigation as I would wish.

REPORT OF CASE

Mrs. B., aged 26, consulted me for swelling of the feet and legs, which had been coming on gradually for six weeks. Apart from a certain amount of local discomfort there had been no malaise or acute illness during or prior to that period. Except for slight pallor she looked and felt perfectly well, and was, in fact, induced by friends to seek medical advice. The patient has one child, aged 2½ years; the pregnancy and puerperium were normal, the urine, examined during the later months of pregnancy, revealed no abnormality. The history, therefore, is entirely negative.

On examination, no septic focus was detected in the mouth or throat, the teeth and tonsils being in perfect condition. Abdominal and gynaecological examinations were also negative. There was marked oedema of the feet and legs, pitting being demonstrable to the upper extremities of the tibiae, but none elsewhere. The heart was normal as to size, sounds, etc.; radial and brachial arteries were soft and of moderate tension; blood pressure was 125/88 (in subsequent examinations the systolic pressure has varied between 122 and 128). There was no evidence of fluid in the pleural or peritoneal cavities.

The first twenty-four-hour specimen of urine collected measured 700 c.cm., with specific gravity 1025, and gave a heavy cloud on boiling with dilute acetic acid.

The case was treated on general principles until further investigation could be made—namely, rest in bed, reduction of protein and salt in the diet, with a mild diuretic and diaphoretic mixture. Moderate diuresis occurred, and the oedema was considerably reduced after five days, the patient being then allowed up on condition that she rested for two hours in the afternoons.

In the meantime the volume of the urine had increased to 1,000 c.cm. per twenty-four hours; albumin, estimated on two occasions by Esbach's albuminometer, was 0.5 and 1 per cent. Microscopical examination of the centrifuged deposit failed to reveal any casts or erythrocytes, this being a constant finding up to the present (the seventh week of observation), with the exception of a recent examination, when "a very few granular casts" were reported, blood still being absent. During the first five weeks a moderate number of refractile fatty globules were constantly present in the deposit. The absence of casts and blood, and the severe albuminuria found in the preliminary examination of the urine, coupled with the marked oedema and moderate blood pressure, led me to suspect that I might be dealing with an example of the syndrome of nephrosis, and, accordingly, certain determinations in blood chemistry were carried out.

Biochemical Examinations of Blood and Urine

Blood cholesterol estimated in the first and second weeks of observation was present to the extent of 296 and 300 mg. per cent. respectively, with blood urea 32; urea in the urine at this time varied between 2 and 3 per cent. (These early estimations were carried out mainly with a view to a provisional diagnosis, and the determination of whether there was nitrogen retention or not, in order that a high protein diet could be instituted as soon as possible if a low urea figure indicated that course.)

A more complete analysis of blood and urine was carried out later (sixth week), the patient having then been on the special diet for three weeks. The results were as follows:

Blood.—In 100 c.cm. the total protein was 6.1 grams, urea 34 mg., albumin 3.91 grams, non-protein nitrogen 30 mg., globulin 2.19 grams, cholesterol 226 mg.

Urine.—Specific gravity was 1023. Total protein was 10.4 grams, albumin 8.9 grams, and globulin 1.5 grams per litre. No sugar, pus, or blood was found. A very few granular casts and a few epithelial cells were present in the deposit, but there were no erythrocytes or lipoid droplets.

Progress of Case

On being allowed up at the end of the first week, the patient still had slight oedema of the legs, and in addition some swelling of the hands in the morning, which, however, usually passed off during the course of the day. Epstein's diet, rich in protein, with low fat and moderate restriction of carbohydrate, was commenced during the third week, the amount of fluid per day being limited to one and a half to two pints. The daily amount of urine, which increased up to 1,000 c.cm. at the end of the first week, estimated on various occasions since, has been 1,100 to 1,200, which may be considered about normal, considering the fluid intake. The oedema of legs and hands, which still persisted when the special diet was instituted, has now (seventh week) completely cleared up. It may be stated that, with the exception of occasional aperients, no drug, diuretic, or tonic was prescribed from the end of the first week up to the date of the last blood analysis. A course of thyroid extract has, however, now been commenced. The patient, never particularly ill at any time, appears to be in a very fair state of health, in spite of the drain of protein in the urine, amounting to 11 or 12 grams per diem.

The case is presented with the suggestion that it probably might be included in the group of chronic nephrosis.

Laboratory examinations were kindly carried out by Wing Commander H. E. Whittingham and Flight Lieutenant Hugh Corner of the Royal Air Force Medical Service.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

TRAUMATIC CLEFT PALATE: MICROCOCCUS CATARRHALIS MENINGITIS: RECOVERY

Micrococcus catarrhalis meningitis is rare in children. Its victims usually find their way into the post-mortem room. The following exception from the surgical ward of the East London Hospital for Children is worth recording.

M. H., a girl aged 5½ years, was admitted on June 17th, 1930, with an astonishing history. A stable door had fallen off its hinges on top of the child, and one of the spikes had pierced the roof of her mouth. She was pale, bleeding profusely from nose and mouth, and yelling lustily. There was no haemorrhage from the ears, but considerable effusion of blood had taken place into the soft tissues of the eyelids and beneath the conjunctivae. The palate was split in the mid-line as far forward as the alveolar margin, which was itself intact. With the exception of a few bruises the face had escaped injury. There was no escape of cerebro-spinal fluid from nose, mouth, or ears. The child became considerably shocked, and the pulse for more than twenty-four hours continued in the neighbourhood of 140 to the minute. On the following day she was drowsy and irritable, with marked photophobia and retraction of the head and neck. There was no delirium or vomiting. Kernig's sign was positive. The temperature rose to 102° F. Lumbar puncture yielded a turbid fluid under pressure, which contained more than 20,000 polynuclear leucocytes per c.mm. The protein was raised to 180 mg. per 100 c.cm. No organisms were seen in the smears, and there was no growth on cooked blood in forty-eight hours. Polyvalent antistreptococcal serum (20 c.cm.) was given intravenously, as it was thought, in view of the nature of the injury, that the streptococcus was responsible for the meningitis. The patient continued to be dangerously ill, and lumbar puncture was repeated on the following two days, when

10 c.cm of anti-scarlet fever serum were injected intravenously and 10 c.cm. intrathecally. Cerebro-spinal fluid obtained on the fourth day of illness grew *Micrococcus catarrhalis* in twenty-four hours on serum agar with haemolysed blood.

The child made a rapid and uninterrupted recovery. The temperature by the fifth day had come down to normal. The cerebro-spinal fluid three weeks after the accident was free from cells and organisms, with a normal protein value, and by that time the cleft in the palate had soundly healed. The patient was discharged a week later to the hospital's convalescent home, and change of air completely restored her health. There was no alteration in the mentality.

I wish to thank Mr. E. T. C. Milligan for permission to publish the notes of this case, and Dr. F. Temple Grey for the pathological investigations.

W. R. BETT, M.R.C.S., L.R.C.P.,
Late House-Surgeon, East London Hospital for Children.

Reports of Societies

PREVENTION AND TREATMENT OF DRUG ADDICTION

The Section of Psychiatry of the Royal Society of Medicine and the Society for the Study of Inebriety held a combined meeting on March 10th for a discussion on "The prevention and treatment of drug addiction." Dr. S. A. KINNIER WILSON presided.

Types of Addicts

Dr. WILLIAM BROWN, in opening, said that there were various causes of drug addiction, and upon the cause at work depended the method to be selected for prevention and later on for treatment. He distinguished four classes of addicts: (1) those who had become victims to the drug habit through the necessity of taking drugs in illness or for the prevention of pain or production of sleep; (2) those who had taken to drugs because of a deep-seated tendency to strive for some new experience; (3) those who had recourse to a drug in order to increase their efficiency in work which was important to them; (4) a nondescript class. As far as the first of these classes was concerned, prevention should be directed to the medical trouble, the underlying cause, insomnia, or whatever it might be. In the second class (to which, according to American figures, 90 per cent. of addicts belonged) recourse must be made to prevention of access. In the third class the hope must be placed in national and international measures for prevention of the drug traffic. In the fourth, the methods of prevention would vary with the circumstances, but would have the general character of sympathetic investigation of the cases, and would make use of whatever psychological methods might be brought forward to help in the fight against the vice. Some physical methods of treatment were indispensable in all but the slightest cases, and generally residence was necessary in a special home, where the individual could be disintoxicated in gradual stages; whatever the physical method, however, the psychological aspect was of great importance. Many of these patients thought that morphine would remove their depression for the time being, until eventually they were at the mercy of the drug. Hypnotism was justified if the person could be hypnotized; in other words, failure of hypnotic treatment meant always failure to hypnotize. But hypnotism alone was insufficient; the psychological treatment had to go deeper, and in every case analysis was necessary. Any kind of treatment should involve a certain amount of analysis, and, when time allowed, a long analysis should be carried out with a view to getting at the causes of addiction, raising the patient's hopes, and enabling him really to desire something other than the pleasure or relief of the drug. The speaker had found that so-called suggestion treatment and training in auto-suggestion was really a training of the will, and in this connexion he related his own personal experience with a very mild drug—namely, tobacco. He had always over-smoked; he had given it up at various times, but on returning to the habit had smoked as heavily as ever. He decided to try the method of self-suggestion. One evening he burned his pipe and his tobacco, relaxed his muscles, became thoroughly passive, and thought to himself, "I shall never smoke again; smoking is not a part of my universe any more." He went to sleep that night, and woke up next morning without any thought or feeling about tobacco. That was four years ago, and since then he had never had any sense of deprivation. The making of that one affirmation to himself was sufficient to save him from any neurasthenic feelings whatever. Although that could be called a method of self-suggestion, it was really a method of completing the act of will. It was a resolution, but a resolution carried out more definitely than under ordinary circumstances, and for that reason the symptoms disappeared completely. Although he had used the word "analysis" he wished some other word could be discovered for describing this method of taking the patient over his past and getting him to face the consequences of events in his life; in short, to know himself, and not only to know himself, but to act upon his knowledge.

International Control

Dr. E. MAPOTHER said that the problem of drug addiction in this country was a very simple matter. Despite the extreme vigilance of the police, the Home Office knew the names of only 250 addicts in England, and probably the real number was not much greater. The personal experience of any one clinician who did not definitely specialize must consist of a very limited number of cases. His own experience consisted of 25 cases, of which 15 were in Maudsley, 4 in mental hospitals, and half a dozen outside. The cure of addiction was, of course, the task of the doctor. In the majority of cases it was rather a hopeless task if the word "cure" was regarded in the sense of permanence; prevention was the better way. Dr. Mapother went on to speak of the international supervision of the drug traffic. Up to date the evidence of the development of an international conscience was a little disappointing. There had been no success with regard to any ideally simple method of limitation. In the case of cocaine it was hoped that since its legitimate use was wholly external, it might be possible to get a similar drug or derivative which would be equally effective as a local anaesthetic, and not have the exhilarating action of cocaine, but unfortunately this had been found impossible. For anaesthesia by subcutaneous infiltration some substitutes were equally good, but for anaesthesia obtained by painting on the surface there was nothing which would take the place of cocaine, and therefore its abolition was unthinkable. In the case of opium and morphine the difficulties were not those of pharmacology, but of politics. Turkey, Persia, and Russia had refused to co-operate in regulating the drug traffic at all or to reduce the profit which their nationals derived from its exploitation. The legitimate international traffic was directed through the League of Nations by a system of licences which would be effective if it were loyally operated in all countries. In this matter, at all events, England was one of the model countries of the world. The amount of smuggling into this country was negligible, and there was very little of that use of cocaine among the "demi-monde" or in the underworld which was apt at times to figure luridly in the "yellow" press. The amount of definitely illicit supply of either cocaine or morphine by chemists or doctors to patients was very small indeed. Allowance had to be made, of course, for the tolerated supply given to certain addicts who could not exist without it. The cocaine habit was hardly ever

acquired as the result of medical treatment; it was a vice contracted by those who had access to the material, such as nurses, doctors, or druggists. On the other hand, addiction to morphine or heroin was very largely the result of medical treatment. In other words, the starting-point for the taking of cocaine was, in the majority of cases, the attempt to induce pleasure, and the starting-point for the taking of morphine was the attempt to reduce displeasure of pain. He had not noticed—and he was sure it was not correct—that any considerable proportion of psychasthenics had any tendency to take drugs. The sort of people who took them were of the "spoilt child" type, who could not forgo immediate gratification of any impulse. They were the same sort of people who were sexually promiscuous, and that was the reason for the frequency of drug-taking amongst prostitutes, and amongst those who engaged light-heartedly in adultery.

Physical Treatment of Addiction

Dr. MACDONALD CRITCHLEY dealt with the physical treatment of drug addiction. Although it was admitted that the cure undoubtedly rested with psychotherapy, physical methods had a place. When a victim first came under observation he might be too debilitated physically to react to psychotherapy, and physical methods, empirical or irrational as they might be, often did valuable spade-work. Withdrawal of the drug was obviously the first duty, and the clinical picture was soon complicated by "withdrawal symptoms." He outlined the diverse cures and regimens which had been advocated at various times. The oldest of these comprised the use of sedatives in very large doses. The hyoscine cure consisted of the administration at hourly or half-hourly intervals of hyoscine hydrobromide until forty or sixty doses had been given. A state of hyoscine intoxication supervened, with delirium, dilated pupils, etc.; after this delirium had been maintained for twenty-four to forty-eight hours, injections of pilocarpine were given until the physiological effect was reached. The rest of the cure consisted in the counteraction of the pilocarpine poisoning. Within the last few months there had been advocated an insulin cure for morphine and other drug addiction. For the first six or eight days after complete withdrawal of morphine, up to eighty units of insulin were given in the twenty-four hours. Various other more or less vague therapeutic measures had been advocated from time to time; a group of Americans had gone on the principle that the withdrawal symptoms did not result from intoxication by unneutralized antibodies, but were due rather to a general lack of function of the endocrines, and had based their treatment on that hypothesis, claiming very good results.

Fatigue and its Importance in Morphinism

Dr. F. G. LAUGHTON SCOTT said that from his own experience of the drug addict he thought that those who took a drug to improve their output of work were probably as important and numerous as all the other classes of addicts put together. He was in daily contact with members of the medical profession who, under special stress, had taken a drug, and had then continued it for its stimulant and not for its narcotic effect. The stimulant effect of morphine had not been sufficiently considered. The truer picture of the majority of English addicts was of men who did not "run away from life," but had come to need a special type of stimulation before they could meet life successfully. The narcotic effect of morphine eventually passed away, and left behind the stimulating effect. It was instructive to look upon morphine habituation as a chronic pathological need for a special type of stimulant, and not for a special narcotic. That being so, it was important at every stage of treatment to consider the effects of fatigue very carefully, to spare the addict fatigue as far as possible, and educate him out of the undue fatigability which was part and parcel of his recovering state. The speaker went on to give a few facts with regard to the use of belladonna or some derivative, which was used in nearly all the American methods of withdrawal. The only use to which this substance was applied ordinarily was to make the patient more or less violently delirious, and delirium was one of the things to be avoided. But belladonna might have other uses. A very small dose acted as a vagal stimulant. If the tolerance to belladonna was very gradually and carefully increased, the primary and central stimulant action on the vagus was retained, so that eventually enormous doses of belladonna—as much as $2\frac{1}{2}$ ounces in twelve hours—could be given while the patient remained quiet and his heart rate was slightly slower. This use of belladonna enabled that drug to take over the stimulant action on the vagus which was normally exercised by the patient's morphine, and the shock of sudden deprivation of the stimulant was considerably modified by having an effective agent which would keep the vagal preponderance. At any rate, he had found in practice that the furious bursts of sympathetic overaction were greatly modified, and in some cases even abolished.

Psycho-analysis

Dr. EDWARD GLOVER spoke of the therapeutic value of psycho-analysis in this connexion, and mentioned reasons why, in his opinion, extra-psychological therapy seemed rather devoid of strategic value. The psycho-analyst held that too great importance was attached to the physiological aspects of habit formation. The violent reactions which occurred during deprivation were not strictly comparable with the results of laboratory experiments. In true drug addiction the importance of the drug was primarily psychological. Drug addiction, though apparently monosymptomatic, could be regarded as a compound capable of being split up into simple constituents, and the radical cure was obtained through such a splitting up. Certain factors, such as symbolism, elicited by psycho-analysis enabled the psycho-analyst to estimate the depth of the treatment required. He was beginning to suspect that many drug addicts were in part inverted paranoiacs, the difference being that in such cases the addict was persecutor and persecuted in one. In the superficial sense addiction could be prevented, but to chase a symptom or to withhold access to a drug was not necessarily to cure a disease. He confessed himself dissatisfied with his own earlier attempts at treatment. It was comparatively easy to reduce a habit, by analysis alone, from huge to minimal doses, but the inevitable result in the resolution of most addictions was the outcrop of hysteria or of the obsessional state. It was on the analysis of these underlying psychotic tendencies that the success of any psycho-analytical treatment of addiction depended. Nevertheless, he thought that the psychological riddle of addiction might be solved sooner than a cautious pessimism permitted them to hope.

Dr. MURDO MACKENZIE asked whether one was going to approach the study of drug addiction as a diagnosis or as a symptom. There were two types of addiction which had come within his personal experience; one type had used the syringe, and the other had not. The first type had been frankly depressants, the others largely schizophrenics. The latter included those addicted to alcohol. He felt himself that all that could be postulated about drug addiction was fundamental instability, and when that had been done it was necessary to make a diagnosis of the individual who was being dealt with. A generalized therapy could not apply to different psychological types. Dr. C. W. BRASHER considered that the Home Office had underestimated the number of addicts in this country.

Dr. KINNIER WILSON, in summing up the discussion, said that no definition had been given of what constituted drug addiction. John Hunter took a teaspoonful of laudanum before every one of his lectures, but no one would dream of calling him an addict; yet if some other infinitely more humble individual did it he might not escape that name. The natives of Bolivia chewed the coco leaf, and were worse labourers without it. He mentioned a case known to him in which two nurses, at the age of 24, had each taken a quarter of a grain of morphine as an experiment. One of them was violently sick, and never took it again. The other girl started to take it, and took it continuously for forty years. At 64, when he saw her, she had got into obvious difficulties connected with obtaining supplies of the drug (she had never taken more than two grains), and after he had "cured" her she wrote and asked him which was her real life; to her the normal life was the one she had been living for forty years, and the abnormal life was her life without the drug. He thought they should proceed warily in regard to condemning drug addicts before satisfying themselves as to what standard they were going to take for diagnosis. He was entirely convinced as to the smallness of numbers of addicts in this country. On his private list he found that he had treated twenty-five patients, of whom less than 50 per cent. were members of the medical profession. He had "cured" all but one of the twenty-five cases, though he used the word "cure" not in the scientific sense, or as Dr. Glover would insist upon it. In some cases the cure was maintained, others came back for another "cure" every year. He thought it perfectly legitimate to treat symptoms, especially with the superficial and comparatively innocuous type of case that one might get. He had used the hyoscine method, but never to the extent mentioned by Dr. Critchley.

Dr. WILLIAM BROWN, in replying, defined an addict as one who became more and more under the influence of the drug, needing larger doses of it, and becoming more degenerated and disintegrated in character. He thought that Dr. Glover underestimated the amount of analysis done by those who did not call themselves psychoanalysts. In reply to Lady Horsley, he said his method of self-suggestion found an admirable scope in the treatment of alcoholics.

ANAESTHESIA IN CHILDBIRTH

At a meeting of the Liverpool Medical Institution held on February 12th, with the president, Professor W. BLAIR BELL, in the chair, Mr. J. ST. GEORGE WILSON read a paper on anaesthesia in childbirth.

He began by saying that recently there had been various suggestions as to the best anaesthetics in childbirth. He was of the opinion that an attempt should be made to obtain the use of the voluntary muscles of expulsion; thus some form of local or regional anaesthetic was indicated. His favourite was one which was injected extradurally into the sacral canal. Describing the technique, Mr. Wilson said that injection was made through the sacral notch at the lower end of the canal, by means of a short needle inserted for not more than two inches, following the method described by Dr. Evans (*Lancet*, December 6th, 1930) in treatment of sciatica. The anaesthetic used was 40 c.cm. of freshly prepared 1.5 per cent. novocain; percaine and 1 per cent. planocaine were not so satisfactory. The method produced anaesthesia of the vagina and vulva, with retention of "bearing-down" efforts, but not the abolition of sacral pains of labour. Relaxation of the perineum was not marked. The anaesthesia lasted 1½ hours. In primiparae injection should be made when the head was beginning to distend the perineum, and in multiparae when the cervix was fully dilated. Forceps deliveries, manipulation of breech with extended legs, and repairs of the perineum could be carried out without other anaesthetic. Induction was easy, and could be done by nurses.

In the discussion which followed, the president said that any attempt to simplify the administration of anaesthesia during parturition was worthy of the most serious consideration. At the present time there was a campaign for the provision and insistence of anaesthesia in all labours. This, of course, could not be maintained on scientific grounds; it was a sociological sentiment, which was justified in so far that whenever there was no contraindication the pain of labour should be prevented. The ideal single anaesthetic for labour had still to be discovered; it should be one that did not interfere with the muscular contractions of the uterus, yet allayed all pain. Further, it should have no harmful effect on the mother or child; it should be easy of administration and amenable to control. It did not seem likely that all these attributes could be possessed by one substance. A mixed method, such as local perineal anaesthesia to relax the muscles of the pelvic floor and to make that region insensitive, with a drug to abolish painful impressions without interfering with uterine contractions, would to a great extent meet the demands.

Dr. C. ALLAN BIRCH said that in view of the fact that the presence of the foetal head on the perineum normally caused strong expulsive contractions at the end of the second stage, one would expect some delay in the birth of the head in cases in which the perineum had been rendered anaesthetic.

Dr. M. DATNOW remarked that the method introduced by Mr. Wilson appealed to him, especially as one could manage without an anaesthetist. He had frequently used spinocain in operative midwifery, and had found it satisfactory. It did not interfere with the uterine contractions, there was a considerable diminution in the amount of bleeding, and if combined with scopolamine it gave a good anaesthesia with very little subsequent discomfort to the patient. Dr. R. J. MINNITT said that he thought there was a large field of research possible in this direction. He had had some experience of gas and oxygen anaesthesia in midwifery, and believed that the higher percentages of gas with rebreathing, while producing unconsciousness, tended to stimulate the pains of labour.

IMMUNIZATION AGAINST DIPHTHERIA AND SCARLET FEVER

Dr. C. O. STALLYBRASS read a paper on immunization against diphtheria and scarlet fever. He pointed out that while hospitalization of cases had greatly diminished the prevalence of several diseases, this result had not followed in the case of scarlet fever and diphtheria. Following the introduction of an antitoxin, the death rate from diphtheria and scarlet fever had been greatly reduced. In Liverpool it had now become common to inoculate simultaneously against the two diseases.

After quoting figures to show the efficiency of these measures, Dr. Stallybrass detailed his own experience of immunization against scarlet fever and diphtheria in institutions in Liverpool. Not only could outbreaks of these diseases in orphanages and similar institutions be rapidly brought to an end, but it was noticeable that where fresh entrants to the institution had been tested or immunized, they remained free from these diseases. It was pointed out that as two-thirds of the deaths from diphtheria and scarlet fever occurred under the age of 5 years, immunization should be carried out preferably about the second year of life. Fortunately this was the time of life when reactions as a result of inoculation rarely occurred. Such reactions were, however, not infrequent in adults.

In the discussion which followed, Dr. HUBERT ARMSTRONG expressed the opinion that errors of technique

were an inadequate explanation of occasional failures, both of the Schick test response and of the inoculations to produce immunity. He instanced two young adults who had developed diphtheria shortly after negative Schick tests (with controls), and two others who had contracted the disease, one three months and the other six months after a full course of immunizing injections. He was confident that the general results were dependable, and he had been impressed by the complete stamping out of diphtheria in the Bluecoat Hospital by these means during the last five years. Dr. C. RUNDLE thought the dosage quoted by Dr. Stallybrass was on the conservative side, and had been considerably exceeded in America. Dr. A. E. HODGSON said that the routine active immunization of the nursing staff of the City Hospitals, Fazakerley, against scarlet fever was instituted in June, 1926; since then only three nurses had developed the disease. In the twelve months prior to that date eleven nurses contracted scarlet fever in the course of their duties, and of these one died. Active immunization of the nursing staff against diphtheria was commenced in January, 1929, and no case had occurred since.

TREATMENT OF PITUITARY DISORDERS

At a meeting of the Brighton and Sussex Medico-Chirurgical Society, held on March 5th, with the president, Mr. H. NETHERSOLE FLETCHER, in the chair, Dr. FLORENCE EDMONDS read a paper on some disorders of the pituitary body, and their treatment.

Dr. Edmonds began by giving a short account of the development of the pituitary body, followed by a brief survey of its histology. In dealing with the physiology of the gland, she said that the secretion of the anterior lobe was known to contain three hormones, and probably a fourth; the two most important were the secretion affecting growth and the gonadal stimulating secretion. The female sex hormone had been obtained in crystalline form from the urine of pregnancy, and Collip had obtained the same product from the placenta. The secretion of the posterior lobe had two constituents—namely, vasopressin and oxytocin. The effects of these were irregular, but exerted a certain influence similar to pituitrin. The secretion of the posterior lobe was shown to have the following properties: a stimulant to plain muscle, oxytocic, pigmentary, and galactagogue actions, influence on the excretion of water, and on fat and sugar metabolism. The work of Cushing tended to show that the important centres which had to do with primitive instincts were situated in the diencephalon, and were controlled by the extract of the hypophysis (the diencephalon and hypophysis being connected by a nerve tract); and that for normal working the diencephalon, nerve tract, and hypophysis must all be intact. Dr. Edmonds briefly stated the signs and symptoms of pituitary disease, drawing special attention to disorders of the reproductive syste to adiposity, and to pituitary headache. She described the affections of the anterior and posterior lobes, and onditions of under-action of both lobes. Acromegaly a d pituitary gigantism tended to be self-limiting, but in most cases hyperpituitarism was followed, sooner or later, by pituitary insufficiency.

Cushing had emphasized the importance of early diagnosis; a Wassermann tes t should be done in every case of pituitary insufficienc y in order to rule out syphilitic basilar meningitis or gumma. All children who showed retarded bodily and sexual development, especially if associated with headache and polyuria, should be considered as suffe ring from pituitary insufficiency until proved other wise. The treatment of pituitary disorders depended up on a careful estimate of the pathological condition. If a umours were stationary or regressive no treatment was indicated. If progressive, they should be operated on in the early stages before the surrounding structures had suffered much injury. The treatment of pituitary disorders not due to tumour formation varied according to the activity of the gland. If hyperactive and causing symptoms, exposure to *x* rays might be helpful. If hypoactive, the active principle of the lobe or lobes involved should be administered, either orally or hypodermically. The preparations for oral administration were disappointing in their effects, although many clinicians claimed to have had good results. It was found that whole gland pituitary extract was more efficacious than that of a single lobe, and if combined with thyroid extract its effect was increased. Hypodermic administration of posterior lobe extract was now being used, the physiological dose being determined by the vascular, the intestinal, and the general reactions. The intestinal reaction was considered the index of the maximum dose; this should not be exceeded. Ordinarily, one or two injections of the amount which elicits the intestinal reaction were given weekly.

INJECTION TREATMENT OF HAEMORRHOIDS, PRURITUS ANI, AND FISSURE

At a meeting of the Sheffield Medico-Chirurgical Society on February 18th, with the president, Professor GRAHAM SIMPSON, in the chair, Mr. W. J. LYTLE read a paper on the injection treatment of haemorrhoids, pruritus ani, and fissure.

Mr. Lytle said that in spite of the good and lasting results of operations for the cure of haemorrhoids, the method of treatment by injection with sclerosing fluids was being employed with increasing frequency. In addition to its safety, the advantages of the treatment were that it required neither anaesthetic nor confinement to bed, and it caused no pain. The solution which had given the best results was 5 per cent. carbolic acid in almond oil, as suggested by Albright and Blanchard. This solution was preferable to the older 20 per cent. carbolic acid in glycerin. The injections were most conveniently made in the left lateral position by the aid of McEvedy's lighted speculum; 3 to 5 c.cm. of the solution was injected into the submucosa, well above the level of three selected piles. At this level the mucous membrane was insensitive to pain. Two subsequent injections were made at weekly intervals, each of which was below the level of the previous one. Simple uncomplicated internal piles should be selected for treatment by this method. Those which were prolapsed and thrombosed or were complicated by fissure in ano were unsuitable for injections. The immediate results were excellent. All symptoms disappeared after the first or second injection. It was too early to speak of the final results, but by means of a follow-up system he was enabled to say that they appeared to be permanent. There were no complications to be feared except ulceration, which resulted from inadvertently injecting the solution into, instead of beneath, the mucous membrane.

Mr. Lytle also described the treatment of fissure in ano and pruritus ani by the injection of anaesthesin benzyl alcohol and ether or percaine in oil as suggested by Gabriel. For anal fissure Mr. Lytle advised injections of from 2 to 5 c.cm. into the sphincter. This produced a relaxation of the muscle which allowed the fissure to heal. If a sentinel tag was present it should be removed. In deeply undermined fissures operative treatment was necessary because, although symptoms were relieved by injection, the fissure would not heal owing to the fact that the parts were not at rest. In cases of pruritus ani which failed to respond to other methods he had found that the injection of these anaesthetic solutions into the subcutaneous tissues around the anus were often very beneficial.

Reviews

RECENT ADVANCES IN FORENSIC MEDICINE

Recent Advances in Forensic Medicine,[1] by Professors SYDNEY SMITH and JOHN GLAISTER, deals with the diagnosis of firearm injuries, the identification of firearms, powders, projectiles, and cartridges; the examination of hairs; precipitin tests; blood grouping; the estimation of carbon monoxide in the blood and of alcohol in the blood and urine; the detection of metals by the spectroscope; and the use of ultra-violet light in the examination of pictures, forgeries, and other objects. This list covers a wide range, and while some of the subjects lie outside the scope of forensic medicine their extreme interest and (as the authors point out) the difficulty of obtaining information elsewhere justify their inclusion.

The opening chapters include the identification of firearms, a part of criminal investigation which is of particular interest in view of the evidence given in the recent Gutteridge murder trial; the description is very full, and should be of great value to anyone investigating this subject. The excellent chapters on hairs and the precipitin test are also very welcome as a ready means of reference, because these examinations are only briefly dealt with in ordinary textbooks. Blood grouping and carbon monoxide poisoning are becoming subjects of increasing practical importance. Of the first a good description is given, but in the account of the latter the reader will be disappointed; the problems arising daily in medico-legal practice as a result of recent advances are not discussed, the material being confined to a description of the quantitative estimation of carbon monoxide in the blood. Mention is made of the tannic acid method of Henderson and Haggart, but it is to be regretted that the modification of this test by Sayers, Yant, and Jones of the U.S.A. Bureau of Mines, which is of practical value to those engaged in coroner's work, is not described. The method of detection of nitroxyhaemoglobin and its importance (*British Medical Journal*, August 1st, 1925, p. 187) might also have been included with advantage. Strong efforts have been made in the last few years to gain recognition for the estimation of alcohol in the blood and urine as an index of intoxication, and we note with interest that the authors are of opinion that this estimation cannot be relied upon to give the desired result.

The subject-matter of the book is most excellently presented and well illustrated, and everyone engaged in the practice of medical jurisprudence should possess a copy. Though a description of expert laboratory methods, the book is so written that it will appeal to all medical men, and even the layman will find much to interest him.

POST-ENCEPHALITIS

In the compilation of the fourth series of neurological studies[2] Dr. GUILLAIN has been associated with Dr. TH. ALAJOUANINE. The periodic publication of these studies is an event of interest to all neurologists, and in this series the joint authors have recorded some of the observations made at the neurological clinic of the Salpêtrière since the publication of the third series in 1929. Four of the eight sections into which the volume is divided are devoted to clinical pictures illustrating various pathological conditions with which different parts of the brain, spinal cord, and the peripheral nerves may be affected.

Of particular interest, in view of the epidemic nature of the disease, the kaleidoscopic character of its clinical manifestations, and the consequent difficulty in making a diagnosis in sporadic cases, is the section dealing with the Parkinsonian syndrome and other features of post-encephalitis. Thus, two cases of epidemic encephalitis are described in which myasthenia became the predominant feature, a progressive condition more serious than the fatigue and weakness which are commonly associated with this form of encephalitis, and to be distinguished by electrical tests from bulbo-spinal myasthenia. The next case described is that of a Parkinsonian patient aged 42, illustrating the rapidity with which deformities may develop in the upper and lower limbs. Here the contractures occurred in both hands and both feet and in the order in which these limbs were severally affected with previous Parkinsonian rigidity. An interesting and well-illustrated account is given of the case of a boy of 12, in whom the onset of Parkinsonism was followed by a condition of general hypertonus, resulting in torsion spasms and abnormal attitudes. The authors note that the lordosis, rotation of the head, flexure of the arms, varo-equinus, and other abnormal postures assumed by this patient are suggestive of the experimental condition of decerebrate rigidity as observed by Sherrington. The fact, however, that Parkinsonism had set in before the abnormal attitudes of flexion and extension began to appear, and that such attitudes virtually disappeared in dorsal decubitus, impels the authors to regard this condition of hypertonus as part of the Parkinsonian syndrome.

The general question of torsion spasms and their associated attitudes in relation to epidemic encephalitis is pursued further in Chapter XXIX, which is a reprint of an article previously published in 1926 in collaboration with M. A. Thévenard. Here are described the various attitudes of torsion as affecting different parts of the body in patients suffering from post-encephalitis. These are compared with similar manifestations of patients in other circumstances, such as the strange syndrome of abnormal postures and perturbations (torsionsdystonie), at one time considered by M. Mendel as peculiar to members of the Jewish race, and with the attitudes of decerebrate rigidity type sometimes associated with tumours in the thalamo-peduncular region. It is concluded by the authors that some infections, such as epidemic encephalitis, possibly syphilis, and certain intoxications, can produce all the types of dystonic disturbance comprehended in the term "torsion spasms"; but they would displace this term with the more objective one of "attitudes de torsion."

Since 1919, when the disease first began to attract attention, the symptomatology of epidemic encephalitis has always been studied with special care by French observers, and the present series of clinical observations on the post-encephalitis phase, which is enriched with good and helpful illustrations, shows that the subject is still one of absorbing interest in the neurological clinic of the Salpêtrière.

CLINICAL PERIMETRY

By his painstaking and accurate investigations on the pathology of the visual fields, Dr. H. M. TRAQUAIR of Edinburgh has put the whole of English-speaking ophthalmology into his debt; and it is with pleasure that we welcome the appearance of a second edition of his *Introduction to Clinical Perimetry*.[3] The second edition does not depart in any essential feature from the first; the text has been revised and several sections have been rewritten

[1] *Recent Advances in Forensic Medicine*. By Sydney Smith, M.D., M.R.C.P., D.P.H., and John Glaister, jun., M.D., D.Sc., J.P. London: J. and A. Churchill. 1931. (Pp. vi + 194; 66 figures. 12s. 6d. net.)

[2] *Études Neurologiques*. Quatrième Série par Georges Guillain et Th. Alajouanine. Paris: Masson et Cie. 1930. (Pp. 358; 75 figures, 7 plates. 65 fr.)

[3] *An Introduction to Clinical Perimetry*. By H. M. Traquair, M.D., F.R.C.S.Ed. Second edition, revised and enlarged. London: H. Kimpton. 1931. (Pp. viii + 231; 179 figures, 3 plates. 30s. net.)

and amplified, while a considerable number of illustrations have been added.

The average practitioner has little conception of the enormous amount of detailed quantitative and qualitative information which can be extracted from a scientific examination of the visual fields, provided the patient is reasonably intelligent. The science of quantitative perimetry, which was inaugurated by Bjerrum towards the end of the last century, and was introduced into this country by Berry in 1890, is of the first importance in ophthalmological and neurological medicine. In it the determination of the limits of the visual fields is a secondary matter; the essential point is a thorough examination of the visual acuity throughout the whole extent of the field, determining areas of impaired function with quantitative accuracy as well as areas of complete loss of function. In this way the early manifestations of disease are elucidated, and its progress can be followed with accuracy. Further, many pathological conditions, such as the toxic amblyopias, retrobulbar neuritis, and a number of intracranial lesions, which without quantitative perimetry are often a matter for conjecture, can be diagnosed in their earlier stages and followed in their clinical course with extreme certainty. To work out the data upon which this science is based has entailed a great amount of clinical labour; this has been done mainly in Continental clinics, with the one exception of Edinburgh, and Dr. Traquair, who has been entirely responsible for this activity, is to be congratulated on the clarity of the exposition of his views in the present volume, which, although full of detailed information, is fascinating to read. The publishers also deserve congratulations on the excellence of the printing and illustrations.

DR. ERASMUS DARWIN

Most of the essential details of the private life of Erasmus Darwin (1731-1802) may be read in Charles Darwin's short biography of his grandfather. Certain additional unpublished matters of interest are contained in Mr. HESKETH PEARSON'S book *Doctor Darwin*,[4] more especially in connexion with the Lunar Society, which Darwin founded. This was a small coterie of scientists, almost all of them geniuses, including such well-known men as Watt, Priestley, Wedgwood, and Samuel Galton. It took its name from the fact that its meetings were held at the full moon, to enable members to find their way home along the so-called roads of the time, without mishap. It was a society in which every conceivable subject of scientific interest was freely discussed, and there can be no doubt that the discussions served as a stimulus to Darwin's inventive genius. Mr. Pearson has cleverly planned his book so as to make the Lunar Society to some extent the background of his picture, introducing vivid sketches of the principal members and depicting Erasmus Darwin through his friendships. These men foreshadowed the period of immense material progress which has continued uninterruptedly to the present day, and although Darwin is best known as a philosopher and poet, the practical trend of his mind (as became a physician) was always strongly marked.

Mr. Pearson states that there is hardly an invention in the world of to-day that Darwin did not father or foresee. He visualized the submarine, the internal combustion engine, and the aeroplane, conceived the science of eugenics as subsequently worked out by Francis Galton, foresaw that germs would be discovered as the causes of diseases arising in connexion with the exhalations from sewage and burial-grounds, invented a manifold-writer which gave James Watt the idea of his copying machine, planned a canal lock the principle of which was afterwards extensively used, made a shrewd guess concerning the composition of water, which put Watt on the tract of his great discovery, and made many other ingenious inventions. This versatility of his genius has been overshadowed by his famous theory of evolution, the first systematic theory propounded, and the germ of all subsequent developments in that subject. It has been said by Krause that every single work of Charles Darwin may be paralleled by at least a chapter in the works of Erasmus Darwin. He clearly recognized the origin of species through modifications of structure, but he assumed that this modification depended on the inherent impulses of the individual towards the improvement of its natural position, and therefore on the existence of conscious effort. Thus in applying the theory to the vegetable kingdom it became necessary to attribute mental functions to plants, and the weak point in the theory became evident. Mr. Pearson hardly touches on this aspect of Darwin's work; his intention has been to show that the theory of evolution alone gives a very inadequate idea of the scope of Darwin's genius.

It may be mentioned that for general information Mr. Pearson has drawn very largely on the writings of Anna Seward; he is much indebted to her. This lady appears to be the object of a certain amount of quiet merriment on the part of the author, the reason of which is not quite obvious. She cannot be considered to have been other than a good friend to Darwin, and although it is true that she felt a strong affection for him, which was not returned in the slightest degree (the author mentions "amorosities" merely), the humour of the situation is not apparent. Mr. Pearson makes a point of endeavouring to produce a biography that is accurate and at the same time readable; this is in keeping with a modern tendency and is to be commended, but the popular craving to be amused does not deserve to be encouraged in serious biographical work.

PHYSIOLOGICAL CHEMISTRY

The fifth edition of MATHEWS'S *Physiological Chemistry*[5] will no doubt find as warm a welcome as did its predecessors. It is a unique book. Including the index it runs to over 1,200 pages. The section on practical work and methods occupies 281 pages—that is, it is as big as a fair-sized practical textbook. From beginning to end—from the preface to "A word to the student" which introduces the section on practical work—it bears the impress of a vivid personality. The author's enthusiasm shows itself in the turn of phrase which he employs, and, we may add, in the speculations on which he does not hesitate to embark. The book contains an enormous amount of information; the industry of the author has been amazing, and he has succeeded in bringing the text very satisfactorily up to date. It must be considered, perhaps, as a reference book rather than as a textbook; even allowing for the fact that the author's obvious enthusiasm does much to carry his readers with him, it is too detailed to serve any but a heroic student as material for steady reading. Provided, however, that the reader is able and willing to exercise his critical and discriminative powers, it is a mine of useful information and, here and there, of highly suggestive thought. Frankly, however, we feel that at times Professor Mathews carries the privilege of speculation a little too far. Roundly to suggest that memory may have its basis in chemical processes in the fatty acid chains of the lipoids similar to those which occur in the drying oils when exposed to oxygen, or to speak of linseed oil being "taught to oxidize itself," seems hardly justifiable, and there is the risk that some unfortunate student might take such phrases too seriously.

[4] *Doctor Darwin*. By Hesketh Pearson. London and Toronto: J. M. Dent and Sons, Ltd. 1930. (Pp. xi + 242, illustrated. 10s. 6d. net.)

[5] *Physiological Chemistry*. By Albert P. Mathews, Ph.D. Fifth edition. London: Baillière, Tindall and Cox. 1930. (Pp. xviii + 1233; 109 figures. 31s. 6d. net.)

A book with similar aims, but very different in form, is BODANSKY'S *Introduction to Physiological Chemistry*.[6] It is written in a quieter style, which has yet, at times, a certain air of breathlessness. The author ranges widely over the field of biochemistry, and, in his opening chapters, discusses questions such as the laws of thermodynamics, entropy, and free energy, in their bearing on the phenomena of life. He avowedly writes with the idea of presenting current thought and current facts, and is prepared to admit that the picture may very rapidly change. Here he is undoubtedly right. Not merely is finality impossible, but few such books are likely to survive many years before they become obsolete in greater or less degree. The present volume contains a very adequate survey of the known facts. It is suitable for the advanced rather than the elementary student, but it, or something of the sort, might well find its way into English medical schools, where theoretical textbooks of biochemistry are sadly wanting.

NOTES ON BOOKS

The little book on *Simple Beginnings in the Training of Mentally Defective Children*[7] has been reissued as a memorial edition to its author, the late MARGARET MACDOWALL. It is a fitting tribute to one who was recognized as a pioneer in her subject, and who in her day was the best known and most capable practical teacher of defectives in this country. For the work to which Margaret Macdowall devoted her life was characterized not only by a high degree of originality and inexhaustible patience, but also by the most complete sympathy with, and love for, her pupils. The book, however, is something more than a memorial to one who has passed away: it is full of sound common sense and practical advice. After a brief description of various types of defectives, and an account of the general principles of training, it treats in detail of the methods by which even low-grade children may be taught to walk, to speak, to use their hands to practical purpose, to read and write, to sew, and to occupy themselves in various kinds of useful tasks. It is not intended as an educational guide for the special school group; its concern is mainly with defectives of lower grade and younger age; but for the training of these it probably remains the best practical handbook on the subject, and it is certainly one which no teacher of young defectives can afford to be without.

The first number of the new volume of the *Annals of Medical History*[8] opens with Professor G. W. Corner's account of the rise of medicine at Salerno in the twelfth century, which shows that from 1080 onwards medicine there was a combination of the direct, practical attitude of mind of Salerno with the Arabian systematic formalism. Dr. E. D. Baumann of Oosterbeek, Holland, writes on the ancient problem, discussed by Plato, whether fluids taken by the mouth passed into the stomach or into the lungs. A regimen sent in 1315 by Peter Fagarola of Valencia to his two sons, who were students at Toulouse, is translated by Dr. Lynn Thorndike of New York. Contrasting with these in point of time is the account of "Old days" (in the 'nineties of the last century) of an intern at the Chambers Street Hospital, New York, by Dr. J. B. Cutter, now of San Francisco, who graphically sketches the life at this emergency hospital, not far from the "Bowery," and the ambulance calls, on an average ten daily, and its clanging bells. Professor A. S. Warthin's fourth instalment of the physician of the "Dance of Death" is generously illustrated, and, like the previous parts, full of interest. The life-history of C. W. Hufeland (1762–1836), professor of medicine at Boston, whose portrait appears on the cover, is sketched by Dr. I. A. Abt. The frontispiece presents Antonio Vallisneri, who died two hundred years ago, and was professor of medicine at Padua; he was, Dr. J. Franchini tells us, induced to enter the physic line by Malpighi, whose devoted student he became. Thomas Dale of Charlestown, South Carolina, translated into English works originally in Latin by John Freind and Lommius, and being, as Dr. R. E. Geibels shows, a versatile character, was interested in the stage, wrote epilogues as well as prologues, and was an assistant justice of the peace. The Mütter Museum of the College of Physicians of Philadelphia is described by its curator, Dr. H. P. Schenck, and the medical incunabula in the John Crerar library, Chicago, and in the University of Michigan, are duly put on record. An editorial on the Institute of the History of Medicine at the Johns Hopkins University shows that five courses of lectures are being given in this academic year, one of them by the visiting lecturer, Sir D'Arcy Power. Among the book reviews is a very appreciative notice by the editor of Plarr's *Lives of the Fellows of the Royal College of Surgeons of England*.

Contemporary Thought of Germany[9] is a very readable introduction to German philosophy by Dr. TUDOR JONES, who correlates, with much penetrating analysis, the more important contributions to the subject from the time of Kant to Rudolf Eucken. The first part of the volume traces the sources of modern German thought, and gives brief illuminating epitomes of the work of a number of writers (including Lotze) who are associated with the modification or development of the teachings of Kant and Hegel. In his account of the schools of Schopenhauer and Nietzsche the author is liberal enough to mention Richard Wagner, who, he asserts, deserves to be known not only as a musical composer but as a philosopher and poet as well. The return to pre-Kantian philosophy is described in a chapter on phenomenology, which contains an interesting note on Husserl, and the survey concludes with the religious *a priori* school of Eucken and Troeltsch. This volume is to be followed by another dealing with contemporary writers in the various branches of the philosophical sciences and of religion.

[6] *Introduction to Physiological Chemistry*. By Meyer Bodansky, Ph.D. Second edition, rewritten and reset. New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd. 1930. (Pp. ix + 542; 46 figures. 20s. net.)

[7] *Simple Beginnings in the Training of Mentally Defective Children*. By Margaret Macdowall. Third (memorial) edition. London: Law and Local Government Publications, Ltd. 1930. (Pp. xvii + 133; illustrated.)

[8] *Annals of Medical History*. New Series, vol. iii, No. 1, January. Edited by Francis R. Packard, M.D. New York: P. B. Hoeber, Inc.; London: Baillière, Tindall and Cox. 1931. (Pp. 126; illustrated. Subscription in Great Britain, 45s. per volume of six numbers.)

[9] *Contemporary Thought of Germany*, vol. i. By W. Tudor Jones, M.A., D.Phil. London: Williams and Norgate, Ltd. 1930. (Pp. viii + 278. 5s. net.)

PREPARATIONS AND APPLIANCES

ERGODEX

Ergodex is a new preparation issued by British Drug Houses Ltd. It is made from ergot of rye and contains the whole alkaloidal content of this drug. It is standardized biologically to contain 0.03 per cent. of ergotoxine, and the dose is 10 to 30 minims. It is common knowledge that the official liquid extract of ergot is practically inert, and recent investigations have shown that it is difficult to make up a preparation whose activity will not deteriorate on keeping. The makers claim that the activity of ergodex is retained as long as the container is kept corked and protected from bright light.

COLLOIDAL IRON

Idozan is a colloidal iron solution (5 per cent. iron) manufactured by A/S Serpens, Copenhagen, and marketed by Messrs. Coates and Cooper. The special advantages claimed are that it has a pleasant taste, does not discolour the teeth, does not irritate the stomach, and does not produce constipation.

HEXYL-RESORCINOL SOLUTION

"Hexyl-Resorcinol Solution S.T.37" is a solution containing 0.1 per cent. of hexyl-resorcinol in 30 per cent. glycerin and 70 per cent. water, prepared by Messrs. Sharp and Dohme Ltd. The surface tension of this solution is 37 dynes per cm. (s.t. pure water = 77 d. per cm.). The makers claim that this is a stable non-toxic solution that can be applied undiluted to wounds and has an exceptionally powerful and rapid germicidal action. They recommend the solution for open wounds, burns, scalds, and for the hygienic care of the mouth and throat.

British Medical Journal

SATURDAY, MARCH 21st, 1931

DIET AND THE TEETH

A substantial part of Professor Edward Mellanby's interesting Hastings Popular Lecture, of which the full text appears in our *Supplement* this week, was devoted to the relation of food to dental caries and pyorrhoea alveolaris. As the medical members of his audience were well aware, Mrs. Mellanby has for many years conducted researches on the manner in which disease of the teeth in animals and man is influenced by their diet. The results of her work are being published in three parts by the Medical Research Council, which has supported this important investigation. Part I, which came out in 1929 and was noticed in these columns,[1] presented evidence that in dogs the structure of the hard dental tissues is subject to the play of dietetic factors. The essential outcome of these researches was that "if sufficient vitamin D is ingested, perfect teeth are formed; in its absence, imperfect teeth always result." The second part of her work has appeared lately,[2] and deals with a variety of results obtained by animal experiment. The pages of greatest interest to the medical profession are those which deal with the influence of diet on the periodontal tissues and in the development of pyorrhoea alveolaris. Mrs. Mellanby has shown that if young puppies are fed on diets deficient in vitamin A, the periodontal tissues develop abnormally, and the animals are prone to suffer from pyorrhoea alveolaris in later life. Her conclusion is: "A deficiency of vitamin A in the diet leads to hyperplasia of the subgingival epithelium and to its subsequent invasion by pathogenic organisms. A deficiency of vitamin D, on the other hand, results in defects of the alveolar bone." A significant fact in connexion with the experimental work on periodontal disease is the relative importance of an adequate diet during the early period of life, when the teeth and periodontal tissues are developing. "If a puppy's diet has been deficient in vitamins A and D during the early months of life, the dog is liable to develop periodontal disease at a later stage, whatever the subsequent diet. On the other hand, a perfect diet in the developmental period either prevents or greatly inhibits the production of periodontal disease at a later stage, even if the diet is subsequently deficient in vitamins A and D." In the case of hard tissues of the teeth, Mrs. Mellanby showed that the accepted "normal" structure of human teeth was in reality a very defective condition peculiarly liable to disease. Some of the author's remarks in this part of the report suggest that a like difficulty occurs in regard to the periodontal tissues, and that many authors have accepted imperfect conditions as the normal standard in man.

The association proved to exist between vitamin A deficiency and periodontal infection is of great interest and significance. In the first place, it suggests a probable cause for the occurrence of pyorrhoea alveolaris in man; it suggests also the means of prevention—namely, correct feeding in infancy. This is an advance of first-rate importance, because pyorrhoea alveolaris is a very common disorder, and there are few complaints which have been held responsible for so wide a variety of unpleasant sequels. For the details of the evidence in support of these conclusions we must refer our readers to the report itself, in which the essential points are illustrated by a series of admirably clear photomicrographs. It is, however, worthy of remark that some of the carefully controlled feeding experiments on individual animals were continued for no fewer than eight years. Another interesting feature of these experiments is that they reveal a new function of vitamin A. This was the first fat-soluble vitamin to be identified, but the discovery of the separate identity of the fat-soluble calcifying vitamin by Professor Edward Mellanby in 1917 diverted attention from its associate. Subsequent investigation rapidly revealed the remarkable association between vitamin D and ultra-violet light. The interest aroused by the discovery of a means of prevention of rickets led to vitamin A being neglected for many years. The part played by vitamin A as an essential factor in maintaining the resistance of the body to bacterial infection is now being established, and it seems possible that in the end vitamin A will prove to be just as important as vitamin D. A further point brought out clearly by Mrs. Mellanby's work is the great importance of infant feeding in the development of healthy teeth. The normal development of the hard structures of the teeth and jaws depends on an adequate supply of vitamin D, while the normal development of the periodontal tissues is equally dependent on an adequate supply of vitamin A. Moreover, any damage done to the teeth by lack of vitamin during the development stage appears to be more or less permanent, for it can be checked, but cannot be cured, by correct feeding in later life. The equal need for the two vitamins A and D is a matter of great practical moment, for it shows that as far as the teeth are concerned cod-liver oil cannot be replaced by irradiated ergosterol alone, and that both vitamins must be present in a preparation if it is to form an efficient substitute for cod-liver oil, at any rate as regards the development of healthy teeth.

The remainder of this volume gives an account of a variety of researches. Many attempts were made to bring about dental caries in animals, and particularly in dogs. It was found that only with extreme difficulty could caries be produced in dogs which had healthy teeth. For example, when holes were made in the teeth, and these were infected with *Streptococcus*

[1] *British Medical Journal*, February 15th, 1930, p. 292.
[2] Medical Research Council Special Report Series, No. 153. Diet and the Teeth. An Experimental Study. Part II. A, Diet and Dental Disease in Animals other than the Dog. B, Diet and Dental Structure in Mammals other than the Dog. By May Mellanby. London: H.M. Stationery Office. 1930. (2s. 6d. net.)

mutans, caries rarely followed. It is also of interest to note that the addition to the diet of large quantities of fermentable carbohydrates, such as glucose, had no demonstrable action in producing caries. Another subject investigated was the response of the teeth of animals to attrition. The power of the pulp to form secondary dentine is one of the main defensive mechanisms against the destruction of teeth by caries in the human being. Mrs. Mellanby finds that the production of secondary dentine in the teeth of puppies in response to attrition is greatly influenced by the diet. "A diet rich in vitamin D results in the formation of a large amount of well-calcified secondary dentine. A diet deficient in this substance and rich in cereals is associated with either the formation of defectively formed secondary dentine, usually small in amount, or no reaction. The amount and character of the secondary dentine formed is a measure of the resistance of the living tooth; none is formed in a dead tooth." She has investigated also the action of diet on the calcification of the teeth of rabbits and rats, with results confirming those obtained with dogs. The structure of the teeth of rabbits and rats is controlled by vitamin D in the same way as is that of the teeth of dogs. On the other hand, green vegetables, which are rich in vitamin A but contain little vitamin D, have small effect on the calcification of the teeth of rabbits, though they improve the general health. She concludes that: "In view of the differences in the types of teeth of the dog, rabbit, and rat, the results obtained suggest the probability that the tooth structure of all mammalia is controlled, as regards calcification, by the same dietetic and environmental factors as are described in Part I of this report." The third and concluding part of Mrs. Mellanby's report on this series of researches will be concerned with the structure of human teeth and the part played by diet in the resistance they offer to disease.

OUT-PATIENTS

The problem of the out-patient departments of hospitals is a very real one. As at present conducted these departments entail a gross waste of the money of the charitable public and of some other agencies which give them financial support, and a corresponding waste of the time and energy of the medical and other staffs who are engaged in them. This fact is, however, not recognized, or is ignored, by the lay governing bodies of the hospitals concerned, and is tolerated without active disapproval by some members of the medical staffs themselves, so that the abuse has reached very large dimensions. At intervals over a long period of time the British Medical Association has called attention to the matter, and the Council of the Association has now issued a report on the subject, which it asks the Divisions to consider carefully, and which will be submitted for approval in July next to the Representative Body. This report was published in the *Supplement* to our issue of February 21st last.

It would not be easy to set out the matter more clearly than is done in the document to which we call attention. The basic contention is "that the primary object of the out-patient department should be for consultation, and that such departments should undertake only such treatment as cannot in the best interests of the patient be obtained elsewhere." Secondary, but important, objects are to deal with accidents and sudden emergencies in the first instance, and to continue for a short time the necessary oversight of certain limited classes of discharged in-patients. No substantial qualification or addition to these statements is required. It may be admitted that until recently, and in times of severe economic depression, there has been a quite small class of the population—either the dependants of the poorest type of insured persons, or a similar type among those who are not technically "employed," and so do not come within the ambit of the National Insurance scheme—which could not afford to pay private medical fees either direct or through a voluntary contract system, and which therefore depended for medical advice and treatment either upon the Poor Law arrangements or upon charitable provision. It may have been legitimate for such persons to evade the Poor Law by seeking charitable aid, but strictly considered, their number has never been large; and to-day, with a reformed Poor Law administration on the one hand, and with a multiplication of public medical service schemes and of voluntary contractual arrangements on the other, they should have no real difficulty in obtaining ordinary medical attention outside hospitals. Complete provision would, of course, be made for all such persons under a national medical service scheme such as that lately propounded by the British Medical Association, and the last excuse for the provision by hospitals of ordinary medical attendance through their out-patient departments would disappear.

What, then, beyond the considerations we have discussed, are the arguments raised in defence of the waste of out-patient departments as now usually conducted? The Council's report mentions them under three heads. They are all unsubstantial. Clearly, as regards teaching hospitals, with a still abundant choice of cases, and more time for the teacher to devote his attention to each, more effective teaching could be given if there were fewer out-patients. Again, the allegation, not often explicitly stated, but sometimes implicit in the remarks of members of hospital boards, that general practitioners as a class are unable properly to treat such cases as would be excluded from hospitals under the restrictions suggested, is untrue. The average practitioner of to-day has the requisite skill and experience and knowledge, and such help as he needs would be given much more effectively than now in the reformed out-patient department. Further, the desire of hospital boards to make an emotional appeal to the charitable public by advertising the large numbers of out-patient attendances is surely mistaken. We cannot but think that very little propaganda would be needed to persuade the hesitating

benefactor that quality of service is more important than number of attendances.

The work of the almoner, where there is one, is being very carefully and skilfully done at many hospitals, but the check so applied cannot effectively prevent abuse so long as the present policy of hospital boards of management prevails. If this policy were changed, and the suggested restrictions imposed, something more would be required, and that is the full co-operation of the medical profession. This is of the first importance. The medical staff of the out-patient department will have to refrain from giving continued attendance to any patient who can be adequately seen to elsewhere, and to review these cases more frequently and more carefully with this object in mind. It will be necessary, also, for general practitioners to refrain from sending to hospital (except for purely consultative purposes) any case which can be dealt with otherwise, to resist every temptation to shift to others their own responsibility for cases which tend to be obstinate and tiresome, and always to send a brief medical report with such patients as they refer. There are many places where, in present circumstances, no attempt is made, either by hospital staff or general practitioner, to do these things. Under the suggested new conditions we believe that a successful effort could be made by the profession itself to insist upon their performance. It would be the duty of the profession to make such effort.

The Council's report still awaits the observations of the Scottish Committee of the Association with regard to its application to Scotland. There may be a few respects in which some modification will be required there. In the meanwhile, it is interesting to note the arrangements now made in Scotland whereby it is incumbent upon insurance practitioners to compile returns of all insured persons whom they refer to hospitals, together with the reasons for such reference. These arrangements, and the necessary forms, have been settled by agreement between the Association and the Scottish Department of Health, and seem likely to produce interesting and valuable results.

CHRONIC ULCERATIVE COLITIS

Chronic ulcerative colitis can always be relied on to arouse a lively discussion. It is common enough to come within the experience of most medical practitioners, and because of the long-continued course of the disease there is usually opportunity for observing at leisure the effects of medical or surgical treatment. The open-minded listener at the debate on this subject at the Royal Society of Medicine, on March 11th, probably came away with the generalization fixed in his mind that some cases of chronic ulcerative colitis are incurable and others curable. It would be interesting to know whether in the future this open-minded listener will incline to treat his cases of chronic ulcerative colitis by appendicostomy, antidysenteric serum, lavage, ionization, serum, vaccine, psychology, or starvation.

The discussion was opened by Dr. Arthur Hurst, who dealt chiefly with the medical aspects of the disease. Dr. Hurst considers that ulcerative colitis is allied to bacillary dysentery, and that many cases can be cured by antidysenteric serum. During the ten years or so which have elapsed since Dr. Hurst first advanced this theory there has been plenty of opportunity of observing how it worked out in practice, and it seemed to be the general impression of those who took part in last week's discussion that although a few cases of ulcerative colitis might be due to bacillary dysentery and curable by antidysenteric serum the great majority of cases must have a different pathology. Subsequent speakers pointed out that laboratory tests, both bacteriological and serological, were almost invariably negative for bacillary and amoebic dysentery. Dr. Bargen's theory that chronic ulcerative colitis is a streptococcal infection of the wall of the intestine was also criticized as an explanation of the disease, but there is no doubt that various types of faecal streptococci are to be found in the ulcers. It is, however, more reasonable and in accordance with the observed facts to regard these bacteria as secondary invaders, proliferating in tissue damaged by some antecedent agent. Vaccines and serums have often been regarded as useful in the treatment of chronic ulcerative colitis, but such treatment is most likely to be successful when the vaccine is made from the bacteria which have been isolated from scrapings from the ulcer. The agglutination test may be used for determining which of the colonies of bacteria should be used for the preparation of the vaccine.

The surgical side of the question was put forward by Mr. Lockhart-Mummery, who advocated appendicostomy as the most satisfactory treatment in the great majority of cases. This relegation of the disease to the surgeon was challenged by several subsequent speakers, who claimed equally good results from colonic lavage, ionization, and simple dietetic treatment. In fact, one contributor to the discussion claimed to have had a closer acquaintance with the disease than any who had spoken hitherto, because he had himself suffered from it as a student; and he seemed to imply that he attributed his recovery to the fact that he had not received any of the different forms of treatment advocated by the previous speakers. One point in practical procedure received a good deal of attention —namely, whether or not it is necessary to use the sigmoidoscope for the diagnosis and observation of the course of the disease. Dr. Letheby Tidy regards the sigmoidoscope as unnecessary, or even harmful, and he gave descriptions of cases diagnosed and treated without its use. Most of the other speakers, physicians as well as surgeons, dissented from this view, and the president of the Section, Mr. Lionel Norbury, gave several instances in which the diagnosis as between ulcerative colitis and carcinoma was only possible by sigmoidoscopic examination.

In spite of so many different expressions of opinion by those who took part in this discussion the listener

would probably have recognized agreement on several important points, such as the following. That chronic ulcerative colitis is a disease which requires a very thorough bacteriological and radiological investigation; that the disease runs a long course and often relapses; that whatever medical or surgical treatment is undertaken must be selected according to the requirements of the individual case, and continued with perseverance by both patient and doctor.

INQUIRY INTO THE INCIDENCE OF CANCER AND ITS HISTORY AFTER TREATMENT

This collective inquiry, which is of great importance, not only to the medical profession of this and other countries, but also to the peoples of the entire world, was launched by the British Medical Association in 1929. As originally planned, it requested medical practitioners to make returns, on the questionary supplied to them, of all cases of cancer of the breast, cervix, rectum, and tongue that came under their notice from October, 1929, to September, 1930; it was added, however, that the scope of the inquiry was not to be limited to new cases, but should include any patients still alive at the commencement of the period under review. The reports of 2,250 cases have now been received, and it is quite conceivable that the limitation of the time from October, 1929, to September, 1930, may have misled many practitioners. As 2,250 cases are altogether insufficient for the purposes of this inquiry, an urgent appeal is made by the Honorary Director of Collective Scientific Researches for a large number of further returns. These need not be limited to the period from October, 1929, to September, 1930, but should include all patients suffering from, or who have suffered from, cancer, and of whom the practitioner has recent knowledge. It is especially desired that all patients with cancer of the breast who, to the knowledge of the practitioner, have survived for a period of five years and upwards from the date of operation, should be returned. A very widespread response to this appeal is hoped for. All practising medical men and women have it in their power to contribute to an investigation whose outcome may have far-reaching consequences. Forms of the questionary can be obtained on application to the Medical Secretary, British Medical Association House, Tavistock Square, W.C.1.

THE SERVICE REPORTS

Our attention has been drawn to an error in the *Journal* of February 21st (p. 323), under the heading "Health of the Army, Report for the Year 1929," where there appeared the statement that "the average duration of treatment of each case of gonorrhoea is approximately three months." This should have read "approximately two months." The mistake was repeated in an annotation on the Service Reports in our issue of March 7th (p. 409) in the sentence: "It will be noted in the reviews we have published that the naval medical authorities record an average of nineteen days for the treatment of gonorrhoea, while in the Army the period of treatment for the same disease is approximately three months." We apologize for the error and take this opportunity of correcting it. It was not intended to magnify the period spent in hospital, nor to suggest that conditions are alike in the two Services; but rather to draw attention to the fact that, whereas in the Army the average number of days under treatment for all cases of gonorrhoea was stated to be 58.8 in 1929, in the Navy the average duration of treatment for all cases of gonococcal infection and sequelae was 19.6 days. Circumstances differ ashore and afloat, but the personnel of the fighting Services are a selected population, who are either fit or unfit for duty. Sickness causes days off duty and expense to the State in the Army as in the Navy. If, therefore, it is possible for one Service to reduce the time taken in returning men to duty, and so to effect economy, the methods by which this is achieved are worthy of discussion and investigation, in the hope that they may be applicable to all three Services. Our real plea was for a combined statistical report, so that attention could readily be focused on outstanding points, the discussion of which would lead to mutual benefit.

TYPHUS RESEARCH IN MALAYA

The annual report for 1929 of the Institute for Medical Research, Kuala Lumpur, in the Federated Malay States, contains a particularly interesting account of a concerted investigation on the local problem of tropical typhus. Dr. L. Anigstein of Warsaw was appointed as a research student in this connexion; he introduced some new methods of technique, and by collaboration with various departments of the Institute, considerable progress was made in clearing up some previously obscure questions. It is concluded that there are no obvious clinical features on which a differential diagnosis between the two serologically differing forms of tropical typhus can be based; agglutination tests are therefore always essential. Careful search was made for an initial lesion, but none was found in this disease. Some of the delirious or stuporous patients manifested the curiously slight degree of pyrexia that has been observed in European typhus; in two tropical cases, which ended fatally, the average temperature during the last four or five days remained under 100° F. An eye sign of diagnostic value was noted in 40 per cent. of the cases; there was a characteristically mild suffusion and the eyes were half closed, somewhat watery, and faintly glistening, giving a dull yet anxious appearance to the face. Injection of the vessels was usually not marked, much less so than in cases of leptospirosis. Complications were frequent, the commonest being acute bronchitis or broncho-pneumonia early in the second week. In two instances thrombosis of the veins of the leg occurred, and other complications mentioned in the report are bilateral parotitis, unilateral facial paralysis, and subdural haemorrhage. The virulence of this disease appears to be increasing, the percentage of fatal cases having risen from 4 in 1927 to 14.7 in 1929. Experimental work was conducted on guinea-pigs, rats, and rabbits, the human strains of the virus showing low virulence for guinea-pigs when inoculated intraperitoneally, though a marked decline of body weight, followed by death, occurred when the animals were inoculated intrascrotally. Complete immunity was afforded for at least two and a half years by one attack of the disease. Some evidence was obtained that rats might act as a reservoir for the virus of tropical typhus.

Special attention was paid to the possibility of infection through lice, but the evidence was inconclusive. This issue of the report of the Institute also contains accounts of malaria, mosquito, and leprosy investigations.

INTERNATIONAL FELLOWSHIPS FOR RESEARCH

The International Federation of University Women has made a definite contribution to the advancement of knowledge and the promotion of friendly international relations by bringing together in a convenient and inexpensive form particulars of a surprisingly large number of travelling fellowships and scholarships available to graduate students and research workers of most nationalities and both sexes.[1] The individual worker may be aware of the funds available for the endowment of research in his special subject by graduates of his own university. He is less likely to be familiar with the resources of the numerous funds not so restricted, and such knowledge may well be of vital importance to him at a critical point in his career. The list of international fellowships contains concise but sufficient information, clearly tabulated in two sections. The first of these indicates the travelling fellowships available to workers from a particular country; the second, fellowships not restricted as to the country of the holder. The United States of America do not appear in Section I, because information as to these is available in a list published by the Institute of International Education, to which graduates in the United States would naturally refer. The list is preceded by a review of the existing endowment of research and a cogent plea for its extension, particularly in the direction of an increase of international fellowships. The medical reader will appreciate the illustration drawn from the record of the first fifty holders of the Beit Fellowships. Apart from the general cultural value of a period of travel or residence abroad, the progress of specialization in particular countries and particular institutions (a marked feature of modern development) is making facilities for foreign travel increasingly important to the pursuit of given lines of research. British university women have played a leading part in giving the establishment of international fellowships a prominent place in the programme of the International Federation, and the Federation has done good work both in promoting an endowment fund and in calling public attention to the claims of this form of benefaction.

THE PROBLEM OF RACE

The latest volume in the well-known "To-day and To-morrow" Series is an essay by Sir Arthur Keith entitled, *Ethnos, or the Problem of Race*.[2] The author claims to have considered the problem from a new point of view, and this claim may be admitted. In very short compass he brings a knowledge gained from the study of prehistoric man to bear upon the racial problems of to-day, looks at the whole matter from a purely evolutionary standpoint, and in the end gives a short answer to the questions which he asks: "Would it be best for each race to protect and strengthen the heritage nature has bestowed on it? or Would it be best to obliterate racial boundaries by universal intermarriage?" A large proportion of the essay has reference to the work of Thomas Henry Huxley and his articles and lectures on "Man's Place in Nature." Incidentally, Sir Arthur Keith remarks: "From long experience I have learned that it is dangerous to disagree with any of Huxley's verdicts. He was nearly always right; very few of his judgements have been reversed." But evidence as to the discrimination of human races has accumulated since Huxley's day. Sir Arthur recognizes that human races are differentiated, not merely by physical, but also by psychical characteristics; and that the evolutionary process, essentially aided by segregation owing to physical geographical features, has gone a long way towards establishing a considerable number of definite races of mankind. He holds that this natural evolutionary process has been interrupted by the relatively recent conceptions of "nationality" and the desire for "self-determination," that these new conditions were initiated when man entered on his agricultural or economic stage, and that they constitute a new and substituted attempt to evolve real fresh races. "When races meet and mingle in strange lands, or when they are thrown together by economic necessity, Nature's efforts at race production are thwarted thereby, but she at once sets to work to repair the mischief and to build up by fusion a new race. Nation-building is the first step in race-building." This is a most interesting theory, which no one in this century will be able to verify, but our generation is very vitally concerned with finding the best way to solve the difficulties of the present stage of civilization and to preserve the peace of the world. As Sir Arthur Keith concludes, "Evolution of man is a theory which must be constantly applied in the affairs of every-day life."

THE TEACHING OF HELMINTHOLOGY

Some years ago, as our readers may remember, Professor R. T. Leiper protested against the inadequate and often erroneous treatment of the parasitic helminths in medical textbooks. A similar protest has recently been made by Dr. N. A. Cobb, one of the leading exponents of nematodes (or "nemas," as he prefers to call them) in the United States.[1] Dr. Cobb, however, is concerned with the misstatements and omissions in zoological textbooks, and with free-living as well as parasitic forms. He has examined sixty recent editions of well-known textbooks, and finds that not only is the treatment of this phylum antiquated and inadequate (about three times as much space being devoted to the echinoderms as to the nematodes), but is full of errors, both of omission and commission, sometimes to the extent of ten on a page. In the few textbooks with no misstatements of fact, the group is almost wholly ignored. These errors he classifies and analyses. Among the more striking are: failure to state that nematodes moult, and to note the absence of cilia and of striated muscular tissue, acceptance of ascaris as a typical nematode,

[1] *A Guide and other Information Fellowships for Research*. Obtainable of the Secretary, International Federation of University Women, Crosby Hall, Chelsea, London, S.W.3. (1s. 3d. post free, or 9d. to members of the Federation.)

[2] *Ethnos, or the Problem of Race Considered from a New Point of View*. By Sir Arthur Keith, F.R.S. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1931. (2s. 6d. net.)

[1] *Science*, January 9th, 1931, p. 22.

inclusion of members of other phyla in this group, and omission of all mention of free-living forms, and of forms parasitic on plants. Dr. Cobb is an enthusiast, and perhaps attaches excessive importance to the phylum in a general zoological course. But much of his complaint has substance. Our students are brought up with the idea that ascaris is a typical nematode—just as they are taught that *Fasciola hepatica* is a typical trematode. These beliefs are far from being correct. Both creatures are among the most atypical of the groups they are supposed to represent, and their study in elementary classes gives rise to many of the prevailing misconceptions in parasitology. The only reasons for their retention as examples are tradition and the ease with which specimens may be procured. It is doubtful if either of these reasons is valid. We no longer teach that spontaneous generation of parasites occurs; and with very little effort other common nematodes and flukes could be obtained. Those who frame a course in general zoology for medical students—the class with which we are concerned—are influenced by two distinct sets of circumstances. First, they must provide a general survey of the animal kingdom which will prepare the student for his more detailed study of the highest mammal. In the second place, those forms must be studied which are of direct interest to the medical man as causes of disease. There is very much to be said for the inclusion of a course in animal parasites at a stage when the student is able to appreciate their real significance—that is, when he studies the plant parasites or bacteria and their reactions. At the present day, unfortunately, this part of his training is included with his general zoology course, or else it is ignored. Very few medical men have even an approximate idea of the losses caused to the world at large by the nematodes. About a third of the inhabitants of the world harbour one or more species. An even larger number of domesticated animals do likewise—the loss in the United States alone from this cause amounts to over 100 million dollars yearly. Many plants are infected with nematodes; and when one considers that at least half the known species are free-living, the importance of the group becomes evident. From both points of view, therefore, it is necessary that the medical student should possess an accurate, if elementary, knowledge of the phylum, and Dr. Cobb has good reason for his complaint that our teaching is, in general, not only inadequate, but inaccurate.

Among the candidates recommended by the Council of the Royal Society for election as Fellows are: Alfred Joseph Clark, M.D., F.R.C.P., Professor of Pharmacology, University of Edinburgh; Charles Stanley Gibson, M.Sc., Professor of Chemistry, University of London (Guy's Hospital); Charles Robert Harington, Ph.D., Reader in Pathological Chemistry, University of London (University College Hospital Medical School); Sir Alexander Cruikshank Houston, M.B., C.M., Director of Water Examinations to the Metropolitan Water Board; Sydney Price James, M.D., Lieutenant-Colonel I.M.S., Adviser on Tropical Diseases to the Ministry of Health; and Wilfred Trotter, M.S., F.R.C.S., Surgeon to University College Hospital.

THE HASTINGS LECTURE

PROFESSOR MELLANBY ON "DIET AND HEALTH"

The fourth popular lecture of the series established by the British Medical Association to commemorate the life and work of Sir Charles Hastings, its founder, was delivered in the Great Hall of the Association's House, Tavistock Square, London, on the evening of March 13th, by Professor EDWARD MELLANBY, M.D., F.R.S. There was a large audience, and the hall was almost filled. The full text of the lecture, which was illustrated throughout by lantern slides, appears in the *Supplement* to the present issue.

LORD MOYNIHAN'S INTRODUCTORY SPEECH

The chair was taken by LORD MOYNIHAN, President of the Royal College of Surgeons of England, who, in introducing the lecturer, spoke as follows:

"I regard it not only as a very great pleasure but as a very high privilege to be asked to take the chair to-night for my friend Professor Mellanby, and if I could arrogate for a moment to myself a wider authority than I possess in my person, and speak on behalf of the whole medical profession, I should like to say that we owe an immense debt of gratitude to Professor Mellanby for the work that he has done, not only in the laboratories, but in the wards. I understand that the majority of the audience to-night are lay people, and they may be interested to hear that in listening to Professor Mellanby they have before them a man who has conquered the age-long problem of rickets. Rickets, as you know, is a disease which in the large cities of this and other countries has been endemic for generations, and you may still see in the maimed and twisted and warped limbs and bodies of men going about the streets those who in their infancy and childhood suffered from this disease.

"Some time ago, to my great happiness, Professor Mellanby became interested in the problem of cancer, and his researches into the metabolism of the cancer cell are certainly able to rank with any other researches which have been carried out in the world, and they will, I hope, in the end be fruitful of good results so far as clinical medicine is concerned. But I should like also to draw attention to the fact that Professor Mellanby's position realizes an ideal that many of us have in connexion with the future progress of medicine. He is the one supremely competent laboratory worker of this country who is also in charge of beds in a great teaching hospital, and in his own person he exemplifies better than anybody in this country the joint work of the research laboratory and the clinical work which is carried on in the hospital wards. I say that he realizes the ideal because everybody who is familiar with the problem and has thought much about it must understand this, that the future progress of medicine is inseparably bound up with the work to be conducted in the laboratories. If I may speak of my own branch of the profession, that of surgery, I would say that surgery as a craft—I have repeated this many times, and it has been as frequently denied, but it is nevertheless indisputably true—has almost reached its limits. It is almost impossible in the future to expect that any organ of the body which has not been attacked will ever be attacked, and it is almost impossible to expect that a greater degree of success will follow upon surgical operations than is now realized in the hands of the great masters throughout the world. So far as surgery is concerned, I think we

may say that Lister's work is now almost fully accomplished, except in this regard, that in giving us safe surgery Lister has given us the strong weapon of research, not only upon men, but upon animals. I feel, therefore, that Lister's work in respect of surgery has been realized almost to the full upon man, and is now the safe weapon for research into the diseases of man and the physiological changes which are brought about deliberately in animals. It is with a special sense of gratification that I want to introduce to you to-night the man who throughout the world in my judgement best realizes what is to be the idea of medicine in the future, one who is a great laboratory worker and a highly competent physician. Professor Mellanby is called a professor of pharmacology, but he ought to be called—and is indeed—a great pioneer in experimental medicine."

QUESTIONS FROM THE AUDIENCE

At the close of the lecture a number of questions were handed up to Professor Mellanby, which he answered. The first question related to the cost of carotene. The lecturer said that carotene was much costlier to produce than irradiated ergosterol. The market price of carotene was some £3 a gram, but as only two milligrams were wanted a day it did not work out very expensively. He added that as much vitamin A as was necessary could be obtained out of ordinary foods, but not, as a rule, sufficient vitamin D. To obtain this vitamin it was usually necessary to go out of one's way—for example, to take cod-liver oil. There was not sufficient vitamin D in ordinary natural food to produce and replace perfect teeth and bones. Vitamin A was abundant in all kinds of liver, and carotene was obtained in carrots and also in green vegetables. There was no reason why anyone should be short of vitamin A when eating natural foods.

Asked whether meat, which he had not mentioned in his lecture, was an important article of diet, the lecturer replied that he did not know. It was important to some people, and not to others. Meat had certain good properties. It had protein of high biological value, it was pleasant to eat, and it had a high specific dynamic value. Fat meat, if it could be eaten, was especially valuable as supplying fat-soluble vitamin. But one could do quite well without meat so long as other articles of food such as milk were taken.

Another question was whether cream contained the same vitamins as cod-liver oil. Professor Mellanby replied that it did, but to a very much less extent. Cod-liver oil was infinitely better and cheaper than cream, but the latter contained some vitamin A, and not very much vitamin D.

Asked as to the effect of the boiling of milk and the cooking of food from the point of view of their natural properties, Professor Mellanby said that all these questions required a lecture in themselves. Put in a general way, the vitamins of milk were not affected by boiling, with the exception of vitamin C, and there was only a small amount of vitamin C in milk in any case. That little, however, would be destroyed to some extent. It was not really a very important point so far as vitamins were concerned whether milk was boiled or not. As to ordinary cooking, vitamins A, B, and D were resistant to the cooking process, though not absolutely so, but vitamin C disappeared very quickly.

Asked whether dental caries in the adult could be rectified by suitable diet, he replied that it probably could, but it was difficult to prove, because adults as a rule were not willing to subject themselves to the kind of dieting necessary. A further question sent up was as to the chemical substances to which vitamins A and D were related. The lecturer replied that vitamin D was obviously related to ergosterol, but what chemical change was caused by the irradiation of ergosterol was not known. Nor was it known what was the chemical relation of vitamin A, but probably it was closely related to carotene. Carotene was a substance containing only carbon and hydrogen; it was an instance of a hydrocarbon, although, of course, a complicated substance. Asked how a dietetic remedy could be applied to the treatment of calcium deficiency, and whether this could have any effect upon chilblains, the lecturer replied that the obvious remedy for calcium deficiency was to give cod-liver oil and milk. The question of the relation of chilblains to calcium deficiency, however, was very problematical. He understood from his clinical friends that the giving of calcium to people suffering from chilblains did not do much good. He was asked whether vitaminized margarine was as good as butter, and replied that some of the margarines which he had tried had been good from the point of view of vitamins; they were certainly much cheaper than butter, though not as palatable. From the point of view of vitamins, most of these English margarines were very accurately made up, and might be said in that respect to be as good as butter.

The final question from the audience was as to whether in the dietary of children dripping was superior to vegetable oils, to which Professor Mellanby replied, "Certainly."

VOTES OF THANKS

Dr. H. B. BRACKENBURY (Chairman of Council), in moving a vote of thanks to the Hastings lecturer, said: "Both the chairman and Professor Mellanby have drawn a very important distinction between observation and experiment, and I think one of the values of a lecture such as this to the public is that that distinction can be made quite clear. Correct observation, even uncontrolled by experiment, is, of course, very valuable, but it is liable to hosts of fallacies. When it is controlled by experiment in a truly scientific way fallacies are detected and eliminated. One of the great values of a lecture of this kind is that it has been given, not only by a practical physician, as Lord Moynihan has said, but by one who is accustomed to eliminate fallacies by experiment. The difference between following a lecture of this kind and reading public announcements which are made either by way of advertisements or newspaper articles by certain persons, sometimes eminent or notorious, is that to-night we have been listening to facts which have been established and observations which have been controlled. Alongside the investigations about which Professor Mellanby has been telling us, there have been some investigations among London school children and others in an entirely different field—namely, the field of discovering the extent of their logical faculties, and, indeed, the logical ability of the average Englishman. It is not generally known, perhaps, that by the age of 7 the ordinary logical faculties of children are very fully developed. It is only their lack of experience which makes them appear guilty of mistakes, and we all of us have experienced the ruthless logic of the small child. It appears, however, that it is not until the child gets to 12 or 14 years of age that in the normal development of the mind it becomes possible for him to detect absurdities and fallacies of reasoning, and we are told that most people never get beyond the stage of general intelligence of a child of, say, 13 or 14 years of age, although, of course, their mental experience is widening. One of the test questions which have been put to children in order to discover their faculty of detecting a fallacy or an absurdity in logic is the following: 'Captain Cook went on three voyages. In the course of one of them he died. Which was it?' It is found that most children of 11 or 12 years of age are unable to answer that question—that is to say,

they are perfectly capable of using a logical argument, but they have very little faculty of detecting an absurdity or a fallacy in an argument. I cannot help thinking that that is the condition of the great majority of the English people, because the statements which are made in certain advertisements, and in certain articles on this subject of diet and health, or diet and disease, are so full of obvious fallacies to those who know, and yet they appear to be entirely accepted by those who follow the advice given in the advertisement or article in question. My point is that we ought to be very grateful for the work of men like Professor Mellanby, and also for his service in coming and expounding these subjects to those of us who know less about them."

Dr. C. O. HAWTHORNE (Chairman of the Representative Body), in seconding the vote of thanks, said: "It will be agreed by all of us that we have had a very full and interesting programme this evening—even a more full and interesting programme than we might naturally have expected when we entered this hall. Lord Moynihan, in introducing the subject, affirmed a proposition which necessarily must have been of interest to all of us. With his great authority he gave us a brief glance at the surgery of to-morrow, and those of us who have escaped so far would hear with much relief that the surgeon in the future is not likely to be more enterprising than he has been in the past. But his second thesis, to which the lecture has been an illustration, was that progress in the knowledge of disease and in the cure and prevention of disease, depends upon a combination of the worker in the laboratory, using chemical and biological tests, with the student of the patient at the bedside—in other words, the clinical physician or practical doctor. As we listened to the story which was unfolded to us so lucidly by Professor Mellanby, I fancy it must have occurred to some of us to wonder how it is that we are here at all to-day. For man has lived upon the surface of this globe for perhaps many millions of years, and not until recently has he had the benefit of expositions from physiologists, and pharmacologists, and experimental laboratory workers. Yet he has managed somehow or other to find out the fruits of the earth and to flourish with a fair amount of satisfaction. I presume that my colleagues are arrayed upon this platform for the purpose of illustrating the effective degree of health which can be obtained under normal conditions at the present day, and I should make a similar application to the members of the audience. Through these long centuries, with so many opportunities to go astray, to eat and to drink the wrong things, man has managed to establish himself, to be fruitful and to replenish the earth, and he has not only done that, but he has done it in all parts of the earth. As Professor Mellanby pointed out to us, somehow or other, without scientific direction, by the accumulation of experience through generations, and by the exercise of that special virtue which we call common sense, man has learned fairly well to nourish himself, and to get suitable food whether on 'Greenland's icy mountains' or 'India's coral strand.' Therefore, while we listen to these new developments with great interest, we shall not come to the conclusion that we have all been absolutely ignorant hitherto, and that it is only by a sort of blundering good fortune that we have managed to exist at all. Nevertheless—and you will notice the difference—roughly speaking, we have taken it for granted that caries of the teeth, rickets, and tubercular and other infections are things more or less inevitable to the human race, that we must take our chance of them, so to speak. But now comes this new knowledge, learned by experiment and by laboratory observation, to fill in these gaps, as we have had it presented to us to-night. The moral that seems to follow from the whole of the story is not only, as Lord Moynihan has told us, that progress in the direction of the cure and prevention of disease depends upon the combination of the clinical and laboratory worker, but the story surely impresses upon us this general conclusion, that the object of medicine in guiding, not only patients, but the public, is the achievement of health, not merely the cure of disease."

Lord MOYNIHAN, in putting the vote of thanks, asked the audience to include Mrs. Mellanby with Professor Mellanby.

The vote of thanks was enthusiastically accorded, as was a further vote of thanks to the chairman, proposed by Mr. BISHOP HARMAN, and seconded by Mr. KIRKLAND, chairman of the Public Health Committee of Wandsworth.

New Zealand

[FROM OUR CORRESPONDENT]

Effects of the Earthquake

New Zealand is an elevated portion of a submarine plateau which extends for about two hundred miles to the east of North Island, and whose precipitous edge is probably the scarp of a great fracture belt. The most active seismic region is at or near the southern end of this scarp. Many great faults and fault zones have been traced for long distances in New Zealand, but only a few have been active since Europeans have occupied the country.

Accumulated earth stresses along the fracture zone in Hawkes Bay or under the sea to the east culminated without warning in an upheaval in the Hawkes Bay Province greater than any recorded in the history of New Zealand. Two important towns, Napier on the coast and Hastings a few miles inland, were struck as by a thunderbolt in the middle of the forenoon on a bright summer day, on January 3rd. Napier, with its mild climate, is a pretty and prosperous seaside resort, of about 20,000 inhabitants; Hastings is smaller, but is the centre of a wide farming district.

The first shake was so severe that standing was difficult or impossible. In the space of a few minutes almost all the brick buildings were dashed to the ground, and the business streets were turned into heaps of rubble. Many motor cars standing in the streets were buried, wooden dwellings lost their chimneys, and the furniture was thrown about and shattered. The water-pipes and sewers were broken, the land on the sea front was raised several feet, and a great mass of earth from the bluff hill behind the town fell towards the sea, sending up great clouds of dust. The ships in the roadstead were forced to turn seaward into deeper water. In this sudden and dreadful situation, many people were dazed, some calling for help, some moaning in pain, some making for safer ground, and all, when they could collect their thoughts, agitated for the safety of their relations and friends. A succession of slighter convulsions shook the ground, and almost immediately great fires added to the terror of the scene. H.M.S. *Veronica*, a sloop which was lying in the basin of the inner harbour, sent out by wireless a brief account of the devastation and an appeal for doctors and nurses. At Wellington, barely two hundred miles away, there had been a slight shock but no damage, and there the sharp call of distress from the *Veronica* fell on astonished ears.

Sailors from the *Veronica* first reached the scene and formed rescue parties. As the railway and bridges were damaged, aeroplanes, ships, and motor cars were dispatched from Wellington, Auckland, and smaller towns, doctors and nurses leaving for Napier and Hastings within

a few hours of receiving the call. The public hospital in Napier and the private nursing homes were found in ruins. The Nurses' Home at the public hospital collapsed like a pack of cards and killed nearly all the night nurses asleep in the building; yet the nurses in the wards, with the masonry crashing about their ears, carried their patients to the open air. Fortunately many of the schools were empty on account of the summer holidays, but at the Technical School many casualties occurred. So far, the death roll at Hastings is 150, and at Napier over 200, but many bodies were buried under the debris, and it will be a long time before the total death roll is known. Fortunately Hastings escaped fire and retained a sufficient water supply.

The St. John Ambulance Association, the Red Cross Society, the Automobile Association, and other philanthropic bodies all rendered every assistance, and in Napier, within twenty-four hours, order was being established out of chaos. An emergency hospital, consisting of a double row of tents extending for about 100 yards, was established on the racecourse. The rescuers, the doctors, and the nurses worked for long hours under the most distressing conditions. At one place groaning was heard from a wrecked building, and when an entrance had been forced through the roof it was discovered that a woman was pinned in the wreckage by her leg. At considerable risk one of the doctors then went down and amputated the limb at the knee-joint so that she could be lifted out. A young doctor at Hastings was told that his own little daughter was buried alive in the ruins, but he continued his surgical work at his dressing station. Napier lay like a town that had been heavily bombarded in the great war. It is impossible to describe the destruction or to do justice to the heroism displayed. As General Napier wrote of the assault on Badajos: "Many and signal were the other examples of unbounded devotion, some known, some that will never be known; for in such a tumult much passed unobserved, and often the observers fell themselves ere they could bear testimony to what they saw."

Now, four days after the calamity, the railroad is open and the roads and bridges are being repaired. The severe cases have been evacuated and at Napier a camp hospital is established to deal with the injured, and with a possible epidemic. This hospital is lit with electric light, has *x*-ray equipment, and all research facilities. The tents and beds are military stores from Trentham Camp, showing that military and naval organization is useful in the dangers of peace as well as in those of war. The inhabitants of the devastated area are nearly all ruined, and a great sum of money will be necessary to relieve the distress and to rebuild homes and shops.

With regard to the aspect of this calamity which concerns our profession, our work is not unworthy of our great traditions. The Minister of Health said: "I should like to express (through the press) most grateful thanks to the medical and nursing staffs. From Auckland to Wellington the response has been magnificent, and has enabled eminent help to be given to all in need of it. The work of the allied services has been no less magnificent."

The annual conference of the New Zealand Branch of the British Medical Association was to have been held at Gisborne at the end of January, but the conference has been abandoned because access to Gisborne from the south for several weeks will be interrupted through the earthquake zone. The bridge over the wide Wairon River between Napier and Gisborne has been almost completely destroyed, and there are many slips on the roads.

England and Wales

Maternal Mortality

In a Chadwick Public Lecture on maternal mortality, delivered in the B.M.A. House on March 11th, Dame Louise McIlroy emphasized the importance of looking upon this problem from a very wide point of view. Discussion about the skill and attention of doctors and nurses in attendance on particular cases was a matter for the medical profession and training centres. The public health authorities and the public must look upon the subject from a national aspect. It involves the organization of more efficient training for doctors and midwives and the establishment of a large number of maternity beds throughout the country. The local health authorities should organize their present hospitals to accommodate a larger number of maternity beds, according to the needs of their districts, and they must have the services of trained specialists. Since many of these institutions were quite unsuitable for adaptation into modern maternity departments, it would be necessary to build new and up-to-date maternity hospitals in the areas where they were most required. The interim report of the Departmental Committee on Maternal Mortality said that hitherto the training of medical students had been most inadequate, and it outlined a scheme whereby this training could be made so efficient that the future general practitioner would have a wide knowledge of obstetrical practice. In order to carry out these recommendations, more maternity beds must be provided. Outside the teaching centres, the main bulk of the midwifery of the country must be in the hands of the family doctor. Dame Louise McIlroy stressed the advantages of ante-natal examinations in the prevention of maternal death, and also the advantage of post-natal care in order to avoid chronic invalidism among women. The movement to give women the benefit of sedatives and anaesthetics was also a controlling factor in the reduction of maternal mortality, because shock was prevented to a great extent and the necessity for operation diminished. Operative intervention always raised the incidence of puerperal sepsis, which accounted for over one-third of the maternal deaths. Whatever scheme was put forward for an efficient national maternity service its chief aim must be that the woman in childbirth must receive the whole attention of the doctor in charge.

Central London Ophthalmic Hospital: Opening of New Wing

A new wing at the Central London Ophthalmic Hospital was opened by the Princess Marie Louise on March 5th. The wing, which consists of four stories, provides, at fees of from six to eight guineas a week, additional beds for private patients, and rooms for the nursing staff. The chairman of the board of governors (Mr. C. M. Wilkins), in describing the building scheme, said that the work had cost £24,000, of which the public had generously provided £20,000 during the past two years. Mr. M. S. Mayou, senior surgeon to the hospital, gave some account of the history of the institution. The hospital was founded in 1843 in the street off Russell Square by Mr. Haynes Walton, surgeon at St. Bartholomew's, and Mr. Alfred Smee, surgeon to the Bank of England and inventor of Smee's telescope. A few years later it was removed to a house in Calthorpe Street, Gray's Inn Road, and a second house was added later. The main building in Judd Street was begun in 1911, and to this centre thousands of patients had come every year from all parts of Great Britain. Mr. Mayou went

on to speak of the value of the hospital in the training of ophthalmologists. Nearly 70 per cent. of the leading ophthalmologists of London had worked in the hospital at some time, and during the past twenty years a large amount of original work on the pathology of the eye had been done there. The new wing would meet the demand which had arisen for the accommodation of patients able to contribute towards their treatment and maintenance, though not able to afford expensive nursing home and consulting fees. A scheme had also been instituted whereby patients whose incomes came within a certain limit could obtain private consultations for a moderate fee. Mr. Mayou believed that such clinics would prove an important factor in the future history of voluntary hospitals, which would have to look for support not only from donations but also from patients' payments. One feature of the new wing, of which Mr. Guy Aylwin is the architect, is the provision of sun balconies attached to a number of the private rooms.

Central Midwives Board

At the meeting of the Central Midwives Board for England and Wales held on March 5th, the following appointments and re-elections to the Board were announced:—The Ministry of Health: Miss Edith Greaves, Miss Ada Davies, Dr. William Allen Daley, and Mr. A. B. Maclachlan. Incorporated Midwives Institute: Dr. John Shields Fairbairn, Miss Anna Albertina Isabella Pollard, and Miss Edith May Doubleday. Royal College of Surgeons of England: Mr. Victor Bonney. Society of Medical Officers of Health: Dr. J. J. Buchan, M.O.H. for Bradford. County Councillors Association: Miss K. J. Stephenson. Association of Municipal Corporations: Councillor W. J. Loxley. It was announced that Dr. J. J. Jervis, Dr. R. A. Lyster, and Dr. L. H. West were retiring from the Board, and the Board placed on record its regret at their retirement and its appreciation of the valuable services they had rendered during their membership.

Scotland

Anderson College, Glasgow

The annual prize-giving of the Anderson College of Medicine was held in Glasgow on March 13th, under the presidency of Dr. J. Bruce Murray, who said that the usefulness of the institution might be considerably extended to the benefit of Glasgow as a medical centre if more adequate resources were at the disposal of the governors. It was generally realized that vigorous and efficient extramural schools were most helpful and advantageous not only to students of medicine but to the universities themselves. As in other walks of life, competition was undoubtedly helpful in raising the standard of teaching to the highest level. The Anderson College of Medicine had more than justified its position among the permanent institutions of the city, and its classes were recognized for graduation by most of the Scottish and English universities. Many outstanding professors in Glasgow University had first acquired, and proved, their qualifications as teachers in the college. An endowment fund of £10,000 would assist this old and honourable institution to extend its activities, and would relieve the teachers of the heavy contributions at present required to meet the running expenses. The concluding address to the students for the winter session was delivered by Professor J. Graham Kerr on symbiosis; he said that this term was applied to the intimate association of different organisms for mutual benefit. One of the most wonderful symbiotic associations recently discovered was that in which bacteria and fungi set free energy in the form of light instead of heat, as was usual in most organisms. Certain bacteria were used to produce light. The astonishing discovery had been made that the phosphorescent light of various marine animals was really produced by captive bacteria. Two marine fishes, photoblepharon and anomalops, possessed a conspicuous light-producing organ underneath each eye, and microscopical investigation had revealed that this living lamp was composed of numerous tubular arrangements, each containing a culture of light-producing bacteria. Professor Graham Kerr presented the principal prizes to the successful students.

Royal Victoria Tuberculosis Trust

The annual meeting of the Royal Victoria Hospital Tuberculosis Trust was held in Edinburgh on March 11th, under the chairmanship of Sir Robert Philip, who said that for every three deaths from all forms of tuberculosis that occurred in 1887, there was only one death in Scotland at the present day. The work of the Trust was essentially national and Scottish, and patients came to the institution for treatment from all counties in Scotland. Tuberculosis was a very old disease, but the discovery of its cause had been made only fifty years ago by Koch. Since that time much had been learned in regard to it; wherever mankind was crowded together in civilized circles it tended to prevail. More recently they had come to know that for the most part infection was contracted in childhood. The child was the tuberculosis seedling, and childhood was the stage at which the infection should be caught and dealt with. The committee of this Trust had therefore decided to erect a special pavilion for young children at Southfield Sanatorium, and desired to enlist the interest of local authorities by demonstrating that if the infection were taken at this initial stage, the after-tragedy of tuberculosis might be prevented in many cases. With regard to the research work of the Trust, the tubercle-free herd of cattle which it maintained served a double purpose in showing to the farmer that such a farm could be run on economic lines, and in providing a lesson to doctors and students. The aim of the whole country should be to obtain a tubercle-free supply of milk, and the Trust believed that this could be effected with time, patience, and financial support. It did not think that pasteurization should be accepted as the solution of the milk supply. In the coming year the Trust would be called upon to discharge from its small capital between £6,000 and £7,000 towards the extension at Southfield, and it pleaded earnestly for continued support. Dr. Parlane Kinloch, Chief Medical Officer of the Department of Health for Scotland, said that the work done by this Trust had laid down the policy which was followed in Scotland, and the whole world watched the progress of this institution. The annual report draws attention to the fact that at least 42,000 persons are at present affected by tuberculosis in Scotland. It also recalls that while thirty years ago there were only two or three sanatoriums in Great Britain and only one tuberculosis dispensary, there now exist more than 300 sanatoriums and hospitals, with some 500 tuberculosis dispensaries. The report insists that tuberculosis is not diminishing at an equal rate everywhere, for while the mortality from this cause in London, Edinburgh, and New York has fallen remarkably, the figures in other capital cities, such as Paris, Warsaw, and Vienna, continue to be very high. The success attained has been proportionate to the amount of effort. The report holds

that it is of immense importance to realize the primary fact that infection is contracted in childhood, and that tuberculosis infection, once established, continues to exercise an influence on the life of the individual. The hope is expressed that the extension of Southfield Sanatorium, which will provide accommodation for some thirty children, will be ready during the course of the coming summer.

Scottish Nursing Schemes

The annual report of the Scottish Council of the Queen's Institute of District Nursing states that the governing policy of the Scottish Council has been to provide a complete home nursing service for the whole of Scotland. During the past year seventeen new nursing areas have been added to those already working in affiliation with the institute. All these districts have been supplied with fully trained Queen's nurses. As a result of the coming into operation of the Local Government (Scotland) Act in May, 1930, negotiations have been proceeding in numerous counties between the local authorities and the county nursing associations for further developments along the same lines. The Nursing Council congratulates the Nursing Association of the county of Moray on having been the first county area in Scotland to establish a co-ordinated public health nursing service covering the whole county. Arrangements for such a service have been almost completed by the Perthshire Nursing Federation. The council expresses the opinion that the best results are to be achieved where there is, as in these cases, a county superintendent in charge of all the nursing interests in the county. The report states that the payment of an adequate pension for Scottish Queen's nurses on retirement is constantly before the council, which aims at providing an annuity of £52. At present the pension payable is £30 per annum between the ages of 55 and 65, after which the total pension available, including the national pension, is £46.

Ireland

Parsimony in Health Services

At the annual meeting of the Enniskillen District Nursing Society, Dr. L. Kidd, president, said that nowhere in H.M. Dominions was the administration of public health at such a low level as it was in Northern Ireland, excluding Belfast. Public money was freely expended by various Ministries, while many of the public health services, made up of a number of independent units, without any co-ordination or common control, were left to carry on as best they could, in association with voluntary and charitable agencies.

Voluntary Hospitals and the Sick Poor

At the annual meeting of St. Patrick's Nurses' Home, Dublin, Dr T. Gillman Moorhead, President of the Royal College of Physicians of Ireland, said that the suggestion that sick people were sometimes denied admission to hospitals because of their inability to pay was entirely erroneous so far as he was aware. If the poor really were being refused admission, he thought that this fact should be brought to light. He was sure that the public would not tolerate such a state of affairs. Dr. Moorhead criticized the Government for its delay in introducing the Clean Milk Bill, and urged that pressure should be brought to bear for the speedy introduction of this measure. The annual report of the institution stated that, owing to the proposed alterations in the distribution of the funds of the Queen's Institute of District Nursing in Ireland, the committee had not yet received any share of the usual grant from the Irish Diamond Jubilee Fund during 1930, and that the matter was under the consideration of the executive committee.

Meals for School Children

Dr. M. J. Russell, medical officer of health, Dublin City, recently addressed a letter to the Dublin Corporation School Meals Committee, in which he discussed the effect on the health of non-necessitous children through insufficient provision of a hot meal during the school day. In his experience a decent meal was usually prepared in the home soon after one o'clock for the wage-earners, and he thought the most satisfactory arrangement in the city schools, and the most economical for the parents, especially when there were two or more children from one family, would be to extend the interval to enable the children to get to their homes during the time. These children, he thought, would then return to school as willingly as in the morning. Dr. M. M. O'Leary, school medical officer, had pointed out in her annual reports that, as the food they were given in their homes consisted almost wholly of carbohydrates, it was important that the meal provided for them should contain such essential food constituents as protein, fat, and vitamins. In some, but not in all, of the schools which provided free meals these requirements were fulfilled. A hot midday dinner was, she considered, essential for all growing children, as their digestions were impaired by long intervals between meals. A great number of children, other than those of the necessitous poor, had been found on inspection to be suffering from malnutrition, not so much due to lack of food as to lack of the power of assimilation.

Traffic Accidents

The January issue of the *Police Journal*, which is described as a quarterly review for the police forces of the Empire, contains a variety of well-chosen and informative articles. Perhaps the most topical from the medical point of view is a discussion of the human element in traffic control, by Major-General W. R. E. Murphy, deputy commissioner, Civic Guard, Irish Free State, who points out that, despite legislative reforms and improvements in transport facilities, the number of street accidents continues to increase steadily from year to year. This, he thinks, may be attributed to the fact that the measures instituted to eliminate the causes of accidents have failed to appeal to the intelligence of street passengers, with the result that real co-operation between pedestrians, motor drivers, and traffic police is almost entirely lacking. What is required in his opinion is a complete code of rules of the road expressly designed to meet the requirements of modern traffic conditions, both vehicular and pedestrian. To impose additional restrictions on motorists without imposing corresponding restrictions on pedestrians is not likely to reduce the accident rate, since a large percentage of traffic accidents can be traced to the negligence of foot passengers. Some figures are quoted to support this contention. An analysis of the fatal traffic accidents that occurred in Dublin during 1929 revealed that 45 per cent. were caused through the fault of pedestrians; while statistics compiled by the Safety First Council in Great Britain from returns of accidents furnished by coroners indicated that 48 per cent. were due to the carelessness of passengers other than motorists. A suggested code of rules, based mainly on proposals put forward by the Civic Guard at the Traffic Commission held in Dublin in 1927, is incorporated in the article.

Correspondence

GLYCERIN AS A GERMICIDE

SIR,—Perusal of the series of letters under the heading "Glycerin as a surgical dressing" which have recently appeared in the *Journal* would seem to indicate that the various writers are unaware of the fact that glycerin, *when diluted to the extent of about 50 per cent. with water*, is an efficient germicide, especially at body temperature.

It may therefore be of interest to recall the fact that it was the discovery of this germicidal power of glycerin, about forty years ago, that rendered possible the introduction of a bacteriologically pure anti-small-pox vaccine, which, by reason of its method of preparation, I termed "glycerinated lymph."

Subsequently, the late Dr. F. R. Blaxall became associated with me in further experimental work on this subject, as an outcome of which we read a joint paper at the meeting of the British Association at Liverpool in 1896, recording the results obtained. In this paper we showed that, in culture media such as peptone beef broth, glycerin present to the extent of about 40 per cent. in the cold, prevented development of, and eventually killed out, not only all staphylococci experimented with, but also streptococci, and the bacilli of tubercle diphtheria and enteric fever. This action of glycerin was considerably hastened on exposure to body temperature. The only organisms that we found capable of resisting the action of this same percentage of glycerin longer than a month were the spores of the common hay bacillus, spores of *B. mesentericus vulgatus*, the common pink yeast, and *B. coli communis* when kept in the cold.—I am, etc.,

Athenaeum, March 15th. S. MONCKTON COPEMAN.

AN UNUSUAL MENTAL ABNORMALITY

SIR,—I have recently had under treatment a man who has for thirty years suffered from a rare form of sexual perversion, but one which it is desirable that doctors, schoolmasters, and others should know about. Since the age of 11 years he has derived sexual satisfaction from tying himself up or getting someone else to tie him up. He has jealously guarded his secret, never letting his accomplice (when he had one) know the real motive for the tying up, but pretending that it was a game. Gradually the perversion became more and more compulsive, and more and more difficult to control, and the object in view was to tie himself up so tightly as to be practically helpless. My patient writes:

"Though I always took care to leave some kind of a loophole to escape by, I made it as difficult as I dared (for example, a knife placed in a difficult place to reach). I was only discovered once, and that when I was about 14, at a public school. I had a narrow escape at a camp during the war, when I succeeded in handcuffing myself with a chain, and nearly could not escape."

The tying-up game was practised by the patient's dormitory at his private school, when he was about 11, and gave the trouble a considerable impetus. But deep mental analysis revealed beginnings of the abnormality in very early years, based upon the masochistic component of the sexual instinct.

Had this patient received psychotherapeutic treatment in his youth he would have been saved years of most severe mental torture. The compulsive nature of the tendency makes it dangerous, as well as painful, to the sufferer.

It is clear that schoolmasters in boarding schools should be acquainted with the possibility of such a perversion as this, and should know how to deal with the tying-up game.—I am, etc.,

WILLIAM BROWN, M.D., D.Sc., F.R.C.P.,
Wilde Reader in Mental Philosophy, University of Oxford.

March 16th.

STATUS LYMPHATICUS

SIR,—One would have thought that if any field of human endeavour was to escape the craze for settling things by committees that field was medicine. And so I read with some misgiving, in the last number of the *Journal*, that a Status Lymphaticus Committee had decided that there was no such thing as the subject-matter of its investigation.

It did not appear whether any forensic pathologists were on this committee. If these were not adequately represented the pronouncement would in any case be devoid of authority, for forensic pathologists alone have any wide experience of cases of sudden death among the apparently healthy.

This is not the place to give reasons why hyperthymism (as it is perhaps better called) will survive this blow, nor for my present purpose does it matter in the least whether the condition exists or not. What I do suggest is that the profession ought to look askance at the re-institution of mediaeval methods of arriving at the truth. A committee once decided that the earth does not move. *Eppur si muove.*—I am, etc.,

London, W., March 14th. TEMPLE GREY.

DISSEMINATED SCLEROSIS RESEARCH

SIR,—In the *Journal* of March 7th (p. 425) there is a joint letter from Dr. Braxton Hicks and Dr. Hocking, in which they make reference to the research work formerly carried out by me at Westminster Hospital. They state that they have "observed a spherule" in spinal fluid from disseminated sclerosis patients. Presumably they mean to say that they have observed a spherule in cultures of cerebro-spinal fluid of disseminated sclerosis patients.

It is evident to anyone conversant with the elementary principles involved that, when the optical system employed in my own work is used, all bodies below a certain size appear spherical, hence it is puzzling to read that Drs. Braxton Hicks and Hocking "are not prepared to say that this [disseminated sclerosis] is the only nervous affection in which the appearance can be seen." It is not clear whether they mean that they see such spherical objects (which, of course, can be demonstrated in any material, including uninoculated media), or that they see an appearance characteristic of disseminated sclerosis. They state that they have been unable to confirm a number of my findings, but it would appear from their letter that they have entirely failed to confirm any of my findings. Obviously their results are in no way related to my own, for I have never throughout my work claimed that "a spherule" is diagnostic of disseminated sclerosis. On the contrary, I have always endeavoured to emphasize the error of attaching diagnostic importance to the appearance of spheres alone in a fluid medium. I have pointed out, verbally and in my original publication, that in cultures of cerebro-spinal fluid from cases of disseminated sclerosis a certain sequence of events occurs in which a small granular form is associated with other bodies (spheres) of essentially different character, and that it is this appearance of spheres with granules attached, the characteristic colonies formed, and changes in successive stages of growth, which are the diagnostic

features. Such characteristic changes can only be observed in cultures made with solid medium. Throughout my original publication the word "spherule" is never used, lest the erroneous impression should be created that the presence of spheres in cultures is of diagnostic importance. I have never expressed the opinion, verbally or in print, that "a spherule" is a living virus. I quote my original words on the subject in March, 1930: "It would appear that a study of the virus described in this paper affords proof of the existence of a body, less than 0.2μ in diameter, which is actually living." Obviously I am not referring to "a spherule" or spheres as the virus, since they of necessity must be larger than 0.2μ.

I emphasize these matters because from a clinical point of view they are extremely important in that the vaccine treatment formerly carried out by Sir James Purves-Stewart, in which he used vaccines prepared solely by myself, had as its basis this conception of the whole problem of cultural work in disseminated sclerosis. Clearly mine is a totally different conception from that held by Dr. Hicks and Dr. Hocking as disclosed in their letter.—I am, etc.,

London, N.W.3, March 17th. KATHLEEN CHEVASSUT.

SIR,—Dr. Halley Stewart is concerned to obtain for Miss Chevassut a fair judgement upon her work in connexion with disseminated sclerosis. There should be no difficulty in this provided that those who make public pronouncements on the matter first ascertain the facts and then state them correctly. Unhappily, I find myself unable to agree that his letter fulfils these elementary requirements. In his endeavour to place the position in its true perspective, Dr. Halley Stewart submits four statements of "fact." An examination of these reveals them to consist of two expressions of opinion, an inaccurate account of two matters of fact, and a final paragraph concerning the formation of a Halley Stewart laboratory, which has no bearing on the validity or otherwise of Miss Chevassut's claims.

Let me take the relevant "facts" seriatim.

1. *That Miss Chevassut is not responsible for a failure of other observers to confirm her findings.*—This, surely, is a wholly irrelevant proposition, as a purely hypothetical illustration will show. If I claim to behold a unicorn in Parliament Square, and none of the bystanders can see it, a not unlikely explanation will be that in fact there is no unicorn. In these circumstances, for me to asseverate that I am not responsible for their failure to confirm my observation would be a frivolous gesture. Responsibility clearly rests with me either to take steps to substantiate my claim or to abandon it.

2. *That Miss Chevassut alone is conversant with the technique of her research, and alone is capable of preparing the appropriate "vaccine."*—Even if we allow that this hypothesis was once true, it is certainly not an eternal verity. To continue indefinitely to reiterate it is to make a mystery where none need be, for there is no bacteriological or biochemical technique that a competent worker may not acquire. Dr. Halley Stewart seems to imply that even now there is no one capable of assessing Miss Chevassut's work or of repeating it. I note that he asks for fair judgement. By all means let us be fair to everyone concerned, including Dr. E. A. Carmichael, who, at the request of the Medical Research Council, repeated this work, but was unable to confirm the results claimed for it. No informed critic will dispute that he is an eminently competent observer. His work was carried out under the same roof as Mr. Barnard's laboratory, and he enjoyed to the full all those advantages of technical advice and assistance that were available to Miss Chevassut.

3. *That Miss Chevassut's inability to obtain positive cultures from a series of unlabelled specimens of cerebro-spinal fluids sent from various hospitals was due to a neglect to meet certain conditions previously laid down by her as essential to success—namely, that the fluids should not be transported before culturing.*—Here Dr. Halley Stewart is under a complete misapprehension. When, with Miss Chevassut's concurrence, the test in question was planned, she sent me her requirements in writing, and proposed, in addition to the culturing of fluids, to prepare vaccines for treatment. These requirements were fully met, and the objection that the conditions of the test precluded success was not raised until after the event, and when it was clear that the test had proved negative. These facts indicate that Miss Chevassut did not hold the views on this matter attributed to her by Dr. Halley Stewart, and indeed it is impossible that she should have held them, since much of the material from which her original positive results were obtained was transported from private nursing homes to her laboratory, under conditions not dissimilar from those of the test series.

Dr. Halley Stewart is also misinformed when he states that no positive culture was obtained from any of the test fluids. Miss Chevassut reported the culturing of the "appearance" known as the "spherula insularis" from a fluid that proved to have been obtained from a case of rheumatic chorea.

In these circumstances the inadequate and misleading character of Dr. Halley Stewart's exegesis is manifest, and I submit that the following considerations place the present position of this investigation in the true perspective he desires: (1) that a competent observer, working under ideally favourable conditions, has been unable to corroborate the existence of a "spherula insularis"; (2) that Miss Chevassut herself has found it impossible to confirm her original results when working with a test series of specimens of cerebro-spinal fluid taken from cases of which the clinical diagnosis was unknown to her; and (3) that having been afforded another opportunity of repeating the test under her own conditions in the laboratory of the National Hospital, Miss Chevassut has declined the invitation, and has vouchsafed no reason for her refusal.

It seems expedient at the present juncture to formulate these points clearly, for I believe that the only possible result of Dr. Halley Stewart's letter, if it be allowed to go uncorrected, will be to deepen still further the mystery that clings so closely to this research.—I am, etc.,

London, W.1, March 16th. F. M. R. WALSHE.

GENETIC RELATIONSHIP BETWEEN CRETINISM AND HYPOTHYROIDISM

SIR,—Mr. C. J. Bond in his letter (March 7th, p. 423) raises a question of fundamental importance. I hope his question will receive attention from those who have had an opportunity of observing the offspring of cretins who have been restored to normal efficiency by thyroid feeding. An opportunity of this nature must be very rare, otherwise some records would be now available. Apart from the known fact—which Mr. Bond mentions—that thyroid feeding activates the cerebral neurones and restores the cretin ament to a degree of normality, another question may be asked: Does thyroid feeding also restore reproductive function? If this latter question be answered in the affirmative, then, what results would be expected from the mating of restored cretins, and how would this help us to understand whether the thyroid deficiency was due to some variation in the genetic constitution or to environmental factors?

Supposing two restored cretins mated and had several stinous offspring, and that this observation could be nfirmed by several other instances of the same kind in ner environments, then it could be inferred with some nfidence that the thyroid deficiency was due to a varia- n in the genes and not to environmental factors—that e cretinism was due to recessive factors in the Mendelian ase. Such an example must be exceedingly rare, so re as to be negligible for practical purposes. The most mmon mating would be restored cretin with normal, d the latter would be dominant as regards thyroid iciency, so that the offspring would all be normal, unless those instances where the normal was heterozygous for yroid efficiency when a cretin might appear in the family a Mendelian recessive.

So far as the thyroid gland is concerned many of these uestions can be and have been answered by animal eeding experiments, but what Mr. Bond has in mind is e mental status of the human being—he calls it the europsychic condition. The question then really comes this: Can all the factors, genetic and environmental, hich are causative of the mental constitution of human eings be disentangled and estimated with some degree accuracy without human breeding experiments? I do ot see that they can. Observation and record are helpful p to a point, but only crucial experimentation will settle ie wrangles over the influence of heredity and environ- ent in the constitution of man.

Mr. Bond also asks about the genetic relationship of yperthyroidism. This is more hopeful because the con- ition is common, and does not interfere with the function reproduction. I have at present in my practice a other and daughter, both suffering from hyperthyroidism. he daughter showed severe symptoms two years ago, hen she was 24, and the mother a year ago, when she as 54. There has been no change in the environment, nd the dietetic habits have been unaltered, so that there ay be some genetic relationship, but, on the other hand, may be mere coincidence that the thyroid gland in both as become abnormally active.

I hope Mr. Bond's letter will stimulate some medical en to study the families, and record their observations n these cases of hypothyroidism and hyperthyroidism nd the associated mental states.—I am, etc.,

Warrington, March 8th. J. S. MANSON.

TREATMENT OF PYLORIC OBSTRUCTION

SIR,—In the *Epitome* for March 7th I notice that Dr. W. De Scriver has described, in the *Canadian Medical Association Journal*, a case of pyloric obstruction relieved by medical treatment.

While at the North Middlesex Hospital I had a similar case of well-marked pyloric obstruction, which also responded to medical treatment. The patient, a man aged 50, was admitted in a very weak and dehydrated condition. He gave a typical history of, and showed on examination unmistakable signs of, pyloric obstruction. The radiologist reported marked pyloric obstruction due to old duodenal ulcer. Operation was advised, but this was refused. There was therefore nothing left to do but to treat the case medically. Atropine was administered, and the stomach was washed out. Frequent rectal feeds of glucose and saline were given and nothing was allowed by mouth for two days. After the second day he was given small feeds of egg albumen and water every three hours by mouth. Rectal salines were continued. The feeds were gradually increased, and after a week the patient showed marked improvement in general health. The stomach was *x*-rayed three weeks after admission, and was then found to empty completely at the normal rate. The patient was discharged in excellent health and was able to resume his employment. At a later date he was operated on, and a chronically diseased gall-bladder, which was adherent to the duodenum, was removed.

In this case the obstruction was probably due to spasm of, and oedema around, the pylorus, which cleared up completely after rest and suitable treatment. While investigating a large number of cases of duodenal ulcer, I was struck by the number of patients who showed on *x*-ray examination a twenty-four hours' "hold-up" in the stomach, due to some degree of pyloric obstruction, and who responded well to medical treatment.

In severe cases of pyloric obstruction one does not feel justified in delaying operation until medical treatment has bettered the patient's general condition. In lesser degrees of obstruction, found after *x*-ray examination, medical treatment should be tried before operation is advised.—I am, etc.,

Edinburgh, March 9th. J. R. MURDOCH.

TREATMENT OF VARICOSE ULCERS

SIR,—The recent correspondence in the *British Medical Journal* on the treatment of varicose ulcers tends to show the futility of using topical applications alone and the necessity for employing a mechanical support in conjunction with the injection treatment if one is ever to expect permanent cure of this type of ulcer. That the injection treatment of any existing varicose veins is of paramount importance is shown by the fact that ulcers having no injectable veins (this type might be termed "capillary varicose ulcers") are not only very difficult to cure, but 10 to 15 per cent. recur, and can only be kept in check by the constant use of some form of support.

Evidently all do not use the same material for this support; some advocate and are warm supporters of elastoplast bandages, others prefer plain or flannel bandages. Opinions also differ as to how they should be applied and the length of time they should remain before being changed. The consensus of opinion, however (and rightly so), is: (1) for their firm application, and (2) for infrequent changing. But no matter what form of material is used, success depends entirely upon the correct method of applying it. Prior to his use of elastoplast bandages, Mr. Dickson Wright obtained by the use of strapping results that can hardly be excelled by the more elaborate methods now in vogue. There is a right and a wrong way of applying strapping, even more so perhaps in the application of a bandage; this is the principal reason why these cases should not be treated by inexperienced persons, either in hospital or in private practice, any more than intravenous injections should be allowed to be given for the cure of varicose veins (in out-patient departments) except by persons proficient in this branch of surgery. If this were adhered to and these diseases considered as serious, not only as regards the general health of the patient but also for his earning capacity, fewer complications would be seen and more rapid results obtained. Unfortunately these obviously grave pathological conditions are regarded by the laity—and by many of the profession—as of minor importance, and therefore proper cases for dressers or nurses to attend to. One cannot help feeling with regard to intravenous injections that under no circumstances should they be given by anyone but the surgeon himself or by a fully trained assistant conversant with the technique and alive to the possibility of complications arising from the use of the solutions of the moment, none of which are free from risk of causing untoward local or general reactions. The importance of this cannot be too strongly stressed so as to prevent the patient's local or general condition, during treatment or subsequently, from becoming worse than before.—I am, etc.,

London, March 8th. T. HENRY TREVES BARBER.

RTALITY IN ACUTE APPENDICULAR DISEASE

SIR,—In the recent discussion in the *Journal* on the causes of the post-operative mortality in acute appendicitis, no reference has been made to acute blood infection, which I am convinced, from personal experience, is a not infrequent cause of death, especially in young persons. I have frequently drawn attention to this in the *Journal* and elsewhere, but either it remains generally unrecognized or the symptoms are attributed to another pathological cause, such as "delayed chloroform poisoning" or "acidosis."

The symptoms are characteristic and pathognomonic. After a period of from twenty-four to forty-eight hours from the operation a sudden change for the worse occurs; the face becomes pallid, temperature rises, pulse becomes very rapid, there is marked restlessness with very short periods of apparent sleep, interrupted by a shrill "meningeal" cry, delirium is followed by coma, and death generally occurs within twenty-four hours. There are no abdominal symptoms such as distension, vomiting, etc.; in fact, the abdomen is generally soft and sometimes retracted. The symptoms are suggestive of an acute cerebral meningitis. In every case in which these symptoms have appeared a culture of *Strep. faecalis*, either pure or with *B. coli*, can be obtained from the blood.

Blood infection has occurred at the time of operation, either from manipulating or crushing acutely infected tissue before sufficient antibodies have developed to produce blood immunity. It is especially apt to follow operations performed from the second to the fifth day after the onset of the disease.—I am, etc.,

HERBERT H. BROWN, M.D., F.R.C.S.

Ipswich, March 16th.

SIR,—If, in the last sentence of his letter in the *Journal* of March 14th (p. 471), Professor Wilkie had emphasized the grave significance of a rising pulse rate as shown by quarter-hour records, the present-day teaching of the symptomatology of acute intestinal obstruction would have gained much in authority, and a clear picture of the necessity for an immediate surgical operation in these cases would have been impressed upon all. Afebrile epigastric pain, vomiting, and a steadily rising pulse rate as shown by quarter-hour records—these three associated symptoms ought to raise in the mind of every educated observer the suspicion of acute intestinal obstruction, and if immediate laparotomy is carried out many of the three thousand odd deaths from acute appendicular disease will be prevented.—I am, etc.,

Glasgow, March 16th. W. RANKIN.

SERUM ANAPHYLAXIS

SIR,—I have read with interest Dr. Margaret Wylie Thomas's comments on the cases of serum anaphylaxis, published in a memorandum in the *Journal* of February 7th. Although I agree that it is the first dose of serum that causes sensitization, and that this rarely develops before the tenth day, yet I strongly disagree with the general conclusion reached by Dr. Thomas that "the interval between the first injection and the proposed additional dose should not be greater than nine days." This is only correct if no intervening doses are given.

In Choyce's *System of Surgery* (1927, i, 3) Professor John W. H. Eyre writes:

> "The injection of a fair-sized second dose of serum during the incubation period results in the production of a condition of anti-anaphylaxis which again persists for an indefinite period."

This can surely be taken as a "commonly accepted idea." It was on this idea that the two cases were treated. In each case the interval between the first dose of serum and that causing the anaphylaxis was considerably more than ten days, but, according to t quotation, the intervening doses of serum sho caused the condition of anti-anaphylaxis. The anaphylaxis did occur was the reason for the cases.—I am, etc.,

Liverpool, March 16th. [illegible]g.—Here Dr.

CLOSED DRAIN[illegible]mplete misapprehensio[illegible]ssut's concurrence, the test

SIR,—In th[illegible] she sent me her requirements George Rol[illegible]ed, in addition to the culturing method [illegible]accines for treatment. These requir He trea[illegible] met, and the objection that the co his tec[illegible]st precluded success was not raised un[illegible] Dr. [illegible]t, and when it was clear that the t*Journal* of March 7th. [illegible] discharge of pus into a beaker of antiseptic solution. T him belongs the honour of devising this method.—I am, etc.,

Bradford, March 12th. WILLIAM MITCHELL, M.B.

THE ENIGMA OF THE CHILBLAIN

SIR,—If one has a disease one learns a good dea about it, and I hazard a guess that Dr. Izod Bennett' interest in chilblains is an impersonal one. They are unfortunately, a major complaint of mine, and I rea Dr. Hallam's article appreciatively and sympathetically I have learned to thole this trouble in silence, and it i only subsequent correspondence which has led me t address you.

There is, according to the pharmacologists and academi physicians, no such thing as intestinal toxaemia, and w who suffer from this phantasm nurse it secretively withi our bellies—an *ignotum quid*—and pander to it by die and the adherence to a few simple rules of life. I com of a family whose intestines become assertive toward middle life, and who have a tendency to fibrou rheumatism and the development of cataract about th same time. Cold hands and feet are part of their com plaint; but I am the solitary sufferer from chilblains and this trouble appeared only after an attack o dysentery contracted during the war. My age was then 31

It is evident that cold is the culminating factor in th production of the chilblain, but unless the real causativ factor exists in the body, no degree of cold will caus the condition to develop. Dr. Leonard Williams's remark in your issue of February 21st apply *in toto* to myself and acute attacks of chilblains can be alleviated within twenty-four hours by a purge and rigid attention t diet. I have often wondered if the condition was a bacterial embolic one, for I am familiar in my own perso with waves which come and go, and leave periods o relative immunity. My first attack consisted of many very small areas on the hands and fingers, which wer diagnosed by several physicians (in a cold April) a mosquito bites!

The taking of calcium does help many people, and help me to an appreciable extent. It gives me, too, a feelin of greater fitness and well-being. Ultra-violet light wil cure troublesome attacks, and irradiated milk is helpfu in the diet. To what extent the action of these latte items depends upon their action on calcium metabolism is doubtful. I have read somewhere that they affect th *p*H of the intestinal contents, and, while this doubtles plays a part in the absorption of calcium, it conceivabl affects the bowel in other ways. Finally, a holiday unde stimulating mental conditions will often work wonders—if one does not forget to adhere to the diet which one' hypochondriacal bowels demand.

As I do not desire to advertise my infirmities, enclose my card, and subscribe myself

March 3rd. AGRESTIS.

Obituary

DAVID HEPBURN, C.M.G., M.D., C.M.

Emeritus Professor of Anatomy, University of Wales

The genesis of David Hepburn, whose death on March 9th was [illegible] reticism was due to [illegible] week's issue of the *Journal*, had been [illegible] Such an example must be [illegible] cal education in Cardiff for as to be negligible for practical purposes before that in Edinburgh. non mating would be restored cretin was 859, and received his the latter would be dominant as regard here he graduated iency, so that the offspring would all be normal three years later he hose instances where the normal was heterozygote of Surgeons of oid efficiency when a cretin might appear in the twinning the gold Mendelian recessive. [illegible] After holding far as the [illegible] Royal Infirmary, he was appointed monstrator of anatomy under Sir William Turner; om 1885 to 1903 he was principal demonstrator and cturer on regional anatomy, and was then elected ofessor of anatomy at University College, Cardiff. To s devoted service the Welsh National School of Medine owes much. He was a very popular teacher, as ell as a sound administrator, and his appointment in 920 to be dean of the Faculty of Medicine was warmly elcomed. Characterized by clarity of thought and of xposition, he was able to simplify for his students some f the more difficult parts of anatomy. He contributed Cunningham's *Textbook*, and was the author of arious original papers on arthrology and the comparative anatomy of the muscles of the limbs.

Professor Hepburn represented the University of Wales n the General Medical Council from 1912 to 1927. He was a member of various scientific societies, including he Anatomical Society of Great Britain and Ireland, of which he was a past-president; the Royal Physical Society of Edinburgh, the Scottish Microscopical Society, he Scottish Natural History Society, and the Cardiff Medical Society, of which he was at one time president. He was a member of the General Committee of the British Association, and of the Advisory Council on Medical Research. He had held the posts of examiner to the Conjoint Board in England, and the Universities of Edinburgh, Oxford, Liverpool, Sheffield, and Leeds.

During the war he was in command of the Third Western General Hospital at Cardiff; he was created C.M.G. in 1917, and became honorary surgeon-colonel and lieutenant-colonel. He was also a Knight of Grace of the Order of St. John of Jerusalem. His great gift for organization proved of outstanding value in this connexion, and he was warmly commended by the then Prime Minister. Although his resignation from the professorship fell due in 1924, he was then, and again on a subsequent occasion, invited to retain it, only retiring in 1927 amid expressions of general regret. He is survived by his widow, one daughter, and one son, who is medical superintendent of the Hamadryad Seamen's Hospital, Cardiff. His funeral, on March 12th, was attended by many representatives of the various organizations he had served so well during his life, and by a large number of those whose warm friendship he had won by his leadership, unselfish devotion, and lovable personality.

ARTHUR HEYGATE VERNON, F.R.C.S.

Consulting Surgeon, Royal Victoria and West Hants Hospital

By the death of Mr. A. H. Vernon, Bournemouth has lost one of its most distinguished and gifted townsmen; he was beloved by his patients and respected by all who knew him.

Arthur Heygate Vernon was educated at St. George's Hospital, and took the M.R.C.S. in 1886, the L.R.C.P. in 1887, and the F.R.C.S. in 1890. At St. George's he was demonstrator of anatomy and physiology, and house-surgeon, and was appointed assistant in the orthopaedic and ophthalmic departments. On coming to Bournemouth he soon showed himself to be a man of more than ordinary ability, and quickly established a reputation as an excellent surgeon; he also took an active part in town affairs, and was made a J.P. of the borough. He was for many years surgeon to the 7th Hants Regiment (T.A.), retiring with the rank of lieutenant-colonel, and receiving the Territorial Decoration. He had long been surgeon to the fire brigade, and took an energetic part in the local branch of the British Legion and the St. John Ambulance Brigade and Association; he was also a prime mover in the building of the Little Theatre, Bournemouth.

At the time of his death Vernon was treasurer of the Bournemouth Medical Society, of which he had been president. In the British Medical Association he was past-president of the Dorset and West Hants Branch, and had occupied the chair of the Bournemouth Division. He was also a Fellow of the Royal Society of Medicine, but of all his many and various interests the hospital occupied the first place in his affections, and it is through his indomitable perseverance that the Royal Victoria and West Hants Hospital occupies the position it does to-day. By the passing of Arthur Heygate Vernon the profession has lost a distinguished son and a man of sterling worth, whose rugged but kindly personality will ever be remembered with affection and regard.

S. J. ROSS, M.D.

Late Surgeon, Bedford County Hospital

Stephen John Ross, M.D., son of the late Rev. Dr. Ross of Dallas House, Lancaster, died after a very short illness at Stoke Ferry, Norfolk, on February 14th. He was educated at the Royal Grammar School, Lancaster. He commenced his medical studies at the Liverpool Medical School, his principal teachers being Dr. Caton, Sir W. M. Banks, and Dr. Rushton Parker. He graduated M.B., Ch.B. at Victoria University, and subsequently held the posts of resident house-physician, house-surgeon, and assistant in the ophthalmic department of the Royal Infirmary, Liverpool, and that of medical officer of the Lock Hospital, Liverpool. He was medallist in forensic medicine and toxicology, prizeman in obstetrics, and held the honour certificate in surgery.

In 1896 he was elected house-surgeon to the Bedford General Infirmary. It was during his house-surgeoncy that the old infirmary was replaced by the splendid existing institution, and its name changed to that of the Bedford County Hospital. The new hospital was opened in 1899, and at the special request of the board of management Ross remained longer than he otherwise would have done in order to superintend the removal of patients from the old to the new buildings. After a short absence in the North he returned to Bedford, entering into partnership with the late Dr. Rowland Coombs, with whom, and with his son Martin Coombs, he remained until his retirement. In 1900 he was elected assistant surgeon, and in 1920 surgeon, to the County Hospital, retaining that post until his retirement under the age limit in 1930.

As to his work at the hospital, Mr. Arnold Whitchurch, chairman of the board of management, writes: "Dr. Ross was an example of what 'honorary' really means in connexion with the medical staff of a hospital. No man gave more fully of his time. Every day he would visit his patients, and eight to ten hours weekly was the usual thing, and often still longer hours in emergencies, and all freely given—the thought of payment was abhorrent to him. For thirty years he gave *himself*. Although rarely present at the board meetings, which

ORTALI during his operating hours, he gave great help
SIR,—Ing the constitution, and there was no one more
causes o us in carrying it out than himself. His passing
citis, r great shock to us all." His senior colleague on the
whic tal staff, Mr. W. Gifford Nash, writing in the same
infr ain, refers to the assistance given him in operation
h ork, both at the hospital and in private, and the
complete harmony of their work together.

Despite an unusually laborious professional life, Ross made time to take an active interest in various medical societies. He was president of the Bedford Medical Society in 1916, and made many concise contributions in the way of papers and in discussions at the meetings. He held office in the British Medical Association, and was chairman of the old Beds and Herts Division and president of the South Midland Branch, and for many years served on the committee of the Bedford Trained Nurses' Institution and Nursing Home. When the Insurance Acts came into being, and local practitioners were reluctant to accept service, Dr. Ross had a personal interview with Mr. Lloyd George, and, though he disapproved of the Acts, himself accepted service under them and for several years gave them his loyal support. He had the mind, if not the training, of a lawyer, and for many years was on the council of the Medical Defence Union. He thoroughly enjoyed their meetings and the unravelling of various ethical problems. Had he gone to the Bar he would probably have succeeded there as brilliantly as he did in medicine. He wrote very little, but was a laborious compiler of records, and had he been spared he would no doubt have enriched medical literature with gleanings from his great store of clinical notes. He was widely read, both in ancient and in modern literature. An ardent botanist and lover of his garden and greenhouse, the weird in plant life specially appealed to him; he was a valued member of the Bedford Arts Club and chairman in 1911, rarely missing any of their Saturday evening meetings, and lecturing there from time to time on his favourite plants and the scenes of his few and brief holidays in the Isle of Man and Lakeland. His premature death after such a very few months of retirement has robbed the profession of a rare personality, and us who knew him so well of a true, sympathetic, and most self-sacrificing friend. He leaves a widow and two children to mourn his loss.

Medico-Legal

"NATURE CURE" PRACTITIONER AND WOMAN'S DEATH

An inquest was held at New Barnet on March 13th on the death of Mrs. P. G. Pickett, aged 35, of Addington, East Croydon, who had been undergoing treatment by Mr. Victor Dane, described as a "nature cure" practitioner, of New Barnet. It appeared from the evidence that on the day of Mrs. Pickett's death Mr. and Mrs. Dane had gone away on a day's visit, and the death took place in their absence.

Mr Pickett, the widower, stated that his wife had at various times consulted doctors, who simply told her to carry on with the diet which she was taking for indigestion; this consisted mainly of fruit, salads, and nuts. In February she went to New Barnet to take a course of "nature treatment" under Mr. Dane's direction. On one occasion when her husband visited her, she told him that she was very happy and felt better for the treatment she was receiving, but on the following day he had a message to say that she had died. He added that she disliked doctors, and had resisted entreaties to obtain medical advice.

In evidence Mr. Dane said that he was a doctor of science, with an American degree, for which, however, he had not paid any fees. When he first saw Mrs. Pickett he suspected arthritis, but later diagnosed anaemia, for which he treated her. He had never described himself as a doctor. He had wanted to call in a fully qualified medical man because he doubted the cause of the illness and desired to avoid possible future trouble.

Dr. O'Callaghan of New Barnet, who had made a post-mortem examination, stated that the cause of death was advanced tuberculosis of the lungs. The body weighed only 5½ stone; the normal weight for the woman's height was 9 stone.

The jury returned a verdict of death from natural causes, and stated their opinion that medical aid should have been called in several days before Mrs. Pickett died; also that, considering the undertaking given by Mr. Dane, and the fees paid him, gross carelessness was shown in leaving the patient for a whole day without efficient help. The coroner (Mr. T. Otaway) said that he entirely agreed with the rider.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

At a congregation held on March 13th the following medical degrees were conferred:

M.D.—J. H. Doggart.
M.CHIR.—N. R. Barrett, E. D. Moir.
M.B., B.CHIR.—M. E. Albury.
B.CHIR.—J. G. Wigley.

The Senate has resolved to confer honorary doctorates upon Professor John Scott Haldane, C.H., M.D., F.R.S., Director of Mining Research in the University of Birmingham, and Augustus Moore Daniel, M.A., M.B., Ch.B., Director of the National Gallery.

UNIVERSITY OF LONDON

The following have been recognized as teachers of the University in the subjects indicated:—Guy's Hospital Medical School: Dr. F. A. Knott (pathology); London Hospital Medical College: Sir Robert Stanton Woods (physical medicine); Middlesex Hospital Medical School: Dr. Lionel E. H. Whitby (bacteriology).

The regulations for the academic diploma in public health (Red Book, 1930-31, pp. 467 to 469) have been amended: (1) By the insertion after the words "twelve calendar months" in the second paragraph, page 467, of the words "(or an academic year of whole-time study covering a period of not less than nine calendar months)." (2) By the substitution for the fourth paragraph, page 467, of the following:—"Part I. A course of practical instruction, during not less than 280 hours, in the following subjects: (*a*) bacteriology and parasitology (including immunology, serology, medical entomology, etc.), especially in their relation to diseases of man, and to those diseases of the lower animals which are transmissible to man; (*b*) chemistry, physics, radiology and electrology in relation to public health; (*c*) physiology and biochemistry in their application to nutrition and hygiene; (*d*) meteorology and climatology in relation to public health." (3) By the substitution for "80 hours" in the first line of the fifth paragraph, page 467, of the words "120 hours." (4) By the deletion of the number of hours after each section of Part II of the course, page 467, and of the words: "(The numbers indicate the normal proportion of time to be given to each subject)." (5) By the substitution for the last sentence of Section (ii) of the first paragraph on page 468 of the words "At least 24 daily attendances of not less than 2 hours each shall be required." (6) By the insertion at the end of the first paragraph on page 468 of the following: "Instruction in subjects (*a*) to (*f*) should include attendance at the centres, clinics, institutions, and premises concerned."

Copies of the regulations for the diploma in public health for external students can be obtained on application to the external registrar.

Professor M. E. Delafield has been appointed the representative of the University at the fifth Imperial Social Hygiene Congress, to be held in London in July.

UNIVERSITY OF EDINBURGH

The Senatus Academicus has resolved to confer the honorary degree of LL.D. on Sir George A. Berry, F.R.C.S.Ed., M.P. for the Scottish Universities and formerly lecturer in ophthalmology in the University of Edinburgh, and on Sir Walter Morley Fletcher, M.D., F.R.S., secretary of the Medical Research Council.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Council meeting was held on March 12th, when the Presi-nt, Lord Moynihan, was in the chair.

Diplomas and Licences

The diploma of Fellowship was granted to Edward Grainger ir, the Bernhard Baron Scholar, who has now complied th the by-laws. Diplomas in Ophthalmic Medicine and rgery were granted, jointly with the Royal College of ysicians, to eighteen candidates. Licences in Dental rgery were granted to twenty-one candidates.

Appointments

Mr. Gwynne Williams was re-elected a member of the Court Examiners for five years. Mr. Fagge was appointed as legate to the centenary celebrations of the Leeds School of edicine, to be held on June 30th and July 1st. Sir Holburt aring was appointed as representative to the Quinquennial ngress of the Universities of the Empire, to be held in ndon and Edinburgh on July 3rd and July 7th to 10th.

International Orthodontic Congress

The College will give an evening reception to the members of ie Second International Orthodontic Congress, to be held in ondon from July 20th to 24th.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

t the monthly meeting of the Royal Faculty of Physicians nd Surgeons of Glasgow, held on March 2nd, David Mackay lart and Margaret Taylor Tindal were admitted, after exam-nation, as Fellows of Faculty.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

his week the House of Commons heard the statement of he Secretary for Air on the Air Estimates, and further onsidered those for the Navy. The committee stage of he Representation of the People Bill was continued on larch 16th. The House then rejected by 246 votes to 42 Clause 4, which proposed to abolish the University onstituencies in Great Britain and Northern Ireland. Iajor Ross moved the rejection of the clause, and Dr. Sinclair, as representing Queen's University, Belfast, econded. The following members voted against the Government in the division: Dr. Vernon Davies, Dr. Elliot, Dr. Fremantle, Sir E. Graham-Little, Dr. Morris-Jones, and Dr. Sinclair. For the Government there voted: Dr. Addison, Dr. Morgan, Dr. Hunter, Dr. Salter, and Dr. Drummond Shiels.

Rules under the Mental Treatment Act now in force will lapse on March 31st unless approved by both Houses. The sanction of the Commons was secured on March 16th, and was to be followed by an affirmative resolution in the Lords.

A meeting of the Parliamentary Medical Committee had been summoned for March 17th, but was postponed for a week.

Conversations upon the Pharmacy and Poisons Bill between the Government and professional interests were arranged for March 18th.

Poisons and Pharmacy Bill

Debate in the House of Lords

In the House of Lords, on March 12th, Lord PONSONBY moved the second reading of the Poisons and Pharmacy Bill. He said this was a Home Office Bill, and was the outcome of a report by a Departmental Committee which the last Government had set up to examine the law in regard to poisons. At present the substances and preparations treated as poisons for the purposes of the various Pharmacy Acts were scheduled as such by Order in Council upon the resolution of the Council of the Pharmaceutical Society. The retail trade in all poisons and preparations containing poison was reserved to registered pharmacists, except in the case of poisons required in agriculture and horticulture, which might be sold by persons licensed for the purpose by the local authority. The local authority was required, before granting such licence, to take into consideration whether in the neighbourhood the reasonable requirements of the public in respect of the purchase of the poisons in question were satisfied. The expression "reasonable requirements" had led to a good deal of dispute. In other sellings of poisons by retail the enforcement of the law lay with the Pharmaceutical Society, and the penalty which was obtained by a civil action was paid to the society. There was practically no regulation of the wholesale sale of poisons or the manufacture of medicinal preparations containing poison.

The Departmental Committee had found that the existing law in which the practice of pharmacy and the sale of poisons were mixed up was complicated, very largely obsolete, and not adapted to modern requirements. Some provisions were unnecessarily restricted, and in other respects the present control was far from adequate. Partly because the administration and enforcement of existing Acts lay with an unofficial society with insufficient resources, the law was not being enforced at present. The committee thought that a non-official body, whose members had a direct financial interest and which did not represent all the interests affected, was not the right body to regulate such matters. These matters, affecting the health and safety of the public, should be administered by a Minister responsible to Parliament. A long succession of cases of murder by poison and of accidental death by poison had shown the need of precision in the law with regard to poison and of greater care in enforcing it. There was also a demand from the agricultural community that the law should be altered so as to allow firms or co-operative societies which supplied the general needs of farmers and horticulturists to supply them with such substances also as sheep-dip and insecticides. The report on the subject had been made by a strong committee, including Sir Donald MacAlister, President of the General Medical Council, and Sir William Willcox, a prominent toxicologist. Their report was practically unanimous.

Provisions of the Bill

Lord Ponsonby then summarized the Bill, and explained that it transferred from the Pharmaceutical Society to the Home Secretary the duty of determining what were to be treated as poisons and of administering the law, including the making of regulations. The Home Secretary would be assisted by a Poisons Board, composed of technical experts, representatives of medicine, of pharmacy, and of Government Departments. The Bill provided for a new Poisons List in two parts—the first including those poisons which might only be sold retail by registered pharmacists, and the second for poisons which could also be sold retail by other persons or firms registered for the purpose with the local authority. The local authority could only refuse to register on the ground that the applicant himself was unfit or that the premises were unsuitable. This provision would meet the demands of the agricultural and horticultural community, and would remove hindrances now existing to the efficient supply of disinfectants. Poisons in Part 2 would in the main be sold in sealed containers and would bear appropriate warnings. They would be preparations in general use for sanitary, industrial, domestic, agricultural, or horticultural purposes, or as vermin killers. The sale of these would be controlled by regulations drawn up by the Poisons Board, and more effective than at present. An important new power was given to prohibit by regulation or by rule the sale, except on the prescription of a registered practitioner, of certain medicinal substances of a specially dangerous character. Examples of such substances were veronal and other drugs in the same group, which were much in vogue for inducing sleep. This reform had been frequently recommended by coroners. The Poisons Board would include a representative of the Home Office, another of the Scottish Office, two from the Ministry of Health, one from the Ministry of Agriculture, the Government chemist, five representatives of the Pharmaceutical Society, one from the Royal College of Physicians of London, one from the Royal College of Physicians of Edinburgh, and one from the General Medical Council. The Secretary of State, after consulting this Board, could draw up rules as to containers, labelling, transport, and storage; rules requiring the addition of some ingredient to make a poison readily distinguishable; and rules relating to the wholesale sale of poisons. Similar powers were given to the Pharmaceutical Society by the Act of 1868, and the Act of 1908 authorized regulations by Order in Council

for the sale of certain poisons. Rules would be laid before Parliament, and would be subject to annulment by Parliament. Lord Ponsonby pointed out that at present there was no legislative control over the manufacture of pharmaceutical preparations containing poisons, although it was increasingly the practice for such preparations to be compounded by a wholesaler, and not in the chemist's shop. The Bill enabled rules to be made requiring such preparations to be manufactured under the control of a registered pharmacist or other qualified chemist. The Bill and the rules under it would make it more difficult for persons to obtain poisons for criminal purposes without detection. Wholesale as well as retail dealers would be required to keep proper records, and would be subject to supervision. The Bill strengthened the representative character and disciplinary powers of the Pharmaceutical Society. It made every registered pharmacist a member of the society, leaving the Privy Council as central authority for the pharmaceutical profession as it was for medicine and dentistry. The Bill gave the Privy Council power to nominate three members of the council of the society. At present a pharmacist could not be removed from the register except on conviction for an offence against the Pharmacy Act. The Bill provided for a statutory committee which would have the power, subject to an appeal to the High Court, to remove from the register any pharmacist guilty of a criminal offence or of conduct which rendered him unfit to be on the register. At the same time the Bill recognized the right, which was denied by existing Acts, of a scientific chemist to use the title of chemist for purposes other than retail business. The Government had been in close touch with the Pharmaceutical Society in framing the Bill, and was ready to put down amendments on the committee stage to adjust points of detail which were still outstanding. He trusted that Lord Dawson, who had put down a motion for the rejection of the Bill, would also wait for adjustments at the committee stage and not persist in opposing the second reading.

Lord Dawson's Criticisms

Lord DAWSON OF PENN said the Bill had been drawn up without consultation with the medical profession, although medicines were prescribed by, and the handling of poisons mainly rested with, the members of that profession. On the Departmental Committee which investigated the subject there was only one practising physician. After that committee had reported, the Home Office failed to confer with the representatives of the medical profession, with the Royal Colleges, or with the British Medical Association. The staff of the Home Office included few medical men. The Home Office regarded drugs from the point of view of criminal intent and drug addiction, but in these aspects only a small fraction of the population were concerned. Drugs and poisons in day-to-day use were matters which concerned the general health of the nation, and drugs could not be separated from poisons. A large proportion of the drugs in use were potential poisons. Whether particular drugs should be put into the scheduled list could only be decided by those with specialized knowledge of clinical medicine, of pharmacy, and of chemistry. The work was done at present on the whole very well by the Pharmaceutical Society. That body could be made even better by adding to the skilled pharmacists one or two skilled chemists and a representative of practising physicians. The Advisory Committee to which the Bill proposed to transfer administration of poisons was a sham. The Home Secretary would appoint the chairman and four additional members, and would have power under another clause in the Bill to override advice and to act on his own terms. The real authority with regard to poisons would be transferred to permanent officials of the Home Office, who knew nothing about clinical medicine, and whose outlook would really be confined to people who were drug addicts, or had criminal intent. On the Poisons Board there would be three physicians out of eighteen members, and most of the members would have very little knowledge of the subject. It would be in the power of the Secretary of State to overrule the Board and to act as he pleased. The Board would be a bureaucratic body, and the proposal to establish it was a bad provision. Time after time measures were brought forward without proper consultation with the medical profession. There had been a great deal too much of this. Proceeding, Lord Dawson said that if those who knew something about pharmacy had been consulted the Bill would have been far better. With regard to poisons, he thought that the body proposed was of the wrong type. The proper principle was to delegate difficult technical questions to semi-autonomous bodies. That had been done in the case of radium. For these reasons he asked the Lords to reject the Bill, and added that he was not against the improvement of the profession of pharmacy. It was the policy of the medical profession to raise the status of these ancillary callings.

Lord ASKWITH said he endorsed the arguments of Lord Dawson and supported the rejection of the Bill unless the Government could show that the measure could be extended to meet the desires of the medical profession and the Pharmaceutical Society. He had been in consultation with the latter body. The Pharmaceutical Society had been established by a Royal Charter in 1843, and had controlled poisons since 1862. This Bill would take away a large portion of their power without altering their constitution as they desired or widening their sphere. The society pointed out that the Bill would not deal with such substances as vaccines, thyroid extract, and serums which grew old and stale and might become poisonous. There should also be elasticity to permit inclusion in the poisons list of new substances or substances which, in the future estimation of science, became poisonous. Under this Bill shops could be set up by anybody for the sale of substances which might be very deleterious. Any person could apply, and unless there was objection to his personality, or to his premises, a licence had to be granted him. That was much too wide. He thought that a committee on the Bill should also consider whether the Pharmaceutical Society should be widened into two grades, one of those who had passed difficult examinations and the other of those who were sufficiently skilled, under the supervision of a doctor or by their own knowledge, to dispense medicine.

The Earl of ONSLOW said that every reasonable step had been taken to obtain the advice of those who were competent to give it from the medical point of view. It was the universal practice that the Home Secretary, or a responsible Minister, should have the last word in such matters as those with which the Bill was concerned. He recommended the House to give the Bill a second reading and to endeavour to improve it in committee.

The Earl of HALSBURY said that since 1868 the whole practice of pharmaceutical chemistry had altered. New drugs were got out every week, and a board was required which could deal with them from a technical point of view, and put them on the danger list without consulting Whitehall and before any of the public got hurt by them. At present the Poisons Schedule contained the dangerous word "derivatives." For instance, it mentioned veronal and its derivatives. It was difficult to say that medinal was a derivative of veronal, and yet both were derivatives of the same original substance. The Bill should not be fought on party lines, as all desired an amelioration of the present law, and he hoped the House would not divide. Viscount LEVERHULME agreed that legislation ought to be carried to ensure that prescriptions were made up by a qualified pharmacist. He supported Lord Dawson's protest against the failure to consult the medical profession sufficiently regarding this Bill. Lord COZENS-HARDY also strongly supported Lord Dawson.

Government's Reply

Lord PONSONBY, replying to the debate, said that the Government intended taking into account all bodies which were closely connected with the question of the control of poisons. In reply to Lord Dawson's complaint, he said that Sir Donald MacAlister, a very high medical authority, had been on the committee of inquiry. That committee's report had been published for a year, and the Government would have been glad to have had consultation with high medical authorities. Lord Askwith had raised the question of extending the Bill to such things as vaccines, serums, and thyroid extracts. No inquiry had been instituted into this branch of the subject, and the Government felt it was inadvisable to go beyond the actual question of poisons. That was the only point on which the Government could not accept any amendment of the Bill. On the committee stage they were ready to consider alterations of the constitution of the Poisons Board. The opinion of Lord Dawson carried so much weight that the Government could not go forward while he was in opposition. Lord Ponsonby offered to postpone the committee stage, and suggested that before then the Registrar of the Royal College

of Physicians should get together a representative body to consult with the Home Office on the Bill. Unless the Bill could be sent to the House of Commons before Easter its chances of passing into law this session would be remote. Answering Lord Phillimore, Lord Ponsonby said the Government was not opposed to the extension of the Poisons List. The Pharmaceutical Society had desired to extend this Bill to the dispensing of medicines that did not contain poisons, and although there might be need for review of the Pharmacy Acts this Bill was intended to deal exclusively with poisons.

Lord DAWSON withdrew his motion for the rejection of the Bill, but expressed a doubt whether it would be possible to get together within a fortnight the medical experts with whom the Government had suggested a conference. Lord PONSONBY said that in any case the Government would have to proceed with the Bill on March 26th.

The Bill was then read a second time without a division and remitted to a committee of the whole House.

The Army Estimates

In the House of Commons, on March 10th, Mr. SHAW moved that the House should go into committee on the Army Estimates. He said that there was a net saving on the year of £570,000, the largest item of which was in respect of the fall in the cost of living. Between October, 1929, and the end of September, 1930, 66,717 men had offered themselves for the Army. Some 52 per cent. of these men could not be accepted owing to their poor physical condition. Serious diseases which used to be prevalent in the Army had diminished to a marked degree. Interest had been aroused in the House in regard to Porton, an establishment for studying the best methods of defence against poison gas. In regard to the experiments on animals carried out at Porton he assured the House that it was quite untrue that torture in the sense of violent pain was being wantonly inflicted. The question which he had to answer, as one responsible for ministerial policy, was: "If it is demonstrated to you that by an experiment on an animal you might be able to devise the means of saving an enormous amount of human suffering, are you prepared to face the experiment?" To that question his answer was, "Yes." He was satisfied that everything possible was being done to avoid suffering, and that when any animal showed signs of great pain it was at once painlessly destroyed. This was a service which was common to the Navy and the Air Force, as well as to the Army, but he took full responsibility, as Minister of War, for its continuation. He would do his best to see that it was conducted in future on the same lines. Major TRYON said that, since they tried to enlist the healthiest people in the country, it would be a great pity if those recruits were not provided with the best medical attention while they were in the Army. There was at present a great shortage of medical officers, and he was glad that the Secretary for War viewed the position with concern.

Mr. HASTINGS said that there were two reasons for the falling off of professional interest in the Army Medical Corps. One was that the Army now provided a very healthy life, and the other was that the remuneration was small. Owing to the panel service, a doctor, by putting up a brass plate in an industrial area, could, in a year or two, make a better salary than he could obtain in the Army. The solution of the difficulty could only be found in the amalgamation into one comprehensive body of the medical services of the three fighting forces with, possibly, the medical services of other State departments.

Mr. MACPHERSON remarked that it was a sad comment on present-day recruiting that 52 per cent. of the recruits who offered themselves belonged to a C 3 population. It might be that the slum conditions prevailing in some barracks were to some extent responsible for the outbreak of spotted fever at Aldershot. The present state of the Royal Army Medical Corps was extraordinary. There was no longer any competition to enter the Service. He was told that, out of 600 officers, 500 were majors and 100 were subalterns, and the majors had to do mostly subalterns' work. If the health of the Army was to be properly looked after they could not have a disjointed and chaotic corps of that kind. At present there was no chance of promotion; the pensions and allowances were miserable, and no special grants were made for specialist services. Mr. SANDERS, Financial Secretary to the War Office, said that the number of medical officers in the Army fell short of establishment—namely, 823—by 173. The foreign establishment was kept up, so also was the Indian. The problem affected not only the War Office, but the Admiralty and the Air Ministry. An interdepartmental committee was being set up by the three Services with the object of finding some solution. His own view was that the problem was mainly a financial one. If the rates of pay of the Army Medical Corps were increased, would not other corps and departments and classes in the Army also demand that they should be put on the same level? Were doctors to have special privileges? All those matters would have to be considered in the light of the needs of the three Services. He was informed that there were 107 members of the R.A.M.C. who had specialist pay of 5s. per day extra.

Dr. FREMANTLE said the position now was that medical officers going overseas came back after five years' service and, after having only one or two years at home, had to be detailed for another five years' foreign service. When young officers, especially those who were married, had been sent back for a second term they said that they could not take it any longer. They could not stand constant terms of foreign service. Therefore it was with the greatest difficulty that the War Office could fill the foreign service roster this year. He gathered that it was most unlikely that next year it would be able to fill the roster. He understood that those who had been investigating this matter sympathetically—the British Medical Association Committee concerned—estimated that there would be another two hundred resignations within the next two or three years, and the Service would be cut down to one-half. It was impossible to fall back on the members of the civilian medical profession, who were not anxious to go abroad for any length of time with military expeditions. He remembered the scandals at the beginning of the South African war, which he witnessed as a young civil surgeon in South Africa. All the force and fury of public opinion were brought to bear against the War Office for not having made proper provision. Inside the War Office the full blast fell on the Surgeon General of the Army Medical Service, who had been making constant representations in regard to the inadequacy of the provision made for him; the position was exactly the same to-day. Ever since the war the same representations had been made by successive Directors-General of the Medical Service to every Secretary of State in each Government. In each case they had been told that they were asking too much, or that it did not matter very much, as the young men could always be obtained. Other officers in the Army said, "Why should these people be paid so much better than we are?" Their market value was different, because the young medical student had to give up six or seven of the best years of his life to a profession which was so grinding that it prevented three-quarters of the men who entered it from getting to the end. If, at the end of that period, a student managed to get equipped, he was going to see that he got the best terms for the rest of his life, and small blame to him. When he was asked to join the medical services of the three Forces he saw, first of all, that he had to be disciplined, and there was nothing a medical man disliked more. The Army offered him a position in which he was at once jockeyed out abroad, and, if he happened to come home for a year or two years' service after two or three years abroad, out he went again for another five years. The Army did not offer him a career. Lieutenant-colonels and majors retired from the medical service at 45 on a bare pound a day; that fact was a standing advertisement not to join the Army. The young medical man did not want to be unoccupied at 45, and turned loose to the end of his life. The three Services between them were appointing an interdepartmental committee to consider this question. The Warren-Fisher Committee undertook the same work in 1925, and came forward with proposals which, at the time, seemed to do what was required. This was a repetition of the same process. They would have to look further to give a career to these young men if they were to keep them. That career must be something much more than anything that could be offered by the Army alone. There was also the possibility of combining the three fighting Services. Recent reforms had had the disastrous effect of destroying the most magnificent medical service the world had ever seen—the Indian Medical Service—which was sacrificed on the altar of

Indian nationalism. His friends had looked forward to combining the Indian Medical Service with the medical services of the Army, Air Force, and Navy. That could not be done but the Colonial Medical Service might possibly be carried on. He believed that two thousand young men had enlisted in that Service since the war. The State should be master in its own house, and he could not see why there should not be one comprehensive service. They must first deal with the repeated foreign tours of service for men who joined. Young medical men might be induced to undertake five years' commission, with a term of foreign service, if given satisfactory conditions, especially a good gratuity at the end to help them to settle down in private practice. The State contributed very largely to the employment of medical officers of health engaged in local Government services, and it was possible to envisage some wider field of employment with a common entry and with ultimate employment in the Civil Service as well as in those Services which took them overseas.

Mr. SHAW said that the supply of medical men was one of the most difficult problems which the Ministers for the Defence Forces had to face, and no Department alone could solve the difficulty. He assured Dr. Fremantle that the closest attention would be given to his statement that the terms of foreign service discouraged medical men from joining the Army. The War Office would do what was best in the circumstances. In his opinion the question was still largely one of money, but if they had all the wealth they desired and gave it to the medical service, dissatisfaction would be created in other Arms of the Service and the Government would be at the beginning of its troubles. The three Services would consider the problem together and endeavour to find a way out. He frankly admitted that the difficulty ought not to exist for a moment longer than was necessary.

The House then agreed to the Army Estimate for men.

B.C.G.

On March 10th Mr. GREENWOOD told Mr. Bromley that he had no information as to the distribution of Calmette vaccine to medical practitioners in this country, and he would be obliged for any particulars that the honourable member could give him. It was not considered that the deaths at Lubeck were traceable to the original B.C.G. cultures; and, as particulars of these deaths and reports on the subsequent inquiries, and upon the use of B.C.G. generally, had appeared in the medical press, no further action was necessary to bring the matter to the notice of members of the medical profession in this country.

R.A.F.M.S.

In answer to Dr. Fremantle, Mr. MONTAGUE circulated the following table on March 13th:

Medical Officers, Royal Air Force

Year	Establishment	Deficiency	Year	Establishment	Deficiency
1920 ..	142		1926 ...	210	51
1921 ..	141	29	1927 ...	204	40
1922 ..	177	50	1928 ...	204	26
1923 ..	197	55	1929 ...	205	28
1924 ..	213	65	1930 ...	210	39
1925 ..	219	68	1931 ...	210	46
		70			

In a footnote Mr. Montague added that these deficiencies of regular officers have been made good to a substantial degree by the engagement of doctors on contract, either on a commissioned or on a civilian basis.

Cancer Statistics

Mr. GREENWOOD told Mr. Freeman, on March 12th, that the provisional figure for deaths registered during 1930 in England and Wales classified to cancer was 57,870. No information was available with regard to how many of these persons were habitual consumers of flesh foods, beer or spirits, or non-flesh diet. Registrars of births and deaths were not entitled to obtain any information with respect to a death other than that relating to the particulars required by law to be registered, and it would not be possible to adopt the suggestion that registrars should furnish information regarding such matters of diet.

Replying on March 12th to the Countess of Iveagh, Mr. GREENWOOD said he had no more recent information than that contained in the Report of Public Health of 1927 with regard to the mortality following on Wertheim's operation for the treatment of cancer of the cervix uteri. The determination of the results of radiological treatment of uterine cancer, and their comparison with the results of surgical operations, were receiving continued attention, not only from the Health Committee on Cancer, but also from the health organization of the League of Nations, which had arranged for the collection of international data on the subject. He was, however, advised that, in the nature of the case, it was not yet possible to make or publish effective comparison of the risks or results of these methods of treatment.

Milk Supply

Mr. GREENWOOD told Mr. Longbottom, on March 12th, that he had received from several county boroughs a resolution requesting that, owing to the high incidence of tuberculosis among dairy cattle, he would amend the Milk and Dairies Acts of 1915 and 1926 so as to confer on local authorities the power to make compulsory the notification of all cattle arriving in their respective areas within forty-eight hours of arrival. He would consider this resolution in consultation with the Minister of Agriculture.

Replying to General Clifton Brown on March 12th, Mr. GREENWOOD said he would consider the suggestion that a study be made of the relative nutritional values of the different types of milk which are on sale, either by the Medical Research Council or by the committee which the Government had recently set up to study the nutrition of the nation; also that the research experiments of the Dairy Research Institute at Shinfield in that direction should be carefully considered.

National Health Insurance

Mr. GREENWOOD told Sir Kingsley Wood, on March 12th, that two important changes in the Medical Benefit Regulations had been made to protect the National Health Insurance funds against abuse. The first referred to the transfer of insured persons from one doctor to another, and the second to lax certification. He also proposed to issue at an early date to all insurance doctors a memorandum, and to all approved societies a circular, giving the results of recent investigations into the increase of sickness and disablement benefit claims and advice on medical certification and the supervision of claims.

Food Preservatives.—Replying to Colonel Ruggles-Brise on March 12th, Mr. GREENWOOD said that nearly all chemical preservatives were injurious or objectionable in some degree, but sulphur dioxide and its compounds—the preservatives used in fruit and fruit pulp—were among the least objectionable. It was necessary on practical grounds to tolerate the use of these preservatives to a limited extent. The regulations applied to imported and home-produced fruit were substantially in accordance with the recommendations of the Departmental Committee on Preservatives in Food, 1924.

Maternal Mortality.—Mr. GREENWOOD told Mr. Leach, on March 12th, that the selection of the deaths for inclusion in the maternal mortality rates published by the Registrar-General was governed by the medical certificate that death was directly or indirectly due to certain causes, and did not depend upon the time which elapsed between the confinement and the death.

Radium.—Mr. GREENWOOD told the Countess of Iveagh, on March 12th, that he understood arrangements had been made by the Radium Commission to obtain annual returns showing results from the radium centres to which radium was lent by the Commission. He would consider obtaining similar returns from local authorities in whose institutions radium was used.

Asylum Officers' Superannuation.—It is hoped to complete in two or three weeks the collection and tabulation of statistical matter with regard to the actuarial position under the Asylum Officers' Superannuation Act, 1909. The Government actuary will then be able to prepare a report.

Medical News

A Chadwick public lecture will be given by Professor Major Greenwood, on nerves and the public health, at the British Medical Association House, Tavistock Square, W.C.1, on Thursday, March 26th. Sir James Purves-Stewart will take the chair at 5 p.m.

The annual meeting of the Mental After-Care Association will be held at the Haberdashers' Hall, Gresham Street, E.C., on Wednesday, March 25th. The chair will be taken by Lord Wakefield of Hythe at 3 p.m.

A meeting of the Medico-Legal Society will be held at 11, Chandos Street, W.1, on Thursday, March 26th, at 8.30 p.m. Mr. F. L. Collins, F.I.A., will read a paper entitled "Mortality tables, their history, construction, and use," which will be followed by a discussion.

The next meeting of the Optical Society will take place at the Imperial College of Science and Technology, Imperial Institute Road, South Kensington, S.W.7, on March 26th, at 5.30 p.m. The attention of members is directed to the altered time of this meeting.

The annual general meeting of the Cremation Society will be held at 23, Nottingham Place, W.1, on Wednesday, March 25th, at 3.30 p.m.

A reception will be held on Tuesday, March 24th, at Queen Charlotte's Isolation Hospital, Ravenscourt Square, Hammersmith, W., to view the new hospital and research laboratories. Dr. Leonard Colebrook, director of research, will speak, at 3.15 o'clock, on the puerperal fever research to be undertaken in these laboratories.

The next reception of the Royal Society of Medicine will be held at 1, Wimpole Street, W.1, on Monday, April 20th, at 8.30 p.m., when the President and Mrs. Watts Eden will receive Fellows and their friends in the library. At 9.15 p.m. an illustrated address, entitled "*Some aspects* of Alpine climbing," will be given by Dr. Claude Wilson, president of the Alpine Club. Various objects of interest will be exhibited in the library. Admission will be by ticket only, application for which should be addressed to the secretary.

Dr. Maurice A. Bigelow, professor of biology at Columbia University and chairman of the executive committee of the American Social Hygiene Association, will deliver a lecture entitled "Social hygiene and the family" at the Marble Arch Rooms, Old Quebec Street, W., on Tuesday, April 21st. The Duchess of Atholl, M.P., will preside. Admission free by ticket, which can be obtained from the secretary, British Social Hygiene Council, Carteret House, Carteret Street, S.W.1.

The annual meeting of the Society for the Study of Inebriety (Alcoholism and Drug Addiction) will be held at the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, April 14th, at 4 p.m. After the transaction of business, Dr. Charles W. J. Brasher, medical superintendent, Woodlands Park, will read a paper entitled "Absinthe addiction and the cocktails habit."

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-Graduate Courses, published in the *Supplement* at page 96. Several special courses have been arranged to be held under the auspices of the Fellowship after Easter. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1.

A course of nine lectures and demonstrations in tropical hygiene and nursing arranged by the County of London Branch of the British Red Cross Society will be given on Monday, Wednesday, and Friday evenings, at 9, Chesham Street, S.W.1, commencing on Friday, April 10th, at 5.30 p.m. An examination for the society's certificate in tropical hygiene will be held on May 1st. The fee for the course to members of the Red Cross and voluntary aid detachments is 5s., and for non-members 7s. 6d.

A course on post-graduate study on radium, pneumothorax and haematology will be held at the Aberdeen Royal Infirmary and Aberdeen University on Tuesdays and Thursdays at 3.15 p.m., from April 21st to June 2. A syllabus of the lectures and demonstrations may be obtained on application to the secretary, University, Aberdeen.

An examination for the Chesterfield medal, which is open to all qualified practitioners, will be held at St. John's Hospital for Diseases of the Skin, Leicester Square, W.C.2, on March 30th and 31st at 10 a.m. Full particulars can be obtained on application to the dean.

A summary of Mr. Justice McCardie's Maudsley Lecture, entitled "Truth," appeared in our issue of November 29th, 1930 (p. 921). The full text has now been published, on behalf of the Royal Medico-Psychological Association, by Adlard and Son, Ltd. (21 Hart Street, W.C.1), at the price of 4d.

Of the eighty-eight Italian graduates on the *Medical Register* for 1930, not more than a dozen are practising in Great Britain, a small number live in Italy, and the majority are settled in the Colonies and Dominions.

The three psychiatric societies of Paris—namely, the Société Médico-psychologique, Société Clinique de Médecine Mentale, and Société de Psychiatrie—have recently been merged into one, with the *Annales Médico-psychologiques* as the official organ. Dr. R. Charpentier is permanent secretary.

Professor K. F. Wenckebach of Vienna has been invited by the Queen Wilhelmina Jubilee Foundation to investigate the pathology of the heart in acute beri-beri at the recently established medical faculty at Batavia in Java.

In Paris an institute of physico-chemical biology has been founded by Dr. Edmond de Rothschild.

Dr. G. Lemoine of Lille has been elected president of the professional association of French medical journalists.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the British Medical Journal must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecta Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: Bacillus, Dublin; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: Associate, Edinburgh; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Sensitiveness to Sunshine

"A. S. P." (Liverpool) writes: I have a patient, aged 54 years, who is quite unable to allow the sun to shine upon her. An exposure of five to ten minutes brings out an intense irritation of the part exposed, and an erythema. Her movements in the summer are very much curtailed in consequence, and I should welcome any advice by which I could help her.

Mammary Abscess

...rites: In reply to "Suburban G.P." (March 14th, "... the probable causation of these cases is as follows. ...s of all classes seem firmly to believe that they ...moisten the nipple with saliva before putting it in the ...s mouth. The probable sequence of events is dental ...s, unwashed nipples, cracked nipples, mammary ...cess. Few mothers take the trouble to wash and dry ... nipple after nursing; a mere wipe is not enough. Very ...ten the left breast is used more than the right; it is ...sually the first one given when both are used at a feed, ...and it is often given alone. I do not consider spirit or any hardening agent necessary for the nipples, but careful cleansing most certainly is essential.

Paroxysmal Rhinorrhoea

Dr. J. FULTON CHRISTIE (Glasgow) writes in reply to "Ninety-nine" (March 7th, p. 432): The history is that of a typical case of paroxysmal rhinorrhoea or vasomotor rhinitis. Recently I have been treating a series of patients suffering from this condition with parathyroid extract 1/10 grain and calcium lactate 15 grains twice daily, over a period of six weeks. This treatment has been described before, and is not original. The results which I have been getting have been good, a definite improvement being obtained in almost every case. It is essential that septic tonsils or sinus disease, when present, should be first dealt with. The doses stated are for an adult.

A Headache Powder

"W. F." was called to see an adult male patient who was in great distress. Five hours earlier he had taken a "head and nerve powder" for a headache and gone to lie down in bed. An hour later he began to feel queer, and when his wife saw him she became alarmed at his appearance. Our correspondent saw the patient five hours after taking the powder. His eyes were then puffed and almost closed, and his face was greatly swollen. He said his head felt as if it were going to burst, and he was weak all over. The pulse rate was 96. The symptoms soon subsided.

*** The sample powder forwarded by "W. F." has been examined on our behalf, and was found to contain acetanilide and tartaric acid, approximately 8 grains of the former and 2 grains of the latter in the 10-grain powder. The Pharmacopoeial dose of acetanilide is 2 to 5 grains.

Miscarriage of One Twin

We have received the following from Dr. H. COHEN (Cardiff): Dr. Boyd Roberts's note in the *Journal* of March 14th (p. 479) recalls to my mind that just over two years ago I attended a primipara in her confinement, which was a fairly easy forceps case, followed by a perfectly normal third stage. The puerperium was uneventful, till on the fifth day she passed what strongly resembled a carneous mole. This was preceded by some uterine pain, but little or no haemorrhage. The temperature and general condition remained undisturbed, and the patient's progress was uninterrupted. As the expelled tissue was certainly not placenta or recent blood clot, I could only explain what happened by supposing that she had had a twin conception, and that one foetus had "missed fire," resulting in a blood mole, which was retained and not cast off till after labour took place. I may add that six months ago the patient had a second baby, both the confinement and puerperium being normal.

LETTERS, NOTES, ETC.

Diverticula of the Duodenum.

Dr. JULES REY (Bognor) writes: I add two more cases to the list for those who are interested in this condition. (1) A woman, aged 42, who was labelled a "neurotic" and "hysterical" derelict, drifted into my hands and, among other investigations and tests, I gave her a barium meal. The startling discovery was made that she had a diverticulum about 3 to 4 cm. in diameter, almost globular, and situated in the third part of the duodenum or first part of the jejunum. Unfortunately, owing to the exigencies of my practice, I could not spare the time to photograph the condition. It could easily be emptied by deep massage in the middle line of the body. She fully recovered her former good health, due almost entirely to the frequent evacuation of the contents of this diverticulum by manual pressure. Five years have elapsed, and still, with careful dieting, she remains in very good health. (2) A married man came to me on March 11th, complaining of dull constant epigastric pain. Appendicectomy had been done in December, 1930, with no relief. By *x*-ray examination a hypertonic stomach was found, there being also increased peristalsis, an irregular duodenal cap, and duodenal ileus. Nine hours after ingestion, when the stomach was nearly empty, except for a faint crescent of the greater curvature, a very small diverticulum was seen at the junction of the first and second part of the duodenum, a respiratory excursion of 5 to 8 cm. taking place. Several hours later the diverticulum had completely disappeared. It will be interesting to note if all his symptoms disappear with careful dieting and the administration of alkalis.

Treatment of Obesity in a Multipara

"M.B., B.S." writes: Perhaps my personal experience may be of some help. After the birth of my second child I began to put on weight rapidly. From my normal weight of 11 st. 7 lb. I went up to nearly 14 st. I began to take Burroughs Wellcome's thyroid extract (fresh gland), beginning with doses of half a grain three times a day. I pushed this gradually until I noticed signs of hyperthyroidism. This occurred when I was taking 20 grains a day. I reduced the dose to 15 grains a day, and I have gradually lost weight, and am now back to 11½ st. People remark on my slimness and youthful look. I am 38 years of age and 5 ft. 9 in. in height. I am now taking 15 grains every other day with my early morning tea. The slimming process I have described took eighteen months. The only drawback to this dosage that I have noticed is a feeling of tiredness towards the evening. I have had the same result in a patient who got suddenly fat after a confinement; but she needed only five grains a day to reduce her to normal.

Treatment of Cancer of the Bladder

Dr. W. M. CORBET (London, E.C.) writes: The article just published under the above heading will further trouble the muddy waters for the average practitioner. To the urologist the position is crystal clear, and reduces itself to the indication for immediate cystoscopy at the onset of any urinary haemorrhage. A cancer of the bladder is never fulminating *ab initio*, like, for example, a melanotic sarcoma. Practical experience in cystoscopy teaches one that these growths almost always commence as benign papillomata, responding readily to trans-urethral diathermy with a sufficiently powerful current and a sufficiently heavy electrode. They only gradually take on malignant characteristics; and the vesical neoplasm which, when seen for the first time, whether by abdominal section or cystoscopically, is undoubtedly malignant, is a growth seen too late—as much so as if it were situated in the breast or the lip. The obtaining of a proper specimen for microscopical examination is usually not a practical proposition. The writer, while stressing the difficulty of exact diagnosis of the stage of malignancy, lays down excision as the method of choice. I think most urologists would agree with me in placing excision third on the list, and advising, first, cystoscopic diathermy—under sacral anaesthesia if need be—and, secondly, open diathermy. Radium, in my experience, is a lamentable failure in this region, only prolonging the agony. The quoted statistical mortality of 75 per cent. in vesical cancer is surely the strongest plea for the early cystoscopic exploration I urge.

Analgesia in Childbirth.

Dr. A. Z. C. CRESSY (Wallington) writes: In a letter published in the *British Medical Journal* of October 25th, 1930, I referred to ovarian residue in labour, and I have since had letters on the subject from doctors in China, America, Africa, Ireland, Scotland, and several in England, all asking for details. This shows that the general practitioner is on the look out for anything that may improve his practice, and that he does take an interest in midwifery.

Corrigendum

We regret that in Mr. Holt Diggle's paper entitled "Intranasal dacryocystostomy for relief of lacrymal obstruction," published in our issue of March 7th (p. 391), the word "apart" was erroneously inserted in the following sentence: "Other factors . . . no doubt prejudiced a favourable result in what was *apart* from the consistency of the sac an easy operation."

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 53, 54, 55, 56, 57, 60, and 61 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 58 and 59.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 95.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

263 Myocardial Diseases

H. L. HEIMANN (*Journ. Med. Assoc. of South Africa*, January 10th, 1931, p. 8) remarks that estimation of the myocardial integrity is difficult when obvious defects such as valvular disease are absent. All valvular lesions except the congenital forms are associated with myocardial defect, but the onset is obscure and the symptoms are indefinite. The recognized terminations of myocardial disease are (1) congestive failure, (2) angina, (3) coronary thrombosis, (4) the Stokes-Adams syndrome, (5) ventricular fibrillation, and (6) myocardial rupture; two or more of these may be associated. Ventricular fibrillation and ventricular rupture are most rapidly fatal, and congestive failure is the slowest. Chloroform anaesthesia may produce fatal ventricular fibrillation in a healthy myocardium; as a terminal phenomenon fibrillation connotes a final effort of dying muscle. Rupture is rare, but it may result from an infarction or from fibrosis due to a gumma. The Stokes-Adams syndrome may terminate in death during asystole. Congestive failure commences clinically with dyspnoea, but this is not pathognomonic. Cyanosis may occur, and a history of rheumatism or syphilis may assist diagnosis. Rheumatic myocarditis is associated generally with valvular lesions, usually mitral stenosis; it is seldom cured. Acute congestive failure, due to a transient condition such as severe tachycardia—for example, in sea-sickness—may subside completely, or remissions may occur. Congestive failure may be due to hyperpiesia, chronic nephritis, cardio-vascular syphilis, or acute infective carditis. Acute failure may ensue in the exanthemata. Angina may be fatal in a case which has shown no previous physical signs or symptoms. The quality of the heart sounds is often misleading in the diagnosis of myocardial degeneration, but the "gallop-rhythm" and "tick-tack" sounds are more reliable. The first always indicates myocardial breakdown, and is often accompanied by pulsus alternans. Exercise tolerance tests are of little value in prognosis, except when angina supervenes. Permanent hyperpiesia and a fall in blood pressure after exercise are important signs of severe myocardial inefficiency. Myocardial degeneration may develop in prostatic hypertrophy, and in toxic conditions such as exophthalmic goitre. Treatment of the thyrotoxic condition diminishes the myocardial lesion. Dysenteric paroxysmal tachycardia is of toxic origin.

264 Asymptomatic Neurosyphilis

J. E. MOORE and H. H. HOPKINS (*Journ. Amer. Med. Assoc.*, November 29th, 1930, p. 1637) present data from 123 cases, observed for an average period of seven years, of asymptomatic neurosyphilis; 55 were of the early and 68 of the late type. The patients were classified in three groups, according to the degree of the spinal fluid changes. The presence of a Group 3 fluid (maximal changes of the paretic formula) is strongly presumptive of a liability to the development of parenchymatous neurosyphilis. Eleven of the patients had died at the time of reporting, 5 from neurosyphilis. As the observation period was short, 38 questionable cases are noted by the authors as being likely to develop further. Spontaneous regression to the normal of positive spinal fluids is held to be rare. The authors believe that the presence of a positive fluid in patients with early or late syphilis is of grave prognosis, even though they present no objective neurological abnormalities; the ultimate danger to the patient is roughly proportional to the intensity of the spinal fluid changes. A negative fluid is, subject to certain qualifications, a practical degree of safety as regards the subsequent development of neurosyphilis. From these facts it is concluded that a routine spinal puncture is indispensable in every syphilitic subject.

265 Sex and Age Incidence in Asthma

K. H. BAAGÖE (*Ugeskrift for Laeger*, January 22nd, 1931, p. 79) has investigated 311 cases of asthma; 110 of these were in-patient hospital cases, and the remainder out-patients. There were 175 males to 136 females, and the excess of the former over the latter was most marked among the patients whose asthma had begun within the first five years of life (90 males to 60 females). This fact coincides with the observation that the general morbidity is higher among boys than girls in the first years of life. The sex incidence showed no difference in the case of patients whose asthma had begun between the ages of 5 and 40 (68 males to 69 females), but after this age the ratio of males to females was as 17 to 7. Among 155 asthmatic children 15 years old or younger, there were as many as 120 whose asthma had begun before they were 5 years old; but among 138 asthmatics over the age of 20, the age at onset of the first symptoms was fairly evenly distributed over the years of childhood and adult life. There would thus seem not to be any special age, as far as these 138 patients were concerned, at which persons are specially liable to develop asthma. In 293 cases the cutaneous reactions to 25 different substances were studied, and a positive reaction was obtained to feathers in 44 per cent.; to horse scurf in 10 per cent.; to cats' hairs in 9 per cent.; to cows' hairs in 8 per cent.; to dogs' hairs in 5 per cent.; to crayfish in 10 per cent.; to eggs in 2 per cent.; to fish in 2 per cent.; to lactalbumin in 2 per cent.; and to pollen in 15 per cent. Positive reactions to egg and fish were obtained only in children. While Walker found that 80 to 90 per cent. of his patients whose asthma had appeared in earliest childhood gave a positive reaction, and that the percentage of positive reactions declined as the age of onset rose, Baagöe found a positive reaction in 59 per cent. of his patients whose asthma had begun before the age of 5, and in 74 per cent. of those whose asthma had begun between the ages of 5 and 10. While only 42 per cent. of the females gave a positive reaction, 67 per cent. of the males did so.

266 Pseudo-tuberculous Measles Pneumonia

W. MIKULOWSKI (*Arch. de Méd. des Enf.*, December, 1930, p. 811), who records four illustrative cases in children aged from 2 to 4 years, states that owing to the close clinical and epidemiological connexion between measles and whooping-cough the most frequent complication of measles in young children is the so-called pertussis pneumonia, which often has a protracted course. This affection may be accompanied by dilatation of the bronchi and involvement of the pleurae with aseptic or microbial effusion of a serous, fibrinous, or purulent character closely simulating pulmonary tuberculosis. The opinion generally held regarding the reactivation of tuberculosis as the result of measles is mainly based on the clinical resemblance of pertussis pneumonia to tuberculous pneumonia. In view, however, of the inadequacy of the clinical methods of investigation, a diagnosis of tuberculosis can only be justified by a positive biological test or direct bacteriological examination of the patient's excretions or secretions.

267 Sublingual Mumps with Oedema of Tongue

E. H. R. HARRIS and E. C. BENN (*Brit. Journ. Child. Dis.*, October–December, 1930, p. 293), who record two personal cases, state that while sublingual mumps, either alone or in association with parotitis, is well known, and the occurrence in mumps of oedema of the neighbouring tissues, especially the larynx, is also well recognized, no previous cases have been recorded of oedema of the tongue secondary to sublingual mumps. Their first patient was a boy, aged 8, who was sent to hospital as a case of diphtheria. There was no clinical or bacteriological evidence of that disease, but the tongue was greatly swollen and protruded, the floor of the mouth was

oedematous, and the sublingual salivary glands were swollen and tender. The parotid and submaxillary glands were not affected. During the first few days the tongue was frequently swabbed with ice-cold water and the child was fed by nasal tube. Recovery without metastasis ensued in about seventeen days from the onset. No history of exposure to mumps was obtained, but the disease was prevalent in the town at the time. The second patient was a girl, aged 13, admitted to hospital with scarlet fever; she had been exposed to mumps a fortnight before admission. Four days later her tongue became swollen, and the sublingual glands were congested and tender. The submaxillary and parotid glands were not affected. Uncomplicated recovery followed in a few days.

268 Tularaemia in Norway

H. A. SALVESEN (*Norsk Mag. f. Laegevid.*, January, 1931, p. 28) records four cases of tularaemia, two of which belonged to the ulcero-glandular and two to the glandular type. All the patients had contracted the disease from handling hares. As far as could be ascertained the incubation period was from three to four days in each case. In one instance stomatitis developed during the disease. T. TIJÖTTA (ibid., p. 32) states that about fifty cases of tularaemia are known to have occurred in Norway, and that the number is steadily increasing. All forms of the disease have been encountered except the typhoid type. The disease has been met with in almost epidemic form in the ranches for fur foxes where the ranchers feed their animals with game, especially hares. In one case a man was infected by picking up a dead hare and looking at it, but without opening it; in another case the patient had merely carried a skinned hare wrapped up in paper. In the following instances infection through hares could be excluded—namely, two cases of the ulcero-glandular type that seemed to have been infected through the soiling of hands by the faeces of lemmings, two cases in field labourers harvesting crops in fields infested by the faeces of lemmings and field mice, one case due to the bite of a cat in a district where an abundance of dead field mice was found, one case following a fall on the ground with slight injury to the fingers, and, lastly, one case in which no explanation was forthcoming. These facts show that small rodents besides the hare—namely, lemmings and field mice—may become infected with tularaemia. Special interest attaches to the migrations of lemmings, millions of which stream in herds from the mountains to the valleys, and thus form a natural concentration of the virus of tularaemia. It had previously been noted by hunters and woodsmen that the years of lemming migrations were always followed by years in which there was a heavy mortality among hares.

269 Colonic Stasis of Hepatic Causation

E. ZEBROWSKI and E. BRATKOWSKI (*Rinascenza Med.*, January 1st, 1931, p. 5) describe a new syndrome which they call "hepatic tiflostasis"; they think it is not uncommon, since they have observed it 150 times in one year. The clinical symptoms include enlargement and distension of the abdomen associated with constipation. In almost half the cases of enlarged liver the authors detected an oval hard mobile mass, or a large broad rather soft mass occupying the whole iliac fossa. Radiograms eliminated other possible conditions, and showed that the enlarged liver in some cases was pressing on the colon, whilst in others it covered the hepatic flexure of the colon. The weight of the liver decreased the motility of the caecum; two forms of stasis are described—namely, the hypertonic (in youths) and the atonic (in old age). The syndrome is generally chronic. The acute form occurs in persons who have swallowed too much liquid or a large quantity of fruit together with kernels; it resembles appendicitis, but is distinguished from it by the enlarged liver, the vague pain, and the severe toxaemia. Treatment consists in lavage of the caecum, which in chronic cases is preceded by the administration of purgatives, and followed by the adoption of a vegetarian diet and by diathermy. Treatment is also required for the liver condition.

Surgery

270 Epidermoid Carcinoma in Sebaceous Cysts

E. L. BISHOP (*Annals of Surgery*, January, 1931, p. 109) asserts that the common sebaceous cyst or "wen" does, in a number of cases, develop into a malignant tumour. The formation of the cyst is due to mechanical blocking of the duct, followed by retention of secretion and accompanied by a continued and increased activity of the cells within the cyst. If infection, either acute or chronic, is added, there exists a suitable condition for the development of a malignant tumour. In certain cases, after the removal of a cyst, a recurrence in or near the scar may develop which is sometimes proved to be a carcinoma. Laboratory examination showed that out of 119 cysts and keratomas examined, eleven revealed definite carcinoma, two others such marked epithelial activity as to be classed as precancerous, and one case was known to be malignant. The tendency towards malignancy increases with the age of the patient; the average age for benign cysts was found to be 38, whilst in the eleven cases of carcinoma the average age was 64. The proportion of carcinoma in cysts was much greater in the female than the male, being in the ratio of 8 to 3. The scalp and face are the most common locations for simple and carcinomatous cysts, the latter being in most cases of the squamous type. Recurrence following the removal of these tumours is common, but metastases are rare though not unknown. Of the cases reported, one patient died from carcinoma of the breast with liver metastasis, which was present at the time of the removal of the cyst.

271 Treatment of Cutaneous Cancer

W. DUBREUILH (*Journ. de Méd. de Bordeaux*, December 30th, 1930, p. 979) remarks that in the *x*-ray treatment of cancer of the skin it is unnecessary and even harmful to apply deeply penetrating rays, since only the surface need be attacked. It is better to use massive doses in a single application than repeated smaller doses which may render the cancer radio-resistant. Sometimes, although the cancer cells are destroyed, the stroma is unaffected, and a papillomatous condition may ensue; this, however, disappears in the process of cure. When the cancer has extended deeper, radium gives better results than *x* rays. In secondary cancer of the skin neither radium nor *x* rays do much good; the same applies to the melanotic types where the method of choice is diathermy or excision. The author is not in favour of electrolysis of these cases. The clinical examination rather than the histological structure is the best guide as to treatment in individual cases. Epithelioma of the upper lip is a cutaneous cancer, but in the lower lip the cancer is orificial or mucous; cure has sometimes been obtained in the latter by employing *x* rays. As regards epithelioma of the face in general the author has come to the conclusion that cases which do not respond to *x* rays or radium are almost always inoperable. Some cases of epithelioma supervening on lupus have been temporarily cured, but never those developing on the scar of a burn.

272 The Thymus in Exophthalmic Goitre

H. SCHLEUSSING (*Zentralbl. f. Chir.*, January 24th, 1931, p. 201) has examined the post-mortem material in 12 cases of toxic goitre; most of the patients died shortly after an operation, with symptoms of hyperthyroidism. In all the thymus was found to be enlarged, and the enlargement was due to the persistence of definite thymus tissue, though the relative amount of cortex and medulla and the numbers of Hassall's corpuscles varied considerably. In some cases other lymphatic tissues in the body were also affected. Of 6 cases where operation was successfully performed, no thymus was found in 4, and the organ weighed about 1 gram and 30 grams respectively in the other two. The larger thymus contained richly calcified Hassall's corpuscles, but otherwise resembled those found in the post-mortem group. The striking contrast between the fatal cases on the one hand and the successful ones on the

other leads the author to conclude that the thymus may play a part in the production of the more serious symptoms of the disease. He suggests that an attempt might be made to reduce the size of the thymus, if present, before an operation is undertaken.

273 Post-operative Ileus

J. BRENNAN (*New York State Journ. Med.*, January 15th, 1931, p. 77) defines two main types of post-operative ileus, the mechanical and paralytic; the former is due to such conditions as adhesions, tumours, volvulus, and intussusception, while the latter is insidious in onset and often overlooked in its early stages. Both show the same clinical course, with the symptom-complex of pain, tympanites, vomiting, and complete constipation; if left unrelieved by enemas, stomach washings, passing of the duodenal tube, and the administration of sodium chloride, the complication may compel further surgical intervention. High obstruction is rapidly fatal; the occurrence of faecal vomiting must be regarded not so much as a symptom of intestinal obstruction as one of approaching death, being too late for surgical cure. There is a similarity of symptoms between the terminal stages of ileus and death from shock or gas gangrene; the fatal termination is probably due to absorption of nucleo-proteins from the degenerated intestinal lining, together with such factors as dehydration and loss of chlorides and alkalosis. Treatment is largely preventive, and necessitates a thorough knowledge of the patient beforehand, study of the blood chemistry, not too early catharsis, and a return to the normal water balance in the body, with, in certain selected cases, the performance of an ileostomy as part of the original operation. In late cases a jejunostomy relieves the toxicity best, and the intestinal contents are replaced with sodium chloride solution, 5 per cent. intravenously and 3 per cent. in large quantities subcutaneously. Some authorities advocate stripping the entire small intestinal tract over a glass tube to empty it thoroughly. Both in diagnosis and in treatment spinal anaesthesia is of value.

274 Chronic Appendicitis

L. R. CHANDLER (*Journ. of College of Surg. of Australasia*, November, 1930, p. 235) insists that it is impossible to make a proper physical examination for chronic appendicitis without assistance. In every case a complete history should be taken and the physical examination include all relevant pathological tests and an *x*-ray investigation of the gastro-intestinal tract. In this way it is possible to eliminate such conditions as peptic ulcer, cholecystitis, mesenteric lymphadenitis, pelvic inflammation, ureteral and kidney disease, diverticulitis, colitis, amoebiasis, intra-abdominal tuberculosis or early malignant disease, subcostal neuritis, hypothyroidism, cardiac disease, epididymitis, and hernia. When chronic appendicitis originates in an acute attack, removal by means of a conservative muscle-splitting operation is recommended, but a rectus incision permitting abdominal exploration is advised in cases of insidious onset. Chandler claims that as the result of paying special attention to accurate diagnosis 95 per cent. of his patients with chronic appendicitis have been cured by appendicectomy.

275 The Frequency of Adenoids in Adults

C. G. VILLANUEVA (*La Med. Ibera*, January 17th, 1931, p. 73) records five cases of adenoids in adults aged from 24 to 40, three of whom were men and two women. He maintains that adenoids are much more frequent in adult life than the textbooks would lead one to suppose. His cases illustrate the diagnostic value of posterior rhinoscopy, for the performance of which all that is needed in the way of preparation is painting the pharynx with a 1 in 10 solution of cocaine. Villanueva declares that many cases of respiratory insufficiency, catarrhal and suppurative otitis, obstinate pharyngitis, laryngitis, and similar conditions in adults are simply due to the persistence of adenoids which serve as foci of localized infection, and can easily be cured by adenoidectomy.

Therapeutics

276 Intermittent Claudication Relieved by Hot Baths

The treatment of intermittent claudication by inducing hyperpyrexia is suggested by H. G. MEHRTENS and P. S. POUPPIRT (*Journ. Amer. Med. Assoc.*, December 20th, 1930, p. 1910), who immerse their patients in baths the temperature of which is kept at 110° F. With timid patients, or on the occasion of the first bath, the temperature is 5° lower. The bath temperature is maintained until the temperature of the patient reaches a point 1½° below the fever required; the bath heat is then reduced until it corresponds with the mouth temperature of the patient. The routine bath lasts one hour, and it is repeated daily for a fortnight or longer. The milder cases were found to have the better chances of improvement, and when gangrene had started no amelioration was obtained. Such hyperpyrexial baths are considered by the authors to be indicated particularly in early cases of vascular disease with symptoms of intermittent claudication. Arterio-sclerosis may also be benefited thus, especially when there is calcification of the peripheral vessels. Complications are averted by carefully watching the patients, and modifying the treatment according to individual requirements.

277 Treatment of Leprosy

G. H. WILDISH and D. G. STOUTE (*Journ. Med. Assoc. of South Africa*, January 10th, 1931, p. 21) reports successful results in the treatment of leprosy following the alternation of intravenous injections of tartar emetic with the oral administration of potassium iodide. Commencing with 10 grains of potassium iodide three times a day for three or four days, the appearance of reactions led to this treatment being suspended, and intravenous injections of 0.25 grain of tartar emetic twice each week being substituted, the dose being increased gradually according to the degree of its tolerance by the patient. Two courses of the two drugs were usually sufficient to produce a marked improvement in the macules, the edges of which became dry, flattened, and desquamating. The pains and cramps lessened, and the general condition of the patients was obviously better. An interval of a fortnight was allowed between the two courses. The authors mention that the reactions to look for are exacerbations of any of the leprous lesions, leprotic fever, iodide reactions, and sudden impairment of the general physical condition of the patient. No patient complained of any ill effects, and the combined treatment became very popular. Some reacted to very small doses of potassium iodide, even to single doses of 2 grains.

278 Intraperitoneal Administration of Iron

C. G. GRULEE and H. N. SANFORD (*Amer. Journ. Dis. Child.*, January, 1931, p. 53) commend the intraperitoneal injection of iron in doses of 5 mg. at three-day intervals, combined with ultra-violet light irradiation, or with one or two transfusions of blood, for the treatment of children suffering from secondary anaemia. They found that although there was little or no rise in the haemoglobin or red cells during the time of injection, or about 30 days, there ensued subsequently a haemoglobin rise to the extent of 5 per cent. a week. The view is held that secondary anaemia is more particularly due to inability to use the iron taken into the body than to an actual shortage, and that the therapeutic administration of iron in this way creates a reservoir on which the body may draw. The ultra-violet irradiation was supplied, therefore, to assist the assimilation of iron, and in certain cases one or two intraperitoneal injections of citrated blood were given with the same intent. The method adopted was to inject 5 c.cm. of colloidal iron as ferric hydroxide, the solution containing 8 mg. of the metal; this standard amount was used irrespective of the weight of the child. The injections were given twice a week for four weeks, after which the child was sent home from hospital, and monthly blood

estimations were made. Control experiments were associated with the clinical investigation, and it was shown that the combination of iron therapy with blood transfusion or irradiation was essential for success. The ages of the children ranged from 9 months to 2 years, and the beneficial results were permanent. No adverse reactions occurred, except when attempts were made to increase the dosage. No benefit was obtained in cases of primary anaemia.

279 Endocrine Treatment of Gastric and Duodenal Ulcer

S. J. ESSENSON (*Med. Journ and Record*, December 3rd, 1930, p. 549) advocates the use of intramuscular parathyroid injections as the best means of stopping that hypermotility which, with hyperperistalsis, is one of the most prominent signs of gastric or duodenal ulcer. With the cessation of epigastric discomfort, vomiting, haemorrhage, and hyperacidity, surgical intervention is contraindicated, and treatment must aim at overcoming the hypermotility and pylorospasm. While atropine gives temporary relief to the latter, the most reliable remedy is parathyroid administered intramuscularly, accompanied by diet, rest, and neutralization of the hyperacidity. Notes of four cases from his clinic are given in which intramuscular injections of from 20 to 30 units of parathyroid with 1/100 grain of atropine were given daily, or every other day, with marked improvement in all instances.

280 Diathermy in Renal Colic

G. BOISSON (*Paris Méd.*, January 24th, 1931, p. 92) records a personal experience. Following previous attacks of renal colic, he was awakened one night from sleep by the characteristic pain. A hypodermic dose of sédol gave no relief. He tried diathermy, with one electrode on the dorso-lumbar region and a large electrode on the abdomen. The strength of the current was raised gradually to 3,000 milliamperes, and eventually to 4,000 milliamperes. Twelve minutes from the commencement of treatment he experienced marked relief; in half an hour he was bathed in sweat. After an interval of three hours he tried a second period of treatment, following which he passed a tiny calculus of oxalic acid. In previous attacks the spasms of pain had lasted for thirty-six hours, and the calculi passed with great difficulty and suffering. Two months later he had a further attack, and at once tried diathermy again in two similar periods of treatment. Eight hours after the commencement of the crisis he passed a small oxalic acid calculus without the usual violent pain.

Ophthalmology

281 Central Nervous Control of the Ocular Mechanisms

H. A. RILEY (*Arch. of Ophthalmol.*, November, 1930, p. 640), after asserting that there is probably no synergism in the action of the extraocular muscles, and discussing the various pareses, details the causes of interference with the peripheral nervous mechanism as those capable of producing neuritic processes elsewhere (toxic, metabolic, or infectious disorders, aneurysmal, neoplastic, or traumatic), and those operating in the orbit, sinuses, or cranial cavity. He states the positions of the various nuclei in the brain stem—there not being general agreement in the case of the muscular subdivisions of the third cranial nerve—and discusses the possibility of centres for vertical and lateral deviation, convergence, and divergence. The evidence in support of all but the last is, he holds, practically conclusive. In the reflex movements of the eyeball the acoustic and vestibular divisions of the eighth connect with the oculomotor nuclei to move the eyes in obedience to auditory and postural stimuli, as in the production of nystagmus. In the second part of his paper (ibid., December, 1930, p. 885) Riley points out that while cortical and supranuclear lesions involve one or more muscles, and the reflex control of the vestibular apparatus is present, lesions of the nuclei affect only one muscle and vestibular control, and those of a specific centre influence single movements. In pure gaze paralysis there is no diplopia, while in intra-axial involvement there are associated brain-stem lesions. An isolated paralysis of the fourth or sixth nerve usually indicates a root lesion, in the absence of other neurological symptoms. Diseases attacking the nuclei, neuraxial centres, and intra-axial root fibres are: congenital aplasia; chronic progressive external ophthalmoplegia (probably an abiotrophy); intoxication—exogenous (metals, gases, and food), and intoxication—endogenous (nephritis, diabetes, gout, Graves's disease, and metabolic diseases); infections (tuberculosis, syphilis, typhoid, influenza, pneumonia, exanthems, and diphtheria); neoplastic; vascular; and traumatic. Various oculomotor syndromes are then detailed. Cramps and isolated movements mostly attack the third nerve (especially the levator palpebrae superioris, the internal rectus, and the internal muscles). Nystagmus is subdivided into the following types: oscillatory, rhythmic (in irritation), fixation (in disseminated sclerosis), unilateral (breaking of internuclear links), miners', congenital, and symptomatic, found in degenerative states, intoxications, and cerebellar and upper cervical cord disease. The extrapyramidal system controls the ocular movements by the cerebellum, and by the striatal system governed by the basal ganglia. The cerebellum probably does not endue the eye muscles with synergism. This system is attacked by epidemic encephalitis, which causes ocular deviations. Riley traces the phylogeny of cortical control, and describes the centres for voluntary movement and preservation of fixed gaze. Disturbances of cortical control always affect gaze movements (as in convulsive seizures, neoplastic pressure, inflammation, infection, and meningeal thickening); an irritative stage causes gaze deviation, preceding a stage when the gaze is paralysed. The diagnosis of hysteria is best confined to those cases which present symptoms of the higher-centre type only.

282 Pathogenesis of Sympathetic Ophthalmia

T. BARRAQUER Y CERERO (*Arch. de med., cir. y esp.*, November 15th, 1930, p. 449) remarks that numerous discordant views prevail as to the pathogenesis of sympathetic ophthalmia. One view is that the infection passes from the wounded eye to the other by the circulation; others maintain that the route is first the optic nerve of the primarily affected eye, then the optic chiasma, and lastly the optic nerve of the other eye; while according to others the first occurrence is a sympathetic irritation, which then degenerates into ophthalmia and follows the tract formed by the optic and ciliary nerves. The author holds that the last view may be rejected, since Gama Pinto has shown the fundamental difference between sympathetic irritation and ophthalmia, the former being only a disturbance of function, while the latter is an infectious disease with characteristic lesions. The supporters of the other theories declare that they have found infective organisms after death in one or both of the optic nerves or the ciliary nerves, or walls of the ciliary vessels on one or both sides. The present author, however, is inclined to regard these organisms as merely due to contamination, since otherwise they would have given rise to meningitis or septicaemia. He maintains that sympathetic ophthalmia is due to a delayed process of formation of antibodies, which is interrupted by the rapid development of panophthalmia or ocular suppuration.

283 Ocular Manifestations of Trichinosis

L. F. CARTER (*Journ. Amer. Med. Assoc.*, November 8th, 1930, p. 1420), who records three illustrative cases, states that the most spectacular and characteristic ocular symptom of trichinosis is chemosis of the bulbar conjunctiva, which occurs in 50 per cent. of the cases. The chemosis is limited to the conjunctiva overlying the external and internal rectal muscles, gradually fading at the limbus. The chemosis, which often lasts only a week, is usually associated with oedema of the lids; this later extends over the temporal and frontal regions, and finally may involve the entire face. Painful movement of the eyes is frequent. Exophthalmos, conjunctival ecchymosis, mydriasis, and retinal haemorrhages occur with varying degrees of frequency. At post-mortem examinations numerous trichinellae have been found in the ocular muscles.

Obstetrics and Gynaecology

284 Post-partum Haemorrhage

W. S. SMITH (*New York State Journ. Med.*, February 1st, 1931, p. 141) reviews the incidence of post-partum haemorrhage in 9,000 consecutive deliveries during the last ten years, classing under this heading all patients who had more than a moderate loss of blood after labour had terminated. There were 67 post-partum cases in his series, and two patients died, corresponding to an incidence of 0.74 per cent., and a mortality of 0.023 per cent. According to the author the incidence of post-partum haemorrhage in a number of large obstetrical departments ranges between 13 and 0.32 per cent., while the mortality percentage is between 0.28 and 0.007; the average incidence is stated as 3.5 per cent., and the average mortality as 0.09 per cent. He attributes his own low figures to the fact that he employed the Dickinson-Pomeroy technique, which includes (1) the administration of pituitrin as soon as the child has been delivered; (2) prompt expression of the placenta at the time of the first uterine contraction after delivery; (3) the immediate lifting of the uterus out of the pelvis by abdominal manipulation; (4) the occasional use of a second dose of pituitrin and the administration of ergot; and (5) employment at times of the lifting vaginal pack, with or without an abdominal binder. Smith believes that there is no need in post-partum haemorrhage to use the intrauterine pack. He insists that unceasing vigilance in the control of small blood losses at the start is the method by which the obstetrician may lessen the incidence of such haemorrhage, and quotes the aphorism, "The only safe uterus is the empty uterus."

285 Toxaemias of Pregnancy

Discussing the toxaemias of pregnancy, J. R. GOODALL (*Can. Med. Assoc. Journ.*, January, 1931, p. 112) believes that the time-honoured division of these conditions into those of the first and second halves of pregnancy respectively is clinically sound. Toxaemia in the first half of pregnancy has often a considerable neurotic factor, and the relative importance of this in comparison with the actual toxic state has to be defined in most cases if treatment is to be effective. The alimentary canal is always involved, and this calls for the taking of light meals every three to four hours in order to secure that the stomach does not remain empty for long intervals. When vomiting persists, and acidosis ensues, intravenous injections of 500 c.cm. of a 10 per cent. solution of glucose in saline are most valuable. If the improvement is only transitory the injection should be repeated; but the quantity here recommended should not be much exceeded. The oral administration of sodium bicarbonate and the bromides is helpful also. Toxaemias of the second half of pregnancy fall into three classes: (1) cases of chronic nephritis complicated by pregnancy; (2) the pre-eclamptic or true toxaemias of pregnancy; and (3) toxaemias of kidneys of low reserve. Goodall discusses in detail the treatment indicated in each class, and emphasizes the importance of withdrawing 300 to 400 c.cm. of blood in eclamptic convulsions, followed by fine intravenous injection of glucose in saline solution. In this second class it is very important to recognize the condition early, and to begin treatment before any great damage has been done.

286 Diseases of the Placenta

As the result of examining twelve placentas from patients with pregnancy toxaemia and albuminuria, twelve from syphilitic subjects, and nine from normal patients, M. RIVIÈRE (*Gynécol. et Obstét.*, December, 1930, p. 481) concludes that the morbid histological processes which have been reported as characteristic in the first two groups are shared by them in common, and are found with equal frequency (although diminished intensity) in the normal group. The changes comprise syncytial exuberance, capillary angiomata, vascular obliteration, and necroses of the villi. Rivière concludes that at present the histological diagnosis of an "albuminuric" or syphilitic placenta is impossible. The case is cited of a woman whose placenta was examined after two successive pregnancies. The first was accompanied by toxaemia and much albuminuria, and the placenta showed the microscopical characters which have been attributed to the "albuminuric placenta." The placenta of the second pregnancy, which was normal and not associated with albuminuria, proved to be exactly similar. It appears that the normal senescence of the placenta may give rise to histological changes similar to those seen in it in syphilis and albuminuria.

287 Radium Treatment of Carcinoma of Cervix

H. C. PITTS and G. W. WATERMAN (*Amer. Journ. Obstet. and Gynecol.*, November, 1930, p. 607) report a series of 92 cases of carcinoma of cervix, definitely diagnosed by microscopical examination, and treated at the Rhode Island Hospital from 1921 to 1924. The available radium consisted of three 50 mg. tubes with 0.5 mm. silver filters and 1 mm. brass capsule; two 25 mg. tubes filtered in the same manner; and ten 5 mg. steel needles. The capsules were placed in the cervical canal, usually two 50 mg. tubes in tandem, enclosed in a piece of rubber tubing 4 mm. thick. The remaining radium was placed against the cervix, being held in position by iodoform gauze packing. The steel needles were inserted about the periphery of the growth. An exposure of 3,500 to 5,000 milligram hours was given, divided in two to three doses at two to three weeks' intervals. The records show that at the end of the three-year period there were 23.6 per cent. of the traced patients alive and clinically free from disease. At the end of the five-year period 18.2 per cent. of traced patients were alive and well. The percentage of five-year cures in the fifth decade group is quite markedly higher in spite of a lower operability rate than either the preceding or succeeding decade. The authors plead for a uniform method of classifying cases and of reporting results so as to render possible a true comparison of the figures of different clinics.

288 Radiological Diagnosis of Ectopic Gestation

According to F. SZELLÖ (*Zentralbl. f. Gynäk.*, January 24th, 1931, p. 224) *x*-ray diagnosis of extrauterine pregnancy is often possible in cases in which the foetus is retained towards or beyond term, but the radiological detection of extrauterine foetal parts has not been found feasible before the fifth month of pregnancy. He records two cases in which extrauterine (intraligamentary) pregnancies were demonstrated by *x*-ray examinations during the fourth month; in one instance diagnosis had remained uncertain in spite of exploratory puncture of the pouch of Douglas. A negative radiograph during the first half of pregnancy must not be regarded as excluding ectopic gestation. The author remarks that the detection of foetal bones placed symmetrically in the pelvis does not —as has been stated by others—point necessarily to intrauterine gestation; careful correlation of the radiological findings with those of a bimanual clinical examination is necessary.

289 Rupture of the Uterus during Labour

T. M. HEALY (*Journ. Obstet. and Gynaecol. of the British Empire*, Winter, 1930, p. 827), who records five cases of uterine rupture during labour, believes that total hysterectomy is unnecessary in such emergencies if provision is made for free drainage through the cervical canal and vagina, as well as through the abdominal wall. Incomplete ruptures, and complete ruptures discovered after delivery, can usually be adequately treated through the vagina. When a diagnosis of complete rupture is made before delivery, Healy considers that the best results will be obtained by opening the abdomen at once, without any vaginal investigation or manipulation, and without any regard to the extent to which the child has left the uterus. He found that in his cases the breasts apparently functioned quite normally in the absence of the uterus and ovaries; in one instance there was no secretion of milk, but this was apparently due to the debilitated condition of the patient.

Pathology

290 Non-specificity of the Scarlet Fever Streptococcus

T. TOYODA, J. MORIWAKI, Y. FUTAGI, and S. HOSHIZAKI (*Brit. Journ. Child. Dis.*, October–December, 1930, p. 282) applied the following tests to determine the specificity of the haemolytic streptococcus associated with scarlet fever: (1) carbohydrate fermentation of streptococci isolated from different sources; (2) capability of producing Dick toxin; (3) neutralization of different kinds of streptococcus toxins with scarlet fever convalescent serum; (4) skin test with scarlatinal streptococcus toxin after active immunization with non-scarlatinal streptococci toxins; (5) Schultz–Charlton phenomenon tested with different varieties of the haemolytic streptococcus antitoxin; (6) rate of appearance of scarlatiniform rash after intramuscular injections of different kinds of haemolytic streptococcus toxin; (7) Schultz–Charlton phenomenon produced with different kinds of haemolytic streptococcus antitoxin on each scarlatiniform rash caused by intramuscular injection of different kinds of streptococcus toxin; (8) agglutination tests of different haemolytic streptococci with the serums of scarlet fever patients in the early stages and in convalescence; (9) complement-fixation tests of different haemolytic streptococci with the serums of convalescent scarlet fever patients in early and convalescent stages and the serums of healthy negative Dick reactions; and (10) precipitin reactions of different haemolytic streptococci to the serums of scarlet fever patients. The authors conclude that scarlet fever streptococci cannot be regarded morphologically, biologically, or serologically as possessing a specificity distinguishing them from other haemolytic streptococci.

291 The Plasmodium of Pernicious Malaria

E. MARCHIAFAVA (*Amer. Journ. Hyg.*, January, 1931, p. 1) concludes that the three malarial parasites, the *P. malariae* of quartan, the *P. vivax* of tertian, and the *P. praecox* or *falciparum* of aestivo-autumnal fevers, are distinct and easily distinguishable species. Each has two separate life cycles: the asexual or pyrogenic, in the human body; and the sexual, which begins in man and ends in the mosquito. Pernicious symptoms are connected only with *P. falciparum*, which has clearly differentiated characters. At the peak of the paroxysm the predominating asexual form in the peripheral blood is a plasmodium without pigment, first adherent to and then inside the red cell, exhibiting amoeboid movements; when at rest it is discoid in form, and during activity becomes a ring. This stage is followed by that of a very fine black granular pigmentation, usually peripheral. Another characteristic is its effect on the red cells; these become smaller, shrivelled up and wrinkled, and of a dark yellow, brassy colour. A biological characteristic is the site of sporulation; this occurs usually in the capillaries of the internal organs, not in the peripheral blood. The sexual forms range as regards shape from crescents to almost round varieties. The crescents are characteristic, and give the name to the parasite. Malignant malaria is distinguished by the long duration of the febrile access, the characteristic febrile curve, and the symptoms of the attack. It occurs only in the summer and autumn, and only recent infections or early relapses develop into pernicious malaria. Clinical manifestations of the various forms of this condition are distinguished, including the bilious, pneumonic, and central nervous types.

292 Bacteriology of Yellow Fever

J. E. DINGER, SCHÜFFNER, and SNIJDERS (*Zentralbl. f. Bakt.*, January 20th, 1931, p. 304) have endeavoured to confirm Kuczynski's work on the causation of yellow fever by a diphtheroid bacillus called by him *Bacillus hepatodystrophicans*. It is known that the blood of monkeys suffering from yellow fever is highly infective, and that the virus is present in as small a quantity as a millionth of a cubic centimetre. If the virus is of a bacterial nature, it should be possible to cultivate it *in vitro*. Portions of the liver and heart were removed under aseptic conditions from *rhesus* monkeys that had died of typical yellow fever, and cultures were made on Kuczynski's special medium. From 6 out of 11 monkeys an organism was recovered in pure culture which appeared to be identical with *B. hepatodystrophicans*. Some of the negative cultures were inoculated into fresh tubes of the same medium, and it was found that after three to five subcultures the same organism suddenly appeared. Experiments with uninoculated medium suggested that these diphtheroid bacilli were probably derived either from the air or from the rabbit or guinea-pig liver used in the preparation of the medium. Attempts to infect monkeys with the organisms recovered, as well as with Kuczynski's own original cultures, proved completely negative. It was found, moreover, that the yellow fever virus would not remain virulent for even two days in cultures of the diphtheroid bacilli. The authors conclude that these organisms have nothing to do with the causation of yellow fever.

293 Production of Encephalitis with Vaccinia Virus

A. ECKSTEIN (*Zeit. f. Hyg. u. Immunitäts.*, January 15th, 1931, p. 151) injected vaccine lymph, in doses of 0.00078 to 0.1 c.cm., by the suboccipital route into the spinal fluid of monkeys. After three days the monkeys became unduly quiet, and exhibited a certain stiffness in their movements. These symptoms were succeeded by spastic paralyses affecting the front or hind limbs; ocular paralyses were noticed in two animals. Later the animals adopted the semi-recumbent position, and were no longer able to reach for food, though they were able to swallow it if it was placed in their mouths. Respiration became increasingly difficult, and death occurred between the sixth and fifteenth days. Of the 17 animals inoculated, one showed no symptoms, and two others were killed after six and eight weeks respectively. Histological examination of the brain of the fatal cases showed the presence of a meningo-myelo-encephalitis. Two control monkeys were inoculated intraspinally, one with 3 c.cm. of saline and one with 0.1 c.cm. of heated vaccine lymph; both remained perfectly well. Three monkeys injected into the carotid artery with 0.1 to 0.5 c.cm. of fresh lymph developed no symptoms, though fourteen days later they failed to react to the intracutaneous inoculation of vaccinia virus. Three additional monkeys were injected intraspinally with a mixed culture of the contaminating cocci and bacilli present in vaccine lymph; these monkeys likewise remained well. Though the author draws no definite conclusion about the etiology of post-vaccinal encephalitis in man, he considers that, taken in conjunction with the finding of vaccinia virus in the spinal fluid of three cases (Gildemeister, Eckstein, and H. and K. Herzberg), the production in monkeys of a similar meningo-myelo-encephalitis must be regarded as significant.

294 Anaemia and Diet

C. FUNK and A. LEJWA (*Bruxelles-Médical*, January 18th, 1931, p. 331) have submitted young rats to various experimental diets without producing any persistent anaemia in these animals. They were also unable to confirm the observations of other workers that copper has any erythropoietic action. In all the young rats, under 60 grams in weight, there was a marked anaemia, the red cells being lowered even to 2 million per c.mm.; but this diminution was regarded as physiological, and it disappeared when the period of rapid growth had ceased. Yeast or liver, whether administered by the mouth or injected in the form of extracts, has the tendency to diminish the number of the red cells. Funk and Lejwa consider that diets probably contain two substances—one which diminishes the number of the red cells, and a second which has the contrary action. They have endeavoured to separate these two principles from yeast and from liver, and conclude that yeast contains less regenerating substance or more diminishing substance than liver.

The Treatment of Rheumatism, Lumbago, Sciatica, Neuritis, Gout, etc. where due to excess of Uric Acid, by

AGOTAN (Howards)

Weintraud found that in gouty patients on a purine-free diet it **more than doubled the quantity of uric acid excreted in the urine.** Chase and Fine maintain that in normal and gouty individuals it induces an augmented excretion of uric acid in the urine and a decreased concentration in the blood by endowing the renal cells with **an increased power for eliminating uric acid.**

Some Medical Opinions:

M.B., Ch.B.:

"The gouty subject has a notoriously sensitive stomach and an impatient disposition. Many remedies for his condition which we know to be good have to be abandoned for one or other of these two reasons. Agotan, which is a recognised eliminant of uric acid, can be used in such cases in the form of an ointment either alone or assisted by radiant heat. This ointment should be rubbed in *not merely over the area actually* affected in cases of 'rheumatism' or 'gout,' but for several inches all round so as to ensure absorption of a sufficiency of the drug. Both acute and chronic conditions of this kind are markedly benefited by it, and in Neuritis it is a veritable boon to all concerned."

M.B., B.Sc., D.P.H.:

Reports that he has achieved success with Agotan when salicylates, iodides, ionisation and diathermy, etc., have all been, to use his own expression, "utterly futile." "With Agotan," he writes, "one can safely prophesy an ultimate cure. Even in cases where ultimate resort had had to be made to morphine this can be discontinued in a very short time. Progress towards recovery is never interrupted by exacerbations as is so common with the majority of other drugs."

M.D., C.M., D.P.H., etc.:

"I have run through the whole gamut of B.P. remedies, and I have tried, I think, all the proprietary uric acid solvents of the present day, but after many years of experience I have come to rely on AGOTAN as the most trustworthy preparation at present available. The conditions in which it may be prescribed with confidence embrace all forms of subacute rheumatism, muscular rheumatism or myalgia, including sciatica, brachial neuritis and gout, whether acute or chronic, and most of the gouty skin diseases. The last group often yields remarkably well to AGOTAN."

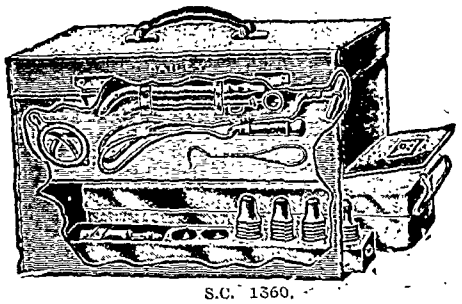
NOTE.—The ointment may be used alone or in conjunction with Howards' Agotan Tablets.

AGOTAN is the all-British make of Phenyl Cinchoninic Acid B.P.C. and is sold as powder in 1-oz. bottles and in 7½ grain tablets in bottles of 25 and 50 tablets, and in ointment form in collapsible tubes.

FREE SAMPLE sent to any Medical Man by the Manufacturers:

HOWARDS & SONS LTD. (Est. 1797), ILFORD, LONDON.

W. H. BAILEY & SON LTD.



S.C. 1360.

S.C. 1360.—Bailey's large size Surgeons' Midwifery Case, made in best Cowhide, fitted with Slide Tray, to take six 1-oz bottles in metal cases, and Chloroform Drop Bottle, in separate compartment at side of Sterilizer.

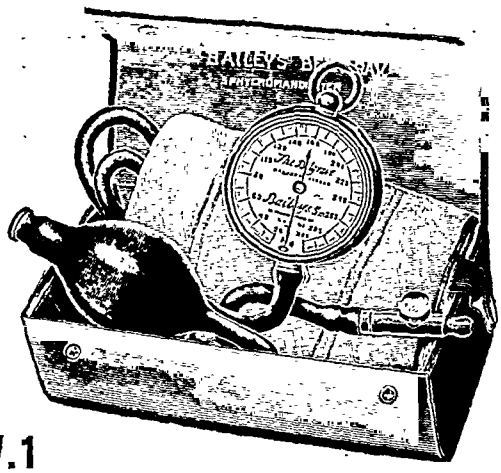
Size 17 × 10 × 7 ... ... £3 15 0

Ditto, fitted with best nickel-plated stamped-out seamless 16-in. Sterilizer (with lamp and tray) ... £5 15 0

Cases fitted complete—Prices on application.

BAILEY'S "BELGRAVE" SPHYGMOMANOMETER

BRITISH MADE THROUGHOUT.



A thoroughly reliable Instrument, accuracy guaranteed. Extremely sensitive. Light and portable.

The Tubes may remain attached to the dial as the interior of the case allows sufficient room to prevent kinking.

An essential apparatus for the General Practitioner.

Price - £2 : 15 : 0

Post free United Kingdom; India and Colonies 2/6 extra.

Tel. No.: Gerrard { 2313 / 3185 } 45, OXFORD STREET / 2, RATHBONE PLACE } **LONDON, W.1**

BUY BRITISH AND SAVE 33⅓% IMPORTATION TAX

The field for Diathermy Current applications is rapidly increasing

DIATHERMY

MEDICAL AND SURGICAL

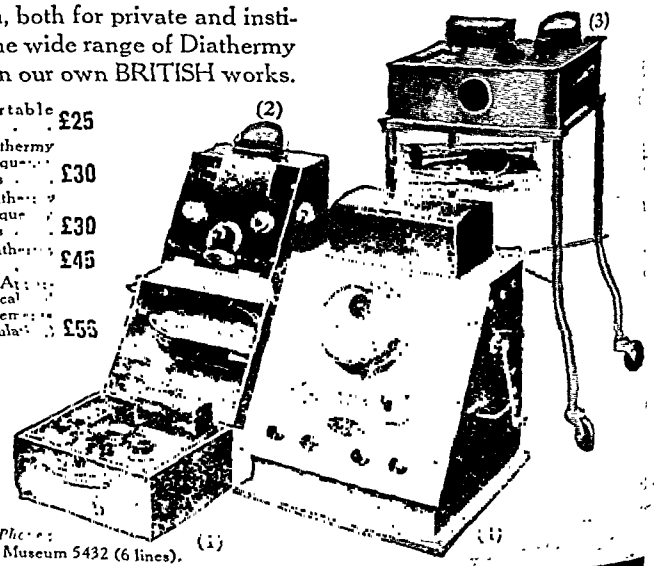
EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available:—

FOR SURGERY
e.g.: Surgical cutting by High Frequency indulations or coagulation.

FOR THE PHYSICIAN
for treatment purposes only.
also
FOR BOTH SURGICAL and MEDICAL.

No. 1. "EMESAY" Portable Diathermy . . . £25
No. 2. "AMAZON" Diathermy and High Frequency Current Apparatus . . £30
No. 3. "MERIDIAN" Diathermy and High Frequency Current Apparatus . . £30
No. 4. "EQUATOR" Diathermy Apparatus . . . £45
No. 5. "MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation) £55



Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

MEDICAL SUPPLY ASSOCIATION, LTD.

167-185, Gray's Inn Road, London, W.C.1.

ACTUAL BRITISH MAKERS.

Phone: Museum 5432 (6 lines).

A SPRAY FOR EVERY MEDICAL PURPOSE

John Bell & Croyden's

CAVENDISH "A" BRAND

MEDICAL SPRAYS

No.	Purpose.	Price.
1.	All-Glass Spray for Nose and Throat. For the administration of Aqueous solutions and Oils for average viscosity ...	6/-
2.	All-Glass Spray for Alcoholic or Aqueous solutions. Produces a finely subdivided spray in great volume ...	5/6
3.	All-Glass Spray. A compact pocket model designed on similar principles to No. 1 ...	5/6
15.	Glass and Metal Sprays (Model de Luxe) for Aqueous solutions and Oils, with adjustable nozzle permitting spraying in any direction ...	6/9
21.	Glass and Metal Spray. An efficient general purpose spray	4/6
24.	Glass and Metal Spray for Aqueous solutions and Oils, with adjustable nozzle and special nasal guard	5/9
29.	Glass and Metal Spray. Specially designed to give a CONTINOUS spray with Oils or Aqueous solutions	4/9
49.	Nebuliser. For Vaporising Oily solutions, giving dry or moist Vapour	7/9

Specially Manufactured for MEDICINAL PURPOSES

The Cavendish "A" Brand Service of Medical Sprays cover all possible Medical requirements, in oral or nasal administration of medicated solutions.

The Sprays are the outcome of years of practical experience of the needs of the Profession.

Efficient and reliable in use, perfect in operation, well constructed and easily sterilizable, these sprays are guaranteed against faulty construction or defective material.

Sprays Guaranteed to give satisfaction

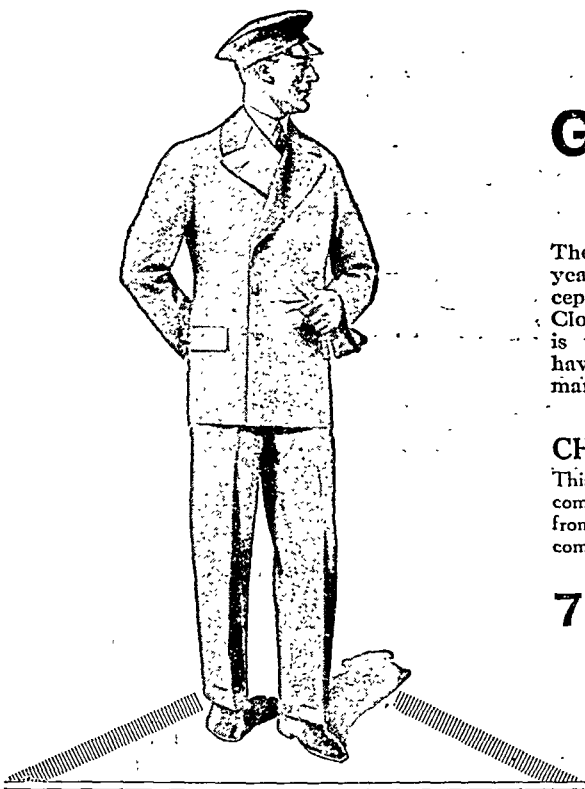
Illustrated List sent post free to the Profession

JOHN BELL & CROYDEN

In association with SAVORY & MOORE Ltd.

50-52, WIGMORE STREET, LONDON, W.1.

Telephone: WELBECK 5555 (12 lines). Telegrams: INSTRUMENTS WESDO LONDON.



GAMAGES 1931 LIVERIES ARE GREATER VALUE THAN EVER

The prices of materials are at their lowest ebb for years. Gamages have been able to make some exceptionally keen purchases of their standard Livery Cloths at the rock bottom of the market. The result is that Gamages well-tailored, high-grade Liveries have in every case been reduced. The trend of the market is upward. Equip your Chauffeur while these exceptionally low prices last.

CHAUFFEURS' BLUE SERGE SUITS

This outstanding example of Gamages Livery Tailoring comprises Double-breasted Jacket, Vest, and Trousers made from a good weight Navy Blue Ribbed Serge. This suit combines neatness with style, and can be purchased Ready for Service. PRICES:

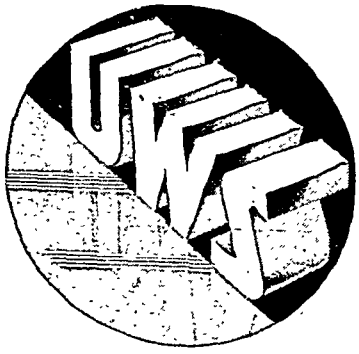
70/- 90/- and £5 10 0

Made to measure if required at same prices.

GAMAGES, HOLBORN, LONDON, E.C.1.

Telephone: HOLBORN 8484.

THE MOST SATISFACTORY METHOD OF ENSURING A SOFT WATER SUPPLY



Special Booklet Sent Free on Request "Soft Water in the Home," an illustrated sixty-four page booklet, will gladly be sent to any doctor upon request.

It is a fact of considerable significance that 'Permutit' Water Softening Plants are to-day to be found in over 15,000 homes, and in the leading hospitals, clubs and hotels. No chemicals are used in the 'Permutit' System. This plant provides a soft water which is healthful and palatable to drink, at a moderate initial outlay and an infinitesimal running cost. The plant can be fitted without any alteration to existing arrangements.

'PERMUTIT' REGD

WATER SOFTENER

UNITED WATER SOFTENERS LTD., ALDWYCH HOUSE, LONDON, W.C.2

THE CROWNING ACHIEVEMENT

U.G.B. MEDICAL BOTTLE *Service*

DURING the past ten years at tremendous expense, a very wide range of automatic machine mould equipment has been built up by the U.G.B. to cater for practically every bottle requirement of the Chemist and Dispenser. New and attractive shapes are now being added from time to time.

The Crowning Achievement was the introduction of the "Washed and Sterilised Ready-to-Use Package" which is daily growing in demand.

Only a small percentage of the actual cost of this service is passed on to the customer.

Supplied either for corks or complete with Rustless White Enamelled Screw Caps.

Once you have experienced the value and convenience of this U.G.B. Service you will use nothing else. Try it NOW and be prepared for the WINTER.

Obtainable from all leading Wholesalers.

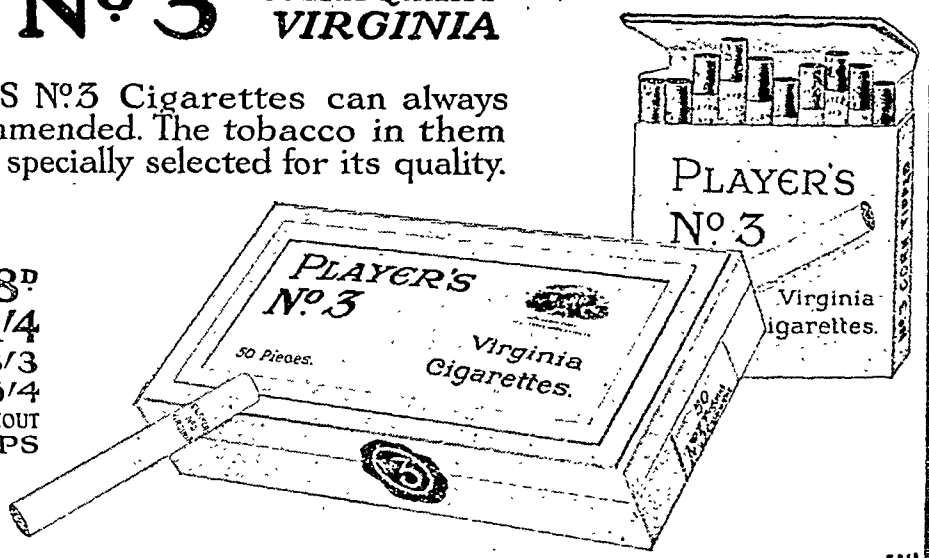
UNITED GLASS BOTTLE MANUFACTURERS · LIMITED
The largest manufacturers of Glass Bottles in Europe.

Head Offices:
40-43, NORFOLK STREET, STRAND,
LONDON, W.C.2.
'Phone: Temple Bar 6680. 'Grams: 'Unglahoman, Estrand, London.'

PLAYER'S
Nº 3 *EXTRA QUALITY VIRGINIA*

PLAYER'S Nº3 Cigarettes can always be recommended. The tobacco in them has been specially selected for its quality.

10 *for* 8D
20 *for* 1/4
50 *for* 3/3
100 *for* 6/4
WITH OR WITHOUT CORK TIPS



B.P.41.

WITHOUT OFFENCE
The Collection of Overdue Accounts

MEMBER'S STATEMENT:

"I should like to record my appreciation of the work you have done for me up to date. I have given you some very difficult cases to deal with, which you have carried through in a most tactful and successful manner."

DEBTOR'S STATEMENT:

"I thank you for your kind and considerate letter of 2nd inst. I have been striving to obtain the money to settle this account. I enclose cheque £5, and will endeavour to forward a further cheque next month."

Your visiting card marked "B" placed in an envelope will produce all information

All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.)
Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.

FOR DEAFNESS
Doctors prefer "ARDENTE" because—

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS
arranged for Doctors and Patients.
Medical Prescriptions made up to the minutest detail.

"ARDENTE" STETHOSCOPE.
Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting.

MEDICAL REPORTS.
Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

MR R.H.DENT'S
Ardente
FOR DEAF EARS

118 New Street BIRMINGHAM.
Jackson Street HULL.
64 Park Street BRISTOL.

309, OXFORD ST., LONDON, W.1.
Tel.: Mayfair 1380/1718.

206, Sauchiehall Street, GLASGOW.
23, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.

"VARIBAN"

Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove. Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc. Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SUPPLIED IN WIDTHS

2"	2½"	3"
1/7	1/9	2/-

— EACH —

When stretched measure six yards (approximately)

SAMPLE 3in. "VARIBAN" Elastic Plaster Bandage SENT POST FREE on receipt of P.O. for 2/3

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J." Oct. 4th, 1930.

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

"CELLANBAND"

SAMPLE BANDAGE 1/- Post Free

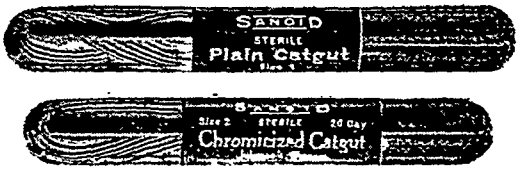
DESCRIPTIVE LITERATURE AVAILABLE ON REQUEST

"SANOID"

TUBES OF STERILE LIGATURES

Exceptional Flexibility

Tensile strength and smooth surface are prominent features of these Ligatures. They are prepared in accordance with the Therapeutic Substances (Catgut) Regulations, 1930.



PRICE 9/-
PER DOZ. TUBES

LICENCE No. 40.

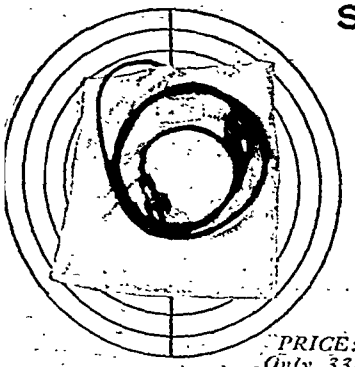
Sole Manufacturers—

CUXSON, GERRARD & CO. LTD. MANUFACTURING CHEMISTS OLDBURY, BIRMINGHAM.

Distributors to the Medical Profession—

The MEDICAL SUPPLY ASSOCIATION LTD.,

167-185, Gray's Inn Rd., LONDON, W.C.1 10-13, TEVIOT PLACE, EDINBURGH 6-12, Holly St., SHEFFIELD.



STEADY CONTINUOUS WARMTH APPLIED LOCALLY

To Relieve Rheumatic Pains, Chills, etc., and all such Ailments.

The THERMEGA ELECTRIC PAD takes the place of a hot water bottle in all cases where the local application of heat is prescribed. The heat obtained is instantaneous, constant, and easily regulated as desired. The THERMEGA pad, no larger than an ordinary hot water bottle, is handy and practical for use while travelling. It can be used from any lamp-socket or wall plug at any voltage (100-250). The average cost of current is only 1d. an hour (at 6d. a unit). A special Thermostat control maintains a level temperature and makes overheating impossible.

Ask for demonstration and particulars. Sold by all the big stores, chemists, and electrical dealers, or direct from

PRICE: Only 33/-

THERMEGA LIMITED

53, VICTORIA STREET, LONDON, S.W.1.

Famous as **The Food of Royal Infants**

also for invalids, the aged, and all persons of weak digestion

ROBB'S NURSERY BISCUITS have no equal. Easy of assimilation, a nourishing and sustaining diet, its appetising flavour is greatly appreciated by both young and old. Very welcome as a substitute for the ordinary bread-and-milk diet. Can also be lightly baked, with eggs and milk, to supply a delicious custard pudding.

Robb's NURSERY BISCUITS

Highly recommended by eminent Accoucheurs and Physicians throughout the world as the most reliable food for Infants over six or seven months.

ROBB'S NURSERY BISCUIT POWDER is recommended when a feeding bottle is to be used, also as a diet for invalids, Nursing mothers and the aged.

ROBB'S DIGESTIVE RUSKS, TOPS and BOTTOMS, GINGER NUTS, and CHARCOAL BISCUITS are specially recommended for invalids and convalescents.

Send for large free sample and descriptive booklet, etc.

Alex. Robb & Co Ltd. (Dept. 6), NURSERY BISCUIT FACTORY, ATKINS ROAD, LONDON, S.W.12.

For the COMMON COLD—the throat and bronchi

Gomenol Syrup, Gomenol Capsules, Gomenol Pastilles

Syrup—capsules—pastilles—all three have Gomenol (the powerful antiseptic so widely used on the Continent) as their base. The principal constituents of Gomenol are Cineol, Pinene, Terpineol, Citrene. Gomenol is an essential oil of great diffusibility: non-toxic, non-irritant, analgesic.

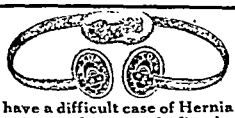
Full particulars, together with reports of medical authorities and evidence of its therapeutic efficacy, are given in a publication which is sent free to the Medical Profession on request to the Sole Distributors, Messrs. Coates & Cooper, 41, Great Tower Street, London, E.C.3.

TRADE MARK

Gomenol

PREVET BRAND.

Gomenol Laboratories, Prevet, 48, Rue des petites Ecuries, Paris, 10me.



If you have a difficult case of Hernia send your patient to be properly fitted with a

SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency. Perfect freedom of movement.

The most scientific truss ever devised.

SALMON ODY LTD.

Highly recommended by the Medical Profession

7, NEW OXFORD STREET, LONDON, W.C.1

Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS

The best Medical authorities are

feet, weak insteps, or rheumatic pains, 15/6 per pair. Metatarsal 18/6 per pair. State size of footwear when ordering.

Estab. 120 years.

DOWIE & MARSHALL, Ltd., 16, Garrick Street, London, W.C.2

[ESTABLISHED SINCE 1824.] Telephone: TEMPLE BAR 5567.

The instructions of the Profession intelligently carried out.

In addition to the departments for **Ladies and Gentlemen**, special attention is given to provid properly shaped shoes for **Children**, parcels of which can be forwarded on approval to any part of th country. Please send outlines of the feet.

Dowie & Marshall have had great experience in the shoeing treatment of weak ankles and flat feet.

BANTAM Coffee

Bantam Coffee is prepared from the finest selected Empire grown beans which are powdered and all the waste grounds extracted so that it dissolves instantly and completely when hot water or milk is added. A little Bantam Coffee dropped in a glass of warm milk makes a very palatable beverage. Bantam Coffee is absolutely free from adulterants and has been awarded the certificate of the Institute of Hygiene.

A 2/- tin yields 50 cups of delicious coffee.

Dept. 68. BANTAM PRODUCTS LTD., LEEDS.

Samples for testing will be sent on application.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE. Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

POCKET MONEY ADDING MACHINES 15/- post fr

TAYLOR'S TYPEWRITER

SELL, HIRE, HIRE PUR- CHASE EXCHANGE RIBV Desks, Tables & Chai Est. 1884.

Write for Bargain List 32.

'Phone—Holborn 3793.

BUY A BIJOU FOR 5/- per week.

THE BIJOU

The best portable Writ Complete in Travelli Case, from £9 9s.

74, CHANCERY LANE (Holborn End), W.C.

PEAT HEALS!

"I have used the sample tin of Sphagnol 10% Ointment you kindly sent me for a case of old-standing and resistant Psoriasis with very excellent results. The Shaving Soap I myself found to be very good—and I shall recommend it to patients with Acne and Sycosis barbae."

Signed ..... *Dr.*

Sphagnol

APPROVED PEAT OINTMENT

FOR FREE SAMPLE WRITE TO PEAT PRODUCTS (SPHAGNOL) LIMITED, (DEPT. B 47), 21, BUSH LANE, LONDON, E.C.4.

"TRILACTINE"

(R.T.M.)

A good Lactic Acid Bacillus preparation for the treatment of

CONSTIPATION, COLITIS,

and many intestinal infections.

"Trilactine" Tablets for taking with sugar, or for making curdled milk at home, are supplied in boxes of 48, 4/-.

W. MARTINDALE, 12, New Cavendish Street, LONDON, W.1.

Telephone: LANGHAM 2440. Telegrams: "MARTINDALE, CHEMIST, LONDON."

WYLEYS LIMITED WHOLESALE DRUGGISTS **COVENTRY** *Established 1750.*

ELIXIR IODO-CREOSOTI CO.

Two fluid drachms contain Beechwood Creosote 2m., Potassium Iodide 4 gr., Caffeine Sodio-Salicylate 1 gr., with Tinctures of Aspidosperma, Bryony and Cereus.

Palatable and pleasantly flavoured.

Most useful and efficient for the relief of Lobar Pneumonia, Pulmonary Tuberculosis, Broncho-pulmonary Influenza, and Influenzal Laryngitis, particularly for controlling temperature and pleuritic effusion.

Price: 3/- per 8-oz. bottle; 16-oz. 5/6.

FULL LISTS ON APPLICATION.

PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic œdema, cyclic vomiting, periodic diarrhœa, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Leaflet on application.

W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON." Telephone Nos.: LANGHAM 2440 and 2441.

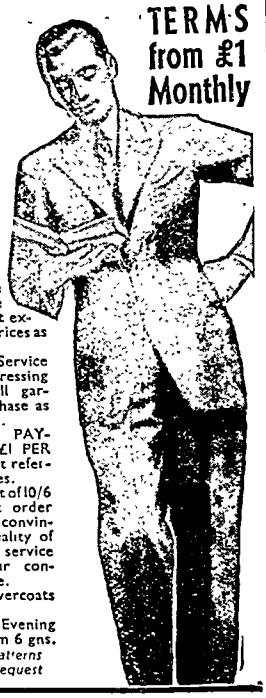
West End Clothes

Special Introductory Offer to 100 New Customers

BEFORE Easter we are anxious to obtain 100 new customers. To make quite sure this objective is reached we are making a special introductory offer, which for the sake of brevity is crystallized as follows:—

★ Clothing with the hall mark of the West End tailor at extremely modest prices as detailed below.
★ A Free Valeting Service for Sponging, Pressing and Repairing all garments after purchase as often as you wish.
★ CONVENIENT PAYMENTS FROM £1 PER MONTH without references or enquiries.
★ A special discount of 10/6 from your first order because we are convinced that the quality of our goods and service will merit your continued patronage.

Lounge Suits and Overcoats from 5 gns.
Dinner Clothes and Evening Dress from 6 gns.
Catalogue and patterns gladly sent on request



Keith Bradbury Ltd

Tailors of Credit

137/141 REGENT STREET
LONDON, W.1

Hours of business 9–7. Saturdays 9–1
Telephone: REGENT 5288

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.

Day pattern 35/-, for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 125, Douglas Street, Glasgow, C.2.

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

Cook's Non-Scratch MOTOR MOP

(Pat. No. 232386)

As good as Two Hands and a Long Arm.

Note the 36in. long handle and Rubber Guard Pad at back, preventing damage to varnish or paint.

IT'S BRITISH—AND WILL LAST A GOOD TWO YEARS.

Mop & Brush combined

Every Motorist will appreciate it

BECAUSE:
It is so light and easy to use;
It cleans so thoroughly and so quickly;
It prevents chapped hands, for with it you need not even get the hands wet.

The only Mop that will get anywhere—even on the smallest car. Sent Carriage Free for **7/9**

COOK'S, Brush Specialists, DAVEY PLACE, NORWICH.
ESTAB. 1814.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.
Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS
ive cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA
Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

NAME PLATES

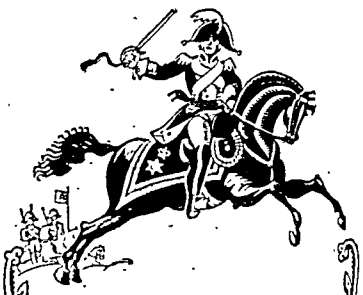
FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.

Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.

With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE
COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

NAME PLATES
in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details or sketch or leaflet.
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.



BRANDY CALVES' FEET JELLY

Freshly made by our Chef 2/6 a bottle, carriage paid

Dainties for Invalids from

FORTNUM & MASON

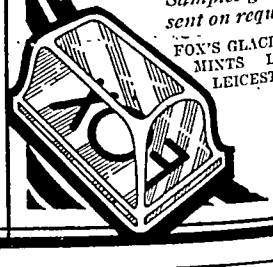
182, Piccadilly, W.1 Regent 8040

FOX'S GLACIER MINTS REG.

are Soothing, digestive and refreshing, and are ideal after an operation.

Samples gladly sent on request.

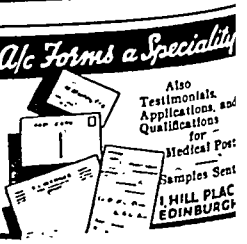
FOX'S GLACIER MINTS LTD., LEICESTER.

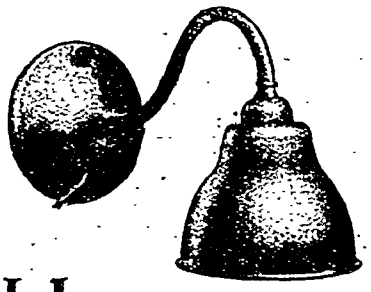


Doctors' A/c Forms a Specialty

Printed in Best Style
Account Forms Letterheads, Cards, etc.
Samples Sent.
R. ANDERSON & SON

Also Testimonials, Applications, and Qualifications for Medical Posts
Samples Sent
1 HILL PLACE EDINBURGH

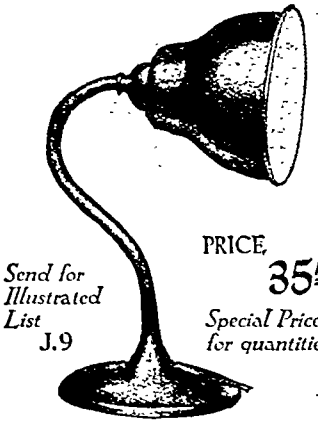




HAYCRAFT'S

NEW DUAL MEDICAL BRACKET as supplied to the NEW WING of the MIDDLESEX HOSPITAL

¶ Specially designed so that it can be easily detached from the wall and used as an inspection lamp. The large base and balanced design make it equally useful as a standard lamp, as below. ¶ Special bronze finish throughout. Reflector white enamel inside. Wired complete with two yards of circular flex. Registered No. 744671.



Send for Illustrated List J.9

PRICE 35/-

Special Prices for quantities

HAYCRAFT & SON LTD.
Electrical Engineers, London, S.E.8

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

KEROL CAPSULES

Motoring at Easter

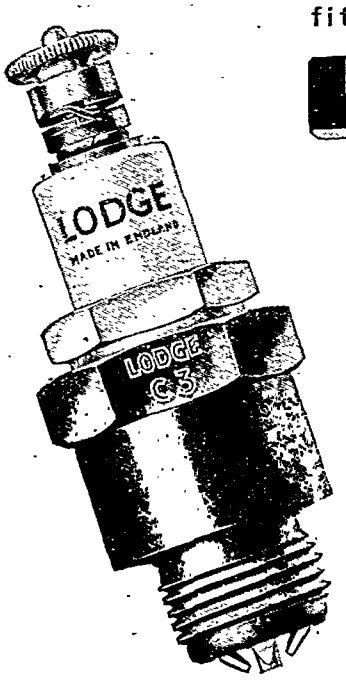
Make the most of it—

fit a new set of

LODGE

SPARKING PLUGS

and enjoy the smoother pulling of your engine.



Sold at all good garages.

LODGE C3
the plug for most English and Continental engines.
5/-
everywhere.

LODGE PLUGS, LTD.—RUGBY

RE-INFORCING THE ABDOMINAL MUSCLES WITHOUT UNDUE PRESSURE!

For those disorders of the abdomen that call for external support, Domen Abdominal Belts have very definite advantages. They give adequate support to the abdomen without setting up pressure to aggravate the patient's condition. And whether it is pregnancy or umbilical hernia, prolapsus uteri, or simply general support, there is a Domen Belt designed specifically for that condition. Domen Belts fit well, sit comfortably and do not get out of place. They leave the patient free and without embarrassment. Full particulars will be forwarded on receipt of your card or a telephoned request.

DOMEN BELTS Co. LTD.

26, SLOANE STREET, LONDON Tel.: Sloane 3524

Advertising Helps the Reader

Readers of the Journal are presented week by week with a comprehensive summary of products necessary to the medical man both in his professional and private life. The advertisement pages of the Journal are carefully scrutinised before going to press, in order that our readers may deal confidently with those firms whose announcements win their interest and attention.

Modern advertising seeks to increase demand, thereby stimulating production and building a circle of prosperity, which ultimately reacts to the advantage of the purchaser himself. Advertised products necessarily maintain a high standard of excellence, for disaster must naturally come speedily to the manufacturer who through any cause and at any time loses the confidence of his customers.

It is the policy of the Journal to convince advertisers that doctors prefer to be approached directly through the pages of their own publication, for in this way we believe manufacturers are encouraged to consider the special needs of the profession, and to state clearly the results of their efforts to meet these requirements when seeking orders from medical men.

The "small" advertisements section provides a *forum* for the "domestic" business of the profession, and those wishing to arrange the Sale or Purchase of Practices, requiring Assistants or Assistancies, and Partners or Partnerships, may in these pages reach thousands of their fellow medical men at very economical cost. Such transactions may, in addition, be protected by the secrecy which the free Box Number service provides.

B. MILLER & CO. LTD
17 CONDUIT STREET
BOND STREET, LONDON, W.1
TAILORS
Established 1896

LOUNGE SUITS and OVERCOATS *from* £8 : 8 : 0

DINNER SUITS Lined Silk *from* £10 : 10 : 0

A large selection of materials in the newest designs.—Patterns sent on request.

Convenient terms can be arranged.

MANUFACTURED by SHORT & MASON LTD
Tycos WALTHAMSTOW LONDON, E.17.
SPHYGMOMANOMETERS

BRASS and BRONZE
NAME PLATES
by the Actual Maker. Send for List.
FORD, 37, Palace Rd., Bromley, Kent.

BROOKE HOUSE,
CLAPTON, LONDON, E.5.
Telephone: Clissold 1648.
PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

THE GRANGE,
near ROTHERHAM.
A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with park, 5 miles from Lane, L. & N.E. Rail No. 40030 Ecclesfie GILBERT E. MOULD, L.R.C.P., M.R.C.S.

FENSTANTON,
CHRISTCHURCH ROAD,
STREATHAM HILL, S.W.2.
A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2254.) Apply J. H. EARLS, M.D., Resident Physician. *Telephone:* Streatham 8430.

CHISWICK HOUSE,
A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.
Now removed to:
CHISWICK HOUSE, PINNER, MIDDLESEX.
Telephone: PINNER 234.
A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.
Fees from 10 guineas per week.
Voluntary Patients received for treatment.
Special provision for "Temporary" patients under the new Mental Treatment Act.
DOUGLAS MACAULAY, M.D., D.P.M.

BOURNEMOUTH.
West Haven, Chine Crescent Road.
FUNCTIONAL NERVOUS DISORDERS,
MEDICAL AND CONVALESCENT CASES.
The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra violet light. [Established 1922.
Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

NORMANSFIELD
For Mental Defectives of all ages.
Under private management.
Apply to Dr. Langdon-Down,
Normansfield, Teddington.

"BANKSEA," Dovercourt Bay, ESSEX.
CONVALESCENT HOME FOR GIRLS.
This Home, conducted by the Dominican Sisters, is certified by the Essex County Council under the Ministry of Health.
Beautifully situated on the sea front. Bracing air. Bright and airy dormitories. Central heating. Pleasure Park adjoins Convent grounds. Individual attention. Trained Certificated Nurse. Infectious or Epilepsy cases not received.
Terms moderate. Vouchers issued for reduced railway fares. — Apply, MOTHER PRIORESS, Dominican Convent, Dovercourt, Essex.

ST. ALBANS, HERTS.
(20 miles from London.)
Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as "HIGHFIELD HALL," situate about a mile away from the Hospital.
Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

BOREATTON PARK,
BASCHURCH, SALOP.
A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.
Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.
Voluntary Boarders accepted.
Apply for particulars to Dr. SANKEY.

CLARENCE LODGE,
CLAPHAM PARK, LONDON.
Situated in 3½ acres of secluded gardens.
HOME FOR TWELVE MENTAL PATIENTS (LADIES).
Well-appointed private house. House comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.
Station: Clapham Common Tube. *Telephone:* Brixton 0494. Apply, Miss THWAITES.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—**WOODBRIDGE, SUFFOLK.**

Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16.
(Toll Call from London.)

RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham,

as carried on for the last twenty years, is available. Booklets and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: **The Norwood Sanatorium, Limited.**

THE ROYAL EARLSWOOD INSTITUTION

FOR MENTAL DEFECTIVES, REDHILL, SURREY.

(Formerly the EARLSWOOD ASYLUM.)

FOR *THOSE REQUIRING CONTROL* with EXPERT SUPERVISION and needing SPECIAL TRAINING in useful occupations. *SCHOOLS, FARMING, and various TRADE WORKSHOPS.*
Inclusive fees from £110 p.a. *THOSE UNABLE TO PAY* admitted by votes of subscribers, with part payment towards cost.
RECREATIONS: ALL outdoor games, EXCELLENT BAND by Male Staff, for Concerts, Dancing, etc.
Apply, THE MEDICAL SUPERINTENDENT, Earlswood, Redhill, Surrey, or to the Secretary, Mr H. STEPHENS, 14-16, Ludgate Hill, E.C.4.
Telephone: REDHILL 344. *Telephone*: CENTRAL 5297.

WOODLANDS PARK

GREAT MISSENDEN **BUCKS.**

550 feet above sea-level on Southern Chilterns. 90 acres, Gardens, Woods, and Park.

FOR INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and REST AFTER OPERATION or ILLNESS.

FEES FROM 8 GUINEAS.

Telephone: 91 Gt. Missenden. Apply: C. W. J. BRASHER, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.
The treatment is *the outcome of many years'* experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced *gradually, without suffering.*
FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., *do especially well.*
Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—
F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

HOME FOR DELICATE CHILDREN.

"THE LOG HOUSE," KLOSTERS

GRISONS, SWITZERLAND. 4,000 ft. above sea-level
Inclusive terms from five guineas weekly.
No Infectious cases taken. All particulars from Mrs. or Dr. B. HUDSON (above address).

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.
Ladies and gentlemen admitted for treatment.
For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).
Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of *Alcoholism and the Drug Habit. All types of* early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA
CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the *supervision* of the Res. *Med. Supt.*, Dr. A. E. Carver, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.
In cases of urgency 'phone NUNEATON 241.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE.
BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of **Private Patients** of both sexes of the **Upper and Middle Classes** at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. [illegible] and gardens, in which patients are encouraged to occupy [illegible] door and out-door recreation. For terms, prospectus, etc., apply

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-[illegible] treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-[illegible] boards, tennis, etc. Fees from five guineas per week.

Apply, Dr D. E. M. DOUGLAS MORRIS. *Telephone*: Newport Pagnell 121.

The MAUDSLEY HOSPITAL
DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: (*a*) 189 beds (both sexes) in wards or separate rooms. (*b*) 13 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS:

(*a*) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(*b*) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—ARTHUR TOWNSEND, M.D., Medical Supt. Telephone: No. 7 Barnwood.

BAILBROOK HOUSE,
BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLIN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No.: Batheaston 8189.

HINDHEAD.
850 feet above sea-level.
STONYCREST NURSING HOME
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment. Telephone: 431 GATLEY.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:* A. E. CARVER, M.D., D.P.M. Telephone: Nuneaton 241.

Upton Lodge Nursing Home,

BIRCHINGTON, THANET.

All types of cases taken; special care for aged; shelters in garden; charming comfort, home; nr. sea. Terms mod.—MISS ROBERTSON, Matron.

BOWDEN HOUSE,

HARROW-ON-THE-HILL.

A NURSING HOME OPENED IN 1911 FOR THE INVESTIGATION AND TREATMENT OF FUNCTIONAL NERVOUS DISORDERS OF ALL TYPES.

No cases under certificate. Thorough clinical and pathological examinations. Psychotherapeutic treatment, occupation, and recreation as suited to the individual case.

PARTICULARS FROM THE MEDICAL SUPERINTENDENT. *Telephone and Telegrams*: HARROW 0545.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E. Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"

STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281 Matron: Mrs. Ellen Allfrey, S.R.N.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone:* RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty ac[illegible]d and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusement[illegible] and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and [illegible]nged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

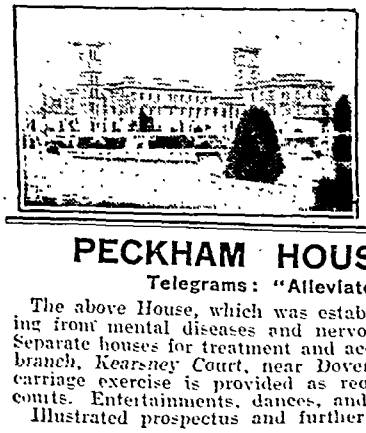
THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.



King Edward VII Convalescent Home for Officers of the Navy, Royal Marines, Army, and Air Force.

Massage.
All forms of Electricity.
Ultra-Violet Rays.
Special Dieting.
Golf Course in the Grounds.

TERMS: 4/6 to 6/- per day, inclusive.

Hard Tennis Court.
Squash Racquets.
Badminton.
Sailing.
Bathing, etc.

Officers on the Active List are eligible to travel by rail at Government expense.

For Booklet apply—HOUSE GOVERNOR, OSBORNE HOUSE, EAST COWES, ISLE OF WIGHT.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, *Kearsney Court, near Dover, to which patients may be sent for treatment* or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.

Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

TOR-NA-DEE SANATORIUM

MURTLE DEESIDE ABERDEENSHIRE.

Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

EAST ANGLIAN SANATORIUM.

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus, etc., apply to the SECRETARY, East Anglian Sanatorium, Nayland, near Colchester. *Tel: and Telegrams:* NAYLAND 1.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculin, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, and Wireless in all rooms.

Full day and night Nursing Staff. Hot and cold basins,

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone:* 41 WITCOMBE. *Telegrams:* "HOFFMAN, BIRDLIP."

NORDRACH-UPON-MENDIP SANATORIUM

FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

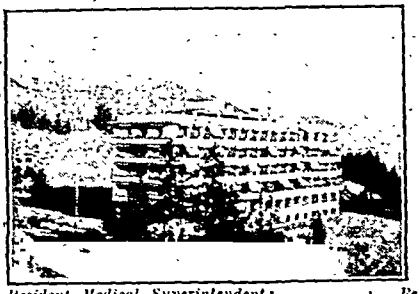
Physician: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach upon-Mendip, Blagdon, Bristol. *Telegrams:* Nordrach, Blagdon. *Telephone:* Blagdon 25

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montail," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

The Italian Spas
of
ABANO, CHIANCIANO, FIUGGI & MONTECATINI

announce that a Medical Representative will attend at Cook's Head Office, Berkeley St., W.1, *from March 23rd to April 1st*, to give information regarding the waters and cures to interested parties. Enquiries welcomed.

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid *Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia*, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by *eminent medical authority*. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.
All *modern* Baths, *Douches*, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.
IDEAL HEALTH RESORT.
Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.
Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.
Resident Physicians: W. JOHNSON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, *etc.* Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17.
For Prospectus and *full information* please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. *Nat. Tel.*: 130.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

VICTORIA SANATORIUM : : DAVOS

SWITZERLAND
(BRITISH SANATORIUM), 5,200 feet above sea-level.
ALTERED AND MODERNISED IN SUMMER 1930.
Terms from £5 . 12 . 0 per week.
Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. *Stations*: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

Accouchement. — Lady receives *confidential* CASES; strict privacy. Comfortable, well-appointed house in Surbiton. Central heating, telephone. Resident C.M.B. Nurse. Doctor in attendance.—Address, No. 1552, B.M.A. House, Tavistock Square, W.C.1.

BRIDGE of ALLAN SPA
Stirlingshire

INHALATION TREATMENT with vaporized Mineral Water is strongly recommended for asthma, bronchitis, and other catarrhal affections.

Bridge of Allan is an Ideal Spring Resort, being mild, sunny, and sheltered from North and East winds.

The Allan Water and Spa Hotel has covered communication with the Spa.

For further particulars apply SPA DIRECTOR.

GRAMPIAN SANATORIUM,
KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 ft. above sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms £4 6s. 8d. to £6 6s. *inclusive p.w.* Med. Supt.—FELIX SAVY, M.D. For particulars apply to the Secretary.

THE GROCERS' COMPANY RESEARCH SCHOLARSHIPS.

With the object of encouraging Original Research in Sanitary Science, the Grocers' Company offer Scholarships, each of £300 a year, with an allowance to meet the cost of apparatus and other expenses in connection with the work, tenable for one year, but renewable for a second or third year, subject to the conditions of the scheme under which they are established

The next election will take place in May. Applications must be sent in before the end of April to the Clerk to the Grocers' Company, Grocers' Hall, London, E.C.2, from whom a form of application and further information may be obtained.

EXTEMPORE SPEAKING
(Lecture Theatre, Platform, Pulpit, Banquet).
PRIVATE LESSONS
given by Mr. CHAS. SEYMOUR

Tuition includes Fluency, Vocabulary, Retention of Ideas, Voice-Production, AUDIBILITY, Modulation, CONFIDENCE, Breathing, ELOCUTION, Accent and Phonetics.

Prospectus forwarded (Kindly mention B.M.J.)
401 Strand (Opposite Cecil) **W.C.2** Temple Bar 2697

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times." ... ies."—"Lancet." ... ect and perfectly ..."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9
of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for July and later Exams should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Coaching for all Final Examinations ... COURSE in SURGERY by expert Crammer who ... in condensed, concise methods of ... at moderate rate.—Address, No. 1827, B.M.A. House, Tavistock Square, W.C.1.

UNIVERSITY EXAMINATION POSTAL INSTITUTION
17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary* 1906-30	162
	Final	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

...bove and also for ... for all examinations L.R.C.P., or M.B. of ... for D.P.M., D.O.M.S., D.M.R.E., M.M.S.A., successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all* ... (Courses, and Oral ... Higher Medical ... the higher Sur... for the Special ... Course. Openings for Women. Hints for writing theses. Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

DIPLOMA in PUBLIC HEALTH
THE ROYAL INSTITUTE OF PUBLIC HEALTH.

Arrangements are made for intending candidates to commence the Course of Instruction at their convenience, and the Principal will be pleased to interview such for the purpose of advice.

Further particulars can be obtained from the Secretary, 37, Russell Square, W.C.1. Telephone: Museum 0766.

THE LONDON HOSPITAL MEDICAL COLLEGE.
(University of London.)

ADVANCED MEDICINE.

A Course in Advanced Medicine suitable for candidates preparing for the M.D. and M.R.C.P. Examinations will begin on Monday, April 27th. Early application for admission is advisable.

Further particulars may be obtained on application to the Dean, Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., London Hospital Medical College, Mile End, E.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.

The Prince of Wales's General Hospital, Tottenham, N.15, and the North Middlesex Hospital, Edmonton, N.18.

A ONE WEEK COURSE IN GASTRO-ENTEROLOGY will be held from April 13th to 17th inclusive.

Enquiries and applications should be sent to the Dean at the Prince of Wales's General Hospital, or to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

CITY OF LONDON MATERNITY HOSPITAL,
CITY ROAD, E.C.1.

... SCHOOL ... to Hospital and Obstetrical ... fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

SOCIETY OF APOTHECARIES OF LONDON.

MASTERY OF MIDWIFERY.

Examinations will be held beginning Monday, May 18th, and Monday, November 16th, 1931.

For regulations apply to the REGISTRAR, Water Lane, E.C.4.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

M.D. THESIS

All Universities.

Skilled coaching, guidance, and advice, by specialist tutors.

Recent successes include Gold Medals at M.D. Edinburgh, 1929 and 1930, and at M.D. Belfast, 1930, and many "High Commendations" and "Commendations" at other Universities.

Write for free booklet "How to Write a Thesis for the M.D. degree."

M.D. LONDON

Courses by skilled tutors for each branch of the M.D. London.

Oral, clinical, and practical work arranged.

Special courses, postal, oral, and clinical, for all higher medical examinations, M.R.C.P. London, Edinburgh, F.R.F.P.S. Glasgow. Many successes.

Write for free booklet "Guide to the M.D. London" to the Secretary, Medical Correspondence College, 19, Welbeck Street, London, W.1.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees should be given.

J. & J. PATON, Educational Agents, 145, Cannon St., London, E.C.4. Tel.: Mansion House 5055.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in *Tropical Medicine* commence on January 6th and October 1st, and for the *Diploma in Tropical Hygiene* on January 15th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

(University of London.)

Tropical Medicine and Hygiene.

The School provides Two Courses yearly, each of 22 weeks. The Autumn Course commences at the end of September, and the Spring Course in February, 1932. Composition fee, to include hire of Microscope, etc., £34 5s.

Diploma in Public Health.

The next Course of study, covering a period of twelve months, commences at the end of September, and is so designed that Students wishing to do so can proceed to the New Academic Diploma instituted by the University of London. The composition fee of 54 guineas covers the cost of the necessary practical work and instruction in Infectious Diseases, etc.

Diploma in Bacteriology.

The Course of study, covering one academic year, commences early in October. *Composition fee £47 15s.*

Epidemiology and Vital Statistics.

Special three-monthly Advanced Courses. Composition fee £7 7s.

Applications for Prospectuses and for other information should be addressed to the Secretary, Keppel St. (Gower Street), London, W.C.1.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London.)

The Second Term of the WINTER SESSION will begin on Tuesday, April 21st, 1931.

The Medical School provides courses in Preliminary, Intermediate, and Final Subjects, and Students can join at once after matriculation.

SITUATION.—Between a large population, providing clinical material, and one of the best residential districts, thus enabling students to live *in close proximity to their work.*

CLINICAL UNITS IN MEDICINE AND SURGERY.—Certain members of the Medical and Surgical staff devote their whole time to teaching and research.

NEARLY 1,000 beds available for teaching, additional clinical material being provided by affiliation to an Infirmary and other Institutions.

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1,400 are awarded annually.

APPOINTMENTS, varying in value up to £750 per annum, open to students after qualification.

For further particulars and illustrated prospectus, apply to the School Secretary.

C. M. WILSON (M.C.), M.D., F.R.C.P., Dean.

Aberdeen Medical School.

A COURSE OF POST-GRADUATE STUDY on Radium, Pneumonia, and Haematology will be held at Aberdeen Royal Infirmary and Aberdeen University from April 21st to June 25th, on Tuesdays and Thursdays at 3.15 p.m.

A syllabus of the Lectures and Demonstrations may be had on application to the Secretary, The University, Aberdeen.

ROYAL AIR FORCE MEDICAL SERVICE

A limited number of candidates will shortly be selected for Commissions as MEDICAL OFFICERS in the Royal Air Force.

There will be no entrance examination, candidates being appointed by selection. Candidates wishing to submit applications should apply for full particulars as to the conditions of service and emoluments, and forms of application, to the Secretary, Air Ministry (D.M.S.), Adastral House, Kingsway, London, W.C.2.

They should be prepared to attend for interview and medical examination in London.

The University of Manchester.

The following Fellowships are offered for competition:

PILKINGTON FELLOWSHIP IN CANCER RESEARCH, of the value of £300 for one year.

AMY HENRIETTA WORSWICK FELLOWSHIP for the investigation of the causes and treatment of Rheumatoid Arthritis, of the value of £150 per annum for one year, renewable for a second year.

KNIGHT FELLOWSHIP for the study of the factors concerned in the development of the symptoms of Mental Disturbance, of the value of £150 for one year.

Applications should be sent not later than June 1st, 1931, to the Registrar, from whom *further particulars may be obtained.*

Portsmouth Education Committee

SCHOOL MEDICAL SERVICE.

The Committee invite applications from fully qualified candidates for the appointment of a Whole-time Male ASSISTANT SCHOOL MEDICAL OFFICER.

Salary £500—£25—£700 per annum. Experience in Refraction, Mental Deficiency, or any other special branch of the work will be deemed a recommendation.

The selected candidate must pass a medical examination, and, in the event of the appointment being designated as an established post in the future, will be required to contribute to the Council's *Superannuation Scheme.*

Forms of application may be obtained from the Chief Clerk, Education Offices, Guildhall, *Portsmouth, to whom they should be returned* not later than the first post on April 14th

Canvassing in any form will be regarded as a disqualification.

Guildhall, F. J. SPARKS,
Portsmouth. Town Clerk and Clerk to the
March 16th, 1931. Education Committee.

The Radium Institute,

Riding House Street, London, W.1.

Applications are invited for the post of Whole-time RESIDENT SURGICAL REGISTRAR (male). Candidates must be unmarried.

The salary will be at the rate of £250 per annum, board, *residence, and laundry being* provided, and the appointment is for six months *commencing* May 1st next.

Applications, stating age, nationality, qualifications, and experience, with copies of three recent testimonials, must be received at the *Institute on or before* April 6th next.

Canvassing, either directly or indirectly, is not permitted.

THOS. A. GARNER, Secretary.

London School of Dermatology.

The Examination for the CHESTERFIELD MEDAL will be held at *St. John's Hospital for* Diseases of the Skin, *Leicester Square*, W.C.2, on Monday and Tuesday, March 30th and 31st, at 10 a.m. Open to all qualified Practitioners. Full particulars from the Dean.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for *Medical and Dental* Students in London and at Provincial Centres in March, June, September, and December. For *Regulations*, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

County Council of Durham.

EARL'S HOUSE SANATORIUM.

MEDICAL OFFICER.

Applications are invited for the post of Medical Officer of Earl's House Sanatorium for Boys, near Durham, which has accommodation for about 80 patients.

The salary will be at the rate of £450 per annum, rising by annual increments of £25 to £500 per annum, together with furnished quarters and board, etc., valued at £150 per annum, in addition. In the case of a married man the emoluments will be paid in cash, as there is accommodation (a cottage) for which a charge of £50 per annum is made by the County Council to cover rent, rates, electric light, and water.

The officer appointed must be a registered Medical Practitioner, and must devote whole time to the duties required of such person by the County Council, including part-time services as an Assistant Tuberculosis Medical Officer. It is essential that the person appointed shall have held House appointments in a General Hospital, and have had practical experience in the administration of a Tuberculosis Sanatorium and in the treatment of tuberculosis in such *an institution*, and in Bacteriological work. Experience in ultra-violet ray treatment and X-ray technique will also be necessary.

The person appointed will be attached to the County Health Department, and will be required, subject to the control of the County Medical Officer of Health, to take full responsibility for the general management of the Institution, including the supervision of the staff and the treatment of patients.

The appointment will be terminable by three months' notice on either side. A deduction of 5 per cent. will be made from the salary in accordance with the provisions of the Local Government and Other Officers Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to the successful candidate passing the County Council's medical examination in connection therewith.

Applications, endorsed "Medical Officer, Earl's House Sanatorium," with copies of not more than three recent testimonials, must be delivered to the County Medical Officer, Shire Hall, Durham, on or before April 4th.

Shire Hall, HAROLD JEVONS,
Durham. Clerk of the County Council.
March 16th, 1931.

Borough of Twickenham.

ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners (men or women) for the appointment of Assistant Medical Officer. The work will include duties connected with Maternity and Child Welfare, School Medical Inspection and Treatment, and the Borough Hospital for Infectious Disease.

Special experience of Ante-natal and Maternity and Child Welfare work is obligatory, and the possession of a Diploma in Public Health will be an additional recommendation.

Salary £550 per annum, rising by annual increments of £25 to £700.

[illegible] must pass a medical [illegible]ment, and applica[illegible]st to be designated [illegible] and Other Officers Superannuation Act, 1922. The officer will be required to work under the direction and supervision of the Medical Officer of Health; to devote whole time to the service of the Corporation, and to reside within the Borough of Twickenham.

A form of application can be obtained from the Medical Officer of Health, Dr. G. H. DUPONT, Municipal Offices, Twickenham, to whom applications, accompanied by copies of not more than three recent testimonials, are to be sent by April 1st.

Municipal Offices, EDWIN G. STRAY,
Twickenham. Town Clerk.
March 11th, 1931.

St. Peter's Hospital for Stone, ETC.,

Henrietta Street, Covent Garden, W.C.2.

The office of HOUSE SURGEON will fall vacant on April 1st, and applications are invited from male candidates with previous experience in a similar office at a General Hospital. The salary offered is at the rate of £75 per annum, with board, lodging, and laundry.

At the expiration of six months' term of office, and subject to the recommendation of the Medical Committee, the House Surgeon is appointed Resident Surgical Officer for a further similar period. Candidates should therefore be prepared, if successful, to remain at the Hospital for twelve months in all.

Applications, accompanied by copies of testimonials, should be forwarded to the undersigned as early as possible.

BEECHEY ROGERS, Secretary.

Borough of Bacup.

MEDICAL OFFICER OF HEALTH.

[illegible] d for the combined Medical Officer of [illegible]ficer, and Maternity [illegible] Officer.

[illegible] must be fully quali[illegible]es combined in the [illegible]intment will be sub[illegible]e Minister of Health and the Board of Education, and to any terms as to tenure of office or otherwise which they or either of them may impose. The appointment will, in addition, be in all respects subject to the provisions of the Public Health Acts, the Sanitary Officers Order, 1926, and the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930, so far as the same or any of them are applicable.

The successful applicant will be required to commence his duties at the earliest possible date, and to perform, in addition to the statutory duties or other normal or usual duties of such an appointment, all such other medical, public health, or allied duties as may from time to time reasonably be required of a part-time officer. He will be required to reside at an approved address in or within a reasonable distance of the Borough of Bacup, and, subject to the due performance of his duties as an officer of the Bacup Corporation, will be permitted to engage in private practice.

Office accommodation and stationery will be provided by the Corporation.

The salary, to cover all the duties specified above, will be £400 per annum inclusive.

Further particulars of the appointment may be obtained from the undersigned.

Applications (endorsed "Medical Officer of Health"), stating age, qualifications, Local Government, and/or other experience, and the date when the applicant would be prepared to commence his duties, if appointed, together with copies of three recent testimonials, must reach the undersigned by not later than noon on Saturday, March 28th.

P. J. HODGES, Town Clerk.

Town Clerk's Office,
Stubbylee Hall, Bacup, Lancs.
March 13th, 1931.

Surrey County Council.

COUNTY SANATORIUM, MILFORD, SURREY. (300 Beds.)

Applications are invited from qualified and registered Medical Practitioners for the post of THIRD ASSISTANT RESIDENT MEDICAL OFFICER at this Sanatorium.

Candidates should be under 35 years of age and have held resident Hospital appointments. Sanatorium experience is *not* essential.

The appointment is subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination. The appointment will be made in the first instance for a period of six months, renewable at the end of that period for a further six months. Termination of engagement will be at one month's notice on either side.

The salary is £350 per annum, together with board, lodging, and laundry. These emoluments are valued at £100 per annum for purposes of superannuation.

The successful candidate will be required to devote his whole time to the services of the County Council.

Forms of [illegible] y be obtained from [illegible] of Health, County [illegible] to whom completed [illegible] returned, together [illegible] t testimonials, not [illegible] 4th.

DUDLEY AUKLAND,
Clerk to the Surrey
March 11th, 1931. County Council.

County Borough of Preston.

SHAROE GREEN HOSPITAL, FULWOOD.

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER. Candidates must be duly qualified and registered under the Medical Acts. Duties include work in any wards of the Hospital as required, and also in the Sharoe Green Maternity Home adjoining.

The appointment is for a temporary period of twelve months only. Salary at the rate of £156 per annum, with board, lodging, etc.

Applications, endorsed "Junior Medical Officer," accompanied by copies of three recent testimonials, to be sent to the Public Assistance Officer, 138, Lancaster Road, Preston, not later than the first post on Friday March 27th.

Town Hall, ALFRED HOWARTH,
Preston Town Clerk.
March 16th, 1931.

City of Cardiff.

CITY LODGE INSTITUTION.

SECOND AND THIRD ASSISTANT MEDICAL OFFICERS.

Applications for the above appointments are invited from duly qualified unmarried Medical Men or Women, who must devote their whole time to the duties, reside in the Institution, and (subject to the Public Assistance Order, 1930, and the Orders of the Council) act under the direction of the Medical Officer of the Institution.

The salary of the Second Assistant will be at the rate of £490 per annum, rising by yearly increments of £25 to £590 a year. The person appointed, if not a transferred officer paying Superannuation contributions under the Poor Law Officers Superannuation Act, 1896, will be required to contribute 5 per cent. of his or her salary under the Superannuation Scheme of the Council, and for this purpose to pass a medical examination, and will be provided with board, lodging, attendance, and washing, for which he or she will pay the sum of £140 a year.

The position of Third Assistant will be tenable for one year only, and the salary will be at the rate of £150 per annum, with board, lodging, attendance, and washing.

Assistant Medical Officers are liable to be called upon by Justices to examine and certify persons alleged to be of unsound mind. Any fees payable in respect of such examinations [illegible] recommendations under [illegible] ct, 1930, and any fees [illegible] must be returned to the Council.

Applications on forms to be obtained from the Public Assistance Officer, 11, Park Place, Cardiff, from whom further information may be obtained, must reach me by 5 p.m. on Wednesday, April 8th.

Direct and indirect canvassing is prohibited.

CECIL G. BROWN,
Town Clerk.

Administrative County of Essex.

JUNIOR ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

The County Council of the Administrative County of Essex invite applications for the above post from registered Medical Practitioners holding a Diploma of Public Health, and not over 45 years of age.

Preference will be given to candidates who have had at least three years' experience in Public Health work subsequent to their medical qualification. The salary attached to the appointment will be £500 per annum, and will rise by annual increments of £25 to £700 per annum. Travelling expenses will be paid by the Council.

The person appointed will be required to devote his whole time to the service of the Council, and to perform such duties and to furnish such advice and assistance appertaining to his office as may be required, and to reside in such district of the County as the Council may decide. The appointment will be subject to three months' notice on either side.

The person appointed will be required to pass a medical examination, and to contribute 5 per cent. of his salary to the fund established under the Local Government and Other Officers [illegible] cribed form, obtained [illegible] nd accompanied by [illegible] three testimonials, which will not be returned, should be addressed to me and delivered at the Shire Hall, Chelmsford, not later than 10 a.m. on Monday, April 6th.

Shire Hall, JOHN H. GOOLD,
Chelmsford. Clerk of the County Council.
March 16th, 1931.

Argyll County Council.

MEDICAL OFFICER wanted for the Medical Service area of KILMORICH and LOCHGOILHEAD. The salary includes a payment of £105 from the County Council. A grant from the Highlands and Islands (Medical Service) Fund is made by the Department of Health, and considerable private practice may be expected.

A free house is provided.

For further particulars reference may be made to the Deputy County Medical Officer, Oban, Argyll, with whom application, and six copies of each testimonial, are to be lodged on or before March 31st.

Manchester Royal Eye Hospital.

JUNIOR HOUSE SURGEON required. Salary £120 per annum, with residence, board, etc.

Applications (with copies of testimonials), endorsed "House Surgeon," to be addressed to the Chairman of the Board of Management not later than March 28th.

H. R. NORTH, *Secretary.*

Manchester Royal Infirmary.

HONORARY DERMATOLOGIST.

The Board of Management invite applications for the ab[illegible]ce for the office of [illegible] ust be a Fellow or [illegible] Colleges of Physicians of the United Kingdom, or a Graduate in Medicine of a British or Irish University. Candidates are required to forward diplomas, original testimonials (not exceeding eight in number, and dated), and certificate of age with their application, addressed to the Secretary, on or before 9 a.m. on Thursday, April 9th, from whom also a copy of the rules can be obtained.

Candidates are required to furnish 45 copies of their application and testimonials, addressed to the Secretary, for distribution prior to the meeting of the Committee.

Canvassing, directly or indirectly, is forbidden, and the Committee reserve to themselves the right, on proceeding to election, to take into consideration any complaint that canvassing on behalf of any candidate has taken place.

By Order,
FRANK G. HAZELL,
March 21st, 1931. Gen. Supt. & Sec.

Manchester Royal Infirmary.

CENTRAL BRANCH, ROBY STREET, MANCHESTER.

HOUSE SURGEON (Lady).

[illegible] Manchester
R for the
H
d hold a
Medical and Surgical qualification.

The appointment is tenable for nine months commencing May 1st—three months as Junior at £100 per annum, three months as Assistant at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m. on Thursday, April 9th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

Manchester Royal Infirmary.

[illegible] for the DICKINSON SCHOLARSHIP IN [illegible] enable for one year. [illegible]rsity Graduates who have taken out the full course of Clinical Instruction in the Manchester Royal Infirmary.

A copy of the [illegible] Scholarship can be signed, to whom six be sent not later t[illegible]

Manchester Royal Infirmary.

Trustees.

Manchester Royal Infirmary.

Applications are invited for the DICKINSON RESEARCH SURGERY SCHOLARSHIP, value £75, tenable for one year. Candidates must be University Graduates who have taken out the full course of Clinical Instruction in the Manchester Royal Infirmary.

A copy of the regulations governing the Scholarship can be obtained from the undersigned, to whom six copies of application should be sent not later than Saturday, April 18th.

FRANK G. HAZELL,
Manchester Royal Infirmary. Secretary to the Trustees.

Royal Southern Hospital,

LIVERPOOL.

Wanted, One ORTHOPAEDIC HOUSE SURGEON and One MEDICAL OFFICER to Special Departments.

The salary for both appointments is £60 per annum, including board and residence.

The appointments will be for six months, duties commencing as from April 1st.

Applications and copies of testimonials to be sent to the undersigned at once.

ALLEN NALDRETT,
Superintendent and Secretary.

Westminster Hospital,

Broad Sanctuary, S.W.1.

There will be a vacancy for a HOUSE SURGEON to the Ear, Nose, and Throat, and Eye Departments on April 1st next. The appointment is for six months (non-resident), and the salary is at the rate of £102 per annum.

Applications should be submitted to the undersigned at once, and not later than March 27th.

CHARLES M. POWER, Secretary.

Bristol City and County Mental HOSPITAL.

Applications are invited for the posts of THIRD and FOURTH ASSISTANT MEDICAL OFFICERS.

Candidates for the post of Third Assistant must be duly registered and single. Preference will be given to those with previous Mental Hospital experience, and who possess a Diploma in Psychological Medicine. Salary £450 per annum, rising by annual increments of £25 to £550, with an additional £50 for D.P.M., with emoluments valued at £150. The appointment will be subject to the Asylum Officers Superannuation Act, 1909.

Candidates for the post of Fourth Assistant must be duly registered and single. Salary £350 per annum, rising by annual increments of £25 to £450, with emoluments valued at £150. The appointment will be subject to the Asylums Officers Superannuation Act, 1909.

Applications, stating age, qualifications, and full particulars of experience, to be sent to the Medical Superintendent, Bristol Mental Hospital, Fishponds, Bristol, on or before Monday, the 30th instant.

The Council House, JOSIAH GREEN,
Bristol. Clerk to the Visiting Committee.
March 19th, 1931.

The Prince of Wales's General HOSPITAL, Tottenham, N.15.

The following Resident posts will be vacant on May 1st next:

SENIOR HOUSE PHYSICIAN, SENIOR HOUSE SURGEON, and SPECIAL HOUSE SURGEON. Salaries at the rate of £120 per annum.

JUNIOR HOUSE PHYSICIAN and Two JUNIOR HOUSE SURGEONS. Salaries at the rate of £90 per annum.

Board, residence, and laundry.

Appointment held for six months, but holders are eligible for re-appointment for a further term.

Candidates (male) must be fully qualified and registered, and applications (on the prescribed form), together with copies of three recent testimonials, should be sent to me on or before the first post on Wednesday, April 1st.

J. B. BURDETT,
March 7th, 1931. Director.

Nuneaton General Hospital.

(80 Beds.)

Applications are invited for the post of HOUSE SURGEON. The appointment is open to candidates of either sex, and is for six months in the first instance.

The salary will be £120 per annum, together with board, residence, and laundry, and certain other emoluments, and will be raised to £150 per annum after six months for any subsequent period.

Owing to the varied nature of the cases treated this appointment is especially valuable to those contemplating General Practice.

Applications, stating age, qualifications, and experience, if any, together with copies of testimonials, should be sent before March 30th to the Secretary of the Medical Staff, General Hospital, Nuneaton

Hull Royal Infirmary.

(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments, vacant March 31st.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in Laryngology and Otology.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, with copies of testimonials, should be sent immediately to the undersigned.

R. J. CARLESS,
March 16th, 1931. House Governor.

London Light and Electrical CLINIC.

Under the authority of the Venerable Order of St. John of Jerusalem.

The Committee of Management will shortly proceed to appoint Three HONORARY VISITING PHYSICIANS, each of whom will be required to attend the Clinic twice weekly.

Each candidate must be a registered Medical Practitioner and a Graduate of a British University, or Fellow or Member of the College of Physicians of London or of Edinburgh.

Applications, with copies of not more than three testimonials, should be addressed on or before April 7th to the Secretary, London Light and Electrical Clinic, 42, Ranelagh Rd., S.W.1, who will furnish information as to the duties of the office.

North Riding Infirmary,

MIDDLESBROUGH.
(General Hospital—150 Beds.)

Second HOUSE SURGEON (gentleman) wanted to take up duties May 1st; also Third HOUSE SURGEON (lady eligible) wanted to take up duties early as possible.

The appointments will be for a definite period of six months, with salary in the former case of £150 per annum, and in the latter case of £125 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three recent testimonials, should be sent forthwith to the undersigned.

CHARLES POSTGATE,
Secretary-Superintendent.

The Royal Portsmouth Hospital.

(Five Resident Medical Officers.)

Applications are invited for the posts of:

Third HOUSE SURGEON, male, qualified. Salary at the rate of £130 per annum, with board, etc., to commence as soon as possible.

CASUALTY OFFICER, male, qualified. Salary at the rate of £100 per annum, with board, etc., to commence as soon as possible.

Six months' appointments, and eligible on completion of term for extension or other resident posts.

Applications, stating age, nationality, and full details, with copies of three testimonials, to be sent to the undersigned, from whom all particulars can be obtained.

B. WAGSTAFF, Secretary.

The Staffordshire General INFIRMARY, STAFFORD.

Applications are invited for the post of HOUSE PHYSICIAN (either sex), which will become vacant at the end of April. Candidates must be duly qualified and registered under the Medical Acts. Salary at the rate of £150 per annum, with board, residence, and laundry. The appointment to be held for at least six months.

Applications, stating age, accompanied by copies of three recent testimonials, should be received by the undersigned not later than Thursday, April 2nd.

Stafford. A. E. COLLINS,
March 21st, 1931. Secretary.

Paddington Green Children's HOSPITAL (Incorporated), London, W.2.

HOUSE PHYSICIAN.
HOUSE SURGEON.

These appointments will become vacant on May 1st. Gentlemen (unmarried) are invited to send in their applications, with copies of three testimonials, to the undersigned not later than the first post on Friday, April 10th. Salary of each at the rate of £150 per annum, with board and residence.

Candidates who have held a responsible resident Hospital appointment are preferred The appointments are for a period of six months.

JAMES A. HAMLIN, Secretary.

Peterborough and District MEMORIAL HOSPITAL.

(154 Beds and Out-patient Department.)

RESIDENT HOUSE SURGEON required.

Applications are invited from fully qualified male Practitioners for the above post.

Salary £135 per annum, with board, residence, and laundry.

Appointment will be for a minimum period of six months.

Applications, stating age, qualifications, and experience, with copies of recent testimonials, to be sent to the undersigned, from whom further particulars may be obtained.

FRANK A. C. TAYLOR,
Secretary-Superintendent.

Leicestershire and Rutland MENTAL HOSPITAL, NARBOROUGH, near LEICESTER.

ASSISTANT MEDICAL OFFICER required.

Candidates must be registered, and not more than 35 years of age, unmarried. Salary £350 per annum, rising £25 per annum to £450. In addition £50 per annum will be given if the candidate holds the Diploma of Psychological Medicine. Full board and attendance in addition to the above, valued for Superannuation purposes at £150 per annum. The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, with copies of not more than three recent testimonials, to be sent to the Medical Superintendent forthwith.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIMB, Secretary.

Addenbrooke's Hospital,

CAMBRIDGE.

Applications are invited for the post of HOUSE PHYSICIAN.

The appointment will be for six months from April 17th, but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum, with board, residence, and laundry. Candidates (male), who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials, to the undersigned on or before Wednesday, April 1st.

W. H. HEAD,
Secretary-Superintendent.

Borough of Weymouth and

MELCOMBE REGIS.

MEDICAL OFFICER OF HEALTH, ETC.

The Corporation invite applications for the position of Medical Officer of Health and School Medical Officer at a salary of £800 per annum, with an additional allowance of £50 per annum for travelling expenses.

Particulars of the appointment may be obtained from the undersigned.

Applications must be delivered at my office not later than April 2nd.

Municipal Offices, Weymouth. PERCY SMALLMAN, Town Clerk.

March 14th, 1931.

Tunbridge Wells and Counties

GENERAL HOSPITAL.
(100 Beds—2 Residents.)

Applications are invited for the post of HOUSE SURGEON (male). Salary £160 per annum, with board, residence, and laundry. The [illegible] is, and [illegible] recent [illegible] to the undersigned.

P. E. WINDO, Secretary.

Victoria Central Hospital,

WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry, with prospects of appointment to Senior House Surgeon in six months' time, at a salary of £150

Candidates chosen will be appointed for six months.

Applications, with copies of testimonials, to be sent to the Secretary.

Royal Berkshire Hospital,

READING. (243 Beds.)

Wanted, One CASUALTY OFFICER (male), and One RESIDENT ANAESTHETIST (male).

Candidates must be fully qualified and registered [illegible] for six months. Salary £50 per annum, with board, residence, and laundry. [illegible] of testimonials, to be sent before March 25th.

F. A. LYON,
Secretary.

March 13th, 1931.

Newark General Hospital

(50 Beds).

Wanted, a fully qualified RESIDENT HOUSE SURGEON (male or female), unmarried. Salary £175 per annum, with board, residence, and laundry. Appointment for six or twelve months if mutually desired. Applications, with copy testimonials, to be sent to W. T. CRAMPTON, Secretary, 27, Kirk Gate, Newark, Notts.

Liverpool and District Hospital

FOR DISEASES OF THE HEART.

Vacancy for RESEARCH FELLOW, male or female £200 a year The appointment is for one year in the first instance. Work may be used for M.D. Thesis. Apply Secretary, Heart Hospital, Oxford Street, Liverpool.

Walsall General Hospital.

The Committee invite applications from men for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months. The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, must be received by the undersigned not later than first post Tuesday, March 24th.

WALTER FRANCOMBE, Secretary.

Merthyr General Hospital,

MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry.

Applicants must have had experience in administration of Anaesthetics.

Applications, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

King Edward VII Hospital,

WINDSOR. (181 Beds.)

HOUSE SURGEON required for six months from date of appointment. Applicants must be fully qualified women, registered, and preferably have had experience in Ear, Nose, and Throat work. Salary at the rate of £100 per annum, together with board, residence, and laundry.

Applications, stating age, qualifications, and experience, accompanied by testimonials, should be sent to the undersigned not later than March 24th.

ARTHUR E. CHURCHER, Secretary.

The Gloucestershire Royal

INFIRMARY AND EYE INSTITUTION,
GLOUCESTER.
(153 Beds—4 Residents.)

Applications are invited for the post of FIRST HOUSE SURGEON (male). Salary at the rate of £150 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned.

F. J. SYMONS,
March 12th, 1931. Secretary.

Huddersfield Royal Infirmary.

(200 Beds.)

Wanted, Lady HOUSE SURGEON, to commence duty not later than April 13th. Duties mainly in Eye, Ear, Nose, Throat, and Medical Departments, with some Obstetrics. Salary £150 per annum, with board, residence, and laundry. Appointment to be for six months, subject to renewal.

Applications to be addressed to the undersigned immediately.

H. E. G. HALL, Secretary.

Scunthorpe and District War

MEMORIAL HOSPITAL.

Applications are invited for the post of a Second Resident (male) as HOUSE PHYSICIAN, to take up duties as early as possible. Salary at the rate of £150 per annum, with board, residence, and laundry. [illegible] must possess registe[illegible] forward applications, [illegible] tc., together with c[illegible] to—

[illegible] tary.

Swansea Hospital.

(316 Beds.)

HOUSE SURGEON wanted, gentleman, single. Salary £150 per annum, with board, residence, and laundry. Duties to commence on or about March 25th.

Applications, stating age, nationality, qualifications, and experience, together with copies of three testimonials, to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary-Supt.

The St. Helens Hospital.

Applications are invited for the position of HOUSE SURGEON to this Hospital at a salary of £200 per annum, plus board, residence, and laundry.

Applications, accompanied by three recent testimonials, to be sent to the Secretary, St. Helens Hospital, Lancs, not later than March 24th. The successful candidate will be required to commence his duties on April 1st.

East Suffolk and Ipswich

HOSPITAL.
(265 Beds—7 Residents.)

Wanted immediately, HOUSE SURGEON (male, British), with experience in Ear, Throat, and Nose work. Salary at the rate of £120 per annum. Board, residence, and laundry. Previous experience essential.

Applications, stating age, qualifications, and experience, and accompanied by three recent testimonials, to be sent to the undersigned.

The Hospital, Ipswich. ARTHUR GRIFFITHS, Secretary.

March 14th, 1931.

St. John's Hospital for Diseases

OF THE SKIN,
49, Leicester Square, W.C.2.

Applications for the post of JUNIOR HONORARY MEDICAL REGISTRAR (male or female) are invited to be sent to the undersigned on or before Monday, March 30th. Honorarium £50 per annum.

Applicants must be duly qualified and registered Medical Practitioners. Particulars of the duties can be obtained on application.

LEONARD G. R. TURPIN,
Secretary.

Charing Cross Hospital.

MEDICAL REGISTRAR.

The Council invite applications for the post of Medical Registrar. Honorarium £150 per annum.

A copy of the Regulations can be obtained from the undersigned, to whom applications, together with copies of three testimonials, must be submitted not later than Monday, March 30th.

PHILIP INMAN,
Charing Cross Hospital, London, W.C.2. House Governor.

City of London Hospital for

DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.
('Bus, Tram, and Rail, Cambridge Heath, L. & N.E. Railway.)

A vacancy for a HOUSE PHYSICIAN (male) will occur on May 1st. Six months' appointment. Salary at the rate of £100 per annum. Board, residence, and laundry provided.

Applications, with copies of three testimonials, should be sent to the undersigned on or before Friday, April 17th.

GEORGE WATTS, Secretary.

District Infirmary,

ASHTON-UNDER-LYNE.
(General Hospital, 200 Beds, mainly Surgical)

Wanted, a HOUSE SURGEON. Six months' appointment, renewable.

Salary at the rate of £150 per annum, with board, residence, and laundry.

The Resident Staff comprises a Resident Surgical Officer and three House Surgeons.

Applications, with testimonials, to be sent at once to the undersigned.

FRANK OLIVER,
March 9th, 1931. Gen. Supt. & Secretary.

General Hospital, Nottingham.

A HOUSE PHYSICIAN is required at the above Hospital. Appointment for six months. Salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, with copies of testimonials, to be delivered to me not later than Thursday, March 26th.

Duties to commence on or about April 9th.

P. M. MACCOLL,
House Governor & Secretary.

General Hospital, Nottingham.

A CASUALTY OFFICER (male) is required at the above Institution. Appointment for six months. Salary at the rate of £200 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, with copies of testimonials, to be delivered to me not later than Saturday, April 4th. Duties to commence on or about April 14th.

P. M. MACCOLL,
House Governor & Secretary.

Liverpool Open-Air Hospital for

CHILDREN, LEASOWE, MORETON, WIRRAL.
(260 Beds—Surgical, Tuberculosis, and Orthopaedics)

Vacant on April 1st, the post of JUNIOR RESIDENT MEDICAL OFFICER.

Salary £200 per annum, with board, residence, and laundry.

Applications to be sent not later than March 25th to the Senior Medical Officer.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH** *(contd.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	EAST SUFFOLK COUNTY COUNCIL. *(Male Assistant County Medical Officer of Health.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)* *(Male Assistant Medical Officer, Colony for Mental Defectives, Shenley.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	**PUBLIC HEALTH.**	STAFFORDSHIRE COUNTY COUNCIL. *(Third Assistant Medical Officer, Burntwood Mental Hospital.)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*	CAERNARVONSHIRE EDUCATION COMMITTEE. *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*	
	EAST HAM COUNTY BOROUGH. *(Assistant Medical Officer.)*	

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

March 18th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

The Hospital for Sick Children, Great Ormond Street, London, W.C.1.

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on April 14th.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 2 o'clock on Monday, April 6th, with copies of not more than three testimonials given specially for the purpose, and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months. Salaries at the rate of £100 per annum, laundry allowance £5, board and residence in the Hospital.

Candidates must be unmarried and possess a legal qualification to practise.

All candidates must be in attendance to appear before the Joint Committee, if required, at their meeting on Wednesday, April 8th, at 1.45 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary.

By Order of the Board of Management,
JAMES McKAY,
March, 1931. Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.
HOUSE SURGEON in charge of Male Wards.
HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

County Mental Hospital, LANCASTER.

Applications are invited for the post of ASSISTANT MEDICAL OFFICER, male. Candidates must be single and under 35 years of age. Commencing salary £500, rising by annual increments of £25 to £600, with further increase on promotion, subject to a deduction of 5 per cent. under the Asylum Officers Superannuation Act. There are no emoluments. The selected candidate will be required to live in the Hospital, and he will be provided with board, lodging, etc., for which a charge of £150 a year is made.

The possession of a Diploma in Psychological Medicine will entitle the officer to an additional £50 per annum.

Applications, giving full particulars, with testimonials (copies only), should be forwarded to the Medical Superintendent before April 4th.

March 10th 1931.

Royal Eye Hospital, St. George's Circus, S.E.1.

Applications are invited for the appointments of CLINICAL ASSISTANTS to the above Hospital.

Applications to be sent, together with copies of three recent testimonials, not later than Wednesday, March 25th.

By Order of the Council,
F. E. D'ALTON, Secretary.

Royal Eye Hospital, St. George's Circus, S.E.1.

Applications are invited for the appointment of HONORARY ASSISTANT SURGEON to the above Hospital.

Applications to be sent, together with copies of three recent testimonials, not later than Wednesday, March 25th.

By Order of the Council,
F. E. D'ALTON, Secretary.

West Bromwich and District GENERAL HOSPITAL. (130 Beds.)

HOUSE SURGEON (male) wanted immediately. Salary at the rate of £200 per annum, with residence, board, and laundry. Candidates must be doubly qualified and unmarried. The appointment will be for the period ending August 31st, 1931.

Applications, stating age and qualifications, with copies of recent testimonials, should be sent to the undersigned.

By Order,
Edward St., FRANK I. HANCOCK,
West Bromwich. Secretary & Supt.
March 9th, 1931.

Loughborough and District GENERAL HOSPITAL.

Wanted, to commence duties at end of March, RESIDENT HOUSE SURGEON (male or female, and unmarried), possessing a Medical and Surgical registered qualification. Practical experience in the administration of Anaesthetics is required. Salary £175, with apartments, board, and laundry. All applications, stating age, etc., with copies of testimonials, to be sent to me at once.

9, Leicester Road, FRANK H. TOONE,
Loughborough. Secretary.

The Royal Waterloo Hospital FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.

Applications are invited from qualified male Practitioners for the following post, vacant on April 1st—a CASUALTY OFFICER to work in the Out-patient Department on week days, at £150 per annum, lunch and tea provided.

Applications, with copies of testimonials, should be forwarded by Monday *morning*, March 23rd, to the Secretary at the Hospital, from whom further particulars can be obtained.

(Appointments continued on p. 60.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted, about April 20th.—ASSISTANT, London Practice, some knowledge of dispensing and panel practice essential. No midwifery. Very little night work. Several afternoons free. Salary £250, all found. Indoor.—Address, No. 1807, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship, with view, by M.R.C.S., English, aged 26, married; ex R.M.O. and H.S.; experienced General Practice, Anaesthetics, and Surgery.—Address, No. 1804, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistantship, indoor or outdoor, by Woman M.B., D.P.H., aged 31 years. Good experience panel and private. Excellent testimonials. Interview desired. —Address, No. 1823, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, Assistant, male, married, British, Christian, some experience, with view to Partnership after trial. Apply personally any morning (except Sunday) 11 a.m.—Dr. RIDEWOOD, 103, Bethnal Green Road, E.2.

Wanted immediately. — Assistant, outdoor, male, cyclist, Protestant, for private and panel Practice in London, South-West district. Salary £7 7s. per week. Interview.—Address, No. 1829, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Male Assistant with Hospital and general experience. Six guineas weekly (indoor). Motor car. No clubs. Dispenser. Send snapshot. State height, etc. Usual bond.—Address, No. 1826, B.M.A. House, Tavistock Square, W.C.1

Wanted. — Outdoor Assistant for quiet Country Practice in North of England, either sex. Work light. Some experience and one able to drive car preferred. Salary £365. — Address, No. 1822, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, indoor, British, for Colliery and Panel Practice in County Durham, for end of March. Usual bond. Salary £300 p.a.—Address, No. 1620, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship with view, by M.B.(Edin.), Scot, age 31, married; 4½ years' experience G.P. Accustomed sole charge. Own car. — Address, No. 1825, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, indoor, £300. Car provided, dispenser kept. Private and Panel Practice South-West Spa.—Address, No. 1817, B.M.A. House, Tavistock Square W.C.1.

Wanted, beginning April, ASSISTANT (male) in Country Practice, outdoor, with view. £400 per annum. English or Scotch. Photo and refs.—Address, No. 1808, B.M.A. House, Tavistock Square, W.C.1.

Part-time Assistant required in Central London. Residence at surgery essential. May suit Doctor engaged in Post-graduate work.—Address, stating essential particulars, No. 1825, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor and Country Practice Good salaries. State MEDICAL BUREAU, 33,

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams:
"REASIDE, TUBERCLE, WESTRAND, LONDON."

Wanted. — Locums by Medical Woman L.R.C.P.S., L.M., D.P.H., 5 yrs.' experience, accustomed sole charge and dispensing. Excellent refs. Free end of month. Lond. or S. of Eng. pref., but will go anywhere. —No. 1818, B.M.A. House, Tavistock Sq., W.C.1.

A General Medical Practitioner (retired, life abstainer) undertakes LOCUM TENENS work, and is at present disengaged. If light work, 6 guineas weekly charged. — Address, No. 1813, B.M.A. House, Tavistock Square, W.C.1.

D. M.R.E. wishes Locum, private or hospital. Free April onwards. —Address, No. 1814, B.M.A. House, Tavistock Square, W.C.1.

Locum Tenens.—Now available, experienced in Panel and G.P., and Mental work. Qual. 1907, St. Bart's.—Apply, stating terms and particulars, "MEDICUS," The Red House, Lancing, Sussex. Lancing 57.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: 'Phone:
"Epsomian, Lond." Temple Bar 9011.
After Office Hours: Epsom 9142.

MEDICAL POSTS, DISPENSERS, etc.

Wanted.-Bookkeeper-Shorthand-Typist, by Medical Partnership; a desirable South Coast resort (65 miles of London). Send three recent testimonials, which should include one from a clergyman or minister, and statement of exper gained and salary desired. —No. 1710, B.M.A. House, Tavistock Sq., W.C.1.

Assistant Radiologist required for Hospital in large Coast Town in SOUTH AFRICA. Must be experienced in X-ray and Radium work. Salary on the grade £145 per annum, with annual increments of £12 10s. to a maximum of £207 10s., with board, lodging, washing, and uniform. Appointment will be made in terms of Ordinance No. 11 of 1920 as amended.
Applications (which should state if able to speak Dutch or Africaans) are invited to the care of H. CHAPLIN & CO., 101, Leadenhall St., London, E.C.3, where the Ordinance may be seen if desired, and must be received by April 9th at latest.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Dispenser and Bookkeeper.—Mr. Walden can thoroughly recommend a lady with some years' experience.—Apply, Mr. J. E. WALDEN, Westminster College for Lady Dispensers, 112, St. George's Road, Southwark, S.E.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3579, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified [illegible] Secretary-[illegible] are invited [illegible] 5858, THE [illegible] BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Greenhill Hostel, Kidderminster. —Wanted, Trained C.M.B. NURSE. Salary £80; uniform £6.—Apply MATRON.

Lady Expert—Accounts, Correspondence, Card Indexing, Debt collection, Income Tax, etc.—wishes to extend her Clientele among Medical Men in London dist. Moderate terms, excellent refs. Work carried out at own or Client's address.—No. 1834, B.M.A. House, Tavistock Sq., W.C.1, or 'phone, Macaulay 4694.

Infant Welfare Consultation. — Woman MEDICAL OFFICER required on a sessional basis, with remuneration at £1 11s. 6d. per session. One weekly at present vacant.—Apply, with full particulars as to experience, etc., to Medical Officer of Health, Borough Hall, Royal Hill, Greenwich, S.E.10.

Male Dispenser - Bookkeeper (42), tall, good appearance, smart and methodical, desires POST. Life experience. At liberty now. — "DISPENSER," c/o 3, Kenten Street, W.C.1.

M.D., D.P.M., aged 28, experienced Psychotherapy, excellent testimonials, requires TEMPORARY APPOINTMENT or LOCUM, whole or part-time, preferably Mental Home. — Address No. 1812, B.M.A. House, Tavistock Square, W.C.1.

Miss Smith, 6, Craven Park, Harlesden, N.W.10, Bookkeeper, Accountant, would undertake DAY or EVENING WORK, whichever suitable to Doctor. Final accounts if desired. Copy work, testimonials, etc.—'Phone: Willesden 4775.

Post wanted as Secretary, Receptionist, or Chauffeuse, by thoroughly experienced gentlewoman (34). Typing, accounts. Pleasant manner.—Mrs. IRONSIDE, 11, Chalcot Gardens, Englands Lane, Hampstead.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

Typewriting.--Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted. — A Third Partner in an old established Practice in a North Country seaside resort. Applicant must be well qualified, preferably with a knowledge of biochemistry. No panel. Income from share for sale about £1,250. Two years' purchase.—No. 1836, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by Doctor, with own Practice, PARTNERSHIP or Working Arrangement with Practitioner, Clinic or Institution, between Euston Road, Regent's Park, and Holloway Road. Exp. in Bacteriology, E. and T. work, Dental anaesthetics.—'Phone: North 1280.

Wanted.—Partner, West Coast, F.R.C.S.Eng. desirable. Hospital appointment certain. Good opening for Surgery. —Address, No. 1821, B.M.A. House, Tavistock Square, W.C.1.

Midland Town. — Share worth £850 per annum in old-established mixed Practice, capable of increase. Partner retiring. Premium to suitable man £1,260. —Address, No. 1824, B.M.A. House, Tavistock Square, W.C.1.

Advertiser requires Partner to work Branch Surgery, with 400 panel, in rapidly growing district in Midlands; pop. over 20,000; only one Resident Doctor. Share offered £200 at present, could be incrd. later. Prem. £400. Very nice house, lowest expenses. Splendid chance for hard-working man. — Address, No. 1839, B.M.A. House, Tavistock Sq., W.C.1.

Near Manchester.—Partnership —Half Share in Practice doing £3,0[illegible] Panel over 3,000. Excellent Hospital in to[illegible] Vendor on staff. Premium, including interest house and surgery, £2,500; £2,000 down No. 1801, B.M.A. House, Tavistock Sq., W.C

Norfolk.—Large Town.—Quarter share of old-established non-panel PRACTICE. Total receipts £4,500 p.a. Rooms available for partner. Premium for share 2 years' purchase.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Woman Specialising in Eyes, Dentistry, V.D., or Obstetrics, etc., wanted to share West End address with two women having Practice of £1,000 p.a., growing rapidly. Some capital desirable.—Address, No. 1837, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Town or country. Good house. Income £1,000—£1,500. Strict confidence.—No. 1535, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—London and District. —The Medical Agency has a large clientele seeking suitable INVESTMENTS in the London area with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Wanted by well-qualified Practitioner, good-class PRACTICE, £1,200—£1,500. Pleasant residential district, South or South Midlands. Convenient house essential, garden. Capital available.—Address, No. 1820, B.M.A. House, Tavistock Sq., W.C.1.

Wanted now.—Country or Town PRACTICE, £750—£1,000. Near good day school for boys. Panel. Moderate-sized house, with conveniences, preferably to rent. —Address, No 1828, B.M.A. House, Tavistock Square, W.C.1.

Wanted to purchase, panel and middle-class Country PRACTICE, Devon or neighbouring counties. Income about £1,000. House to rent. — Address, No. 1809, B.M.A. House, Tavistock Square, W.C.1.

Birmingham. — Small Practice for sale. Panel 430. Receipts about £450 p.a. House for sale or to rent (13/6 p.w.). Good populous district, with plenty scope. Moderate premium.—Address, No. 1831, B.M.A. House, Tavistock Square, W.C.1.

Birmingham. — Industrial NUCLEUS. Receipts £120 p.a. Panel over 100. Ample scope. Midwifery not taken. House to rent. Premium £125.—Address, No. 1830, B.M.A. House, Tavistock Square, W.C.1.

Central Scotland, within easy reach of all the principal centres. Old-established mixed General PRACTICE; compact and easily worked, with panel of 1,500. Excellent modern house for sale with Practice.—For further particulars, address, No. 1619, B.M.A. House, Tavistock Square, W.C.1.

Ear, Nose, and Throat.—Nucleus £400 p.a. in West of England Cathedral City. Three Hospital appointments. Accounts audited. Excellent prospects. Premium £500. —Address, No. 1319, B.M.A. House, Tavistock Square, W.C.1.

For Disposal, through death, PRACTICE, with house, Lancashire working-class district. Panel 700 to 750.—Address, No. 1625, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Old-established PRACTICE in the County of Durham. Receipts with appointments, £1,500 to £2,000 p.a. Large house, garden, garages; electric light. The house can be rented or purch. Prem. £2,000. —No. 1509, B.M.A. House, Tavistock Sq., W.C.1.

For Sale, on account of death.— Old-established Medical PRACTICE in Stornoway, Lewis. Panel 1,556. Appointments held by deceased £276, with, in addition, grant from H. and I. Medical Service Fund. Good private practice. House, with surgery, can be purchased or rented.—Further particulars from STEWART, RULE & CO., Solicitors, Inverness.

Lancs. — Unopposed Practice in lovely country. Nice house, 8 rooms, bath, garden, garage. Receipts over £500, much scope. Appointments £150. Price—Practice and house (freehold)—£2,000, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Large Seaport Town, North.— Death Vacancy.—Old-established PRACTICE, held 24 years by late Vendor. Receipts £1,600 p.a., non-panel. Rent of rooms, including lighting, £100. Premium only £800.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Liverpool. — Nucleus, with excellent prospects. Good residential district. — Address, No. 1815, B.M.A. House, Tavistock Square, W.C.1.

London, S.E.—Death Vacancy.— Old-established PRACTICE. Receipts average nearly £1,800 a year, panel 1,395. Surgery rent £69. Locum in charge. Premium £3,500, to include drugs and instruments.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

London, S.W.—Well-established Cash and Panel PRACTICE. Receipts over £2,500 p.a., panel over 2,000. Lock-up surgery, rent £100. Premium moderate.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

London, S.W. — Old-established PRACTICE. Gross receipts £1,500. Panel 1,850. Vendor will accept £2,200 for quick sale.—Address, No. 1811, B.M.A. House, Tavistock Square, W.C.1.

Manchester.—Old-established.— Nice house, gardens, £50. Receipts (including panel £135) over £600. Great scope. Price £1,000 or near offer (to include fittings, drugs, linoleum coverings, and good debts £600), part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

Medical Practice, Central Scotland. Receipts approximately £800. Panel 660, increasing. Suitable house for sale. —ROBERT FLEMING, S.S.C., 21, Hill Street, Edinburgh.

South Midland Town, one hour London. — Good schools. £700. Panel 700. Ample scope increase. 1½ years' purchase. Good house for sale, side entrance, garage. £1,600, part mortgage. — Address, No. 1833, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

Yorkshire City.—Old-established PRACTICE. Panel 1,700, with private practice. £1,750 income p.a. Premium £4,000. Suitable house, ten rooms, with waiting room, two consulting rooms, dispensary, and garage. House can be bought or rented.—Address, No. 1806, B.M.A. House, Tavistock Square, W.C.1.

Woman Doctor's non-panel PRACTICE for Sale in London suburb. Receipts last year £355, rapidly increasing. Good house to be let or sold, or surgery would be let separately. Best offer.—Address, No. 1810, B.M.A. House, Tavistock Square, W.C.1.

£460 for £200 equity in House costing £1,460 and Nucleus now making rate of £360 per annum. Adjoining new shopping centre in rapidly growing good middle-class district.—Address, No. 1835, B.M.A. House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

City of Cardiff.—For Sale, with possession, 131, Cathedral Road, commodious Freehold Semi-detached RESIDENCE. Suit Medical Man or Dental Surgeon. Electric lighting, heating, all conveniences. — Further particulars application to address.

Consulting Rooms to Let.— Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & CO., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Consulting Rooms at 12, Seymour Street, W.1 (six doors Portman Sq.). Doctor or Dentist. Ground floor, 3 rooms, will be let as a whole or separately. Also basement if desired.—Welbeck 3888.

Furnished Villa on Italian RIVIERA for immediate disposal. Suitable for Medical Man with resident patients. Close to sea and beautiful walks in the hills. Has water supply, electric light, garden, eight bedrooms. Ten minutes from railway station. Price, to include furniture, £2,000.—Address, No. 1803, B.M.A. House, Tavistock Sq., W.C.1.

Excellent opening for Medical Practitioner in thickly populated industrial area in Midlands. For sale, Freehold HOUSE with surgery, at present occupied by a Doctor. Vacant possession. Price reasonable. No risk.—No. 1838, B.M.A. House, Tavistock Sq., W.C.1.

For Sale.—Richmond.—£2,100. Freehold Corner HOUSE, main road, brick garage, suitable professional, formerly branch Dental. Two receptions, surgery (fitted h. and c., electric power), 5 bedrooms, usual offices, partial central heating. Near station.—No. 1802, B.M.A. House, Tavistock Sq., W.C.1.

Glasgow. — Superior Suite of ROOMS (suitable for Doctor, Dentist, or similar profession), most central position in Glasgow. Corner Union Street, Gordon Street. Central heating. Passenger lift. Immediate entry.—Apply, PEACOCK & HENRY, C.A., 111, Union Street, Glasgow, C.1.

Harley Street.—Large Consulting ROOM with handsome waiting room. Address in Telephone Directory, but no plate. Letters and 'phone calls forwarded, and appts. made. Tuesday 2 to 6 or Wednesday 10 to 1. £40—£50 p.a. Other times might be arranged. —No. 1832, B.M.A. House, Tavistock Sq., W.C.1.

London (Golders Green), main Finchley Road.—Modern HOUSE, 3 reception (parquet flooring), 5 bedrooms, etc. Suit Doctor or Dentist. Price, freehold, £2,500.—Address, No. 1805, B.M.A. House, Tavistock Square, W.C.1.

Norfolk Coast.—Large Residence for Sale or to Let. Ten bedrooms. Suitable Nursing Home.—Apply, HOWES, Bank Street, Norwich.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists

181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:

Regent 3024-3025 & 7486. National 8696/7.

Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

Ultra-violet Light Lamp (Mercury Vapour), direct current, for sale, slightly used. — BRITISH HOSPITAL FOR FUNCTIONAL MENTAL & NERVOUS DISORDERS, 72, Camden Road, N.W.1.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY
TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Esseff" Inhaling *Apparatus, price £12 10s. (can be hired, particulars on application).* Write for price list of Tablets and Government surplus articles. *Showroom:* 97, Swinderby Road, Wembley.

Exceptionally smart Sunshine ARMSTRONG 20 COUPE, 6-cylinder, seats four. New last September. Special makers' guarantee. Mulliner body, Triplex, Chromium. First-class condition. Mileage about 2,000, speed 70. Cost £623: sell £480.—MARSHALL, 36, Earl's Avenue, Folkestone. Tel.: 1359.

APPOINTMENTS.—Contd.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited from duly qualified Medical Women for the post of RESIDENT CASUALTY OFFICER. Previous experience as Hospital Resident essential. Salary £150 per annum. Intending candidates should submit applications, stating age, and accompanied by copies of three recent testimonials, to the undersigned on or before April 7th. The appointment is tenable for six months from May 1st.

REGINALD R. GARRATT,
Secretary.

St. John's Hospital, Lewisham,
S.E.13.

There is a vacancy for a THIRD HONORARY SURGEON to the Hospital, for which applications are invited. The successful applicant will have charge of beds, and will be expected to take an Out-patient clinic. Further particulars may be obtained from the undersigned, by whom applications should be received not later than the 24th instant.

J. C. GILBERT,
Secretary-Superintendent.

Royal East Sussex Hospital,
HASTINGS. (120 Beds)

Owing to illness applications are invited for the post of TEMPORARY RESIDENT HOUSE SURGEON (female)

The appointment is available from April 1st to May 14th.

Salary at the rate of £150 per annum.

Applications, with testimonials, to be addressed to the Secretary immediately.

WILFRID G. KEMSLEY,
Secretary.

Cumberland Infirmary, Carlisle.
(160 Beds.)
(Resident Medical Staff—Four Qualified Officers.)

HOUSE SURGEON (male) to Ear, Eye, Nose, and Throat Department required on April 1st. Six months' appointment. Previous experience desirable, but not essential. Salary at rate of £155 per annum, board, residence, etc.

Apply at once, stating age, with copies of [illegible]

L[illegible]
E.7 (100 Beds.)

The Committee of Management invite applications for the post of HONORARY OPHTHALMIC SURGEON. Candidates must not be engaged in general practice.

Applications, in triplicate, should reach the undersigned as early as possible.

REGINALD PERRY, Secretary.

Birkenhead General Hospital.
(156 Beds.)

HOUSE PHYSICIAN, also CASUALTY OFFICER, required for six months. Commencing April 1st. Salary £100, with board. Applications, with three testimonials, to be sent to the Secretary as early as possible.

March 10th, 1931.

House Surgeon wanted.—Salary £150 per annum with board, etc. Applications stating qualifications, experience, and [illegible] testimonials, to be sent to the [illegible] CAMERON HOSPITAL, WEST [illegible]

[illegible]—M.S.R. required [illegible] HOSPITAL, PLYMOUTH. [illegible]—Full particulars, to Medical Supt.

Royal Salop Infirmary,
SHREWSBURY. (150 Beds.)

APPOINTMENTS OF RESIDENT HOUSE SURGEON AND RESIDENT HOUSE PHYSICIAN.

Applications are invited from fully qualified men for the appointments of Resident House Surgeon and Resident House Physician, vacant immediately.

Salary £160 per annum, with board, residence, etc.

The appointments are for six months in the first instance, subject to re-appointment for a further period of six months.

Resident Staff comprises Resident Surgical Officer, House Physician, and House Surgeon.

Applications, stating age, qualifications, experience, nationality, and accompanied by copies of three recent testimonials, to be sent to the undersigned forthwith.

J. W. NOBLE,
Secretary-Superintendent.

March 17th, 1931.

The Royal Infirmary, Doncaster.
(185 Beds.)

HOUSE SURGEON (male) required. Opportunity for gaining excellent experience. Appointment is for six months, and successful candidate is eligible for re-appointment.

Salary £175 per annum, with board, residence, and laundry. Applications, with full particulars, should be addressed to the undersigned by Wednesday, March 25th.

WALTER R. SMITH,
Secretary-Supt.

St. Mark's Hospital for Cancer,
FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.

HOUSE SURGEON (male) required. Must be fully qualified. Salary £75 per annum, with board, residence, and laundry. The appointment is for a minimum of six months from May 1st next.

Applications, with copies of testimonials, must reach the Secretary (from whom further particulars may be obtained) not later than 10 a.m. Monday, April 13th.

Chester Royal Infirmary.
(211 Beds.)

Wanted, HOUSE SURGEON (male) to the Ear, Nose, and Throat Department, to commence duties forthwith. Salary £150 per annum, with board, lodging, and washing. Large department and good[illegible] ence. Candidates must [illegible] registered. Application [illegible] 26th. Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P.,
Hon. Supt. of the Resident Medical Staff.

Chester Royal Infirmary.
(211 Beds.)

Wanted, HOUSE PHYSICIAN (male) to commence duties April 10th. Salary £150 per annum, with board, lodging, and washing.

Application list closes on April 3rd.

Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P.,
Hon. Superintendent of the
Resident Medical Staff.

Leicester Royal Infirmary.
(420 Beds.)

HOUSE PHYSICIAN.

A vacancy is expected on April 1st. Salary at the rate of £125 per annum. Applicants must have held a Resident Hospital post or had similar experience of Hospital work. Candidates are desired to send in applications forthwith to—

HARRY JOHNSON,
March 10th, 1931. House Gov. & Sec.

Leicester Royal Infirmary.
(450 Beds.)

There are vacancies on April 1st for TWO SURGICAL DRESSERS (Final Year Students preferred). Appointment for three months. Honorarium 10/6 per week for approved service. Board, etc. provided.

Applications forthwith to the House Governor and Secretary, with copies of available testimonials.

March 14th, 1931.

Royal Surrey County Hospital,
GUILDFORD. (182 Beds.)

Wanted at once, HOUSE SURGEON. Salary £150 per annum, with board, residence, and laundry.

Applications, stating essential particulars, with copies of testimonials, to be sent to Secretary-Superintendent.

County Council of Ross and CROMARTY.

PUBLIC HEALTH.

Applications are invited for the undernoted appointments:

1. ASSISTANT MEDICAL OFFICER OF HEALTH for Special Duty as School Medical Officer. Diploma of Public Health or equivalent essential. Experience in General Practice, School Medical Inspection, and Public Health important. Salary £600 per annum, rising to £750 by annual increments of £25.
2. ASSISTANT MEDICAL OFFICER OF HEALTH for Special Duty as Tuberculosis Officer, etc. Diploma of Public Health or equivalent essential. Previous experience in Tuberculosis, Radiology, and Public Health important. Salary £500, rising by annual increments to make yearly average over ten years £600.
3. RESIDENT MEDICAL OFFICER for LEWIS SANATORIUM, STORNOWAY (Red Cross). Salary £250 per annum, with board, laundry, and lodging. Duties—Resident Medical Officer at Sanatorium, and certain outside duties to be specified by the Public Health Committee.

Salaries exclusive of travelling expenses at approved rates.

Applications, accompanied by 25 copies thereof, and of testimonials, to be lodged with the undersigned not later than Wednesday, March 25th current.

County Buildings, Dingwall. March 9th, 1931.

T. S. H. BURNS,
County Clerk.

Administrative County of LONDON.

The LONDON COUNTY COUNCIL invites applications from Medical Practitioners, with appropriate qualifications, for appointment to the undermentioned positions.

(1) PATHOLOGIST in charge of LAMBETH GROUP LABORATORY, LAMBETH HOSPITAL, S.E.11.

the COUNCIL'S

The scale of salaries, which are subject to confirmation, are £1,100 to £1,300 a year and £1,000 to £1,200 a year respectively, the annual increments being £50 in each case.

Candidates must be not less than 30 and not more than 50 years of age on the latest date for receiving applications. In the case of women, marriage terminates contract of service.

Application forms and further details may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division, 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by March 27th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.

Derbyshire County Council.

APPOINTMENT OF MEDICAL SUPERINTENDENT OF THE COUNTY MENTAL HOSPITAL, MICKLEOVER, near DERBY.

The Visiting Committee of the Derbyshire County Council invite applications for the position of Medical Superintendent of the County Mental Hospital, Mickleover, near Derby, at a salary of £1,200 per annum, with emoluments.

Preference will be given to candidates under 45 years of age.

Further particulars of the appointment, and forms of application, may be obtained upon application to the undersigned, and applications, endorsed "Medical Superintendent," must be delivered at the County Offices, Derby, not later than Thursday, April 9th.

Canvassing, either directly or indirectly, any member of the Visiting Committee will be deemed a disqualification.

County Offices, Derby. March 16th, 1931.

H. WILFRID SKINNER,
Clerk to the Visiting Committee.

The Salvation Army,
THE MOTHERS' HOSPITAL,
Lower Clapton Road, Clapton, E.5.

Applications are invited from Medical Women for the post of RESIDENT ANAESTHETIST (with some Pathological duties), vacant May 1st. Salary £80 per annum, with board, residence, and laundry. Candidates should have had previous experience in anaesthetics and pathology. She would be expected to call on members of the Honorary Staff, a list of whom can be obtained on application to the Secretary-Superintendent.

Applications, with testimonials, must be sent to the Secretary-Superintendent on or before April 9th.

EDGAR DIBDEN,
Secretary-Superintendent.

Birmingham Maternity Hospital.

Applications are invited for the post of RESIDENT MEDICAL OFFICER and REGISTRAR, to commence duties on June 1st next. The appointment is made for one year at least, and can be renewed if desirable. Salary £200 per annum. Applicants must have had previous experience in Obstetrics, and be reading for Higher Examinations.

Applications, together with copies of testimonials, to be sent to HUGH C. ASTON, 45, Newhall Street, Birmingham, not later than April 18th.

Birmingham Maternity Hospital.

HOUSE SURGEON wanted (man or woman) for six months from May 1st (three months on Districts and three months in Hospital). Salary to be at the rate of £75 per annum. Applications, with full particulars and copies of testimonials, to be sent to HUGH C. ASTON, 45, Newhall Street, Birmingham, not later than March 28th.

Rotherham Hospital.
(130 Beds.)

The Weekly Board invite applications for the post of HONORARY SURGEON for the Ear, Nose, and Throat Department. Arrangements as to attendance required may be discussed later. Candidates must be Fellows by Examination of the Royal College of Surgeons of England.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital.
(130 Beds.)

The Weekly Board invite applications for the post of HONORARY DENTAL SURGEON in the Out-patients Department. Arrangements as to attendance required may be discussed later.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital.
(130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £120, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

The New Sutton and Cheam
HOSPITAL, SUTTON, SURREY.
(68 Beds.)

Applications are invited for the post of HONORARY PATHOLOGIST AND BACTERIOLOGIST.

Applications, stating qualifications, and with copies of testimonials, should be sent to the Secretary, from whom all particulars may be obtained.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, *Oxford Rd.* *GLASGOW*: 28, *Windsor Terr.* *DUBLIN*: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines). Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

S. W. Country Town. — £1,640 p.a., increasing. Panel over 1,800. Appts. £210. Visits 5/6. Detached house, 6 bed., and garden. Good schools and sport.—No. 8821.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 586. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

London, W. — £450 p.a., ample scope. Vendor retiring. Select panel 300. Fees 5/- to 21/-. Good house, with garden.—No. 8818.

London, S.E. — Woman's Practice. £550 or more. Panel 148. Fees 3/6 to 21/-. Small flat, with chance of additional accommodation.—No. 8811.

S. W. Scotland.—Near Coast.—£1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

London, S.E., near River. — Over £1,200. Half Partnership with succession in 12 months. 35 years in present hands. Dispensing, industrial. No midwifery. Panel £560. Bachelor could live in. £1,200, £800 down, for half.—No. 8806.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

S. W. County. — Country. — £1,000. Panel brings £240. Visits 3/6—10/6. Large house and garden. £60 p.a. £1,500.—No. 8800.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 3/6 to 21/-. No dispensing. Small panel.—No. 8799.

West Riding.—£1,030 p.a., increasing. Panel 400. Appts. £45. Fees 3/6 to 10/6 and up. Midy. 3 to 7 gns. Small modern house to rent or on mortgage.—No. 8797.

S. Midland. — Country. — £480 and scope to young man. Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. Premium only £300.—No. 8796.

Yorks.--Death Vacancy.--£1,000 or more. Panel 950. Not much midy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. Prem. £850, part deferred.—No. 8795.

South Coast. — Popular Resort. £1,200 p.a. Panel 7/800. Appt. £100. No midy. Fees 3/6 to 10/6. House to rent. —No. 8791.

Over £700.--Select Seaside Resort in North. Ample scope for increase. Small good-class panel. Low prem.—No. 8788.

London Suburb, S.W. — About £1,100. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

London Suburb, S.W. — £2,800. Old-estab. General Practice. Half share. Panel 1,250. Detached house (7 bed.) and garden. Exper. of Eye work essen.—No. 8768.

Favourite South Coast Resort.— Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden, to rent or buy.—No. 8762.

Kent Coast.—£1,222 p.a. Panel 1,300. Enormous scope. Appts. worth £325 p.a. Good house, facing sea. Branch surgery.—No. 8758.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants.

Full particulars on application to Mr. Percival Turner.

REYNOLDS & BRANSON,
Limited,
MEDICAL TRANSFER AGENTS,
13, BRIGGATE, LEEDS.

Sound middle and working-class PRACTICE in healthy suburb of West Riding Town. Good educational facilities. Panel 1400. Audited receipts average £2,500 for the last three years. Premium £3,800. Convenient and comfortable house, in good condition. Price £1,200.—Apply, No. 2604.

WEST RIDING TOWN.—Old-established PRACTICE. Average receipts £1,725. Panel 1,070. Good house, built for doctor, 7 years' lease to run.—Apply, No. 2605.

YORKSHIRE. West Riding Town.—Nice district. ASSISTANT wanted, with view to Partnership in Practice doing £3,000 p.a. Scope for increase. One-third share with succession in a few years. Applicants must hold English or Scottish Fellowship. —Apply No. 2610.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,
MEDICAL TRANSFER AGENCY,
19, Craven Street, Strand, W.C.2.
Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 6932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

THE CENTURY INSURANCE COMPANY LTD.,
7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS TO PURCHASE A PRACTICE OR PARTNERSHIP

NO GUARANTORS REQUIRED. REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls.*) *Telegrams:* "REASIDE, TUBERCLE, WESTRAND, LONDON."

LONDON, S.E.—Well-established middle and working-class PRACTICE in residential locality. Receipts nearly £1,000. Growing panel of 924. Medium-sized house. Fees 2/6 up. Excellent scope for energetic man. Premium 1½ years' purchase.

BEDFORDSHIRE. — PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

LONDON, E. — SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £30 p.a. Fees 2/- up. Average receipts £516. Panel 350. Excellent scope for young man. Premium for Practice and lease, £1,050 cash or near offer.

LONDON, S.E.—Old-established middle-class G.P. Receipts approximately £1,100, books audited. Panel nearly 1,400. House may be purchased or rented. Premium 1½ years' purchase.

LONDON, S. — PARTNERSHIP in growing middle and working-class Practice. Suitable house availa[ble] £6,600. Panel 4,800. Excellent scope. [ener]getic man having a specialty, preferably [ac]cording share purchase, 2 years' purchase.

SUSSEX.—Middle-class Rural PRACTICE situated in charming locality. Medium-sized house, with large garden, to rent or purchase, freehold. Electric light, etc. Receipts approximately £520. Panel 240. Fees 2/6 up. Three appointments. Premium 1½ years' purchase, cash.

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional accommodation consists of 3 rooms, centrally situated, held on agreement at £100 p.a. Receipts approximately £530. Fees 2/- up. Panel 430 Premium £650 cash. Scope for further development.

LONDON, W.10.—Cash and Panel PRACTICE, situated in middle and working-class locality. Suitable accommodation available to rent at £76 p.a. inclusive. Fees 2/6 up. Midwifery 2 gns. up. Panel 300. Books audited. Receipts £385. Premium £600 or near offer.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for Surgery. Premium third share with view to larger share £1,300.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery, scope. Suitable house available. Premium 1½ years' purchase.

SOUTH COAST.—Favourite Holiday Resort.—PARTNERSHIP, with view to succession in 12 months' time, in well-established middle-class Practice. Suitable flat available at reasonable rent. Receipts £1,200. Panel 800. Appointments £100. No midwifery or night work. Premium for half share (with view) 2 years' purchase. Excellent scope. Suitable for English or Scotch Practitioner. Or would sell outright.

S.W. COAST.—Well-established general PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

LINCOLNSHIRE.—NUCLEUS Country Practice with splendid scope, situated within 2 miles of growing seaside resort. Excellent house (5 beds), garden, garage, etc. Receipts £260. Panel 110. Good schools. Excellent sport. Premium £950 house and Practice.

KENT (Seaport)—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220, growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £300.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

THE
WESTERN MEDICAL AGENCY
(Dr. K. H. BENNETT, Dr W. J. PARAMORE.)
PHOENIX CHAMBERS, 22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1 MIDLANDS.—Cathedral Town.—Good PRACTICE. Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a. Premium 1½ years' purchase.
2. CHESHIRE BORDERS.—One-third share of PARTNERSHIP, averaging £2,000 p.a. Pleasant country district. Panel over 1,700, Plenty of scope. Prem. £1,000. Suit young doctor Purchaser could live with Vendor.
3 WEST OF ENGLAND CITY. — PARTNERSHIP.—Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Prem. 1½ years. Choice of resid.
4 SOUTH WALES. — Large City. — Industrial PRACTICE averaging £600 p.a. Opposition not strong. Good house to buy or rent. Premium £600.
5 S DEVON. — Old-established PRACTICE, averaging £2,400 p.a., for sale in favourite town. Panel 1,500, increasing. Large house in grounds, for sale or rent. Seaside. Ideal climate.
6 SOUTH-WEST WALES.—General PRACTICE, returning £1,000 p.a. Present hands 10 yrs. Seaside and country town. Panel 750. Good house to rent. Prem. 1½ yrs. No collieries.
7 SOUTH-WESTERN COUNTY. — One-sixth to one-third share of Partnership, over £5,500 p.a. Good scope for Surgeon. Four Hospitals and Nursing Home near. Applicants should have F.R.C.S. and be about 30-35. Panel 4,100 Several appts. Good house. Near sea All sports Prem 2 years' pur.

RESIDENT PATIENTS — We have several vacancies in the Houses of Medical Men.

FINANCIAL ASSISTANCE can be arranged for Purchase of PRACTICES and PARTNERSHIPS [fu]ll particulars on application.

THE RECOGNISED AGENCY FOR THE WEST OF ENGLAND.

ESTABLISHED 1877.
LEE & MARTIN, LTD.,
The Birmingham Medical Agency. 71. TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.
ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. LINCOLNSHIRE. — Well-estab. Unopposed country, working, and middle-class PRACTICE. Receipts average £1,173. Panel 767. Good house to rent, 5 beds., garage, etc.
2. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
3. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
6. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.
7. LANCASHIRE.—Old-established and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
8. MIDLANDS. — [illegible] estab. better [illegible] ceipts average [illegible] recently started, and rapidly increasing. Good fees, house, etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.

(Temple Bar 3873.) —— (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. BUCKS. — Increasing PRACTICE of about £1,200 p.a., in an attractive Country district offering good prospects. Panel about £300. Good train service and educational facilities. Small house, garden, and garage on lease at £66. Price £1,500.
2. LONDON, S.E. — Lucrative PRACTICE of about £2,000 (mainly cash), with increasing panel 1,200. Rent only £80. Car kept. Premium about £3,000.
3. HALF-SHARE of Country Practice of £2,000 p.a. on the outskirts of a favourite Midland City within 2 hours' run. Panel £1,000. Suitable house obtainable. Prem. £2,000, half on entry, balance on senior's retirement at end of year.
4. LONDON, N.—PARTNERSHIP with Succession in 12 months to old-estab. Practice averaging over £1,200 p.a., including panel of 1,100. Ample scope. No midwifery. Suit active junior. Price £1,100, cash. Similar sum on retirement.
5. IN A[illegible] locality, with an hour's run of about £80[illegible] scope for active junior. Premium £1,200. Purchase of Vendor's freehold a condition of sale.
6. LONDON SUBURB, W. — PARTNERSHIP in an old-established middle-class Practice. A Share worth £800 p.a. at 2 years' purchase. Panel 1,600. Good modern residence, garden, and garage, at £100. Easily worked, but offering scope for extension.
7. YORKS COAST.—Unopposed PRACTICE in pleasant locality. Av. inc. £1,000, incl. panel of £470 and appts. Capital house, gard., gar., at £55. Price, quick sale, only £800.
8. HANTS. — Country PRACTICE in pleasant residential locality. Income about £750, including panel and appts. Cap. Hse. res., garden, and all conveniences. Prem. £1,050. Capital sporting and social facilities.
9. REQUIRED by M.B.Cantab., PARTNERSHIP of about £1,200 in good London suburb or outlying district, preferably S. or W., within 50 miles.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. House to rent, 2 reception, 3 bedrooms. Premium 1½ years' purchase.—No. 194.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

MANCHESTER. — PLEASANT RESIDENTIAL SUBURB. — Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage and good garden, to be sold, or may be rented for a period on lease. Prem. 1 year's pur. Vendor retiring.—No. 246.

CHESHIRE. — COAST TOWN. — Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

MANCHESTER.—RESIDENTIAL DISTRICT. — PARTNERSHIP in old-established PRACTICE, view succession. Cash receipts £1,800. Panel 1,400. Much scope. House available. Prem. 1½ years' purchase.—No. 176.

NEAR NORTH-EAST COAST.—SEASIDE RESORT.—Country PRACTICE. —Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large yard. Rent £55 p.a. Prem. £600 for quick sale.—No. 220.

LANCS. TOWN.—PRACTICE. Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

LINCOLNSHIRE [illegible] PRACTICE. Cash receipts 1929, £[illegible]. [illegible] detached house, 2 reception, 5 bedrooms. [illegible] garden. Rent £50 p.a. Premium—[illegible] No. 195.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE. Average cash receipts £745 p.a. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 197.

LIVERPOOL (Near).—Old-established middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

NORTH-WEST COAST. — SEASIDE RESORT. — Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 550. Excellent freehold house in good position facing Sea, 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

ISLE OF MAN.—SEASIDE RESORT. —PRACTICE. Cash receipts 1930, £861. Panel. Excellent house to rent, 3 reception, 7 bedrooms. Garage and garden. Premium £700 (or near offer).—No. 225.

MANCHESTER. — RESIDENTIAL DISTRICT. — Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium £1,000 (or near offer).—No. 191.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistant-ship. Purchaser could live with Vendor. Premium—one-third share—£1,000.—No. 245.

MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,561 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 63.

LANCS TOWN.—Old-established PRACTICE. Average cash receipts £1,200. Panel 900. Great scope. Excellent house, 2 reception, 4 bedrooms. Garage. Prem. 1½ years' purchase.—No. 178.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No 234.

YORKSHIRE (W.R.)—PARTNERSHIP in Industrial Practice, £2,500 p.a. Large panel. One-third share offered after preliminary assistantship at £400 p.a., with house rent free.—No. 243.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

MANCHESTER. — INDUSTRIAL PRACTICE. — Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—No. 175.

NORTH WALES.—RAPIDLY GROWING SEASIDE RESORT.—PRACTICE. Average cash receipts £627 p.a. Panel £123. Excellent modern house (freehold) to rent, 2 reception, 6 bedrooms. Garage and garden. Premium — Best offer for quick sale. — No. 223.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.

28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.

Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.

72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880.)

12, Stratford Place,

Tele. Address: Triform, Wesdo—London.

Oxford Street, W.1.

Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 FAVOURITE HOME COUNTY.—Practice over £2,000 p.a. in pleasant residential country town within 50 miles of London. Panel 1,080. Well-situated detached house (6 bed and dressing rooms), garage, and large garden, for sale or rent. Scope for increase. Premium 2 years' purchase.

2 EAST ANGLIA.—Partnership in Practice over £3,000 p.a. in beautiful country district near the coast. Panel 2,080. Good house (8 bed and dressing rooms), garage, and half acre garden, to rent. Two-fifths or one-half share at 2 years' purchase. Oxford, Cambridge, or London Graduate preferred.

3 MIDDLESEX. — Increasing Practice of £1,600 p.a. in pleasant Town up the Thames. Panel 1,340. Well-situated double-fronted house (6 bed and dressing rooms), garage, and large garden, to rent. Premium 1½ years' purchase.

4 EAST COAST.—Practice of £1,050 p.a. in small attractive seaside resort Panel 225. Modern detached house (5 bedrooms), garage, and garden, for sale. Excellent sport and educational facilities Premium 1¾ years' purchase.

5 GLOUCESTERSHIRE.—Country Practice about £1,200 p.a., within easy distance of County Town. Panel about 800 Eight-roomed house, with kitchen, for sale. Scope for increase. Premium £1,200.

6 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good-class Practice in charming little residential seaside resort. Suitable house to rent. Share of £800—£900 after preliminary Assistantship. Applicant should be aged 28—35, and preferably a Graduate of Cambridge or Oxford. Cottage Hospital and scope for Surgery if desired.

7 MIDLANDS. — Practice of £3,500 p.a. in clean industrial town amidst beautiful surroundings. Panel 2,500. Large detached house (10 bed and dressing rooms, etc.), garage, and 1½ acres of grounds, for sale Hospital. Premium £3,500.

8 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district Panel 2,400. Good house (4 bedrooms) to rent. Premium one fourth share 2 years' purchase.

9 MIDLANDS.—Practice, nearly £1,750 p.a., in important city Panel 1,570 Centrally situated house (7 bed and dressing rooms) with garage and garden, to rent Scope for increase. Premium £2,750.

10 MIDDLESEX. — Partnership in Practice over £3,000 p.a. in rapidly growing Industrial Town Panel 2,500. Suitable house could be obtained Cottage Hospital Premium one-third share 2 years' purchase

11 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 2 years' purchase.

12 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

13 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

14 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

15 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

16 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

17 LONDON, S.W.—Practice averaging £880 p.a. in suburban district No panel, appointments, or midwifery. Large double-fronted house on main throughfare for sale. Scope for panel and midwifery. Premium £1,200.

18 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope Premium £450.

19 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750

20 CHESHIRE. — Partnership in increasing better class non panel Practice, over £4,500 p.a., in first-rate residential district One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1762 1783

Practices and Partnerships for Disposal (continued).

21 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

22 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase, with ultimate succession.

23 MIDDLESEX.—Partnership in good residential outlying suburban district. Very attractive detached house (8 bed and dressing rooms) in own grounds, with garage and good garden, to rent. Cottage Hospital. Share worth £1,020 p.a. at 2 years' purchase.

24 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

25 S. AFRICA.—Easily worked non-dispensing PRACTICE in large and important Coastal Town in Cape Province. Receipts last year £1,600. Pleasant house overlooking the sea to rent. Good Hospital, etc. Premium £1,800.

26 ESSEX.—Easily worked Practice in thickly populated outlying suburban district. Receipts about £1,600 p.a., including about £900 from the panel. Good shop-fronted residence to rent. Premium £3,200, cash.

27 SURREY.—Practice averaging £900 p.a. in attractive residential country district Panel 300. House (6 bedrooms), garden one and a half acres, garage, to rent on lease. Premium £1,700.

28 S. COAST. — Partnership in Practice between £1,600/£2,000 p.a. in fashionable watering-place. Panel over 900. Partner should be young, with knowledge of minor Surgery. Premium one half share 2 years' purchase.

29 LONDON, W. — Middle-class Practice of over £800 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,100.

30 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

31 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

32 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). Premium £550.

33 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage, and garden, etc. Golf. Premium—house and Practice—£2,750.

34 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

35 S.W. OF ENGLAND. — Third Partner required in Practice, over £5,600 p.a., in small Industrial Town. Panel 4,100. Suitable house to purchase. Excellent scope for Surgery. One-sixth share at first at 2 years' purchase. Preliminary Assistantship.

36 EASTERN COUNTIES.—Good-class PRACTICE of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

37 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

38 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a. at 1½ years' pur.

39 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

40 LIVERPOOL.—Middle-class non-dispensing PRACTICE of nearly £1,200 p.a. in residential part. Small panel. Good house to rent. Premium 1½ years' purchase.

41 CHANNEL ISLANDS.—Practice averaging over £1,820 p.a. Good house (6 bedrooms, 4 attics), with large garden, for sale. Excellent climate. Premium 1½ years' purchase or near offer.

42 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

43 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwifery. Six-roomed house to rent. Premium £800, to include drugs, etc.

44 ESSEX.—Practice averaging £370 p.a. in well-populated outlying suburban district. Panel 225. Double-fronted house (4 bedrooms), with nice garden, for sale. Good scope for young energetic man. Premium £450.

45 S. OF ENGLAND. — Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one-fourth share, £1,750. Preliminary Assistantship.

46 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

47 S. MIDLANDS.—Practice averaging over £1,200 p.a in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

48 N. DEVON.—Country Practice about £1,000 p.a. in attractive Agricultural and Sporting District. Panel 330. House (7 bed and dressing rooms and attics), garage, and about half an acre of garden, to rent. Well-equipped Hospital. Premium £1,500.

49 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

50 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice in residential town and Health Resort. Panel 800. After preliminary Assistantship, share gradually increasing to one-half (worth about £1,600 p.a.) at 2 yrs.' purchase.

51 LONDON, E.—Cash and Panel Practice of £540 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

52 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

53 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

54 LONDON, N.—Cash and Panel Practice of £1,300 p.a. in populous district. Panel over 1,900. House containing 2 bedrooms, surgery accommodation, etc., to rent on lease; also Branch Surgery to rent. Premium 2 years' purchase or offer.

55 MIDLANDS.—Partnership in easily worked non-dispensing Practice in beautifully situated county town. Panel about 1,600. Hospital in town. Partner must be a Surgeon, as there should be a good surgical outlook. Share worth about £800 at 2 years' purchase, with fairly rapid increases to suitable man.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. ST OREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. FAVOURITE SOUTH COAST TOWN.—Good mixed-class PRACTICE, producing for the last 12 months £2,840, including panel of 1,500. Visits from 3/6 to 5 gns. Not much midwifery from 2 to 10 gns. Nice house, with all modern conveniences, containing 3 reception, 5 bedrooms, etc. Garden. Garage. Price £2,400, or might be leased. Premium 1½ years' purchase.
2. LONDON, E.C. (near Holborn Circus).—Old-established mainly working-class PRACTICE, averaging over £700 p.a. (last year £750), including recently started panel of 360. Fees from 2/-. No midwifery. Six-roomed house, with good professional accommodation. Rent on lease £95 p.a. Premium £1,000.
3. LONDON, EAST.—Well-established mixed-class PRACTICE, averaging about £1,150 p.a., including panel of 1,400. Small house, with 1 reception, 2 bedrooms, etc., and 3 professional rooms. Rent on lease £13 per quarter. Premium £2,000.
4. SURREY.—Favourite residential district within easy reach of London. —Mixed-class PRACTICE, averaging £900 p.a. (last year £997), including panel of 300. Good fees. Nice house, with 3 reception, 6 bedrooms, etc. Separate entrance to professional rooms. Garden, with tennis court. Can be rented on lease. Premium £1,600.
5. EASTERN COUNTIES.—About 50 miles from London and within 10 miles of County Town.—Old-estal[illegible]tty country district, producing last year ov[illegible] £60 and panel of 600. House with ample [illegible]h. and c.). Garden. Garage. Electric light. Gas. Rent £52 p.a., or freehold can be bought. Premium 1½ years' purchase.
6. LONDON, NORTH.—Old-established sound middle-class PRACTICE, producing for last 12 months £1,400. Panel of nearly 900. Fees 2/6 to 10/6. Not much midwifery. Nice house, with 2 reception, 3 bedrooms, and professional rooms. Garden. Rent on lease £65 p.a. Premium £2,100.
7. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.
8. SOUTH CORNWALL.—Ne[illegible] PRACTICE producing about £700 p.a., [illegible]600. Fees 5/- to 21/-. Suitable house, wit[illegible]oms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium 1½ years' purchase. Ill-health reason of sale.
9. PARTNERSHIP.—In a most desirable outlying residential suburb of London a suitable Partner (experienced, used to good-class society, well-qualified, 30 to 40 years of age, and married) can acquire the fourth or fifth share (to commence) in an old-established Practice averaging over £10,500 p.a., including valuable appts. Good house with ample accommodation, garden. Premium 2 years' purchase. Personal application desired if possible.
10. BRIGHTON.—Very old-established PRACTICE, producing last financial year £1,121, including transferable appts. £160, and panel of 700 to 800. Consultations and visits 3/6, 7/6, and 10/6. No midwifery. Large house with good professional accommodation. Rent on lease £150 p.a. Premium 1½ years' purchase. Ill-health reason for sale. Efficient introduction given.
11. WEST MIDLANDS.—Easily worked PRACTICE in residential village within easy reach of two good towns, and having very pretty surrounding country. Receipts average over £1,000 p.a., including panel of 500 and an appt. worth £150. Nice house with good garden and land of about 2 acres. Price for freehold £1,600. Fishing, hunting, etc. Premium 1½ years' purchase.
12. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.
13. YORKS.—LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,300 p.a., including panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and dressing room, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase.
14. PARTNERSHIP.—LONDON, NORTH.—A two-fifths share (to commence with) is offered in a well-established non-dispensing Practice, situated in pleasant and rapidly developing residential suburb. Cash receipts £2,600 to £2,700 p.a. There is considerable scope for surgery at good fees, which latter it is proposed ingoing Partner should retain. Patients good middle-class. Income, if unmarried, can live with Vendor, but no difficulty anticipated in obtaining suitable house. Premium two years' purchase.
15. SOUTH OF ENGLAND.—Prosperous Town.—Very sound steadily increasing middle and working-class PRACTICE, offering good scope. Gross cash receipts for last twelve months £3,408, including panel of 2,700. Fees from 3/6. Suitable house with 3 reception, 5 bedrooms, etc. Price £1,600, £1,000 on mortgage. Good sport and [illegible]. Premium 1½ years' purchase. Very suitable for two friends in partnership.
16. NF[illegible]ORDER.—A one-third to one half share in a [illegible] non-dispensing PRACTICE, producing abo[illegible]f over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.
17. WITHIN 15 MILES OF LONDON.—Developing neighbourhood.—PARTNERSHIP.—A one-half share is offered in a steadily increasing PRACTICE owing to the retirement of the senior partner. Gross cash receipts for last twelve months £2,696. Panel of over 1,000. Good house with 3 reception, 6 bedrooms, etc. Nice garden. Price £1,400, part on mortgage. Good sport and schools. Premium 2 years' purchase. Ingoing partner should be married, 35 to 40 years of age, and preferably English or Scotch.
18. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.
19. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase, payable by arrangement. Ill-health reason for sale.
20. NORTH DEVON.—Very old-established unopposed Country PRACTICE, situated in a beautiful district, and producing last year £940, including panel and appts. worth about £300. Excellent residence (3 reception, 6 bedrooms, bathroom, etc.), in about 1/2 an acre of garden, with tennis court, garage. Rent on lease £60 p.a. Premium £1,500. Good hunting, shooting, and fishing.
21. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth. PARTNERSHIP.—A one-half share in a very old-established mixed class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/-. Not much midwifery. Good house, with 3 reception 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.
22. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
23. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
24. WITHIN 20 MILES OF LON[illegible]l-class PRACTICE, in small town amidst [illegible]Cash receipts average about £1,700 p.a., [illegible]panel of over 1,000. Good house, with am[illegible]arden. Price, freehold, £2,500. Premium [illegible]educational facilities and sport of all kinds.
25. DEATH VACANCY.—YORKS.—Village PRACTICE near large town. Old-established mixed-class Practice averaging £1,200 p.a., including panel of 950. Fees from 3/6, with medicine extra. Suitable house, with 3 reception, 4 bedrooms, bathroom, etc. Electric light. Small garden. Rent £56 p.a. Premium, part by instalments. Locum in charge.
26. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.
27. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
28. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,157, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.
29. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.
30. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed class PRACTICE, averaging £639 p.a., including small panel of 140, and appt worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

What shall I prescribe?

WHEN CONFRONTED WITH A DIFFICULT CASE OF OSTEO OR RHEUMATOID ARTHRITIS IT IS INDEED COMFORTING TO KNOW THAT QUICK AND LASTING RELIEF CAN BE OBTAINED FROM THE ADMINISTRATION OF ELIX. FORMASAL AND TAB. ARTHRITONE.

THE POPULARITY OF THESE PREPARATIONS IN RHEUMATIC CONDITIONS IS DUE SOLELY TO THE GOOD RESULTS OBTAINED.

PRACTITIONERS HAVE TAKEN THE TROUBLE TO WRITE AND TELL US OF THE WONDERFUL EFFECTS THAT THESE PREPARATIONS HAVE IN CASES WHERE ALL OTHER FORMS OF MEDICATION HAVE BEEN OF NO AVAIL.

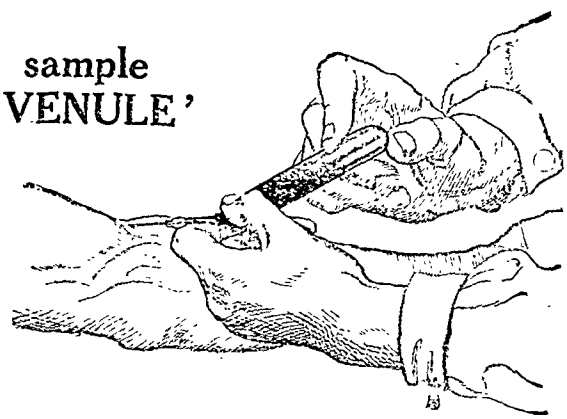
ELIXIR FORMASAL
1 PINT **6/3**
SMALLER AND LARGER SIZES ISSUED

TAB. ARTHRITONE
250, **8/2**
SMALLER AND LARGER SIZES ISSUED

HOUGH, HOSEASON & CO. LTD.
PHARMACEUTICAL SPECIALISTS TO THE MEDICAL PROFESSION - MANCHESTER.

The next time you collect a blood sample use the 'BEHRING VENULE'

Automatic Aspirating Syringe
complete with needle
Sterile :: Simple Time-saving



'VENULES' are stocked by the leading hospitals and institutions.
Ask your Laboratory to supply you with 'Venule' outfits.

SAMPLES and description on request to

BAYER PRODUCTS LTD., 19, St. Dunstan's Hill, London, E.C.3.

SOUTH AFRICA.
Taeuber & Corssen (Pty.) Ltd.,
P.O. Box 2953,
Cape Town.

AUSTRALASIA.
Fassett & Johnson Ltd., 36-40 Chalmers Street, Sydney, N.S.W., and P O Box 33, Wellington, New Zealand.

A New Efficient and Palatable Preparation of Senna

"LIXEN"
BRAND
Elixir of Senna Pods

An extract of senna prepared by a special cold process.
Non-griping. Agreeably Flavoured.
An advance on the various syrup preparations.

1 teaspoonful is equivalent to 12 large senna pods

In bottles of 4 oz., and 8 oz. for prescribing
40 oz. and 80 oz. for dispensing

"Lixen" Laxative Lozenges
BRAND

Contain "Lixen" in a fruit basis.
Really pleasant to take.
Free from all other purgatives.
Appeal particularly to children.

Each lozenge is equivalent to 6 large senna pods

In boxes of 12 and 24 lozenges for prescribing
and 100 lozenges for dispensing

Descriptive literature and clinical trial sample will be sent on request

ALLEN & HANBURYS LTD.,
Telephone: Bishopsgate 3241 (10 lines). LONDON, E. 2 Telegrams: "Greenbury, Edo London."

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3664 SATURDAY, MARCH 28, 1931 Price 1/3

EASTER HOLIDAYS—Advertisements and Communications for our issue of April 4th, 1931: see Notice on page 2 (Advts.).

BILIARY STASIS AND GALL-BLADDER DISEASE

It is stated that ten per cent. of our entire adult population suffer from gall-stones. As gall-stones, presumably, always follow infective inflammations, cholecystitis must be even more common.

The relative frequency with which the gall-bladder is infected, on the one hand, by the bile received from a liver whose detoxicating capacity has been lowered, and, on the other hand, directly by the blood supplied through the cystic artery, is not determined; but, in either case, biliary stasis is a prominent etiological factor in actual gall-bladder disease. The importance of promoting more active intestinal peristalsis and a hastened biliary flow is therefore obvious.

Through the force of osmosis, the flow of bile into the intestine may, as the duodenal tube has revealed, be stimulated by suitable saline draughts, of which Eno's "Fruit Salt" is perhaps the most agreeable and most generally useful. It is suggested that many early cases of cholecystitis—apt to be cursorily dismissed with the vague diagnosis "dyspepsia"—might be arrested by such simple means as increased exercise and regular morning draughts of Eno's "Fruit Salt."

Eno is chemically pure, and free from all trace of the nauseous mineral sulphates—Glauber and Epsom. It contains no sugar or artificial flavouring.

"Urgent Abdominal Diagnostics."

The Proprietors of ENO'S "Fruit Salt" will deem it a privilege to send to any member of the Medical Profession a copy of the latest of their series of "Medical Reminders"—with or without a bottle of their preparation as desired. "Urgent Abdominal Diagnostics" summarises the salient facts which need to be ever at the front of the mind when faced with an abdominal emergency. The diseased conditions dealt with include those which most often call for immediate surgical attention. It is bound in black morocco limp to conform to the style of the previous publications in this series.

J. C. Eno Ltd., 160, Piccadilly, London, W.1.

ENO'S "FRUIT SALT"

B1. 11

Measuring Progress by the Therapeutic Yardstick

ANCIENT medicine set great store by "specifics." Paracelsus had his "Specificum Purgans." Cophon relied on mirobolanum or rhubarb in relieving constipation. Suppositories of honey and oxgall had their day in the fifteenth century.

Medicine has since made notable advances toward rationalism. In this day of therapeutic progress Agarol Brand Compound holds the foremost place. An exceptionally fine emulsion of mineral oil and agar-agar with phenolphthalein, it is not merely a laxative, but a remedial measure in the efficient treatment of constipation.

By introducing unabsorbable moisture, Agarol Brand Compound keeps the intestinal contents soft and makes their passage easy and painless. By *gentle stimulation* of peristalsis, it makes the result certain and aids in re-establishing normal bowel function.

One tablespoonful at bedtime —is the adult dose

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

AGAROL BRAND COMPOUND *for Constipation*

FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC., *Manufacturing Pharmacists Since 1856.*

British Medical Journal

CONTENTS

MARCH 28, 1931

ORIGINAL ARTICLES

Diverticula of the Colon and Their Sequelae. By J. P. LOCKHART-MUMMERY, F.R.C.S., and H. GRAHAM HODGSON, M.B., D.M.R.E. (With Plate) 525

The Keloid Ovary. By T. C. CLARE, M.D., F.R.C.S. 527

Interpretation of Pain in Infancy. By WILFRID SHELDON, M.D., M.R.C.P. 530

A Case of Glossopharyngeal Neuralgia. By J. P. MARTIN, M.D., F.R.C.P. 533

Two Interesting Cases of Purpura. By HARRY COKE, M.R.C.S., L.R.C.P. (With Plate) 535

Mycosis Fungoides Following Laparotomy. By R. OWEN-JONES, M.B., B.S., F.R.C.S.Ed. (With Plate)..... 537

MEMORANDA

Cutaneous Infection with a Diphtheroid Bacillus. By J. F. D. SHREWSBURY, M.B., Ch.B.... 538

Acute Alcoholic Poisoning Due to the Application of Surgical Spirit to the Legs. By VINCENT C. JAMES, M.R.C.S., L.R.C.P. 539

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE:
Alkalis in Renal Complications of Pregnancy 539
Eczema of Internal Origin 540

ROYAL ACADEMY OF MEDICINE IN IRELAND:
Perforation of Jejunal Ulcer 541

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY:
Gynaecological Tumours 541

LIVERPOOL MEDICAL INSTITUTION:
Transplantable Tumours 542

REVIEWS

Diseases of the Chest 542
[illegible] 543
[illegible] 543
[illegible] 544
[illegible] 544
Notes on Books 544

OBITUARY

Arthur Perigal, M.D. 563
James Laurie, M.B. 563
The late Dr. S. E. Denyer 563
W. H. Line, M.D. 564
George Robert Lawless, F.R.C.S.I. 564
William Ayton Goatling, M.D. 564

LEADING ARTICLES

THE THYMUS PUZZLE 547
THE CAMPAIGN AGAINST SILICOSIS 548

THE WEEK

"[illegible] Developing System" 548
The Traffic in Dangerous Drugs 549
[illegible] of Ward Honors..... 550
Scoliosis 550
..... 551
essory Sinuses 551
.... 551

GENERAL ARTICLES AND NEWS

Toxic Jaundice. Lumleian Lectures by Sir WILLIAM WILLCOX, M.D., F.R.C.P. Abstract of Lecture I..... 552

ALL-INDIA INSTITUTE OF HYGIENE AND PUBLIC HEALTH. (Illustrated) 546

ROYAL MEDICAL BENEVOLENT FUND. Annual Meeting..... 553

PREPARATIONS AND APPLIANCES. (Illustrated) 545

MEDICAL NOTES IN PARLIAMENT:
Rules Under Mental Treatment Act 565

MEDICAL NEWS 567

LOCAL NEWS

SCOTLAND—
Hospital Services in Scotland..... 554
Medical Women's Federation..... 554
Mental Hospital Appointment 554
Scottish Odonto-Chirurgical Society 555

ENGLAND AND WALES—
Memorial for Tropical Research 555
Schools for Physically Defective Children 555
[illegible] 555
[illegible] 555
[illegible] 556

BELGIUM—
Progress of Obstetrics..... 556
Instruction in Tuberculosis..... 556
Medical Finance in the Congo..... 556
Industrial Physiology and Pathology 556

UNIVERSITIES AND COLLEGES

University of Oxford 564
University of Liverpool..... 564
University of Dublin 564
Royal College of Surgeons of England... 564
Society of Apothecaries of London 565

THE SERVICES

Naval Medical Compassionate Fund ... 566
Deaths in the Services 566
(For Naval, Military, and Air Force Appointments see SUPPLEMENT*)*

CORRESPONDENCE

Specific Serum Treatment of Lobar Pneumonia in Adults. By G. F. Petrie, M.D.; and R. A. O'Brien, M.D. 557

Treatment of Gastric and Duodenal Ulcer. By Norman C. Lake, F.R.C.S.; A. H. McIndoe, M.D.; and E. R. Flint, F.R.C.S. 558

The Incision in Appendicectomy. By G. H. Edington, M.D., D.Sc. 559

Serum Anaphylaxis. By E. W. Goodall, M.D..... 559

Disseminated Sclerosis Research. By J. E. Barnard, F.R.S..... 560

Operation for Hallux Valgus. By A. Rocyn Jones, F.R.C.S.; James Phillips, F.R.C.S.; and Naughton Dunn, M.B., Ch.B. 560

An Unusual Mental Abnormality. By G. Laughton Scott, M.R.C.S. 561

Gonococcal Rhinitis. By A. Scott, M.B. 561

The Electrocardiogram. By Jenner Hoskin, M.D. 561

Medicinal Treatment of Chronic Arthritis. By D. M. Marr, M.D..... 562

Convulsions During Surgical Anaesthesia. By Louise Fraser, M.D. 562

Pentapharmacum or Pentapermatum? By H. R. Spencer, M.D., F.R.C.P..... 562

Closed Drainage in the Treatment of Empyema. By W. Radcliffe, M.R.C.S. 562

LETTERS AND ANSWERS

A Case of Dyspnoea..... 563
Sensitiveness to Sunshine..... 563
Paroxysmal Rhinorrhoea 563
Income Tax 563
Graves's Disease; Intercurrent Pyrexia 563
Nord-Sud Tours in Italy 563
Chilblains..... 563

VACANCIES 569
(See also page 103 *of* SUPPLEMENT*)*

The SUPPLEMENT contains:

BRITISH MEDICAL ASSOCIATION:
Annual Meeting, Eastbourne, 1931
Summary of Accommodation.

CURRENT NOTES:
Change of Doctor.
Dangerous Drugs Regulations.
Voluntary Hospitals and Treatment of Insured Persons.

GENERAL MEDICAL COUNCIL: MEETING OF EXECUTIVE COMMITTEE.

Association Notices; Vacancies and Appointments: Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-. Telephone: REGENT 0611.

Those who join within one year of Registration are exempt from Entrance Fee.

EASTER HOLIDAYS.

All Advertisements and Communications intended for our issue of April 4th, 1931, should reach this office not later than first post on MONDAY, MARCH 30th, 1931.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

British Medical Association.
Archives of Dis. in Childhood 7

Cassell & Co., Ltd.
[illegible] 4
4
4
4
4
4
4
4
4
4
Diseases of the Nervous System 4
Thomson, StC.—Dis. of Nose, etc.. 4
Treves, F.—
Handbook of Surg. Operations 4
Surgical Applied Anatomy.. ... 4

Churchill, J. & A.
Mennell, J.—Backache..... 6

Constable & Co., Ltd.
Paterson & Smith—
Feeding in Infancy..... 7

Kimpton, H.
Boyd, W.—Internal Diseases.. 5
Clendening, L.—
Modern Methods of Treatment 5
5
5
5
5

Lewis, H. K. & Co. Ltd.
Easter Holidays. 6

Oxford University Press.
Price, F. W.—
Diseases of the Heart... 6

Saunders, W. B. Co., Ltd.
Arey, L. B.—Developmental Anat. 3
Campbell, W. C.—Orthopaed. Surg. 3
Cecil, R. L.—Textbook of Medicine 3
Maximow, A. A.—Histology 3
Mayo Clinic: Papers of 1929 3
Moorhead's Traumatotherapy 3
Pearl, R.—Medical Biometry, etc.... 3

Simpkin Marshall Ltd.
Taplin, A. B.—
Hypnotic Suggestion, etc. 6
Hypnotism, etc 6

Wright & Sons, Ltd.
Groves, E. W. H. Surgery. 7
Tidy, H. L.—Medicine 7

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS..... 71

ASSURANCE COMPANIES—
London Med. Protection Society. . 1
Medical Insurance Agency . . . 55

BRASS NAME PLATES, &c.—
Cooke's Name Plates 38
Herd, S. J. & A.—Name Plates . 40
Lewis & Co. Ltd.—Name Plates 6
Osborne, F. & Co.—Name Plates 38

SURGICAL APPLIANCES—
Arnold & Sons' Stethoscopes 37
Dent's 'Ardente' Stethoscope . .. 37
Hawksley & Sons, Ltd.—
New Kompik Barometer 19
Stethoscopes 6
Hilliard's New Absorbent Bags 38
Hoffick, C. A. Ambulatory Extension Treatment. 39
Medical Supply Association, Ltd.—Portable Tract on Apparatus. .. 32
Medical Surgical Sundries, Ltd.—Exact Inhaling Apparatus 54
Salt's Surgical Service.. 33
Short & Mason, Ltd.—
Tycos Sphygmomanometers . . 43
Watson Baker Co.—
Collectors' Specials 37

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Bynd' Hepol..... 27
Castor Oil 34
Insulin 'A.B.' 20
Orange Juice 27
Vapo-Cresolene 39
Alliance Drug & Chemical Co.—
Price List 38
Bayer Products Ltd.—'Luminal'... 24
Bio-Chemical Laboratories—
[illegible] 20
13
29
31
[illegible] 35
Dimol Laboratories—Pulverettes .. 18
Dinneford & Co. Ltd.—Magnesia .. 16
Duncan Flockhart & Co.—
[illegible] 15
[illegible] 20
Fellows' Compound Syrup of Hypophosphites—'Fellows' 18
Hewlett & Son, Ltd.—Cream 36
[illegible] 14
23
34
14
[illegible] 36
'Tribetine' 36
May & Baker, Ltd.—'Soneryl'..... 17
Newbery & Sons—
Agarol Cover ii
[illegible] 13
11
19
25
[illegible] 28
Valentine's Meat-Juice 16

FOOD PREPARATIONS—
Battle Creek Food Co.—
Lacto-Dextrin & Psylla..... 12
Bovril 35
Brand's Essences . . . 19
Cow & Gate Ltd.—Milk Food Cover iii
[illegible] 13
11
19
25
[illegible] 28
Valentine's Meat-Juice 16

HOUSE AGENTS—
Bedford & Co. 53
Elliott, Son & Boyton 53

MOTOR CARS, TYRES, &c.—
Flewatt Limited—Invalid Cars .. 9
Second-hand Motors for Sale 53

PRINTING & STATIONERY—
Anderson & Son—Account Forms 6
Carlyle, G.—Duplicate Books, ... 6
Hamiltons—Stationery.. 6
Taylor's Typewriters 33

TAILORING & UNDERCLOTHING—
Entecknapp & Grimes—Tailors 43
Hall, H.—Medical Service Dress ... 53
Regent Dress Co.—Tailors 38

TOBACCO & CIGARETTES—
Player's Navy Cut 39

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 52

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub. Hlth 38
Roberts & Co.—Vaccine Lymph 34

X-RAY & ELECTRO-MEDICAL APPARATUS—
Gen. Radio. & Surg. Appar. Co.—Sunlight Generator.. 10

HOSPITAL, &c., FURNITURE—
Bailey & Son—Consult Room Furn. 32
Furniture, &c., Depositories, Ltd.—Second-hand Furniture 28
Ward, Ltd.—Invalid Chairs 6

HOSPITAL, &c., VACANCIES—
[illegible] 79
[illegible] 7
[illegible] 3
[illegible] 7
[illegible] 3
[illegible] 1
[illegible] 3
[illegible] 1
[illegible] 7
[illegible] 7
[illegible] 1
[illegible] 7
[illegible] 1
[illegible] 1
[illegible] 7
[illegible] 1
[illegible] 1
[illegible] 7
[illegible] 1

A New Book

MOORHEAD'S TRAUMATOTHERAPY

Just Issued

This is a book on the *immediate treatment of the injured*—the immediate, the thorough, the complete treatment. Dr. Moorhead considers every accident case an emergency case, demanding treatment *at once!* The necessity for this has been driven home to him through long years in the field of traumatic therapy—a field in which he is one of the pioneers.

This is *an entirely new book*, giving the immediate steps to be taken in every possible kind of accident, the application of drugs, solutions, dressings, splints, apparatus of all kinds, physiotherapy. It tells you how first to help relieve the patient; then how to treat the injury, how to restore speedily the greatest possible function. There is no other book like this in the English language.

Octavo of 574 pages, with 602 illustrations. By JOHN J. MOORHEAD, B.Sc., M.D., F.A.C.S. (D.S.M.), Professor of Surgery and Director, Department of Traumatic Surgery, New York Postgraduate Medical School and Hospital. Cloth, 32s. 6d. net.

DEVELOPMENTAL ANATOMY

By LESLIE BRAINERD AREY, Robert Laughlin Rea Professor of Anatomy, Northwestern University Medical School. Large octavo of 560 pages, with 1,037 illustrations on 532 figures. New, 2nd Edition. Cloth, 27s. 6d. net.

"Professor Arey has published a text-book which includes more post-natal development than most other manuals of embryology. The outline presented of the more important developmental changes manifested after birth is a very valuable addition. . . . Professor Arey is to be congratulated on the production of a text-book of embryology which may be highly recommended and is likely to be used very widely."—BRITISH MEDICAL JOURNAL.

MEDICAL BIOMETRY & STATISTICS

By RAYMOND PEARL, Professor of Biology, School of Hygiene, Johns Hopkins University. Octavo of 459 pages, illustrated. Second, Revised, Edition. Cloth, 25s. net.

"An interesting and useful book which will appeal to many others besides those for whom it is primarily intended."
—JOURNAL OF THE INSTITUTE OF ACTUARIES.

TEXT-BOOK OF MEDICINE

Edited by RUSSELL L. CECIL, M.D., Assistant Professor of Clinical Medicine, Cornell Medical School. Octavo of 1,592 pages, illustrated. Second Edition. Reset. Cloth, 40s. net.

"This book maintains a very high level throughout its pages. . . . Great care has been taken with the dovetailing together of the various contributions into a compact whole, and the book is a worthy production of the modern American school of medicine."—THE LANCET.

TEXT-BOOK OF HISTOLOGY

By ALEXANDER A. MAXIMOW, late Professor of Anatomy, University of Chicago. Completed and edited by WILLIAM BLOOM, Assistant Professor of Anatomy, University of Chicago. Large octavo of 833 pages, with 604 illustrations, some in colours. Cloth, 40s. net.

"The book is one which can be recommended with confidence as a general work of reference for the more advanced student of this branch of study."—BRITISH MEDICAL JOURNAL.

ORTHOPEDIC SURGERY

By WILLIS C. CAMPBELL, M.D., F.A.C.S., Professor of Orthopedic Surgery, University of Tennessee. Octavo of 705 pages, with 507 illustrations. Cloth, 37s. 6d. net.

"The book can be recommended with confidence to the general surgeon, as well as to the specialist who is called upon to treat such affections. It is nicely illustrated, and many radiograms are reproduced. The general production of the volume—binding, print, etc.—is excellent, and we foretell for it every success."—IRISH JOURNAL OF MEDICAL SCIENCE.

MAYO CLINIC: PAPERS OF 1929

By W. J. & C. H. MAYO and their ASSOCIATES at the Mayo Clinic and the Mayo Foundation, University of Minnesota. Octavo of 1,197 pages, with 279 illustrations. Cloth, 60s. net.

"There could be no better mirror of the progress of surgical science than the Mayo Clinic volumes. Each department of the Clinic keeps itself informed of what is being done elsewhere, and every new suggestion is put to the test on a scale and with a thoroughness which cannot be matched in many clinics."—THE LANCET.

W. B. SAUNDERS COMPANY Ltd., 9, Henrietta St., London, W.C.2

CASSELL AND COMPANY, LTD.

RADIUM THERAPY: PRINCIPLES AND PRACTICE

By **G. E. BIRKETT**, *M.C.*, B.A.Cantab., M.R.C.S.Eng.,

Honorary Radiologist, Manchester and District Radium Institute and Christie Hospital for Cancer.

"The book is well and simply written, there is a good index, and the illustrations are excellent."
—BRITISH MEDICAL JOURNAL.

"Presents concisely and attractively the position that has been reached in this branch of therapeutics."—LANCET.

Royal 8vo. 196 pages. With 6 Colour and 13 Half-tone Plates, and 52 Text-figures. **17s. 6d.** net.

SICK CHILDREN: DIAGNOSIS AND TREATMENT

A Manual for Students and Practitioners

By **DONALD PATERSON**, B.A.Manitoba, M.D.Edin., F.R.C.P.Lond.

"A concise and well-illustrated volume, in which material of the utmost importance to the student and practitioner is clearly set out and admirably indexed."—BRITISH MEDICAL JOURNAL.

Crown 8vo. 542 pages. With 16 Half-tone Plates and 85 Text-figures. **16s.** net.

The Student's Handbook of Surgical Operations.

By **Sir FREDERICK TREVES**, Bart. *Fifth Edition.* Revised by **CECIL P. G. WAKELEY**, F.R.C.S.Eng., F.R.S.Edin. Illustrated. **10s. 6d.** net.

Clinical Methods.

By **ROBERT HUTCHISON**, M.D.Edin., F.R.C.P.Lond., and **DONALD HUNTER**, M.D., F.R.C.P.Lond. *Ninth Edition.* Illustrated. **12s. 6d.** net.

The Essentials of Medical Diagnosis.

By **Sir THOMAS HORDER**, Bart., K.C.V.O., M.D., F.R.C.P.Lond., and **A. E. GOW**, M.D., F.R.C.P.Lond. Illustrated. **16s.** net.

Elements of Surgical Diagnosis.

By **Sir ALFRED PEARCE GOULD.** *Seventh Edition.* Revised by **ERIC PEARCE GOULD**, M.D., M.Ch.Oxon., F.R.C.S.Eng. Illustrated. **12s. 6d.** net.

X-Ray Diagnosis.

By **J. MAGNUS REDDING.** F.R.C.S.Eng. 244 pages, with 80 Radiographic Plates. **21s.** net.

Anaesthesia and Anaesthetics.

By **F. S. ROOD**, M.B., B.S.Dunelm., and **H. N. WEBBER**, M.A., B.Chir.Cantab. Illustrated. **14s.** net.

A System of Surgery.

Edited by Prof. **CHOYCE**, C.M.G., C.B.E., B.Sc., M.D., F.R.C.S.Eng. Pathological Editor, Prof. **J. MARTIN BEATTIE**, M.A., C.M., M.D. *Second Edition.* Three Volumes. Illustrated. **£6** net the set.

Modern Operative Surgery.

By Twenty-four Leading Surgeons.
Edited by **H. W. CARSON**, F.R.C.S.Eng. Two Volumes. Illustrated. **£3 3s.** net the set.

Diseases of the Nose and Throat.

By **Sir StCLAIR THOMSON**, M.D., F.R.C.P. Lond., F.R.C.S.Eng. *Third Edition.* Illustrated. **45s.** net.

Diseases of the Nervous System.

By **H. CAMPBELL THOMSON**, M.D., F.R.C.P. Lond., and **GEORGE RIDDOCH**, M.D.Aberd., F.R.C.P.Lond. *Fourth Edition.* Illustrated. **16s.** net.

Surgical Applied Anatomy.

By **Sir FREDERICK TREVES**, Bart. *Eighth Edition.* Revised by Prof. **CHOYCE**, C.M.G., C.B.E., B.Sc., M.D., F.R.C.S.Eng. Illustrated. **14s.** net.

Herman's Difficult Labour.

Seventh Edition. Revised by **CARLTON OLDFIELD**, M.D., F.R.C.P.Lond., F.R.C.S.Eng. Illustrated. **16s.** net.

CASSELL & CO., LTD., LA BELLE SAUVAGE, LONDON, E.C.4

HENRY KIMPTON'S NEW PUBLICATIONS

NEW WORK. *THIS DAY.*

THE

PATHOLOGY OF INTERNAL DISEASES

By WILLIAM BOYD, M.D., M.R.C.P.(Edin.), Dipl. Psych., F.R.S.C.,

Prof. of Pathology in the Univ. of Manitoba; Pathologist to the Winnipeg General Hosp., Winnipeg, Canada.

Royal octavo, 888 pages, with 293 illustrations. Cloth. Price 45s. net.

This is a truly useful pathology—unique in scope, form and method. It shows the inter-relations of anatomy and histology, of pathological physiology and clinical medicine, thus filling a gap that the textbooks have always left vacant. It is an illustrated textbook of internal medicine based on the mechanism of disease. Its references are those that the practitioner will find most useful. Its illustrations are profuse and mostly original, and its discussion of each subject leads straight to the relation of symptoms to lesions. The book is brilliantly written. It reveals the hidden processes of disease without a knowledge of which the physician is all too likely to grope in the dark. Every page is interesting, stimulating, and, above all, helpful. Here is a pathology you will use.

NEW (FOURTH) EDITION. *JUST READY.*

MODERN METHODS OF TREATMENT

By LOGAN CLENDENING, M.D.

Fourth Edition, Revised and Enlarged. Large octavo, 819 pages, with 95 illus. Cloth. Price 42s. net.

"The book is one which deserves its success."—*British Medical Journal.*

ABDOMINO-PELVIC DIAGNOSIS IN WOMEN

By ARTHUR JOHN WALSCHEID, M.D.

Large octavo, 1,000 pages, with 397 illustrations and a coloured plate. Cloth. Price 52s. 6d. net.

¶ An authoritative work beautifully illustrated.

NEW WORK. *READY NEXT WEEK.*

THE

DIAGNOSIS and TREATMENT of BRAIN TUMORS

By ERNEST SACHS, M.D.

Large octavo, 396 pages, with 224 illustrations, including 10 in colours. Cloth. Price 42s. net.

¶ A special feature of this work is the large number of original drawings made under the personal supervision of the author by trained medical artists. 217 of these are half-tone engravings and line drawings. There are six beautiful coloured plates, all of which add greatly to the value of the text.

NEW (SECOND) EDITION. *JUST READY.*

AN INTRODUCTION TO

CLINICAL PERIMETRY

By H. M. TRAQUAIR, M.D., F.R.C.S.Edin.,

Ophthalmic Surgeon, Royal Infirmary, Edinburgh; Ophthalmic Surgeon, Chalmers Hospital, Edinburgh; Oculist to the Edinburgh Poorhouse; Lecturer on Diseases of the Eye, Edinburgh University.

Second Edition, Revised and Enlarged. Demy quarto. 289 pages, with 179 illustrations and 3 coloured plates. Cloth. Price 30s. net. Postage 9d.; abroad 1s. 6d.

Extracts from reviews of first edition:

"A book which should find its way into every ophthalmic surgeon's library."—*British Journal of Ophthalmology.*
"We can heartily recommend this work."—*Edinburgh Medical Journal.*
"The work should prove invaluable alike to the ophthalmologist and to the neurologist."—*Lancet.*
"Maintains a high standard of excellence."—*British Medical Journal.*

NEW WORK. *JUST READY.*

AN INTRODUCTION TO

GYNECOLOGY

By C. JEFF MILLER, M.D.

Large octavo. 327 pages, with 117 illustrations. Cloth. Price 21s. net. Postage 9d.

New Catalogue of Standard Medical Publications free on request.

HENRY KIMPTON, 263, HIGH HOLBORN, LONDON, W.C.1

DISEASES OF THE HEART

THEIR DIAGNOSIS, PROGNOSIS, TREATMENT BY MODERN METHODS

With chapters on the Ink Polygraph, Clinical Electro-Cardiography, X-Ray Examination, and Anaesthesia in Relation to Cardio-Vascular Affections.

By FREDERICK W. PRICE, M.D., F.R.S.(Edin.),

Senior Physician to the National Hospital for Diseases of the Heart; Consulting Physician to the Royal Northern Hospital, London.
Demy 8vo. Pp. 534. With 249 text figures, including 32 sphygmograms, 92 polygraphic tracings, and 87 electro-cardiograms.

NEW SECOND EDITION, 21s. net.

"By great care and by the use of an amazing amount of material, he has accomplished what many readers have been waiting for, giving us a complete account of the diagnosis, prognosis, and treatment of heart diseases by modern methods in association with all the invaluable teaching bequeathed to us by the older masters of clinical observations."—LANCET.

"The most valuable and comprehensive guide to the study of Cardiology with which we are acquainted."—NEW YORK MEDICAL JOURNAL AND RECORD.

"We think that most of our readers engaged in general practice will find this work extremely useful."—THE JOURNAL OF CLINICAL RESEARCH.

"In our opinion the book is indisputably the most authoritative contribution to cardiology of our time."—FRANCO-BRITISH MEDICAL REVIEW.

"A book which we believe is destined to remain the standard work on Cardiology for many years to come."—AMERICAN MEDICINE.

"The second edition of this popular work on heart disease b. evidence of thorough revision, while the essentially clinical stan of the writer is maintained."—EDINBURGH MEDICAL JOURNAL.

"It may be said at once that the book adequately fulfils the pu it has in view, and is a perfectly sound, lucid, and reliable g —NEWCASTLE MEDICAL JOURNAL.

"Well-written, concise, and complete, containing a wealth practical information. Obviously based upon the author's ow perience and investigative work."—SURGERY, GYNECOLOGY, A OBSTETRICS (Official Journal of the American College of Surgeons)

"Dr. Price is to be congratulated again on the reappearance second edition of his distinguished contribution to the increasi important subject of Cardiology."—THE CANADIAN JOURNAL OF MEDIC AND SURGERY.

OXFORD UNIVERSITY PRESS, Amen House, Warwick Square, London, E.C.4.

H. K. LEWIS & Co. Ltd., Medical Publishers and Booksellers.

MEDICAL AND SCIENTIFIC CIRCULATING LIBRARY.

EASTER HOLIDAYS 1931

ALL DEPARTMENTS WILL BE CLOSED APRIL 3rd, 4th, 5th, and 6th.

LONDON: 136 and 140, GOWER STREET, 24 and 28, GOWER PLACE, W.C.1.

Second Edition. Cloth. 10/6 net; postage 6d.

HYPNOTIC SUGGESTION AND PSYCHO-THERAPEUTICS

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin., Member of Council and late President of the Psycho-Medical Society of Great Britain, and late President of the Liverpool Psychological Society (Liverpool University).

ALSO

HYPNOTISM AND TREATMENT BY SUGGESTION,

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin. Fourth Edition. 2/6 net; postage 3d.

Publishers:
LITTLEBURY BROS. LTD., Crosshall St., Liverpool.
SIMPKIN MARSHALL LTD., LONDON.

48 Illustrations in Black, Red, and Blue.
10s. 6d. Postage 6d.

BACKACHE

By JAMES MENNELL, M.D., B.C.(Cantab.)

Medical Officer Physico-Therapeutic Dept., St. Thomas's Hospital.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1.

Duplicate Prescription Books

INVALUABLE TO ALL DOCTORS

Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet

Send Post for Sample Book, together with Estimates of Printings

...ements of Surg...

1... By Sir ALFRED PL...RPOOL.
...Edition. Revised b...
...D., M.Ch.Oxon., ...

NA... ...ES

In Diagnosis.
or MAGNUS REDDING
Estimates and ...80 Radiographic Pl...
...K. LEWIS ...d Anae...
Medical and Scientific
136, GOWER STREET, LO... M.B., ...C1.

"VITA" GLASS

daily health through windows

'WARDWAY'

The Chair you can wheel upstairs

John Ward, Specialist in Invalid Chairs, respectfully invites members of the Medical Profession to write for the "Wardway Booklet No. 9."

JOHN WARD Ltd

242-7 Tottenham Ct. Rd. London

SEND for our NEW SAMPLES of the very BEST STATIONERY, Etc.

HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

BLOOD PRESSURE

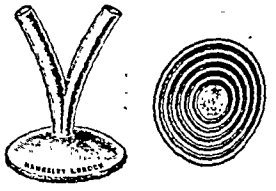
SPHYGMOMANOMETERS

Mercurial: Aneroid: Recording

NEW CATALOGUE

post free on application.

STETHOSCOPES



NEW

'METALLIQUE' CHEST END

(Pat. app. for)

The specially constructed metal diaphragm is extremely sensitive and magnifies heart sounds without distortion.

Price, chest end only, 10s. 6d.

Obtainable from all Dealers, or from the Makers:

HAWKSLEY & SONS Ltd.

83, Wigmore Street, London, W.1

Telephone: Welbeck 3859

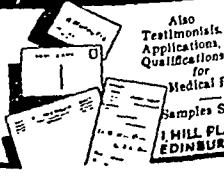
Doctors' A/c Forms a Speciality

Printed in Best Style.

Account Forms Letterheads, Cards, etc.

Samples Sent

R. ANDERSON & SON



Also Testimonials, Applications, and Qualifications for Medical Posts.

Samples Sent.

1 HILL PLACE EDINBURGH

MODERN METHODS OF

FEEDING IN INFANCY AND CHILDHOOD

by

DONALD PATERSON, M.D., F.R.C.P., and J. FOREST SMITH, M.R.C.P. 2nd Ed. 7s. 6d. net.

One of the ten volumes of

MODERN MEDICAL MONOGRAPHS

Send for a prospectus from

CONSTABLE & CO. LTD. 10 & 12 Orange Street Leicester Square WC2

RECENTLY PUBLISHED. FIFTH EDITION. Fully Revised and Enlarged. Crown 8vo. 1,048 pp. 21s. net; postage 9d.

SYNOPSIS OF

MEDICINE

By H. LETHEBY TIDY, M.A., M.D., B.Ch.Oxon., F.R.C.P.Lond.,

Physician, St. Thomas's Hospital; Consulting Physician, Royal Northern Hospital.

"An admirable *index medicus*. . . . The scope is far wider than in the majority of books Throughout, 'treatment' meets with ample consideration . . . this fact alone will enhance its value enormously for the busy practitioner."—BRIT. MED. JOURN.

"We can say without hesitation that the book is far ahead of any medical synopsis it has been our lot to encounter."—LANCET.

"We have nothing but admiration for this book, and cannot commend it too highly."—MEDICAL PRESS AND CIRCULAR.

NINTH EDITION. Fully Revised. Crown 8vo. 684 pp. With 165 Illustrations, some of which are coloured. 17s. 6d. net; postage 9d.

SYNOPSIS OF

SURGERY

By ERNEST W. HEY GROVES, M.S., M.D., B.Sc.Lond., F.R.C.S.Eng.,

Professor of Surgery, Univ. of Bristol; Surgeon, Bristol General Hospital; Member of the Court of Examiners, Royal College of Surgeons, England; Examiner in Surgery, Universities of London, Liverpool, Leeds, Manchester and Sheffield, and Nat. Univ. of Ireland.

"Complete in its range of subjects . . . among the best of its kind; the author is to be congratulated on its readableness, its lucidity and its fullness—notable qualities."—BRIT. MED. JOURN.

"This synopsis of surgery has had a wide sale, which has necessitated the issue of frequent editions, and it deserves thoroughly all the success it has attained."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

IN PREPARATION

ARCHIVES OF DISEASE IN CHILDHOOD

EDITED BY

HUGH THURSFIELD, D.M., F.R.C.P., and REGINALD MILLER, M.D., F.R.C.P.,

WITH THE HELP OF

H. C. CAMERON, M.D., F.R.C.P.
H. A. T. FAIRBANK, D.S.O., M.S., F.R.C.S.
LEONARD FINDLAY, D.SC., M.D.
A. DINGWALL FORDYCE, M.D., F.R.C.P.ED.
C. MAX PAGE, D.S.O., M.S., F.R.C.S.
LEONARD G. PARSONS, M.D., F.R.C.P.
G. F. STILL, M.D., F.R.C.P.
EDITOR OF THE *British Medical Journal*.

Vol. 6. APRIL, 1931. No. 31.

PUBLISHED BY THE BRITISH MEDICAL ASSOCIATION.

London: British Medical Association House, Tavistock Square, W.C.1.

Yearly Subscription (6 numbers), 25/-. Single Number, 4/6.

Why not get your Frigidaire now before it's *REALLY HOT?*

YOU, of all men, can appreciate the health benefits of refrigeration. You've probably already made up your mind to have a Frigidaire, sometime. But why put it off? Think how pleasant to come down to dinner these hot evenings after a hard day's work and know there was a really cold drink awaiting you, a crisp, cool, refreshing salad, iced butter, and no worry for your wife about the meat or the children's milk "going off." Such a difference! And if you send in the coupon below, though you are committed to nothing, you'll be able to see how little such luxury would cost you.

The Quickube Ice Tray, enabling single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the water tap. Your cocktail ice is ready at a moment's notice.

The Cold Control, by which the freezing of ice cubes or any other frozen delicacy can be accelerated at will.

The automatic feature of Frigidaire is invaluable. It cuts out the human element with its forgetfulness and consequent waste. Frigidaire maintains a dry cold that is *always* under 50°—the only safe temperature for food.

Practical flat top, makes a useful shelf.

The Hydrator—a *moist* cold compartment, for fresh vegetables, sandwiches, etc., etc. Even wilted vegetables will regain their crispness here in a few hours.

Ease of installation. A Frigidaire only needs connection with your electric supply. No plumbing is necessary.

The new Frigidaire is quiet—you can't hear it start, stop or run.

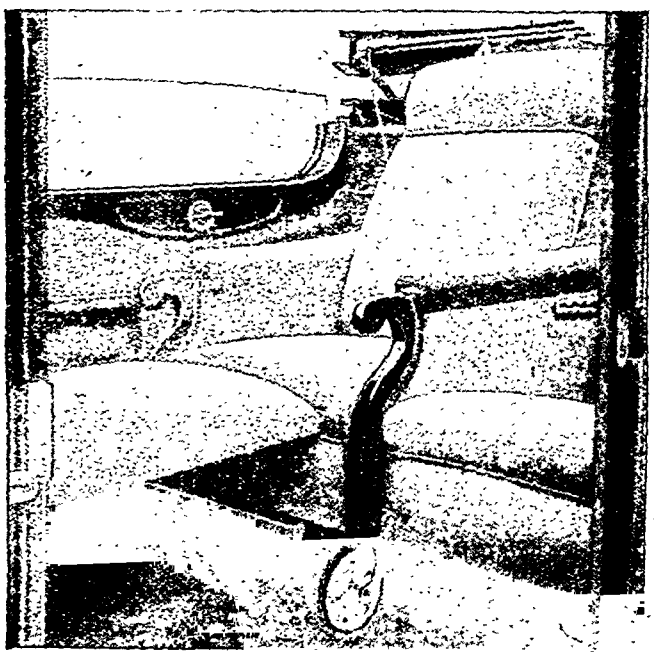
Showrooms at 141, New Bond Street, London, W.1, and in all principal towns.

FRIGIDAIRE LIMITED (*Incorporated in Canada*)
Dept. BG-283, Edgware Road,
The Hyde, Hendon, N.W.9.

Please give me by return, without any obligation on my part,
(a) Price of Frigidaire cabinet suitable to my particular needs as below:
or
(b) Amount to be paid down to cover initial deposit, installation and carriage charges.

Name .....
Address .....
.....
No. in Family .....

THE CAR FOR INVALIDS...



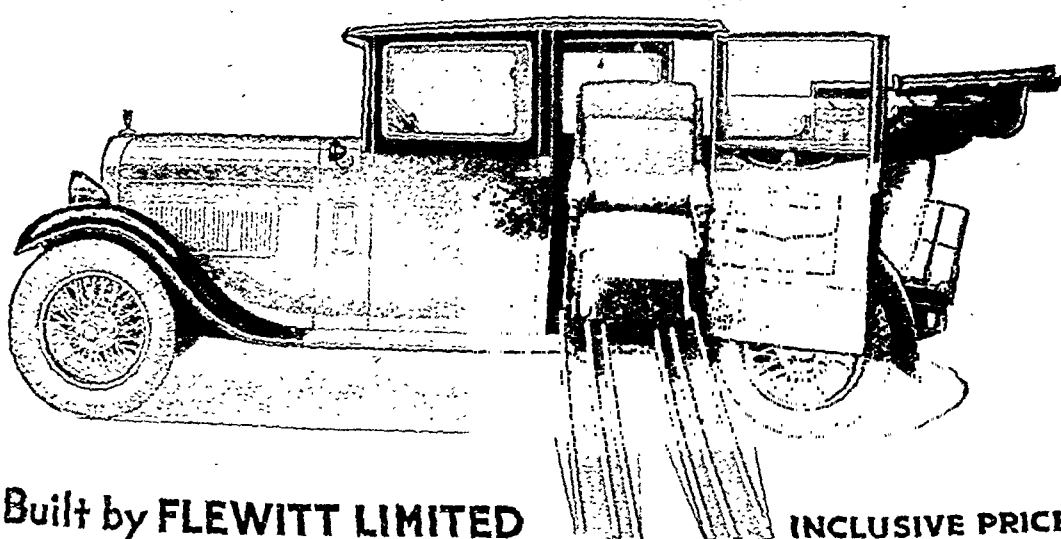
AUSTIN 20 FLEWITT LANDAULETTE or LIMOUSINE fitted with ... ... INVALID CHAIR

The rear compartment of this car is specially adapted to accommodate the invalid chair provided.

The patient, without being disturbed, can be pushed in and out of the car on the special runways provided.

The runways when not in use are carried on the running boards. There is also a comfortable passenger seat by the side of the invalid chair—one occasional seat is also provided.

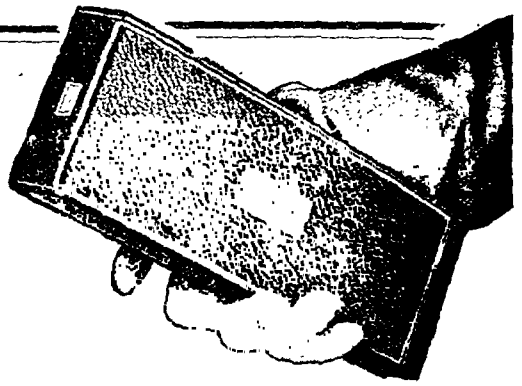
Write us for particulars.



Built by **FLEWITT LIMITED**
120, ALMA STREET
BIRMINGHAM.

INCLUSIVE PRICE
£710.0.0

THE NEW KOMPAK MODEL



In the selection of blood-pressure apparatus the physician is influenced by only one major consideration.

Is it accurate—and will it remain accurate?

Scientific accuracy — the dominating feature of the Baumanometer — is attested by more than one hundred thousand physicians the world over.

Other distinguishing features of simplicity, durability, and portability are immediately apparent.

Among the Lifetime Baumanometer Models available is the New KOMPAK Model, the smallest, the lightest, and the handiest mercurial instrument.

Like all Lifetime Baumanometers, it too is a MASTER instrument, individually calibrated, scientifically accurate and guaranteed to remain so. It also carries our exclusive guarantee against glass breakage.

Your surgical instrument dealer will gladly demonstrate it or send one to you.

Note its distinguishing specifications.

Lifetime Baumanometer
STANDARD FOR BLOODPRESSURE

Calibration: 260 mm.
Size: 1⅝" x 3⅞" x 11⅝".
Weight: 30 oz.
Inflation System Self-Contained.
Duralumin case with baked enamel edges.
Genuine Morocco grain leather.
Entire manometer unit chromium plated.
Individual nameplate cast in cover.
Table of clinical averages embossed in case.
Lifetime Guarantee against glass breakage.
Perpetual Guarantee for accuracy.

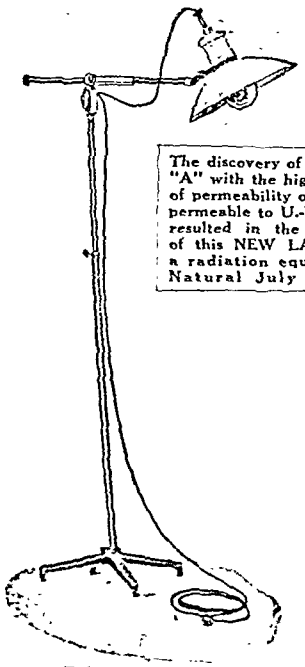
Obtainable from leading Surgical Equipment Houses, or
HAWKSLEY & SONS, Ltd., 83 Wigmore St. London, W. 1.

GRSA

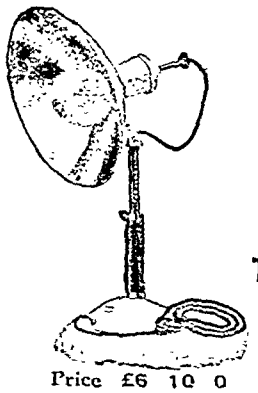
NERON VITALUX

The Sunlight Generator

HEAT, LIGHT, ULTRA-VIOLET



The discovery of U.-V. Glass "A" with the highest degree of permeability of all glasses permeable to U.-V. Rays has resulted in the production of this NEW LAMP giving a radiation equivalent to Natural July Sunlight.



Price £8 10 0

Price £6 10 0
Complete with bulb.

An indication as to some of its uses:

Rachitis prophylaxis, tubercular cervical glands, surgical and cutaneous tuberculosis, neuralgia, rheumatism (neuritis, myalgia), catarrhal diseases (colds), inflammation of the lungs (pleurisy), treatment of wounds, abscesses, furuncles, fungoid diseases of the skin, barber's rash, frontal sinus catarrh.

Extract from letter recently received from a doctor:
"The lamp is giving me thorough satisfaction, being a great improvement on the carbon arc lamp I was using, owing to the absence of fumes and greater ease of working, as well as giving a more satisfactory spectrum."

Neron Vitalux Lamps are being installed in various hospitals, etc.

THE GENERAL RADIOLOGICAL & SURGICAL APPARATUS CO. LTD.,
204 & 206, Great Portland Street, London, W.1

Telephones: Museum 1719, Museum 8326 — Showrooms: FIRST FLOOR — Telegrams: Equispital Wesdo London

PRINCIPAL AGENTS: Scotland: The Medical Supply Association, Ltd., 12 & 13, Teviot Place, Edinburgh.
Ireland: The Irish Radiological & Surgical Supply Co., Ltd., 7, Lower Pembroke Street, Dublin.

MICKLEFIELD IRRADIATED MILK

TREATING THE COW

By this Process—

(1) VITAMIN A AND NATURAL FLAVOUR ARE PRESERVED.
(2) VITAMIN D CONTENT IS INCREASED 1,800 PER CENT., OR TEN TIMES THAT OF ANY OTHER IRRADIATED MILK.

One pint equivalent in Vitamin D to 600 drops or 12 grammes of average Cod-Liver Oil.

A ten weeks' test recently conducted at the Infants' School, Rickmansworth, under the supervision of the Medical Officer of Health, gave the following results:—

(1) 18 children (controls) had their usual ordinary milk.
(2) 29 " 1/3-pint of Grade A (T.T.) milk five days a week.
(3) 30 " " Micklefield " " "

(1) Average increase in height '605-in. (2) Average increase in weight 9·72 ozs. more than (1).
(2) " " " '610-in. (3) " " " 10·9 ozs. more than (1).
(3) " " " '744-in.

Full particulars appeared in an article in the LANCET, January 18, 1930, p. 127, et seq., a reprint of which will be sent post free on request.

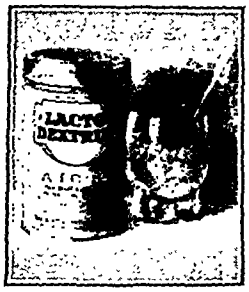
The milk is delivered every week-day in London; elsewhere by arrangement.

Write to J. O. HICKMAN, MICKLEFIELD GREEN, RICKMANSWORTH.

Of special service in FISSURE or HAEMORRHOIDS

"PSYLLIUM seeds when immersed in water yield a mucilaginous substance which is able to take up relatively large quantities of water to form a gelatinous mass. They become in this way a useful lubricant, while the emollient character of the mass renders it of special service in fissure or haemorrhoids."—*Lancet*, Jan. 10th; 1931.

Another preparation of importance as a laxative agent is Lacto-Dextrin—a palatable combination of lactose and dextrin for changing the intestinal flora.



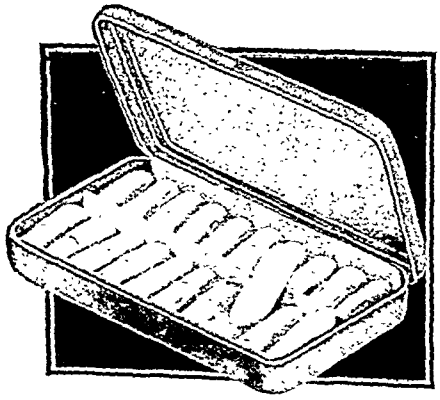
Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, 41, Great Tower Street, London, E.C.3, Solé Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA *(Psyllium Seed)*

LACTO-DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

A *New* chemo-therapeutical preparation *for the treatment of influenza, septic diseases and toxemias*



Used in America for treating Influenza for the past two or three years with great success. The physician's sample illustrated here will be sent to you free on request.

Indications.
Influenza Colds, Pyelitis, Puerperal Sepsis, Surgical Sepsis, Bronchial Asthma, Obstetric Morbidity, Cystitis, etc.

DISULPHAMIN is a mixture of Sulpho-salicyl formol sodium nucleinate and Dimethylamino-antipyrin combined with camphor. The antitoxic action is based on the assumption that Disulphamin transforms the toxic colloid to a crystalloid, thereby facilitating its dialysis through the walls of the blood vessels, and accelerating its elimination by the kidneys.

While phenol is bactericidal in a 1/100 dilution, Disulphamin is bactericidal in a dilution of 1/10,000 to 1/50,000.

In a series of tests made in the treatment of Influenza with Disulphamin, it was found that the course of the disease was materially shortened, and very seldom did Broncho-pneumonia or other complications supervene. Although the etiology of influenza has not yet been clearly determined, it appears that Disulphamin exerts a polyvalent action.

The clinical results thus far obtained are so encouraging that physicians have ample justification for employing Disulphamin in *Febrile* Toxemias arising from Sepsis.

Samples and literature, including charts of actual tests and important hospital findings, will be sent free on request to Messrs. COATES & COOPER, 41, Great Tower Street, London, E.C.3.

DISULPHAMIN

Product of
THE BIO-CHEMICAL LABORATORIES
LOCARNO, SWITZERLAND

For Replenishing Depleted Reserves

Radiostoleum supplies a valuable revitalising factor in the treatment of debility, lethargy and lack of tone—conditions which inevitably arise during the spring, particularly after influenza and other prevailing illnesses of the winter.

Radiostoleum is also a valuable anti-infective agent; not only does it act prophylactically in building up resistance against infectious diseases, particularly those of the respiratory organs and of the middle ear, but it is being used with considerable success also in the treatment of various acute infections.

By virtue of its content of Vitamins A and D it possesses the power to promote healthy growth in the young, and to control calcium and phosphorus metabolism in old and young alike.

Radiostoleum administration is beneficial, therefore, in building up resistance during pregnancy, in lactation, in infancy, at puberty and the menopause, and in old age.

It is prescribed also with success in dental caries; in fact, in their fight against disease, physicians are finding in Radiostoleum a valuable adjunct to their armamentarium.

RADIOSTOLEUM

Clinical sample on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Rstmf109

After Milk—WHAT?

"Infants even as early as the third month will digest appreciable quantities of starch."*

This statement reflects the growing tendency among medical practitioners to-day to introduce a starchy food into infant diet at a much earlier stage than was hitherto considered necessary or advisable.

Four noteworthy advantages of early starch feeding given recently by a leading pediatrist are:

Slower carbohydrate digestion, allowing thorough hydrolysis lasting over a period from one feed to another.

Less tendency to fermentative diarrhoea.

Metabolisation of fat.

Retarded curd formation.

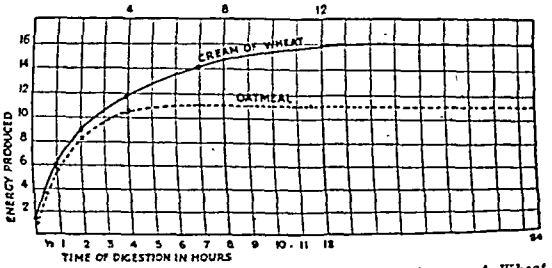
Research Institute proves "Cream of Wheat" to be more digestible than oatmeal and productive of 50% more energy

"Cream of Wheat," long successful as a food for infants, *has now been proved by a leading British biochemical* institute to possess definite advantages over oatmeal.

Reference to recent text-books and monographs shows that many of the leading pediatrists of the day have placed this wheat-cereal on their diet sheets for infants.

It is made from the finest wheat and has a starch content of 72 per cent. Containing none of the husk, it causes no irritation in the intestinal tract, and can be confidently given not only to infants, but to adults during the post-operation period and convalescence.

A sample of "Cream of Wheat" and a full account of the tests described here will gladly be sent on receipt of your professional card. Dept. W2, Fassett & Johnson, 86, Clerkenwell Road, London, E.C.1.



Replica of graph showing Diastatic Digestion of "Cream of Wheat" compared with that of oatmeal. After 4 hours the digestion of oatmeal was practically at a standstill, while that of "Cream of Wheat" continued at a scarcely diminished rate for a further 4 hours. Further, the sugar yield from "Cream of Wheat" was 50 per cent. greater than oatmeal—making it productive of 1½ times as much energy.

* "*Infant Feeding*," by Clifford G. Grulee, A.M., M.D., LL.D. (J. & A. Churchill).

SEDATIVE
SIMPLE
SAFE

INSOMNIA, DYSMENORRHOEA,
NEURASTHENIA, SEA SICKNESS,
NEURALGIA, HYSTERIA, EPILEPSY, ETC.

'SEDOBROL'

SEDATIVE BOUILLON

Vegetable Soup-Cubes seasoned with Sodium Bromide.

Tins of 10, 30, 100 & 500.

Samples and Literature upon application.

A
RATIONAL
TREATMENT
FOR
COUNTERACTING
ALL
THE
USUAL
CAUSES
OF
CONSTIPATION

TABLETS

LACTOBYL

REGULATES THE FLOW OF BILE,
STIMULATES PERISTALSIS, AND
NEUTRALIZES INTESTINAL PUTREFACTION

LACTOBYL IS DIGESTED & DISINTERGRATED
IN THE ALKALINE SMALL INTESTINE

Prepared by:

LABORATOIRES LOBICA

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd.,
30 Marsham St., London, S.W.1.

ETHYL CHLORIDE

CHLORYL ANAESTHETIC
(DUNCAN)

FOR GENERAL and LOCAL ANÆSTHESIA
IT IS INDISPENSABLE IN THE SURGERY

Ethyl Chloride (Duncan) is perfectly free from hydrochloric acid, empyreumatic bodies, etc. It has a pleasant ethereal odour and its vapour is non-irritating.

Descriptive Booklet and Prices on Application

Supplied in 60 c.c. graduated flasks or in 5 c.c. hermetically sealed ampoules.

May be had perfumed with Eau de Cologne if desired.

DUNCAN, FLOCKHART & CO.
EDINBURGH and LONDON
104, Holyrood Road. 155, Farringdon Road, E.C.1.

The Medical Profession when prescribing "Liquor Carbonis Detergens" SHOULD ADD THE WORD

Wright's

On receipt of your professional card, a package will be sent containing a sample of each of the following—

Wright's Coal Tar Soap.
Wright's Coal Tar Ointment.
Wright's Lysol.
Wright's Liquor Carbonis Detergens.

Although there is no secrecy as to the composition of Liquor Carbonis Detergens (it is described as "an alcoholic solution of coal tar"), the method of manufacture is unique. Imitations will be found to be produced by simple digestion, usually accompanied by some primitive, perfunctory, and inadequate stirring; whereas, in the case of the genuine product, the intimate contact required, for the complete extraction of all the soluble antiseptic constituents, is attained by a series of complicated processes, involving the use of highly specialized machinery.

WRIGHT, LAYMAN & UMNEY LTD., 66, Park Street, Southwark, S.E.1

A safe and simple antacid which is also a gentle laxative must necessarily be of great value to medical practitioners when administering to ladies and children and all who are constitutionally delicate.

May we, therefore, venture to remind you of

DINNEFORD'S PURE FLUID MAGNESIA

which has been extensively prescribed and used by the Medical Profession for a Century, and is still the best and safest means of administering Magnesia.

When prescribed for the nursery, too, Dinneford's Magnesia has always proved immensely useful as a corrective, and when mixed with infant's food it prevents many of the troubles which are due to acidity, flatulence, etc.

We are confident that you will find in Dinneford's Fluid Magnesia a reliable and safe solution which may be freely used for many ailments, and we would request your kind consideration of its use as occasion offers.

Dinneford's Pure Fluid Magnesia possesses antacid and laxative qualities which are incomparably better than those of any of the various preparations of Magnesia, in powder, now being introduced.
It cannot harm the most delicate constitution and is at all times a safe and effective laxative.
Manufactured in London for the past 100 years.

DINNEFORD & Co. LTD.

Valentine's Meat-Juice

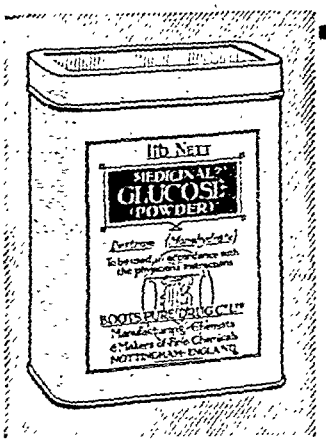
For **Quieting** the **Irritable Stomach** and **Aiding** the **Tired Digestive Organs**, for **Refreshing** the **Fever Patient** and for **Restoring** and **Strengthening** when Other Food Fails, **Valentine's Meat-Juice** is used in **Hospitals** and prescribed by many leading Physicians and Surgeons.

Physicians are invited to send for Clinical Reports from Hospitals and General Practitioners in all parts of the world.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB51



Issued in 1 lb. (nett) tins,
Per 1/6 tin
(Special discount to the medical profession)

Full size trial sample free to any medical practitioner in British Isles, on application by postcard to BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM

BOOTS PRODUCTS
Are obtainable through all branches of
BOOTS THE CHEMISTS

MEDICINAL · GLUCOSE · POWDER—BOOTS

A RELIABLE BRAND OF MEDICINAL GLUCOSE (POWDER)

GLUCOSE is a valuable source of muscular energy. It is an easily assimilated form of carbohydrate for infants, invalid feeding and in cases of malnutrition. It can be given when ordinary sugar is not tolerated. Obtainable from all branches of Boots The Chemists. A special brochure giving fuller details of the use of MEDICINAL GLUCOSE—BOOTS will be forwarded on request.

WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG COMPANY LIMITED,
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

SONERYL

TRADE MARK

Powerful Hypnotic and Analgesic

An agent which has the double advantage of relieving pain and inducing sleep is invaluable in everyday practice.
"Soneryl" adequately meets this need and is widely employed for insomnia, whether arising from painful affections or febrile or nervous states.
"Soneryl" produces no after-effects nor does it lead to habit formation.

Supplied in tablets for oral use and ampoules for intravenous or subcutaneous injection

Prepared in the Laboratories of
MAY & BAKER LTD.
BATTERSEA LONDON, S.W.11

Write for descriptive literature and sample

Telephone: BATTERSEA 1813 (6 lines)
Telegrams: BISMUTH, LONDON

Dimol

"T" (TONIC) PULVERETTES

prepared to the following formula:—

Dimethylomethoxyphenol	gr. 1
Acid Arsen.	gr. $\frac{1}{180}$
Ext. Nuc. Vom.	gr. $\frac{1}{10}$

The value of a nerve and general tonic combined with a non-toxic intestinal bactericide of high potency is so apparent that we feel certain it will be of the greatest service in all cases of toxic degeneration with an intestinal focus, and associated with anaemia and diminished vitality of the neurones and endocrine glands.

Medical men are invited to try them personally if run down or over-worked.

"I think Dimol 'T' is the most useful and best preparation of its kind on the market." ....., M.D.

London, W.1.
14th Nov., 1930.

DIMOL LABORATORIES LTD., 40, LUDGATE HILL, E.C.4.
Distributing Agents:
SANGERS LTD., 258, Euston Road, LONDON, N.W.1

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark

The first line of Body Defense assured through

"CHEMICAL TISSUE FOODS"

combined with the dynamic action of strychnine and quinine

Samples on request

Fellows Medical Mfg. Co., Inc.
26 Christopher Street
New York City

DEMINERALIZATION
CONVALESCENCE
MUSCULAR ATONY
NEURASTHENIA
PREGNANCY
DEBILITY

The "FOOD" TONIC

POTASSIUM
MANGANESE
PHOSPHORUS
CALCIUM
SODIUM
IRON

HORLICK'S MALTED MILK

HORLICK'S MALTED MILK in the diet of the expectant mother is not only of general use, but has also proved of special value for the prevention and relief of morning sickness.

Morning sickness is not an inevitable accompaniment of pregnancy. Even in cases where there is some degree of acidosis due to the drain on the carbohydrate stores of the mother by the growing foetus, or to the patient refusing food because she feels sick, thereby making her condition worse, simple measures frequently suffice to bring relief; in a majority of cases a glass of HORLICK'S taken half an hour before rising—better still, at bedtime and before rising—will prevent any feeling of nausea and discomfort; its delicate aroma and palatability overcome a distaste for food, and its easily digested carbohydrate, by making good the depleted glycogen stores and establishing a reserve, prevents acidosis.

IN ALL DISORDERS ASSOCIATED WITH PYREXIA

BY APPOINTMENT

These essences supply stimulus without strain to the digestive system . . .

In illnesses when the patient is unable to assimilate solid food—and in convalescence when recovery is hampered by anorexia—Brand's Essences of Beef or Chicken provide stimulus while conserving the patient's energy.

For scientific tests have proved that these essences are assimilated by the digestive organs forty minutes quicker than the time taken for ordinary food—and without the formation of residue. Their action is suave and non-irritating.

For these reasons 99 out of every 100 doctors recently interviewed are recommending Brand's Essences of Beef or Chicken. They find them indispensable in the treatment of specific fevers, in cases of intestinal disturbances, before and after operations, and particularly now in the post-influenzal state when the system must be prepared to digest a solid diet.

Brand's Essences of Beef or Chicken are hygienically prepared under scientific control by an exclusive process. They consist of the pure essence of the finest freshly killed English meats without added colouring matter or preservatives.

Clear, appetizing jelly, they are easy to swallow and delicious to taste. Samples will be gladly sent on receipt of a professional card. Dept. F.29, Brand & Co., Ltd., Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S ESSENCES OF BEEF OR CHICKEN

Purity, Activity and Stability

INSULIN "A.B."

TRADE A B MARK

The world-wide supremacy of Insulin 'A.B.' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions.

Supplied in two strengths:

20 units per c.c. Packed in bottles containing:

5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing:

5 c.c. (200 units or 20 doses) 4/- each

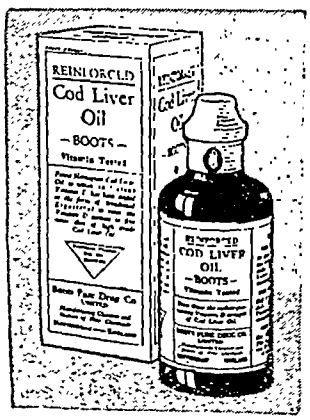
Full particulars and the latest literature will be sent free to members of the Medical Profession

Joint Licencees and Manufacturers:

The British Drug Houses Ltd.
Graham Street, London, N.1

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

...N, N.W.1



...HITES

REINFOS"
COD LIVE
—BOOTS—

THE therapeutic value of Cod Liver Oil is ... the medical profession. It is recognised for ... (due to its high content of Vitamins A an... Affections of the Chest, and diseases arising ou... Reinforced Cod Liver Oil—Boots is a biologically control... containing five times the normal amount of Vitamin D in addition to the normal amount of Vitamin A. The advantage of a concentrated oil needing only a fifth of the usual dose will be appreciated. Four fluid ounces of Reinforced Cod Liver Oil—Boots, contain the same amount of Vitamin D as one pint of the finest Norwegian oil.

In 4-oz. bottles, 2/6

The Boots Chemists

OBTAINABLE FROM OVER 900 BRANCHES IN GREAT BRITAIN

WHOLESALE AND EXPORT DEPARTMENT

BOOTS PURE DRUG Co. Ltd.,
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

Full size trial sample free to any medical practitioner, in British Isles, on application by postcard to Boots the Chemists, Station Street, Nottingham.

Successful Treatment of Hyperchlorhydria and Associated Conditions

"Alocol" (Colloidal Hydroxide of Aluminium) has proved remarkably successful in the treatment of hyperchlorhydria, gastric ulcer, fermentative dyspepsias with gastro-intestinal flatulence, acid eructation and other symptoms common to gastric disease.

The advantages of "Alocol" are that it actually removes from the system the causative acid radicle (Cl) instead of merely neutralising it, and so permitting reabsorption, accumulation and consequent recurrence of the symptoms of the disease.

Furthermore, "Alocol" neither hinders proteolysis nor causes destruction of any food element or factor. "Alocol" has a distinct healing and sedative effect; it promptly allays irritation by absorbing acid and other irritants.

Complete chemical history of "Alocol" with convincing clinical reports and supply for trial, sent free to physicians on request.

A. WANDER, Ltd., Manufacturing Chemists, 184, Queen's Gate, London, S.W.7.

Works: KING'S LANGLEY, HERTFORDSHIRE. M231

ALOCOL

...ial Hydroxide of Aluminium

IN ALL DISORDERS ASSOCIATED WITH PYREXIA

The ...dvance Over Preparations of Acetyl-Salicylic Acid

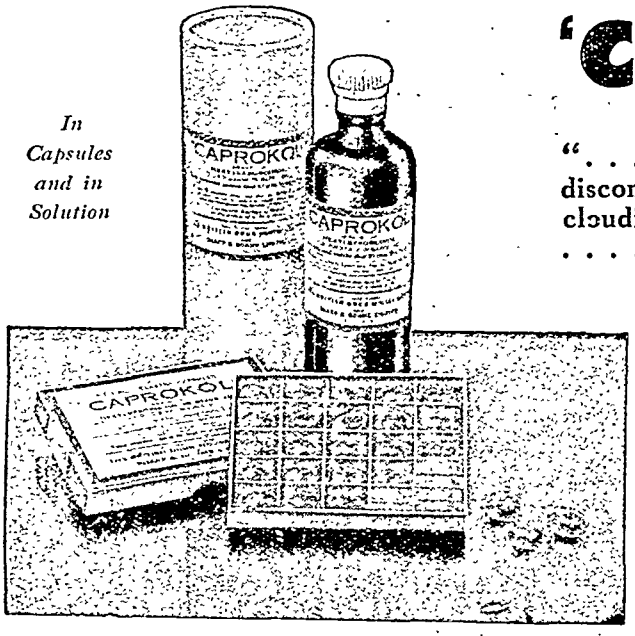
...ylic acid possesses a notable disadvantage. Physicians ...ed that it cannot be tolerated by patients suffering with a ... stomach. Consequently, the value of this medicament in the ...eld in which it is indicated is very seriously reduced.

...completely overcomes this objec... by combining calcium acetyl-salicylate ...Alocol," unfavourable secondary action ...n the stomach is prevented. This bene... influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative, "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil



In Capsules and in Solution

'CAPROKOL'

Brand of Hexyl-Resorcinol

". . . . : the improvement in the urinary discomfort and the clearing up of the cloudiness must be attributed to 'Caprokol' . . . . an excellent recovery."

——, M.B., Ch.B.

From the *patient's* point of view the immediate comfort resulting from the analgesic action of 'Caprokol' is a factor of paramount importance.

The high bactericidal action of 'Caprokol' results eventually in complete sterilisation of the urinary tract and thus justifies the *physician* in his choice of this unique urinary antiseptic.

Literature on request

Sole Selling Agents:

THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Cap136

Cod-Liver Oil Cream

This ethical preparation is particularly acceptable to children. It may be prescribed with confidence that good results will be obtained.

Children take it readily, even where the usual difficulty has been experienced in inducing them to take other forms of Cod-Liver Oil. They rapidly respond to its nutritive and strengthening influence.

The Cream contains 50% of recently refined Cod-Liver Oil of high vitamin content. The fresh eggs used in the making enhance the value of the preparation as a nutrient. The Emulsion is perfect (vide *The Lancet*, Jan. 4th, 1930), rendering the assimilation easy, even in cases where digestion is weak.

The fact that it is freshly prepared every week ensures freedom from loss of vitamin efficiency of the oil, due to storage or exposure to sunlight.

The preparation is endorsed by many members of the Medical Profession.

4/-, 7/-, and 10/-, post free.

Supplied by return of post to ensure freshness.

Prepared by:
R. THOMSON, Chemist, 21, Abbey Street, ELGIN.

London Agents:
Messrs. SQUIRE & SONS, Ltd., Chemists to H.M. the King, 413, OXFORD STREET.

Post-Influenzal Depression

is partly a direct effect of influenzal toxins, but is largely due to toxaemia arising from the debilitated digestive tract.

Kaylene-ol

prevents intestinal toxaemia and thus shortens convalescence and enables the patient to resist secondary infection.

Literature and supply for clinical trial obtainable from the Manufacturers:

KAYLENE LIMITED,

Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone—	*Telegrams—*	*Cables—*	*Code—*
GLADSTONE 1071 (2 lines).	KAYLOIDOL, CRICKLE, LONDON.	KAYLOIDOL, LONDON.	BENTLEY'S.

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is contra-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A nnacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Klinick (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

BAYER PRODUCTS LTD LONDON

THE Original PRODUCT

Indications

EPILEPSY
CHOREA
MIGRAINE
ECLAMPSIA
PERTUSSIS
HYPEREMESIS
Gravidarum
GASTRIC AND
CARDIAC
NEUROSIS

BAYER PRODUCTS LTD

19 ST. DUNSTAN'S HILL, LONDON, E.C. 3

SOUTH AFRICA: TAEUBER & CORSSEN (PTY) LTD., P.O. BOX 2953, CAPE TOWN.
AUSTRALASIA: FASSETT & JOHNSON LTD., 36-40 CHALMERS STREET, SYDNEY, N.S.W.
AND P.O. BOX 33, WELLINGTON, N.Z.

Contains all the valuable constituents

OF FRESH GRAPES

in a specially rich form.

JUVIGOR

Henri de Bahèzre
Négociant

Maison fondée
en 1808

Made in Nuits-Saint-Georges, in the heart of Burgundy, famous for its wonderful grapes.

Simple but convincing reasons why Juvigor can be recommended to patients.

A glass of Juvigor contains the vital elements of a large bunch of grapes.

Juvigor is absolutely free from preservative, colouring matter, flavouring, or chemicals of any kind.

In making Juvigor only fresh ripe Burgundy grapes are used. These are lightly crushed in order that only the free juice immediately under the skins is extracted. Only this free juice is used because it contains a very much higher percentage of the most valuable constituents of grape juice; it requires between 11 and 12 pounds of grapes to make one large bottle of Juvigor.

The grape juice is pasteurised without destruction of the vitamins and retains in full all its tonic and nourishing elements.

Juvigor is recommended when the vitality is low, in chronic and debilitating diseases such as tuberculosis, after acute diseases like pneumonia and influenza, especially where there is loss of appetite or the stomach is sensitive. In fact, wherever an increase of vitality is desired.

Note:—Generally speaking it is advisable for patients at first to take Juvigor with an equal quantity of water, or soda water, gradually decreasing the amount of water added.

Sold at 3/- and 1/9 per bottle.

Sole Agents: KIA-ORA LTD., BLACKFRIARS, LONDON, S.E.1

(Aesculapius)

COLLOZIN

for the treatment of

ACNE, ECZEMA, URTICARIA, PRURITUS

and similar skin diseases.

Zinc lotions of the ordinary type have several important defects. They leave a granular deposit on the skin after use and soil the clothing. As the therapeutic action is a surface one only, the full value of the remedy is not obtained.

Collozin is a Colloidal Zinc Hydroxide, and is free from these manifest disadvantages. It is a smooth, non-toxic, protective lotion, having mild astringent and antiseptic properties which assist tissue granulation. By reason of its colloidal nature, its action is gentle, consistent, and prolonged; it gives an intimate and invisible distribution of the zinc hydroxide over the skin.

Collozin is also recommended as a protective application to the face against exposure to wind and sun, also after shaving.

Issued in bottles—4-oz., 8-oz., and 16-oz.

Prepared at
EVANS' BIOLOGICAL INSTITUTE, Higher Runcorn, Cheshire.

EVANS SONS LESCHER & WEBB, LTD

Manufacturers of Fine Chemicals, Pharmaceutical & Biological Products.

LIVERPOOL *56, Hanover Street.* DUBLIN LONDON *50, Bartholomew Close, E.C.1*

A Liver Preparation your Patients will enjoy

'Byno' Hepol

Registered.

Trade Mark

For Pernicious Anæmia and Sprue

'Byno' Hepol is a solution of Liver Extract 'A. & H.' in 'Bynin' Liquid Malt.

Supplied in 4 oz. and 10 oz. bottles

The presence of the malt extract assists the digestion and assimilation of the liver which renders its continued use less prone to produce nausea.

Three tablespoonfuls of 'Byno' Hepol are equivalent to eight ounces of fresh mammalian liver, the amount usually ordered to be taken daily in the treatment of pernicious anæmia.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

The "Allenburys"

ORANGE JUICE

DOUBLE STRENGTH. SWEETENED.

Supplies a potent source of the anti-scorbutic Vitamin C in a form convenient for infant feeding and other purposes.

It is equivalent to *double strength* fresh orange juice and retains its full activity for a long period.

Employed with advantage in all cases in which fresh orange juice is used.

May be taken by children and adults in the form of a delightful drink by diluting with about ten times its volume of plain or aerated water or milk. Contains no alcohol or chemical preservative.

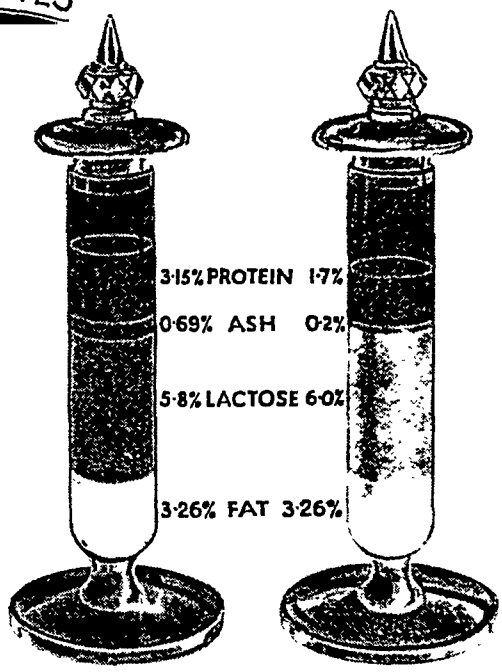
Further particulars and clinical sample will be sent post free on application.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: Bishopsgate 3201 (10 lines) Telegrams: "Greenburys Edo London."

BETTER MILK FOR BABIES

FACTS ABOUT
LACTOGEN



LACTOGEN—diluted by weight with 6½ parts of water.

LACTOGEN MATERNAL MILK

BREAST MILK—Average composition taken from "Principles of Human Physiology"—Starling.

Correct Balance

Lactogen is not merely a dried milk powder, but milk, scientifically modified to provide the physiological balance required by the human infant. The addition of carbohydrate to the cream-enriched fresh milk corrects the natural deficiency and reduces the excess of protein.

The normal constituents of maternal milk are thus furnished in correct proportion. Lactogen is prepared to this unvarying composition:—

Fat	24.5 per cent.
Protein	23.7 „ „
Carbohydrate	43.6 „ „
Mineral Salts	5.2 „ „
Moisture	3.0 „ „
Caloric Value	143 calories per oz.

A Medicinal tablespoonful of Lactogen weighs 0.2 ozs. and furnishes 28.6 calories. To ensure correct and uniform feeds, a hygienic aluminium measure of this equivalent is provided with each tin of the food.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

LACTOGEN

REGD. TRADE MARK

BETTER MILK FOR BABIES

FREE SAMPLES with detailed descriptive literature will be sent to any Member of the Medical Profession upon request.

Lactogen Bureau (Dept. Z2)
Nestlé and Anglo-Swiss Condensed Milk Co.,
6 & 8, Eastcheap, E.C.3.

PIONEERS AND EMPIRE BUILDERS: No. 590
NINTH PERIOD—circa A.D. 300 to c. 1300

For Vitamin deficiency in patients of all ages

TRADE 'KEPLER' MARK

COD LIVER OIL WITH MALT EXTRACT

A delicious combination of cod liver oil of exceptional quality and malt extract prepared from the finest malted English barley.

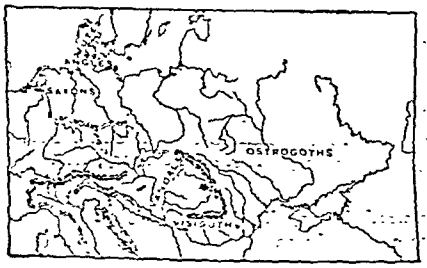
Provides Vitamins A, B and D in their natural form and association

Prices in London to the Medical Profession—
2/6 and 4/7 per bottle

Reduced facsimile

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1
Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

MAP SHOWING THE DISTRIBUTION OF THE TEUTONIC PEOPLES AT THE CLOSE OF THE FOURTH CENTURY.—The migrating Teutonic tribes came in contact with the Roman Empire which, despite its decaying condition, was still a civilised and highly organised state. This association developed the nationalising instinct in the Teutons. The map shows their distribution just before they began to enter the new territories. The East Goths, or Ostrogoths, stretching from the Dniester to the Don, were soon to found a Teutonic kingdom in Italy. The Visigoths under Alaric, strong in the Balkan Peninsula, presently set up a kingdom in Spain and S.W. Gaul. The Burgundians continued their S.W. course on their way to rule in the Rhone valley. The Vandals, already across the Oder, founded in N. Africa a kingdom reaching from the Atlantic to Tripoli. The Jutes, Angles and Saxons in the N.W. took to the sea, and, after a period of devastation and conquest, became the pioneers of a vigorous civilisation in Britain. In the dearth of exact documents it is possible to give only approximate dates for the founding of these kingdoms; they range generally over the fifth and sixth centuries.



DATE: A.D. c. 400 (For map)

COPYRIGHT

RHEUMATOID and OSTEO-ARTHRITIS

Amidst the recognised difficulties in treatment of advanced cases of Rheumatoid and Osteo-Arthritis it is not generally realized that many patients have been restored to active life after being bedridden, suffering great pain for years, by Hoefftcke's Ambulatory Extension Treatment.

Many cases have been described by eminent medical men, some results of which are shown below.

FIG. 1.—December, 1921.

Case of Mrs. H., aet. 35.

FIG. 1.—Shows the knee-joint fixed in a position of partial flexion; patella ankylosed.

FIG. 2. — Shows after an interval of 9 years the improvement which resulted from 3 years' extension treatment—the complete restoration of the tibio-femoral joint which permits of free and painless flexion and extension.

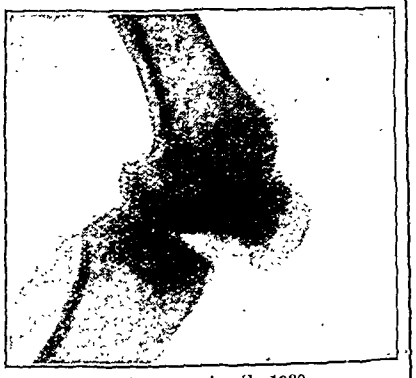


FIG. 2.—April, 1930.

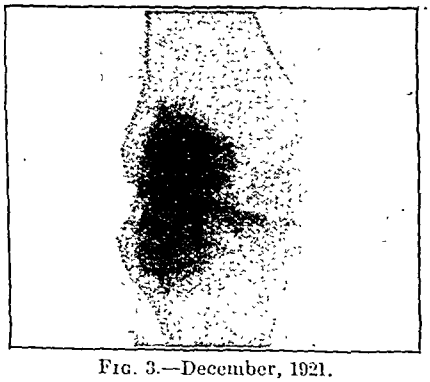


FIG. 3.—December, 1921.

FIG. 3.—Shows the irregularity of the outline of the articular surfaces as seen from before backwards. The interval between the bones is practically obliterated.

FIG. 4.—Shows the joint in an antero-posterior plane. Note the restoration of the outlines of the articular surfaces and the formation of a practically normal interval between the bones.

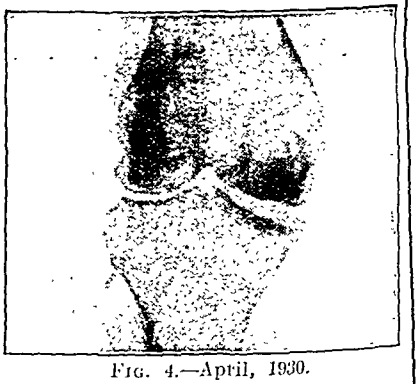


FIG. 4.—April, 1930.

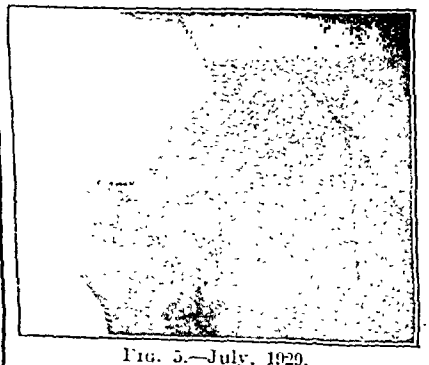


FIG. 5.—July, 1929.

Case of Mr. S., aet. 68.

FIG. 5.—Shows the hip-joint practically ankylosed in the adducted position. Patient hardly able to walk with great pain.

FIG. 6. — Shows spike absorbed; cavity filled in; head of femur covered with new cartilage, resulting in free abduction with full painless movement in the joint.

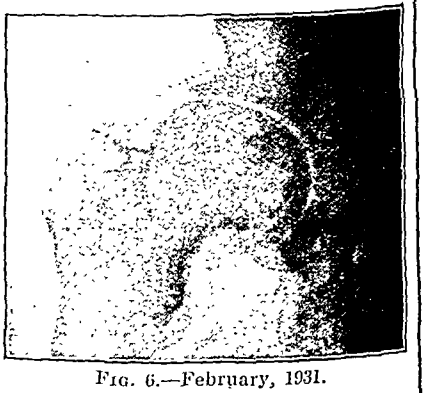


FIG. 6.—February, 1931.

Particulars and illustrations of this treatment will be forwarded on application, and original radiograms of these and other cases can be shown

by

CAREL A. HOEFFTCKE, 7, Harley Street, London, W.1.

Observations on DIVERTICULA OF THE COLON AND THEIR SEQUELAE

BY

J. P. LOCKHART-MUMMERY, F.R.C.S.
SENIOR SURGEON, ST. MARK'S HOSPITAL

AND

H. GRAHAM HODGSON, C.V.O., M.B., D.M.R.E.
RADIOLOGIST, KING'S COLLEGE HOSPITAL, LONDON

(With Special Plate)

The formation of diverticula in the wall of the colon and the consequences which may result therefrom have within recent years become of increasing importance in the surgery of that organ. Diverticula are the commonest pathological lesions seen in the large bowel, and they are responsible for the majority of cases of disease of the colon brought to the surgeon and to the radiologist. There is probably no abnormality or disease of the alimentary tract in which radiology has been of more service, both in arriving at a correct diagnosis and in watching the progress of the disease. Uncomplicated cases of diverticula of the colon show no external signs, and the condition cannot be recognized without the aid of *x* rays. Our clinical and radiological experiences will, we hope, prove of value in estimating the probable or possible results in cases of this description.

ETIOLOGY

Normally the mucous membrane of the colon is supported by the circular and longitudinal muscle coats which exist in a continuous sheath between it and the peritoneal covering, and which afford a sufficiently firm support, preventing any tendency to herniation of the mucosa. After about the age of 45 there appears to be a tendency in certain individuals for this muscle sheath to lose its tone; as a result of this, bulging of the mucous membrane tends to occur at the weakest points, these being between the circular muscle fibres, and especially where blood vessels pass through from the outside. The tendency appears to be definitely associated with a propensity to the deposit of excessive fat in the abdomen and elsewhere. Beyond the fact that advancing age has something to do with it, we do not know the cause of this syndrome. We believe that not uncommonly the condition occurs in people who in earlier life had good muscular development and led active, and often athletic, lives.

X-RAY TECHNIQUE

When the diverticulum has protruded beyond, and has therefore lost the support of the muscular coat, it becomes dilated into a circular pouch, varying in size from that of a small shot to a large hazel nut, connected to the lumen of the colon by a narrow neck. The dilated part of the diverticulum is therefore extraluminal, and when filled with barium gives the typical flask-shaped appearance of an opaque rounded shadow projecting beyond the margin of the bowel wall. It is this phenomenon, combined with the fact that these pockets retain the barium long after the lumen of the colon is empty, which distinguishes the radiographic appearances of the condition from any other, and makes it possible to estimate the extent of the disease by *x*-ray examination, of which there are two methods—namely, that of the barium meal and that of the barium enema. The latter is the most efficient procedure. Diverticula can often be recognized by the barium meal method, but it is a very inexact one, and in this paper the radiographic appearances after the injection with a barium enema will be considered alone.

Although much can be written on the technique of a barium enema examination, it is unnecessary to discuss it here; there are two points, however, which are essential to a satisfactory examination, and which receive not infrequently less attention than they deserve. In the first place, immediately prior to the examination, the colon must be thoroughly emptied by means of a high colonic douche. Unless this is done, retained faeces may cause pseudo-filling defects; apart from this, previous emptying of the bowel enables an important prognostic point to be made, for if the diverticula fill with barium (as shown in Figure 1) they are capable of being emptied by the douche. On the other hand, central translucent areas surrounded by thin opaque lines of barium in the diverticula (Fig. 2) indicate that the latter contain inspissated faecal matter or concretions which have not been moved by the douche. This is an extremely important point, both in prognosis and in treatment, since it is the retained faecal matter within the pouches which sets up inflammation in the diverticulum and in the surrounding bowel wall.

Another point which is not often recognized is that *x* ray photographs of the colon are photographs of shadows, and since we are looking for irregularities of the colon outline, a postero-anterior view alone will give a very inadequate picture. In order, therefore, to estimate the extent of the damage accurately, and to see all the diverticula, it is necessary to take photographs in several planes. A photograph in one plane only will miss much that might otherwise be seen. The recto-sigmoidal junction almost invariably, and several inches of the sigmoid colon frequently, are concealed by the upper end of the rectum in a postero-anterior view. The lumina of the hepatic and splenic angles usually overlap one another in this position, and lesions in this region may easily be missed if the radiography and screening are confined to one position. A view in any one plane shows only two borders and one surface; thus the gut must be observed in several planes.

Figures 3, 4, and 5 show consecutive radiograms of the same case made in three different positions. Figure 3, taken in the postero-anterior position, shows an apparently normal colon with, presumably, a sharp "kink" at the junction of the descending and iliac colons. The right oblique position (Fig. 4), however, reveals a well-marked redundant loop of the ascending colon, and shows how easily a lesion in this neighbourhood can be missed if the oblique view is not taken. The left oblique view (Fig. 5), on the other hand, shows that the sharp "kink" in Figure 3 is a gradual curve in the gut with two small diverticula projecting from it on the upper and lower extremities. This was not obvious in either of the other photographs. Finally, both the oblique views make it clear how the recto-sigmoidal junction and much of the sigmoid colon were concealed in the antero-posterior view.

Figures 6 and 7 are radiograms of another case taken in the postero-anterior and left oblique positions respectively. In the postero-anterior view we get no idea of the very marked condition of diverticulosis which is so clearly seen in the left oblique view. These two cases are illustrative of many, and show how dangerous it is to rely on screening and radiographing in one position only.

OBSERVATIONS OF BARIUM ENEMA

In our practice the patient is carefully screened during the injection of the barium enema. By turning the patient to the left the whole length of the sigmoid flexure can be brought into view, and by moving him about, the superimposed shadows of the hepatic and splenic flexures can be separated. The right oblique position enables us to see the posterior wall of the caecum. The rate of

flow of the barium is noted in order to ascertain if there is any delay, as might occur at an obstructed point or narrowing of the lumen. Extramural shadows are also carefully watched for, and if any abnormalities are observed, palpation will indicate whether they correspond to a tumour we can feel or whether the colon at this point is movable or tender. Occasionally the progress of the enema will be brought to a complete standstill for a variable period. Obviously this condition cannot be a complete obstruction, otherwise the patient would not be undergoing an *x*-ray examination. Such a delay in the passage may be due to:

1. Spasm—(*a*) brought about by some intrinsic lesion, or (*b*) due to reflex irritation from some extrinsic lesion, such as gall-stones.

2. Invagination of the mucosa into a constricted portion of the lumen with consequent ball-valve effect.

It is obvious that the presence of a constriction causing delay in the flow of the enema emphasizes the necessity of filling the colon completely and of determining the exact cause of the stoppage. A report that "there is a complete obstruction to the flow of the enema" is of little help. In the majority of such cases obstruction to the flow of the enema may be overcome by lowered pressure and massage. This may have to be continued for some time, but it will be found that eventually the barium passes on and shows the condition of the bowel beyond. Increasing the pressure of the enema in such circumstances is useless, as it tends to increase the spasm. In the rare cases in which massage combined with low pressure does not have the desired effect, the only alternative is to give the patient a barium meal, and when the head of that meal has reached the area in question, to introduce a barium enema to meet it.

The "dual exposure" method has been used by one of us for some years to distinguish between spasmodic and organic narrowing of the colon. Under normal conditions, peristaltic action in the colon is infrequent, but when it is distended with warm fluid, as is the case when a barium enema is being given, peristalsis is much increased. Two radiographic exposures are made on one film at an interval of ten seconds, the patient keeping still and holding his breath during this period. A peristaltic wave passing in this interval will cause the colon to have a double symmetrical outline. When there is any fixation or thickening of the bowel wall a localized single outline will be seen in the affected portion of the colon. Figure 8 shows a dual exposure radiogram of the colon. It will be noted that there is a double outline, except in the area affected by diverticulitis.

DEVELOPMENT OF DIVERTICULA

The earliest stage in the development of diverticula is shown on a radiogram as a serrated margin on the outline of the colon. Dr. Spriggs and Mr. Marxer have described this as a prediverticular stage, and consider that it is inflammatory in origin. Dr. Dukes and ourselves have, however, been able to show that this appearance is not due to inflammation, but is caused by very small and numerous diverticular "buds" in the colonic wall. Figure A below, and Figure 9 in the special plate, if compared, make this very clear; the former is a microscopical section of the colon wall at an early stage in the development of diverticula, and the latter is an *x*-ray photograph of the bowel in a similar condition. Figure 10 shows the next stage, in which the diverticula have broadened out owing to their having passed through the muscular coat. A still later stage showing large diverticula illustrates further development (Fig. 11). Here the diverticula have completely protruded beyond the muscular coat, and, in the absence of supporting structures round them, have become distended to form a typical globular outline. The necks connecting them to the lumen of the bowel are still narrow at the points at which they pass through the muscular coat.

Owing to the arrangement of the muscular fibres diverticula do not occur in the rectum. The commonest situation is the pelvic colon. Diverticulosis may be found throughout the large bowel, and it has occurred in the appendix. All cases start as a simple pouching of the mucosa through the muscular coat without any complicating, or preceding, inflammation. It is the occurrence of inflammation within the walls which is the dangerous element; the presence of diverticula without accompanying inflammation is usually harmless, but we have reason to believe that diverticula unaccompanied by inflammation may occasionally be the cause of very serious mischief. We have seen a case in which an apparently uninflamed

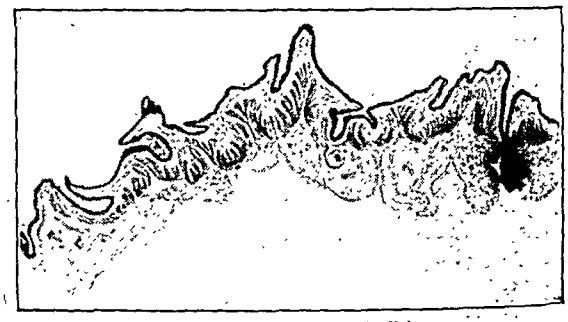


FIG. A.—Early diverticulitis.

diverticulum has suddenly given way by perforation into the peritoneal cavity. In one case of this type the patient had been under observation by both of us for some time. He had extensive diverticulosis of the entire colon, including the appendix (Fig. 12), but had never shown symptoms of it; indeed, the condition was originally discovered by accident. A sudden perforation in one of the diverticula occurred, with disastrous consequences, while he was travelling abroad.

When inflammatory changes have occurred in the walls of the diverticula, as proved by symptoms of pain and tenderness, and by *x*-ray evidence of adhesions and fixation of the bowel wall, the danger is very much greater, and further trouble is inevitable, although with proper care and suitable treatment such trouble may be modified or postponed for long periods. The following is a good example of this:

The patient was a lady, aged 65, who was originally examined because she was thought to be suffering from a neoplasm of the colon. She was very stout, there being a considerable layer of abdominal fat. There was tenderness, inflammation, and an easily felt tumour; the diagnosis was diverticulitis of the pelvic colon. She was carefully treated and kept under observation for two years. She improved very much and remained well, except for occasional slight attacks of pain, but in spite of the treatment she eventually developed obstruction, and a colostomy had to be performed above the damaged area. Since then she has remained in good health.

It has been our custom to interview and *x*-ray our patients every six months. We believe that this practice has proved of value, as it allows us to check treatment and, if possible, to evade perforation or other disasters.

PROGRESS OF THE DISEASE

The mode of progression of the disease varies very much. When inflammation of the colon wall occurs at an early stage in the development of diverticula there is a tendency for the deposition in the bowel wall of fibrous tissue, which in course of time forms a dense stricture.

Under x rays such a condition will show a filling defect, and fixation of the colon. Recently at operation on two cases of this type there was found in both a section of the colon wall, several inches in length, acutely inflamed and densely thickened, with the minute diverticula bulging through the peritoneum. The condition resembled a sort of cellulitis of the bowel wall.

When there is a simple diverticulosis we have noticed that if photographs taken at different periods are compared fresh diverticula can usually be seen, and that some of the previously existing ones are larger. From a study of a number of such cases it seems that, while inflammatory complications may be held in check and often made to retrogress by appropriate treatment, it is not possible to prevent the diverticula from becoming larger or to make them decrease in number unless the faecal contents are deflected from the affected area by a colostomy or short circuit. From the patient's point of view the diverticula do not cause any symptoms as long as inflammatory complications can be avoided. Unfortunately, patients tend to get careless when they have no symptoms, and they think they are quite well and need not continue the treatment. This too often results in acute complications, which may be disastrous. One patient, after being quite well for several years, perforated suddenly while travelling from Paris to London, and died from acute peritonitis. Another patient suddenly developed a perforation into the bladder.

CANCER AND DIVERTICULITIS

Occasionally cancer undoubtedly occurs as a direct result of previously existing diverticulitis. It is, however, a rare complication, and in the only cases met with in which diverticulitis was a direct causal factor there had been extensive inflammatory complications lasting over very many years. One patient had septic sinuses communicating with the colon on the abdominal wall and in the perineum; cancerous changes had occurred in two of the sinuses and had spread to the skin. In another case, an adenocarcinoma had developed and spread on to the abdominal wall along the track of a septic faecal sinus. In a number of patients carcinomatous growth has been found associated with diverticula in the colon. There has been nothing to prove, however, that one condition was a causative factor of the other, and it is more probable that the association was accidental. We have to remember that both diverticula and carcinoma tend to occur at about the same period of human life, and it is therefore not improbable that they may occasionally be found associated in the same individual. The only fact of importance that seems to be established in this connexion is that cancer may sometimes supervene upon a neglected and chronically septic diverticulitis.

TREATMENT

We do not propose in this paper to discuss at length the treatment of diverticula of the colon. We have still very much to learn, and there is ample room for improvement of our methods to-day. At present we can do little, if anything, to prevent the development of diverticula, or to stop their increase either in size or in number. Nevertheless, careful treatment will do much to prevent complications, or, if complications have occurred or are obviously threatening, to obviate such fatal or serious results as perforation into the bladder or peritoneal cavity. Operations for diverticulitis, the inflammation from which has spread to other organs, or has resulted in obstruction, are among the most difficult of surgical procedures. Results are often excellent, however, and patients who have become hopeless invalids can be restored to good health and usefulness. A chronic septic condition, as exists in diverticulitis, is apt in time to be a source of similar trouble in other parts of the body not within the immediate neighbourhood of the lesion. Cases of chronic septic arthritis, phlebitis, thrombosis, empyema, and meningitis, have all come within our experience, while chronic sepsis of the urinary tract is quite commonly associated with the condition.

The best results have been obtained in cases in which the affected portion of the colon could be completely resected and the bowel joined up again; this is the one condition which can be completely cured. We have had several such cases, but unfortunately it is rare to find the lesion sufficiently localized at one portion of the colon to render resection possible.

CONCLUSIONS

1. Diverticula of the colon are not the result of inflammation, and inflammatory conditions of the colon wall which often follow diverticula are always secondary.

2. In spite of treatment, diverticula of the colon, once formed, tend to increase both in size and in number.

3. This increase is often very slow, and may be unaccompanied by symptoms.

4. In the absence of secondary inflammation, diverticula do not, as a rule, cause trouble, but we have reason to believe that exceptionally sudden perforation from the giving way of a diverticulum may occur, apart from any complicating inflammation.

5. A definite diverticulitis is always a very serious lesion, with grave possibilities.

6. A sudden disaster from perforation is not so uncommon as is often supposed.

7 Suppurative diverticulitis is occasionally followed by carcinoma, but it is not a common causal factor of cancer.

8. Operative treatment should not be left until after some grave complication has occurred, but should be timed so as to anticipate and to prevent such disaster.

BIBLIOGRAPHY

Spriggs, E. I., and Marxer, O. A.: Intestinal Diverticula, *Quart. Journ. of Med.*, 1925, xix, 73.
Spriggs, E. I.: Diverticulitis, *British Medical Journal*, 1929, ii, 569.
Lockhart-Mummery, J. P.: The Aetiology of Diverticulitis, *Lancet*, 1930, i, 231.

THE KELOID OVARY*

BY

T. C. CLARE, M.D., F.R.C.S.

SURGEON, LEICESTER ROYAL INFIRMARY; CONSULTING SURGEON, LEICESTER AND LEICESTERSHIRE MATERNITY HOSPITAL

The uterus is the passive partner in the group of sexual organs. Its function is not to originate impulses nor to elaborate hormones, but simply *to be sensitive to* impulses or hormones originated by the more active partners, of which the most prominent, if not actually the most active, are the ovaries. It is important, I think, when considering diseases of the uterus, to bear in mind its state of physiological dependence. It is important because it may possibly lead to the view that symptoms of disease of the uterus—for example, uterine haemorrhage and dysmenorrhoea, associated, perhaps, with definite pathological changes in the endometrium—may be due to a disease or disorder of function originating in the ovary. For instance, the ovary may fail to send any message at all to the uterus, or, on the other hand, it may send so disordered a signal that the endometrium is left, as it were, in a state of uncertainty how to react to it.

* A paper read before the Midland Gynaecological and Obstetrical Society.

In this paper I shall attempt to discuss the part played by ovarian defect in the etiology of excessive menstrual loss associated with little or no gross change in the uterus that can be made out by bimanual examination. This is the condition that used to be called chronic endometritis, or, when there was excessive hyperplasia of the endometrium, endometritis tuberosa vel fungosa ; curettings from these cases, if they show anything more than normal premenstrual endometrium, show more or less hyperplasia without the characteristic appearances of chronic inflammation.

Wilfred Shaw, in his important contribution to the literature of uterine haemorrhage, discusses this type of case, and mentions that it is frequently associated with atrophic changes in the ovaries. He considers that this change in the ovaries is due to an influence exerted on them by the diseased endometrium. I have noticed changes in the ovary in this type of case, and I want to suggest a different and, as it seems to me, more likely explanation.

The ovary is unique among the organs of the body in two respects—one physiological, the other pathological. The physiological peculiarity is that it is the only organ which is normally subject to trauma and consequent reparatory changes. The trauma consists of the lesion of the surface that occurs at the time of the rupture of the follicle and the formation of the corpus luteum. The reparatory process is the little scar, consisting of fibrous tissue, by which the surface lesion is repaired. Nowhere else in the body, except in the umbilicus, is there such a thing as normal scar tissue. The process of healing of this little normal lesion is the same as that in any other wound.

KRUKENBERG TUMOURS OF THE OVARY

The pathological peculiarity of the ovary is the occurrence in it of the remarkable bilateral carcinomatous growths known as Krukenberg tumours, found nearly always, if not invariably, in association with carcinoma of the stomach or large bowel. Consideration of these tumours will lead me into a digression from the main argument, but I would like to make a suggestion as to the origin of these tumours.

We may, I think, regard it as extremely probable, though not inevitable, that, if in any organ, or indeed in any object at all, we find two unique features, these peculiarities will be found to be connected in some way. One will depend on the other and could not exist without the other. If this argument is accepted as logical, we may seek to find some association between the two features of the ovary which make it unique—its normal liability to trauma and the occurrence of these remarkable tumours.

There are two current explanations of the Krukenberg tumours. One is that cancer cells become detached from the primary growth and are grafted on the ovary after falling through the peritoneal cavity. This does not explain why the ovaries should be the only organs in the abdomen to be affected, or why cancer cells are found in the deeper parts of the ovary and not on the surface. The other view is that the ovary is invaded by lymphatic spread via the lumbar glands. This also is difficult to accept because it does not account for the absence of infiltration of other lymphatics (for even glands in close relation to the primary growth are often not involved in these cases), or for the fact that the tumours are bilateral.

The first hypothesis, however, becomes more easy of acceptance, and indeed, I suggest, affords an entirely satisfaction explanation, if we employ the logical argument that this unique pathological phenomenon is likely to be connected with the unique physiological one—namely, the periodical occurrence of an open wound on the surface of the ovary. Cancer cells are delicate weakly cells, more vulnerable than other cells (for example, to x rays and radium), and they will perish if they fail to find a suitable nidus. The surface of the peritoneum does not afford a suitable resting-place, nor would the ovary, if its surface were unbroken. But if it should happen that cancer cells become detached (and it must be a rare occurrence, corresponding to the rarity of these tumours) and fall into the cavity formed by a recently ruptured follicle, they will find a place where conditions are favourable for survival. The wound is quickly healed over by scar tissue, which forms, as fibrous tissue always does, an insuperable barrier to the spread of cancerous growth. The path of least resistance (always taken by cancer cells) is downwards into the substance of the ovary, along the track taken by the ripening follicle in its ascent to the surface. Hence the growth takes place in the substance of the ovary, not on the surface.

The hypothesis that Krukenberg tumours originate from the implantation of cancer cells in a ruptured follicle was suggested by Schauta. If it is valid it will affect our view of the prognosis of these cases. We shall not regard them as having the same significance as secondary growths spreading by lymphatic permeation. If they are removed before the growth has spread beyond the ovaries, and if the primary growth can be removed entirely, the prognosis should be good compared with that, for instance, after removal of a growth of the breast and affected axillary glands.

I will conclude this digression by recalling that there is a third peculiarity of the ovary: it is the only organ in the abdomen that is uncovered by peritoneum. The connexion of this peculiarity with the function of ovulation and also, if this hypothesis is correct, with the occurrence of the Krukenberg tumour, is obvious.

To return now to the normal ovary and in particular to the process of repair of the lesion made by the rupture of the follicle. This little wound, like other wounds, is repaired by the growth of connective tissue cells in the form of scar tissue. In course of time the smooth surface found at the time of puberty is gradually changed to a more or less corrugated surface, patchy at first, but later becoming uniform. Normally there is no marked change in the consistence of the ovary ; the fibrous scar tissue is thin and does not convey the impression of hardness. Quite often, however, one finds here and there, on the surface of the ovary, areas or patches of exceptional hardness, suggesting that in these areas fibrous tissue has been laid down in a greater degree than usual. Less often the hard fibrous patches are so numerous and continuous that the ovary has almost the hardness of wood, though there are generally softer parts where cystic dilatations of follicles project on the surface. Microscopical sections of these ovaries demonstrate the excess of fibrous tissue.

The process of repair in all tissues depends on the existence of a regenerative capacity. This function of regeneration varies in different tissues and in different individuals. Some tissues have a very perfect capacity of regeneration, for instance the skin and mucous membranes generally. Lesions of these tissues, when they heal, show little or no evidence of the former injury. On the other hand, lesions of highly organized tissues, such as muscle and the cells of the central nervous system, show little or no evidence of any regenerative capacity ; injuries to these tissues are repaired by connective tissue. But the regenerative capacity varies not only in different tissues but also in different individuals. A good example of this is seen in the repair of fracture of bones ; in some individuals repair is delayed far beyond the normal ; in a few there is practically no reparative process at all. Even in the simplest form of the regenerative process, scar formation from growth of connective

tissue, there are individual variations. Thus it is not uncommon to find, especially in slowly healing scars, a tendency to overgrowth of fibrous tissue. This condition we speak of as keloid.

The excessive formation of fibrous tissue found sometimes in the ovary may be looked upon, I suggest, as a form of keloid overgrowth of fibrous tissue. It is a keloid scar formed as a disordered or exaggerated regenerative process in the healing of the scar left by the ruptured follicle. It is not a disease in the sense that it is a reaction to a morbid extrinsic factor, such as bacterial infection. There is no evidence of inflammation, and it is incorrect to speak of the condition as chronic ovaritis. It is a disease, however, in the sense that it is the cause of symptoms of disease. I shall endeavour to show how such a condition is able to produce pathological manifestations.

Whatever theory we may hold as to the interaction of the various sexual hormones in the initiation and regulation of the menstrual cycle, it will, I think, be agreed that the liquor folliculi contains some substance that is essentially and perhaps solely concerned with the activation of the endometrium. It may or may not be necessary for an ovum to be discharged ; it may or may not be necessary for a corpus luteum to be formed ; but without the hormone elaborated in the liquor folliculi the endometrium remains inactive. Perhaps we may go so far as to say that the complete cycle of ovulation, including the formation and atrophy of the corpus luteum, is necessary for the normal cycle ending in complete shedding of the menstrual decidua. If the ripe follicle comes near the surface of the ovary, but, for some reason, does not rupture the surface, then no corpus luteum is formed, or rather an incomplete or abortive corpus luteum results, projecting, as we sometimes see it, on the surface of the ovary as a sort of polypoid excrescence ; no haemorrhage has taken place into it.

It is most unlikely that such an abortive corpus luteum will function entirely like a normal one ; it may fail to function at all ; but it is more likely that the granulosa cells, formed for the special purpose of secreting a hormone whose object is to maintain the endometrium in its thickened state, to prevent its disintegration, and so to " prepare a bed " for the ovum, should at any rate make some attempt to exercise their function. We are justified, I think, in making the assumption that the signal sent by the abortive or imperfect corpus luteum to the uterus will be an imperfect signal ; it will be transmitted to the endometrium, but, if I may put it so, it will not be so readily understood, with the result that the endometrium is left in a state of uncertainty as to whether it is expected to disintegrate or to persist. It may happen, therefore, that the discharge of the menstrual decidua is incomplete, and though haemorrhage ceases at the normal time, some cells that should have been discharged remain when the endometrium returns to its post-menstrual condition. The result will be that in course of time there is, by repetition of this process, a considerable hyperplasia of endometrium, which never returns to its normal state. The hyperplasia may proceed so far that the endometrium is brought to the condition we are familiar with as endometritis tuberosa vel fungosa. Long before the changes in the endometrium have advanced to this degree of hypertrophy there will be increased menstrual loss, becoming continuous in those cases where the hypertrophy is so marked that the polypoid or fungous overgrowth has practically the effect of a tumour of the endometrium.

It is in cases of this kind, where excessive menstrual loss, sometimes prolonged or continuous, is associated, not with gross enlargement of the uterus, but with hypertrophy of the endometrium, that I have found the marked degree of induration of the ovaries described above. Where the induration is extreme, it seems impossible that the wonderful mechanism whereby the ripening follicle is conveyed from the deeper parts of the ovary to the surface can be effective. The dense fibrous tissue offers an insuperable resistance. The liquor folliculi is there, and its hormone is presumably absorbed, for menstruation goes on, but ovulation does not take place and no corpus luteum is formed. In the less-marked cases the follicle may get near the surface but fail to penetrate the surface layer of keloid tissue, though there may be parts of the ovary where there is little or no thickening and ovulation can take place normally in these parts. So it would seem to depend on chance, in these cases of patchy induration, whether ovulation is normal or incomplete.

I suggest that it is wrong to regard the sclerosis of the ovary as secondary to changes in the endometrium, and that such a view of the pathology of the condition is at variance with the teachings of physiology that it is the ovary which influences the uterus, and not vice versa. The primary change, I suggest, is in the ovary, and it consists of a failure of the regenerative process, whereby an excess of fibrous tissue, in other words keloid tissue, takes the place of the small fibrous scar that normally closes the stigma.

TREATMENT

It is a sound general principle of treatment to seek for the cause of the disease and remove it. In the type of case we are considering, however, there are obvious disadvantages in adhering too closely to this principle ; for assuming for the moment that the condition I have described is the actual cause, we should, logically, be forced to advocate removal, or inactivation, of the ovaries —or, at least, of the most obviously affected ovary. There is the possibility, certainly, that in cases where the fibrosis is not too far advanced a course of treatment by thyroid extract might have the effect, as it undoubtedly has in some other situations—for example, in Dupuytren's contraction—of softening the excess of fibrous tissue and facilitating its absorption. Though I have no proof that thyroid extract can act in this way on the sclerosed ovary, I suggest that the beneficial results of thyroid therapy in some cases of uterine haemorrhage in young women may possibly be due to the fibrolytic action of thyroid extract. Most of the cases in which this type of haemorrhage is met with, however, are not those of young women. I have come across a few cases in young women where small patches of dense induration in an ovary are associated with dysmenorrhoea and considerable but not excessive loss, but much more often the patients are over the age of 36. At this age it is probably hopeless to attempt to deal with the cause of the disease, and removal of the ovaries is hardly to be considered. Nor am I in favour of inactivating the ovaries by *x*-ray treatment. It remains, therefore, to treat and, if this is unsuccessful, to sacrifice the innocent partner in the pathological complex—namely, the uterus—to treat the symptoms rather than remove the source of the disease, because almost any sort of ovary is better than none at all. I believe that on pathological grounds hysterectomy is the best treatment in all these cases, but there are other factors to be considered besides pathology.

The uterus deserves and receives more consideration than the appendix or gall-bladder. Therefore one's first thought, as regards treatment, is either curetting alone or curetting followed by radium. I think curetting is worth doing, not only for its diagnostic usefulness, but because the removal of hyperplastic endometrium is generally followed by temporary improvement, and occasionally the relief is permanent. The curette removes the

excess of endometrium which should have been removed by the disintegrating effect of menstruation. As the accumulation of menstrual decidua, due to ovarian disease, is generally a slow process, it may happen, in women approaching the menopause, that relief from symptoms after a single curetting lasts until the menstrual function comes to an end.

In many cases, however, and probably in most, the relief obtained by curetting is only temporary, not more than a few months. If serious haemorrhage recurs after a single curetting I believe hysterectomy should be performed. All due consideration has been given to the peculiar position of the uterus, and it should no longer be regarded as differing from a diseased appendix or gall-bladder. It should simply be regarded as a source of ill-health and perhaps danger, and should be removed. I would go further and say that, even apart from ill-health and danger, if her uterus has become a nuisance to a woman, on account of losses prolonged and severe enough to interfere with her enjoyment of life and with her career if she is in business, even though the general health may not be greatly affected, hysterectomy is justified if curetting has failed. I have no experience of radium in these patients, though I should be inclined to use it if hysterectomy is, for some reason, inadvisable. In parous women without gross enlargement of the uterus there is a good deal to be said for vaginal hysterectomy in this type of case. Though the operation is undoubtedly more difficult, I believe the shock is less, and the period of convalescence shorter.

In conclusion, I should like to refer again to Mr. Wilfred Shaw's valuable paper on uterine haemorrhage,[1] and especially to the section on metropathia haemorrhagica, and to criticize, not his findings, pathological or clinical, but certain of his deductions. He refers to the association of a polypoid condition of the endometrium with atrophic ovaries, one of which is generally cystic. He regards the hyperplasia of the endometrium as evidence of over-activity of the endometrium and the shrunken condition of the ovaries as evidence of diminished activity of the ovaries. He concludes that the polypoid endometrium reacts on the ovaries to produce an inhibition of follicle ripening, or of ovulation, or of full formation of the corpus luteum ; the ovaries, in turn, responding by producing continuously a toxin, identical in type with that causing the disintegration of the premenstrual endometrium in normal menstruation. And he regards as proof of the inhibitory action of the polypoid endometrium the fact that, in some cases, curetting is followed by a return to normal menstruation.

In criticism of these findings I would say: (1) We have strong evidence that the ovaries control the uterus, but none at all that the uterus can influence the ovaries, or that the uterus has any action except to react to hormonic signals from the ovaries. (2) Hyperplasia of the endometrium is not evidence of activity of the endometrium. It is much more reasonably to be regarded as evidence of a defect in its response to ovarian signals, or, equally logically but more probably, a deficiency in the hormone itself, either in quality or in quantity. The thickening of the endometrium is, I maintain, to be regarded rather as a failure of premenstrual endometrium to be completely shed than as a true hypertrophy of endometrial tissue. (3) Curetting acts by removing the excess of endometrium, and in that way imitates the action of the corpus luteum, or of whatever hormone is responsible for disintegration. As normal ovulation may be possible in unaffected parts of an otherwise diseased ovary, menstruation may go on normally once the endometrium has been made smooth by the curette. (4) The size of the ovary is no criterion of the activity of the function of ovulation. The presence of a ripening follicle will ensure the first part of the menstrual cycle—namely, the thickening of the endometrium. Incompleteness of ovulation—that is, failure or delay of the stage of corpus luteum formation—will be followed by incomplete disintegration, and consequent retention of degenerate endometrial cells. In some cases I believe this incompleteness of ovulation is due to the dense fibrous (keloid) covering of the ovary.

References to the connexion between pathological conditions of the ovary and menorrhagia are not infrequent in the literature ; the earliest of which I am aware occurs in a paper by C. J. Bond,[2] in which the connexion is very convincingly established.

REFERENCES

[1] *Journ. of Obstet. and Gynaecol. of Brit. Empire*, Spring, 1929, xxxvi, 1.

[2] *Lancet*, April 7th, 1894.

THE INTERPRETATION OF PAIN IN INFANCY*

BY

WILFRID SHELDON, M.D., M.R.C.P.

JUNIOR PHYSICIAN TO THE CHILDREN'S DEPARTMENT, KING'S COLLEGE HOSPITAL

Of all the symptoms from which man suffers none is so insistent of recognition as pain, nor is any of greater value to the doctor in helping him to make a diagnosis. The adult is in the fortunate position of being able to give an accurate description of his pains, and to indicate their locality with sufficient precision. The young child, once he has acquired the power of conversation, can also tell us when he feels pain, although a fuller analysis may be beyond him, as, for example, when he complains of headache but localizes it at the umbilicus! Often in the baby the presence of pain can only be suspected after careful observation, and if a parent is convinced that a child is suffering in this way it is generally foolhardy of the doctor to cast such testimony aside. By taking a careful history, followed by an attentive watch and thorough examination of the infant, the characters of its pains and the site of their occurrence can be determined.

CHIEF EVIDENCES OF PAIN

The commonest effect of pain on a baby is to make him cry, and much help is to be gained from a study of the characters of this expression. Pain is by no means the only cause of a baby's crying ; hunger, cold, a soiled napkin, or simply a state of boredom, are also contributory factors. It is not until the child exercises his will that crying due to temper makes its appearance ; this is a cause which is exceptional in those under 6 months of age.

The features which should always be noted are whether the cry is intermittent or continuous, whether it is a piteous wailing or a short, sharp scream, and whether it occurs at any particular time of the day or night. Does it bear any relation to the times of feeding, being relieved or aggravated by food? Does it cease after the belching of a good deal of wind? The history may show that the pain only accompanies certain physiological performances such as sucking, micturition, or defaecation. Under the stress of severe pain the infant may not cry because he is holding his breath, as frequently happens in severe colic.

The baby's posture during the bouts of pain should be carefully noted. It may be that the hips are flexed to bring the thighs up on to the abdomen, while the arms may be bent, with the elbows firmly pressed against the sides. In other cases, the infant may become rigidly extended, with arched back, so that he supports himself

* Abstract of an address delivered before the Hampstead Division of the British Medical Association.

by his head and heels. Finally, on clinical examination there may be found areas of distinct tenderness associated with pain, indicating its localization.

GASTRO-INTESTINAL PAIN

The commonest cause of gastro-intestinal pain is some error connected with the diet, and the fault can generally be traced to one of three things—namely, the amount of food may be too great for the infant's digestive capacity, the diet may be badly constituted, or there may be some flaw in the method of giving the food. Simple underfeeding does not of itself give rise to pain, excepting that accounted for by the pangs of hunger. The pain of indigestion has a direct relation to meals, and if it arises in the stomach it will generally be manifest within a few minutes of a feed. If the cause lies further down the intestinal tract, the evidence of pain is likely to appear from half an hour to an hour after food has been given. If the fault continues unchecked, chronic indigestion will follow and pain will become continuous, lasting from one meal-time until the next. Simple overfilling of the stomach with food is not a common cause of pain in infancy, partly because the infant's stomach is a readily distensible organ, and partly because any attempt to overdistend it is countered by vomiting, a process which is much less disturbing in infancy than in later life. The old custom of winding about a yard of flannel round the baby's abdomen, and so preventing the natural postprandial epigastric fullness, was often a cause of discomfort and pain; fortunately, this practice is becoming less common.

Errors of diet lead to excessive peristalsis, and culminate in painful colicky contractions. The pain in these cases is generally intermittent. At intervals of a few minutes the baby begins to cry, draws his knees up on the abdomen, and presses his elbows into the sides; this attitude is maintained for two or three minutes while the baby cries vigorously, then the attack subsides. During the attack, relief may be given by keeping up a steady pressure with the warmed hand on the abdomen, or, more easily, by turning the baby over and allowing him to lie on his face, with the abdomen supported across the palm of the hand. The position of the infant in these attacks is exactly comparable to that of the adult in similar circumstances. We may briefly consider, below, the various dietetic errors which may culminate in colic. Most commonly there is an excess of gas in the stomach or intestine. In the stomach this gas will be excess air swallowed with the food, and probably it is a result of too big or too small a hole in the teat of the bottle, or of the baby being allowed to suck at an empty breast. When there is excessive gas in the intestine, some of it may have been passed on from the stomach, but the passage of large amounts of flatus per rectum is more frequently due to too much sugar in the diet, leading to intestinal fermentation, with the liberation of carbonic acid gas. Colicky pain may also result from irritation of the intestine by large, tough casein curds, or, less frequently, by fat curds. In the management of these cases the fault in the diet must first of all be corrected. Small doses of chloral (1/2 to 1 grain), given just before the feed, are useful, helping the child to drop off to sleep after the meal, and ensuring a period of peaceful digestion. Vigorous jogging of the baby is quite unnecessary; the simple procedure of holding the infant upright against the shoulder and patting the back is all that is required to release a large bubble of air imprisoned in the stomach.

Stomatitis

We are sometimes told that a baby sucks from the breast or bottle for a minute or two, and then cries and refuses to continue sucking. It may be that the breast is empty or that the hole in the teat is so small that the infant cannot draw milk, and turns away disgusted. When, however, a child has previously been making satisfactory progress, these symptoms are often due to painful conditions inside the mouth, which should be carefully examined in a good light. There may be a simple catarrhal stomatitis, or a condition of thrush affecting the tongue and the inside of the cheeks. Numerous small shallow ulcers may be found in the mouth. Fortunately the gangrenous form of stomatitis is rare, for it is accompanied by grave toxaemia and a high mortality. In the management of these cases, the milk, well cooled, should be given from a spoon. The feeding utensils must be properly sterilized, and the mouth cleansed before and after each feed by gently swabbing with borax and glycerin, or with a weak solution of hydrogen peroxide.

Constipation

A mother sometimes complains that her infant screams when he is having a motion. The pain is generally the result of constipation. The infant strains and goes red in the face; eventually, if the effort is successful, a hard scybalum is passed, often leaving the baby pallid and exhausted. A diet rich in fat, such as a full-cream dried milk food, combined, perhaps, with insufficient sugar, often leads to this state, and a proper adjustment of the food may be all that is required. A small teaspoonful of magnesia, or the same amount of paraffin, given once a day, will be effective in other cases, and will not upset the digestion. Occasionally, and oftener in females, there is associated with the constipation, spasm of the anal sphincter, which by its rigid contraction maintains and intensifies the state of constipation. Anal spasm can only be detected by performing a rectal examination. In the normal infant gentle but steady pressure with the well-greased forefinger will enable it to pass without difficulty into the rectum, but in the presence of anal spasm the anal orifice is much smaller, and the sphincter feels like a tightly constricting band round the finger. Digital examination of the rectum stretches the sphincter, and may suffice to cure the condition.

Anal Fissure

Another cause of painful defaecation is the presence of a fissure at the anus. This is not uncommon in babies; and is generally due to tearing of the mucosa during the passage of hard faecal masses, which may be streaked with a little bright blood. The fissure is usually small, and can only be seen when the anal folds are held gently apart. It may lead to spasm of the anus, which increases the constipation, and in this way a vicious circle is set up. Defaecation is resisted by the baby, who screams, arches his back, and compresses his buttocks together. Treatment consists in softening the stool with paraffin, while the fissure may be smeared with an ointment of silver nitrate (1 per cent.). Stretching the anal sphincter with the finger may also lead to a cure.

Intestinal Obstruction

In a baby previously healthy, the sudden onset of screaming and intestinal colic, with attacks recurring every few minutes, is suggestive of an acute intussusception; the passage of a little blood in the stool, and the typical sausage-shaped tumour in the abdomen, would confirm our suspicions. The rarer causes of obstruction, such as volvulus or strangulation by peritoneal bands and the very rare cases of appendicitis in infancy, are marked by sudden pain, vomiting, and constipation, followed by abdominal distension, and collapse of the child. These symptoms are also encountered in strangulated hernia, but in addition the tender swelling in one groin indicates the true nature of the case.

EARACHE

Earache is one of the most frequently overlooked causes of pain in infancy. Owing to the short length of the Eustachian tube in the infant, mild catarrhal infections of the nasopharynx, producing little disturbance of health, and generally passing unsuspected, are within easy reach of the middle ear. Screaming and irritability, with fever and often a mild diarrhoea in a young child, should lead to a careful examination of the ears. As in gastro-intestinal colic, the screaming of earache may occur in bouts, but can be distinguished by the posture of the baby. During the exacerbations of earache the infant throws himself into an attitude of rigid extension, arching his back and retracting his head. This attitude will sometimes be maintained for several hours or even for days, and may give rise to suspicions of meningitis. Not infrequently the pain of earache is worse at night, leading to considerable disturbance of sleep. Further indication of the seat of the trouble may be given if the baby constantly pulls and worries at his ears, and rolls and bangs his head on the pillow. On account of the minuteness of the parts, examination of the tympanic membrane in a small baby is not easy. Using a good light and a small-bored speculum, we may note that the normal grey, shiny appearance of the drum is replaced by one which is dull grey or faintly pink ; dilated vessels may be seen coursing along the handle of the malleus. The infection is generally bilateral. In severe cases, with head retraction, high fever, and perhaps convulsions, with the drum bulging and under pressure, rapid relief can be brought about by paracentesis. Although pus may not appear for a day or two, the relief of tension will be followed by a sharp fall in temperature and cessation of pain. It is much better to do a paracentesis, which will heal in a few days, than to wait for the drum to burst, for discharge of pus may then persist for months. One or two drops of a solution of 2½ per cent. carbolic acid in 50 per cent. glycerin run into the ear will also diminish the pain. Warm fomentations are particularly useful at night when the baby cannot sleep. They should be large enough to cover the ears amply, and are most easily kept in position by using a tight bonnet instead of a bandage. Small doses of chloral also help to reduce the pain.

TEETHING

Teething is too often made the excuse for many of the upsets and pains of infancy, but nevertheless I have no doubt that this physiological process does, in some babies, occasion much discomfort and pain. Great irritability and screaming, refusal of food, fever, and even photophobia may all subside with the eruption of a canine or molar tooth.

INTRACRANIAL DISEASE

This may be the cause of considerable pain in early life. Attacks of sharp screaming may occur in the first stages of post-basic meningitis, sudden piercing screams are not uncommon in the irritable stage which ushers in tuberculous meningitis, and movement of a child whose head is rapidly enlarging from hydrocephalus may cause loud crying.

URINARY PAIN

Pain arising from the urinary tract is not uncommon in infancy. We may sometimes be misled by a mother's statement that her baby screams every time he passes water, for it may be that he passes water every time he screams—a very different matter. In infancy the bladder is more an abdominal than a pelvic organ, and it is quite likely that the rigid contraction of the abdominal wall when a baby is screaming will tend to compress the bladder and lead to urination, just as an infant will often micturate when the hypogastrium is being palpated. In male infants a common cause of screaming during micturition is the presence of a small ulcer at the urinary meatus. It is commoner in the circumcised, and is partly the outcome of the glans chafing against a rough napkin. The ulcer is often minute, and close examination is required in order that it may be discovered. The exudate from the ulcer dries into a scab over the meatus, and the bursting open of this seal makes micturition painful, and a few drops of blood may precede the passage of urine. Treatment consists in covering the glans with a piece of gauze spread with vaseline, and in paying careful attention to changing the napkins as often as necessary to keep the parts dry. It is also useful to rinse the napkins in a strong boric solution before they are dried. Painful micturition may sometimes be due to a highly acid urine, particularly if the urine comes in contact with excoriated buttocks. This may happen from overfeeding with carbohydrate or fat, and may be relieved by modifying the diet, and by giving small doses of potassium citrate. The passage of large numbers of crystals in the urine may also lead to considerable dysuria. The commonest offenders are uric acid crystals, which are excreted abundantly during the first few weeks of life, and may give rise to renal colic, with attacks of screaming and vomiting. More rarely the passage of oxalate crystals accounts for the symptoms. Relief is given by increasing the intake of fluid and by giving alkalis. The passage of calculi rarely occurs until later on in childhood.

Pyelitis

Acute infection of the urinary apparatus, and pyelitis in particular, is a frequent cause of pain in infancy, and like otitis media it is often overlooked. This is due partly to the difficulty there may be in collecting a specimen of urine from a baby, and partly to the fact that pyelitis, being commoner in girls, tends to make us less watchful for the condition in male babies. There may be nothing characteristic about the pain of pyelitis beyond the sustained irritability of the infant, and therefore it should be a rule that, in any infant who has a sudden illness with fever, irritability, and perhaps rigors, for which no cause can be found, a sample of urine should be obtained and examined for pus. Sometimes the course of pyelitis may be punctuated by attacks lasting for a few minutes, in which the infant screams, stiffens, and appears anguished, then turns pallid and becomes collapsed. These bouts of pain are probably due to the passage of clots of pus down the ureters. Apart from the urine, examination of the baby suffering from pyelitis is generally negative, but palpation may show that the infant is tender in one or both loins, wincing when these areas are touched. The urine which is examined for pus need not be sterile. Gentle pressure over the hypogastrium may be sufficient to start micturition. Another method is to lay the infant on mackintosh sheeting spread over pillows. The centre of the sheet is then pushed down between the pillows so that when the baby passes urine this will collect in the lowest portion of the mackintosh. In the male baby free from balanitis or meatal ulceration there should be no pus cells in the uncentrifugalized urine ; in girls more than two pus cells in the 1/6 microscopic field should be regarded as abnormal.

THORACIC PAIN

Thoracic pain in the infant is indefinite, and difficult to assess. In lobar and broncho-pneumonia the rapidity and shallowness of the respirations will reflect to some extent the pain resulting from involvement of the pleura, as will the feebleness of the cry owing to the pain of

drawing a deep breath. Displacement of the neighbouring structures associated with large accumulations of pus in the pleura may also be painful.

PAIN IN THE LIMBS

Pain in the limbs is shown in two ways: first, the painful limb is moved less than the other limbs, and may be motionless, and, secondly, any attempts to move the limb provoke crying. When an infant has pain in the limbs trauma must first be excluded. There may be a history of injury, and examination may show bruising of the soft parts; but the more severe lesions, such as fracture or separation of an epiphysis, may only be detected after a most careful clinical scrutiny aided by *x*-ray examination. Trauma, however, is not a common cause of pain in infancy.

Apart from trauma, pain in one or more limbs in an infant under 6 months of age should make us think of syphilitic epiphysitis. In this condition the arms are most commonly affected, and the process may be confined to one limb, which is so immobile that the term "syphilitic pseudo-paralysis" has been given to it. There may be additional evidence of syphilis in the baby, such as condylomata about the anus or mouth, or a history of snuffles or of rashes affecting particularly the palms of the hands and soles of the feet. *X*-ray examination will show inflammatory swelling of the shaft and epiphysis of the affected bone. Under treatment with mercury the pseudo-paralysis will pass off in ten days or so.

Infantile scurvy is the dominating cause of limb pains in the period from the sixth to the eighteenth month of life. Owing to the subperiosteal effusions of blood the pain and tenderness of the limbs is intense, often making the baby cry from anticipated pain before it is actually touched. The observant mother will notice the baby's sensitiveness at an early stage, especially when she bathes her child, a history which is most suggestive of scurvy. The legs are more commonly affected than the arms, and the baby adopts a characteristic attitude, the hips being abducted and externally rotated and the knees bent. There may be visible swelling, most frequently just above or below the knee; in other cases the swelling can only be detected by gentle palpation. Palpation, however, causes such exquisite pain that one first looks for other signs of scurvy, such as purplish swelling of the gums around the erupted teeth, scorbutic beading of the ribs, orbital haemorrhages, and the presence of red blood cells in the urine. Once the diagnosis is made, relief of the acute symptoms can be brought about in two or three days by giving the antiscorbutic vitamin in the diet. Fresh unboiled cows' milk, fresh fruit juice, and potato made into a cream with milk are all effective, and may be combined in order to expedite the cure. Meanwhile the baby should be moved as little as possible in order to limit the pain, and should only be lifted when his napkins require to be changed.

Two conditions remain which may give severe pain in the limbs. These are acute osteomyelitis and acute poliomyelitis. The onset of osteomyelitis is sudden, and is accompanied by pain and tenderness in the affected limb, the temperature rises to 103° or 104°, and the child rapidly becomes pallid and profoundly toxic. The morbid appearance of the child gives the first clue in distinguishing this condition from scurvy. Later the tissues over the affected bone become swollen and oedematous, and the skin hot and red. As soon as the diagnosis is made the bone abscess should be opened and drained. With this condition we may group the cases of acute suppurative arthritis, often involving several joints, which may arise during infancy, and may lead to swelling of the joints with much pain and loss of movement.

Acute poliomyelitis may occur quite early in the first year of life, and the affected limb or limbs may be acutely tender for the first few days. There is, however, no swelling of the limb, and after a few days wasting becomes apparent. Furthermore, the loss of movement is more profound than in scurvy or epiphysitis, for in these conditions slight movements of the joints can be provoked by stimulation, but in the early stages of poliomyelitis the whole of the affected limb remains motionless.

A CASE OF GLOSSOPHARYNGEAL NEURALGIA

BY

J. P. MARTIN, M.D., F.R.C.P.

PHYSICIAN TO OUT-PATIENTS, NATIONAL HOSPITAL, QUEEN SQUARE

Tic douloureux affecting the glossopharyngeal nerve is a rare condition. The only cases of it that have been recorded in this country are three described by Dr. Wilfred Harris,[1] but about twenty cases have been reported in America since the publication of Harris's first description of it in 1921.[2]

Its recognition is important, because it is likely to be mistaken for trigeminal neuralgia of unusual distribution, and treatment may be misdirected in consequence. In a large proportion of the recorded cases, the patient has been subjected without benefit to an alcoholic injection of the third division of the trigeminal nerve, or to an operation on the Gasserian ganglion before the true condition present has been recognized.

The following case is the first that has come within my experience.

A man, aged 61, was referred to me on October 3rd, 1930. He complained that when he swallowed he had a "burning" pain in the left side of the throat and an intense stabbing pain deep within the left ear. Each spasm of pain lasted only a few seconds. The spasms varied greatly in frequency and severity, but when they were prevalent he had "a dread of meal times."

Inquiry brought out the following additional facts. The trouble began about eight years previously. At that time the patient felt "a prick" in the left ear when he swallowed. This disappeared for months at a time. After a considerable period it began to be a rather sharp pain.

About 1925, when having a drink of stout, he had an attack of the most intense pain in the ear. It lasted only for a few seconds, but he "thought he would go mad." This was the first attack of intense pain; few subsequent spasms have been as severe. He attended the throat department of one of the large hospitals, and was examined, but nothing abnormal was discovered, and no treatment was given. Thereafter severe pains became not uncommon. By this time he had noticed that the pain in the ear was accompanied by a "burning feeling"—not intense—towards the back of the throat on the left side. The attacks used to make him bend his head over to the left and draw the left shoulder up. The pain was nearly always brought on by swallowing; both solids and fluids would cause it, and any large bolus of food was sure to bring on a spasm: swallowing saliva sometimes caused the pain, and talking sometimes seemed to bring it on. The left side of the throat felt dry, especially at night, and this feeling made him "clear his throat" frequently.

In 1926 he was examined at Golden Square Hospital by a laryngologist, who raised the possibility of a growth in the throat, and took the precaution of examining him again, under a general anaesthetic. Nothing abnormal, however, was discovered in the throat. The following year he saw another laryngologist, who said his tonsils were septic and advised their removal. Tonsillectomy was performed, and for some time afterwards the patient had very little pain.

Recently the pain has not been of the maximum severity. It is brought on, above all, by swallowing, and nearly all the attacks are at meal times. Swallowing saliva and talking cause lesser attacks. During swallowing, when the bolus "gets a certain distance into the throat," the pain is felt. The "burning" pain in the throat has now spread further forward, involving the left faucial arch. The worst pain is within the ear. Some pain is felt in the external auditory meatus and spreads over a small semicircular area within the auricle behind the meatus. When the spasms have been frequent and severe, this area remains sensitive continuously, and touching it excites the pain: at such times the patient does not dare to wash the left auricle. This condition may continue for a week or so at a time. There has been no pain on the back of the auricle or on the side of the face. With severe spasms there is a great increase in the flow of saliva. This is always accompanied by intense burning pain in the left side of the throat.

Discussion of Symptoms

The area within the pharynx to which the patient refers the "burning" pain receives its sensory nerve supply from the main division of the glossopharyngeal nerve. The middle ear is supplied by the tympanic branch of the same nerve, and it is doubtless this branch that is responsible for the patient's worst pain. A twig from the tympanic branch joins the auricular branch of the vagus which supplies the area in and behind the external auditory meatus, where the patient has occasional pain. The glossopharyngeal nerve is the secretory nerve to the parotid, and it is presumably to excitation of the parotid branches that the salivation accompanying his more severe spasms is due. All the symptoms are thus referable to the distribution of the glossopharyngeal nerve.

Physical examination of the patient on two occasions has revealed no abnormal signs within the province of the glossopharyngeal nerve, in other parts of the nervous system, in the throat or ear, or in the neck.

The typical distribution of the pain in glossopharyngeal neuralgia is in the pharynx, ear, and auricle. In some of the recorded instances the pain radiated behind the auricle and also in front of it down to the angle of the mandible. Pain behind the auricle may be attributed to excitation of the auricular branch of the vagus, but pain anterior to the auricle and down to the angle of the mandible is not easily accounted for unless we suppose either that some of the parotid branches are sensory, or else that with the neuralgia there is an overflow of stimuli within the common somatic sensory nucleus in the medulla, giving rise to a sensation of pain referred to this part of the face.

In many of the recorded cases frequent "clearing the throat" or "hacking" is referred to. This symptom, which was not pronounced in my case, arises secondarily from the feeling of discomfort in the throat—"as if there was something there." Clearing the throat evidently gives the patient some relief.

Diagnosis

In the first place it has to be determined that the pain complained of is in the distribution of the glossopharyngeal nerve, and, in the second place, it must, as far as possible, be determined that it is an "idiopathic" neuralgia.

The distribution of the neuralgia has already been sufficiently referred to. The similar well-known neuralgia of the third division of the trigeminal nerve affects the lower jaw and tongue, and may involve the lobe of the auricle. Geniculate neuralgia is a rare condition which causes a pain in the ear usually associated with facial palsy; in most cases it is preceded by herpes in the ear. Strict attention to the site of the pain will determine whether it is in the glossopharyngeal distribution. The second part of the diagnosis is more difficult. Dr. Harris[1] has described three cases (and a suspected fourth case) of malignant disease in the throat accompanied by neuralgic pain of glossopharyngeal distribution. Weisenburg[2] described a case of tumour in the cerebello-pontine angle in which for six years there had been tic douloureux in this same distribution. In a case of glossopharyngeal neuralgia lately recorded by Fonio[4] there was an aneurysm involving the common and internal carotid arteries. It is therefore essential to exclude, as far as possible, all such source of irritation of the nerve before considering any case as one of "idiopathic" neuralgia. In the case reported here eight years have passed since the spasms of pain began, and no signs of any such exciting cause have been found, so that the neuralgia is almost certainly "idiopathic."

Treatment

In my patient, contrary to the usual experience, phenazone and gelsemium seem to have brought about a remission of the pain, and no operation has been done. When operations were first performed for this neuralgia it was thought necessary to divide, not only the glossopharyngeal nerve, but also the pharyngeal branches of the vagus, and in some cases the superior sympathetic ganglion was excised as well. It has since been found that it is sufficient to operate on the glossopharyngeal nerve alone. One case was successfully treated by Dr. Wilfred Harris by alcoholic injection. There are two operations, each of which has given complete cure in several recorded cases. The earlier one was evulsion of the nerve at the jugular foramen by operation in the neck. Subsequently, Adson[5] demonstrated on the cadaver that the glossopharyngeal nerve could be reached intracranially by an approach similar to that used for the Gasserian ganglion, and could be distinguished without difficulty and divided close to the brain stem. This operation has been carried out successfully by Dandy[6] and by Stookey.[7] No disability results from destruction of the glossopharyngeal nerve of one side. The affected side of the pharynx becomes anaesthetic, and taste is lost on the posterior third of the tongue on the same side; there is no difficulty in swallowing; the arch of the palate droops slightly at rest, but is elevated normally.

Comparison with Trigeminal Neuralgia

Glossopharyngeal neuralgia is exactly comparable to trigeminal neuralgia. The pain is of the same severity, and has the same spasmodic shock-like character. In both conditions it is excited by peripheral stimulation within the area of distribution of the affected nerve—in glossopharyngeal neuralgia chiefly by swallowing, the affected nerve being distributed to the throat; in trigeminal neuralgia by eating, talking, and washing the face, the affected nerve being distributed to the mouth and face. Long remissions of the pain may occur in both varieties. Further, the neuralgia may remain limited to, or may be preponderant in, certain branches of the nerve. In my patient it was limited at first to the tympanic branch; in other recorded cases it has been limited, or practically limited, to the main division supplying the pharynx. In trigeminal neuralgia the limitation to one division of the nerve is, of course, a usual condition.

REFERENCES

1 Harris, W.: *Neuritis and Neuralgia*. London, 1926.
2 Idem: *British Medical Journal*, 1921, ii, 896.
3 Weisenburg, T. H.: *Journ. Amer. Med. Assoc.*, 1910; liv, 1600.
4 Fonio, A.: *Deut. Zeit. f. Chir.*, 1928, ccvii, 325.
5 Adson, A. W.: *Arch. Neurol and Psychiat.*, 1924, xii, 487.
6 Dandy, W. E.: *Arch. of Surg.*, 1927, xv, 198.
7 Stookey, B.: *Arch. Neurol. and Psychiat.*, 1928, xv, 702.

TWO INTERESTING CASES OF PURPURA

BY

HARRY COKE, M.R.C.S., L.R.C.P.

MEDICAL UNIT, ST. MARY'S HOSPITAL

(With Special Plate)

An opportunity has recently occurred of making a careful study of several cases of idiopathic purpura, one of which was of an unusually severe type. In addition to the severity of the disease in one case, I think they are noteworthy because, as a result of the detailed examinations made, it has been possible to determine an intimate relationship between a focus of sepsis and the clinical picture. These and other cases tend to show that the term " primary or idiopathic " purpura is becoming of less and less practical significance, and that all purpuras may soon be shown to be " secondary "—that is, a symptom peculiar to some special type of infection, probably streptococcal. Very definite clinical pictures still remain, however, and, after detailing these cases, the classification of the purpuras will be briefly reconsidered in an attempt to group the cases on the more practical lines of a sound pathological basis.

DESCRIPTION OF CASES

The first case was that of a boy, aged 13, who had remained in his wet clothes for six hours in a cinema after having been thoroughly soaked by rain. The attack commenced two days later. Vomiting, diarrhoea, and colic were more prominent than the purpuric rash, which consisted only of a few spots on the ankles. These symptoms all subsided, except for a severe tonsillitis. The following week he began to have some further purpura and nausea, and he was admitted to hospital on September 24th, the temperature being 99.5° F.

Next morning severe vomiting and colic began. The vomit contained flecks of blood, and the stool showed severe melaena. The tongue was coated, and the tonsils, fauces, and the whole of the nasopharynx were covered with a thick purulent exudate of a yellow colour. The rash commenced that morning over the right scapular region, spread rapidly over the whole of the left back, and could be seen visibly progressing. It was a haemorrhage into the subcutaneous tissues, with a further rupture and haemorrhage into the deeper layers of the true dermis, particularly in the centres of the large ecchymotic patches. The area of eruption was excessively tender. The rash appeared wherever there was the slightest pressure on the skin, and was completely developed in twenty-four hours. This is well seen in the photograph of the anterior view (Fig. 1), where the purpura clearly demonstrates the sites of the clinical examination—the palpation of the spleen, of the axillary glands, the pulse at the wrist, and the pressure of the stethoscope at the apex of the heart. Ecchymoses occurred in the lower lip and the left upper eyelid, with a generalized oedema of the face. There was epistaxis, and considerable haemorrhage from the posterior pharyngeal wall. The rash was generally haemorrhagic—typical ecchymoses except over the right thorax, where there were some haemorrhagic urticarial wheals, and on the right elbow, where there were about a dozen seropurulent pemphigoid spots. At this stage the temperature dropped below normal to 97.5°, with a pulse rate of 85. The heart was not enlarged, but a soft systolic murmur was present. The spleen, liver, and glands were not enlarged.

Laboratory examination showed the following results.

Bacteriological.—From the fauces was obtained a pure, heavy growth of haemolytic streptococcus, which Dr. F. Griffith of the Ministry of Health kindly identified for us with the scarlet fever streptococcus Type IV. No other organisms were found. The bullae on the elbows were sterile. In a non-catheter specimen of the urine were a few staphylococci (albus).

Chemical.—The blood calcium amounted to 8.6 mg. per 100 c.cm. The urine was alkaline, with a faint cloud of albumin. The blood coagulation time was 2½ to 3½ minutes at 37° C.

Cytological.—Blood platelets numbered 340,000 per c.mm. Red blood corpuscles were 5,200,000 per c.mm. A differential white count showed the following percentages: polymorphs 73.5, lymphocytes 21.5, myelocytes 0.5, eosinophils 4.5.

The rash began to fade slightly on the next day, but the abdominal symptoms continued, and in the evening the temperature rose to 103°. Another blood culture was taken, but this again proved sterile. The condition rapidly settled down under intensive treatment of the tonsils and fauces, and the rash faded entirely in three days. The blood calcium was then normal at 10.4 mg. per 100 c.cm. The urinary symptoms cleared up, and the melaena gradually lessened and disappeared. Two days after the initial rise in temperature the development of a complication became obvious in the appearance of an acute otitis media in the right ear. The tympanum soon perforated, and gave rise to a profuse discharge, yielding a pure culture of haemolytic streptococci exactly similar to those isolated from the throat. This also cleared up, and the only interesting point during the convalescence was a slight lighting-up of the tonsillar infection, which immediately gave rise to another purpuric eruption on a very much smaller scale. This faded again on active antiseptic treatment of the tonsils. A faint purpuric eruption occurred on the legs when the patient sat up out of bed with his legs hanging down. This happened four times, but disappeared when he remained in bed. His tonsils were removed two months later; since then he has completely recovered, and lives a normal life with no symptoms of his former condition.

In the previous history there is no story of rheumatic fever or of "growing pains." There had been no recent contact with scarlet fever, nor had he ever had this disease. There was no history of allergy, except for an attack of urticaria which occurred after a surfeit of raspberries many years ago.

Immediately previous to the attack of purpura the patient had been under observation at a clinic pending tonsillectomy.

The second case was that of a thin, ill-nourished girl, aged 12, who had recently moved to a newly built and very damp house. On July 3rd, while she was going to bed, she noticed some spots on her legs, which were especially concentrated on her ankles. Her general health remained good until July 6th, when she was taken ill with severe headache, nausea, and continuous vomiting. Next day she was quite well again, but on the following day all the symptoms returned and continued more or less for fourteen days, accompanied by generalized purpura. During this time there was haematuria and melaena, but no pains in the limbs or joints. In the fortnight following she had two attacks while in another hospital, where she was treated unsuccessfully with haemoplastin. Her parents removed her, although she had still some purpuric spots and considerable haematuria. Every time she got out of bed the purpura increased. Another abdominal attack took place, and she was admitted to St. Mary's Hospital on September 2nd. On admission the patient was vomiting continually, with marked intestinal colic, a rapid pulse, but no pyrexia. There was a generalized purpuric rash of small petechiae concentrated on the ankles and wrists. The abdominal symptoms rapidly cleared up, and the rash faded in three or four days. There remained, however, severe haematuria and melaena. The urine analysis showed a moderate cloud of albumin, large quantities of blood, calcium oxalate crystals, hyaline, granular and epithelial casts. After the subsidence of the acute symptoms the melaena and haematuria stopped.

The interest of this case lies in the search for a cause. The tonsils were small, and a culture showed no pathological flora. The teeth were all good. Duodenal drainage through a Ryle's tube revealed no biliary infection. A catheter specimen of urine was sterile. The stool showed three pathological organisms—two types of streptococcus (*viridans* and *haemolyticus*) and a coliform bacillus giving the reactions of *B. asiaticus*. These were the only definite infections demonstrable, and a vaccine was prepared from them. For five weeks the girl remained in hospital in a stationary condition. During this time she had no attacks, her only symptom being some slight occult blood in the urine. She was given an injection of vaccine containing one-third of a million of each type of bacteria. She did not feel well for three days after it, being languid, with slight headache and loss of appetite. On the fourth day a purpuric rash appeared on

the legs and arms, the nephritis recurred, and, in fact, all symptoms returned except the abdominal, which were represented only by the reappearance of a considerable melaena. This minor attack having subsided, she was given a course of therapeutic vaccination, starting with a dose of 55,000 of each type once every five days, each dose being increased by 25,000. No further symptoms occurred, and she was discharged at the end of the year with only one latent but serious complication—namely, a considerable degree of subacute nephritis. She has a very poor water excretion, and the range of urea concentration (Calvert) is only 0.9 per cent. She is, however, perfectly fit in every other way, and is getting about as a fairly normal child.

DISCUSSION

There are several interesting points in these two cases. In the first there is the spectacular rash, and the direct relationship between the infection of the fauces and the general symptoms. These facts show that there was a gross toxaemia affecting the endothelial linings of the capillary walls, which apparently allowed a mechanical "micro-trauma" to cause the rupture of the vessels. The endothelial injury appears to have lasted for some time, as shown by the reappearance of the purpura each time the legs were hung out of bed. There was then an increased venous congestion, which necessitated increased capillary pressure. Further, the fact of the lowering of the calcium content in the blood in association with the profuse purpura is noteworthy, while the platelet count was never abnormal. The general appearance of the patient was never that of one in a severe toxic state, and the temperature did not rise until three days after the appearance of the rash, when it could easily be accounted for at that time by the development of otitis media. Again, one would have expected on admission a hectic temperature with a pronounced cervical adenitis in association with the very septic condition of the pharynx. Perhaps this lack of glandular localization explains the easy passage of the toxins into the blood stream, thereby causing a general toxicosis of the vessel walls. The appearance of urticarial and pemphigoid spots is atypical of the condition described by von Henoch, and, in fact, never occurred in his cases, but is mentioned in several of those of the arthritic Schönlein type; it is generally recognized as occurring in many cases nowadays, and is even placed by Osler[1] in a separate group designated purpura urticans.

In the second case we have the complete absence of joint symptoms and the presence of the common complication, nephritis. One must note in this case also the relation between the toxins of the haemolytic streptococcus and the effect produced by an overdose of these toxins. The attack produced artificially by the overdose of vaccine might be explained as being similar to the experiments of Glanzmann,[2] who injected a foreign protein with the same results; but, in view of the fact that the protein was provided by the patient herself, it must show either that it is analogous to the autogenous protein shock by the injection of whole blood, or that the toxins of the specific haemolytic streptococcus, as such, are the irritative protein. A cure cannot be claimed in the second case, since it is usual for such cases to end spontaneously, but it may be pointed out that if the disease was not in fact terminated by the vaccine treatment, the end at any rate coincided with such treatment in a patient who had, a few days before, shown an active haemorrhagic diathesis. The complete absence of any arthritic symptoms dissociates this case from those of the true von Henoch type, and it should come under the abdominal type in the classification below, no better name for which has yet been provided than merely "atypical," as suggested by von Henoch himself some sixty years ago.

CLASSIFICATION OF PURPURA

With regard to the classification of purpura, the first point, which seems fairly clear, is that the standard textbooks of to-day give no satisfactory or unanimous opinion on the subject. It appears also that with a very little "give and take" a useful and concise grouping could be arranged. Owing to the present muddle of types and terminology it is necessary, if one intends to keep the old names associated, to go back to the original descriptions and to adopt the views of their authors, which were remarkably stable, even if incorrect. By incorporating recent pathological knowledge into those descriptions we can frame a modern classification.

Primary or idiopathic purpura has been discussed as a clinical entity since the year 1713,[3] and authors have described a similar type as von Henoch's purpura, or as Schönlein's purpura, some mentioning one name, some both; a few attach neither name. It is with the types identified with the names of von Henoch and Schönlein that I wish to deal particularly.

Purpura with abdominal symptoms was discussed by von Henoch in 1874,[4] he being the first to separate that type from the other forms. But even he, as we learn from his paper, thought that his cases were only complicated forms of the Schönlein "peliosis rheumatica." Von Henoch originally described the characteristics of the group as being "a combination of purpura with the abdominal symptoms of colic, tenderness of the abdomen, vomiting, and melaena, and often associated with atypical rheumatic pains in the limbs and joints." He stood almost alone in his views concerning Schönlein's disease, for the general opinion of his contemporaries on the subject of "peliosis rheumatica" is aptly summed up in the words of von Dusch and Hoche,[5] that no one really seriously considered that this purpura arthritica was a manifestation of rheumatism proper, but that the name was held "in deference to the memory of a great clinician." Let us to-day, therefore, also honour the name, and designate the arthritic form of purpura as that of Schönlein's; but let us be equally emphatic in the attempt to erase the term "peliosis rheumatica" from our minds. Schönlein's opinions are handed down to posterity through his students, mainly von Traube, and consequently a large variation from the original conception has ensued. It was von Henoch himself who held longest to the view that his purpura was merely a complicated form of the arthritic type, and he never agreed in his writings that it had anything to do with rheumatism. In later years in Germany the term peliosis rheumatica was entirely dropped, and the term Henoch's purpura was regarded as including any case of idiopathic purpura with abdominal symptoms, with or without arthritic manifestations.

The most suitable classification seems to me to be a combination of the terminology of de Krauss[6] and Biedert-Vogel,[7] while keeping in view our modern idea that all idiopathic purpura is probably secondary to some septic focus of infection. In fact, a classification of clinical pictures results, the features of which are merely a reaction to some specific type of toxin, just as the scarlatiniform rash is a typical reaction to the specific toxin of the streptococcus of scarlet fever.

Two groups emerge, the first containing purpura simplex and purpura haemorrhagica, and the second the complicated forms of purpura—that is to say, purpura with abdominal symptoms, or with arthritic symptoms, or with both. Let us first dismiss several uncontroversial groups. The clinical picture of purpura simplex all are agreed upon. The modern tendency is to separate this as an essential thrombocytopenia purpura, and it seems to include, as its more severe form, that which was formerly known as "morbus maculosus" of Werlhof, or

synonymously purpura haemorrhagica. The pathology of this thrombocytopenia is rapidly becoming established, but as to the primary cause of the diminution in the platelets we are still ignorant. Despite the great strides made in haematology by Piney[8] and others, we are still left on the horns of the thrombocytopenia dilemma by having to decide between the very opposite views of (1) Kaznelson,[9] who thinks that it is a hyperdestruction of platelets, and (2) Frank,[10] who considers that it is a fundamental defect in their production. This diminution occurs certainly as the only demonstrable change in many cases of purpura haemorrhagica, but it cannot as yet be universally accepted. In addition, many other cases of secondary purpura show a lack of platelets, as in two of our recent cases, one of aleukia haemorrhagica with a platelet count of 34,000 per c.mm., and the other a lymphosarcoma with a count of 72,000 platelets per c.mm. From the two cases of purpura outlined above we may have to take more consideration of the calcium metabolism.

Purpura is a symptom in a multitude of diseases, as outlined by most authors to-day. The second group which I have mentioned above must be a small one, but none the less important, among the infective or toxaemic groups of all the secondary purpuras. The occurrence of purpura in severe cases of rheumatic fever cannot be denied, but this form is sufficiently far removed from the picture of Schönlein's arthritic purpura to avoid confusion. The purpura of rheumatism usually occurs as a generalized rash in a patient who is extremely ill, severely toxic, with very marked rheumatic symptoms and signs, such as severe heart lesions, nodules, and pyrexia; it does not appear in mild cases. In Schönlein's disease, however, there is a repetition of mild attacks, the eruption occurring solely on the arms and legs, with mild joint pains, and only occasional swellings. The general picture of Schönlein's purpura is thus only that of a mild, though repeated, transient infection, with usually a moderate follicular tonsillitis as the most aggravating symptom. The German authorities gave up the association between true rheumatism and Schönlein's purpura some years before the English did, and we must be equally emphatic in dissociating them, especially in view of our modern conception of the various toxicoses in relation to arthritis.

The final point to be considered is how soon it will be possible to abandon the terms " primary and idiopathic " and " secondary," by considering all purpura to be a symptom of a special infection, the specificity of the infection being perhaps combined with an unknown deficiency of a vitamin nature, affecting calcium metabolism, which would lead us to consider the parathyroid.

In the groups appended below we satisfy ourselves, and do not offend the memory of any of the old order.

Group I.—" Thrombocytopenic Group."

1. Purpura simplex.
2. Purpura haemorrhagica, or morbus maculosus of Werlhof.

Group. II.—" Toxaemic Group."

1. Purpura with abdominal symptoms.
2. Purpura with arthritic symptoms, or Schönlein's purpura.
3. Purpura with abdominal and arthritic symptoms, or von Henoch's purpura.

I wish to thank Professor Langmead for his permission to publish these cases, and for assisting in correlating the evidence; Dr. Leonard Colebrook and Dr. F. Griffith for their bacteriological work; and also Dr. Hurst Brown, of the Medical Unit, for the chemical pathology.

REFERENCES

[1] Osler and McCrae: *System of Medicine*, 1908, iv, 703.
[2] Glanzmann: *Jahrb. f. Kinderheilk.*, 1918, cxxviii.
[3] Werlhof: *Opera Medica*. Collected by J. E. Wickmann, Hanover, 1713.
[4] Von Henoch: *Berl. klin. Woch.*, 1874, 641.
[5] Von Dusch and Hoche: Pädiatrische Arbeiten. *Henoch's Festschrift*, 1890, 379.
[6] De Krauss: Über Purpura. Inaugural Dissertation, Heidelberg, 1883.
[7] Biedert-Vogel: *Lehrbuch der Kinderkrankheiten*, 557.
[8] Piney: *Recent Advances in Haematology*, 1931.
[9] Kaznelson: *Zeit. f. klin. Med.*, 1919, cxxvii.
[10] Frank: *Schittenhelm's Krankheiten des Blutes*, 1925, ii.

MYCOSIS FUNGOIDES FOLLOWING LAPAROTOMY

BY

R. OWEN-JONES, M.B., B.S., F.R.C.S.ED.

ST. LUKE'S HOSPITAL, CHELSEA

(With Special Plate)

The rarity of the following complication of a laparotomy for perforated duodenal ulcer merits publication.

A builder's labourer, aged 44, was admitted to St. Luke's Hospital, Chelsea, with a history of having been seized with acute epigastric pain and nausea whilst at work five hours before. He drank some brandy and a pint of ale, with the object, presumably, of relieving the pain. The history of epigastric pain over a long period, and his condition on admission, led to the diagnosis of an acute perforation.

A mid-line supra-umbilical laparotomy was performed under chloroform-ether anaesthesia as soon as was possible. On opening the peritoneum the usual escape of free gas and opalescent flaky fluid occurred. No specific odour was detected. A small perforated ulcer was discovered on the anterior surface of the duodenal side of the pyloric vein. This was dealt with by a single purse-string suture and by an omental graft. The peritoneal cavity was drained suprapubically and through a low stab wound far back in the right loin.

With the exception of some hypostatic lung congestion, the patient progressed satisfactorily for a week, when there appeared to be an area of commencing cellulitis around the loin stab wound. This gradually spread forward towards the ventral surface of the abdominal wall. The wound was still discharging some serous fluid and the indurated inflammatory area was treated as a parietal inflammatory complication. After a few days the superficial skin layer became a sloughing covering to a plane of pus in and on the deeper layer and subcutaneous tissues. Nerve endings were exposed, analgesics had to be given often, and Carrel-Dakin irrigation was instituted. In spite of this the infected area spread forward towards the mid-ventral line, up to the costal margin, and down as far as the right iliac crest. Anti-streptococcal serum and anti-*Bacillus welchii* serum were exhibited without improvement; 1 in 1,000 flavine was substituted for the hyperchlorite, and hot fomentations were continued. The Wassermann test was negative. Examination of a swab of the discharge under the advancing edge showed streptococci, *Staphylococcus aureus*, and diphtheroid bacilli. An autogenous vaccine was given in increasing doses.

The patient's general condition became steadily worse, morphine in various forms, and other analgesics being necessary. He had no recurrence of the gastric symptoms, the drainage wound closed, and the laparotomy incision healed normally. The infection of his parietes, however, spread apace. It had the appearance of an extensive superficial carbunculosis; the advancing edge showed a marked serpiginous outline, the result of multiple crescentic inroads into indurated skin, which had a definite ragged overhanging edge. This appearance led us to make another Wassermann test, which again proved to be negative. At the costal margin and iliac crest the infection advanced no further, and from

the loin wound forward it healed over gradually and was weakly epithelialized, whereas towards the mid-line it progressed steadily. Within two inches of the incisional scar it converged to a point and then tunnelled the tissues below the scar, leaving it untouched, to a position about three inches from its left border and then diverged again, to produce a similar extensive lesion from the costal margin to iliac crest on the left side of the abdominal wall. Various solutions and dressings—hydrogen peroxide, oxycyanide of mercury 1 in 10,000, sanitas, and salines, with glycerin ichthyol to the edges—were applied in vain. Another swab examination showed pyogenic organisms only. A urinary examination showed *B. coli* and *Streptococcus faecalis* in culture. Intravenous mercurochrome and oral iodides were ineffective. On reaching the mid-axillary line on the left side, the lesion again converged to a tunnel 3/4 inch wide and about 4 inches long to fan outwards again on the dorsal surface, whilst healing slowly took place on the abdominal wall. The continued use of sedatives, the pain, and the toxic absorption reduced the patient's condition to one of danger. The affected area at this stage (six months after the operation) formed a striking picture, of which the following were outstanding: the greenish-black extensive sloughs with foul pus exuding beneath their edges; the pink newly epithelialized healed area, with branching new arterioles spreading weblike across it; the immune island of healthy skin around the mid-line incisional scar; the narrow communication channels across the mid-line and in the left loin; the multiple crescentic edges; and the inflamed heaped-up attacked tissue around. The odour in the vicinity of the man's bed was almost unbearable, and large quantities of deodorants had to be used. The advancing edge eventually reached to two inches from the other side of the vertebral column, to the level of the fourth dorsal vertebra above, and to the iliac crest below.

Microscopical examination of a wedge section of the edge, removed under gas, showed numerous organisms superimposed on a growth of mycosis fungoides.

The report of Dr. L. M. Hawksley of the pathological staff of the Cancer Hospital was as follows:

"The microscopical appearances are those of a granulomatous condition with superficial and deep destruction of tissue. The dermis is extensively infiltrated with a growth of polymorphic connective tissue cells with ill-defined margins, many showing mitoses, some being multinucleated, and others resembling plasma cells. The masses of cells show a tendency to arrangement in strands, and in more superficial parts of the corium, islets of down-growing epithelium have been snared off by them. The whole of the tissue is very oedematous; fibrous tissue appears as small fragments; sebaceous glands, hair follicles, and sweat glands are not seen. Some of the epithelial cells show vacuolation; where not destroyed by ulceration the epithelium is considerably thinned. In the area of more normal skin, granular particles of irregular shape can be detected in the connective tissue cells. Gram-stained films show massive invasion of the greater part of the tissue with long-chained streptococci (in the ulcerated part numerous other organisms also). The microscopical features of the tissue correspond with those of 'granuloma fungoides.'"

The patient died ten months after admission.

The photographs (Special Plate, Figs. 1 and 2) show the abdominal part of the lesion; the patient was so ill that none could be taken of the affected area on the back. Apart from the rarity of the infection, the interesting features of the case are the mode of infection possibly from the perforation of the duodenum through the drainage wound to the abdominal parietes, and the complete immunity of the laparotomy scar to the infection. We are forced to consider whether the infection occurred from the ale which the unfortunate man took to relieve the pain of the perforation, or from a premycotic nidus in the abdominal wall.

I desire to thank Dr. Hawksley for the great help she gave in the case, and to the medical superintendent of St. Luke's Hospital for permission to publish the case.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

CUTANEOUS INFECTION WITH A DIPHTHEROID BACILLUS*

Diphtheroid bacilli are commonly found vegetating upon the surface of the human skin, and upon the lining membranes of the various body cavities. The group as a whole is singularly devoid of pathogenic properties (Hewlett†). The following case is of interest for two reasons: first, because it appears to be a true case of cutaneous infection with a diphtheroid bacillus; and, secondly, because the organism implicated was identical with the Klebs-Loeffler bacillus in every respect save toxin production.

A married Jewish lady, aged 55, with a family of four children, had never had diphtheria, nor had any of the members of her family; so far as she was aware, none of them had been in contact with any case of diphtheria prior to the appearance of her lesion. Towards the end of August, 1927 (the patient was rather vague as to the exact date), she noticed a small papule on the upper and outer aspect of her right thigh. This papule was quite painful to the touch, but it did not "throb," and there was no visible inflammatory zone. It rapidly enlarged to approximately the size of a lentil. The patient was very definite in her description of the sharp pain occasioned by merely pressing lightly upon the papule. After a few days the papule developed into a pustule, which ruptured spontaneously and exuded a thin, watery, deep-yellow fluid.

The patient paid little attention to the lesion at first, ascribing its formation to the friction of a badly fitting pair of stays; she was very stout, of short stature, and in the sitting position the bones of her corset pressed deeply into the flesh of her thighs. The lesion slowly developed into an irregular, shallow ulcer, and eventually, towards the end of September, the patient came to Queen's Hospital for treatment, mainly because she was "afraid that it was a cancer."

She was found to have an irregular linear ulcer on the upper and outer aspect of the right thigh. It measured 1½ inches in length by 1/2 inch in breadth, and its long diameter was inclined almost at right angles to the long axis of the thigh when she assumed the prone position. The ulcer was shallow, with rolled edges and a smooth, purplish-red floor, from which a thin, deep-yellow, sero-purulent fluid was exuded profusely. The lesion was quite sharply demarcated from the surrounding skin, and there was no encircling zone of erythema or any appreciable induration. The ulcer was not painful on palpation. At each end of the ulcer there was a pocket in the skin; at the lower end the pocket was very small, admitting only a small probe; but at the upper end the pocket was much larger, extending for about 1/2 inch into the skin. From this pocket a deep-yellow, sero-purulent fluid could be easily expressed in relatively large amounts by gentle pressure.

Film preparations of this discharge, stained by Gram's method, showed large numbers of slender, Gram-positive bacilli, together with a moderate number of polymorphonuclear leucocytes. Preparations stained by Neisser's method showed bacilli with the typical morphological appearance of the Klebs-Loeffler bacillus. No other organisms were seen in these first film preparations, though later on, after the lesion had been dressed for some days, numbers of the ordinary skin staphylococci made their appearance. Cultures on hormone blood agar and on Loeffler's serum medium yielded luxuriant, pure cultures of this bacillus. The microscopical appearance of the organism from the cultures was identical with that of the Klebs-Loeffler bacillus, the granules being particularly large and abundant.

Agglutination of the organism against the patient's serum failed to show the presence of any agglutinins. The organism was non-virulent for guinea-pigs, three separate tests being

* From the Bacteriological Department of the Queen's Hospital, Birmingham.

† Hewlett, R. T.: *A System of Bacteriology*, Medical Research Council, 1930, vol. v, p. 135.

performed: (1) with the discharge from the ulcer.; (2) with an emulsion of the primary culture on Loeffler's medium; and (3) with the fourth transplant on Loeffler's medium, about one month after the isolation of the organism. Several attempts to demonstrate toxin production in shallow cultures of various liquid media were unsuccessful. The organism grew in the form of a fine pellicle on veal broth, and produced acid in serum water containing 1 per cent. of glucose; no appreciable acid production occurred in a 1 per cent. saccharose serum water medium. Cultures on Loeffler's medium grew rapidly and luxuriantly, and produced a deep golden-yellow pigment. The organism has now been under observation in artificial culture for three years, and pigment production still occurs, though it is not so intense now as it was immediately after isolation. The bacillus still shows the typical morphological appearance of the true diphtheria bacillus when stained by Neisser's method, and the culture has been regularly used for teaching purposes in preference to the laboratory stock culture of the Klebs-Loeffler bacillus, because of its more profuse formation of "polar" granules. Cultures taken from the tonsils, nasal passages, and vagina of the patient did not yield any growth of a diphtheroid bacillus resembling this organism. Hoffmann's bacillus was present in the tonsillar cultures. The patient gave a positive Schick reaction.

The lesion showed no inclination to heal under the application of various mild antiseptic dressings, and eventually Mr. H. Donovan, assistant surgeon to Queen's Hospital, was obliged to open up the two pockets and scrape them thoroughly. This treatment, together with iodoform dressings, produced a rapid improvement, and the patient was discharged from attendance at the out-patient department three weeks later. When seen eight weeks afterwards the lesion had healed completely, and, in answer to a personal inquiry, the patient reported by letter, in January, 1928, that there had been no recurrence.

J. F. D. SHREWSBURY, M.B., CH.B., D.P.H.,
Lecturer in Bacteriology, University of Birmingham.

ACUTE ALCOHOLIC POISONING DUE TO THE APPLICATION OF SURGICAL SPIRIT TO THE LEGS

A boy, aged 8 years, was seen by me on January 7th, and examined before undergoing an operation for removal of congenitally enlarged semimembranosus bursae on both legs, which was to be performed on January 9th. He was then quite well and the urine contained no sugar and no albumin. The legs were prepared for the operation on January 8th. They were both shaved and washed with ether soap from the groin to the ankle. They were then covered from the groin to the ankle with a towel wrung out in surgical spirit, over which a dry towel was placed and kept in position by three rubber bands. This first dressing was applied at 12 noon, and it was repeated at 4 p.m. and 8 p.m. At 9 p.m. the boy appeared normal. At 11 p.m. he was seen by his mother and was thought to be asleep, and seemed to be normal. At 12.30 a.m. on January 9th his mother, who was sleeping in the same room, was aroused by hearing him vomit. He brought up food, but did not speak at all, and his mother thought he was still asleep. He continued vomiting and retching on and off during the night, but did not wake up. When seen by the nurse first thing in the morning he was unconscious, the pulse rate being 160. The respiration was regular—24—and the temperature was normal. I was called to see him at 8.30 a.m., and on examining the vomit noticed that it had a smell of spirit. The boy was unconscious, pale, and warm, the pupils were small, reacted to strong light, and there was slight internal strabismus of the right eye. The corneal reflex was absent. The limbs were flaccid, the plantar responses flexor. There was no sweating. From 9 a.m. the unconsciousness became less deep, the corneal reflex returned, and the reflexes became more brisk. Nystagmus was present. At 1 p.m. I saw him again in consultation with Dr. G. E. Beaumont; the patient was then beginning to recover consciousness, but still vomited up small quantities of turbid brown fluid. He could move all his limbs and, when asked, complained of frontal headache and of feeling sick. Speech was slurring but coherent. The pupils were of medium size and reacted to light; the knee-jerks were present, and the plantar responses were brisk and flexor. The abdominal reflex was sluggish. The pulse rate was now 142, the respirations 20, and the temperature 98° F. His bowels had opened involuntarily once in the morning, and it was not possible to obtain a specimen of urine then. The vomit was sent to Professor E. C. Dodds at the Middlesex Hospital, and he reported that alcohol was present. A specimen of urine which was obtained at 5 p.m. was also sent to him, and this contained alcohol as well.

In view of the boy's possible idiosyncrasy to ether, Sir Francis Shipway gave him a small trial injection of avertin. This led to no toxic symptoms, and the operation was performed a week later without untoward incident, Sir Francis Shipway giving an avertin-gas-oxygen anaesthesia.

Mr. Trethowan, who operated, tells me that the skin preparation was done according to a routine method, and that this is the first patient who has shown symptoms of any alcoholic absorption.

VINCENT C. JAMES, M.R.C.S., L.R.C.P.
Cricklewood.

Reports of Societies

ALKALIS IN RENAL COMPLICATIONS OF PREGNANCY

At a meeting of the Obstetrical and Gynaecological Section of the Royal Society of Medicine, held on February 20th, with the president, Sir EWEN MACLEAN, in the chair, Dr. A. ARNOLD OSMAN read a paper prepared jointly with Dr. HAROLD G. CLOSE, on observations on the plasma bicarbonate and the value of alkalis in the treatment of some of the renal complications of pregnancy. The work was carried out in the department for medical investigations, Queen Mary's Hospital, E. Observations on cases of normal pregnancy showed that there was a considerable decrease in the plasma bicarbonate, and that it remained at about the same low level throughout the period of gestation. The water content of the blood and tissues was increased in pregnancy, and was greatest in those with the lowest plasma bicarbonate. Alkali therapy was carried out in albuminuria of pregnancy, in pre-eclampsia, and in cases treated prophylactically. Severely affected patients were kept in bed, and all were given a full diet, including meat. The intake of fluid was limited. No purgation was allowed. The treatment consisted solely of equal parts of potassium citrate and sodium bicarbonate by the mouth, 50 grains of each to an ounce and a half of water, as many times a day as was found to be necessary to produce a satisfactory diuresis. Usually 150 grains a day were given, increased by 100 grains until the desired result was obtained. The dose was regulated by the volume and reaction of urine passed. The results showed a decrease in albumin and clearing up of the oedema. Increase in dosage at the beginning might mean an increase in the oedema, but this subsided when the dose

was further raised. There was no danger of the occurrence of alkalosis or tetany. Alkali therapy diminished the severity of pregnancy toxaemias, but could not be relied upon to prevent the onset of some of the graver symptoms in all cases. The authors asserted that alkali therapy had its uses in the treatment of the types of cases above mentioned; it promoted diuresis, and diminished or controlled oedema and albuminuria. The discomfort of sweating, purgation, and extreme limitation of the diet was avoided. The graver symptoms might not be prevented by alkali therapy alone in all cases, but they were diminished in severity. The results were promising, and justified further work on the subject.

Mr. G. F. GIBBERD regarded the recurrence rate of less than 20 per cent. in prophylactic treatment as strong evidence that alkali treatment was of real value. The usual recurrence rate was not lower than 30 per cent., and probably was as high as 50 per cent. He was of the opinion that the results of the usual methods of treatment would be improved if the administration of alkalis were also adopted. Dr. OXLEY expressed the view that albuminuria was of two types—one postural and one toxaemic. He believed that if strict eliminative treatment were carried out eclampsia could be prevented. A vegetable diet was of value in the case of those who had suffered from albuminuria, and by this means the depressing effect of continued alkali treatment could be avoided.

ECZEMA OF INTERNAL ORIGIN

At the meeting of the Section of Dermatology of the Royal Society of Medicine on March 19th, with Dr. ERNEST DORE in the chair, Dr. G. H. ORIEL read a paper on the pathogenesis of eczema of internal origin, and other allergic diseases.

The paper reported the results of a preliminary investigation conducted at the asthma and dermatological clinics, Guy's Hospital. Several cases were shown; one in particular was that of a lad, aged 19, who had suffered from eczema all his life, and whose father was similarly affected. He was sensitive to egg, fish, wheat, and other foods; the mere rubbing into his skin of a minute quantity of egg albumen caused a marked urticarial reaction, though he was now much less sensitive in this respect than formerly. When first seen he had also severe asthma. Dr. Oriel said that it had been shown that the specific antigenic substance of such a food as egg actually circulated in the body. If the serum of an egg-sensitive person was injected intradermally into a normal person's skin, and this normal person had a meal of egg twenty-four hours later, a wheal appeared at the injection site in a certain number of cases; it had been shown by other workers that this was more likely to occur if the injected person had either achlorhydria or hypochlorhydria. When this test was positive, the antigenic substance must travel by means of the circulation. How was it eliminated? It might be destroyed by ferments or eliminated by the kidneys or intestines. In the urine in these cases Dr. Oriel had isolated a substance, containing nitrogen, and appearing to be a protein, with a carbohydrate group attached. It was soluble in dilute alkalis. When injected intradermally into a sensitized person, a reaction followed similar to that seen on the injection of an antigen. Treatment therefore appeared hopeful, since it should be possible to desensitize the patient to this material. He had also tried to show that a specific antigen, such as that of milk, could be identified in the urinary proteose of a milk-sensitive patient, and this was the case. It seemed clear that the urinary proteose in sensitization contained the antigen to which the patient was sensitized. The phenomenon did not take place when the serum of a normal person was injected into a guinea-pig, but passive sensitization to urinary antigen had been found in asthma, urticaria, migraine, eczema, and rheumatoid arthritis. It did not necessarily follow that eczema of internal origin was eczema of alimentary origin. It was quite possible that in eczema the skin became sensitized to the products of bacterial action on body tissues, and it was probable that focal sepsis might cause body tissues to act as a foreign protein. In these cases the removal of the focal sepsis would cut off the supply of antigen, and this would relieve the eczema. With regard to the boy mentioned, who had been treated by desensitization with his urinary proteose, the patient had been under treatment for eighteen months, and whereas his asthma had formerly been continuous, it had not troubled him for twelve months, and his skin also had been greatly improved, though at first the injections—which were given weekly—caused a marked exacerbation both of his asthma and of his skin condition. Dr. Oriel mentioned that more than 200 patients had now been treated.

Dr. H. W. BARBER said that he had been watching this research throughout, and every test had been made to reveal fallacies. As a result he had no doubt whatever of the accuracy of Dr. Oriel's work and of the deductions made from it. In these sensitized cases it was not, as a rule, a question of a person being sensitized to a primary antigen, but rather of sensitization to a secondary antigen, produced by the action of primary antigens on the tissues. He had found the treatment remarkably good in dermatitis herpetiformis, and in rheumatoid arthritis associated with psoriasis, yet in uncomplicated psoriasis it gave no good result. Great care was necessary in dosage; a slight excess might cause a serious flare-up in the joints in rheumatoid arthritis cases.

Dr. G. B. DOWLING said that it was well known that the antigen responsible for a generalized eczema was often derived from the skin, and in such cases the ether reaction was always well marked. It was evident, therefore, that this tissue antigen, or something closely allied to it, might be present in the urine. If such an antigen could be isolated and used for desensitization, it should do as well as any other antigen, as it was well known that the sensitivity of tissues sensitized to a number of proteins could be removed by the application of any one of them. Dr. Oriel had taken charge of four of the speaker's cases of dermatitis herpetiformis, and treated them by injections of proteose, without using arsenic. All the cases had shown very marked amelioration, and one of them had cleared up completely.

Dr. H. C. SEMON had had three cases of the pruriginous eczematous type, and all had improved. Dr. A. WHITFIELD asked if there was any quick clinical test. He had concluded from the original paper by Barber and Oriel that by simply testing the urine, acidifying it with strong sulphuric acid, adding ether, and shaking, a marked difference would be apparent between the proteose-containing urine and normal. Yet he had done it in cases of dermatitis herpetiformis, urticaria, asthma, and prurigo associated with hay fever, and all showed some amount of syrupiness in the ether.

Dr. BARBER, replying to some questions, said that in his opinion the ether reaction as a clinical test was useless, because a large number of people who were apparently normal gave a good ether reaction. In a robust and very fit person, however, the reaction was quite small. It was largely a question of degree, and for that reason he had abandoned it as a test. The really important matter was the amount of proteose secreted during

twenty-four hours. In a patient with recurrent urticaria the proteose excreted during quiescence would be found to be very much less than the amount excreted during an actual attack, and the proteose during an attack was much more antigenic than was that produced in the quiescent interval.

PERFORATION OF JEJUNAL ULCER

At a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland held on March 6th, with the president, Mr. R. ATKINSON STONEY, in the chair, Mr. F. J. MORRIN read a paper on spontaneous perforation of jejunal ulcers, and reported three cases in which no evidence of any specific cause was forthcoming, and which had accordingly to be included in the class of simple intestinal ulcers. The first patient was a male, aged 65, with a history of abdominal discomfort for six months, who perforated suddenly; operation disclosed a perforation of the jejunum eighteen inches from the duodeno-jejunal flexure; this patient succumbed. The second patient was a female, aged 39; the perforation was not found at operation, but, later, necropsy disclosed a pin-point perforation of the jejunum, two feet from the flexure. The third patient was a female, aged 47; operation revealed perforation of an inflammatory area in the terminal jejunum; this patient recovered. From a survey of eighty-one reported cases, it appeared that two types of case were met with. In one, the ulcer progressed rapidly to perforation, and was first seen as an acute abdominal catastrophe. In the other a chronic ulcer produced indefinite gastro-intestinal symptoms for a variable time before perforating. The etiology of the condition was obscure, but it might perhaps be ascribed to the localization of circulating toxins or bacteria in association with degenerative arterial changes in the intestinal wall. The condition was more common in males, more common in the ileum than in the jejunum, and the pathological appearances resembled those met with in duodenal and gastric perforations. The resulting peritonitis was most grave, the mortality being about 66.7 per cent. On account of its rarity many cases had been overlooked at operation, and while the peritonitis of perforation did not impose an exact preoperative diagnosis on the surgeon in every case, it was important to remember the possibility of a perforation of the small intestine when examination of the appendix and stomach was negative.

The PRESIDENT, referring to diagnostic signs in cases of perforation, said that he thought a point of considerable importance was the occurrence of the chief pain and tenderness in the left iliac fossa. He had never come across a case of perforation of the small intestine. Mr. T. J. LANE spoke of a patient with perforated gastro-jejunal ulcer, and said that the tenderness in this case was on the left side. Mr. H. STOKES referred to a case of peptic ulcer of the appendix, in which the history was exactly similar to that of gastric ulcer.

SPINOCAIN ANAESTHESIA

Dr. R. W. SHAW, in a paper on spinocain, said that this substance, though not a perfect spinal anaesthetic, was the best he had yet used. The spinocain solution, being lighter than the spinal fluid, floated on the latter like the bubble in a spirit-level. Height of anaesthesia was controlled by the degree of Trendelenburg position employed, and by the amount of mechanical dissemination effected by mixing the spinocain with the cerebro-spinal fluid in a 10 c.cm. syringe. The patient was anaesthetized lying on the side. Preliminary injection of ephedrine-novocain solution was made over the site selected, thus anaesthetizing the skin and interspinous ligament, the ephedrine maintaining the blood pressure. Anaesthesia was usually complete in five to ten minutes, and there was a marked absence of shock in most cases. The speaker had used the anaesthetic in forty-two cases. Operations were varied in kind, and included ten abdominal cases. The results were satisfactory, only three failures being experienced. There were also two cases in which, the operation being long, some general anaesthetic was administered at the close.

Mr. W. PEARSON referred to two cases in which Dr. Shaw had given spinocain for him, and in which it had been most successful. He thought it was a good anaesthetic, and that it marked a great advance on previous solutions, but he did not regard it as infallible. Mr. A. B. CLERY mentioned a case in which it had been necessary to use three ampoules before anaesthesia was complete. On several occasions he had found that any traction on the peritoneum produced pain.

Mr. F. J. MORRIN said that he had been using spinal anaesthesia for ten years, and its advantages were immense. By its use it was possible to get an extraordinary amount of abdominal relaxation, and no anaesthetic was so successful for prostate operations. Its chief disadvantage was the marked fall in blood pressure which was apt to occur. In his experience spinocain was not so satisfactory as novocain. He had recently been using percaine, and thought this drug was the most successful. In some cases headache was very severe, and he had found the injection of 10 to 15 c.cm. of hypertonic saline very useful in alleviating this symptom.

Dr. SHAW, in reply, said that he thought the fall in blood pressure was avoided when spinocain was used; it had not caused him any anxiety. He had not found that patients complained very much of headache, but in one case he had to give an injection of hypertonic saline.

GYNAECOLOGICAL TUMOURS

At the last meeting of the North of England Obstetrical and Gynaecological Society, held at Sheffield, Professor MILES PHILLIPS (Sheffield) showed a specimen of perforating adenoma of the cervix. The specimen was removed, together with the normal appendages, by an extensive panhysterectomy on a provisional diagnosis of perforating endometrioma of the recto-vaginal space. The patient was 45 years of age, with a history of persistent backache for nine years. The point of interest in the specimen lay in a fistulous track leading from the cervical canal close to the internal os to a point high up in the posterior fornix. The vaginal opening contained a small red nodule. This nodule and the lining of the fistula consisted of glandular tissue, cervical in type, and covered by columnar epithelium. In some areas, and especially in the nodule, the glands were surrounded by a cystogenous mantle similar to that found in endometriomata. The nodule appeared by its well-marked stroma and greater vascularity to be the apex of the growth.

Professor W. FLETCHER SHAW (Manchester) showed an epithelioma of the vulva removed from a woman of 23 years. The patient had complained of local irritation for two years, an ulcer had been noticed for six months, and there had been a foul discharge for three months. The growth extended from one inch below the clitoris to a quarter of an inch above the anus, involving the right labium majus and minus and the posterior inch of the left labium majus. The right inguinal glands were extensively involved. The Wassermann reaction was negative, and section of the growth showed epithelioma. In spite of extensive removal of the growth and glands, followed by deep *x*-ray therapy, the patient died fourteen

months later, a mass being present in the pelvis. Professor Shaw gave a short account of similar cases which had been recorded.

Mr. N. L. EDWARDS (Derby) demonstrated two specimens. The first was a uterus containing a sarcomatous polypus. A fibroid polypus showing sarcomatous degeneration had been removed a year previously from the same patient, who had at the time refused hysterectomy. The second was a uterus and appendages with a left-sided fimbrial cyst with twisted pedicle and early papilliferous carcinoma of the right ovary.

Professor D. DOUGAL (Manchester) described a case of pseudo-myxoma of the ovaries and peritoneum, referring to two other cases he had previously reported, and giving a brief survey of the literature. In the case at present reported there was no cystic enlargement of the appendix, though a considerable quantity of pseudo-mucin was adherent to it and the caecum. Both ovaries showed large pseudo-mucinous cysts; that on the left side was evidently leaking into the abdomen. The omentum was converted into a cake-like mass, containing many small spaces filled with pseudo-myxomatous material. Both cysts were removed along with the uterus. It was not considered advisable to isolate and remove the appendix. In Professor Dougal's two previous cases the appendix was enlarged and distended with myxomatous material.

Miss RUTH NICHOLSON (Liverpool) described a case of double pyosalpinx in a girl of 16. The patient had been treated for a vaginal discharge at the age of 5. The periods had started at 14, and had been more or less normal. When seen she had a temperature of 103° with a rapid pulse. This continued for fourteen days, when the abdomen was opened and a double pyosalpinx and small uterus were removed. The pyrexia subsided on the third day and the patient made a good recovery. Miss Nicholson was confident in excluding the possibility of a reinfection.

TRANSPLANTABLE TUMOURS

At a meeting of the Liverpool Medical Institution, held on February 12th, with the president, Professor W. BLAIR BELL, in the chair, Dr. M. DATNOW read a paper on a malignant transplantable tumour of the rabbit. The speaker outlined the work of Wade H. Brown and Louise Pearce of the Rockefeller Institute, who had been inoculating syphilis into rabbits. One of their animals developed a malignant tumour. The histological findings of Brown and Pearce were described in order to illustrate the origin and nature of the growth. Dr. Datnow said that he had found no difficulty in propagating the tumour in English rabbits bought from dealers at random. (The original material was received from Dr. van S. Smith through the courtesy of Professor W. P. Graves of Boston.) He then went on to describe the details of the method of inoculation which he had adopted. The sites of injection were intratesticular, intra-ovarian, intraperitoneal (with a good percentage of "takes"), intramuscular, and subcutaneous (with no "takes" in the small series done). The ovary had not previously been used as a site for grafting, and he found that the tumour remained localized to the ovary for some time before its final and rapid dissemination all over the body. A number of tumour-bearing rabbits had been treated by intravenous injections of lead benzenesulphonylglycinate, in which definite changes ascribable to the lead preparation could be demonstrated. These were illustrated by slides, specimens, and histological preparations. Several rabbits had been completely cured of the tumour, and were quite well. A number of other interesting specimens and lantern slides were discussed.

Reviews

DISEASES OF THE CHEST

Dr. W. J. FENTON and Dr. L. S. T. BURRELL claim that their book on *Diseases of the Chest*,[1] which is written mainly from the clinical standpoint, embodies the personal experience and views of the authors. This claim appears to us to be fully justified. It is a commonplace that the best textbooks are written out of personal experience, and it must be admitted that, from the nature of the case, many cannot fulfil this condition. They often have their genesis in the notes prepared for tutorial classes, when the author's own experience was comparatively small, and, although with increasing first-hand knowledge the personal touch becomes accentuated, still much of the structure is inherited rather than acquired. And so errors are frequently perpetuated by tradition. The fact that this book is so largely a personal record gives it an air of freshness, and makes it agreeable and profitable reading. Even the introductory chapters on the anatomy of the chest and the respiratory mechanism have an individual note, and a critical account of physical signs follows. Next comes an excellent account of pleurisy and its association with tuberculosis. The importance of a broad view of the problems of asthma is emphasized, and the authors state that "in our experience the skin tests have proved of little practical value, and in some cases a severe attack of asthma has even been precipitated by their use." Unfortunately, this must be the conclusion which many have now reached. An interesting account of van Leeuwen's researches on asthma and allergic diseases is given. Further on, the difficult question of allergy in relation to reinfection by the tubercle bacillus is lucidly discussed. In the description of chronic bronchitis the authors express their doubts of the existence of putrid bronchitis apart from bronchiectasis, except as a transient phenomenon. We should entirely agree with this statement; the introduction of more precise methods of diagnosis, particularly the use of lipiodol, has led to the practical disappearance of the diagnosis of putrid or fetid bronchitis in the wards, and its disappearance from the textbooks might very well follow.

The whole treatment of pulmonary disease has assumed a new interest by the invasion of the surgeon into what was for so long regarded as purely medical territory. Until recently most physicians have looked askance at thoracic surgery, except for empyema and occasionally for gangrene of the lung. Even the induction of artificial pneumothorax in the treatment of phthisis encountered much opposition. It seems to us that it was the *x*-ray demonstration of the tuberculous nature of so-called spontaneous pneumothorax which played a decisive part in convincing many of the agnostics on this point. It was realized that this procedure was merely imitating nature's method at a time which could be chosen by the skilled observer, and to-day the advantages of artificial pneumothorax in suitable cases is not contested. But artificial pneumothorax is a "physician's operation." Phrenic evulsion he naturally resigns to a surgeon, but Drs. Fenton and Burrell regard the results of this procedure as disappointing, except as a preliminary to thoracoplasty. We doubt whether this is the general "Brompton" view, however. In the treatment of phthisis the authors consider that it may be of value in testing the state of the other lung. "Should this show signs of activity after phrenic evulsion thoracoplasty should not be proceeded with." But of the more drastic surgical

[1] *Diseases of the Chest*. By W. J. Fenton, M.D., F.R.C.P., and L. S. T. Burrell, M.D., F.R.C.P. London: J. Cape, Ltd. 1930. (Pp. 384; 19 plates. 15s. net.)

methods they regard thoracoplasty as the least dangerous and most hopeful. Pneumolysis, cauterization, and lobectomy are, however, discussed, chiefly in relation to the treatment of bronchiectasis. Indeed, the whole chapter on bronchiectasis is one of the best in the book. Under pneumonoconiosis we do not find any mention of the recent work which tends to show that the inhaled material which is capable of partial solution in body fluids is the most injurious. We conclude that the authors have not confirmed this.

Nearly one-third of the book is devoted to pulmonary tuberculosis, and of this less than one page is given to a discussion of treatment by tuberculin. The authors conclude that, though the dangers of tuberculin have been exaggerated, the chances of improvement by its means are not sufficient to warrant its heroic use. There is one type of case in which it appears to do good without any evidence of harm. It occasionally happens that a patient's temperature will remain between 99° and 100° F. in spite of all efforts to reduce it to normal. Here very small doses of tuberculin given subcutaneously will sometimes be followed by a normal temperature, with no further tendency to rise. There does not appear to be any advantage in large doses should the small dose fail. But this they regard as an example of non-specific shock therapy, which in general can only be used with extreme caution in phthisis. In the discussion of sanatorium treatment we are glad to see the favourable notice accorded to the Papworth Village Settlement, which is especially suitable for those who rapidly respond to sanatorium treatment but cannot maintain their health while under ordinary conditions of employment. Under the protection of sanatorium or colony life such patients are able to live and work, and many bring up a family, whereas they are quite incapable of holding their own and competing in the markets of the outside world. Papworth is a self-contained and growing village. The industries, which are worked entirely by patients, sell the goods in open market, and they are bought on their merits and not out of charity. The sales, which in 1919 were under £4,000, had amounted to £50,000 for the year 1927. After twelve years none of the children brought up in the settlement has developed any form of clinical tuberculosis.

Altogether an admirable book, and produced in the excellent way that one associates with the name of Jonathan Cape.

DERMATOLOGY AND VENEREAL DISEASE

Dr. SCHOLTZ has written a sound textbook of dermatology and venereal disease[2] especially designed to facilitate correct diagnosis for those who will take the trouble to study it. For their sake he provides no fewer than nineteen tables in which the various ills to which the integument is heir are classified from different points of view, so that the practitioner may be aided in the choice of the one which corresponds most exactly with the clinical characteristic exhibited by the patient whose case occupies him at the moment. The first fifteen of these tables deal with the diagnosis of skin diseases according to their primary lesions and their further development; and two other tables illustrate how diagnosis may be aided by the recognition of the most important secondary manifestations. One table is concerned with the differentiation of conditions characterized by excessive irritation, and another shows how the localization of an eruption assists in the diagnosis. Although it is impossible for any tabular scheme to take the place of clinical experience as a means of education in diagnosis there is no doubt that these tables are well and scientifically constructed, and are calculated to be of much use to a practitioner to whom opportunities of learning clinical dermatology by following the practice of a large department are not available.

A very large part of the whole volume is devoted to syphilis, a disease in which the author appears especially to be interested. His views on the treatment in its early stages are a little unusual. He is one of those who still prefer the old and original salvarsan (606) to its later modifications. He is of opinion that it is more effective, and holds that the results he has obtained from its use during the last ten years are ample compensation for the extra trouble which its preparation for use, and the employment of the large volume of solution necessary, involve. He believes in the employment of a comparatively small dose repeated within a short time. He begins his course with three doses of 0.3 gram salvarsan separated only by intervals of a few hours, but he does not give any more until the end of about three weeks and a half, when three further doses, rather smaller, however, than the original three, are administered, and after a similar interval a final series. The administration of three series of salvarsan injections of three doses each does not by any means constitute the whole of the anti-syphilitic treatment. The intervals between the courses are well filled up with bismuth and mercury injections, the administration of Zittmann's decoction, and actinotherapy. For full details the book itself must be consulted, and the arguments brought forward to support this method of using salvarsan will be found worthy of consideration.

In most particulars Dr. Scholtz's volume will be found accurate and up to date, but we are rather surprised that in his account of the treatment of malignant disease of the skin no mention is made of radium. No unprejudiced observer can deny the brilliant results obtained from the use of radium in rodent ulcer, especially in its early stages, and although it has not proved so invariably successful in cases of epithelioma it is without doubt a therapeutic agent of great importance, and deserves full discussion in any work that claims to deal with malignant disease of the skin.

In general, we have no hesitation in saying that Dr. Scholtz's textbook is sound and thorough. It is fortified with a number of prescriptions for the various ailments with which it deals, all collected together as an appendix. Examination of these formulae will provide most readers with useful hints. The illustrations, which form a very important part of any textbook of dermatology, are numerous and clear. The coloured plates for the most part appear to have been taken from wax models, but they are none the worse for that. We have noticed that coloured plates founded on wax models are often more satisfactory than those taken directly from living patients, no doubt because non-essential features are eliminated. Dermatologists and venereologists should add Dr. Scholtz's work to their library, and those general practitioners who live in isolated places will find that the study of its clinical tables will assist them in solving their dermatological problems.

SACRO-COXALGIA

In a recent monograph Dr. PIERRE INGELRANS presents the results of his observations on sacro-coxalgia or tuberculous infection of the sacro-iliac synchondrosis.[3] The tuberculous infection is born by the blood or lymph stream to the centres of ossification in the sacrum or ilium round the joint, very often, if not always, as a consequence of traumatism. It occurs chiefly between the ages of 25 to 35, and is not common below or above these ages. The

[2] *Diagnose, Differentialdiagnose und Behandlung der Haut- und Geschlechtskrankheiten.* Von Prof. Walther Scholtz. Leipzig: S. Hirzel. 1930. (Pp. xvi + 576; 155 figures, 32 plates. M.45.)

[3] *La Sacro-Coxalgie et son Traitement.* Par Pierre Ingelrans. Préface de René Le Fort. Paris: Masson et Cie. 1930. (Pp. x + 140; 6 plates. 30 fr.)

methods they regard thoracoplasty as the least dangerous and most hopeful. Pneumolysis, cauterization, and lobectomy are, however, discussed, chiefly in relation to the treatment of bronchiectasis. Indeed, the whole chapter on bronchiectasis is one of the best in the book. Under pneumonoconiosis we do not find any mention of the recent work which tends to show that the inhaled material which is capable of partial solution in body fluids is the most injurious. We conclude that the authors have not confirmed this.

Nearly one-third of the book is devoted to pulmonary tuberculosis, and of this less than one page is given to a discussion of treatment by tuberculin. The authors conclude that, though the dangers of tuberculin have been exaggerated, the chances of improvement by its means are not sufficient to warrant its heroic use. There is one type of case in which it appears to do good without any evidence of harm. It occasionally happens that a patient's temperature will remain between 99° and 100° F. in spite of all efforts to reduce it to normal. Here very small doses of tuberculin given subcutaneously will sometimes be followed by a normal temperature, with no further tendency to rise. There does not appear to be any advantage in large doses should the small dose fail. But this they regard as an example of non-specific shock therapy, which in general can only be used with extreme caution in phthisis. In the discussion of sanatorium treatment we are glad to see the favourable notice accorded to the Papworth Village Settlement, which is especially suitable for those who rapidly respond to sanatorium treatment but cannot maintain their health while under ordinary conditions of employment. Under the protection of sanatorium or colony life such patients are able to live and work, and many bring up a family, whereas they are quite incapable of holding their own and competing in the markets of the outside world. Papworth is a self-contained and growing village. The industries, which are worked entirely by patients, sell the goods in open market, and they are bought on their merits and not out of charity. The sales, which in 1919 were under £4,000, had amounted to £50,000 for the year 1927. After twelve years none of the children brought up in the settlement has developed any form of clinical tuberculosis.

Altogether an admirable book, and produced in the excellent way that one associates with the name of Jonathan Cape.

DERMATOLOGY AND VENEREAL DISEASE

Dr. SCHOLTZ has written a sound textbook of dermatology and venereal disease[2] especially designed to facilitate correct diagnosis for those who will take the trouble to study it. For their sake he provides no fewer than nineteen tables in which the various ills to which the integument is heir are classified from different points of view, so that the practitioner may be aided in the choice of the one which corresponds most exactly with the clinical characteristic exhibited by the patient whose case occupies him at the moment. The first fifteen of these tables deal with the diagnosis of skin diseases according to their primary lesions and their further development; and two other tables illustrate how diagnosis may be aided by the recognition of the most important secondary manifestations. One table is concerned with the differentiation of conditions characterized by excessive irritation, and another shows how the localization of an eruption assists in the diagnosis. Although it is impossible for any tabular scheme to take the place of clinical experience as a means of education in diagnosis there is no doubt that these tables are well and scientifically constructed, and are calculated to be of much use to a practitioner to whom opportunities of learning clinical dermatology by following the practice of a large department are not available.

A very large part of the whole volume is devoted to syphilis, a disease in which the author appears especially to be interested. His views on the treatment in its early stages are a little unusual. He is one of those who still prefer the old and original salvarsan (606) to its later modifications. He is of opinion that it is more effective, and holds that the results he has obtained from its use during the last ten years are ample compensation for the extra trouble which its preparation for use, and the employment of the large volume of solution necessary, involve. He believes in the employment of a comparatively small dose repeated within a short time. He begins his course with three doses of 0.3 gram salvarsan separated only by intervals of a few hours, but he does not give any more until the end of about three weeks and a half, when three further doses, rather smaller, however, than the original three, are administered, and after a similar interval a final series. The administration of three series of salvarsan injections of three doses each does not by any means constitute the whole of the anti-syphilitic treatment. The intervals between the courses are well filled up with bismuth and mercury injections, the administration of Zittmann's decoction, and actinotherapy. For full details the book itself must be consulted, and the arguments brought forward to support this method of using salvarsan will be found worthy of consideration.

In most particulars Dr. Scholtz's volume will be found accurate and up to date, but we are rather surprised that in his account of the treatment of malignant disease of the skin no mention is made of radium. No unprejudiced observer can deny the brilliant results obtained from the use of radium in rodent ulcer, especially in its early stages, and although it has not proved so invariably successful in cases of epithelioma it is without doubt a therapeutic agent of great importance, and deserves full discussion in any work that claims to deal with malignant disease of the skin.

In general, we have no hesitation in saying that Dr. Scholtz's textbook is sound and thorough. It is fortified with a number of prescriptions for the various ailments with which it deals, all collected together as an appendix. Examination of these formulae will provide most readers with useful hints. The illustrations, which form a very important part of any textbook of dermatology, are numerous and clear. The coloured plates for the most part appear to have been taken from wax models, but they are none the worse for that. We have noticed that coloured plates founded on wax models are often more satisfactory than those taken directly from living patients, no doubt because non-essential features are eliminated. Dermatologists and venereologists should add Dr. Scholtz's work to their library, and those general practitioners who live in isolated places will find that the study of its clinical tables will assist them in solving their dermatological problems.

SACRO-COXALGIA

In a recent monograph Dr. PIERRE INGELRANS presents the results of his observations on sacro-coxalgia or tuberculous infection of the sacro-iliac synchondrosis.[3] The tuberculous infection is born by the blood or lymph stream to the centres of ossification in the sacrum or ilium round the joint, very often, if not always, as a consequence of traumatism. It occurs chiefly between the ages of 25 to 35, and is not common below or above these ages. The

[2] *Diagnose, Differentialdiagnose und Behandlung der Haut- und Geschlechtskrankheiten.* Von Prof. Walther Scholtz. Leipzig: S. Hirzel. 1930. (Pp. xvi + 576; 155 figures, 32 plates. M.45.)

[3] *La Sacro-Coxalgie et son Traitement.* Par Pierre Ingelrans. Préface de René Le Fort. Paris: Masson et Cie. 1930. (Pp. x + 140; 6 plates. 30 fr.)

months later, a mass being present in the pelvis. Professor Shaw gave a short account of similar cases which had been recorded.

Mr. N. L. EDWARDS (Derby) demonstrated two specimens. The first was a uterus containing a sarcomatous polypus. A fibroid polypus showing sarcomatous degeneration had been removed a year previously from the same patient, who had at the time refused hysterectomy. The second was a uterus and appendages with a left-sided fimbrial cyst with twisted pedicle and early papilliferous carcinoma of the right ovary.

Professor D. DOUGAL (Manchester) described a case of pseudo-myxoma of the ovaries and peritoneum, referring to two other cases he had previously reported, and giving a brief survey of the literature. In the case at present reported there was no cystic enlargement of the appendix, though a considerable quantity of pseudo-mucin was adherent to it and the caecum. Both ovaries showed large pseudo-mucinous cysts; that on the left side was evidently leaking into the abdomen. The omentum was converted into a cake-like mass, containing many small spaces filled with pseudo-myxomatous material. Both cysts were removed along with the uterus. It was not considered advisable to isolate and remove the appendix. In Professor Dougal's two previous cases the appendix was enlarged and distended with myxomatous material.

Miss RUTH NICHOLSON (Liverpool) described a case of double pyosalpinx in a girl of 16. The patient had been treated for a vaginal discharge at the age of 5. The periods had started at 14, and had been more or less normal. When seen she had a temperature of 103° with a rapid pulse. This continued for fourteen days, when the abdomen was opened and a double pyosalpinx and small uterus were removed. The pyrexia subsided on the third day and the patient made a good recovery. Miss Nicholson was confident in excluding the possibility of a reinfection.

TRANSPLANTABLE TUMOURS

At a meeting of the Liverpool Medical Institution, held on February 12th, with the president, Professor W. BLAIR BELL, in the chair, Dr. M. DATNOW read a paper on a malignant transplantable tumour of the rabbit. The speaker outlined the work of Wade H. Brown and Louise Pearce of the Rockefeller Institute, who had been inoculating syphilis into rabbits. One of their animals developed a malignant tumour. The histological findings of Brown and Pearce were described in order to illustrate the origin and nature of the growth. Dr. Datnow said that he had found no difficulty in propagating the tumour in English rabbits bought from dealers at random. (The original material was received from Dr. van S. Smith through the courtesy of Professor W. P. Graves of Boston.) He then went on to describe the details of the method of inoculation which he had adopted. The sites of injection were intratesticular, intra-ovarian, intraperitoneal (with a good percentage of "takes"), intramuscular, and subcutaneous (with no "takes" in the small series done). The ovary had not previously been used as a site for grafting, and he found that the tumour remained localized to the ovary for some time before its final and rapid dissemination all over the body. A number of tumour-bearing rabbits had been treated by intravenous injections of lead benzenesulphonylglycinate, in which definite changes ascribable to the lead preparation could be demonstrated. These were illustrated by slides, specimens, and histological preparations. Several rabbits had been completely cured of the tumour, and were quite well. A number of other interesting specimens and findings were discussed.

Reviews

DISEASES OF THE CHEST

Dr. W. J. FENTON and Dr. L. S. T. BURRELL claim that their book on *Diseases of the Chest*,[1] which is written mainly from the clinical standpoint, embodies the personal experience and views of the authors. This claim appears to us to be fully justified. It is a commonplace that the best textbooks are written out of personal experience, and it must be admitted that, from the nature of the case, many cannot fulfil this condition. They often have their genesis in the notes prepared for tutorial classes, when the author's own experience was comparatively small, and, although with increasing first-hand knowledge the personal touch becomes accentuated, still much of the structure is inherited rather than acquired. And so errors are frequently perpetuated by tradition. The fact that this book is so largely a personal record gives it an air of freshness, and makes it agreeable and profitable reading. Even the introductory chapters on the anatomy of the chest and the respiratory mechanism have an individual note, and a critical account of physical signs follows. Next comes an excellent account of pleurisy and its association with tuberculosis. The importance of a broad view of the problems of asthma is emphasized, and the authors state that "in our experience the skin tests have proved of little practical value, and in some cases a severe attack of asthma has even been precipitated by their use." Unfortunately, this must be the conclusion which many have now reached. An interesting account of van Leeuwen's researches on asthma and allergic diseases is given. Further on, the difficult question of allergy in relation to reinfection by the tubercle bacillus is lucidly discussed. In the description of chronic bronchitis the authors express their doubts of the existence of putrid bronchitis apart from bronchiectasis, except as a transient phenomenon. We should entirely agree with this statement; the introduction of more precise methods of diagnosis, particularly the use of lipiodol, has led to the practical disappearance of the diagnosis of putrid or fetid bronchitis in the wards, and its disappearance from the textbooks might very well follow.

The whole treatment of pulmonary disease has assumed a new interest by the invasion of the surgeon into what was for so long regarded as purely medical territory. Until recently most physicians have looked askance at thoracic surgery, except for empyema and occasionally for gangrene of the lung. Even the induction of artificial pneumothorax in the treatment of phthisis encountered much opposition. It seems to us that it was the x-ray demonstration of the tuberculous nature of so-called spontaneous pneumothorax which played a decisive part in convincing many of the agnostics on this point. It was realized that this procedure was merely imitating nature's method at a time which could be chosen by the skilled observer, and to-day the advantages of artificial pneumothorax in suitable cases is not contested. But artificial pneumothorax is a "physician's operation." Phrenic evulsion he naturally resigns to a surgeon, but Drs. Fenton and Burrell regard the results of this procedure as disappointing, except as a preliminary to thoracoplasty. We doubt whether this is the general "Brompton" view, however. In the treatment of phthisis the authors consider that it may be of value in testing the state of the other lung. "Should this show signs of activity after phrenic evulsion thoracoplasty should not be proceeded with." But of the more drastic surgical

[1] *Diseases of the Chest*. By W. J. Fenton, M.D., F.R.C.P., and L. S. T. Burrell, M.D., F.R.C.P. London: J. Cape, Ltd. 1930. (Pp. 384; 19 plates. 15s. net.)

condition is discussed systematically, and the chapter on differential diagnosis, which lays stress on the importance of *x*-ray examination, merits special study. The pain is so often referred down the sciatic nerve that a persistent sciatica in young subjects should always suggest the possibility of this lesion. Sacralization of the last lumbar vertebra is a frequent accompaniment.

Treatment is divided into non-operative and operative. The former consists of five possible procedures, none of which find much favour in the eyes of the author: (1) simple immobilization; (2) immobilization combined with horizontal extension; (3) immobilization combined with vertical extension; (4) counter-irritation; (5) punctures for drainage of pus. Operative procedures resolve themselves into arthrodesis, aiming at immobilizing the joint so that the tuberculous process has a chance to heal, and resection of the whole diseased area. Details are given of the technique of both operations. Operative treatment is recommended in young subjects of 14 to 35 years of age in whom the general condition is reasonably good. Arthrodesis is suitable in cases which are still limited and which do not show bone abscesses. Resection operations have always to be adapted to the individual case, since foci of disease may be found in such varying situations round the joint. The author considers that the results of operation are good, but points out that unsuitable cases are sometimes operated upon with disastrous results, but these should not discredit a valuable procedure. Cure always takes about four years, and, serious as the condition is, it is not hopeless. The author has had five deaths in thirty-eight cases.

The monograph is illustrated by a clinical description of the thirty-eight cases, many of these being accompanied by *x*-ray photographs. It is a work to be recommended, not only to orthopaedists (who will naturally be interested in the author's records of his cases of this not very common syndrome), but also to general physicians and surgeons who have to deal with casés of sciatic and sacro-iliac pain. Pain in the back is such a common complaint, and often so intractable, that a clear and succinct description of one of its causes cannot but be valuable.

MEDICAL STATISTICS

The first edition of Professor RAYMOND PEARL'S *Introduction to Medical Biometry and Statistics*,[4] published in 1923, was generally accepted as being an excellent introductory textbook—the type of book that was likely to be of considerable service to students of medical problems who did not wish to lose the advantage that a knowledge of statistical method could give them, but whose knowledge of algebra was limited to memories of their school days. That it is fulfilling this purpose is proved by the issue of a reprint of the first edition in 1927, and by the present need for publication of a second edition. Considerable enlargement and revision of the previous issue have been made. Such sections as those dealing with the international list of causes of death, the movement of the birth rate and the recording of stillbirths, census taking, mechanical tabulation, etc., have been brought up to date. The references for extended reading have been increas[illegible] the more important of the relevant [illegible] with statistics issued during final and [illegible] number of tu[illegible] bearing. [illegible]thod fails because the specific intravenous injections of le[illegible]s required was badly framed, in which definite changes as[illegible]iently collected or recorded. tion could be demonstrated. [illegible]al investigation depends slides, specimens, and histologi[illegible] put in such a way that rabbits had been completely c[illegible] were quite well. A number of [illegible] and findings were discussed.

[4] *Introduction to Medical Biometry and Statistics.* By Raymond Pearl. Revised and enlarged. Philadelphia and London: W. B. Saunders Co. 1930. (Pp. 459; the answer is "correct, precise, clear, and without ambiguity." Statistical analysis—or any form of analysis—is merely waste of time unless this criterion is substantially fulfilled. The author has added an excellent chapter on the essential ideals in the making of scientific records, illustrated by blank forms that he has employed in collecting medical records and in an investigation of longevity, a chapter which should be of considerable help to the potential investigator and enable him to avoid many pitfalls in the collection of material. In the measurement of variation Professor Pearl has developed an interesting graphical method of depicting relative variability for comparative purposes. The coefficient of variation does not, with some workers, readily or instantly call up in the mind an adequate picture of the real degree of scatter of the distribution, so that there seemed to be a sphere of usefulness for a method by which one may *see* the difference or likeness in the variation of a man and a mouse—for example, in respect of body weight. The method adopted is perfectly simple to understand, and, judging by the examples given, effective in practice.

The author and his co-workers have done in recent years a great deal of valuable work on the problems of the growth of populations, and it is fitting that a chapter should have been added on the logistic curve. The book remains practically devoid of algebra, and should continue admirably to fulfil the wants of those who visibly wilt at the introduction of *x* and *y*.

HYPERTENSION AND HYPOTENSION

The work on *Hypertension*,[5] by Dr. LESLIE T. GAGER, professor of clinical medicine in the George Washington University, may conveniently be noticed with that on Acute and Subacute Hypotension[6] by Dr. M. A. DUMAS of Lyons, which reproduces a communication made to the twentieth French Congress of Medicine held at Montpellier in 1929. Dr. Gager's monograph, which is based on personal observations and a study of the literature as evidenced by his carefully chosen bibliography of 505 references, gives a full account of hypertension, including the historical aspects, etiology, clinical phenomena, prognosis, and treatment. It forms a good up-to-date presentation of the subject, and should prove very valuable as a work of reference. Dr. Dumas's book on hypotension is divided into four parts, devoted respectively to a general consideration of the subject, symptomatology, conditions under which hypotension may occur, and diagnosis and treatment. A classified bibliography, consisting almost exclusively of references to French literature, is appended.

NOTES ON BOOKS

The call for a second edition of *The Treatment of Chronic Deafness by the Electrophonoïde Method of Zünd-Burguet*,[7] by Dr. GEORGE CATHCART, shows that although the method which he advocates has been met by much opposition and some criticism, he has nevertheless secured an appreciable following. Little change has been made in the new edition, but a larger number of results are now available. The original details of 100 cases with 68 per cent. improvement are given, but the total is now 665 cases, with 64.5 per cent. improvement, showing a remarkable continuation of uniform results. Dr. Cathcart still maintains that there is an unknown factor in deafness, apart from the known anatomical abnormality, and that this factor accounts for the success

[5] *Hypertension.* By Leslie T Gager, M.D. London: Baillière, Tindall and Cox. 1930. (Pp. xiii + 158; 5 figures. 13s 6d. net.)

[6] *Les Hypotensions aigues et subaiguës.* Par M. A. Dumas. Paris: Masson et Cie. (Pp. 163; 2 figures. 30 fr.)

[7] *The Treatment of Chronic Deafness by the Electrophonoïde Method of Zünd-Burguet.* By George C. Cathcart, M.D. Second edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1931. (Pp. xiii + 111; 7 figures. 5s. net.)

of the Zünd-Burguet treatment. We have previously suggested that this factor may be functional, but the fact remains that the method is capable of relieving a certain number of deaf people, and of alleviating their tinnitus. Dr. Cathcart takes the opportunity in a long preface to reply to some of the critics of the first edition. He need not have done this, because the method will eventually survive on its merits or perish by its failures; but he himself has full confidence in its worth, and his method of dealing with critics has some educational value.

Messrs. Jonathan Cape have now published an English translation, by Dr. Helen C. Scott, of the well-known book on *Clinical Examination and Surgical Diagnosis*,[8] by Professor FÉLIX LEJARS. A review of the second French edition appeared in the *Journal* of November 12th, 1927 (p. 883). The English edition is particularly well illustrated, and the practical way in which the various descriptions are set out will cause the book to be very welcome to readers in this country.

Several important French books on different aspects of renal disease have recently been noticed in these columns, and we now have for review a large monograph by CHABANIER and LOBO-ONELL on the investigation of renal function.[9] This book emanates from the Hôpital Necker, Paris, and is dedicated to Legren and Ambard, distinguished teachers of this hospital. As would be expected, therefore, many pages are devoted to the "Ambard constant," and this book gives us an excellent opportunity of reading in summarized form all the views and methods of Ambard and his associates. There is an admirable bibliography placed at the bottom of each page. The book is interesting to specialists, but is scarcely suitable for reading by the general physician.

The title of the book Rejuvenation through Stimulation of Blood Production,[10] by Dr. ARNOLD LORAND, is misleading; neither rejuvenescence nor blood production, as is generally understood by these expressions, is considered. This is not a scientific treatise. It is a collection of general vague statements and opinions of the author on diet and various therapeutic measures which would probably confuse rather than help the medical practitioner in the treatment of his patients. The book is perhaps only intended for the lay reader.

Almost from time immemorial arsenic has been instrumental in providing the world with those impassioned dramas of real life which grip the imagination more than anything else—the trial of one human being for the murder of another. The struggle of the accused, often with inadequate forces at his disposal, against the might of the Crown, never fails to thrill the imagination of the public. The *Trial of Harold Greenwood*[11] for the murder of his wife in 1920 supplies all the ingredients for a sensational drama, together with a mystery which remains unsolved. Did Mrs. Greenwood die from arsenical poisoning, from opium poisoning, or from natural causes; and if from poison, whose was the hand which administered it? In the series of "Notable British Trials" an endeavour is always made to present as nearly as may be a verbatim report of the judicial proceedings, and it is only in the introduction that the author has any opportunity of displaying his individuality. WINIFRED DUKE, in her introduction to the Greenwood case, epitomizes the whole subject in a very readable manner, and has given a careful verbatim report of the trial, together with the proceedings at the coroner's inquest and the police court. The book will no doubt appeal to the general reader as much as to the student of crime.

[8] *Clinical Examination and Surgical Diagnosis*. By Félix Lejars. Translated from the French by Helen C. Scott, M.R.C.S., L.R.C.P. London: J. Cape. 1931. (Pp. xi + 872; 1094 figures. 50s. net.)

[9] *Exploration Fonctionnelle des Reins*. Par H. Chabanier et C. Lobo-Onell, avec la collaboration de M. Lebert et E. Lélu. Préface du Professeur Leguen. Paris: Masson et Cie. 1930. (Pp. xii + 569; 60 figures. 70 fr.)

[10] *Verjüngung durch Anregung der Blutbildung*. Von Dr. Arnold Lorand. Leipzig: J. A. Barth. 1930. (Pp. iv + 135. R.M.5.40.)

[11] *Trial of Harold Greenwood*. Edited by Winifred Duke. Notable British Trials. Edinburgh and London: W. Hodge and Co., Ltd. 1930. (Pp. xi + 347; 10 plates. 10s. 6d. net.)

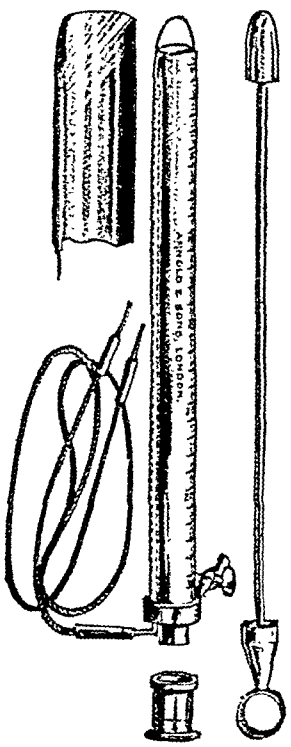
The eleventh edition of MARSHALL'S *Junior Course of Practical Zoology*[12] has been revised by H. G. NEWTH of Birmingham University. We have already commented in these columns on the excellence of this compact volume as a laboratory guide to elementary zoological studies. In the new edition, except for a brief note on nyctotherus and balantidium in the chapter on protozoa, no new types of animals have been introduced, but all the operations described in the textbook have been performed again to ensure the accuracy of the technical instructions.

[12] *A Junior Course of Practical Zoology*. By the late A. Milnes Marshall, M.D., D.Sc., F.R.S., and the late C. Herbert Hurst, Ph.D. Revised by H. G. Newth, M.Sc. Eleventh edition. London: J. Murray. 1930. (Pp. xvii + 519; 94 figures. 12s. net.)

PREPARATIONS AND APPLIANCES

A SIGMOIDOSCOPE

Mr. FRANK HARVEY, F.R.C.S. (London, W.) writes: I have devised, with the technical assistance of Mr. Olliver of Messrs. John Bell and Croyden (Arnold and Sons), 50-52, Wigmore Street, a modification of the Lockhart-Mummery sigmoido-



scope. The lamp, instead of being on a long stem, inside the lumen of the instrument, is recessed in its walls, and protected by a window, which is situated a short distance from the distal end. The advantages of this arrangement are that the lamp and holder cannot be fouled by faeces, nor can the swabs be caught in the lamp. When the lumen of the sigmoidoscope does become soiled the one action of cleaning the instrument also cleans the window behind which the lamp is recessed and protected.

I have also had a rectal speculum made on the same principle.

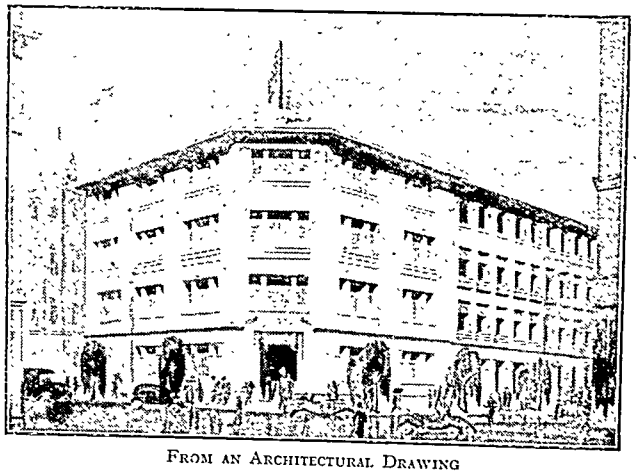
THERAPEUTIC BACTERIOPHAGES

The products of Le Laboratoire du Bacteriophage, which is under the control of Professor d'Herelle, are being marketed in this country by the Anglo-French Drug Co., Ltd. The discovery of the bacteriophages is one of the most interesting advances that have been made this century in immunology. If the claims of Professor d'Herelle are justified the discovery is a therapeutic advance similar in importance to the discovery of antiserums. The therapeutic value of these preparations is, however, still obscured by controversy. The subject is far too difficult, and also too important, to attempt to adjudicate upon in a short note. Some of the bacteriophages which are now being introduced for general use in this country are: bacte-coli-phage, bacte-pyo-phage, and bacte-intesti-phage.

ALL-INDIA INSTITUTE OF HYGIENE AND PUBLIC HEALTH

GIFT OF THE ROCKEFELLER FOUNDATION

Prior to 1920 medical graduates in India had to go abroad for systematic study of tropical medicine and hygiene. The idea of establishing institutes in India for this purpose, however, had been conceived in 1914 by Sir Leonard Rogers, who proposed that there should be a School of Tropical Medicine in Calcutta and an Institute of Hygiene in Bombay. Although circumstances prevented the realization of these projects, Rogers's perseverence and enthusiasm, aided by the generosity of the Governments of India and Bengal, and various private benefactions, led to the opening in 1920 of the Calcutta School of Tropical Medicine and Hygiene, in which teaching and research were combined. A chair of hygiene was established, and a course of instruction arranged for the university diploma of public health, but this provision was soon seen to be inadequate. It was recognized that as time went on, and public health policy expanded in all the Indian provinces, there would be an increasing need for specialists and workers highly trained in general hygiene, with knowledge and experience of Indian requirements. This matter was referred to by Major-General J. D. Graham in his annual report as public health commissioner in 1925:



FROM AN ARCHITECTURAL DRAWING

"This is a work which has to be done for the benefit of Indians. To be effective it must carry conviction and establish its position against immemorial conservatism and tradition; it must therefore be done by Indians. It presents a grand and unlimited field for public health workers, but it is well to recognize that the improvement cannot be achieved when the expert labourers are too few in number, that these cannot be increased to the requisite number without a careful system of specialized training in institutes or schools devoted to public health teaching and research. . . . It has often been represented, and not without justice, that scientific knowledge in regard to the prevention of certain communicable diseases has far outstripped its application in the field. It is with such a personnel that the practical application must finally rest."

These conclusions, repeatedly endorsed by Major-General Megaw, head of the school, were discussed with Dr. W. S. Carter, associate director of the Rockefeller Foundation, during his periodic tours of India and the Far East, with the result that he became deeply impressed with the necessity of establishing an All-India Institute. Much of the teaching in basic subjects, such as bacteriology and protozoology, being common to the diplomas of public health and of tropical medicine, the advantages were obvious of establishing the institute in Calcutta on a site close to the school, where the basic subjects would continue to be taught, the institute being concerned with subjects especially related to Indian requirements. The Rockefeller Foundation offered to meet the cost of acquiring the site, and to build and equip an institute on an assurance from the Government that it would defray the cost of staff and maintenance after the building was handed over.

In July, 1930, a site was acquired, and building was begun in September. A constructional committee was appointed, consisting of the public health commissioner with the Government of India, the surgeon-general with the Government of Bengal, the chief engineer with the same Government, the chairman of the Calcutta Improvement Trust, and the Accountant-General, Bengal. Lieut.-Colonel A. D. Stewart, professor of hygiene in the Calcutta School of Tropical Medicine, was appointed director-designate of the new institute, and Lieut.-Colonel A. A. E. Baptist assistant director, to superintend the construction and equipment. It is expected that the building will be completed by the end of this year, and that the institute will be opened for work early in 1932.

The site of the institute practically adjoins the school, with which the building will harmonize in design and appearance. The plan is based on a unit room of 25 ft. by 21 ft. The building, which will be E-shaped and four-storied, the long limb being in the centre, will accommodate six sections: (1) public health administration; (2) sanitary engineering; (3) vital statistics and epidemiology; (4) biochemistry and nutrition; (5) malariology and rural hygiene; and (6) maternity and child welfare and school hygiene. Each section will be allotted one unit room for the head of the section and two unit rooms for the workers. The working sections will be placed in the central limb of the building facing north, with unimpeded north light. The west block will comprise the administrative rooms, lecture theatre, practical class rooms, museum, and a large auditorium to seat 200. In the east limb there will be store rooms, a common room, and a lunch room for students, spare working rooms, and lavatories; a separate annexe will provide for an animal room on each floor. The library will be in the centre block on the top floor. Three unit rooms on each floor, and the library and reading room, will be supplied with conditioned air during the hot months of the year.

Each section will be staffed by a professor, an assistant professor, and laboratory or other assistants. As the chief object of the institute is to bridge over the gulf between the results achieved by pure research and their practical application to the community, its function will be primarily instruction. The subjects for the D.P.H., Part I, will continue to be taught at the Tropical School, but the specialized subjects in public health will be taken by the staff of the institute. The examination for the D.P.H. is conducted by the University of Calcutta, with which the new institute will in due course be affiliated. It is also intended to provide short post-graduate instruction in special subjects for public health workers desiring to pursue advanced study, and it is probable that the University will institute a higher degree or doctorate in public health science, which will require a year's training at the institute in some specialized branch. Special courses in child welfare and public health nursing may be arranged for women graduates and nurses respectively. The institute will be co-ordinated with the various aspects of practical hygiene and public health all over India, and will, it is hoped, render assistance to public health administrators and workers, and organize and carry out investigations in the application of medical research and knowledge for the betterment of the Indian people.

British Medical Journal

SATURDAY, MARCH 28th, 1931

THE THYMUS PUZZLE

The thymus gland still remains one of the puzzles of medical science, and authorities differ widely both about its exact importance in the physiology of the human organism and about its significance in disease. In opening a discussion on this subject at the International Paediatric Congress in Stockholm last summer, Professor E. Moro of Heidelberg sketched an imaginary conversation between an average doctor and a research worker studying the thymus, out of which emerged the conclusion that concerning the functions of this gland and their importance for the organism nothing is known for certain to-day! Professor Moro hastened to add, however, that a great deal of knowledge about the thymus had been patiently accumulated, and in many ways the ground had been cleared, although the results of many animal experiments were contradictory.

In his paper, which has now been published,[1] Moro deals particularly with the thymo-lymphatic system from the clinical standpoint. He describes three clinical divisions: congenital hyperplasia of the thymus, status thymico-lymphaticus, and status lymphaticus. He does not deal with the first because, in his opinion, it has nothing to do with status thymico-lymphaticus, which was the particular subject under discussion. The second and third clinical conditions he would keep strictly separate. In other words, the term "status lymphaticus" stands for the lymphatic type of child, of the "exudative diathesis," with hyperplasia of the whole lymphatic apparatus of the body, including a lymphocytosis in the blood. In this "fat and flabby" type of child the enlarged thymus is a part of the clinical picture, but the liability to sudden death is not a feature of this condition. On the other hand, in status thymico-lymphaticus the sudden failure of the action of the heart is, in Moro's view, the central point of the whole thymus problem, and he considers a better term for the condition would be "status cardio-thymicus." He discusses the possible connexion between the thymic enlargement and the cardiac failure, mentioning hyperthymization, dysthymization, hormonal dysharmony, and an anatomical, nervous theory as possibilities to be considered. Whatever the true explanation, he is convinced that status thymico-lymphaticus is a definite pathological condition—a conclusion first suggested some thirty years ago by his teacher Escherich, and very much out of fashion to-day. Indeed, as was recently reported in these columns (March 14th, 1931, p. 468), the opinion of the committee set up jointly by the Medical Research Council and the Pathological Society of Great Britain and Ireland is emphatically against such a conclusion. Incidentally, Professor Moro observes that the condition is much less often seen nowadays in Germany than it used to be. In contrast with this, congenital hyperplasia of the thymus seems to be very much on the increase, especially in the North American continent, and some authorities have reported that over 40 per cent. of infants show an enlarged thymic shadow when examined with *x* rays.

Dr. A. Stanley Kirkland, in a recent paper from Canada,[2] discusses particularly this congenital condition, dividing all children with thymic symptoms into three age groups: those who have difficulty in the first few hours of life; those whose difficulty appears in the early weeks of life; and those whose persistently enlarged or hyperfunctioning thymus endangers their lives during the years up to puberty or even later. He especially discusses the second group, and the clinical picture he describes is that of a child in the first months of life who has difficulty in feeding, associated with some cyanosis and dyspnoea, who chokes when crying, and may have a crow or inspiratory stridor. *X*-ray examination of such a child will, in the majority of cases, show an enlarged upper mediastinal shadow, and treatment by means of *x*-ray therapy rapidly restores the child to normal. This picture of what has been called "thymic asthma" is certainly not seen at all frequently in this country, and it is difficult to believe that it is not being recognized. Indeed, some children's physicians, on clinical as opposed to radiological grounds, deny the existence of the condition except as an extreme rarity, and it is interesting to observe Kirkland's remark that "the *x*-ray demonstration of a large thymus shadow is only part of the picture," and such demonstrable enlargement is not essential for diagnosis. In cases where a shadow is present it may remain exactly the same size after *x*-ray treatment, although the symptoms have been relieved by irradiation of the gland. These alarming symptoms ascribed to "thymic dysfunction" may therefore have nothing definitely to do with the thymus gland, notwithstanding that empirical treatment of them by irradiation of the thymus seems effective.

These results are well in accord with Moro's view that present-day knowledge of the thymus is anything but certain. It seems to be impossible to obtain precise figures for the normal size, shape, or weight of the gland at different ages, which can be agreed upon by anatomists, paediatricians, and radiologists. The latest investigation in this country, referred to above, had as one of its objects the establishment of standards of weight for age and proportion to body weight of the normal thymus at all ages; but, even granted that the results are universally accepted, the difficult question of the radiological shape and size of the normal gland is still unsettled. While these elementary points remain obscure it is not surprising that wide disagreement exists over such conditions as congenital hyperplasia of the thymus and status thymico-lymphaticus.

[1] *Klin. Woch.*, November 22nd, 1930, No. 47, p. 2185.

[2] *Canadian Med. Assoc. Journ.*, November, 1930, p. 661.

THE CAMPAIGN AGAINST SILICOSIS

Dr. E. L. Middleton, in a report lately issued by the Home Office,[1] gives an interesting summary of the findings of the International Conference on Silicosis, held at Johannesburg last August, of which some account appeared in our issue of October 4th, 1930 (p. 567). Dr. Middleton was the official representative of Great Britain at that conference. He describes the long campaign conducted since 1902 in South Africa against the disease, and the remarkable success which has attended those efforts. The last figure (that for 1928–29) of the number of white miners affected with silicosis is 1.76 per cent. This represents a genuine improvement, because it has been brought about in the face of continued increase in the number of miners at work.

During the twelve years' period of activity of the Miners' Phthisis Medical Bureau, 4,362 cases of silicosis, and 382 cases of tuberculosis with silicosis, have been detected in the Union of South Africa. As we remarked a few weeks ago, when reviewing the last annual report by its chairman, Dr. Louis G. Irvine, the Bureau deals with conditions which exist in no other country, and no student of tuberculosis or industrial medicine can afford to neglect its reports. These documents are particularly important because they record, year by year, the progress of the fight against silicosis, and indicate how far the preventive measures against dust in the mines are successful. The conclusion arrived at by the conference as to causation was that "silica must reach the lungs: (*a*) in a chemically uncombined condition, although the dust inhaled may be mixed with other dusts either as a natural mixture, such as occurs in granite, or as an artificial mixture; (*b*) in fine particles, though there is no evidence as to the lowest limit of size of particles capable of producing the disease; (*c*) in sufficient amount and over a certain period of time." Contradictory views, however, were held as to prognosis. In South Africa the general opinion is that the disease is not arrested on ceasing employment, while in Great Britain there is evidence that if a person were removed from exposure at the earliest detectable signs, the disease would not generally progress, at least, over a considerable number of years. In regard to compensation, the important practical conclusion was reached that "where legislation provides for the compulsory removal from occupations involving exposure to silica dust of workers affected by silicosis, such compulsory removal should not necessarily be applied to workers who have been in the same industry for a period of not less than fifteen years and have reached the age of forty-five years." This recommendation was obviously prompted by the intolerable hardship inflicted on the skilled worker, who, at a comparatively advanced age, would find great difficulty in obtaining alternative employment. Water sprays were considered to be of little value for removing fine dust from the air, and their employment has other objections, but the use of localized exhaust draught was of great value. Indeed, as Dr. Irvine has said in one of his reports, the fine dust requires to be treated as a gas. One of the great aims of the Conference on Silicosis was to promote international co-ordination in the outlook on this disease, in the description of it, and in the means for its prevention; and, as Dr. Middleton says, the discussions by experts at Johannesburg last summer went far to bring this about.

Publication of Dr. Middleton's report coincided with the delivery in London of a Chadwick Public Lecture by Mr. E. A. Elsby, on preventive methods against silicosis.[2] Mr. Elsby is the happy possessor of one of the newly instituted Chadwick Travelling Scholarships, and has made good use of his time in the United States. He looks at silicosis and its prevention from the point of view of the engineer, and is quite right in saying that the weakness of all legislation on this subject lies in the fact that no limiting concentration of silica dust in the atmosphere has been laid down. This omission is a serious handicap to factory inspector and manufacturer alike in their efforts to determine what are satisfactory conditions. He would like to see adopted, as has been suggested by A. E. Russell[3] for granite, a permissible dust standard of 10 million particles per cubic foot of air. Seeing that granite contains only 30 to 40 per cent. of free silica, the limiting concentration, calculated in terms of 100 per cent. free silica and of particles less than 10 microns in size, would be 3 million per cubic foot of air, a figure which can be obtained in industry with correctly designed plant. In his lecture Mr. Elsby showed how important in this connexion is the correct design of hoods and ducts for the removal of silica dust.

[1] Report on the International Conference on Silicosis, held at Johannesburg in August, 1930 (including an account of the steps taken in regard to the disease in South Africa). By E. L. Middleton, M.D., H.M. Inspector of Factories. London: H.M. Stationery Office. 1931. (4d. net.)

[2] Chadwick Public Lecture on Silicosis Prevention Methods, given by E. A. Elsby, B.Sc., A.I.C., at the Royal Sanitary Institute on February 24th, 1931.

[3] United States Public Health Bulletin, No. 187.

"A DEVELOPING SYSTEM"

The object of the Bill for the Registration and Regulation of Osteopathy[1] is stated in its Memorandum to be "to place the practice of osteopathy, as a developing system of treatment of disease by manipulative methods, under the control of a statutory board with power to enforce a prescribed standard of education and professional competence upon all osteopathic practitioners." This private members' Bill is framed on the model of the Dentists Act, the Midwives Acts, and the Venereal Diseases Act, as opposed to that of the Medical Acts—that is to say, it not only seeks to regulate the assumption of titles, the holding out of practitioners as duly qualified, and the recovery of fees, but to prohibit the actual practice of the specialty by persons not on the proposed register. But the Bill goes far beyond the Acts mentioned. Section 2 (2) defines the term "practice of osteopathy" for the

[1] A Bill to Regulate the Practice of Osteopathy and to Prescribe the Qualifications of Osteopathic Practitioners. (Bill 93.) London: H.M. Stationery Office. 1931. (4d. net.)

FIG. 1.—Showing the homogeneous filling of the diverticula.

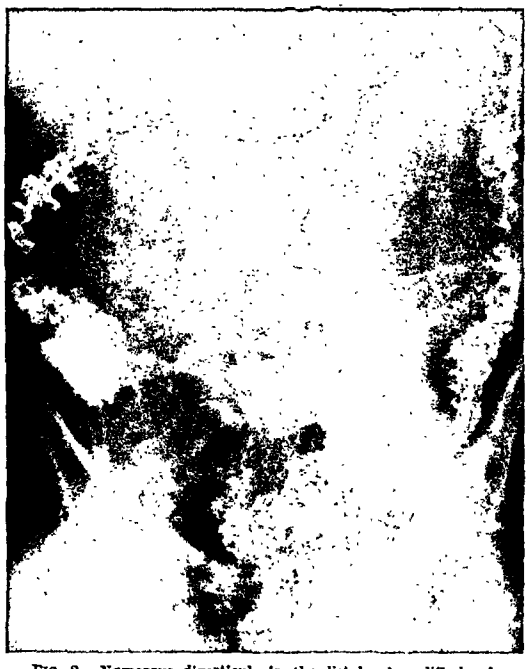


FIG. 2.—Numerous diverticula in the distal colon, differing from those seen in Fig. 1, in that they do not fill homogeneously, but show a central translucency and a peripheral opacity.

FIG. 3.—Postero-anterior view. Note the seemingly normal ascending colon and the apparent "kink" in the descending colon.

FIG. 4.—Same case as in Fig. 3. Radiogram taken in the right oblique position. Note redundancy of ascending colon. A filling defect, if present in such a loop, might be overlooked in the postero-anterior view.

FIG. 5.—Left oblique view. Same case as in Figs. 3 and 4. Apparent kink in Fig. 3 is here shown to be a smooth curve. The diverticula are indicated by arrows. The whole extent of the sigmoid colon is seen only in this figure and in Fig. 4.

FIG. 6.—Postero-anterior view, showing an apparently normal colon.

FIG. 7.—The same case as in FIG. 6, but shown in the left oblique position. Note the numerous diverticula, completely concealed in Fig. 6.

FIG. 8.—Showing the cessation of the double outline in the constricted area.

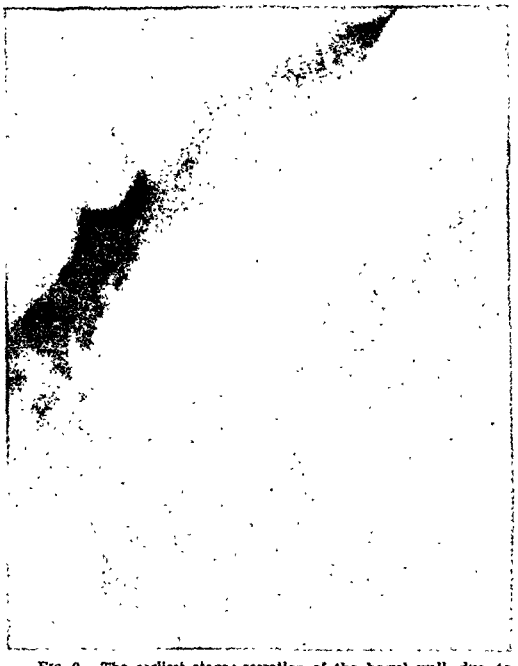


FIG. 9.—The earliest stage: serration of the bowel wall, due to "diverticular buds."

FIG. 10.—A later stage: "diverticular buds," together with some fully formed small diverticula.

FIG. 11.—Large diverticula, small diverticula, and "buds."

FIG. 12.—Showing numerous diverticula throughout the colon, a few being present even in the appendix.

FIG. 1.

FIG. 2.

FIG. 1.

FIG. 2.

purposes of the Act. This is to "include the performance of any such operation, and the giving of any such treatment or attendance, as is commonly given by osteopaths, and any other necessary measures required for the efficient performance of osteopathy." Section 7 provides that (with certain limitations in the case of persons registered on a three years' bona-fide practice of osteopathy prior to the passing of the Act) a person on the Register of Osteopaths shall be entitled to practise and hold himself out as practising osteopathy, to recover fees for his services, to sign birth and death certificates, and, subject to special authorization, to administer anaesthetics and perform minor operations. Since the osteopath is essentially a manipulative practitioner, undertaking manipulations of all kinds, it would seem that this special authorization to perform minor operations must extend beyond manipulation to cutting operations, otherwise it is difficult to understand the distinction between the registered osteopath entitled to the practice of osteopathy and the registered and specially licensed osteopath who may *also* administer anaesthetics and perform minor operations. These short definitions must be read in conjunction with the second schedule, which lays down the "subjects in which osteopaths are to be qualified" and the minimum hours of study in each of them. Here alone do we find mention of the principles of osteopathy, as opposed to the practice with which the Bill deals on a severely practical basis. As regards practice, we find a long definition which includes "diseases of nervous system, psychiatry, alimentary tract, heart and vascular system, genito-urinary diseases, ductless glands and metabolism, respiratory tract, bone and joint diseases, corrective gymnastics, acute and infectious diseases, pediatrics, dermatology, syphilis, diagnosis (physical, laboratory, and differential), and clinical practice case recording." Minor surgery—for which it is true special licence is needed—is to include "fractures and dislocations, principles of surgery, and surgical diagnosis, orthopaedic, orificial, clinical, with anaesthetics." The osteopath is also to be qualified in "eye, ear, nose and throat, gynecology, obstetrics, professional ethics and efficiency, and jurisprudence," as well as in "hydrotherapy, *x*-radiance and electrical diagnosis," and in such minor branches of medicine as pathology, bacteriology, and hygiene. Unlike the Midwives and Dentists Acts there is *no* saving clause in favour of persons included in the *Medical Register*. It is difficult, therefore, to escape the conclusion that, whether by accident or design, the terms of the Bill would in fact deprive duly qualified medical practitioners of the right to undertake practice in any of the subjects included in the "practice of osteopathy" as defined in Section 2 (2) and Schedule 2, and possibly also in the list of special diseases quoted above, for it is not easy to see why the osteopath should be qualified in these special subjects if practice of them is not to be included in the practice for which he is to be considered legally competent. This attractive if unusual disregard for vested interests (outside the ranks of osteopaths) is crowned by a special provision to ensure that osteopathy "as a developing system of treatment of disease" shall be untrammelled by any possible influence from the obscurantist medical schools. It is expressly laid down that the two representatives of science to be appointed to the osteopathic "Board," by the Minister of Health and the Scottish Department of Health respectively, *shall* not be registered medical practitioners. Truly a remarkable Bill.

THE TRAFFIC IN DANGEROUS DRUGS

Next May yet another international conference on the traffic in dangerous drugs is to be held in Geneva. Meanwhile, the League of Nations Advisory Committee on Opium, as requested by the Assembly, has, at a recent meeting, been preparing plans for the new conference, including a draft convention intended to effect a limitation of the manufacture of narcotic drugs to medical and scientific requirements. It will be remembered that a conference composed of representatives of the manufacturing countries, which met in London last October, failed to arrive at an agreement as to the apportionment of "quotas" to each producing country of the total required for world consumption. While the "quota plan" is favoured by the Advisory Committee, and this is to form the basis of discussion at the May conference, it is understood that the consideration of an alternative plan of "stipulated supplies" will not be precluded from consideration. The latter plan provides for the consuming countries to declare in advance their legitimate requirements and to name the producing countries from which they will obtain them, and claims to preserve an "open market." The draft convention appears to be an elaboration of the international obligation prescribed in Article IX of the Hague Convention, which reappeared as Article V of the Geneva Convention. It bound the contracting Powers to enact pharmacy laws to limit exclusively to medical and scientific purposes the manufacture, sale, and use of morphine, heroin, cocaine, etc., and to co-operate with one another to prevent their use for any other purpose. Further machinery is suggested in the shape of a central narcotic bureau to supervise the international traffic; the composition of the bureau is to be left to the May conference, but the two bodies already in operation—namely, the Advisory Committee and the Central Opium Board—are to be represented on the bureau. Although most of the manufacturing countries in the world (with a few important exceptions) are bound by the articles of the Hague and Geneva Conventions, the illicit drug traffic is still of "alarming dimensions," and the Central Board, at its recent meeting, was led to question whether drugs ostensibly designated for medical use were not being diverted to illegitimate purposes. The Council of the League has advised the Board to endeavour to secure fuller and more up-to-date statistical returns, and to ascertain from Governments how confiscated narcotics are disposed of. A report of the Commission dispatched to the Far East to report on the "suppression" of opium smoking, as contemplated by the Hague Convention of 1912, was considered by the Council of the League at their January meeting. The report, which consists of four volumes, three of which are still in the press, appears to recognize "the inevitability of gradualness" in the "suppression" of opium smoking. Attention was again directed to the excessive cultivation of the opium poppy and to the extent of smuggling that goes on, and this is put forward as an excuse for delay in the suppression policy. The Persian representative reiterated

the need for financial aid to his Government if opium is to be replaced by less harmful and less remunerative crops. The Portuguese representative was concerned lest the Budget of the Government of Macao would not balance if deprived of the revenue from opium, while the Chinese representative demurred to comments on poppy cultivation in China, seeing that the Commission had refrained from visiting his country. It would seem, therefore, that " the gradual and effective suppression " of opium smoking, adumbrated in 1912 by the Hague Convention, is not yet within sight.

REGISTRATION OF BLOOD DONORS

For many years in New York and other cities in the United States of America a class of " professional blood donors " has been growing up in an unregulated manner. In the past a considerable proportion of these donors must have subsisted on a demand for the frequent, but relatively small, transfusions given to patients with pernicious anaemia. This demand has been to a large extent eliminated by the introduction of other forms of treatment for this disease, but it seems that professional donors have nevertheless multiplied, and agencies have arisen for their exploitation. The Department of Health of New York City has now taken cognizance of certain unspecified evils that have crept into the practice of commercial blood donor agencies, and of the necessity for controlling them. Regulations have accordingly been drawn up, which were adopted by the Board of Health in November, 1930. The matter is of interest, as there was no precedent for the official recognition of blood donors. According to these regulations, a blood donor agency must apply for a permit to practise, and must keep full records of every donor employed and every transfusion performed. Each donor must have a certificate issued to him by the Department of Health, and it is laid down that no donor shall be used for transfusion whose blood has a haemoglobin content of less than 85 per cent. The prospective donor has first to make an application for registration, in which he has to state that he has never been affected with syphilis, chancre or chancroid, malaria, asthma, tuberculosis, or heart disease, and is not addicted to the use of drugs. He is then fully examined by a physician, who has to record a series of personal characters and the condition of all the important organs. The blood group is tested by a laboratory director and recorded under all the current systems of notation. Lastly, a " luetic test " is made by the Department of Health and recorded. These formalities having been satisfactorily concluded, the donor is given a registration book, in which the necessary details of the test are entered. The book further contains forms for entering a record of his physical condition before every transfusion, and of details of each transfusion performed. Given the fact that abuses have grown up, these regulations seem well designed to deal with them. It is necessary to safeguard the interests of both patients and donors, and it is probable that other countries and cities will, before long, follow the lead given by New York City. The provision of blood has not hitherto been commercialized in Great Britain, but even with voluntary donors, such as those of the London Blood Transfusion Service, the same care has to be observed.

OPERATIVE TREATMENT OF SCOLIOSIS

The complex of deformities usually included under the term scoliosis is, when of advanced degree, so disturbing and unsightly that it has always been a supreme desideration of the orthopaedic surgeon to remedy, or, if remedy is out of reach, to prevent it. In the Eastern States of North America great epidemics of anterior poliomyelitis have left behind them a number of cripples altogether beyond comparison with that caused by the disease in this country. Among the resultant deformities, a proportion have been caused by paralysis of muscles of the trunk, the outcome of which has been scoliosis with bone deformity. Further, the populations of mixed races in the United States appear to give origin to a large number of cases of scoliosis due, not to a discoverable palsy, but to developmental defects of the skeleton. In short, in one way or another a large field for experiment and cure has been provided for American surgery. Since June, 1914, Dr. Russell A. Hibbs[1] of New York has been treating scoliosis by the method of fusion of spinous processes, which he originally introduced for the treatment of tuberculous disease of the vertebrae. In 1924 he published a report of 59 cases so treated, and has now given us the results in 360 cases dealt with between the years 1914 and 1927. In 44 of the cases there was definite evidence of paralysis, and 4 were examples of congenital anomaly, but in the remainder the causation was obscure, although Dr. Hibbs has grounds for thinking that the deformity may have been due to unbalanced muscular action. Rickets could not be assigned as a cause in any case. In 427 operations there were 7 deaths, a mortality of 1.6 per cent. This is not an appalling figure, yet it must be remembered that scoliosis is not in itself immediately dangerous to life, and that it is not justifiable to run grave risks in such cases. The rationale of the procedure is the maintenance, by factitious ankylosis, of such correction of deformity as can be made, and the prevention of its increase during growth or by faulty posture. As 113 of the cases reviewed had been operated upon ten to fifteen years previously, we should expect that the investigation would yield information of results which might be considered permanent. Dr. Hibbs and his coadjutors conclude from this review that spine fusion maintains correction of a progressive lateral curvature and prevents its increase. For from six to twelve months after operation constant support is necessary. In order not to undo previous good work of correction, the operation is performed through a posterior fenestration of the supportive cast. In the authors' hands the best form of correction of lateral curvature has been a combination of head and pelvic traction with complete lateral bend, accomplished by means of an anteroposterior turn-buckle hinged plaster jacket. Such operations do not profess to remedy all the complicated deformities which characterize a severe case of scoliosis, but by attacking successfully the lateral curve and to some extent the rotation of the bodies of the vertebrae they mitigate or even abolish the worst and most objectionable features of the distortion.

[1] Scoliosis treated by fusion operation, etc., by Russell A. Hibbs, M.D., New York, N.Y.; Joseph C. Risser, M.D., New York, N.Y., Fellow of New York Orthopaedic Dispensary and Hospital; and Albert B. Ferguson, M.D., New York, N.Y., Director, Department of Roentgenology, New York Orthopaedic Dispensary and Hospital. *The Journal of Bone and Joint Surgery*, January, 1931, p. 91.

PEKING MAN

Since his return "from a mission of ancestor worship in China," Professor Elliot Smith has spared no pains to place the results of his mission before the English-speaking public. These results, bearing on the nature of that primitive fossil type of humanity now known as Peking Man (*Sinanthropus pekinensis*), are fully set out in the reprint of a lecture[1] delivered in the University of Edinburgh, and given under the aegis of the Henderson Trust. A full account of the events which led up to the discovery of this ancient type of man is most welcome. Professor Elliot Smith, in common with most anatomists, is of opinion that "the brain-case found by Mr. W. C. Pei at Chou Kou Tien on December 2nd, 1929, is the most significant and illuminating relic of primitive man ever discovered." In importance Peking Man takes rank with Java Man and Piltdown Man; it is Professor Elliot Smith's view that the ancient Chinese type serves to bridge the structural differences between the ancient types of England and of Java. The discovery in China has also given "a particularly welcome corroboration of the general accuracy of the argument" which Professor Elliot Smith put forward at the Dundee meeting of the British Association in 1912—namely, "that in the evolution of man the growth of the brain preceded the transformation of the face and body. The cerebral cortex acquired functions distinctive of the human status at a time when the organism as a whole still retained many simian characters. The earliest men were essentially big-brained apes." The lecture is well illustrated by excellent figures drawn from official sources, and full acknowledgement is made by the author of his indebtedness to Professor Davidson Black, who is making a detailed study of the various cranial fragments so far discovered at Chou Kou Tien, and who, in due course, will issue a comprehensive report on Peking Man.

RADIOGRAPHY OF THE ACCESSORY NASAL SINUSES

By means of a cinematograph film, Dr. H. K. Graham Hodgson described to the British Institute of Radiology on March 19th a new standardized technique which he has evolved for the complete examination by *x* rays of the accessory nasal sinuses. These sinuses, said Dr. Hodgson, had been called the radiologist's "no man's land," but, before dismissing radiology as of little value, it was well to consider the alternative aids to diagnosis, such as transillumination and proof puncture. The former could not be as accurate as radiology, because one had to deal with light reflected through the antrum or sinus, while as to proof puncture, if the antrum should be filled with polypi, no pus would be obtained, and the method would be valueless. He had devoted himself, therefore, to an improvement of the radiological method with a view to making it more useful to the laryngologist. A standard technique was the first necessity. In a recent book on radiography the author had described the radiology of the accessory nasal sinuses in terms of three positions—the nose-chin position, the nose-forehead position, and the sphenoid position through the open mouth. But Dr. Hodgson pointed out that the first two were no positions at all, because the results would entirely depend upon the facial peculiarities of the individual patient, and a prominent forehead, a long nose, or a receding chin would make all the difference to the way in which the shadows were cast. There could be no standard normal of such a case, and therefore it would be difficult to recognize the abnormal. His own method was to have the patient in the vertical position before the *x*-ray apparatus, the head being lightly fixed in a clamp which permitted of different positions, and to work out a series of six aspects. The first of these was the occipito-frontal position, taking the line from the outer canthus to the external auditory meatus as at a definite angle to the film; the second, the occipito-mental position, in which this line was at an angle of 45 degrees to the film; the third, the vertico-mental, in which the head was tilted back as far as possible; the fourth, the right oblique, in which the head was rotated through 39 degrees; the fifth, the left oblique; and the sixth, the ordinary lateral. Dr. Hodgson showed a series of slides illustrating the normal appearance in each of these positions, and followed them with a number of abnormal cases. The value of the occipito-frontal position, for example, was that the petrous bone was thrown clear above the antrum; of the vertico-mental position, the excellent view of the sphenoidal sinuses which it afforded, and so forth. He indicated, also, how it was possible by a change of position to show whether an abnormality was due to the presence of fluid or to thickened lining of the membrane.

THE PITUITARY

Sir Percy Sargent gave a most entertaining account of the romance of the pituitary gland when he delivered the Harveian Oration on March 19th before the Harveian Society of London. Having introduced his audience to several story-book types and illustrations of mythical giants, he proceeded to show their pathological counterparts. His pictures were variously and widely chosen. From the early conjectures as to the function of the pituitary body in forming the phlegm, he worked up to the recent experiments of P. E. Smith in March, 1930, which have served to confirm the view, put forward by Sir Victor Horsley in 1886, that extirpation of the pituitary body alone, without injury to the adjacent parts, is not inimical to life, although there is cessation of skeletal growth and atrophy of all sexual functions. The lecturer clearly demonstrated that according to the balance of pituitary hormones, giants might be good-looking or ugly, virile or eunuchoid, while hypofunction of the gland gave such syndromes as Simmonds's disease (cachexia hypophysea) and Fröhlich's dystrophia adiposo-genitalis. Nature's crude experiments, however, sometimes made classification difficult, and occasionally types tended to merge into one another. A page from Sir Victor Horsley's notebook (1888), with notes on operative procedure, and containing a plea for early diagnosis, formed an interesting contrast to some recent *x*-ray pictures showing radon seeds in the sella turcica.

[1] *The Significance of the Peking Man.* By Professor G. Elliot Smith, M.D., F.R.S. Henderson Trust Lectures, No. XI. Edinburgh and London: Oliver and Boyd. 1931. (6d.)

The summer session of the West London Hospital Post-Graduate College will open on Wednesday, April 15th, at 4.30 p.m., when an introductory address will be delivered by the dean, Sir Henry Simson, on post-graduate medical education. All medical practitioners are cordially invited.

TOXIC JAUNDICE

LUMLEIAN LECTURES BY SIR WILLIAM WILLCOX

The Lumleian Lectures before the Royal College of Physicians of London were delivered on March 19th, 24th, and 26th by Sir WILLIAM WILLCOX, physician to St. Mary's Hospital, who chose as his subject, "Toxic jaundice."

In his first lecture Sir William Willcox said that the special reason for the selection of his subject had been the frequent occurrence during the last few years of toxic jaundice due to the administration of recently discovered drugs. One of the most important groups of drugs from this point of view was the quinophan group, which included the preparations known as atophan, cinchophen, phenoquin, agotan, atophanyl, and atoquinol, all of them derivatives of quinoline. An interval of several weeks might elapse between the cessation of administration and the onset of toxic jaundice, so that the true cause of the jaundice was often not apparent until careful inquiries had been made as to medicines taken some time previously. This type of jaundice was dangerous; it might terminate in fatal symptoms analogous to those of acute or subacute necrosis of the liver, and he desired to call attention to the dangers of toxic jaundice from commonly used drugs of this type.

DEFINITION AND CLASSIFICATION

The lecturer quoted with approval Osler's definition of jaundice as "a condition characterized by coloration of the skin, mucous membrane, and fluids of the body by the bile pigments." In toxic jaundice, some poisonous factor was at work whereby the excretory power of the liver cells for removing bile from the blood was impaired, and often this same factor caused an excessive destruction of red blood corpuscles with consequent increased production of bile pigments.

The simplest and most satisfactory classification of jaundice was that adopted by Rolleston and McNee: (1) obstructive hepatic jaundice; (2) toxic and infective hepatic jaundice; (3) haemolytic jaundice. No classification could be perfect, as the different varieties of jaundice were often combined. For example, haemolytic jaundice might be combined with toxic jaundice when the toxic agent, such as arseniuretted hydrogen or the toxin of yellow fever, had a destructive action on both the blood and liver cells. The lecturer included under the term "toxic jaundice" all jaundice due to the action of exogenous chemical poisons or of toxins of extraneous or autogenous biological origin, thus comprising all cases in the second and some in the third group, according to the classification given above.

THE FUNCTIONS OF THE LIVER

The part played by the liver in the body metabolism was probably more profound than was at present realized, so complex were the biochemical processes regulated by the liver cells. The bile pigments were produced from haemoglobin by the destruction of red blood corpuscles in the phagocytic cells of the reticulo-endothelial system. It was in these Kupffer cells that the bilirubin was produced, and from them it circulated in the hepatic capillaries and passed into the bile capillaries lying in the centre of the liver tubules. If the liver cells were healthy the bilirubin passed through them and became combined in some loose way with bile salts and cholesterin, but when the liver cells were damaged the bilirubin from the hepatic capillaries could not be fully absorbed by them, and consequently remained in the blood stream.

Normally a certain amount of fat was stored up in the liver cells; this consisted mainly of unsaturated fatty acids in organic combination. In toxic jaundice fatty degeneration was often a marked feature, and the liver cells became engorged with a fat which differed chemically from the normal fat deposits, and was composed of saturated fatty acids in organic combination. Very marked fatty degeneration and distension of the liver cells with fat was met with in toxic jaundice from such chemical poisons as chloroform, phosphorus, alcohol, and trinitrotoluene; it was also seen in the toxic jaundice associated with acute or subacute hepatic necrosis, or with conditions of auto-intoxication, such as acidosis or the toxaemias of pregnancy.

The most important function of the liver was in breaking down the complex products of protein metabolism, many of which had powerful toxic properties, into simple nitrogenous compounds, such as urea and uric acid, which were eliminated by the kidney. When this function was impaired by the action of chemical or biological poisons symptoms of the gravest kind might set in, and death result from the rapidly developing auto-intoxication.

PROTECTIVE ACTION AGAINST EXOGENOUS POISONS

The term "toxiphylactic function" of the liver, indicating its protection of the body against exogenous poisons, had been suggested by the lecturer in a discussion on degenerative diseases of the liver at the Annual Meeting of the British Medical Association in Glasgow in 1922. If a poison was absorbed by the alimentary tract it was conveyed by the portal vein to the liver, which acted as the first line of defence. In the case of poisons introduced into the general circulation, the liver absorbed much of the poison from the blood stream and so protected the other tissues. In exercising this function the liver itself often suffered severely. In fatal cases of mineral or organic poisoning the greater part of the poison was found in the liver. He instanced the Maybrick poisoning case, where the deceased had lived for several days after the administration of arsenic; no arsenic was found in the stomach, and a trace only in the kidneys, while the liver contained 0.3 grain. It was important to remember that in the case of some poisons which were rapidly eliminated the liver might be irreparably damaged and undergo extensive necrosis, so that death resulted several days after the taking of the poison. The terminal symptoms in such cases were due to the endogenous poisons consequent on cessation of liver function, and not to the continued action of the exogenous poisons originally taken. Examples were phosphorus poisoning, delayed chloroform poisoning, and tetrachlorethane poisoning. In such cases no trace of the original chemical poison might be expected to be present in the body at the time of death.

LIVER FUNCTION TESTS

The lecturer then passed in brief review the work done in the attempt to discover a satisfactory test for liver function, analogous to the blood urea test for renal function. At present most of the tests for hepatic function were unsatisfactory in that they failed to indicate the impending danger of that complete breakdown of function which usually terminated fatally in a very few days. The van den Bergh test and the icterus index were of value in indicating the bile-regulating mechanism of the liver, but that was not the function of vital importance. The most valuable test in his experience was the levulose test. The healthy liver could dispose of 50 grams of levulose taken by the mouth without any rise of blood sugar, but if the liver cells were impaired in function a definite rise occurred. The lipase, fibrinogen, and nitrogen partition tests had been found to be of little or no clinical value.

MORBID ANATOMY AND HISTOLOGY

In toxic changes the liver might be greatly enlarged and the section show a striking yellow appearance due to the excessive deposition of fat in the liver cells. This type of liver was to be seen in delayed chloroform poisoning, in the fatal acidosis of children, in phosphorus poisoning where death occurred early, and in some cases of alcoholism. He was informed by the late Sir Norman Moore than the term "cirrhosis" was originally applied to livers showing a marked yellow appearance, and that etymologically this was a correct application of the term, for it was derived from the Greek word "κιρρός," meaning reddish yellow or tawny. Of late years the term "cirrhosis" had become restricted to livers showing fibrotic changes, such as occurred in the portal cirrhosis of alcoholism.

As to the morbid histology, the following changes were seen:

The liver cells commonly showed extensive fatty degeneration and were distended with fat; the cells might be necrosed and granular, their nuclei having disappeared; fibrous tissue might have developed in areas formerly occupied by liver cells; active progressive fibrosis with round-cell infiltration might be present; regeneration of liver cells might occur in the less severe cases; proliferation of the cells of the bile canaliculi might occur in cases less acute.

The lecturer showed drawings of microscopical sections from recent fatal cases of toxic jaundice, and described the cases, which included phosphorus poisoning, cirrhosis of the liver following novarsenobillon injections, alcoholic cirrhosis, and delayed chloroform poisoning.

PATHOLOGY OF TOXIC JAUNDICE

The dominant factor in the causation of clinical effects was the damage to the liver cell. The intensity of the jaundice in any given case was no criterion of the clinical symptoms or of the prognosis. Jaundice might be deep, and recovery yet be complete without dangerous symptoms supervening; or it might be slight, and dangerous symptoms followed by death rapidly develop. In one patient the same poison might exert its toxic influence directly on the liver cells, causing fatal loss of function, while in another it exerted a less severe action on the liver cells, producing changes in the bile ducts and intrahepatic fibrous tissue. The first factor worthy of consideration was the poison itself. Some poisons—for example, phosphorus—exerted a profound and rapid action on the liver. Arsenobenzol derivatives such as salvarsan might occasionally display this intensive action, but, on the other hand, the symptoms from this same group of poisons might be delayed, and deep jaundice result without dangerous clinical symptoms occurring. The intensity of action was so variable in individual cases that the prognosis must always be very guarded.

The second important factor was idiosyncrasy. In some cases lack of nutrition of the liver cells might be an explanation of its occurrence; for example, too prolonged fasting before the anaesthetic might account for the occurrence of delayed chloroform poisoning.

The lecturer mentioned a case of marked idiosyncrasy to an arsenobenzol derivative. There had been a previous history of jaundice in 1915 during paratyphoid fever. In June, 1929, 0.3 gram novarsenobillon was given intravenously, and in July 0.45 gram. Five days after the second injection jaundice developed, but cleared up in a few days. Later in the month 0.1 gram novarsenobillon was given intravenously, followed by a severe attack of toxic jaundice lasting for three weeks, from which the patient eventually recovered.

The time factor was also important. The intensive action of a liver poison for a very short time was likely to cause degenerative changes of the hepatic cells, and clinical symptoms of auto-intoxication accompanied by jaundice of varying intensity would result. Examples of intensive action of a liver poison for a short time were seen in toxic jaundice from chemical poisons, and another example was yellow fever. The action of the poison might, on the other hand, be spaced out, so that the effect on the liver was less acute. A period of mild symptoms of auto-intoxication, commonly diagnosed as toxic gastritis, supervened, and this was followed by toxic jaundice. The lecturer emphasized strongly (1) that when some toxic agent was at work, such as the atophan or arsenobenzol group of drugs, the onset of jaundice might be very long delayed, and (2) that, jaundice having once set in, it might continue for months or years without the existence of any mechanical obstruction of the large bile ducts, the jaundice being due solely to the toxic hepatitis present, which might be progressive. It was important to realize this, because in such cases surgical interference was dangerous and even fatal. In jaundice from quinoline derivatives the onset was often delayed for several weeks after the administration of the last dose of the drug. Toxic jaundice having once set in, the condition might persist for months or years. The lecturer quoted two cases in this connexion.

One of these was the case of a female, aged 30, reported from the clinical medical unit of St. Thomas's Hospital. Death occurred from ascites and subacute necrosis of the liver ten years after jaundice from trinitrotoluene poisoning. The microscopical specimens showed chronic fibrosis of the liver with consequent obstruction to the bile ducts, which accounted for the continued jaundice.

The other case was that of a man, aged 33, seen by him in 1924 and subsequently. There was a history of enteritis from 1916 to 1918. He was in Russia and Mesopotamia during the war. He had small-pox in 1918, and influenza every year from 1918 to 1921. In August, 1923, jaundice developed. There was no history of alcoholic indulgence or syphilis. Wassermann reaction was negative. The liver showed smooth enlargement. The jaundice persisted in varying intensity until death, in October, 1927, symptoms of acute hepatic necrosis developing and terminating fatally in three days.

The lecturer added that he could quote many other similar cases under his personal observation where a long persistent deep jaundice occurred without mechanical obstruction. Lectures II and III will be reported next week.

ROYAL MEDICAL BENEVOLENT FUND

ANNUAL MEETING

The annual general meeting of the Royal Medical Benevolent Fund took place on March 17th under the presidency of Sir THOMAS BARLOW. Sir PERCY SARGENT, joint honorary secretary, in presenting the report for 1930, stated that 661 grants had been voted during the year, amounting to £9,591, an allocation of nearly £1,000 more than in 1929. The grants came under several headings, chiefly maintenance grants to beneficiaries with very small incomes, but also grants for educational fees, for help in sickness, and to meet temporary needs. The annuitants of the Fund now numbered 177; five of these were given pensions of £100, and seven received amounts varying from £40 to £100.

Sir CHARTERS SYMONDS, honorary treasurer, reported that the income from subscriptions and donations had, for the first time, reached five figures, £10,081, an increase of £850 on the previous year. Legacies brought in £12,000, thanks chiefly to the balance of the legacy of Dr. Alexander Lawrence. The number of new subscribers during the past year was 584, of whom 223 came through the British Medical Association. Grateful mention was made of the help of the Association, which, in subscriptions from its members, had collected for the Fund £1,970—an increase of £379 on the year. The Charities Committee had also allocated £1,368, an increase of £372.

Sir Charters Symonds specially mentioned the work of the charities secretaries in the Divisions of the B.M.A., as well as other organizers of social functions for helping the Fund in various localities. Several Divisions had sent handsome donations, two—from Bath and Southport—amounting to over £100, and the distant Malaya Branch had again sent a contribution of £58. Another welcome helper was the Medical Insurance Agency, which had contributed £630 during the year, making a total of £6,954 received from this source during the last twenty years. An appeal was made to Panel Committees, twenty-four of which became new subscribers in 1930.

Sir THOMAS BARLOW said that these two reports were eminently satisfactory. The Fund had made definite progress during the year in securing the support of the profession. The number of applicants dealt with had largely increased, and, at the same time, thanks to additional income, it had been possible to deal with them more liberally. Dr. C. O. HAWTHORNE, Chairman of the Case Committee, gave some account of the procedure of the committee in making grants. A large number of the applications, he said, came from elderly ladies, widows, or daughters of medical men, who had been delicately nurtured, and had lived a sheltered life, until they were suddenly reduced to indigence. While it was probable that in many cases there had been a lack of prudence, not necessarily on the part of the applicant, he thought it would be agreed that the position was not to be met by the severely critical examination of the economist or of the moralist, but by the generous judgement and help of those who were more fortunate.

Mr. R. M. Handfield-Jones, who has served as joint honorary secretary for some years, has found himself compelled to tender his resignation owing to the pressure of other work. The resignation was accepted with much regret, and Dr. Lewis Glover was elected in his place. With this exception, and with certain additions to the list of vice-presidents, and to the committee of management, the officers and committee were re-elected. In moving one of several votes of thanks, Mr. BISHOP HARMAN referred to the extraordinary amount of work, extending over many years, which Sir Charters Symonds had rendered to the Fund. The identification of the Fund and its treasurer was a remarkable example of symbiosis, and, as in other examples of that biological phenomenon, it seemed to have the effect of making Sir Charters appear younger every year.

Scotland

Hospital Services in Scotland

An address on the need for hospital reorganization was delivered by Sir Robert Bolam, under the auspices of the Edinburgh Branch of the British Medical Association, on March 18th in the B.M.A. House at Edinburgh. Dr. G. Keppie Paterson presided over a meeting which was widely attended by practitioners from the south-eastern area of Scotland, and by hospital staffs and officials of the Department of Health for Scotland. Sir Robert pointed out that not more than about 15 per cent. of the patients in large hospitals, such as the Edinburgh Royal Infirmary, belonged to the class of the indigent sick for whom such hospitals had originally been established. Hospital provision for this class of patient was now a statutory duty of local authorities both in England and in Scotland, and whether they were to be treated in a voluntary or a municipal hospital was largely a matter of local arrangement. The great teaching hospitals had nowadays come to provide medical and surgical treatment for the well-to-do artisan and also for a number of persons in more affluent circumstances. Although these people might not be able to pay the sums required for treatment in hospital when an emergency arose, they were well able to do so by means of some contributory or insurance scheme. He quoted the figures for several comprehensive contributory schemes which had already been established among workers in various English centres, such as in the Birmingham district and on Merseyside. These were so thoroughly organized, he said, that they placed the hospitals of their districts in a sound financial position, able to render thoroughly adequate medical services. He was convinced that it would be a misfortune to organize a contributory scheme on the basis of an individual hospital; the scheme should always be drawn up for an area, and the smaller hospitals should thus be brought into correlation with the large central hospital or hospitals of the district. In order to obtain a thoroughly efficient service, it was essential that the members of hospital staffs should be adequately remunerated, and this could readily be done when such contributory schemes as he had in mind were developed. An important point in this connexion was that in some of the larger centres a municipal hospital might be developed side by side with a voluntary hospital. In the former the staff would necessarily be paid; in the latter, if the staff was unpaid, its medical services would inevitably be prejudiced. Referring to the functions of the general practitioner respecting his patients under treatment in the large hospitals, he thought that more adequate means than at present existed should be provided for making information as to diagnosis and treatment available. He considered there would be scope for the work of the general practitioner in the home hospitals, which might come into existence for patients requiring rest and simple methods of treatment without necessary recourse to the consultant or the specialist.

Medical Women's Federation

The South-Eastern Association of the Medical Women's Federation held its annual dinner in Edinburgh on March 13th. Miss Gertrude Herzfeld presided, and in proposing the toast of "The Guests," remarked that this was the first occasion when male guests had been entertained. The question, she said, was sometimes asked why there was a women's hospital, and the answer was because women doctors were not yet admitted to the staff of the Royal Infirmary; when they were, they hoped that a women's hospital, run entirely by women, and a women's federation, would no longer be necessary. Women wished to take their part in the medical profession as a whole, alongside men colleagues. They were trying to do something to make themselves worthy of recognition, and in Edinburgh, spurred on by the example of the Marie Curie Hospital in London, they had decided to take up the gynaecological aspect of radium treatment. Accordingly they had formed a definite system of research, which had gained the recognition of the Medical Research Council. Professor R. W. Johnstone, in proposing the toast of "The Cancer Research Committee of the Scottish Associations of the Medical Women's Federation," said that there was ample room for the work of this committee as well as for that being carried on at the Royal Infirmary, thanks to the generous donation of radium by the Radium Commission.

Mental Hospital Appointment

At a meeting of the Public Health Committee of the Edinburgh Town Council on March 17th, it was resolved to recommend the appointment of Dr. William Malcolm McAlister as medical superintendent of Bangour Asylum, and medical officer in charge of the mental health services of the corporation. This appointment is in succession to Dr. John Keay, who retires on May 15th. Dr. McAlister, who is 42 years of age, is a native of Campbeltown. He graduated M.B. at Edinburgh in 1918, and became a member of the College of Physicians in

1926, proceeding to the Fellowship in 1929. Shortly after graduation he joined the staff of the Royal Mental Hospital at Morningside, and was promoted in 1923 to be deputy physician-superintendent of this institution; in this capacity he has acted as a lecturer in psychiatry in the University of Edinburgh and in the School of the Royal Colleges at Edinburgh.

Scottish Odonto-Chirurgical Society

At the annual meeting of the Odonto-Chirurgical Society of Scotland, held in Edinburgh Dental Hospital on March 13th, Mrs. Lilian Lindsay read a paper on the prevention of dental caries, in which she said that diseased teeth were mentioned in almost all ancient literature, and that no race was entirely immune from dental caries. The article of diet which from time immemorial had been universally blamed as the most destructive to the teeth was sugar. The lecturer considered that whole-meal bread, fruit, and uncooked vegetables were articles of diet least destructive to the teeth. At the annual dinner held on the same evening, Dr. William Guy, dean of the Edinburgh Dental Hospital and School, said that the institution was founded seventy-five years ago when Dr. John Smith began dental education in Edinburgh with a course of lectures on the anatomy and physiology of the teeth. In 1878 the passing of the Dentists Act had stimulated the Royal College of Surgeons to frame a curriculum and institute a diploma in dental surgery. Since then great success had attended the Edinburgh Dental Hospital and School; at present well over one thousand of its former students were on the *Dentists Register*.

England and Wales

Wandsworth Memorial for Tropical Research

On March 13th Sir Frederick Gowland Hopkins, President of the Royal Society, unveiled, in one of the principal laboratories of the London School of Hygiene and Tropical Medicine, a plaque in memory of the late Lord Wandsworth, who left a sum of £10,000 to found a scholarship for the promotion of medical research in one of the London medical schools. The ceremony was performed in the presence of Sir William Hamer and Dr. E. Deller (Principal of the University) and others, during an official inspection of the School by the University of London and in the presence of a large class of students drawn from all parts of the world. In unveiling the tablet, Sir Frederick Hopkins expressed the hope that the work already done and the opportunities for the future which the scholarship afforded would be an abiding source of inspiration.

Schools for Physically Defective Children

The principle of the separation of poor relief from assistance which can be provided under special Acts is particularly applicable to the provision made by local authorities for blind, deaf, defective, and epileptic children, since Part 5 of the Education Act gives local education authorities full power to provide for the maintenance as well as for the education of these children in residential special schools. In Circular 1411 of February 6th, 1931, the medical branch of the Board of Education directs the attention of the appropriate authorities to the desirability of employing these powers in the case of children whose fees at residential special schools would under the former practice have been paid by the Poor Law authorities. The necessary amendments in the Special Service Regulations of the Board of Education have been embodied in draft Grant Regulations, Nos. 3 and 19 (Amendment No. 1 of 1931), which define the grants payable to special schools where the new policy is adopted. The Regulations, which will come into force on April 1st, provide that in schools for physically defective children in which special arrangements are made for medical treatment and care the Board may increase the prescribed grant in respect of each unit of average attendance by a sum not exceeding £4 for a day pupil and £9 for a boarder where the arrangements are held to justify such an increase. Provision is also made for grants in respect of courses of higher education for blind, deaf, defective, or epileptic students.

Extension of London Lock Hospital

An extension of the London Lock Hospital, at Dean Street, Soho, was opened by the Lord Mayor on March 20th. The work at Dean Street, where 90,000 attendances were registered last year, and fifteen clinics are held every week, has suffered from inadequate buildings and restricted site. Thanks to money provided by the trustees of the late Mr. Peter Coats of Paisley, it has been possible to purchase the freehold of the site, and other generous gifts have been made to the extension, including grants from the King's Fund. The new provision, costing £22,379, towards which £17,102 has already been raised, includes large consulting room accommodation, dispensary, intermediate treatment department, and an addition to the pathological and research departments, where the number of tests carried out last year was 16,000. The experiment is also to be made of a ward for paying patients of moderate means, as advocated by Lord Trevethin's committee. After Lord Kinnaird, the chairman of the board, had explained the nature of the extensions, Mr. Charles Gibbs, senior surgeon to the hospital, and chairman of the medical committee, thanked Lord Kinnaird and the board for the beautiful workshop they had built. When the pathological laboratory was completed there would be a perfect unit for the diagnosis and treatment of the special diseases for which the Lock Hospital existed. Hitherto Dean Street had been allocated to male patients, the work at Harrow Road being devoted to women; but it would now be possible to accommodate women out-patients in the new buildings, and new wards were to be built for women and children, including maternity cases, and when the women patients had been rendered non-infective, they would be transferred to a recovery home in the country. Mr. Gibbs also mentioned that roughly one-half of the female patients were women who had been infected in marriage, and were therefore wholly deserving of sympathy. The Lord Mayor, in declaring the building open, said that the Lock Hospital had a record of 184 years' activity, and was the only voluntary hospital specializing in this work. The Lock Hospital offered treatment under somewhat different conditions from those obtaining at the public health clinics, and supplied a need which those clinics did not altogether meet. It was also the only venereal diseases hospital clinic which asked for a contribution from its patients, and thereby it encouraged self-respect.

The North Middlesex Hospital

The cover of the latest report of the North Middlesex Hospital, Edmonton, bears the inscription that the expense of a reprint has been defrayed by a grateful patient. Were this not the case, some misguided ratepayer under the Middlesex County Council (which has now, under the Local Government Act, taken over the supervision of the hospital from the Edmonton board) might object to a report so elaborate being printed, however important the institution. The report includes no fewer than twenty-five closely set tabular pages giving

particulars of all the medical and surgical cases treated and the major operations performed. These tables indicate the extraordinary range and variety of work which a great hospital of this kind has to cover, its area of operation including seventy square miles of Middlesex and Essex. The claim is made that it takes in more patients than all the voluntary hospitals in the whole county of Middlesex. The total admissions for the year under review (including the thousand or more who were admitted by birth in the maternity wards) amounted to 10,443, and the out-patients numbered 26,956. The work of the different departments is briefly reviewed. A year ago the opening by the Minister of Health of the radium and deep-therapy department was reported in this column. It is stated that already some very successful results have been obtained by radium which would have been impossible by operative surgery.

New Houses for Old in St. Pancras

Within a quarter to half a mile north of the British Medical Association House in London, and under the shadow of Euston Station, a ceremonial "burning" of slum property took place lately, General Sir Ian Hamilton lighting the pyre. The ceremony marked a further stage in the operations of the St. Pancras House Improvement Society, of which the Rev. J. B. L. Jellicoe is chairman and organizer. The society, during its six years of existence, has acquired three properties in the Somers Town district of St. Pancras, the latest of these comprising ninety-six houses, and has taken in hand their reconditioning, replacing dilapidated dwellings by pleasant and tidy flats on the same site, and on not too ambitious a scale for the displaced tenants. The estate is sympathetically managed on the lines popularized by Miss Octavia Hill, and the society sponsors welfare work, nursery schools, and other enterprises for the health and well-being of the people. Those who recall some of the dingy purlieus which have been "burned" will rejoice in the transformation, and perhaps will desire further information about this social venture, which can be obtained at the offices of the society, 96, Seymour Street, Euston.

Belgium

[FROM OUR CORRESPONDENT]

Progress of Obstetrics

At the congress last year known as the "Journées médicales de Bruxelles," Professor Maurice Brouha of Liége, made a striking speech on the present position of obstetrics. After recalling the recent history of obstetrics —the "poverty-stricken parent of surgery and medicine" —Professor Brouha sketched broadly an impressive picture of pregnancy as it is understood to-day—a kind of transitional stage, in the course of which the normal physiological balance is upset in order to give place to an unstable situation created partly by physiological and partly by pathological conditions. Clinical obstetrics, he said, had gained immensely by the discoveries of the laboratory, by the progress of surgery, and by sociological inquiry. Among the most striking of the morbid phenomena of pregnancy was puerperal infection, of which the double origin—exogenous and endogenous—had been clearly established. The possibility of its occurrence imposed the necessity of a most rigid precautionary technique, involving extreme care as regards asepsis and antisepsis, and the development of a surgical outlook by all who wished to become obstetricians in the fullest sense. The chief scope for displaying the obstetrical sense was found in the sphere of pelvic contraction. Whereas in the past the need for prophylactic Caesarean section had been regarded as imperative, and its practice bristled consequently with faults and abuses, there had been brought into being to-day—thanks to the introduction of low Caesarean section—a sound indication which was based upon a practical preliminary test—namely, trial labour. This permitted a considerable reduction in the number of interventions which would otherwise have been considered necessary. The surgical tendency in modern obstetrics was particularly manifest in placenta praevia, a condition which was responsible for the serious maternal mortality of 10 per cent., and destroyed 50 per cent. of the infants. In eclampsia the old practice of hastening delivery through the normal passages was being replaced more and more by expectant medical treatment, and surgical intervention when the life of the infant was at stake. The conclusion from all this was that the obstetrician of to-day must possess very high medical and surgical qualities; these could only be attained by long and patient post-graduate study in a carefully chosen environment.

Instruction in Tuberculosis

The teaching of tuberculosis in Belgium is not a distinct part of the general medical curriculum; in none of the four universities is there a chair of tuberculosis. Theoretical instruction in this subject is given in the four faculties of medicine by the professors of pathology, there being also courses of special microscopical and pathological demonstrations. The professors of public health lecture on the medical and sociological sides of the campaign against tuberculosis, and the professors of bacteriology deal with all that pertains to the laboratory side. Practical instruction is afforded in the university hospitals, or in those controlled by public health organizations in close association with the faculties of medicine. It is obviously desirable that there should be a closer linking up of the university faculties of medicine with the officially recognized anti-tuberculosis associations; in order to achieve this it is proposed to place at the disposal of these faculties a dispensary modelled on the well-known Calmette-Malvoz type. This will be equipped and conducted on the most modern lines.

Medical Finance in the Congo

It has been decided that the home Government shall contribute to the proposed medical fund for financing a crusade against tropical diseases in the Belgian colonies. It will be necessary to enlist in this medical undertaking the services of all those persons and societies in Europe and the Congo who take an active interest in promoting the health of the natives. Such a co-ordination will be brought about by the establishment of a civilian body, including representatives of the Colonial Government and of the principal industries in the Congo, as well as medical experts, missionaries, and representatives of any philanthropic institutions which are likely to be concerned. A financial endowment will be provided in order that support may be given to medical missions operating in the Congo under the control of the Government medical authorities. A sum of 100 million francs has been set apart locally, and the home Government will contribute 50 million.

Industrial Physiology and Pathology

The executive committee of the Free University of Brussels has approved a suggestion made by the faculty of medicine, and will create a special organization to deal with the physiological and pathological aspects of industry. This new body will be charged with the selection of medical officers in industries and the consideration of the various diseases associated with each occupation. Dr. Maurice De Laet has been appointed president of the new body.

Correspondence

SPECIFIC SERUM TREATMENT OF LOBAR PNEUMONIA IN ADULTS

SIR,—I have read with interest the contribution of my friend Dr. R. A. O'Brien to the discussion on the treatment of lobar pneumonia at a recent meeting of the Medical Society of London, as reported in the *Journal* of March 14th. The summary of his comments on the present position of the specific serum treatment of pneumonia makes it appear that he is not satisfied with the clinical evidence which has been presented in its favour, and that he cannot find justification for the use of the serum from experimental work on the subject. The sketch he has drawn of the unstable foundations of the specific treatment of the disease is so deeply overshadowed with scepticism that physicians whose interest has been aroused by recent accounts of the trial of antipneumococcus serum in this country may imagine that there is no rational basis for the serum therapy of pneumonia. I cannot accept this view, and should like to modify the impression which Dr. O'Brien's statement must have made by trying to show that there are many encouraging signs, not only in the clinical records, but in those which give an account of experimental researches into the mode of action of the serum and the methods of titrating it.

The clinical work in the United States has been conducted with notable thoroughness by groups of experienced clinicians, some of whom have added valuable knowledge from their experimental work on pneumococcal infections. In the hospital of the Rockefeller Institute, Cole has tested the serum therapy of pneumonia in a considerable number of cases, and is so convinced of its value that he finds it repugnant to his conscience to withhold the serum from patients whom he thinks it may benefit; he is thus unable to make a comparison with a control series of untreated patients. The lack of statistical proof that the serum is effective does not deprive his experience of evidential value, for the clinical instinct of trained observers deserves due consideration when assessing the efficacy of a therapeutic agent. Both Park and Cecil and their colleagues have made controlled observations in the hospitals in New York on a scale which renders their data suitable for analysis by statistical methods. The results of analyses of this kind indicate that the difference in the mortality rate in favour of the serum-treated cases is a significant one when Type I pneumonia alone is considered; there is general agreement that only Type I infections, and to a lesser degree Type II infections, are influenced by a specific serum. When we reflect that in Great Britain and America strains of the pneumococcus belonging to Types I and II have been found in about 55 per cent. of cases of lobar pneumonia in adults it is apparent that there is no lack of opportunity for testing the therapeutic value of an appropriate serum preparation. Those of us who shrink from the intricacies of statistical analysis will find evidence in the clinical accounts that the treatment mitigates the symptoms. The American observers agree that the serum often lessens the severity of the symptoms so that even within twenty-four hours the temperature, the pulse rate, and the respiratory rate are reduced or have become normal. According to Cecil and Plummer, there is no more striking clinical effect in the whole field of specific therapy than that which frequently follows the early administration of the serum. The temperature falls rapidly, so as to simulate the natural crisis, and the toxaemic symptoms often disappear within twenty-four hours. Moreover, after one or two injections of the serum, pneumococci, when present in moderate numbers in the blood stream, quickly vanish.

Dr. O'Brien is reported to have professed himself dissatisfied with the evidence which relates to the action of the serum in experimental infections; yet it is well known that a specific serum can protect a mouse so that it shows no signs of illness when it is inoculated with a quantity of a fully virulent culture of a Type I pneumococcus which represents, for example, ten million lethal doses. This serum is one of the group of antibacterial serums, and yields more convincing experimental proof of its efficacy than any other serum of its kind with which I am acquainted. Moreover, the researches of Griffith and of the workers in the Rockefeller Institute on virulent and avirulent variants of the pneumococcus (the "rough" and "smooth" variants of Arkwright), and those of Avery and Heidelberger on the type-specific polysaccharides and their relation to the antigenic properties of the pneumococcus, have illuminated the mechanism of infection and the mode of action of type-specific pneumococcal serums to an extent which has no parallel in immunology at the present time. It is true that there are difficulties in the titration of Type I and Type II serums which have not yet been overcome, but Dr. O'Brien's colleagues have furnished evidence that it is possible to test serums of this kind with a fair degree of accuracy, and work that has been carried out in this laboratory has brought us to the same conclusion. There is no reason to doubt that in due course a satisfactory method of titration will be discovered, and that it will become a routine procedure in serum laboratories.

Time is a powerful solvent of technical difficulties, and since most of the important work on the serum therapy of pneumonia has been accomplished during the past decade, it is natural to believe that progress will continue to be made, both in the laboratory and in the hospitals. The conclusion seems to be justified that the specific serum therapy of lobar pneumonia rests upon a structure of carefully controlled clinical evidence which is strongly supported on the experimental side, and that physicians who use the serum may do so with some assurance that they are employing a logical method of treatment.—I am, etc.,

Lister Institute, Elstree, March 21st. G. F. PETRIE.

SIR,—Dr. Petrie kindly sent me a copy of his letter; I am indebted to him for the opportunity—with your permission—of making clear some points which had become obscured in your report owing to condensation, and doubtless to my lack of clarity in the discussion. I am as deeply appreciative of the enviable achievement of the New York teams of workers as I am grateful to several members—in particular, Drs. Avery, Bullowa, Cecil, Felton, and Park—for full information on many occasions of the progress of the work, and for their inexhaustible patience and kindness in supplying samples of serum and cultures, and any depreciation of their work was far from my intention. While trying to emphasize that, after studying the American statistics and the two recent reports from Edinburgh and Glasgow, I felt it one's imperative clinical duty to give antipneumococcal serum in pneumonia (at least that caused by Type I pneumococcus), I asked that we should keep our minds open to the extreme difficulty in clinical medicine of providing evidence and drawing deductions that will stand the test of time. Lord Dawson, in his able review, had expressed almost the same point of view: "Results . . . are encouraging, though not yet conclusive."

Dr. Petrie concluded from your report that I was dissatisfied with the results of laboratory researches in this field, and justly remonstrates. But, on the contrary, I

pointed out—or attempted to—that after a large amount of work by my colleagues here during the past two years, we were satisfied that we could titrate antibody Type I with satisfactory accuracy, that the Felton and Banzhaf methods, in our experience, do materially concentrate the antibody, so that we have prepared stocks of serum, now in clinical use, equal in antibody content (Type I) to the most potent serum Dr. Felton kindly sent me, and that I was so deeply impressed in the laboratory by the remarkably high power of antiserum to protect mice that I was disappointed that the reduction in the death rate in pneumonia following the use of serum was not more dramatic. I doubted whether in England we could obtain sufficient clinical material with proper laboratory control —particularly typing and blood culture—to make any significant statistical contribution to the subject. What was also in my mind was whether it may not be possible —assuming that one can produce in the dog or monkey a condition comparable with lobar pneumonia—to work out under controlled laboratory conditions, in parallel with clinical research on the New York scale, when and how best to use serum.—I am, etc.,

R. A. O'BRIEN.

Wellcome Physiological Research Laboratories,
Beckenham, March 23rd.

TREATMENT OF GASTRIC AND DUODENAL ULCER

SIR,—Mr. Rendle Short's statistical inquiry into the treatment of gastric and duodenal ulcer should help to clear up the present chaotic state of opinion upon this subject. Although the statistical method of approach, owing to the lack of necessary standards of description, is open to many fallacies and, in my opinion, leads to conclusions far less valuable than those expressed by an individual first-hand student of the subject, at present it is the only method which enables us to sum up a large mass of evidence obtained from widespread sources. Within the limitations of the method Mr. Short appears to have done this in a very fair and unbiased fashion. His conclusions therefore deserve serious consideration, and although I find myself unable to agree with many of them, I feel sure that they may be said to represent the standpoint of the majority of English surgeons to-day.

I was particularly pleased to notice that he again called attention to the "serious fallacy" of judging cure by radiographic appearances, a mistake which we are all at times apt to make. On several occasions I have operated upon patients in whom there was obvious radiographic evidence that a large ulcer had been "cured," only to find an extensive ulcer still present. In a previous communication I pointed out that submucous oedema and muscular spasm may increase the radiographic size of a crater manyfold, and under treatment with appropriate serums I have seen such an ulcer "disappear" radiographically in much less time than even the most enthusiastic physician would be inclined to claim. An ulcer drawn up to the radiographic "skyline" of the lesser curvature by inflammatory induration of the gastro-hepatic omentum may again become posterior, and so partly hidden radiographically, with the subsidence of that inflammation, without any real change in its size. These are but a few of the ways in which the *x* rays can deceive unless constantly controlled by operative findings.

It is unfortunately not clear from the earlier part of Mr Short's article whether he now considers that haematemesis can be a sign of a "tiny withered-up appendix," but if so, I should join issue with him. It may well be that no ulceration was demonstrated in these cases, but the surgeon whose practice includes a considerable percentage of gastrectomies, or who uses endoscopic methods for the detection of lesions, knows only too well how easily small gastric ulcers without surrounding induration can hide themselves under the fat of the gastro-hepatic omentum, or duodenal ulcers on the postero-internal aspects of that structure. One may have reasonable doubts, therefore, whether more complete examination in the recorded cases would not have revealed such ulceration associated with the appendicular condition.—I am, etc.,

London, W., March 15th. NORMAN C. LAKE.

SIR,—In the *Journal* of March 14th (p. 435) there appears a comprehensive survey of the treatment of gastric and duodenal ulcer by Mr. A. Rendle Short. Considering as he does both the medical and surgical aspects of this vexed question from the statistical aspect, he has done much to clarify the situation and to promote a better understanding of the factors involved in peptic ulcer. In an attempt, however, to make his survey as international as possible, the author has fallen into error. He states:

"The large proportion of poor end-results, and certain theoretical considerations, have led most of the prominent American and Continental surgeons, and some British, to advocate big resection operations for both gastric and duodenal ulcers."

It is certainly true that in most Continental clinics, with the exception of a few such as that of Gosset, extensive resections for duodenal ulcer are performed as a routine. That most prominent American surgeons follow the same custom is, however, quite incorrect. Possibly the author was misled by an unfortunate choice of literature dealing with this point, or he was impressed by the apparent weight and number of the publications emanating from those few surgeons who would, and do, sacrifice three-quarters of an otherwise normal stomach upon the altar of a pin-point ulcer of the duodenum. On the contrary, the majority of American surgeons, both in Canada and in the United States, are exceedingly conservative in the surgical treatment of benign gastric and duodenal ulcer, and in their growing preference for direct operations on the duodenum and pyloric sphincter in selected cases are even more conservative than many British surgeons. Nevertheless, the popularity of these lesser procedures does not alter the fact that gastro-enterostomy remains the sheet anchor of surgical treatment of duodenal ulcers throughout the United States. This view was well expressed at the symposium on gastric disease held a few months ago in New York, and participated in by such prominent surgeons as Deaver, Horsley, Gatewood, Gibbons, Douglas, Hartwell, Felter, Finney Hanrahan, Bevan, Balfour, Judd, and W. J. Mayo. The proceedings appear in *Annals of Surgery* (1930, vol. xcii). In many respects the procedures, end-results, and mortality compare with those published in the collective report of the British Medical Association. The poor results and high incidence of recurrent ulcers reported by Berg and Lewisohn of New York are certainly not representative of the country at large, and have not been accepted in any of the more prominent surgical clinics. It should be remembered, however, that the clinical material of this school is drawn from hospitals with a clientele predominantly Jewish, a race in which the management of gastric disease is notoriously difficult.

May I add a few observations frequently made by my former teachers D. C. Balfour and C. H. Mayo? Balfour always insisted that no operation will give perfect results in such a chronic disease as peptic ulcer, and the attempt to establish one operation to suit all types is doomed to failure. Recurrent ulcer may, and occasionally does,

llow any type of operation, including partial gastrec-
my. Provided, however, the patient with an ulcer has
rned his gastro-enterostomy by the very adequacy of
is symptoms, no operation in surgery is attended with
ich perfect results in so high a proportion of cases.
layo often remarked that any surgeon who wished to
sect his stomach for a duodenal ulcer would need to run
ster than he could!—I am, etc.,

London, W., March 17th. A. H. McINDOE.

SIR,—It does not seem right that Mr. Rendle Short's tatistical inquiry into the treatment of gastric and uodenal ulcer, published in the *British Medical Journal* f March 14th, should pass without comment.

In Table IV he gives the death rate following the performance of gastro-jejunostomy in many countries, and t is gratifying to note that English surgeons can show he lowest mortality. But why does he not quote the best of the English results? Lord Moynihan has reported a series of 500 cases without a death. Mr. Short must know of this series, because he cites other figures for another purpose from the same paper in which it appears. I think he must have omitted it as being too excellent to be representative; but this is not a sound position. If we are to compare British work with foreign let us have the best in each case. As a matter of fact, mere figures give a distorted view. Gastro-jejunostomy in itself is a simple and easy operation, and it is impossible to believe that a death rate of 17.5 per cent. is representative of the best German surgery. The mortality of perforated duodenal ulcers in Leeds is considerably less. There must be factors of which figures alone give no indication. I can mention a very important one—namely, pre-operative treatment. The surgeon who spends days or weeks, if necessary, in preparing his patients for operation is certain to have a lower mortality than one who gives little or no consideration to these details. In other words, it is the condition of the patient which makes all the difference to the mortality of gastro-jejunostomy, and such figures as Mr. Short quotes give no information in this respect.

Many of the above remarks apply to gastrectomy for gastric ulcer, but here another uncertain quantity is added—namely, the kind of ulcer for which gastrectomy is done. If the operation is performed for every kind of chronic gastric ulcer the mortality is certain to be less than if it is reserved for those which erode deeply into the pancreas or liver, and are thereby firmly fixed. I am sure there are many who agree with me that the good functional results and low mortality of gastrectomy are not sufficient reasons for removing two-thirds or more of so important an organ as the stomach when the ulcer is small and easily excisable. It seems unreasonable to suppose that the suture line after adequate excision cannot heal as easily and efficiently as the much larger operative wound inflicted on the stomach by gastrectomy, provided effective and prolonged medical treatment forms a part of the post-operative procedure. Indeed, the simpler operations which have been discarded in the past owing to recurrence of ulceration need to be seriously reconsidered in the light of modern medical treatment.

This brings me to a third criticism of Mr. Short's figures—namely, those concerned with after-results. We often hear, in connexion with operations on the stomach, statements given, almost boastingly, that the patient at the end of two or three weeks was eating anything. Could anything be more physiologically unsound? As it takes at least eight weeks to get a perfectly healed suture line after gastro-jejunostomy done on normal animals, it will surely take much longer for a stomach to recover after years of derangement, and I have no doubt that the surgeon who treats his patients on sound medical lines for many months after operation will show better results than one who does not do so. Mr. Short's figures give no indication as to whether this was or was not done. To reduce such matters intelligently to figures would be most difficult, and yet without such data a very distorted picture is obtained. Statistical inquiries in pure mathematics, where the data are more or less accurately obtainable and applicable, can be expected to give useful information; but in surgical affairs, when many of the data cannot be reduced to such mathematical shape, and especially when many of the obtainable data are not included, statistical inquiries are apt to be misleading.—I am, etc.,

Leeds, March 17th. E. R. FLINT.

THE INCISION IN APPENDICECTOMY

SIR,—Mr. A. Ernest Sawday, in the *Journal* of March 14th, draws attention to the transverse incision of the late G. G. Davis of Philadelphia. As was to be expected, it has given Mr. Sawday good results. I am familiar with Davis's method, as I have employed, during the last twenty years or so, an incision based on that method. The details of my operation were communicated to the Annual Meeting of the British Medical Association at Aberdeen in 1914 (*Journal*, 1914, ii, 459), and I have since employed it, with slight modifications, in all cases of operation in children and adults undertaken directly for appendicectomy. The steps vary somewhat from Mr. Sawday's operation, and are briefly as follows:

A skin incision from middle line outwards to just short of the anterior superior spine exposes the aponeurotic layer. The anterior rectus sheath is then opened about one inch out from the linea alba and the incision carried outwards through the external oblique aponeurosis. The outer edge of the rectus, along with the eleventh intercostal nerve if visible, is elevated from the posterior sheath. The latter, with underlying peritoneum, is incised horizontally, care being taken to keep lateral to the deep epigastric vessels. As the posterior sheath incision is usually insufficient for good access, it is prolonged outwards as far as required between the fibres of the internal oblique and transversalis muscles and through the transversalis fascia and peritoneum. During the operation the rectus is kept retracted inwards by an assistant. The wound is closed in layers, beginning with the inner end of the posterior sheath incision. Interrupted sutures then coapt the fibres of the transversalis, and the internal oblique is treated likewise. The anterior sheath of the rectus is then closed by a continuous stitch, the outer part of which brings together the gaping external oblique aponeurosis. If drainage be required the tube and gauze emerge between the fibres of the transversalis and internal oblique muscles.

The access to the appendix, even when the latter is retrocolic or in the pelvis, is excellent. The late results, with regard to strong scar and absence of hernia, leave nothing to be desired. Davis's original paper will be found in the *Annals of Surgery* (1906, xliii, 106).—I am, etc.,

Glasgow, C.3, March 16th. G. H. EDINGTON.

SERUM ANAPHYLAXIS

SIR,—It is with some surprise that I read in the *Journal* of March 21st (p. 516) the statement quoted by Dr. Brindle from Choyce's *System of Surgery*, for it is hardly in accordance with the facts. An attack of serum sickness with severe anaphylactic symptoms may follow a secondary injection of serum given after the expiration of the latent (or incubation) period, whether the primary treatment by serum consists of a single injection or of a series of injections, a fact to which I drew attention in an address

on serum sickness, published in the *Lancet* of March 2nd, 1918. Cases such as those described in the memorandum in the *British Medical Journal* of February 7th were recorded as far back as 1898 (see Appendix III of the Clinical Society's Report of the Committee on the Anti-toxin of Diphtheria, 1898).

May I draw attention to the use of the word "anaphylaxis" in connexion with serum sickness? I have noticed that in accounts of cases which have been recorded from time to time in various periodicals the word is employed almost entirely to denote a serious condition (rigors, collapse, dyspnoea, etc.). But, as a matter of fact, the anaphylactic or supersensitive state may be shown by symptoms varying from a slight local erythema up to the serious ones mentioned above. That they are anaphylactic, however mild they may be, is revealed by the fact that their latent period is much shortened. Most of the severe cases occur within twelve hours of the secondary injection (von Pirquet's and Schick's "immediate reaction"). Of seventeen cases of this reaction recorded in a paper on the supersensitization of persons by horse serum, published in the *Journal of Hygiene* for July, 1907, only eight or nine could be considered as severe.—I am, etc.,

Hemingford Abbots, March 21st. E. W. GOODALL.

DISSEMINATED SCLEROSIS RESEARCH

SIR,—In your issue of March 14th the Halley Stewart Trust sets out its reasons for establishing, under the direction of Miss K. Chevassut, a new centre for the study of this disease. I am concerned only with that paragraph of the letter numbered 1, in which my name is mentioned. In her original paper in the *Lancet* Miss Chevassut adequately acknowledged such help as I gave her. The Halley Stewart Trustees, however, have mentioned my assistance in terms which might well suggest that I have taken an active part in Miss Chevassut's work. I desire to state that there is no foundation whatever for such a suggestion. Such help and information as I have given to Miss Chevassut has been confined to microscopical methods, and to the use of an appliance devised for my own work on various viruses. Miss Chevassut has not, in any real sense, been "trained" by me. I have simply given to her such help and advice, on matters within my own competence, as I have given to many others in similar circumstances. If any comparison is permissible, my association with Dr. Carmichael's work in this field has been closer and more regular; it was carried out in large part at the National Institute for Medical Research, where my own work is done, and later at the National Hospital, Queen Square, where I visited him at regular, prearranged times.

I have received many inquiries concerning Miss Chevassut's work, which reveal an inclination to associate my name with it. I trust that this disclaimer will make it clear that I am neither entitled to claim credit nor prepared to accept responsibility in connexion with it.—I am, etc.,

London, March 18th. J. E. BARNARD.

OPERATION FOR HALLUX VALGUS

SIR,—An interesting feature of Mr. Roth's article on the operation for hallux valgus is the fact that, contrary to textbook teaching, no bursa or fascia is placed between the two bones. The reason for the interpolation of such tissue is to prevent ankylosis, but if the base of the first phalanx is untouched and its articular cartilage preserved there is no likelihood of interosseous union. The implanting of soft tissue into this narrow articular space is an unnecessary complication of the operation, for a good movable joint is obtained without it.

The deformity of itself frequently does not call for intervention. A patient may have a severe deviation of the great toe and yet be perfectly comfortable. On the other hand, there may be little or no deformity but much misery, and this type is usually associated with osteo-arthritis of the joint, the upper half of the metatarsal head exhibiting erosion of the cartilage and possibly eburnation. The operation therefore resolves itself into a reconstruction of the joint. Most surgeons, I imagine, would avoid cutting through the bursa by adopting a curved skin incision. In removing bone very little need be sacrificed, as Mr. Roth points out; it is enough to cut through at the posterior limit of the cartilage or even not so far back as this. A narrow-bladed saw produces a clean-cut surface in the bone without crushing or splitting the shaft. This leaves the metatarsal with a square end; but to complete the reconstruction, the edges and corners are best pared off with a cutting forceps and then rounded with a file so as to produce a perfectly smooth convex surface to articulate with the concave base of the first phalanx. Failure to reproduce a new joint with surfaces resembling the natural joint is the commonest cause of post-operative discomfort, and hence the disrepute in which the operation is held by many in the profession. If a reconstruction is properly carried out a comfortable movable joint should be the invariable result. It is the operation itself that is all-important, for there is little after-care needed beyond the encouraging of the patient to move the toe actively and passively after the stitches have been removed. Once the wound is healed the patient should be allowed up wearing a bedroom shoe; gradually more substantial footwear is worn.—I am, etc.,

London, W.1, March 16th. A. ROCYN JONES.

SIR,—Mr. P. B. Roth's interesting note on operative technique for hallux valgus induces me to write a few words in commendation of an operation which, in the hands of my surgical colleagues at Bradford Infirmary, as well as in my personal experience, has given results even more satisfactory than operations such as that described by Mr. Roth.

Very briefly the operation I suggest consists in the removal by bone-cutting forceps of the proximal half of the proximal phalanx of the great toe and of the outcrop of bone on the mesial side of the head of the metatarsal bone. Removal of the head of the first metatarsal bone inevitably lessens the stability of the foot; removal of not less than one-half of the proximal phalanx is followed by a functional result as good from the point of view of a movable joint, and quite definitely better as regards capacity for walking and standing.

I have in my own household an example of each of the two types of operation, and there can be no question as to which has given the more satisfactory functional result. I am confident that no one who adopts the operation suggested—for any of the arthritic lesions of the first metatarso-phalangeal joint—will be likely to abandon it for the type of operation in which the articular head of the metatarsal bone is removed.—I am, etc.,

Bradford, March 20th. JAMES PHILLIPS.

SIR,—Early in 1916 the majority of patients admitted to the special military orthopaedic hospital at Shepherd's Bush were young men who had already had an operation performed for hallux valgus or hallux rigidus on the lines
sted by Mr. Paul Bernard Roth. It was then clear that although the operation was relatively satisfactory for

civil life, it did not leave a reasonable proportion of the men fit for long marching. The reason for this was that they had been deprived of a very important support of the foot—the first metatarsal head. Simple operative treatment, which avoided boot pressure on prominent bone without loss of the weight-bearing surface of the first metatarsal head, was then adopted as a routine, with uniform success. The period of convalescence after operation was ten to fourteen days. Similar results are the constant experience in civil practice: the foot is not weakened, and pain is entirely relieved. During the last ten years I have only once removed the head of the first metatarsal—the lady was delighted with the operation because pain was relieved, the pain having been due to boot pressure on prominent bone. She now seeks my advice, however, for relief of pain resulting from undue pressure on the head of the second metatarsal bone—a very common sequel of this operation.

I make this communication because there is a real risk of surgeons with less experience and judgement carrying out the operation described. It is, I believe, fundamentally unsound, and unnecessary for relief of pain, which is the patient's complaint.—I am, etc.,

Birmingham, March 19th. NAUGHTON DUNN.

AN UNUSUAL MENTAL ABNORMALITY

SIR,—Dr. William Brown has done well to point out the occurrence of the "tying-up game," but I think he is wrong in calling it a rare form of perversion. I have sometimes heard schoolmasters say they noticed it among their boys, and have often discovered evidence of such tendencies in the earlier history of those who develop abnormalities in their sexual life. I recollect a patient saying that practically as a baby he had delighted in any form of physical restraint, such as even the tying together of two fingers. Tying up is also part of the rite of flagellation, which appears particularly prevalent in these days.

One must be careful of tracing such abnormalities to a common cause, but I have often thought that masochistic traits appear chiefly in those who in late infancy and in boyhood have been spared any sort of physical punishment, with the result that its infliction is invested with imaginary terrors and humiliation. Whereas the normal boy takes such punishment as it comes (and in later life is somewhat proud of it!), his more sensitive fellow may dwell upon it as an exciting yet fearful ordeal, the thrill of which, but not the pain, he enjoys in such fantasies as the "tying-up game." Later, such boys, probably neurotic, tend to import the thrill of early fantasies into the fantasies of sexual life.

If such an interpretation of the phenomena is justified, its indication for teachers and parents is obvious enough.—I am, etc.,

London, W., March 23rd. G. LAUGHTON SCOTT.

GONOCOCCAL RHINITIS

SIR,—The article by Drs. Kirkland and Storer in the *Journal* of February 14th interested me greatly, and in view of the correspondence which it has evoked I think the details of the following case might be of value, though I know that similar cases have already been described by paediatricians.

An illegitimate child, aged 5 weeks, was admitted to Dundee Royal Infirmary with a history of three or four days' swelling of the hands and feet, no diagnosis having been made. There was oedema of the hands to above the wrists and of the feet to above the ankles, with an obvious inflammatory basis and marked tenderness. A copious bilateral purulent nasal discharge was present, as also was an extensive stomatitis, which at first sight looked typically aphthous. Examination of smears from nose and mouth revealed in a very mixed flora a large number of intracellular diplococci, having the morphology and staining characteristics of the gonococcus. Knowing the difficulty of endeavouring to grow a delicate organism like the gonococcus from the midst of other hardier organisms, no attempt at cultivation was made, but the serum was examined and gave a positive gonococcal complement-fixation reaction. The rhinitis and stomatitis very quickly responded to local treatment, and in the meantime the oedema had gone down, revealing swelling of both wrist- and ankle-joints as well as of several of the small joints of the hands and feet. After some difficulty a little slightly turbid fluid was obtained by aspiration from one of the wrist-joints, and this, too, contained a fair number of Gram-negative bean-shaped intracellular diplococci. The right knee subsequently became involved. Despite the fact that there was no general reaction, and that none of the joints ever became acute, the infant went rapidly downhill. Immediate improvement followed the institution of a course of vaccine therapy with a non-autogenous vaccine, and the child was ultimately discharged well, with no disability in any of the affected joints. The mother would not admit the presence of a vaginal discharge, and steadfastly refused examination.

In the above case the diagnosis appears to be complete; and while that in the case of Drs. Kirkland and Storer seems open to criticism, there is apparently strong circumstantial evidence in its favour. Not being a bacteriologist, I would like to ask Drs. Assinder and Price whether attempts at cultivation of the gonococcus from nasal pus are likely to be successful.

I have to thank Dr. J. S. Y. Rogers, D.S.O., for permission to record the details of this case.—I am, etc.,

Glenlomond, by Kinross, March 6th. A. SCOTT, M.B.

THE ELECTROCARDIOGRAM

SIR,—As a practising cardiologist I consider it my duty to the medical profession to contradict the sweeping assertions of the writer of your leading article on the electrocardiogram in the *Journal* of March 7th (p. 407).

In it he states that the English school holds that the electrocardiogram is only of use in identifying the more difficult forms of irregular heart action, for which it remains as a little-needed final court of appeal, and that its sphere of usefulness is almost confined to the laboratory for the elucidation of academic problems of nerve and muscle physiology. The other school, which he styles the American, he condemns as vociferous and ultra-enthusiastic, in that they have found the electrocardiograph of practical help in determining the state of the myocardium in regularly beating hearts.

The writer bases his statements on the Medical Research Council's Report No. 147 by Dr. W. H. Craib. I have read the report, but do not find anything in it which tends to support the writer's assertions. He concludes, however, by stating that Dr. Craib's report is the deathknell to any extension of electrocardiographic methods to the routine study of the myocardium. With these assertions I am in entire disagreement. There are many serious myocardial affections with a regularly beating heart, the diagnosis of which is absolutely dependent on the electrocardiogram, and for whose treatment a correct diagnosis is of the utmost importance.

Bundle-branch block is an extremely serious heart condition. It is frequently found in patients with a normal heart rhythm. Clinically there are often no gross signs of myocardial damage. The patient's symptoms are often more marked than can be gauged from the clinical findings, and without an electrocardiographic record, which gives a typical picture of the lesion, it is impossible to

say whether there is present a serious heart condition or not. Willius of the Mayo Clinic, who has had abundant opportunity of investigating electrocardiograms of all kinds of heart conditions, in his book on *Clinical Electrocardiography*, published in 1929, gives a mortality of 66 per cent. in twelve months for bundle lesion cases. Yet the writer considers the use of the electrocardiograph purely academic. Partial heart-block is often found with normal rhythm. Delayed conductivity between the auricles and ventricles is impossible to diagnose by clinical means. Two to one heart-block can be suspected in some cases from the slow rate, but cannot be diagnosed with any certainty without instrumental methods. Heart-block, even with a regular rhythm, is of serious import to the patient.

Auricular flutter is not uncommonly present with a normal heart rhythm and without any gross clinical evidence of disease, though the patient's symptoms may be marked. It is usually far from easy to diagnose the condition visually from the altered jugular pulsations, and anyone who has used the electrocardiograph and the polygraph can have no two opinions on the simplicity and precision of the former instrument. The recent work on coronary thrombosis is another instance of the value of electrocardiography in normal rhythms. The fact that cases of coronary thrombosis have been found with normal electrocardiograms does not in my opinion mitigate its great value in the diagnosis of this condition. Paroxysmal tachycardias are not infrequently seen. The exciting focus may be any spot away from the sino-auricular node. The prognosis depends to a large extent on the site of the ectopic focus. Thus paroxysmal tachycardia of ventricular origin is usually more serious than paroxysmal auricular tachycardia. The electrocardiogram offers the only means of sure diagnosis, and is of great help in the treatment. Low-voltage curves are frequently found in elderly subjects, who are prone to anginal and syncopal attacks, and must be considered of some significance.

Willius collected numerous electrocardiograms in which the T-waves were negative in various leads, and gives the following mortality figures:

Negative T i: 67 per cent. mortality in 17 months.
Negative T i, T ii: 65 per cent. mortality in 12 months.
Negative T i, T ii, T iii: 66 per cent. mortality in 12 months.
Negative T ii, T iii: 50 per cent. mortality in 24 months.

Do these figures mean anything to the reviewer? I could instance many other examples in which the electrocardiograph has proved its value in the exact elucidation of myocardial disease, but these examples should suffice. —I am, etc.,

JENNER HOSKIN,
Cardiological Department,
Royal Free Hospital.

March 20th.

MEDICINAL TREATMENT OF CHRONIC ARTHRITIS

SIR,—I read with much pleasure the article on the medicinal treatment of chronic arthritis by Dr. N. Mutch, which appeared in your issue of March 7th. As a practitioner I am indebted to him for his classification of the welter of remedies extant for use in chronic arthritis, and for the careful way that he has explained their mode of action. I have found intramuscular injection of contramine most generally useful, but patients must be warned to expect a severe exacerbation of their pain to begin with. I congratulate Dr. Mutch on the way he has dealt with such a complex problem —I am, etc.,

D. M. MARR, O.B.E., M.D.

Grantown-on-Spey, March 18th.

CONVULSIONS DURING SURGICAL ANAESTHESIA

SIR,—The article on convulsions during surgical anaesthesia in the *Journal* of March 14th (p. 440) is very interesting. May I suggest that one of the toxaemic factors was probably ketosis? All the patients were children, acutely ill with high fever and sepsis. The author does not mention acetonuria, but doubtless it was present. Neither does he state whether glucose was given before operation. All the operations were urgent, and it may have been omitted.

It would be interesting to learn what is the ideal dose of glucose to give children before operation.—I am, etc.,

LOUISE FRASER.

Inverness, March 14th.

PENTAPHARMACUM OR PENTAPERMATUM?

SIR,—In my book *Caesarean Section* I have dealt with Aelius Verus and his Pentapharmacum. His full title was Lucius Ceionius Commodus Verus Aelius Caesar, and he was the first commoner to bear the last-mentioned name. His Tetrapharmacum (more accurately Pentapharmacum) consisted of a sow's udder, pheasant, peacock, crusted gammon, and wild boar (sumen, fasianum, pavonem, pernam crustulatam et apruquam). The perna crustulata appears to be gammon with the crackling so beloved of Elia. To-day, under the heading "An Imperial Roman Game Pie," the *Times*, in a Reuter telegram from Budapest, dated March 20th, gives the recipe for Aelius Verus's Pentapermatum, which has come to light. Is not this the Pentapharmacum with some of the pie changed, and notably by the substitution of ox tongue for peacock? I beg, Sir, that you will endeavour to obtain the Latin text. Though the pheasant and peacock would be a little out of season, the celebrated gourmet's Pentapharmacum would be a fine *pièce de résistance* for the Association's centenary banquet in 1932.—I am, etc.,

HERBERT R. SPENCER.

London, W., March 21st.

CLOSED DRAINAGE IN TREATMENT OF EMPYEMA

SIR,—I read with much pleasure a letter in the *Journal* of March 21st from Dr. William Mitchell ascribing the credit for closed drainage of empyemata to Dr. George Robertson of Oldham. Dr. Robertson published his method in the *Medical Chronicle* as long ago as 1887, together with a series of over one hundred cases in which the average time of healing, with full lung expansion, was only nineteen days. My father, Dr. Frank Radcliffe, succeeded Dr. Robertson at the Oldham Royal Infirmary, and has continued to treat empyemata by Robertson's method, with equally good results.

Robertson's apparatus is simpler than McEachern's. He employed it always after rib resection, as only by manual clearing of the chest is it possible to get rid of the clotted pus in pneumococcal cases. He inserted two tubes side by side, not through the original incision, but through stab wounds. One tube he used for irrigation, and the other drained through "U" tubes into a bottle of weak perchloride solution. Should one tube become blocked it is easy to reverse the circulation. No negative pressure is applied, for, as he shows in his paper, the lung tends to expand with the patient's cough.

Old as they are, Robertson's papers well repay study, and I feel that Dr. Mitchell has done Robertson a great service in drawing attention to his pioneer work in such an important branch of surgery.—I am, etc.,

WALTER RADCLIFFE.

East Suffolk Hospital, Ipswich, March 21st.

Obituary

ARTHUR PERIGAL, M.D., C.M.

New Barnet

Dr. ARTHUR PERIGAL, born in Edinburgh in 1848, was educated at the Edinburgh Academy and University, graduating M.B., C.M. in 1869, with his life-long friends Byrom Bramwell and the late James Dunsmure. He was house-surgeon to Spence and house-physician to Hughes Bennett before going to Vienna, where he met the late Robert Farquharson and Herbert Page, with whom he became an intimate friend; later he was in Rome, where he wrote his M.D. thesis on Roman fever. He started private practice at Wheatley with Dr. Stovin, eventually joining Dr. Livingstone at New Barnet in 1878. During fifty years of practice there his handsome and genial presence and untiring energy endeared him to all, setting a lasting example of conscientiousness and unselfishness. He was a member of the Royal Medical and Obstetrical Societies of Edinburgh and London, and an early member, and latterly a vice-president, of the Edinburgh University Club of London, in which he took a lively interest. He leaves two married daughters, and a son who has been in practice with him for over twenty-five years.

Mr. C. W. MANSELL MOULLIN writes:

There are very few people in New Barnet and the neighbourhood for many miles round who will not deeply regret the loss of one of the kindest friends they can ever have known. Dr. Perigal had been in practice for upwards of fifty years, and was esteemed and respected by everyone. Old and young alike believed in him, and trusted him. He had a wonderful power of inspiring confidence, was never hasty in making a diagnosis, and while keeping an open mind was thoroughly conversant with all the latest advances. Since the death of his wife a few years ago he had withdrawn more or less from active work; but the experience he had gained through so many years was always at the service of those who sought it, and it rarely failed to bring relief. He never looked upon patients as cases, but as men and women, suffering from pain and disease, in need of sympathy, and they became his friends.

Dr. ALDREN TURNER writes:

By the death of Dr. Perigal, at the age of 82 years, there has passed away one of the few remaining graduates of Edinburgh University who commenced their anatomical studies under Goodsir. After spending some time abroad he settled down in general practice, and for over fifty years was the outstanding figure in the medical life of New Barnet and district. He had all those qualifications which make for success in our profession: a handsome presence, a strong and energetic personality, the power of inspiring confidence, and an assured and well-balanced judgement. He inherited the artistic gifts of his family, his father having been a Scottish academician, and a painter of repute in his day.

JAMES LAURIE, M.B., C.M.,

Consulting Surgeon, Greenock Royal Infirmary

The death took place on March 12th, in his seventy-first year, of James Laurie, one of the best-known and most highly respected practitioners of Greenock. Though he had been in failing health for some time, he was engaged in practice a few weeks before his death. He was a native of Greenock, and after graduating M.B., C.M. at Glasgow University, he served as house-surgeon at Greenock Royal Infirmary, to which institution he was destined to give so much of his time and skill in later years. On leaving the Infirmary, he soon acquired a large general practice, but his chief interest was in surgery, and at an early age he was appointed visiting surgeon to the Royal Infirmary, a post he held for about thirty-five years.

Trained in the antiseptic school, he soon realized the importance of the new aseptic methods so strongly advocated by Macewen of Glasgow, and at an early period adopted these with great advantages to the institution. This was characteristic of the man, for he was ever on the lookout for new and improved methods. Laurie was unfailing in his attention to his hospital duties, and special mention must be made of the kindly interest he took in the nurses and house-surgeons who were trained under him. Many of the latter in all parts of the world look back with pleasure on their association with him. On his retirement he received a presentation from the staff, and his services were retained as consulting surgeon. For many years he rendered valuable service to the community as medical officer to Greenock Prison and to Smithston Asylum. He was also surgeon-accoucheur to the Greenock Maternity Hospital. During the war Laurie served as captain R.A.M.C. in the 3rd Scottish General Hospital. Mrs. Laurie was also active in war service, being honorary treasurer to the Scottish Women's Hospitals for home and foreign service, and during the war period the financial headquarters of that institution were established at the residence of Dr. and Mrs. Laurie.

Apart from his purely professional work, he did good service to his medical brethren as a member of the Burgh Insurance Committee from its establishment in 1913, and as a vice-president of the Medical Defence Union. He was a very active member of the British Medical Association, and served for several years before his death on the Scottish Committee. He was formerly president of the Glasgow and West of Scotland Branch. Dr. Laurie was one of the promoters of the first company of the Boys' Brigade in Greenock, and acted as surgeon. The meetings of the Greenock Faculty of Medicine were always enlivened by his cheerful presence and good humour. He was president for two periods, and ever ready to take part in discussions. Golf found in him an enthusiast. He was a member of the Glasgow Medical Golf Club, and was at one time captain of the Greenock Golf Club. He strongly advocated the formation of a municipal golf course in Greenock. An active Freemason, he was right worshipful master of Lodge Greenock Kilwinning for two years. To quote from a tribute in the local press: "His presence was so full of sunshine and merriment that at no time did the hand of death seem near to touching him. Even the passage of years took nothing from the clear ring of his laugh. He never seemed to grow older."

THE LATE DR. S. E. DENYER

Colonel C. J. WILLMER TATHAM writes: I should like to add my tribute to the memory of Dr. Stanley E. Denyer, whose death was noted in the *Journal* of March 14th. Throughout the war he served under me as sanitary officer to the Humber garrison, also as a member of all the medical boards on officers and men. He was an invaluable officer, not only for his professional knowledge, but for his delightful temperament. He was always *persona grata* with both officers and men of the regiments and training battalions in the command; all liked him and trusted him. In the arrangement and sanitation of the big camps in Holderness, and [illegible] Department and [illegible] disastrous period of the influenza epidemic, he was indefatigable. In his daily visits to the different areas he was a great help to the regimental medical officers as a diagnostician in doubtful cases. To myself, he was more than a valued colleague, he was a dear personal friend—always ready to help, never tired, never sick. I could ill spare him, though it was at the end of the war, when he was transferred at his own request to Alder Hey

Hospital. I knew him slightly in the South African war. I have always understood that he received the C.M.G. for taking command and bringing out of action the R.H.A. battery to which he was attached, when all the combatant officers of the battery were either killed or wounded. Examinations were never any trouble to him. With all his numerous degrees and qualifications, I can only recall one failure at an examination, and that he soon put right. Dr. Denyer's death at such an early age is a real loss, especially to the profession in Hull, where he had made for himself a high reputation. In the Service his name and his work will always be a precious memory to those who had the good fortune to know him.

Dr. W. H. LINE of Hockley Hill, Birmingham, died on March 10th. A colleague writes: Born at Daventry in 1855, William Henry Line was a student of Trinity College, Dublin, and obtained honours in both arts and medicine, graduating M.B., B.Ch. in 1880 and proceeding M.D. in 1881. He came to Birmingham forty-five years ago as superintendent of the Fever Hospital. Sir Gilbert Barling and the late Sir Bertram Windle also came to Birmingham about the same time, and the three were very great personal friends; always very keen on their work, they used to keep up their post-graduate studies by meeting in one another's rooms. Few medical men could be more beloved by their patients and medical colleagues than Dr. Line. He was a man of extraordinary memory and had great erudition, both in medicine and in general literature. His charming personality was a great delight to his friends, and especially to his medical colleagues. He did valuable work as teacher of vaccination at the Birmingham University, which position he held for over twenty years, resigning only two years ago. He was laid to rest at the Handsworth Cemetery. A service at St. Saviour's was very largely attended; the vicar, the Rev. Joseph, spoke most affectionately of "the old doctor," as he was known by his patients and friends.

We regret to record the death of Dr. GEORGE ROBERT LAWLESS. He took the diplomas of L.R.C.P. and S.I. in 1879, and that of F.R.C.S.I. in 1894. After serving as assistant medical officer to the District Asylum, Sligo, he was appointed in 1897 as resident medical officer to the Armagh District Asylum. During the war he held a temporary commission in the R.A.M.C., and did duty in Dublin. Dr. Lawless was for many years a member of the British Medical Association, and served as vice-president of the Section of Psychological Medicine when the Association held its Annual Meeting at Belfast in 1909. In 1914 he was president of the Ulster Branch, and since then had been a regular and enthusiastic member of the Branch Council, taking an active interest in the affairs of the Association. His charm of manner, unfailing courtesy, and cheery disposition endeared him to all who came into contact with him.

Dr. WILLIAM AYTON GOSTLING died on March 12th at his residence at Worthing, at the age of 76, from pneumonia following influenza. He was born at Diss in Norfolk and was educated at the City of London School, the Pharmaceutical College, and University College, London. He was a brilliant student at both institutions, taking several gold medals and the Atchison Scholarship and Filliter Exhibition for pathology at University College. He graduated with honours at the University of London, and won the gold medal at the M.D. examination in 1885. After holding the posts of house-surgeon, house-physician, and [illegible] assistant, at University College Hospital, he acted [illegible] as medical officer at Charterhouse School, [illegible] with Clarence Haigh-Brown, and then began [illegible] with Dr. Fuller of Regent's Park. He joined Dr. [illegible]sh at Worthing in 1887, and in 1890 they [illegible] Dr. Frank Hinds. He built up a large and complex [illegible] and did a considerable amount of consulting [illegible] neighbourhood until his retirement in 1920. [illegible] was a Fellow of University College, London, M.D. [illegible], and a few days before his death was honoured by an invitation to preside over its annual dinner. He served the British Medical Association as secretary and chairman of the Worthing Division. Dr. Gostling was a man of wide interests, and was an excellent photographer, a taste which his love of travelling gave him many opportunities of enjoying. He was genial and fond of entertaining his friends, by whom his death is felt as a great loss.

Universities and Colleges

UNIVERSITY OF OXFORD

The Radcliffe prize for the furtherance of medical science in the University has been awarded to W. H. Bradley, B.M., B.Ch. (Christ Church).

The electors have notified to the Master and Fellows of University College the election of K. N. Irvine, B.M. (Magdalen), to a Fellowship on the foundation of Dr. John Radcliffe.

UNIVERSITY OF LIVERPOOL

The following candidates have been approved at the examinations indicated.

DIPLOMA IN PUBLIC HEALTH.—*Part I.*: A. C. Briffa, S. Canter, R. F. Corlett, W. A. Davies, J. Hatton, E. W. Jones, J. N. Parrington, L. G. Thomas, A. J. Walsh, F. J. Welton, E. B. Whittingham.

DIPLOMA IN TROPICAL MEDICINE.—R. Behari, K. L. Bhambari, F. E. Camps, A. E. Carrol, P. E. J. Cutting, M. S. Eldin, E. R. Gauld, M. Kalra, E. W. H. Maass, H. A. Maniar, K. T. Moir (recommended for the Milne Medal), R. C. Speirs, Dorothy M. H. Tripp, J. Yunibandhu.

DIPLOMA IN TROPICAL HYGIENE.—L. J. A. Loewenthal, J. E. D. Mendis, F. O'Driscoll, J. K. Sung.

UNIVERSITY OF DUBLIN

TRINITY COLLEGE

The following degrees and licences were conferred on March 20th.

M.D.—R. A. Q. O'Meara (*stip. cond.*), G. W. F. Pratt, H. J. Robinson.

M.A.O.—S. H. Woods.

M.B., B.Ch., B.A.O.—C. H. Adderley, C. Bowesman, P. C. Cosgrove, H. W. Dalton, J. E. R. Keyms, S. Levy, Annie E. Thompson.

LICENCE IN MEDICINE, SURGERY, AND OBSTETRICS.—C. M. Elliott, J. M. McElligott.

The following have been approved at the examinations indicated:

FINAL M.B., PART I.—*Materia Medica* [illegible]; *Medical Jurisprudence and Hygiene*: [illegible] S. N. Varian, C. J. Hassett, M. [illegible].

PART II.—*Medicine*: P. C. Cosgrove, Elizabeth K. Roberts, T. F. O'Donnell, Margaret D. Gregg, C. H. Hutchinson, P. H. Peacock, Marjorie L. Campbell, W. A. Ryan. *Midwifery*: *D. Torrens, *G. A. Wray, *B. O'Brien, *J. Miller, D. B. Bradshaw, J. L. Martin, H. S. Mason, H. J. Eustace, A. J. Harden, M. A. Shapiro, I. G. M'Intyre, A. D. Barber, O. W. S. FitzGerald, W. A. Ryan, E. F. Burton, J. B. Fleming, Dorothy R. R. Solomons, P. W. O'Ryan.

* Passed on high marks.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

COUNCIL ELECTION

Monday, March 16th, was the last day for the receipt of nominations of candidates for the Council. The three retiring members—Mr. J. Herbert Fisher, Mr. G. E. Gask, C.M.G., D.S.O., and Mr. Graham Simpson—seek re-election, and the following candidates were also nominated: Mr. Herbert J. Paterson, C.B.E., Mr. H. S. Clogg, and Mr. A. James Walton.

The composition of the Council since July, 1930, has been as follows:

President.—Lord Moynihan, K.C.M.G., C.B., Council (1) 1912 (substitute), (2) 1919, President 1926.

Vice-Presidents.—Mr. C. H. Fagge, C. (1) 192[illegible] tive, Mr. R. P. Rowlands, C. (1) 1922, (2) 1930. [illegible] the (2) 1929; and

Other Members of the Council [illegible]s cough. (2) 1921, (3) 1929; [illegible] as they are, Robertson's papers well re[illegible] and I feel that Dr. Mitchell has done Roberts[illegible] service in drawing attention to his pioneer wor[illegible] an important branch of surgery.—I am, etc.,

East Suffolk Hospital, Ipswich, March 21st. WALTER RADC[illegible]

Sir V. Warren Low, C.B., C. (1) 1916 (substitute), (2) 1917, (3) 1926 substitute); Mr. Victor Bonney, C. (1) 1926 (substitute), (2) 1930; Sir G. Grey Turner, C. 1926; Mr. Hugh Lett, C. 1927 (substitute); Sir Leonard Gamgee, C. 1928 (substitute); Mr. R. G. Hogarth, C. 928; Mr. R. E. Kelly, C. 1928; Mr. Graham Simpson, C. 1929 substitute).

The medical schools are represented as follows:

London		Provinces	
St. Bartholomew's	4	Birmingham	1
Guy's	3	Bristol	1
London	1	Cardiff	1
St. Mary's	1	Leeds	1
Middlesex	2	Liverpool	1
St. Thomas's	3	Manchester	1
University College	1	Newcastle	1
		Nottingham	1
Total London	15	Sheffield	1
		Total Provinces	9

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have been approved in the subjects indicated:

SURGERY.—G. I. Benjamin, G. W. Hinchliff, D. R. Rigg, E. S. St. John, R. S. Wale.

MEDICINE.—W. A. Naidu, R. S. Wale.

FORENSIC MEDICINE.—F. Brodabl, G. C. Brown, H. R. Fosbery, R. S. Wale.

MIDWIFERY.—A. J. P. Coetzee, H. W. Davies, R. C. H. Ensor, R. P. Huggins, S. D. Jouhar, J. S. Lane, W. K. Schnarr, E. S. St. John, S. H. Thaler, R. S. Wale.

The diploma of the Society has been granted to Messrs. G. W. Hinchliff, W. A. Naidu, D. R. Rigg, W. K. Schnarr, and R. S. Wale.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The London Passenger Transport Bill, the report of Estimates for the Defence Services, and the Consolidated Fund Bill were discussed in the House of Commons this week. The Yarmouth Naval Hospitals Bill, which had not been reached on the previous week, was set down for second reading on March 27th.

Mr. Groves has given notice that on March 30th he will present a Bill to repeal the law relating to compulsory vaccination.

In the House of Lords the committee stage of the Pharmacy and Poisons Bill was put down for March 26th.

The Parliamentary Medical Committee met on March 24th and discussed the introduction of a Proprietary Medicines Bill. Dr. Alfred Cox attended for the British Medical Association. The committee decided that after Easter such a Bill should be introduced, to be backed by a medical and a lay member of Parliament of each party. The Bill is founded on the report of the committee which sat in 1914 and on the Bill of 1920. It will contain a schedule of diseases such as cancer and consumption, "cures" of which shall not be advertised, and will also provide for a register of proprietary drugs, medicines, and methods of treatment. The Bill will not go beyond the first reading stage this session.

The House of Commons will adjourn from April 2nd till April 14th.

Rules under Mental Treatment Act

In the House of Commons, on March 16th, Mr. GREENWOOD moved that the Mental Treatment Rules, 1930, made by the Board of Control, under Subsection (1) of Section 338 of the Lunacy Act, 1890, as extended by Subsection (1) of Section 15 of the Mental Treatment Act, 1930, should be approved. He said that the opportunity had been taken to consolidate the existing position so far as possible. The Act required that in any modification of the existing law the Department should consult the interests concerned. They had therefore consulted with the local authorities, the medical profession, the Mental Hospitals Association, and similar bodies. Since then, the Rules had been modified and published, and a measure of agreement had been reached.

Dr. MORRIS-JONES said that when the Mental Treatment Bill was before the House there was considerable perturbation generally as to whether the liberty of the subject was being properly safeguarded. He thought that these Rules were sufficient with regard to that particular matter. He had considerable sympathy with medical officers in all institutions who would have to work the Act. When he saw the complexity and variety of the schedules at the back of the Statutory Rules and Orders he began to wonder how a medical man in charge of cases would have time to look after the cases at all. He was not sure if this was not another tendency of the State to burden the medical profession with far more clerical work than it had the facilities to carry out.

Mr. GREENWOOD said that the schedules were elaborate, but medical officers were accustomed to dealing with these forms, and he did not think they would find them confusing.

Sir D. HERBERT asked for an explanation of Rule 22, which said that mechanical means of bodily restraint should not be applied to any temporary patient unless the restraint was necessary for the purposes of surgical or medical treatment. The question arose whether, if a person was a temporary patient, he put himself, under that Rule, in such a position that he could be forced by means of bodily restraint to undergo some surgical operation which, if he had the chance or choice to decide, he would prefer not to undergo. Mr. GREENWOOD pointed out that the wording of the Rule was a verbatim reproduction of Section 40 of the principal Act. Sir D. HERBERT said that that disposed of his point, in that the Rule was a reproduction of what was in the principal Act, and not a new enactment, except in so far as it applied now to a temporary patient.

The motion to approve the Rules was agreed to.

In the House of Lords, on March 24th, the LORD CHANCELLOR moved: "That the Mental Treatment Rules, 1930 (Statutory Rules and Orders, 1930, No. 1083), dated December 30th, 1930, and made by the Board of Control with the approval of the Lord Chancellor under Subsection (1) of Section 338 of the Lunacy Act, 1890, as extended by Subsection (1) of Section 15 of the Mental Treatment Act, 1930, which were presented on the 27th day of January, 1931, be approved so far as they modify or adopt any of the provisions of the Lunacy Act, 1890." He said the Rules had been submitted in draft to a number of interests concerned, including the medical profession. Many useful suggestions had been made in detail, which had nearly all been adopted. These Rules had been passed by the House of Commons. The Earl of ONSLOW said that the only real innovation in the Rules was the application of existing regulations to temporary and voluntary patients. The motion was accepted.

Indian Medical Department

Mr. BENN, replying on March 16th to Commander Kenworthy, said that, although the Indian Medical Department had a definite cadre, it was not an all-India service like the Indian Medical Service. Military assistant surgeons were attested as soldiers under the Army Act on first appointment. While they were in military employment their conditions of service were governed by Army Regulations, but on transfer to civil employment they came under the control of the civil authorities, which had full power to determine their rates of pay. In the circumstances he did not feel justified in suggesting to the civil authorities an increase in the rates, which they had decided were adequate. Commander KENWORTHY asked if it was not a fact that when the new pay and pensions of the Indian Medical Department were sanctioned they were for the whole unit, and that no difference was made between military and civilian members. Mr. BENN: No; the conditions of the Indian Medical Department and the Indian Medical Service are not quite comparable.

Commander KENWORTHY asked, on March 23rd, why, although the revised rates of pension were granted to all departmental officers of the Army in India in 1925, the Indian Medical Department was the only Department to which revised pensions were granted in 1927, two years later; and whether he would remove this distinction by granting the revised pensions from the date of sanction to all Indian Medical Department officers who retired from 1925. Mr. BENN replied

that pensions of departmental officers were reconstructed in 1925 on a basis of British rates which was inapplicable to the case of members of the Indian Medical Department. There was no necessary connexion between the two pension systems. When Indian Medical Department pensions were revised in 1927, the standing principle was applied that pension revisions could not be made retrospective. He did not feel justified in reversing that decision.

Post-vaccinal Encephalitis

Mr. GROVES asked, on March 19th, why the committee on vaccination was dissolved. Mr. GREENWOOD said that, with the presentation of its second report, this committee had sufficiently discharged its terms of reference after sitting four and a half years. Mr. GROVES asked why the final report did not refer to cases of post-vaccinal encephalitis during the period October 1st, 1929 to September 30th, 1930. Mr. GREENWOOD replied that such investigations occupied much time, and a date had to be fixed beyond which such cases would not be investigated for the second report. Only eight of these cases occurred within the dates named by Mr. Groves.

Insurance Practitioners

In a statement furnished to Mr. Thomas Lewis, on March 19th, Mr. GREENWOOD shows that at January 1st, 1931, 15,703 medical practitioners were undertaking national health insurance work in England and Wales. In the year 1930 the number was 15,750, and the amount paid to them £7,300,000. In 1929 the figures were 15,563 and £7,109,000; in 1913 the figures were 12,674 and £3,858,000.

Serum Treatment of Bovine Tuberculosis.—On March 16th Dr. ADDISON told Mr. Hurd that he had recently had under careful consideration the possibility of expediting research work into the value of the serum treatment of bovine tuberculosis.

Cerebro-spinal Fever.—Mr. SHAW, replying on March 17th to Mr. Groves, gave a tabulated answer showing the dates of admission to hospital, of the deaths where they occurred, and of the last vaccinations in the case of soldiers and their families admitted to hospital suffering from cerebro-spinal meningitis during this year up to March 12th. The statement showed that, of 31 patients admitted to hospital, 15 had died and 22 had been vaccinated since the beginning of 1929. No patients had yet been discharged from hospital.

Cerebro-spinal Fever and Vaccination.—In a statement circulated on March 23rd, Mr. SHAW said that, so far as was known, there was no relationship between cerebro-spinal meningitis and vaccination, nor any relationship between any form of cerebro-spinal disease, the causation of which had been associated with vaccination, and cerebro-spinal meningitis. There was no evidence that the present procedure in vaccination affected adversely the flow of recruits to the Army or the after-health of the men enlisted. There were therefore no grounds for altering the present rules on vaccination, which were designed to protect the troops from small-pox, a disease prevalent in many of the countries in which the Army was called upon to serve.

Disposal of London Refuse.—On March 12th, replying to Commander Kenworthy, Mr. GREENWOOD said that he had pressed the metropolitan authorities to discontinue insanitary dumping of refuse, and action had been taken, or was contemplated, by a number of them. Some authorities in the neighbourhood of London had made by-laws under which precautions could be enforced to prevent any nuisance from refuse tips. Returns for the year 1928-29 from 216 of the larger urban authorities showed that 138 (19 being in London) incinerated part or the whole of their refuse.

Medical Examination of School Children.—Mr. LEES SMITH stated on March 19th, that there was no universal dental examination of children entering school. Of children medically examined on entering school in 1929, 20.3 per cent. required some form of medical treatment. As a result of action by the Ministry of Health, the proportion was smaller than before the war.

Venereal Disease in the Navy.—Replying to Miss Wilkinson, on March 18th, Mr. ALEXANDER said that it had been the custom to remark upon the rise or fall in the incidence of venereal disease in the Navy only when the fluctuations were sufficiently large to warrant special investigation. This subject was receiving the constant attention of the Admiralty, and in future reports on the health of the Navy comment would be made with regard to any serious augmentation of the figures.

Colour Vision and the Navy.—On March 18th, during a debate on the report stage of the Navy Estimates, Lord ERSKINE said the medical examination imposed on cadets was very stiff. Very good men might be lost because of the stringent colour-vision test. To-day many people were colour-blind to a slight extent, but the system of selecting naval officers meant that they must have perfect sight. Many German naval officers during the war wore spectacles, but that did not diminish their efficiency at sea. Mr. ALEXANDER said that Lord Erskine himself would not care to sleep in a ship with a colour-blind officer on the bridge. The tests which were carried out were on a new technical basis for discovering colour-blindness, and were so perfect that cadets experienced no injustice on that ground. He wished to leave the whole subject for consideration on receipt of a report from a committee set up last year.

Aniline Workers and Cancer.—Replying to Mr. Philip Oliver, on March 18th, Mr. SHORT said the investigation being carried out by the London Cancer Hospital, with the assistance of the medical inspectorate of the Factory Department, into the incidence of the disease of cancer of the bladder among workers in aniline factories had been actively continued, but so far there were no conclusive results to report. The question of approaching the life assurance offices had been considered, but they would not be able to furnish information of material value which was not obtainable from the Registrar-General.

Notes in Brief

Mr. Clynes promises that when opportunity comes to revise the Workmen's Compensation Act consideration will be given to the suggestion that nurses and other persons employed at isolation hospitals should be included.

In England and Wales during 1930, 38,790 deaths were registered of infants under 1 year of age.

Mr. Montague told Mr. Groves, on March 18th, that there had been twelve cases this year of cerebro-spinal meningitis among the Royal Air Force personnel; of these six proved fatal.

The Services

NAVAL MEDICAL COMPASSIONATE FUND

A meeting of the subscribers to the Naval Medical Compassionate Fund will be held on April 16th, at 3 p.m., at the Medical Department of the Navy, Queen Anne's Chambers, Tothill Street, Westminster, S.W.1, to elect six directors of the Fund.

DEATHS IN THE SERVICES

Lieut.-Colonel Arthur Farrington Carlyon, R.A.M.C. (ret.), died on March 13th in the Middlesex Hospital, after an operation, aged 57. He was born on April 15th, 1873, and was educated at the Middlesex Hospital. After taking the L.S.A. in 1899, he entered the R.A.M.C. as lieutenant on December 4th, 1899, became major after twelve years' service, and lieutenant-colonel on December 20th, 1917, and retired on September 9th, 1922. He served in the South African war in 1899-1902, taking part in operations in the Orange River Colony and in Cape Colony, and received the King's and Queen's medals, with two clasps to each.

Lieut.-Colonel William Henry Thornhill, Madras Medical Service (ret.), died in London on March 17th, aged 76. He was born on December 3rd, 1854, the son of John Thornhill of Shandon, Cork, and was educated at Queen's College, Cork, graduating as B.A. in 1873 and as M.D. and M.Ch. in 1877, of the Queen's University of Ireland. He also took the L.K.Q.C.P. in 1876, and the L.R.C.S.Ed. in 1877. Entering the I.M.S. as surgeon on October 1st, 1877, he became surgeon lieutenant-colonel after twenty years' service, and retired on April 9th, 1899. He served in the Afghan war of 1879-80, receiving the medal, and in Burma in 1887-88, medal with clasp. After his retirement, he was in practice in Pimlico for nearly thirty years. He was a regular attendant at the annual I.M.S. dinner, where for some years past he had usually been the senior officer present.

Medical News

A number of special courses have been arranged by the Fellowship of Medicine to take place after the Easter holidays. From April 13th to 18th the Prince of Wales's Hospital, in association with the North Middlesex Hospital, will hold a course in gastro-enterology. Instruction will be given from 10.30 a.m. to 5.30 p.m., and both the medical aspect and the surgical aspect will be dealt with; fee £4 4s. A course in venereal diseases will be given at the London Lock Hospital from April 13th to May 9th; fee £2 2s. An all-day course in diseases of the chest will take place at the Brompton Hospital from April 20th to 25th; fee £3 3s. From April 27th to May 9th there will be a morning course at the Hospital for Sick Children; fee £5 5s.; and, covering the same period, an afternoon course at the Infants Hospital; fee £3 3s. From April 21st to May 30th a comprehensive afternoon course in psychological medicine will be undertaken by the staff of the Maudsley Hospital; fee £5 5s. From April 27th to May 23rd an intensive course at the Central London Throat, Nose and Ear Hospital has been arranged, and is divided into the following classes: clinical, fee £5 5s.; operative, £7 7s.; peroral, £6 6s.; and pathology, £5 5s. The classes are all limited with the exception of the clinical, so that early enrolment is desirable. Copies of all syllabuses as well as particulars of the general course will be sent on application to the Fellowship of Medicine, 1, Wimpole Street, W.1.

The house and library of the Royal Society of Medicine will be closed from Thursday, April 2nd, to Tuesday, April 7th, both days inclusive.

The annual general meeting of the governors of St. Mark's Hospital, City Road, E.C., was held on March 19th. In the absence of the Lord Mayor, the chair was taken by Alderman and Sheriff Maurice Jenks, who said that the hospital now had a completely equipped research laboratory where some promising investigations into the cause of cancer were being carried out in alliance with the British Empire Campaign. Mr. J. P. Lockhart-Mummery, honorary surgeon to the hospital, in acknowledging a vote of thanks to the committee of management and the medical officers, pointed out that during the past three or four years it had been possible to provide a certain number of private wards, which had been greatly appreciated by the public, ninety-three patients having been admitted in 1930. As at times the demand for admission had far exceeded accommodation, it was hoped in the future to increase the number of those wards. A small lecture theatre was being built in connexion with the research laboratory in order that there might be an increase in post-graduate lectures and demonstrations dealing with various aspects of diseases of the rectum. Mr. Swinford Edwards, honorary consulting surgeon, referring to the recent alterations which had taken place, said that the new building was practically double the size of the old.

The Irish Medical Schools' and Graduates' Association held its St. Patrick's Day dinner at the Piccadilly Hotel, London, on March 17th, under the chairmanship of Mr. Andrew Fullerton, professor of surgery, Queen's University, Belfast. After the usual loyal and patriotic toasts, Dr. W. Mulhall Corbet proposed the "Health of the Guests," mentioning that the association was honoured by the presence of Lord Russell of Killowen. In the course of his reply Lord Russell gave an outline of the history of St. Patrick, noting his miracles and the outstanding traits of his character. He commended the association for its motto: "Floreat Hibernia Semper." In the absence of Sir F. O'Connor, the toast of "The President and Association" was proposed by Dr. Hall Morton, governor of Holloway Prison, who said that he met very few Irishmen, but in his job that was natural. The association was a splendid organization for the promotion of unity and friendship among the medical graduates of Ireland resident in London. In reply, Mr. Andrew Fullerton said that the Irish nation had provided many of the best brains of the Empire. Its great traditions of genius, perseverance, and industry were universally recognized. During the evening a musical programme was provided by Miss Nellie Walker and Mr. Frederick Gregory, with Miss Kathleen O'Hagan as accompanist. Lord Russell and Wing Commander William Tyrrell showed their versatility by singing Irish songs, which were received with enthusiasm.

A report appeared in the *Journal* of December 20th, 1930 (p. 1058), of the conference organized by the Central Association for Mental Welfare, and held in the Great Hall of B.M.A. House on December 11th, 12th, and 13th. The full text of all the papers and discussions has now been published, and copies (3s. 6d.) may be obtained from the honorary secretary, Miss Evelyn Fox, 24, Buckingham Palace Road, S.W.1.

Arrangements have been made for a party of English medical men to visit the Rhineland spas at Easter. The members will leave Victoria Station at 10 a.m. on Wednesday, April 1st, and travel to Germany via Ostend. The places to be visited include Aachen (Aix-la-Chapelle), Neuenahr, Coblenz, Nauheim, Homburg, Wiesbaden, and Cologne. The party will return to London from Aachen on April 10th. The tour is being organized by Mr. R. O. Rohme, 90, Sheaveshill Avenue, Colindale, N.W.9.

The seventh French Congress of Tuberculosis will be held at Bordeaux from March 30th to April 2nd, and will be followed by visits to the principal institutions organized by the Campaign against Tuberculosis in the south-west of France.

The sixth section of the first Italian Congress of Colonial Studies, to be held at Florence from April 8th to 12th, will be devoted to tropical pathology and hygiene under the presidency of Professor Gabbi. Further information can be obtained from Professor Persano, Via Laura 48, Florence.

The third Congress of the Italian Society of Microbiology will be held at Milan from April 19th to 21st.

The following German congresses will be held in April: Balneological Society at Ems, 7th to 12th; Surgical Society in Berlin, 8th to 11th; Psychiatric Society at Breslau, 9th and 10th; Society for Internal Medicine at Wiesbaden, 13th to 16th.

The next congress of the International League against Rheumatism will be held in Rome from May 19th to 24th, when the following subjects will be discussed: the early symptoms of chronic rheumatism; rheumatic diseases and tuberculosis; and rheumatic diseases and occupation.

The Soviet Commissariat of Health has issued an interesting illustrated report on tuberculosis in the Ukraine, containing articles in English, French, and German on the incidence of the disease by Dr. N. Morosowski, the methods of prophylaxis by Dr. L. Trachtmann, and the tuberculosis institutions in the Ukraine by Professor I. Feinschmidt. An extensive bibliography of recent Russian literature is appended to each article.

An international fund is to be raised for the erection of a monument in Rome to Carlo Forlanini, who introduced the artificial pneumothorax treatment for pulmonary tuberculosis.

At a recent meeting of the Federation of the Latin Medical Press, Dr. Léopold Mayer of Brussels was elected president, in succession to Professor Maurice Loeper of Paris, with Drs. Ascoli of Italy, Dominguez of Cuba, and Forgue of France as presidents of honour.

Dr. Achard, professor of clinical medicine in the Paris Faculty, and Dr. Le Mée, an eminent oto-rhino-laryngologist, have been made commanders of the Legion of Honour.

Dr. Rollier of Leysin and Dr. Chagas of Brazil have been elected foreign members of the Académie de Médecine.

Dr. Lenormand, professor of surgical pathology at the Paris Faculty of Medicine, has been elected president of the French Society of Surgery.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, *on receipt of proofs.*

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9861, 9862, 9863,* and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL, Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

A Case of Dyspnoea

Dr. E. P. POULTON (London, W.) writes in reply to "G. D. G.'s" query concerning a case of dyspnoea (March 7th, p. 431): I would suggest his administering oxygen at the beginning of the attack from a 40-foot cylinder by means of a rubber bag, with mask and valves, such as is used for giving nitrous oxide. Injections of adrenaline 1 in 1,000 in the early part of the attack should also prove of value.

Sensitiveness to Sunshine

Dr. ARTHUR WHITFIELD (London, W.1) writes: In answer to the query of "A. S. P." (Liverpool) in last week's issue (p. 523), I believe he will find the following useful. The parts to be exposed are swabbed over in the morning after washing with—

Acid tannic	ʒ vjss
Sp. vini meth. indust.	ʒ ij
Aq. dest. ... ... ad	ʒ viij

and allowed to dry. Although invisible, this lotion filters the rays and gives the skin protection. It is a preventive, not a cure, and was devised by Professor Kreibich of Prague. Severe sweating washes it off slowly, and sea-bathing, of course, quickly, so that after either it should be renewed at once. I have yet to learn of a failure. At the same time, investigation for metabolic errors should be undertaken, especially if the sensitiveness is a recent acquisition.

Paroxysmal Rhinorrhoea

Dr. A. DANGERFIELD (Corfe Castle) writes in reply to the query by "Ninety-nine" (March 7th, p. 432): I hope the following will be found of use: 1/4 tablet of racedrin (Bayer) night and morning, taken orally. Also, anaesthesin (20 grains), liq. adrenaline chlor. (20 minims), vaselin. alb. (2 drachms), and paraff. liq. (2 drachms), applied to the nose thrice daily. I usually tell the patient to push with the tip of the little finger a piece about the size of a pea as far as possible up each nostril, and then to lie flat on the back, with the head well back, for two or three minutes, sniffing gently and repeatedly during the period, so that the vaseline melts and runs right through the nose. It seems to me that the case is allergic, and, if so, this treatment may give great relief. I shall be interested to hear the result.

Income Tax

First Year of Practice

"T. M. M." took over his practice as from January 1st, 1930. The inspector proposes to assess him for the year to April 5th, 1931, on the basis of the earnings for the year to December 31st, 1930, but claims to bring in the amount [illegible] of its outstanding at that date as part of the profits. He [illegible] says that "an adjustment is due" as regards debts existing from the old practice. Is this correct?

*** In the first place, the inspector is correct in refusing to adopt the "cash basis" for computing the profits of the first year. The tax is chargeable on the full amount of the profits, whether they have been received or not, and, in fact, expenses for a whole year will be charged, and must therefore be set against a full year's receipts. But the gross amount outstanding at the end of the year should not be added to the cash receipts without some allowance for probable loss by bad debts, etc. "T. M. M." should examine the list of unpaid accounts as at December 31st, 1930, and note against the various items what he considers each probable loss will be, and claim the aggregate of those amounts as "bad and doubtful debts." In the second year there will have to be added to (or deducted from) the cash profits the increase (or decrease) in the net value of outstanding debts at December 31st, 1931, as compared with December 31st, 1930—and so on in future years. With regard to the debts due to the old practice we cannot see what adjustment is due. If tax has been paid on the cash profits for recent years, then it has been paid on account of the full profits, inasmuch as in the case of a long-established proprietorship the amount of the gross receipts and of the value of the gross bookings are normally the same.

LETTERS, NOTES, ETC.

Graves's Disease: Intercurrent Pyrexia

Professor GEORGE R. MURRAY (Manchester) writes: The case of Graves's disease described by Dr. J. G. Bennett in the *Journal* of March 14th (p. 480) is remarkable in that decided improvement, lasting for several weeks, occurred after each of four or five attacks of influenza. As far as my experience goes this is a very unusual result. I have seen so many cases of Graves's disease in which the symptoms have been aggravated by an attack of influenza that I advise patients suffering from any form of hyperthyroidism to take every possible precaution to avoid the infection of influenza, as this exacerbation may last for several weeks or months. It would be interesting to know the experience of others who are observing the effect of influenza and kindred infections on the course of this malady.

Nord-Sud Tours in Italy

Dr. J. HENRY STORMONT (Worthing) writes: By the merest chance I heard last spring of an international medical tour, organized by the Italian Government through the Italian State Railways and the E.N.I.T., and a brief note may be of interest to your readers. Similar tours are now organized in France and Spain, but the Italian tour is noteworthy in three particulars: the unique beauty of the country toured, the very small "busman's holiday" factor, and the remarkable comfort and efficiency with which it is organized by Professor Guido Ruata of Rome. The tour is not advertised, for it is limited to 150 members, of which the English-speaking group can comprise forty or fifty, but it deserves to be more widely known in the profession. The eighth tour begins at Rome on September 19th next, and includes the Naples Riviera, Capri, Sorrento, Amalfi, etc., and after visiting Taormina ends at Palermo on October 2nd. The cost of the tour is a smaller item, as a rule, than the travel fares there and back. Professor Ruata tells me, in reply to a letter, that he will be in London for the last week of March, and will give full details to anyone interested, through Messrs. Thos. Cook and Sons' head office, Berkeley Street, W.

Chilblains

"A. M." writes: I have often advised patients for various conditions to take hot foot-baths, and sometimes order hot sea-water for the purpose. Dry sea-salt can be obtained in packets. I have been struck by the regularity with which they report later, "I've never had a chilblain since I did it." A predisposing cause of pernio is the common habit of keeping the boots on all day; the feet and footwear become thoroughly damp with perspiration, and chilled. Every effort should be made to remove the boots at least for a brief interval, and, if possible, to change into dry socks or stockings.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 47, 48, 49, 50, 51, 54, and 55 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 52 and 53.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *103*.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

295 Asthma Intensified by Liver Therapy

E. MATZGER (*Journ. Amer. Med. Assoc.*, January 10th, 1931, p. 110) reports a case in which the administration of liver extract intensified attacks of bronchial asthma, and suggests that this form of treatment may give rise also to other allergic manifestations such as gastro-intestinal disturbances and skin eruptions. The author's patient, aged 36, had suffered for several years from bronchial asthma dating back to bronchitis in childhood. He was treated with horse serum without reaction. A diagnosis of primary anaemia was made subsequently, the blood count being red cells 1,850,000, and leucocytes 1,900 per c.mm.; the colour index was 1.3. The patient then commenced a diet of raw liver, to which the anaemia responded after two weeks. The bronchial asthma, however, became continuous at the end of the first week of treatment and persisted until the liver was discontinued; a satisfactory blood picture was, nevertheless, maintained without further treatment. A year later the bronchial asthma recurred, but yielded to some extent to immunization by pollen and house dust. Raw liver was given a second trial, but was immediately followed by exacerbation of the asthmatic symptoms, which ceased as soon as the treatment was stopped. Desiccated hog stomach maintained a healthy blood picture without causing asthma. Cure of the asthma was eventually obtained by full immunization to pollen and house dust.

296 Etiology of Addison's Disease

As the result of fifteen years of physiological and clinical study of suprarenal insufficiency J. M. ROGOFF (*Canadian Med. Assoc. Journ.*, January, 1931, p. 43) has come to the conclusion that Addison's disease is not so much a manifestation of absence or failure of function of the medullary adrenaline secretion as the absence or lack of function of the cortical part of the gland. Experimental evidence obtained from dogs indicated that the loss of both glands caused symptoms which were entirely due to the loss of the cortex; certain cortical extracts were eventually obtained which were effective in prolonging life in such dogs, despite the excision of their suprarenals. Rogoff ascribes great importance in clinical diagnosis to the aversion displayed as regards fatty foods by patients suffering from Addison's disease, and also to a dull ache or pain in the back in the costo-lumbar angle on the side where at the subsequent necropsy extensive suppuration or caseous degeneration is demonstrable. He found that whereas the administration of adrenaline in such patients proved ineffective, an extract of the cortical portion of the gland was markedly beneficial, particularly when associated with intravenous injections of physiological saline solution, or Ringer's solution, to which is usually added 2 to 6 per cent. of dextrose. Addison's disease is, he adds, much more rapidly fatal in blonde patients than in brunettes.

297 Atypical Haemophilia

J. FLESCH (*Med. Klinik*, January 23rd, 1931, p. 127) discusses atypical forms of haemophilia, and reports the case of a boy, aged 5 years, who had severe colic relieved after the passage of stools mixed with blood, and suggesting appendicitis or volvulus. Three days later a tense sausage-shaped mass, associated with the typical blood count, indicated the probability of intussusception. Flesch, having discovered a familial history, diagnosed subserous haematoma, producing pressure symptoms. The melaena ceased, the swelling disappeared, and the boy recovered. At the age of 7 this boy had severe dyspnoea, with retrosternal pain and other signs of mediastino-pericarditis, without fever; the pain subsided in a few days, and he recovered, evidently from mediastinal haemorrhage. Two years later circumcision was performed, and haemorrhage from the stitches was arrested by injection of horse serum. After four years of good health an attack of vomiting caused severe dyspnoea with stridor, and a laryngeal examination revealed extensive submucous haemorrhage with oedema of the glottis. Subsequently painless haematuria with progressive anaemia ensued. Haemorrhage was unilateral and intermittent, coming from the renal pelvis or calyces, as was shown by attacks of renal colic. As regards diagnosis, the author states that non-traumatic haemophilic haemorrhage ceases spontaneously sooner or later; examination of the urine and the urobilinogen content confirms the diagnosis. He believes that most haemophilic arthralgias are of haemorrhagic origin; they progress towards arthritis and ultimate ankylosis, giving characteristic *x*-ray appearances. After the crisis the blood-coagulation time is prolonged or normal. The blood platelet count is almost always normal. Treatment is disappointing.

298 Intestinal Perforation in Paratyphoid B Fever

R. DAMADE and F. PAPIN (*Gaz. Hebd. Sci. Méd. de Bordeaux*, January 18th, 1931, p. 35), who records an illustrative case, state that while intestinal perforation in typhoid fever is well known, only a few examples of this complication have been recorded in paratyphoid fever. The first two cases were published by Chevrier and Grenier respectively in 1913, and subsequently cases were reported by Rathery in 1916, Cornil in 1924, and Pop in 1929. In his Bordeaux thesis of 1930 Latouche collected 14 cases of perforative peritonitis and 3 cases of non-perforative peritonitis in the course of paratyphoid A, B, and C. The prognosis of perforation in paratyphoid seems to be less unfavourable than in typhoid fever, since of 9 operation cases recorded by Cornil, 5 patients recovered, and of Latouche's patients who had been operated on, 3 recovered, while the 6 who were not so treated died. The present authors' case was that of a girl, aged 17, who developed intestinal perforation in the second week of paratyphoid B fever; until then it had been regarded as influenza. An operation was performed, and her subsequent recovery was uneventful.

Surgery

299 Recklinghausen's Disease of Bone

M. P. MULLER (*Bull. et Mém. Soc. Chir. de Paris*, December 19th, 1930, p. 785) reports the case of a woman, aged 40, who had fallen and was admitted to hospital with a fracture of the right femur. Traction was continued for two months, but at the end of this time there were no signs of bony union. A radiogram showed decalcification of the bone, with the presence of a bone cyst at the site of fracture. A bone graft, consisting of a portion of rib fixing the bone ends together, was inserted, but after a further two months bony union had still not taken place. Histological examination of the fragments removed at the time of operation showed disappearance of the osseous lamellae and a medullary fibroplastic metaplasia with multinucleated giant cells. In view of the chronic character of the bony lesions, a diagnosis of Recklinghausen's disease was made. A few months later the left femur and right arm were also fractured, and *x*-ray examinations in each case showed decalcification of these bones and also of the rest of the skeleton. There had been a total of seven fractures during a period of two years. In most cases this disease begins in infancy, but is not necessarily associated with rickets. In the case reported the Wassermann reaction was positive, but antispecific treatment had no effect on the disease, and syphilis did not appear to be the causative factor.

300 Joint Disease from Frost-bite

A. v. TEMPSKY (*Zentralbl. f. Chir.*, February 7th, 1931, p. 339), who records an illustrative case, states that while joint disease, and especially osteochondritis due to mechanical trauma, is well known, very little has been written about the relation of thermal factors to the development of joint affections. His patient was a lad, aged 20, who contracted extensive frost-bites on both hands while ski-ing. Bullae developed on the extensor aspects of the fingers and backs of the hands, which became very cyanotic and swollen. Gangrene occurred in the ring and little fingers of the right hand and little left finger, necessitating amputation of the last two phalanges of each finger. An *x*-ray examination showed severe destructive lesions of the joint between the proximal and second phalanges of the right little finger, while in the joint between the second and terminal phalanges of the right index and middle fingers the normal structure of the joint was completely destroyed, and less clearly marked lesions were found in the interphalangeal joints of the left ring finger. It is noteworthy that the affected joints appeared quite normal in the skiagrams taken immediately after the hands had become frozen, and the changes were first detected a year later. A similar case with late development of joint lesions has been reported by Löhr.

301 Duodenal Fistula

J. MURARD (*Bull. et Mém. Soc. Nat. de Chir.*, December 27th, 1930, p. 1458) divides duodenal fistulae into two groups—namely, spontaneous fistulae following a natural opening occurring at the site of a periduodenitis, and those which occur after operation for a perforated ulcer. The latter may be due either to failure in suturing or to the presence of a drainage tube. Different forms of drainage are discussed; a gauze drain is advocated as being less likely to cause a fistula. Murard records the case of a man, aged 68, in which gauze drainage was used; although the patient died from softening of the brain, there was sufficient time to see that, following the removal of the gauze drain on the fourth day, the wound had healed without fistula. In another case it was impossible to close the perforation, which was plugged; although a duodenal fistula developed, it healed spontaneously at the end of three weeks. Indications for using a gauze drain are the impossibility of closing the perforation or of evacuating the peritoneal exudate, and infection at the seat of the perforation. An established fistula may be treated indirectly by a gastro-enterostomy, which may be completed or not by a cholecysto-gastrostomy, or directly by suturing the edges of the opening, or by means of a partial duodenectomy with the re-establishment of the continuity of the duodenum. Indirect treatment is advocated in cases of posterior fistula, and the direct method for anterior fistula. In the majority of cases duodenal fistulae will close spontaneously in about three weeks, but in certain cases this does not happen, possibly owing to the passage of bile through the fistula, which hinders healing.

302 The Surgical Treatment of Angina Pectoris

D. DANIELOPOLU (*Presse Méd.*, December 27th, 1930, p. 1789) discusses the various operations that have been devised for the relief of angina pectoris. He refers to the operations involving extirpation of the stellate ganglion, and shows that they are apt to be followed by severe congestive heart failure. This he believes to be due to interruption of those sympathetic fibres which augment the force and rate of the heart, while increasing the blood pressure and dilating the coronary arteries. The author quotes animal experiments supporting this view, and remarks that such groups of patients in whom this operation has been performed without serious mortality have not been cardiac patients. The introduction of surgical treatment into current cardiological practice is thought to be desirable, but only if it were indispensable would extirpation of the stellate ganglion be justifiable, and only then in a patient in danger of death from frequent severe anginal attacks. The author claims that angina may be relieved by operation without excision of the stellate ganglion; he advises cervical sympathectomy combined with division of those branches of the vagus supplying the thorax and the rami communicantes uniting the inferior cervical and first thoracic ganglion to the three last cervical pairs; section of the first dorsal and the vertebral nerves is also performed. Among 28 patients operated upon in this way by various workers no fatality has occurred. Moreover, in the great majority there has been complete or almost complete relief from attacks for periods varying from one to five years. Sometimes operations on both right and left sides are necessary. In view of these results, operations involving extirpation of the stellate ganglion are considered not only dangerous, but also unnecessary.

Therapeutics

303 Treatment of Carbohydrate Dyspepsia

A. F. HURST and F. A. KNOTT (*Quart. Journ. of Med.*, January, 1931, p. 171) define intestinal carbohydrate dyspepsia as due to the defective fermentation of starch with consequent gas production and the formation of acetic, butyric, and other organic acids in the caecum and ascending colon. In the treatment of severe cases of this condition the authors recommend the exclusion of rice and of vegetables of every kind, but in milder cases green vegetables can be permitted in soups, and only root vegetables, cauliflower, and rice need be forbidden. In most cases as recovery proceeds the restrictions can be gradually lessened until, finally, potatoes alone are prohibited, a restriction which is often necessary for the remainder of the patient's life. With each meal an active preparation of an amylolytic ferment is administered, and it is found that with this aid the diet need not be so severely limited. Vegetable diastase is more resistant to the gastric acid than the amylopsin of pancreatic extracts, and is therefore preferable. Powdered charcoal was found to be quite unnecessary if a sufficiently strict diet was ordered. In severe cases with much diarrhoea the administration of a teaspoonful of chalk three times a day hastened recovery, the irritating organic acids being neutralized thus as fast as they developed. The authors consider vaccine treatment and colonic lavage useless. In view of the occurrence of this condition in many neurasthenic and psychasthenic patients, the importance of diagnosing it and treating it suitably by dieting is particularly notable by reason of the insomnia with which it is often associated, and which fails to respond to such drugs as medinal and luminal.

304 Digitalis in Pneumonia

J. WYCKOFF, E. F. DUBOIS, and I. O. WOODRUFF (*Journ. Amer. Med. Assoc.*, October 25th, 1930, p. 1243) report a series of pneumonia cases; simultaneous observations under identical conditions were made on similarly selected groups of patients treated with digitalis, and patients from whom digitalis was withheld. Class A were given neither serum nor digitalis; Class B had serum only; Class C digitalis only; and to Class D patients was administered both serum and digitalis. Patients were received into the "pneumonia series" according to the date and hour of admission, and alternate patients were treated with serum. This system of classification operated in each ward independently of other wards, so that factors of general care and nursing might be the same for each class of treatment. No evidence was obtained that routine digitalis therapy in lobar pneumonia resulted in a lowered mortality. About 95 per cent. of the patients had sinus rhythm throughout, but the only consistent signs of digitalis action were electrocardiographic changes and mild toxic effects. Digitalis toxicity was not a sufficient guide to prevent increase in mortality when the drug was used. The amount of the drug employed was found a better guide. When the digitalis was given in dosage too small to show any effect it caused no changes in mortality. When the doses were

comparable with the amount usually needed in the treatment of heart failure it affected the P-R interval and T-wave of the electrocardiogram, but caused little change in mortality. Auricular fibrillation and auricular flutter occurred rarely—in less than 5 per cent. of all cases. The authors think that digitalis might perhaps have been life-saving in an occasional patient in whom there was fibrillation or flutter, but, on the other hand, such patients frequently recovered without digitalis. They conclude that the routine giving of digitalis to patients with lobar pneumonia is dangerous.

305 Iodine Therapy in Exophthalmic Goitre

A. S. JACKSON and G. H. EWELL (*Amer. Journ. of Surg.*, December, 1930, p. 475) call attention to the danger of the prolonged administration of Lugol's solution in exophthalmic goitre. After a period of improvement when the patient gains weight, the heart and tremors quiet down, and the eye and mental symptoms diminish, there follows a stage in which a condition of "iodine fastness" develops, there being a tolerance to the drug characterized by elevation again of the metabolic rate, and the appearance of signs of myocardial damage with auricular fibrillation. An operation in such circumstances is fraught with grave risk, and the conclusion is drawn that the operation should not be delayed, but be performed in one or two stages as soon as the iodine medication has rendered it possible. The authors discuss the conflicting theories held as to the way in which the administration of iodine affects the enlarged thyroid gland; they believe that mechanical compression of the cells, with temporary inhibition of the action of nearly all areas, is an explanation which is supported by the pathological evidence. They emphasize the point that iodine therapy must not be considered as a curative procedure in goitre, where it has only a temporary palliative effect.

306 According to various authors, the clinical remission in cases of hyperthyroidism treated by iodine is accompanied by involutionary changes in the gland, and GEBELE (*Münch. med. Woch.*, February 6th, 1931, p. 225) reports a special study of the condition of the vessels in a number of thyroid glands removed at operation. Macroscopically, the glands from cases prepared by iodine therapy were found to be paler and firmer than the others; histologically, the non-treated glands show pronounced dilatation of the vessels—especially of the venules and capillaries of the interlobular septa—which is much less evident in the iodine cases. This lack of vascular engorgement appeared to bear a relation to the amount of iodine given. Gebele believes that iodine causes a rapid accumulation of colloid in the acini of the gland; this exerts pressure on the thin-walled veins and capillaries, thus probably hindering the absorption of thyroxine. If the administration of iodine is long continued the distension passes off, and toxic absorption recommences. Hence, as is well known, the iodine effect is usually a temporary one.

Radiology

307 Radiology in Urinary Diseases

J. MOMBAERTS (*Le Scalpel*, January 24th, 1931, p. 114) discusses the advantages and disadvantages of uroselectan in the diagnosis of renal disease. The drug contains 40 per cent. of organically fixed iodine; after its intravenous injection 96 per cent. is excreted in the urine in eight hours. It is non-toxic, and opaque to *x* rays even in high dilution. A considerable objection to its use is the variable time of excretion, necessitating the employment of a large number of *x*-ray plates. The procedure is indicated: (1) when ureteral catheterization is impossible, or as an alternative to it after cystotomy, or in place of exploratory lumbotomy; (2) as a last resource in doubtful cases; (3) when low pyelography is dangerous, as in cases of known bilateral kidney disease, or horseshoe kidney; and (4) in asymptomatic cases of doubtful etiology, when the use of uroselectan may draw attention to the renal tract.

308 The Results of X-Ray Treatment in Graves's Disease

P. HESS and H. SCHLECHT (*Münch. med. Woch.*, January 9th, 1931, p. 55) report a series of 29 cases of exophthalmic goitre and hyperthyroidism which were treated by *x* rays: 93 per cent. were cured or definitely improved. The cases varied in severity, but in nearly all the basal metabolism was raised 20 per cent. or more. The method generally adopted by these workers was to submit the patient to three series of exposures at an interval of four to six weeks; each series consisted of three exposures on successive days, and at each the right and left sides of the neck and the thymus were irradiated. The course of the treatment was, however, in every case controlled by the reduction produced in the basal metabolism, and in no case was the patient exposed to further *x* rays when this approached normal. The ultimate response to the treatment was often delayed for a long time, the average in this series being sixteen months. The authors point out that this slow response has been disregarded in former comparisons of the results of *x*-ray and surgical treatment in hyperthyroidism and exophthalmic goitre. If the patient can spare sufficient time, they consider that the results of *x*-ray therapy compare very favourably with those of surgery, while the mortality of the former is *nil*.

309 Treatment of Pituitary Tumours

Of 23 cases of pituitary tumours dealt with at the Brünner Ophthalmic Clinic, V. MAZAL (*Bratislavské Lekárske Listy*, December, 1930, p. 197) states that 18 were subjected to *x*-ray treatment, 2 were treated surgically, and 3 had no treatment at all. Of the eighteen treated radiologically twelve improved, two remained unchanged, two became worse after an initial improvement, and two others became worse immediately following the treatment. Of the two operation cases, one improved. The author concludes that treatment must be individual. Undoubtedly most cases improve under *x* rays properly applied, but certain cystic growths and very rapidly growing tumours giving rise to acute increase of intracranial pressure and rapid deterioration of vision should be handed over to the surgeon.

Obstetrics and Gynaecology

310 Syphilis of the Cervix

In a review of syphilis of the cervix J. J. PUENTE (*Bruxelles-Médical*, February 6th, 1931, p. 408) reports 29 cases of primary cervical chancre, and 28 others which were diagnosed as secondary syphilitic lesions. All the cases were examined and treated at the Rivadavia Hospital (Buenos Ayres) between 1921 and 1930. Among genital chancres observed during this period, 16 per cent. were chancres of cervix, a notable increase as compared with the previous decade. The situation of the chancre in 18 out of 28 cases was in the neighbourhood of the external os. In the remainder it appeared on one or both lips of the os itself. Clinically, the appearance was usually papular, but sometimes ulcerated or hypertrophied. The diagnosis of syphilitic chancre of the cervix rested on the presence of a raised ham-coloured papule, or an ulcer with an infiltrated base situated on or near the os. The exudate was yellow, with minute haemorrhagic points. The surface was finely granular, but after friction would become smooth and shining from the presence of an abundant serous secretion. At the periphery of the papule tiny telangiectases were seen. The most important and constant characteristic was the firm, hard consistence. The specific spirochaetes were found relatively easily in the eccentric lesions, provided that they were carefully cleansed, but sometimes several investigations were necessary to distinguish *S. pallida* from other spirochaetes. Pathological sections showed much pluriglandular infiltration. The cylindrical epithelium of the mucous membrane was invariably unbroken, either in the canal or in the glands opening into it.

311 Menstruation and Epilepsy

According to A. SOUQUES (*Presse Méd.*, February 7th, 1931, p. 185) menstruation and epilepsy are interrelated, but only under two conditions: when the crises appear for the first time between puberty and the menopause and when they recur during a variable length of time in synchronism with the menstrual periods, or the times at which menstruation should occur. In the first category menstruation and the crises coexist; in the second the catamenia are absent, and are replaced by epileptic seizures. Many cases reported in the literature and cited by Souques indicate that there is an actual, and not fortuitous, relationship between the two conditions, and that menstruation (as well as other states, such as pregnancy and the menopause) exerts both a favourable and an unfavourable influence on the epilepsy. Further proof of this relationship is afforded by the benefits resulting from the administration of the follicular hormone. The pathogenesis of menstrual epilepsy is unknown, but two theories about its causation have been advanced: that it is a reflex phenomenon, or is due to a humoral disturbance. Souques reviews the physiology of menstruation and discusses these theories. He suggests as the most probable cause the existence of a previous histological or biological alteration of the nervous centres together with a humoral disturbance—that is, an intoxication which, when a certain degree of concentration is reached; excites the nerve cells, either directly or indirectly through the vago-sympathetic system, and thus the epileptic crisis is caused.

312 Treatment of Placenta Praevia

C. H. PECKHAM (*Amer. Journ. Obstet. and Gynecol.*, January, 1931, p. 39) deprecates the indiscriminate routine employment of Caesarean section in placenta praevia; although the chances of the child are increased by this procedure, there would be little or no reduction in the maternal mortality rate. Many of the patients who succumb are too ill on admission to hospital or are bleeding too severely to warrant the added risk of laparotomy. Others, in consequence of previous infection by unskilful examinations or the introduction of vaginal packs, would be considerably endangered by Caesarean section, unless followed by hysterectomy. The author considers, however, that section is indicated in cases of central placenta praevia when the patient is admitted to hospital before labour has begun, or when it is still in a quite early stage, the child being alive. In the marginal type of implantation the hydrostatic bag is thought by Peckham to offer the best results. His conclusions are based on the study of 146 cases of placenta praevia occurring in a series of pregnancies numbering 36,198. He believes that the still high maternal mortality figure (8.64 per cent.) could be reduced by more prompt hospitalization and the more frequent employment of transfusion. The incidence of premature labour in this condition is high, but the maternal mortality in such cases is low, increasing more than three times when delivery occurs at or near term.

Pathology

313 The Relation of Vitamin D to Irradiated Ergosterol

A. D. HOLMES (*New England Journ. of Med.*, January 29th, 1931, p. 211) suggests that vitamin D and irradiated ergosterol may be one and the same substance. The data upon which this conclusion is based were obtained from experiments with laboratory animals, from clinical studies, and from laboratory studies of the chemical nature of irradiated ergosterol. These data seem to indicate that, for the treatment of rickets, either vitamin D, as it occurs in cod-liver oil, possesses properties not present in irradiated ergosterol, or that the vitamin A or some other substance in cod-liver oil enhances the antirachitic vitamin in the oil, so that it is more effective in the treatment of rickets than equivalent rat units of irradiated ergosterol. The early studies of the chemistry of irradiated ergosterol indicated that this material was quite similar chemically to vitamin D; both were soluble in fat or oil, both were destroyed by oxidation, both lost their antirachitic value when subjected to prolonged irradiation, and neither was destroyed by saponification. Recent work (Bills) has shown that there are many isoergosterols and that certain of these are convertible into each other. A comparison of activated ergosterol and cod-liver oil involves a consideration of isomerism, and it would appear that their antirachitic action is not identical, cod-liver oil appearing to be greatly superior to irradiated ergosterol.

314 Undulant Fever Investigations in Germany

F. WEIGMANN (*Deut. med. Woch.*, February 13th, 1931, p. 284), working at Kiel, examined 3,535 specimens of serum between the end of January, 1928, and the end of August, 1930. Of these, 119 agglutinated *Br. abortus* to a titre varying from 1 in 50 to 1 in 20,000, the commonest titre being 1 in 1,000 to 1 in 5,000. Blood cultures were put up in 72 cases, but in only five instances was the causative organism recovered, even though an atmosphere of 10 per cent. CO_2 was maintained during incubation. Details were available concerning 91 of the reacting patients. In the majority of these there was a history of undulant, remittent, or intermittent fever, with a slow pulse, subjective well-being even with a high temperature, leucopenia with a relative lymphocytosis, and frequently a complete absence of physical signs, though splenic swelling, epididymo-orchitis, endocarditis, bronchitis, diarrhoea, or constipation, and joint pains and swellings were sometimes met with. In 4 patients giving a positive serum reaction the fever appeared to be due either to typhoid fever or to croupous pneumonia; in two other patients a mixed infection was present. Five persons were detected on farms who gave a positive serum reaction without any history of illness. The author considers that these persons were suffering from a latent infection. Such a condition he regards as being fairly common; he points out that quite frequently the onset of undulant fever follows some other illness or may apparently even be determined by a fracture, suggesting that a fall in the resistance of the body may allow a latent infection to become manifest. In 49 of the cases milk was probably the source of infection, in 7 cases contact with infected cattle, in 20 cases both sources of infection were available, and in 15 cases no definite evidence was forthcoming. As regards sex, there were 85 men and 34 women. The youngest patient was 11 years old and the oldest 75 years, the commonest age being 20 to 40 years. The author thinks that the disease would be found in children if only a systematic examination was made of the blood serum in all doubtful cases of febrile illness.

315 Pathogenic Factors in essential Pernicious Anaemia

G. FONTÈS and L. THIVOLLE (*C. R. Soc. de Biologie*, January 30th, 1931, p. 219) have previously reported that a deficiency in the two amino-acids tryptophane and histidine causes grave troubles, among which is a change in the blood picture. They believe that pernicious anaemia may be caused by a deficiency of this kind, and advance the following arguments in support of this opinion. Though achlorhydria is usually considered the cardinal symptom of this disease, the pancreatic and intestinal juices have normally a diastasic activity, and functional failure of all the digestive diastases may occur in pernicious anaemia. From the imperfectly peptonized albumins produced in cases of achlorhydria the digestive juices with difficulty produce the amino-acids which normally bring about the nitrogenous replenishment of the organism. Moreover, tryptophane and histidine are highly sensitive to intestinal bacterial action; these organisms are abundant in pernicious anaemia. Such facts, together with the loss in weight, point to a total or partial chronic deficiency in these substances. The success following hepatotherapy in this disease is ascribed by the present authors to the fact that the liver contains the amino-acids formed during digestion. Finally, daily subcutaneous injections of tryptophane (100 mg.) and histidine (200 mg.) have produced marked benefits in pernicious and splenomegalic anaemias, and in leukaemia. The authors suggest that this may prove an efficient treatment in cachectic diseases.

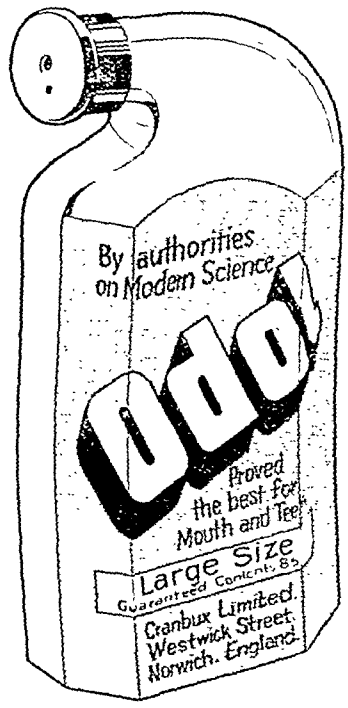
Odol

A STRONGLY ACTING ANTISEPTIC

Anti-Acid, Non-Caustic, Non-Toxic.

"I find ODOL a most agreeable preparation, combining the qualities of an efficient and purifying medium with the penetrating power of a strongly acting but innocuous antiseptic solution, and meeting in this way the greatest desiderata in the hygiene of the mouth."

Signed . . . M.B., Ch.B.
(Didsbury, Manchester.)



ODOL will actually destroy Bacillus Typhosus within 30 seconds if used at a strength of 4%.

Samples and literature will gladly be sent to any member of the Medical profession on application to:

CRANBUX LTD of NORWICH

BRITISH MADE THROUGHOUT.

Telephone No. Gerrard {3185. 2313.

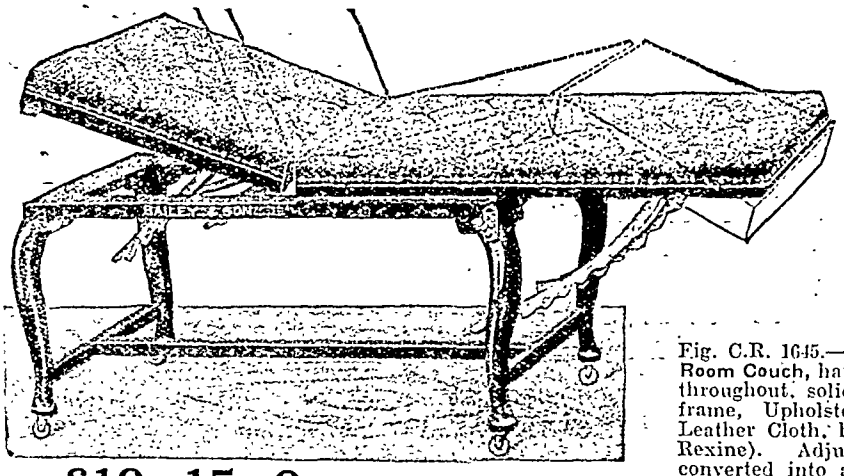
W. H. BAILEY & SON

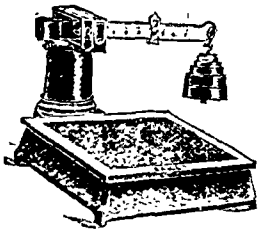
Telegrams: "Bayleaf, London."

CONSULTING ROOM FURNITURE.

BEST WORKMANSHIP AND FINISH THROUGHOUT.

Catalogue post free, with patterns of Rexine.





C.R.4151. — PERSONAL WEIGHING MACHINE. Height 10 in. Can be stowed away under couch. Enamelled Green or Black. Weighs accurately to 20 stone £3 3 0

Stand for Ditto, raising machine to seat level, extra £1 5 0

S.P.1040.—Basket to fit in platform of machine illustrated for weighing Babies. 10/6 extra.

MOST SUITABLE FOR CLINICS.

Fig. C.R. 1645.—Bailey's Perfection Consulting Room Couch, handsome, strong, and best finish throughout, solid Mahogany, Oak, or Walnut frame, Upholstered hair and best Rexine Leather Cloth, buttoned or plain (any colour Rexine). Adjustable, and can instantly be converted into a chair for throat, nose, and ear examinations.

£10 15 0 Carriage Paid, England.

Detachable Leg Section extra 15s. Leg Crutches and Sockets extra 36s.

Surgical Instruments and Appliances - 45, OXFORD STREET,
Hospital and Invalid Furniture - - 2, RATHBONE PLACE, } **LONDON, W.1**

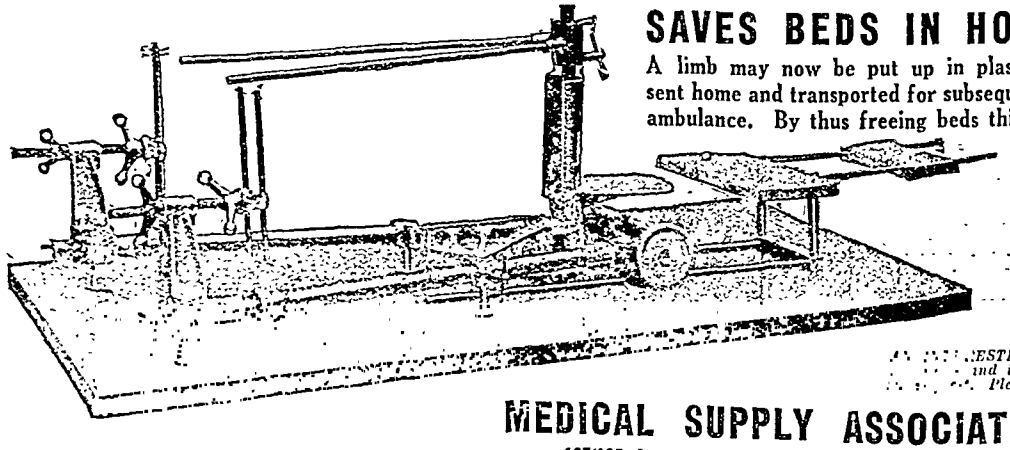
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

INTERESTING LEAFLET giving full particulars and instructions, post free on application. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

167/185, Gray's Inn Road, LONDON, W.C.1. 12, Holly Street, SHEFFIELD. 10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines).

SALTAIR SERVICE

endeavours to ensure that Saltair Surgical Appliances are only supplied through the correct channel, viz.:

THE MEDICAL MAN.

Each appliance is individually made to the attendant Practitioner's prescription for the case in question.

Books of reference with simple order forms are sent free on request. Simply return completed order form—WE take full responsibility for the accuracy of the Appliance sent.

Patients can be seen at Birmingham and London and periodical visits are made by qualified Male and Female fitters to a large number of the leading Provincial Cities.

London Consulting Rooms:
"OAKLEY HOUSE"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Mondays to Saturdays midday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

Saltair Surgical Service is Safe—Scientific—Satisfactory.

N.B. All correspondence—excepting regarding appointments—should be addressed to Birmingham.

'Phone (Birmingham): Midland 5455.
'Phone (London): Museum 3845.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

SALTAIR SERVICE

endeavours to ensure that Saltair Surgical Appliances are only supplied through the correct channel, viz.:

THE MEDICAL MAN.

Each appliance is individually made to the attendant Practitioner's prescription for the case in question.

Books of reference with simple order forms are sent free on request. Simply return completed order form—WE take full responsibility for the accuracy of the Appliance sent.

Patients can be seen at Birmingham and London and periodical visits are made by qualified Male and Female fitters to a large number of the leading Provincial Cities.

London Consulting Rooms:
"OAKLEY HOUSE"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Mondays to Saturdays midday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

Saltair Surgical Service
is
Safe—Scientific—Satisfactory.

N.B. All correspondence—excepting regarding appointments—should be addressed to Birmingham.

'Phone (Birmingham): Midland 5455.
'Phone (London): Museum 3845.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

ALIMENTARY TOXAEMIAS

PUTREFACTIVE bacteria increase in numbers in the intestine as age advances. They are relatively scanty in the young child, but after middle life are usually present in considerable numbers. Of the micro-organisms concerned, proteolytic anærobes are probably the most important.

In individuals with a normal intestine and free evacuations, they may do little harm, but in those subject to intestinal catarrh, these putrefactive bacteria become more numerous and active, their products are formed in greater quantity, and are more freely absorbed, and the condition of alimentary toxæmia results. The manifestations of this state are very protean, *e.g.*, "rheumatic" conditions, digestive upset, neurasthenia and neuralgias, increased blood pressure and its complications, and many others. The treatment, in the first place, obviously should be *intestinal disinfection*. For this purpose nothing surpasses the use of KEROL CAPSULES. They have solved for years the question of disinfection of the alimentary tract. They definitely reduce the bacterial content of the intestine, as shown by the reduction in *B. coli* by 99% when the capsules are regularly administered for a period of from seven to ten days.

We have from time to time published several booklets containing clinical evidence as to their value, and these we will gladly forward, on receipt of a postcard, to any member of the Medical Profession.

Intestinal Disinfection

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD.
Ravens Lane
Berkhamsted
England.

Kerol Capsules

6387

THE 'ALLENBURYS' CASTOR OIL

Is Tasteless and is the Standard of Quality

Supplied in bottles at 8d., 1/3, 2/3 and 4/- each

FOR SUCCESSFUL VACCINATION USE CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens H.M. the King* 76, NEW BOND STREET, LONDON, W.1

Telephone: Mayfair 4173—4.

ALIMENTARY TOXAEMIAS

PUTREFACTIVE bacteria increase in numbers in the intestine as age advances, They are relatively scanty in the young child, but after middle life are usually present in considerable numbers. Of the micro-organisms concerned, proteolytic anærobes are probably the most important.

In individuals with a normal intestine and free evacuations, they may do little harm, but in those subject to intestinal catarrh, these putrefactive bacteria become more numerous and active, their products are formed in greater quantity, and are more freely absorbed, and the condition of alimentary toxæmia results. The manifestations of this state are very protean, *e.g.*, "rheumatic" conditions, digestive upset, neurasthenia and neuralgias, increased blood pressure and its complications, and many others. The treatment, in the first place, obviously should be *intestinal disinfection*. For this purpose nothing surpasses the use of KEROL CAPSULES. They have solved for years the question of disinfection of the alimentary tract. They definitely reduce the bacterial content of the intestine, as shown by the reduction in *B. coli* by 99% when the capsules are regularly administered for a period of from seven to ten days.

We have from time to time published several booklets containing clinical evidence as to their value, and these we will gladly forward, on receipt of a postcard, to any member of the Medical Profession.

Intestinal Disinfection

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD.
Ravens Lane
Berkhamsted
England.

Kerol Capsules

THE 'ALLENBURYS' CASTOR OIL

Is Tasteless and is the Standard of Quality

Supplied in bottles at 8d., 1/3, 2/3 and 4/- each

FOR SUCCESSFUL VACCINATION USE CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens H.M. the King* 76, NEW BOND STREET, LONDON, W.1

Telephone: Mayfair 4173—4.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ROYAL LONDON OPHTHALMIC HOSPITAL.
C HOSPITAL.
AL.
[illegible], MAIDSTONE.
[illegible] INFIRMARY.
ST. PAUL'S EYE HOSPITAL, LIVERPOOL.
SWANSEA GENERAL HOSPITAL.
WESTERN OPHTHALMIC HOSPITAL.
WOLVERHAMPTON EYE INFIRMARY.
SIR C. J. OPHTHALMIC HOSPITAL, BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

The Ideal Laxative

REGULOL

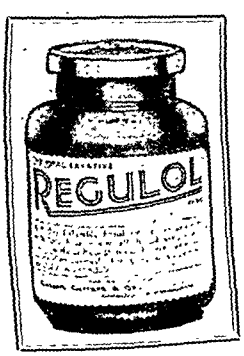
REGD.

"REGULOL" IS AVAILABLE IN TWO FORMS: "PLAIN" or "COMPOUND." The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient.

CUXSON, GERRARD & Co., Ltd.
Oldbury, *Birmingham.*

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

SAMPLE 1-lb. JAR FREE ON REQUEST.
Please indicate whether Plain or Compound is required.
(This offer is limited to the British Isles.)



"TRILACTINE"

(R.T.M.)

A good Lactic Acid Bacillus Preparation for the treatment of

CONSTIPATION, COLITIS,

and many intestinal infections.

"Trilactine" Tablets for taking with sugar, or for making curdled milk at home, are supplied in boxes of 48, 4/-.

W. MARTINDALE, 12, New Cavendish Street, LONDON, W.1.

Telephone: LANGHAM 2440. Telegrams: "MARTINDALE, CHEMIST, LONDON."

The Biological Significance of BOVRIL

BOVRIL combines the nutritive proteins of beef with its stimulant and body-building extractives. The beneficial effect of Bovril upon a weakened constitution is therefore of a permanent nature. It helps the patient not only to gain strength but also to consolidate it.

ANTISEPTIC CREAM

(Hewlett's)

An emollient healing cream for BLEPHARITIS, ACNE, ECZEMA, and all abrasions and irritation of the Skin.

Its soothing and healing properties are most marked.

In enamelled collapsible tubes, 18s. doz., or 1-oz. pots, labelled only "The ointment to be used as directed," 10s. 6d. doz.

In bulk, 5-oz., 10-oz., 22-oz., 40-oz., 4½ lb. & 7½ lb. pots, 5s. 6d. lb.

Introduced and Prepared only by

C. J. HEWLETT & SON, Ltd., 35 to 42, Charlotte Street, London, E.C.2

"STERULES" *Regd.*

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

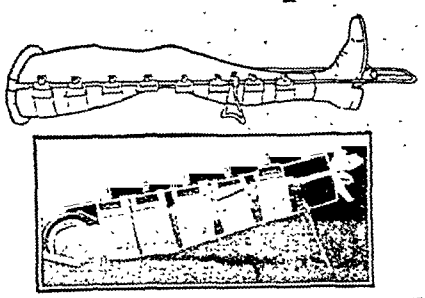
AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

Telegrams: "MARTINDALE, CHEMIST, LONDON." Telephone: LANGHAM 2440.

The most modern method of accurate extension and safe transport is provided by



COLLENDER'S SPLINTS

(Patented in the leading countries of the world.)

An evolution of the Thomas splint, preserving all its advantages with many improvements.

Invaluable for Hospital, Emergency, and District Surgeons' work. Indispensable for Mines, Ranches, Lumber Camps, Railways, Shipping Cos., and all places remote from surgical aid. Made of Duralumin, untarnishable, light, and of great tensile strength. All parts interchangeable. Complete splints constructed in a few minutes for limbs of any dimensions. Sufficient members to accommodate ten fractures simultaneously. Supplied in strong fitted case.

Write for full descriptive booklet, post free.

WATSON BAKER COMPANY, WEST END LANE, BARNET, HERTS, ENGLAND

THE "PHONOPHORE" STETHOSCOPES

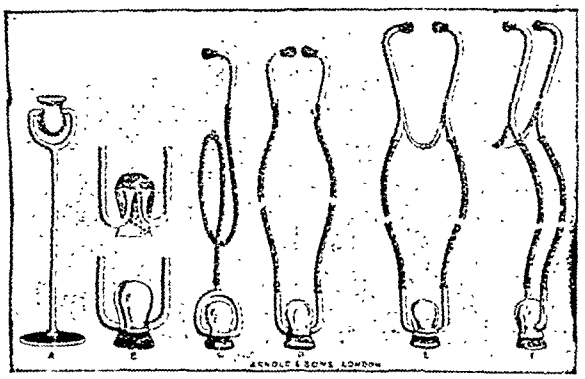


Fig. A. Rigid Stethoscope	Fig. B. Chest Piece	Fig. C. Single Flexible	Fig. D. Double Flexible	Fig. E. Binaural	Fig. F. Folding
12/6	8/6	12/6	15/-	15/6	16/6

Some Unsolicited Appreciation

Dear Sirs,—I beg to thank you for the best stethoscope I ever used, and during the last forty years I have used a good many.
Yours faithfully, ——

Dear Sirs,—I find that most certainly the chest sounds are rendered clearer and more distinct by your "Phonophore" than by any Stethoscope I have used during over thirty years' work.—Yours faithfully, ——

Dear Sirs,—I find your "Phonophore" indispensable. Being more or less deaf, without it I should be compelled to relinquish practice. With it I can hold my own.
Yours faithfully, ——

Dear Sirs,—The "Phonophore" is extremely satisfactory and far superior to any stethoscope I have used.
Yours truly, ——

Makers of Superior Surgical Instruments and Appliances.

Telephone: WELBECK 5555. (10 lines).

Arnold & Sons (JOHN BELL & CROYDEN)

Telegrams: INSTRUMENTS, WESDO, LONDON.

50-52, WIGMORE STREET, LONDON, W.1.

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting.

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS

arranged for Doctors and Patients.

Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

Mr R.H.DENT'S Ardente FOR DEAF EARS

309, OXFORD ST., LONDON, W.1.

Tel.: Mayfair 1380/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
57, Jameson Street, HULL.
64, Park Street, BRISTOL.

206, Sauchiehall Street, GLASGOW
23, Blackett Street, NEWCASTLE
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER
30, Wellington Place, BELFAST

ORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.
Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS
ive cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA
Issued in tube and in bulk.

Address enquiries to the Secretary,
6, HARLEY STREET, LONDON, W.1.

FREQUENT MICTURITION.
"YBWET"
NEW ABSORBENT BAGS.
Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing, lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our
"NEW SANITUBE"
keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request:
HILLIARD, 123, Douglas Street, Glasgow, C.2.

NAME PLATES
FOR THE PROFESSION.
Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks. With fastenings ready for fixing.
Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.
SEND FOR ILLUSTRATED CATALOGUE. Signs
COOKE'S (Finsbury) Ltd. Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

POCKET MONEY ADDING MACHINES 15/- postfree
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY, CHASE, REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 32.*
Phone—Holborn 3793.
Desks, Tables & Chairs
Est. 1884.
THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.
BUY A BIJOU FOR 5- per Week.
74, CHANCERY LANE (Holborn End), W.C.2

A Gentleman Always Looks Well Dressed in Savile Row Clothes.
NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.—DAVIES & SON, LESLEY & ROBERTS, SCHOLTE, &c. LIGHT OVERCOATS, LOUNGE, DRESS, SPORTS SUITS, &c., 4 to 9 Gns.
Alterations on Premises.
REGENT DRESS CO., Piccadilly Mansions, 17, Shaftesbury Avenue, Piccadilly Circus, W.1. (Next door to Cafe Monico.) Gerrard 7611
Ladies' Department on First Floor.

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book 18.*
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

ALLIANCE DRUG & CHEMICAL CO.
10, Beer Lane, Tower St., E.C.3.
Telephone: ROYAL 5885.
Tel. Address: "NALTRO" BILGATE, LONDON.
Established 1812 — Reganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for vitles, etc., or Cases, etc.) with pure and viable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical dressings, and Stock Mixtures of approved formulae as used by the London and other Hospitals.
We append a few sample prices for guidance of the great saving that can be effected.
NOTE.—For terms we are detailed to Orders received through London Merchants or Bankers. Goods carriage forward. All packats free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.
Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Lassar's Paste, 14 lb. @ 1/2 lb.
*Lin. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 1/4 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" Petroleum Jelly Flav., B.P., 7 lb. @ 1/- lb.
Bismuth Carb.; 3 lb. @ 8/8 lb.
Chloroform Pur., 8 lb. @ 3/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.

PILLS TASTELESS COATED.
Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 5d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero-Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.
Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co., 7 lb. @ 8d. lb.
Hypophosp. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillae, B.P., 7 lb. @ 8d. lb.
Sennae, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

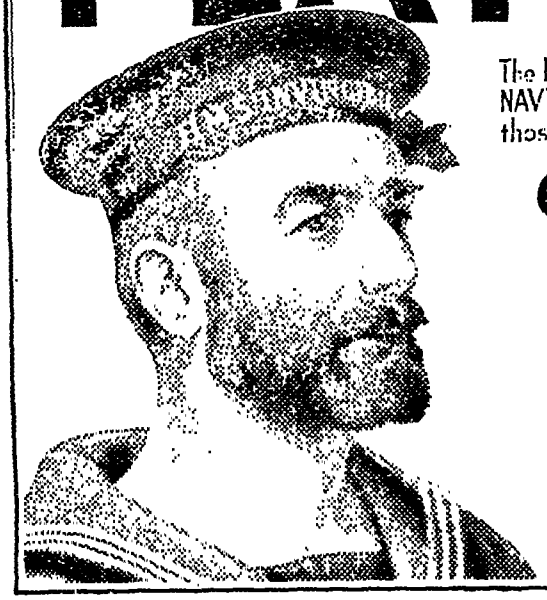
TABLETS COMPRESSED.
We can supply smaller quantities at slightly increased rates.
Blaud's (Sugar-coated), gr. 5..... Per 1,000.
Nitroglycerin, B.P., gr. 1-50th 3/10
Perchloride of Mercury (Coloured)... ... 5/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000. ...15/-
Thyroid Gland, gr. 5 ... ... 12/6
We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.
Belladon. B.P. Aquos.
Benzoin Co. ... 4/3 1/6 Hyoscyam. B.P. Aquos. 4/3 2/4
Camph. Co. ... 4/7 — Nucis. Vom. ... 3/10 1/4
Card. Co. ... 3/- 1/6 Opii. 5/3 4/3
Gentianæ Co. 2/8 1/6 Quin. Ammon. 3/3 —
Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb. ... 2/8 1/9
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" Ammon., 7 lb. @ 1/11 lb.
" Ichtamolis, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

*Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

ANTIQUE AND MODERN
HIGH-CLASS SECOND-HAND
FURNITURE
FOR IMMEDIATE DISPOSAL.
THE ENTIRE VALUABLE CONTENTS OF SEVERAL NOTABLE MANSIONS, Town and Country Residences, Flats, etc., removed for convenience of sale, including many important items from the following collections.
LANSDOWN HOUSE.
THE PRINCESS PALEY (Paley Palace).
SIR FREDERICK CHARLES HOLIDAY (Decd.).
MARY ANNA DUCHESS OF ABERCORN (Decd.).
THE THIRD EARL OF DURHAM (Decd.).
THE MAGNIFICENT BEDROOM APPOINTMENTS comprise: 500 Complete Suites in English Walnut, Finely Figured Mahogany, Cream, Green, and Black Lacquer, Painted and Figured Satinwood Fine Oak, ranging in price from £4 10s to 250 Guineas per suite, many of which originally cost over double, including a special offer of 36 only Club Bedroom Suites in Solid Oak, with Bedsteads complete, £4 10s. set.
GENUINE ANTIQUE FOUR-POST BEDSTEADS, Tallboys and shaped front Chests, Sofa Tables, Corner and other Washstands, Toilet Mirrors, and numerous Dressing Tables, Bow-front Wardrobes, etc. Several Fitted Gentlemen's Wardrobes offered at £4 each.
5,000 CARPETS AND RUGS, including fine Persian, Turkey, Wilton, Axminster, Chinese, and Aubusson, including a large salvage stock now being offered at remarkable bargain prices. A quantity of fine Pile Carpet at 2s. 3d. per yard, together with a large number of Seamless Squares in various designs and colourings from 21s. each.
750 SETTEES AND LOUNGE EASY CHAIRS, some covered Morocco Leather, Tapestry, rich Silk, Hide, etc., removed from a large West End Club and Hotel. A large quantity covered Plain Art Repp, all being of excellent quality and in all cases equal to new. Small Lounge Easy Chairs offered at 21s. each, set Club Lounge Chairs, £3 3s. each. Large Club Lounge Hide, £3 3s. each. Well made Chairs, £4 17s. 6d. to 12 gns. 3 gns.; in real softly-sprung Chesterfield Settees and a large quantity of Chesterfield Settees with Loose Pillow Backs and Seats, ranging from £7 16s. to 25 gns.
THE MAGNIFICENT DINING ROOMS, LOUNGES, LIBRARIES, and HALLS comprise a wonderful collection of all periods from Early Tudor, Queen Anne, Chippendale, Hepplewhite, Adams, and Sheraton, in Old Mahogany, and Walnut. Complete Dining Room Suites, comprising Sideboard, Set of Chairs, and Dining Tables, being offered at 10 Guineas set, whilst the more elaborate suites range from 25 Guineas to 30 Guineas, many of these exquisite sets having cost over treble the price now asked. Special attention is called to quantity of Cottage Wheelback Chairs offered at 6s. 9d. each.
A LARGE NUMBER OF PIANOFORTES by eminent makers, ranging from Guineas to 150 Guineas. Old English Clocks, ing Grandfather and Bracket Clocks portant collection of Statuary, Pict Silver and Sheffield Plate, quantity of old Cut Glass, Bed and Table Linen, a l quantity of Office Furniture, including Safes, Roll-top Desks, Pedestal De Bookcases, etc., etc.
PHOTOGRAPHIC ILLUSTRATED CA LOGUE (F.) POST FREE.
ON SALE DAILY, 9 till 7. Any item ... be purchased separately, and can rema warehoused free for 12 months or deliver to any part.
SETTLEMENT OF ACCOUNTS CAN BE ARRANGED TO SUIT CUSTOMER'S CONVENIENCE.
THE FURNITURE & FINE ART DEPOSITORIES, Ltd.
(By Royal Appointment to H.M. the King of Spain.)
PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1
(Within Ten minutes of ...
'Phone: North 3580

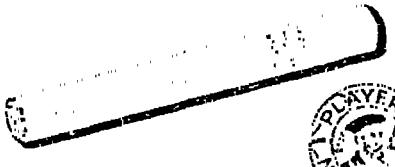
PLAYER'S



The INCREASING DEMAND for PLAYER'S NAVY CUT CIGARETTES proves that those who smoke for pleasure prefer

Quality and quantity

IN THE CIGARETTES



10 for 6^{D} 20 for 11$^{1}/_{2}^{D}$

Vapo-Cresolene
Est. 1879
Sold by Chemists

Write for descriptive Booklet No. 29.

WHOOPING COUGH

The best practice in the treatment of whooping cough recognizes the importance of keeping the patient out of doors as much as possible. The food should be easily digestible, nourishing, and given a little at frequent intervals.

There are no specifics for this disease. In very young children drugs are administered with difficulty and are of uncertain effect.

Vaporized Cresolene at night will be found a simple and effective means of preventing the paroxysms at that time, thus tending to preserve the strength of the patient, avoid complications, and hasten convalescence.

ALLEN & HANBURYS, LTD. :: :: Lombard Street, London, E.C.3.

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.

EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel.

SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ¼-doz. SOAP TABLETS.

Samples and Literature on Request. *Advertised only to the Profession*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.

WITHOUT OFFENCE

The Collection of Overdue Accounts

MEMBER'S STATEMENT:

"I should like to record my appreciation of the work you have done for me up to date. I have given you some very difficult cases to deal with, which you have carried through in a most tactful and successful manner."

DEBTOR'S STATEMENT:

"I thank you for your kind and considerate letter of 2nd inst. I have been striving to obtain the money to settle this account. I enclose cheque £5, and will endeavour to forward a further cheque next month."

Your visiting card marked "B" placed in an envelope will produce all information

All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.) Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

AT SAVILE ROW

WE will build you a hand-made suit for 8 guineas. Pay us a visit. We are sure you will find it an economy to buy the VERY BEST CLOTHES from us at reasonable prices.

ENTICKNAPP & GRIMES
21a, SAVILE ROW,
Regent 2467. LONDON, W.1.

WOODLANDS PARK
GREAT MISSENDEN BUCKS.

550 feet above sea-level on Southern Chilterns. 90 acres, Gardens, Woods, and Park.

FOR INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and REST AFTER OPERATION or ILLNESS.

FEES FROM 8 GUINEAS.

Telephone: 91 Gt. Missenden. Apply: C. W. J. BRASHER, M.D.

NORTHWOODS, Winterbourne, Bristol.

Telephone and Telegrams: Winterbourne 18.

This beautiful mansion in fifty acres of secluded grounds was built specially for the TREATMENT OF MENTAL ILLNESS. Certified patients of both sexes. Thorough clinical, bacteriological, and pathological examinations. Separate bedrooms. Private suites. Indoor and outdoor amusements. Wireless and other concerts. Occupational therapy. Physical drill. Private golf course. Garden and dairy produce from farm on the estate. Reasonable terms. A few voluntary boarders are received in the Medical Superintendent's house.
For further particulars and prospectus, apply to JOSEPH CATES, M.D.

Tycos
MANUFACTURED by SHORT & MASON LTD WALTHAMSTOW LONDON, E.17.
SPHYGMOMANOMETERS

NAME PLATES
in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet.
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.
BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *Phone*: PAIGNTON 5110.
A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.
The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.
FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.
Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARR, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

ALCOHOLISM & OTHER DRUG HABITS.
THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt of The Norwood Sanatorium, and author of "Alcoholism," etc. for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE,"
CHISLEHURST, KENT.

Fees 5–10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.
Ladies and gentlemen admitted for treatment.
For Prospectus, etc., write or 'phone: WALTER R. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).
Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

INEBRIETY
DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—
F. S. D. HOGG, M.R.C.S., &c., Resident M[illegible]

ALCOHOLISM
DRUG ADDICTION & NEURASTHENIA
CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate.
Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.
In cases of urgency 'phone NUNEATON 241.

The Stanboroughs
WATFORD HERTS

Specially equipped for treating cases of functional nervous disorders, alcoholism, and drug addiction. Fees moderate. Extensive park. Inspection invited.
S. MCCLEMENTS, M.R.C.S., L.R.C.P., Medical Superintendent.
Phone . . . WATFORD 1751.

ALCOHOLISM AND DRUG HABITS.
ALBION HOUSE,
BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

Bishopstone House, Bedford

PRIVATE HOME for MENTALLY AFFLICTE[illegible] LADIES. Ten only received. Apply, Medic[illegible] Officer or Mrs. PEELE. *Telephone*: 270[illegible]

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE, GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

CHEADLE ROYAL, CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 481 GATLEY.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. *Telephone No.:* Batheaston 8189.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

ST. ANDREW'S HOSPITAL FOR MENTAL DISORDERS, NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, *persons suffering from incipient nervous and mental disorders*, as well as certified *patients* of both sexes, are received for treatment. *Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female*, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various *methods, including* Turkish and Russian *baths*, the prolonged immersion bath, *Vichy* Douche, Scotch Douche, Electrical bath, Plombières *treatment, etc.* There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for *Diathermy* and High *Frequency* treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two *miles* from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

TYKEFORD ABBEY, NEWPORT PAGNELL, BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 *miles* from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. BOUGLAS-MORRIS. *Telephone:* Newport, Pagnell 121.

HAYDOCK LODGE, NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. [illegible] and gardens, in which patients are encouraged to occupy [illegible] door and out-door recreation. For terms, prospectus, etc., apply

COURT HALL, KENTON, EXETER, SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. *Cliffden is a large well-appointed house*, with lovely views of the South Devon Coast. It is beautifully *situated* in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.
Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

OXHEY GROVE,

HATCH END, MIDDLESEX.

A NURSING HOME for BORDERLINE CASES of BOTH SEXES, twelve miles from Marble Arch.
Resident Medical Officer, male and female staff, visiting Pathologist. Fees 5 to 12 guineas.

Full particulars from the MEDICAL SUPERINTENDENT. Telephone: Hatch End 368.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of [illegible] and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, [illegible] other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and A[illegible] Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

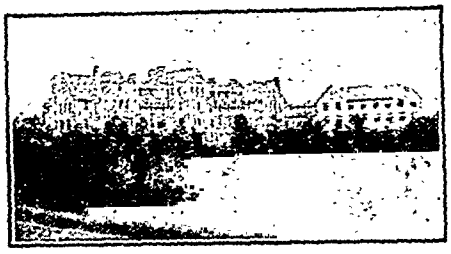
A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

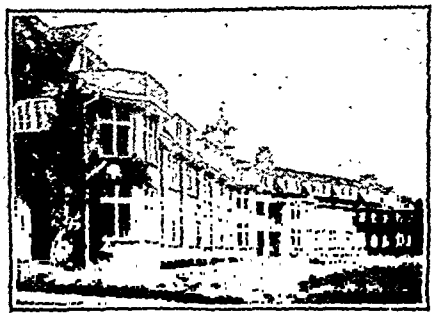
FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

EAST ANGLIAN SANATORIUM.



This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars illustrated

THE COTSWOLD SANATORIUM

Specially built in 1893 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1901. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray Plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 6s. 6d. to £6 6s. per week inclusive, no extras.

MEDICAL SUPT.: FELIX SAVY, M.D. *For particulars apply to the Secretary.*

HOSPITAL FOR CONSUMPTION
AND DISEASES OF THE CHEST, BROMPTON, and FRIMLEY SANATORIUM.

PAYING PATIENTS RECEIVED

BOTH MEDICAL and SURGICAL CASES.

4 to 8 guineas per week.

APPLY TO THE SECRETARY:—BROMPTON HOSPITAL, S.W.3.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.

All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.

IDEAL HEALTH RESORT.

Electric Light. Central Heating. Electric Lift. Electric Light. Central Heating. Winter Garden, Swimming Bath, Hard and Grass Tennis three Billiard Tables, Ball Room. Golf Course. Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel: Peebles 2 & 3.

EPILEPSY.

Attendance at school is a necessary part of the satisfactory treatment of Epilepsy in Children.

COLTHURST HOUSE SCHOOL

meets all the requirements of children of middle-class parentage. Extensions made necessary by the success of the school have created several vacancies.

Only bright and intelligent boys and girls are eligible for admission.

Apply to the Medical Supt., Colthurst House School, Warford, Alderley Edge.

BOURNEMOUTH.
West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. (Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders and certificates are received as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.
Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.
Apply for particulars to Dr SANKEY.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

WYE HOUSE, BUXTON.

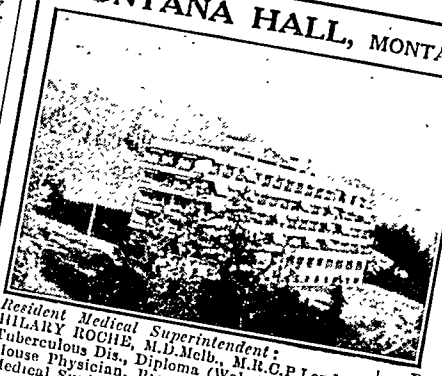
For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S. 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D.

Tel. & Telegrams: Haynes, Brentwood, 45.

Littleton Hall, Brentwood, Essex.

[illegible] ft. above sea. HOME for [illegible] Voluntary Boarders [illegible] Brentwood and Shenfield [illegible] Liverpool St. 20 min.—Apply, Dr. HAYNES

MONTANA HALL, MONTANA, SWITZERLAND, FOR BRITISH PATIENTS.



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Grams: "SMEDLEY'S MATLOCK."
Thone: No. 17.
For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA, Nr. LIVERPOOL.

Specially built and licensed for the care and treatment of a limited number of Ladies and Gentlemen suffering from Nervous and Mental breakdown. "Temporary Patients," Voluntary and certified patients received. Ladies also admitted as "Temporary Patients," without certification. Terms moderate. Apply RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

BOURNEMOUTH HYDRO,

on the South Coast.

With Vita-glass Sun-lounge and Marine Balcony
Every kind of Bath. Plombière Larage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.
Resident Physicians: W. JOHNSON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician. *Telephone*: Brixton 0494 *Station*: Clapham Common Tube. Apply, Miss THWAITES.

SOUTHBOURNE HOUSE NURSING HOME,

Southbourne-on-Sea, Bournemouth.

Medical, Surgical and Convalescent Patients.
Quiet house on cliff.
Matron: Miss MACMILLAN (London Hospital). Tel.: Southbourne [illegible]

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.

Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

CHELTENHAM COLLEGE.

Twelve Scholarships and Exhibitions (not open to members of College or Junior School). These include five of £40 (increased to £100 for special merit); "James of Hereford" Scholarship of £35 for boys born or brought up in Herefordshire. Also R.A.M.C. Scholarship of £50 (preference to sons of Fallen Officers). Awards made for all-round excellence, or special proficiency in any main subject, including Music. Preliminary Examination (at Candidates' own Schools), Monday and Tuesday, June 1st and 2nd, 1931. Final Examination (at Cheltenham), Wednesday and Thursday, June 10th and 11th, 1931.
Apply BURSAR, Cheltenham College.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of Ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

UNIVERSITY OF DURHAM
COLLEGE OF MEDICINE,
NEWCASTLE-UPON-TYNE.

The degrees in Medicine, Surgery, Hygiene, and Dentistry, the Diploma in Public Health, the Diploma in Psychiatry, and the Licence in Dental Surgery of the University of Durham are open to men and women.

The WINTER SESSION, 1931-32, will be commenced on THURSDAY, OCTOBER 1st.

Students can complete, at the University of Durham College of Medicine, Newcastle-upon-Tyne, the entire course of professional study required for the above degrees, diplomas, and licence; also for the Examinations of the Royal College of Physicians and Surgeons and other Examining Bodies.

Hospital practice is carried out at the Royal Victoria Infirmary, a general hospital containing more than 550 beds, and there are facilities for the study of the various special subjects. General and Special Post-Graduate Courses are held.

Practical Midwifery can be studied at the Princess Mary Maternity Hospital, which contains 90 beds, with an annual indoor and outdoor attendance on 3,000 cases. Lectures are given on Psychological Medicine in the College of Medicine, and clinical instruction at the Mental Hospital, Newcastle. Special Courses of Instruction in Outdoor Sanitary Practice and in the Hospital for Infectious Diseases are given by the City Medical Officer of Health.

Particulars may be obtained from the DEAN of the College.

POST-GRADUATION SCHOOL
CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL
Gray's Inn Road, London, W.C.1.

INTENSIVE COURSE of LECTURES AND DEMONSTRATIONS, including OPERATIVE SURGERY, PATHOLOGY and BACTERIOLOGY, and PERORAL ENDOSCOPY CLASSES, will be given from 27th April to 23rd May, 1931.

PRACTICAL TEACHING throughout the year. Courses in methods of Examination and Diagnosis at frequent intervals; Clinics and Operations daily; Lectures weekly.

CLINICAL ASSISTANTSHIPS available for periods of THREE, SIX, or TWELVE MONTHS.

The Post-graduate work covers all the requirements for the D.L.O. (R.C.P.&S.Eng.).

Full Syllabus obtainable from the Dean.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL
MEDICAL SCHOOL.
(FOUNDED 1816.)
BROAD STREET, HOLBORN, W.C.2. (Near British Museum Station.)

Telephone: TEMPLE BAR 1467.

The Hospital has been rebuilt and has 86 beds, including fourteen private rooms for paying patients. The building has been specially designed for clinical teaching and post-graduate study.

Classes for the D.O.M.S. Examination (Part I and Part II) commence in April.

Out-patients are seen daily at 1 o'clock. Operations are performed at 3 p.m.

Qualified medical practitioners and registered students may join at any time. For particulars apply to the Dean or Secretary at the Hospital.

FELLOWSHIP OF MEDICINE
and POST-GRADUATE MEDICAL ASSOCIATION,
1, WIMPOLE STREET, LONDON, W.1. Telephone: Langham 4266.

SPECIAL COURSES FOR APRIL: Gastro-enterology, Diseases of Chest, Children, Infants, Ear, Nose and Throat, Psychological Medicine and V.D. M.R.C.P. Evening Course May/June.

For full particulars apply to the Association.

Post-Graduate Teaching, West London Hospital

OPENING OF SUMMER SESSION.

The SUMMER SESSION will open on WEDNESDAY, APRIL 15th, when an Introductory Address will be delivered at 4.30 p.m. by the Dean, Sir HENRY SIMSON, K.C.V.O., on "POST-GRADUATE MEDICAL EDUCATION," to which all Medical Practitioners are cordially invited.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,300 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.), 1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.), *Final* 1905-30 (Completed Exam.)	269
F.R.C.S.(Eng.), *Primary* 1906-30)	162
Final	161
M.R.C.P.(Lond.), 1914-30	192
D.P.H. (Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.), 1918-30	46
M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.) (Practitioners) 1906-30	38
M.D. Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations [illegible] he higher Surgical for the Special Diplor Course. Openings for women. Hints for writing theses.

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of [illegible] "—"Times."

[illegible] "—"Lancet."

[illegible] and perfectly effi[illegible]

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9 of MISS BEHNKE, 39, Earl's Court, Sq., S.W.5.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims in Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Aberdeen Medical School.

A COURSE OF POST-GRADUATE STUDY on Radium, Pneumonia, and Haematology will be held at Aberdeen Royal [illegible]nd Aberdeen University from April 21st to June 25th, on Tuesdays and Thursdays at 3.15 p.m.

A syllabus of the Lectures and Demonstrations may be had on application to the Secretary, The University, Aberdeen.

Refraction and the Ordering of GLASSES

taught by Practising Ophthalmic Surgeon in London. £8 8s for 10 lessons—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

HIGHER MEDICAL QUALIFICATIONS

Are you desirous of obtaining one of the special higher qualifications?

Diploma in Psychological Medicine.
Diploma in Ophthalmology.
Diploma in Radiology.
Diploma in Laryngology, Otology, and Rhinology.
Diploma in Gynaecology & Obstetrics.
Diploma in Public Health.
Diploma in Tropical Medicine.
Mastery of Midwifery.
M.D. Thesis (all Universities).
All Higher Medical and Surgical Degrees and Diplomas.

You can qualify for any of the above by our Courses of Combined Postal & Practical Courses.

Write at once stating your requirements to the Secretary,

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, W.1. Tel: Welbeck 8901.

WE SPECIALISE IN POST-GRADUATE COACHING FOR ALL EXAMINATIONS.

Send Coupon below for Free Guide.

Name.....

Address.....

.....

Examination in which interested .....

THE LONDON HOSPITAL MEDICAL COLLEGE.

(University of London.)

ADVANCED MEDICINE.

A Course in Advanced Medicine suitable for candidates preparing for the M.D. and M.R.C.P. Examinations will begin on Monday, April 27th. Early application for admission is advisable.

Further particulars may be obtained on application to the Dean, Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., London Hospital Medical College, Mile End, E.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.

The Prince of Wales's General Hospital, Tottenham, N.15, and the North Middlesex Hospital, Edmonton, N.18.

A ONE WEEK COURSE IN GASTRO-ENTEROLOGY will be held from April 13th to 17th inclusive.

Enquiries and applications should be sent to the Dean at the Prince of Wales's General Hospital, or to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BENIANS, F.R.C.S., Dean.

ROYAL COLL...
ROYAL COL...
ROYAL FACU...
OF GLASGOW.

COPIES OF REGULATIONS for the TRIPLE QUALIFICATION (L.R.C.P.E., L.R.C.S.E., and L.R.F.P. & S.G.), and the DIPLOMA IN PUBLIC HEALTH, containing Dates of Professional Examinations for the year 1931-32, Curriculum, etc., may be had on application to MR. DAVID THOMSON, 49, George Square, Edinburgh, or to MR. WALTER HURST, 242, St. Vincent Street, Glasgow, Inspectors and Treasurers at Edinburgh and Glasgow respectively.

(Incorporated 1505.)

Royal College of Surgeons of EDINBURGH.

COPIES OF REGULATIONS for the FELLOWSHIP, LICENCE, HIGHER DENTAL DIPLOMA, and LICENCE in DENTAL SURGERY, containing dates of Examinations, may be had on application to—

49, George Square, DAVID THOMSON.

M...

Applications are invited for the DICKINSON RESEARCH TRAVELLING SCHOLARSHIP IN MEDICINE, value £500, tenable for one year. Candidates must be University Graduates who have taken out the full course of Clinical Instruction in the Manchester Royal Infirmary.

A copy of the regulations governing the Scholarship can be obtained from the undersigned, to whom six copies of application should be sent not later than Saturday, April 18th.

FRANK G. HAZELL,
Manchester Royal Infirmary. Secretary to the Trustees.

Manchester Royal Infirmary.

Applications are invited for the DICKINSON RESEARCH SURGERY SCHOLARSHIP, value £75, tenable for one year. Candidates must be University Graduates who have taken out the full course of Clinical Instruction in the Manchester Royal Infirmary.

A copy of the regulations governing the Scholarship can be obtained from the undersigned, to whom six copies of application should be sent not later than Saturday, April 18th.

FRANK G. HAZELL,
Manchester Royal Infirmary. Secretary to the Trustees.

Manchester Royal Infirmary.

CENTRAL BRANCH, RORY STREET, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment.

Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for nine months commencing May 1st—three months as Junior at £100 per annum, three months as Assistant at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m. on Thursday, April 9th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

University of Bristol.

The University invites applications for a LECTURESHIP IN PHYSIOLOGY. Salary £300 to £400 per annum, according to qualifications.

Applications should reach the undersigned, from whom further particulars may be obtained, on or before Friday, April 24th.

WINIFRED SHAPLAND,
Secretary and Acting Registrar.

Radio diagno... (X-ray)...

Mar... Tav...

St Mary's Hospital, Manchester

Two HOUSE SURGEONS for the WHITWORTH ST. WEST HOSPITAL (Maternity), and Two for the WHITWORTH PARK HOSPITAL (Gynæcological), each for a period of six months from May 1st next. Salaries at the rate of £50 per annum, with board and residence. Applications, with copies of three testimonials, to be sent to the undersigned on or before April 16th.

R. RATCLIFFE, Secretary.

Shanghai Municipal Council

PUBLIC HEALTH DEPARTMENT.

ASSISTANT PATHOLOGIST.

An additional Assistant Pathologist is required in the Public Health Department of the Shanghai Municipal Council.

Candidates, preferably unmarried, should not be more than 30 years of age, and must hold qualifications in Medicine and Surgery of University standard. In addition, they must have working experience of the routine of a Pathological Laboratory, and practical knowledge of the manufacture of bacterial vaccines in bulk is desirable. Experience in Tropical Medicine would be a recommendation.

Salary for three years, Taels 650 per mensem, or Taels 700 per mensem if holding a D.P.H. or its equivalent. Thereafter rising by triennial increments of Taels 100 to Taels 1,250 or Taels 1,300 if with D.P.H., subject to satisfactory service. After six years on the maximum pay, a final long service increase of Taels 100 per mensem is granted. A Tael at the present rate of exchange equals about 1/4d. Exchange is, however, subject to fluctuation.

Service is under Letter of Appointment, which is for three years in the first instance.

Owing to the present adverse exchange rates the Council, under certain limitations, guarantee one-third of pay at the rate of 2/6 to the Tael. Further particulars may be obtained on application.

First-class passage is provided, with half-pay during the voyage, and 7 months' leave is given on full pay, with first-class passage, after every period of 5 years' service in Shanghai.

Free Medical attendance and Hospital accommodation in accordance with the Council's standard rates are provided, and there is participation in the benefits of a Superannuation and Pension Fund.

Full particulars of the vacancy and the Terms of Service in force for Municipal employees may be obtained from the Council's Agents.

Applications, with full information as to qualifications, experience, &c., accompanied by three recent testimonials and endorsed "Assistant Pathologist," should be forwarded to the Council's Agents, Messrs. JOHN POOK & COMPANY, 68, Fenchurch Street, London, E.C.3.

March, 1931.

City of Cardiff.

CITY LODGE INSTITUTION.

SECOND AND THIRD ASSISTANT MEDICAL OFFICERS.

Applications for the above appointments are invited from duly qualified unmarried Medical Men or Women, who must devote their whole time to the duties, reside in the Institution, and (subject to the Public Assistance Order, 1930, and the Orders of the Council) act under the direction of the Medical Officer of the Institution.

The salary of the Second Assistant will be at the rate of £490 per annum, rising by yearly increments of £25 to £590 a year. The person appointed, if not a transferred officer paying Superannuation contributions under the Poor Law ... Act, 1896, will be required to contribute ... per cent. of his or her salary under the Superannuation Scheme of the Council, and for this purpose to pass a medical examination, and will be provided with board, lodging, attendance, and washing, for which he or she will pay the sum of £140 a year.

The position of Third Assistant will be tenable for one year only, and the salary will be at the rate of £150 per annum, with board, lodging, attendance, and washing.

Assistant Medical Officers are liable to be called upon by Justices to examine and certify persons alleged to be of unsound mind. Any fees payable in respect of such examinations and certificates or for recommendations under the Mental Treatment Act, 1930, and any fees payable for vaccination, must be returned to the Council.

Applications on forms to be obtained from the Public Assistance Officer, 11, Park Place, Cardiff, from whom further information may be obtained, must reach me by 5 p.m. on Wednesday, April 8th.

Direct and indirect canvassing is prohibited.

CECIL G. BROWN,
Town Clerk.

County of Kincardine.

DEPUTE MEDICAL OFFICER OF HEALTH.

Wanted by the County Council of the County of Kincardine, a Depute Medical Officer of Health. Commencing salary £600. For conditions of appointment apply to the County Clerk, Stonehaven, with whom applications (18 copies), giving full particulars of age, qualifications and experience, and testimonials (18 copies of each), must be lodged by April 18th.

County Council of Durham.

EARL'S HOUSE SANATORIUM.

MEDICAL OFFICER.

Applications are invited for the post of Medical Officer of Earl's House Sanatorium for Boys, near Durham, which has accommodation for about 80 patients.

The salary will be at the rate of £450 per annum, rising by annual increments of £25 to £500 per annum, together with furnished quarters and board, etc., valued at £150 per annum, in addition. In the case of a married man the emoluments will be paid in cash, as there is accommodation (a cottage) for which a charge of £50 per annum is made by the County Council to cover rent, rates, electric light, and water.

The officer appointed must be a registered Medical Practitioner, and must devote whole time to the duties required of such person by the County Council, including part-time services as an Assistant Tuberculosis Medical Officer. It is essential that the person appointed shall have held House appointments in a General Hospital, and have had practical experience in the administration of a Tuberculosis Sanatorium and in the treatment of tuberculosis in such an institution, and in Bacteriological work. Experience in ultra-violet ray treatment and X-ray technique will also be necessary.

The person appointed will be attached to the County Health Department, and will be required, subject to the control of the County Medical Officer of Health, to take full responsibility for the general management of the Institution, including the supervision of the staff and the treatment of patients.

The appointment will be terminable by three months' notice on either side. A deduction of 5 per cent. will be made from the salary in accordance with the provisions of the Local Government and Other Officers Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to the successful candidate passing the County Council's medical examination in connection therewith.

Applications, endorsed "Medical Officer, Earl's House Sanatorium," with copies of not more than three recent testimonials, must be delivered to the County Medical Officer, Shire Hall, Durham, on or before April 4th.

Shire Hall, Durham. HAROLD JEVONS, Clerk of the County Council.

March 16th, 1931.

Administrative County of Essex.

JUNIOR ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

The County Council of the Administrative County of Essex invite applications for the above post from registered Medical Practitioners holding a Diploma of Public Health, and not over 45 years of age.

Preference will be given to candidates who have had at least three years' experience in Public Health work subsequent to their medical qualification. The salary attached to the appointment will be £500 per annum, and will rise by annual increments of £25 to £700 per annum. Travelling expenses will be paid by the Council.

The person appointed will be required to devote his whole time to the service of the Council, and to perform such duties and to furnish such advice and assistance appertaining to his office as may be required, and to reside in such district of the County as the Council may decide. The appointment will be subject to three months' notice on either side.

The person appointed will be required to pass a medical examination, and to contribute 5 per cent. of his salary to the fund established under the Local Government and Other Officers Superannuation Act, 1922.

Applications, on the prescribed form, obtained from the undersigned, and accompanied by copies of not more than three testimonials, which will not be returned, should be addressed to me and delivered at the Shire Hall, Chelmsford, not later than 10 a.m. on Monday, April 6th.

Shire Hall, Chelmsford. JOHN H. GOOLD, Clerk of the County Council.

March 16th, 1931.

The Radium Institute,

Riding House Street, London, W.1.

Applications are invited for the post of Whole-time RESIDENT SURGICAL REGISTRAR (male). Candidates must be unmarried.

The salary will be at the rate of £250 per annum, board, residence, and laundry being provided, and the appointment is for six months commencing May 1st next.

Applications, stating age, nationality, qualifications, and experience, with copies of three recent testimonials, must be received at the Institute on or before April 6th next.

Canvassing, either directly or indirectly, is not permitted.

THOS. A. GARNER, Secretary.

Surrey County Council.

COUNTY SANATORIUM, MILFORD, SURREY. (300 Beds.)

Applications are invited from qualified and registered Medical Practitioners for the post of THIRD ASSISTANT RESIDENT MEDICAL OFFICER at this Sanatorium.

Candidates should be under 35 years of age and have held resident Hospital appointments. Sanatorium experience is not essential.

The appointment is subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination. The appointment will be made in the first instance for a period of six months, renewable at the end of that period for a further six months. Termination of engagement will be at one month's notice on either side.

The salary is £350 per annum, together with board, lodging, and laundry. These emoluments are valued at £100 per annum for purposes of superannuation.

The successful candidate will be required to devote his whole time to the services of the County Council.

Forms of application may be obtained from the County Medical Officer of Health, County [illegible] to whom completed returned, together t testimonials, not later than Saturday, April 4th.

DUDLEY AUKLAND,
Clerk to the Surrey
March 11th, 1931. County Council.

Borough of Twickenham.

ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners (men or women) for the appointment of Assistant Medical Officer. The work will include duties connected with Maternity and Child Welfare, School Medical Inspection and Treatment, and the Borough Hospital for Infectious Disease.

Special experience of Ante-natal and Maternity and Child Welfare work is obligatory, and the possession of a Diploma in Public Health will be an additional recommendation.

Salary £550 per annum, rising by annual increments of £25 to £700.

The successful candidate must pass a medical examination before appointment, and application will be made for the post to be designated under the Local Government and Other Officers Superannuation Act, 1922. The officer will be required to work under the direction and supervision of the Medical Officer of Health; to devote whole time to the service of the Corporation, and to reside within the Borough of Twickenham.

A form of application can be obtained from the Medical Officer of Health, Dr. G. H. DUPONT, Municipal Offices, Twickenham, to whom applications, accompanied by copies of not more than three recent testimonials, are to be sent by April 1st.

Municipal Offices, EDWIN G. STRAY,
Twickenham. Town Clerk.
March 11th, 1931.

Derbyshire County Council.

APPOINTMENT OF MEDICAL SUPERINTENDENT OF THE COUNTY MENTAL HOSPITAL, MICKLEOVER, near DERBY.

The Visiting Committee of the Derbyshire County Council invite applications for the position of Medical Superintendent of the County Mental Hospital, Mickleover, near Derby, at a salary of £1,200 per annum, with emoluments.

Preference will be given to candidates under 45 years of age.

Further particulars of the appointment, and forms of application, may be obtained upon application to the undersigned, and applications, endorsed "Medical Superintendent," must be delivered at the County Offices, Derby, not later than Thursday, April 9th.

Canvassing, either directly or indirectly, any member of the Visiting Committee will be deemed a disqualification.

County Offices, H. WILFRID SKINNER,
Derby. Clerk to the Visiting
March 16th, 1931. Committee.

Royal Free Hospital,

Gray's Inn Road, W.C.1.

Applications are invited from duly qualified Medical Women for the post of RESIDENT CASUALTY OFFICER. Previous experience as Hospital Resident essential. Salary £150 per annum. Intending candidates should submit applications, stating age, and accompanied by copies of three recent testimonials, to the undersigned on or before April 7th. The appointment is tenable for six months from May 1st.

REGINALD R. GARRATT,
Secretary.

Portsmouth Education Committee

SCHOOL MEDICAL SERVICE.

[illegible] applications from fully appointment of a SCHOOL MEDI- per annum. Ex- tal Deficiency, or any other special branch of the work will be [illegible] must pass a medical [illegible] vent of the appointment being designated as an established post in the future, will be required to contribute to the Council's Superannuation Scheme.

Forms of application may be obtained from the Chief Clerk, Education Offices, Guildhall, Portsmouth, to whom they should be returned not later than the first post on April 14th.

Canvassing in any form will be regarded as a disqualification.

Guildhall, F. J. SPARKS,
Portsmouth. Town Clerk and Clerk to the
March 16th, 1931. Education Committee.

London Light and Electrical

CLINIC.

Under the authority of the Venerable Order of St. John of Jerusalem.

The Committee of Management will shortly proceed to appoint Three HONORARY VISITING PHYSICIANS, each of whom will be required to attend the Clinic twice weekly.

Each candidate must be a registered Medical Practitioner and a Graduate of a British University, or Fellow or Member of the College of Physicians of London or of Edinburgh.

Applications, with copies of not more than three testimonials, should be addressed on or before April 7th to the Secretary, London Light and Electrical Clinic, 42, Ranelagh Rd., S.W.1, who will furnish information as to the duties of the office.

Mansfield and District Hospital.

The Board of [illegible] Hospital (140 beds [illegible] post of HOUSE OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIMB, Secretary.

South Devon and East Cornwall

HOSPITAL, PLYMOUTH. (240 Beds.)

HOUSE SURGEON. Salary £100 per annum, with board, residence, and laundry. Appointment is tenable for six months, and is subject to renewal. Duties to commence at once. Candidates must be registered under the Medical Acts. [illegible] nd qualifications, [illegible] t testimonials, to [illegible] ril 10th

[illegible] R. CASH,
Gen. Supt. and Secretary.
March 24th, 1931.

Bootle General Hospital,

BOOTLE, LANCS. (100 Beds.)

Applications are invited for the post of JUNIOR HOUSE SURGEON for the six months ending September 30th. Salary at the rate of £150 per annum, with board, residence, and laundry. Duties to commence April 1st.

Applications, stating age and qualifications, with copies of testimonials, to be sent to the undersigned immediately.

J. A. BEARDSALL,
Secretary-Superintendent.

The Warneford Mental Hospital,

OXFORD.

An ASSISTANT MEDICAL OFFICER, male and unmarried, is required for the above registered Hospital. Salary at the rate of £300 per annum. Applications, stating age and experience, with copies of three recent testimonials, to be sent to the Medical Superintendent forthwith.

The St. Helens Hospital.

Applications are invited for the position of HOUSE SURGEON to this Hospital at a salary of £200 per annum, plus board, residence, and laundry.

Applications, accompanied by three recent testimonials, to be sent to the Secretary, St. Helens Hospital, Lancs, not later than April 1st. The successful candidate will be required to commence his duties on April 8th.

Borough of Ealing.

MATERNITY AND CHILD WELFARE SERVICES.

WOMAN ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners for the position of Woman Assistant Medical Officer.

The duties will mainly consist of work in connection with the Council's Maternity and Child Welfare Scheme, embracing attendance at the Health Centres, supervision of Midwives and Nursing Homes, and medical attendance on patients in the Chiswick and Ealing Maternity Hospital. The person appointed will reside at this Hospital, board and furnished rooms being provided for her.

Applicants must have had previous experience of Maternity and Child Welfare work, and particularly of work in a Maternity Hospital.

The person appointed will be required to devote her whole time to the duties, and will not be allowed to engage in private practice.

The salary will be at the rate of £450 per annum, rising by £25 per annum to a maximum of £550, plus board and residence as indicated above, and valued at £150 per annum. A deduction of 5 per cent. will be made in accordance with the provisions of the Local Government and Other Officers Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to the candidate passing the Council's medical examination in connection therewith. Canvassing will be a disqualification.

Copies of form of application and terms of appointment can be obtained from the undersigned, to whom applications, accompanied by copies of not more than three recent testimonials, must be delivered not later than April 14th.

Town Hall, THOMAS ORR,
Ealing, W.5. Medical Officer of Health.

Harrogate Royal Bath Hospital

AND RAWSON CONVALESCENT HOME.

Applications are invited for the post of HOUSE PHYSICIAN.

The appointment will be for six months from May 1st. Salary at the rate of £156 per annum, with board, residence, and laundry. Candidates, who must be unmarried and duly registered, are asked to forward their applications, stating age, qualifications, etc., together with copies of not more than three testimonials, to the undersigned on or before Friday, April 17th.

E. P. L. DIXON, M.A.,
March, 1931. Secretary.

Stannington Sanatorium for

CHILDREN.

(310 Beds—Medical and Surgical Tuberculosis.)

Applications are invited from ladies for the appointment of JUNIOR RESIDENT MEDICAL OFFICER. The appointment will be for a period of six months, with salary at the rate of £100 per annum.

Apply, with [illegible] to the Medical Superintendent. [illegible] Clifton, Morpeth, [illegible] than April 2nd.

Resident Medical Officer required

for STOKE NEWINGTON DISPENSARY, High Street, Stoke Newington (whole-time). Lady preferred.

Salary £200 a year, with residence, light, and fuel free. A further £120 will be paid to her for keeping a resident housekeeper and a non-resident charwoman to attend to the premises and for their sundry requirements.

Applications should be addressed to the Hon. Sec. of the Dispensary, and should reach him not later than April 11th.

General Hospital, Nottingham.

A CASUALTY OFFICER (male) is required at the above Institution. Appointment for six months. Salary at the rate of £200 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, with copies of testimonials, to be delivered to me not later than Saturday, April 4th. Duties to commence on or about April 14th.

P. M. MACCOLL,
House Governor & Secretary.

Leicester Royal Infirmary.

(450 Beds.)

There are vacancies on April 1st for TWO SURGICAL DRESSERS (Final Year Students preferred). Appointment for three months. Honorarium 10/6 per week for approved service. Board, etc. provided.

Applications forthwith to the House Governor and Secretary, with copies of available testimonials.

March 14th, 1931.

Hospital for Consumption and DISEASES OF THE CHEST, Brompton, S.W.3.

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (for which there are three vacancies). The duties include work in the Out-patient Department as well as in the Wards, and one of the selected candidates will also be appointed Assistant to the Tuberculosis Officer for the local Tuberculosis Dispensary at the Hospital. The appointment is for six months, commencing on May 1st, with an honorarium of £50. At the expiration of his term of office, or in the event of a vacancy, the Junior House Physician will be expected to apply for and, if appointed, to hold the post of Senior House Physician for a further term of six months.

Applications are also invited from duly qualified Medical men for the post of JUNIOR HOUSE PHYSICIAN at the Sanatorium at Frimley. The appointment is for six months, commencing on May 1st, with an honorarium of £50.

Applications, with copies of testimonials, must reach the undersigned not later than Saturday, April 11th.

Brompton.

March, 1931. FREDERICK WOOD, Secretary.

Royal London Ophthalmic HOSPITAL (Moorfields Eye Hospital), City Road, E.C.1.

Applications are invited for the office of SENIOR RESIDENT OFFICER.

Candidates must be registered Medical Practitioners, and must be prepared to begin duties on May 1st. Salary at the rate of £150 a year, with board and residence in the Hospital.

In the event of the First House Surgeon being appointed, other candidates are requested to state whether they would accept the office of First House Surgeon at the rate of £150, or Second House Surgeon at the rate of £125, or Third House Surgeon at the rate of £100 a year.

The appointments are for a period of six months.

Applications, with testimonials, stating age and qualifications, must be received not later than April 9th.

A. J. M. TARRANT, Secretary.

Charing Cross Hospital.

MEDICAL REGISTRAR.

The Council invite applications from candidates, who must be registered Medical Practitioners, for the post of MEDICAL REGISTRAR (male), for the period of one year.

Honorarium £150 per annum.

A copy of the Regulations can be obtained from the undersigned, to whom applications, together with copies of three testimonials, must be submitted not later than Monday, March 30th.

Charing Cross Hospital, PHILIP INMAN, London, W.C.2. House Governor.

Chesterfield & North Derbyshire ROYAL HOSPITAL

(150 Surgical and Medical Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post. There are five residents.

The appointment is for six months, at the rate £150 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned on or before April 10th.

March 24th, 1931. G. SUNNUCK, Supt. & Secretary.

Walsall General Hospital.

The Committee invite applications for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months, and is supplied in all Special Departments, and the Hospital contains 100 beds.

Applications, stating age, qualifications, and nationality, must be received by the undersigned not later than first post Tuesday, March 31st.

WALTER FRANCOMBE, Secretary.

Victoria Central Hospital, WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry, with prospects of appointment to Senior House Surgeon in six months' time, at a salary of £150.

Candidates chosen will be appointed for six months.

Applications, with copies of testimonials, to be sent to the Secretary.

Western Ophthalmic Hospital, Marylebone Road, N.W.1.

Applications are invited for the posts of SENIOR RESIDENT and JUNIOR NON-RESIDENT HOUSE SURGEONS. The salaries are at the rate of £150 and £100 per annum respectively, and the appointments are for six months. Ophthalmic experience is required.

The selected candidates will be required to take up duty on May 1st.

Applications, accompanied by copies of not less than three testimonials, should reach me by April 18th, and candidates should be prepared to attend before the Medical Committee on April 24th, at 5 p.m.

Candidates should state in their application whether they are prepared to accept either post.

H. W. BURLEIGH, Esq., Honorary Secretary.

The Gloucestershire Royal INFIRMARY AND EYE INSTITUTION, GLOUCESTER.

(155 Beds—4 Residents.)

Applications are invited for the posts of: RESIDENT SURGICAL OFFICER (male). Salary at the rate of £200 per annum. Six months' appointment, with board, residence and laundry. Good opportunity for Surgery.

FIRST HOUSE SURGEON (male). Salary at the rate of £150 per annum. Six months' appointment, with board, residence, and laundry.

The First House Surgeon will be required to enter upon his duties on April 8th, and the Resident Surgical Officer on April 28th.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned.

March 26th, 1931. F. J. SYMONS, Secretary.

Rochdale Infirmary and DISPENSARY. (110 Beds.)

The Board of Management invite applications for the appointment of JUNIOR HOUSE SURGEON. The salary attached to the appointment is £200, including board, residence, and laundry.

Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon." Particulars of duties and conditions of the appointment may be had on application to the Secretary.

Infirmary Office, W. WYNNE, Rochdale, Lancs. Secretary.

City of London Hospital for DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.

(Bus, Tram, and Rail, Cambridge Heath, L. & N.E. Railway.)

A vacancy for a HOUSE PHYSICIAN (male) will occur on May 1st. Six months' appointment. Salary at the rate of £100 per annum. Board, residence, and laundry provided.

Applications, with copies of three testimonials, should be sent to the undersigned on or before Friday, April 17th.

GEORGE WATTS, Secretary.

Crossley Sanatorium, Kingswood, FRODSHAM, CHESHIRE.

Wanted immediately, an ASSISTANT MEDICAL OFFICER for three months at the above Sanatorium. Salary £200 per annum, with board, laundry, etc. Applicants must be registered. Plenty of time for reading. 105 patients, with a Resident Medical Officer and Three Visiting Physicians. Applications, with copies of recent testimonials, to be sent to C. W. HUNT, Manchester Hospital for Consumption, Hardman Street, Deansgate, Manchester, not later than March 31st.

Ancoats Hospital, Manchester.

HOUSE SURGEON required to commence duty on or after April 1st next. Appointment for six months. Salary at the rate of £100 per annum, with board, residence, etc.

Applications, stating age, qualifications, and particulars, to be forwarded to the undersigned as early as possible, together with copies of three recent testimonials.

By Order of the Board.

HERBERT J. DAFFORNE, Gen. Supt. & Secretary.

Bradford Children's Hospital.

HOUSE SURGEON and HOUSE PHYSICIAN wanted immediately; fully qualified. Salary £120 each, with board, residence, and laundry.

Applications, stating age, with recent testimonials, not later than April 8th, to

J. W. LONGLEY, Secretary-Superintendent.

North Riding Infirmary, MIDDLESBROUGH.

(General Hospital—150 Beds.)

Applications are invited for the posts of:

Second HOUSE SURGEON (gentleman) to take up duties May 1st:

Third HOUSE SURGEON (lady, eligible) to take up duties early as possible.

The appointments will be for a definite period of six months, with salary in the former case of £150 per annum, and in the latter case of £125 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three recent testimonials, should be sent forthwith to the undersigned.

CHARLES POSTGATE, Secretary-Superintendent.

The Belgrave Hospital for CHILDREN (Incorporated), 1, Clapham Road, S.W.9.

The Committee of Management invite applications for the posts of HOUSE PHYSICIAN and HOUSE SURGEON, which will become vacant on April 30th next, and for the post of HOUSE PHYSICIAN which will become vacant on May 31st next.

Applicants (men) must be fully qualified and registered. The appointments are for six months, with board, residence, and washing provided. Salary at the rate of £100 per annum in each case.

Applications, with copies of testimonials, stating age, should be forwarded on or before Friday, April 10th, to the Secretary.

Elsie Inglis Memorial Maternity HOSPITAL.

Spring Gardens, EDINBURGH. (60 Beds.)

Applications are invited from qualified Medical Women for the following posts: (a) DISTRICT MEDICAL OFFICER; (b) JUNIOR HOUSE SURGEON. The District Medical Officer serves for three months on the district, and then becomes Senior House Surgeon. The appointments are for six months as from April 1st, with board, residence, and laundry. Honorarium at the rate of £50 and £25 per annum respectively.

Applications, with copies of testimonials, to be received by the Secretary at above address immediately.

Ear and Throat Hospital, Edmund Street, BIRMINGHAM.

HOUSE SURGEON wanted (non-resident) to assist chiefly in Out-patient Dept. Must be qualified, and with clinical experience. Duties to commence May 1st. Appointment to September 30th, when one of the other House Surgeon appointments will be vacated. Salary at the rate of £150 per annum, with lunch on week-days, and an allowance at the rate of £50 per annum in lieu of full board and lodging. Applications and testimonials to be forwarded at once to the undersigned

March, 1931. S. G. GREW, Secretary.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY.

The Institution, which contains over 100 beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession. Salary at the rate of £100, rising to £150 per annum.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84, Irish Street, Dumfries, at once.

East Ham Memorial Hospital, Shrewsbury Road, E.7. (100 Beds.)

Applications are invited for the post of HOUSE SURGEON to Special Departments, and CASUALTY OFFICER, for six months commencing April 1st. Salary at the rate of £120 per annum, with board, residence, and laundry.

Applications, stating age, experience, and full particulars, together with copies of testimonials, should be forwarded to the undersigned immediately.

REGINALD PERRY, Secretary.

East Ham Memorial Hospital, Shrewsbury Road, E.7. (100 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN for six months commencing April 1st. Salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, stating age, experience, and full particulars, together with copies of testimonials, should be forwarded to the undersigned immediately.

REGINALD PERRY, Secretary.

The Prince of Wales's General HOSPITAL, Tottenham, N.15.

The following Resident posts will be vacant on May 1st next:

SENIOR HOUSE PHYSICIAN, SENIOR HOUSE SURGEON, and SPECIAL HOUSE SURGEON. Salaries at the rate of £120 per annum.

JUNIOR HOUSE PHYSICIAN and Two JUNIOR HOUSE SURGEONS. Salaries at the rate of £90 per annum.

Board, residence, and laundry.

Appointment held for six months, but holders are eligible for re-appointment for a further term.

Candidates (male) must be fully qualified and registered, and applications (on the prescribed form), together with copies of three recent testimonials, should be sent to me on or before the first post on Wednesday, April 1st.

J. B. BURDETT,
March 7th, 1931. Director.

Hull Royal Infirmary. (270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments, vacant March 31st.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in Laryngology and Otology.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, with copies of testimonials, should be sent immediately to the undersigned.

R. J. CARLESS,
March 16th, 1931. House Governor.

The Royal Portsmouth Hospital. (Five Resident Medical Officers.)

Applications are invited for the posts of:

Third HOUSE SURGEON, male, qualified. Salary at the rate of £150 per annum, with board, etc, to commence as soon as possible

CASUALTY OFFICER, male, qualified. Salary at the rate of £100 per annum, with board, etc., to commence as soon as possible.

Six months' appointments, and eligible on completion of term for extension or other resident posts

Applications, stating age, nationality, and full details, with copies of three testimonials, to be sent to the undersigned, from whom all particulars can be obtained.

B. WAGSTAFF, Secretary.

Addenbrooke's Hospital, CAMBRIDGE.

Applications are invited for the post of HOUSE PHYSICIAN.

The appointment will be for six months from April 17th, but is terminable at an earlier date by *one month's written notice on either* side. Salary at the rate of £130 per annum, with board, residence, and laundry. Candidates (male), who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials, to the undersigned on or before Wednesday, April 1st.

W. H. HEAD,
Secretary-Superintendent.

Addenbrooke's Hospital, CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON, which will become vacant on March 31st. The appointment will be for six months, but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum, with board, residence, and laundry. Candidates (male), who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials, to the undersigned as soon as possible.

W. H. HEAD,
Secretary-Superintendent.

Addenbrooke's Hospital, CAMBRIDGE.

Applications are invited for the post of RESIDENT ANAESTHETIST and EMERGENCY OFFICER (male), which will become vacant on March 31st. Salary at the rate of £130 per annum, with board, residence, and laundry. Candidates, who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four recent testimonials, to the undersigned as soon as possible.

W. H. HEAD,
Secretary-Superintendent.

Royal Westminster Ophthalmic HOSPITAL, Broad Street, Holborn, W.C.2.

Appointment of HOUSE SURGEONS for six months from May 1st.

FIRST HOUSE SURGEON. Salary at the rate of £100 per annum, with share of fees for private room cases.

SECOND HOUSE SURGEON. Salary at the rate of £80 per annum.

With board, residence, and laundry.

NOTE.—Candidates must be duly qualified Medical Practitioners, registered in this country, and must have had experience in Ophthalmology. [illegible] should be stated whether [illegible] d to accept the Second [illegible] tment, accompanied [illegible] are to be sent to the Secretary on or before April 10th.

Bury Infirmary, Lancs. (A General Hospital of 165 Beds.)

Applications are invited for the post of HOUSE SURGEON to Special Departments. The appointment is for six months, at a salary at the rate of £200 per annum, with board, residence, and laundry.

The appointed candidate will be required to commence duty on or about April 26th.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned not later than *the first post of Saturday*, April 11th, endorsed "House Surgeon."

Particulars of duties may be obtained on application.

ALEX. W. MAITLAND, Hon. Secretary.

Leicestershire and Rutland MENTAL HOSPITAL, NARBOROUGH, near LEICESTER.

ASSISTANT MEDICAL OFFICER required.

Candidates must be registered, and not more than 35 years of age, unmarried. Salary £350 per annum, rising £25 per annum to £450. In addition £50 per annum will be given if the candidate holds the Diploma of Psychological Medicine. Full board and attendance in addition to the above, valued for Superannuation purposes at £150 per annum. The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, with copies of not more than three recent testimonials, to be sent to the Medical Superintendent forthwith.

Royal Sussex County Hospital, BRIGHTON. (238 Beds.)

CASUALTY HOUSE SURGEON (male) required about the end of April next.

Salary £120 per annum, with board, residence, and laundry.

Candidates must hold Medical and Surgical qualifications of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of recent testimonials, should reach the undersigned not later than April 13th.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

The Staffordshire General INFIRMARY, STAFFORD.

Applications are invited for the post of HOUSE PHYSICIAN (either sex), which will become vacant at the end of April. Candidates must be duly qualified and registered under the Medical Acts. Salary at the rate of £150 per annum, with board, residence, and laundry. The appointment to be held for at least six months.

Applications, stating age, accompanied by copies of three recent testimonials, should be received by the undersigned not later than Thursday, April 2nd.

Stafford A. E. COLLINS,
March 21st, 1931. Secretary.

Bedford County Hospital. (124 Beds)

HOUSE SURGEON (male) fully qualified, unmarried, required for a term of not less than six months, commencing April 22nd. Salary £175, with board, lodging, and laundry.

Applications, stating age, nationality, and qualifications, together with three recent testimonials, to be sent to the Hon. Secretary, Hon. *Medical Staff Committee*, as soon as possible.

Birkenhead General Hospital. (156 Beds.)

HOUSE PHYSICIAN, also CASUALTY OFFICER, required for six months. Commencing April 1st. Salary £100, with board. Applications, with three testimonials, to be sent to the Secretary as early as possible.

March 10th, 1931.

Royal Manchester Children's HOSPITAL, PENDLEBURY, near MANCHESTER. (190 Beds.)

Wanted, a RESIDENT SURGICAL OFFICER, salary £125 per annum, who will be appointed for six months.

Candidates must be unmarried, doubly qualified, and duly registered. Previous Hospital experience essential.

Applications, stating age, and accompanied by copies of not more than three testimonials, to be sent to the undersigned at once.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY,
March 17th, 1931. Secretary.

Nuneaton General Hospital. (80 Beds)

Applications are invited for the post of HOUSE SURGEON, vacant June 1st. The appointment is open to candidates of either sex, and is for six months in the first instance. The salary will be £120 per annum, together with board, residence, and laundry, and certain other emoluments, and will be raised to £150 *per annum after six months for any subsequent* period. Owing to the varied nature of the cases tr[illegible] especially valuable to th[illegible] Practice.

[illegible] lifications, and experience (if any), together with copies of testimonials, should be sent before April 6th to the Secretary, Medical Staff of the Hospital.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

[illegible] e of Women's and

[illegible] e of Male Wards,
[illegible] e of Out-Patients
(in this post a
is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

The Salvation Army, THE MOTHERS' HOSPITAL, Lower Clapton Road, Clapton, E.5.

Applications are invited from *Medical Women* for the post of RESIDENT ANAESTHETIST (with some Pathological duties), vacant May 1st. Salary £80 per annum, with board, residence, and laundry. Candidates should have had pre*vious experience in anaesthetics* and pathology. She would be expected to call on members of the Honorary Staff, a list of whom can be obtained on application to the Secretary-Superintendent.

Applications, with testimonials, must be sent to the Secretary-Superintendent on or *before* April 9th.

EDGAR DIBDEN,
Secretary-Superintendent.

Croydon General Hospital.

A vacancy occurs on the staff of the above Hospital for an HONORARY ANAESTHETIST, and candidates for the appointment are requested to forward their applications, together with statements of their qualifications, to the undersigned on or before Saturday, April 4th, with copies of three testimonials, from whom further particulars can be obtained upon application if desired.

GEORGE H. DAMS,
March 20th, 1931. Secretary.

Croydon General Hospital.

[illegible] *om* qualified and
[illegible] te post of HOUSE
[illegible] per annum, with

[illegible] ualifications, etc.,
[illegible] h will not be re-
to be forwarded
to the undersigned, stating the earliest date upon which duties can be commenced.

GEORGE H. DAMS,
March 23rd, 1931. Secretary.

Cossham Memorial Hospital, KINGSWOOD, BRISTOL.

Applications are invited for the post of H[illegible] nence duties at the
en[illegible] *must be* British
st[illegible] registered,
qualifications, and
previous experience, accompanied by three recent testimonials, should be sent not later than April 11th to the Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH** *(contd.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	EAST SUFFOLK COUNTY COUNCIL. *(Male Assistant County Medical Officer of Health.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	OLDDALE, MON. [illegible]tion.) [illegible]ty.)	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)* *(Male Assistant Medical Officer, Colony for Mental Defectives, Shenley.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	**PUBLIC HEALTH.**	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	CAERNARVONSHIRE EDUCATION COMMITTEE. *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	RENFREW COUNTY COUNCIL. *(Assistant Medical Officer of Health.)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*		[illegible] COUNCIL. [illegible] *Barnwood*
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*		YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

March 25th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Royal Salop Infirmary, SHREWSBURY. (150 Beds.)

APPOINTMENTS OF RESIDENT HOUSE SURGEON AND RESIDENT HOUSE PHYSICIAN.

Applications are invited from fully qualified men for the appointments of Resident House Surgeon and Resident House Physician, vacant immediately.

Salary £160 per annum, with board, residence, etc.

The appointments are for six months in the first instance, subject to re-appointment for a further period of six months.

Resident Staff comprises Resident Surgical Officer, House Physician, and House Surgeon.

Applications, stating age, qualifications, experience, nationality, and accompanied by copies of three recent testimonials, to be sent to the undersigned forthwith.

J. W. NOBLE, Secretary-Superintendent.

March 17th, 1931.

County Mental Hospital, LANCASTER.

Applications are invited for the post of ASSISTANT MEDICAL OFFICER, male. Candidates must be single and under 35 years of age. Commencing salary £500, rising by annual increments of £25 to £600, with further increase on promotion, subject to a deduction of 3 per cent. under the Asylum Officers Superannuation Act. There are no emoluments. The selected candidate will be required to live in the Hospital, and he will be provided with board, lodging, etc., for which a charge of £150 a year is made.

The possession of a Diploma in Psychological Medicine will entitle the officer to an additional £50 per annum.

Applications, giving full particulars, with testimonials (copies only), should be forwarded to the Medical Superintendent before April 4th.

March 10th 1931.

Royal East Sussex Hospital, HASTINGS. (120 Beds.)

Owing to illness applications are invited for the post of TEMPORARY RESIDENT HOUSE SURGEON (male or female).

The appointment is available from April 1st to May 14th.

Salary at the rate of £150 per annum.

Applications, with testimonials, to be addressed to the Secretary immediately.

WILFRID G. KEMSLEY, Secretary.

St. Mark's Hospital for Cancer, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.

HOUSE SURGEON (male) required. Must be fully qualified. Salary £75 per annum, with board, residence, and laundry. The appointment is for a minimum of six months from May 1st next.

Applications, with copies of testimonials, must reach the Secretary (from whom further particulars may be obtained) not later than 10 a.m. Monday, April 13th.

Chester Royal Infirmary. (211 Beds.)

Wanted, HOUSE PHYSICIAN (male) to commence duties April 10th. Salary £150 per annum, with board, lodging, and washing.

Application list closes on April 3rd.

Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P., Hon. Superintendent of the Resident Medical Staff.

House Surgeon wanted.—Salary

£150 per annum, with board, etc. Applications, stating qualifications, experience, and copies of testimonials, to be sent to the Secretary, CAMERON HOSPITAL, WEST HARTLEPOOL.

The Hospital for Sick Children, Great Ormond Street, London, W.C.1.

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on April 14th.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 12 o'clock on Monday, April 6th, with copies of not more than three testimonials given specially for the purpose, and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months. Salaries at the rate of £100 per annum, laundry allowance £5, board and residence in the Hospital.

Candidates must be unmarried and possess a legal qualification to practise.

All candidates must be in attendance to appear before the Joint Committee, if required, at their meeting on Wednesday, April 8th, at 4.45 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary.

By Order of the Board of Management, JAMES McKAY, Secretary.

March, 1931.

Crichton Royal Mental Hospital, DUMFRIES.

ASSISTANT PHYSICIAN, man, unmarried, fully qualified and registered, who has held Post-graduate resident post in General Hospital of Medical School or large town. Well equipped laboratories, with special staff, and other facilities for original work. Salary £350, plus £50 if with Diploma in Psychiatry, with furnished rooms, board, laundry, and attendance. No deduction from salary for pension or other purposes. Appointment terminable on three months' notice. Apply, in writing, to Physician-Superintendent, stating age, qualifications, and experience, with copies of testimonials.

(Appointments continued on p. 54)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted at once, outdoor Assistant, male, young, active. Residential Country Town, Cheshire, close to large centres. Able to drive car Salary £330. Usual bond. Full-time Dispenser kept. Interview. Return expenses paid. Full particulars.—Address, No. 2026, B.M.A. House, Tavistock Square, W.C.1.

Wanted, for Liverpool, recently qualified man as ASSISTANT (indoor). Good middle-class Practice, panel and private —Address, with photo., copy recent testimonials, stating age, nationality, and other essen. partics. No. 2056, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Assistantship by G.P. with Psychiatric experience. Would consider Institutional work. Widower with three children. Preferably in South or Midlands.—Address, No. 2005, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistantship, London area, by Woman M.B., B.S., L.M., experienced Hospital, private, and panel, qualified 1925. Keen. Well received. Testimonials. Interview London. — Particulars, address No. 2033, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Indoor male Assistant for Panel and Private Practice in Midlands. Usual bond. Salary £250—£300 according to experience. All found ex. laundry. Scot preferred. — Address, No. 2025, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Married Assistant, with Hospital and general experience. Six pounds weekly, with own rooms, and board for wife included Send photo. State height, etc.—Address, No. 2028, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant (single), in large mixed Practice ten miles from Manchester. North Country Englishman preferred. Salary £375 to commence. Address, No. 2021, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Outdoor male Assistant, young and energetic, for large panel and private Practice near Manchester. Salary £450 per annum —Address, with references and photo, No. 2016, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Part-time Assistantship, by young Indian Doctor. Well experienced in panel and private work and Refraction London or any University town — Address, No 2029, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant, indoor, for private and panel Practice near London. Work light. Salary £250 p.a. Interview.—Address, No. 2007, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view Good salaries. State full particulars.—BRITISH MEDICAL AGENCY, 33, Cross Street, Manchester

W[illegible] — Outdoor Assistant, married preferred, West Country. [illegible] Practice Salary £400 p.a. [illegible] Usual bond.—Address No. 2011, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Dispenser and Bookkeeper.—Mr. Walden can thoroughly recommend a lady with some years' experience.—Apply, Mr. J. E. WALDEN, Westminster College for Lady Dispensers, 112, St. George's Road, Southwark, S.E.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and [illegible], or 'phone BUREAU FOR E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Lady Dispenser (Hall), with knowledge of bookkeeping, requires POSITION with Doctor or Hospital, Bradford, Leeds, and district. — LEVIN, 14, Mornington Villas, Bradford.

Lady Secretary, with bookkeeping, shorthand, typing, and nursing experience, requires POST, preferably with a doctor or dentist.—Miss CATT, Ingram House, Stockwell Road, S.W.9.

The Royal Army Medical Corps [illegible]ston Square, S.W. supplies qualified [illegible]oratory Assistants, [illegible] Nurses, Mental and [illegible] Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

T[illegible]ert undertakes [illegible] etc. Numerous [illegible]lett Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted by Doctor, with own Practice, PARTNERSHIP or Working Arrangement with Practitioner, Clinic or Institution, between Euston Road, Regent's Park, and Holloway Road. Exp in Bacteriology, E. and T. work, Dental anaesth.—'Phone: Gulliver 1280.

Wanted, by Irish Doctor, single, R.C., SHARE worth £800 to £1,000, view future succession Cash available, £1,000. Must have good panel. Midlands or North. English or Irish only. — Address, No. 2005, B.M.A. House, Tavistock Square, W.C.1.

Cheshire.—Third Partnership in industrial middle and working-class PRACTICE. Receipts for past three years average £4,220. Panel 3,744. Rent of house £60 p.a. Premium for 8/25th share £2,500 (including share of instruments, drugs, book debts, etc.)—Apply 2606, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

Midland Town. — Share worth £850 per annum in old-established mixed Practice, capable of increase. Partner retiring. Premium to suitable man £1,260. —Address, No. 2033, B.M.A. House, Tavistock Square, W.C.1.

Near Manchester.—Partnership. —Half Share in Practice doing £3,000. Panel over 3,000. Excellent Hospital in town; Vendor on staff. Premium, including interest in house and surgery, £2,500; £2,000 down.—No. 1801, B.M.A. House, Tavistock Sq., W.C.1.

Partnership in rapidly growing well-established Practice, 10 miles Marble Arch. Over £1,500 p.a. Panel 1,900; 500 increase this year. 2/5 share to well-qualified man over 28, with good Obstetric experience. Appointment on Hospital staff. Choice of houses at purchase rentals. Excellent opportunity. Premium 2½ years' purchase. Cash to include drugs, etc. No agents.—Address, No. 2003, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant, with early view, industrial country Practice in Cornwall. Salary £350, outdoor.—Address, No. 2010, B.M.A. House, Tavistock Square, W.C.1.

Wanted.-Assistantship by M.B., 2 years' practice. Country district preferred. — Address, No. 2032, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Assistant (Lady). Salary £270. Indoor. —Dr. MULLIGAN, Bensham Lodge, Gateshead.

Assistant, outdoor, required in busy industrial Practice, N.E. coast. House available. Must be able to do major surgery. Salary £500, and allowance for car. A Partnership available if candidate found suitable. —Further particulars, address No. 2027, B.M.A. House, Tavistock Square, W.C.1.

Assistant for elderly Practitioner, Scotland. Panel 1,700. Well-equipped man, £400—£500, outdoor. Succession in 2-3 years at 1½ years' premium. Full particulars, photo.—Address, No. 2012, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, permanent, wanted by M.B., N.U.I., 1923, aet. 30, experienced, reliable, single. Own car. Free in two weeks. —Address, No. 2022, B.M.A. House, Tavistock Square, W.C.1.

Assistantship wanted by M.B., B.Ch., D.P.H., L.M. Experienced G.P., dispensing, etc. Act. 30. Irish R.C.—Address, No. 2024, B.M.A. House, Tavistock Sq., W.C.1.

Lady Assistant required, industrial Practice in County Durham. Work light, outdoor, salary £300 per annum and house. Dispenser kept. Send photograph (returnable) and essential particulars.—Address, No. 2037, B.M.A. House, Tavistock Sq., W.C.1.

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

G.P., 43, own car and house, having some spare time, is willing to ASSIST (part-time) or act as LOCUM for Practitioners in Bristol or Bath district.—Address, No. 2002, B.M.A. House, Tavistock Sq., W.C.1.

Lady Locum Assistant wanted for four weeks, starting May 1st. No responsibility. 5 guineas, indoor. Under 40. —Address, No. 2008, B.M.A. House, Tavistock Square, W.C.1.

Locumtenents.—Reliable Practitioners desir[illegible] [illegible] engagements should register at [illegible] "EDICAL BUREAU, 33. [illegible]

Locum Tenens and Assistants required.—For further particulars apply Messrs. R. SUMNER & CO., LTD., Manufacturing Chemists, 40, Hanover Street, Liverpool.

Seaside Locum.—Services offered by General Practitioner for two or three weeks during August or September, *in return* for Hospitality to self and family, *plus moderate* fee. Devon or Cornwall pref. Own saloon car.—No. 2039, B.M.A. House, Tavistock Sq., W.C.1.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

PRACTICES.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Town or country. *Good house.* Income £1,000—£1,500. *Strict confidence.*—No. 1533, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Good-class Practice £1,200 up. London or suburb, or *good-sized* town within easy reach. Good house, *6/7* bedrooms, etc., garden and good schools essential. — Address, No. 2009, B.M.A. House, Tavistock Square, W.C.1.

Wanted by well-qualified [illegible] 1-class PRACTICE, residential district. Convenient house available.—Address, [illegible] 2010, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, in London, by experienced Practitioner, PRACTICE or PARTNERSHIP Succession. Income about £2,000 or more p.a. Ample capital. 2038, B.M.A. H[illegible]

Wanted.—London and District. —*The Medical Agency* has a large clientele seeking suitable INVESTMENTS in the *London* area with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Wanted by experienced Practitioner, middle-class PRACTICE, with panel. £800—£1,000, with 40 miles London. Necessary capital. No agents. — Address, No. 2001, B.M.A House, Tavistock Square, W.C.1.

Wanted to purchase, panel and middle-class Country PRACTICE, Devon or neighbouring counties. Income about £1,000. House to rent. — Address, No. 1809, B.M.A. House, Tavistock Square, W.C.1.

Wanted to purchase —Swansea or immediate district—*PRACTICE* or PARTNERSHIP. Income £1,000—£1,200.—Address, No. 2018, B.M.A. House, Tavistock Square, W.C.1.

Central Scotland, within easy reach of all the principal centres. Old-established mixed General PRACTICE; compact and easily worked, with panel of 1,500. Excellent modern house for sale with Practice. For further [illegible] House.

For [illegible] West of England City, now doing £450 per annum. Panel 500. Suitable house, with electric light, garage, and garden. Plenty of scope. Premium £450. — Address, No. 2020, B.M.A. House, Tavistock Square, W.C.1.

ABERDEENSHIRE.
MEDICAL PRACTICE FOR SALE.

For Sale, Country Practice in Aberdeenshire, with suitable house.—For full particulars address No 2015, B.M.A. House, Tavistock Square, W.C.1.

For Sale in Midlands, in large industrial town, Cash and Panel PRACTICE (panel 3,600 approx.) Premium £5,000. —Address, No. 2004, B.M.A. House, Tavistock Square, W.C.1.

Good-class Practice, 10 miles London, about £650 p.a. Rapid increase certain. Excellent house, in best position. Freehold. Fine [illegible] 1

L[illegible] ...ing England. Good house, garage, garden, rapidly growing district. Receipts £1,200. Panel 900. House and Practice £2,200, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Large West Riding Town.—For immediate sale owing to ill-health. Middle and upper working-class PRACTICE. Av. cash receipts about £1,000 p.a. Panel 580. Freehold house to be purchased later at £1,500. Low premium. Good introduction.—Apply, 2607, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

Lancs Town. — Old-established. Receipts £2,500. Panel 1,850. Excellent scope surgery. Appointment £120. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, S.W. — Old-established PRACTICE. Gross receipts £1,500. Panel 1,850. Vendor will accept £2,200 for quick sale.—Address, No. 1811, B.M.A. House, Tavistock Square, W.C.1.

Scotland, within 25 miles of Edinburgh. Receipts approximately £800; panel 745. Superior house for sale. Moderate premium to prompt purchaser. — Apply, Box 254, ROBERTSON & SCOTT, Edinburgh.

South Coast.—Seaside Town.— [illegible]

T[illegible] without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar [illegible]

V[illegible] SURGERY, very old-estab. Income £540, appts. (extra) £81. No panel, midwy., or night work. Premises with good accom., bathroom. Lease. Rent £55. Price £750. [illegible] NEEDES, 31, B

£460 for [illegible] costing £1,460 and Nucleus now making rate of £360 per annum. Adjoining new shopping centre in rapidly growing good middle-class district.—Address, No. 2034, B.M.A. House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.),

Surveyors, Auctioneers, and Estate Agents, [illegible]

SPECIAL HOUSES

in Harley [illegible] Positions

A[illegible]

[illegible] ...ern det., bath., 3 recep., grounds, garage. Freehold £3,500. Vacant.—EDMANN, STREET & BRIDGE, Auctioneers, *Acton*. 'Phone, Chiswick 4871.

Consulting Rooms to Let.—*Harley Street and District.*—Whole or part-time. Rents £30 to £450. *Lists sent on application.* Rooms wanted in Harley Street district. —ELGOOD & CO., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Consulting Rooms at 12, Seymour Street, W.1 (six doors Portman Sq.). *Doctor or Dentist.* Ground floor, 3 rooms, will be let as a whole or separately. Also basement if desired.—Welbeck 3888.

Furnished Villa on Italian RIVIERA for immediate disposal. Suitable for Medical Man with resident patients. Close to sea and beautiful walks in the hills. Has water supply, electric light, garden, eight bedrooms. *Ten minutes* from railway station. Price, to include furniture, £2,000.—Address, No. 1803, B.M.A. House, Tavistock Sq., W.C.1.

Excellent opening for Medical Practitioner in thickly populated industrial area in Midlands. *For sale, Freehold* HOUSE with surgery, at present occupied by a Doctor. Vacant possession. Price reasonable. No risk.—No. 1838, B.M.A. House, Tavistock Sq., W.C.1.

For Sale. — Modern six-roomed HOUSE, every conven., suitable for Doctor, none 4—6 mile radius, and a £500,000 public institution about to start building within few minutes' walk. Photo and parties. on request.—No. 2031, B.M.A. House, Tavistock Sq., W.C.1.

Glasgow.—Residence, fully furnished, with nursing home accommodation and electro-therapy department in active commun., completely fitted. Introductions. Purchaser trained if *desired. Suit* medical company or resident physician. Income over £1,000 p.a. *Price, including furnishings,* apparatus, drugs, instruments, £1,500.—Add., No. 2014, B.M.A. House, Tavistock Sq., W.C.1.

Glasgow. — Superior Suite of ROOMS (suitable for Doctor, Dentist, or similar profession), most central position in Glasgow. Corner Union Street, Gordon Street. Central heating. Passenger lift. Immediate entry.—*Apply,* PEACOCK & HENRY, C.A., 111, Union Street, Glasgow, *C.1.*

Harley Street.—Suite: Consulting Room and examination room or laboratory, on ground floor; both with h. and c. water, and well lit. £300 per annum.—Add., No. 2035, B.M.A. House, Tavistock Sq., W.C.1.

Nottingham.—New suburb, 1,000 houses, no doctor. FREEHOLD. *Detached.* Large square hall, 2 reception, kitchen, scullery. Large lawn and garden. £1,250. Terms arranged if desired.—ELSTON & Co., 97, Woodborough Road, Nottingham.

Nursing Home. — Surrey. — Mainly Chronics.—Receipts £1,300 p.a. *Expenses* about £15 weekly. Accom. 12 patients. Fees 3½ gns. up. Detached house in 3 acres. Rent £115 p.a. on long lease. Premium for lease, goodwill, and fittings, only £450. Furniture as required. — Apply, No. 528, *c/o* PERCIVAL TURNER, LTD., 4 & 5, Adam Street, Adelphi, Strand, W.C.2.

Scotland.—To Sell or Let, large RESIDENCE, 10 bedrooms, 4 public rooms, bathrooms, kitchen *premises.* Stands in own grounds, 18 miles from Edinburgh. Suitable for Convalescent Home. — Address, No. 2041, B.M.A. House, Tavistock Square, W.C.1.

Super Mansion Flat. — Ground Floor.—Central heating, constant h.w. parquet floors, oak dining room, marble bath room, marble basins, hall, 2 reception, 3 bed rooms, kitchen, 2 w.c.'s, uniform porters £385 inclusive. No premium. — BURDWOOD 25, Weymouth Street, W.1.

Wallington, Surrey.—Bounding Carshalton-on-the-Hill. One mile of densely built area. No Doctor. Chance to make PRACTICE, no premium to pay. Corner HOUSE, newly erected, 3 recep., 4 bed., sun lounge, hall lav., garage. A perfect gem. Freehold £2,475. *Offer of rental considered.* Garden laid out.
COOK, 27, Kingston Road, Leatherhead.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all *purposes.*
Telephone: 3204 MAYFAIR.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality *Materials and to the* Best Possible Style, cost no more than mass production ready made clothes.
The Invaluable Practical *Experience* of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.
JACKET & VEST [illegible]

THE [illegible]	wear
OVERCOATS & SUITS	to measure from £6 6s
SOLID WORSTED SUITS	" £7 7s
DINNER SUITS fr. £8 8s.	DRESS SUITS fr. £10 10s
PLUS FOUR SUITS	from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.	
GOLD MEDAL RIDING BREECHES ...	from £2 2s.
RIDING HABITS fr. £10 10s.	COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"TIE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and *Gentlemen.*
Highest Awards. 12 Gold Medals. Est. over 35 years.

Safety First. — Ernest Grimaldi, [illegible] hundr[illegible] their experi[illegible] car &[illegible] sold [illegible] Specia[illegible] oursel[illegible] [illegible] [illegible] [

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY
TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

Handsome Pair £4 4s. square polished ASH TENNIS STANDARDS, complete with heavy ground plates, powerful fixing screws, and solid brass net-winder. Accept 47/6. Also full regulation size heavy waterproof NET, with steel headline, 17/6. Both perfect new condition, never used. Approval willingly against post-dated cheque.—GILYARD, Darley Street, Bradford.

Morris-Oxford de Luxe, 1929, 4-cyl., 4-door saloon; Triplex; Leather Upholstery; as new; driven only 4,000 miles. £150.—JAQUES, 38, Down View Road, Worthing.

APPOINTMENTS.—Contd.

Administrative County of LONDON.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the undermentioned positions. Salary in each case £350 a year, rising by annual increments of £25 to a maximum of £425 a year, together with board, lodging, and washing. Candidates must have held a Resident appointment in a General Hospital for at least six months. The successful candidates will be required to live in the respective Hospitals.

ST. MARY ABBOT'S HOSPITAL, Marloes Rd., Kensington, W.8. — ASSISTANT MEDICAL OFFICER (woman only). The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent, and, if required, to assist at the Institution or in medical districts under the control of the Hospital. The duties are mainly Medical, with some Maternity work. Marriage terminates contract of service.

ST. MARY, ISLINGTON, HOSPITAL, Highgate Hill, N.19.—ASSISTANT MEDICAL OFFICER. The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent, and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council. Surgical experience is essential. There is no accommodation for a married man or for a woman.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division S.D. 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by April 10th. Canvassing disqualifies. Inquiries for further details as to nature and scope of duties should be addressed to the Medical Superintendents at the respective Hospitals.

MONTAGU H. COX,
Clerk of the London County Council.

St. John's Hospital for Diseases OF THE SKIN, 49, Leicester Square, W.C.2.

Applications for the post of JUNIOR HONORARY MEDICAL REGISTRAR (male or female) are invited to be sent to the undersigned on or before Monday, March 30th. Honorarium £50 per annum.

Applicants must be duly qualified and registered Medical Practitioners. Particulars of the duties can be obtained on application.

LEONARD G. R. TURPIN,
Secretary.

Scunthorpe and District War MEMORIAL HOSPITAL.

Applications are invited for the post of a Second Resident (male) as HOUSE PHYSICIAN, to take up duties as early as possible. Salary at the rate of £150 per annum, with board, residence, and laundry. Candidates, who must possess registered qualifications, should forward applications, stating age, nationality, etc., together with copies of recent testimonials, to—

ARTHUR E. MAW, Secretary.

London Jewish Hospital, Stepney Green, E.1.

(General Hospital—108 Beds.)

The Council of Management invite applications for the appointment of HONORARY ASSISTANT PHYSICIAN, who will be required to make two Out-patient visits weekly. Only one session (Wednesday afternoon) is available at present, but the second will be allotted when occasion arises.

Candidates must possess the degree of M.D. or M.B., obtained by examination at a recognised University, and be Fellows or Members of the Royal College of Physicians of London, or Fellows of the Royal College of Physicians of Edinburgh or Ireland, and shall not be engaged in the practice of Pharmacy or Midwifery.

Candidates must send twenty copies of their application, with copies of three recent testimonials, to the Secretary of the Hospital, on or before Friday, April 17th.

City of Birmingham.

MATERNITY AND CHILD WELFARE DEPARTMENT.

CITY BABIES' HOSPITAL. (85 Beds.)

A JUNIOR RESIDENT MEDICAL OFFICER is required on June 1st for a period of six months. Previous experience as a Resident Medical Officer in a Children's Hospital or in a General Hospital is desirable. Salary at the rate of £100 per annum, with board and laundry.

Apply, giving all particulars of qualifications, age, and experience, to the Medical Officer of Health, Council House, Birmingham, on or before April 11th.

City of Birmingham.

MATERNITY AND CHILD WELFARE DEPARTMENT.

Three Temporary MEDICAL OFFICERS are required from July 3rd to September 30th (approximately), and a Fourth Temporary MEDICAL OFFICER from July 1st to September 2nd. Applications are invited from ladies who have had Obstetrical experience and an appointment in a Children's Hospital. The salary offered is £10 per week.

The appointment cannot be terminated within the period named, except for health reasons.

Applications should be sent on or before April 11th to the Medical Officer of Health, Council House, Birmingham.

Liverpool Stanley Hospital.

Applications are invited for the post of HONORARY SURGEON.

Applications, with qualifications and testimonials, addressed to the President, to be sent on or before Saturday, April 18th.

The canvassing of any member of the Election Committee will disqualify, but candidates are at liberty to send to the members copies of their applications and testimonials.

FRANK WHITE, Hon. Secretary.

Liverpool Stanley Hospital, Stanley Road, LIVERPOOL.

Wanted at once, One Male HOUSE PHYSICIAN and One Male HOUSE SURGEON to commence duty on April 1st. Salary in each case at rate of £100 per annum, with board, laundry, etc. Candidates must be on the *Medical Register*, and submit their applications, with copies of three recent testimonials, addressed to the undersigned.

E. W. OSBORN, Secretary.

Warneford General Hospital, LEAMINGTON SPA.

RESIDENT HOUSE PHYSICIAN required on May 1st. Salary at the rate of £165 per annum, with board, residence, and laundry.

Applications from qualified and registered Practitioners, together with copies of at least three testimonials, should be sent to the undersigned by April 15th.

W. RUSSELL RUDALL,
House Governor & Secretary.

Montagu Hospital, Mexborough.

JUNIOR HOUSE SURGEON (lady) required to commence duty early in April. Commencing salary £100 per annum, with the usual residential allowances. One month's holiday yearly.

The capacity of the Hospital is 84 beds; 10 are reserved for Maternity cases; the remainder are Surgical. Applications, giving full particulars, should be addressed to the undersigned.

DONALD WILSON, Secretary.

St. James's Hospital, Leeds.

Applications are invited from members of the Medical Profession to fill a vacancy in the staff of HOUSE PHYSICIANS and SURGEONS at the above Hospital. Applicants must be fully qualified and registered. The Hospital is one of 1,126 beds, with special departments for Radiology, Pathology, Midwifery, and Diseases of Children. There are, in addition, 320 beds in separate Mental Wards. The staff consists of a Medical Superintendent, a Resident Medical Staff of six, a Pathologist, a Radiologist, and Visiting Physicians and Surgeons. The successful applicant will be required to act as House Physician and Surgeon under the Medical Superintendent and the Visiting Staff, and to perform such other duties as the Medical Superintendent may direct. The term of appointment is limited to one year. Salary £200 per annum, with board, apartments, and attendance.

Applications, particulars of [illegible] together with co[illegible] must be received by me not later than noon on Monday, April 13th, endorsed "House Physician and Surgeon." Selected candidates will receive due notice to attend.

H. FIELDHOUSE,
Public Assistance Officer.
11, South Parade, Leeds.
March 24th, 1931.

Paddington Green Children's HOSPITAL (Incorporated), London, W.2.

HOUSE PHYSICIAN.
HOUSE SURGEON.

These appointments will become vacant on May 1st. Gentlemen (unmarried) are invited to send in their applications, with copies of three testimonials, to the undersigned not later than the first post on Friday, April 10th. Salary of each at the rate of £150 per annum, with board and residence.

Candidates who have held a responsible resident Hospital appointment are preferred. The appointments are for a period of six months.

JAMES A. HAMLIN, Secretary.

City of Salford.

INFECTIOUS DISEASES HOSPITAL.

[illegible] for the post of RESIDENT MEDICAL £200 per annum, plus board, residence, and laundry. The appointment will be for one year. Form of application may be obtained from the Medical Officer of Health, 143, Regent Road, Salford, to whom it must be returned, endorsed "Junior Assistant Resident Medical Officer," not later than April 8th.

H. H. TOMSON, Town Clerk.

The Dewsbury and District GENERAL INFIRMARY.

Applications are invited for the post of SECOND HOUSE SURGEON. Salary £150, with board, residence, and laundry.

Applications, stating age and experience, together with copies of recent testimonials, to be sent to the undersigned before Monday, April 6th. The appointment commences May 1st.

H. G. PRICE,
March 19th, 1931. Secretary-Supt.

Manchester Ear Hospital, Grosvenor Square, All Saints.

The Board invite applications for the post of NON-RESIDENT HOUSE SURGEON (24 beds). Appointment six months. Salary at the rate of £150 per annum, with partial board. Candidates must be duly qualified and registered.

Applications, with copies of four recent testimonials, to be forwarded to Mr. REGINALD S. MILFORD (Hon. Secretary, Manchester Ear Hospital), c/o Mr. W. J. ELLAM, 33, Brazennose St., Manchester, not later than April 10th.

Merthyr General Hospital, MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry.

Applicants must have had experience in administration of Anaesthetics.

Applications, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

Tiverton Hospital, Devon.
(35 Beds.)

Applications are invited for the post of HOUSE SURGEON. Salary £100 per annum, with board, residence, and laundry. Six months' appointment, commencing as early as possible.

Applications, with testimonials, to be sent to the undersigned.

C. H. DEEKS, Hon. Secretary.

Newark General Hospital
(50 Beds).

Wanted, a fully qualified RESIDENT HOUSE SURGEON (male or female), unmarried. Salary £175 per annum, with board, residence, and laundry. Appointment for six or twelve months if mutually desired. Applications, with copy testimonials, to be sent to W. T. CRAMPTON, Secretary, 27, Kirk Gate, Newark, Notts.

Rotherham Hospital.
(130 Beds.)

The Weekly Board invite applications for the post of HONORARY SURGEON for the Ear, Nose, and Throat Department. Arrangements as to attendance required may be discussed later. Candidates must be Fellows by Examination of the Royal College of Surgeons of England.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital.
(130 Beds.)

The Weekly Board invite applications for the post of HONORARY DENTAL SURGEON in the Out-patients Department. Arrangements as to attendance required may be discussed later.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital.
(130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £120, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Messrs. R. SUMNER & Co., Ltd.,
Manufacturing Chemists,
40, HANOVER ST., LIVERPOOL,

PARTNERSHIP for disposal, North Wales.—Receipts of the whole Practice £2,000 per annum. Number on panel 1,750. Share for disposal one-third.

PRACTICE for disposal, Liverpool. — Receipts £1,178 per annum. Small panel. Old-established.

PRACTICE for disposal, town near Blackburn. Receipts £1,160 per annum. Number on panel 1,500.

DEATH VACANCY PRACTICE, Liverpool. Receipts £500 per annum. Number on panel 250

For further particulars apply to the above.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER." *Telephone*: 6932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.

(Temple Bar 3875.) —— (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr NEEDES' personal attention.

CAVENDISH NURSES (Male and Female)

Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER*: 176, *Oxford Rd*
GLASGOW: 28, *Windsor Terr*
DUBLIN: 23, *Upper Baggot St.*

TELEPHONES:
London, 1277 Welbeck (*Two Lines*).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas

TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER, LTD.
(Established 50 years.)
4 & 5, ADAM ST., STRAND, W.C.2.

Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

Seaside Resort.—N.W. Coast.— Over £2,000 p.a., scope. Panel 600. Very good schools. Medium house, small garden. Scope for surgery. Cottage Hospital.—No. 8824.

Northern 'Varsity City. — Over £1,600 p.a. Panel 1,500. 12/15 midwifery cases. Fees 3/6 to 5/- and up. Good house and garden.—No. 8823.

London, West End. — Electrical PRACTICE. About £1,500. Fees usually 21/- upwards. Premium £2,000, including apparatus, furniture, etc.—No. 8822.

S. W. Country Town. — £1,640 p.a., increasing. Panel over 1,800. Appts. £210. Visits 3/6. Detached house, 6 bed., and garden. Good schools and sport.—No. 8821.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 386. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

London, W. — £450 p.a., ample scope. Vendor retiring. Select panel 300. Fees 5/- to 21/-. Good house, with garden, need not be taken.—No. 8818.

S. Wales.—£850 with scope.— £750 *from panel and contract work.* Convenient house; surgery. Rent 17/6 p.w. Premium £700.—No. 8817.

London, S.E. — Woman's Practice. £550 or more. Panel 148. Fees 3/6 to 21/-. Small flat, with chance of additional accom. Premium £650.—No. 8811.

S. W. Scotland.—Near Coast.— £1,200—£1,500 p.a., increasing. Panel over 600. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

London, S.E., near River. — Over £1,200. Half Partnership with succession in 12 months. 35 years in present hands. Dispensing, industrial. No midwifery. Panel £560. Bachelor could live in. £1,200, £800 down, for half.—No. 8806.

Wales, near Cheshire.—£2,000. *One-third Partnership.* Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 3/6 to 21/-. No dispensing. Small panel.—No. 8799.

West Riding.—£1,030 p.a., increasing. Panel 400. Appts. £45. Fees 3/6 to 10/6 and up. Midy. 5 to 7 gns. Small modern house to rent or on mortgage.—No. 8797.

S. Midland. — Country. — £480 and scope to young man. Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. Premium only £500.—No. 8796.

Yorks.—Death Vacancy.—£1,000 or more Panel 950. Not much midy. Visits 3/6 up. Good house, 5/6 bed., 3 recep., to rent. Prem. £850, part deferred.—No. 8795.

Over £700.—Select Seaside Resort *in North.* Ample scope for increase Small good-class panel. Low prem.—No. 8788.

London Suburb, S.W. — About £1,100. Panel about £150, increasing. Visits 5/- to 10/6. Main road corner house, 6 bedrooms, etc., to rent.—No. 8780.

Favourite South Coast Resort.— Average £2,500. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden, to rent or buy.—No. 8762.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants.

Full particulars on application to Mr. Percival Turner.

Medical Practitioners' Union Agency Limited
56, Russell Square,
LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uffabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.

Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT

The
Medical Insurance Agency
(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls.*) *Telegrams*: "REASIDE, TUBERCLE, WESTRAND, LONDON."

NORTH-WEST COAST.—PARTNERSHIP in old-established good-class non-panel and non-dispensing Practice. Suitable house available. Receipts approx. £3,600. Fees 10/6 up. One-third share, with view to half and possible succession, 1½ years' purchase, cash. Excellent scope for Physician.

ESSEX.—Middle-class General PRACTICE, situated in well populated locality. Receipts over £1,000 p.a. Panel approx. 1,200. Suitable house available. Fees 2/6 up. Excellent scope. Premium £1,500.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approx. £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

KENT.—Within easy reach of London.—Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Premium £1,300. Excellent scope for energetic man.

LONDON, S.E.—Well-established middle and working-class PRACTICE in residential locality. Receipts nearly £1,000. Growing panel of 924. Medium-sized house. Fees 2/6 up. Excellent scope for energetic man. Premium 1½ years' purchase.

BEDFORDSHIRE. — PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

LONDON, E. — SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £30 p.a. Fees 2/- up. Average receipts £516. Panel 550. Excellent scope for young man. Premium for Practice and lease, £1,050 cash or near offer.

LONDON, S. — PARTNERSHIP in growing middle and working-class Practice. Suitable house available. Earnings approximately £6,600. Panel 4,800. Excellent scope. Suitable to young and energetic man having a speciality, preferably Gynaecology. Premium for one-sixth share, with view to one-quarter share, 2 years' purchase.

SUSSEX.—Middle-class Rural PRACTICE situated in charming locality. Medium-sized house, with large garden, to rent or purchase, freehold. Electric light, etc. Receipts approximately £520. Panel 240. Fees 2/6 up. Three appointments. Premium 1½ years' purchase, cash.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for Surgery. Premium third share with view to larger share £1,300.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery, scope. Suitable house available. Premium 1½ years' purchase.

S.W. COAST.—Well-established general PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

LINCOLNSHIRE.—NUCLEUS Country Practice with splendid scope, situated within 2 miles of growing seaside resort. Excellent house (5 beds), garden, garage, etc. Receipts £260. Panel 110. Good schools. Excellent sport. Premium £950 house and Practice.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220, growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £300.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. LONDON, S.E. — Old-established working-class PRACTICE, held 35 years by Vendor, now retiring. Receipts £1,200 p.a., panel 1,250. Rent £60 p.a., long lease. Premium £1,800.
2. Near CAMBERWELL GREEN.—Well-established cash and panel PRACTICE. Receipts last 12 months £1,900, panel 1,100. House, rent to be arranged, lease granted. Premium £3,000.
3. NORFOLK.—Large Town.—Quarter Share of old-established PRACTICE. Total receipts £4,500 p.a. Rooms available for Partner. Premium for share 2 years' purchase.
4. SCOTLAND.—Large Town.—Well established PRACTICE. Receipts £2,000 p.a., panel 1,816. Very good house, rent £78 p.a. Premium 1½ years' purchase, part payable by instalments.
5. EASTERN SUBURB. — Old-established Cash and Panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by instalments.
6. LONDON, S.E. (7 mins. Charing Cross).—Lady Doctor's PRACTICE for sale. Receipts average £550 p.a., panel 150. Nice flat available, rent £60. Premium £600.
7. LONDON, E.—Old-established Cash PRACTICE with small panel. Receipts last year nearly £400. Living accommodation and garage, rent £85. Vendor retiring. Premium £375. Suit Lady Doctor.
8. LONDON, E. (near Liverpool Street).—Mixed-class PRACTICE. Receipts last year £530, [illegible] Premises £75, or near offer.
9. LONDON, S.E.—South Vacancy.—Old-established PRACTICE. Receipts average nearly £[illegible] a year, panel 1,575. Surgery rent [illegible] Premium £3,300.

No charge to purchasers or for enquiries.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency.

71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. NORTHERN UNIVERSITY CITY.—Old-estab. middle-class PRACTICE. Receipts average £1,603 p.a. Panel 1,500, and increasing. Good fees. Nice house, garden, etc.
2. LINCOLNSHIRE. — Well-estab. Unopposed country, working, and middle-class PRACTICE. Receipts average £1,173. Panel 767. Good house to rent, 5 beds., garage, etc.
3. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
4. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
5. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
6. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
7. BERKS (Country Town).—PARTNERSHIP. 2, 5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.
8. LANCASHIRE.—Old-established and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

THE

WESTERN MEDICAL AGENCY

(DR. K. H. BENNETT, DR W. J. PARAMORE.)

PHOENIX CHAMBERS,

22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. [illegible] wn.—Good PRAC[illegible].a. Panel 1,600. [illegible] p.a. Premium 1½ years' purchase.
2. SOUTH WALES. — Large City. — Industrial PRACTICE averaging £600 p.a. Opposition not strong. Good house to buy or rent. Premium £600.
3. CHESHIRE BORDERS.—One-third share of PARTNERSHIP, averaging £2,000 p.a. Pleasant country district. Panel over 1,700. Plenty of scope. Prem. £1,000. Suit young doctor. Purchaser could live with Vendor.
4. SOUTH-WEST WALES.—General PRACTICE, returning £1,000 p.a. Present hands 10 yrs. Seaside and country town. Panel 750. Good house to rent. Prem. 1½ yrs. No collieries.
5. S. DEVON. — Old-established PRACTICE, averaging £2,400 p.a., for sale in favourite town. Panel 1,500, increasing. Large house in grounds, for sale or rent. Seaside. Ideal climate.
6. WEST OF ENGLAND CITY. — PARTNERSHIP.—Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Prem. 1½ years. Choice of resid.
7. [illegible] Y. — One-sixth to [illegible]artnership, over [illegible]or Surgeon. Four [illegible]ome near. Appli[illegible] and be about 30-35. Panel 4,100. Several appts. Good house. Near sea. All sports. Prem. 2 years' pur.
8. WEST OF ENGLAND.—Cathedral Town.—Ear, Nose, and Throat. NUCLEUS £400 p.a. Three Hospital appointments. Accounts audited. Excellent prospects.—Prem. £500.
9. NEAR CHESHIRE BORDERS.—One-third of PARTNERSHIP returning last year £830 net. Mostly panel and contract work. Car not essential. Good house to rent £78 p.a. Good schools, two Hospitals. Premium £950.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

CHESHIRE.—COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

MANCHESTER. — RESIDENTIAL DISTRICT. — PARTNERSHIP in old-established PRACTICE, view succession. Cash receipts £1,800. Panel 1,400. Much scope. House available. Premium 1½ years' purchase.—No. 175.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

MANCHESTER. — PLEASANT RESIDENTIAL SUBURB.—Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purch. Vendor retiring.—No. 246.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE. — Average cash receipts £1,280. Panel 1,350. Local Hospital. House to rent, 2 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 194.

MANCHESTER (near). — PARTNERSHIP in old-estab. Practice. Average cash receipts £1,766 p.a. Appointments and panel about £530. House available, 2 reception, 6 bedrooms. Premium—half share—1½ years' purchase.—No. 224.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistantship. Purchaser could live with Vendor. Premium—one-third share—£1,000.—No. 245.

MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,361 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 65.

NEAR NORTH-EAST COAST. — SEASIDE RESORT. — Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £600 for quick sale.—No. 220.

[illegible] TOWN, largely residential.—[illegible]ge cash receipts £995 p.a. [illegible]luded £100 p.a. Great scope. Excellent detached house (freehold). 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No 234.

LANCS TOWN.—Old-established PRACTICE. Average cash receipts £1,200. Panel 900. Great scope. Excellent house, 2 reception, 4 bedrooms. Garage. Prem. 1½ years' purchase.—No. 178.

YORKSHIRE (W.R.).—PARTNERSHIP in Industrial Practice, £2,500 p.a. Large panel. One-third share offered after preliminary assistantship at £400 p.a., with house rent free.—No. 243.

MANCHESTER. — RESIDENTIAL DISTRICT. — Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium £1,000 (or near offer).—No. 191.

MANCHESTER. — INDUSTRIAL PRACTICE. — Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

LANCS. TOWN.—PRACTICE. Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

LIVERPOOL (Near). — Old-established middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Premium 1½ years' purchase.—No. 209.

MANCHESTER SUBURB. — Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

SOUTH COAST.—SEASIDE RESORT. —PRACTICE. Average cash receipts £745 p.a. Panel 700. Excellent house, 3 reception, 5 bedrooms. Prem. 1½ years' purchase.—No. 197.

NORTH-WEST COAST.—SEASIDE RESORT.—Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 650. Excellent freehold house in good position facing Sea. 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—No. 173.

LINCOLNSHIRE.—COUNTRY PRACTICE Cash receipts 1929, £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium—Practice—£1,600.—No. 195.

CHANNEL ISLANDS.—PRACTICE in beautiful district. Cash receipts last year £425. Excellent house, 2 reception, 3 bedrooms. Garage and large garden. Premium—Practice—£500.—No. 167.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH AND WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7635/7. 'Grams: "Vouch, Belfast.")

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880.)

12, Stratford Place,

Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The **Manchester Medical Agency**, lately under the control and management of the Manchester Medical Committee, has now been taken over by the **British Medical Bureau** as their **Northern Branch.**

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £50. Good Hospital Premium £800

2 DEATH VACANCY. — London, S.W. — PRACTICE between £450 and £500 p.a., close to Victoria. Panel 795. Shop-fronted house, with garage and garden, to rent on lease. Ample scope.

3 S.E. COAST. — Partnership in sound old-established Practice about £5,000 p.a. in popular resort. Panel 1,700. Incoming Partner should be well qualified, aged 30/35, and have held House appointments. A 35 per cent. share is for disposal.

4 HOME COUNTIES. — Partnership in steadily increasing Country Town Practice of about £5,000 p.a. Panel over 3,000. Incoming Partner must be well qualified, aged about 30, with Hospital experience. Good Hospital and scope for surgery Premium one-fifth share 1½ years' purchase

5 LONDON, W. — Partnership in Practice over £3,000 p.a. in suburban district. Panel 900. Modern detached corner house (6 bed and dressing rooms), garage and garden, for sale. Great scope. Premium one-half share 2 years' purchase.

6 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc Scope Premium £1,200.

7 BEDFORDSHIRE. — Increasing Country PRACTICE doing about £600 p.a Panel 650. Centrally situated house to rent. Scope for increase. Premium £500 for quick sale

8 STAFFORDSHIRE.—Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

9 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a. in attractive country town on coast. Panel about 500 Suitable house to rent. Hospital Share to suitable man after preliminary Assistantship.

10 PEMBROKESHIRE.—Partnership in mixed Practice over £5,000 p.a. in a country town. Suitable house available. Good Hospital. Partner should hold F.R.C.S. as there is a good deal of surgery to be had Premium one-half share 1½ years purchase.

11 LONDON, N.W. — Nucleus of Practice in residential district. Receipts last year £300. Panel 150, rapidly increasing. Detached corner residence in good position, for sale. Premium £350

12 FAVOURITE HOME COUNTY.—Practice over £400 a year in good residential country town within [illegible] Panel 1,040. Well-situated detached house [illegible] garage and large garden, for sale or [illegible] Premium 2 years' purchase.

13 EAST ANGLIA.—Partnership in Practice over £3,000 p.a. in beautiful country district near the coast. Panel 2,080. Good house (8 bed and dressing rooms), garage, and half acre garden, to rent. Two-fifths or one-half share at 2 years' purchase. Oxford, Cambridge, or London Graduate preferred.

14 MIDDLESEX. — Increasing Practice of £1,600 p.a. in pleasant Town up the Thames. Panel 1,340. Well-situated double-fronted house (6 bed and dressing rooms), garage, and large garden, to rent. Premium 1½ years' purchase.

15 EAST COAST.—Practice of £1,050 p.a. in small attractive seaside resort. Panel 225. Modern detached house (5 bedrooms), garage, and garden, for sale. Excellent sport and educational facilities. Premium 1½ years' purchase.

16 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good-class Practice in charming little residential seaside resort. Suitable house to rent. Share of £800—£900 after preliminary Assistantship. Applicant should be aged 28—35, and preferably a Graduate of Cambridge or Oxford. Cottage Hospital and scope for Surgery if desired.

17 MIDLANDS. — Practice of £3,500 p.a. in clean industrial town amidst beautiful surroundings. Panel 2,500. Large detached house (10 bed and dressing rooms, etc.), garage, and 1½ acres of grounds, for sale. Hospital. Premium £3,500.

18 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

19 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed. and dressing rooms), with garage and garden, to rent. Scope for increase. Premium £2,250.

20 MIDDLESEX. — Partnership in Practice nearly £2,800 p.a. in rapidly growing Industrial Town. Panel over 2,500. Suitable house could be obtained. Cottage Hospital. Great scope. Premium one third share 2 years' purchase.

21 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 2 years' purchase.

22 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less

23 S. COAST. — Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellently situated house (6 bedrooms) in rapidly growing part to rent Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

24 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase Premium £500.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880.)

12, Stratford Place,

Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

25 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. *in growing district.* Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

26 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main throughfare for sale. Scope for panel and midwifery. Premium £1,200.

27 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4 5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

28 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

29 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., *in first-rate* residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate *who must* have held Resident appointments.

30 MIDDLESEX. — Partnership in Practice *nearly* £3,500 p.a. *in* rapidly growing residential town under 20 miles from London. Panel about 1,150. *Semi-detached* corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

31 MIDDLESEX.—Partnership in good residential outlying suburban district. Very attractive detached house (8 bed and dressing rooms) in own grounds, with garage and good garden, to rent. Cottage Hospital. Share worth £1,020 p.a. at 2 years' purchase.

32 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. *in* industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

33 S. AFRICA.—Easily worked non-dispensing PRACTICE in large and important Coastal Town in Cape Province. Receipts last year £1,600. Pleasant house overlooking the sea to rent. Good Hospital, etc. Premium £1,800.

34 ESSEX.—Easily worked Practice in thickly populated outlying suburban district. Receipts about £1,400 p.a., including about £900 from the panel. Good shop-fronted residence to rent. Premium £2,500 cash.

35 SURREY.—Practice averaging £900 p.a. in attractive residential country district. Panel 300. House (6 bedrooms), garden one and a half acres, garage, to rent on lease.

36 S. COAST. — Partnership in Practice between £1,600/£2,000 p.a. in fashionable watering-place. Panel over 900. Partner should be young, with knowledge of *minor* Surgery. Premium one half share 2 years' purchase.

37 LONDON, W. — Middle-class Practice of over £800 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,100.

38 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

39 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

40 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). *Premium £550.*

41 LANCASHIRE. — Increasing Practice in *rapidly growing* district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., for sale. Golf. Premium £1,000.

42 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing *town. Panel over 1,300. Splendidly situated* house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

43 S.W. OF ENGLAND. — Third Partner required in Practice, over £5,600 p.a., in small Industrial Town. Panel 4,100. Suitable house to purchase. Excellent scope for Surgery. One-sixth share at first at 2 years' purchase. Preliminary Assistantship.

44 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in *pleasant outlying* suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

45 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a. at 1½ years' pur.

46 LIVERPOOL.—Middle-class non-dispensing PRACTICE of nearly £1,200 p.a. in residential part. Premium 1½ years' purchase.

47 CHANNEL ISLANDS.—Practice averaging over £1,820 p.a. Good house (6 bedrooms, 4 attics), with large garden, for sale. Excellent climate. Premium 1½ years' purchase or near offer.

48 BERKS. — Small non-dispensing Practice averaging £275 p.a. in *favourite* town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

49 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwifery. SIX-roomed house to rent. Premium £800, to include drugs, etc.

50 ESSEX.—Practice averaging £370 p.a. in well-populated outlying suburban district. Panel 225. Double-fronted house (4 bedrooms), with nice garden, for sale. Good scope for young energetic man. Premium £450.

51 S. OF ENGLAND. — Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one-fourth share, £1,750. Preliminary Assistantship.

52 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

53 S. MIDLANDS.—*Practice averaging* over £1,200 p.a in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

54 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice in residential town and Health Resort. Panel 800. After preliminary Assistantship, share gradually increasing to one-half (worth about £1,600 p.a.) at 2 yrs.' purchase.

55 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

56 S.W. OF ENGLAND.—Practice averaging [illegible] p.a. in Seaport Town. Panel over 2,000. House, with 5 [illegible]drooms, for sale. Premium £2,100.

[illegible]E OF MAN.—Non-dispensing Practice [illegible] Seaside Town. Receipts average £946 (including £350 [illegible]ei). Nice compact house (5 bedrooms), *with garden,* for [illegible]ale. Premium £1,200, or offer.

*MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSH[illegible]*IPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. ST OREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. WEST OF ENGLAND.—Pleasant Market Town within 150 miles of London, and close to the sea.—Old-established PRACTICE averaging nearly £1,650 p.a., including panel of 1,800 and appts. over £200. Very good house in its own grounds, with ample accommodation. Price £2,500. Premium 1½ years' purchase. Sport of all kinds, and educational facilities.
2. FAVOURITE SOUTH COAST TOWN.—Good mixed-class PRACTICE, producing for the last 12 months £2,840, including panel of 1,500. Visits from 3/6 to 5 gns. Not much midwifery from 2 to 10 gns. Nice house, with all modern conveniences, containing 3 reception, 5 bedrooms, etc. Garden. Garage. Price £2,400, or might be leased. Premium 1½ years' purchase.
3. LONDON, E.C. (near Holborn Circus).—Old-established mainly working-class PRACTICE, averaging over £700 p.a. (last year £750), including recently started panel of 360. Fees from 2/-. No midwifery. Six-roomed house, with good professional accommodation. Rent on lease £95 p.a. Premium £1,000.
4. LONDON, EAST.—Well-established mixed-class PRACTICE, averaging about £1,150 p.a., including panel of 1,400. Small house, with 1 reception, 2 bedrooms, etc., and 3 professional rooms. Rent on lease £13 per quarter. Premium £2,000.
5. SURREY.—Favourite residential district within easy reach of London. —Mixed-class PRACTICE, averaging £900 p.a. (last year £997), including panel of 300. Good fees. Nice house, with 3 reception, 6 bedrooms, etc. Separate entrance to professional rooms. Garden, with tennis court. Can be rented on lease. Premium £1,600.
6. EASTERN COUNTIES.—About 50 miles from London and within 10 miles of County Town.—Old-established PRACTICE in pretty country district, producing last year over £800, including appt. £60 and panel of 600. House with ample accommodation (bathroom h. and c.). Garden. Garage. Electric light. Gas. Rent £52 p.a., or freehold can be bought. Premium 1½ years' purchase.
7. LONDON, NORTH. — Old-established sound middle-class PRACTICE, producing for last 12 months £1,400. Panel of nearly 900. Fees 2/6 to 10 6. Not much midwifery. Nice house, with 2 reception, 3 bedrooms, and professional rooms. Garden. Rent on lease £65 p.a. Premium £2,100.
8. HOME COUNTY.—Unopposed Country PRACTICE, producing about £500 to £600 p.a., including panel of 650. Good-sized house on main road, with 2 reception, 3 bedrooms, etc., and professional rooms. Rent on lease £52 p.a. Good sport and schools within reach. Premium £500, or near offer for quick sale.
9. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.
10. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium 1½ years' purchase. Ill-health reason of sale.
11. PARTNERSHIP.—In a most desirable outlying residential suburb of London a suitable Partner (experienced, used to good-class society, well-qualified, 30 to 40 years of age, and married) can acquire the fourth or fifth share (to commence) in an old-established Practice averaging over £10,500 p.a., including valuable appts. Good house with ample accommodation, garden. Premium 2 years' purchase. Personal application desired if possible.
12. WEST MIDLANDS.—Easily worked PRACTICE in residential village within easy reach of two good towns, and having very pretty surrounding country. Receipts average over £1,000 p.a., including panel of 500 and an appt. worth £150. Nice house with good garden and land of about 2 acres. Price for freehold £1,600. Fishing, hunting, etc. Premium 1½ years' purchase.
13. SURREY.—Increasing residential district, with good train service to [illegible]. Well-established good general PRACTICE, offering Surgical [illegible]. Present cash receipts for last 12 months nearly £3,200, with [illegible] about 900. Visits 5/- to 21/-. Suitable house, with 3 recep[illegible] bedrooms, etc. Can be bought or rented on lease. Premium [illegible] years' purchase.
14. YORKS. LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,300 p.a., including panel of 1,400 [illegible]. Suitable house with 3 reception, 4 bedrooms, [illegible] garage. Price £1,200 [illegible] rapidly [illegible] sale.
15. [illegible]—LONDON NORTH.—A two-fifths share (to [illegible]) in a well-established non-dispensing Practice [illegible] growing residential suburb. Capital [illegible] Practice [illegible] There is considerable scope for [illegible] within [illegible] Partnership [illegible] unmarried, can [illegible] obtaining suitable house.
16. NORTH OF ENGLAND. — Prosperous Town. — Very sound steadily increasing middle and working-class PRACTICE, offering good scope. Gross cash receipts for last twelve months £3,408, including panel of 2,794. Fees from 3/6. Suitable house with 3 reception, 5 bedrooms, etc. Price £1,600, £1,000 on mortgage. Good sport and schools. Premium 1½ years' purchase. Very suitable for two friends in partnership.
17. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.
18. WITHIN 15 MILES OF LONDON.—Developing neighbourhood.—PARTNERSHIP.—A one-half share is offered in a steadily increasing PRACTICE owing to the retirement of the senior partner. Gross cash receipts for last twelve months £2,696. Panel of over 1,000. Good house with 3 reception, 6 bedrooms, etc. Nice garden. Price £1,400, part on mortgage. Good sport and schools. Premium 2 years' purchase.
19. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.
20. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase, payable by arrangement. Ill-health reason for sale.
21. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.
22. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
23. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
24. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts average about £1,700 p.a., including appt. £70 and panel of over 1,000. Good house, with ample accommodation. Small garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.
25. DEATH VACANCY.—YORKS.—Village PRACTICE near large town. Old-established mixed-class Practice averaging £1,200 p.a., including panel of 950. Fees from 3/6, with medicine extra. Suitable house, with 3 reception, 4 bedrooms, bathroom, etc. Electric light. Small garden. Rent £56 p.a. Premium, part by instalments. Locum in charge.
26. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.
27. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £940 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
28. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,157, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.
29. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.
30. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £859 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,500.

Full Schedule of Terms and conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SAVED BABY'S LIFE!

PORTE'S CAESAREAN OPERATION

In 'The Scottish Nurse' for January 1931 appeared an article by a Scottish State-Registered Nurse describing an exceedingly severe operation—*Porte's Caesarean Section*—which she underwent in Malta at the hands of a well-known surgeon.

Twenty-four hours after the second stage of labour had begun it was discovered that delivery was impossible. The womb had become septic and the Porte Caesarean was performed, the baby being safely extracted.

The condition of the mother was then highly critical, and the baby had to be revived by artificial respiration. For a week after birth she weighed only five pounds. The mother, despite intense pain and weakness, endeavoured to nurse her, but as progress appeared stationary she was put on alternate feeds of Cow & Gate Full Cream Milk Food and Breast.

From then onwards she made rapid progress and at four months the mother weaned her altogether.

Now eight months old, the child is the picture of contentment and happiness and weighs over 17 pounds.

COW & GATE MILK FOOD

has saved more baby lives than any other preparation in the world

Cow & Gate Milkfood

COW & GATE LTD, GUILDFORD SURREY

B.M.J., March 28th, 1931.

EDWENIL:

A POLYVALENT NATURAL ANTIBODY

FOR BACTERIAL INVASIONS OF AN ENDOTOXIC NATURE

in FURUNCULOSIS

Whether there be a single boil or a multiplicity of furuncles, subcutaneous injections of Edwenil will produce a prompt response.

If treated in the early stages, the boil or furuncle disappears without coming to maturity. In more mature lesions the growths quickly come to a head, burst, and there follows a rapid recovery.

The time required for the complete resolving of even an extensive carbuncle is interestingly short.

Similar results have been obtained in long-standing cases of acne, where other forms of treatment, including X-Ray and Ultra-Violet Ray, had failed.

FOR PROMPT RESULTS IN COLDS AND INFLUENZA USE EDWENIL.

Obtainable in 25 c.c. Bottles.

MADE ONLY IN THE LABORATORY OF

E. H. SPICER & CO., LTD.,

WATFORD, HERTS.

Telephones: WATFORD 1784-1785.

Printed by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature.

No. 3665 WITH SUPPLEMENT SATURDAY, APRIL 4, 1931 Price 1/3

"IODOLYSIN"

(TRADE MARK)

A Powerful Fibrolytic Agent

Gives strikingly successful results in many cases of rheumatoid arthritis and allied arthropathies. Also employed with advantage for the removal of all other forms of pathological fibrous tissue.

It is a chemical combination of Iodine and Thiosinamin with these special features:

READY SOLUBILITY IN WATER. WELL TOLERATED. ABSENCE OF LOCAL REACTION ON INJECTION.

"Iodolysin" is supplied in ampoules for hypodermic injection; in capsules for oral administration, or as an ointment or paint for local application.

Free Clinical Sample and Literature on request.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: 3201 Bishopsgate (10 lines) Telegrams: "Greenburys Edo London"

ISSUED WEEKLY]

[COPYRIGHT]

[REGISTERED AS A NEWSPAPER

The **SPECIFIC OVARIAN HORMONE**

which normally controls and activates the menstrual cycle

SISTOMENSIN

standardised physiologically

dysmenorrhœa, menorrhagia, hæmorrhages of puberty and menopause, hypoplasia of the uterus, disturbances subsequent to menopause or oöphorectomy.

Tablets Ampoules

PROKLIMAN

(Sistomensin Compound)

Association of ovarian hormone with therapeutic agents for the prompt relief of the most pronounced troubles of menopause: cardiovascular and nervous troubles, hot flushes, headache, etc.

Tablets

Hydrosoluble Ovarian Substance

AGOMENSIN

causes hyperæmia of the female genital organs. Stimulates the function of the genital glands and menstruation.

Functional amenorrhœa, oligomenorrhœa, sterility, vomiting during pregnancy, etc.

Tablets Ampoules

Clinical Reports on request

Samples on request

THE CLAYTON ANILINE Co Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1

Telephones: Hop. 6954, 6955 Pharmaceutical Department Telegrams: Cibadyes Boroh London

D & G Kalmerid Catgut

The NON-BOILABLE variety is prepared for those desiring a heat sterilized suture possessing the maximum of flexibility.

The BOILABLE variety is prepared for those accustomed to sterilize the exterior of the tubes by boiling or autoclaving.

C. F. THACKRAY • PARK ST., LEEDS • 252 REGENT ST., LONDON, W.1

D & G SUTURES ARE ISSUED FOR USAGE UNDER MINISTRY OF HEALTH LICENCE 032-C

British Medical Journal

APRIL 4, 1931

CONTENTS

ORIGINAL ARTICLES

Empyema Thoracis. By H. Morriston Davies, M.D., M.Ch., F.R.C.S.... 569

The Efficiency of Antiseptics Used in Midwifery. By Lawrence P. Garrod, M.B., M.R.C.P. (With Chart) 572

Thallium Acetate in Treatment of Ringworm of the Scalp. By G. H. Percival, M.B., M.R.C.P.Ed. 575

Peritonitis Due to Perforation of the Bowel by Foreign Bodies. By Arthur Hawkyard, M.D., and George Armitage, Ch.M., F.R.C.S. (Illustrated) 577

The Gonococcal Complement-Fixation Test. By I. N. Orpwood Price, M.R.C.S., L.R.C.P. (With Chart) ... 578

Treatment of Carbolic Acid Poisoning. By O. S. Gibbs, M.B., Ch.B. 581

MEMORANDA

Twelve-year-old Ectopic Pregnancy. By W. Ward Darley, M.R.C.S., L.R.C.P. (Illustrated) 582

Puerperal Inversion of Uterus. By Dudley W. Boswell, M.D. 582

REPORTS OF SOCIETIES

Medical Society of London: Growth in Children 583

Royal Society of Medicine: The Value of Liver in Treatment..... 584

Royal Academy of Medicine in Ireland: Oedema and Nephrosis..... 586

REVIEWS

Acute Intussusception 587
Disorders of the Digestive System 587
Operative Surgery 587
Osteo-arthritis of the Hip 587
"Chill" 588
Treatment by Starvation 588
Notes on Books 589

THE SERVICES

Royal Navy Medical Club..... 605
Auxiliary R.A.M.C. Funds 606

LEADING ARTICLES

Balneotherapy in Rheumatism..... 590
District Nursing in London 590

THE WEEK

Milk-borne Streptococcus Epidemics ... 591
Capital Value of Hospitals 592
A Survey of Relapsing Fever 592
Mental After-care Association 593
Quinine Production in India 593
National Baby Week Council..... 594

GENERAL ARTICLES AND NEWS

Toxic Jaundice. Lumleian Lectures by Sir William Willcox, M.D., F.R.C.P. Abstract of Lectures II and III 595

Sick and Wounded in Warfare. New International Convention 597

The London Hospital Services 597

Preparations and Appliances..... 599

Medical Notes in Parliament: Poisons and Pharmacy Bill 599

Medical News 607

LOCAL NEWS

England and Wales—
Nottingham General Hospital 599
"Nerves" and the Public Health 600
Birmingham General Hospital 600
Birth Control Clinics 600
Health and Cleanliness Council..... 601

Scotland—
Congress of Obstetrics and Gynaecology..... 601
Egyptian Clinical Surgery 601
Mental Deficiency in Scotland 601
Edinburgh Women's Hospitals 602

Ireland—
Milk and Tuberculosis 602
The Sanitation of Enniskillen..... 602
Londonderry Infirmary 602

UNIVERSITIES AND COLLEGES

University of Oxford 603
University of London 605
Victoria University of Manchester 606
University of Leeds..... 606

CORRESPONDENCE

The Canfield Operation for Paranasal Suppuration. By Sir James Dundas-Grant, M.D., F.R.C.S. 603

The Thymus. By Major Greenwood, F.R.C.P., F.R.S. 603

The Prostate in General Practice. By Patrick Watson-Williams, M.D. 603

The Genetic and Racial Aspects of Hormonic Deficiency. By C. J. Bond, F.R.C.S. 604

Vaccine Dosage: a Plea for Uniformity. By Harold Balme, M.D., F.R.C.S.... 604

Security of Tenure in Public Posts. By H. McManus, M.B., Ch.B..... 604

Calcium Metabolism. By G. Arbour Stephens, M.D. 605

Diet and Health. By R. Chalmers, M.D., F.R.C.S.Ed. 605

OBITUARY

John Binford Barnett, F.R.C.S. 605
William Ireland Donaldson, M.D. 606
A. Hopewell-Smith, M.R.C.S., L.D.S. .. 606

LETTERS AND ANSWERS

Sensitiveness to Sunshine 610
Income Tax 610
The Psychiatric Out-Patient Clinic 610
An Unusual Mental Abnormality..... 610
Cornu Cutaneum 610
Painless Labour 610
Vacancies 610

(*See also page* 107 *of* Supplement)

The Supplement contains:

Current Notes:
Poisons and Pharmacy Bill.
Medical Benefit in Northern Ireland.
Investigation of Prescribing.
Range of Service.

Correspondence:
The Rural Practitioner.
Unnecessary Reference to Regional Medical Officers.
Disqualifications from House of Commons and County Councils.

Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. President: Sir HERBERT WATERHOUSE, F.R.C.S. Entrance Fee, 10/-.

No entrance fee to those joining within 12 months of registration. Assets exceed £55,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Churchill, J. & A.
Kerley, P.—Radiology 3
Lee's Microtomist's Vade-Mecum .. 3
Littlejohn's Forensic Medicine. 3
Lucas' Med. Practice of Pediatrics 3
Massey's Pract. Electrotherapeutics 3
Mennell, J.—
Backache 3
Neo 3
Panton & Marrack's Clin. Lectures 3
Parry's: Some Famous Med. Trials 3
Q. Charlotte's Pract. of Obstetrics 3
Taylor's Medicine. 3

Lewis, H. K. & Co. Ltd.
Easter Holidays 3
Elliot, R. H.—
Couching for Cataract. 3
Glaucoma 3

Oxford Medical Publications
Elliot, R. H.—
A Treatise on Glaucoma 3
The Care of the Eyes 3
Tropical Ophthalmology..... 3

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 49

ASSURANCE COMPANIES—
Century Insurance Company 53

BANKS—
Barclays Bank Ltd. 54
Westminster Bank 39

BRASS NAME PLATES, &c.—
Cooke's Name Plates 38
Ford's Name Plates 38
Hord, S. J. & A.—Name Plates 39
Lewis & Co. Ltd.—Name Plates 38
Osborne, F. & Co.—Name Plates..... 37

BATHS, SPAS, &c.—
..... 44
..... 44
..... 38
Wiesbaden. 45
..... 44

SURGICAL APPLIANCES—
Campsiette Ltd.—Camp Supports 35
Curtis & Son Supports 32
Davis & Geck Sutures ..... Cover ii
Dent's 'Ardente' Stethoscope 38
..... 37
..... 35
..... 37
..... 18
..... 18
..... 18
..... 51
..... 36
..... 3
..... 8
..... 7
..... 35
Tycos Sphygmomanometers
Spencer Corsets, Ltd.—Corsets 5

FOOD PREPARATIONS—
Benger's Food 36
Cow & Gate Ltd.—Milk Food ..... Cover iii
Fortunum Mason—Jelly 9
Mellin's Food 17
Nestlé's Anglo Swiss Cond. Milk Co
Lactogen 33
Valentine's Meat Juice 11

HOSPITAL, &c., FURNITURE—
Buck & Sons Operation Tables 33
Lawson Tait Bedsteads 37

MOTOR CARS, TYRES, &c.—
Crooks New Sprayed Motor Mud 37
Lucas Sparking Plugs 37
Second-hand Motor Cars 41

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Azoule' Solution A.B.A.... 8
'Iodolysin' ..... Cover i
American Apothecaries Co.—
'Salvitae' 18
Armour & Co.—Glandoid Products, 21
Boots Pure Drug Co. 15, 16
..... 9
..... 14
..... 13
..... 19
Preparations 29
Carnrick, G. W., Co.— Hormotone ..... Cover iv
Clayton Aniline Co., Ltd.— Preparations ..... Cover ii
..... 15
..... 30
Collosol Argentum 22
Evans Sons Lescher & Webb Ltd.— Ephregel. 27
Fox's Glacier Mints. 38
Gibbs Dentifrice 17
Hough, Hoseason & Co., Ltd.— Formasal & Arthritone 12
..... 9
..... 8
..... 9
..... 28
..... 13
Stellulin 10
May & Baker, Ltd.—'Neptal' 17
Midgley, Ltd.—Mediseap Therapy 12
Mond & Staffordshire Refining Co.— Mersol 19
..... 16
..... 13
..... 10
Petrolagar 24
..... 10
..... 20
Sandoz Chemical Works— Felamine 31
Schering Ltd.—'Neotropin' 8
Wander, Ltd.—'Cristolax' 13
Wyleys Ltd.— Elixir Iodo-Creosoti Co. 20

DEBT COLLECTION—
Brit. Med. Protection Society 31

PRINTING & STATIONERY—
Carlyle, G.—Duplicate Books. 39
Taylor's Typewriters 33

TAILORING & UNDERCLOTHING—
Entieknapp & Grimes—Tailors 6
Hall H.—Medical Service Dress 51
Two Steeples Ltd.—Wool Socks ... 26

TOBACCO & CIGARETTES—
Player's No. 3 34

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 50

VACCINES & CULTURE MEDIA—
Genatosan Ltd.—Vaccines, etc. 25
Heinemann, W. Vaccine Lymph 39
Laboratories of Path. & Pub. Hlth. 36

WINES & SPIRITS—
de Kuyper's Holland's 31
Gaymer's Cyder 10

X-RAY & ELECTRO-MEDICAL APPARATUS—
Kodak—'Dupli-Tized' X-Ray Film 6
Medical Supply Association, Ltd.— Electrical Apparatus 32
Victor X-ray Corporation Ltd.— Diathermy Apparatus. 4

INEBRIETY—
Alleyn House, Beverley, E. Yorks 42
Bay Mount, Paignton 42
Cablecote Hall, Nuneaton 40, 42
Dalrymple House, Rickmansworth 42
'Old Hill House,' Chislehurst 42
Ruskbeam Hall, Woodbridge 42

HOSPITAL, &c., VACANCIES—
Aberdeen Royal Hospital 49
Alnwick Infirmary 53
..... 51
..... 48
..... 48
..... 51
..... 48
..... 52
..... 48
..... 49
..... 52
..... 52
..... 53
..... 53
..... 48
Bristol University. 53
..... 47
..... 48
..... 51
..... 52
..... 52
..... 49
..... 51
..... 48
..... 52
..... 43
..... 51
..... 47
..... 52
..... 48
..... 47
..... 52
..... 43
..... 43
..... 43

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 44
Peebles Hydro 44
Rothlin Castle, North Wales 41
Smedley's Hydro, Matlock 45

SCHOOLS, &c.—
Paton—Schools for Boys & Girls ... 46
Taunton School, Taunton 46

MEDICAL SCHOOLS, &c.—
Aberdeen Medical School 45
Cambridge, University 47
City of London Maternity Hospital 45
Colleges of Preceptors 45
..... 1
..... 1
..... 1
..... 1
..... 1
Q. Charlotte's Maternity Hospital 45
St. Mary's Hosp. Med. School, W.2 45
Salvation Army, Mothers' Hospital 45
West London Hospital 46

MINERAL WATERS—
Rubinat Lloreach 36

HOMES & ASYLUMS—
Ballbrook House, Bath 40
..... 39
..... 42
..... 39
..... 39
..... 41
..... 43
..... 45
Coppice, Nottingham 43
..... 42
..... 39
..... 45
..... 42
..... 39
..... 39
..... 39
..... 41
..... 39
..... 41
..... 41
..... 41
..... 45
..... 43
..... 39
..... 43
..... 41
..... 140
..... 43
..... 37
..... 142
..... 41
Wye House, Burton 39

SANATORIA—
..... 44
..... 43
..... 44
..... 43
..... 44
..... 43
..... 43
..... 44

TUTORS & LECTURERS—
..... 45
..... 45
..... 45
..... 45
..... 45
..... 45
Society of Apothecaries 45
Stammering—Miss E. Bohnke 45
Stammering—Mr. E. J. Miall 45
University Exam. Postal Institution 45

TRANSFER AGENTS—
..... 58
..... 56, 57
..... 54
..... 54
Med. Practitioners' Union Agency 54
Needes, H. 51
Peacock & Hadley, Ltd. 50, 54
The Medical Agency 50, 51
Turner, P., Ltd 54
Western Medical Agency, Bristol... 54

ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant... 50
Dispensers, Medical Posts, &c. ... 50
Locums Wanted and Vacant 51
Partnerships Wanted and Vacant ... 50, 51
Practices Wanted and Vacant.... 50, 51

NURSING INSTITUTES—
Cavendish Nurses 53
New Mental Nurses Co-operation ... 53
Nurses' Association 53

MISCELLANEOUS—
Beit Memorial Fellowships..... 45
Consulting Rooms, &c., to Let..... 51
Income Tax Consultant—Hardy ... 51
Income Tax Consultant—Kilner... 51
Medical Defence Union. 51
Miscellaneous Sales &c. 51
Union-Castle Line—South Africa .. 35
United Water Softener-Ltd.— 'Permutit' 35

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

J. & A. CHURCHILL

TAYLOR'S MEDICINE

By E. P. POULTON, M.D., F.R.C.P., and G. PUTNAM SYMONDS, M.D., F.R.C.P., H. W. BARBER, M.B., F.R.C.P., R. D. GILLESPIE, M.D.

TWENTY-FIVE SHILLINGS

FOURTEENTH EDITION. 64 Plates (12 Coloured) and 103 Text-figures. Postage 1s.

"The many illustrations serve to make the book very interesting, and were what first drew us to the former edition, but that is now completely eclipsed by the completeness of those in the volume under review. . . . The price is astonishingly low and gives the pleasurable sensation of having secured a 'bargain' when the book is bought."
—UNIVERSITY OF DURHAM GAZETTE.

9th Edition. 30s. Postage 9d.
LEE'S MICROTOMIST'S VADE-MECUM
Edited by J. BRONTË GATENBY, D.Sc.Lond., F.R.M.S. and E. V. COWDRY, M.A., Ph.D.

126 Illustrations. 30s. Postage 1s.
LUCAS'S MODERN PRACTICE OF PEDIATRICS

12 Plates, 134 Text-figures. 12s. 6d. Postage 9d.
NEAME & WILLIAMSON-NOBLE'S HANDBOOK OF OPHTHALMOLOGY

2nd Edition. 12 Plates, 51 Text-figures. 15s. Postage 9d.
PANTON & MARRACK'S CLINICAL PATHOLOGY

2nd Edition. 278 Illustrations. 18s. Postage 9d.
QUEEN CHARLOTTE'S PRACTICE OF OBSTETRICS

183 Illustrations. 15s. Postage 9d.
LITTLEJOHN'S FORENSIC MEDICINE

157 Illustrations. 21s. Postage 9d.
MASSEY'S PRACTICAL ELECTROTHERAPEUTICS

10s. 6d. Postage 6d.
PARRY'S: SOME FAMOUS MEDICAL TRIALS

By JAMES MENNELL, M.D., B.C.Cantab.
Medical Officer Physico-Therap. Dept., St. Thomas's Hospital.
48 Illustrations. 10s. 6d. Postage 6d.
BACKACHE

2nd Edition. 167 Illustrations. 21s. Postage 9d.
MASSAGE: ITS PRINCIPLES & PRACTICE

NOW READY. 120 Illustrations. 12s. 6d. Postage 9d.
RECENT ADVANCES IN RADIOLOGY
By PETER KERLEY, M.B., B.Ch. (N.U.I.), D.M.R.E., Assistant Radiologist, Westminster Hospital, and Radiologist, Royal Hospital for Diseases of the Chest.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1.

H. K. LEWIS & CO. LTD., *Medical Publishers and Booksellers.*

Text-Books and Works in Medical, Surgical, and General Science of all Publishers.

Stock of Medical Stationery, Loose Leaf Case Books, Card Index Systems, Filing Cabinets, etc.

Prompt attention to orders and enquiries for Foreign Medical and Scientific Books.

MEDICAL AND SCIENTIFIC CIRCULATING LIBRARY.
Department for SECOND-HAND BOOKS, 140, Gower Street.
Annual Subscription, from One Guinea.
Prospectus on application.

EASTER HOLIDAYS, 1931.
All Departments will be closed APRIL 3rd, 4th, 5th, & 6th.

136, GOWER STREET, LONDON, W.C.1.
Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756 (3 lines).

By Lt.-Col. ROBERT HENRY ELLIOT, M.D., B.S.Lond., F.R.C.S.Eng., I.M.S.(rtd.).

A TREATISE ON GLAUCOMA.
Second Edition. Revised and Enlarged. 1922.
With 215 Illustrations, 30s. net.

TROPICAL OPHTHALMOLOGY
7 Plates and 117 Illus. 31s. 6d. net. Spanish and French Eds., 1922. Full German Abstract.

THE CARE OF EYE CASES
FOR NURSES, PRACTITIONERS & STUDENTS.
With 135 Illustrations. 12s. 6d. net.
Chinese Edition.
THE OXFORD MEDICAL PUBLICATIONS.

GLAUCOMA:
FOR THE GENERAL PRACTITIONER.
With 23 Illustrations. 4s. net.

COUCHING FOR CATARACT.
With 46 Illustrations. 7s. 6d. net.
H. K. LEWIS & CO., LTD.

Greater Comfort for your Patients.

"The Rose Corset-Belt"

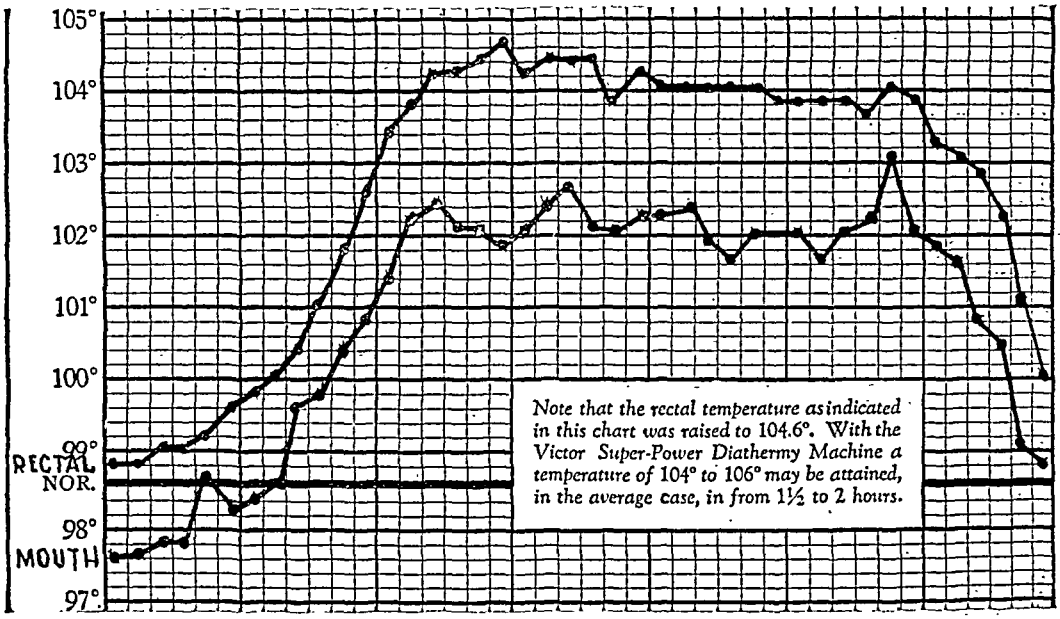
which has set a new standard and proved so effectual in all abdominal cases where support is required. The X-rays have shown the actual uplift.

Each Corset-Belt is cut and fitted to individual requirements, and the patient is kept under observation until every satisfaction is given to both patient and doctor.

I have also invented an improved Colotomy Belt for both male and female patients.

My work is recommended by eminent members of the medical profession, and the following hospitals: St. Bartholomew's Hospital, Metropolitan, Charing Cross, Middlesex, London Temperance.

MADAME ROSE, 97, Mortimer St., Regent St., W.1. LANGHAM 1575.



Therapeutic Fever is Produced *quickly with Diathermy*

THROUGH the courtesy of Dr. C. A. Neyman of the Northwestern University Medical School, we are permitted to reproduce the above chart, as typical of cases in which fever has been produced by means of the diathermy current.

In the treatment of paresis and other forms of afebrile diseases, investigators in this form of therapy have found the use of diathermy to give very gratifying results, offering definite advantages over the method of injection of pathogenic organisms and the attendant uncertainty of their secondary effects. With diathermy the physician has accurate control of the frequency, duration and intensity of the fever.

The Victor Super-Power Diathermy apparatus has a power output considerably greater than that of any other diathermy apparatus, and a refinement of control that assures the most practicable method of application in this form of therapy.

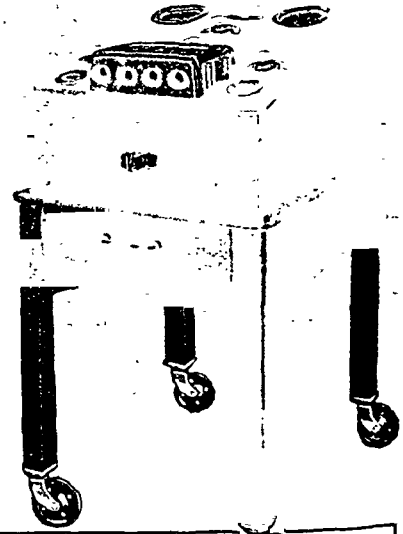
Upon request we will be glad to send reprints of articles pertaining to the production of artificial fever with diathermy, together with description of the Victor Super-Power apparatus.

VICTOR X-RAY CORPORATION LTD.
15-19 CAVENDISH PLACE (Cavendish Square), **LONDON, W.1**

Telephone: LANGHAM 3045—4

VICTOR

Telegrams: "STABILIZER"



The Victor Super-Power Diathermy Apparatus

Will give as much current as any patient can tolerate through the chest and abdomen with the largest sizes electrodes used thus far in this work.

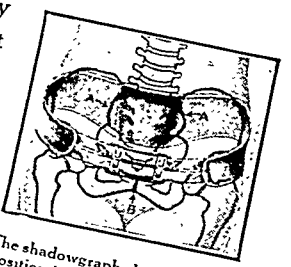
With a control system which permits the selection of both frequency and voltage, the quality of current desired is quickly available. This refinement of control applies throughout the range of the machine. Thus it serves every purpose of diathermy known to medical science up to the present.

For the Relief of Sacro-iliac Relaxation or Strain.

WHEN a sacro-iliac lesion has been caused by heavy lifting, child-birth, bad posture or other conditions, a Spencer Belt relieves the condition by immobilizing the articulations involved.

Fixation of the sacro-iliac joints is achieved by means of a Spencer specially designed belt or corset whose inner band, fitted with a pad, acts as a fulcrum in securing proper adjustment.

The sacro-iliac band which is built inside the corset or belt can be adjusted as tightly as necessary from the outside after the belt or corset is in place. Since the band is built into the Spencer Support, it never rides out of position. It holds the bony structure in position, thus relieving tension or pressure and hastening the return to normal condition. Each Spencer Support is especially designed for the patient who is to wear it. The Spencer Corsetière in your town will call at your Surgery or at your patient's home to take measurements under your supervision. Spencer Supports and Corsets are never sold in shops.



The shadowgraph above shows the position in which the special inner belt is applied to the body. This is not a complete garment worn by itself but a part of a Spencer Sacro-iliac Corset or Belt which holds it in position.

SPENCER
FOUNDATION GARMENTS AND SURGICAL SUPPORTS
REJUVENO PATENTED

Booklets Listed below gladly sent on request.

SPENCER CORSETS, LTD., 94, 96 and 98, Regent Street, Piccadilly Circus, LONDON, W.1.

SPECIAL LONDON SERVICE.

Telephone: Gerrard 0876.

Manufactory: SPENCER HOUSE, Britannia Road, BANBURY, Oxon.

Expert Fitters at your immediate Service.

Please send me your booklet on the use of Spencer Supports for (check the subjects in which you are interested) Hernia, Sacro-iliac Strain, Enteroptosis and Intestinal Stasis, Movable Kidney, Pregnancy and Postpartum Support. We will gladly send you any or all of them.

Name .....

Address .....

Associate Houses: Rock Island, Quebec, Canada; New Haven and New York, U.S.A.

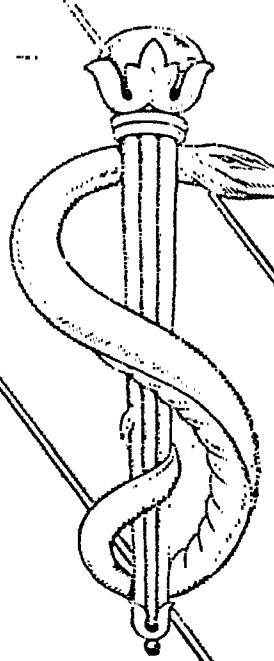
"Eastman
"Diaphax"
X-Ray Film

A matt film of increased sensitivity

Coated with ultra-speed emulsion. No change in development procedure. Has a surface suitable for pencil or pen notes. May be viewed on illuminator or before window. No alteration in price.

Retains all the desirable features of Kodak Emulsion

Kodak Limited, Medical Department,
Kingsway, London, W.C.2

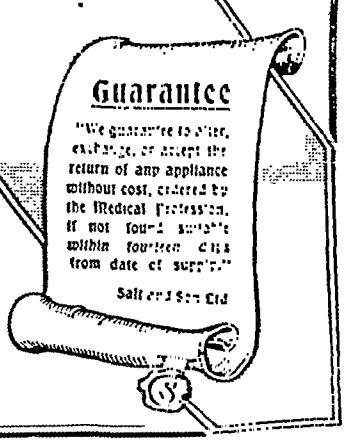


3 Points worth Noting!

Saltair Surgical Service

- We do NOT supply "stock appliances—each individual case is supplied with a special appliance, correct in every detail to the attendant Practitioner's prescription.
- We do NOT approach the Public direct—all our Advertising is directed to the Medical Profession only, and only through them do we supply surgical appliances.
- We DO take all responsibility regarding the correctness of fit and suitability of all Appliances supplied by us, under the terms of our Guarantee.

London Consulting Rooms:
"OAKLEY HOUSE" - 14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.



SALT AND SON LTD.

7, CHERRY STREET, BIRMINGHAM.

'Phone Birmingham - *Midland 5455.*
'Phone London - *Museum 3845.*

"Azoule" Solution A.B.A
TRADE MARK

IN PRURITUS ANI

Accumulating experience confirms the remarkable effect of the new local anæsthetic **'Azoule' Solution A.B.A. in Pruritus Ani and Anal Fissure** (see B.M.J., Aug. 30, 1930). Outstanding features of this product are its prolonged local anæsthetic effect which lasts as long as ten days and its non-toxicity.

Wherever prolonged local anæsthesia is required 'Azoule' Solution A.B.A. is the agent of choice.

Other references: B M J, June 15, 1929, p. 1070. B.M.J., June 28, 1930.

'Azoule' Solution A.B.A. is supplied in 2 c.c. ampoules. Boxes of 6 and 12 at 5/6 and 10/-

Descriptive literature on request.

Allen & Hanburys Ltd., London, E.2.

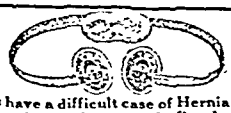
Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.

KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.

Telephone: GLADSTONE 1071 (2 lines). Telegrams: KAYLOIDOL CRICKLE LONDON.



If you have a difficult case of Hernia send your patient to be properly fitted with a SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency. Perfect freedom of movement. The most scientific truss ever devised.

SALMON ODY LTD.
Highly recommended by the Medical Profession
7, NEW OXFORD STREET, LONDON, W.C.1
Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS

The best Medical authorities are agreed that rigid plates are injurious and are prescribing these supports for foot troubles—tired, aching feet, weak insteps, or rheumatic pains, 15/6 per pair. Metatarsal 18/6 per pair. State size of footwear when ordering.

Estab. 120 years.

'Neotropin'

Internal Disinfectant and Bactericide.

"The Microscope proves its efficacy."

SCHERING LTD., 3, Lloyd's Avenue, London, E.C.3.

GRAPE FRUIT
CALVES' FEET
JELLY

Freshly made by our Chef 3/- a bottle, post free

Dainties for Invalids from

FORTNUM & MASON

182, Piccadilly, W.1 Regent 8040

ORAL SEPSIS.

"EUMENTHOL JUJUBES" (HUDSON)

Made in Australia.

HARMFUL THROAT TABLETS. Throat Tablets and Lozenges containing Formalin (Formaldehyde) are harmful. Wiley, of the United States, investigated the effects of small doses of Formalin (Formaldehyde) given with milk, on 12 men during 15 days. Burning in the throat, itching, rash, and loss of body weight were observed.—*Vide* Martindale. All countries which have made legal enactments and laws regarding the purity of its food supply have prohibited the addition of Formaldehyde (Forma[illegible] of food. HUDSO[illegible] contain no Formali[illegible]d or poisonous dru[illegible]

FREE [illegible] *to Physicians on receipt of professional card by* F. NEWBERY & SONS, Ltd., 31-33, Banner St., London, E.C.1. DUNCAN FLOCKHART & Co., Agents, Edinburgh, Scotland.

Manufactured by
G. INGLIS HUDSON, Chemist, for
HUDSON'S EUMENTHOL CHEMICAL CO., LTD.,
Manufacturing Chemists, 31, BAY STREET, SYDNEY, AUSTRALIA.
Distillers of Eucalyptus Oil Rectified by Steam Distillation.
Manufacturers of Pure Eucalyptol (Cineol).

KEROL CAPSULES

COMBATS RHEUMATISM BY BANISHING AUTO-INTOXICATION

The prevalence of such maladies as rheumatism, lumbago and neuritis is now generally recognised as being, in many cases, directly attributable to auto-intoxication arising from constipation. Sal Hepatica is a proved, medicinal, effervescent saline which stimulates the bowels to peristaltic action ensuring the elimination of all toxic waste products. Its sodium phosphate content increases the secretion of bile, thus restoring the daily habit of defecation by natural means. Unlike many other laxatives therefore increasing dosage is unnecessary. Sal Hepatica does not cause depression, griping or weakness.

Sal Hepatica contains sodium sulphate, sodium phosphate, sodium chloride and lithia citrate in an effervescent medium.

Samples for clinical trial will be forwarded on request to duly qualified members of the medical profession on application to Bristol Myers Company.

Sal Hepatica

the proved, medicinal, saline laxative & cholagogue.

BRISTOL-MYERS COMPANY, 112, CHEAPSIDE, LONDON, E.C.2.

PEAT HEALS!

"I would be glad of a further trial sample of your Soaps and Ointments."

"I use Sphagnol largely, especially for Dermatitis and Prurigo—with great results."

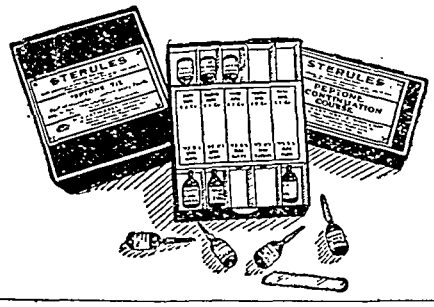
Signed . . . . . M.D.

Sphagnol

APPROVED PEAT OINTMENT

FOR FREE SAMPLE

WRITE TO PEAT PRODUCTS (SPHAGNOL) LIMITED (DEPT. B48), 21, BUSH LANE, LONDON, E.C.4



PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic œdema, cyclic vomiting, periodic diarrhœa, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Leaflet on application.

W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON."

Telephone Nos.: LANGHAM 2440 and 2441.

DISMENOL for instantaneous relief of pain in DYSMENORRHOEA

In spasmodic Dysmenorrhoea the primary call is for the elimination of pain, and the physician has a valuable weapon in Dismenol Tablets, which are entirely *free from narcotics.* This product is a sure and safe sedative in all cases of Dysmenorrhoea, possessing anti-spasmodic properties of a remarkable kind. A feeling of general well-being is substituted for the state of lassitude in the patient.

Please write for samples and literature (also formula) to—

ROBERTS & Co., 76, NEW BOND STREET, LONDON, W.1.

Pharmaciens to H.M. the King.

BY APPOINTMENT To H.M. The KING

Gaymer's CYDER

GAYMER'S WAS FIRST SHOWN AT THE BRITISH MEDICAL ASSOCIATION EXHIBITION OF 1898.

FREE SAMPLES WILL BE SENT ON RECEIPT OF PROFESSIONAL CARD QUOTING B.M.J.

WM. GAYMER & SON, LTD., ATTLEBOROUGH, NORFOLK.

MALNUTRITION and MARASMUS

Mellin's Food when given in conjunction with cow's milk and water produces an immediate gain in weight in fermentative dyspepsia and in wasting disorders of early infancy. For the prematurely born infant Mellin's Food proves invaluable.

As is well known, sugars exhibit varying tendencies to fermentation in the digestive organs. Milk sugar ferments most rapidly, less rapidly cane sugar, and maltose still more slowly, and the high percentage of dextro-maltose in Mellin's Food accounts for its usefulness in all such cases of malnutrition.

Mellin's Food

The booklet "Modified Milk in Infant Feeding" deals fully with the use of Mellin's Food in cases of malnutrition, and will be gladly sent together with samples to Members of the Medical Profession.

MELLIN'S FOOD LTD., LONDON, S.E.15.

Valentine's Meat-Juice

In cases of **Extreme Exhaustion**, at **Critical Times**, in **Wasting Diseases, Low Forms** of **Fever, Cholera Infantum, Diarrhoea, Dysentery, Influenza, Pneumonia** and **Phthisis**, when other Food fails, **Valentine's Meat-Juice** demonstrates it Power to **Sustain** and **Strengthen.**

Physicians are invited to send for Clinical Reports from Hospitals and General Practitioners in all parts of the world.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 93

What shall I prescribe?

WHEN CONFRONTED WITH A DIFFICULT CASE OF OSTEO OR RHEUMATOID-ARTHRITIS IT IS INDEED COMFORTING TO KNOW THAT QUICK AND LASTING RELIEF CAN BE OBTAINED FROM THE ADMINISTRATION OF ELIX. FORMASAL AND TAB. ARTHRITONE.

THE POPULARITY OF THESE PREPARATIONS IN RHEUMATIC CONDITIONS IS DUE SOLELY TO THE GOOD RESULTS OBTAINED.

PRACTITIONERS HAVE TAKEN THE TROUBLE TO WRITE AND TELL US OF THE WONDERFUL EFFECTS THAT THESE PREPARATIONS HAVE IN CASES WHERE ALL OTHER FORMS OF MEDICATION HAVE BEEN OF NO AVAIL.

ELIXIR FORMASAL
1 PINT 6/3
SMALLER AND LARGER SIZES ISSUED

TAB. ARTHRITONE
250, 8/2
SMALLER AND LARGER SIZES ISSUED

HOUGH, HOSEASON & CO. LTD.
PHARMACEUTICAL SPECIALISTS TO THE MEDICAL PROFESSION - MANCHESTER.

Medisoap

MIDGLEY'S MEDICATED SOAP Regd

The word MEDISOAP is a registered trade-mark indicating the pure soap base made and scientifically medicated by CHARLES MIDGLEY, LTD., according to published formulae. This method of skin medication has been brought into favour by the ease with which applications can be made and the certainty of absorption through regularity of use by the patient.

A PRESCRIBER'S INDEX relative to the comprehensive range of Medisoaps is available to members of the medical profession on application to EVANS' BIOLOGICAL INSTITUTE, RUNCORN.

Medisoap Depots all over the country.

Sole Makers:

ACNE

As an adjuvant in the treatment of this condition there are a number of Medisoap formulae recommended by many practitioners, and patients prefer this treatment to the disfiguring effects of ointments.

MEDISOAP No. 18, containing Naphthol 2½% and Sulphur 10%, used with success in Acne Vulgaris.

MEDISOAP No. 39, containing Ichthamol 5%, Ac. Salicyl 2½%, recommended in Acne Rosacea.

MEDISOAP No. 15, containing Ichthamol 5%, Pix Liquida 5%, is another popular formula.

For further particulars see *"Prescriber's Index."*

CHARLES MIDGLEY, LTD. Medicated Soap Specialists MANCHESTER

Associated with EVANS SONS LESCHER & WEBB, LTD., Liverpool, London, and Dublin.

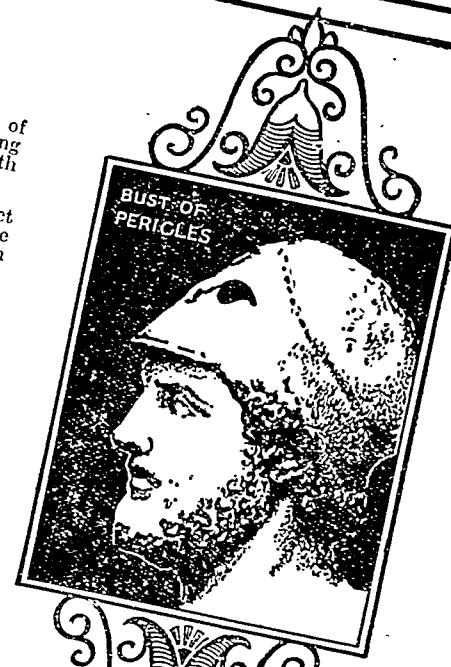
Bowel Inertia

THE Physician is familiar with the patient who complains of headache, loss of appetite, depression, who is not suffering pain but is nevertheless conscious that his or her general health is far below the standard it should be.

Diagnosis often reveals auto-intoxication—the result of habitual constipation. The use of a suitable eliminant is indicated.

"Cristolax" proves exceptionally successful in such cases. It is composed of 50% of the purest medicinal paraffin in combination with 50% "Wander" Dry Malt Extract. The high diastasic quality of the pure malt extract gives material assistance to the digestive process which is often impaired in this condition, whilst the oil content lubricates the intestinal tract, keeps the faeces soft, and ensures their complete expulsion.

A delicious preparation in a clean, convenient dry form for infants, children, and adults.



"CRISTOLAX"
BRAND
MALT EXTRACT WITH PARAFFIN
Lubricant-Laxative-Nutrient-Digestive

A supply for Clinical trial sent free on request.

Of all Pharmacists, in bottles at 3/6 & 2/- each.

M.227. A. WANDER, LTD., 184, QUEEN'S GATE, LONDON, S.W.7.

. . . made to the original formula MARSHALL'S LYSOL

The surgeon whose instruments are sterilised in a dilution of MARSHALL'S Lysol uses them with absolute confidence. The physician who knows his nurses use it in dressings and antiseptic work has an easy mind, where the dread of 'infection' need never intrude.

MARSHALL'S Lysol is made to the original Lysol formula and specification. Every bottle is tested for purity and strength.

Samples will be sent upon request to members of the medical and nursing professions.

Lysol Ltd., Raynes Park, S.W.20

SAFE

Symptomatic relief in 5 minutes

THE symptoms of common cold—congestion, discharge and obstructed breathing—are frequently distressing. From the patient's point of view, they constitute the essence of the annoyance from which he is seeking immediate relief.

Rapidity of action is characteristic of Mistol. Consisting of menthol, camphor, eucalyptol, and chlorbutol in a light oily solution that spreads promptly to all parts of the nasal mucosa, it relieves congestion, reduces discharge and clears the nasal passages within five minutes.

This symptomatic improvement also benefits the pathological state and tends to shorten the duration of the cold. Venous stasis in the mucous membrane is corrected, hyperemia diminished, and over-activity of the secreting glands checked. Repeated instillations of Mistol promote a more rapid return to normal conditions within the nares.

The formula of Mistol is the result of long and careful research, suggested primarily by prescriptions used for many years by leading rhinologists.

Mistol
Reg. Trade Mark
MADE BY THE MAKERS OF NUJOL
Nujol Laboratories:
128 Albert St., Camden Town, N.W.1.

AETHER PURISS. B.D.H.

"I wish to say that I have used your Aether Puriss. under particularly difficult conditions. The patient was enormously fat and was anaesthetised for two and a half hours. For the most part of the time she was in the Trendelenburg position . . . she vomited once only and the induction was very smooth . . . there was no hypersecretion either in the nose or lungs. I think this is *very satisfactory.*"

The "*very satisfactory*" anaesthesia described above is directly attributable to the fact that Aether Puriss. B.D.H. is

"an absolutely pure product"

Sample for clinical trial on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

A.P.116

5% of pure iron (Fe) in readily assimilable form

. . . does not constipate, disturb digestion or discolour teeth

Colloidal Iron Concentrate	83%
Pure Alcohol	6%
Sugar	10%
Flavouring	1%

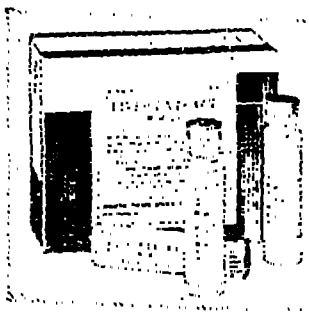
That is the formula of this tonic preparation, which contains a larger percentage of assimilable iron than has hitherto been provided in either a general or colloidal form. A more rapid response may therefore be anticipated from the administration of this preparation, which is very pleasant to take and well tolerated by all patients.
Idozan has no constipating effect, it does not derange the stomach or discolour the teeth. Though incompatible with alkaline salts, it may be combined with Liq. Arsenicalis and vegetable tinctures. It is therefore very suitable for therapeutic administration, where it is desired to give large doses of iron; both as a restorative after illness and in cases of anæmia it can be prescribed either with or without additional drugs with confidence and freedom.

IDOZAN

Samples and literature sent post free on request to Sole Distributing Agents:
MESSRS. COATES & COOPER
41, Great Tower St., London, E.C.3.

IDOZAN HAS BEEN REGULARLY PRESCRIBED BY DOCTORS IN FIFTEEN DIFFERENT COUNTRIES

BOOTS PRODUCTS
Are obtainable through all branches of
BOOTS THE CHEMISTS
(*Special discount to the medical profession*)



LIVER EXTRACT (BOOTS)

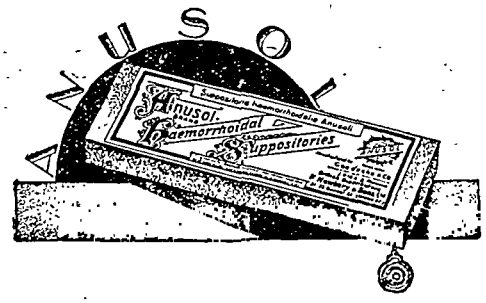
A HIGHLY concentrated EXTRACT OF FRESH LIVER specially prepared for the treatment of PERNICIOUS ANÆMIA. LIVER EXTRACT (BOOTS) is made by a process tested and proved efficient by the Medical Research Council.

—(*See B.M.J. and Lancet, March 10th, 1928*).

SUPPLIED IN VIALS EACH EQUIVALENT TO ½-lb. FRESH LIVER

PRICES: Single Vial, 3/- Box of Ten, 30/-

WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG Co. Ltd.,
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"



Before the operation-and after.

When operation is inevitable for haemorrhoids, before the operation.

Anusol BRAND Haemorrhoidal Suppositories

will serve to keep the inflammation down, relieve pain, control haemorrhage.

After the operation, besides their anodyne effect, Anusol Brand Suppositories exert an antiseptic action and protect the field of operation by their astringent and emollient properties. They promote healing.

A trial of Anusol-Brand Suppositories will prove a satisfying experience. May we send you a liberal trial package?

British Distributors:—
FRANCIS NEWBERY & SONS, Ltd., 31-33, Banner Street, London, E.C.1
Manufactured by GOEDECKE & CO. LEIPZIG (Germany)

Per 1/6 bottle
(Special account to medical profession)

Regesan

CREAM of MAGNESIA with LIQUID PARAFFIN

(CONTAINS 30% LIQUID PARAFFIN)

A STABLE well-balanced combination containing 30% Liquid Paraffin held in suspension in a finely divided state. Its consistency is such that the tendency to leak exhibited by Liquid Paraffin is eliminated. Regesan Cream of Magnesia with Liquid Paraffin provides suitable treatment for all digestive troubles with which constipation and hæmorrhoids are associated. It is certainly the ideal laxative during pregnancy and lactation, and is suitable for infants and children.

FULL-SIZE TRIAL PACKAGE FREE TO MEDICAL PRACTITIONERS IN THE BRITISH ISLES ON APPLICATION TO BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM.

OBTAINABLE FROM

The Boots Chemists

Over 900 Branches In Great Britain.

BOOTS PURE DRUG CO. LTD., NOTTINGHAM.

'NEPTAL'

Trade Mark BRAND

Hydroxymercuripropanolamide
of Orthoacetyloxybenzoic Acid.

A New and Highly Efficient Diuretic.

An organic mercurial agent of great service in nephritis, œdema of cardiac or renal origin, and in pleural or pericardial effusions.

Its chief characteristics are:

Freedom from toxicity in therapeutic doses.
Rapid and prolonged action.
Ease of administration.
The fact that it is well tolerated.

In ampoules of 1 c.c. Boxes of 6 at 2/6

Descriptive literature and clinical trial sample on request.

MAY & BAKER LTD.

BATTERSEA LONDON, S.W.11

Telephone: Battersea, 1813 (6 lines) *Telegrams:* Bismuth, London

Proverbs Up-to-date No 4

GIBBS DENTURE TABLET

Gibbs new Denture Tablet is for cleaning Dental Plates (both gold and vulcanite), Bridgework and artificial teeth. It gives a high polish, removes stains, makes plate or teeth sterile and antiseptic without in any way injuring the softest gold or the finest vulcanite or platinum. The formula has been submitted to and approved by important members of the Medical Profession.

YOU'RE THE DOCTOR

A *Doctor* is one who teaches. A *Physician* is one who, by medical means, so assists the natural tendency towards *cure* that the human body displays in so many cases that ultimate recovery may be looked for. Where *cure* is impossible, as in Dental Caries, the only satisfactory course is *Prevention.*

And that is where Gibbs Dentifrice joins forces with every scientific and up-to-date Doctor and Dentist. It makes a valuable contribution to Preventive Dentistry. By powerful national advertising, and the constant reiteration of a few simple wholesome precepts, Gibbs urge upon the public the vital necessity for absolute cleanliness of the mouth, in preserving the teeth. And in Gibbs Dentifrice is provided the combination of ingredients that leading Medical Authority has prescribed as the most efficient for life-long use.

No extravagant claims are made for Gibbs Dentifrice. Never is it suggested that Gibbs Dentifrice obviates the need for professional advice. In fact, the most frequently recurring phrase in Gibbs Advertising is: "Visit your Dentist twice a year and use Gibbs Dentifrice twice a day."

Gibbs Dentifrice

BRITISH MADE

Literature, propaganda material, cinematograph films, leaflets, etc., as well as samples, are always freely at your disposal. Address: Dental Dept. 4 W X, D. & W. Gibbs Ltd., London, E.1.

"VARIBAN"

Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove. Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc. Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SUPPLIED IN WIDTHS

2"	2½"	3"
1/7	1/9	2/-

— EACH —

When stretched measure six yards (approximately)

SAMPLE 3in. "VARIBAN" Elastic Plaster Bandage SENT POST FREE on receipt of P.O. for 2/3

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.

SAMPLE BANDAGE 1/- Post Free

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

"CELLANBAND"

DESCRIPTIVE LITERATURE AVAILABLE ON REQUEST

"SANOID"

TUBES OF STERILE LIGATURES

Exceptional Flexibility

Tensile strength and smooth surface are prominent features of these Ligatures. They are prepared in accordance with the Therapeutic Substances (Catgut) Regulations, 1930.

PRICE 9/-
PER DOZ. TUBES

LICENCE No. 40.

Sole Manufacturers—
CUXSON, GERRARD & CO. LTD. MANUFACTURING CHEMISTS OLDBURY, BIRMINGHAM.

Distributors to the Medical Profession—
The MEDICAL SUPPLY ASSOCIATION LTD.,
167-185, Gray's Inn Rd., LONDON, W.C.1 10-13, TEVIOT PLACE, EDINBURGH 6-12, Holly St., SHEFFIELD.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to
COATES & COOPER,
41, Gt. Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.
Two sizes, 4/6 and 7/-.

Salvitae

Manufactured by
American Apothecaries Co.,
New York.

Two British Products

for use in

Pernicious Anaemia

Liver Extract B.D.H. is manufactured by a process tested and found efficient by the Medical Research Council; this fact, supported by the results which have been obtained with it in clinical practice during the past three years, has had its effect in establishing Liver Extract B.D.H. in the esteem of the physician as a thoroughly reliable preparation.

LIVER EXTRACT B.D.H.

Gaster Siccata B.D.H., made from fresh stomachs obtained in Great Britain from certified healthy animals, may be regarded as a complementary product with Liver Extract B.D.H.; it is for use particularly in the treatment of those cases which respond more readily to desiccated stomach than to liver. It is practically fat-free and almost tasteless.

GASTER SICCATA B.D.H.

Sample and descriptive literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

LE/GS/20

MONSOL BRAND

Monsol Liquid for dressings, douches, packs, and all sick-room purposes.

Monsol Capsules, keratin-coated, for intestinal disinfection.

Monsol Ointment and *Monsol Throat Pastilles.*

Monsol Dental Cream.

Monsol Medicated Soap.

Monsol Pessaries.

PESSARIES

In response to repeated requests from the Medical Profession, Monsol is now available in the form of Pessaries containing 2½% of Monsol in a glyco-gelatine base. Powerfully germicidal, non-irritant, and possessing all the essential characteristics of Monsol Liquid, they have proved of value in the treatment of both acute and chronic cervicitis and vaginal infections, particularly when of gonorrhoeal origin, and are specially indicated for a chronic infection in pregnancy when douching is undesirable.

Manufacturers:

THE MOND STAFFORDSHIRE REFINING CO., LTD., ABBEY HOUSE, LONDON, S.W.1

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

UTERINE PROLAPSE

THIRD DEGREE WITH LARGE VESICOCELE

Operation: Watkin's interposition; Perineorrhaphy.

Mrs. B. D. F., aged 53.

Anaesthesia: Classical infiltration block, using 45 c.c. of a 0.5 of 1 per cent. Novocain-Adrenaline solution in perineum. A circumferential block about the cervix was made, using 30 c.c. of the same solution. The round ligaments were blocked as soon as they appeared, 4 c.c. of Novocain-Adrenaline solution being used in each case. The classical Watkin's operation was performed. The perineum was then repaired by the split septum method. Anaesthesia was ideal. Patient's pulse was 80 at end of operation, and she had no post-operative nausea, vomiting, or gas pains, and made an uneventful recovery.

—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

WYLEYS LIMITED WHOLESALE DRUGGISTS COVENTRY *Established 1750.*

ELIXIR IODO-CREOSOTI CO.

Two fluid drachms contain Beechwood Creosote 2m., Potassium Iodide 4 gr., Caffeine Sodio-Salicylate 1 gr., with Tinctures of Aspidosperma, Bryony and Cereus.

Palatable and pleasantly flavoured.

Most useful and efficient for the relief of Lobar Pneumonia, Pulmonary Tuberculosis, Broncho-pulmonary Influenza, and Influenzal Laryngitis, particularly for controlling temperature and pleuritic effusion.

Price: 3/- per 8-oz. bottle; 16-oz. 5/6.

FULL LISTS ON APPLICATION.

A List of

GLANOID MEDICINAL PRODUCTS ANIMAL ORIGIN

Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
Catgut
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Ligatures**
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
*Pituitary, W. G.**
*,, Ant. Lobe**
*,, Post. Lobe**
*,, Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
,, Co.
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

*Literature available on request.

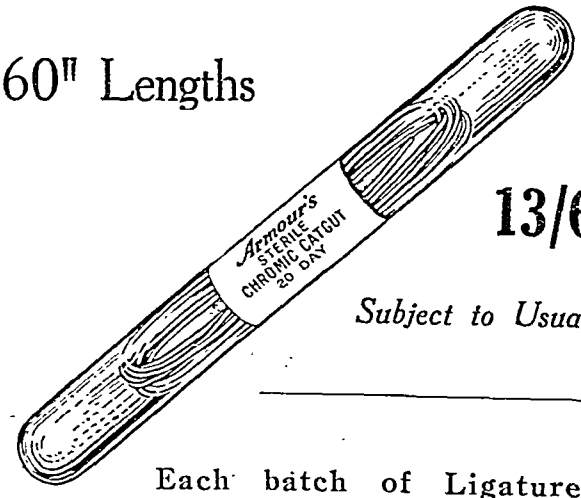
GLANOID BRAND

STERILE CATGUT

LIGATURES

PLAIN and CHROMIC 20-DAY

60" Lengths



13/6 per dozen Tubes.

Subject to Usual Discount.

Each batch of Ligatures is bacteriologically tested, and guaranteed to conform with the requirements of the Ministry of Health.

Full Particulars will be sent to the Medical Profession on request.

Sizes, 0, 00, 000, 1, 2, 3, and 4

LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

COLLOSOL Argentum (CROOKES)

COLLOIDAL METALLIC SILVER

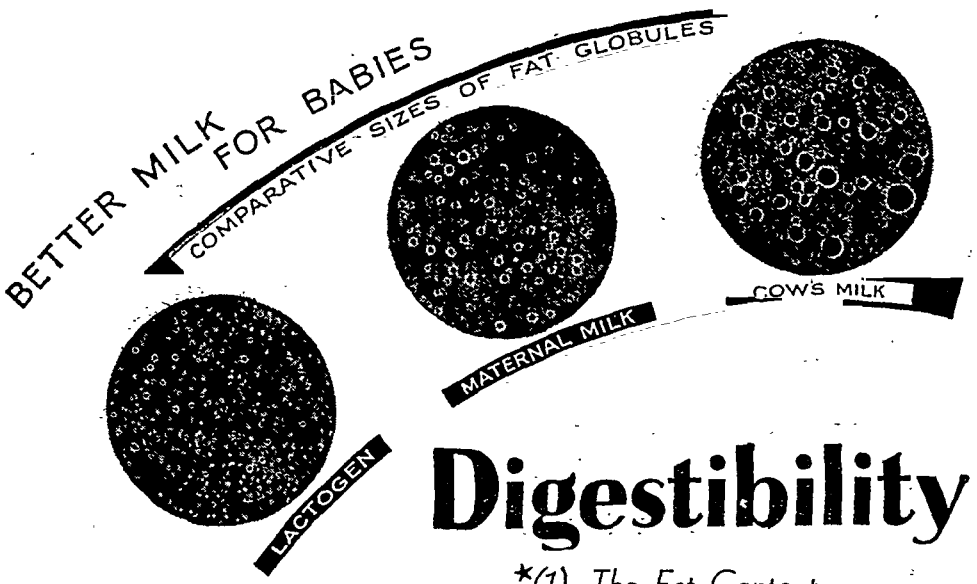
A product of pronounced bactericidal value, free from staining or irritation to most delicate tissues. Indicated in all forms of sepsis, skin diseases, ear, nose and throat troubles, &c. Of particular value in ophthalmic work and used by upwards of 100 County and Borough Medical Officers in midwifery for infants' eyes at birth. The subject of nearly 50 references in authoritative Medical Journals and Textbooks.

The CROOKES LABORATORIES

(BRITISH COLLOIDS LTD.)

22 CHENIES STREET · LONDON, W.C.1.

Telegrams: "Collosols Westcent London." *Telephone:* MUSEUM 3063, 3697, 5757.



Digestibility

*(1) The Fat Content

FACTS ABOUT
LACTOGEN

The ease with which maternal milk can be digested by the infant is partly due to the distribution of the fat as numerous small globules. With an equivalent quantity of fat the globules in cows' milk are many times larger and correspondingly fewer in number. Digestion is thus retarded, since the surface offered to digestive action is considerably diminished. The cream-enriched milk used in the preparation of Lactogen is subjected to a special emulsifying process before drying. This reduces the large fat globules to a state of fine division—increasing by a hundred times the initial surface area. Lactogen, furnishing a fat allowance corresponding to that of the natural diet, can therefore be digested just as easily—even by the most delicate infant.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

Free Samples
with detailed descriptive literature will be sent to any Member of the Medical Profession upon request.

Lactogen Bureau (Dept. Z3)
Nestlé and Anglo-Swiss Condensed Milk Co.,
6 & 8, Eastcheap,
LONDON, E.C.3.

*Next advertisement will deal with (2) The Protein Content.

"LACTOGEN"
REGD. TRADE MARK

BETTER MILK FOR BABIES

THERE IS NO SUBSTITUTE FOR 'PETROLAGAR'

Brand Paraffin Emulsion

Years of research have produced this emulsion of paraffin and agar-agar which occupies a pre-eminent place in the treatment of constipation.

'Petrolagar' is manufactured by a new improved pharmaceutical process, by which specially designed equipment the paraffin is atomised by hydraulic pressure and is held in this minutely divided state by the emulsifying properties of agar-agar.

'Petrolagar' contains the large volume of 65% liquid petrolatum, and is deliciously flavoured and pleasant to take.

Prescribe 'Petrolagar' for constipation and allied intestinal disorders.

PETROLAGAR LABORATORIES LIMITED,
Braydon Road, London, N.16.

VACCINE TREATMENT
OF
GONORRHOEA

In the treatment of Gonorrhoea the use of Vaccines, in conjunction with the usual routine treatment, materially shortens the course of the disease and prevents complications.

DETOXICATED VACCINES are recommended for preference owing to the massive doses which may be administered with little or no reaction, at the same time achieving great immunity, but where price is a consideration "Ordinary" Vaccines are available at very low prices.

For all early cases of Gonorrhoea, also in cases of Gonococcal Arthritis, Orchitis, Iritis, etc., Gonococcal Vaccine "A" is indicated. This is a pure Gonococcal Vaccine prepared from many strains (Polyvalent).

In cases of more than three or four weeks duration Gonococcal Vaccine "B" is recommended. This Vaccine is composed of equal parts of the above Vaccine "A" and the organisms found as secondary invaders in chronic cases.

Practitioners desiring additional information regarding the above Vaccines and also the special Gonococcal Products for Diagnosis and Test of Cure are invited to write to:

THE VACCINE DEPARTMENT:

GENATOSAN LTD.

LOUGHBOROUGH, LEICESTERSHIRE.

Telephone: Loughborough 292 *Telegrams: "Genatosan, Loughborough."*

Milk Intolerance.

For many years Benger's Food, as is well known, has been used by practitioners throughout the world as a routine diet in all gastric cases, debility, and in cases of milk intolerance. The reason for this may be briefly stated:—

Benger's Food is a special wheaten flour preparation containing, in suitable amount, the two natural digestive principles — Amylopsin and Trypsin — in a latent state.

It is devised and expressly intended to be used in conjunction with fresh cows' milk, or diluted milk, if desired.

The two enzymes are in such condition as to exert their digestive powers under the condition which obtains during the preparation for use.

The Amylopsin acts on the carbohydrates (Starch) of the Food and gradually changes it into soluble sugars (Dextrins and Maltose mainly, with a little Dextrose) more or less according to the length of time allowed for digestion.

The Trypsin acts on the gluten of the flour and on the proteins (Casein, etc.) of the milk so that the curd which forms is softened, and as a result it separates in the stomach in fine readily-digestible flocculi instead of large, often indigestible curds. The extent of digestion can be varied; *it is important to note that complete pre-digestion can never take place.*

Benger's Food contains no preservatives. It is palatable and is free from rough irritant particles.

These considerations show that Benger's Food is not merely a mechanical milk modifier — it is a real modifier of a peculiar character.

THE "LANCET"
describes it as "Mr. Benger's admirable preparation."

A Physician's sample will be sent post free to any member of the Medical Profession making application to the Proprietors:—

BENGER'S FOOD, Ltd., Otter Works, MANCHESTER.

NEW YORK (U.S.A.): 90, Beekman Street. SYDNEY (N.S.W.): 350, George Street. CAPE TOWN (S.A.): P.O. Box 575.

Benger's Food, in sealed tins, is on sale throughout the world by Chemists, etc.

M.135

BENGER'S Food

REGD TRADE MARK

(Aesculapius)

EPHREGEL

Nasal Jelly.

A combination of Ephedrine and Adrenalin with suitable analgesics and aromatics in a water-soluble base.

Both Ephedrine and Adrenaline act directly on the vasomotor system, and when applied to a mucous membrane cause a constriction of the capillary blood vessels, thereby blanching the area and consequently reducing the congestion.

In EPHREGEL NASAL JELLY the rapid onset of the adrenalin is usefully supplemented by the prolonged action of the ephedrine, which is further enhanced by the water-soluble base in which the medicaments are incorporated.

EPHREGEL NASAL JELLY is specially suitable for the reduction of congestion of the mucous membrane of the nose, especially in Hay Fever, Rhinitis, and acute colds. It is eminently suitable for the treatment of nasal congestion in children. By its use, breathing space is quickly and comfortably increased in the nasal passages.

Issued in collapsible tubes fitted with a nozzle.

Prepared at Evans' Biological Institute, Runcorn.

EVANS SONS LESCHER & WEBB, LTD

Manufacturers of Fine Chemicals, Pharmaceutical & Biological Products.

LIVERPOOL *56, Hanover Street.* DUBLIN LONDON *50, Bartholomew Close, E.C.1.*

PHYSIOLOGICAL TREATMENT OF CONSTIPATION

COMPOSED OF

EXTRACT OF THE INTESTINAL GLANDS

which strengthens the glandular secretions of the organs.

BILIARY EXTRACT

which regulates the secretion of the bile.

AGAR-AGAR

which rehydrates the contents of the intestines.

LACTIC FERMENTS

which reduce bacterial action in the intestines.

IN TABLET FORM.

ITS USE DOES NOT LEAD TO HABIT

LABORATOIRES LOBICA,

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd., 30, Marsham St., London, S.W.1

Taxolabs, Sowest, London. Victoria 2041.

PIONEERS AND EMPIRE BUILDERS: No. 591
NINTH PERIOD—circa A.D. 300 to c. 1300

Pituitary Extracts

TRADE MARK 'INFUNDIN' BRAND

PITUITARY (POSTERIOR LOBE) EXTRACT

Used to contract the uterus in post-partum hæmorrhage; to raise the blood pressure in surgical shock; to initiate peristalsis in intestinal paresis; in chronic hypotension; and in diabetes insipidus.

TRADE MARK 'HYPOLOID' BRAND 'INFUNDIN' TRADE MARK

(Original Strength
10 International Units per c.c.)
0·5 c.c. and 1 c.c.
Boxes of 6 phials. 4/- *and* 6/- *per box*
(This strength is always sent unless otherwise specified)

Also issued:
(5 International Units per c.c.)
0·5 c.c. and 1 c.c. Boxes of 6 phials
3/3 *and* 4/6 *per box*

TRADE MARK 'NEO-INFUNDIN' BRAND

OXYTOCIC PRINCIPLE OF THE PITUITARY POSTERIOR LOBE
(10 International Units per c.c.)

Has the same indications in labour as 'INFUNDIN,' but the absence of the pressor principle precludes the occurrence of the vasomotor phenomenon known as pituitary shock and also makes 'NEO-INFUNDIN' desirable in obstetrical cases with raised blood-pressure

TRADE MARK 'HYPOLOID' BRAND 'NEO-INFUNDIN' TRADE MARK

0·5 c.c. and 1 c.c. Boxes of 6 hermetically-sealed containers, 5/- *and* 7/6 *per box*

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W. 1
Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

THE CHARACTERS OF THE EARLY TEUTONIC ALPHABET: RUNES INLAID UPON A SCRAMASAX FOUND IN THE THAMES

It is believed that runes were originated by the Goths at that period in their migrations when they were living on the northern shores of the Black Sea—from about A.D. 200. The earliest known inscription goes back to the fourth century A.D. In the Black Sea region the Goths were in contact with Greeks and Romans. It is clear that many of the Runic characters were based upon those of the Greek and Roman alphabets, the modifications having come about in the process of carving them on wood. The Runic alphabet here reproduced is inlaid in brass and silver wire upon a scramasax, or sword-knife, recovered from the river Thames. The word *Rune* originally meant "a mystery," "a secret thing." Runes disappeared from general use in England during the eighth century, being supplanted by the Gothic alphabet evolved by Ulfilas.

DATE: A.D. c. 200–c. 800
The scramasax, A.D. c. 800

COPYRIGHT

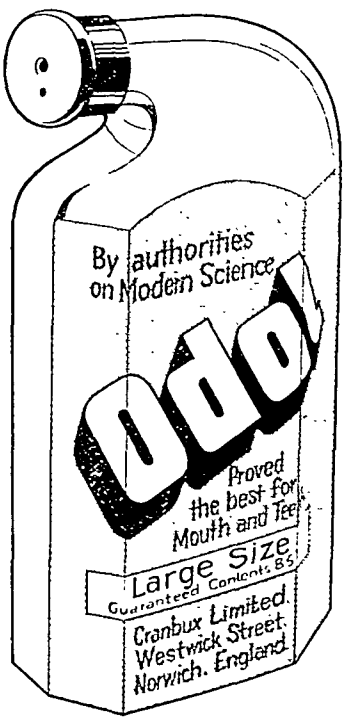
Odol

A STRONGLY ACTING ANTISEPTIC

Anti-Acid, Non-Caustic, Non-Toxic.

"I find ODOL a most agreeable preparation, combining the qualities of an efficient and purifying medium with the penetrating power of a strongly acting but innocuous antiseptic solution, and meeting in this way the greatest desiderata in the hygiene of the mouth."

Signed . . . M.B., Ch.B.
(Didsbury, Manchester.)



ODOL will actually destroy Bacillus Typhosus within 30 seconds if used at a strength of 4%.

Samples and literature will gladly be sent to any member of the Medical profession on application to:

CRANBUX LTD of NORWICH

BRITISH MADE THROUGHOUT.

Remarks
ON
EMPYEMA THORACIS*

BY
H. MORRISTON DAVIES, M.D., M.CH.CANTAB.
F.R.C.S.ENG.
MEDICAL SUPERINTENDENT, VALE OF CLWYD SANATORIUM; CONSULTING SURGEON, UNIVERSITY COLLEGE HOSPITAL, CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, AND KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION

Empyema is of particular interest because, after hundreds of years of relative staguation, progress has at last been made. It is to the work done by Evarts Graham and the other members of the Empyema Commission[1] that we are indebted for the realization of the mistakes of the past, and for the very definite knowledge which constitutes an enormous advance in science and forms the basis of our technique to-day. To Evarts Graham and his colleagues we owe a greatly reduced mortality—a death rate which has been brought down in cases of streptococcal empyema from about 25 per cent. to a little over 4 per cent., and also a large decrease in the number of cases of chronic empyema, which are a very serious trial to the surgeon, a bugbear to the general practitioner, and a curse to the unfortunate patient.

Before the war little attempt was made to distinguish between an empyema caused by a pneumococcus and one caused by a streptococcus. Cases with pus in the chest were grouped into those due to tubercle, which it was generally realized should not be opened, and those due to pneumonia, which must be opened and drained. Operative procedure entailed controversial points of minor importance only, such as rib resection as against intercostal drainage, and vertical incision as against oblique incision. If the patient lived, it was creditable; if he died, it was fate.

It was the appalling mortality in some of the American Army camps during the epidemic of 1917–18, which averaged over 30 per cent. and in some camps was as high as 70 per cent., that led to the setting up of the Empyema Commission at Camp Lee, Va. As a result of the very efficient work of this commission the pathology of the disease, the physiology of open pneumothorax, and, in consequence, the modern line of treatment, were established. The application of the cardinal principles was followed immediately by the reduction of the mortality to 4.3 per cent.

PHYSIOLOGY OF OPEN PNEUMOTHORAX

To appreciate the rationale of modern treatment it is necessary to understand the physiology of open pneumothorax. It is of the first importance to realize the fact that the mediastinum, which seems to be a stout median partition between the two lungs, is not a rigid structure in the healthy chest, and can be regarded as of no greater resistant value than a dividing veil.

Under normal conditions there is a negative pressure, at the height of expiration as well as during inspiration, in both pleural cavities. If an opening is made into one pleural cavity the alterations in pressure in that side are immediately reproduced to an almost similar extent in the opposite side. The negative pressure changes to a positive pressure, except only at the height of inspiration. This positive pressure on the surface of the lung prevents the suction of air down the trachea into the lungs. An attempt is made almost immediately to overcome this difficulty by an increase in the amplitude (not necessarily the rate) of the respirations. The success of this compensation depends on the capacity of the individual to make the exertion and on the size of the opening into the pleural cavity. Failure means death by asphyxia. At the best, if the opening into the pleural cavity is no bigger than that of the glottis, the intrapleural pressures will remain positive during expiration but become negative during inspiration; that is to say, there is compression of *both* lungs during expiration and incomplete expansion during inspiration.

A perfectly healthy individual can withstand for a short space of time a considerably larger opening, compensating for it by a big increase in amplitude of respiration. There are, however, other factors which come into action, greatly increasing the seriousness of the situation. With inspiration and expiration the mediastinum flaps to and fro, causing great cardiac embarrassment; there is stasis of the venous system owing to loss of aspiration by the heart of the venous blood; there is great loss of heat from the exposed pleural cavity, and there is the danger of suction of infection into the pleural cavity.

To pass for a moment from the healthy chest to an extreme case of chronic empyema, quite a different picture is presented. In such a case, not only the lung, but the mediastinum, is so bound down by adhesions that no admission of air by however big an opening can affect the tissues beyond the barrier of thickened pleura: the open pleura has all the characteristics of an extrathoracic cavity. The only considerations in connexion with the opening are sepsis and loss of heat.

NATURE OF THE INFECTION

Once these facts are understood it is possible to consider the problem of empyema. There are, however, certain other factors associated with the nature of the infection which have to be grasped. In all pneumonias there is a very great loss of functionable lung tissue owing partly to the pneumonic consolidation and partly to the effusion. This loss seriously reduces the vital capacity. Vital capacity can be defined as the maximum amount of air which can be expired after a maximum inspiration. A pneumococcal pneumonia differs essentially from a haemolytic streptococcal pneumonia in that the reduction of the vital capacity in the former is very much less than in the latter, as can be seen by the comparative absence of dyspnoea and cyanosis in the pneumococcal type and the seriousness of these symptoms in the streptococcal. In the pneumococcal cases the extent of lung area put out of action is usually localized. In the streptococcal pneumonias it is more widespread: the bronchioles and bronchi are involved, and there is extensive interstitial infiltration, blockage of alveoli, and atelectasis. If, therefore, an individual with healthy lungs and a good vital capacity experiences embarrassment by an opening into the pleural cavity, how much more serious an effect must such an opening have in the case of a patient suffering from pneumonia, and especially if that pneumonia is due to a streptococcal infection—always supposing that the mediastinum is equally mobile in both cases.

Now, there is also a big difference between a pneumococcal and a streptococcal empyema. An empyema due to the pneumococcus is a comparatively late manifestation in the course of the disease. It is therefore termed "meta-pneumonic," because it is rarely diagnosed until the pneumonia has passed the acute stage, when resolution is taking place; by this time the vital capacity is again increasing and the rate of metabolism is diminishing. Moreover, from the onset, the pus is rich in fibrin, forming a deposit on the pleura and fixing the lung and

* A British Medical Association Lecture delivered at Harrogate.

mediastinum. The dangers associated with making an opening into the pleural cavity are therefore *comparatively* small.

A haemolytic streptococcal empyema, on the other hand, is syn-pneumonic. So early does it start in the course of the illness that it is thought it might at times actually precede the interstitial broncho-pneumonic change in the lung. At first the effusion is a thin greenish-brown turbid fluid, and it is not till two or three weeks later that it becomes a frankly purulent effusion, and that efficient adhesions have formed to fix the lung and mediastinum. An opening made, therefore, in the earlier stages exposes the patient to all the dangers of an open pneumothorax, at a time when vital capacity, toxaemia, and increased metabolism make him least able to tolerate it. If, however, this intensely toxic fluid swarming with streptococci is left pent up in the chest, there is the probability that the patient will die from toxaemia, if he does not die first from anoxaemia and heart failure produced by the compression effects of the fluid.

TREATMENT BY ASPIRATION

In aspiration, and preferably in oxygen replacement of the effusion, we have a simple means of removing the fluid from the thorax and, temporarily at any rate, of diminishing the toxaemia and preventing the disasters of excessive compression of the lungs. This should therefore be the first line of treatment in any empyema. It relieves the symptoms and allows time for the investigation of the pus and the identification of the causative organism.

It is most important to recognize from the very beginning that repeated puncture of the chest wall may be necessary. For this reason every care must be taken at the first exploration to cause so little pain or distress that later interventions are tolerated with equanimity. The preliminary puncture serves two purposes: it confirms the presence of pus and it enables a specimen to be obtained for bacteriological examination. The site chosen is the sixth or seventh interspace in the axilla. With a 1 c.cm. syringe and a moderately long but fine hypodermic needle the skin at the selected site is anaesthetized with 1 per cent. novocain. Through the centre of this area, through the intercostal space and the parietal pleura, the needle is driven, the anaesthetic being expressed from the syringe in a steady stream so that the whole track is completely anaesthetized. It is generally quite easy to detect the change in resistance as the needle enters the pleural cavity. Before the needle is withdrawn an attempt is made to aspirate some of the effusion into the syringe; if successful, this sample is saved for bacteriological examination. It is quite possible that the pus may be too thick to enter the needle, in which case the needle is withdrawn and another with a larger bore is fitted to the syringe and pushed through the chest wall along the anaesthetized track. When pus has been found this needle is withdrawn, the centre of the anaesthetized skin is punctured with a fine double-edged tenotome, and a trocar and cannula connected with a Potain's aspirator* is slowly driven into the pleural cavity. A most necessary precaution to ensure the proper working of the apparatus is the production of a negative pressure in the bottle and the testing of the apparatus by aspirating some sterile water immediately before use.

By simple aspiration there is a limit to the amount of fluid that can be withdrawn. The amount varies according to the size of the effusion, the amount of displacement of the intrathoracic organs, the degree to which these are fixed by adhesions, and the expansile capacity of the affected lobe or lung. The onset of cough, of discomfort, or of pain in the chest is an indication that the limit of safe withdrawal of fluid has been reached. If it is exceeded, great distress can be caused to the patient, and there is even the danger of acute oedema of the lungs and death. The whole of a small effusion can be withdrawn without the appearance of symptoms, but if the effusion is large, symptoms may occur when not more than two-thirds has been aspirated; while if there is much thickening of the pleura, discomfort can be experienced when about a half only, or less, has been withdrawn.

It is possible to overcome this disadvantage by replacing the fluid, whenever symptoms of excessive intrapleural negative pressure appear, with air, or, better still, with oxygen. When a Potain's trocar and cannula is used for the aspiration, a fine pneumothorax needle connected with a pneumothorax apparatus is inserted into the pleural cavity through a higher interspace. Through this, air or oxygen can be run in as required. Unless the effusion is very thick I prefer aspirating and replacing through a single needle with a bore of 1 mm. and having two connexions, each controlled by a tap. One connexion is for the Potain's aspirator and the other for the pneumothorax apparatus. This saves the patient having two areas anaesthetized and two punctures. In an emergency, when the Potain's apparatus only is being used, if too high a negative pressure has been produced, the tap can be turned off and the Potain's tube disconnected from the needle. A pad of sterile wool is placed over the outer opening. The tap is then reopened, when, by reason of the intrapleural negative pressure, air will be drawn into the pleural cavity through the wool, which sterilizes it.

The application of this method of treatment has proved sufficient in itself to effect a cure in some cases of pneumococcal empyema.* "There is, moreover, the additional fact that experience has shown that a small proportion of these streptococcus cases will recover merely by aspiration. This number amounted to 13 per cent. of the cases observed by the Empyema Commission."[2] Graham, however, goes on to point out the danger of repeated aspirations owing to the risk of the needle penetrating the lung, when the pleural cavity becomes reduced in size, and causing a lung abscess. Empyema due to the staphylococcus is rare, but serious. It must be treated on the same principle as a streptococcal infection.

In the majority of cases further measures are needed, but an open pneumothorax must not be produced until frank pus is present: even then it is not advisable if there is a chance that the empyema can be cured by some other method which offers fewer possibilities of secondary infection—for example, by siphon or suction drainage through an air-tight opening.

SUCTION DRAINAGE

The principle of suction drainage is the introduction through an intercostal space of a catheter connected with a tube which opens about 10 cm. below the level of an antiseptic fluid in a Woulfe's bottle under the bed. By this means the intrathoracic fluid is carried off as formed, no air can enter the pleural cavity, and a constant intrapleural negative pressure is maintained.

The following is the ideal method of effecting air-tight drainage. The skin and underlying tissues of the seventh

* [illegible] can be used instead of a Potain, if preferred.

* Prior to the great war, following success in the treatment of effusions by replacement by oxygen (*Lancet*, 1912, ii, 1774), I tried this method in pneumococcal empyemata. The cases were then too few in number and the results too inconstant to justify more than a private hope.

intercostal space in the posterior axillary line are anaesthetized with novocain as previously described. Before the needle is withdrawn pus is sucked into the syringe to confirm its presence at this point. With a fine-bladed knife a skin incision is made sufficient only to admit a large trocar and cannula, which is driven through the chest wall. The trocar is withdrawn and a catheter, in size sufficient to fit tightly into the cannula (size of outside bore preferably not less than 8 mm.), stretched on a rigid stylet, is passed through the cannula so as to project fully two inches into the pleural cavity. It is advisable, before starting, to mark the catheter at two points—the one three inches from the distal opening, and the other the length of the cannula proximal to the first point. The cannula is now withdrawn and the catheter is left *in situ*, fitting tightly in the wound.

Some arrangement must be made for irrigating the pleural cavity. The ideal method is to insert a second fine tube through the intercostal space immediately above the drainage tube. A gauze pad is then placed round the tubes, and over this a sheet of rubber, which is firmly fixed in place by strapping. During the insertion each tube must be kept closed; the larger is not opened till it has been connected up with the Woulfe's bottle, and the smaller one till connected with the irrigation solution.

As an alternative to the second opening for irrigation, a Y connexion can be inserted in the length of rubber tubing passing from the catheter to the bottle. To the third limb of the Y a short length of tubing is attached. This is kept closed with a clip when not needed for irrigation. A second clip must also be fixed on the rubber tube between the bottle and the Y connexion, so that this can be closed when the irrigating fluid is being run into the pleural cavity.

It is possible to introduce a catheter through an air-tight opening simply with a narrow-bladed knife and a pair of sinus forceps. This should not be attempted except in emergency, as it is not easy, and there is considerable risk of injuring the intercostal vessels unless the knife is kept close along the upper edge of the lower rib of the interspace.

Irrigation is not so much indicated in the early acute phase of the empyema as at the later period, when a deposit of flakes of lymph and fibrin is occurring. Carrel-Dakin's solution is the best, as in addition to its antiseptic action it has a solvent effect on the fibrinous deposit. It soon loses its efficiency in contact with the albuminous content, and must therefore be constantly renewed.

The most recent method advocated is that known as "tidal drainage." For this the catheter is connected by a short length of tubing to a bottle half filled with Dakin's solution, the bottle being placed just below the level of the chest. With each inspiration the solution is drawn into the pleural cavity and expelled with expiration. The solution requires to be changed frequently.

There are two objections to air-tight suction drainage: the tissues gradually lose their close apposition to the tube which excludes the air, but by that time the more serious risks of an open pneumothorax have disappeared, owing to the formation of adhesions. The second objection is that restless or delirious patients, and especially children, may pull the catheter out of the wound at a time when it is still essential to exclude the possibility of exposing the pleural cavity to the air. In treating such patients aspiration is very much safer.

Operative Procedures

By the time the effusion has become really purulent, the pleural membranes are thickened and the lung and mediastinum are immobilized; then, for the first time, the question of open operation can be considered. This, however, does not arise in that small percentage of cases in which aspiration is succeeding in arresting the effusion and obliterating the pleural cavity, nor in the somewhat larger number in which success is attending air-tight drainage. There are many cases, however, which need further treatment, either because aspiration is not a sufficiently continuous method of drainage, or because the catheter in suction drainage is becoming continuously plugged by lymph. The first question to decide is whether open drainage shall be through an intercostal space or by rib resection. Each procedure has its own advantages and disadvantages. The disadvantages of rib resection are that it takes slightly longer and is somewhat more of a strain for a patient who is seriously debilitated. Either operation is done under a local anaesthetic; this means the anaesthetization of two intercostal spaces for the rib resection and of one only for the intercostal incision. After rib resection there is the danger of fragments of bone getting into the pleural cavity and of rib necrosis, causing delay in healing. To prevent the latter the cut ends of the ribs should be plugged with sterile wax before they are exposed to infection. Rib resection does, however, afford adequate drainage, and gives room not only for the drainage tube, but also for an accessory tube alongside for irrigation. Intercostal drainage may not be possible if the ribs are too close together. Occasionally, when the tube fits tightly in the space, necrosis of a rib from pressure of the tube may occur.

The tube must be inserted at such a level that it drains the lowest part of the empyema cavity. This varies according as to whether there is an empyema of the whole cavity or a local one. It is advisable to explore first with a syringe and medium-sized hypodermic needle, after anaesthetization of the track through two or more interspaces, so as to ensure correct location. When the whole pleural cavity is involved the best position is usually through the seventh intercostal space, or by resection of part of the eighth rib in the posterior axillary line. Normally the pleural cavity extends lower than this into the costo-phrenic sulcus, but when an empyema is drained, and even before, this sulcus becomes obliterated by the organization of lymph and cellular deposit, and by the adherence of the lateral part of the diaphragm to the chest wall. If then the costo-phrenic sulcus is traversed by the drainage tube, the subsequent closure of the tissues round the tube leads to inefficient drainage, sinus formation, and irritation of the diaphragm. Cough from such irritation of the diaphragm may also be caused by the pressure of too long a tube inserted at a higher level. The tube, therefore, must not be too long. A projection of two inches within the cavity is ample to prevent its slipping out, if adequately secured. The tube should be of a wide bore, from 1.5 to 2 cm. It is a wise policy to insert a second much finer tube or a No. 10 catheter alongside the tube for purposes of irrigation.

The oblique and vertical incisions through the skin and superficial tissues have their respective advantages and disadvantages. The oblique incision requires less extensive anaesthetization of the tissues. The great objection to it is that if the arm is raised during the operation, when brought back to the side, it will be found that the cutaneous and subcutaneous incision is considerably below the level of the intercostal opening and tends, therefore, to distort the tube. While such a valve-like effect may be advantageous when [illegible] air-tight drainage, it is quite otherwise for open [illegible]. As a general rule the vertical incision through the [illegible] and subcutaneous tissues with an oblique [illegible] the rib or through the intercostal space [illegible]

The value of Carrel-Dakin's solution for irrigation has already been referred to. One of the causes of chronic empyema is the organization of lymph so that it forms a sheath over the lung, preventing its re-expansion. Unless the visceral pleura is sufficiently supple reapposition with the parietal pleura cannot take place. If, on the other hand, the cause of incomplete expansion of the lung is due to fibrotic changes in the lung itself, approximation of the pleural membranes may still be possible owing to displacement of the mediastinum. Dakin's solution, by virtue of its solvent action, can often so free the pathological deposit from the pleura that the lung is again mobilized and capable of re-expansion. This action of Dakin's solution may liberate the plug closing a bronchial fistula, the existence of which was unknown. In such a case the use of the solution must be discontinued on account of the irritating cough it produces, and the risk of inspiration into the lung.

It is sometimes difficult to decide when to remove the drainage tube. A tube left in too long is apt to be responsible for a chronic sinus. This, unless of long standing, will clear up by the simple expedient of taking the tube out. A drainage tube is a source of irritation and therefore of reinfection, and must be removed as early as possible. The indication is the character of the discharge and the re-expansion of the lung as shown by x rays. If the lung is showing itself capable of expanding again, the tube should be omitted as soon as the discharge has ceased to be purulent, and is sterile.

It is essential from start to finish to treat the wound and empyema cavity with every aseptic precaution. A patient discharged from hospital while there is still a cavity or a sinus may, for the want of an additional week or two weeks' rigid supervision and care, be condemned to further operations, or to years of drainage, or even to a premature death from chronic sepsis or cerebral abscess.

DIET AND EXERCISES

The importance of nutrition was indicated by Bell of the Empyema Commission. He found that unless the diet contained a large amount of calories a day (from 3,300 to 3,500), an adverse nitrogen balance was produced, which meant a serious loss of weight. Graham recommends lactose, which is easily disguised by fruit juices, and also the subcutaneous administration of a 2 to 3 per cent. solution of glucose. Water should be given in considerable quantities during the febrile stage.

After the acute phase is over, breathing and blowing exercises should be started to increase the inflation and expansion of the lung so as to aid in the obliteration of the cavity.

CHRONIC EMPYEMA

The causes of chronicity can be divided into two groups—(*a*) cases in which chronic empyema could have been prevented, and (*b*) cases in which healing is very difficult owing to the primary cause or to unavoidable complication. The first group unfortunately is considerably the larger. It includes empyemata either not recognized or not treated until the pleura has become a rigid membrane by organization changes; those in which drainage has been inefficient owing to the opening being too high or too small; those in which reinfection has occurred; those in which irrigation with Dakin's solution has not been done and was necessary to remove the deposited lymph in order to prevent organization or to arrest persistent infection. Finally in this group of preventable cases are those in which the chronic cavity is maintained by the presence of a foreign body, such as a drainage tube, or fragments of rib, or on account of osteomyelitis of the divided rib.

The second group, in which the chronic empyema is due to unavoidable complications, includes those cases with bronchial fistula, with associated fibrosis of the lung, or in which the primary cause was tuberculosis or actinomycosis.

The first line of treatment is directed to rectify, when possible, the original fault. Efficient and dependent drainage must be instituted, preferably by enlarging and extending the original opening, if that is practicable; if not, by making a new opening. Foreign bodies should be looked for and removed. Frequent irrigation with Dakin's solution will help to sterilize the cavity and may even effect a decortication of the pleural surface, separating off the organized lymph. Dakin's solution should not be used, however, if the case is tuberculous, or, as has previously been stated, if there is a bronchial fistula.

It is only when these measures have been given a full trial that the major operative procedures are indicated. The object of these is to mobilize the chest wall by denuding it of the ribs over the affected area, and at the same time mobilizing the lung by decortication—that is, stripping the organized lymph off the lung and pleura. When dealing with a cavity of any size, mobilization of the chest wall alone or of the lung alone is rarely adequate. The operations must be performed in a series of stages, and it is most important that approximation should start at the apex and that apposition should be secured over the upper area before an attempt is made to obliterate the lower segment. In cases of very large empyemata it may be necessary to dissect away the whole of the parietal pleura, together with the periosteum of the ribs and the intercostal muscles.

Bronchial fistulae may clear up spontaneously after free drainage has been instituted. If not, the opening should be cauterized. To obliterate a large chronic fistula the bronchus must be freed, the end cauterized and closed by sutures, and the lung mobilized so as to bring it into apposition with the chest wall.

REFERENCES

[1] Graham, E. A.: *Empyema Thoracis.* Henry Kimpton, London, 1925. Empyema Commission of U.S. Army, Cases of Empyema at Camp Lee, Va., *Journ. Amer. Med. Assoc.*, 1918, lxxi, 866 and 443.

[2] Idem: *Empyema Thoracis*, p. 63.

THE EFFICIENCY OF ANTISEPTICS USED IN MIDWIFERY

BY

LAWRENCE P. GARROD, M.B., M.R.C.P.

LECTURER IN BACTERIOLOGY, ST. BARTHOLOMEW'S HOSPITAL

Early last year it was pointed out in the correspondence columns of the *British Medical Journal*[1] that doubts had been raised of the utility of lysol as an antiseptic for obstetric use. A memorandum circulated by the London County Council, and reissued by the Central Midwives Board, gave particulars of tests which indicated that only comparatively strong solutions of lysol were capable of killing *Streptococcus pyogenes*, and, further, that different brands of lysol varied considerably in their bactericidal potency. It was not unnaturally asked what antiseptic should be substituted for lysol in midwifery, and this question has not until now, so far as I am aware, received an answer, either in the medical press or in the pronouncement of any public health authority. Meanwhile the Central Midwives Board has recommended the continued use of lysol by midwives, provided that it conforms to a certain chemical standard—namely, a 50 per cent. cresol content.

To those familiar with the properties of germicides the use of lysol in obstetrics has always appeared mistaken. It is the most caustic of all antiseptics in clinical use, with the single exception of phenol, and the limitations imposed by this property on the strengths of solutions employable bring them dangerously near a point at which they are ineffective. There is therefore a prima facie case for inquiry into the suitability of other agents, but it may first be asked whether the use of a germicide as such—that is, with an expectation of destroying bacteria—is desirable or useful in midwifery. The ideal of some obstetricians is "asepsis," and they do not apparently believe in the utility of any attempt to destroy bacteria by chemical means; if they use lysol it is for other reasons (though it is to be noted that the vast majority of practitioners regard lysol in the light of a safeguard against infection). Some colour has been lent to this view by the work of Colebrook,[2] who found that none of a number of germicides was capable of sterilizing the skin of hands artificially infected with streptococci.

Assuming that puerperal infection is exogenous, the question at issue is whether treatment of the vulva and vagina with an efficient germicide will or will not destroy streptococci which may gain entry to the birth canal during childbirth. Making every allowance for the difference between conditions *in vitro* and *in vivo*, there is strong presumptive evidence that such an action can be exerted. If chemical prophylaxis is a myth, why do obstetricians themselves instil silver nitrate solution into the conjunctiva to prevent ophthalmia neonatorum? To take an example from the vagina itself, has anyone ever disputed the efficacy of the mercury and silver preparations issued to troops during the war for the prophylaxis of syphilis and gonorrhoea? And, as a third example, who has ever heard of a surgeon during the last forty years opening an abdomen without first attempting to sterilize the skin, again by chemical means? It is a common-sense view that prophylaxis is the really useful sphere of germicides. Their utility in established infections is more doubtful, although they are employed for treating septic wounds, and are even injected into the blood stream in septicaemia; but to kill a streptococcus before it has gained access to the tissues, to erect a barrier through which it cannot pass alive, is surely not an impossible thing. If a germicide cannot do this it can do nothing.

The success of measures hitherto adopted for reducing the persistently high mortality from puerperal sepsis has not been such as to permit the neglect of any measure reasonably calculated to assist in attaining this object. It is therefore submitted that an antiseptic technique aimed at prophylaxis is worthy of extensive trial, and the experiments to be described were designed to determine what agent is likely to be most efficient for this purpose. It is a common practice to decry *in vitro* tests of germicides as unreliable indicators of activity *in vivo*, and however laboratory conditions may be modified to imitate clinical conditions, no one would care to rely for clinical purposes on the maximum dilution found to be effective in the laboratory. Often, however, it is possible to use for clinical purposes considerably stronger solutions, and in any case the same consideration applies to all the agents tested: the most active under appropriate conditions *in vitro* may reasonably be assumed to be the most active *in vivo*.

It is not sufficiently well known that the action of any germicide may differ widely with different bacteria. The statement of a Rideal-Walker coefficient, the only evidence (if any) usually adduced of the activity of a germicide, refers to its action on *B. typhosus*; for a streptococcus its lethal activity may be greater or less to a considerable degree. It is therefore important, when considering germicides in relation to any given lesion, to possess comparable data concerning their action on the micro-organism causing that lesion. A strict comparison is only possible if all have been tested under the same conditions. The organism used in the present investigation was *Strep. pyogenes*, which is unquestionably responsible for almost all fatal and the majority of other grave cases of puerperal infection.

METHOD OF TESTING

Each germicide was tested in four ways. The bactericidal action (that is, the ability to destroy the streptococcus in a given time) was studied under two conditions: in a medium of distilled water with no added organic matter, and in the presence of a proportion of added blood at the temperature of the body. The bacteriostatic action (that is, the ability to prevent growth without necessarily destroying) was studied also under two conditions—namely, in media containing no protein, and in media containing blood. The use of blood as added organic matter appears justified by the conditions in which a germicide is used in obstetrics; the material with which it will chiefly be mixed when its presence is designed to prevent the access of bacteria to the placental site or a cervical laceration, is blood. Serum, which has often been used, appears less appropriate to the purpose here in view, and such materials as milk, urine, sterilized faeces, etc., are clearly less applicable.

The following are details of the technique employed:

A single strain of *Strep. pyogenes* was used throughout; its origin, which was recent, was blood culture from a rapidly fatal case of septicaemia following abortion. The preparation used for tests was not the usual broth culture, but a suspension of a strength of at least 1,000 million per c.cm. prepared by emulsifying a twenty-four-hour blood-agar plate in saline, and treatment in a mechanical shaker. Broth was avoided in order to exclude extraneous organic matter completely, and the object of shaking was to break down clumps of cocci, the presence of which, owing to failure of penetration by the germicide, may undoubtedly vitiate results with this organism. For the purpose of tests in the first category, two drops as delivered by a small separating funnel (equivalent to slightly less than 0.1 c.cm.) of this emulsion were added at timed intervals to a range of tubes containing approximately 4 c.cm. each of a range of dilutions of the germicide; these were shaken and left at room temperature; cultures were made after fifteen minutes, a 2 mm. loopful being sown in blood broth. The presence or absence of growth in the cultures was noted after forty-eight hours.

The dilutions used rose by 50's from 100 to 500, by 100's to 1,000, by 200's to 2,000, by 500's to 5,000, by 1,000's to 10,000, and thence as multiples of the foregoing.

In the tests of bactericidal action at 37° C. in the presence of blood, the dilutions of the germicide were reduced to a volume of 4.5 c.cm. in tubes graduated for this purpose, which were placed in racks in a water-bath at 37°. After the contents of the tubes had reached that temperature each received 0.5 c.cm. of a mixture of equal volumes of sterile defibrinated blood and saline emulsion of streptococci (in one series of experiments citrated blood was used). Each tube thus contained an amount of blood equivalent to 5 per cent. of the total volume of fluid. The tubes were shaken, kept in the bath for fifteen minutes, and then cultivated in the same manner as the others. It was originally intended to prepare dilutions of such strength that the addition of 0.5 c.cm. would bring them to the dilutions used in the foregoing series of experiments. It was found more convenient, however, to use the same actual solutions for both, and the dilutions in this series have therefore to be corrected for the addition.

For the tests of bacteriostatic action 500 c.cm. double strength peptone broth was made up to 800 c.cm. and tubed in 4 c.cm. amounts; to each was added 1 c.cm. of a dilution of the germicide, the dilution in the resulting mixture with the medium being thus five times greater, and the concentration of the other ingredients correct. These tubes, with or without added blood, were inoculated and read after forty-eight hours. Owing to difficulty in observing whether growth had occurred

in some of the cultures containing blood, several of these experiments were done using tubes of 4 c.cm. agar, which were sloped and surface-sown. Parallel experiments using both media showed that the results given by the two were identical.

Many of the experiments were done several times, either because a wrong range of dilutions had originally been used, to confirm unexpected results, or to reconcile conflicting results. Some of the figures given represent averages of the results of several experiments; it is admittedly impossible to attain perfect consistency in repeated experiments of this kind.

A word of explanation is necessary for the procedure of cultivation, after exposure to the action of the germicide, in *blood* broth. It had been observed by the writer some years ago that the use of this medium rather than plain broth reduced the apparent efficiency of a germicide for streptococci as much as twenty-five-fold. It appeared that exposure to weak solutions reduced their vitality, with the result that they failed to grow in a poor medium, but grew readily if it were enriched by blood. This observation was fully confirmed in this series of experiments. In some of them, cultures after the fifteen minutes' exposure were made in both media with greatly contrasted results. Thus the apparent maximum effective dilutions, as indicated by subsequent growth in the two media, were as follows:

	Broth.	Blood Broth.
*Mercury perchloride...	1: 10,000	1: 250
Brilliant green ...	1: 25,000	1: 4,000
Acriflavine	1: 2,500	1: 900

That this phenomenon is not peculiar to streptococci is shown by the fact that similar results were obtained with mercury perchloride and *B. coli*. Other experiments indicate that the cells rather than the plasma contain what may be called the growth-stimulating factor. The nature of this phenomenon is being made the subject of a separate investigation. All the figures given in the tables represent the results of cultivating in blood broth, which, as will have been seen, is the severer test of bactericidal action.

DISCUSSION OF RESULTS

Table I gives the whole of the results in figures;

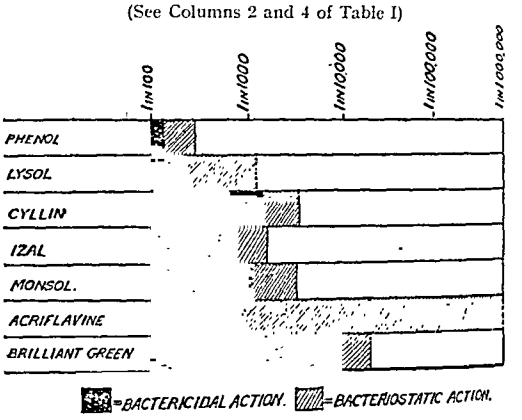
TABLE I.

	1	2	3	4
	Maximum	Maximum	Maximum Dilution in culture inhibiting growth in peptone broth	Maximum Dilution in culture inhibiting growth in peptone broth + blood
	water at room temperature	presence of 5 per cent. of blood*		
	1 in	1 in	1 in	1 in
Phenol	100	150	400	500
Eusol	500	2	5	<5
Mercury biniodide	50	100		
Mercury perchloride	250	400	50,000	12,500
Lysol 1	650	300	4,000	1,500
„ 2	450	300	2,000	1,000
„ 3	1,600	500	6,000	2,000
„ 4	600	300	6,000	1,000
Cyllin (medical) ...	2,000	1,800	5,000	5,000
Izal	3,000	800	5,000	2,000
Monsol	700	1,200	10,000	5,000
Acriflavine	900	500	1,250,000	1,250,000
Hexanol	400	600	200,000	200,000
Brilliant green ...	4,000	10,000	1,250,000	30,000
Mercurochrome	<100	<100	12,500	500

*Figures in this column, for strict accuracy, require a correction of + 11 per cent. for the volume of blood and bacterial suspension added.

Table II represents the more important of them diagrammatically. The scale of this diagram is logarithmic, with the dilution 1 in 100 as zero; the maximum bactericidal and bacteriostatic dilutions are represented in the case of each germicide, the figures used being those in the second and fourth columns of the table. Emphasis is thus laid

TABLE II.—*Comparative Efficiencies of Seven Germicides Tested*
(See Columns 2 and 4 of Table I)



on bactericidal action at 37° in the presence of blood and on bacteriostasis in blood-containing media, because it is believed that these conditions more truly represent those which obtain in clinical use. It is noteworthy that two factors are concerned in the former, which account for differences between the results and those of ordinary tests at room temperature without organic matter (Column 1 of Table I): the higher temperature, which usually intensifies bactericidal action; and the presence of blood, which often diminishes it. The varying effects of these two factors combined are interesting.

Some of the results call for brief individual comments.

Eusol.—The contrast between the effective bactericidal strength of eusol in distilled water and its behaviour in the presence of blood, or even peptone broth, is striking and familiar. It cannot be emphasized too strongly that agents of this class are worthless in the presence of any considerable amount of organic matter.

Mercury Salts.—The effect on the results obtained with these agents of cultivating in blood broth has already been discussed: this method shows that mercury salts have considerably less bactericidal power than is usually supposed. Somewhat surprisingly, they are effective in greater dilution at 37° C. in the presence of 5 per cent of blood than in distilled water at room temperature. Of the two, the biniodide is much the weaker, but according to these results neither can be effective in the dilutions used clinically.

Lysols.—Lysol 1 is the original German lysol (Schulke and Mayr); the other three are well-known brands sold in England, all having a guaranteed 50 per cent. cresol content. Their bactericidal power varies: one is somewhat inferior to its foreign prototype, one decidedly superior, and one identical. Excluding from consideration No. 3, which clearly must contain different cresols from the remainder, the maximum effective bactericidal concentration under clinical conditions is 1 in 300. The strength of No. 2 recommended for use in the vagina is 1 in 400. This lysol therefore fails. It is equally clear that the use of any lysol, even in somewhat stronger solution, can leave very little margin of safety.

Cyllin, Izal, and Monsol.—These are proprietary germicides of coal-tar origin, all of which form an emulsion, as distinct from a solution, when diluted in water. Their average efficiency is much greater than that of lysol. A comparison between their action in distilled water and in 5 per cent. blood at 37° C. is interesting: cyllin appears almost equally effective in

either condition; izal is better under the former, and monsol under the latter. These germicides are less poisonous than lysol and less irritating to the skin, despite their much greater efficiency. They can, however, presumably be irritating in the vagina, since the strengths recommended for use are respectively 1 in 600, 1 in 600, and 1 in 500 (increased). Even in these weak dilutions there is a clear margin of safety.

Acriflavine and Rivanol.—These may be considered together, since they are compounds of somewhat similar composition, and they share the property of exerting a bacteriostatic action in enormous dilutions, whereas their bactericidal power in short periods of time is comparatively feeble. The former action is in both cases unaffected by blood. The bactericidal power of acriflavine is somewhat diminished by the presence of blood: this contrasts with the statement that it is actually enhanced by the presence of serum (Browning).[3]

Brilliant Green.—It may be said at once that brilliant green emerges from this investigation as by far the most potent of all the substances tested. The fact that it destroys *Strep. pyogenes* even in the presence of blood at a dilution of 1 in 10,000 becomes even more striking and significant when it is remembered that even strong solutions are without irritant action. In "blue paint" (Bonney and Browning)[4], which has now been used for obstetric and other purposes for fifteen years, its concentration is 1 in 200. It is thus practicable to employ a solution of fifty times the strength demanded for rapid bactericidal action.

Mercurochrome.—It is evident from the results in Table I that mercurochrome (of which two makes were tested) is a germicide incomparably weaker than is commonly supposed. Others have obtained similarly unsatisfactory results with it (Simmons,[5] Ramos,[6] Walker[7]), and an explanation of the discrepancy between these results and those of Young, who introduced the drug, has been suggested elsewhere (Garrod).[8] A solution of a strength of no less than 1 in 25 has, however, been said to reduce the incidence of puerperal sepsis (Mayes).[9]

COMMENTARY

In drawing practical conclusions from these results it is necessary first to decide whether the purposes of obstetric prophylaxis can be served by merely bacteriostatic action; if this be so, acriflavine is the most powerful agent we possess. In order that this action should be effective, an adequate concentration would presumably have to be maintained in the birth canal for several days, immobilizing any streptococci which might gain entrance, until the states of the placental site and the cervical laceration were such that bacterial invasion could no longer readily take place. That a rapid bactericidal action, if obtainable, is preferable to this, must be obvious.

Of the germicides tested, few possess a bactericidal action on *Strep. pyogenes* which appears adequate. The meaning of the chief results may be concisely stated by calculating the ratio of effective strength to strength employed, which may be termed the factor of safety. Taking the figures in Column 2 as the effective bactericidal strength, the factor of safety for brilliant green is 50, for cyllin 3, for lysol 0.75, for mercury biniodide 0.1. The contrast thus afforded between two effective and two ineffective agents is sufficiently striking.

There is no doubt that brilliant green is by far the surest safeguard against streptococcal infection which can be used; it would be interesting to know whether grave sepsis has ever been seen to follow its employment. It is objected to on account of its staining propensities; whether stained linen or death from septicaemia is the greater evil is a question which seems to admit of only one answer. Next in order of efficiency come the proprietary coal-tar germicides, monsol, izal, and cyllin; these are sometimes objected to on account of their smell. Acriflavine, rivanol, and one brand of lysol are on the borderline of bactericidal efficiency; other lysols, mercurochrome, and mercury salts are ineffective.

The purpose of this paper is to indicate which germicides may be expected to prevent streptococcal infection during childbirth: the method of their application is outside its scope. That a technique can be devised which would ensure their effective action is hardly doubtful.

CONCLUSIONS

1. The bactericidal and bacteriostatic action of fifteen germicides used in obstetrics have been tested, the test organism being *Strep. pyogenes*, and the conditions employed such as to imitate as far as possible those of obstetric use.

2. Four of the germicides tested are calculated to be effective in the dilutions employed clinically, one, brilliant green, affording a very wide margin of safety; of three the efficiency is doubtful; the remaining eight are judged to be untrustworthy.

This work was carried out during the tenure of a grant for work on streptococci from the Medical Research Council, to whom I express my thanks, and to my assistant, Miss G. E. Root, for assiduous help in the laborious work involved.

REFERENCES

1. *British Medical Journal*, 1930, i, 359.
2. Ministry of Health: Maternal Mortality Committee's Report, Appendix D, 1930.
3. Browning, C. H., Gulbransen, R., and Thornton, L. H. D.: *British Medical Journal*, 1917, ii, 70.
4. Bonney, V., and Browning, C. H.: Ibid., 1918, i, 562.
5. Simmons, J. S.: *Journ. Amer. Med. Assoc.*, 1928, xci, 704.
6. Ramos, A. Silveira: *C. R. Soc. de Biol.*, 1928, xcix, 1537.
7. Walker, J. E.: *Arch. Path. and Lab. Med.*, 1926, i, 199.
8. Garrod, L. P.: *Proc. Roy. Soc. Med.*, February 3rd, 1931.
9. Mayes, H. W.: *Journ. Amer. Med. Assoc.*, 1927, lxxxix, 1685.

THALLIUM ACETATE IN TREATMENT OF RINGWORM OF THE SCALP

A STATISTICAL INVESTIGATION OF SUBSEQUENT NUTRITION

BY

G. H. PERCIVAL, M.R.C.P., PH.D.*

(From the Pharmacological Laboratory, University of Edinburgh, and the Skin Department, Royal Infirmary, Edinburgh)

Since November, 1928, 139 children suffering from ringworm of the scalp have received an epilating dose of thallium acetate at the skin department, Royal Infirmary, Edinburgh. The dosage employed was 8.5 milligrams of thallium acetate per kilogram of body weight; this was administered to children weighing up to 33 kilos. The treatment has been successfully completed in 122 of these cases, the remaining 17 being still under supervision. During the same period only 29 children suffering from ringworm of the scalp have received an epilating dose of *x* rays. From a survey of the cases treated with thallium acetate it seems that the immediate results of this method of treatment are on the whole superior to those obtained in cases treated by *x* rays.

ADVANTAGES AND DISADVANTAGES OF THALLIUM

Thallium is easily and rapidly administered. On account of this a large number of children can be dealt with in a very short time, whereas an epilating dose of *x* rays for the entire scalp takes at least an hour to administer.

* In receipt of a grant from the Medical Research Council.

even with appropriate apparatus and skilled technique. This fact renders thallium especially suitable when a sudden epidemic has to be dealt with. For instance, a comparison of the average period elapsing between the administration of thallium and the treatment by *x* rays respectively and the discharge of the case, shows that in 122 thallium cases this period was 113.5 days; in 29 *x*-ray cases of one series it was 152 days, and in 50 cases of another group it was 135 days. Further, in 1923, the average period of isolation of ringworm cases treated with *x* rays was seven months, this delay being due to the occurrence within a short period of time of a large number of cases which could only be dealt with gradually on account of the time occupied by the administration of the *x*-ray dosage. Epilation with thallium is as certain as that obtained by *x* rays; there is no risk of permanent baldness, and it can be produced in children who are too young to receive *x*-ray treatment.

On the other hand, the alopecia resulting from thallium is of much shorter duration than that brought about by *x* rays, so that with thallium very careful local antiparasitic treatment is required. Another disadvantage of thallium is that it regularly produces mild constitutional symptoms in a proportion of cases (44 per cent. in 50 of the present series). These are never serious with ordinary dosage (up to 0.25 to 0.28 gram) in children under 11, and are no more severe than those which may accompany scarlatinal or diphtheria immunization. They are quickly recovered from, and no immediate harm seems to result. In view of the fact that they do occur, that thallium is a substance capable of producing, in larger doses, profound toxaemia and grave pathological changes, and that its fate in the body and mode of action as a depilatory substance are unknown, it is possible that it may cause deleterious influences on growth and development which only become evident at some later period. Up to the present, however, no data on this subject have been available. This aspect of the problem is obviously a most important one if the therapeutic use of the drug is to be continued.

STATISTICS OF TREATMENT

Through the courtesy, and co-operation of Dr. Guy, medical officer of health for Edinburgh, I have been able to follow up a series of 76 male and female school children who received thallium acetate treatment for ringworm of the scalp at periods varying from four months to two years. Each of these children was examined physically, and all appeared to be healthy; indeed, many of the parents volunteered the statement that in their opinion the child's general health had improved after the administration of the thallium. In addition, each child was measured and weighed. The group consisted of 51 males and 25 females.

First of all the children were divided into age groups according to their age on the last birthday, and the average weights of the corresponding age groups before and after thallium administration were compared. The average weights on these two dates do not represent the weights of the same children for any one age group, since a child aged 5 at the time of administration of thallium may have been examined eight months or two years later, in which case this child's weight would go to make up the average either of age period 5 again, or of age period 7. In spite of this, the data provide a comparative index of the nutrition of the children before and after thallium administration, since the weights before thallium treatment indicate the type of population dealt with and those after thallium deal with the same population, so that any redistribution into different age groups is immaterial. The average weights on these two dates were compared with the average normal weight of Edinburgh school children for the same age periods. The total numbers in each age group were as follows:

TABLE I

Age Last Birthday	Males		Females	
	Before Thallium	4 months to 2 years after Thallium	Before Thallium	1 to 2 years after Thallium
1	1	—	—	—
2	—	—	—	—
3	1	1	1	—
4	5	1	3	—
5	10	3	1	2
6	10	9	6	3
7	11	10	7	4
8	8	10	3	6
9	4	9	2	5
10	1	5	1	3
11	—	3	1	1
12	—	—	—	1
	51	51	25	25

Table II shows the average weights in kilograms according to age period of 51 male children immediately before the administration of thallium, and of the same children four months to two years after they had received a single epilating dose of thallium. The average height in inches and the average normal height is also shown.

TABLE II.—*Males, Four Months to Two Years after Thallium*

Age Last Birthday	Average Weight before Thallium	Average Weight 4 months to 2 years after Thallium	Average Normal Weight	Average Height 4 months to 2 years after Thallium	Average Normal Height
1	11	—	9.5	—	
3	13.9	16.6	14.1	38 1	
4	15.74	15.9	15.9	35.5	
5	18.32	17.53	18.2	41.4	
6	19.32	20 6	20.2	44.3	
7	22.22	22.8	22.6	46.4	4
8	23.59	25.4	24.9	49 3	47
9	24.2	27.9	27.4	49.57	49
10	25 4	25.6	30 7	49 6	51.
11	—	28.3	32.7	51.3	53

TABLE III.—*Females, One to Two Years after Thallium*

Age Last Birthday	Average Weight before Thallium	Average Weight 1 to 2 years after Thallium	Average Normal Weight	Height 1 to 2 years after Thallium	Average Normal Height
3	14.4	—	12.6	—	—
4	15.8	—	15.4	—	—
5	17 9	17.9	17.8	40	40.5
6	19 1	20.0	18.9	45 5	42 8
7	20 88	23.0	21.3	45	44.5
8	23.4	23.9	23.7	47.4	46.8
9	25.5	26.2	25.2	48.4	48.7
10	26.06	28.5	28.1	52.9	51
11	28.24	31.8	33.9	51	53 1
12	—	32.7	34.7	55.5	55 6

In order to control the results of a comparison of the average weights before and after thallium, and of the average normal weight classified according to age periods, the average weights after thallium according to height were compared with the average normal weights for the same heights. Table IV shows the average weight in kilograms according to height in inches four months to two years after thallium in 51 male children, and one to two years after thallium in 25 female children.

TABLE IV.—*Males and Females*

Height in Inches	Males		Females	
	Average Weight 4 months to 2 years after Thallium	Average Normal Weight	Weight 1 to 2 years after Thallium	Average Normal Weight
35	15.9	14.1	—	—
38	15.6	15.9	—	—
40	19.1	17.4	16.3	16.8
41	16.8	18.2	21.3	20.58
43	19.8	19.4	22.2	21.8
44	20.3	20.2	22.6	22.4
45	21.2	21.3	24.8	23.9
46	21.9	22.6	27.2	25.59
47	23.8	24.9	30.7	28.1
48	24.6	25.8	30.4	29.5
49	24.4	26.7	29.0	30.9
50	26.9	28.1	32.7	34.5
51	28.1	29.5	—	—
53	28.6	32.7	—	—
55	34	35	—	—

An analysis of Tables II and III shows, first, that immediately before the administration of thallium the average weight according to age of the 51 male and 25 female children dealt with in the investigation compares favourably with the average normal weight for the corresponding age periods. The weight of the males up to the age of 7, and of the females up to the age of 9, is practically identical with the average normal weight, but in the later age periods it is anything from 1.4 to 5 kilograms below normal. The difference is greatest in the males. It is to be noted, however, that in both cases there were fewer children in the age periods 9 and 10 years than in the age periods 4 years to 8 years. In Table II the average weight of the same children four months to two years after thallium is seen to be on the whole better than that for the corresponding age periods immediately prior to the administration. Table I shows that this improvement cannot be due entirely to a redistribution of the children into different age periods, at least for the period six years to eight years, since almost the same number of children appear in these groups before and after the administration of thallium. In Table II there is a fall in weight below the average normal weight for the age periods 9, 10, and 11 years, and this corresponds to that found in the average weight, before thallium was given, for the periods 8, 9, and 10 years. The average weights of the female children one to two years after thallium administration is quite appreciably higher than the corresponding average normal weights.

Table IV shows that in both male and female cases the height four months to two years, and one to two years after thallium administration bears a normal relationship to the weight; and Tables II and III show that the average height at a similar period after thallium administration is normal for the various age periods. In males the height for the age periods 10 years and 11 years is below the average normal, but this corresponds to the subnormal average weight for the same periods. As the period elapsing between the first and second weighings varied in most of the children, no attempt has been made to ascertain the average increase in weight during this interval of children of corresponding age periods or heights.

CONCLUSION

Examined from several aspects the weights and heights of both male and female children four months to two years after thallium administration do not appear to show any gross deviation from the normal. In fact, below 10 years of age the figures are, if anything, slightly better than normal. Using the weights and heights observed in this investigation as standards on which to interpret physical development, and taking into account the results of a general medical examination, there is no evidence to show that the continued normal growth and nutrition of children are adversely influenced or interfered with as a result of the previous administration of thallium acetate in sufficient quantity to produce epilation of the scalp.

PERITONITIS DUE TO PERFORATION OF THE BOWEL BY FOREIGN BODIES

BY

ARTHUR HAWKYARD, M.D.

LORD MAYOR OF LEEDS

AND

GEORGE ARMITAGE, *M.C.*, CH.M., F.R.C.S.

LEEDS

The following report (communicated to a recent meeting of the Leeds and West Riding Medico-Chirurgical Society) of the personal experiences with a fish bone which had been swallowed by one of us (A. H.) may be of general interest.

During October, 1929, I began to suffer from pain between the shoulder blades, which seemed to originate in the stomach. There was no pain over the stomach in front. The pain commenced as a feeling of discomfort, gradually developing a very definite character, varying greatly in intensity and in duration. When the pain was at its worst it gave rise to a feeling as if the chest would burst open. I thought at first it was angina, but soon decided that it was not so. Then I thought it was duodenal in position, and naturally wondered if an ulcer was the cause. I found out that the attacks came on mostly in the afternoon, when the stomach was empty. The pain could be cured by taking a drink of some kind or a biscuit. As I have not eaten lunch for forty years my stomach is always empty in the afternoon. The attacks of pain gradually got more severe, and the last attack I suffered from was on July 22nd, 1930. For a month prior to this date I had been in bed suffering from the effects of a motor accident. This period of rest did not alter the attacks of pain in any way. On July 24th I voided, per anum, a fish bone (Fig. 1). I have never had an attack of pain since.

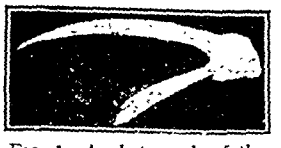


FIG. 1.—A photograph of the fish bone swallowed.

Dr. Walter Garstang, professor of zoology in the University of Leeds, informs me that the bone is the

post-temporal bone of the whiting (Fig. 2). It is one of a string of bones attaching the pectoral girdle to the back of the skull. From the shape of the bone one can see that the pain was caused by the bone presenting at the pyloric orifice with the two prongs in front, so that it was impossible for it to pass in this way. Taking something into the stomach evidently had the effect of dislodging it for the time being. The bone presented a

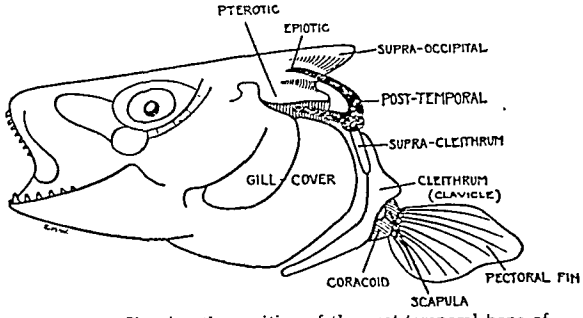


FIG. 2.—Showing the position of the post-temporal bone of the whiting.

dark appearance, no sign of digestion being apparent. I suffer from pernicious anaemia and have achlorhydria, which may account for the bone not having been digested.

The case is interesting because of the length of time the bone was retained in the stomach. It seems a wonder the bone did not perforate the stomach wall, and it was only a fortunate chance which allowed the bone to pass the pylorus.

It may be that many of the cases of atypical duodenal ulcer one sees are due to bones and other objects being in the stomach. A few years ago I removed from a man's rectum a piece of twig three inches long and three-sixteenths thick, which had been embedded there for four years. In this case the man had suffered from indigestion for a long time before the pain was transferred to the rectum.

Commenting on this case the other author (G. A.) referred to the case of triple perforation of the ileum by fish bones (brill) reported in the *British Medical Journal* (1928, i, 307), and suggested that it was advisable to be always on the look out for foreign bodies perforating the bowel wall as a possible cause of an unexplained peritonitis, labelled idiopathic or haematogenous, somewhat unsatisfactorily in many cases.

Three days later the following case was referred to hospital by Dr. Sinton of Headingley.

W. L., aged 62, a clothworker, was admitted to hospital on January 12th complaining of severe generalized abdominal pain. This pain commenced very suddenly, and without warning, twenty hours previously, across the lower abdomen, giving rise to a strong desire to defaecate. It was of a colicky type, with only occasional brief intervals of relief, bringing him almost double to the floor, and making rest quite impossible. Nausea was present from the beginning, but vomiting did not occur until nine hours later. All symptoms increased in severity, compelling him to call in Dr. Sinton, who dispatched him to hospital immediately. On admission the patient looked ill and was cyanosed. Pulse rate was 120, temperature 97° F., blood pressure 140/80, respirations 20. The tongue was dry, dirty, and coated. Examination revealed a hard, rigid abdomen, which could not be overcome, and which was extremely tender. There was slight pain on flexion of the right leg. Rectal examination revealed high anterior tenderness, but was otherwise negative. A diagnosis of general peritonitis was made with no little assurance, but the cause remained obscure. The patient volunteered no information when he was asked if he had swallowed a foreign body. Operation was carried out immediately under spinal novocain anaesthesia (150 mg. in 15 c.cm. cerebro-spinal fluid; level 1-2 dorsal) after preliminary medication consisting of hypodermic injections of morphine 1/4 grain, atropine 1/100 grain, and adrenaline (1 in 1,000) 15 minims. Free sero-purulent effusion was present in the general peritoneal cavity, especially in the lower part. A normal appendix was removed. Having in mind, in view of the recent discussion, the possibility of a foreign body, a perforated diverticulum, or a stercoral ulcer of the large bowel proximal to a growth, the surgeon on searching the pelvis felt a sharp foreign body projecting from the anterior aspect of the lower sigmoid colon. This proved to be the sharp end of a rabbit's rib, which when removed measured 2 inches (Fig. 3). This bone was shown to the patient at the time of removal, and he at once remembered having partaken somewhat vigorously of a hearty dish composed of rabbit, onions, and potatoes two and a half days prior to the onset of the pain. The perforation was sutured, infolded, and an omental graft placed over it. The peritoneal cavity was drained. Convalescence proceeded uneventfully, and the patient was discharged from hospital cured four weeks later.

FIG. 3.—Showing the rib bone of a rabbit, which had perforated the lower sigmoid colon, giving rise to general peritonitis. (Natural size.)

The case is placed on record because it is felt that, occasionally, foreign bodies perforating the bowel and producing general peritonitis are missed. It is advisable in these obscure cases to inquire very carefully into the nature of meals partaken prior to the onset of the malady.

We are indebted to Mr C. Gillinson, under whose care the patient was admitted, for permission to report the case, and to Miss E. M. Wright for Figure 2.

THE GONOCOCCAL COMPLEMENT-FIXATION TEST

BY

I. N. ORPWOOD PRICE, M.R.C.S., L.R.C.P., D.P.H.

PATHOLOGIST TO THE WHITECHAPEL (L.C.C.) CLINIC

The object of this paper is to demonstrate the need for the complement-deviation test as a means of efficient diagnosis and treatment of gonorrhoea. Although much work has been done in Europe by R. Förster,[1] A. Cohn,[2] and P. Timoféeff,[3] in America by Kolmer[4] and Kilduffe,[5] and in this country by Thomson,[6] Osmond,[7] and Osmond and Oliver,[8] it is regrettable that the merit of the test is not more appreciated, and that it is, in consequence, insufficiently used. The opinions expressed below are based on the study of the clinical histories and serum reactions of approximately 7,000 cases.

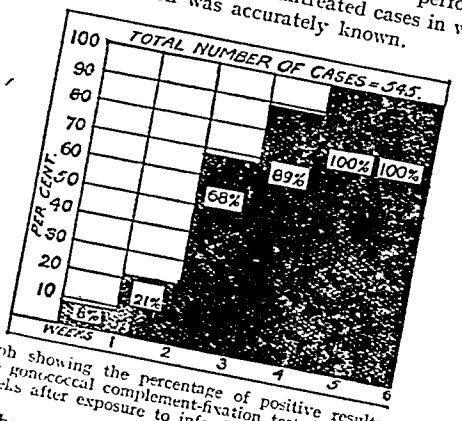
RATIONALE OF THE TEST

The test, [illegible] the technique of which I have described elsewhere,[9] is highly specific (0.03 per cent. false positive in 1,133 cases[10]), but it must be clearly understood that it demonstrates the presence or absence of specific gonococcal antibody in the blood, and not the presence of gonococci in the tissues. Thus all results must be read in conjunction with the clinical history, and judgement accordingly. The prognosis depends on: (*a*) the action of the specific antibody, (*b*) the anatomical spread of the infection; (*c*) the reaction of the disease; (*c*) the reaction of th

tissues to the presence of gonococci; and (*d*) the stage of the infection at which treatment is instituted and the efficacy of therapeutic action.

AGE OF INFECTION

In order to estimate the stage of infection at which a positive reaction may be expected the following graph was constructed from the results of the tests performed for the first time on serums from untreated cases in which the age of the infection was accurately known.



Graph showing the percentage of positive results given by the gonococcal complement-fixation test during the first six weeks after exposure to infection.

From the above it will be seen that the likelihood of obtaining a positive result varies, within limits, directly with the age of the infection. Thus, in the first week after exposure to infection only 8 per cent. (14 out of a total of 177 cases) of positive reactions were obtained. There is a rise to 21 per cent. (48 positives from 228 cases) in the second week, 68 per cent. (62 positives from 91 cases) in the third week, 89 per cent. (42 positives from 46 cases) in the fourth week, and 100 per cent. in the fifth and sixth weeks. From these figures it is apparent that the diagnostic value of the test is greatest from the third week onwards. On the other hand, positive cultures and smears are obtained during the first three weeks of infection. In "subacute" infections often present problems for accurate diagnosis, particularly in cases in which the patient has attempted to cure himself, but has only succeeded in driving the gonococci into the deeper tissues and at the same time has grafted a secondary infection on the original gonorrhoea.

ANATOMICAL SPREAD OF DISEASE

This depends on the age of the infection, the reaction of the tissues, and the treatment, if any, adopted. Case histories show that when, in the male, the posterior urethra, prostate, vesicles, or the epididymes, and, in the female, the cervix, cervical canal, uterus, or Fallopian tubes become involved, a positive reaction is the rule.

REACTION OF THE TISSUES

It appears that the tissues respond somewhat slowly to the presence of gonococci, although antibody production commences during the first week of infection. Three cases which were exceptions to this rule were met with during the course of this investigation, and one may be quoted.

The patient was an unemployed domestic servant, aged 22, who when first seen, complained of a vaginal discharge of 14 days' duration, and admitted a definite exposure to infection. Gonococci were identified in smears and cultures, but the complement-fixation reaction was negative. After four days' routine treatment, gonococci were obtainable from the cervical secretion, but the complement-fixation reaction was negative. A course of gonococcal detoxicated vaccine was given over a period of two months, and at the end of this time gonococci were still present in both the urethra and the cervical canal, whilst the complement-fixation reaction remained negative. Routine treatment was continued until eight months after the original infection, when the patient was clinically cured, whilst bacteriological and serological investigation proved to be negative. Thus, throughout the disease, no antibody production was demonstrable, in spite of a definite infection of the cervical canal by the gonococcus and of the administration of large doses of gonococcal vaccine.

EFFECT OF TREATMENT

If adequate treatment is adopted early—that is, during the first week of infection—the reaction may become only weakly positive, or it may even remain negative throughout the course of the disease. These cases are usually rapidly cured, and the lack of antibody production (hence a negative serum reaction) is possibly due to the anatomical localization of the infection affording less opportunity for interaction between the gonococci and the tissues.

Once the reaction has become positive it does not weaken until the infection has been eradicated from the body. After the acute stage of the infection has passed it is usually difficult to demonstrate foci of infection by means of smears or cultures, especially in the female. Moreover, the presence of pus alone is not necessarily due to the gonococcus, and unless a complement-fixation test is performed there is no certain means of ascertaining whether the inflammation is due to the gonococcus, to a secondary infection, such as staphylococci or coliform bacilli, or to a chemical irritation. As soon as the gonococcal infection is cured, the test, although positive, tends to weaken, and in about three to four months a clean negative result is usually obtained. To demonstrate this, 50 cases of uncomplicated gonorrhoea were followed through from the onset of the disease to the point at which the reaction became negative, monthly serum tests being performed in each case.

TABLE I.—*Showing Relationship between Clinical Condition and Serum Reactions of 50 Cases of Uncomplicated Gonorrhoea*

Months after Infection	Clinically Cured	Serum Reactions		
		Negative	Doubtful	Positive
1st month	0	0	0	50
2nd month	13	7	5	33
3rd month	29	20	2	29
6th month	50	50	0	0

The results tabulated above show that none of the 50 cases investigated were clinically or serologically cured one month after infection. At the end of the following month, of the 13 cases that were clinically cured 7 gave negative, 5 gave doubtful, and 1 gave a positive reaction. Three months after infection 29 cases were clinically cured, and of these 20 gave negative reactions, 2 were doubtful, and 7 still resulted in positive reactions. Finally, six months after infection, 50 cases were clinically and serologically cured.

When gonococcal complications such as salpingitis or arthritis occur, more strongly positive reactions than usual are obtained, and in these cases quantitative tests are performed by using increasing dilutions of serum up to 1 in 100 (the standard dilution in test being 1 in 5). When a cure is established there is a persistent weakening of the positive result until a clean negative result is recorded—for example, ++ (1 in 60), ++ (1 in 30), ++ (1 in 10), +±, ± to negative. If there is no reduction in the strength of the reaction in spite of apparent

clinical cure, it is definite evidence that an active focus of infection persists. In cases where vaccines have been used in an attempt to stimulate the tissues to combat the disease during the course of treatment a positive reaction (for example, +) may be converted into a strongly positive reaction (for example, ++, serum diluted 1 in 40), but this increase usually drops to the original strength (+) within six weeks after suspension of the vaccine treatment. In about 50 per cent. of cases treated by gonococcal vaccine no increase in the amount of antibody is recorded by the test.

The test is applicable to children as well as to adults. With the co-operation of Dr. Dorothy Brown, medical officer at Coldharbour House, Croydon, some 47 cases of vulvo-vaginitis in children were investigated. Gonococci had been demonstrated during the course of the disease in 42 of these cases. When the complement-fixation test was performed, 29 gave positive results, 7 were weakly positive (6 were old-standing treated cases and 1 an early case of a week's duration), and 6 which gave negative results were clinically cured at the time of the test. The remaining 5 cases in which no gonococci had ever been found gave negative reactions. Therefore it would appear that results similar to those found in the adult are to be obtained in children.

EXCEPTIONS

During the course of this investigation three types of exception to the general rule were met:

Failure to Produce Antibody.—Three cases of gonococcal infection, with no production of antibody, repeatedly gave a negative complement-fixation reaction.

Intercurrent Infection.—In one undoubted case of gonorrhoea (gonococci isolated in smears and cultures, complement-deviation reaction ++) of two months' duration, the patient during treatment developed a sore throat (Wassermann reaction negative). This was followed a few days later by an arthritis of the left elbow, which clinically was not typical of a gonococcal arthritis. A short-chained streptococcus was cultured from both the throat and the elbow.

"*Cross Fixation.*"—In two cases the possibility of false positive reactions being given by the antibodies of *Micrococcus catarrhalis* could not be excluded. The occurrence of this so-called "cross fixation" has been pointed out by Oliver[11] and might result in a false positive reaction being given by the serum of a patient cured of gonorrhoea, but suffering from a catarrhal condition of the nasopharynx. An attempt was made to deal with these cases by means of monthly parallel quantitative tests on the serum of the patient demonstrating a steady progressive fall in the strength of the positive reaction when using a gonococcal antigen, while the strength of the reaction when using an antigen of *Micrococcus catarrhalis* remains constant. This is shown in the following table, in which the strength of the highest dilution of serum which gave a positive reaction is tabulated.

TABLE II

Monthly Reactions	Highest Dilution Serum giving a Positive Reaction	
	Gonococcal Antigen	Catarrhalis Antigen
1st reaction	1 in 60	1 in 80
2nd reaction	1 in 50	1 in 80
3rd reaction	1 in 10	1 in 80
4th reaction	1 in 5*	1 in 80
5th reaction	Partial positive at 1 in 5	1 in 80

* Standard dilution of serum used in the test.

While this is not regarded as proof of an infection by *Micrococcus catarrhalis* as opposed to one by the gonococcus, it is at least suggestive, although experience of such cases is very limited.

INTERPRETATION OF RESULTS

The interpretation of results must be correlated with the clinical history if a reliable opinion is to be given on the result of a test. The usual notation is used:

++ or +± = strongly positive
\+ = positive
± = weakly positive
− = negative

A strongly positive or positive result is definite evidence of a gonococcal infection, and it may be taken that the posterior urethra, etc. (or in the female the cervical canal), have become involved. A weakly positive result (±) is obtained in (*a*) early cases (one to three weeks after infection), (*b*) old-standing cases which clinically are cured, but in which enough "residual antibody" is still present in the serum to cause this result. A negative result obtained when gonococci are exhibited in the secretions should be regarded as (*a*) an early infection of under twenty-one days' duration, (*b*) if over twenty-one days' duration, an unusual case in which the defensive mechanism of the body has not responded to the infection and in consequence no antibody has been formed. A negative result obtained when no gonococci are demonstrable indicates that the case is (*a*) cured, all "residual antibody" having been eliminated from the blood, or (*b*) not a gonorrhoeal infection.

CONCLUSIONS

1. The complement-fixation test for gonorrhoea as performed by this method is as useful in the diagnosis and treatment of gonorrhoea as the Wassermann reaction is in syphilis.

2. No patient should be discharged as cured of gonorrhoea unless the blood serum gives this negative complement-fixation reaction.

3. A negative result, if read in conjunction with the history and other pathological findings (for example, smears and cultures), has a definite significance.

4. A positive reaction is definite evidence of a present infection by the gonococcus or of an infection in the immediate past.

5. If the test were performed on the serum of patients suffering from arthritic joints, tenosynovitis, iritis, and particularly in women suffering from abdominal pain of obscure origin, fewer errors in diagnosis might be made.

6. The test should be instituted as a routine procedure in all venereal disease clinics.

I wish to thank Colonel L. W. Harrison for permission to publish that portion of the work done at St. Thomas's Hospital V.D. Clinic while I was acting as assistant pathologist to the department; Dr. Anwyl Davies, director of the Whitechapel Clinic; and the medical officers of both clinics for their co-operation and help.

REFERENCES

[1] Förster, R.: *Münch. med. Woch.*, October, 1930, 1877.
[2] Cohn, A.: *Deut. med. Woch.*, Leipzig, 1926, lii, 1717.
[3] Timoféeff, P.: *Journ. d'Urol. de Paris*, 1926, xxii, 189.
[4] Kolmer, J. A.: *Serum Diagnosis by Complement Fixation*, pp. 229, 407, 410, 505.
[5] Kilduffe: *A Manual of Clinical Laboratory Procedure*, p. 215.
[6] Thomson: Medical Research Council, Special Report Series, 1918, No. 19, 31.
[7] Osmond, T. E.: *Lancet*, 1922, i, 1143.
[8] Osmond, T. E., and Oliver, J. O.: *British Journal of Venereal Disease*, October, 1929, 281.
[9] Price, I. N. O.: *Journ. of Path. and Bact.*, 1930, xxxiii, 493.
[10] Idem: *Ibid.*, 1930, xxxiii, 494.
[11] Oliver, J. O.: *Journ. of Hygiene*, 1929, xxix, No. 3, 259.

TREATMENT OF CARBOLIC ACID POISONING

BY

O. S. GIBBS, M.B., CH.B.

FORMERLY PROFESSOR OF PHARMACOLOGY, DALHOUSIE UNIVERSITY, CANADA; VISITING LECTURER IN PHARMACOLOGY, JOHNS HOPKINS MEDICAL SCHOOL, U.S.A.

The carbolic acid group constitutes one of the most popular suicidal poisons, and thus possesses a clinical interest to any medical man, especially in regard to immediate and proper treatment. Reference to many of the works on toxicology is often disappointing, since the essential features of treatment are apt to be obscured by a discussion of impracticable, or even useless, methods. Situated in a laboratory one rarely comes in contact with such cases except by consultation, and thus only at a late stage. Two recent cases of this type, however, raised the question of the most practical procedure that could be adopted by the physician in charge.

There is no need to repeat the well-known details of this form of poisoning. Briefly stated, carbolic acid is a quite non-specific poison, causing loss of function and eventual cell death to any tissues with which it may be brought in contact, if it is sufficiently concentrated or acts over a sufficiently long time. Three places are particularly subject to damage. The first is the site of absorption, be it skin, gastro-intestinal tract, or any other area. If the acid is concentrated, coagulation of the tissues will ensue here, leading to mass death of the cells. After absorption the central nervous system is particularly susceptible, as with any fat-soluble depressant, leading to the typical descending type of functional inactivity, with final failure of respiration. Since the kidneys deal with the poison in a relatively more concentrated form, and over a longer period, in their work of elimination, they are therefore very liable to damage, and this constitutes a danger which is very serious. That carbolic acid is a general tissue poison must not be lost sight of, however, for in any case of poisoning, especially if functional weakness or damage previously existed, other organs may be predominantly affected. The liver and heart are of particular interest.

As with most poisons, the problem of treatment divides itself into three parts. The first and most important aim is to limit absorption; secondly, to help the body to withstand the effects of the poison; and thirdly, to assist in its elimination. It is in regard to the first and most urgent problem that I venture to suggest a form of procedure that has the merit of simplicity, and is probably as effective, while it is certainly as safe, as any other recommended method.

The treatment is based on the fact that carbolic acid is much more soluble in oil than in water, and thus readily leaves a watery medium for one of oil, in which it remains pharmacologically inert. In this connexion I may recall the established fact that carbolized catheter oil has no virtue as an antiseptic. It would appear, therefore, to be sound treatment to apply oil freely to the site of absorption; thus, in the case of carbolic acid burns, washing in oil followed by soaked oily dressings is a logical proceeding.

When the acid has been swallowed an immediate administration of a large quantity of oil to the stomach contents would certainly render unabsorbable much of the acid. The most suitable substance for this purpose is ordinary medicinal liquid paraffin, which takes up the acid efficiently, and is entirely non-absorbable even by damaged mucous membrane; nor is it rendered absorbable by digestive processes; in this it possesses a great advantage over vegetable or animal oils, which are occasionally recommended as an adjunctive treatment. The use of this oil in any corrosive poisoning is sound, because not only will it allay irritation by mechanical means, but, as an unabsorbable oil, it readily assists its own elimination along with anything that may be dissolved therein. The effective dose would have to be large—at least half a pint (200 c.cm.), and as much more as one could induce the patient to take. Administration of the oil would not invalidate the use of the wash-out tube, though it would undoubtedly render this somewhat questionable proceeding even more messy. In cases where lavage is carried out, oil might with advantage be readministered prior to withdrawing the tube.

Too much stress cannot be laid on the fact that carbolic acid very rapidly penetrates tissues, especially unprotected tissues, and that even a short delay may be enough to affect the treatment adversely; thus the administration of paraffin has a great practical advantage over the wash-out as a primary method, since the time factor is much lessened. Treatment would then be continued by the use of repeated doses of magnesium sulphate according to the modern method, which is founded on the sound basis of retarding absorption and facilitating elimination from the bowel.

It is fairly well known that if pure carbolic acid is immediately wiped off the skin with pure alcohol a burn may be escaped. The reason for this is that the skin grease may temporarily hold up penetration of the acid, and the alcohol removes both. I had the interesting experience of seeing this idea extended to the use of alcohol dressings, the result of which was that the patient had become completely comatose and remained so for twelve hours. This was not surprising, since it would be difficult to devise a method more favourable to absorption. Alcohol is one of the few substances directly and readily absorbed from the stomach; furthermore, it may actually cause the absorption of drugs not otherwise taken up by this viscus. The use, then, of dilute alcohol as a wash-out medium, recommended in certain books, seems to be based on an imperfect understanding of the facts, and also appears a needlessly dangerous procedure.

In regard to the remaining treatment I have little to add to existing knowledge, though greater emphasis might profitably be placed on the conception that the patient has all his functions seriously impaired, and thus should be treated with the same care that severe surgical shock or anaesthetic poisoning demands. Prolonged journeys, inadequate provision for warmth, or any other cause of functional fatigue, should be rigorously avoided. Large amounts of fluid are indicated in order to facilitate the work of the kidneys, and thus should be administered by other routes than the gastro-intestinal for at least forty-eight hours when the poison has been swallowed, since absorption is not desired in this area. Alkalis seem definitely beneficial, but at least 3/4 oz. (20 grams) should be administered with the fluid during the twenty-four-hour period. High fluid intake should be continued until the urine is carbol-negative.

Dangerous symptoms can only be treated according to general principles. Caffeine is the best respiratory stimulant. In view of the fact that I have read in this *Journal* two discussions on morphine and heroin poisoning in which no mention of caffeine was made, it may be pointed out that pharmacological evidence shows that caffeine is the best respiratory stimulant in these conditions, as well as probably in any other. One very good reason for its use is that caffeine has no dangerous secondary effects in large therapeutic doses, providing the simple precaution of slow injection is adopted. The same cannot be said for either strychnine or lobeline. In animals poisoned with morphine I have found lobeline neither so satisfactory nor so reliable as caffeine.

Strychnine is a valuable drug, since it combines a powerful action on the vasomotor system with the property of stimulating the liberation of adrenaline. This latter substance has a direct stimulant action, not only on the vessels, but on the heart. Thus, while strychnine has no direct cardiac action of value, it may act as a stimulant to the heart through this mechanism; which is an interesting sequel to an old fight between clinicians and pharmacologists, in that both are now shown to be justified.

For continued cardiac action one of the digitalis bodies is indicated, strophanthin being probably the most convenient where the oral route is contraindicated. Strophanthin and caffeine are best administered intravenously in such cases, or for urgent need.

Summary

1. The use of liquid paraffin is advocated for carbolic acid burns.

2. The immediate administration of a large dose of liquid paraffin is advocated as the primary treatment of oral carbolic acid poisoning.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

TWELVE-YEAR-OLD ECTOPIC PREGNANCY

The following case of a woman who carried a dead full-time foetus for twelve years in her abdominal cavity, and had three normal deliveries of healthy children before its removal, seems of sufficient interest to publish.

A Chinese woman, aged 34, was admitted to the Wuhu General Hospital (after walking ten miles) complaining of abdominal pain and difficulty in micturition. There was no vomiting, but she felt feverish and was unable to sleep. Her temperature was 101° F.; pulse 100. Bowels opened regularly every day. These symptoms had existed for fifteen days; previously she had been quite healthy.

The patient had had no past illnesses. She had been married for fourteen years and had three children—all normal deliveries—alive and well, aged 9 years, 5 years, and 9 months respectively. No miscarriages had occurred. She had been unable to feed any of the babies as she had no milk. Menstruation, of three days' duration, was regular at thirty-day intervals.

On examination of the abdomen a mass presented, the size, shape, and position of a seven months' gravid uterus. She showed no concern about this, stating that it had been there for twelve years. Evidently it had grown to its present size in a few months, and had never altered since or given any symptoms. During pregnancy it moved upward and to the right, returning to the mid-line after delivery. On palpation the mass was clearly defined, except below, where it was continuous with the pelvic organs. It was hard, immovable, and the skin over it freely movable. It was tender to palpation all over; tenderness also extended into the epigastrium and right hypochondrium. Bimanual vaginal examination showed a low cervix, while continuous with the upper pole of the uterus, and apparently attached to the right appendages, was the hard, tender, immovable tumour. A provisional diagnosis was made of (*a*) fibromyoma, (*b*) right ovarian cyst. Urine was passed normally with straining; catheterization produced a few ounces of residual urine.

Abdominal pain gradually grew worse, and a week after admission it was decided to operate. Under general anaesthesia the abdomen was opened by a mid-line incision, and on opening the peritoneum a dark brown mass was seen to occupy the greater part of the abdominal cavity, while surrounding it on all sides were adherent coils of slightly inflamed intestines and omentum. The mass was extremely hard in parts, while in others the finger sank into decomposing tissue with a flow of dark brown fluid. Fears were entertained that it might be a malignant growth, and the advisability of continuing the operation was considered. However, the separation of adherent coils was started in the easiest part, and on isolating the smooth curve of a foetal spinal cord the nature of the tumour was realized. The foetus was lying in the right occipito-posterior position in an immensely dilated right tube. After dividing adhesions for an hour and a half it was possible to apply a clamp along the right side of the uterus and remove the foetus, with the tube and appendages. The placenta was adherent to the right tube and anterior abdominal wall, and was scooped out with the hand.

The wound was closed in layers, with a drainage tube in the pelvis, and the patient made an uninterrupted recovery. She was discharged home quite well in a month's time.

After operation the following story was obtained from the patient. Twelve years ago, when the lump grew, she thought she was pregnant, and when the time came for delivery pains started, but nothing happened. After three days she was told by a Chinese medicine man that she had not been pregnant, whereupon he needled the lump, and told her she would have it for the rest of her life. The story was verified by her husband.

An *x*-ray of the removed tumour is reproduced.

X-ray of tumour removed from the abdomen of a Chinese woman, where it had remained for twelve years.

Ectopic pregnancy going to full term is rare, and the omission of the condition in the differential diagnosis of this case is perhaps excusable.

I am indebted to the American Free Church Mission authorities at Wuhu for inviting me to operate at their hospital during three weeks' residence in the port, and to Dr. Watters, the medical superintendent, who gave valuable assistance during the operation in this case.

W. WARD DARLEY, M.R.C.S., L.R.C.P.
H.M.S. *Gannet*, China Station.

PUERPERAL INVERSION OF UTERUS

Dr. Noel Hypher records a case of acute puerperal inversion, in the *Journal* of August 2nd, 1930 (p. 179). I had a similar case this year, the details of which I now record.

The patient, a fisherman's wife, aged 29, was confined on January 4th with her first baby. As the labour was

prolonged, and the patient was getting exhausted, my assistant, Dr. Muriel Rippin, delivered with forceps, whilst I administered the anaesthetic. The placenta did not follow, and Credé's method of expression was tried and failed. Finally, as there was considerable haemorrhage and the woman showed signs of collapse, I extracted the placenta manually. I found it definitely adherent. After extraction the patient got much worse, and some slight bleeding continued. All the usual methods of treating shock were employed, and she gradually recovered, but still remained in a very weak and serious condition. Before leaving I made another internal examination, but, beyond feeling a big, oedematous, patulous os, noticed nothing abnormal. Dr. Rippin and I both felt the fundus, which appeared to be tightly contracted, but possibly smaller and rather lower than usual.

On the second day the patient seemed much better, and the fundus, which was felt daily, seemed to be involuting rapidly; no indentation was felt. On the fourth day the patient said she felt perfectly well, and had a cooked dinner. Temperature normal, pulse about 80. On the fifth day the fundus could only just be felt above the pubis, and the patient did not seem quite so well, with a little rise of temperature and a slight discharge.

On the sixth day the patient was worse, although she maintained that she felt well. Temperature 101° F.; more discharge. An internal examination revealed the whole of the uterus to be in the vagina, completely inverted. It was difficult to know what to do. It was suggested to leave it till it sloughed off, as seemed to happen in a case with recovery, recently recorded in the *Journal*. I decided to replace it at once. This was done under an anaesthetic, after cleansing, with very little difficulty. The vagina was packed with gauze and daily douched. The woman got quite well, and was up and about under the month.

I consider that the top of the fundus may have been drawn in by the adherent placenta during manipulation, and then the uterus contracted on this portion, gradually becoming completely inverted like an intussusception. I find that Matthews Duncan, in Taylor's *Midwifery*, states this is what usually occurs in these rare cases (1 in 190,000 confinements). But, on the other hand, the inversion may take place at the cervix; the lower part, yielding first, is rolled out.

In twenty-six years of practice, with plenty of midwifery, I have only once before seen a case of inversion. That was a case to which I was called in from the street while on my rounds. Here the whole uterus was outside the vagina, bleeding profusely, the placenta still adherent. The woman was moribund, and died before I could do anything to help her. In this case, I think the inversion was most probably caused by excessive suprapubic pressure applied by the midwife.

Lowestoft. DUDLEY W. BOSWELL, M.D., D.P.H.

Reports of Societies

GROWTH IN CHILDREN

The meeting of the Medical Society of London, on March 23rd, was devoted to the subject of growth in children, considered clinically, radiologically, and histologically. Dr. R. A. YOUNG was in the chair.

Dr. H. A. HARRIS, in introducing the subject, gave particulars of some observations which had been made in various departments of University College Hospital. To his mind the term growth conveyed something more than height and weight. It comprised the gradual development from the early ovum to the senile body. It included the acquirement of new functions, fresh responses to environment, and the unfolding of new patterns of behaviour. To an intelligent person a baby was of interest, not because it weighed 20 lb. at 12 months, but because it was a creature of various activities. Not only was the child growing from the start of life, but it was also gradually dying. At the same time as the growth pattern was evolving, certain parts of the child were undergoing a form of localized death. He had used for some time as a check on his own observations the well-known table which roughly indicated the first year of life as the first springing-up period, the second to the fourth year as the first filling-out period, the fifth to the seventh year as the second springing-up period, the eighth to the tenth year as the second filling-out period, the eleventh to the fifteenth year (adolescence as distinct from neutral childhood) as the third springing-up period, and the sixteenth to the twentieth year as the third filling-out period. The age divisions differed in boys and girls, but the change from the springing-up periods to the filling-out periods was very well marked. Dr. Harris also showed the curve based on the work of Scammon. This demonstrated, separately, curves for skeletal growth, neural growth, lymphoid growth, and genital growth. The nervous growth of the child was strikingly different from the skeletal growth. A boy at 7 took almost the adult size in hats. The growth of the brain was remarkably precocious. The lymphoid growth shot up to a maximum at about the age of 10 to 12, and then fell away. Genitally there was very little growth after birth until the immediate pre-puberty period. Altogether, height and weight gave a poor idea of growth unless the child could be viewed from the point of view of his neural, lymphoid, and genital development. Even all these curves together presented but a very imperfect picture of growth in the child, for every organ and tissue—one might almost say every cell—had its own peculiarities at different age periods. He drew attention to some queer exceptions to the order of the four groups he had mentioned. For example, the uterus lost weight from birth until the pre-puberty stage, and the suprarenal lost its birth weight and did not regain it until puberty. If one took the endocrine organs as a group, there was no evident correlation between the pituitary, the pineal, the thyroid, and so on. An extreme type of precocity in growth was furnished by the head of the human foetus at twenty weeks, when the superior semicircular canals were already marked out with ossification around them, the size being the same as in the adult. Any disorder of growth in the internal ear, therefore, must date before the twentieth week of foetal life. One could take organ after organ and demonstrate either precocity or delay.

Turning to the curious contrasts among animals, Dr. Harris said that the guinea-pig at birth showed a stage of development equal to that of the 7-year-old child—it was too old at birth to get rickets—while the rat, on the other hand, was born a very immature infant. The colt ran about directly after birth, while the kitten was helpless. The parent polar bear weighed half a ton, but its two cubs each weighed only 3 lb. at birth. Not only was the newborn guinea-pig equivalent to a 7-year-old child in respect of ossification, but its brain was almost as large as its mother's. From all these facts it appeared that growth was a very complex phenomenon. The fundamental growth curve was very far from furnishing any satisfactory explanation. In all the experimental laboratory animals there was no trace of the succession of springing-up and filling-out periods which were seen in the human child. In dogs, cats, and rabbits the growth curve tended to be uniform in type. The dog raced through its childhood, without any of those spells or

periods of delay characteristic of the human being, and became sexually adult at 1 year.

Dr. Harris then went on to discuss the processes of growth in bones, pointing out three distinctive stages: in the first, origin of cartilage, with proliferation of cells; the second, a process of calcification and senescence of cells, with some alteration in the intracellular material; and the third, the removal of the calcified cartilage and the laying down of new tissue in the shape of bone. The first of these three processes was a vegetative one, concerned with breeding, and the third was an animal process, with special function, as distinct from mere proliferation. The growth of cartilage depended almost entirely upon growth-promoting water-soluble substances, the calcification of cartilage on vitamin D, and the production of a working bony tissue on fat-soluble vitamin A, which guaranteed the soundness of the differentiated tissues. He showed many interesting sections illustrating bone formation, and again pointed out the great complexity of the question of growth. To him the whole story of evolution was wrapped up in the problem of the extent to which the specialized differentiated tissue overcame the merely vegetative proliferating tissue—the substitution of increased function at the expense of breeding. The complexity of the subject was increased by the fact that nature had curious variations. An excellent example of it was furnished in the nervous system. The brain grew almost to adult size in seven years, but in addition there was the tremendous complication arising from specialized precocities such as the internal ear. There was no philosopher's stone represented by some so-called growth-producing food which was going to remedy that which nature had taken a few million years to bring about.

Dr. GARDINER HILL described a series of cases of children who had been sent to him during the past few years for defective growth. It seemed possible to classify these children into those who were normally proportioned and those who were disproportioned. With the former, one found, if one followed them up for a period of years, that the majority developed quite normally. Most of these children were either prematurely born, had a family history of delayed development, or had suffered from some cachectic illness like diabetes, and growth had been delayed, but ultimately most of them developed into normal individuals, though perhaps "on the small side." The second group really consisted of the pathological cases, and could be divided into two: those who had suffered from one of the various forms of rickets, and those in whom there was some endocrine disorder. He subdivided the rachitic children into four types, and the endocrine group into three—namely, cases of thyroid deficiency, cases in which the anterior pituitary was destroyed, and cases in which there was some deficiency of the sex glands. He also showed some interesting cases of eunuchoidism. Radiography was helpful in the study of these cases, because, in the normally proportioned case, bone development was normal for the size of the child, but backward when compared with a person of normal size; in the rachitic group the typical changes of rickets were present; in the endocrine type bone development was backward, both for age and for size.

The PRESIDENT said that Dr. Harris's address had been so original and so fascinating that probably it had had the effect of discouraging discussion, members preferring to think about the points he had brought forward. Dr. Harris, as an anatomist, had shown how a living anatomy could be taught, as opposed to the dead anatomy of the student days of many of those present.

Dr. HARRIS said that his views on growth and bone formation were really very much in the melting-pot, and new facts were continually coming forward which threw considerable doubt upon his previously formed notions. What he had wanted to stress in particular was that there was no short way of tackling the problem of growth. There could be nothing rigid in the position taken up at present with regard to this matter. One practical point which could be stated dogmatically was that for many children in hospital the most efficient treatment for dietetic deficiencies was cod-liver oil, which was much better than far more expensive preparations.

THE VALUE OF LIVER IN TREATMENT

At a meeting of the Section of Medicine of the Royal Society of Medicine, held on March 24th, the subject of discussion was the value of liver in treatment. Dr. R. A. YOUNG, president, occupied the chair.

Dr. JANET VAUGHAN said that she had attempted to classify the conditions which had been extensively treated with liver with reference to the degree of response to such treatment. Anaemias which reacted to liver extracts were: idiopathic pernicious anaemia, sprue, pernicious anaemia of pregnancy, and pernicious anaemia associated with intestinal lesions. Secondary anaemia following haemorrhage was responsive to whole liver as opposed to liver extracts. Anaemias affected by whole liver and iron were the secondary anaemias associated with starvation, carcinoma, haemorrhage, and defective dietary in children. The anaemias irresponsive to liver were, in the first place, the simple achlorhydric anaemia, so common in middle-aged women, and which improved extremely well on iron therapy, and the secondary anaemias associated with leukaemia, sepsis, nephritis, the Banti syndrome, acholuric jaundice, cirrhosis of the liver, and scurvy. Aplastic anaemia was also unaffected, and the blood diseases which were irresponsive were haemophilia and purpura haemorrhagica. The anaemias of the first group, belonging to the pernicious anaemia syndrome, which were influenced by liver and stomach extracts, were characterized by a deficiency in the gastric digestion of protein and a megaloblastic hyperplasia of the bone marrow. Clinical and experimental evidence suggested that the effective principle in liver and stomach extracts was essential to normal development of the megaloblast, and was elaborated by gastric digestion of protein, the liver and kidneys probably serving as storage depots only. When, therefore, owing to faulty gastric function, this principle was lacking, the megaloblast, which was unable to develop, proliferated. In the second and third groups—namely, anaemias responsive to whole liver, and those reacting to whole liver and iron—megaloblastic hyperplasia did not occur, and extracts, therefore, which contained only the principle affecting megaloblastic tissue were valueless. The deficiency in these cases was possibly due to faulty absorption, dependent upon achlorhydria, of both iron and the second factor present in the whole liver. It was recognized that the isolation of the factor effective in pernicious anaemia would revolutionize the treatment in the first group, but certain principles applied to the technique of both oral and intravenous administration. The latter was ideal in acute cases, but as suitable preparations were not yet generally available, massive oral dosage was the best substitute. Conditions affecting the level of an adequate maintenance dose were: sepsis, nervous lesions, arterio-sclerosis, and iron and thyroid deficiencies. In treating a severe case of idiopathic pernicious anaemia, the essential point was to give as large a quantity of the effective material as possible in the shortest time. It was necessary to keep the red cell count over 4,000,000. Liver therapy would be of real value when those conditions in which it could be expected to act in a satisfactory manner by relieving a known

deficiency were realized, and, secondly, when the essential importance of an adequate dose was thoroughly grasped. An adequate dose in many cases would probably appear to be an absurdly large dose.

Dr. S. C. DYKE said that liver had now taken a well-recognized place in the treatment of pernicious anaemia, but of all diseases pernicious anaemia was probably most frequently diagnosed when it was absent and not diagnosed when it was present. He desired, therefore, to say a few words on diagnosis. There were three points to be borne in mind: (1) an average increase in the size of the red cells; (2) haemolysis; and (3) achlorhydria. For the examination in respect to the first of these he advocated one of the modifications of the Pijper method (*British Medical Journal*, 1929, i, 635), by which a film of blood was used as a diffraction-grating. He thought that that should not be omitted from any case in which there was doubt. The question of haemolysis depended upon the colour of the skin, the presence of bile pigments in the urine, and a positive van den Bergh reaction in the serum. Evidence as to achlorhydria might be obtained by means of the fractional test meal. It was advisable to include this in all cases where it was desired to establish a certain diagnosis. With regard to free hydrochloric acid, it was necessary to bear in mind that a few cases of what was obviously true pernicious anaemia, giving the full blood picture, had been recorded in which a fractional test meal had shown free hydrochloric acid present. Pernicious anaemia depended upon some failure in the splitting up of protein in the stomach, but one was forced to the conclusion that although free hydrochloric acid was absolutely essential for the formation of the anti-anaemic principle, none the less pernicious anaemia might develop even when such free hydrochloric acid was present. As a final diagnostic test, one ought now to include the response to liver itself. It was possible that in certain cases of true pernicious anaemia the anti-anaemic principle of liver could not be made use of even when taken by the mouth. So far as treatment was concerned, to determine whether or not any given case would respond to liver therapy need not necessarily entail any long delay from a clinical standpoint. He would lay it down as a general principle that having diagnosed pernicious anaemia, and having initiated liver treatment, if one failed to find a definite reticulocyte response by the fifth day it was probably not worth while persisting in the treatment. With a high degree of anaemia to start with, the reticulocyte response might be very high. The actual estimation of the reticulocytes was not a difficult matter. A further early sign of response to treatment was an improvement in the colour of the patient. It was of the utmost importance that the anti-anaemic principle should be given in sufficient dose, and in his view a sufficient dose was equivalent to about half a pound of liver a day, as originally set out by Minot and Murphy. In the early stage of the disease blood transfusion might be called for, but he tended less and less to regard the transfusion of blood as being necessary. With the exception of hydrochloric acid, he had found no value from the continued use of the earlier remedies for pernicious anaemia along with the liver. With successful treatment there was a return to a normal blood picture, and not a modification of the red cells alone. The nervous manifestations frequently constituted the most distressing and the most persistent feature of the disease. The assessment of the value of liver in other anaemias than those of the pernicious type was a difficult matter, because these anaemias formed a large and heterogeneous class. In secondary anaemias he had found the treatment useful only in those cases due to haemorrhage—puerperal, gastric, from piles, and from ulcerative colitis. The effect was enhanced by iron. In chlorosis the treatment appeared to be useless, and in the leukaemias there was no effect on the white cell count, but the treatment appeared to assist in maintaining the red cell count.

Treatment by Hog's Stomach

Dr. JOHN F. WILKINSON said that about two years ago, with a view to following up the work of W. B. Castle (*Journal*, 1929, i, 1120) on the occurrence of achylia gastrica in association with pernicious anaemia, it had appeared to him that the gastric tissue would prove a very potent source of the active substance which was absent from cases of pernicious anaemia. He therefore looked round for a common source of supply, and the three that occurred to him as being most available were the stomachs of the ox, the sheep, and the *pig*. From later experiments he found that the stomachs of the ox and sheep did not possess the therapeutic value of the pig's stomach, and therefore he had confined his further work to that particular tissue. He administered to nine patients the raw uncooked hog's stomach, and they all gave a very good response—a very much greater response than he had anticipated. As long as they were in hospital he was able to keep them on this diet, and after discharge they were put on a desiccated preparation which he was himself making in the laboratory. Of these nine cases, one man was kept on raw stomach tissue the whole time; he had now had this patient under treatment for twenty-two months. The dose he originally gave him was about 250 grams per day whilst in hospital; he then gradually reduced the dose until eventually the man was receiving 1,000 grams per month. He took this amount in three days, and then took no more for the rest of the month. The dose was reduced to 750 grams monthly, but the red cells and haemoglobin fell, and therefore he increased the dose again to 1,000 grams. For obvious reasons, raw stomach was not convenient to administer to the bulk of patients, although it was the cheapest method of treatment he knew. It was certainly more palatable than raw or partially cooked liver. Desiccated preparations were more convenient, and he had been using these in the majority of cases. The normal initial dose in the severest case need not exceed 1 to 1½ ounces daily. As soon as response began, and the red cells increased to 4,000,000, the dose could be reduced to 1/2 ounce, and he had found that the average maintenance dose for the majority of patients was somewhere, varying according to the individual, between 1/3 and 3/4 ounce daily. It was extremely important that these patients should take an active preparation. He considered the use of hog's stomach under two heads: first of all, in connexion with pernicious anaemia, including the pernicious anaemia of pregnancy; and in the second place, in the other conditions in which liver was tried. In pernicious anaemia the immediate results were very similar to those obtained with liver, but rather more rapid. He had under observation at the moment 140 cases of pernicious anaemia on hog's stomach treatment, and of these, 108 cases had been on this treatment for a minimum of six months and a maximum of twenty-two months. There had been a definite relapse in thirty-one cases on the liver treatment, but on the hog's stomach treatment more than 92 per cent. were perfectly well and free from symptoms, and a further 6 per cent. were well, though still suffering from some lesser degree of nervous impairment. No single case in the whole of this consecutive series had failed to respond to hog's stomach, and two of the patients now had not taken any treatment for six months. He had had several cases, outside this series, of definite posterior lateral sclerosis without blood changes, and while every one of them had shown a blood response

within the region of 6,000,000 red cells, there had not been so far a great improvement in their nervous condition. Of the series of 108 cases, 22 patients had red cell counts of between 4,000,000 and 5,000,000; 85 had a count of over 5,000,000, and of these latter, 32 had over 5,500,000, and 13 over 6,000,000. He stressed the point that the treatment of pernicious anaemia should be continued—it should not be stopped without very careful consideration—and with this end in view it was very important that regular blood examinations should be made. On doing regular counts every four weeks, he had found that the slightest infection profoundly influenced the red cell count; even the common cold would send it down to the region of 3,000,000. At such periods it was advisable to increase the treatment, whether by liver or by hog's stomach. In regard to the other group of conditions (not pernicious anaemia), the result of hog's stomach treatment fell into line with the results obtained with liver. He mentioned two cases of epithelioma of the mouth; both patients had achlorhydria, and had blood pictures typical of pernicious anaemia. They were treated by hog's stomach. One of them did not do at all well, but the blood picture changed to that of the secondary type of anaemia. The second had done extremely well, and was undoubtedly very much better. Radium treatment was being given for the local lesion, but the blood changes were in keeping with those seen in the treatment of pernicious anaemia. Finally, there were a large number of patients who complained of vague gastro-intestinal disturbance. Examination of these patients frequently disclosed achlorhydria, very often an achylia, and in these cases the results of treatment with hog's stomach were remarkable. The symptoms were undoubtedly relieved, and the blood count certainly approached 5,500,000, sometimes 6,000,000, red cells.

Dr. WILLIAM BROCKBANK said that after the remarks of Dr. Wilkinson it might be thought that any further words on liver treatment must be in the nature of a funeral oration. But it was as well to remember that liver treatment had already saved many hundreds of people from death. It was immeasurably superior to the previous treatment by arsenic, which, although it did prolong the lives of patients with pernicious anaemia for a few months, or occasionally a few years, was more effective in preserving the bodies of the dead than in preserving the life of the living. Of the cases under his observation which had been treated by liver, quite 50 per cent., provided the diet had been strictly adhered to, had returned to normal health, and a further 15 per cent. could be added to this figure were it not for the persistence of neurological manifestations. The less the liver was cooked the better. In his experience all the patients who had cooked their liver to any great extent had relapsed. Most of the work had been done on whole liver, because liver extracts were more expensive and not so reliable. The patients were allowed to cook the liver very slightly, to remove the first unpleasant rawness. Symptoms of flatulent dyspepsia, often associated with diarrhoea, did tend to persist on the liver diet. Such patients were placed on a mixture of hydrochloric acid and pepsin—three parts of glycerin of pepsin, and one part of dilute hydrochloric acid—and they sipped this mixture, flavoured with orange juice, throughout their meals. This had never failed, in his experience, to relieve the symptoms of dyspepsia.

Dr. G. W. GOODHART had known a number of cases which appeared from the blood count to be typical pernicious anaemia, but did not produce the asymmetrical curve which was essential for diagnosis, and this was a possibility worth remembering in cases which did not respond to liver.

OEDEMA AND NEPHROSIS

At a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland held on March 13th, with the president, Dr. H. F. MOORE in the chair, Dr. A. G. THOMPSON read a paper on oedema and nephrosis. Four cases in which the nephrotic syndrome occurred were fully described. This syndrome consisted clinically of oedema and oliguria without any necessary defect of kidney function; from the biochemical aspect its main features were albuminuria, no evidence of nitrogen retention, a high blood cholesterol, and a diminution of the serum proteins which affected the albumin fraction more than the globulin fraction, with the result that the albumin-globulin ratio fell. The speaker outlined the progress of these cases and the effect of treatment, together with the results of frequent exhaustive blood examinations. In one of the cases death took place ar photomicrographs of the kidneys showed a pure, (almost pure, tubular degeneration. Dr. Thompson di cussed the causation of the nephrotic syndrome. Th picture presented by nephrosis was fairly definite, but th cause far less certain. It was possible that the caus might be external to the kidney—for example, primary change in the blood proteins. It might occu by itself or it might be a part of a glomerulo-nephritis.

The PRESIDENT said that he had recently had severa cases of nephrosis under observation, and in none of ther had there been any hypertension. This was curious, sinc it had been shown that in most cases there was som involvement of the glomeruli. The appearance of a fev red blood cells in the urine did not negative a diagnosi of nephrosis.

Dr. T. G. MOORHEAD noted that Dr. Thompson hac used a chlorine-free diet. He himself had long since discarded such diets, owing to the fact that there was no evidence of chlorine retention in the blood. The retention of chlorides in the body was probably due to the fact that oedema fluid was retained in the tissues. Dr. A. R. PARSONS was sorry to hear the President's statement that the glomeruli were sometimes involved, because this seemed to him to render it extremely difficult to differentiate the condition of nephrosis from that of glomerular nephritis. Dr. E. T. FREEMAN referred to a case recently under his care which had benefited greatly by treatment by novasurol, and said that novasurol and salyrgan were especially useful in cases of nephrosis. He regarded the presence of blood in the urine as distinctly against the diagnosis of nephrosis. Widal had recognized the fact that chlorides were not increased in the blood, even in cases in which there was practically no chloride excretion by the kidney. Dr. J. MOWBRAY thought that the new term "nephrosis" made the already existing confusion worse than ever. He failed to understand to what condition the term nephrosis should be applied. Should one apply it to the subacute condition which often followed acute nephritis, or to old-style chronic parenchymatous nephritis, or to both? Dr. R. A. Q. O'MEARA suggested that confusion arose because etiology had not been sufficiently considered. Acute nephritis could be produced either by bacterial toxins and chemical poisons or by toxic proteins arising within the body. Some of the abnormal conditions of the kidney occurring in pregnancy were of the last-named class. The condition of the patient depended upon the degree to which the different elements of the kidney were attacked. In nephrosis much protein was lost by the kidney. As a result, the fat reserves of the body were called upon. Imperfect metabolism of fat resulted in the production of cholesterol in excess, and finally the kidney tried to excrete this cholesterol.

Reviews

ACUTE INTUSSUSCEPTION

The latest addition to the new French Monographs on Paediatrics Series is entitled Acute Intussusception in the Infant,[1] and its authors, Drs. F. D'ALLAINES and J. ARMINGEAT may be congratulated on a valuable piece of work. In a little over a hundred pages they deal with every aspect of this important subject, giving a good survey of the literature—with more Anglo-Saxon references than usual in a Gallic product—and they rightly make the questions of early diagnosis and early operation the main themes of the book. They quote two principles which adequately summarize the whole matter: "signs of obstruction plus the passage of blood per rectum equals intussusception," and "every infant with obstruction who is passing blood per anum ought to be operated upon at once." The short chapter on etiology fails to give any adequate explanation for the occurrence of intussusception, and it is not quite in accord with English views to say that while 68 per cent. of all patients are under 1 year of age, 50 per cent. of cases occur before 6 months, since the usual period is surely the second six months of life. Apart from this small blemish the book can be thoroughly recommended, and the simple lesson it teaches would, if learnt by all practitioners, save an appreciable number of lives each year.

DISORDERS OF THE DIGESTIVE SYSTEM

In his preface to a *Practical Treatise on Diseases of the Digestive System*,[2] Dr. L. WINFIELD KOHN states that he proffers his book to "those who would supplement their knowledge of gastro-enterology" by "recourse to a thoroughly modern, scientific, practical reference book," a statement which can scarcely be said to disarm criticism. Dr. Kohn has had a wide experience of gastro-intestinal disorders in Baltimore, Philadelphia, and New York, and this is shown to advantage in some of his descriptions of the rarer diseases, as also in his discussion of gastroscopy and gastrophotography and in the wealth of excellent illustrations, mostly from *x*-ray photographs. He has attempted a very thorough treatment of his subject, commencing with anatomy and leading on through physiology, history-taking, objective findings, special methods of examination, clinical significance of findings, neurological considerations, and finally clinico-physiological considerations, to the actual diseases, which are first dealt with on page 423. This section is then followed by nearly 150 pages dealing with diet and therapeutics in general.

Such a plan, though perhaps theoretically sound, is apt to lead the unwary author into long and wearisome detail, and above all to tiresome repetition. Moreover, a book so constructed has disadvantages for reference purposes, since one finds part of the treatment of a disease under its own heading, part under diet, and part again under therapeutics. When, in addition to this, the author's knowledge of the scientific side is not always beyond question (a good deal of recent work with regard to such subjects as secretin, bile, jaundice, and secretion of chlorides by the stomach is omitted) and his style is vague rather than definite, rambling rather than concise, it becomes evident that a large part of the two volumes is tedious to read, and could profitably be cut down to a third of its present length. The subject of vitamins, for instance, is discussed in some detail under "deficiency diseases" and again under "vitamins" and further mentioned under "vitamin demands."

The description of diseases themselves, with their treatment, is the best portion of the book, though here again the author tends to wander from history to examination and back to history, and indulges in such sentences as "One of the most usual affections involving this particular part of the bowel is called appendicitis and also the condition termed perityphlitis" (p. 614), and such vague instructions as "The employment of various drugs such as morphine, atropine, and the various alkalis, including bismuth subcarbonate, sodium bicarbonate, calcium carbonate, etc., should be advised" (under the treatment of gastric ulcer). There are, besides, many serious omissions in a work which is intended as a textbook. For example, blood transfusion in the treatment of haematemesis, intermissions in the history of a gastric ulcer patient, saline purgatives in the treatment of various forms of colitis and dysentery, and the mercury-loaded bougie in the treatment of cardiospasm, are not mentioned. Moreover, in the long section on *x*-ray examination, Berg's technique for obtaining pictures of the mucous membrane (Schleimhautreliefbilder) is omitted. A bibliography follows each chapter, but its use is limited by the fact that in many instances the author has not been referred to in the text, and the title of his article is not given. Many of the illustrations also would gain by a suitable reference from the text.

After attempting to digest this mass of redundant detail, lacking in definite instruction, the reader will find a welcome relief in the lucid and concise style of Zachary Cope, who writes a brief but adequate chapter on the surgery of the gastro-intestinal tract. Altogether it seems to us that in this book there is a wealth of material which has been carelessly treated, and the prevailing impression is one of disappointment rather than of condemnation. It is to be hoped that in the form of a second edition this material (preferably condensed into one volume) will be supplied in a more palatable form.

OPERATIVE SURGERY

To Mr. CECIL P. G. WAKELEY has been entrusted the task of editing a fifth edition of Treves's well-known *Student's Handbook of Surgical Operations*.[3] It is by no means easy in a book of this size to cater both for the needs of a student attending a practical class in operative surgery and for the man in practice who wishes to revise his knowledge of operative technique. But it is evident throughout that Mr. Wakeley has kept this twofold object in mind, and with such a measure of success that a warm welcome from both classes of readers is assured for this new edition.

The arrangement of the book remains much the same, but a little alteration in the sequence of chapters, a considerable increase in the number of illustrations, and improved paper and type make it a decidedly more readable volume. For the first time such common orthopaedic operations as those associated with the names

[1] *L'Intussusception intestinale aiguë du nourrisson.* Par F. d'Allaines et Jean Armingeat. Monographies de Pédiatrie et de Puériculture. Paris: Gauthier-Villars et Cie. 1931. (Pp. x + 122; 12 figures. 20 fr.)

[2] *Practical Treatise on Diseases of the Digestive System.* By L. Winfield Kohn, M.D., F.A.C.P. Vols. i and ii. Philadelphia: F. A. Davis Company. 1930. (Pp. 1125; 542 figures, 7 plates. 12 dollars net the two volumes.)

[3] *The Student's Handbook of Surgical Operations.* By Sir Frederick Treves, Bt., G.C.V.O., C.B., LL.D., F.R.C.S. Fifth edition, revised by Cecil P. G. Wakeley, F.R.C.S. London: Cassell and Co., Ltd. 1930. (Pp. xi + 535; 190 figures. 16s. 6d. net.)

of Stöffel and Steindler are described, laminectomy is both described and illustrated, and accounts are introduced of periarterial sympathectomy, avulsion of the phrenic nerve, and injection of varicose veins. A valuable description of "pre-operative ritual" precedes the rewritten section upon operations on the renal tract. Radium finds a place, not only as a subject for a new final chapter, but in the description of surgical treatment of cancer of the breast. Room for all these additions and many more has been found by the omission of obsolete procedures, such as some of the classical amputations of the lower limb, and of many of the comments introduced by Jonathan Hutchinson and now completely out of date. Quite properly Berger's fore-quarter amputation has been reintroduced. It will surely not be long before yet a further revision is called for, and when that time comes we hope to see the operation for ventral hernia put in its proper place, and not in the chapter devoted to strangulated hernia, and the suggestion eliminated that after treatment for a stricture of the urethra the patient "ought to pass a fair-sized bougie himself regularly."

A failure to find anything more important to criticize adversely should go far to commend the book as a well-balanced and trustworthy aid to teachers of operative surgery, their pupils, and the youthful practising surgeon.

OSTEO-ARTHRITIS OF THE HIP

Dr. DUVERNAY has collected his observations on chronic osteo-arthritis of the hip-joint[4] in a small, very readable volume, profusely illustrated with *x*-ray photographs, both direct and stereoscopic. His thesis is that two types may be recognized. In one of these there is no disturbance of the normal configuration of the hip-joint, while in the other this is grossly distorted. He maintains that in no case does the first develop into the second, and that they are two distinct clinical and pathological entities. The first is an example of chronic arthritis, such as may occur in any joint. The second is always the sequel of hip-joint anomalies which have arisen in childhood. These anomalies comprise: (1) congenital subluxations; (2) coxa plana; (3) coxa vara; (4) acute arthritis of the hip-joint. After adolescence these conditions may cease to give trouble and the patient may be able to undertake strenuous exercise, but in later life, toxaemias, strain, and infections cause a superimposition of arthritis. This is accompanied by the osteophytic outgrowths and distortions of both acetabulum and femoral head, so characteristic of malum coxae senilis. The author makes no mention of degenerative factors, or of the local arteriosclerosis described by Strangeways or of the areas of rarefaction in the bone demonstrable in the radiogram; but the symptomatology, diagnosis, and prognosis are adequately dealt with, and both medical and surgical treatment are discussed. In medical treatment the author favours diathermy, and wisely lays stress on the necessity for repeated visits to thermal stations for balneological treatment if good results are to be obtained. He points out that surgical procedures are admirable in theory, but in practice the patient is seldom able to stand the severe measures necessary to achieve the desired results. A useful discussion of the variations in form of the acetabulum appears in an appendix. Dr. Duvernay lays stress on the want of co-operation and common understanding between orthopaedists dealing with juvenile hip disease and physicians treating arthritis of the hip, and his book merits the close attention of both groups as well as of all those interested in this common malady of middle and later life.

[4] *L. [illegible] de la Hanche.* Par L. Duvernay. Paris: Masson et Cie. (Pp. 119; 51 figures. 40 fr.)

"CHILL"

Dr. MARIAN THORNETT'S suggestive treatise on the dangers and prevention of chill[5] is founded on observation of infants and growing children in London and on personal experience of both hot and cold countries. The thesis for which she invites criticism may be summed up in three propositions: (1) that a warm moist skin often causes chill from excessive evaporation, which is always dangerous in cold climates, and that it is the warm skin that feels the cold; (2) that mouth-breathing produces adenoids, and is commonly caused by the gasping of over-heated infants; (3) that the exaggerated susceptibility to cold in England is caused by over-clothing. It is not surprising, therefore, that the author has much to say in praise of a cool skin, believing that the serious danger of over-heating the skin in changeable and windy climates has not been sufficiently recognized. Even an almost imperceptible perspiration may cause great susceptibility to cold. There is reason for her statement that if the skin is cool and dry, as it usually is in lightly clad persons, exposure to cold causes a favourable reaction. But if this is, within limits, a rule of health, it is obviously not applicable to many delicate persons. The east wind is admitted to be an unfriendly element in the English climate, and windproof cloaks are advocated as a good defence. Readers who are interested in the causation and treatment of catarrh and rheumatic affections will find useful suggestions in this little work, though some statements require modification—for example, the dictum that the heated skin bears cold badly. The whole question of the relation of the skin and of chill to the causation of these and other diseases is an attractive one, and still needs elucidation.

TREATMENT BY STARVATION

Cures by hunger or thirst, of which Professor GÜNTHER gives a systematic and carefully written account in his book on this subject,[6] are at present attracting attention in the treatment of diseases of metabolism. The practice of starvation is as old as history, and the widespread custom of geophagy was no doubt a mitigated fasting. Hippocrates taught the uses and dangers of hunger-cure, but gave no special indications for it; and Asclepiades was accustomed to prescribe a three days' fast. In his interesting historical chapters the author recalls the mediaeval practice of fasting and thirsting when syphilis was treated by deep potations of infusion of guaiacum and no other drink allowed. A century ago the Silesian peasant Priessnitz was treating chronic diseases by cold affusions and 2 to 5 litres of water by the mouth, while in the neighbouring village Schrot was denying all liquids but gruels.

The clinical indications for reduced diet and periodic fasting are here fully dealt with, and useful warning given—for example, in cases of high blood pressure with pallor, the diet should be reduced to nitrogenous food only; for florid persons all kinds of food should be reduced. In members of families liable to hypertension, periodic fasting is a main preventive. Among other indications are obesity, gout, diabetes, allergic states (many migraines), acute infective and febrile disorders, and dropsies. In all reduced diets variety is the great desideratum. A list of the international literature is appended.

[5] *Chill, its Dangers and Prevention.* By Marian Thornett. F.R.C.S.I. With a foreword by Dr. Jane Walker. London: J. and A. Churchill. 1931. (Pp. xiii + 194. 3s. 6d.)

[6] *Die wissenschaftlichen Grundlagen der Hunger- und Durstkuren.* Von Dr. Hans Günther. Leipzig: S. Hirzel. 1930. (Pp. iv + 171. 1 figure. R.M.8.)

NOTES ON BOOKS

The Hospital of the Protestant Episcopal Church in Philadelphia commemorates the seventy-fifth year of its existence by the issue of volume vi of its *Medical and Surgical Reports*.[1] It is not so unusual in the United States as it is in England for a hospital to be supported by members of one particular religious community. For instance, in Philadelphia itself and in New York there are Presbyterian hospitals, to name only two. This volume of 460 pages does credit to the medical staff who have provided the contents, and to the board of managers, whose liberality made provision for its publication. It includes articles on nearly fifty medical and surgical subjects, dealing with the past and present work of the hospital staff. It is obviously not possible to display in review to our readers any adequate abstract of so many subjects, but we may say in general that the essays are of high merit and considerable interest. In particular, we would commend those on fractures by Dr. Edward T. Crossan, and Drs. A. P. C. Ashhurst and Ralph S. Bromer; that on spastic palsy by Dr. A. Bruce Gill; and on infectious osteomyelitis by Dr. Bromer. Dr. Crossan compares the treatment of fractures in 1853 with twentieth century practice, and finds the chief differences are due to a better understanding of the mechanism of displacement, a better appreciation of the necessity for immediate reduction, the value of Listerism in compound fractures, efficient methods of extensions, and, last but not least, the proper use of *x* rays. But nearly all the essays are merely reprints from medical periodicals. For example, the important and freely illustrated paper of 73 pages by Drs. Ashhurst and Bromer, on fractures of the leg bones involving the ankle, is reprinted from the *Archives of Surgery*, in which it appeared as long ago as 1922. Dr. Bromer's article on "Infectious osteomyelitis: differential diagnosis" is none the less valuable for having appeared elsewhere in 1927.

Drs. M. MOSINGER and R. GRIMAUD have made some experimental investigations on the velocity of corpuscular sedimentation in chronic surgical cases at the Maringer Hospital at Nancy. They premise their observation by a clear summary of the available data on this reaction, with which the name of Fahroeus is usually associated, but which they prefer to call, after its original discoverer, "the reaction of Biernacki." The explanation of the variations in this reaction, such as the acceleration in septic and febrile cases, is still obscure. The effect of certain French medicinal waters in the hospital cases above referred to was more often than not a reduction of velocity—that is, a diminution of previous acceleration. Experiments *in vitro* were more inconclusive. Further investigation of the action of medicinal waters in chronic cases is advocated.

Synthalin B (Dodecamethylenediguanidine) in the Light of Laboratory and Clinical Research,[2] by Dr. HIRSCH-KAUFFMANN, is a short volume that comes from the Children's Clinic at Breslau. The author claims that it is untrue to say that synthalin appeared six years too late to be of value, and argues that this substance is a valuable remedy for the treatment of light cases of diabetes, and that a combination of synthalin with insulin is of value in the treatment of cases of moderate severity.

The fifteenth monograph supplement to the *British Journal of Psychology* consists of an essay, with appendices, on "The growth of visual perception in children," by W. Line, M.A., Ph.D. This embodies the results of a research carried out in the psychological

[1] *Medical and Surgical Reports of the Episcopal Hospital*, vol. vi. Philadelphia: W. J. Dornan. 1930. (Pp. 460; illustrated.)

[2] *La Sédimentation Globulaire: Son Application à l'Hydrologie.* Par Michel Mosinger et René Grimaud. Préface du Professeur Maurice Perrin. Paris: J. B. Baillière et Fils. (Pp. 143; 25 figures. 12s.)

[3] *Synthalin B (Dodekamethylendiguanidin) im Spiegel tierexperimenteller und klinischer Forschung.* Von Dr. Herbert Hirsch-Kauffmann. Berlin: S. Karger. 1930. (Pp. 68; 9 figures. M.4.80.)

NOTES ON BOOKS

laboratory of University College, London, under the direction of Professor C. Spearman, F.R.S. It is published by the Cambridge University Press (price 12s. 6d.).

The War Office Memoranda on Tropical Diseases,[10] which was originally compiled by the late Sir Andrew Balfour, has now reached its fifth edition under the direction of Colonel W. P. MacArthur. Only minor changes have been made in this edition, such as the addition of new matter on sprue and yellow fever, and a general bringing up to date. It is essentially a brief clinical handbook which can be readily carried about in the field, and its scope embraces all tropical and subtropical diseases having a military significance. It is well printed and illustrated, but a number of unfortunate misprints have escaped correction. Some of the older drawings, too, could be usefully dispensed with or replaced by more modern ones.

The tenth edition of *The Motor Boat Manual*[11] contains two new chapters, one dealing with high-speed marine Diesel engines, and the other with metal boats. Since the last edition of this popular handbook was issued about two years ago much progress has been made in the design and construction of hulls and engines. All the new types of inboard and outboard engines developed recently are examined in detail.

[10] *Memoranda on Medical Diseases in Tropical and Sub-tropical Areas, 1930.* Fifth edition. London: H.M. Stationery Office. 1930. (Pp. 399; 159 figures. 6s. net.)

[11] *The Motor Boat Manual.* By the staff of *The Motor Boat.* Tenth edition. London: The Temple Press, Ltd. 1931. (Pp. 329 + v. 5s. net.)

PREPARATIONS AND APPLIANCES

VIODAR

Viodar (Messrs. W. Martindale, 12, New Cavendish Street, W.1) is a new oily preparation, neutral in reaction, containing free iodine (strengths 1 in 200 and 1 in 1,000). It is recommended for local application and for internal administration. When applied externally the iodine is liberated by the warmth of the body.

EXTRACT OF HOG'S STOMACH

Byno eugastrol (Messrs. Allen and Hanburys Ltd.) is a highly concentrated extract of hog's stomach tissue intended for the treatment of pernicious anaemia. In 1929 various authors showed that feeding with stomach preparations produced a curative action in pernicious anaemia equal to, if not greater than, that produced by liver feeding. The makers state that eugastrol "is the result of prolonged experiments, including biological tests, which show that it has the full anti-anaemic potency of stomach tissue."

QUININE MILK POWDER

The tasteless quinine milk powder known as lacquin is a product issued by the firm of Cow and Gate. The chief purpose of this powder is to provide a tropical tonic food which will at the same time afford nourishment and prophylaxis against malaria. A teaspoonful of lacquin contains 2½ grains of quinine.

NEOTROPIN

Neotropin is a new antibacterial dyestuff that is being marketed in this country by Messrs. Schering Limited as a urinary antiseptic. The constitutional formula is 2-butyloxy-2.6-diamino-5.5-azopyridine ($C_{14}H_{19}ON_5$). The dye is water-soluble, and forms a light yellow solution.

Pharmacological experiments have shown that dogs tolerate doses of 0.12 gram per kilo of body weight for long periods, and that single doses of 0.5 gram per kilo are tolerated. These are far in excess of therapeutic doses. The drug is quickly absorbed and is excreted in the bile and in the urine. A concentration of 1 in 10,000 in broth kills many organisms, whilst a concentration of 1 in 1,000 kills all organisms tested in one or two hours.

Clinical tests have shown the efficacy of neotropin in cystitis, pyelitis, and pyelonephritis, and notably in gonorrhoea. It is claimed that the drug, on account of its unusual penetrative powers, is of particular value in treating the complications of gonorrhoea. Many urinary disinfectants have failed to fulfil their first promise, but the experimental and clinical results recorded in the case of neotropin justify the hope that it may prove to be a real advance in this difficult subject.

British Medical Journal

SATURDAY, APRIL 4th, 1931

BALNEOTHERAPY IN RHEUMATISM

The relief of rheumatism by warm baths is traditional. It is surprising to the novice to find that the various "rheumatic" conditions respond very differently to the same form of treatment. As these are studied the possibility of a therapeutic classification comes into view, and it is not unthinkable that this may well be the beginning of a true differentiation of rheumatism.

Among physical remedies heat is pre-eminent in cold climates. In the medium of water it is very flexible, both in dosage and in time and place of application. In our issue of March 7th (p. 397) we published a full report of an address on the treatment of rheumatism by heat, the last of a series of communications in which, since his book on *Physical Remedies* in 1917, Dr. R. Fortescue Fox has pleaded for more precise and accurate use of baths and other external applications. A definite step forward was taken when the British Committee on Rheumatism, of which he was chairman, framed a scheme for a demonstration clinic in London,[1] where physical remedies should be systematically studied and applied to chronic rheumatic diseases—a scheme which was adopted and carried out by the British Red Cross Society. The existing state of this branch of practice in Continental countries, and the principles of modern physical treatment in rheumatic disease, have also been set forth in recent years.[2] In an address given to the Tunbridge Wells Division of the British Medical Association last summer the value of baths was expounded, with particular reference to their action as "artificial climates"[3]; and in his latest communication, given to the Southampton Division, Dr. Fortescue Fox carried this interesting thesis a little further into the domain of etiology. Discussing some of the abnormalities observed in the capillary circulation, he noted the frigo-sensitive condition which large numbers of rheumatic subjects exhibit, and the frequency of subnormal body temperature and of much greater depressions of surface heat. In his view these persons are, first and foremost, defective in the power of thermal adjustment. "For this reason true rheumatic disorders are aggravated in the colder months of the year. . . . Warm-blooded animals artificially chilled are very liable to infections. The mere reduction of body heat, [illegible] blement of circulation, and immobility favour the [illegible] on the [illegible] of micro-organisms." He therefore suggests, between [illegible] ortic [illegible] and physicians that true rheumatism is at its root a [illegible] primarily induced by the repeated [illegible] ments the close atten[illegible] those interested in this cobut subject also to subsidiary later life [illegible] g from food, infection, and endocrine dysfunction. The conclusion seems obvious that thermal treatment—precise, repetitive, and continuous—is the rational treatment of true rheumatism.

Can such a view of the curative value of heat be maintained, in face of the frequent disappointments attending treatment by baths? Against this doubt it is fair to remember that all remedies may fail, and the most admirable of operations. Indeed, the success of therapeutic methods depends as much on the skill of the operator as on the method itself, and it is not every man who can bend the bow of Achilles. It would seem, moreover, that in making use of heat in baths the aim may be missed in many ways: by overdose or underdose, or incorrect spacing, and especially by permitting the cumulative effects to be lost by intercurrent chilling. The principle of maintaining a thermal environment during a course of baths would, if adopted, profoundly modify the current practice in cold countries. In concluding his address at Southampton, Dr. Fortescue Fox enumerated five methods of thermal treatment, both preventive and curative, and graded in temperature, moisture, and movement, as appropriate for the different forms of rheumatic disease as met with in England. It will be noticed with interest that in some of these a certain grade of moist heat is regarded as a sufficient stimulus, to be accompanied by absolute rest. In others various degrees of heat and movement are conjoined.

The key of success in the use of all thermal remedies is held to be the study of individual reactions under treatment, especially in the early stages of disease, before the underlying circulatory disturbance has led to serious anatomical changes. It would certainly seem, from the evidence before us, that this should at all events be one of the main objectives of the new clinics for rheumatism in England; and it is not unreasonable to hope that an intensive study of cases under treatment will throw much light on the nature of rheumatic processes and on the means by they may be best controlled.

DISTRICT NURSING IN LOND

The domiciliary nursing of the sick in Londo from patients able to pay for a private nurse, is taken by district nurses employed by nursing tions, the larger number of which are affiliated Queen's Institute, and by the Ranyard Mission, with a few parish nurses. The local associati the Ranyard nurses number close upon four h and practically all of them have completed thre training at a recognized hospital school. In a *of District Nursing in the Administrative Co London*, prepared by Dr. Margaret Hogart published by the London County Council (1s.) useful particulars of this admirable service ha collected. The salary of the nurse employed district associations is £63 to £75, with board, uniform, and laundry, and of the Ranyard nu resident, £156 to £161, only uniform being

[1] *L'Action de Corrosifs de la Ha*[illegible] 12th, 1927, p. 893.
[2] [illegible] (Pp. 148, 51 figures. 4[illegible] Arthritis, 1928, Appendix, p. 994.

About four-fifths of these women are engaged in the general nursing of the sick, the source of cases being the general practitioner, the voluntary hospital, and occasionally the medical officer of health. The majority of the cases are medical, many of them chronic ailments, which are extremely exacting. The treatment of diabetes by insulin injections, for example, falls heavily upon district nurses. But Dr. Hogarth states that the number of patients seriously ill, and requiring district nursing, for whom such nursing is not available is small, if, indeed, there are any such cases at all. An analysis of the cases nursed by one local association, employing twenty-five nurses, during a recent month showed that out of the total of 519 the greatest number (158) were cases of measles, and the next (53) post-operative nursing in tonsils and adenoids cases. With the exception of a few bodies attached to religious denominations, all associations have definitely ruled that every case nursed must be under medical supervision. The Queen's Institute allows not more than three observation visits before a doctor is called in.

Few district nursing organizations are concerned with midwifery, which is undertaken by medical practitioners, hospitals, independent midwives, and, in four or five boroughs, municipal midwives; nor do the organizations lay themselves out to undertake maternity nursing, or to staff infant welfare centres, except on emergency or holiday duty. Details are given of the arrangements made for nursing under the former Poor Law authorities, and of the nursing of notifiable diseases under the borough councils. A frequent arrangement under the latter head appears to be the payment of about a shilling for each visit to cases of notifiable disease. All nursing organizations undertake the nursing of infectious cases. Domiciliary nursing of scarlet fever, under special precautions, is carried out in a few boroughs. The average number of visits paid to children suffering from measles is 8.7 per case, and from whooping-cough 11.8 per case. The amount of domiciliary nursing of tuberculous patients is small, because, wherever possible, such patients are offered institutional treatment, for the provision of which the London County Council is responsible. The majority of tuberculous patients in need of nursing treatment at home are in the advanced stages, having returned home to die. School nursing is carried out by a staff of about 360 nurses under the London County Council, but the Council arranges with local district nursing organizations for the services of their nurses in minor ailments and otorrhoea, and between sixty and seventy district nurses are employed in this work. Until institutional provision was made by the Council for the operative treatment of enlarged tonsils and adenoids, the visiting of these cases by district nurses was a heavy task. Rather more than 2 per cent. of the nurses' visits are paid to insured persons under arrangements with the approved society. By no means all societies include nursing among their additional benefits; those which do, make a payment to the nursing association at the rate of 1s. to 1s. 4d. for a first series of visits authorized. Two insurance companies arrange for the nursing of their policyholders, making use of the local associations and the Ranyard nurses.

Dr. Hogarth adds some particulars of the finance of district nursing. The cost per nurse, including all administrative expenditure, works out at approximately £200 a year. Most of the associations have to make tremendous efforts to secure sufficient funds. Patients' payments furnish a rather meagre and uncertain income. It should be made plain that only in exceptional circumstances, as when a doctor makes a very special request for the services of a certain district nurse, does such nurse attend a patient able to pay the usual fee of 5s. a visit for private nursing. Dr. Hogarth concludes with a warm tribute to the amount of individual and collective voluntary effort expended in securing for the poorer classes a nursing service of the highest quality. The service is never denied to anyone who cannot pay for a private nurse. The standard of nursing is at a consistently high level, and the educational value of nursing visits to a home cannot be over-estimated. "The altruistic attitude of the district nurse who remains at the work for any length of time is strikingly apparent. For her the work, distasteful and revolting in some of its aspects, becomes more a vocation than a profession, and for this reason alone it is important that her devotion should not be exploited even in the interests of the general public." An appendix to the survey gives an outline of the schemes of training arranged by the Queen's Institute and by the Ranyard Mission.

MILK-BORNE STREPTOCOCCUS EPIDEMICS

Discussions on the diseases spread by cow's milk often centre round the question whether the cow or the dairy is most to blame. In the case of the two acute streptococcal diseases spread by cow's milk—septic sore throat and scarlet fever—the cow's share of the blame has been unjustly exaggerated in the past; in fact, the cow may now claim to be acquitted of any active share in the dissemination of these diseases. The adjective "active" is used deliberately, because there is no denying that the cow may play a passive part in one of these diseases—namely, scarlet fever. To find this conception of the cow as a passive carrier of scarlet fever streptococcus accepted without demur must have been a source of gratification to Dr. W. G. Savage at the discussion at the Royal Society of Medicine on March 25th, for his ideas on this subject received considerable criticism when first advanced twenty years ago. To-day, however, it seems to be freely admitted by veterinary surgeons that the impetigo-like ulcerations which may occur round the teats of a cow do occasionally become secondarily infected with the haemolytic streptococci of scarlet fever, and so cause the milk to spread the disease. It was most interesting to hear, in the course of last week's discussion, that one veterinary surgeon present had personal experience of the celebrated Hendon outbreak of scarlet fever about forty years ago, when a large herd of cows with ulcerated teats was held to be responsible for the spread of a very serious outbreak of scarlet fever. In regard

to the other type of acute streptococcal infection spread by cow's milk—septic sore throat—it is very regrettable that our knowledge is not more exact. Some excuse may be found in the fact that these epidemics are rarer than they were twenty or thirty years ago ; but when an outbreak does occur, our machinery of investigation has been so slow in moving that the opportunities of tracing the source of the epidemic in its early phases, with all the necessary refinements of bacteriological technique, have not been taken advantage of until too late for any reasonable prospect of success. We shall probably gain a better perspective of the question of the relation of septic sore throats to bovine infections by the type of research recently undertaken by Dr. F. C. Minett and Mr. A. W. Stableforth. One part of this work has been the search for, and study of, haemolytic streptococci in the milk of normal cows, and cows suffering from mastitis, and the comparison of these strains of streptococci with those recovered from human infections. It is surprising to learn how common haemolytic streptococci are in ordinary commercial cow's milk, but comforting to be told also that as far as can be judged by fermentation and agglutination tests these bovine streptococci are distinct from those that endanger human health. In particular, there is no longer any ground for the belief that the streptococci which cause bovine mastitis are pathogenic to man. For several years there has been ample bacteriological and epidemiological evidence to discountenance such a speculation, but the work of Minett and Stableforth has, we hope, settled this once and for all. Discussions such as this often have the effect of raising several new questions for each old one that is answered. In this way they give a direction to future research, and very likely it is this guidance which is their most useful function. Two such questions which were provoked by the discussion in the Section of Comparative Medicine are the necessity of finding some fairly simple test for distinguishing pathogenic from non-pathogenic streptococci, and the desirability of a clearer definition of the disease we call scarlet fever and its relationship to other forms of sore throat unaccompanied by a rash.

THE CAPITAL VALUE OF HOSPITALS

A novel investigation has been made into the capital value of expenditure upon American hospitals.[1] The Committee on the Costs of Medical Care included this inquiry within its programme. The investigation was carried out by Dr. Rufus Rorem, at the cost of the Rockefeller Foundation. The report is most detailed, and, although in its entirety it is only applicable to the hospitals of the United States, it has illuminating references to hospital conditions as we know them at home. There are over 7,000 hospitals with 900,000 beds in the States, and these represent a capital expenditure of over £600,000,000. Of this sum 60 per cent. is represented by hospitals for general, medical, and surgical service. Second in order of total capital investment come the mental hospitals, with 27 per cent. Third come the hospitals for tuberculosis, with about 6 per cent. Special hospitals account for some 2 per cent. Of the general hospitals two-thirds have been provided by "non-profit associations." Of the mental hospitals 90 per cent. are Governmental. In general it is found that cases requiring prolonged custody rather than treatment for acute diseases are dealt with by Governmental institutions. Proprietary hospitals account for some 9 per cent. of the total capital value of hospitals. Endowment capital is not an important factor in the financing of hospital service in the United States. The total number of endowed beds does not exceed 15,000, and of a total of 2,604 non-profit hospitals only 1,060 have any endowment capital. In recent years there has been a great expansion of hospital provision ; one-half of the total number of hospitals appear to have been founded since 1910. The capital expenditure has increased enormously, and it is judged that present-day construction programmes and costs indicate that the expenditure has not reached the end. Much of the new capital expenditure is for intensive development of facilities rather than for the provision of more beds. At the present time there seems to be a slowing down in the founding of new hospitals, the tendency being rather to develop the facilities of existing institutions. It is estimated that in the better class of general hospital each bed represents an investment of from £600 to £3,000. These amounts are irrecoverable. The money for the foundation of these hospitals has not been provided entirely by the generosity of the public, and this is even truer of running costs. The hospitals have assessed fees against certain groups of patients, or for certain types of services, which are considerably greater than the costs of rendering these services. This practice, it is said, is not unlike, in its effect, the sliding scale which seems to characterize the laying down of surgical fees. In this way certain patients have been compelled to make contributions to the charitable services of the hospitals. The justification of the practice is said to lie in the net result, and many hospitals pride themselves on their gains from this practice, which is, in effect, a kind of unofficial taxation. It is noted that in the "voluntary" hospitals of this country much less is ordinarily paid by patients than is paid to the non-profit associations in the United States. The cost of hospital services are considered in relation to other medical services. Loss of employment, physicians' and surgeons' fees, nursing fees, need to be added to hospital bills. Since these are not commonly provided for in the family budget, they are apt to fall with crushing weight. It is because of this circumstance that much outcry is directed against hospital costs, although the amount paid by individuals and the public to hospitals may be less than that for professional services or for drugs. Some of the difficulty is debited to inequalities of professional fees. Because medical men do not receive pay for some cases they charge higher for others. "The payment of physicians for all work done for individual patients or for the public is an important feature of good hospitalization. There is no more reason for the medical profession to render free service in Government hospitals than to assume the burden of expenditure for nurses, orderlies, or supplies. It has often been stated that physicians' personal services do not represent cash outlays for supplies, and hence are not of the same importance economically as other medical expenditures. But such is not the case. The only real distinction is historical, in that physicians in the past have been able to recover the value of their 'donated' services by

[1] [illegible] Hospitals. By C. Rufus Rorem. [illegible] University of Chicago Press. 1931. (Pp. xxii + 231. [illegible] 6s. net.)

assessment against their full-pay patients, whereas nurses, orderlies, and the vendors of supplies have not been able to do so. . . . In the past much medical care would probably have been impossible if physicians had not contributed their services to the care of patients in Government hospitals. But it is undignified for an organized community to ask any group continually to make gifts of services or commodities to the public good without crediting them explicitly with their contributions. This custom must be regarded as a practical makeshift rather than a logical solution of the problem."

A SURVEY OF RELAPSING FEVER

The last monthly epidemiological report of the Health Section of the League of Nations for 1930 contained an interesting account of the distribution and fatality rate of relapsing fever during the past ten years in Europe, Asia, and Northern and Equatorial Africa. Although at the present time there are comparatively few cases in Europe, ten years ago, in the period immediately following the war, there were hundreds of thousands. In the European part of Russia, excluding the Ukraine, for example, the number of cases rose in 1919 to 392,000, and in 1920 to 1,570,000, falling to 965 in 1929. In Poland the epidemic reached its height with the return of refugees who had been driven into Russia during the retreat of the Russian armies in 1915 and 1916. The numbers, which were 3,200 in 1919, rose to 7,200 in 1920, 13,850 in 1921, and 41,200 in 1922. Subsequently, a rapid decline took place, so that only 17 cases were reported in 1930. Severe epidemics also occurred during or after the war in Rumania and Yugoslavia, but no cases were reported in either of those countries in 1930. In Italy, where (like Russia) relapsing fever is endemic, 338 cases were reported in 1925 and 153 in 1929. In Northern Africa the incidence of relapsing fever did not materially alter during the war. Sporadic cases and small circumscribed outbreaks continue to occur in Algeria, Morocco, and Tunis, but Egypt, formerly one of the endemic foci of relapsing fever, has been almost free of the disease since 1926. In striking contrast with the decline of the disease in Europe and North Africa, an extremely extensive and deadly epidemic appeared in Kouroussa in the eastern part of French Guinea, where the disease was endemic, in May, 1921, and spread during the following years throughout Equatorial Africa. In the lake district of the Niger the epidemic wave was particularly high from December, 1921, to the following February. During the first two years the number of fatal cases in the French Sudan and Niger were estimated at from 80,000 to 100,000. In the Chad region it produced the greatest damage in 1926, causing 6,000 deaths in a population of 270,000. In some villages 37 or even 41 per cent. of the population died. Endemic foci of the disease still persist and give rise to epidemic outbreaks in all the savanna region south of the Sahara, where the inhabitants wear clothing and are infested by lice, whereas the naked tribes, especially those of the equatorial forest, escape. In the Asiatic territories of Soviet Russia the incidence of the disease has been similar to that in European Russia. The number of cases, which was 333,666 in 1922, fell to 1,983 in 1929. Relapsing fever has been reported on several occasions in China, but exact statistics are lacking. Since 1852 British India, where the epidemics occur in the hot periods, in association with famine, has been one of the principal foci of relapsing fever. In 1923 28,830 cases, with 7,568 deaths, occurred in the Punjab, and in the United Provinces an epidemic lasted from 1917 to 1920. The fatality rate of relapsing fever varies widely in different countries. As a rule the disease is comparatively mild in Europe or the Mediterranean coast, the mortality ranging from 0.9 to about 5 per cent. In Equatorial Africa and Asia, on the other hand, the fatality rate is much higher. In the French Sudan, for example, it was 17.8 per cent. from May, 1921, to March, 1923; in the Upper Volta territory, from 1921 to 1928, 25.5 per cent.; and in the Punjab, during the 1923 epidemic, 26.2 per cent. The higher fatality of the disease in Africa is probably to be attributed to a number of factors, which include a greater virulence of the causal spirochaetes, a greater degree of louse infestation, and impaired resistance of the population.

MENTAL AFTER-CARE ASSOCIATION

The annual meeting of the Mental After-Care Association was held at the Haberdashers' Hall on March 25th, under the chairmanship of Lord Wakefield of Hythe, when the report and accounts for the year were presented, and Dr. Reginald Worth was elected chairman of the council in place of Sir Maurice Craig, who, to the regret of all concerned, has had to relinquish his office owing to ill-health. Lord Wakefield said that there was every reason to hope that people generally were now regarding the whole subject of mental illness with a new sympathy and understanding. The activities of the association were increasing to such an extent that its title had almost ceased to be properly descriptive of the work, which was now, to some extent, preventive. At whatever stage the help of the association was offered, its friends rejoiced at its growing opportunities for service. Dr. Worth, after remarking that this was the first occasion on which the superintendent of a large mental hospital had been elected to the position of chairman, said that the council desired to widen its field of operation, and to that end was in communication with public assistance committees and medical superintendents throughout the country, offering help in respect to early treatment and after-care. It was now co-operating with more than a hundred mental hospitals. The Mental Treatment Act had increased the association's work, and it was hoped, with the help of grants from the public authorities, to be able to deal with the cases coming under that Act. The number of patients for early treatment who had been referred from general hospitals with psychiatric out-patient departments was 410, and practically all of these had so far recovered as to be able to return to their homes and occupations without requiring institutional treatment. The number given compared with 161 in the previous year. Sir Hubert Bond said that he wondered whether it was fully realized even yet what the Mental Treatment Act could do if properly used. In the enfranchisement of the treatment of mental illness the Act bore the same relation as Magna Charta bore to the liberties of the people. It did not need much imagination to see that if full effect were given to Section 6 (3), the Act might have a powerful influence ultimately upon

the destinies of the association. He said "ultimately," because it was extraordinary how slowly came the realization of the value of something which was right to one's hand. In France a hundred years ago an after-care society was formed, and the present association in Britain had been in existence for more than fifty years, yet it was only to-day that the local authorities could legally themselves provide after-care or subsidize a voluntary body to do it for them. The council was enlarging its activities, not by merely increasing the number of outposts, but by widening the nature of its work, and he believed that the title of the association would soon have to be altered. If it were known as "The After-Care and Mental Health Association" this would in part restore the name by which the association was originally known, and would suggest in fitting and concise terms both its primary and its wider aim. Dr. Walter Carr referred to the great change which had taken place in the general attitude towards mental illness. It was not so very many years ago that mental patients were regarded as the victims of demoniacal possession, and the padded room and the strait jacket had only lately gone out of use. But one blot had remained upon mental hospital administration in that, officially, until the Mental Treatment Act, no provision had been made for the after-care of these unfortunate persons when they had been restored to reason. In a mental hospital patients were shielded as far as possible from the strains and stresses which had probably brought about their condition, but when they returned home to a family who viewed them with apprehension, and found their occupation gone, the probability of a relapse sooner or later was very great. It was to forestall this that the Mental After-Care Association existed, but the prevention of the original attack, not merely a relapse, would be increasingly important in the work of the society. This was work best done under voluntary auspices, removed absolutely from officialism.

QUININE PRODUCTION IN INDIA

Sir Charles MacWatt, late Director-General of the Indian Medical Service, read an interesting paper at the Cinchona Tercentenary Celebrations last December, in which he pointed out that the production of quinine in India was inadequate to supply the amount she actually used, and that this latter amount was only a small fraction of that needed to have any effect on the malaria problem. India produces about 40,000 lb. of quinine a year; she consumes 160,000 lb., and Sir Patrick Hehir estimated that the minimal amount needed to produce effect was 970,000 lb. Dr. K. S. Ray[1] in a recent article explains the situation more fully. The use of quinine per head of the population per annum is in Italy 16 grains, in Greece 24 grains, whereas in India it is 3½ grains, and in the most malarial districts of Bengal little more than 1 grain. The world price of quinine is fixed by the Amsterdam Bureau, and the Indian Government fixes its price at practically the same level. As a result the drug is too expensive for the population to buy, surplus stocks accumulate, and malaria flourishes. The number of cases of malaria treated in the hospitals and dispensaries in the British Provinces is just over 8 million a year. The article concludes with an appeal to the Indian Government to alter its quinine policy completely, and to aim at supplying the needs of the country for this essential drug and to make every effort to lower its price to a level that will render it available for the poorest sections of the population, who stand most in need of the drug.

[1] Ray, K. S., *Indian Medical World*, January, 1931, 465.

NATIONAL BABY WEEK COUNCIL

The first National Baby Week was held fourteen years ago, and at the annual general meeting of the council of this organization, on March 25th, a gratifying record of progress was announced. During the past year special efforts were made to impress upon the public the need for a national maternity service scheme, for better provision of nursery schools, and for inspiring among the classes of the population not at present being reached by statutory and voluntary welfare schemes the desire for a better knowledge of parentcraft. These topics were promulgated by health weeks, and through the press; literature was distributed to church and other congregations; film displays were given, and posters exhibited. Three new cinematograph films were added to the council's list in 1930, depicting respectively life at a nursery school, a father's interest in an infant welfare centre, and the change brought about in a squalid and unhealthy home by the visits of a health visitor. The council has now eleven films available for propaganda purposes. A lantern lecture on rickets and other common nutritional diseases was published in 1929, and has proved very useful to medical lecturers on the subject; the set contains in all nearly one hundred slides, and selections can be made from it for special purposes. The council has now six correspondents in India, five in Australia, four in Canada, two in South Africa, and one each in Malaya, Kenya, Tanganyika, Bermuda, New Zealand, Ceylon, and West Africa. In this way there is arranged a free interchange of practical information about the various aspects of infant welfare, and the steps that are being taken in different places. A donation of £1,000 from Dr. A. Wander enabled the council to augment its supply of cinematograph films and posters, and to intensify the work in other directions also. At a meeting of the council last November a discussion on the physical health of the child between the ages of 1 and 5 was opened by Drs. Eric Pritchard, D. H. Geffen, and Sophia Friel, and the interest then aroused led to its continuance by special request at last week's meeting. The point chiefly emphasized was the necessity for routine medical examination of children between these ages.

At the meeting of the Royal College of Physicians of London held on March 30th, Lord Dawson of Penn was elected President, in succession to Sir John Rose Bradford, Bt.

The annual meeting of the Canadian Medical Association will be held this year at Vancouver from June 22nd to 26th.

Members of the medical profession will share the regret widely felt at the death, on March 29th, of Miss Margaret McMillan, upon whom the Companionship of Honour was conferred last year for her pioneer work in founding school clinics and nursery schools.

TOXIC JAUNDICE

LUMLEIAN LECTURES BY SIR WILLIAM WILLCOX

(*Concluded from page 553*)

In his second Lumleian Lecture Sir WILLIAM WILLCOX gave a description of the symptoms of toxic jaundice, grouping them under two headings: symptoms of the causal agent, and symptoms due to the effect on the liver of the toxic cause. The first group was naturally of great variety. In acute phosphorus poisoning, for example, there was a burning sensation in the mouth and throat, accompanied by the symptoms of acute gastro-enteritis. In tetrachlorethane industrial poisoning an intervening period of general malaise and toxic gastritis of days or weeks might precede the onset of jaundice and hepatic symptoms. The jaundice following quinoline derivatives, such as atophan, might be preceded by no premonitory symptoms, or only by slight nausea or occasional vomiting. The symptoms due to the effect on the liver of the toxic cause varied in intensity according to the amount of impairment of function of the liver cells.

ACUTE NECROSIS OF THE LIVER (ACUTE YELLOW ATROPHY)

The lecturer found fault with the term "acute yellow atrophy," pointing out that it was necrosis, not atrophy, which was the pathological change, that the liver might in acute cases be larger than normal, and that its colour, though generally yellow, was reddish in some of the more prolonged cases. He preferred the term "necrosis of the liver" to "yellow atrophy." This condition had been classed as a special disease affecting the liver, but pathological study of recent years had shown that it was really a condition resulting from the action of some profound toxic cause, due to an exogenous chemical poisoning, to toxins of some infection of biological origin, or to the poisons of the auto-intoxication of a disordered metabolism. It had become more frequent in occurrence during recent years, owing to the increased exposure of individuals to the action of toxic drugs having a selective effect on the liver, such, for example, as the arsenobenzol derivatives in the treatment of syphilis and the quinophan group of drugs in the treatment of chronic rheumatism.

The symptoms of necrosis of the liver were dramatic in type, and ran a characteristic and usually a rapidly fatal course. They were ushered in by nausea, vomiting, and gastric irritation; the tongue was furred, dry, and tremulous; there was a feeling of mental anxiety and impending disaster; and the patient was difficult to manage. Headache and photophobia were sometimes present. These and other premonitory symptoms might last from a few hours to a few days, and were then commonly succeeded by delirium, drowsiness, and stupor, passing into coma, during which convulsions might occur. Death took place at varying intervals, usually three or four days after the onset of the symptoms of acute necrosis.

TREATMENT OF TOXIC JAUNDICE

Treatment during the stage when the jaundice was latent must take the form of the immediate removal of the toxic cause. He had emphasized in a paper published in the *British Medical Journal* in 1916 the importance of the free administration of alkalis. Saline aperients such as magnesium and sodium sulphate were of value in promoting emptying of the gall-bladder. Glucose should be given freely. He had used liver extract in several cases of toxic jaundice, and it appeared to be of benefit. Diet should be arranged so that as little burden was thrown on the liver cells as possible. Protein should be greatly reduced, and fatty foods eliminated. When the grave symptoms of acute necrosis were commencing, active treatment should be adopted without delay. Glucose in 5 or 10 per cent. solution in normal saline should be given subcutaneously or intravenously. Alkalis such as sodium citrate and sodium bicarbonate should be given by the mouth, and sodium bicarbonate and glucose by rectum. If haemorrhages commenced 1 per cent. calcium chloride might be given intramuscularly or intravenously in one dose of 10 to 20 c.cm., and at the same time parathormone in a dose of 10 units subcutaneously. If coma developed it might be advisable to perform lumbar puncture and draw off 10 to 20 c.cm. of the cerebro-spinal fluid.

CLASSIFICATION OF TOXIC CAUSES

Sir William Willcox classified the causation of toxic jaundice into (1) chemical poisons, (2) bacterial poisons, (3) protozoal poisons, and (4) auto-intoxications. He dealt first with the halogen group of organic compounds, mentioning that his interest in this group of poisons was stimulated by an investigation which he had carried out on behalf of the Home Office twenty-two years ago on a case of fatal inhalation of carbon tetrachloride vapour by a young lady who died of heart failure during the process of having her hair shampooed with this substance, which, weight for weight, was four times as toxic as chloroform. He related some unusual cases of toxic jaundice following chloroform and also following tetrachlorethane.

Avertin, which had recently been introduced as an anaesthetic, had undoubtedly a marked toxic action on the liver, and although no cases of toxic jaundice had yet been recorded so far as he knew, yet the possibility of danger must be borne in mind. He related an experiment on a rabbit performed by Dr. F. B. Parsons, and after a personal examination of the sections he thought it must be taken as proved that avertin, like the other halogen organic compounds, was a liver poison, and must be used with care. Overdosage and repeated administration would increase the risk of liver damage and toxic jaundice. The occurrence of toxic jaundice after the administration of arsenobenzol derivatives was now well recognized. The patient could be protected by the taking of glucose before the doses were given.

QUINOLINE DERIVATIVES

The lecturer referred also at some length to the quinoline derivatives, which were known under various trade names. In the *British Medical Journal* in 1926 he and others had drawn attention to the numerous cases of toxic jaundice, some of them fatal, which had resulted from the use of this group of drugs. The liability was now generally recognized in this country, and the observations had been confirmed by similar experiences in America. In the *Mayo Clinic Staff Meeting Reports* (May, 1930), a fatal case of toxic jaundice following the administration of a cinchophen derivative was recorded. The jaundice following the taking of quinophan was deep, and lasted for several weeks. For some days it was obstructive in type. The gall-bladder was not enlarged, the obstruction being intrahepatic, and due to the hepatitis caused by the drug. He cited one recovered and one fatal case of atophan poisoning.

A preparation on the market known as gorum cachets contained an appreciable amount of atophan, and two cases of toxic jaundice following the taking of these cachets had recently come under his care.

One of these was a woman, aged 70, who developed quickly deepening toxic jaundice about three weeks after a course of gorum cachets (two daily for six days). Ascites appeared, followed by severe haematemesis, and death took

place two months after the onset of the condition. There was no history of alcoholism in the case. The hepatic cirrhosis was no doubt the result of the hepatitis following the quinophan in the gorum cachets.

The lecturer described two very prolonged cases of poisoning from trinitrotoluene, and instanced a number of other aromatic organic compounds which had given rise to symptoms.

ALCOHOL AND CIRRHOSIS OF THE LIVER

It was universally agreed that the action of alcohol in large doses caused fatty degeneration of the liver cells. In some cases the enlargement of the liver was great, and the organ of a pronounced yellow colour, the appearance resembling that seen in fatal cases of acidosis, or delayed chloroform poisoning in children. In this type of case vomiting might be a very prominent feature, so much so as to give rise to the suspicion of irritant poisoning; and he quoted an interesting case of this type which he had investigated on behalf of the Home Office, and in which his investigation had incidentally dispelled certain suspicions of arsenical poisoning. In a few cases acute alcoholic excess had given rise to acute necrosis of the liver, with its accompanying group of fatal symptoms. It was clear that in most cases of hepatic cirrhosis alcohol played a predisposing part, permitting the passage of toxins of bacterial origin through the gastro-intestinal mucous membrane, and so on to the liver. It was these toxins, not the alcohol, which caused the progressive hepatic fibrosis. It must also be borne in mind that cirrhosis of the liver not infrequently occurred in persons who had never taken alcohol. There were many chemical agents other than alcohol which would cause cirrhosis, and also many infective causes, such as chronic intestinal infection. That being so, it could not be too strongly emphasized that, where death was due to cirrhosis of the liver, the cause of death should be regarded as "natural" unless the contrary was proved.

"The custom of holding an inquest as a matter of routine in cases of cirrhosis of the liver is, in my opinion, contrary to the most modern views of pathological knowledge regarding the cause of this condition, and it is a custom which should be discontinued. Needless publicity of a character most painful to the relatives of the deceased is thereby caused to no purpose."

The lecturer went on to admit, however, that occasionally a rapidly acute cirrhosis of the liver of virulent type might be set up by alcoholic drinks. Several such cases had been recently reported where death had resulted from what must be regarded as alcoholic poisoning. The drink in question was known as "Lisbon wine"—in the South and East of London as "Red Lizzie"—and caused a very acute alcoholic intoxication. It resembled port wine in colour, though not in taste. He gave details of one case of this kind recently under his care at St. Mary's Hospital, and said that it was one of acute cirrhosis of the liver caused by the consumption of a very toxic form of alcoholic drink, which was taken right up to the time of the onset of the symptoms. This was an example of the type of case of cirrhosis which should be reported to the coroner, and for which a death certificate should not be given. In his opinion the decision as to whether a fatal case of cirrhosis of the liver should be regarded as due to natural causes or as the direct result of alcoholic poisoning could only be made by the medical practitioner in charge of the case, and he would be wise, if necessary, to obtain expert advice on the point.

Touching on certain other poisons, the lecturer said that lead poisoning as ordinarily occurring from industrial or accidental causes was not definitely associated with toxic jaundice, but the intravenous use of lead preparations in the treatment of cancer had shown that toxic jaundice was a danger to be looked for and guarded against. Poisonous fungi eaten in mistake for edible mushrooms produced acute gastro-intestinal irritation and intense degeneration of the liver cells, with marked fatty change in them. Again, the venom of snakes of the viper order caused a very marked local extravasation of blood, which might involve a large area around the bite, and local and sometimes general jaundice might occur after the bite of such snakes. Finally, the lecturer mentioned that attention had lately been called to the occurrence of toxic jaundice after the administration of *acriflavine*.

JAUNDICE DUE TO TOXINS OF BIOLOGICAL ORIGIN

In his third and concluding lecture Sir William Willcox considered the varieties of toxic jaundice due to toxins of biological origin—namely, bacterial, protozoal, and auto-intoxications. He pointed out that the bacterial infection might be that of a micro-organism the characters of which were generally accepted as specific, or it might proceed from one of a group of organisms, such as the streptococcal group, the specificity of which was indefinite.

Jaundice was well recognized as a complication of typhoid fever. Often the cause appeared to be an ascending infection resulting in catarrhal inflammation of the intrahepatic bile ducts. Paratyphoid fevers A and B were extremely common during the Dardanelles and Mesopotamian campaigns. In enteric and paratyphoid fever the commonest time of onset of jaundice was towards the second week. He had seen cases, however, in which jaundice occurred within the first six days, and in a few it was present at the onset of the symptoms. Toxic jaundice had been observed by him in one case during the severe febrile reaction, lasting several days, which followed a full dose of prophylactic typhoid vaccine.

Speaking of parenteric infections, the lecturer said that the group of coliform bacilli concerned might give rise to an acute illness closely resembling typhoid fever clinically, and this group of organisms was often associated with abdominal symptoms of a chronic or subacute type, such as jaundice, cholecystitis, and enteritis. In some cases of chronic toxic jaundice of intestinal origin *B. coli communis* might play a causative part. Food-poisoning organisms were closely allied morphologically to the parenteric group of organisms, though clinically they were entirely different, for they gave rise to acute enteritis. Food-poisoning infections were not infrequently associated with toxic jaundice; he described a typical case.

The occurrence of jaundice in influenza, especially of the gastro-intestinal type, had long been recognized. Epidemics varied greatly as regards the occurrence of jaundice; in some it might be relatively common, while usually it was absent or very rare. Jaundice occurred with irregularity in outbreaks of pneumonia; usually it was a rare symptom. Toxic jaundice had been observed on many occasions during the acute streptococcal infection associated with tonsillitis or with sinus inflammation in the nasopharynx. In acute streptococcal septicaemia, toxic jaundice sometimes occurred owing to the action of the circulating toxins in the liver cells. Staphylococcus infections, if of an acute or subacute type, had been associated with the occurrence of toxic jaundice, and several cases might be quoted.

EPIDEMIC CATARRHAL JAUNDICE

This disease occurred with great frequency during the various war campaigns, and an account of its incidence in the Dardanelles was published by the lecturer in the *British Medical Journal* in February, 1916. An interesting account of a recent epidemic occurring in

Yorkshire was published by Dr. Pickles in the *Journal* of May 24th, 1930. Epidemic catarrhal jaundice was ot a new disease, and very many cases were recorded the American and South African wars. Up to the present it had not been possible to identify any specific organism. Like typhoid, the disease did not appear to be contagious from person to person, though many people might become infected from a common cause. He described the symptoms, and said that it was important to realize that sometimes in catarrhal jaundice the pyrexial period might be prolonged; he had seen it last or fourteen days. The jaundice might persist for several eeks, even as long as ten, ultimately clearing up. Unless this was realized, there was risk of an unnecessary surgical operation on the assumption that obstruction of the common bile duct existed. A curious and constant feature of catarrhal jaundice was the definite increase in the deep cardiac dullness in the fourth intercostal space to the right of the sternum. Usually cases of catarrhal aundice gave rise to no anxiety, but a cautious prognosis hould be given, since it was known that fatal symptoms of hypohepatism due to necrosis of the liver occurred in from 0.5 to 1 per cent. of cases. The symptoms of this grave condition were seen usually about ten days after the appearance of the jaundice, but in one case they occurred on the second day. Some cases, at the time of the onset of the symptoms of hepatic failure, were not deeply jaundiced, and there appeared to be no relation between the depth of the jaundice and the frequency of hypohepatism and necrosis. From a study of the clinical symptoms and post-mortem findings it appeared that in he majority of cases of epidemic catarrhal jaundice there was an ascending catarrh of the bile ducts leading to a temporary obstruction, which was generally interhepatic. In the more serious cases there was in addition a marked degeneration of the hepatic cells, which in the fatal cases went on to complete necrosis.

PROTOZOAL POISONS AND AUTO-INTOXICATIONS

The occurrence of jaundice in syphilis was too well known to need mention. Relapsing fever was frequently associated with jaundice. In yellow fever marked cellular necrosis occurred in the liver, with which jaundice was often associated. The marked action of the malarial parasite on the red blood corpuscles led to hepatic and splenic enlargement and anaemia, and the hepatitis resulting from a malarial infection was often associated with aundice, especially when the infection was of the malignant type. In a malarial patient jaundice was much more likely to occur when marked anaemia was also resent. Blackwater fever was commonly associated th early jaundice of the toxic type. Icterus was a rare complication of typhus fever, and was seen by him in only two out of several hundred cases in Mesopotamia. As a result of hepatitis and blood destruction in kalazar it was a fairly common symptom.

The toxaemias of pregnancy were manifestations of grave toxaemias of autogenous origin, in which intense fatty degeneration and necrosis of the liver were not uncommon, and symptoms of acute hypohepatism, often associated with jaundice, were not infrequent complications. In recurrent vomiting (acidosis) in children, when death occurred, post-mortem examination usually revealed a large yellow liver showing intense fatty degeneration and necrosis of the hepatic cells. He did not believe that the fatty degeneration was the result of the acidosis; the true explanation was to be found in the presence of some underlying toxic cause, such as infected tonsils or adenoids, intestinal toxaemia, or grave errors in diet, whereby liver degeneration was set up.

CONTROL OF DRUGS: A WARNING

In concluding his lectures Sir William Willcox said that the great variety of drugs in common use which might act as liver poisons and produce dangerous toxic jaundice showed how necessary it was that, before they were placed on the market, these drugs should be submitted to careful toxicological and therapeutic tests on the human subject as well as on animals. The medical profession should be fully informed, not only of the therapeutic properties of new drugs, but also of the dangers which might arise from idiosyncrasy or overdosage. At present doctors were insufficiently informed of the dangers resulting from the new drugs introduced into this country in increasing amount. The present system of scheduling poisons was quite inadequate to keep pace with the rapid developments of the chemical manufacturing industries, which were daily launching new and imperfectly tried complex organic drugs on the market. Drugs of the quinophan group were not even on the Poisons Schedule; they could be sold by any unqualified person, and purchased at will by the public without medical intervention or advice. The system of the control and sale of drugs possessing powerful toxic properties was most imperfect and unsatisfactory, exposing the people of this country to great danger from the taking of new drugs advertised as possessing wonderful curative properties, without any mention of their toxic effects. The Pharmacy and Poisons Bill at present before Parliament proposed to place the control and sale of poisons under the supervision of an advisory committee, to be called the Poisons Board, on which the medical profession would have, he hoped, an adequate representation.

SICK AND WOUNDED IN WARFARE

NEW INTERNATIONAL CONVENTION

From start to finish of the great war the protection afforded to medical personnel and units, and also the methods of dealing with captured material and convoys associated with or belonging to the medical organization of an army, were governed by the Geneva Convention of July 6th, 1906. Sick and wounded captured by the enemy were prisoners of war, and, as such, their treatment by the captor State was regulated in accordance with the Annexe to the Hague Convention of October 18th, 1907, concerning the Laws and Customs of War on Land. In view of the wide experience gained in these matters by every nation involved in the great war, and the suffering and anxiety affecting almost every household among the combatant powers, it was impossible for these Conventions to remain standard for all time. The plenipotentiaries at Geneva, animated by the desire both to lessen the evils inseparable from war and to alleviate the condition of prisoners of war, have signed two new Conventions: "International Convention for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field,"[1] and "International Convention relative to the Treatment of Prisoners of War."[2] Both are dated Geneva, July 27th, 1929, and have been presented to Parliament by the Secretary of State for Foreign Affairs.

Of the two, the former is perhaps the more interesting to our readers. As was to be expected, provision has been made for the conditions of modern warfare, although many of the Articles of the Geneva Convention of 1906 remain substantially the same. They are now presented in Articles has been improved. They are now presented in a more logical manner, which makes their contents more

[1] Cmd. 3793. London: H.M. Stationery Office 1931 (6d. net.)
[2] Cmd. 3794. London: H.M. Stationery Office 1931 (1s. 3d net.)

easily followed and remembered. Points regarding the protection and return of captured personnel, both regular and auxiliary, employed in medical units, medical equipment, and transport, and the use of the distinctive emblem in peace and war, are now more clearly defined. This should lead to fewer misunderstandings. Some of the Articles will tend to ease anxiety and bring comfort to the relatives of the fallen, because greater attention is to be paid to the recording of deaths, the burial or cremation of the dead, the marking of graves, and the organization at the commencement of hostilities of a Graves Registration Service.

COLLECTION OF WOUNDED AND PROTECTION OF MEDICAL UNITS

The two Articles which are perhaps the most important from the point of view of the medical services are those designed to facilitate the collection of wounded by the arrangement of local armistices, and to give protection to medical units by a distinctive marking which will make them easily distinguishable by land, air, or naval forces. The first of these will appeal to medical officers engaged in the task of clearing wounded from the field of battle, and many will hope that in time of war the respective commanders of the combatant forces will find opportunities for putting it into practice. Such a procedure may, however, only be possible in small wars between civilized powers, when chivalry finds an outlet in manœuvre and minor actions, and is not dulled by the slaughter which results from concentration of troops and guns, as in France and Flanders. It was possible in the early days of several campaigns during the late war, but it is difficult to imagine local armistices being feasible in a world war, with battles raging for weeks and months, instead of days, along an iron front extending over continents.

With regard to the protection of medical units, it is generally possible to carry this into effect in back areas and in open country, especially during warfare conducted by small expeditionary forces. It is not so easily accomplished in battle areas where troops, batteries, and military stores are concentrated, as they were on the Western Front. Here the distinguishing mark might only attract undesired attention to the military formations in the neighbourhood. Again, though ideal in theory, it is not always possible in practice to confine the evacuation of sick and wounded casualties to specially marked Red Cross ambulance transport. The exigencies of the moment may demand the use of ordinary motor vehicles, trains, ships, and transports. If these should be damaged by enemy action while carrying sick and wounded, there can be no redress: it is but the fortune of war.

It is only natural to find that in the new Convention consideration is now given to aircraft as a means of ambulance transport. They are to be painted white and bear the emblem of the Convention, in addition to their own national emblem. The Red Crescent and the Red Lion and Sun on a white ground will be recognized in the case of countries using these emblems instead of the Red Cross. There are certain necessary restrictions attached to the use of medical aircraft. In the absence of special and express permission, flying over the firing line and over the zone in front of clearing stations and dressing stations, and generally over all enemy territory, is prohibited. Medical aircraft flying over enemy areas must obey every summons to land.

Finally, two important points regarding the application and carrying out of the Convention are made clearer. The Geneva Convention of 1906 was binding only if all the belligerents were parties to it. The provisions of the 1929 Convention are to be respected by the contracting parties in all circumstances. If one of the belligerents is not a contracting party, the Convention is to remain in force between those belligerents who are contracting parties. Should non-observance of the Convention be reported the aggrieved party may demand an inquiry. If the claim is sustained, the defaulting belligerent shall put an end to and redress the wrong as promptly as possible.

PRISONERS OF WAR

The Convention dealing with the treatment of prisoners of war, among whom are included sick and wounded other than medical personnel, may possibly remind medical officers of their own regulations regarding arrangements for troops in billets and depots. The present Articles are idealistic; if they can be carried out in the spirit in which they are written the lot of prisoners of war should be by no means unhappy. When nations are involved in intense warfare, however, it will not be an easy matter to put the provisions into practice. Prisoners are to be evacuated from the front or battle area as quickly as possible, except those who by reason of their wounds or maladies run greater risks by being evacuated. They are not to be employed on work connected with operations, or on unhealthy or dangerous work. They are not to suffer corporal punishment, or be confined in dark, insanitary cells. Improvements are recommended in the social amenities which they may be permitted to enjoy, greater facilities being afforded in such matters as recreation, sport, the writing of letters, and the receipt of letters and parcels. Canteens are to be established, and greater attention is to be paid to the financial transactions of captured personnel.

Of chief importance to medical officers and the medical profession as a whole are the Articles dealing with hygiene, preventive medicine, and treatment. Prisoners are not to be detained in bad climates. As far as possible, different nationalities are to be segregated. Special attention is to be paid to hygiene, food and clothing, medical inspection, and treatment. In short, there is little difference between the detail of this Convention and the regulations in force for troops serving at home or abroad in peace or in war. Whatever may transpire should these Articles be put to the test, it is almost safe to prophesy that modern civilized powers will, from the purely materialistic point of view, take every precaution to prevent the spread of disease from prisoners to their own combatants or services. This will ensure for prisoners of war careful medical inspection and treatment.

Two Articles in this Convention will appeal alike to friend and foe, active combatant, and neutral. One lays down that "belligerents shall be required to send back to their own country without regard to rank or numbers, after rendering them in a fit condition for transport, prisoners of war who are seriously ill or seriously wounded." Guiding principles are given to show the disabilities or diseases which bring prisoners of war under this category. The other deals with the appointment of mixed medical commissions to examine such sick and wounded prisoners and make the proper decision with regard to them.

Among the concluding Articles is a recommendation that belligerents shall establish information bureaux at the outset of hostilities, in order to supply particulars about prisoners of war in their territory, and that a central agency shall be set up in a neutral country for the purpose of distributing this information. This recommendation cannot be over-emphasized, for many will still recall the anxious scanning of casualty lists during the great war, the daily visits to war departments, and the weary waiting in suspense for news of friend or close relation reported as "missing" or "prisoner of war." Whatever war entails for the armies engaged, the anxiety and suffering of those at home should not be increased by withholding personal information about their nearest and dearest.

THE LONDON HOSPITAL SERVICES

The Wellcome Historical Medical Museum opened its hospitable doors on the evening of March 26th for a reception to representatives of London hospitals, both voluntary and municipal. Those present included hospital secretaries, members of the Central Public Health Committee of the London County Council, and of the Consultative Committee of representatives of the voluntary hospitals, officers of the King Edward's Hospital Fund for London, and representatives of the British Hospitals Association. The gathering was presided over by Lord BURNHAM, chairman of the Propaganda Committee of the King's Fund, who said that the idea behind the conversazione was to form as far as possible a common bond between those who were responsible for the voluntary hospitals of London on the one hand, and, on the other, those who were now charged with the task of administering the great body of public institutions which had until lately been under various authorities, but the control of which had now been unified, greatly to the public advantage, under the London County Council.

THE FUTURE OF VOLUNTARYISM

Lord MACMILLAN then delivered a brief address, pointing out that there were probably few great branches of public service in which there was less of the spirit of controversy than in the hospital service. The very nature of its activities made controversy unseemly. But a most interesting problem of the moment in the hospital world was presented by the new responsibilities and powers conferred upon local authorities by recent legislation. There had always existed the voluntary hospitals on the one hand and the rate-provided infirmaries on the other, which had shared between them the provision of medical treatment for the sick poor, and both had played their part in the life of the community without any serious conflict or overlapping. Now that the administration of the old Poor Law hospitals had passed into the capable hands of the principal local authorities, with new powers and new ideals, some apprehension had arisen as to the relation in future of their activities to the voluntary hospital system, but personally he was confident that the change was in the public interest, and also in the interest of the voluntary hospitals themselves. The most difficult questions, in domestic as in international affairs, arose over frontiers, and the problem was how to adjust the spheres of activity of the voluntary hospitals and the council hospitals so that each might render the best service of which it was capable. Some people had been foolish enough to say that the passing of the Local Government Act, 1929, sounded the knell of the voluntary system. Lord Macmillan did not believe this for a moment, nor was it the view of those responsible either for the passing or for the administration of that measure. Moreover, the London County Council was far too wise a body not to recognize what a vast asset the voluntary hospitals represented for the community which it governed, and what a burden would be placed upon the Council were it to attempt to supersede them. Human nature, too, was equally on the side of the voluntary hospitals. The relief of suffering had always called forth the sympathies and the help of the voluntary worker, and the magnificent institutions which had been derived from voluntary effort were the best testimony to that abiding human instinct. Fortunately, Parliament had provided the means for co-operation by making provision for consultation between local authorities and the voluntary hospitals, and already there was in existence a consultative body representative of the voluntary hospitals which was in active contact with the Central Public Health Committee of the London County Council. With such a spirit animating both parties, nothing but good could result. The British were a wonderful people for compromises, and in this sphere he had no doubt they would be as successful as in other spheres of public life. Lord Macmillan concluded by expressing his amazement at the way in which, in a time of high taxation and financial depression, the voluntary hospitals had managed to prosper. Taking the balance sheets of the London voluntary hospitals, there was actually, over a period of five years, a credit margin; he only wished that the national finances had been conducted with the same success.

Sir GEORGE HUME, a member of the London County Council, gave some idea of the programme of the Council in regard to the health services hitherto controlled by the Metropolitan Asylums Board and the boards of guardians. These particulars have already appeared in the *Journal*. He strongly denied that there was any feeling on the part of the Council that, having so large a share of the hospital accommodation under its control, it would be desirable, from the point of view of uniformity, to include the voluntary hospitals under the same control. The London County Council was as keen as any other body that the voluntary system should be maintained and encouraged. It had also interpreted very broadly the requirement for statutory consultation, and had taken the Voluntary Hospitals Committee into its counsels on proposals for uniform scales of salary and conditions of service for the medical and other staff, questions of medical education, particularly instruction in obstetrics, and other matters. One striking example as showing the attitude of the Council to the voluntary hospitals was furnished by the big estate at Becontree, which had now a huge population. Instead of establishing a municipal hospital there, the King George Hospital had been established in Becontree, encouraged by the Council, and was worked on voluntary lines, with splendid assistance from the King Edward's Hospital Fund.

England and Wales

Extensions at Nottingham General Hospital

A new operating theatre and children's ward at the Nottingham General Hospital were opened on March 25th by Lord Moynihan, P.R.C.S. The theatre, which cost £7,000, has been presented to the hospital by Sir Louis Pearson, and the children's ward, accommodating twenty-seven patients, by Mr. W. G. Player. Lord Moynihan, at the opening ceremony, after a reference to his own happy associations with Nottingham during the war, when he was consulting surgeon to the Northern Command, reaffirmed his faith in the voluntary hospital system. It was said to be moribund and effete, but, in fact, the voluntary hospitals of the country were adding rather more than 1,000 beds every year to their previous accommodation, and were rather more than paying their way. At the end of each of the last four years the income of the provincial hospitals had been £1,000,000 or more in excess of the previous year's income. Certainly one party in the State was prepared to have the hospitals of the country under State control, but if that were brought about it would mean that the hospitals came under an authority which would impose laws without the possibility of understanding the work as did those who had spent their lives in voluntary hospital service. The voluntary hospitals represented a peculiarly English way of doing things, quietly and undemonstratively, but with a higher degree of efficiency than attached to any system in any other country in the world. Lord Moynihan said how much he would like to see Nottingham with a medical school; it had abundance of material, and the profession in Nottingham included many who were admirably qualified to serve as teachers. He also declared that in no other town he had visited in connexion with hospital work had he been so greatly impressed as at Nottingham by the comradeship between the lay and the medical workers. Mr. R. G. Hogarth, a former President of the British Medical Association, in speaking to a vote of thanks, said how greatly complimented he was that

one of the wards of the general hospital should bear his name in consideration of his association with the hospital over a long span of very happy years.

"Nerves" and the Public Health

Professor Major Greenwood, F.R.S., delivered a Chadwick Public Lecture, entitled "'Nerves' and the public health," in the Hall of the British Medical Association on March 26th, with Sir James Purves-Stewart in the chair. Professor Greenwood said that although most people thought they knew what it was to suffer from "nerves," a generally acceptable definition of those troubles of the emotions which the older writers called the effects of the soul was hard to find, almost as hard as to explain what business a medical statistician had to meddle with such abstruse questions. The medical statistician did not seek out these things; they obtruded themselves upon his notice. In a succession of inquiries with which he had had to deal as a statistician, ranging from industrial accidents to telegraphist's cramp, the psychological side of the problem had persisted in forcing itself upon his attention. The stages of the research made by the investigators of the Industrial Health Research Board into the causation of industrial accidents were described, and it was shown that the results of psychological tests employed by the investigators were correlated with the accident liability of the testees. Those who did well at these tests had 23 per cent. fewer, and those who did badly 25 per cent. more, accidents than the average. Professor Greenwood then showed that a serious proportion of lost time due to sickness, and an enormous proportion of long sick leave in industry, were attributable to psychoneurotic illness. He described the methods of investigation used by the Industrial Health Research Board, involving the co-operation of a statistician, an experimental psychologist, and a physician, which has been explained in detail in a recent report (No. 61). Professor Greenwood further pointed out that the validity of the inferences drawn by the investigators was capable of statistical control in various ways. He commented on the factors of modern life, which tend to accentuate the importance of "nerves," and argued that only by a combination of clinical and experimental methods of diagnosis was it possible to reach clear knowledge of the facts. He called attention to the steps which had been taken within the University of London—notably the establishment of a chair of medical psychology at the London School of Hygiene and Tropical Medicine—to make it possible for medical men to acquire a training in these methods. In conclusion he said:

> "I believe that teaching and research on the general lines of what I have tried to describe in this lecture are the most important single contributions that we hygienists can bring to the improvement of conditions of industrial life. I think we can greatly help both employers and employed, but only on the condition that we recognize and proclaim our own ignorance. At present, and for some time, perhaps many years, we are and shall be investigators and students. We are not, to adapt a criticism of a character in one of Mr. H. G. Wells's earlier novels, persons in possession of valuable patent rights who require to be treated with. The importance of "nerves" has been disastrously ignored, mistaken, and derided; let us look to it that we do not fall into the opposite error, by exaggerating the value of what we know and encouraging ourselves or others to fancy that one set of witch doctors can be replaced by another set."

On Friday, May 15th, and Monday, May 18th, lectures will be given, at 8 p.m., by Professor E. L. Collis, on "The coal miner—his health and occupational diseases." Particulars of Chadwick Public Lectures may be obtained from Mrs. Aubrey Richardson, at the offices of the Chadwick Trust, 204, Abbey House, Westminster.

Birmingham General Hospital

In the 151st annual report of the General Hospital, Birmingham, which covers the year 1930, it is announced that the opening of the new casualty department, three wards, and other extensions last November has proved highly satisfactory, enabling treatment to be given to patients more expeditiously and under greatly improved conditions. The additional sixty beds so obtained have rendered it possible to deal with nearly all the cases on the general medical and surgical waiting lists. The number of patients who have had to be referred to other institutions for treatment has been reduced, and the waiting list now consists mainly of those who require treatment in the special departments. The new classrooms and the nurses' recreation hall are meeting the steadily increasing demands for rooms for medical, nursing, and massage examinations, as well as for other educational purposes. The financial outlook is, however, very serious, since there is an overdraft of £20,000 in excess of the remaining unsold free investments. The Queen's Hospital is suffering in a similar way, and representatives of the two institutions are consulting with the Birmingham Hospital Council as to the steps to be taken to deal with the emergency. The total number of in-patients and out-patients in 1930 was 66,964, which constitutes a "record," rising even above the peak figure in 1926.

Birth Control Clinics

In a memorandum (153/M.C.W.) addressed to maternity and child welfare authorities, the Minister of Health states that the Government has had under consideration the question of the use of institutions controlled by local authorities for the purpose of giving advice to women on contraceptive methods. So far as maternity and child welfare centres (including ante-natal centres) are concerned, these centres can properly deal only with expectant mothers, nursing mothers, and young children, and it is the view of the Government that it is not the function of the centres to give advice in regard to birth control, and that their use for such a purpose would be likely to damage the proper work of the centres. At the same time the Government considers that where there are medical grounds for giving advice on contraceptive methods to married women in attendance at the centre it may be given, but that such advice should be limited to cases where further pregnancy would be detrimental to health, and should be given at a separate session and under conditions such as will not disturb the normal and primary work of the centre. The Minister will accordingly be unable to sanction any proposal for the use of the centres for giving birth control advice in other cases. The Government is advised that local authorities have no general power to establish birth control clinics as such, but that under the Notification of Births (Extension) Act, 1915, which enables local authorities to exercise the powers of the Public Health Acts for the care of expectant mothers and nursing mothers, it may properly be held that birth control clinics can be provided for these limited classes of women. Having regard to the acute division of public opinion on the subject of birth control, the Government has decided that no departmental sanction which may be necessary to the establishment of such clinics for expectant and nursing mothers shall be given except on condition that contraceptive advice will be given only in cases where further pregnancy would be detrimental to health. Under the Public Health Acts, local authorities have power to provide clinics at which medical advice and treatment would be available for women suffering from gynaecological conditions. But the enactments governing the provision of such clinics limit their availability to

persons, and the Government has decided that any departmental sanction which may be necessary to the establishment of such clinics shall be given only on condition (1) that the clinics will be available only for women in need of medical advice and treatment for gynaecological conditions, and (2) that advice on contraceptive methods will be given only to married women who attend the clinics for such medical advice or treatment, and in whose cases pregnancy would be detrimental to health.

The Health and Cleanliness Council

The annual luncheon of the Health and Cleanliness Council was held at the Holborn Restaurant on March 26th, and was presided over by Dr. G. F. Buchan. It was attended by a large number of medical officers of health and social workers. The principal address was given by Mrs. Leah Manning, M.P., past-president of the National Union of Teachers, who spoke on the teaching of health and cleanliness in the schools. Cleanliness, she said, was, happily, about the hardest habit to break, but under modern conditions of life, so far as large numbers of elementary school children were concerned, unless they were given a taste for cleanliness in schools, the habit was never likely to be acquired. Many of them came from slum tenements, which afforded no opportunity for cleanliness, and often none for decency. She stigmatized the washing arrangements in many schools—the couple of roller towels to serve a hundred or more children, and the mouldy pieces of soap. Dr. Buchan reminded the company that this was the fifth annual meeting in connexion with this movement. Although it had both words in its title, the council believed that health and cleanliness were synonymous terms. Sanitation was a common-sense application of cleanliness. A clean skin tended to disinfect itself. The idea of cleanliness as a social virtue had been kept well forward by the council. Among other means of propaganda, several films had been produced, one of them entitled "Health is happiness." In eighty-four instances in the mining districts of England and Wales pithead baths had now been provided, and the influence of the council had been used, directly and indirectly, towards achieving that result. Cleanliness in food handling was another subject which had received attention. Tests had been devised, which he hoped would have a psychological effect at least, for use in factories where food was prepared. In some other countries those who handled food were not permitted to follow their calling until they had been certified. The work of the council during the year had increased, and it was becoming impossible to meet all the demands now made for propagandist literature. This year it was hoped to concentrate more than in the past on the school child, and the help of teachers was being enlisted to an ever-increasing extent.

Scotland

Congress of Obstetrics and Gynaecology

The eighth British Congress of Obstetrics and Gynaecology will take place in Glasgow on April 22nd, 23rd, and 24th, by invitation of the Glasgow Obstetrical and Gynaecological Society, whose president, Dr. David Shannon, will act as chairman. This congress is organized under the auspices of the following constituent societies: Section of Obstetrics and Gynaecology, Royal Society of Medicine; Edinburgh Obstetrical Society; North of England Obstetrical and Gynaecological Society; Glasgow Obstetrical and Gynaecological Society; Ulster Medical Society; and the Section of Obstetrics and Gynaecology, Royal Academy of Medicine in Ireland. The principal sessions will be held in the Lister Memorial Lecture Hall of the Royal Infirmary. Both sessions on the first day will be devoted to the clinical and pathological features of ovarian tumours (excluding endometriomata). This discussion will be introduced by Professor Blair Bell, followed by Professor Beckwith Whitehouse, from the clinical side, and Mr. T. G. Stevens, from the pathological side. The morning and afternoon sessions of April 23rd will be opened with papers by the two congress guests, Professor S. A. Gammeltoft, on the teaching of obstetrics and gynaecology as practised in the University of Copenhagen, and Professor H. Guggisberg, of the University of Berne, on conditions of life and reproduction. The afternoon session will be held in the Anatomical Institute of the University, where Professor Bryce will afterwards demonstrate the famous Hunterian collection of anatomical and pathological preparations. The last formal session will be held on the morning of April 24th, the afternoon being devoted to visits to the various hospitals within the city and attendance at operations. A special museum is being organized for the congress in the Pathological Institute of the Royal Infirmary, and the social side has been very well provided for. For those who may be able to remain in the North until Saturday, April 25th, an interesting function has been arranged. For some time the obstetrical societies of Edinburgh and Glasgow have considered the renovation of the tomb of Dr. William Smellie at Lanark. The new memorial will be ready for unveiling in the cemetery of St. Kentigern at noon on that day. The secretaries of the congress are Professor James Hendry (7, Clairmont Gardens, Glasgow, C.3) and Dr. John Hewitt (16, Whitehill Street, Glasgow, E.1), from whom further information may be obtained.

Egyptian Clinical Surgery

A lecture on clinical surgery in ancient Egypt was delivered to the Glasgow Egypt Society on March 17th by Dr. John D. Comrie. The principal part of the lecture dealt with a surgical papyrus published last year by Professor J. H. Breasted of the University of Chicago. Dr. Comrie said that the material of this treatise, known as the Edwin Smith Papyrus, was supposed by Professor Breasted to have come down from a very early period, perhaps 2800 B.C., and the present copy was probably made about 1700 B.C. In some 377 lines the ancient Egyptian scribe had given the record of forty-eight clinical cases, dealing systematically with injuries from the head through the neck and chest to the spinal column. The papyrus at this point had broken off suddenly, which was a misfortune to our knowledge of what the ancient Egyptians might have had to say about the surgery of the abdomen and lower limbs. The surgeon had described the examination of the patient, and the information that might be elicited by questioning him or directing him to make certain movements, and importance had been laid upon examination of the pulse for determining the patient's general condition. This had been the first appearance of the pulse in medical history, more than 1,000 years before it appeared in Greek medicine. Among the mechanical appliances used were absorbent lint, tampons of linen, bandages, surgical stitching—which here had appeared for the first time in surgery—splints, a brace of wood padded with linen for holding the mouth open in a case of tetanus, and a drill for cauterization. The surgeon's favourite remedy for an injury had been "fresh meat" applied for one day only, and followed by an application of lint saturated with ointment and honey. A decoction of willow, which was essentially salicin, had been used as a disinfectant; an ammoniacal preparation was applied to allay inflammation; and as an astringent a solution containing salts of copper and sodium was used. The treatise repeatedly instructed the practitioner to let nature do the work, and in critical cases to adopt a

waiting attitude. After examination, the surgeon had pronounced his diagnosis, and the verdict had been classed as favourable, uncertain, or unfavourable, the latter being expressed in the words "an ailment not to be treated." There were forty-two examples of treatment out of forty-five injuries discussed. In three of these the treatment had been purely mechanical, while in twenty surgical treatment had been combined with the external use of medicaments, and in nineteen external applications had alone been employed. The methods of this early surgeon sounded rational and modern, although his resources were not very great, and there had been an entire absence of the incantations and charms with which other ancient Egyptian papyri abounded.

Mental Deficiency in Scotland

The annual meeting of the Royal Scottish National Institution for Mentally Defective Children at Larbert was held on March 19th. The Earl of Mar and Kellie presided, and Dr. R. D. Clarkson, medical superintendent, submitted the report for last year. Dr. Clarkson stated that the past year had been the seventieth of the institution's existence, and that during its course 560 mentally deficient children of all grades of defect had been cared for. He combated the view, held by many intelligent people, and even by members of the medical profession, that mental deficiency was a hereditary disease. This view, he contended, was wrong, and did an infinite amount of harm. In the great majority of cases mental deficiency was really due to some injury to the growing brain, sometimes caused before birth, sometimes at birth, and sometimes by interference with the blood supply. Many defects arose from a fall upon the head, and others from inflammation of the brain, but heredity accounted for only a small number of the cases. The speaker hoped that the colony for the after-care of patients would soon be ready for occupancy, and he believed that it was better that mentally defective children should be away from their parents throughout their lives, and be cared for by others. He considered that the after-care of such patients was a social function of the very highest value, for defectives who lived in the institution and were given work that they could perform, enjoyed life better than some people who had all their faculties. The chairman stated that the after-care colony was estimated to cost £100,000, and as a result of appeals subscriptions were now available amounting to nearly £40,000. The work of its construction had unfortunately been delayed, but the directors hoped that, when the scheme was completed, it would be opened free of debt. The financial statement showed that the ordinary income had been well maintained.

Edinburgh Women's Hospitals

The annual meeting of the Edinburgh Royal Hospital and Dispensary for Women and Children, and of the Elsie Inglis Maternity Hospital, was held on March 17th, under the presidency of Mrs. J. C. Johnston. According to the report 762 patients were treated in the wards of the Bruntsfield Hospital during the year, while the number of in-patients at the Elsie Inglis Hospital was 1,004, increases of 66 and 34 respectively compared with the previous year. The financial statement showed a slight decrease in income, from £12,814 to £12,387, and a rise in expenditure from £14,328 to £15,836. In referring to radium treatment and research the chairman said that without making any public appeal the committee had been enabled by the generosity of friends to obtain radium to make a beginning with this work. A small ward had been equipped and opened at the end of the past year for radium treatment of cancer cases. She also referred to an investigation in regard to maternal morbidity which had been made at the Elsie Inglis Hospital. In 1928, 667 mothers had been treated in the hospital, with 13 per cent. of morbidity. In 1929, after a certain amount of isolation had been established, the percentage of morbidity had been 9.7, while during the past year, following upon still further precautions, the percentage had fallen to 5.2.

Ireland

Milk and Tuberculosis

At the annual meeting of the Royal National Hospital for Consumption in Ireland, held in Dublin, Dr. T. G. Moorhead, President of the Royal College of Physicians of Ireland, said he was convinced that the slow decline in non-pulmonary tuberculosis was due to the fact that the disease in most cases was caused by drinking the milk of tuberculous cows. Tuberculosis had diminished in Ireland, but the mortality figures were still much higher than those of Great Britain. The decline was due to the diminution of the disease in the pulmonary form. Referring to the Clean Milk Bill, which he believed had been on the stocks for the past two years, he said that when the Government was approached on the subject, the reply always was that there was no time for the Bill. If the public only knew the type of milk that was being sold in many quarters it would force the Government to take action. In regard to the Peamount Colony he hoped that the splendid work being done would soon be made available for suitable patients from all over the country. Dr. Leonard Abrahamson also referred to the holding up of the Clean Milk Bill. Delay in passing this measure into law, he said, retarded the checking of preventable infirmities and of a high mortality. The cause of tuberculosis in children was easily traced to impure milk. In adding his protest to Dr. Moorhead's, and to that of Dr. Wheeler in a letter published in the *Irish Times*, he expressed the hope that every medical man would continue to take similar action until the Bill became law.

The Sanitation of Enniskillen

In a report to the Public Health Committee of the Enniskillen Urban Council the sanitary officer states that none of the slaughterhouses used in connexion with the butchers' shops in the town were found to be suitable for the slaughtering of animals, all being situated too close to inhabited dwelling houses. With one exception, the slaughterhouses, or buildings associated with them, were employed for the storing of hides, bones, cattle offal, and as byres for cattle and sheep. Three were in an insanitary condition, due to the presence or proximity of manure and other objectionable matter. Some of the shops selling milk in the town were also inspected and found unsuitable for this purpose, since proper and separate arrangements had not been made for the keeping of milk in a clean condition. The committee recommended that the council should frame by-laws for the construction, regulation, and control of slaughterhouses in the urban district. In the meantime it suggests that necessary repairs should be carried out, and that the sanitary sub-officer should visit the existing slaughterhouses twice each week and report immediately any case of uncleanliness or insanitation. Where necessary, butchers are advised to provide temporary premises suitable for the slaughter of cattle or sheep. In all cases hides, bones, offal, manure, and other objectionable material must be removed without delay. The committee further recommended that the Dairies and

Cowsheds Order should be enforced, and that dairies or other places found unhygienic should be prohibited from selling milk in the urban district. Dr. Deane of the Ministry of Home Affairs has directed that samples of milk sold in the town should be taken at intervals and submitted to Professor Wilson, Queen's University, Belfast, for bacterial examination. In addition, he has instructed that the results of these tests should be referred to the Public Health Committee, and that persons selling milk found unfit for human consumption should be prosecuted under the provisions of the Public Health (Ireland) Act. Samples of filtered and unfiltered water from the town supply are also to be taken twice each year, and the result of the analyses submitted to the committee and recorded in its minutes.

Londonderry Infirmary

The annual report of the Londonderry City and County Infirmary states that the hospital is now entering upon the 142nd year of its existence. During 1930 the number of patients admitted to the wards was 1,153—8 more than the previous highest figure. Over 900 operations were performed altogether. Although the ordinary expenditure of £7,346 represented an increase of £293, the ordinary income showed an almost corresponding rise, the total amount being £7,320, compared with £7,051 in 1929. Workers' collections amounted to £256, an increase of £60. The report pointed out that although these contributions had increased, the support received was very far short of that accorded to the Belfast hospitals, which derived about £23,000 from this source alone. There was a further increase in the income from the private wards, the total being £1,426, compared with £1,194 in the previous year. Accommodation in the private wards was stated to have been taxed to its utmost for the greater part of the year, and occasional difficulty was experienced in providing beds for all the patients seeking admission.

Correspondence

THE CANFIELD OPERATION FOR PARANASAL SUPPURATION

Sir,—My friend Dr. Perry Goldsmith, in his paper on paranasal suppuration following operation (*British Medical Journal*, March 21st, p. 484), has condensed in small space a huge mass of information and suggestion. His common sense and long experience render this article acceptable both to the learner and to the expert—the former finding answers to many of his existing difficulties and the latter probably finding confirmation of the conclusions arrived at after a more or less successful solution of these difficulties.

I would ask for greater insistence on the value of "operations, such as advocated by Canfield, in which the antrum is entered at the anterior nasal angle," which, as Dr. Goldsmith says, "give a better approach and permit a direct though small view." Instrumentation, he says, may then be carried out, but not in as thorough a manner as he believes should be done.

The point which has struck me most in my experience of the "Canfield operation" has been the unexpected rapidity with which the suppuration has come to an end when compared with my experience of other forms of operation on the antrum. The explanation is, in my opinion, twofold: first, that the opening, whether large or not, lies very far forward in the nasal cavity, and therefore nearer the open air; secondly, that it is situated in a narrow part of the passage, so that the current of air going past it in respiration acts on the antrum like the wind over a chimney or the air in the old perfume spray, drawing the moisture out of the cavity. Whatever the explanation may be, I have no doubt as to the fact, and I feel justified in urging the adoption of the method whenever a decisive result is urgently required or when the suppuration has persisted in spite of the other more usual forms of operation. It is recommended by Halle on the strength of his experience of it in Germany, where it is known as the Sturman-Canfield operation. I described the operation in the *British Medical Journal* of November 10th, 1923, with a series of illustrative cases.

Even if the view obtained is a small one it is sufficient, and the amount of antral instrumentation called for is less than is practised in the other somewhat simpler operations.—I am, etc.,

London, W., March 28th. JAMES DUNDAS-GRANT.

THE THYMUS

Sir,—Your remark that "it seems to be impossible to obtain precise figures for the normal size, shape, or weight of the [thymus] gland at different ages, which can be agreed upon by anatomists, paediatricians, and radiologists," is no doubt a truth, but an unhelpful truth. I should think it would seem to be impossible to obtain a precise translation of a passage in Hippocrates which can be agreed upon by three groups of persons unacquainted with the Greek language. More helpful truths are: (1) complete proof has been given that there is no significant relation between the weight of the thymus and the existence of any "symptom-complex," or any particular manner of dying; (2) complete proof has been given (by Professor J. A. Hammar of Upsala, whose magnificent work it is intellectually discreditable to ignore) that no histological peculiarities of the thymus can be used as diagnostic criteria of status thymicus.

A correspondent of yours has, I think, done a little injustice to the committee set up by the Medical Research Council and the Pathological Society. He seemed to think that the committee wished to prevent expert witnesses and others from talking nonsense about status thymicus. All the committee seems to have suggested is that they should abstain from talking a particular *kind* of nonsense which can be shown to be nonsense. Nobody would even *wish* to prevent experts talking about "hyperthymization, dysthymization, hormonal dysharmony, and an anatomical nervous theory." It comforts the laity, and gives much quiet amusement to physiologists like the late Professor G. N. Stewart, who confessed that "the physiologist can scarcely escape the feeling that here he has broken through into an uncanny fourth dimension of medicine, where the familiar canons and methods of scientific criticism are becoming foolishness, where fact and hypothesis are habitually confounded, and nothing is but what is not."—I am, etc.,

Loughton, March 28th. MAJOR GREENWOOD.

THE PROSTATE IN GENERAL PRACTICE

Sir,—Mr. Kenneth Walker's article in your issue of March 21st, while obviously of immense practical value to those engaged in general practice, opens up questions that concern those engaged with other special territories. With such a contribution touching on various aspects of disease, I apologize for drawing attention to what may appear a trivial point. The subject of chronic prostatitis, we are told, "may appear . . . as a case of 'sciatica,' or of 'chronic rheumatism.' . . . Sometimes . . . disguised as one of recurrent iritis. . . . The prostate is most commonly the primary focus of infection in cases of chronic fibrositis or synovitis."

It would thus appear that a chronic septic infection of the prostate is one of the most frequent causes of its hypertrophy, the analogue of chronic tonsillar sepsis. One may inquire whether the route of infection is infection entering like the gonococcus, from without, or by infection by organisms excreted by the kidneys, or do blood-borne organisms directly involve the prostate?

One would like to learn whether, in a series of cases of chronic prostatic hypertrophy, there is a large percentage with a *previous* history of septic infections of the throat, nose, or teeth, of appendicitis, cholangitis, and so forth. It may be that the prostatic infection is not seldom secondary to another primary source of infection, and that, like the chronic fibrositis, synovitis, iritis, and so forth, the prostate suffers in common as a *secondary* infection.

Quite recently a colleague came under my care on account of a left-sided ocular affection of long standing, associated with post-nasal catarrh. Exploral suction showed infection of a left posterior ethmoid cell, with *Staphylococcus aureus* and streptococcus. But he had noticed exudation of muco-pus from the urethra on defaecation when his post-nasal catarrh and eye symptoms had become active, so I had a smear culture made from this urethral discharge, and it revealed *Staphylococcus aureus* and streptococcus, and *M. crassus*. Further, I have met with a chronic sinusitis which apparently caused an acute epididymitis in a patient with symptoms of a moderate prostatic enlargement.

Such slender grounds do not warrant a theory, but perhaps are sufficient to stimulate inquiry as to the influence of chronic systemic infections as a possible cause of prostatic hypertrophy.—I am, etc.,

PATRICK WATSON-WILLIAMS.

Clifton, Bristol, March 23rd.

THE GENETIC AND RACIAL ASPECTS OF HORMONIC DEFICIENCY

SIR,—As Dr. Manson rightly says, the question raised in my letter of March 7th is of fundamental importance from the racial point of view. It is not limited to cretinism and hypo- or hyper-thyroidism only. Take, for instance, diabetes and insulin deficiency. Dr. Kennedy (*Journ. Amer. Med. Assoc.*, 1931, xcvi), Dr. Joslin, and others have given evidence to show that diabetes has a familial incidence. There must be an increasing number of young diabetics now alive whose symptoms have been relieved, and lives prolonged, by the continued administration of insulin. Some of these patients will have married, and it is very important that we should know to what extent the pancreatic defect is transmitted to offspring. Information is also needed as to the influence of insulin deficiency on reproductive capacity. This point, like that of thyroid defect, might, as Dr. Manson suggests, be cleared up by experimental breeding in animals.

The whole problem is, in fact, a very wide one, and raises the question, What will be the effect on the race of replacing, by artificial means, innate or natural deficiencies which may depend on, or be associated with, genetic factors? Shall we by so doing tend to perpetuate these and other defects in our racial constitution, unless, indeed, other means are employed to counteract this tendency? It is, at any rate, high time that we began to collect the family records and the other data which alone can give us accurate information. Medical men in general practice possess favourable opportunities for doing this, and I would venture to suggest that a collective inquiry by the British Medical Association into the matter would be very useful.—I am, etc.,

Leicester, March 23rd. C. J. BOND.

VACCINE DOSAGE: A PLEA FOR UNIFORMITY

SIR,—Vaccine therapy has now become firmly established in medical practice as a valuable adjunct to therapeutics in cases of chronic infection. And yet it must frankly be confessed that the lack of uniformity among pathologists as to the dosage of autogenous vaccines entirely shakes one's confidence in the scientific accuracy of this form of treatment. A recent experience may give point to this complaint.

It so happens that during the past three months I have had four patients under my care, each suffering from a chronic streptococcal infection of similar character, and for each of whom an autogenous vaccine has been prepared by a separate pathologist of repute and experience. The dosage recommended by these four vaccine experts is as follows:

Pathologist 1:	100,000 streptococci per c.cm.
Pathologist 2:	10,000,000 streptococci per c.cm.
Pathologist 3:	200,000,000 streptococci per c.cm.
Pathologist 4:	400,000,000 streptococci per c.cm.

In no case were the organisms detoxicated.

In other words there is the same difference between the recommendations of the first and fourth pathologists as there would be between one grain of a given drug and half a pound! Is it not high time that some degree of uniformity was arrived at?—I am, etc.,

HAROLD BALME, M.D., F.R.C.S.

Lingfield, March 23rd.

SECURITY OF TENURE IN PUBLIC POSTS

SIR,—Your issue of March 9th, 1929, contained an important leading article on the above subject. In it you traversed some of the more glaring anomalies existing in the conditions of employment under local authorities, and showed that they are not within the ordinary law which regulates the relations between employer and employed. You made several judicious recommendations, among them being:

1. That definite action should be taken to bring these local authorities within the law regulating the relations of employer and employed.

2. That changes in the Superannuation Acts should be effected so that an officer who has completed a certain number of years of service, and is dismissed from his appointment, shall be entitled, in the absence of evidence of misconduct, to a pension in accordance with his years of service.

3. That advertisements for these appointments should indicate that the person appointed will hold office at the pleasure of the employing committee.

Two years have passed since your leading article appeared, and it is perhaps a matter for regret that none of the above recommendations have been given effect. In particular, one cannot help noticing that advertisements, which you then rightly termed "misleading," still continue to appear. For the sake of our younger brethren who may be contemplating entering these services the conditions of employment should be correctly stated.

The aspect of the matter which causes greatest uneasiness is the total lack of security of pensions, though contribution to the superannuation schemes is strictly compulsory. If an officer is dismissed arbitrarily he forfeits all his years of service towards pension. As you say, this is inequitable, and the officer should, at any rate, get a pension in accordance with his years of service. It has generally been assumed, however, that an officer's pension, at least, is safe after he has completed the statutory years of service, and attained the statutory age. A recent ruling has come to my notice which shows that this is not so. The pension of an officer who continues to serve after statutory qualification is just as insecure as that of an officer who has not yet fully qualified. In

both cases alike, termination of the appointment estops any claim to superannuation. Similarly in the case of sick pensions: if an officer continues to serve after he has become entitled to a sick pension on medical grounds, and the authority subsequently sees fit to terminate his appointment, his claim to a sick pension is thereby forfeited.

To many it may seem that such risks as these are infinitesimal; but, in fact, it is not so. Illustrative cases are by no means rare, and they may be expected to go on occurring until adequate legal safeguards are obtained for all employees of local authorities. In the meantime, the moral would seem to be that officers should retire on qualifying for pension.—I am, etc.,

Wedmore, March 22nd. H. C. McMANUS.

CALCIUM METABOLISM

SIR,—The interesting and important Hastings Lecture by Professor Edward Mellanby, which appeared in the *Supplement* of March 21st, induces me to draw attention to the remarks I made on the importance of calcium metabolism in my article on calcium iodide, which appeared in the *British Medical Journal* of July 21st, 1906.

"From foetal life, when we find the early deposition of spicules, to the period of old age, when the bones become . . . brittle, calcium plays an important part. In infancy when the bones are growing, and at puberty when growth ceases, calcium is always exercising a great influence. The proportion between animal and earthy matter in bone is constantly varying from infancy onwards, and disease attacking . . . at an early stage produces quite different effects from those produced at a later period. . . . The chemical products resulting from any disease occurring in a child with rickets where the calcium salts are depleted . . . must be very different from those produced by the same disease in an otherwise healthy child. . . . If [as Dr. Ringer pointed out] ova . . . and red corpuscles . . . are so dependent on . . . calcium salts, it is a logical conclusion that the growth of all cells is dependent on the proper proportion of the same salts. If the normal growth of cells is so dependent, any abnormal growth of cells must depend on some abnormal percentage of calcium."

Since then you have allowed me on many occasions to emphasize the important connexion between the calcium salts and disease, especially rheumatic fever and chorea, a connexion which many investigators, including Professor Mellanby, now appreciate.

An article by me on "The lack of calcium salts in the food of troops on active service," published in *The Hospital*, February 4th, 1911, includes the following statement, which is emphasized with great force by Professor Mellanby.

"The food of the poor is conspicuous by the absence of these most nourishing foods—milk, eggs, and cheese—and as a consequence we find among them a high infantile death rate. . . . That a deficiency of lime salts does predispose to disease is evidenced by the large amount of intestinal troubles that arise in rickety children, and the inflammatory conditions that follow a depletion of calcium salts."

—I am, etc.,

Swansea, March 23rd. G. ARBOUR STEPHENS.

DIET AND HEALTH

SIR,—The *Supplement* to the *British Medical Journal* of March 21st contains a report of Professor Edward Mellanby's lecture on the above subject, and in the same issue of the *Journal* there is a leading article discussing Mrs. Mellanby's experimental work on dental caries. It is a great triumph for these research workers to be able to produce such helpful proved experimental results; and it points the way to prevention of certain diseases in the future. But for the general practitioner, dealing with the problems of disease at the present day, are the various lines of treatment suggested always feasible? My experience is that they are not.

The diet of the people of the Island of Lewis, an isolated community, is quoted as producing strong, healthy, sturdy men, with perfectly formed teeth, and this is put down to the vitamin content of their food, derived from fish liver, etc. But such has been their diet for generations. When we have to deal with those who have lived on the mainland—and especially in towns—we are faced with quite a different problem. Here we have people who have not led the free, open-air life of these islanders (barefoot half the year, and so getting the beneficial effect of the sun), nor practised correct dietetics from generation to generation. The result is an altered biochemical machine to work on, resulting in different constitutional types, with this or that form of allergic manifestation. Every practitioner meets daily with patients who cannot take milk, cream, or eggs, whereas the mere thought of oily things, and particularly cod-liver oil, nauseates many of them. The only result, if one attempts to override this inherent repugnance, is to upset the liver; and acidosis is easily produced with concentrated vitamin D in such subjects. As has been pointed out so often recently in the literature, the giving of glucose and alkalis is a godsend to many of these children. Can we prevent children being born with such a diathesis by supplying the pregnant mothers with suitable diet? In a great many instances the mothers are as difficult as the children.

It would seem, therefore, that we are generations too late with this new-found knowledge, and that we cannot retrace the wrong dietetic path pursued for several generations, just as in the case of the adolescent parenchymatous goitre, which cannot now be remedied because the opportune moment for supplying sufficient available iodine in early years has been lost. "Agrestis," in his letter on "The enigma of the chilblain," on page 516 of the same issue, sums up the case concisely when he says: "If one has a disease one learns a good deal about it."—

I am, etc.,

Darlington, March 25th. R. CHALMERS.

Obituary

JOHN BINFORD BARNETT, F.R.C.S.

RESIDENT SURGEON, ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, COUNTRY BRANCH, STANMORE

We regret to record the death of Mr. John Binford Barnett on March 27th at the early age of 38, at the country branch of the Royal National Orthopaedic Hospital, Stanmore, Middlesex. He was educated at Birmingham University, and proceeded later to the Middlesex and St. Mary's Hospitals. On the outbreak of war Barnett joined the East Lancashire Regiment as a combatant, but after a prolonged illness, from which he never completely recovered, he was invalided out of the Army. He went back to his medical studies and qualified with the M.R.C.S. and L.R.C.P. diplomas in 1918, whereupon he applied for readmission to the Services. He was accepted and given a commission in the medical branch of the Royal Air Force and reached the rank of captain; later he even obtained a pilot's certificate. After the war he held resident surgical appointments at the General Hospital, Birmingham, and the Royal National Orthopaedic Hospital; and clinical assistantships at Great Ormond Street Children's Hospital and Middlesex Hospital.

At the termination of his house-surgeonship at the orthopaedic bospital he was appointed surgical registrar, and in 1923 went to Brockley Hill, Stanmore, as the medical superintendent and resident surgeon of the newly formed country branch. This open-air appointment was much to his liking, in view of the capricious state of his

health. The hospital started off with thirty beds housed in a converted mansion and a large wooden army hut. Soon, however, greater accommodation was required, and Barnett threw himself whole-heartedly into the scheme for providing a model country hospital with permanent buildings, and under his able guidance a fine modern institution of 280 beds gradually grew up. Meanwhile, in 1925, he obtained the F.R.C.S.Eng. He had acquired a large and varied experience of orthopaedic surgery, but perhaps his main bent was in the direction of the surgical treatment of tuberculosis of the bones and joints. He was well abreast of the best work in this branch, and was reaching out along lines of his own. A skilful operator, he had already achieved considerable success in the operative treatment of spinal disease, using a short double bone graft restricted to two or three vertebrae where the disease is limited, and, following Hibbs, he was particularly partial to bone graft arthrodesis in hip disease in selected cases. In addition to administering the hospital, he periodically attended orthopaedic clinics in the Home Counties and on the South Coast in his capacity as visiting surgeon, his opinion being greatly valued by practitioners in these centres. Away from his work he was a keen motorist. In earlier days he rarely missed a meeting at Brooklands, and when his summer vacation came round he regularly took his car across the Channel. Few of his countrymen had a more intimate knowledge of odd corners of France and Spain ; he had been in his car everywhere. He was a good mechanic ; the Brockley bed for the easy nursing and quick transport of patients about hospital grounds is the result of his inventive genius.

Barnett had a high sense of duty, and this, with his tact and sympathetic handling of patients and staff, peculiarly fitted him for the post he occupied, for he was beloved by his patients. Those who knew him best knew how much he periodically suffered from the relics of his old illness, and yet his appearance and manner often belied his symptoms, for he was always engagingly humorous and cheerful. His passing at so early an age is a heavy blow to the Orthopaedic Hospital, and his place will not be easy to fill.

Dr. WILLIAM IRELAND DONALDSON, who died in Dublin on March 15th, aged 68, was the second son of the late Dr. Robert Donaldson of Castleshane, Monaghan. He was educated at Trinity College, Dublin, and graduated M.B.Dub. in 1885, B.Ch. in 1886, and proceeded to the M.D. in 1897. After qualifying, he joined the mental hospital service of the London County Council, and served for some years as senior medical officer to Cane Hill Mental Hospital, and subsequently became medical superintendent of the Manor Mental Hospital, Epsom, where he served for over twenty years. During the war he held a temporary commission as lieutenant-colonel in the R.A.M.C., and served as officer in command of one of the war hospitals in London. On retirement he went to live in Dublin.

We regret to announce the death, at the age of 65, of Mr. ARTHUR HOPEWELL-SMITH, M.R.C.S., L.R.C.P., L.D.S., who was very well known for his work in dental histology and pathology. He was honorary secretary of the Section of Odontology at the Annual Meeting of the British Medical Association in London in 1910. Mr. J. G. Turner, F.R.C.S., sends the following appreciation: Scarcely a year ago Hopewell-Smith relinquished his post as professor of dental histology in the University of Pennsylvania, an appointment he had held since 1914, and returned to London to spend his well-earned leisure amid his old haunts and among his old associates. Before being invited to Pennsylvania he had been lecturer on dental anatomy and demonstrator of dental histology at the Royal Dental Hospital of London, and it was the striking excellence of his practical work in preparing sections of dental tissues and in photomicrography that led to the offer of a post in the United States. His return was hailed with the sincerest pleasure by his old friends, who found the same delightful comrade and enthusiast as of old. They looked forward to a renewal of the days when an outspoken, but always good-humoured, wrangle would be followed by an impromptu pianoforte variety entertainment of which no professional need have been ashamed. Hopewell-Smith leaves behind him an enduring monument in his work in dental histology, but those who knew him best will think of him as a friend whose kindliness and cheerfulness were unfailing.

Universities and Colleges

UNIVERSITY OF OXFORD

At a congregation held on March 28th the following medical degrees were conferred:

D.M.—D. G. Leys, R. Lewthwaite.
B.M.—T. M. Davie, E. Harvey, K. N. Irvine.

UNIVERSITY OF LONDON

It has been decided to institute a University Chair of Experimental Pathology, tenable at the Cancer Hospital, Fulham Road.

The University College Committee has re-elected Viscount Chelmsford as chairman and Sir John Rose Bradford as vice-chairman for 1931–32.

VICTORIA UNIVERSITY OF MANCHESTER

Elsie Catlow has been approved at the examination for the Diploma in Public Health, Part II.

UNIVERSITY OF LEEDS

The following candidates have been approved at the examinations indicated:

M.D.—S. J. Hartfall (with distinction), J. C. Lamont, W. A. D. Lawson.

FINAL M.B., CH.B.—*Part I*: H. Agar, Doris B. Brown, H. Featherman, E. Gledhill, J. S. Gourlay, Gwendolen Harrison, H. Hart, F. R. W. Helmsley, Ruth Hooton, E. James, M. Lask, J. Littlewood, I. Macpherson, J. Q. Mountain, I. Rosenberg, M. Rosenthal, L. W. Russell, M. Shankhla, S. Strasburg, S. Suvi, J. Taylor. *Part II (New Regulations)*: J. E. Abell, P. R. Allison, E. L. Brittain, J. M. P. Clark, J. L. Coleman, F. B. T. T. Drake, J. Fielding, L. Glick, R. A. Hall, G. P. Holderness, J. M. Holmes, G. Hyman, G. Marquis, H. Mattison, M. R. Potter, L. J. Richmond, S. Rosenbloom, N. Ross, J. Scholefield, B. Schroeder, P. Science, J. Shapiro, F. R. Staub. *Part III (New Regulations)*: P. R. Allison (first class honours), J. E. Abell, E. L. Brittain, J. M. P. Clark, J. L. Coleman, F. B. T. T. Drake, J. Fielding, R. A. Hall, G. P. Holderness, G. Marquis, M. R. Potter, L. J. Richmond, S. Rosenbloom, N. Ross, J. Scholefield, P. Science, J. Shapiro, F. R. Staub. *Part III (Old Regulations)*: J. Kak.

B.Sc. (with honours).—*Bacteriology, Class I*: K. I. Johnstone.

D.P.H.—H. S. Carter, R. C. Holderness.

The following scholarship and prizes have been awarded:

Infirmary Scholarship: R. L. Lamming. Littlewood Prize: R. L. Lamming. Scattergood Prize: J. Scholefield. Edward Ward Memorial Prize, P. R. Allison. Hardwick Prize, P. R. Allison. McGill Prize: P. R. Allison, J. Scholefield.

The Services

ROYAL NAVY MEDICAL CLUB

The annual dinner will take place this year at the Trocadero Restaurant, Piccadilly Circus, on Thursday, April 16th, at 7.30 for 8 p.m. Members who wish to be present are asked to inform the honorary secretary, Royal Navy Medical Club, Queen Anne's Chambers, Tothill Street, S.W.1, not later than seven clear days before that date.

AUXILIARY R.A.M.C. FUNDS

The annual meeting of the members of the Auxiliary R.A.M.C. Funds will be held at 11, Chandos Street, W.1, on Friday, April 17th, at 5 p.m., when the annual report and financial statement for the year ended December 31st, 1930, will be presented and the officers and committee for the current year elected.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The second reading of the Consumers' Council Bill, the money resolution for the Yarmouth Naval Hospital Bill, the later stages of the Army and Air Force Annual Bill, and other business were set down to be taken in the House of Commons this week before the House adjourned on April 2nd until April 14th. The House of Lords had already adjourned for Easter.

Poisons and Pharmacy Bill

COMMITTEE STAGE IN THE LORDS

On March 26th the House of Lords went into committee on the Pharmacy and Poisons Bill, Lord Ponsonby being in charge of the measure for the Government. On the motion of Lord PONSONBY there was added after Clause 1 a new clause dealing with the issue of certificates of registration and penalties for abuse of certificates.

Lord ASKWITH moved to insert after Clause 3 a new clause to prevent anyone who was not an authorized person under the Act from keeping an open shop for the dispensing of medicines and medical prescriptions. This new clause further required an authorized person who kept an open shop to see that the dispensing should be done by or under the supervision of a pharmacist. He said the amendment would not interfere with the compounding of simple domestic medicines nor with the doctors.

Lord PONSONBY said this proposal had been discussed on March 20th with representatives of the Royal College of Physicians, the General Medical Council, the British Medical Association, and the Society of Apothecaries. Difficulties and objections were raised, and representatives of the medical profession were disinclined to allow the amendment until after much fuller investigation. In these circumstances it was impossible for him to accept it. It would involve hardships in many parts of the country where no registered pharmacist was within reach, and where the proposed clause would prevent the population from getting on a doctor's prescription quite simple remedies involving no compounding, such as cod-liver oil or gargles, and many proprietary medicines. Further, it would apply to the supply of animal medicines on the prescription of a veterinary surgeon. If this amendment were adopted no dispensers holding the certificate from the Society of Apothecaries, and none of the ex-service class of Army dispensers, could carry on the business for which they were well qualified. Lord HEREFORD said that the proposal of Lord Askwith was based on the provisions of the National Health Insurance Act, 1924. The principle had also been recognized in Section 30 of the Pharmacy (Ireland) Act, 1875. Its object was to secure for the remainder of the population the safeguards provided for insured persons by the Insurance Act. Lord PONSONBY said there was no analogy between the two cases. Under the Insurance Act pharmacists could not charge what they liked; their drug tariff was fixed by the Ministry of Health. Under the proposed amendments they would be given a monopoly of dispensing, but there would be no restriction on the prices they might charge. Lord PHILLIMORE recalled that Lord Dawson had said, on second reading, that no medicine should be dispensed except by registered pharmacist or under the supervision of a doctor. Lord PONSONBY replied that Lord Dawson had been unable to come to the conference on the 20th. Other eminent representatives of the medical profession had attended, and expressed the opinion that the amendment suggested by Lord Askwith would not be advisable. Lord ASKWITH then withdrew his amendment.

On the motion of Lord PONSONBY, the House then inserted a new clause to provide that every authorized seller of poisons should send the registrar an annual list of all the sets of premises where he carried on the retail sale of drugs, and also the name of the registered pharmacist by whom each such business was conducted. Amendments were also made to prevent unlawful use of the title "Member of the Pharmaceutical Society," and to make clear that persons who were not registered pharmacists must not describe their premises as a pharmacy.

On Clause 6 (Constitution of Statutory Committee) new subsections were inserted providing that members of the Statutory Committee should hold office for five years. Amendments were made in Clause 10 (conditions to be fulfilled by body corporate in order to become authorized seller of poisons), and on the motion of Lord PONSONBY a new draft was substituted for the original draft of Clause 11 (continuation of business of deceased pharmacist by his representative).

The Poisons Board and the Poisons List

On Clause 15 (preparation of list of poisons for purposes of Act), Lord BERTIE moved to leave out the provision that the Poisons List to be prepared by the Poisons Board must receive the approval of the Home Secretary. He quoted the opinion of Lord Dawson, that the Bill as introduced gave too much power to permanent officials at the Home Office, on whose advice the Home Secretary could overrule the experts on the Poisons Board. Lord PONSONBY retorted that Lord Dawson's opinion had not been reflected by the representatives of the medical profession who came to a consultation regarding the Bill at the Home Office on March 20th. The Government could not agree that the Poisons Board should be sheltered from public control and be sole arbiter on questions of vital importance. Lord HALSBURY, supporting the opinion which had been expressed by Lord Dawson, said there ought to be no authority in Whitehall to override the expert opinion of people who knew best in matters of safety and in health. Lord COZENS-HARDY also supported the amendment. Lord ONSLOW thought the control of Parliament through the Home Secretary should be maintained. The House went to a division in which the original form of words was reaffirmed by 32 to 14, and Lord BERTIE'S amendment was rejected.

Lord PHILLIMORE then discussed an amendment which proposed that the Poisons Board should not be precluded from placing substances on the list by reason of the fact that these were not poisons in the accepted meaning of that term. He said the medical profession would not dispute that substances which were not technically poisons could have an equally deleterious effect on the patient. If persons could be induced to take an overdose of thyroid extract, or an overdose of many other things, they could be killed just as effectively as by putting arsenic in their tea. Lord PONSONBY said that under the amendment it would be possible to schedule alcohol as a poison. He believed that thyroid extract was very popular just now as a means of "slimming," but the conference with the medical profession on March 20th had agreed that if such substances could be shown to be dangerous to life when taken without due care they could be placed on the Poisons List. Lord Ponsonby recalled that, during the second reading, Lord Askwith had suggested that such substances as toxins and thyroid extract might become poisonous when they grew stale. Lord Ponsonby now pointed out that the Therapeutic Substances Act, 1925, gave power to prohibit the sale of such substances after the expiration of a prescribed period from the date of manufacture. If Lord Phillimore desired to have it made quite clear that substances dangerous to life could be scheduled by the Poisons Board, Lord Ponsonby would see that suitable words were put in at a later stage. Lord PHILLIMORE then withdrew his amendment, and also an amendment to divide the Poisons List, Part I, into two classes, sales in the second of which need not be recorded provided requirements as to labelling and containers were observed. Lord PONSONBY said it was better that this question should be left to the discretion of the Poisons Board. An amendment to Clause 16 had been placed on the paper in his name to make clear the discretion of the Poisons Board in discriminating between undoubted poisons and those that were less noxious.

Lord COZENS-HARDY moved an amendment to secure that, unless the Home Secretary could convince Parliament that the advice of the Poisons Board was wrong, he must follow it and make an Order accordingly. This amendment was defeated by 28 to 16.

On Clause 16 an amendment was made, on the motion of Lord HEREFORD and without a division, to ensure that when poisons classified under Part II of the Poisons List were sold in chemists' shops the sale should be by or under the supervision of a registered pharmacist. Other drafting amendments were made on the motion of Lord PONSONBY. Lord COZENS-HARDY was of the opinion that the clause as it stood would compel a doctor who was prescribing for an uninsured person to make certain records and to keep a book, which a doctor

prescribing for insured persons would not have to do. He moved an amendment dealing with this matter. Lord Ponsonby said that the effect of the amendment moved by Lord Cozens-Hardy would be to restrict the conditions about records and books to sales made by pharmacies, and to exempt doctors from their application altogether. That would be going back on existing law. The Pharmacy Act, 1869, required medicines which were needed by a doctor for a patient to be distinctly labelled with the name and address of the doctor, and the ingredients entered, with the name of the person to whom they were supplied, in a book kept by the doctor for the purpose. With regard to insured persons, the National Health Insurance scheme had its own system of records. This particular point had been discussed at the Home Office with representatives of the medical profession, who on the whole preferred not to have any alteration in the present law. The amendment was negatived.

Lord Ponsonby then moved amendments to make clear that a certain subparagraph in Clause 16 did not apply to medical practitioners, and, in the second place, to relax the conditions about recording the details in a book where the medicine supplied was a repeat. Lord Bertie asked whether these amendments would make it unnecessary for a doctor who dispensed his own medicine to put his name and address on the label. Lord Ponsonby said he was not certain on that point; he would see if he could clear the matter up on report. The House then agreed to Lord Ponsonby's amendments.

On Clause 17, which exempts from certain provisions of the Act the sale of poisons wholesale or for export, Lord Ponsonby moved to extend this exemption "to the sale of an article to a duly certified medical practitioner, registered dentist, or registered veterinary surgeon for the purpose of his profession." He said the council of the Pharmaceutical Society was anxious for this amendment. He also had another amendment, to exempt sales of poisons for use in industrial processes—for dyes and matters of that sort. He said such sales had been treated in the past as wholesale transactions. That was not in fact legal, but it was reasonable, and it was desirable to regularize it and make it subject to regulation. Rules would be made with relation to the sale of poisons in trade or business so as to satisfy legitimate industrial requirements. In reply to Lord Henley, Lord Ponsonby gave an assurance that the supply of poisons to duly authorized examining bodies, such as the Institute of Chemistry, for use in conducting examinations would be covered by the Bill as it stood, even though such bodies were not actually teaching institutions. Discussion followed on the clauses dealing with the licensing of persons for the sale of poison substances used for agricultural, horticultural, industrial, and sanitary purposes, and upon the rules to be made by the Home Secretary with regard to such persons and sales. Minor amendments were made in the clauses. Amendments of a drafting character were also made in the clauses concerning penalties, inspection, and the enforcement of the Act. Part of one amendment made on the motion of Lord Ponsonby ran, "nothing in this section shall authorize any inspector appointed thereunder to enter or inspect the premises, not being a shop, of a duly qualified medical practitioner, a registered dentist, or a registered veterinary surgeon."

Constitution of Poisons Board

Debate followed on the constitution of the Poisons Board. Lord Halsbury asked why there should not be a board controlled by experts who really knew. It was an established fact that a particular firm of research chemists in Constantinople had a staff of research chemists doing nothing except to search for new substances in the veronal-medinal group, which was a very dangerous one. These chemists were searching for something which had the same effect as veronal, and for lack of expert advice on the Poisons Board there might be a long delay before the Board dealt with whatever was found by these chemists. There ought to be on the Board representatives of the Pharmaceutical Society, the medical profession, and also the Chemical Society, in order to ensure that such evil substances were at once put on the poisons schedule. Lord Ponsonby, in reply, said that the Home Secretary had agreed that the best possible experts should be appointed to the Board. Official members were already in a majority on the Board as the Bill stood, and the recent conference at the Home Office had agreed that the Board should include an additional representative of the medical profession. The British Medical Association would receive the right to nominate one member. In accordance with this agreement, and on the motion of Lord Ponsonby, amendments were made in the first schedule increasing the Poisons Board from fourteen members to fifteen, and decreasing the number of persons to be appointed by the Home Secretary as additional members from four to three. Lord Henley moved that there be added one person appointed by the Institute of Chemistry. He said the Institute included chemists directly engaged in controlling the manufacture of pharmaceutical preparations containing poisons, and also nearly all public analysts under the Sale of Food and Drugs Acts. Lord Ponsonby said the Government Chemist would be on the Board, but the House agreed to Lord Henley's amendment. On the motion of Lord Ponsonby, a second schedule was added to the Bill regulating the proceedings of the Statutory Committee under the Bill, and prescribing that Regulations should be laid on the table of each House for thirty days before taking effect.

The Bill then passed through committee, and Lord Ponsonby announced that the report stage would not be taken until towards the end of April. Subsequently this stage was put down for April 21st.

Medical Officers in the Air Force.

On March 24th the House of Commons considered the Estimates for the Royal Air Force on report. Dr. Fremantle emphasized the serious deficiency in the supply of medical officers. Mr. Montague, in reply, said there was a deficiency in the number of regular medical officers available. That deficiency was in large part made up by the employment of short-service officers on a commissioned or a civilian basis. The shortage of medical officers in the Services had been referred to a Departmental Committee, which would examine the question as quickly as possible. Recruitment of young medical officers from the Dominions and Colonies was under consideration. Those officers who left the Service after their short commission received a substantial gratuity, and those who remained became permanent medical officers with a good career. Vacancies in the permanent commissioned ranks were filled by selection from those who had been recruited as short-service officers.

Health on Shipboard.—Mr. Graham states that the committee on the health of the mercantile marine has, since February 10th, dealt with proposals for a new scale of medical equipment for passenger ships, recommendations on the medical equipment of coastal vessels, and the revision of the pamphlet dealing with the prevention and treatment of malaria on board ship.

Medical Inspection of School Children.—Mr. Lees-Smith, replying on March 26th to Mr. Herriotts, said that, of the school children who were examined in the course of routine medical inspections last year in the administrative county of Durham, 8,618, or 23.2 per cent., were found to require treatment. The corresponding percentage for England and Wales was 20.8. No information was available as to the total number of children in the county requiring dental treatment, but out of 20,462 children inspected by the school dentists in 1930, 14,218, or 69.5 per cent., were found to require treatment, the percentage for England and Wales being 68.8.

Maternal Mortality in India.—Replying to Miss Rathbone, on March 25th, Mr. Benn said that figures of maternal mortality were not available for the whole of British India, but the ratio of maternal deaths per 1,000 live births in 1927 was 12 for Madras Town, 5.3 for Madras Presidency, 5 for Bombay City and 5.4 for the Presidency. Asked whether these figures were accurate, in view of the statement of the representative of public health in Madras that 20 per 1,000 was a moderate estimate of the number of maternal deaths, Mr. Benn said he had no doubt of their accuracy, but that they did not cover the whole of India.

Notes in Brief.

The Department of Health for Scotland has asked the Kirkcudbright County Council to reconsider its housing programme in the light of a report from its medical officer.

Mr. Shaw states that practically all large countries which are parties to the Geneva Protocol maintain anti-gas establishments and carry out experimental and research work.

Medical News

At the meeting of the Section of Disease in Children of the Royal Society of Medicine, to be held on Tuesday, June 9th, at 8.30 p.m., Professor A. Calmette of Paris will read a paper on B.C.G. immunization of infants.

The Cavendish Lecture, before the West London Medico-Chirurgical Society, will be delivered by Professor Julian Huxley at the Kensington Town Hall on June 5th. The subject will be "Development in relation to heredity and evolution." The annual dinner of the society will be held at the Trocadero Restaurant on Wednesday, July 1st.

At a meeting of the Royal Sanitary Institute on Friday, April 17th, at 5 p.m. in the Guildhall, Poole, discussions will be held on municipal sanitation and on diphtheria immunization at work.

The tenth annual general meeting of the National Institute of Industrial Psychology will be held in the rooms of the Royal Society, Burlington House, Piccadilly, W., on Friday, April 17th, at 5 p.m. The chair will be taken by Viscount D'Abernon, and Sir Frederick G. Hopkins, President of the Royal Society, will address the meeting.

The second biennial conference on mental health, arranged by the National Council of Mental Welfare, will be held at the Central Hall, Westminster, S.W.1, on May 27th to 29th. The speakers will include Sir Hubert Bond, Mr. C. J. Bond, Dr. H. Crichton-Miller, Dr. J. R. Lord, Sir David Munro, Dr. W. A. Potts, Dr. F. C. Shrubsall, and Professor Zimmern. The subject for discussion is the human factor in (*a*) international problems, (*b*) in crime, (*c*) in industry, (*d*) in social services, and (*e*) in education. Applications for tickets should be addressed to the secretary, the National Council for Mental Hygiene, 78, Chandos House, Palmer Street, S.W.1.

An election of Junior Beit Fellows will take place next July. The value of a Fellowship is £400 per annum, and its usual tenure is three years. Forms of application and all information can be obtained by writing to Professor T. R. Elliott, M.D., F.R.S., honorary secretary, Beit Memorial Fellowships for Medical Research, University College Hospital Medical School, University Street, W.C.1.

The Royal College of Physicians will be closed from Friday, April 3rd, to Tuesday, April 7th, both days inclusive.

The Dental Board has arranged a portable exhibit consisting of a series of models showing the development and eruption of the teeth, their structure, and the diseases to which they are liable, which it is prepared to place, together with the services of a trained demonstrator, at the disposal of any health or education authority or other organization concerned with health work, itself bearing all expenditure other than that which is purely local. The exhibit can be readily set up, taken down, and moved from one centre to another, so that it could be used for giving a series of short talks and demonstrations in succession to the children in several schools or the audiences in different public halls. Authorities or societies who think that this service would be of value should make application to the Board at 44, Hallam Street, W.1, stating the period for which it would be desired, and allowing as much latitude as possible in regard to suggested dates.

A course of lectures for medical practitioners on mental deficiency and other mental conditions closely allied to it, supplemented by a course of clinical instruction, has been arranged by the University Extension and Tutorial Classes Council, in co-operation with the Central Association for Mental Welfare. The whole course may be taken, or the two parts may be taken separately. Part I, dealing with mental deficiency, will begin on May 4th and end on May 9th; Part II, in general psychology, will last from May 11th to 16th. All communications should be addressed to Miss Evelyn Fox, c.o. University Extension Department, University of London, South Kensington, S.W.7.

Special summer courses in the French language are to be held at La Sorbonne, Paris, in two sessions, from July 5th to August 24th, and from August 2nd to August 30th, the second session being a shortened one. The courses are divided into three main portions, the first of which comprises either six or four weeks' preparation work in the university coupled with afternoon visits to places of interest in Paris. The second portion consists of thirty-six more advanced afternoon lectures on prominent present-day questions, involving literature, politics, and economics. The third portion consists of a journey, in small groups, into Western France, occupying eight days. The shorter course, however, does not include the journey. Full particulars may be obtained from M. Henri Goy, Directeur du Bureau des Renseignements Scientifiques, Université de Paris, La Sorbonne, rue des Écoles, Paris, Ve.

An international post-graduate course will be held in Vienna, from June 1st to 13th daily, the subject being benign and malignant new growths, with special reference to the early diagnosis of cancer. The pathological, clinical, and therapeutical sides of the whole question will be dealt with in detail. Further information may be obtained from the secretary of the International Post-graduate Courses, Dr. A. Kronfeld, Porzellangasse 22, Vienna IX.

At a recent meeting of the Gosforth Urban District Council Dr. W. Galbraith was presented with an illuminated address and a cheque for 100 guineas on his retirement from the post of medical officer of health after fifty years' service. In commenting on the changes that had taken place in the district since Dr. Galbraith's appointment in 1881, Sir Thomas Oliver said that the present population of Gosforth (about 19,000) had more than quadrupled in the last half-century. During that period Dr. Galbraith had shown unremitting devotion and conspicuous ability in the execution of his duties, and his exceptional experience of a mining district had been of inestimable benefit in safeguarding public health.

The German Association for Internal Medicine will hold a congress in Wiesbaden from April 13th to 16th, under the presidency of Professor von Bergmann of Berlin. The subjects to be considered include the coronary circulation in relation to angina pectoris, nerve control, and the treatment of cholesterin disorders.

The sixth Medical Congress for Psychotherapy will be held at Dresden from May 14th to 17th, under the presidency of Professor E. Kretschmer of Hamburg.

The issue of *Wiener medizinische Wochenschrift* for March 14th is dedicated to the memory of Professor von Basch, the father of clinical sphygmomanometry, who died in 1905.

The London Teachers Association has issued its annual *Register of Recommended Hotels, Boarding Houses, and Apartments* for 1931, which has been revised and brought up to date. The addresses in it have all been recommended by members of that association; and the third-class fares to each of the resorts mentioned are also given, together with a brief note about the local climate and the various facilities. The booklet can be obtained from the offices of the London Teachers Association, 11, Pilgrim Street, E.C.4 (1s. 1½d. post free).

In the course of a health survey conducted in New York City last September by nurses of the Department of Health for the purpose of supplying information desired by the White House Conference on Child Health, an inquiry was made as to the amount of milk used in the different families visited. The survey embraced approximately 14,000 families in various parts of the city, and was so arranged that approximately equal numbers of families of five different socio-economic groups, from the lowest to the highest, were included. The average consumption of milk in the total number of families was found to be 0.98 pint a head per diem. In 1910–14 the consumption was 0.55 pint, and in 1926 it was 0.80 pint.

A museum is to be founded to commemorate Professor Roentgen at his birthplace, Lennep.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL, Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Chronic Rhinitis

"G.P." writes: A patient, over 60, who has had chronic nasal catarrh for a lifetime, and a deflected septum, has become depressed and toxic. The discharge is always present, winter and summer. When he has a cold it is intolerable. Vaccines have been tried without success. I should be much obliged for any suggestions how to keep the nose as healthy as possible.

Alcoholism

"A. B. C." writes: Is there any substance which can advisedly be put into alcoholic drinks, such as whisky, in order to engender a distaste in an addict? The case I have in mind is a man over 80, who would not have access to any alcohol except that which is in the house.

Coincident Zoster and Varicella

Dr. S. R. HUNTER (Dunmurry, co. Antrim) writes: An unmarried woman of 74 years for the past fortnight has been confined to bed with a severe attack of herpes zoster; to-day she is covered with a well-developed widespread rash of varicella. Were the shingles the cause of the varicella? There are no other cases of the latter disease in the neighbourhood It must be very unusual to see both diseases at the same time in a patient, and especially one so advanced in years.

Sensitiveness to Sunshine

In reply to the inquiry by "A. S. P." (March 21st, p. 523) for some preparation which would be useful in preventing irritation after exposure to the sun, Messrs. Allen and Hanburys Ltd. suggest the application of an ointment composed of 2 per cent. aesculin in vaseline.

Income Tax

Payment of Interest on Loan

"J. B." has an earned income of £900, out of which he pays £100 interest on loan. Is he entitled to earned income relief on £900 or £800?

*** On £800 only. The other £100 is really income of the lender, and to him is not "earned income" but "investment income," and there are no grounds why *he* should receive earned income relief. It is true that "J. B." has to pay tax on the £100, but that tax he deducts from the interest when he pays it, so that in the long run "J. B." pays tax on £800, having received earned income relief on that amount, and the lender pays tax at the full rate on his £100.

Cost of Books and Subscriptions

[illegible] states that the inspector of taxes has informed [illegible] the purchase of books is not an admissible expense, [illegible] subscriptions unless the membership of the societies [illegible] is an indispensable condition of the employment

*** We presume that the income assessed represents the emoluments of employment rather than the profits of general practice. In that case the inspector's statement is in general true, though in our opinion it would be sufficient compliance with the condition if the appointment was given on the express or *implied* understanding that the applicant would remain a member of the societies in question, and, as regards books possessed, that he would maintain in a reasonably up-to-date condition an appropriate medical reference library. To avoid misleading others, we may perhaps say that the rules with regard to expenses of an ordinary practice are less rigid.

LETTERS, NOTES, ETC.

The Psychiatric Out-Patient Clinic

Mr. C. E. A. BEDWELL (House Governor, King's College Hospital) writes: Dr. Percy Smith, in his statement at the meeting of the Royal Medico-Psychological Association (March 14th, p. 453), seems to have overlooked that King's College Hospital also has an out-patient psychiatric clinic in the same way as the others mentioned in his statement. Surely, too, he was mistaken in saying that there is not a special ward at the Middlesex Hospital for early mental cases.

An Unusual Mental Abnormality

"M. D. E." (London, W.) writes: The sexual abnormality to which Dr. William Brown directed attention in the *Journal* of March 21st is not, I imagine, so very rare. During the last few years two adult men have been under treatment with exactly the same condition described by Dr. Brown. I first came across it years ago, soon after I had qualified, when an elderly man described to me this method of obtaining an orgasm; all his life it had been his sole method of obtaining sexual satisfaction. Minor non-pathological degrees of this sexual variation are common in the form of play among little children and school children. So far as my own investigations go the form described by Dr. Brown becomes established about the age of 5 to 6. Schoolmasters, Dr. Brown suggests, should know how to deal with the "tying-up game." I hope he means that they should understand that it is not a "game" or a "naughtiness" which the schoolmaster should attempt to handle at all; he should be able to recognize that, with the parents' consent, it is a game requiring psychotherapeutic help.

Cornu Cutaneum

Dr. F. A. UNWIN (Fincham, King's Lynn) writes: A man, aged 86, consulted me recently on account of a painless growth on the dorsum of the right hand, which he first noticed twenty years ago, following a knock. On examination the growth was obviously one of cornu cutaneum. The base was discoid and hyperaemic, and measured 2½ by 2 in. The horn was smooth, dark brown, and medullated. The man has spent many years in India. Andrews states that cornu cutaneum is more likely to occur on the scalp and face than in any other location, and sometimes also on the glans penis and scrotum, and that it is usually found in elderly people who have seborrhoea, or who have been subjected to long-continued exposure to sunlight. In most cases cornu cutaneum originates in sebaceous cysts; sometimes in warts, or cutaneous injuries or scars, or in a broken-down molluscous tumour of the eyelids (Jamieson). Whitfield has reported a case in which a horn developed on the site of a cut on the left knee in a patient affected with atrophic lichen planus.

Painless Labour

Dr. JOHN W. S. MCCULLOUGH (Chief Inspector of Health, Toronto) writes: Referring to the letter of Dr. Shortt in the *Journal* of February 14th (p. 294), I recall that some years ago, when in practice, I was called to attend a farmer's wife, a multipara and a most intelligent woman. On inquiry being made as to the character and frequency of her pains, she said "I have no pain," and assured me that she never had any pain in any of her previous (four or five) confinements. The labour progressed with normal uterine contractions to a satisfactory termination, and, much to my surprise, without any sign of pain. In a confinement two years later there was the same absence of pain without any apparent reason.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 47, 48, 49, 52 and 53 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *107*.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

316 The Source of Infection in Tuberculosis

S. LUNDE (*Tidsskrift f. d. Norske Laegefor.*, February 1st, 1931, p. 168) draws attention to the rarity of tuberculosis in cattle in Norway. In the period 1921–27, although 163,349 carcasses were examined in Oslo, Bergen, Trondhjem, and Stavanger, signs of tuberculosis were found only in 258. In 247 of these cases the diseased carcasses were examined in Oslo; in the other three towns there were thus altogether only 11 cases of demonstrable tuberculosis. In the overwhelming majority of these 258 cases the localization and character of the tuberculous lesions showed that they were not likely to be dangerous sources of infection; disease of the udder is rare in Norway. Lunde shows how much more important infection from human sources is by reference to tuberculin tests (Mantoux) with up to 10 mg. of tuberculin. He has examined all the 1,336 children and young persons under the age of 17 in this district, and has obtained a positive reaction in only 130—that is, in 9.73 per cent. In 112 of these cases the source of infection was traced to the positive reactor's home, in 10 to a home in the neighbourhood, and in 2 to a tuberculous school-teacher. In the remaining 6 cases the children had come from another district where the source of infection was unknown. In Lunde's own district, essentially agricultural, there was not a single positive reactor whose infection could be traced to a bovine source. Nearly all the infection was traceable to cases of pulmonary tuberculosis, and Lunde concludes that the most effective means of combating tuberculosis in childhood would be a consistent, deliberate system for the care of human beings suffering from open pulmonary tuberculosis.

317 Prognostic Significance of Precordial Pain

L. LEVIN (*Med. Journ. and Record*, February 4th, 1931, p. 132) has made a survey of a number of patients whose chief complaint was precordial pain. Of 534 private patients who applied for examination and treatment of an actual or fancied heart condition, 68 per cent. were males, as were 75 per cent. of the patients with angina pectoris and coronary occlusion. In this series of cases the incidence of precordial pain was 30.3 per cent. Organic heart pain, particularly that due to coronary occlusion, occurred much earlier and in greater proportions than ordinarily supposed. Dyspnoea was of no value in determining in a given case whether or not the pain had an organic basis. Treatment with xanthine derivatives benefited 63 per cent. of the patients with angina pectoris, 46 per cent. of those with coronary occlusion, and 80 per cent. of those with non-paroxysmal precordial pain of organic origin other than coronary occlusion. At the end of three years' observation 79.3 per cent. of the patients with angina and 38.8 per cent. of those with coronary occlusion were alive. Of these, 60.3 per cent. of the former and 33.3 per cent. of the latter were in good or improved health. Excluding those lost to observation, all of the patients with non-paroxysmal organic pain other than coronary occlusion, and 83.4 per cent. of those with non-organic precordial pain, were in good or improved health.

318 Bulbar Paralysis after Teeth Extraction

W. BAILEY (*Journ. Nerv. and Ment. Dis.*, February, 1931, p. 180) records a case of acute bulbar paralysis, the onset of which directly followed the extraction of teeth. The patient, a woman aged 66, had all her teeth (19) extracted in three sittings. On the day following the last extraction the patient had difficulty in speaking and moving the jaws, and two days later became speechless and developed dysphagia. She complained of severe pain on both sides of the face, especially on the right, and of severe headaches. This appears to be the only case of such a nature to be reported, but facial paralysis following dental extraction has often been noted. Numerous suggestions, here recorded have been made as to the etiology of this facial paralysis. By experiments on dogs Orr and Rows have shown that the lymph stream in nerves is an ascending one, and they believe that toxins could be carried to the cord by this path. Considering the facial pain in the case described here the fifth nerve was apparently irritated on both sides. In view of the large area exposed by the multiple extractions, Bailey suggests that some of the toxins, which were carried along the lymphatics of the fifth and seventh nerves, caused the ensuing bulbar paralysis. In amyotrophic lateral sclerosis and progressive bulbar paralysis the symptoms are predominantly in the motor system, and many investigators think that these diseases may be of microbic origin.

319 Influenzal Polyneuritis

H. OISEAU (*Thèse de Paris*, 1930, No. 483), who records three illustrative cases, states that polyneuritis may develop in convalescence from influenza at periods ranging from 10 days, 3 weeks, 1 month, to 2 months from the onset of the attack. The polyneuritis is principally motor. All four limbs may be affected, and sometimes the disease may assume the course of Landry's paralysis. The muscles of the trunk and neck are very rarely affected. Facial paralysis is fairly frequent, as in 10 cases recorded by Diener 5 showed double Bell's palsy. Several cases of ocular palsy have been recorded, the oculomotor nerve being most commonly affected, while paralysis of accommodation is not frequent. Gradenigo has described a case of post-influenzal auditory neuritis. Palatal and pharyngeal palsies are rare. The characteristic features of influenzal polyneuritis are their predilection for the extremities and especially for the extensor muscles, the frequency of electrical changes, and their irregular course. Sensory, trophic, and vasomotor symptoms are ill-marked. The sphincters are unaffected in most cases. In some cases the cerebro-spinal fluid shows changes similar to those in epidemic encephalitis.

Surgery

320 Fractures at the Upper End of the Radius

J. A. KEY (*Journ. Amer. Med. Assoc.*, January 10th, 1931, p. 101) thinks that, from the standpoint of treatment, fractures of the upper end of the radius fall into three groups—namely, (1) those which should be treated conservatively; (2) those requiring an open operation; and (3) those which should be dealt with on expectant lines, an operation being performed later if necessary. Fractures which should be treated conservatively are fissure fractures of the radial head; chip or chisel fractures of the head in which the detached fragment comprises less than one-third of the circumference of the head, is not displaced, and does not lie against the ulna; and fractures of the neck in which there is very slight displacement of the upper fragment. All that is necessary in these cases is immobilization of the elbow and forearm in a position of moderately acute flexion for two to four weeks. An open operation is required for comminuted fractures of the head of the radius; chip or chisel fractures in which a fragment larger than one-third of the circumference of the head is detached and displaced; and fractures of the neck when the head is displaced downwards, or so tilted as to be unable to rotate on the ulna. In adult patients the head of the radius should be removed, but Key mentions that he has recently replaced it in two cases in children, both of whom have regained normal power and almost complete normal

motility in all directions. Conservative treatment is advised for cases with chip fractures, or fractures of the neck with but slight displacement; chip fractures with considerable displacement of the detached fragment, which may lie loosely in the joint; and fractures of the neck with complete and extensive displacement of the head, which usually lies embedded in the tissues beneath the flexor muscles of the forearm, and can no longer block motion at the elbow. In such cases the final decision regarding the necessity for an operation should be made about six or eight weeks after the injury, and not be put off until traumatic arthritis has ensued.

321 Extravasation from the Ureter

J. F. GEISINGER (*Annals of Surgery*, February, 1931, p. 544) remarks that extravasation from the ureter is an unusual lesion, of grave significance in the absence of trauma; he reports three cases in which the causative factor was apparently necrosis resulting from the impaction of a calculus within the ureter. In such cases the clinical picture will depend upon the amount of extravasation, the virulence of the organisms associated with the lesion, and the tissue reactions of the patient. Although the condition as a rule is imperatively surgical in nature, one of Geisinger's patients recovered without an operation. Catheterization and cystoscopic investigations apparently afforded an outlet for the accumulation on the affected side, thus relieving the patient of sepsis. The author adds that when a patient who is obviously septic presents himself with a history of renal colic, and a physical examination discloses muscular rigidity and marked tenderness in the renal area, posteriorly and anteriorly, or a palpable mass, ureteral extravasation should be borne in mind. Even a radiological investigation may not be conclusive, since the shadow may be wrongly attributed to acute diffuse renal infection, or to ureteral block with acute retention in the pelvis.

322 Pseudomyxoma Peritonei

F. J. IRSIGLER (*Zentralbl. f. Chir.*, February 14th, 1931, p. 408), who records an illustrative case, states that the clinical picture of this condition, which was regarded by Virchow as due to chronic peritonitis with myxomatous degeneration of the peritoneal stroma, was first described by the gynaecologist Werth in 1884. It was initially known only as a sequel of the discharge into the peritoneal cavity of mucus-secreting epithelial cells after rupture of an ovarian cyst, but in 1901 E. Fraenkel described a second form connected with the vermiform appendix, the lumen of which has become obliterated as the result of cicatrization with the formation of a mucocele. Irsigler's patient was a man, aged 20, admitted to hospital with symptoms of acute appendicitis. Laparotomy, which was performed 24 hours after the onset, showed considerable dilatation of the distal end of the appendix and stenosis of the caecal end. Appendicectomy was performed, and recovery was uneventful. F. SCHEWKET (ibid., p. 413) records a similar case in a man, aged 22, admitted to hospital with the diagnosis of chronic appendicitis. On laparotomy the distal end of the appendix showed a bifurcation, one branch of which was empty and presented the usual structure of the appendix, while the other was filled with colloid material. Appendicectomy was performed, and the patient was discharged well in a fortnight.

323 Thyroidectomy immediately before Parturition

R. FONTAINE and R. BAUER (*Bull. et Mém. Soc. Nat. de Chir.*, January 24th, 1931, p. 20) report an unusual case of a large goitre for which a thyroidectomy was performed within a few hours of parturition. The patient, who was the mother of four children, was admitted to hospital with a huge colloid and cystic goitre which was causing severe pressure symptoms. The goitre had been present for several years and had increased in size with each pregnancy, and when seen the patient was suffering from [illegible] dyspnoea, her face and limbs being cyanosed. [illegible] heart sounds could be heard, but it appeared necessary to relieve the asphyxiation of the mother if the child's life was to be saved. The operation was conducted under local anaesthesia, novocain being used with continuous inhalation of oxygen. Thyroidectomy was performed; the goitre, which was found to be multi-nodular and parenchymatous, weighed 600 grams. The respiratory distress was immediately relieved, and six hours after the operation labour pains began. Delivery was expedited by the use of forceps, and two hours later a healthy child was born. Convalescence was normal, except for some irregularity of the heart which necessitated rest. The patient was finally discharged from hospital at the end of six weeks in excellent health.

Therapeutics

324 Treatment of Syphilis

V. G. VECKI (*Med. Journ. and Record*, February 4th, 1931, p. 114) maintains that in the treatment of syphilis there can be no fixed unalterable routine and no stated number of injections; each patient must be studied and treated as an individual case. He regrets that Vernes's test is not more widely employed, because it affords a quantitative as well as a qualitative diagnosis, and enables the degree of infection to be estimated periodically. Using it as a control, patients can be treated until such time as there is some demonstrable certainty that a cure has been obtained. The author uses bismuth in treating all cases of syphilis, and commends the association with it of iodine, given either by the mouth or intravenously. He is satisfied that iodine has a softening influence upon syphilitic foci and a special affinity for diseased tissues which promotes cure. Whenever a case of syphilis is unusually stubborn and resistant to treatment, it is advisable to try a general tonic or an organotherapeutic preparation, since there may be present some active cause apart from the spirochaetal infection. Frequent small doses of antisyphilitic drugs accomplish more than large ones administered at irregular intervals, but before any form of treatment is begun the condition of the patient's kidneys must always be ascertained. Tabetics need special care and precautionary measures, being hypersensitive to physical and chemical irritants, which may provoke angioneurotic attacks. The skin must also be watched, and the occurrence of even slight eruptions be dealt with appropriately. Despite the improvements achieved latterly in antisyphilitic medication, Vecki insists that a syphilitic patient must still be watched and treated from time to time for the greater part of his subsequent life.

325 Treatment of Idiopathic Arterial Hypertension

A. DUMAS (*Presse Méd.*, January 28th, 1931, p. 129) insists that arterial hypertension should be regarded as a disease *sui generis* and not merely as a symptom. The conception of it as a secondary result of renal sclerosis was, he thinks, often due in the past to a misconception of the true sequence of events. Azotaemic nephritis associated with hypertension has now been shown frequently to be the result of hypertension of long standing, and many cases are on record where the arterial tension has fallen to a lower level with the appearance of renal symptoms—one of many evidences of the damage done by the primary disease. There is even some post-mortem evidence, in cases of early hypertension, that the vascular damage can exist without giving rise to clinical signs. Dumas attaches considerable importance to a family history of gout or diabetes in hypertension. In treatment the main aim is to improve the patient's health, and not to reduce the tension; the body has in many cases adapted itself to a certain raised level, and any efforts to bring about a sudden decrease court disaster in the form of vascular thrombosis. It is noteworthy that many patients feel better after rational treatment even when their tension remains unaltered or has increased. The first therapeutic essential is to investigate the past history for gout or glycosuria, and to treat such a diathesis, if present, by appropriate methods of diet. Even if there is evidence

of renal damage, it is not necessary to interdict meat in the diet entirely, nor should the intake of fluids be increased at the expense of solids. When the malady is progressive nervous sedatives and vaso-dilators may be used with advantage, but all methods of producing a rapid fall of tension, especially venesection, must be used with caution. All forms of sepsis should be treated, and the possibility of a preceding syphilitic infection must always be borne in mind; a course of antisyphilitic treatment is often beneficial even in the absence of serological proof of a suspected infection.

326 Salyrgan as a Diuretic

H. B. SPRAGUE and A. GRAYBIEL (*New England Journ. Med.*, January 22nd, 1931, p. 154) record their experience of salyrgan as a diuretic, having tried it in 60 cases over a period of three years. It is a mercurial salt related to novasurol, but apparently less toxic, and is now being used more as a diuretic than as an antisyphilitic drug. It is supplied in 1 c.cm. ampoules of a 10 per cent. aqueous solution containing 37 mg. of mercury, which is 3 mg. more than that contained in an equal quantity of novasurol; 0.5 c.cm. is given intravenously as an initial dose. If by the next day no toxic effects result, such as the occurrence of albumin, casts, or blood in a previously clear urine, or skin or mucous membrane irritation, 1 or 2 c.cm. may be given every three days as long as necessary in the absence of toxic symptoms. In the authors' series 46 of the patients were suffering from congestive heart failure, 8 from hepatic cirrhosis, 4 from cancer, and 1 each from nephrosis and ovarian cyst. Although one-third of these were in the terminal stages of chronic disease the drug produced diuresis in 80 per cent., and in 55 per cent. of the cases this exceeded twice the fluid intake. Its diuretic effect may often be increased by the use of ammonium chloride or nitrate. Very rarely, toxic effects such as mild renal, gastro-intestinal, or skin irritation may occur; careful technique should prevent the occurrence of cellulitis of the arm and thrombosis of the injected vein, which was the only complication in the series.

327 Toxic Symptoms during Cinchophen Administration

L. PARSONS and W. G. HARDING (*Amer. Journ. Med. Sci.*, January, 1931, p. 115) report four cases of cinchophen poisoning in order to call attention to the fact that intensive dosage with this drug, a compound of phenyl quinoline with carboxylic acid, may produce acute hepatic degeneration; long-continued administration of it in moderate doses may result in subacute and chronic hepatic degeneration. They have collected 63 cases in the literature, and classify the toxic symptoms as: (1) cutaneous manifestations, including pruritus, angioneurotic oedema, urticaria, and macular and papular rashes; (2) anaphylactoid reactions indicated by rapid pulse rate and lowered blood pressure; (3) gastro-intestinal disturbances, such as aphthous ulceration of the mouth, pyrosis, nausea, vomiting, and diarrhoea; and (4) hepatic involvement, shown by the appearance of jaundice. In all the fatal cases which have come to necropsy there have been demonstrated striking pathological changes in the liver. In one of the fatal cases reported by the present authors the patient had taken undue doses of the drug supplied in the form of a quack remedy for rheumatism, and they suggest that this danger may be very considerable.

328 Organic Antimony in Kala-azar

E. B. STRUTHERS (*China Med. Journ.*, January, 1931, p. 1) commends neostibosan (a modification of the diethylamine salt of pentavalent amino-phenyl-stibinic acid) in view of its efficacy and comparative freedom from toxicity. The initial dose for an adult was 0.1 gram injected intravenously; it was found better to give injections on alternate days rather than daily. The maximum average dose was 0.3 gram. About 2.6 to 3 grams in all were sufficient for a cure, but sometimes a second course was required after an interval of a month. Owing to the shortage of bed accommodation, treatment was in some cases carried out in clinics, the patients residing temporarily in hostels or inns. The absence of complications was a prominent feature of the treatment.

Disease in Childhood

329 The Pirquet Reaction in Adolescence

A. FOSTRÖM (*Norsk Mag. f. Laegevid.*, February, 1931, p. 148) carried out the Pirquet test in 1,000 training-ship boys, aged from 15 to 19, coming from all parts of Norway, and found that 44.5 per cent. were positive and 55.5 per cent. negative. The frequency of positive reactions was greater in town boys (50 per cent.) than in country lads (37.8 per cent.); labourers' sons gave the highest proportion of positive results (52 per cent.) and peasants' sons the lowest (30 per cent.). Negative reactions were given by 40 boys in whose families one or more cases of tuberculosis and pleurisy had occurred. The reactions between the ages of 15 and 19 years were not so pronounced as in childhood. About 8 per cent. of the negative reactors proved positive when the test was repeated.

330 Acute Haemorrhagic Nephritis in Childhood

A. SUNDAL (*Tidsskrift f. d. Norske Laegefor.*, February 1st, 1931, p. 148) has studied the 51 cases of acute or chronic nephritis treated in the fourteen-year period January 1st, 1916, to January 1st, 1930, in the children's department of the Rikshospital in Oslo. Among these 51 patients there were 41 suffering from acute haemorrhagic nephritis. There were 24 boys to 17 girls, the youngest being 20 months old, and the majority of the patients being between the ages of 3 and 7. The cases were evenly distributed throughout the year, except for an accumulation in September, October, and November. The disease seemed to begin spontaneously in 10 cases, whereas in the remaining 31 it was a sequel to some other complaint—to an angina faucium in 11 cases, to an acute otitis in 7, to abscesses in the skin or glands in 3, to pyrexia of unknown origin in 3, to scarlatina in 3, to enteritis in 2, to parotitis in 1, and to eczema in 1. The part played by scarlet fever was probably underestimated in this material, and in two of the three cases ultimately recognized as being scarlatinal, scarlet fever had not been diagnosed by the doctors sending the patients to hospital. The first sign of the haemorrhagic nephritis was oedema of the face in 16 cases, macroscopic haematuria in 15, and vomiting in 5. Fever, or pain in the epigastrium or albuminuria, was the first sign of the disease in the remaining cases. In about three-quarters of the cases the temperature was normal on admission and remained so; in the remaining quarter the fever was associated with some inflammatory condition, such as otitis, which was doubtless the cause of it. The blood pressure of 24 patients on the day of admission was on the average about 10 per cent. above normal. In May, 1930, 19 of the 41 patients were examined, and perfectly normal conditions were found in 15 cases. In the remaining 4 cases traces of the disease, such as an abnormally high blood pressure or microscopic haematuria, were still demonstrable.

331 Cyclic Vomiting

I. MORGAN (*Med. Journ. of Australia*, October 18th, 1930, p. 527) defines the chief exciting causes of cyclic vomiting in children associated with the excretion of acetone in the urine or in the breath, as fatigue or over-excitement; foods containing a high percentage of animal fat; the onset of an acute infection; teething; constipation; and the arthritic diathesis. Since there is no impairment of the glucose oxidation, and hypoglycaemia is present during an attack, the use of insulin is contraindicated, and the attack can be aborted by giving sugar. Clinical evidence supports the theory that as soon as the glycogen reserve is used up oxidation of fats is incomplete and ketosis occurs. In treating an attack all food should be withheld, and, even though vomiting is frequent, glucose and water be administered continuously in a mixture containing five or six teaspoons of cane sugar in a glass of water with 10 grains of sodium bicarbonate. In severe cases the glucose can be given rectally. In prevention, excess of foods containing animal fats must be avoided, and two or three lumps of sugar may be taken after meals, thus enabling an increased amount of fat to be tolerated. Occasional small doses of sodium bicarbonate may be useful.

Obstetrics and Gynaecology

332 Vaginal Extirpation of Uterus and Adnexa

P. WERNER (*Surg. Gynecol. and Obstet.*, February 1931, p. 233) describes a modification of his method of extirpating the uterus and adnexa on both sides by the vaginal route, by splitting the uterus *in situ* and so extirpating each half with its adnexa separately. Such a procedure is indicated when inflammatory adnexal tumours with perimetrial adhesions are present, and where, owing to the failure of conservative treatment, total extirpation becomes necessary. It is also useful in vaginal hysterectomy for bleeding or for fibroids, and it is especially applicable to cases in which the uterus is fixed. Convalescence is generally rapid, and the danger of peritonitis is absent or very slight. General or spinal anaesthesia is essential, and no special pre-operative treatment is necessary; the experience of many hundred cases shows that any fear of prolapse of the intestine is unfounded. Since it is generally impossible to stop the bleeding completely after freeing inflammatory tumours from their adhesions, the peritoneal cavity must not be closed, but a strip of iodoform gauze is loosely placed therein and led out through the vagina to provide drainage. A portion of this is pulled out and cut off on the fourth day and each day following, so that by the seventh or eighth day the whole of the gauze has been removed. Two days later vaginal douches with potassium permanganate should be given until all discharge disappears. The patient is allowed up on the third or fourth day after operation, and can generally leave the hospital by the eighth or tenth day.

333 Puerperal Infection and Influenza

J. VORON and A. BROCHIER (*Journ. de Méd. de Lyon*, February 5th, 1931, p. 67) define the sources of infection as extragenital, including the skin, mouth, and ears; and genital—for example, vaginitis, Bartholinitis, or other lesions in the genital tract. The fact that these lesions often exist without causing puerperal fever shows that the factor of individual resistance has to be considered, and, moreover, an infection associated with these local lesions is often mild in character. Since puerperal fever is commoner in the winter months when influenza is more prevalent, the authors are inclined to look upon this infection as a potent predisposing cause, which diminishes the local or general resistance. They believe that vaginal examination, with due antiseptic precautions, does not appear to add materially to the risk of puerperal fever, and that there appears to be a definite group of cases which may truly be called autogenous.

334 Early Diagnosis of Extrauterine Pregnancy

S. R. MEAKER (*New England Journ. of Med.*, February 12th, 1931, p. 318), discussing the early diagnosis of extrauterine pregnancy, remarks that the presence of this condition should always be suspected when a woman of child-bearing age exhibits a menstrual disturbance of short duration and pelvic pain of recent origin. If there is no obvious acute inflammation, the existence of any considerable degree of pelvic tenderness, which is aggravated by movements of the uterus, points strongly to the presence of an ectopic gestation. Meaker reports four cases, and discusses the differential diagnosis from such conditions as threatened miscarriage, pelvic inflammation, pregnancy complicated by inflammatory disease, and torsion of the appendages. After discussing the various diagnostic aids, to which he attaches only a limited value, he emphasizes by way of contrast the characteristic nature of the pain; this is irregular in occurrence, severe in degree, and sharp in character, often radiating to the shoulders, the back, or the thighs. It may be superimposed at irregular intervals upon a background of constant, dull [illegible] discomfort. When such a pain is associated with attacks of faintness it may be considered almost pathognomonic.

Pathology

335 The Erythrocyte in Pernicious Anaemia

M. M. WINTROBE (*Amer. Journ. Med. Sci.*, February, 1931, p. 217) discusses the haemoglobin content, volume, and thickness of the red blood corpuscle in pernicious anaemia, and comments on the changes associated with liver therapy. In a series of 100 blood examinations he found that the mean corpuscular volume and the mean corpuscular haemoglobin content were significantly above the normal during relapses. The increase in the mean volume was much greater than the corresponding increase in the average cell diameter, and such volume measurement is therefore commended as being the more useful method of determining the change in the erythrocyte in this disease. The mean corpuscular volume and haemoglobin content were found to be closely correlated with the red cell count, higher values being found progressively as the number of cells diminished. Abnormally high degrees of haemoglobin concentration were not found, and Wintrobe disagrees with the view that in pernicious anaemia there is supersaturation of the red corpuscles. Liver therapy induced decrease in the size and haemoglobin content of the erythrocytes concurrently with the improvement in the total count.

336 Cultivation of Ducrey's Bacillus from Soft Chancres

H. SOSA (*C. R. Soc. de Biologie*, February 13th, 1931, p. 385) noticed that Ducrey's streptobacillus on the surface of blood agar appears in the form of short chains, with the individual members poorly stained or deformed; in the water of condensation, however, it is present in the form of long chains, with the individual members well stained. For this reason he attempted to cultivate the bacillus in a fluid medium. The technique that he found most satisfactory for isolation is as follows. The chancre is thoroughly cleaned with iodine and alcohol on the day previous to examination, and covered with collodion. The pus on the surface is diluted in 0.5 c.cm. of broth, and inoculated into sterile tubes containing 0.2 c.cm. of defibrinated rabbit's blood mixed with 0.8 c.cm. of saline solution. One loopful of the pus suspension is used for inoculation. The tubes are shaken and incubated at 34° C. Films are made after fourteen and twenty-four hours, and stained by Gram's method. Subcultures should be made each day for two or three days, and then inoculated on to blood agar. Usually only one passage in the blood saline medium is necessary to obtain the organisms in pure culture.

337 The Blood Sedimentation Rate in Gynaecological Conditions

A. MATHIEU and others (*Amer. Journ. of Obstet. and Gynecol.*, February, 1931, p. 197), as a result of using the modified Westergren technique of the sedimentation test in over 2,000 estimations, report that the sedimentation rate is increased after the third month of pregnancy and until the fourth week after delivery, and that its observation affords a useful indicator of certain abnormal gynaecological conditions. Thus it is definitely raised when there is haemorrhage, infection, or tissue necrosis, and the degree of increase was found to be definitely proportionate to the severity and extent of the morbid process. The authors demonstrated also that the injection of foreign protein increased the rate. This test is recommended as being of great value in following the clinical course sometimes, especially in cases of salpingitis, and abnormalities which are not satisfactorily explainable should always indicate the need of more exhaustive examination. While there are exceptions to the test being invariably a criterion of disease, it has a very special value in drawing attention to infection or malignancy which might previously have been unobserved otherwise, and the speed with which the test is carried out is an additional merit. The authors remark that repeated determinations on the same individual are essential if the maximum amount of information is to be obtained.

de KUYPER'S
HOLLANDS

Distilled from genuine malt liquor with the Juniper berry added. The advantage gained by distilling the berry with the spirit is the production of a preparation of Oleum Juniperi, mellow and free from irritating properties.

Oleum Juniperi is official in the British Pharmacopœia, and is described as carminative, anti-spasmodic, and a stimulating diuretic.

In this form, therefore, the oil of Juniper can be safely taken with regularity.

Distilled by the same family for 236 years.

FELAMINE BRAND SANDOZ

SANDOZ

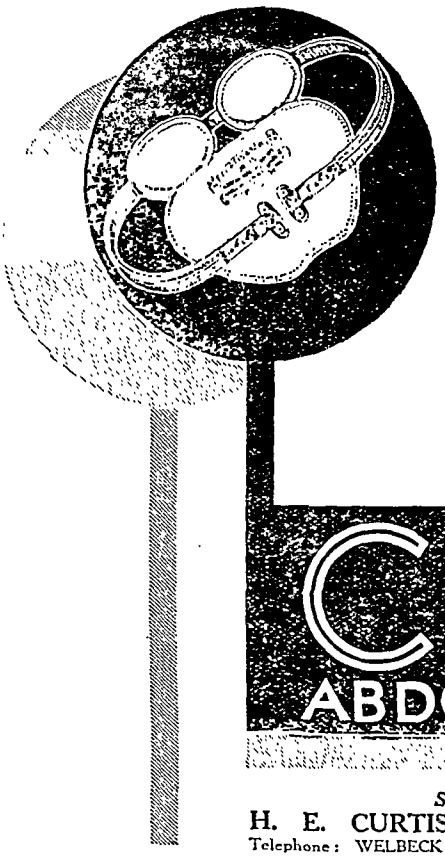
An association of the most powerful cholagogue—pure crystallised cholic acid—and the classical biliary disinfectant—hexamine, entirely free from accessory substances.

Indications:

CHOLANGITIS, CHOLECYSTITIS, HEPATIC INSUFFICIENCY, HEPATIC CONGESTION, JAUNDICE, CHRONIC CONSTIPATION.

Felamine is supplied in Bottles of 50 and 250 Tablets.

AGENCY:-
SANDOZ CHEMICAL WORKS PHARMACEUTICAL DEPT.
5, WIGMORE STREET, LONDON, W. 1.



Comfortable, and Correct Support

Assured to all sufferers from abdominal ptosis who wear the Curtis Abdominal Support, Model No. 1. The principle of this support—that of anterior posterior support—has been proved by scientific research to be the most efficient. There is no circumferential pressure, hence the wearer's freedom of movement is in no way restricted. There is no cramping or binding of the hips. It is light in weight, and easy to apply. There are no complicated fastenings.

IN USE IN MOST OF THE LONDON HOSPITALS.

CURTIS
ABDOMINAL SUPPORT

Sole Manufacturers of the Curtis Appliances:—
H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.
Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

ULCERATIVE COLITIS

Treatment Apparatus for Electric Ionisation

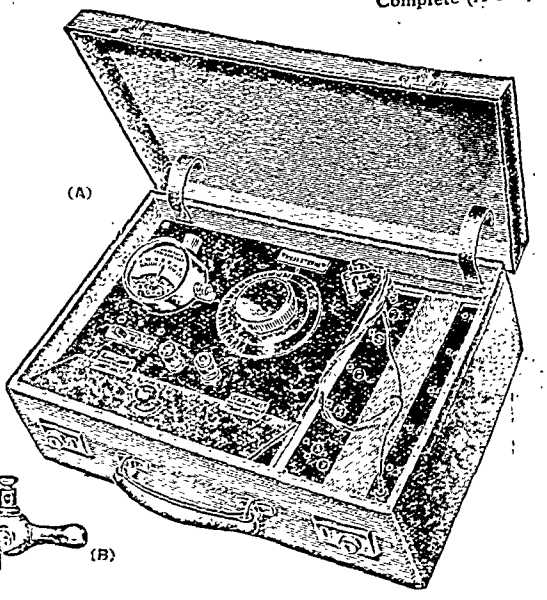
£10-8-6
Complete (A & B)

SEE ARTICLES IN BRITISH MEDICAL JOURNAL—October 18th, 1930, pp. 640–641, and March 7th, 1931, p. 406.
Reprint free on request.

The illustration depicts a very convenient group of apparatus for Dr. Burnford's technique and comprises a galvanic battery complete with measuring milli-ampere meter, delicate control rheostat, control switch, etc., built into a neat attache carrying case, and is complete with a full set of electrodes.

We are indebted to Dr. R. T. BRAIN, M.D., M.R.C.P., M.R.C.S., for the design of this battery.

Also rectal flushing electrode designed by us to the instructions of Dr. Julius Burnford, to whom we are also indebted.



PRICE COMPLETE
£10-8-6

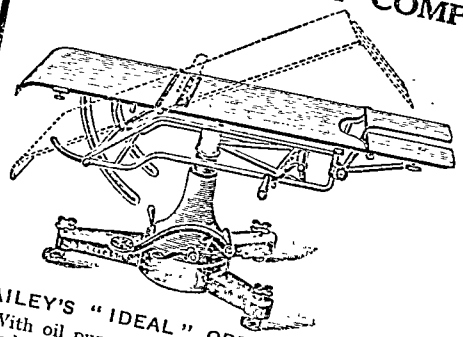
THE MEDICAL SUPPLY ASSOCIATION LTD.,
167-185, GRAY'S INN ROAD, LONDON, W.C.1.

BAILEY'S OPERATION TABLES

WORKMANSHIP AND FINISH GUARANTEED.

!! PRICES DEFY COMPETITION !!

Write for Particulars, Post Free.



BAILEY'S "IDEAL" OPERATION TABLE.

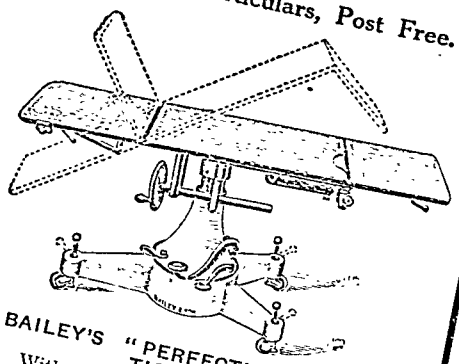
With oil pump base for adjusting height. Deep Trendelenburg position. Kidney Bridge. Arm Plate. Detachable Leg Plates. Shoulder and Leg Crutches. White Enamelled Steel with Brass Nickel-plated Top.

Ditto. White Enamelled Top. £65 0 0

Ditto. White Enamelled Top but without Kidney Bridge. £55 10 0

The cheapest table combined with best finish on the market.

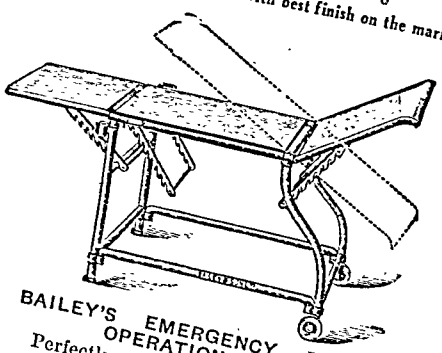
Sponge Rubber Mattress, 1" thick heavy rubber covering, in three sections, for tables illustrated. Price £3 8 6



BAILEY'S "PERFECTION" OPERATION TABLE.

With Oil Pump Base for adjusting in height, concealed screw action for Trendelenburg position, detachable arm plate for either side of table, shoulder and leg crutches, and detachable douching tray and leg plate.

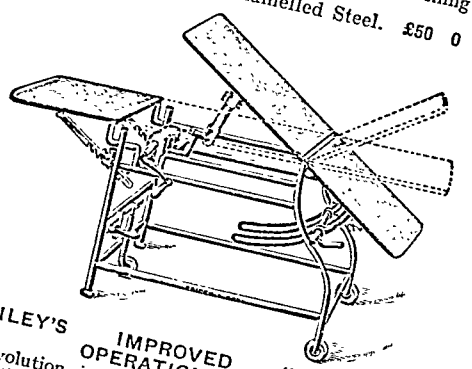
White Enamelled Steel. £50 0 0



BAILEY'S EMERGENCY FOLDING OPERATION TABLE.

Perfectly rigid tubular steel legs. £7 15 0

Strong satchel and leather strap for above, extra £1 15 0

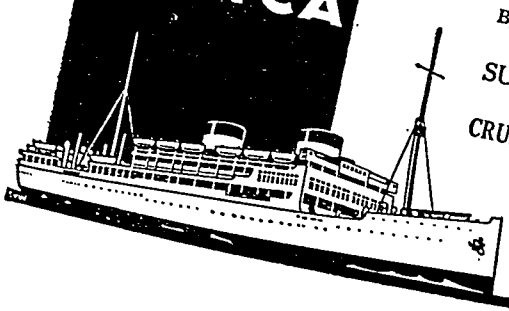


BAILEY'S IMPROVED "SIMPLEX" OPERATION TABLE.

A revolution in the construction of a cheap Table having the essential details of one costing £50, with the exception of raising and lowering in the horizontal position. Deep Trendelenburg position obtained by lever action (slipping impossible). Head section worked by quadrants, complete with shoulder crutches, leg crutches, and lever action wheel. £13 18 0

Surgical Instruments & Appliances (Telephone No.: GERRARD 3185 Telegrams: "BAYLEAF, LONDON.") 45, OXFORD STREET, Hospital and Invalid Furniture ("BAYLEAF, LONDON.") 2, RATHBONE PLACE, LONDON, W.1.

SOUTH AFRICA



SPECIAL TOUR TO SOUTH AFRICA

By R.M.S. "Kenilworth Castle." From Southampton 24th July, 1931. Reduced Return Fares.

SUMMER TOURS TO MADEIRA or CANARY ISLES at Reduced Return Fares.

CRUISES TO ANTWERP, ROTTERDAM, HAMBURG and back. Fortnightly from London. 13-14 days.

UNION-CASTLE LINE

Write for full particulars to:— Head Office: 3, Fenchurch St., London, E.C.3. West End Agency: 125, Pall Mall, S.W.1.

BARCLAYS BANK

LIMITED

Head Office: 54, LOMBARD STREET, LONDON, E.C.3.

Chairman—FREDERICK CRAUFURD GOODENOUGH.

Deputy-Chairman—SIR HERBERT HAMBLING, Bart. *Vice-Chairman*—WILLIAM FAVILL TUKE.

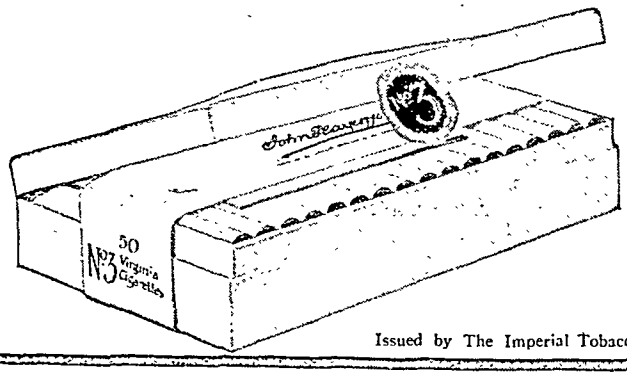
AUTHORISED CAPITAL - - -	£20,000,000
ISSUED AND PAID-UP CAPITAL - -	£15,858,217
RESERVE FUND - - - -	£10,250,000
DEPOSITS, etc. (31st Dec., 1930) - -	£349,273,283

The Bank has over 2,100 Branches in England and Wales.

EXECUTORSHIPS AND TRUSTEESHIPS UNDERTAKEN.

PLAYER'S No. 3

Made from a delightful blend of specially selected fine Old Virginia Tobacco



10 *for* 8D
20 *for* 1/4
50 *for* 3/3
100 *for* 6/4
WITH OR WITHOUT CORK TIPS

EXTRA QUALITY VIRGINIA

Issued by The Imperial Tobacco Company (of Great Britain and Ireland), Ltd. 3933

WITHOUT OFFENCE

The Collection of Overdue Accounts

MEMBER'S STATEMENT:

Dear Sir, Essex, March 23rd, 1931.
I have received your cheque for £14-4-0, and wish to thank you for your successful efforts on my behalf, for I believe that this result could not have been obtained in any other way, except possibly, by the most drastic methods.

DEBTOR'S STATEMENT:

I enclose £3 on account. Your Member is wrong in his surmise about my income; I lost £200 per annum two years ago. I thought you understood this when you kindly made the present arrangement.

Your visiting card marked "B" placed in an envelope will produce all information

All Medical Institutions and Nursing Homes are included in our scope.

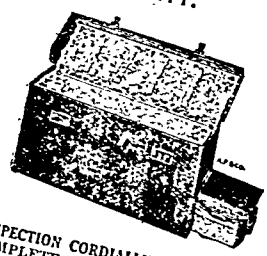
THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.)
Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.

A. FLEMING & CO. (Dept. "A"), 39, Victoria Street, LONDON, S.W.1. Tel.: Victoria 4677.

SURGICAL INSTRUMENTS, FURNITURE, AND APPLIANCES.

BEST QUALITY. LOWEST PRICES.



SURGICAL "ATTACHE" CASE, in black or brown cowhide, overall size 17½in. x 10½in. x 5in., with side pocket for 16in. sterilizer as illustrated. Complete with removable lining, with loops for instruments and top compartment for bottles, etc. Price for case only . . . 45/-

SURGICAL "ATTACHE" CASE, in black or brown cowhide, overall size 17½in. x 10½in. x 5in., fitted with fall front, the inside divided into two compartments, bottom portion for 16in. sterilizer, top portion being tray for bottles and sundries. Price for case only . . . 40/-

NO OBLIGATION TO PURCHASE.

INSPECTION CORDIALLY INVITED. COMPLETE PRICE LIST, INCLUDING ENORMOUS RANGE BRAND-NEW GOVERNMENT SURPLUS INSTRUMENTS AND APPLIANCES. POST FREE.

MIDWIFERY OUTFITS.

COMPRISING: MIDWIFERY BAG, ATTACHE CASE PATTERN, brown cowhide, size 17 in. x 10 in. x 8 in., removable washable lining, with loop for instruments, etc. Two separate compartments at side to take bottle rack and sterilizer. Case with bottle rack only . . . . . £2. 12. 6.

STERILIZER FOR BAG, SEAMLESS BOILER, heavily nickel-plated, with folding stand and lamp. Size 16 in. x 4 in. x 3½ in. . . . . £1. 12. 6.

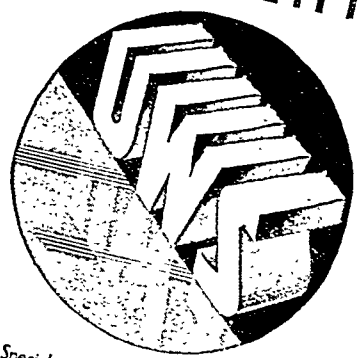
*Axis Traction Forceps, Neville's	25/-	*Uterine Forceps	6/-
*Catheter, Female, Metal	1/-	*Vulsellum Forceps	6/-
*Perforator, Denman's	8/6	*Schimmelbusch Mask	2/6
*Playfair's Probe	1/9	*Pelvimeter, Collins	8/6
*6 x 1 oz. Botts. in Cases	16/6	*Sound, Sims	2/3
*Uterine Tube, Boozemann's	4/6	*Orum, Forceps, Greenhalgh's	7/-
*Blunt Hook and Crochet	3/3	*Perineum Needle	4/9
		*Chloroform Drop Bottle	3/3

THE COMPLETE OUTFIT as described above £9 . 7 . 6

**Indicates Foreign Origin. All Items Supplied at Individual Prices as Quoted*

QUOTATIONS FOR BRITISH-MADE GOODS ON APPLICATION. COMPETITIVE QUOTATIONS GIVEN FOR ALL YOUR NEEDS. VISIT OUR SHOWROOMS AND SELECT YOUR REQUIREMENTS.

THE MOST SATISFACTORY METHOD OF ENSURING A SOFT WATER SUPPLY



Special Booklet Sent Free on Request "Soft Water in the Home," an illustrated sixty-four page booklet, will gladly be sent to any doctor upon request.

It is a fact of considerable significance that 'Permutit' Water Softening Plants are to-day to be found in over 15,000 homes, and in the leading hospitals, clubs and hotels. No chemicals are used in the 'Permutit' System. This plant provides a soft water which is healthful and palatable to drink, at a moderate initial outlay and an infinitesimal running cost. The plant can be fitted without any alteration to existing arrangements.

'PERMUTIT' REGD

WATER SOFTENER

UNITED WATER SOFTENERS LTD., ALDWYCH HOUSE, LONDON, W.C.2

CAMP TRADE MARK

PHYSIOLOGICAL and SURGICAL SUPPORTS

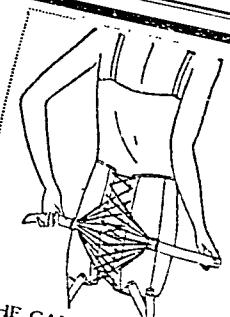
A New and Growing Field of Service

APPROVED by eminent Physicians and Surgeons

CAMPOIRETTE Ltd., 252, REGENT ST., LONDON, W.1

Camp Supports are widely used in the treatment of SACRO-ILIAC SPRAIN, PTOSIS, HERNIA, MATERNITY and POST-OPERATIVE SUPPORT

Illustrated CAMP MANUAL *free on request to:—*



THE CAMP PATENTED Adjustment—instantaneous and simple in action.

NATURAL APERIENT MINERAL WATER

OF

RUBINAT LLORACH

(Hydragogue, Purgative, and Cholagogue.)

The official analysis shows in each litre about 1601.321 grains of **Anhydrous Salts**, of which are **Sulp. Soda** 1485.368 grains, and **Sulp. Magnesia** 50.301 grains.

Prescribed in cases of Gall-stones, Liver Disease, and threatened Appendicitis, Constipation associated with Gout, Hepatic Dyspepsia, Gastric Fever, and generally in Abdominal Obstruction.

DOSE.

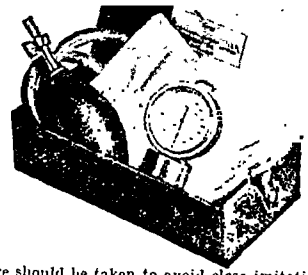
Wineglassful fasting; can be increased according to temperament. Effect is more rapid if followed by a cup of hot tea.

NO GASTRIC IRRITATION. NO ALTERATION IN DIET REQUIRED.

"A moderately powerful stimulant of the liver, and a powerful stimulant of the intestine.

Accurate Arterial Pressure Readings

For visiting purposes the TYCOS Portable Sphygmomanometer amply fulfils the Physician's needs. Although one of the most delicate and accurate instruments of the medical man's equipment, the portable type as illustrated can be carried without fear of breakage. There is no glass tubing to break, no mercury to spill, and the readings can be verified at a glance by comparing the relation of the hand to the immovable zero.



Care should be taken to avoid close imitations. Look for the trade mark "TYCOS" engraved on the dial of every genuine instrument.

Obtainable from all reputable Instrument Dealers.

Tycos

SHORT & MASON LTD

ANEROID WORKS, WALTHAMSTOW, E.17.

Showrooms: 45/50, HOLBORN VIADUCT, E.C.1.

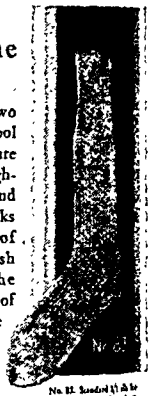
Publishers of *"Blood Pressure Simplified,"* 4s. 6d. net.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE. Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

Two Steeples St. Wolstan Wool Socks



Always the same quality

When you buy Two Steeples St. Wolstan Wool Socks you can be sure always of the same high-grade quality time and time again. These socks are the production of highly skilled English Stockingers and the St. Wolstan Wool is of one regular quality, the richest long staple pure botany obtainable.

Write for descriptive booklet containing actual patterns of the various styles of St. Wolstan Wool Socks and Underwear.

DEPT. 4, TWO STEEPLES LTD WIGSTON, LEICESTERSHIRE

No. 11. Standard all-in general wear. A good medium weight for walking. If hard wear is required, shoes or boot with all fashionable swings.

Reduced price 3/9 per pair.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

ive cultures for the treatment of constipation, intestinal putref etc.

CULTURE ME

Issued in tube and bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

AT SAVILE ROW

WE will build you a hand-made suit for 8 guineas. Pay us a visit. We are sure you will find it an economy to buy the VERY BEST CLOTHES from us at reasonable prices.

ENTICKNAPP & GRIMES
21a, SAVILE ROW,
LONDON, W.1.

Regent 2467.

Cook's Non-Scratch
MOTOR MOP
(Pat. No. 232386)

As good as Two Hands and a Long Arm.

Mop & Brush combined

Every Motorist will appreciate it

BECAUSE:

It is so light and easy to use;
It cleans so thoroughly and so quickly;
It prevents chapped hands, for with it you need not even get the hands wet.

Note the 36in. long handle and Rubber Guard Pad at back, preventing damage to varnish or paint.

IT'S BRITISH—AND WILL LAST A GOOD TWO YEARS.

The only Mop that will get anywhere—even on the smallest car. Sent Carriage Free for 7/9

COOK'S, Brush Specialists,
DAVEY PLACE, NORWICH.
ESTAB. 1814.

A reminder

There is still time before Easter to fit a new set of

LODGE
SPARKING PLUGS

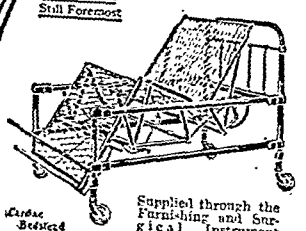
and ensure getting the very best out of your car.

Sold at all good garages.

LODGE C3
the plug for most English and Continental engines.
5/-
in sealed metal box (red).

LODGE PLUGS LTD.—RUGBY

"A Bedstead for Every Purpose"
LAWSON TAIT
HOSPITAL BEDSTEAD
Permanently Guaranteed.
First in 1851
Still Foremost



Supplied through the Furnishing and Surgical Instrument Trades.

RE-INFORCING THE ABDOMINAL MUSCLES WITHOUT UNDUE PRESSURE!

For those disorders of the abdomen that call for external support, Domen Abdominal Belts have very definite advantages. They give adequate support to the abdomen without setting up pressure to aggravate the patient's condition. And whether it is pregnancy or umbilical hernia, prolapsus uteri, or simply general support, there is a Domen Belt designed specifically for that condition. Domen Belts fit well, sit comfortably and do not get out of place. They leave the patient free and without embarrassment. Full particulars will be forwarded on receipt of your card or a telephoned request.

DOMEN BELTS CO. LTD.
26, SLOANE STREET, LONDON Tel.: Sloane 3524

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.
Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"
keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request:
HILLIARD, 123, Douglas Street, Glasgow, C.2.

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book 18.*
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

BRITISH SPAS
ARE BEST

and membership of the British Spas Federation is a guarantee of efficiency

AT British Spas, treatment is only given (except in a few minor cases) upon medical prescription.

At British Spas the staffs are educated and properly trained and, in some cases, medically trained and medically certificated.

Equipment and administration are thoroughly up to date and scientific. Every new treatment is tested and reported upon before being adopted.

British Spas are also remarkably fortunate as regards situation, scenic beauty and pure air. These factors, combined with the social amenities of a home town, aid the cure considerably.

BATH Hot Springs (120° F.) Radio-active. Royal Baths extensions now open.

BRIDGE OF ALLAN Saline Water. Rich Calcium Bromide and Iodine Content.

BUXTON Radio-active Mineral Water. New Natural Baths. 3 Guineas Course.

CHELTENHAM Five Natural Waters. Modern Baths.

DROITWICH The Brine Baths Spa in charming Worcestershire.

HARROGATE 88 Waters. 100 Treatments. Medically certificated staff.

LEAMINGTON Advanced Spa Treatment. Saline Springs.

LLANDRINDOD WELLS The Modern Welsh Spa.

TREFRIW WELLS Rich Sulphate Chalybeate Waters.

WOODHALL SPA Bromo-Iodine Waters. Pinewoods. Restful Air.

¶ A New Medical Handbook is being published, specially prepared for the use of the medical profession. A copy will gladly be sent you if you will write to the Hon. Secretary, Box 1, British Spas Federation, Pump Room, Leamington Spa, or to the Managers of any of the Spas here mentioned.

ANNOUNCEMENT BY BRITISH SPAS FEDERATION

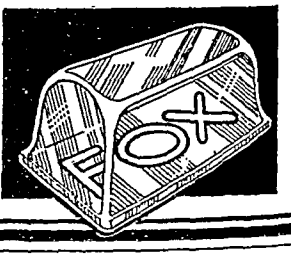
FOX'S GLACIER MINTS M.C.

THE FINEST PEPPERMINT IN THE WORLD

help to remove the after effects of an anaesthetic

Samples gladly sent on request.

FOX'S GLACIER MINTS LTD., LEICESTER



NAME PLATES

FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.

Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.

With fastenings ready for fixing.

SEND FOR ILLUSTRATED CATALOGUE.

COOKE'S (Finsbury), Ltd. Signs Dept.

FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

FOR DEAFNESS

Doctors use and recommend Ardente because it fulfils its claims.

309, Oxford St., London, W.1.

Midway between Oxford Circus & Bond St.

Mayfair 1380/1718.

POCKET MONEY ADDING MACHINES 15/- post free

TAYLOR'S TYPEWRITERS

SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY Desks, Tables & Chairs Est. 1884.

Write for Bargain List 32.

'Phone—Holborn 3793.

BUY A BIJOU FOR 5/- per week.

THE BIJOU

The best portable Writer Complete in Travelling Case, from £9 9s.

74, CHANCERY LANE (Holborn End), W.C.2

NAME PLATES

In BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd.,

Medical and Scientific Stationers,

136, GOWER STREET, LONDON, W.C.1.

BRASS and BRONZE

NAME PLATES

by the Actual Maker. Send for List.

FORD, 37, Palace Rd., Bromley, Kent.

THE POSTAL ACCOUNT

It is often supposed that to live a long way from the nearest branch of a bank, or to be constantly unable to go to the bank in person, is a handicap to the enjoyment of the full advantages which, it is admitted, a banking account offers. Perhaps it is assumed that to conduct an account by post involves 'more letter writing', or is costly, or is not welcomed by the Bank. It is the aim of the Westminster Bank to dispel such misconceptions by a leaflet entitled *The Postal Account*, which explains the convenience of the method, and offers some clear suggestions.

The Secretary of the Bank will be pleased to send a copy on application

WESTMINSTER BANK LIMITED

HEAD OFFICE: 41 LOTHBURY, LONDON, E.C.2

VACCINE LYMPH

(REBMAN'S PURE ASEPTIC CALF LYMPH)

for reliability and normal reaction.

Prepared under Swiss Government control in accordance with the requirements of the Therapeutic Substances Regulations, 1927. As Supplied to the Bacteriological Department, Guy's Hospital, London.

Price: 9d. per small tube (6 for 3/9).

Sole Agents:

WILLIAM HEINEMANN (Medical Books), Ltd., 99, Gt. Russell St., London, W.C.1.

Telephone: MUSEUM 0878. *Telegrams:* SUNLOCKS, LONDON.

Duplicate Prescription Books

INVALUABLE TO ALL DOCTORS

Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.

Send Postal Order for 1/- for Sample Book, together with Prices and Styles of Printings

To G. CARLYLE,

116, DUKE STREET, LIVERPOOL.

NAME PLATES

in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet.

S. J. & A. HERD,

30, CLERKENWELL ROAD, E.C.1.

DEGANWY,

Caernarvonshire. "The Grindelwald of Wales!"

REST HOME for tired or Convalescent Gentlepeople. Men and Women. Sea and Mountain air. Dry and sunny. Waters from the Trefriw Chalybeate Wells. For further particulars apply to:

Mrs. C. HERBERT ROBERTS, "Talavon," DEGANWY, North Wales.

Teleg.: "Rest, Deganwy." Tel.: 28 Deganwy.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.; 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

FENSTANTON,

CHRISTCHURCH ROAD,

STREATHAM HILL, S.W.2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2254.) Apply J. H. EARLS, M.D., Resident Physician. Telephone: Streatham 8430.

KINGSDOWN HOUSE

BOX, near BATH.

For the CARE and TREATMENT of NERVOUS and MENTAL DISORDERS in BOTH SEXES.

Separate accommodation for Voluntary Boarders of the Female Sex. Applications received at the above or at 17, Belmont, Bath, by—

Dr. H. C. MACBRYAN or Medical Superintendents

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

"BANKSEA," Dovercourt Bay, ESSEX.

CONVALESCENT HOME FOR GIRLS.

This Home, conducted by the Dominican Sisters, is certified by the Essex County Council under the Ministry of Health.

Beautifully situated on the sea front. Bracing air. Bright and airy [illegible] ing. Pleasure Park [illegible] Individual attention [illegible] Nurse. Infectious or Epilepsy cases not received.

Terms moderate. Vouchers issued for reduced railway fares. — Apply, MOTHER PRIORESS, Dominican Convent, Dovercourt, Essex.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

NORMANSFIELD

For Mental Defectives of all ages.

Under private management.

Apply to Dr. Langdon-Down, Normansfield, Teddington.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment —rest cures, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

THE LAWN, LINCOLN.

A registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY BOARDERS and PRIVATE PATIENTS of both sexes for treatment of Mental and Nervous Disorders, including Post-Encephalitic conditions in adults. Special facilities for Psychotherapy in co-operative cases.

All particulars may be obtained from the Resident Medical Superintendent,

Dr. MARY R. BARKAS, M.D., D.P.M.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, *Resident Physicians.*

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.

Resident Physician: CEDRIC W. BOWER.

Ordinary Terms: Five Guineas per week.

(Including Separate Bedrooms where suitable.)

Interviews in London by appointment.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.

Voluntary Boarders accepted.

Apply for particulars to Dr SANKEY.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES, Large grounds, 400 ft. above sea.

ST. ANDREW'S HOSPITAL

FOR MENTAL DISORDERS,

NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of **Private Patients** of both sexes of the **Upper and Middle Classes** at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted Voluntary and Temporary Patients received.

Tel. 64117. *For terms, etc., apply to the Medical Superintendent.*

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P. *Telephone*: Teignmouth 289.

HAYDOCK LODGE,

NEWTON-LE-WILLOWS, LANCASHIRE.

Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

TYKEFORD ABBEY, NEWPORT PAGNELL,

BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The House is a Mansion of Historical interest, standing in 9 acres of garden and grounds, with [illegible] 14 miles from Northampton, and 12 miles from Bedford on the main London [illegible] Road fifty miles from London. Both sexes are accommodated. Psycho-[illegible] Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Lamps. Billiards, tennis, etc. Fees from five guineas per week.

Apply Dr. D. E. M. DOUGLAS MORRIS. *Telephone*: Newport, Pagnell 121.

The MAUDSLEY HOSPITAL

DENMARK HILL, S.E.5.

Telephone: RODNEY 4841–2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and [illegible] 2. *Voluntary*

[illegible] Mondays and and Fridays.

IN-PATIENTS: (*a*) 189 beds (both sexes) in wards or separate rooms. (*b*) 13 private rooms (for ladies) with special sitting room, garden, and dietary.

TERMS:

(*a*) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(*b*) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—ARTHUR TOWNSEND, M.D., Medical Supt. Telephone: No. 7 Barnwood.

BAILBROOK HOUSE,

BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the *Villas*. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No: Batheaston 8189.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 481 GATLEY.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*

A. E. CARVER, M.D., D.P.M.

Telephone: Nuneaton 241.

Upton Lodge Nursing Home,

BIRCHINGTON, THANET.

All types of cases taken; special care for aged; shelters in garden; charming comfort. home; nr. sea Terms mod.—MISS ROBERTSON, Matron.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful.

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Apply: The Secretary, Ruthin Castle, North Wales.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"

STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL" NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281. Matron: Mrs. Ellen Allfrey, S.R.N.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E.

Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." *Telephone:* RODNEY 4731—4732.

FOR THE TREATMENT OF MENTAL DISORDERS.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy. Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone:* NORTH 0288

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses. Conveniently situated four miles from Charing Cross. Easy access from all parts. Six acres of ground, highly situated, facing Finsbury Park. Private Suites. Voluntary Patients and Temporary Patients received without certification. Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year. Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—**WOODBRIDGE, SUFFOLK.**

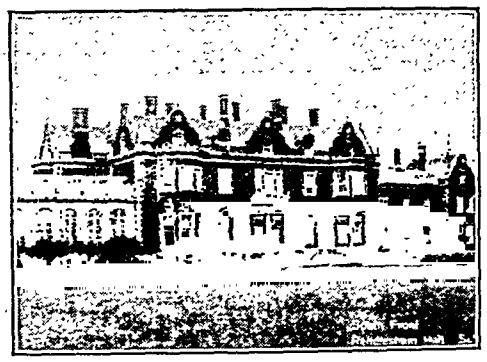
Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16.
(Toll Call from London.)



RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham,

as carried on for the last twenty years, is available. Booklets and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648.
Telegrams: NOROTORIUM, BECKENHAM.

Proprietors: **The Norwood Sanatorium, Limited.**

WOODLANDS PARK

GREAT MISSENDEN **BUCKS.**

550 feet above sea-level on Southern Chilterns. 90 acres, Gardens, Woods, and Park.

FOR INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and REST AFTER OPERATION or ILLNESS.

FEES FROM 8 GUINEAS.

Telephone: 91 Gt. Missenden. Apply: C. W. J. BRASHER, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 5½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.

The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—
F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. Francis Hare, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc., for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and [illegible] situation.

A few gentlemen admitted for treatment. For Prospectus, etc., write or phone, WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law, Resident Medical Superintendent).
Telephone Chislehurst 421. *Telegrams* "Masters," Chislehurst.

EPILEPSY.

Owing to extensions there are at present a few Vacancies at the

DAVID LEWIS COLONY

for Ladies and Gentlemen who have Epilepsy, but are of good intelligence and sound mind.

Colony life gives to most people who have epilepsy the best chance of happiness and contentment.

Apply to the Medical Superintendent,

The David Lewis Colony, Warford, Alderley Edge.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOT HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.
In cases of urgency 'phone NUNEATON 241.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 5½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES).

Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.
Station: Clapham Common Tube. *Telephone*: Brixton 0494. Apply, Miss THWAITES.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOGLD, L.R.C.P., M.R.C.S.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

The MUNDESLEY SANATORIUM

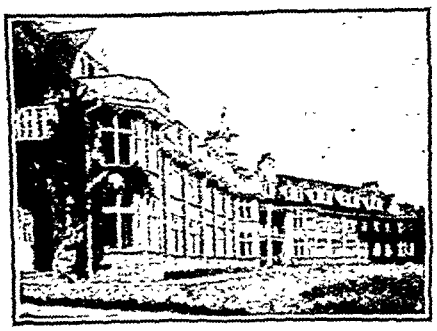
The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless head-phones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON, M.D (Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP, M.B.(Cantab.).
ANDREW MORLAND, M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

EAST ANGLIAN SANATORIUM.



This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

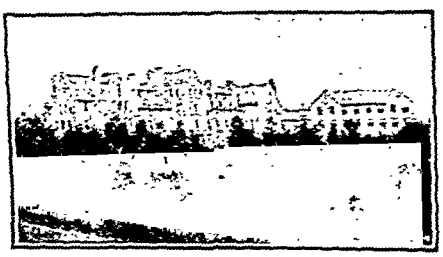
TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus, etc., apply to the SECRETARY, East Anglian Sanatorium, Nayland, near Colchester. *Tel. and Telegrams:* NAYLAND 3.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 582 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to The Secretary, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams:* Nordrach, Blagdon. *Telephone:* Blagdon 23.

BRIDGE of ALLAN SPA
Stirlingshire

INHALATION TREATMENT with vaporized Mineral Water is strongly recommended for asthma, bronchitis, and other catarrhal affections.

Bridge of Allan is an Ideal Spring Resort, being mild, sunny, and sheltered from North and East winds.

The Allan Water and Spa Hotel has covered communication with the Spa.

For further particulars apply SPA DIRECTOR.

THE WORLD SPA **WIESBADEN** On the Romantic Rhine

Germany's greatest Medical Baths. Notable Performances in the Kurhaus and State Theatres. WORLD FAMOUS THERMAL SALT SPRINGS AT 150°. Cure: RHEUMATISM, GOUT, metabolic diseases, nervous disorders, diseases of the respiratory and digestive organs. Station of Rhine Steamers at Wiesbaden-Biebrich.

SALTS AND PASTILLES FOR EXPORT

Good accommodation at moderate prices. Hotel lists (8,000 beds) from the Municipal Information Office and all Travel Bureaux.

BAD-NAUHEIM

near Frankfurt-on-Main, from Victoria about 21 hours.

A Charming and Restful Place.

Saline Thermal Springs Rich in Carbonic Acid

Quite exceptional cures for cardiac affections, arterial sclerosis, muscular rheumatism, rheumatoid arthritis, gout, bronchial diseases, spinal diseases and diseases of the nervous system, shock and exhaustion, reconvalescence, injuries to the bones and joints, etc. All up-to-date treatments.

BALNEOLOGICAL UNIVERSITY-INSTITUTE.—KERCKHOFF-INSTITUTE FOR INVESTIGATION AND COMBATING HEART DISEASES.

Golf and other outdoor sports. A new large golf course will be opened SUMMER, 1931. Reduced prices to Physicians and their families.

For all particulars apply to the Special Representative, R. O. ROHME, 90, Sheaveshill Avenue, Colindale, London, N.W.9.

THE COTSWOLD SANATORIUM

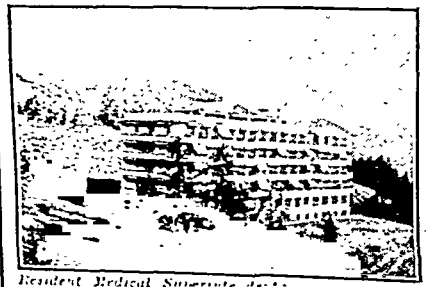
Specially built in 1893 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montail," Montana, Vermala.

Resident Medical Superintendent: HILARY BOCHE, Tuberculosis Dip., I
House Physician, [illegible] London;
Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

VICTORIA SANATORIUM : : DAVOS
SWITZERLAND
(BRITISH SANATORIUM), 5,200 feet above sea-level.

ALTERED AND MODERNISED IN SUMMER 1930.

Terms from £5 . 12 . 0 per week.

Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

GRAMPIAN SANATORIUM,
KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 ft. above sea level. Sheltered situation in pine wood. Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms £4 6s. 8d. to £6 6s. *inclusive p.w.* Med. Supt.—FELIX SAVY, M.D. For particulars apply to the Secretary.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh. All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.

IDEAL HEALTH RESORT.

Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Russian Baths, Aix and Vichy Treatment, an Electric Installation for Dowsing Radiant Heat, D'Arsonval Hig Baths, New Soapless Foam Baths, etc Milk from our farm of 300 acres. Lat ance. Rooms well ventilated and all large Staff (upwards of 60) of trained and Attendants.

Grams: "SMEDLEY'S MATLOCK." Thone: No. 17. For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

BEIT MEMORIAL FELLOWSHIPS FOR MEDICAL RESEARCH.

Notice is hereby given that an ELECTION of JUNIOR FELLOWS will take place in July, 1931. The Fellows then elected will be required to begin work on October 1st. Junior Fellowships are of the annual value of £400; the usual tenure is for three years. Applications from candidates must be received not later than, ar[illegible] une 1st, 1931. all information m [illegible]ly, addressed to— M.D., F.R.S., Hon. Secretary.

Beit Memorial Fellows
University College
University Street, London, W.C.1.

EXTEMPORE SPEAKING

(Lecture Theatre, Platform, Pulpit, Banquet).

PRIVATE LESSONS

given by Mr. CHAS. SEYMOUR

Tuition includes Fluency, Vocabulary, Retention of Ideas, Voice-Production, AUDIBILITY, Modulation, CONFIDENCE, Breathing, ELOCUTION, Accent and Phonetics.

Prospectus forwarded (Kindly mention B.M.J.)

[illegible]

OF LONDON.

MASTERY OF MIDWIFERY.

Examinations will be held beginning Monday, May 18th, and Monday, November 16th, 1931. For regulations apply to the REGISTRAR, Water Lane, E.C.4.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS [illegible]

(G[illegible] [illegible]ical Direction, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

Doctor has a vacancy for a Permanent or Convalescent PATIENT, in a fully equipped and staffed NURSING HOME, in a sheltered locality of the North Cornish Coast. Terms on application. — Address, No. 853, B.M.A. House, Tavistock Square, W.C.1.

[illegible] [illegible]

COPIES OF REGULATIONS for the TRIPLE L.R.C.S.E., and DIPLOMA IN PUBLIC HEALTH, containing Dates of Professional Examinations for the year 1931-32. Curriculum, etc., may be had on application to Mr. DAVID THOMSON, 49, George Square, Edinburgh, or to Mr. WALTER HURST, 242, St. Vincent Street, Glasgow, Inspectors and Treasurers at Edinburgh and Glasgow respectively.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.

The Prince of Wales's General Hospital, Tottenham, N.15, and the North Middlesex Hospital, Edmonton, N.18.

A ONE WEEK COURSE IN GASTRO-ENTEROLOGY will be held from April 13th to 17th inclusive.

Enquiries and applications should be sent to the Dean at the Prince of Wales's General Hospital, or to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

CITY OF LONDON MATERNITY HOSPITAL, CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.
MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.
PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.
PRIVATE WARDS for paying patients.
MATERNITY NURSES sent out for private cases.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times." "[illegible]les."—"Lancet." "[illegible]ct and perfectly"

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/6 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

Aberdeen Medical School.

A COURSE OF POST-GRADUATE STUDY on Radium, Pneumonia, and Haematology will be held at Aberdeen Royal Infirmary and Aberdeen University from April 21st to June 25th, on Tuesdays and Thursdays at 5.15 p.m.

A syllabus of the Lectures and Demonstrations may be had on application to the Secretary, The University, Aberdeen.

MEDICAL CORRESPONDENCE COLLEGE

19, WELBECK STREET, LONDON, W.1.

PROVIDES HIGHLY SUCCESSFUL ORAL, POSTAL, AND PRACTICAL COACHING FOR ALL MEDICAL EXAMINATIONS.

M.D.Lond., M.R.C.P.Lond., M.D.Thesis (all Universities), F.R.C.S.Eng. and Edinburgh, D.P.H., D.P.M., D.T.M., D.L.O., D.O.M.S., & L.D.S.

COURSES are always in progress for the above; also 1st, 2nd, and FINAL MEDICAL EXAMINATIONS of all Universities and Examining Bodies.

Special Oral and Practical Vacation Courses in Chemistry, Physics, Biology, Anatomy, Physiology, Pathology, and the Final Subjects.

MICROSCOPE AND MUSEUM WORK

CLINICAL INSTRUCTION can be arranged at any time.

VALUABLE BOOK

FREE!

Write at once for our "Guide to Medical Examinations," and a copy will be sent post free by return.

MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, Cavendish Sq., LONDON, W.1.

DEFECTIVE SPEECH.

Remedial Tuition on modern lines for Stammer, Aphonia, Cleft Palate, Tracheotomy, and Disturbed Co-ordination, by ERIC MIALL, A.L.C.M., who is Speech Instructor at the Middlesex Hospital.

Short courses in elocution, accent, clarity, and public speaking.

39, WELBECK STREET, W.1.
Welbeck 3238.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Medical and Dental Students.

Special Classes for Pre Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

EDINBURGH POST-GRADUATE COURSES IN MEDICINE

IN CONNECTION WITH THE UNIVERSITY AND ROYAL COLLEGES, 1931.

The POST-GRADUATE COURSES to be held this year comprise:

(1) A GENERAL PRACTITIONERS' COURSE from August 10th to September 5th.

(2) A GENERAL SURGICAL COURSE from August 10th to September 5th.

The composite fee for each Course will be £10 10s. for the four weeks, or £6 6s. for either the first or second fortnight.

(3) A COURSE IN OBSTETRICS AND GYNAECOLOGY AND DISEASES OF CHILDREN, from July 13th to Aug. 8th.

In addition to the above, the following *Special Courses* have been arranged: Fee £10 10s.

SUMMER TERM.

SURGICAL PATHOLOGY.—Mr. Wade, F.R.C.S.Ed., and others. May 12th. Fee: £4 4s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. May 4th. 12 Meetings, thrice weekly. Fee: £5 5s. Minimum number 5.
CLINICAL MEDICINE.—Medical Staff of Royal Infirmary. During May. Fee: £3 3s.

SUMMER, AUTUMN, AND SPRING TERMS.

CLINICAL SURGERY (including Radiology).—Surgical Staff of Royal Infirmary. Fee: £4 4s.
DISEASES OF EAR, NOSE, AND THROAT.—Staff of Ear, Nose, and Throat Department, Royal Infirmary. Minimum number 5. Fee: £10 10s.
VENEREAL DISEASES.—Mr. Lees, F.R.C.S.Ed., Ward 5a, Royal Infirmary. Minimum number 5. Fee: £10 10s.
DISEASES OF EAR, NOSE, AND THROAT.—Dr. Douglas Guthrie. This Class will meet twice weekly at the Ear and Throat Dispensary, Cambridge Street. Fee: £4 4s.

DURING THE PERIOD OF THE GENERAL COURSES (AUGUST-SEPTEMBER).

PATHOLOGY OF THE NERVOUS SYSTEM.—Drs. F. E. Reynolds and James K. Slater. Minimum number 6. Fee: £3 3s.
DISEASES OF THE BLOOD.—Dr. Alex. Goodall. Fee: £3 3s. VACCINE THERAPY.—Dr. A. Nimmo Smith. Fee: £3 3s.
MODERN DIAGNOSTIC METHODS.—Drs. D. M. Dunlop, A. R. Gilchrist, and C. P. Stewart. Fee: £4 4s. Minimum number 6.
X-RAY PHYSICS AND ELECTRO-TECHNICS.—Mr. C. Norman Kemp, B.Sc., A.I.C. Fee: £3 3s.
ULTRA-VIOLET RADIATIONS AND THEIR USES.—Dr. Robert Aitken. Fee £3 3s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. Fee: £5 5s. Minimum number 5.

Further particulars may be had on application to the Hon. Secretary, Post-Graduate Courses in Medicine, University New Buildings, Edinburgh.

Post-Graduate Teaching, West London Hospital

OPENING OF SUMMER SESSION.

The SUMMER SESSION will open on WEDNESDAY, APRIL 15th, when an Introductory Address will be delivered at 4.30 p.m. by the Dean, Sir HENRY SIMSON, K.C.V.O., on "POST-GRADUATE MEDICAL EDUCATION," to which all Medical Practitioners are cordially invited.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,300 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London.)

The Second Term of the WINTER SESSION will begin on Tuesday, April 21st, 1931.

The Medical School provides courses in Preliminary, Intermediate, and Final Subjects, and Students can join at once after matriculation.

SITUATION.—Between a large population, providing clinical material, and one of the best residential districts, thus enabling students to live in close proximity to their work.

CLINICAL UNITS IN MEDICINE AND SURGERY.—Certain members of the Medical and Surgical staff devote their whole time to teaching and research.

NEARLY 1,000 beds available for teaching, additional clinical material being provided by affiliation to an Infirmary and other Institutions.

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1,400 are awarded annually.

APPOINTMENTS, varying in value up to £750 per annum, open to students after qualification.

For further particulars and illustrated prospectus, apply to the School Secretary.

C. M. WILSON (*D.C.*), M.D., F.R.C.P., *Dean.*

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) *prospectuses* and INDIVIDUAL INFORMATION and ADVICE.

The age of the pupil, district preferred, and a rough idea of fees should be given.

J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mans on House 5053.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to

The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5

for practical & remarkably COURSES in Midwifery. These include deliveries of normal cases, attendance at all abnormal cases, operations, ward work, visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DILLON, the Secretary.

LONDON SCHOOL OF DERMATOLOGY.

St. John's Hospital for Diseases of the Skin,

Leicester Square, W.C.2.

Conducted by the Honorary Staff of the *Hospital*, together with the Physicians in charge of the Dermatological Departments of the London Teaching Hospitals. Lectures and *Demonstrations every* Tuesday and Thursday, at 5 p.m., from October to March, and four *times weekly* during May. Clinics daily at 2 p.m. and 6 p.m., Saturdays, 2 p.m. only. *Pathological* Laboratory for Instruction or Research work.

For further particulars, fees, etc., apply to J. E. M. WIGLEY, M.B., Dean.

TAUNTON SCHOOL, TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven *laboratories*, two lecture rooms, science library, *store rooms*, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary*	162
	1906-30) *Final*	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all* [illegible] Postal Courses, and Oral [illegible] the higher Medical [illegible] for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher *Courses*. Openings for Women. Hints for writing theses.

Medical Prospectus gratis along with *list of* Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6315.)

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.
Dean—Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above school, commencing Monday, June 1st, 1931. Full particulars will be published later.

The Course will be repeated on subsequent dates.

Applications for copies of the syllabus, etc., may be made at once, and these will be forwarded as soon as available.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

County Council of Middlesex.

DISTRICT MEDICAL OFFICER AND PUBLIC VACCINATOR.

The County Council invites applications from duly qualified Medical Practitioners for the undermentioned appointments:

DISTRICT MEDICAL OFFICER, Edgware, Little Stanmore, and Lower Hale (Hendon).

Salary £80 per annum. The officer appointed will be required to carry out his duties in accordance with the Public Assistance Order, 1930, of the Minister of Health, to reside in the district, and to name to the Council some duly qualified Medical Practitioner who will, in the case of his absence or other hindrance to his personal attendance, act in his place.

PUBLIC VACCINATOR, Edgware, Little Stanmore, and Lower Hale (Hendon).

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination, unless such certificate was required as a condition of obtaining any diploma, licence, or degree which he possesses.

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order, 1930, of the Minister of Health. The contract will provide for the payment of the minimum fees laid down in the Order.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than April 18th.

No special application forms are provided. Envelopes must be endorsed "District Medical Officer" or "Public Vaccinator" as the case may be.

Canvassing, directly or indirectly, will be a disqualification.

ERNEST S. W. HART, Clerk of the County Council.

Guildhall, Westminster, S.W.1.
March 23rd, 1931.

Scarborough Hospital and DISPENSARY. (70 Beds.)

Wanted May 1st, Two HOUSE SURGEONS (male or female). Duties include home visiting. Salary £175 per annum, with board, residence, etc. Appointment for six months.

Applications, stating age, with copies of testimonials and essential particulars, to be sent to the undersigned by April 15th, from whom further particulars may be obtained.

J. DOUGLAS MUNBY, Hon. Secretary.

The Hospital for Sick Children, NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a HOUSE SURGEON (male or female), to commence duties forthwith until September 30th. Salary at the rate of £100 per annum, together with board, residence, and laundry.

Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BROMIE 18, City Road, Newcastle.

UNIVERSITY of CAMBRIDGE.

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.

The next Course of Study for the Diploma, which is open only to duly qualified Medical Men and Women, begins on October 5th, 1931, and occupies nine months.

During the first three months instruction in Physics is given in the Cavendish Laboratory, and in Elementary Radiology and Electrology in the Department of Radiology at Cambridge. Arrangements are made by the British Institute of Radiology for a similar Course to be given in London at the same time. These Courses are alternative.

The second three months must be spent in London, where lectures are given at the British Institute of Radiology, and are combined with clinical instruction in the large teaching Hospitals.

The third three months may be spent in recognized Hospitals in London or elsewhere, the student acting as clinical assistant or in similar capacity.

The examinations consist of three parts, viz.:
1. Physics, with examinations in January and April.
2. Radiology and Electrology, with examinations in April and July.
3. The presentation of a Thesis which is entirely the candidate's own work, and is intended to show that he has had practical experience of the subjects.

Further information as to the Courses, together with application forms for admission, may be obtained from:

G. STEAD, M.A., Secretary for the Diploma, Cavendish Laboratory, Cambridge, or,
The General Secretary, British Institute of Radiology, 32, Welbeck Street, London, W.1.

Completed forms of application for admission must reach the Secretaries not later than September 10th.

University of Leeds.

POST-GRADUATE COURSES IN OBSTETRICS AND ANTE-NATAL WORK AT THE LEEDS MATERNITY HOSPITAL. (108 Beds.)

Registered Medical Practitioners are admitted to the Hospital Practice, comprising Ante-natal, Labour and Isolation Departments, for periods of 2–4 weeks.

For particulars as to vacancies at the University Obstetrics Students' Hostel, adjoining the Hospital, apply to the DEAN, School of Medicine, Leeds.

June 21st, 1930.

University of Bristol.

The University invites applications for a LECTURESHIP IN PHYSIOLOGY. Salary £300 to £400 per annum, according to qualifications.

Applications should reach the undersigned, from whom further particulars may be obtained, on or before Friday, April 24th.

WINIFRED SHAPLAND, Secretary and Acting Registrar.

Nottinghamshire County Council

EDUCATION COMMITTEE.

ASSISTANT SCHOOL MEDICAL OFFICER (Male).

Applications are invited from duly qualified and registered Medical Practitioners for the post of Assistant School Medical Officer.

Candidates must possess a Diploma in Public Health and have had at least three years' experience since appointed.

The officer appointed will be required to devote his whole time to the duties of the office. He will be a member of the Staff of the County Medical Officer, will work under his control and direction, and will be required to reside in a part of the County to be approved by him and to carry out such duties as may be prescribed.

The salary will be at the rate of £500 per annum, rising by annual increments of £25 to £700, with travelling allowances in accordance with the County Council's Scale.

The engagement will be terminable by three months' notice on either side.

The successful candidate will be required to pass a medical examination.

The appointment is an established post under the Local Government and Other Officers Superannuation Act, 1922.

Applications on the prescribed form (which may be obtained on application to me), accompanied by copies of not more than three recent testimonials, should be forwarded to the County Medical Officer, Shire Hall, Nottingham, not later than April 18th.

K. TWEEDALE MEABY, Clerk of the County Council.

Shire Hall, Nottingham.
March, 1931.

Shanghai Municipal Council

PUBLIC HEALTH DEPARTMENT.

ASSISTANT PATHOLOGIST.

An additional Assistant Pathologist is required in the Public Health Department of the Shanghai Municipal Council.

Candidates, preferably unmarried, should not be more than 30 years of age, and must hold qualifications in Medicine and Surgery of University standard. In addition, they must have working experience of the routine of a Pathological Laboratory, and practical knowledge of the manufacture of bacterial vaccines in bulk is desirable. Experience in Tropical Medicine would be a recommendation.

Salary for three years, Taels 650 per mensem, or Taels 700 per mensem if holding a D.P.H. or its equivalent. Thereafter rising by triennial increments of Taels 100 to Taels 1,250 or Taels 1,300 if with D.P.H., subject to satisfactory service. After six years on the maximum pay, a final long service increase of Taels 100 per mensem is granted. A Tael at the present rate of exchange equals about 1/4d. Exchange is, however, subject to fluctuation.

Service is under Letter of Appointment, which is for three years in the first instance.

Owing to the present adverse exchange rates the Council, under certain limitations, guarantee one-third of pay at the rate of 2/6 to the Tael. Further particulars may be obtained on application.

First-class passage is provided, with half-pay during the voyage, and 7 months' leave is given on full pay, with first-class passage, after every period of 5 years' service in Shanghai.

Free Medical attendance and Hospital accommodation in accordance with the Council's standard rates are provided, and there is participation in the benefits of a Superannuation and Pension Fund.

Full particulars of the vacancy and the Terms of Service in force for Municipal employees may be obtained from the Council's Agents.

Applications, with full information as to qualifications, experience, etc., accompanied by three recent testimonials and endorsed "Assistant Pathologist," should be forwarded to the Council's Agents, Messrs. JOHN POOK & COMPANY, 68, Fenchurch Street, London, E.C.3.

March, 1931.

Borough of Ilford.

APPOINTMENT OF ASSISTANT SCHOOL DENTAL SURGEON.

The Ilford Borough Council invites applications from registered Dental Surgeons of either sex holding a degree or diploma in Dental Surgery for the above appointment.

The inclusive salary of the office will be at the rate of £450 per annum.

The duties of the officer appointed will be mainly connected with the Dental Inspection and Treatment of School Children, but the successful candidate will be required to assist when necessary with the other dental services of the Council.

The person appointed will be required to devote his or her whole time to the duties of the office, to reside within the Borough, to work under the general supervision of the Medical Officer of Health of the Council, and to enter into a contract with the Council for the due performance and fulfilment of the duties and conditions of the appointment.

The appointment will be subject to the Staff Regulations of the Council, and the successful applicant will be required to pass a medical examination.

Candidates must not be more than 45 years of age.

The appointment will also be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications, which must be made on forms obtainable (with list of duties) from the undersigned, accompanied by copies of three recent testimonials (which will not be returned), and endorsed "Dental Surgeon," must be received at my office at the Town Hall, Ilford, not later than noon on Monday, April 13th.

Canvassing members of the Council or Education Committee, directly or indirectly, is prohibited and will disqualify.

By Order,
ADAM PARTINGTON,
Town Clerk.

Town Hall, Ilford.
March 26th, 1931.

Clayton Hospital, Wakefield.

Vacancies exist for Two HOUSE SURGEONS (male, British), for which posts applications are invited. The appointments are for six months in the first instance, and the salary for each is at the rate of £200 per annum, together with board, residence, and laundry.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be sent to the undersigned as early as possible.

H. J. LANCASTER, Gen. Supt. and Secretary.

The Gloucestershire Royal Infirmary and Eye Institution, Gloucester.

(155 Beds—4 Residents.)

Applications are invited for the posts of: RESIDENT SURGICAL OFFICER (male). Salary at the rate of £200 per annum. Six months' appointment, with board, residence, and laundry. Good opportunity for Surgery.

First HOUSE SURGEON (male). Salary at the rate of £150 per annum. Six months' appointment, with board, residence, and laundry.

The First House Surgeon will be required to enter upon his duties on April 8th, and the Resident Surgical Officer on April 28th.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned.

March 26th, 1931. F. J. SYMONS, Secretary.

The Belgrave Hospital for Children (Incorporated), 1, Clapham Road, S.W.9.

The Committee of Management invite applications for the posts of HOUSE PHYSICIAN and HOUSE SURGEON, which will become vacant on April 30th next, and for the post of HOUSE PHYSICIAN which will become vacant on May 31st next.

Applicants (men) must be fully qualified and registered. The appointments are for six months, with board, residence, and washing provided. Salary at the rate of £100 per annum in each case.

Applications, with copies of testimonials, stating age, should be forwarded on or before Friday, April 10th, to the Secretary.

Bury Infirmary, Lancs.

(A General Hospital of 165 Beds.)

Applications are invited for the post of HOUSE SURGEON to Special Departments. The appointment is for six months, at a salary at the rate of £200 per annum, with board, residence, and laundry.

The appointed candidate will be required to commence duty on or about April 26th.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned not later than the first post of Saturday, April 11th, endorsed "House Surgeon."

Particulars of duties may be obtained on application.

ALEX. W. MAITLAND, Hon. Secretary.

Merthyr General Hospital, Merthyr Tydfil.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry.

Applicants must have had experience in administration of Anæsthetics.

Applications, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

Victoria Central Hospital, Wallasey.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry, with prospects of appointment to Senior House Surgeon in six months' time, at a salary of £150 per annum.

Candidates chosen will be appointed for six months.

Applications, with copies of testimonials, to be sent to the Secretary.

Liverpool Stanley Hospital.

Applications are invited for the post of HONORARY SURGEON.

Applications with qualifications and testimonials, addressed to the President, to be sent to reach him before Saturday, April 18th.

The canvassing of any member of the Election Committee will disqualify, but candidates are at liberty to send to the members copies of their applications and testimonials.

FRANK WHITE, Hon. Secretary.

Liverpool Stanley Hospital, Stanley Road, Liverpool.

Wanted at once, one Male HOUSE PHYSICIAN and one Male HOUSE SURGEON to commence duties on May 1st. Salaries in each case at rate of £150 per annum, with board, laundry, etc.

Applications, stating age, qualifications, and experience, with copies of three recent testimonials, to be addressed to the undersigned.

E. W. GNEDDYN, Secretary.

North Riding Infirmary, Middlesbrough.

(General Hospital—150 Beds.)

Applications are invited for the posts of:

Second HOUSE SURGEON (gentleman) to take up duties May 1st;

Third HOUSE SURGEON (lady eligible) to take up duties early as possible.

The appointments will be for a definite period of six months, with salary in the former case of £150 per annum, and in the latter case of £125 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three recent testimonials, should be sent forthwith to the undersigned.

CHARLES POSTGATE, Secretary-Superintendent.

Harrogate Royal Bath Hospital and Rawson Convalescent Home.

Applications are invited for the post of HOUSE PHYSICIAN.

The appointment will be for six months from May 1st. Salary at the rate of £156 per annum, with board, residence, and laundry. Candidates, who must be unmarried and duly registered, are asked to forward their applications, stating age, qualifications, etc., together with copies of not more than three testimonials, to the undersigned on or before Friday, April 17th.

March, 1931. E. P. L. DIXON, M.A., Secretary.

Manchester Ear Hospital, Grosvenor Square, All Saints.

The Board invite applications for the post of NON-RESIDENT HOUSE SURGEON (24 beds). Appointment six months. Salary at the rate of £150 per annum, with partial board. Candidates must be duly qualified and registered.

Applications, with copies of four recent testimonials, to be forwarded to Mr. REGINALD S. MILFORD (Hon. Secretary, Manchester Ear Hospital), c/o Mr. W. J. ELLAM, 33, Brazennose St., Manchester, not later than April 10th.

West Suffolk General Hospital, Bury St. Edmund's. (108 Beds.)

HOUSE SURGEON required on May 1st. Salary £180 per annum, with board, residence, and laundry.

Applicants must be fully qualified and registered. Applications, giving particulars of experience, and enclosing three recent testimonials, to be sent to the undersigned.

E. E. HARDWICKE, Secretary.

March 25th, 1931.

Warneford General Hospital, Leamington Spa.

RESIDENT HOUSE PHYSICIAN required on May 1st. Salary at the rate of £165 per annum, with board, residence, and laundry.

Applications from qualified and registered practitioners, together with copies of at least three testimonials, should be sent to the undersigned by April 15th.

W. RUSSELL RUDALL, House Governor & Secretary.

Liverpool Royal Infirmary.

Applications are invited for the post of HOUSE SURGEON to the Orthopædic Dept. Duties include Fracture Service.

Salary at the rate of £60 per annum, board, lodging, etc.

Apply with copies of testimonials, to the General Superintendent and Secretary.

March 25th, 1931.

Tiverton Hospital, Devon. (35 Beds.)

Applications are invited for the post of HOUSE SURGEON. Salary £100 per annum, with board, residence, and laundry. Six months' appointment, commencing as early as possible.

Applications, with testimonials, to be sent to the undersigned.

C. H. DEEKS, Hon. Secretary.

The General Hospital, Birmingham.

OPEN APPOINTMENTS.

Applications are invited for the following resident appointments from April 15th

ANÆSTHETISTS (Two). Salary £120 per annum.

HOUSE SURGEONS (Three). Salary £70 per annum.

Applications, giving full details of qualifications and accompanied by testimonials (if any), should reach the undersigned by April 11th.

A. H. LEANEY, House Governor.

Ear and Throat Hospital, Edmund Street, Birmingham.

HOUSE SURGEON wanted (non-resident) to assist chiefly in Out-patient Dept. Must be qualified, and with clinical experience. Duties to commence May 1st. Appointment to September 30th, when one of the other House Surgeon appointments will be vacant. Salary at the rate of £160 per annum, with lunch on week-days, and an allowance at the rate of £50 per annum in lieu of full board and lodging. Applications and testimonials to be forwarded at once to the undersigned.

March, 1931. S. G. GREW, Secretary.

Rochdale Infirmary and Dispensary. (110 Beds.)

The Board of Management invite applications for the appointment of JUNIOR HOUSE SURGEON. The salary attached to the appointment is £200, including board, residence, and laundry.

Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon." Particulars of duties and conditions of the appointment may be had on application to the Secretary.

Infirmary Office, W. WYNNE, Rochdale, Lancs. Secretary.

Ancoats Hospital, Manchester.

HOUSE SURGEON required to commence duty on or after April 1st next. Appointment for six months. Salary at the rate of £100 per annum, with board, residence, etc.

Applications, stating age, qualifications, and full particulars, to be forwarded to the undersigned as early as possible, together with copies of three recent testimonials.

By Order of the Board, HERBERT J. DAFFORNE, Gen. Supt. & Secretary.

Rotherham Hospital. (130 Beds.)

The Weekly Board invite applications for the post of HONORARY SURGEON for the Ear, Nose, and Throat Department. Arrangements as to attendance required may be discussed later.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital. (130 Beds.)

The Weekly Board invite applications for the post of HONORARY DENTAL SURGEON in the Out-patients Department. Arrangements as to attendance required may be discussed later.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital. (130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £120, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Bedford County Hospital. (124 Beds)

HOUSE SURGEON (male) fully qualified, unmarried, required for a term of not less than six months, commencing April 22nd. Salary £175, with board, lodging, and laundry.

Applications, stating age, nationality, and qualifications, together with three recent testimonials, to be sent to the Hon. Secretary, Hon. Medical Staff Committee, as soon as possible.

Cossham Memorial Hospital, Kingswood, Bristol.

Applications are invited for the post of HOUSE SURGEON, to commence duties at the end of April. Applicants must be British subjects, fully qualified and registered.

Applications, stating age, qualifications, and previous experience, accompanied by three recent testimonials, should be sent not later than April 11th to the Secretary.

Birkenhead General Hospital. (156 Beds.)

HOUSE PHYSICIAN (gentleman) wanted immediately. Salary £100, with board and residence.

Applications, stating qualifications, experience, and nationality, with three testimonials, to be sent to the undersigned as early as possible.

W. H. DANIELS, A.C.I.S., Secretary-Supt.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH** *(contd.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)* *(Male Assistant Medical Officer, Colony for Mental Defectives, Shenley.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	**PUBLIC HEALTH.**	PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	CAERNARVONSHIRE EDUCATION COMMITTEE. *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	RENFREW COUNTY COUNCIL. *(Assistant Medical Officer of Health.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*	COUNCIL. . . . . , *Burntwood*
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	EAST HAM COUNTY BOROUGH. *(Assistant Medical Officer.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
NEATH AND DISTRICT. *(Medical Aid Association.)*	EAST SUFFOLK COUNTY COUNCIL. *(Male Assistant County Medical Officer of Health.)*	

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD *(Hon. Sec., New South Wales Branch)*, Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments.)*	Secretary, South Australian Branch, British Medical Association, Terrace, Adelaide.	WELLINGTON, NEW ZEALAND. *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON *(Hon. Sec., New Zealand Branch)*, British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

April 1st, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Hospital for Consumption and DISEASES OF THE CHEST, Brompton, S.W.3.

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (for which there are three vacancies). The duties include work in the Out-patient Department as well as in the Wards, and one of the selected candidates will also be appointed Assistant to the Tuberculosis Officer for the local Tuberculosis Dispensary at the Hospital. The appointment is for six months, commencing on May 1st, with an honorarium of £50.

Applications are also invited from duly qualified Medical men for the post of JUNIOR HOUSE PHYSICIAN at the Sanatorium at Frimley. The appointment is for six months, commencing on May 1st, with an honorarium of £50. At the expiration of his term of office, or in the event of a vacancy, the Junior House Physician will be expected to apply for and, if appointed, to hold the post of Senior House Physician for a further term of six months.

Applications, with copies of testimonials, must reach the undersigned not later than Saturday, April 11th.

Brompton. March, 1931. FREDERICK WOOD, Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.

HOUSE SURGEON in charge of Male Wards.

HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE, General Superintendent.

London Jewish Hospital, Stepney Green, E.1. (General Hospital—108 Beds.)

The Council of Management invite applications for the appointment of HONORARY ASSISTANT PHYSICIAN, who will be required to make two Out-patient visits weekly. Only one session (Wednesday afternoon) is available at present, but the second will be allotted when occasion arises.

Candidates must possess the degree of M.D. or M.B., obtained by examination at a recognised University, and be Fellows or Members of the Royal College of Physicians of London, or Fellows of the Royal College of Physicians of Edinburgh or Ireland, and shall not be engaged in the practice of Pharmacy or Midwifery.

Candidates must send twenty copies of their application, with copies of three recent testimonials, to the Secretary of the Hospital, on or before Friday, April 17th.

South Devon and East Cornwall HOSPITAL, PLYMOUTH. (240 Beds.)

HOUSE SURGEON. *Salary £100 per annum*, with board, residence, and laundry. Appointment is tenable for six months, and is subject to renewal. Duties to commence at once. Candidates must be registered under the Medical Acts.

Applications, stating age and qualifications, together with copies of recent testimonials, to reach the undersigned by April 10th.

ARTHUR R. CASH, Gen. Supt. and Secretary.

March 24th, 1931.

The Royal Aberdeen Hospital FOR SICK CHILDREN.

Wanted, RESIDENT MEDICAL OFFICER, to commence duties on May 1st. Candidates are requested to call on Senior Members of the Hon. Medical Staff. Applications, accompanied by one copy of testimonials, to be lodged on or before Friday, April 17th, with Mr. A. S. R. BRUCE, 12, Dee Street, Aberdeen.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIMB, Secretary.

General Hospital, Nottingham.

A HOUSE SURGEON is required at the above Institution. The appointment is for six months, with salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the undersigned not later than Saturday, April 25th.

The appointment will be made on Wednesday, May 6th.

Duties to commence Saturday, May 16th.

P. M. MACCOLL, House Governor & Secretary.

St. Mark's Hospital for Cancer, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.

HOUSE SURGEON (male) required. Must be fully qualified. Salary £75 per annum, with board, residence, and laundry. The appointment is for a minimum of six months from May 1st next.

Applications, with copies of testimonials, must reach the Secretary (from whom further particulars may be obtained) not later than 10 a.m. Monday, April 13th.

(Appointments continued on p. 51.)

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by *not* later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted. — Assistantship, outdoor if possible, but not essential, by woman, 7 years' experience G.P. Country and industrial, in or near large town if possible. Own car.—Address, No. 2109, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Indoor male Assistant for Panel and Private Practice in Midlands. Usual bond. Salary £250—£300 according to experience. All found ex. laundry. Scot preferred. — Address, No. 2025, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, country Practice, Northumberland. Salary £300 p.a., live in. Small saloon car provided. Golf, tennis. Pleasant district. Commence beginning May. Usual bond.—Add., No. 2126, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, a Welsh - speaking ASSISTANT for General Practice. Good anaesthetist. References required. Salary £500. Outdoor. Usual bond. — Address, No. 2103, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, lady or gentleman, between 25 and 30 years of age. In or outdoor.—Address, with full particulars, No. 2106, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship by *Indian Graduate, higher British Diplomas.* Experience of C.P. in India. Single, aged 32.—Address, No. 2116, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted, middle of May, ASSISTANT, indoor, male, for private and panel Practice. *University Town*, 50 miles London. Salary £260—£300.—Address, No. 2123, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant, male, married preferred, West Country. Panel and private Practice. Salary £400 p.a. Able to drive car. Usual bond.—Address, No. 2121, B.M.A. House, Tavistock Square, W.C.1.

Woman M.B., B.Ch., three years' experience of G.P., desires ASSISTANTSHIP, preferably outdoor.—Address, No. 2120, B.M.A. House, Tavistock Sq., W.C.1.

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. (TEMPLE BAR 1054. *Tel.*: RIVERSIDE 1254. *Night Calls*)
Telegrams:
"BRASIDE, TEPHONE, WESTRAND, LONDON."

Wanted. — Locums by Medical Women, L.R.C.P.S., L.M., D.P.H., five years' experience, accustomed sole charge and [illegible] Free April 12th [illegible] Now in force.—No. 2127, B.M.A. House, Tavistock Sq., W.C.1.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to *principals*.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Advertiser, M.D., experienced in General Practice, spending summer in Britain, on leave, would consider taking one or more LOCUMS in June—July, where hospitality could be extended to self and wife. Could use own car if desired. Correspondence will be dealt with after May 31st, when advertiser arrives in England.—Address, No. 2101, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0959), Secretary, 7, Westbourne Park Road, W.2.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, [illegible]-Dispensers, and wire, or 'phone [illegible]NCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited *to write, wire,* or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Experienced General Practitioner requires PART-TIME WORK in London *or suburbs*. Drive own car.—Address, No. 2102, B.M.A. House, Tavistock Sq., W.C.1.

Gentlewoman, fully experienced all branche[illegible] desires appointme[illegible] Doctor's house or [illegible] to Doctor's wife.— House, Tavistock Square, W.C.1.

The Royal Army Medical Corps [illegible]ston Square, S.W. supplies qualified [illegible]oratory Assistants, [illegible] Nurses, Mental and [illegible] Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

To Doctors and the Medical Profession.—Lady of good appearance desires post as RECEPTIONIST-SECRETARY, whole or half-day. Can typewrite and understands bookkeeping and accounts. — Address, No. 2104, B.M.A. House, Tavistock Square, W.C.1.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted. — Partner in rapidly growing Practice in Northern City. Receipts last twelve months £2,300 (audited). One appointment £140 per annum approx. Panel over 1,400, rapidly increasing. Premium 1/3 share £1,200. Early succession.—Address, No. 2118, B.M.A. House, Tavistock Sq., W.C.1.

London, S.E. (nice residential part).—Half share of PRACTICE *doing* £3,000 p.a. for disposal. Good panel. House or flat available. Premium 2 years' purchase, payable about £1,000 down, rest spread over 3 or 4 years.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Near Manchester.—Partnership. —Half Share in Practice *doing* £3,000. Panel over 3,000. Excellent Hospital in town; Vendor on staff. Premium, including interest in house and surgery, £2,500; £2,000 down.—No. 1801, B.M.A. House, Tavistock Sq., W.C.1.

Norfolk.—Large Town.—Quarter share of old-established PRACTICE. Total receipts £4,500 p.a. Rooms available for Partner. Premium for share 2 years' purchase.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

PRACTICES.

Wanted. — Good-class Practice £1,200 up. London or suburb, or good-sized town within easy reach. Good house, 6/7 *bedrooms*, etc., garden and good schools essential. — Address, No. 2009, B.M.A. House, Tavistock Square, W.C.1.

Wanted, London W. or N.W. preferred, [illegible] University Graduate. PRACTICE or [illegible] £1,750 up (par[illegible] house to purchase. Cash available. [illegible] —No. 2111, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—London and District. —Th[illegible] seeking su[illegible] area with [illegible] without panel. Ample capital available. [illegible] sentative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Wanted by experienced Practitioner, sound PRACTICE or PARTNERSHIP, £1,000—£1,200, with substantial panel, within reasonable distance of Manchester. Terms £1,000 down. House to rent.—Address, No. 2119, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—A Panel Practice or [illegible] or around New Cross, 125, B.M.A. House,

C[illegible], within easy reach of all the principal centres. Old-established mixed General PRACTICE; compact and easily worked, with panel of 1,500. Excellent modern house for sale with Practice.—For [illegible]s, No. 1619, B.M.A. W.C.1.

D[illegible] - North Wales. —Ample scope for surgery. £1,850 p.a. and room to increase. Panel £400. Appointment £90 p.a. Very little midwifery, 2 to 5 gns. Visiting fees 5/6 to 10/6, and up to 21/-. Large house, which need not be taken over. All sport obtainable. Beautiful country. Excellent schools and hospital in town.—Apply, No. 8827, c/o PERCIVAL TURNER, LTD., 4, Adam Street, W.C.2.

Death Vacancy on the outskirts of Southampton. £700. Panel 420. Appt. £100. No resident opponent. House available, garden and garage, *rent* moderate.—Apply, HERBERT NEEDES, 31, Bedford Street, Strand, W.C.2.

[illegible]SHIP
MEDIC[illegible]
For Sale, [illegible] Practice in Aberdee[illegible]—For full particulars address No. 2[illegible], B.M.A. House, Tavistock Square, W.C.1.

For Sale, Kent Town, outskirts of London, working-class Cash PRACTICE, established only 18 weeks, already taking £9 per week. Price £450, or £150 cash, and balance out of takings. — Address, No. 2124, B.M.A. House, Tavistock Square, W.C.1.

Hapton, near Burnley. — Well-established General PRACTICE, including leasehold house and surgery. Average receipts for last three years £600 p.a. Panel approximately 600. Price £1,200, including building, goodwill, and drugs.—Apply, J. W. KNEESHAW & Co., Chartered Accountants, Burnley.

London, S.E. — Old-established working-class PRACTICE, held 35 years by Vendor, now retiring. Receipts £1,200 p.a., panel 1,250. Rent £60 p.a., long lease. Premium £1,800.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Near Camberwell Green.—Well-established Cash and Panel PRACTICE. Receipts last 12 months £1,900, panel 1,100. House, rent to be arranged, lease granted. Premium £3,000.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

North Wales.—Death Vacancy for Sale in Hospital Town.—Old-established Practice. Good scope for Surgeon. Receipts nearly £2,000. Premium 14 years' purchase. House available.—Address, No. 2112, B.M.A. House, Tavistock Square, W.C.1.

Practice for Sale.—Yorkshire.—Centre of well-known hunting country. Income £1,500. 1½ years' premium. Splendid house for sale.—Address, No. 2105, B.M.A. House, Tavistock Square, W.C.1.

Scotland, within 25 miles of Edinburgh. Receipts approximately £800. Panel 745. Commodious house may be leased. Moderate premium to prompt Purchaser. — Apply, Box 296, ROBERTSON & SCOTT, Edinburgh.

South Midland Town, one hour London. — Good schools. Panel 700. Ample scope increase. 1½ years' purchase. Good house for sale, side entrance, garage. £1,600, part mortgage. — Address, No. 2115, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

HOUSES, CONSULTING ROOMS.

Eminently Suitable for a Member of the Medical Profession.
MAYFAIR.
With uninterrupted views over Hyde Park.

A Small House of Distinction and Charm. Modernised and beautifully decorated. Hall, 3 reception rooms, 7 bedrooms, bath dressing room, bathroom, convenient domestic offices. Garage, with rooms over, if desired. LEASE FOR SALE AT A LOW PRICE. Sole Agents: Messrs. KNIGHT, FRANK & RUTLEY, 20, Hanover Square, W.1. (11555).

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —EGGOOD & Co., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Glasgow. — Superior Suite of ROOMS (suitable for Doctor, Dentist, or similar profession), most central position in Glasgow. Corner Union Street, Gordon Street. Central heating. Passenger lift. Immediate entry.—Apply, PEACOCK & HENRY, C.A., 111, Union Street, Glasgow, C.1.

Harley Street. — Part-time CONSULTING ROOMS to Let; attendance, waiting room, every convenience; with or without plate.—Address, No. 2103, B.M.A. House, Tavistock Square, W.C.1.

Lady requires Comfortable Home as GUEST in Doctor's house in the country, for a few months, for rest and quietness. — Address, stating essential particulars, No. 2117, B.M.A. House, Tavistock Sq., W.C.1.

FOR SALE BY PRIVATE TREATY.
BIRMINGHAM (about 2 miles out).
£6,500.

Miniature Estate, comprising a CHARMING RESIDENCE of a very attractive type, in perfect order. All modern amenities. Area nearly 4½ acres. Another 5½ acres available if desired.—GRAY & HILLMAN, F.A.I., Estate Agents, 202, Temple Street, Birmingham. Midland 6306 & 6307. Also at Henley in Arden.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 2114, B.M.A. House, Tavistock Square, W.C.1.

Scotland.—To Sell or Let, large RESIDENCE, 10 bedrooms, 4 public rooms, bathrooms, kitchen premises. Stands in own grounds, 18 miles from Edinburgh. Suitable for Convalescent Home. — Address, No. 2041, B.M.A. House, Tavistock Square, W.C.1.

MISCELLANEOUS SALES, etc.

Medical Surgical Sundries Ltd.
Supply Instruments, etc. "Essef" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. Showroom: 97, Swinderby Road, Wembley.

For Sale.—I.M.S. Officer's Full-DRESS UNIFORM and MESS KIT (in blue), complete with belts and sword. Less boots and helmet. Height 5 ft. 10½ ins. Worn twice. Made by Hawkes.—Address, No. 2107, B.M.A. House, Tavistock Square, W.C.1.

IMPORTANT NOTICE
to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.
The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.
THE Ideal Suit for Professional or Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS ... ... from £7 7s
DINNER SUITS fr. £8 8s. CRÊSS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s.
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s.
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s.

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.
Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.
Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.
Governing Director: HARRY HALL.
"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.
Telephones: Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed.—ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

INCOME TAX
As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.
HARDY & HARDY
TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659.

INCOME TAX.
Consult me regarding all Income Tax and Accountancy matters. I guarantee satisfaction and immunity from tax worries.—For appointment write Mr. C. G. C. KILNER (late H.M. Inspector of Taxes), 17, George St., Baker St., London, W.1. (Phone Welbeck 2012).

Handsome Pair £4 4s. square polished ASH TENNIS STANDARDS, complete with heavy ground plates, powerful fixing screws, and solid brass net-winder. Accept 47/6. Also full regulation size heavy waterproof NET, with steel headline, 17/6. Both perfect new condition, never used. Approval willingly, against post-dated cheque.—GILYARD, Darley Street, Bradford.

Nursing Home.—Principal retiring, Specially for better-class midwifery, twilight sleep, also general.—Address, No. 2122, B.M.A. House, Tavistock Square, W.C.1.

APPOINTMENTS.—Contd.

Swansea General and Eye HOSPITAL. (316 Beds.)

CASUALTY OFFICER required, gentleman, single. Must have had previous Hospital experience. Appointed candidate also required to act as Deputy Senior R.M.O. Duties to commence immediately.
Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary-Superintendent.

Hull Royal Infirmary.
(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments. Salary £150 per annum, plus board, residence, and laundry.
The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in Laryngology and Otology.
The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.
Applications, with copies of testimonials, should be sent immediately to the undersigned.

March 16th, 1931. R. J. CARLESS, House Governor.

The Willesden General Hospital
(Incorporated), N.W.10. (106 Beds.)

APPOINTMENT OF HOUSE PHYSICIAN.

Applications are invited from fully qualified and registered candidates for the appointment of House Physician.
Candidates must be unmarried.
Salary at the rate of £100 per annum.
The appointment is for a period of four months.
Detailed applications, with copies of testimonials, should be sent at once to the Secretary, the Willesden General Hospital, N.W.10.

March 30th, 1931.

The Willesden General Hospital
(Incorporated), N.W.10.

CLINICAL ASSISTANTS.

Applications are invited for the following Honorary appointments for a period of six months.
Clinical Assistant to the Medical Out-patients' Department, Tuesday afternoons, and Clinical Assistant to the Surgical Out-patients' Department, Friday afternoons.
Applications must be received by the Secretary of the Hospital not later than Monday, April 13th, from whom details of the appointments may be obtained.

March 30th, 1931.

Hampstead General and North-West LONDON HOSPITAL,
Haverstock Hill, N.W.3.

APPOINTMENT OF A HOUSE SURGEON.

Applications are invited from unmarried registered Medical Men for the appointment of House Surgeon, vacant on the appointment of which will be at the rate of £100 per annum, salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.
Applications, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on April 18th next.

District Infirmary,
ASHTON-UNDER-LYNE.
(General Hospital, 200 beds, mainly Surgical.)

Wanted, a HOUSE SURGEON. Six months' appointment, renewable. Salary at the rate of £150 per annum, with board, residence, and laundry.
The resident staff comprises a Resident Surgical Officer and three House Surgeons.
Applications, with testimonials, to be sent at once to the undersigned.

March 30th, 1931. FRANK OLIVER, Gen. Supt. & Secretary.

Royal Berkshire Hospital.
(243 Beds.)

Wanted immediately, CASUALTY OFFICER (with charge of beds), and RESIDENT ANAESTHETIST. Candidates (male) must be fully qualified and registered (male) must be fully six months. Salaries at the rate of £150 per annum, with board, residence, and laundry.
Applications, with copies of testimonials, should be addressed to the undersigned.

Reading, April 4th, 1931 F. A. LYON, Secretary.

Chester Royal Infirmary.
(211 Beds.)

Wanted, HOUSE SURGEON (male) to commence duties May 1st. Salary £150 per annum, with board, lodging, and washing.
Application list closes on April 25th.
Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P.,
Hon. Superintendent of the Resident Medical Staff.

Borough of Ealing.

MATERNITY AND CHILD WELFARE SERVICES.

WOMAN ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners for the position of Woman Assistant Medical Officer.

The duties will mainly consist of work in connection with the Council's Maternity and Child Welfare Scheme, embracing attendance at the Health Centres, supervision of Midwives and Nursing Homes, and medical attendance on patients in the Chiswick and Ealing Maternity Hospital. The person appointed will reside at this Hospital, board and furnished rooms being provided for her.

Applicants must have had previous experience of Maternity and Child Welfare work, and particularly of work in a Maternity Hospital.

The person appointed will be required to devote her whole time to the duties, and will not be allowed to engage in private practice.

The salary will be at the rate of £450 per annum, rising by £25 per annum to a maximum of £550, plus board and residence as indicated above, and valued at £150 per annum. A deduction of 5 per cent. will be made in accordance with the provisions of the Local Government and Other Officers Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to the candidate passing the Council's medical examination in connection therewith. Canvassing will be a disqualification.

Copies of form of application and terms of appointment can be obtained from the undersigned, to whom applications, accompanied by copies of not more than three recent testimonials, must be delivered not later than April 14th

THOMAS ORR,
Town Hall, Ealing, W.5. Medical Officer of Health.

City of Birmingham.

MATERNITY AND CHILD WELFARE DEPARTMENT.

Three Temporary MEDICAL OFFICERS are required from July 3rd to September 30th (approximately), and a Fourth Temporary MEDICAL OFFICER from July 1st to September 2nd. Applications are invited from ladies who have had Obstetrical experience and an appointment in a Children's Hospital. The salary offered is £10 per week.

The appointment cannot be terminated within the period named, except for health reasons.

Applications should be sent on or before April 11th to the Medical Officer of Health, Council House, Birmingham.

City of Birmingham.

MATERNITY AND CHILD WELFARE DEPARTMENT.

CITY BABIES' HOSPITAL. (85 Beds.)

A JUNIOR RESIDENT MEDICAL OFFICER is required on June 1st for a period of six months. Previous experience as a Resident Medical Officer in a Children's Hospital or in a General Hospital is desirable. Salary at the rate of £100 per annum, with board and laundry.

Apply, giving all particulars of qualifications, age, and experience, to the Medical Officer of Health, Council House, Birmingham, on or before April 11th.

City of Salford.

INFECTIOUS DISEASES HOSPITAL.

Applications are invited for the post of JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER (male). Salary £200 per annum, plus board, residence, and laundry. The appointment will be for one year. Form of application may be obtained from the Medical Officer of Health, 143, Regent Road, Salford, to whom it must be returned, endorsed "Junior Assistant Resident Medical Officer," not later than April 8th

H. H. TOMSON, Town Clerk.

County of Kincardine.

DEPUTE MEDICAL OFFICER OF HEALTH.

Wanted by the County Council of the County of Kincardine a Depute Medical Officer of Health. Commencing salary £600. For conditions of appointment apply to the County Clerk, with whom applications (18 copies), giving particulars of age, qualifications, experience and testimonials (if any), must be lodged by April 18th.

House Surgeon wanted.—Salary £150 per annum, with board, etc. Applications, qualifications, experience, and copies of testimonials, to be sent to the Secretary, CAMERON HOSPITAL, WEST BASTLEPOOL.

County Borough of West Bromwich.

CHIEF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Council invite applications for the above post from registered Medical gentlemen holding a Diploma in Public Health and not over 40 years of age.

Preference will be given to those candidates who have had previous experience in the Public Health Service in Tuberculosis and Infectious Diseases. Knowledge of Eye Refractions and Ante-natal work will be deemed additional qualifications.

The salary attached to the appointment will commence at £600 per annum, rising by annual increments of £50 to £750, in addition to which reasonable travelling expenses are allowed.

The gentleman appointed will be required to live in the Borough and devote his whole time to the services of the Council. He will work under the direction and supervision of the Medical Officer of Health. The appointment will be subject to three months' notice.

Application must be made on a prescribed form obtainable from the Medical Officer of Health, Health Department, 2, Lodge Road, West Bromwich, and forwarded to the undersigned, accompanied by copies of three recent testimonials, not later than Wednesday, April 22nd.

ALFRED WICKHAM, Town Clerk.
Town Hall, West Bromwich.
April 3rd, 1931.

Helston Rural District Council.

APPOINTMENT OF MEDICAL OFFICER OF HEALTH.

The Rural District Council of Helston invite applications from qualified Practitioners who are holders of a Diploma in Sanitary Science, or Public Health, for the position of Medical Officer of Health for the above-mentioned Rural District. Salary £90 per annum, with an allowance of £20 per annum for travelling expenses.

Applications must reach the undersigned not later than Friday, April 10th.

Dated this 29th day of March, 1931.

A. E. RATCLIFFE,
5, Cross Street, Helston. Clerk of the Council.

The Radium Institute,

Riding House Street, London, W.1.

Applications are invited for the post of Whole-time RESIDENT SURGICAL REGISTRAR (male). Candidates must be unmarried.

The salary will be at the rate of £250 per annum, board, residence, and laundry being provided, and the appointment is for six months commencing May 1st next.

Applications, stating age, nationality, qualifications, and experience, with copies of three recent testimonials, must be received at the Institute on or before April 6th next.

Canvassing, either directly or indirectly, is not permitted.

THOS. A. GARNER, Secretary.

Applications are invited for the

post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY. The Institution, which contains over 100 beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession. Salary at the rate of £100, rising to £150 per annum.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84, Irish Street, Dumfries, at once.

St. Mary's Hospital for Women

AND CHILDREN, Plaistow, E.13.

Applications are invited for the post of ASSISTANT RESIDENT MEDICAL OFFICER (vacant May 1st), male or female. The appointment is for six months. Salary at the rate of £120 per annum, and £5 allowance for laundry. Board and residence are provided. The duties are mainly Medical. Personal canvassing not desired.

Applications, with copies of three recent testimonials, to be sent to the undersigned not later than April 15th.

A. ERNEST WILKES, Secretary.

Bradford Children's Hospital.

HOUSE SURGEON and HOUSE PHYSICIAN wanted immediately; fully qualified. Salary £120 each, with board, residence, and laundry.

Applications, stating age, with recent testimonials, not later than April 8th, to

J. W. LONGLEY,
Secretary-Superintendent.

City of Birmingham.

SELLY OAK HOSPITAL.

RESIDENT PHYSICIAN (Male).

Applications are invited for the above whole-time appointment from gentlemen who are fully qualified registered Medical Practitioners.

The present Hospital accommodation is 550 beds, divided into General Medical, General Surgical, Gynaecological, Obstetrical, and Children's Disease sections. There are completely equipped Pathological and Biochemical laboratories, X-Ray, Electro-therapeutic, Massage, Ultra-violet Ray, and Electro-cardiographic departments.

Candidates for the appointment must have had good Medical experience, and should hold the degree of Doctor of Medicine of one of the Universities of the United Kingdom, or be Members of the Royal College of Physicians of London or Edinburgh.

The scale of salary will be £550, rising, subject to satisfactory service, by annual increments of £50 to a maximum of £750 per annum.

Furnished quarters, rations, laundry, and attendance will be provided. Alternatively, a cash allowance will be paid if the officer appointed is non-resident. The officer appointed will be required to refund to the Council all fees, allowances, and emoluments (other than the foregoing) received by him.

[illegible]'s Superannuation [illegible]te passing a medical examination, and [illegible] subject to one month's notice on either side.

Further particulars of the appointment may be obtained from the Medical Superintendent, R. P. STANLEY KELMAN, Esq., M.B., Ch.B., F.R.C.S. (Eng. & Edin.), at the Selly Oak Hospital.

Applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, and endorsed "Physician," should be addressed to me, and delivered at my office not later than Thursday, April 23rd.

F. H. C. WILTSHIRE,
Town Clerk.

The Council House,
Birmingham. April, 1931.

Brentry Colony.

APPOINTMENT OF RESIDENT MEDICAL SUPERINTENDENT.

The Board of Management of the Brentry Colony for Male Mental Defectives, situate at Westbury-on-Trym, near Bristol, invite applications from registered Medical Practitioners having had special training and experience in the Treatment of Mental Disorders for the post of Resident Medical Superintendent of their Institution containing 324 beds. The salary £650 per annum, rising to £750 per annum, with quarters, rations (or allowance in lieu thereof), washing, light, and coal.

Further particulars and form of application may be obtained from the undersigned.

EDMUND R. ABBOTT, Hon. Sec.
Brentry Colony, 13, Victoria Street, Westminster, S.W.1.

The Staffordshire General

INFIRMARY, STAFFORD.

Applications are invited for the post of HOUSE PHYSICIAN (either sex), which will become vacant at the end of April. Candidates must be duly qualified and registered under the Medical Acts. Salary at the rate of £150 per annum, with board, residence, and laundry. The appointment to be held for at least six months.

Applications, stating age, accompanied by copies of three recent testimonials, should be received by the undersigned not later than Tuesday, April 14th.

A. E. COLLINS,
Secretary.
Stafford.
April 2nd, 1931.

The Royal Liverpool Children's

HOSPITAL.

There is a vacancy for one RESIDENT HOUSE SURGEON at the CITY BRANCH, Myrtle Street. The appointment will be for the six months ending September 30th. Salary at the rate of £100 per annum.

Applications, with copies of recent testimonials, to be sent to the Secretary, Royal Liverpool Children's Hospital, Myrtle Street, Liverpool.

Norwood and District Cottage

HOSPITAL.

Applications are invited from General Practitioners in the immediate neighbourhood for the post of HONORARY MEDICAL OFFICER to take charge of X-ray and Electrotherapeutic Departments. They should be sent to the Hon. Secretary at the Hospital, Hermitage Road, S.E.19, not later than Saturday, April 18th.

Hospital of St. Cross, Rugby.
(114 Beds.)

THREE RESIDENT MEDICAL OFFICERS (Males) REQUIRED.

Applications are invited for the posts of: First Resident Medical Officer, qualified. Salary at the rate of £150 per annum, with full board, etc., to commence duties on May 1st.

Second Resident Medical Officer, qualified. Salary at the rate of £125 per annum, with full board, etc., to commence duties on May 1st.

Third Resident Medical Officer, qualified. Salary at the rate of £100 per annum, with full board, etc. Commence May 1st.

Six months' appointments, and eligible on completion of service for extension or other resident's posts.

Applications, stating age, nationality, and full details, with copies of three recent testimonials, to be sent to the undersigned.

W. COCKBURN,
Superintendent and Secretary.

Tynemouth Victoria Jubilee Infirmary.

Two HOUSE SURGEONS (male) required about May 20th. Applicants must be doubly qualified and registered. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age and other essential particulars, and accompanied by copies of recent testimonials, to be addressed to the undersigned, from whom all particulars may be obtained.

The Hospital has two resident House Surgeons, and contains 80 Beds and Cots, an X-Ray Department, and an Out-patient Department where accidents cases are received.

CHARLES ROWELL,
Assistant Secretary.
1, Northumberland Place, North Shields.

New Sussex Hospital for Women AND CHILDREN (INCORPORATED), BRIGHTON. (50 Beds.)

The Council of Management invites applications from qualified Medical Women for the following posts:

(1) HOUSE PHYSICIAN to take up duty on May 15th;

(2) HOUSE SURGEON to take up duty on June 15th;

(3) HONORARY ASSISTANT OPHTHALMIC SURGEON to attend each Friday afternoon.

Honorarium for (1) and (2) at the rate of £50 per annum, with board, residence, and allowance for laundry.

Applications, with copies of three recent testimonials, to reach the Secretary on or before April 20th.

M. F. LOCKWOOD, Secretary.

Bristol General Hospital.

SENIOR RESIDENT MEDICAL OFFICER (male). The Committee invite applications for this appointment. Salary at the rate of £200 per annum, with board, residence, etc., provided in the Hospital. Candidates must be registered under the Medical Acts and produce testimonials of good personal character and ability. The duties attaching to the post are chiefly Surgical, but being also in part administrative, experience in this direction is therefore essential.

Applications, accompanied by copies of testimonials, three of which must preferably be given in support of the application, to be forwarded to the undersigned on or before Monday, May 11th next, from whom forms of application and copies of the duties may be obtained.

The Hospital contains 270 beds and is a School of Medicine attached to the University of Bristol.

THOMAS W. GREGG, Secretary.

Whitehaven and West Cumberland Hospital, WHITEHAVEN.
(90 Beds.)

Wanted, JUNIOR HOUSE SURGEON (male or female). Salary £100 per annum, including board, residence, and laundry. Twelve months' appointment. After six months as Junior an opportunity is given of becoming Senior for the second six months at the rate of £150 per annum.

Applications, stating age, nationality, etc., together with copies of three testimonials, to be sent to the Secretary, endorsed "House Surgeon," at once.

R. HIGGINS, Secretary.

Alnwick Infirmary.

HOUSE SURGEON wanted. Salary £150 a year and board, to which may be added occasional Locums for Honorary Staff at £5 5s. a week. Modern Hospital of 25 beds.—Apply, Dr. SCOTT PURVES, Alnwick.

Royal Chest Hospital,
City Road, E.C.1.
(Royal Northern Group of Hospitals.)

Applications are invited for the post of OUT-PATIENT MEDICAL OFFICER (part-time). The appointment is for six months, with eligibility for re-election. Salary at the rate of £100 per annum, with luncheon provided.

The officer appointed must be a registered Medical Practitioner and will be required to attend at the Hospital each morning from 10 a.m. to 1 p.m.

Applications, with copies of testimonials, should be sent to the undersigned, from whom forms of application, rules, and further particulars can be obtained.

Royal Northern Hospital, N.7. GILBERT G. PANTER, Secretary.

Royal Sussex County Hospital,
BRIGHTON. (238 Beds.)

CASUALTY HOUSE SURGEON (male) required about the end of April next. Salary £120 per annum, with board, residence, and laundry.

Candidates must hold Medical and Surgical qualifications of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of recent testimonials, should reach the undersigned not later than April 13th.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Walsall General Hospital.

The Committee invite applications from men or women for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months. The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, must be received by the undersigned not later than first post Tuesday, April 7th.

WALTER FRANCOMBE, Secretary.

The Warneford Mental Hospital,
OXFORD.

An ASSISTANT MEDICAL OFFICER, male and unmarried, is required for the above registered Hospital. Salary at the rate of £300 per annum. Applications, stating age and experience, with copies of three recent testimonials, to be sent to the Medical Superintendent forthwith.

Newark General Hospital
(50 Beds).

Wanted, a fully qualified RESIDENT HOUSE SURGEON (male or female), unmarried. Salary £175 per annum, with board, residence, and laundry. Appointment for six or twelve months if mutually desired. Applications, with copy testimonials, to be sent to W. T. CRAMPTON, Secretary, 27, Kirk Gate, Newark, Notts.

University College Hospital.

Applications are invited for the Honorary post of CLINICAL ASSISTANT to Dr. Tredgold, Associate Physician in Psychological Medicine. Candidates must possess a registered medical qualification, and should forward their applications to the Secretary, University College Hospital, W.C.1, by noon on April 24th.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER, LTD.
(Established 50 years.)
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

EASTER HOLIDAYS.

The above office will be closed from Thursday evening, April 2nd, till Tuesday morning, April 7th, except for urgent messages.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 3873.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, Oxford Rd
GLASGOW: 28, Windsor Terr.
DUBLIN: 23, Upper Baggot St.
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

THE
NEW MENTAL NURSES CO-OPERATION,
139, Edgware Road, Marble Arch, W.
Specially trained Nurses for Mental and Nerve cases. (All Nurses are insured under the Employers Liability Act, 1906.) Apply the Supt.
Telegrams: "Psyconurse, Padd., Lond." *Telephone:* No. 6165 Padd.

THE CENTURY
INSURANCE COMPANY LTD.,
7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS
TO PURCHASE
A PRACTICE
OR
PARTNERSHIP

NO GUARANTORS REQUIRED.
REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

LONDON.—Fashionable West End PRACTICE, non-panel and non-dispensing. Fees £1 1s. up. Receipts £1,800 to £2,000 p.a. Suitable to experienced man of good personality, and preferably one experienced in Obstetrics. Partnership introduction. Premium to be arranged.

SURREY.—PARTNERSHIP in rapidly developing residential locality, with splendid scope. Receipts approximately £1,000 p.a. Panel nearly 300. Fees 2/6 up. Premium for 2/5ths share, 2 years' purchase. Excellent opportunity for young and energetic man.

BUCKS.—Under 25 miles from London.—Middle-class G.P. Good-class residential locality. Modern house to rent on lease. Receipts over £400 p.a. Fees 3/6 up. Increasing population. Good schools. Premium £600. Suitable for semi-retired Practitioner, or one with private means.

NORTH-WEST COAST.—PARTNERSHIP in old-established good-class non-panel and non-dispensing Practice. Suitable house available. Receipts approx. £3,600. Fees 10/6 up. One-third share, with view to half and possible succession, 1½ years' purchase, cash. Excellent scope for Physician.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approx. £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

KENT.—Within easy reach of London.—Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Premium £1,300. Excellent scope for energetic man.

LONDON, S.E.—Well-established middle and working-class PRACTICE in residential locality. Receipts nearly £1,000. Growing panel of 924. Medium-sized house. Fees 2/6 up. Excellent scope for energetic man. Premium 1½ years' purchase.

BEDFORDSHIRE. — PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

LONDON, E. — SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £30 p.a. Fees 2/- up. Average receipts £516. Panel 350. Excellent scope for young man. Premium for Practice and lease, £1,050 cash or near offer.

LONDON, S. — PARTNERSHIP in growing middle and working-class Practice. Suitable house available. Earnings approximately £6,600. Panel 4,800. Excellent scope. Suitable to young and energetic man having a speciality, preferably Gynaecology. Premium for one-sixth share, with view to one-quarter share, 2 years' purchase.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for Surgery. Premium third share with view to larger share £1,300.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery, scope. Suitable house available. Premium 1½ years' purchase.

S.W. COAST.—Well-established general PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220, growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £300.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

THE

WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)

PHOENIX CHAMBERS,

22, CLARE STREET, BRISTOL.

Telcg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. S. DEVON — Old-established PRACTICE, averaging £2,400 p.a., for sale in favourite town. Panel 1,500, increasing. Large house in grounds, for sale or rent. Seaside. Ideal climate.
2. SOUTH WALES — Large City. — Industrial PRACTICE averaging £600 p.a. Opposition not strong. Good house to buy or rent. Premium £600.
3. MIDLANDS.—Cathedral Town.—Good PRACTICE. Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a. Premium 1½ years' purchase.
4. SOUTH WEST WALES.—General PRACTICE, returning £1,000 p.a. Present hands 10 yrs. Seaside and country town. Panel 750. Good house to rent. Prem. 1½ yrs. No collieries.
5. CHESHIRE BORDERS.—One-third share of PARTNERSHIP, averaging £2,000 p.a. Pleasant country district. Panel over 1,700. Plenty of scope. Prem. £1,000. Suit young doctor. Purchaser could live with Vendor.
6. WEST OF ENGLAND.—Cathedral Town — Ear, Nose and Throat NUCLEUS £400 p.a. Three Hospital appointments. Accounts audited. Excellent prospects.—Prem. £500.
7. SOUTH WESTERN COUNTY. — One-sixth to one-third share of Partnership, over £5,500 p.a. Good scope for Surgeon. Four Hospitals and Nursing Home near. Applicants should have F.R.C.S. and be about 30-35. Part 1 4 100. Several appts. Good house. Near golf, sports. Prem. 2 years' purchase.
8. WEST OF ENGLAND CITY — PARTNERSHIP.—Half Share in sound mixed general Practice. Profits about £2,000 p.a. Panel 2,[illegible]. Surgery. Good scope for [illegible] years. Choice of resid.
9. [illegible] BORDERS.—One-third of [illegible] £630 [illegible] Car [illegible] £78 p.a. [illegible] Prem. £650

Medical Practitioners' Union Agency Limited

56, Russell Square,
LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uffabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected. LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,

The oldest Medical Agency in Manchester,

6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER." *Telephone*: 5932 CITY.

TRANSFERS and PARTNERSHIPS arranged. and Investigations [illegible] ASSISTANTS & [illegible]

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency.

71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. NORTHERN UNIVERSITY CITY.—Old-estab. middle-class PRACTICE. Receipts average £1,603 p.a. Panel 1,500, and increasing. Good fees. Nice house, garden, etc.
2. LINCOLNSHIRE. — Well-estab. Unopposed country, working, and middle-class PRACTICE. Receipts average £1,173. Panel 767. Good house to rent, 5 beds., garage, etc.
3. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
4. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
5. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
6. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
7. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.
8. [illegible] and Industrial [illegible] £2,242, and [illegible] Appointments worth about £95. Good house to rent.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. Large List of Bona-fide Purchasers with Ample Capital Available.

FOR DISPOSAL.

Full Particulars Free on Request.

LIVERPOOL (Near).—Cheshire Coast Town. Average cash receipts £1,187 p.a. Panel 783. Much scope. Good double-fronted house (freehold), 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100.—No. 248.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

NEAR [illegible] TOWN PRACTICE.—Average cash receipts [illegible] Local Hospital. House to rent, 2 [illegible] Premium 1½ years' purchase.—No. 194.

MANCHESTER.—PLEASANT RESIDENTIAL SUBURB.—Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purch. Vendor retiring.—No. 246.

CHESHIRE.—COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented. 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

MANCHESTER — RESIDENTIAL DISTRICT.—PARTNERSHIP in old-established PRACTICE, view succession. Cash receipts £1,800. Panel 1,400. Much scope. House available. Premium 1½ years' purchase.—No. 175.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No 234.

CHANNEL ISLANDS.—PRACTICE in beautiful district. Cash receipts last year £425. Excellent house, 2 reception, 3 bedrooms. Garage and large garden. Prem.—Practice—£500.—No. 167.

MANCHESTER. — RESIDENTIAL DISTRICT. — Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium £1,000 (or near offer).—No. 191.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

YORKSHIRE [illegible] PARTNERSHIP [illegible] ce, £2,500 [illegible] third share [illegible] assistantship at £400 p.a., with house rent free.—No. 243.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Prem. £500 for quick sale.—No. 216.

MANCHESTER. — INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

LIVERPOOL (Near). — Old-established middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Prem. 1½ years' purchase.—No. 209.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistantship. Purchaser could live with Vendor. Premium—one-third share—£1,000.—No. 245.

MANCHESTER (near).—PARTNERSHIP in old-estab. Practice. Average cash receipts £1,766 p.a. Appointments and panel about £500. House available, 2 reception, 6 bedrooms. Premium—half share—1½ years' purchase.—No. 224.

NEAR NORTH-EAST COAST. — SEASIDE RESORT. — Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £600 for quick sale.—No. 220.

MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,361 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 63.

LANCS TOWN.—Old-established PRACTICE. Average cash receipts £1,200. Panel 900. Great scope. Excellent house, 2 reception, 4 bedrooms. Garage. Prem. 1½ years' purchase.—No. 178.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE. Average cash receipts £745 p.a. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 197.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—No. 173.

NORTH-WEST COAST.—SEASIDE RESORT.—Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 550. Excellent freehold house in good position facing Sea, 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH [illegible]CAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880.)

12, Stratford Place,

Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. Full particulars sent free.

1 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

2 DEATH VACANCY.—NORTH WALES. —PRACTICE of over £1,850 p.a. (£400—£500 from Consulting work—mainly Surgical) in beautifully situated town with Hospital. Small select panel. Suitable house for sale or rent. Very good opening for Surgeon.

3 SURREY. — Partnership in Practice in desirable residential town. Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £300—£1,000 at 2 years' purchase.

4 CHESHIRE. — Partnership (after preliminary Assistantship) in Practice over £2,500 p.a. in manufacturing town. Panel 2,100. Plenty of sport. One-third share to suitable man at 2 years' purchase

5 SOUTH OF ENGLAND. — Small easily worked PRACTICE about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

6 FAR EAST.—Assistant required in General Practice, with view to Partnership. Applicant should be aged about 30, and have held resident appointments. A mild degree of specialism in Eye, Ear, Nose, and Throat, or X-ray work would be advantageous. Share to suitable man.

7 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

8 DEATH VACANCY. — London, S.W. — PRACTICE over £650, close to Victoria. Panel 795. Shop-fronted House, with garage and garden, to rent on lease. Ample scope.

9 HOME COUNTIES. — Partnership in steadily increasing Country Town Practice of about £5,000 p.a. Par. [illegible] over 3,000. Incoming Partner must be well qualified, aged about 30, with Hospital experience. Good Hospital and scope for [illegible]. Premium one-fifth share 1½ years' purchase.

10 LONDON, W. — Partnership in Practice over £3,000 p.a. in suburban district. Panel 900. Modern detached corner house (6 bed and dressing rooms), garage and garden, for sale. Great scope. Premium one-half share 2 years' purchase.

11 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope. Premium £1,200.

12 BEDS.—Increasing Country Practice doing about £600 p.a. Panel 650. Centrally situated house to rent. Scope for increase. Premium £500 for quick sale.

13 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

14 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a. in attractive country town on coast. Panel about 500. Suitable house to rent. Hospital. Share to suitable man after preliminary Assistantship.

15 LONDON, N.W. — Nucleus of Practice in residential district. Income last year £300. Panel 150, rapidly increasing. Detached corner residence, in good position, for sale. Scope. Premium £300.

16 FAVOURITE HOME COUNTY.—Practice over £2,000 p.a. in pleasant residential country town within 50 miles of London. Panel 1,080. Well-situated detached house (6 bed and dressing rooms), garage, and large garden, for sale or rent. Scope for increase. Premium 2 years' purchase.

17 EAST ANGLIA.—Partnership in Practice over £3,000 p.a. in beautiful country district near the coast. Panel 2,080. Good house (8 bed and dressing rooms), garage, and half acre garden, to rent. Two-fifths or one-half share at 2 years' purchase. Oxford, Cambridge, or London Graduate preferred.

18 EAST COAST.—Practice of £1,050 p.a. in small attractive seaside resort. Panel 225. Modern detached house (5 bedrooms), garage, and garden, for sale. Excellent sport and educational facilities Premium 1½ years' purchase.

19 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good-class Practice in charming little residential seaside resort. Suitable house to rent. Share of £800—£900 after preliminary Assistantship. Applicant should be aged 28—35, and preferably a Graduate of Cambridge or Oxford. Cottage Hospital and scope for Surgery if desired.

20 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)
12, Stratford Place,
Oxford Street, W.1.
Tele. Address: Triform, Wesdo—London. Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

21 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, to rent. Scope for increase. Premium £2,250.

22 MIDDLESEX. — Partnership in Practice nearly £2,800 p.a. in rapidly growing Industrial Town. Panel over 2,500. Suitable house could be obtained. Cottage Hospital. Great scope. Premium one third share 2 years' purchase.

23 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 2 years' purchase.

24 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

25 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

26 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

27 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main throughfare for sale. Scope for panel and midwifery. Premium £1,200.

28 W. OF ENGLAND. — Small increasing PRACTICE doing over £400 p.a. in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

29 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

30 CHESHIRE. — Partnership in increasing residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held resident appointments.

31 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one half share 2 years' purchase.

32 MIDDLESEX.—Partnership in good residential outlying suburban district. Very attractive detached house (8 bed and dressing rooms) in own grounds, with garage and good garden, to rent. Cottage Hospital. Share worth £1,020 p.a. at 2 years' purchase.

33 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

34 SURREY.—Practice averaging £900 p.a. in attractive residential country district Panel 300 House (6 bedrooms), garden one and a half acres, garage, to rent on lease.

35 S. COAST. — Partnership in Practice between £1,600/£2,000 p.a. in fashionable watering-place. Panel over 900. Partner should be young, with knowledge of minor Surgery. Premium one half share 2 years' purchase.

36 LONDON, W. — Middle-class Practice of over £800 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,100.

37 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

38 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

39 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). Premium £550.

40 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., for sale. Golf. Premium £1,000.

41 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase. Excellent scope for Panel 4,100. Suitable house to purchase. Pre-required in Practice, over £5,600 p.a., in small Industrial Town. Surgery. One-sixth share at first at 2 years' purchase. Pre-liminary Assistantship.

42 S.W. OF ENGLAND. — Third Partner

43 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

44 CORNWALL. — Partnership in Country Practice on Coast. Convenient house (6 bedrooms), with good garden, for sale. Share of about £1,200 p.a. at 1½ years' pur.

45 LIVERPOOL.—Middle-class non-dispensing PRACTICE of nearly £1,200 p.a. in residential part. Premium 1½ years' purchase.

46 CHANNEL ISLANDS.—Practice averaging over £1,820 p.a. Good house (6 bedrooms, 4 attics), with large garden, for sale. Excellent climate. Premium 1½ years' purchase or near offer.

47 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

48 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwifery. Six-roomed house to rent. Premium £800, to include drugs, etc.

49 S. OF ENGLAND. — Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one-fourth share, £1,750. Preliminary Assistantship.

50 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

51 S. MIDLANDS.—Practice averaging over £1,200 p.a in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

52 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice in residential town and Health Resort. Panel 800. After preliminary Assistantship, share gradually increasing to one-half (worth about £1,600 p.a.) at 2 yrs.' purchase.

53 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

54 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

Post free 12/6.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER).

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. LONDON, WEST CENTRAL.—Old-established and increasingly mixed-class PRACTICE, producing for immediate past 12 months £1,790, including panel of 1,390. Fees 2/6 to 10/6. No midwifery. House in excellent repair, contains 2 reception, 4 bedrooms, bathroom, etc. Price for freehold £2,500. Premium 2 years' purchase.
2. CORNISH RIVIERA.—Old-established PRACTICE, in very favourite resort, having exceptionally mild climate. Income about £1,150, including panel of 436, and appts. worth about £40 a year. Fees 3/6 to 21/-. No opposition within 4 miles. Well-situated house, with 2 reception, 6 bedrooms, etc., and professional rooms. Good garden. Rent on lease, £52 p.a. Premium £1,650.
3. HANTS.—Easily worked Country PRACTICE within about 60 miles of London. Receipts for the last 12 months over £1,000, with panel of 450. Visits from 7/-. Nice house, with 3 reception, 6 to 7 bedrooms, etc. Good professional accommodation. Large garden. Freehold for sale. Premium 1½ years' purchase.
4. LONDON, E.C. (near Holborn Circus).—Old-established mainly working-class PRACTICE, averaging over £700 p.a. (last year £750), including recently started panel of 360. Fees from 2/-. No midwifery. Six-roomed house, with good professional accommodation. Rent on lease £95 p.a. Premium £1,000.
5. LONDON, EAST.—Well-established mixed-class PRACTICE, averaging about £1,150 p.a., including panel of 1,400. Small house, with 1 reception, 2 bedrooms, etc., and 3 professional rooms. Rent on lease £13 per quarter. Premium £2,000.
6. SURREY.—Favourite residential district within easy reach of London. —Mixed class PRACTICE, averaging £900 p.a. (last year £997), including panel of 300. Good fees. Nice house, with 3 reception, 6 bedrooms, etc. Separate entrance to professional rooms. Garden, with tennis court. Can be rented on lease. Premium £1,600.
7. EASTERN COUNTIES.—About 50 miles from London and within 10 miles of County Town.—Old-established PRACTICE in pretty country district, producing last year over £800, including appt. £60 and panel of 600. House with ample accommodation (bathroom h. and c.). Garden. Garage. Electric light. Gas. Rent £52 p.a., or freehold can be bought. Premium 1½ years' purchase.
8. DEATH VACANCY.—NORTH WALES.—Pleasant Seaside and Health Resort.—Old-established PRACTICE, averaging over £1,800 p.a., including appt. worth £90 and panel of 400. Visits 3/6 to 10/6, and occasionally 21/-. Large house in 1/2 acre of garden. Price, freehold, £3,500, or might be rented. Can be easily divided, giving professional, 2 sitting and 2 bedrooms, etc. Rent £80. Premium £2,000. Good Hospital.
9. HOME COUNTY.—Unopposed Country PRACTICE, producing about £500 to £600 p.a., including panel of 650. Small house on main road, with 2 reception, 3 bedrooms, etc., and professional rooms. Rent on lease £52 p.a. Good sport and schools within reach. Low premium for quick sale.
10. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.
11. NORTH —A one-third share is offered in a good icing over £1,700 p.a., including panel of £100 p.a. Fees 3/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. Premium 2 years' purchase.
12. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium 1½ years' purchase. Ill-health reason of sale.
13. WEST MIDLANDS.—Easily worked PRACTICE in residential village within easy reach of two good towns, and having very pretty surrounding country. Receipts average over £1,000 p.a., including panel of 500 and an appt. worth £150. Nice house with good garden and land of about 2 acres. Price for freehold £1,600. Fishing, hunting, etc. Premium 1½ years' purchase.
14. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.
15. YORKS.—LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,300 p.a., including panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and dressing room, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase.
16. PARTNERSHIP.—LONDON, NORTH.—A two-fifths share (to commence with purchase) in a well-established non-dispensing Practice, situated in pleasant and rapidly developing residential suburb. Cash receipts £—— to £2,700 p.a. There is considerable scope for surgery at present, which latter it is proposed ingoing Partner should retain. Latter to be good middle class Income, if unmarried, can live with Vendor, but no difficulty anticipated in obtaining suitable house. Premium two years' purchase.
17. NORTH OF ENGLAND. — Prosperous Town. — Very sound steadily increasing middle and working-class PRACTICE, offering good scope. Gross cash receipts for last twelve months £3,408, including panel of 2,794. Fees from 3/6. Suitable house with 3 reception, 5 bedrooms, etc. Price £1,600, £1,000 on mortgage. Good sport and schools. Premium 1½ years' purchase. Very suitable for two friends in partnership.
18. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.
19. WITHIN 15 MILES OF LONDON.—Developing neighbourhood.—PARTNERSHIP.—A one-half share is offered in a steadily increasing PRACTICE owing to the retirement of the senior partner. Gross cash receipts for last twelve months £2,696. Panel of over 1,000. Good house with 3 reception, 6 bedrooms, etc. Nice garden. Price £1,400, part on mortgage. Good sport and schools. Premium 2 years' purchase.
20. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.
21. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase, payable by arrangement. Ill-health reason for sale.
22. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/-. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.
23. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
24. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £3,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
25. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts average about £1,700 p.a., including appt. £70 and panel of over 1,000. Good house, with ample accommodation. Small garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.
26. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.
27. HOME COUNTIES.—Well-established chiefly better-class PRACTICE, situated in very attractive district within easy reach of London, and producing for the past 12 months about £2,000, including panel bringing in £340 p.a. Fees from 5/- to 21/-. Very nice house, in own grounds, in excellent order, with 3 reception, 5 bedrooms, etc. Freehold for sale. Premium £3,000.
28. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,157, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 5 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £31 p.a. Sport of all kinds. Premium 1½ years' purchase.
29. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.
30. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,500.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SAVED BABY'S LIFE!

PORTE'S CAESAREAN OPERATION

In 'The Scottish Nurse' for January 1931 appeared an article by a Scottish State Registered Nurse describing an exceedingly severe operation—*Porte's Caesarean Section*—which she underwent in Malta at the hands of a well-known surgeon.

Twenty-four hours after the second stage of labour had begun it was discovered that delivery was impossible. The womb had become septic and the Porte Caesarean was performed, the baby being safely extracted.

The condition of the mother was then highly critical, and the baby had to be revived by artificial respiration. For a week after birth she weighed only five pounds. The mother, despite intense pain and weakness, endeavoured to nurse her, but as progress appeared stationary she was put on alternate feeds of Cow & Gate Full Cream Milk Food and Breast.

From then onwards she made rapid progress and at four months the mother weaned her altogether.

Now eight months old, the child is the picture of contentment and happiness and weighs over 17 pounds.

COW & GATE MILK FOOD

has saved more baby lives than any other preparation in the world

Cow & Gate Milk Food

COW & GATE LTD, GUILDFORD SURREY

B.M.J., April 4th, 1931.

HORMOTONE
for
PREMATURE SENILITY
and
OLD AGE

Stimulates metabolism
Increases muscle tonicity
Raises respiratory exchange
Effects marked subjective improvement

"Old age being caused by degeneration of the endocrine glands, especially the thyroid and sexual glands, all that is necessary to secure rejuvenation is to improve the condition of these glands. The best and easiest way to do this is to administer by the mouth extracts of these glands after their extirpation from healthy animals. . . .

"The persons treated looked considerably younger after it, to the extent of ten or fifteen years, and sometimes even more. The wrinkles in the face already began to disappear four or five weeks after the treatment, and, at the same time, previously corpulent persons, losing their excess of fat, were made to look slender, thus imparting a youthful impression."

(Lorand, "Life Shortening Habits and Rejuvenation," 1922.)

DOSE: 1 or 2 tablets three times daily.

G. W. CARNRICK CO.

2-24, Mt. Pleasant Avenue,
NEWARK, NEW JERSEY.

Dependable Gland Products.

London Agents: BROOKS & WARBURTON Ltd., 232-240, Vauxhall Bridge Road, S.W.1

Published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature.

WITH SUPPLEMENT

No. 3666 SATURDAY, APRIL 11, 1931 Price 1/3

THE CONSTIPATION SYNDROME

Whether the symptoms associated with constipation are partly toxaemic or entirely due to neuromuscular disorder, there is no doubt about their reality or their gravely disturbing effect on bodily and mental efficiency.

The influence of emotion, acting through the mediation of the sympathetic nervous system, on bodily processes—markedly on those concerned with alimentation and elimination—is reversible; the psychic consequences of discordant activity of the involuntary muscles being no less striking.

Many vague discomforts and disturbances of health which are often brushed aside as neuroses, or as consequent on undefined focal infections, are, in fact, brought about by disharmonized or ineffective peristalsis.

Thus, we suggest, is explained the undoubted benefit which patients suffering from such disturbances often derive from a morning glass of Eno's "Fruit Salt," taken regularly over a period of a few weeks. In addition to—or by reason of—its purity and its complete freedom from such mineral salts as Epsom and Glauber, Eno is pleasant and refreshing to the palate, as well as effective in action. It has the further merit of being non-habit-forming.

"Urgent Abdominal Diagnostics"

The Proprietors of ENO'S "Fruit Salt" will deem it a privilege to send to any member of the Medical Profession a copy of the latest of their series of "Medical Reminders"—with or without a bottle of their preparation as desired. "Urgent Abdominal Diagnostics" summarises the salient facts which need to be ever at the front of the mind when faced with an abdominal emergency. The diseased conditions dealt with include those which most often call for immediate surgical attention. It is bound in black morocco limp to conform to the style of the previous publications in this series.

J. C. Eno Ltd.,
160, Piccadilly,
London, W.1.

ENO'S "FRUIT SALT"

B.I. 14

EDWENIL: A POLYVALENT NATURAL ANTIBODY

FOR BACTERIAL INVASIONS OF AN ENDOTOXIC NATURE

in FURUNCULOSIS

Whether there be a single boil or a multiplicity of furuncles, subcutaneous injections of Edwenil will produce a prompt response.

If treated in the early stages, the boil or furuncle disappears without coming to maturity. In more mature lesions the growths quickly come to a head, burst, and there follows a rapid recovery.

The time required for the complete resolving of even an extensive carbuncle is interestingly short.

Similar results have been obtained in long-standing cases of acne, where other forms of treatment, including X-Ray and Ultra-Violet Ray, had failed.

FOR PROMPT RESULTS IN COLDS AND INFLUENZA USE EDWENIL.

Obtainable in 25 c.c. Bottles.

MADE ONLY IN THE LABORATORY OF

E. H. SPICER & CO., LTD.,

WATFORD, HERTS.

Telephones: WATFORD 1784-1785.

British Medical Journal

CONTENTS

APRIL 11, 1931

ORIGINAL ARTICLES

Some Tendon Ruptures. By HARRY PLATT, M.D., F.R.C.S. (Illustrated) 611

Miners' Nystagmus. By W. E. COOKE, M.D., F.R.C.P.Ed. (With Chart)..... 615

Coronary Thrombosis and Myocardial Infarction, with Glycosuria. By N CRUICKSHANK, M.D., M.R.C.P. ... 618

Pleural Effusion. By L. S. T. BURRELL, M.D., F.R.C.P. 619

Bath Treatment for Deafness. By JAMES ADAM, M.A., M.D. 621

Chylous Ascites Complicating Abdominal Lymphadenoma. By THOS. A. PRATT, M.D., and H. W. O. FREW, M.D. 622

Surface Tension of Serum in General Paralysis. By B H. SHAW, M.D.... 623

MEMORANDA

Cutaneous Horn on an Amputation Stump. By F. E MAYNE, F.R.C.S.Ed., and LAURENCE O'SHAUGHNESSY, F.R C.S. (Illustrated) 624

CLINICAL PROCEEDINGS

CHESTERFIELD DIVISION: Rheumatism in Childhood 624

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE: Excretion Urography..... 625

LIVERPOOL MEDICAL INSTITUTION: Tonsillectomy and Rheumatism 626

EDINBURGH OBSTETRICAL SOCIETY: Cervical Carcinoma 627

REVIEWS

Burns 628

Clinical Chemistry 628

Epidemiology 629

Histology for Medical Students..... 629

"The Materials of Life" 630

Notes on Books 630

LEADING ARTICLES

TECHNICAL OFFICERS IN GOVERNMENT DEPARTMENTS..... 632

TENDON RUPTURES 633

THE KING..... 635

THE WEEK

An Advance in Excretion Urography ... 633

The National Health Insurance Service 634

Epidemiology of Acute Poliomyelitis .. 634

In Darkest Liberia 635

A Medical Lord Chesterfield 635

Progress of Cremation 636

Narcotic Drugs in Egypt 636

GENERAL ARTICLES AND NEWS

Annual Meeting of the Association, Eastbourne, 1931: The Hospitals of Eastbourne. (Illustrated) 637

Maternity Work in Hong-Kong. By ANNIE SYDENHAM, M.R.C.S., L.R.C.P. 640

INVESTIGATION OF MATERNAL MORBIDITY 651

PATENTS AND DESIGNS: Departmental Committee's Report..... 641

ROYAL MEDICAL BENEVOLENT FUND ... 631

PREPARATIONS AND APPLIANCES..... 630

MEDICAL NOTES IN PARLIAMENT: Yarmouth Naval Hospital Bill ..... 649 Prices of Drugs 649

MEDICAL NEWS 651

LOCAL NEWS

SCOTLAND—

Scottish Vital Statistics..... 642

Medical Services in the Highlands and Islands 642

Aberdeen 643

Glasgow 643

Edinburgh 643

New Edinburgh Professor 643

Deaconess Hospital 643

ENGLAND AND WALES—

Royal Victoria Infirmary, Newcastle 643

Infectious Diseases at London Council Hospitals 644

Harrow Hospital Extensions 644

National Dental Hospital..... 644

British Spas Federation..... 645

CORRESPONDENCE

Hallux Valgus. By Sir Charters J. Symonds, M.D., F.R.C.S. 645

The Keloid Ovary. By Wilfred Shaw, M.D , F.R.C.S. 645

The Electrocardiogram. By Maurice A. Cassidy, M.D., F.R.C.P. 646

Diverticula of the Colon. By S. Gilbert Scott, M.R.C.S.: and John Muir, M.B. 646

Treatment of Gastric and Duodenal Ulcer. By John R. Wylie, M.B. 647

Treatment of Detachment of the Retina. By A. E. J. Lister, M.B., F.R.C.S. ... 647

Gonococcal Rhinitis. By I. N. Orpwood Price, M.R.C.S. 647

OBITUARY

John [illegible] 647

John 648

Spenc 648

John Steele, L.R.C.P..... 648

UNIVERSITIES AND COLLEGES

University of London 650

Royal College of Physicians of London 651

Royal College of Physicians of Ireland 651

LETTERS AND ANSWERS

Alcoholism 652

Pregnancy Records 652

Treatment of Varicose Ulceration 652

[illegible] 652

[illegible] 652

[illegible] 652

VACANCIES 652

(See also page 115 of SUPPLEMENT)

The SUPPLEMENT contains:

CURRENT NOTES:
Ship Surgeons' Post-Graduate Training.
Medical Cards.
1931 Panel Conference.

ASSOCIATION NOTICES:
Revision of Branch and Division Areas.
Matabeleland and Northern Rhodesia Branches.

PUBLIC MEDICAL SERVICE FOR LONDON.

CORRESPONDENCE: The Rural Practitioner.

Association Notices: National Insurance; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, K.C.M.G., C.B., C.B.E., M.D., P.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

Telephone: REGENT 0611.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-.

Those who join within one year of Registration are exempt from Entrance Fee.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Churchill, J. & A.
Imms, A. D.—Entomology ... 6
Kirkby, P.—Radiology ... 6
Kirk, J. B.—Health in the Tropics ... 6
Mennell, J.—Backache ... 6
Pryde, J.—Biochemistry ... 6
Small, J.—Pocket Lens Plant Lore ... 6
Smith & Glaister—Forensic Med. ... 6
The Medical Directory ... 6
Thornett, M.—Chill: its Dangers. ... 6
Tottenham, R. E.—Midwifery ... 6

Lewis, H. K. & Co. Ltd.
Martindale, W. H.—Pharmacopoeia ... 4

Livingstone, E. & S.
Bourne, G.—Med cal History ... 7
Glaister, J.—Medical Jurisprudence ... 7
Haultain & Falconer—
Ante-Natal Care ... 7
Lees, D.—Venereal Diseases ... 7
Mackie & M'Cartney—
Practical Bacteriology ... 7
Morley, J.—Abdominal Pain ... 7
Underwood, E. A.—Bacteriology ... 7
Williamson, B.—Dis. of Children. ... 7
Wyatt, B. L.—Chronic Arthritis, &c. ... 7

Oxford Medical Publications
Bedingfield, H.—Visceroptosis, etc. ... 5
Cathcart, G. C.—
Treatment of Chronic Deafness ... 5
Crowe, H. W.—Vaccine Treatment of Chronic Rheumatic Diseases ... 5
Davies, T. A.—
Primary Syphilis in the Female ... 5
Emslie, M.—Breast-Feeding ... 5
Ewing, A. W. G.—Aphasia in Child. ... 5
Haycraft, G. F.—Aphasia in Child. ... 5
Coal-Miner's Nystagmus. ... 5
Heald, C. B.—Injuries and Sport. ... 5
Kromayer, E.—Cosmetic Treatment of Skin Complaints ... 5
Ren, M. R.—The Diet Book ... 5
Voltz, F.—Rontgen Therapy. ... 5

Saunders, W. B. Co., Ltd.
Andrews' Diseases of the Skin ... 3
Babcock's Text-Book of Surgery ... 3
Da Costa's Papers and Speeches ... 3
Ford's Text-Book of Bacteriology ... 3
Herrick's Intro to Neurology ... 3
Howell's Text-Book of Physiology ... 3
Maximon's Text-Book of Histology ... 3
Nancrede's Anat. of Nervous System. ... 3
Todd & Sanford's Clin. Diagnosis ... 3

Simpkin Marshall Ltd.
Turjin, A. B.—
Hypnotic Suggestion, etc. ... 6
Hypnotism, etc. ... 6

Wright & Sons, Ltd.
Groves, E. W. H.—Surgery ... 4
Medical Annual 1931 ... 4
Tods, H. L.—Medicine ... 4
... ... 4

ASSURANCE COMPANIES—
London Med Protection Society ... 1*
Medical Insurance Agency ... 1*
Med. Sickness Annuity, &c. ... 59

BRASS NAME PLATES, &c.—
Herd, S. J. & A.—Name Plates ... 43
Lewis & Co. Ltd.—Name Plates ... 44
Osborne, F. & Co.—Name Plates ... 6

FOOD PREPARATIONS—
Bantam Product- Ltd.—Coffee ... 41
Battle Creek Food Co.—
Lacto-Dextrin & Pepalia ... 41
Brand's Essences ... 21
Cadbury's Milk Chocolate ... 21
Cow & Gate Ltd.—Milk Food ... 15
H. A. G. Coffee Co.—Coffee ... 32
Harbutt's Plasmon Desiccated Milk ... 40
Hendrick's Malted Milk ... 11
Nestlé & Anglo-Swiss Con. Milk Co. ... 19
Lactogen ... 19
Samper's Tea ... 28
Trufood Ltd.—Hummused Trufood ... 16
Valentine's Meat-Juice ... 14
... ... 24

HOSPITAL, &c. FURNITURE—
Furniture, &c., Depositories, Ltd.—
Second-hand Furniture ... 42
Ward Ltd.—Invalid Chairs ... 42

HOUSE AGENTS—
Bu[illegible] & Co. ... 42
E[illegible] & Bo[illegible] ... 42

MOTOR CARS, TYRES, &c.—
[illegible] ... 57
[illegible] ... 57
[illegible] ... 58

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Cystazol' ... 29
Insulin 'A.B.' ... 29
'Lubrone' ... 22
Vapo-Cresolene ... 23
Alliance Drug & Chemical Co.— ... 41
Price List ... 6
Anglo-French Drug Co., Ltd.— ... 6
Bicte-Phages ... 32
Boots a Products ... 20,22
British Drug Houses Ltd.— ... 15
Caprokol ... 15
Insulin 'A.B.' ... 22
Pituitary Extract B.D.H. ... 23
Burroughs Wellcome & Co.— ... 30
'Digmutin' ... 33
Cranbnx Ltd.—Odol ... 35
Cuxson, Gerrard & Co., Ltd.— ... 40
Regulol ... 40
Denver Chemical Mfg. Co.— ... 21
Antiphlogistine ... 37
Dimol Laboratories—Dimol ... Cover i
Eno's Fruit Salt ... 19
Evans Sons Lescher & Webb Ltd.— ... 35
Bismuth Carb. ... 35
Feen-a-mint Products Ltd.— ... 37
Feen-a-mint Chewing Laxative ... 21
Fellows' Compound Syrup of Hypophosphites—'Fellows' ... 17
Genatosan Ltd.—Sanatogen ... 37
Hewlett & Son, Ltd.—Vercnigen ... 37
Hommel's Haematogen & Drug Co.—
Preparations ... 36
Kayiene Ltd.—Kaylene-ol ... 14
Kerol Ltd.—Capsules ... 36
Laboratoires Lobica—Uralysol ... 36
Martindale, W.—'Sternules' ... 16
May & Baker, Ltd.—'Neptal' ... 7
Newbery & Sons, Ltd.— ... 17
Agarol ... Cover iii
Alka-Zane ... Cover iii
Norwegian Cod Liver Oil ... 20
Reed & Carnrick—Nephritin ... 27
Saccharin Corporation Ltd.— ... 19
Novocain & Glaucosan ... 37
Schering Ltd.—'Progynon' ... 34
Sharp & Dohme Ltd.—Caprokol ... 34
S.P. Charges Co.—Sulphaqua ... 35
Spicer & Co., Ltd.—Edwen ... Cover ii
Staniform Ltd.—Staniform ... 40
Wander, Ltd.—Alasil ... 18

DEBT COLLECTION—
Brit. Med. Protection Society ... 7

SURGICAL APPLIANCES—
Academic Depot—
Rubberless Stockings ... 42
Arnold & Sons—Surg. Appliances ... 13
Dent's 'Ardente' Stetho-cope ... 38
Hanksley & Sons, Ltd.— ... 43
New Kompak Baumanometer ... 13
Hillhurst's New Absorbent Bags ... 44
Leitz, E.—Microscopes ... 12
Medical Supply Association, Ltd.— ... 28
Portable Tract-on Apparatus ... 58
Medical Surgical Sundries, Ltd.— ... 41
Esseff Inhaling Apparatus ... 39
Nonvic Crepe Bandages ... 6
Salt's Surgical Service ... 41
Short & Mason— ... 39
Tycos Sphygmomanometers ... 6
Watson Baker Co.— ... 41
Collender's Splints ... 41

PRINTING & STATIONERY—
Anderson & Son—Account Forms ... 42
Carlyle, G.—Duplicate Books ... 6
Hamiltons—Stationery ... 44
Taylor's Typewriters ... 44

TAILORING & UNDERCLOTHING—
Entticknapp & Grimes—Tailors ... 44
Hall, H.—Medical Service Dress ... 58
Keith Bradbury Ltd.—Tailors ... 42
Miller & Co. Ltd.—Tailors ... 6
Regent Dress Co.—Tailors ... 44

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. ... 55

VACCINES & CULTURE MEDIA—
Duncan Flockhart & Co— ... 23
Hay Fever Vaccines ... 23
Laboratories of Path & Pub. Hlth. ... 42
Parke, Davis & Co.— ... 23
Antipneumococcus Serum ... Cover iv
Roberts & Co.—Vaccine Lymph ... 4

WINES & SPIRITS—
Anderson Dobson & Co., Ltd.— ... 4
Ackerman-Laurance ... 4

X-RAY & ELECTRO-MEDICAL APPARATUS—
British Hanovia Quartz Lamp Co.— ... 43
Actinotherapy Equipment ... 9
Gen Radio & Surg Appar Co— ... 9
Distributing Apparatus ... 9
Sunlight Generator ... 9
Newton & Wright Ltd ... 10
X-Ray Equipment ... 10
... ... 12

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS ... 55

HOSPITAL, &c., VACANCIES—
Alnwick Infirmary ... 54
Barnstaple, North Devon Infirmary ... 54
Beckenham, Bethlem Hospital ... 52
Bedford County Hospital ... 52
Berkshire Royal Hospital ... 52
Birkenhead General Hospital ... 54
Birmingham City ... 54
Birmingham, St. Chad's Hospital ... 54
Blackburn Royal Infirmary ... 55
Bolingbroke Hospital, S.W.11 ... 52
Brentry Colony ... 53
Brighton, Hove, & Preston Disp. ... 51
Brighton, Royal Sussex Co. Ho-p ... 52
Bristol General Hospital ... 52
Bristol University ... 52
Burnley Victoria Hospital ... 55
Burton-on-Trent General Infirm. ... 55
Bury Infirmary, Lancs. ... 56
Caernarvonshire Infirm., Bangor ... 52
Cambridge Borough ... 54
Card.-le. Cutaberland Infirmary ... 54
Chester Royal Infirmary ... 51
Chesterfield & N. Derbys. Roy. Hos. ... 55
Darlington County Borough ... 52
Doncaster Royal Infirmary ... 52
Dumfries & Galloway Royal Infirm. ... 51
Durham County Hospital ... 52
Ealing Borough ... 54
E. Sussex County Mental Hospital ... 51
Glamorgan County Council ... 51
Gloucestershire Royal Infirmary ... 52
Greenock Royal Infirmary ... 51
Hampstead General Hospital ... 52
Harrogate, Royal Bath Hospital ... 58
Hosp. for Epilepsy & Paralysis, W.9 ... 53
Hull Royal Infirmary ... 53
Kent County Ophthalmic Hospital ... 52
Kingston-upon-Hull City & County ... 58
Lancs. County Mental Hospital ... 52
Lancs. Mental Hospitals Board ... 52
Leeds, Herzl Moser Hospital ... 54
Lincoln County Hospital ... 51
Liverpool and District Hospital ... 52
Liverpool Royal Infirmary ... 54
Manchester and District Hospital ... 51
Mansfield and Salford Hospital ... 51
Merthyr General Hospital ... 51
Middlesbro' N. Riding Infirmary ... 55
Middlesex County Council ... 53
Middlesex Hospital, W.1 ... 54
Newark General Hospital ... 55
Newcastle, Royal Victoria Infirm. ... 58
Northampton General Hospital ... 55
Nottingham City ... 52
Nottingham General Hospital ... 53
Nottinghamshire County Council ... 54
Nutrition Research Laboratories ... 53
Oldham Royal Infirmary ... 54
Paisley Corporation ... 51
Poplar Hospital for Accidents, E.14 ... 52
Redhill, Royal Earlswood Institut. ... 58
Rochdale Infirmary & Dispensary ... 52
Rotherham Hospital ... 52
Royal College of Surgeons, England ... 54
Royal Hospital of St. Cross ... 50
St. Andrews University ... 55
St. Mary's Hosp. for Women, E.13 ... 51
St. Marr's Hospitals, Manchester ... 53
Scarborough Hospital & Dispensary ... 52
Sheffield Royal Hospital ... 55
Singapore Mental Hospital ... 52
South London Hospital for Women ... 51
Southport General Infirmary ... 52
Staffordshire County Council ... 52
Staffordshire General Infirmary ... 51
Sterling County Council ... 52
Sunderland, Royal Infirmary ... 53
Swansea General and Eye Hospital ... 55
Taverton Hospital, Devon ... 58
Tynemouth Victoria Jubilee Infirm. ... 55
Tyrrell Central Hospital ... 53
Walsall General Hospital ... 53
West Bromwich County Borough ... 53
Western Ophthalmic Hosp., N.W.1 ... 54
W. Hartlepool, Cameron Hospital ... 53
W. Suffolk General Hospital ... 53
Willesden General Hospital ... 55
Wrexham War Mem. Hospital ... 53
... ... 58

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro ... 49
Peebles Hydro ... 49
Ruthin Castle, North Wales ... 49
Smedley's Hydro, Matlock ... 48

INEBRIETY—
Albion House, Beverley, E. Yorks ... 44
Bay Mount, Paignton ... 44
Caldecote Hall, Nuneaton ... 44
Dalrymple House, Rickmansworth ... 44,45
Ecclesfield, Ashford, Middlesex ... 44
'Old Hill House,' Chislehurst ... 44

TOBACCO & CIGARETTES—
Player's Navy Cut ... 43

HOMES & ASYLUMS—
Ballbrook House, Bath ... 45
Barnwood House, Gloucester ... 45
Bethlem Royal Hospital, Kent ... 45
Bishopstone House, Bedford ... 45
Boreatton Park, Salop ... 44
Brooke House, Clapton, E. ... 44
Brunton House, [illegible] ... 46
Cambe[illegible] ... 46
[illegible] ... 46
[illegible] ... 46
C.S. of London Mental Hospital ... 45
Clarence Lodge, Clapham Park ... 45
Coppice, Nottingham ... 45
Court Hall, Kenton, Exeter ... 45
Dartmoor Convalescent Home ... 45
Grange, near Rotherham ... 45
Grove House, All Stretton ... 45
Haydock Lodge, Lancashire ... 45
Highfield Hall, St. Albans ... 45
Lawn, Lincoln ... 45
Littleton Hall, Brentwood, Essex ... 45
Moat House, Tamworth, Staffs ... 44
Northumberland House, N.8. ... 45
Old Manor, Salisbury ... 45
Peckham House, S.E.15 ... 45
St. Andrew's Hosp. Northampton ... 45
Shaftesbury House, Liverpool ... 45
Springfield House, near Bedford ... 44
Stonycrest Nursing Home ... 45
Stretton House, Shropshire ... 45
Tokeford Abbey, Newport Pagnell ... 45
West Haven, Bournemouth ... 44
Woodlands Park, Great Missenden ... 44
Wye House, Barton ... 45

SANATORIA—
Cotswold Sanatorium ... 46
East Anglian Sanatorium ... 46
Grampian Sanatorium ... 47
Montana Hall, Switzerland ... 47
Mundesley Sanatorium ... 46
Tor-na-Dee Sanatorium ... 47
Vale of Clwyd Sanatorium ... 47

BATHS, SPAS, &c.—
Italian Health Resorts ... 48
Pistany Spa, Czechoslovakia ... 48

SCHOOLS, &c.—
Taunton School, Taunton ... 50

MEDICAL SCHOOLS, &c.—
Aberdeen Medical School ... 49
City of London Maternity Hospital ... 49
Clinical Research Association, Ltd. ... 50
Liverpool School of Trop. Medicine ... 50
London School of Dental Surgery ... 49
London School of Radiotherapy ... 51
Nat. Post-Grad. Sch. of Radiotherapy ... 51
N.W. London Post-Grad. College ... 49
Salvation Army, Mothers' Hospital ... 47
Seamen's Hospital Society ... 51
West London Hospital ... 50

TUTORS & LECTURERS—
Exams.—Med. Corresp. College ... 49
F.R.C.S. Edin. Classes—H. C. Orme ... 50
F.R.C.S. Ed. Classes—C. [illegible] ... 50
[illegible] ... 50
[illegible] ... 50

TRANSFER AGENTS—
Borril Medical Agency, Ltd ... 64
British Medical Bureau ... 61,62,63
Lee & Martin, Ltd. ... 60
Manchester Medical & School Assoc ... 64
Med. Practitioners' Union Agency ... 64
Needes, H. ... 60
Peacock & Hadley, Ltd. ... 63
Simmer & Co., Ltd. ... 60
The Medical Agency ... 59
Turner, P., Ltd. ... 56,60
Western Medical Agency, Bristol ... 60

ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant ... 55
Dispensers, Medical Posts, &c. ... 55
Locums Wanted and Vacant ... 55
Partnerships Wanted and Vacant ... 57
Practices Wanted and Vacant ... 57

NURSING INSTITUTES—
Carendish Nurses ... 59
Nurses' Association ... 59

MISCELLANEOUS—
Beit Memorial Fellowships ... 49
Coast Lines Ltd.—Summer Cruises ... 60
Consulting Rooms, &c., to Let ... 57
Frigidaire Ltd.—Refrigerators ... 8
Income Tax Consultant—Hardy ... 58
Income Tax Consultant—Kilner ... 58
Miscellaneous Sales &c. ... 57,58

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

Just Issued

Da COSTA'S Papers and Speeches

Just Issued

The ripened wisdom of a great surgeon, teacher, thinker, lover of books and life is here presented in a new volume which brings together the writings and addresses of Professor J. Chalmers Da Costa. There are papers and speeches, rich with humour and historical facts, on the trials and triumphs of the surgeon, on literary characters, on great physicians and surgeons, living and dead; on old hospitals, old medical schools, old asylums, old books. It is an absorbing, instructive, and entertaining book—delightfully written.

Octavo volume of 440 pages, with portraits. By J. CHALMERS DA COSTA, M.D., LL.D., Samuel D. Gross Professor of Surgery at Jefferson Medical College, Philadelphia.
Cloth, 30s. net.

Andrews' Diseases of the Skin

NEW

"The whole volume is excellently got up, and, considering the amount of matter contained in it, remains moderate in size and easy to handle. We commend it with confidence both to general practitioners and specialists."—BRIT. MED. JOUR.

By GEORGE C. ANDREWS, A.B., M.D., Associate Professor of Dermatology, College of Physicians and Surgeons, Columbia University, etc. Octavo of 1,091 pages, with 988 illustrations. Cloth, 55s. net.

Babcock's Text-Book of Surgery

A STANDARD

"Takes a distinguished place among the many general text-books that are available. It is designed both for the student and the practitioner, as the author believes that, with the increase of clinical teaching and the declining importance of systematic lectures, the student must turn more to his reading for his theoretic background."—BRIT. MED. JOUR.

By W. WAYNE BABCOCK, M.D., Professor of Surgery, Temple University, Philadelphia. Octavo of 1,367 pages, with 1,059 illustrations, 9 in colours. Cloth, 45s. net.

Howell's Text-Book of Physiology

"One of the best, most readable, suggestive, and withal critical of the modern text-books on this subject. Is sound, accurate, philosophical, and thoroughly up to date."—LANCET.

By WILLIAM H. HOWELL, M.D., Ph.D., Professor of Physiology, Johns Hopkins University, Baltimore. Octavo of 1,081 pages. Illustrated. Cloth, 30s. net.

Ford's Text-Book of Bacteriology

"This is one of the most complete single-volume works on bacteriology. It is more than a text-book, as it is described, and constitutes a valuable work of reference with a wealth of detail particularly in systematic bacteriology. . . . The book can be strongly recommended."—EDINBURGH MEDICAL JOURNAL.

By WILLIAM W. FORD, M.D., Professor of Bacteriology, School of Hygiene and Public Health, Johns Hopkins University. Octavo of 1,069 pages, illustrated. Cloth, 37s. 6d. net.

Maximow's Text-Book of Histology

NEW

"The book is one which can be recommended with confidence as a general work of reference for the more advanced student of this branch of study."—BRIT. MED. JOUR.

By ALEXANDER A. MAXIMOW, late Professor of Anatomy, University of Chicago. Completed and edited by WILLIAM BLOOM, Assistant Professor of Anatomy, University of Chicago. Large octavo of 833 pages, with 601 illustrations, some in colours. Cloth, 40s. net.

Ranson's Anatomy of Nervous System

3rd EDITION

"The book provides a useful foundation in macroscopical and microscopical anatomy, considered always with an eye to the physiological correlates of given structures, thus supplying a dynamic as opposed to a static presentation. It is wonderfully complete, and for the novice in neurology it should prove highly serviceable."—LANCET.

By STEPHEN W. RANSON, M.D., Professor of Neurology, Northwestern University Medical School, Chicago. Octavo of 425 pages, with 234 illustrations, some in colours. Third, Revised, Edition. Cloth, 32s. 6d. net.

Herrick's Introduction to Neurology

"One of the most interesting books of its kind, and is easy to read because of the association of anatomy with development and function in a very attractive way."—IRISH JOUR. OF MED. SCIENCE.

By C. JUDSON HERRICK, Ph.D., Professor of Neurology in the University of Chicago. 12mo of 406 pages, illustrated. Fourth Edition. Cloth, 12s. 6d. net.

Todd & Sanford's Clinical Diagnosis

"A book which is of particular value to the student for the number and the excellence of the illustrations, the clarity of the language, and the short, but concise, notes on the indications for the applications of various tests and the interpretation of the results."—LANCET.

By JAMES CAMPBELL TODD, M.D., University of Colorado; and ARTHUR HAWLEY SANFORD, M.D., University of Minnesota (The Mayo Foundation). Octavo of 782 pages, with 318 illustrations, 29 in colours. Sixth (Revised) Edition. Cloth, 28s. net.

W. B. SAUNDERS COMPANY Ltd., 9, Henrietta Street, LONDON, W.C.2

JUST PUBLISHED. 49th YEAR.

With many Text Illustrations and 70 Plain and Coloured Plates. 20/- net.

MEDICAL ANNUAL, 1931

Postage 9d.

A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX. A Review of the Year's Progress in Medicine and Surgery, arranged in Alphabetical order.

EDITORS: CAREY F. COOMBS, M.D., F.R.C.P., and A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.

CONTRIBUTORS:

ABDOMINAL SURGERY: A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.
ANÆSTHESIA: JOSEPH BLOMFIELD, O.B.E., B.A., M.D.Camb.
CHEST SURGERY: A. TUDOR EDWARDS, M.A., M.D., M.Ch., F.R.C.S.
CHILDREN, MEDICAL DISEASES OF: REGINALD MILLER, M.D., F.R.C.P.
CHILDREN, SURGICAL DISEASES OF: JOHN FRASER, M.C., M.D., F.R.C.S.E.
DENTAL SURGERY: L. E. CLAREMONT, M.D.S., L.D.S., R.C.S., M.R.C.S., L.R.C.P.
DIABETES: WALTER R. CAMPBELL, M.A., M.D. Toronto, F.R.C.P. Canada.
EAR, NOSE AND THROAT DISEASES: A. J. M. WRIGHT, M.B., F.R.C.S.
ENDOCRINOLOGY: W. LANGDON BROWN, M.A., M.D., F.R.C.P.
EYE DISEASES: W. S. DUKE-ELDER, M.A., D.Sc., Ph.D., M.D., F.R.C.S.
GASTRO-INTESTINAL DISORDERS: ROBERT HUTCHISON, M.D., F.R.C.P.
GENITO-URINARY SURGERY: Sir JOHN THOMSON-WALKER, O.B.E., M.B., F.R.C.S.
GYNÆCOLOGY AND OBSTETRICS: BECKWITH WHITEHOUSE, M.S., Ch.M., F.R.C.S.
HEART AND BLOOD-VESSELS, DISEASES OF THE: A. G. GIBSON, M.A., M.D., B.Sc., F.R.C.P.
INFECTIOUS DISEASES, ACUTE: JOHN D. ROLLESTON, M.A., M.D.Oxon., M.R.C.P.Lond., F.R.C.P.
MEDICINE, GENERAL: IVOR J. DAVIES, M.D., F.R.C.P.
MENTAL DISEASES AND PSYCHOLOGICAL MEDICINE: HENRY DEVINE, O.B.E., M.D., F.R.C.P.
NERVOUS SYSTEM, DISEASES OF: MACDONALD CRITCHLEY, M.D., F.R.C.P.
NERVOUS SYSTEM, SURGERY OF: GEOFFREY JEFFERSON, M.S., F.R.C.S.
ORTHOPÆDIC SURGERY: ERNEST W. HEY GROVES, M.S., M.D., F.R.C.S.
PUBLIC HEALTH AND FORENSIC MEDICINE: GEOFFREY E. OATES, M.D., M.R.C.P., D.P.H.
RADIOTHERAPY AND X-RAY DIAGNOSIS: CHAS. THURSTAN HOLLAND, Ch.M., F.R.C.S., L.R.C.P., D.L.
RADIUM TREATMENT OF CANCER: STANFORD CADE, F.R.C.S.
RESPIRATORY TRACT, DISEASES OF: WILLIAM H. WYNN, M.D., M.Sc., F.R.C.P.
SKIN DISEASES: A. M. H. GRAY, C.B.E., M.D., F.R.C.P.
SURGERY, GENERAL: Sir W. IRELAND DE COURCY WHEELER, M.D., F.R.C.S.I., F.A.C.S. (Hon.).
SURGERY, RECTAL: J. P. LOCKHART-MUMMERY, M.A., M.B., B.Ch., F.R.C.S.
TROPICAL DISEASES: Sir LEONARD ROGERS, C.I.E., M.D., F.R.C.P., F.R.F.P. & S. Glas., F.R.C.S., F.R.S., Maj.-Gen. I.M.S. (retd.).
VENEREAL DISEASES: L. W. HARRISON, D.S.O., M.B., Ch.B., F.R.C.P.E., Brevet-Col. R.A.M.C. and King's Hon. Physician (retd.).

BRITISH MEDICAL JOURNAL.—"There can be few medical publications in the English language that are so widely read as the 'Medical Annual.'"
THE LANCET.—"A reference book used and valued by medical men in every part of the Empire."

Bristol: JOHN WRIGHT & SONS LTD. London: SIMPKIN MARSHALL LTD.

RECENTLY PUBLISHED. FIFTH EDITION. Fully Revised, and Enlarged. Crown 8vo. 1,048 pp. 21s. net; postage 9d.

SYNOPSIS OF MEDICINE

By H. LETHEBY TIDY, M.A., M.D., B.Ch.Oxon., F.R.C.P.Lond.,

Physician, St. Thomas's Hospital; Consulting Physician, Royal Northern Hospital.

"An admirable *index medicus*. . . . The scope is far wider than in the majority of books. Throughout, 'treatment' meets with ample consideration . . . this fact alone will enhance its value enormously for the busy practitioner."—BRIT. MED. JOURN.

"We can say without hesitation that the book is far ahead of any medical synopsis it has been our lot to encounter."—LANCET.

"We have nothing but admiration for this book, and cannot commend it too highly."—MEDICAL PRESS AND CIRCULAR.

Bristol: JOHN WRIGHT & SONS Ltd.

NINTH EDITION. Fully Revised. Crown 8vo. 684 pp. With 163 Illustrations, some of which are coloured. 17s. 6d. net; postage 9d.

SYNOPSIS OF SURGERY

By ERNEST W. HEY GROVES, M.S., M.D., B.Sc.Lond., F.R.C.S.Eng.,

Professor of Surgery, Univ. of Bristol; Surgeon, Bristol General Hospital; Member of the Court of Examiners, Royal College of Surgeons, England; Examiner in Surgery, Universities of London, Liverpool, Leeds, Manchester and Sheffield, and Nat. Univ. of Ireland.

"Complete in its range of subjects . . . among the best of its kind; the author is to be congratulated on its readableness, its lucidity and its fullness—notable qualities."—BRIT. MED. JOURN.

"This synopsis of surgery has had a wide sale, which has necessitated the issue of frequent editions, and it deserves thoroughly all the success it has attained."—LANCET.

[Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

THE EXTRA PHARMACOPOEIA

By W. HARRISON MARTINDALE, Ph.D.

Nineteenth Edition.

Vol. I, 27/6 net; postage 6d.
Vol. II, 22/6 net; postage 4d.
Complete Work (2 Volumes) 50/- net, post free.

In Two Volumes.

Vol I (1928) deals chiefly with Treatment, giving the important issues as to CLINICAL USE of all modern CHEMICALS and DRUGS, characters, dosage, methods of prescribing, etc.
Vol. II (1929) COMPLETES THE SET. It is concerned with INVESTIGATIONS, EXPERIMENTAL RESEARCH, DIAGNOSIS, and a large amount of new matter in medicine and allied sciences.

Brit. Med. Journ., Nov. 2nd, 1929, says: "*Has a well-established reputation as a most useful and convenient work of reference.*"
Lancet, Nov. 2nd, 1929, says: "*A clear and authoritative publication of the highest value.*"

Up-to-date Book for everything on the Therapeutic Use of Drugs. It embodies the Latest and Most Varied Information on Chemistry, Pharmacy, Therapy, and numerous other subjects.

LONDON: H. K. LEWIS & CO. LTD., 136, Gower Street, W.C.1

FOR SUCCESSFUL VACCINATION USE CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens H.M. the King* 76, NEW BOND STREET, LONDON, W.1 Telephone: Mayfair 1173—1.

OXFORD MEDICAL PUBLICATIONS

JUST PUBLISHED

PRIMARY SYPHILIS IN THE FEMALE

By THOMAS ANWYL DAVIES, M.D.(Lond.)

Director of the Whitechapel (L.C.C.) Clinic, Turner Street, E.1; Late M.O. in Charge, and Late S.M.O. of the Venereal Department at St. Thomas's Hospital, S.E.1

Contents include:—The Incidence of Primary Syphilis in the Female—The Sex Differences of the Primary Lesion—Sites of the Primary ... on the Fourchette—Chancres of the Urethra—Chancres of the Clitoris—Chancres of the Vagina—Chan... of the Cervix—The Differential Diagnosis of Cervical Lesions—The Abnormal Appearances and Lesions of the Cervix—Extragenital Chancres—Chancroid—Vulval "Condylomata"—Trichomonas Vaginitis—The Abnormal Appearances and Lesions of the Vagina.

Pp. 120. 25 Plates (17 Natural-colour Photographs) 12s. 6d. net.

THE DIET BOOK FOR DOCTOR, PATIENT, AND HOUSEWIFE

With Specimen Menus for One Week and Recipes

By MARGUERITE REQUA REA (Mrs. Alec. L. Rea)

With a Foreword by Sir JAMES PURVES-STEWART, K.C.M.G., C.B., M.D.(Ed.), F.R.C.P.(Lond.), Physician to Westminster Hospital

Contents include:—Acute Colitis Dietary—*Constipation* Dietary—Convalescent Dietary—Diabetic Dietary—Dysentery Dietary—Gastric Ulcer Dietary—Gastritis Dietary—Gout Dietary—Hypertension Dietary—Obesity Dietary—Rheumatism Dietary—Semi-solid Bland Diet—Notes on Equipment and Cooking—Tables—Recipes.

Pp. 120. 7s. 6d. net.

COAL-MINER'S NYSTAGMUS

By G. F. HAYCRAFT, M.R.C.S., L.R.C.P., D.O.M. and S.

Ophthalmic Surgeon, Cannock Educational Committee, etc.

Contents include:—Failure of Sight—Headache—Photophobia—Giddiness—Insomnia—Apparent Movement of Stationary Objects ... of the Head—Tremors of Various *Parts of the Body*—Tachycardia—Ataxy—Swaying and *Vertigo* after ... of the Eyeballs—*Contraction of the Fields of Peripheral Vision*—Differential Diagnosis—The Ætiology of ... Illumination—Treatment.

Pp. 15. (Paper Cover) 1s. net.

SOME RECENT PUBLICATIONS OF ESPECIAL INTEREST:

VISCEROPTOSIS AND OTHER ABDOMINAL CONDITIONS ASSOCIATED WITH CHRONIC INVALIDISM

By H. BEDINGFIELD, D.S.O., M.D.(Edin.), M.R.C.P.(Lond.), Ch.B. Pp. 176 10/6 net.

THE COSMETIC TREATMENT OF SKIN COMPLAINTS, with Especial Reference to Physical Therapy and Scarless Methods of Operation

By E. KROMAYER. (First English Translation of Second German Edition.) Pp. 116. 7 Illus. 6/6 net.

TABLES OF DOSAGE IN RONTGEN THERAPY

By FRIEDRICH VOLTZ. (First English Translation of Second German Edition.) Pp. 121. 21 Figs. 67 Tables. 7/6 net.

APHASIA IN CHILDREN

By ALEX. W. G. EWING, M.A., Ph.D. With Introduction by E. D. ADRIAN, M.D., F.R.C.P., F.R.S. Pp. 161. 2 *Diagrams*. 10/6 net.

THE TREATMENT OF CHRONIC DEAFNESS BY THE ELECTRO-PHONOÏDE METHOD OF ZÜND-BURGUET

By GEORGE C. CATHCART, M.A., M.D. 2nd Edition. Pp. 114. 7 *Illus*. 5/- net.

A HANDBOOK OF THE VACCINE TREATMENT OF CHRONIC RHEUMATIC DISEASES

By H. WARREN CROWE, D.M., B.Ch., M.R.C.S., L.R.C.P. Pp. 58. 2/6 net.

TO BE PUBLISHED ALMOST IMMEDIATELY

INJURIES AND SPORT A General Guide for the Practitioner

By C. B. HEALD, C.B.E., M.A., M.D.(Cantab.), M.R.C.P.(Lond.)

Physician-in-charge of Electro-therapeutic Department, Royal Free Hospital; Physician to the British Red Cross Clinic for Rheumatism; Consulting Physician in Electro-therapy, Royal Air Force

Contents include:—Repair as a repetition of Development—*Development* and Repair in the various Tissues—Diagnosis of Injury—Immediate Care of *Injured Patient*—Principles of Splinting and Support in Injury—Electro-Therapeutics—Physio-Therapeutics—Factors modifying Recovery—*Complications*—*Injuries* to the Shoulder-girdle—To the *Arm and Elbow*—To the Forearm and Hand—To the Lower Back and Pelvis—To the Hip, Thigh, *and Knee*—To the Leg and Foot—To *the Head, Neck, and Thorax*.

BREAST-FEEDING

By MARGARET EMSLIE, M.B., Ch.B.(Aberd.)

Late Senior Assistant Medical Officer for Maternity and Child Welfare, County Borough of Croydon; formerly Senior Clinical Assistant, Hospital for Sick Children, Great Ormond Street, London; Medical Officer, Southfields Centre

Contents include:—Reasons for Breast-feeding; Preparation for Breast-feeding—Anatomy and Physiology of the Breast—Establishment of Breast-feeding—Management of Breast-feeding—The Child on the Breast—Difficulties in Breast-feeding—Weaning—Sore Nipples—Breast Abscess.

COMPLETE CATALOGUE SENT ON REQUEST

Oxford University Press

HUMPHREY MILFORD Amen House, London, E.C.4

NEW BOOKS
J. & A. CHURCHILL

120 Illus. 12s. 6d. Post. 9d.

RECENT ADVANCES IN RADIOLOGY

By PETER KERLEY, M.B., D.M.R.E., Assistant Radiologist, Westminster Hospital.

48 Illus. 10s. 6d. Post. 6d.

BACKACHE

By JAMES MENNELL, M.D., B.C.(Cantab.).

102 Illus. 10s. 6d. Post. 6d.

A HANDBOOK OF MIDWIFERY

By RICHARD E. TOTTENHAM, M.D., Prof. Obstetrics, University Hong-Kong.

66 Illus. 12s. 6d. Post. 6d.

RECENT ADVANCES IN FORENSIC MEDICINE

By SYDNEY SMITH and J. GLAISTER, Jnr.

80 Illus. 15s. Post. 9d.

PUBLIC HEALTH IN THE TROPICS

By J. BALFOUR KIRK, M.B., D.P.H., Director, Health Dept., Mauritius.

3rd Ed. 42 Illus. 12s. 6d. Post. 6d.

RECENT ADVANCES IN BIOCHEMISTRY

By J. PRYDE, M.Sc.

84 Illus. 12s. 6d. Post. 6d.

RECENT ADVANCES IN ENTOMOLOGY

By A. D. IMMS, D.Sc., F.R.S.

6 Illus. 3s. 6d. Post. 4d.

CHILL: ITS DANGERS AND PREVENTION

By MARIAN THORNETT, F.R.C.S.I.

700 Illus. 5s. Post. 4d.

POCKET LENS PLANT LORE

By JAMES SMALL, D.Sc., F.I.S.

87th Annual Issue.
2,400 Pages. 55,000 names.
35s. Post 1s.

THE MEDICAL DIRECTORY

"... indispensable and unrivalled ..."
—THE PRACTITIONER
"... the best work of the kind ..."
—THE LANCET.

London: J. & A. CHURCHILL,
40, Gloucester Place, Portman Square, W.1.

B. MILLER & CO. LTD
17 CONDUIT STREET
BOND STREET, LONDON, W.1
TAILORS
Established 1896

LOUNGE SUITS and OVERCOATS
from
£8 : 8 : 0

DINNER SUITS
Lined Silk
from
£10 : 10 : 0

A large selection of materials in the newest designs.—Patterns sent on request.

Convenient terms can be arranged.

Second Edition. Cloth. 10/6 net; postage 6d.

HYPNOTIC SUGGESTION AND PSYCHO-THERAPEUTICS

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin., Member of Council and late President of the Psycho-Medical Society of Great Britain, and late President of the Liverpool Psychological Society (Liverpool University).

ALSO

HYPNOTISM AND TREATMENT BY SUGGESTION.

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin. Fourth Edition. *Publishers:* 2/6 net; postage 3d.
LITTLEBURY BROS. LTD., Crosshall St., Liverpool.
SIMPKIN MARSHALL LTD., LONDON.

Duplicate Prescription Books
INVALUABLE TO ALL DOCTORS

Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.

Send Postal Order for 1/- for Sample Book, together with Prices and Styles of Printings To
G. CARLYLE,
116, DUKE STREET, LIVERPOOL.

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

Tycos
MANUFACTURED by
SHORT & MASON LTD.
WALTHAMSTOW
LONDON, E.17.
SPHYGMOMANOMETERS

ALLIANCE DRUG & CHEMICAL CO.
10, Beer Lane, Gt. Tower St., E.C.3.
Telephone: ROYAL 5885.
Tel. Address: "NALTROT," BILGATE, LONDON.
Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulae as used by the London and other Hospitals.
We append a few sample prices for guidence of the great saving that can be effected.
NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Lassar's Paste, 14 lb. @ 1/2 lb.
*Lin. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 1/4 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 1/- lb.
Bismuth Carb., 3 lb. @ 8/8 lb.
Chloroform Pur., 8 lb. @ 3/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 5/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero-Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 1/10 lb.
Hypophosp. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 8d. lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/- lb.
Scillæ, B.P., 7 lb. @ 8d. lb.
Sennæ, B.P., 7 lb. @ 1/1 lb.
Tolut., B.P., 7 lb. @ 1/2 lb.
" " 10½d. lb.

TABLETS COMPRESSED.
We can supply smaller quantities at slightly increased rates.

Per 1,000.
Bland's (Sugar-coated), gr. 5... ... ... 3/10
Nitroglycerin, B.P., gr. 1-50th 5/-
Perchloride of Mercury (Coloured) 15/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000.
Thyroid Gland, gr. 5 ... ... 12/6
We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.

B.P. Aquos. B.P. Aquos.
Belladon. ... 4/3 1/6 Hyoscyam. ... 4/3 2/4
Benzoin Co. ... 4/7 — Nucis Vom. 3/10 2/4
Camph. Co. ... 3/- 1/6 Opii 5/3 4/3
Cardi Co. ... 2/6 1/6 Quin. Ammon. 3/3 1/9
Gentianæ Co. 2/8 1/6 Rhei Co. ... 2/8 1/9
Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichtaiolis, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

* Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

E. & S. LIVINGSTONE,

16 & 17, TEVIOT PLACE, EDINBURGH

MEDICAL PUBLISHERS

1931 PUBLICATIONS — *NEW BOOKS AND NEW EDITIONS*

NEW BOOKS

ABDOMINAL PAIN

(To be published this month)

By JOHN MORLEY, Ch.M., F.R.C.S., Hon. Consulting Surgeon, Ancoats Hospital, Manchester; Hon. Assistant Surgeon, Manchester Royal Infirmary, etc. With an Introduction by Professor J. S. B. STOPFORD, C.B.E., M.D.

Demy 8vo, 208 pp., 22 Illustrations. Price 10s. 6d. net. Postage 6d.

A HANDBOOK OF DISEASES OF CHILDREN

By BRUCE WILLIAMSON, M.D.(Edin.), M.R.C.P.(Lond.), Physician, Royal Northern Hospital; Assistant Physician, Prince of Wales' General Hospital, London.

Crown 8vo, 300 pp. 50 Illustrations and Frontispiece. 10s. 6d. net. Postage 6d.

CHRONIC ARTHRITIS AND RHEUMATOID AFFECTIONS

By B. L. WYATT, M.D., F.A.C.P., Director, The Wyatt Clinic, Tucson, Arizona, etc.

Demy 8vo, 176 pp. Price 15s. net. Post. 6d.

AN INTRODUCTION TO MEDICAL HISTORY AND CASE-TAKING

By GEOFFREY BOURNE, M.D.(Lond.), F.R.C.P., Demonstrator of Practical Medicine and Assistant Physician, St. Bartholomew's Hospital, etc.

Crown 8vo, 200 pp. Illustrated. 6s. net. Postage 5d.

A MANUAL OF TUBERCULOSIS FOR NURSES

By E. ASHWORTH UNDERWOOD, M.A., B.Sc., M.B., D.P.H. (Glas.), Dep. M.O.H. and Tuberculosis Officer, County Borough of Rotherham, etc.

Crown 8vo, 272 pp. 30 Illustrations. 6s. 6d. net. Postage 5d.

NEW EDITIONS

A TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY

Adapted as a Text-book by H.M. Government.

By JOHN GLAISTER, M.D., D.P.H.(Camb.), F.R.S.E., Professor of Forensic Medicine, University of Glasgow; in collaboration with JOHN GLAISTER, Jun., D.Sc., M.D.(Glas.), Professor of Forensic Medicine, University of Cairo, etc.

FIFTH EDITION. Demy 8vo, cloth. 970 pp. With 132 Illustrations and 7 Plates. Thoroughly revised. 30s. net. Inland postage 9d. Foreign postage 1s. 6d.

ANTE-NATAL CARE

Including Abnormalities in Pregnancy, with a Section on Post-Natal Care

By W. [illegible] M.B.(Camb.), F.R.C.S.E., Senior Assistan[illegible]nte-Natal Department, Edinburgh Royal [illegible] Memorial Hospital; and E. C[illegible]FALMI F.R.C.S.E., Assistant Obstetric Physicic[illegible] to the same Department and Hospital.

SECOND EDITION. Crown 8vo, 140 pp. Illustrated. 5s. net. Postage 4d.

AN INTRODUCTION TO PRACTICAL BACTERIOLOGY

By T. J. MACKIE, M.D.(Glas.), D.P.H.(Oxford), Professor of Bacteriology, University of Edinburgh; and J. E. M'CARTNEY, M.D., D.Sc.(Edin.), Director of Research and Pathological Services, M.A.B.

THIRD EDITION. Crown 8vo, 440 pp. Illustrated with Diagrams. Price 10s. 6d. net. Postage 6d. (A Guide to Bacteriological Laboratory Work for Students and Practitioners of Medicine.)

PRACTICAL METHODS IN THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES

(To be published this month)

By DAVID LEES, M.A., M.B., F.R.C.S., Surgeon in Charge of Venereal Diseases, the Royal Infirmary, Edinburgh; Surgeon in Charge of Venereal Diseases, Royal Maternity Hospital, Edinburgh; Lecturer and Examiner in Venereal Diseases, the University of Edinburgh and the Royal College of Surgeons, Edinburgh.

SECOND EDITION. Crown 8vo, 650 pp. 87 Text Illustrations and 8 pp. of Coloured Plates. 15s. net. Postage 9d.

Further particulars of these New Books and New Editions and our complete 48-page Catalogue will be sent post free on application

E. & S. LIVINGSTONE, 16-17, Teviot Place, Edinburgh.

WITHOUT OFFENCE The Collection of Overdue Accounts

MEMBER'S STATEMENT:

Sussex, March 13th, 1931.

Dear Sir,

Mr. H—— has sent me cheque.

This is to thank you for all you have done for me—splendid.

DEBTOR'S STATEMENT:

March 12th, 1931.

Dear Sir,

I am glad your Member realises I am doing my best; another payment will reach you on the 30th instant.

Your visiting card marked "B" placed in an envelope will produce all information

All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY

(B.M.P.S. Ltd.) Established 1891.

26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.

Secretary: N. Rutherford Watson.

"STERULES" Regd.

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

Telegrams: "MARTINDALE, CHEMIST, LONDON."

Telephone: LANGHAM 2440.

Would you have sent in this COUPON if you had been living in 1831?

What a stir Frigidaire would have created in those days! And yet, the majority of people are still keeping their food in precisely the same way as in 1831. Isn't it about time we gave great-grandmamma's methods the go-by, and kept our food in the 1931 manner? In the frosty coldness of a Frigidaire food won't "go-off," it stays sweet and fresh, it tastes better because it tastes fresh. Summer time's a week ahead. Why not, in that week, advance 100 years? First step—post the coupon to-night.

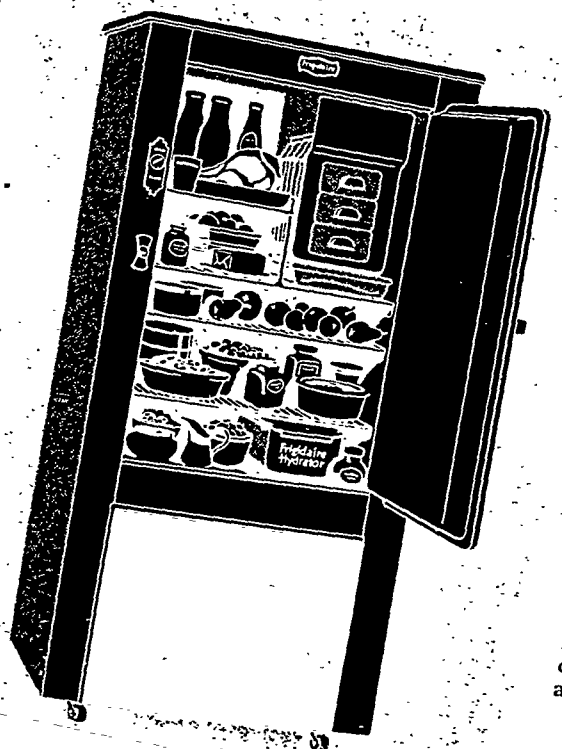
The Quickube Ice Tray, enabling single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the tap. Your cocktail ice is ready at a moment's notice.

•

The Cold Control, by which the freezing of ice cubes or any other frozen delicacy can be accelerated at will.

•

The automatic feature of Frigidaire is invaluable. It cuts out the human element with its forgetfulness and consequent waste. Frigidaire maintains a dry cold that is *always* under 50° — the only safe temperature for food.



Practical flat top, makes a useful shelf.

•

The Hydrator—a *moist* cold compartment, for fresh vegetables, sandwiches, etc. Even wilted vegetables *will* regain their crispness here in a few hours.

•

Ease of installation. A Frigidaire only needs connection with your electric supply. No plumbing is necessary.

•

Frigidaire Cabinets are all white porcelain on steel—the finest durable finish it is possible to have. And *easily* kept clean by *just a rub* with a damp cloth.

•

The new Frigidaire is quiet—you can't hear it start, stop or run.

SHOWROOMS AT 141 NEW BOND STREET, LONDON, W.1, AND IN ALL PRINCIPAL TOWNS.

FRIGIDAIRE LIMITED *(Incorporated in Canada)*

COUPON

Dept. BG-114, Edgware Road, The Hyde, Hendon, N.W.9.

Please give me by return, without any obligation on my part,

(*a*) Price of Frigidaire cabinet suitable to my particular needs as below; or

(*b*) Particulars of your system of convenient deferred payments.

Name .....

Address .....

.....

Number in Family .....

ACTINOTHERAPY

. . . *Really spectacular results on child patients A controlled test*

80% show improvement

ON pages 182 and 183 of "The Lancet" in the issue of January 24th, 1931, appears a new statement of extraordinary interest to all those following the history of light treatment.

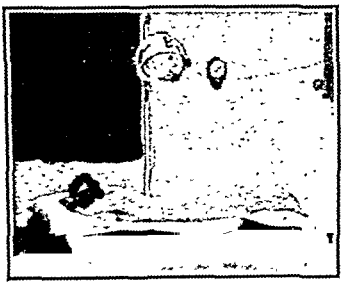
The article brings the question of actinotherapy back to its proper place in medicine—and no one can read it without feeling that it amply justifies the more general use of light treatment in suitable cases.

Every day in your consulting room you must have patients whom you can benefit by means of actinotherapy.

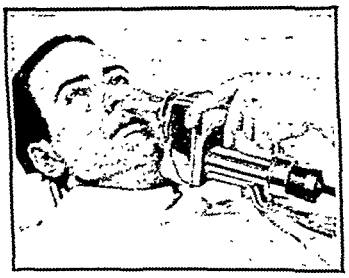
We will gladly send you particulars of the recorded positive results that have been obtained by others. This is information that will cost you nothing; it is the kind of material which (unless you possess already) you can scarcely afford to be without.

If you write to the address below, marking the enquiry Dept. 9, a full list of available free reports will be sent to you together with any other information you may desire.

THE VARIOUS MODELS OF HANOVIA QUARTZ LAMPS



HANOVIA ALPINE SUN for individual treatment.



THE KROMAYER LAMP for local or orificial treatment.

JESIONEK QUARTZ LAMP for group treatment.

Trade Mark.

Hanovia Lamps for Actinotherapy

London Office: 3, Victoria St., London, S.W.1.

Equipment and service also through all electro-medical dealers.

THE BRITISH HANOVIA QUARTZ LAMP CO. LTD., Slough, Bucks. (Dept. 9)

Please send me a free copy of your prospectus on "Hanovia Equipment for Light Therapy," and list of over 100 free reprints.

Name

Address

GRSA

NERON VITALUX

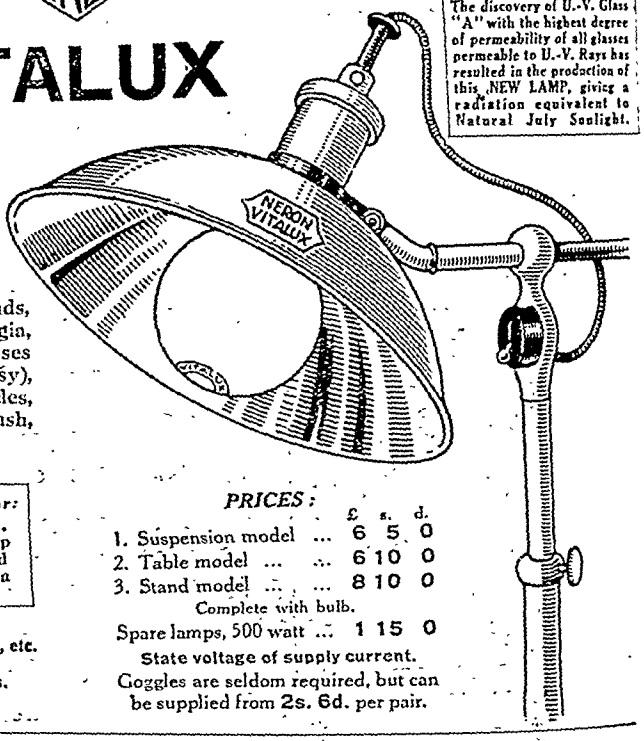
The Sunlight Generator

HEAT, LIGHT, ULTRA-VIOLET

An indication as to some of its uses:

Rachitis prophylaxis, tubercular cervical glands, surgical and cutaneous tuberculosis, neuralgia, rheumatism (neuritis, myalgia), catarrhal diseases (colds), inflammation of the lungs (pleurisy), treatment of wounds, abscesses, furuncles, fungoid diseases of the skin, barber's rash, frontal sinus catarrh.

The discovery of U.-V. Glass "A" with the highest degree of permeability of all glasses permeable to U.-V. Rays has resulted in the production of this NEW LAMP, giving a radiation equivalent to Natural July Sunlight.



Extract from letter recently received from a doctor:
"The lamp is giving me thorough satisfaction, being a great improvement on the carbon arc lamp I was using, owing to the absence of fumes and greater ease of working, as well as giving a more satisfactory spectrum."

Neron Vitalux Lamps are being installed in various hospitals, etc.

Glass prepared free of cost for Hospital Sun Rooms.

PRICES:

	£	s.	d.
1. Suspension model ...	6	5	0
2. Table model	6	10	0
3. Stand model	8	10	0

Complete with bulb.

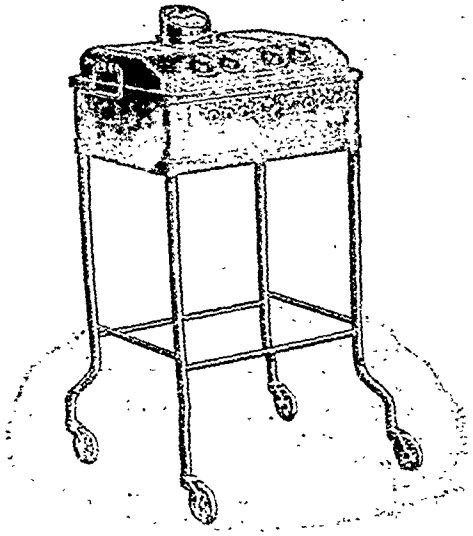
Spare lamps, 500 watt ... 1 15 0

State voltage of supply current.

Goggles are seldom required, but can be supplied from 2s. 6d. per pair.

NEW DIATHERMY APPARATUS

ALL PRICES REDUCED



Machines for purely medical purposes, surgical purposes, and combined models for either purpose.

THERMOFLUX D4

(as illustrated)

This Large Portable Model has a greater output than our well-known C type, viz., 280 watts. Designed to treat up to four patients, or four separate circuits with one patient. Current read in each circuit separately.

Price £47 10 0 Trolly £4. 10 0

THERMOFLUX A, for Small Surgical Operations, £25 0 0
THERMOFLUX M, for Major Surgical Operations, £80 0 0
OTHER MODELS:—Thermoflux C, £35 0 0; D2, £45 0 0; CK, £40 0 0; K, £55 0 0; G, £80 0 0

Many New Designs in Electrodes available.

Write for particulars of our ELECTRO-ATMOS for use with our surgical model machines for Ear, Nose, and Throat operations, etc.

FRIGIDAIRE

General Radiological & Surgical Apparatus Co. Ltd.

204-206, Great Portland Street, London, W.1

Please give me [illegible] Ray part, [illegible]um 1719 and 8326. Showrooms: FIRST FLOOR. 'Grams: Equispital, Wesdo, London.

(a) Price of Frigidaires *for Scotland:* needs as below; or [illegible]PPLY ASSOCIATION LTD., Teviot Place, [illegible]BURGH.

(b) Particulars of your s[illegible] payments.

Agents for Ireland: THE IRISH RADIOLOGICAL & SURGICAL SUPPLY CO., LTD., 7, Lower Pembroke Street, DUBLIN.

MICKLEFIELD IRRADIATED MILK

TREATING THE MILK

By this Process—

(1) VITAMIN A AND NATURAL FLAVOUR ARE PRESERVED.
(2) VITAMIN D CONTENT IS INCREASED 1,800 PER CENT., OR TEN TIMES THAT OF ANY OTHER IRRADIATED MILK.

One pint equivalent in Vitamin D to 600 drops or 12 grammes of average Cod-Liver Oil.

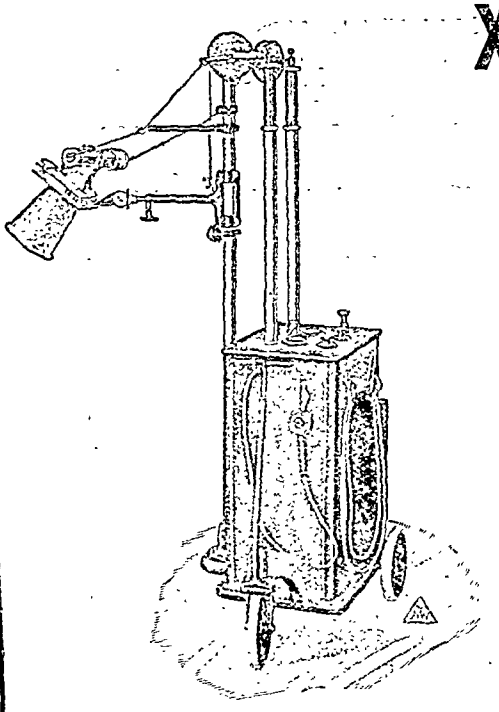
A ten weeks' test recently conducted at the Infants' School, Rickmansworth, under the supervision of the Medical Officer of Health, gave the following results:—

(1) 18 children (controls) had their usual ordinary milk.
(2) 29 " 1/3-pint of Grade A (T.T.) milk five days a week.
(3) 30 " Micklefield " " "

(1) Average increase in height .605-in. (2) Average increase in weight 9·72 ozs. more than (1).
(2) " " " .610-in. (3) " " " 10·9 ozs. more than (1).
(3) " " " .744-in.

Full particulars appeared in an article in the LANCET, January 18, 1930, p. 127, et seq., a reprint of which will be sent post free on request.

The milk is delivered every week-day in London; elsewhere by arrangement.
Write to J. O. HICKMAN, MICKLEFIELD GREEN, RICKMANSWORTH.



X-RAY EQUIPMENT

NEW CATALOGUE

JUST PUBLISHED

Post free on request

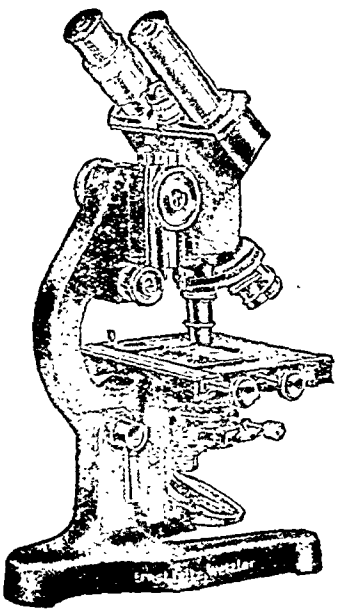
BEDSIDE UNITS, SNOOK MACHINES,
VALVE OUTFITS, Etc.

Newton & Wright Ltd

HEAD OFFICE AND WORKS:

471-3, HORNSEY ROAD, LONDON, N.19

Telephone: Archway 2621 (3 lines)



Leitz

NEW BINOCULAR BODY

WITH INCLINED EYEPIECE TUBES

(FOR ALL MAGNIFICATIONS)

Suitable for use with all existing Leitz Microscopes having interchangeable body slides (AABM, AA, BBMB, BB, AT, BT, etc.).

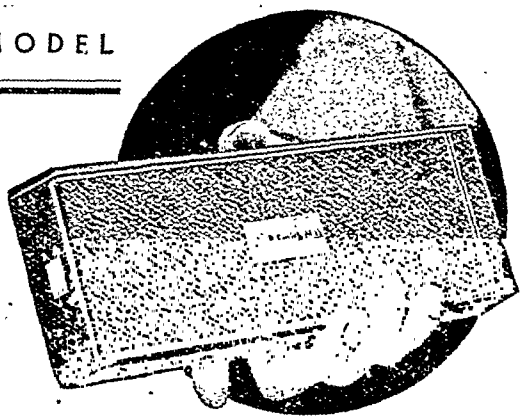
Invaluable to Bacteriologists, Pathologists, Zoologists, and others whose work necessitates use of the microscope in the vertical position for prolonged periods.

Binocular Body with inclined eyepiece tubes, without eyepieces (in case) ...	£13 7 0
Extra cost of Binocular Microscope with inclined body tube instead of straight body tube	£1 18 6

Descriptive leaflet 0.1, post free from—

E. LEITZ (London),
20, Mortimer Street, London, W.1

THE NEW KOMPAK MODEL



When the accuracy of any particular diagnostic apparatus is definitely established, its universal acceptance is just a matter of time.

Today, more than one hundred thousand physicians throughout the world are using Baumanometers for determining accurate bloodpressure.

From South Africa to China, from Australia to Canada, physicians have learned from experience to depend upon the scientific accuracy of the Lifetime Baumanometer.

Every Lifetime Baumanometer is a MASTER instrument, individually calibrated, scientifically accurate and guaranteed to remain so. They all carry our exclusive guarantee against glass breakage.

There are four Baumanometer models to choose from, each designed for a specific use, including the new KOMPAK Model—the smallest, the lightest, the handiest, mercurial instrument.

Regardless of the completeness of your bloodpressure apparatus—the KOMPAK Model fills a definite need for a perfect functioning, scientifically accurate, extremely portable instrument.

Note its distinguishing specifications.

Lifetime Baumanometer
STANDARD FOR BLOODPRESSURE

Calibration: 260 mm.
Size: 1⅝" x 3⅞" x 11⅝".
Weight: 30 oz.
Inflation System Self-Contained.
Duralumin case with baked enamel edges.
Genuine Morocco grain leather.
Entire manometer unit chromium plated.
Individual nameplate cast in cover.
Table of clinical averages embossed in case.
Lifetime Guarantee against glass breakage.
Perpetual Guarantee for accuracy.

Obtainable from leading Surgical Equipment Houses, or
HAWKSLEY & SONS, Ltd., 83 Wigmore St. London, W. 1.

ELASTIC HOSIERY — BELTS — SURGICAL CORSETS — SURGICAL BOOTS

ARTIFICIAL LIMBS — SPLINTS

SURGICAL APPLIANCES ARNOLD MAKE.

Made by Skilled Craftsmen.

Individual NEED — Surgical Appliances, whether the necessity be due to natural deformity or accidental cause, require the Surgeon's professional skill, with a complement of mechanical ability to ensure adequate support where most needed in each individual case.

Individual COMFORT — Not only support, but exact fit, ensures the patient's comfort. Such can only be achieved by skilled craftsmen, experienced fitters and the best materials.

Individual SERVICE — Arnold & Sons' Service means to the Surgeon prompt and practical execution of his commands. To the patient, individual service, with every detail minutely studied at reasonable price and a willing after-purchase attendance.

PRIVATE CONSULTING & FITTING ROOMS at 8, WELBECK STREET, W.1.

Telephone: WELBECK 5555 (12 lines).

Arnold & Sons (JOHN BELL & CROYDEN)

Telegrams: INSTRUMENTS, WESDO, LONDON.

50-52, WIGMORE STREET, LONDON, W.1.

ORTHOPAEDIC INSTRUMENTS — CRUTCHES

BABIES THRIVE BEST ON HUMANISED TRUFOOD BECAUSE IT IS ACTUALLY NEAREST TO MOTHER'S MILK

Samples and literature on request

TRUFOOD LTD., THE CREAMERIES, WRENBURY, NR. NANTWICH, CHESHIRE

TF 40-221

Post-Influenzal Depression

is partly a direct effect of influenzal toxins, but is largely due to toxaemia arising from the debilitated digestive tract.

Kaylene-ol

prevents intestinal toxaemia and thus shortens convalescence and enables the patient to resist secondary infection.

Literature and supply for clinical trial obtainable from the Manufacturers:

KAYLENE LIMITED,
Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone— GLADSTONE 1071 (2 lines).
Telegrams— KAYLOIDOL, CRICKLE, LONDON.
Cables— KAYLOIDOL, LONDON.
Code— BENTLEY'S.

CAPROKOL

Brand of Hexyl-Resorcinol

The physician looks further than mere palliation. The patient, weary through pain and loss of sleep, asks only for immediate relief.

Caprokol therapy meets the requirements of both.

The gentle analgesic action of Caprokol brings ease and comfort; painful symptoms are abated, hours of unbroken sleep follow, appetite reappears and the patient is grateful.

The physician has the satisfaction of seeing the daily beneficial effects of the action of Caprokol, and the eventual complete disinfection of the urinary tract.

Two Points Of View

The Physician's and The Patient's

Literature on request

Sole Selling Agents:

THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Cap/37

SUAVE AND NON-IRRITANT IN ACTION

These essences supply energy without strain to the digestive system

When the system is in an exhausted condition Brand's Essences of Beef or Chicken stimulate, supply energy and prepare the patient to accept a solid diet.

Scientific tests have proved that these essences reduce the period of digestion by forty minutes and absorbed without the formation of residue.

Recent investigations show that 99 out of every 100 doctors interviewed depend on Brand's Essences of Beef or Chicken in the treatment of specific fevers, in disorders associated with pyrexia, before and after operations, in cases of intestinal disturbances, and in convalescence when the patient's recovery is hampered by anorexia.

The finest freshly killed English meats are used in the preparation of Brand's Essences of Beef or Chicken. By an exclusive process the pure essence is expressed and hygienically conserved in jelly form, easy to swallow and delicious to taste.

On the receipt of a professional card samples will be gladly sent.

Write to Brand & Company, Ltd., Dept. F 30, Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S ESSENCES OF BEEF OR CHICKEN

Over 12,000 Doctors now obtain their own supplies of Ty.phoo tea from us.

a Physician writes re....

DYSPEPSIA AFTER TEA

Copy of M.1190.

"For several months this year I was troubled with dyspepsia, and I found that my habit of drinking about six cups of ordinary tea per diem was responsible for the trouble.

I decided to drink 'Ty.phoo' tea, and since using it I have had absolutely no dyspepsia in spite of the fact that I drink as much, if not more, than I used to."

C——, Esq., M.D., D.Ph.

WE print here one of the many Medical testimonials we are constantly receiving as to the undoubted value to dyspeptics of the pure natural "leaf-edge" tea in which we specialise.

Ask Sumner's Ty.phoo Tea Ltd., Dept. B/MD, Birmingham,

for a free sample of "Ty.phoo" natural leaf-edge tea and full particulars.

TRY "Ty.phoo" TEA in Indigestion.

TREATMENT

OF THE

RHEUMATIC DIATHESIS

WITH

URALYSOL

Thyminic Acid — Hexamethylene-Tetramine — Lysidin

TABLETS

GRANULES

Prepared by:

LABORATOIRES LOBICA

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd.

30 MARSHAM St., LONDON, S.W.1.

'NEPTAL'

Trade Mark BRAND

Hydroxymercuripropanolamide
of Orthoacetyloxybenzoic Acid.

A New and Highly Efficient Diuretic.

An organic mercurial agent of great service in nephritis, œdema of cardiac or renal origin, and in pleural or pericardial effusions.

Its chief characteristics are:

Freedom from toxicity in therapeutic doses.
Rapid and prolonged action.
Ease of administration.
The fact that it is well tolerated.

In ampoules of 1 c.c. Boxes of 6 at 2/6

Descriptive literature and clinical trial sample on request.

MAY & BAKER LTD.

BATTERSEA LONDON, S.W.11

Telephone: Battersea, 1813 (6 lines) *Telegrams:* Bismuth, London

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark

Clinically tested and proved all over the world

REMINERALIZATION
VITALITY
ENERGY

DEMINERALIZATION
CONVALESCENCE
NEURASTHENIA

SODIUM
CALCIUM
POTASSIUM
MANGANESE AND IRON
STRYCHNINE AND QUININE

FELLOWS MEDICAL MANUFACTURING COMPANY, Inc.
26 Christopher Street, New York City.

R AND C

Specially indicated in
NEPHRITIS - URÆMIA - ECLAMPSIA - ALBUMINURIA
and allied conditions.

PROMPT and proper diagnosis of kidney conditions is necessary in cases of Bright's disease and all types of renal disorders. In nine cases out of ten the administration of a specific capable of producing real results in compensating for the loss of kidney function is also necessary.

For more than a quarter of a century Nephritin has been a sheet anchor to physicians in treating such disorders. Nephritin Tablets induce a marked increase in nitrogenous waste elimination. They reactivate the cells of the kidney, increase urinary secretion, and induce a greater output of urea.

Given in sufficient dosage these tablets produce marked results, and restoration to normal is quickly stimulated. They are invaluable also as a prophylactic in renal complications of infectious diseases and during pregnancy. The tablets are composed of the hormones of the normal kidney as they appear in nature—*absolutely unaltered.*

Samples and Descriptive Literature from Sole Distributing Agents for U.K. and Irish Free State: COATES & COOPER, 41, Great Tower Street, London, E.C.3.

Nephritin

TRADE MARK BRAND
DIURETIC RE-ZYME TABLETS
Manufactured by
REED AND CARNRICK
Pioneers in Endocrine Therapy
Jersey City, New Jersey.

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative, "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

M 235

Dimol

The safest and most reliable non-toxic bactericide for all pathogenic conditions associated with an intestinal focus.

Recommended by the Medical Profession for over ten years. Supplied by the Admiralty for use in His Majesty's Ships and Royal Naval Hospitals.

Dimol Laboratories, Ltd., 40, Ludgate Hill, London, E.C.4.

HORLICK'S MALTED MILK has for many years been advocated as an excellent addition to the diet of the nursing mother, for whom correct dieting should be a matter of the greatest importance. It has been well said that the mother's milk is the baby's birthright. In the early months of life the foundation of baby's future health is laid, and among the many factors which go to the building of this foundation the quality and quantity of the mother's milk are of vital importance. Should the mother's dietary be deficient in any of the important food constituents, her own health and the quality of her milk will be adversely affected and baby will ultimately suffer in consequence. HORLICK'S MALTED MILK, made from full-cream cow's milk and the nutritive extracts of malted barley and wheat, contains all the food elements that the nursing mother needs. It is a well-balanced food, which invigorates and energizes. It stimulates mammary secretion, and ensures that baby's food requirements are adequately fulfilled; it makes the nursing period a joy, and not a time of worry and anxiety.

ACRIFLAVINE (BOOTS)

ONE of the most potent of modern antiseptics, physiologically pure and extremely soluble in water. ACRIFLAVINE (BOOTS) kills organisms in a concentration of 1 in 100,000. Its potency is actually increased in contact with serum. Now recognised as the routine preparation for irrigations in the treatment of Gonorrhœa. Ideal for suppurating wounds and all septic conditions.

Supplied in 5 gm. and 20 gm. bottles, and in Solution Tablets for external use (gr. 1.75 and gr. 2.187).

NEUTRAL - ACRIFLAVINE (BOOTS)

Is specially prepared for internal use (per os) in the form of enteric-coated tablets.

Supplied in 5 gm. and 20 gm. bottles; in Solution Tablets for external use (gr. 1.75), and in enteric-coated tablets (gr. ½) for internal use (per os).

BOOTS PRODUCTS
ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS
(Special Discount to the Medical Profession)

WHOLESALE AND EXPORT DEPARTMENT
BOOTS PURE DRUG CO. LTD.
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

When the buffer bodies are depleted

A pleasant, effervescent granular preparation composed of carefully selected salts of Sodium, Potassium, Calcium and Magnesium in physiologically correct proportions.

as in acidosis, acidemia and their correlated pathological disturbances, rational alkaline medication is essential.

Alka-Zane containing alkaline salts in proportions adapted to the physiological requirements of the body, promptly corrects hyperacidity, promotes diuresis and the restoration of the all-important alkaline reserve.

A trial will demonstrate the outstanding merits of

ALKA-ZANE

Literature and samples to physicians on request.

Francis Newbery & Sons, Ltd.,
31-33 Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC.
Manufacturing Pharmacists Since 1856.

On the Absorption of Sanatogen

Why it is that Sanatogen is absorbed with ease even by the weakest stomach.

The tonic influence of the glycero-phosphoric-acid in the chemical combination casein-sodium glycerophosphate (Sanatogen) makes the use of casein possible in cases where the patient has to a great extent lost his capacity of absorption (Tunnicliffe, Tischer-Beddies, Chajes, a.o.).

French authorities (Robin and others) ascribe to the glycero-phosphates a great influence on the utilization of the albumin in the body. The manufacture of Sanatogen is conducted under the strictest scientific control ensuring absolute purity, sterility and uniformly high dietetic value.

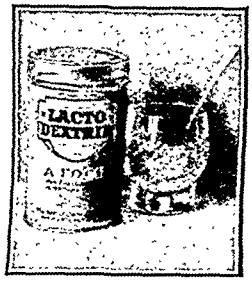
Samples and Literature will gladly be sent on request to:

GENATOSAN LTD., LOUGHBOROUGH, LEICESTERSHIRE.

FAVOURABLE REPORTS *in clinical use of this combination of Lactose and Dextrin*

FURTHER reports have recently been received giving testimony to the value of Lacto-Dextrin as a food for changing the intestinal flora. Lacto-Dextrin is highly efficient in promoting the growth and development of both B. acidophilus and B. bifidus in the colon.

Another important laxative agent for use in conjunction with Lacto-Dextrin is Battle Creek Psylla (psyllium seed). This emollient evacuant supplies both bulk and lubrication and is of special service in fissure and haemorrhoids.



Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, 41, Great Tower Street, London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA *(Psyllium Seed)*

LACTO-DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

Purity, Activity and Stability

INSULIN 'A.B.'

TRADE A B MARK

The world-wide supremacy of Insulin 'A.B.' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions.

Supplied in two strengths:

20 units per c.c. Packed in bottles containing:

5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing:

5 c.c. (200 units or 20 doses) 4/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession

Joint Licensees and Manufacturers:

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

The British Drug Houses Ltd.
Graham Street, London, N.1

VITAMALT

Containing Vitamins A, B and D.

A well-balanced food which ensures an adequate supply of these essential vitamins and which corrects disorders arising from deficiency of these important bodies.

Vitamalt has been skilfully blended to make a preparation which is easily assimilated and provides an acceptable form of vitamin medication.

During expectant and nursing motherhood Vitamalt provides a plentiful supply of vitamins and is a valuable aid to nutrition during this important period.

1/9 and 3/- per jar.

(Special Discount to the Medical Profession)

OBTAINABLE FROM

The Boots Chemists

OVER 900 BRANCHES IN GREAT BRITAIN

WHOLESALE AND EXPORT DEPARTMENT

BOOTS PURE DRUG CO. LTD.

NOTTINGHAM, ENGLAND

TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

Full size trial sample free to any medical practitioner, in British Isles, on application by postcard to Boots the Chemists, Station Street, Nottingham.

PITUITARY EXTRACT B.D.H.

(Posterior Lobe)

The presence of both pressor and antidiuretic properties in Pituitary (Posterior Lobe) Extract B.D.H. explains its usefulness in a variety of conditions such as surgical shock, intestina stasis, haemorrhage, the polyuria of diabetes insipidus, in insulin hypoglycaemia, urticaria and angio-neurotic oedema.

The special need for the use of a reliable standardised pituitary preparation is obvious, since different samples of products of this nature often vary considerably in activity.

Pituitary (Posterior Lobe) Extract B.D.H. is a stable solution of uniform potency and efficacy, every batch being tested for oxytocic power and for pressor effect before issue.

Literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Pit.Ext./17

HAY FEVER VACCINES

PROPHYLACTIC and CURATIVE

Immunisation should be commenced in susceptible patients now. In treatment the initial dose is determined by the

OPHTHALMIC TEST OUTFIT

Prepared for DUNCAN, FLOCKHART & CO. by the RESEARCH LABORATORY of the ROYAL COLLEGE OF PHYSICIANS, : : EDINBURGH : :

Literature on application to—

DUNCAN, FLOCKHART & CO.

EDINBURGH and LONDON

104, Holyrood Road 155, Farringdon Road, E.C.1

BOILS are best treated with soothing applications which will relax the distended skin, promote the removal of the exudate, and destroy the bacteria of the infection. ■ Antiphlogistine with its hygroscopic, antiseptic and prolonged thermogenetic properties, soothes the inflamed tissues, relieves pain and tension, and hastens resolution. ■ The use of Antiphlogistine in the treatment of furunculosis is a rational procedure of definite value.

For sample and literature address:

THE DENVER CHEMICAL MFG. COMPANY
(Inc. U.S.A. Liability Ltd.)
LONDON, E.3.

ANTIPHLOGISTINE

THE TUBERCULOSIS DANGER!

It has been stated in Parliament that *over two thousand children die every year through tuberculous milk.* How many children who survive grow up weaklings through the taint of bovine tuberculosis? This hardly bears thinking about. Cow & Gate Milk Food is guaranteed absolutely free from tuberculosis and other pathogenic organisms.

Read the following extract from the Presidential Address at the Royal Sanitary Institute Congress at Margate, it is of vital significance to the medical and nursing professions:

'The loss on the agricultural and veterinary side of 52,222 bovines during the three years 1926, 1927, 1928, slaughtered under the Tuberculosis Order of 1925, and at least twice that number not reported but otherwise disposed of, the estimate that 40 per cent. of the cows of our dairy herds producing milk for human consumption are tuberculous, are circumstances in themselves that demand immediate attention. But when to this is added the fact that in England 31.5 per cent. of tuberculosis in children up to 15 years is of bovine origin, and deaths from tuberculosis in children up to 5 years is 29.5 per cent. of bovine origin, that 57 per cent. of cervical adenitis in the same ages is of bovine origin, that 33 per cent. of bone and joint tuberculosis in children under 5 years and 24 per cent. in children from 5 to 10 years is of bovine origin, that in Scotland it is recorded that in certain hospitals in Edinburgh as much as 90.3 per cent. of cervical adenitis and 61.2 per cent. of bone and joint tuberculosis in children up to 12 years is of bovine origin, it is high time that this grave condition and this very serious menace to public health should be mended and ended. It is no credit to us as scientists and protectors of public health that such a state of affairs should be permitted to continue, or even to exist.'

-IS SAFE!

Another remark made at the meeting was as follows:

'It would be better to have no milk supplied at all than to feed children on diseased milk as is being done at present.'

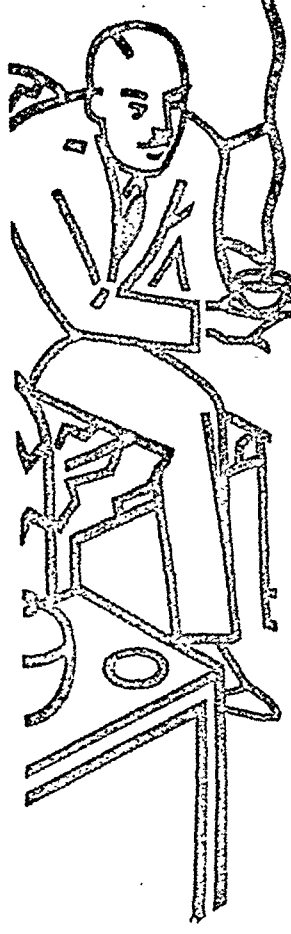
Cow & Gate Milk Food

COW & GATE MILK FOOD

is prepared by our Special Improved Roller Process employing a short heat treatment which destroys all disease organisms but leaves the natural vitamins unimpaired. It is a basic milk food which can be modified by the profession as they desire to suit each and every case.

WRITE FOR PARTICULARS OF OUR SPECIAL MILK FOODS FOR DIFFICULT INFANT CASES

Dept. 20 COW & GATE LTD., GUILDFORD, SURREY *B.M.J., April 11/31.*



with the caffein problem in mind—make the Night-Test

Do you have misgivings when you forbid a patient coffee? Do you doubt the patient's ability to say "No" to coffee's tempting fragrance?

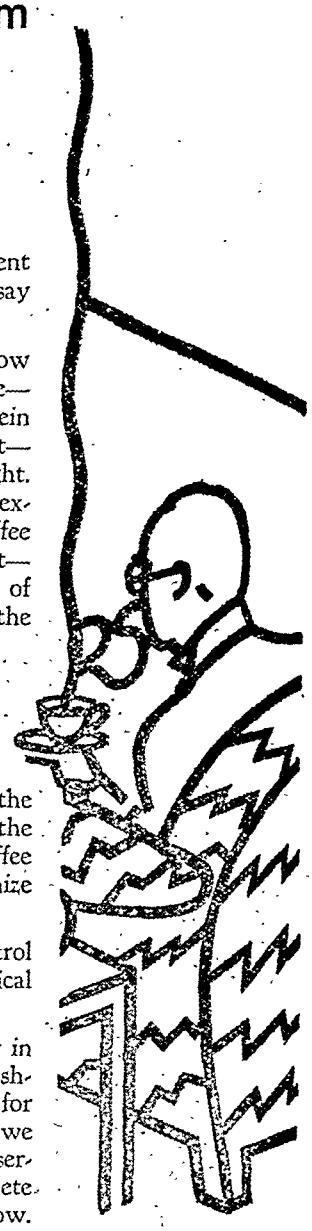
With this problem in mind, send the coupon below for a free vacuum-packed tin of H.A.G. Coffee—genuine, delicious coffee, with the effects of caffein minimized. When it arrives, make the night-test—drink your first cup of H.A.G. Coffee at night. Next morning you'll know, from your own experience, that any patient can drink H.A.G. Coffee without danger of caffein effect. More than that—you'll know that the rich, satisfying flavour of H.A.G. Coffee will shield the patient from the temptation to drink caffein-containing coffee.

Real coffee—delicious coffee!

H.A.G. Coffee is real coffee—a superior blend of the choicest Central and South American coffees. The decaffeination process takes place *before* the coffee beans are roasted. This leaves intact all the mellow flavour and fragrance that make coffee "the beloved beverage." Coffee experts recognize that no other blend is finer.

H.A.G. Coffee is under the Independent Control of The Institute of Hygiene and British Analytical Control.

Your grocer stocks H.A.G. Coffee—ground or in the bean and in vacuum tins that preserve its freshness and its fragrance. Or send the coupon below for a liberal sample tin of H.A.G. Coffee. With it we shall be pleased to send a copy of "Some Observations of the Action of Caffein," a more complete discussion of H.A.G. Coffee. Send the coupon now.



H.A.G.

GENUINE · DELICIOUS

COFFEE

WITH THE EFFECTS OF CAFFEIN MINIMIZED

H.A.G. COFFEE COMPANY,
40 Theobald's Road, W.C.1

Please send me free of charge a liberal sample of H.A.G. Coffee—also the booklet "Some Observations of the Action of Caffein."

Name _____

Address _____

B.M.J.

Fabritius, Oslo.

The Superiority of Cod Liver Oil as a Cure for Rickets

Leading Authorities have proved by the most painstaking researches that:

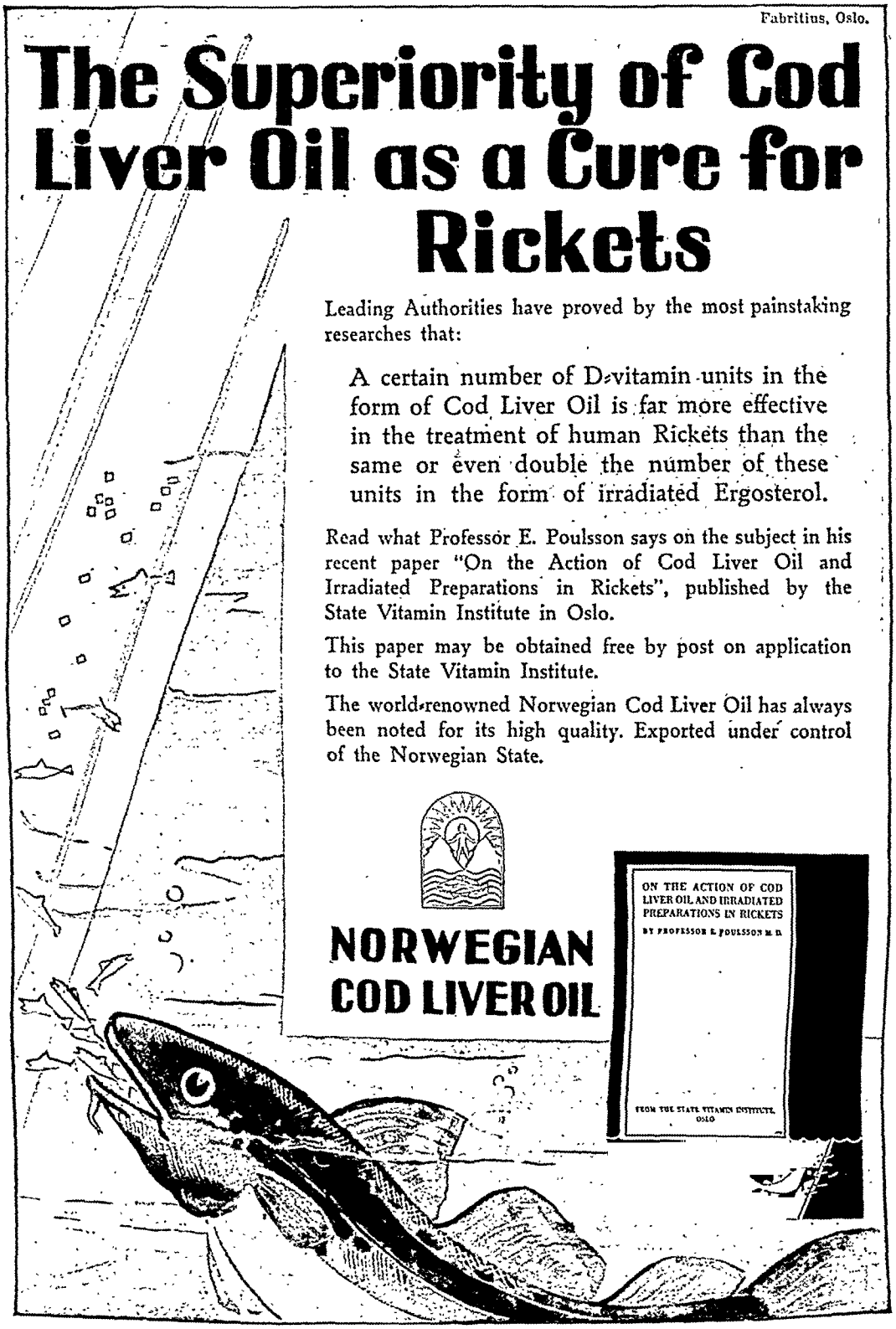
A certain number of D-vitamin units in the form of Cod Liver Oil is far more effective in the treatment of human Rickets than the same or even double the number of these units in the form of irradiated Ergosterol.

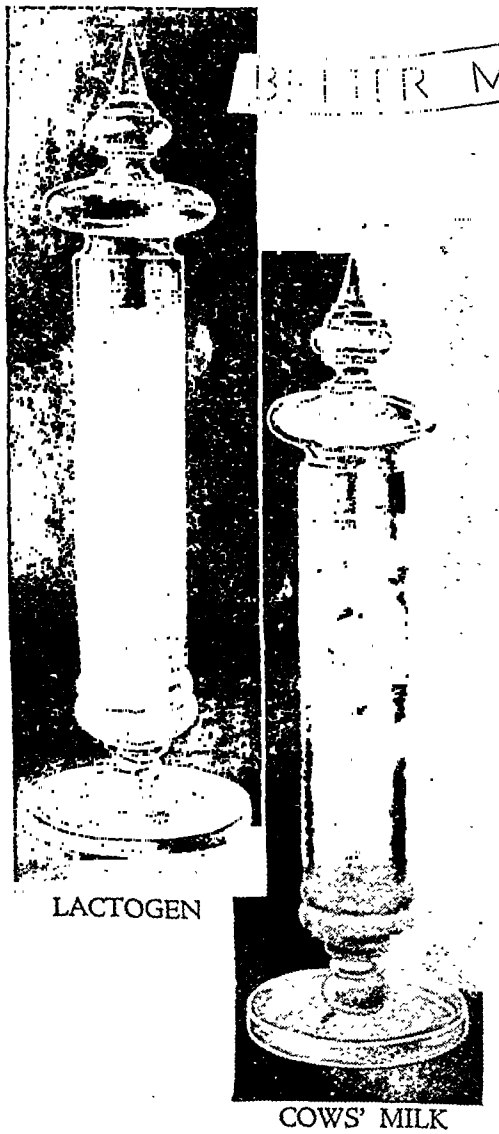
Read what Professor E. Poulsson says on the subject in his recent paper "On the Action of Cod Liver Oil and Irradiated Preparations in Rickets", published by the State Vitamin Institute in Oslo.

This paper may be obtained free by post on application to the State Vitamin Institute.

The world-renowned Norwegian Cod Liver Oil has always been noted for its high quality. Exported under control of the Norwegian State.

NORWEGIAN COD LIVER OIL





LACTOGEN COWS' MILK

FACTS ABOUT
LACTOGEN

Digestibility

*(2) The Protein Content

The digestibility of any milk diet is to a large extent governed by the nature of the curds formed during digestion. The large firm curds of unmodified cows' milk are in marked contrast to those of breast milk, which, being fine and flaky, are easily digested. In the preparation of Lactogen the protein undergoes an essential modification, and the curd formed during digestion is of a finely flocculent nature so characteristic of the natural diet. Lactogen provides a protein allowance comparable with that of maternal milk—in nutritive value and ease of digestion.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

Free Samples
with detailed descriptive literature will be sent to any Member of the Medical Profession upon request.
Lactogen Bureau (Dept. Z41), Nestlé and Anglo-Swiss Condensed Milk Co., 6 & 8, Eastcheap, London, E.C.3.

66 LACTOGEN 99
REGD TRADE MARK

BETTER MILK FOR BABIES

*The previous advertisement dealt with (1) The Fat Content Copies may be had free upon request.

'Lubrone'

CATHETER LUBRICANT

A water-soluble antiseptic lubricant for catheters, surgical instruments, etc., of use in surgical and gynæcological practice. 'Lubrone' is not sticky or greasy, does not injure instruments, rubber attachments or the surgeon's hands and is easily removed by water.

Allen & Hanburys Ltd.
37 Lombard St.
London : E.C. 3

Telephone No.—7531 (two lines) MANSION HOUSE Telegraphic Address—"ALLENBURYS STOCK LONDON"

A POWERFUL URINARY ANTISEPTIC

"Cystazol"

Compressed Tablets of "Cystazol"
Supplied in bottles of 20, 40, 80, 160 and 500 (10 grain) tablets

"Cystazol" is a combination of Hexamine with Sodium Benzoate: its action depends on the liberation of formaldehyde from the decomposition of the hexamine that takes place in the urine which has been rendered acid by the sodium benzoate moiety. "Cystazol" is employed with advantage in cystitis, bacilluria of all types, pellagra, gonorrhœa and septic conditions of the urinary tract generally.

Descriptive literature and clinical trial sample will be sent post free on application.

Effervescent Granules of "Cystazol"
Supplied in 8 oz. bottles containing 4 oz. by weight of Effervescent Granules of "Cystazol"

Allen & Hanburys Ltd.
London, E.2

Telephone: Bishopsgate 3201 (10 lines) *Telegrams:* "Greenbury, Edo London"

Introduction to the Medical Profession of

Feen-a-mint

REG. TRADE MARK

The Chewing Laxative

In these days when the number of remedies for constipation is legion, and when almost the whole field of materia medica has been explored, some justification is necessary for bringing yet another laxative to the notice of the Medical Profession.

The laxative is Feen-a-mint, and it carries its own justification—as a trial will readily and most satisfactorily demonstrate.

Feen-a-mint is added to the therapeusis of constipation because it embraces the very desiderata of treatment often lacking in many so-called remedies.

The composition of Feen-a-mint is simple (the active principle being the well-known phenolphthalein) but its *presentation* is a matter of great importance, and one which secures very complete therapeutic results.

In Feen-a-mint, phenolphthalein — in a state of remarkably fine division—is incorporated into a resinous gum base.

This product is intended for thorough mastication by the patient—which further aids sub-division and even distribution on the walls and contents of the intestine, with resulting peristaltic waves—free from griping and without irritation to the intestinal or urinary tracts.

The defæcation from Feen-a-mint is easy and satisfactory, whilst the re-action is the comfort arising from a completely emptied colon.

In a word—Feen-a-mint is the Ideal Laxative because it really ensures evacuation without secondary effects of any kind. It is very agreeable to the palate.

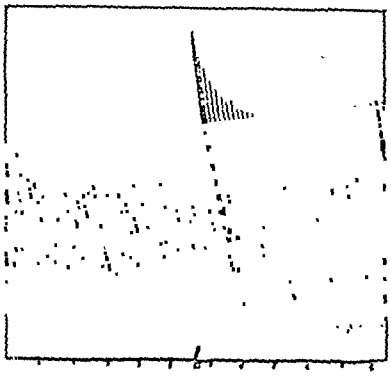
INDICATIONS

CONSTIPATION of all types at all ages. As an eliminant of toxins in pregnancy where other anti-constipative measures have failed.

Prescribing Note :—Feen-a-mint is not therapeutically incompatible with any drug or treatment, and further it is not absorbed.

★ SAMPLE OFFER—*Free of all charge or obligation, clinical samples will be sent on request.*

FEEN-A-MINT PRODUCTS LTD., 1 BUSH HOUSE, LONDON, W.C.2



This tracing was obtained by adding 'DIGINUTIN' to a bath of modified Ringer solution at 37° C., in which a rabbit's auricle was suspended. The time in intervals of two seconds is shown. The first part of the tracing shows the normal beat and the second the increased force of contraction three minutes after the addition of 'DIGINUTIN'

Cardiac failure with regular pulse

Kymograph illustrating the type of action relied upon to produce clinical improvement in such cases.

In this and all other suitable heart conditions, always prescribe 'DIGINUTIN' which, being stable and potent, ensures accurate doses

TRADE 'DIGINUTIN' MARK

(For Oral Administration)

A solution of the total glucosides of digitalis leaf, physiologically standardised. Biological tests show no loss in activity after storage for 12 months

Prices in London to the Medical Profession:
Bottles of 1 fl. oz. 2/- each, and 8 fl. oz. 12/- each

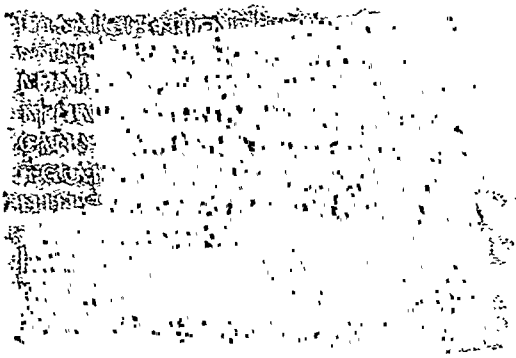
BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

PIONEERS AND EMPIRE BUILDERS: No. 592
NINTH PERIOD—circa A.D. 300 to c. 1900



THE EARLIEST EXAMPLE OF LITERARY WRITING IN A GERMANIC TONGUE.—Ulfilas, born and bred among the Goths of the Danube region, became the great missionary bishop to the Goths and sent out other missionaries to the Gothic peoples beyond the Danube. He translated the Scriptures into the vernacular, for which purpose he invented an alphabet. Surviving fragments of his manuscripts are the source of our knowledge of the now lost Gothic speech. (An example is illustrated). Ulfilas has been called "The father of Teutonic literature." A pupil describes him as a man "of most upright conversation, truly a confessor of Christ, a teacher of piety and a preacher of truth; a man whom I am not competent to praise according to his merit, yet altogether keep silence I dare not."

DATE: Ulfilas, A.D. 311–383.
The MS. A.D. c. 500–600

COPYRIGHT

BACTÉ-PHAGES

preparations of

THERAPEUTIC BACTERIOPHAGES

BACTÉ-INTESTI-PHAGE—For Intestinal Infections.

BACTÉ-COLI-PHAGE—For Bacillus Coli Infections.

BACTÉ-RHINO-PHAGE—For Respiratory Tract Infections.

BACTÉ-PYO-PHAGE and

BACTÉ-STAPHY-PHAGE—For various Purulent Infections.

BACTÉ-DYSENTERI-PHAGE—For Acute Bacillary Dysentery.

Manufactured by Le Laboratoire du Bacteriophage, Paris, under the scientific control of Prof. d'Herelle, and imported under Licence granted by the Ministry of Health.

Literature and Samples on request.

THE ANGLO-FRENCH DRUG CO., LTD.

238a, Gray's Inn Road, LONDON, W.C.1

Vitamin "D" Potency

of

CADBURY'S MILK CHOCOLATE

This well-known chocolate contains 1 unit of anti-rachitic activity per gram.

Made in the Factory in a Garden, Bournville.

Observations on SOME TENDON RUPTURES*

BY

HARRY PLATT, M.D., M.S., F.R.C.S.

SENIOR HONORARY SURGEON, ANCOATS HOSPITAL, MANCHESTER; LECTURER IN ORTHOPAEDIC SURGERY, UNIVERSITY OF MANCHESTER

Tendon ruptures may be divided into two main groups: (1) The common rupture, produced by the sudden powerful overstretching of a muscle already in a state of contraction. Well-known examples of this type are disinsertion of the extensor tendons of the fingers, and ruptures of the tendo Achillis, rectus femoris, and ligamentum patellae. (2) This comprises a less common and more insidious form of rupture—spontaneous rupture—seen in certain tendons which occupy a bony groove. In these circumstances the rupture is determined by a pre-existing adhesion of the tendon, which gradually becomes attenuated, and ultimately snaps across in response to a comparatively trivial violence. The tendons most liable to rupture by this process of attrition are the extensor longus pollicis and the long head of the biceps. Tendon ruptures may also be classified according to the site of the tear, which may take place (*a*) at the musculo-tendinous junction, (*b*) in the tendon itself, or (*c*) at the point of insertion. Tears in the neighbourhood of the musculo-tendinous junction are almost invariably incomplete, and from a functional standpoint are equivalent to partial tears of the muscle belly—lesions which are usually included under the generic title "strain."

This paper is mainly concerned with the problems of early diagnosis and operative repair in some of the more important complete ruptures. The subject is illustrated by references to typical tendon ruptures selected from my own cases.

Disinsertion of the Extensor Tendons of the Fingers (Mallet Finger)

Avulsion of an extensor communis digitorum tendon is produced by a sudden forced flexion of the terminal phalanx from a blow on the tip of the finger. This injury has been frequently observed in baseball players and in cricketers. It also occurs in a variety of circumstances, and often from what appears to be most inadequate violence. It happens not uncommonly to the housewife or hospital nurse when bed-making. Usually the tendon fibres are completely detached from the margin of the distal phalanx, and may carry with them a tiny wedge-shaped flake of bone (Fig. 1).

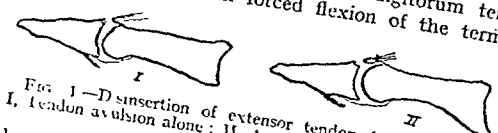


FIG. 1.—Disinsertion of extensor tendon (mallet finger). I, Tendon avulsion alone; II, Avulsion with bony fragment.

Clinical Picture.—The considerable localized swelling which develops in the first twenty-four hours tends to conceal the chief diagnostic sign—the loss of the power of extending the terminal phalanx. For this reason the true state of affairs is frequently overlooked in the early stage. Later, the dropped phalanx and the lack of extension become increasingly apparent, and constitute the typical mallet finger (Fig. 2). The swelling often disappears slowly, and the finger continues to be painful for some weeks. In neglected cases the proximal interphalangeal joint becomes hyperextended and the finger is unsightly and awkward when used.

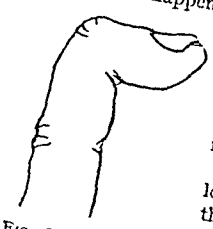


FIG. 2.—Mallet finger; extreme degree.

Treatment.—Excellent results follow the prompt treatment of this injury by prolonged and uninterrupted fixation of the terminal phalanx in a position of hyperextension. A period of not less than four to six weeks is required to ensure sound repair. This fact must be impressed upon the patient, who is apt to regard the accident as a trivial affair. The technique of fixation is most important. A malleable metal splint strapped to the flexor surface of the finger may be used, but offers a strong temptation to the patient to remove it at too early a date. A more effective method is to enclose the whole digit in plaster-of-Paris applied directly to the skin, with a small "sticky felt" pad inserted under the hyperextended terminal phalanx. The proximal interphalangeal joint should be held in a position of very slight flexion in order to counteract the tendency to subluxation with hyperextension (Fig. 3). On removal of the plaster at the end of six weeks, cautious mobilization of the digit is begun, but if the phalanx tends to drop after a few days' treatment, a further period of fixation is necessary. If seen within a few weeks from the date of the accident, a mallet finger should be treated by the method of fixation described above for the full period. Even at this late stage the tendon may become reattached, and reasonable power of active extension of the terminal joint may be regained.

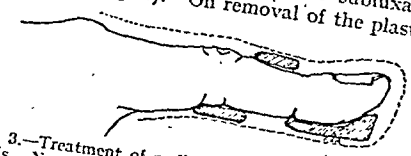


FIG. 3.—Treatment of mallet finger by fixation in plaster-of-Paris. Note position of felt pads.

Repair of the avulsed tendon by operation has been advocated and practised both in the early and in the late stage, but is regarded by most surgeons as an unsatisfactory technical procedure. A comparatively large incision encroaching on the nail bed is needed, and it is difficult to obtain a firm hold for the finest suture material in the fragile end of the tendon and the tissues around the base of the phalanx. In the considerable number of mallet fingers which I have seen and treated, operative repair has been attempted in two cases only. In both, the injury was six weeks old and the result of the operation was disappointing; there was impaired mobility at the terminal joint, with feeble power of active extension of the terminal phalanx.

Biceps Injuries

Proximal Tendons

Rupture of the long head of the biceps is by no means an uncommon injury, but the short head appears to be immune. The long tendon may be torn across: (*a*) in the bicipital groove—extra-articular rupture; or (*b*) may be avulsed from its insertion to the upper margin of the glenoid cavity—intra-articular rupture. The rupture may follow a sudden overstretching, such as occurs during heavy lifting, or may develop insidiously when the tendon has become adherent owing to arthritic changes in the shoulder-joint. Spontaneous rupture is said to occur in elderly subjects quite apart from arthritic changes, and may be preceded by an actual dislocation of the tendon from its groove.[1] When divided by attrition the tendon usually acquires a secondary attachment to the humerus. The majority of spontaneous ruptures have been discovered in the dissecting room, but occasionally the condition is recognized by chance in individuals who give no history of injury.

* Based on a lecture delivered to the Students' Medical Society, Medical School of the University of Leeds, January 27th, 1931.

Symptoms.—The immediate symptoms are typical of tendon ruptures in general. Owing to the depth of the tendon, localized swelling is little marked, and the absence of the tendon when the muscle comes into play may be difficult to demonstrate. Careful testing may show some diminution in the power of flexion of the elbow and supination of the forearm when compared with the opposite side. This injury, like others, is commonly overlooked in the early stage. Later, a flabbiness of the muscle belly, with the bulge nearer the elbow than normal, is the most important sign (Fig. 4).

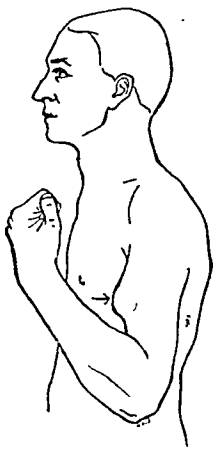


FIG. 4.—Old rupture of long head of biceps. Note bulge and retraction of muscle belly.

Treatment. — When a recent rupture is diagnosed in a man in the prime of life, an attempt should be made to repair the tendon by operation. In avulsion of the tendon from the supraglenoid tubercle, reattachment is likely to be impracticable; but in the bicipital groove end-to-end suture should present little difficulty. When direct repair is impossible the proximal end may be passed through the short head and fixed to the coracoid process.[2] In long-standing ruptures in elderly individuals operation is rarely worth while.

My series of operations for complete tendon ruptures includes no example of rupture of the long head of the biceps.

Distal Tendon

Rupture of the biceps tendon of insertion at the elbow is an exceedingly rare injury. I can find no record of this lesion in surgical literature. Three years ago I had the unusual experience of operating on a patient who, some forty-eight hours previously, had sustained a complete avulsion of the tendon from the bicipital tubercle.

CASE 1

A male, aged 44, while handling a model gear-wheel, stepped back suddenly to prevent the wheel falling on him. Soon afterwards the left elbow became very swollen and painful, and a definite weakness in the power of flexion of this joint was noted. When examined twenty-four hours later there was marked swelling and bruising in the left ante-cubital fossa. The biceps belly was soft and flabby, and retracted to a higher level. When the elbow was actively flexed the muscle was obviously out of action and the distal tendon could not be felt. Operation was advised and accepted.

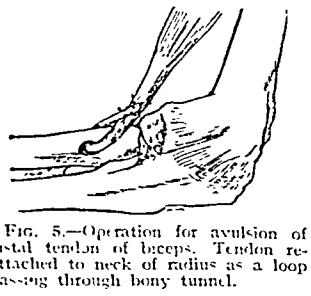


FIG. 5.—Operation for avulsion of distal tendon of biceps. Tendon re-attached to neck of radius as a loop passing through bony tunnel.

An incision was made along the line of the biceps in the ante-cubital fossa and a considerable haematoma evacuated. There was no trace of the bicipital fascia, which had evidently been completely torn across. The tendon was discovered lying curled up like a snake, with its free end slightly oedematous and rounded. The neck of the radius was then exposed, after retracting the brachial artery and median nerve to the inner side and the musculo-spiral nerve to the outer side. The bicipital tubercle was seen to be quite bare: there remained no trace of any fibres of insertion to which the avulsed tendon could be reattached. The tendon was therefore passed through a tunnel drilled transversely in the neck of the radius, and on emergence was sutured to itself under fair tension, with the elbow in the position of right-angle flexion (Fig. 5). After closure of the wound, the arm was fixed in this position in a light plaster-of-Paris cast. Faradic stimulation of the biceps was begun ten days later, and at the end of a fortnight gentle active movements of the elbow were encouraged. Six months later the biceps muscle was acting with full power; a strong tendon could be felt in the ante-cubital fossa, and there was a complete range of movement at the elbow-joint.

RUPTURE OF THE EXTENSOR LONGUS POLLICIS

Rupture of the long extensor of the thumb in the radial groove (Fig. 6) is the best known of the spontaneous tendon ruptures, and numerous examples have been recorded in the surgical literature of various countries.[3] The condition occurs either as an isolated lesion or as a sequel of fracture of the lower end of the radius. The former type was probably first recognized and described

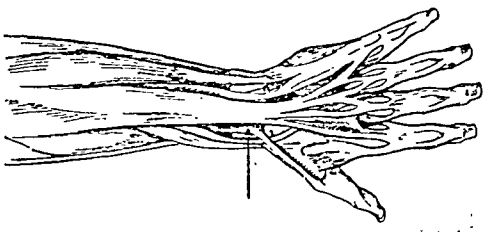


FIG. 6.—Extensor longus pollicis. Site of rupture in bony groove.

many years ago by German military surgeons under t title "kettle-drummer's palsy" (von Zander). In t drummer the rupture has most frequently been seen the left hand, and is generally preceded by a painf tenosynovitis caused by the prolonged use of the dru stick. When the lesion is associated with fracture, t tendon rupture takes place some weeks after the occu rence of the bony injury. The sequence is fracture, di tortion of the tendon groove, adherence of the tendo gradual attrition, rupture. Seven cases have come und my personal observation during the past three year one was that of a weaver in whom the rupture follow an occupational tenosynovitis; the remaining six ca were all associated with fracture of the lower end of t radius. In four cases, the tendon was repaired by ope tion; three patients declined to submit to operation.

CASE 2

Bricklayer, aged 23. Fracture of the lower end of t right radius with very little displacement; returned to wo seven weeks later; worked for five weeks; gave up wo owing to weakness in the thumb and inability to gra bricks. When examined nine months later, extensor long pollicis out of action. The operation of end-to-end sutu was performed. Tendon in groove represented by a f strands of scar tissue. Ends trimmed and approximat under tension; suture reinforced by a fine strip of fas lata. Repaired tendon not replaced in the groove; oblic course not preserved. The result was fair function, but was marred by late stretching of repaired tendon, and by l of obliquity.

CASE 3

Male, aged 50. Colles's fracture with very slight displ ment; five weeks later he felt something snap in his thu while putting on a glove. Examined twenty-four ho later, extensor longus pollicis tendon out of action. Sut was done ten days after rupture. No trace of tendon groove; considerable retraction of ends. End-to-end sutu oblique course preserved. Perfect restoration of func resulted.

CASE 4

Male, aged 18. Subperiosteal fracture of lower end radius with no displacement; perfect function seen a three weeks; worked for eight weeks, then noticed inabi

to straighten the end of the thumb. Examined eleven weeks after rupture, extensor longus pollicis tendon out of action. Tendon in groove intact and not adherent; below groove, tendon showed a fusiform expansion, and was obviously elongated. Resection of fusiform swelling; end-to-end suture. Function was perfectly restored.

Probably this was an incomplete rupture which had healed, leaving an elongated tendon.

CASE 5

Colles's fracture in a female, aged 19, united with considerable deformity; fair functional result. One year later patient found herself unable to straighten the end joint of the thumb. No history of any fresh injury or of preceding discomfort. Examination showed extensor longus pollicis tendon out of action. At operation there was no trace of tendon in groove, which was much distorted; owing to size of the gap, end-to-end suture impracticable. Gap closed by free tendon graft (from extensor longus digitorum of the foot); oblique course preserved by passing tendon through fascial pulley (Fig. 7). Perfect result.

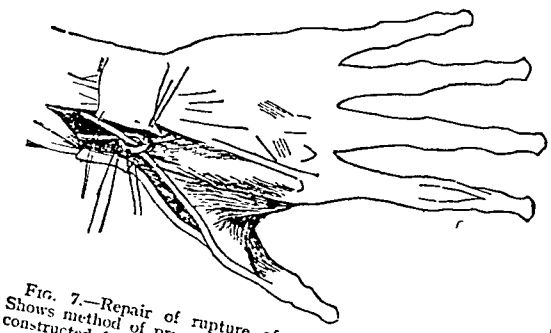


FIG. 7.—Repair of rupture of extensor longus pollicis. Shows method of preserving obliquity of tendon by pulley constructed from fascia.

Diagnosis.—The diagnosis of rupture of the extensor longus pollicis rests on two signs: (1) inability to extend the dropped terminal phalanx of the thumb against resistance; (2) absence of the subcutaneous bowstring normally formed by the tendon when the thumb is fully extended. It is sometimes possible to feel the distal part of the divided tendon and to demonstrate its unusual laxity. The loss of function may also be demonstrated by stimulating the muscle belly by the faradic current. When the distal end acquires a stout adherence to the lower end of the radial groove, dropping of the proximal phalanx is often inconspicuous.

Treatment.—Repair by operation should be undertaken without delay. In a recent rupture, before wide retraction of the ends has taken place, direct suture is usually feasible. In order to secure perfect function the oblique course of the tendon should be preserved, but if the bony groove is much distorted, or the localized scarring is considerable, the original bed is unsuitable for a newly repaired tendon. The construction of a pulley from a free fascial graft, as used successfully in Case 5, is a method of overcoming this difficulty (Fig. 7). In older ruptures, where a considerable gap remains to be closed, direct suture is also the method of choice, but if impracticable, a free tendon graft should be inserted. Alternatively, the distal end of the tendon may be attached to one of the short thumb tendons, a procedure which cannot restore independent action in the long extensor, but which prevents the dropping of the terminal phalanx. After any form of operative repair the thumb should be supported in full extension for three weeks. Early function should be encouraged from the seventh day onwards by faradic stimulation of the muscle belly in the forearm.

RUPTURE OF FLEXOR PROFUNDUS DIGITORUM

My series contains a single example of a rare tendon injury—rupture of one of the long flexor tendons of the fingers.

CASE 6

Rupture of flexor profundus digitorum of left ring finger in a male, aged 16. Swelling in palm of left hand after playing Rugby football. Played two or three games during the next few weeks without much difficulty, but was aware that he could not bend the end joint of the ring finger. Examination two months after "injury" disclosed a localized swelling in the left palm in long axis of metacarpal of ring finger; complete inability to flex terminal phalanx of this digit. The common flexor sheath of the ring finger was opened in the palm; proximal end of ruptured profundus tendon swollen and rounded; no trace of distal end. Skin incision prolonged along finger; distal portion of tendon identified, consisting of thin strand extending from site of bifurcation of the sublimis tendon to point of insertion; obviously unsuitable for use in direct repair. Gap could not be closed by direct suture. Free tendon graft from palmaris longus sutured to proximal end of profundus tendon, and sutured to the remains of profundus tendon in the region of its insertion. After-treatment consisted of faradic stimulation of the muscle through normal split in the sublimis, and sutured to the belly in forearm begun on the fifth day. The result was restoration of fair power of flexion of the terminal phalanx.

This case illustrates (*a*) the considerable retraction of the proximal end which occurs in rupture of a flexor tendon; (*b*) the rapid degeneration of the distal end within a few weeks after the rupture; (*c*) the restoration of continuity by a free tendon graft.

TENDO ACHILLIS

Rupture of the tendo Achillis is essentially an injury of middle life, and may be produced in many diverse circumstances. The clinical picture has been familiar for centuries, and accurate descriptions can be found in the writings of Ambroise Paré, J. L. Petit (1721), and the Edinburgh anatomist and surgeon Monro (1781), who, like John Hunter, was himself a victim of this accident.

Although incomplete ruptures of the Achilles tendon occur, they are admittedly rare, except in the region of the musculo-tendinous junction, where the lesion is popularly but incorrectly described as rupture of the plantaris. It is believed that an incomplete tear in the lower part of the Achilles tendon may be converted into a complete rupture by a second injury a few days or weeks later—the rupture "en deux temps" of the French writers Quénu and Stoianovitch.[4] In the ordinary complete rupture the tendon gives way through its narrowest part about one and a half inches above its insertion. The rupture may be represented by a clean transverse section, or the tendon bundles may break at different levels, leaving ragged and "skein-like" ends. The sheath may be uninjured, but more frequently there is a localized tear. The sheath remains intact on the posterior aspect. Immediately following the rupture the proximal end retracts owing to the pull of the powerful calf muscle. The interior of the sheath rapidly fills with blood, and the walls of the sheath become oedematous. It is a striking fact that the plantaris tendon almost invariably remains intact (Fig. 8).

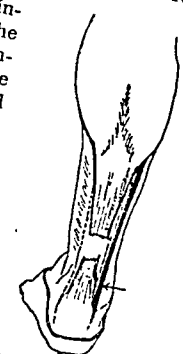


FIG. 8.—Complete rupture of tendo Achillis. Note that plantaris remains intact.

Clinical Picture.—At the moment of rupture the patient experiences a sudden pain, sharp and stabbing, as if from a direct blow over the tendon. The immediate disability is usually considerable, and in a short time the injured region becomes swollen and tender. If a complete

rupture of the tendo Achillis is overlooked, and the unfortunate patent is encouraged to walk about, the whole foot becomes swollen and painful. At a later stage the sheath and the swollen proximal and distal ends of the tendon are often exquisitely tender. In untreated ruptures the thickened sheath becomes adherent to the tendon ends, and acts as a feeble bond of union. The calf muscle remains elongated, and the power of plantar flexion is permanently impaired.

Diagnosis.—The diagnosis of complete rupture of the tendo Achillis is not always a simple matter, and particularly when the leg is examined twenty - four hours after the accident. The intact plantaris tendon, and the distended and oedematous sheath, mask the gap and give an impression of unbroken continuity. It is thus not surprising that complete rupture of the tendo Achillis frequently escapes diagnosis. A careful scrutiny, however, should establish the existence of the following signs: (1) A gap into which at least one finger can be introduced, and which is increased by dorsiflexing the foot. (2) High retraction of the calf belly. (3) An abnormal range of passive dorsiflexion when compared with the uninjured side (Fig. 9). This is perhaps the most important diagnostic sign of all; it is absent in partial ruptures. (4) The loss of true gastrocnemius and soleus action in plantar flexion, a movement still carried out with fair vigour by a combination of the peroneus longus, tibialis posticus, and long flexors of the toes. The break in continuity in the tendon may also be demonstrated in a lateral radiogram taken with a soft tube, a useful method of examination which should not be omitted in doubtful cases.

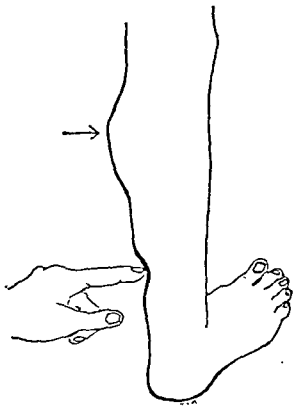


FIG. 9.—Complete rupture of tendo Achillis. Note (*a*) gap; (*b*) high retraction of calf; (*c*) abnormal range of dorsiflexion at ankle-joint.

Treatment.—Recent complete ruptures should be repaired by operation as soon as possible. After opening the tendon sheath and evacuating the contained clot traction is applied to the proximal end of the divided tendon. With the calf fully relaxed by plantar-flexing the ankle and flexing the knee, the ends can be approximated without undue tension. Contact is best maintained by a stout transfixion suture of kangaroo tendon inserted transversely well above and below the line of rupture. Additional security is provided by a number of catgut stitches of lesser calibre. Absorbable suture material is as a rule preferable, and more especially when there is much induration of the tendon ends. In the sliding tears with ragged bundles there is a tendency for the sutures to cut out. In such circumstances the site of union should be reinforced by a living suture fashioned from a strip of fascia lata. The sheath should be carefully restored whenever practicable. At the completion of the operation the leg is fixed in plaster-of-Paris, with the foot in full plantar flexion and the knee in flexion. Three weeks later the foot is brought gently to the right-angle position, and a plaster applied, in which the patient is allowed to walk. Six weeks from the time of the operation the plaster is removed, and walking allowed in a slipper with an elevated heel. Massage, faradic stimulation of the calf muscle, and graduated exercises follow, with re-education in the normal heel-and-toe gait. The ultimate results of suture of the tendo Achillis in recent ruptures are eminently satisfactory. If for any reason operation is contraindicated, the foot should be fixed in full equinus for six weeks in the hope that a fibrous tissue bridge may form in the gap.

In old, neglected ruptures seen a few weeks or even months after the injury, the great retraction of the calf, the fibrous infiltration of the tendon ends—which now require trimming—and the adhesion of the sheath, are factors which enhance the difficulty of operative repair. In order to obtain even bare contact of the divided ends it is necessary to mobilize the proximal part of the tendon and gastrocnemius belly for a considerable distance, and to apply powerful traction with the knee flexed. In my judgement, reinforcement of the suture line by a strong fascial strip is essential in all late repairs. The plantaris tendon may also be used as a reinforcement (see Case 15). In exceptional ruptures where the gap cannot be closed by direct suture, either the turning down of a flap or the insertion of a free tendon graft must be contemplated; procedures which restore continuity at the expense of a permanently lengthened calf. Of the two alternatives, in my opinion, the graft is to be preferred, as the fibrosed avascular proximal end of the Achilles tendon is most unsuitable material for a living bridge. If a graft is used it may be wise to strengthen the power of plantar flexion by transplanting the peroneus longus and tibialis posticus to the os calcis at the site of the Achilles insertion (Case 9).

Case Records of Complete Ruptures of Tendo Achillis

Case	Sex, Age, etc.	Accident	Operation	Result
7	F., 43 Left	Tennis. Undiagnosed for several weeks	Tendon grafting (3 months [illegible] ends ragged	Good function; [illegible]
8	M., 42 Left	Tennis		
9	F., 26 Left	Jumping a vaulting horse. Undiagnosed for 6 months	Tendon grafting + transplantation peroneus longus and tibialis posticus to os calcis (6 months after injury). Plantaris intact	Perfect function; plays all games
10	M., 45 Left	Badminton	Suture, with fascial reinforcement (5 days after injury). Plantaris intact	Perfect function
11	M., 49 Right	Badminton	Suture (2 days after injury); fascial reinforcement. Plantaris intact	Perfect function
12	M., 40 Left	Tripped over a stone	Suture; fascial reinforcement (5 weeks after injury). Plantaris intact	Perfect function
13	M., 60 Left	Turning round suddenly, twisted left ankle	Suture (2 weeks after injury). Plantaris intact	Perfect function
14	M., 58 Left	Slipped on deck of liner	Suture (9 weeks after injury); reinforcement by flap and fascial strip. Plantaris intact	Perfect function; has since climbed Matterhorn
15	M., 54 Right	Caught foot in a hole in the floor. Undiagnosed for some weeks	Suture (9 weeks after injury); reinforcement by plantaris	Perfect function
16	M., 38 Right	1. High diving; pain back of calf 2. Nine weeks later, strained right ankle; felt similar pain	Suture (12 weeks after injury); fascial reinforcement. Plantaris intact	Excellent function six months later; further improvement anticipated
17	M., 41 Left	1. Jumping on sandy beach; (?) rupture of tendo Achillis 2. Four weeks later walking up steps felt something snap above heel	Suture (6 weeks after injury). Plantaris intact	Perfect function

RECTUS FEMORIS

The strong rectus femoris tendon may be torn across during a powerful muscular contraction as an alternative to the more familiar injury, fracture of the patella. The mass of tendon fibres are usually avulsed from the upper [illegible] slender deep

strip may remain intact. The suprapatellar pouch of the knee-joint is torn and a haemarthrosis develops. The victims of this injury are almost invariably past middle age, and the clinical picture is typical of tendon ruptures in general. The gap in the line of the tendon is usually obvious, and in spite of the integrity of the vastus externus and internus, the power of active extension of the knee is completely lost. My own operative experience of this injury comprises three cases only—in vigorous men 72, 58, and 68 years of age respectively—and in each instance the result was complete restoration of function.

Cases of Rupture of Rectus Femoris

Case	Sex, Age, etc.	Accident	Operation	After-treatment
18	M., 72 Left	Slipped and fell on icy footpath	Suture (1 week after injury); slender deep strip intact	Faradic stimulation of quadriceps after tenth day. Active mobilization after 3 weeks
19	M., 58 Left	Slipped with leg underneath him	Suture (3 days after injury)	As above
20	M., 68 Left	Slipped while walking downstairs	Suture (4 days after injury); deep strip intact	As above

LIGAMENTUM PATELLAE

Rupture of the ligamentum patellae is the least common injury of the knee extensor mechanism. The upward retraction of the patella, the absence of the ligament, and the loss of power of extension of the knee are the obvious diagnostic signs. In a recent rupture direct suture should always be feasible. In a long-standing untreated rupture, where there is marked retraction of the quadriceps and patella, and the ligament is represented by an attenuated fibrous band, the construction of a new ligament is necessary. The technique of such an atypical procedure is illustrated in the two examples of this injury in my series.

CASE 21

Male, aged 50. Complete rupture of left ligamentum patellae, sustained six months previously. Operation was done to reconstruct ligamentum patellae by free fascial graft. Tibial crest in the region of the tubercle drilled transversely; long strip of fascia lata removed from the thigh, carried through the drill hole, and free ends sutured to each other and remains of ligamentous tissue at apex of patella. The after-treatment consisted of fixation on Thomas's splint for three weeks, faradic stimulation of the quadriceps muscle after the tenth day; cautious mobilization of the knee-joint after four weeks. Four months later the patient could actively extend the knee from the position of 60 degrees flexion, and the reconstructed ligament could be felt as a stout band. Patient was lost sight of for some months; when examined nine months from the time of operation it was discovered that the ligament had stretched and the power of extension had become feeble. Further operative treatment advised, but refused.

CASE 22

Rupture of left ligamentum patellae in a male, aged 44, eight weeks previously. Notes of operation: Free ends of (*a*) long strip of fascia lata, and (*b*) semitendinosus tendon (both still attached at their lower ends) passed in opposite directions through tunnel in apex of patella. Fascia lata strip long enough to be brought down to tibial tubercle and carried through tunnel in tibial crest at this level, where it was stitched to itself, to neighbouring periosteum, and remains of the ligamentum patellae. Semitendinosus tendon not long enough to reach tibial tubercle; free end stitched to the fascia lata strip between the patella and tubercle. It was noted at the operation that there was no trace of either the ligamentum patellae or the fascial expansion from the vasti muscles; the lower end of the femur was covered by a thin capsule only. After-treatment was carried out by fixation on Thomas's splint; faradic stimulation of the quadriceps after the tenth day; walking allowed after the third week in a posterior shell; active mobilization of the knee begun after the fourth week. The result was a strong tendon, but permanent elongation of extensor mechanism; fair power of active extension, but range of flexion remains limited to 60 degrees.

I am indebted to my colleague Dr. Margaret H. Morley for the accompanying illustrations.

REFERENCES

1 Meyer, A. W.: *Arch. of Surg.*, xvii, No. 3.
2 Gilcreest, E. L.: *Journ. Amer. Med. Assoc.*, June 13th, 1925.
3 Ramsay Hunt: *Journ. Amer. Med. Assoc.*, 1915, lxiv; Scudder and Paul: *Boston Med. and Surg. Journ.*, 1903; Levy, W.: *Zentralbl. f. Chir.*, January 7th, 1922; Dykes, S. N.: *British Medical Journal*, March 11th, 1922; Hauck, G.: *Arch. f. klin. Chir.*, 1923, cxxiv, 89; Dujarier and Bourguigan: *Bull. et Mém. Soc. Nat. de Chir.*, April 9th, 1927. (These are merely a selection from the voluminous literature on rupture of the extensor longus pollicis.)
4 Quénu and Stoïanovitch: *Rev. de Chir.*, 1929, xlviii, 10.

MINERS' NYSTAGMUS

BY

W. E. COOKE, M.D., F.R.C.P.ED., D.P.H.

DIRECTOR OF THE PATHOLOGICAL DEPARTMENT, WIGAN INFIRMARY

Miners' nystagmus is an occupational disease peculiar to workers in coal mines in which the illumination is deficient. The nystagmus is fine and rapid, rotatory, pendular, and vertical. Violent rotatory movements of the eyeballs may be present and continuous with the eyes at rest, if such a state be possible, while in other cases the nystagmus is latent, is difficult to elicit, and is transitory. The movements are equal in frequency and range in both eyes, and are most commonly actuated by looking upwards with the head fixed.

The generally accepted theory of causation is that in dim light the retina functions by means of the rods and not the cones. There are no rods at the fovea centralis, so that in a bad light the eye must move 15 degrees or more from its midpoint to obtain the image of an object. Irregular reflections from the uneven coal surface and the constant maximum stress on accommodation contribute to the general eyestrain.

In some respects miners' nystagmus resembles the occupational palsies. It manifests itself only after a long period of work at the coal face, just as the craft palsies affect the expert and not the novice, and there is loss of volitional control of some of the extrinsic eye muscles. The condition is often accompanied by spasm of the levator palpebrae muscle, and by blepharospasm, and the frequent presence of neuroses further illustrates the resemblance. In the occupational palsies, however, the spasm affects muscles directly concerned; in miners' nystagmus the muscles affected by spasm are some distance away from those directly implicated, and the spasm bears no relationship to the severity of the condition. In fact, severe blepharospasm is often present when nystagmus cannot be elicited by any means, and violent nystagmus may be present without blepharospasm. The spasm in this respect resembles a reflex spasm, and in certain cases a psychasthenic tic.

There are also several points of resemblance between miners' nystagmus and tetany. The constant positional changes due to the dim light lead to exhaustion and hyperexcitability of the myoneural apparatus of the extrinsic eye muscles. This corresponds to the local tetanies from fatigue. Like tetany, nystagmus may be latent, and become apparent only when tension is placed upon the muscles by the patient looking upwards with the head flexed and fixed. In many cases nystagmus is exhibited only when the patient has been in a stooping position for some time and then looks upwards, with the

head fixed ; in others the condition is seen only when the patient is actually stooping. Analogies may be drawn between the sudden tension caused by looking upwards with the head flexed and fixed and Chvostek's mechanical stimulus, and the stooping posture and Trousseau's congestive sign in tetany.

In a consideration of the pathogenesis of the condition three further points must be mentioned. Latent nystagmus may become evident under a variety of conditions. During the early stages of chloroform or ether anaesthesia, before the operation has commenced, unsuspected nystagmus may become marked. When the patient has recovered from the anaesthetic the nystagmus may disappear completely or may persist. This remark applies to acute alcohol poisoning in a nystagmus patient. Secondly, acute infections, such as influenza, tonsillitis, otitis media, antrum infection, pneumonia, and septic wounds not infrequently turn a latent into an active nystagmus. The third precipitating cause is well known. Any accident, from a fractured femur to a simple bruise, may result in nystagmus becoming evident and persisting. The reason of this is probably explained by the experimental results of Danzer[1] on the effects of tissue injury *in vivo*. Danzer found that the active substance to marrow stimulation on injecting extracts of organs was the contained protein, which from the intense marrow reaction caused must be regarded as a toxic stimulus. It was also found that the fracture of bones and the crushing of muscles acted in exactly the same manner. But from the length of time (five hours) required for the commencement of the reaction, compared with the rapid action (two hours) of such substances as nucleic acid, the stimulating substance is considered to be a protein fraction. A similar action probably occurs where there is injury in a case of latent nystagmus. The liberation and splitting up of protein caused by accident results in the absorption of a toxic substance, which, in addition to its general effect, has a local effect on the already impaired myoneural function of the eye muscles.

Everyone agrees that defective illumination is the primary cause of miners' nystagmus, but if bad lighting were the sole cause one would expect the disease to be even more prevalent than the highest figures quoted below. From the behaviour of nystagmus under the conditions just mentioned it is a reasonable assumption that there exists a precipitating factor which transforms a latent condition into an active nystagmus, and which is probably the accessory to deficient illumination in the production of the latent case. The present investigation is an attempt to isolate this factor.

INCIDENCE OF NYSTAGMUS

The incidence of nystagmus among underground workers has been estimated at from 5 to 35 per cent. Of 27,982 underground workers, Nieden[2] reported that 5 per cent. had nystagmus ; Dransart and Famechon[3] gave 10 per cent., and Libert[4] 23.9 per cent. In a systematic examination of 173 colliery officials, mostly firemen, employed at eleven separate collieries, Llewellyn[5] noted " latent nystagmus " in 35.2 per cent., and Court[6] found 34.75 per cent. of all coal cutters affected.

All workers in coal mines are not under the same conditions. The workers at the coal face are in a position of strain for long periods, and are subjected more than others to a constant change of position of the eyes in consequence of the dim light ; it is they who have to use their powers of accommodation excessively. The incidence of nystagmus is far greater among workers at the coal face than among other mine workers.

The number of workers " affected by " nystagmus has little relation to the number who discontinue work owing to the disease and who are certified as " suffering from " nystagmus. The percentage ceasing work and certified as suffering from nystagmus is from 0.05 to 0.5 per cent. It is important to bear these figures in mind, because any theory must account not only for the incapacitated few but also for the large number affected.

RESULTS OF INVESTIGATION

Fifty-seven miners who had been certified and who had ceased work because of the disease were examined. At the time of examination some were still unfit for work, others were working on the surface, and one or two in the mine. The cases were voluntary, and were not consecutive either in dates of onset or in the dates of certification. Serious objection could be taken if this were a statistical review, but as a method of sampling for the purpose of eliminating non-material facts and of forming a starting-point for further investigations the procedure could not be improved. It must be remembered that these cases were taken from the 0.5 per cent. group (the certified group) ; no case of the larger " affected " group was included.

Each investigation and test was followed up in a series of cases until conclusive proof was forthcoming that any variations from the normal could not be a common factor. It was early apparent that the age of onset, the colour of the eyes, the period worked in the mine or at the coal face, and the height of the coal seam could be dismissed. The use of the oil safety-lamp was a common factor, but we already knew that such poor illuminants were the primary cause. Careful inquiries into the family histories and familial and hereditary predisposition to miners' nystagmus yielded negative results, and no frequently recurring factor was found in the past histories. Diet also proved an unprofitable field. The diets varied from the strictly vegetarian to the large meat diet without fruit or green vegetables. The consumption of alcohol and tobacco also varied from total abstinence from both, abstinence from one or the other, to indulgence in both. Errors of refraction were not so frequent as to be a common factor. Examination of the central nervous system, the circulatory, respiratory, and renal systems was also negative for our purpose.

Examination of the Blood

Syphilis was promptly ruled out by negative Wassermann reactions. The calcium content test of the serum and the " available " calcium test of Lee and Vincent were normal in a sufficient number of cases to exclude gross alteration in the calcium level.

No constant defect in the functional activity of the thrombocytes, as indicated by the bleeding time, was detected, nor was there any abnormality often present in the coagulation time or in the retraction of the clot.

Frequent but inconstant deficiencies were found in the percentage of haemoglobin and in the total erythrocyte count. The total leucocytes showed variations from 12,000 per c.mm. to 4,000 per c.mm. Although the differential counts did not show any constant abnormality, there were two interesting features. The first was a definite increase in the percentage of monocytes, the average being 8.9 per cent. ; the second was the almost constant presence of basophils and the unusually frequent appearance of plasma cells in the blood films. The average figures of the differential count were as follows: neutrophil polymorphs 61.7 per cent. ; lymphocytes, 27.2 per cent. ; monocytes 8.9 per cent. ; eosinophils, 1.1 per cent. ; basophils, 0.8 per cent. ; and plasma cells, 0.24 per cent.

Polynuclear Count.—On completion of the series it was seen that not one case had a normal Arneth count. Although allowance was made for the fact that the majority of the cases were examined in the winter and spring, when catarrhal infections are common, the constant gross

abnormal counts required further investigation. The normal polynuclear count may be taken to be:

I	II	III	IV	V
10	25	47	16	2

The weighted mean of this count is 2.75. The maximum and minimum variations in the counts of fifty-seven normal persons as compared with the corresponding number of nystagmus patients were 3.05 and 2.48 respectively. The average polynuclear count in the nystagmus cases was:

I	II	III	IV	V
30	39	27	4	0

This gives a weighted mean of 2.02. The maximum and minimum variations in these cases were 2.39 and 1.70 respectively These differences will be better appreciated by the frequency polygons of the two groups (see diagram).

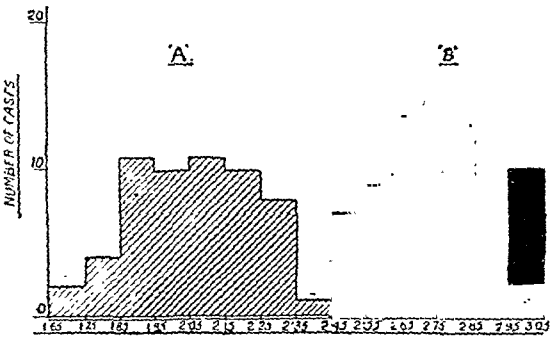


Diagram showing frequency polygons of the polynuclear counts; "A," fifty-seven nystagmus cases; and "B," fifty-seven normal persons. Weighted means grouped in intervals of 0.1.

Frequency Polygons

The Arneth count is altered in a variety of conditions and by many different agents,[3] and although it is possible to take fifty-seven apparently healthy people and not find one count to conform with Arneth's figures or the normal figures quoted above (unless the cases were followed up and counts taken at intervals) the striking deviation from normal in the nystagmus cases suggested the presence of a source of toxaemia.

Summary of Analyses of Cases

Tables of analyses of the cases are omitted owing to considerations of space, but the following is a brief summary of the findings on this point. Sixteen were found to be suffering from high blood pressure with renal damage. In many of these cases arterio-sclerosis was marked, and the urine contained albumin and granular casts. Three were suffering from toxic thyroiditis, one from lead poisoning contracted by drinking water from the hot-water system of his home, one from diabetes mellitus, one from post-encephalitic Parkinsonism, four from pyuria, and five from chronic purulent bronchitis. Thirty-four suffered from pyorrhoea alveolaris in a gross degree, and twelve had enlarged and septic tonsils. In every case there was ample evidence of toxaemia to account for the abnormal polynuclear picture.

DISCUSSION OF IMMUNITY

The highest recorded percentages of the incidence of nystagmus are Llewellyn's—namely, 35.2 per cent. in colliery officials, and Court's 34.75 per cent. in coal cutters. Taking Court's figures, because they apply to a definite occupation at the coal face, we are left to explain why the remaining 65.25 per cent. did not show nystagmus. Two reasons account for some of the deficiency. The first is that a certain number had not been employed at the coal face for a sufficiently long period to be affected; the second is that a certain proportion of the remainder did not suffer from an activating condition. There must, however, have been some of the 65 per cent. who had been working at the coal face for a sufficiently long period, and who had during that period passed through conditions—for example, infections—which could precipitate the onset of nystagmus. The probable explanation of their immunity is a personal refractoriness to the effects of toxins, just as of a given number of men who smoke strong cigars or who indulge in excessive amounts of alcohol, certain will develop tremors and other signs of toxaemia long before others. In some it will be days, in others weeks, in others months or years, with the same amount of alcohol or strong tobacco, before toxic signs become apparent.

TREATMENT

Until physicists invent some better means of illumination in coal mines, nystagmus will always be an occupational risk. Under present conditions its eradication involves administrative and executive schemes, the discussion of which is outside the scope of this paper.

We are not concerned with the question if the patient is "suffering from" nystagmus, in the legal sense; it is the certified case that most commonly comes under the direct notice of the medical attendant. The differentiation between cases "affected by" and "suffering from" nystagmus is difficult, and reliance must be placed to some extent on symptoms other than nystagmus itself. Such symptoms as vertigo, headache, and insomnia require careful consideration. They may not be due to the ophthalmic condition, but to concomitant cardio-vascular disease, chronic uraemia, etc.

Removal from the primary agent, the dim light of the mine, and removal or active treatment of any obvious source of infection are clearly the first steps. Errors of refraction should be corrected, but immediate benefit is not often apparent. In the acute case with violent eye movements the patient should have absolute rest in bed in a shaded room, and ought to avoid extreme variations in light. Reading or any occupation in which the eyes may be subjected to strain should be forbidden.

Nervousness and insomnia are often relieved by 10-grain to 20-grain doses of potassium bromide with drachm doses of ammoniated tincture of valerian, which may, however, require, in addition, some preparation of barbituric acid. Magnesium sulphate interrupts the path of stimuli in the neuro-muscular apparatus. In the few cases treated, 10 c.cm. of a 20 per cent. solution of the chemically pure salt given intramuscularly appeared to have a decided effect. As the whole of the salt is excreted in forty-eight hours, there is no cumulative result if the dose has to be repeated every other day. Toxic symptoms—narcosis and anaesthesia—are instantly relieved by an intramuscular injection of an active calcium preparation, but the risk of such signs developing with this dose is so small as to be negligible. The respite given to the myoneural apparatus by magnesium sulphate would appear to be sufficient to allow it to recover its normal functions.

The post-nystagmic neurasthenia which sometimes persists for months or years after the movements of the eyeballs have ceased may be treated by a strict Weir Mitchell regime and psychotherapy.

REFERENCES

[1] Danzer, M.: Studies of the Arneth Count: XV, The effect of tissue injury, *Quart. Journ. Exper. Physiol.*, xx, 2, 141.
[2] Nieden, A.: *Der Nystagmus der Bergleute*, Wiesbaden, 1894.
[3] Dransart and Famechon: *Bull. de l'Acad. Roy de Belgique*, 4 Série, xxii, 424.
[4] Libert: *Annals des Mines de Belgique*, 1910.
[5] Llewellyn, T. L.: *Miners' Nystagmus*, London, 1912, 15.
[6] Court, J.: *British Medical Journal*, 1892, ii, 835.
[7] Lee and Vincent, quoted by Clough, P. W.: *Diseases of the Blood*, London, 1930, 295.
[8] Studies on the Arneth Count, *Lancet*, 1930, ii, 1093.

CORONARY THROMBOSIS AND MYOCARDIAL INFARCTION, WITH GLYCOSURIA

BY

NORMAN CRUICKSHANK, M.D., M.R.C.P., F.R.F.P.S.

VISITING PHYSICIAN, SOUTHERN GENERAL HOSPITAL, GLASGOW; ASSISTANT PHYSICIAN, GLASGOW ROYAL INFIRMARY; SENIOR ASSISTANT TO THE MUIRHEAD PROFESSOR OF MEDICINE

Glycosuria associated with coronary thrombosis is now becoming recognized as a definite syndrome. The following case is of interest because it illustrates this syndrome, and because the course of the patient's illness presented some unusual features.

CLINICAL HISTORY

A retired railway porter, aged 68, came under my care in the Glasgow Royal Infirmary. He had a severe degree of cardiac failure; there was oedema of the limbs, back, and face, also cyanosis and orthopnoea. There was no anginoid pain, pericardial friction, or leucocytosis. The cardiac area was enlarged, the left border of dullness being one inch outside the nipple line and the right border at the right sternal margin. The heart sounds were of poor quality and the beats irregular in force, but there were no murmurs. The radial pulse was regular, the rate being 96. The radial and brachial arteries were thickened and tortuous, and the blood pressure was 140/104 mm. Hg. The urine contained a cloud of albumin, and there was incomplete reduction of Fehling's solution. On clinical examination no arrhythmia could be made out, but an electrocardiogram showed the abnormalities typical of branch-bundle block. QRS had a W-shaped deformity in all the leads, with distinct prolongation in Lead 1. There was also a tendency to inversion of T in Lead 1. The patient's condition did not improve. There were no attacks of precordial pain, but the signs of gross cardiac failure increased, and he died fifteen days after admission to the ward.

POST-MORTEM EXAMINATION

A post-mortem examination was made by Dr. Alice J. Marshall. The heart was soft and there was marked dilatation of the right auricle and right ventricle. There was an infarction of the muscle of the left ventricle involving the whole of the apical region and extending outwards for at least two inches on the anterior wall. In the left lateral wall of the left ventricle there was also a small recent infarction which lay midway between apex and base, in the line of the left lateral descending branch of the posterior coronary artery. Old thrombus was adherent to the inner surface of the left ventricle over the infarcted area. There were no gross changes in the valves, but the aorta showed advanced syphilitic aortitis. The orifices of the coronary arteries were of normal calibre, but the vessels were atheromatous. The right coronary artery was patent throughout its course, though its walls were much thickened. There was marked narrowing of the main descending branch of the left coronary artery, three-quarters of an inch from its orifice, while the lateral descending branch was completely obstructed by old thrombus about one inch from its orifice. The left lateral transverse branch was sclerotic. Other points worthy of note were the presence of advanced chronic interstitial nephritis, and fibrosis of the pancreas. There was hypostatic congestion of the lungs, chronic cholecystitis, and gastro-intestinal catarrh.

PREVIOUS HEALTH

The previous history of the patient contains some points of importance. He had been an apparently healthy man until about three years before his death, and had never suffered from any serious illness. When he was about 65 years of age he began to complain of cramp-like pains in the legs, which he regarded as rheumatic in nature. He then had a minor injury to one of his toes, and, as healing was slow, he was admitted to a surgical ward in the Royal Infirmary. It was then found that he had glycosuria, but this symptom cleared up without any intensive treatment.

About seven months later he began to have swelling of his feet, and dyspnoea on exertion. After being treated at home for six weeks, he was admitted to Professor Hunter's ward in the Royal Infirmary suffering with orthopnoea, cyanosis, and generalized oedema. The urine contained albumin and casts as well as 0·5 per cent. of sugar. The Wassermann reaction of the blood was positive. Examination of the heart at this time showed a degree of decompensation, but not much increase in the area of cardiac dullness. The sounds, particularly those at the apex, were of poor quality; the second sound at the base was accentuated. No murmurs were heard, and the rhythm was regular. The pulse rate was about 96, and the blood pressure was 140/90 mm. Hg.

Shortly after admission to the ward the patient's condition began to improve. The signs and symptoms of cardiac insufficiency became less severe, and the blood pressure rose to 170/120. He had been given large doses of digitalis, and after he had been under treatment for about a month a 2:1 heart-block developed, the pulse rate falling to 54. The block seems to have cleared up, for the pulse was running between 80 and 96 for several weeks before the patient was sent home. The glycosuria, which was associated with a hyperglycaemia (blood sugar = 180 mg. per 100 c.cm.), was rather resistant to treatment, but the urine eventually became sugar-free on a diet of 1,329 calories covered by 40 units of insulin. When the patient was discharged from the ward after eight weeks he appeared to be in fair health, and when he came up to report himself a month later he was still free from symptoms of cardiac failure and there was no glycosuria. His insulin had been cut down, and his diet was only slightly modified.

About five months after leaving hospital the patient developed dyspnoea, cough, and oedema. These symptoms continued to increase in severity up till the time of his second admission to the ward a month later.

COMMENT

The possibility of a relationship between coronary disease and diabetes was suggested in 1922 by Levine,[1] who found that in a series of cases of angina pectoris 7 per cent. of the patients had previously shown well-defined diabetes. The same writer in 1929,[2] in analysing a series of 145 cases of coronary thrombosis, found either glycosuria or a history of diabetes in 34 (23·7 per cent.). In some of these patients there was only a transient glycosuria during the early days of the attack; in others there were large quantities of sugar in the urine, and it was considered that a well-established diabetes was present. Between these extremes there were cases in which no appreciable amount of sugar appeared in the urine, even in the days immediately following a coronary occlusion, in spite of the fact that diabetes had been found previously and had been controlled by dietary measures. Levine considers that the relation of glycosuria to coronary thrombosis is a causal one, and states that "among the disease entities that are etiologically related to coronary thrombosis, diabetes is second in importance only to a previously existing hypertension." It seems more probable that the two conditions result from atheromatous changes in the coronary and pancreatic vessels respectively. It is difficult to imagine how glycosuria *per se* could determine the onset of coronary thrombosis.

In the case here recorded there are several points of special interest. The first is the widespread distribution and the severity of the atheroma, which affected not only the coronary circulation, but also that of the kidneys and the pancreas. The myocardium, the kidneys, and the pancreas all showed fibrosis and degenerative changes at necropsy, while clinically there occurred hypertension followed by cardiac failure, albuminuria, and glycosuria. Another point is the slow development of the extensive myocardial infarctions. These produced increasing cardiac failure, but never gave rise to the cardinal signs and symptoms which make up the clinical picture of coronary

hrombosis. It is remarkable, too, that a glycosuria so evere as to require 40 units of insulin per diem for its ontrol should have cleared up in spite of progressive leterioration in the state of the cardio-vascular system. This is all the more surprising when it is remembered hat during the patient's first residence in hospital the blood sugar had been well above the limits of normal, and that at post-mortem examination the pancreas was found to be shrunken and fibrosed. It seems possible that these variations in the carbohydrate metabolism may have been related to the chronic inflammation which was present in the biliary tract and to the pathological state of the kidneys.

SUMMARY

1. A case is described in which syphilitic aortitis, coronary thrombosis, and extensive myocardial infarctions were associated with glycosuria and hyperglycaemia.

2. Widespread atheroma with degenerative and fibrotic changes in the kidneys and pancreas and chronic inflammation in the biliary tract were found at necropsy in addition to the cardiac lesions.

3. The relationship between glycosuria and coronary thrombosis is discussed. It is considered more probable that these two conditions result from a common cause (vascular degeneration) than that glycosuria is an etiological factor in the production of coronary thrombosis.

I wish to thank Professor W. K. Hunter for permission to use the clinical records of this case, Dr. J. H. Wright who made the electrocardiogram, and Dr. Alice J. Marshall who performed the necropsy.

REFERENCES

[1] Levine, S. A.: *Journ. Amer. Med. Assoc.*, 1922, lxxix, 928.
[2] Idem: *Coronary Thrombosis: its Various Clinical Features*, 1929.
[3] Idem: Ibid., p. 9.

PLEURAL EFFUSION*

BY

L. S. T. BURRELL, M.D., F.R.C.P.

SENIOR PHYSICIAN, ROYAL FREE HOSPITAL; PHYSICIAN TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST

Pleural effusion occurs under several conditions, and its treatment is largely dependent on the cause and character of the fluid. For practical purposes effusions may be considered as either clear or thick, and I suggest the following classification.

A. CLEAR EFFUSION

Causation	Appearance	Coagulable Protein	Specific Gravity	Cytology
1. Transudates: Renal	Very pale	Per cent. 2	1008	Endothelial cells
Cardiac	Pale yellow	3	1016	
Neoplasm	Pale yellow or haemorrhagic	3	1016	
2. Exudates: Tuberculous	Straw colour	Over 4	1020	Small lymph.
Pyogenic	Turbid yellow	Over 5	1024	Polymorph.

B. THICK EFFUSION

1. Non-purulent opaque fluids vary from the cloudiness due to a slight excess of cells to the dense opacity of true chylous effusions. The density may be increased by the presence of blood. A true haemothorax is usually the result of trauma, but bleeding with an effusion is not uncommon, especially in malignant disease; it occurs in about 50 per cent. of cases of carcinoma of lung. Haemorrhage does occur in tuberculosis and other effusions, and should not therefore be taken as diagnostic of neoplasm. The fluid may be rendered opaque by the presence of cholesterol in an effusion of long standing, or by cells which have undergone fatty degeneration. True chylous effusions are not common, but may occur as a result of occlusion of the left subclavian vein, injury to the thoracic duct or pressure on it by tumours, or by filariasis.

2. Purulent effusion or empyema may be due to one of many causes, such as malignant disease, ruptured abscess of lung, septic emboli, actinomycosis, etc., but for practical purposes it may usually be considered as (*a*) pneumococcal, (*b*) streptococcal, or (*c*) tuberculous.

CLEAR EFFUSION

Before considering treatment I should like to say a little more about the laboratory findings of these fluids. On microscopical examination a few red corpuscles are usually seen. Their presence may be due to bleeding as a result of the pleural puncture, but they are not of clinical significance unless they are sufficiently numerous to be observed by the naked eye. Polymorphonuclear cells may also be present in proportion to the red corpuscles, but if these white cells are in excess it suggests that the fluid is due to a pyogenic organism, and that it will probably become purulent. Eosinophil cells may be regarded as intermediary between an acute infection where polymorphonuclear cells are in excess and a chronic state in which small lymphocytes predominate. A large number of eosinophil cells is said to be evidence against tuberculosis; it also suggests that the fluid will not become purulent. Eosinophilia is present in only 35 per cent. of cases of hydatid disease. As a rule, hydatid cysts of the lung do not leak; unless they do, eosinophilia does not occur. Hydatid fluid may be confused with pleural effusion; it is characterized by the presence of hooklets, not of eosinophil leucocytes. Usually it is like water, but during suppuration it resembles water into which one or two drops of milk have been put. Small lymphocytes occur in chronic inflammatory conditions, the commonest example of which is tuberculosis; therefore an excess of small lymphocytes strongly suggests this disease. Syphilis of the pleura is extremely uncommon, but when it does occur there is an excess of lymphocytes. Endothelial cells come from the lining of the pleura, and are in excess in transudates. They are rarely present in excess in cases of tuberculosis or of pyogenic infections, so that if renal or heart disease can be excluded, a preponderance of these cells in a pleural effusion makes us think of neoplasm. They have sometimes been mistaken for carcinoma cells, especially when they have undergone some degree of degeneration. Lymphocytes have been confused with sarcoma cells, but it is doubtful if neoplastic cells are ever present in an effusion; if they occur, it is very seldom, though they have often been described in error. The absence of tubercle bacilli should not be taken as evidence that the condition is non-tuberculous, for these organisms are hardly ever found in the early stages of an effusion unless a very large quantity of the fluid is used. The bacilli can usually be found in long-standing effusions, and they are present in almost every case of tuberculous empyema.

Treatment of Clear Effusions

When pleural effusion forms in a case of renal disease it is usually bilateral. Repeated aspiration is necessary, as the fluid tends to reaccumulate quickly. In cardiac cases it is best to remove the fluid early, as even a small collection in the pleural cavity embarrasses the heart. In the case of neoplasm, aspiration is necessary only when dyspnoea or pressure symptoms make the patient uncomfortable. I have seen a case of mediastinal tumour and a large effusion which, although the patient lived for six months, did not re-form after aspiration. As a rule, the fluid rapidly reaccumulates, especially in a case of endothelioma of the pleura. Indeed, the presence of an effusion which re-forms after each aspiration is very

* A paper read to the Portsmouth Division of the British Medical Association.

suggestive of endothelioma. In one case I withdrew a quantity of fluid three times in one day.

Most of the cases are tuberculous, and I think every case of pleural effusion should be regarded as of tuberculous origin unless some other definite cause for it can be found. It is necessary to take a few cubic centimetres of the fluid for analysis as soon as a diagnosis is made, but, apart from this, I think aspiration should not be performed except for one of three reasons:

1. To relieve urgent pressure symptoms, or to treat a case in which the fluid is not absorbing naturally.
2. To convert an effusion into a pneumothorax if the underlying lung has active disease.
3. To allow the lung to re-expand if there is active disease spreading in the other lung.

With regard to the first indication, it is not often necessary to aspirate, as almost always the fluid becomes absorbed in time. There is usually a rise of temperature at the beginning; this may continue for several weeks, suggesting an empyema, but in time the temperature will fall without aspiration, unless there is active disease in the lung. If the temperature persists and the patient is ill after six weeks, some of the fluid should be aspirated, but if more than 10 ounces are removed it is best to replace the fluid with air or oxygen. Air should be used if it is intended to make a permanent pneumothorax, but oxygen, which is more quickly absorbed than air, is indicated if one wishes the lung to re-expand. If, in spite of removing some of the fluid, the temperature does not settle, the remaining fluid should be completely aspirated and replaced with air or oxygen. In this case, however, it is almost certain that there is active disease in the underlying lung, and as the lung re-expands it should be carefully examined for any sign of disease, and repeated *x*-ray examinations should be made. One must remember that tuberculosis starts in the lung and spreads into the pleura; it does not start in the pleura and spread back into the lung; consequently when one sees a case of pleural effusion one should assume that there is disease in the lung, although in most cases it is not active, and does not develop into clinical disease. Some 40 per cent. of cases, however, do go on to clinical tuberculosis, and for this reason it is necessary to keep a patient under careful supervision and give him thorough after-treatment following pleural effusion.

In treatment by pneumothorax pleural effusion frequently forms, and in my opinion this is a true tuberculous exudate, and is not due to irritation of the pleura, or to any mechanical cause. It has been stated that if the gas is heated, pleural effusion is not so likely to occur, but I have tried heating the gas, and have found an effusion developing to the same degree as in my other cases. I have also noticed no difference between the influence of summer and winter on the accumulation of fluid.

When the fluid is examined the only organisms found are tubercle bacilli, and in the great majority of cases these can be demonstrated after the first two months. Moreover, the cytology of the fluid suggests an exudate, and I have not known an effusion form in any case I have treated with pneumothorax for diseases other than tuberculosis, except in one case of an acute abscess, when there was a small amount of fluid for a short time. Pleurisy is such a common complication of pulmonary tuberculosis that one would expect an effusion to form if the parietal and visceral pleura were separated so that they could not become stuck together. An effusion forms in practically every case of spontaneous pneumothorax due to tuberculosis, but in those cases where air is quickly absorbed and there is no effusion the patient makes a complete recovery, and subsequently no evidence of tuberculosis can be found.

When an effusion occurs during treatment by artificial pneumothorax it keeps the lung collapsed so that the intervals between the refills can be increased by weeks, or even months. The fluid may remain clear and unabsorbed, but there are two dangers; one is that it becomes tuberculous pus, and the other is that, as it is absorbed, organization takes place, and the pneumothorax cavity becomes gradually obliterated. On thoracoscopic examination, white strands of fibrin may be seen in the fluid. Many cases of pneumothorax which terminate by obliteration in this way do very well, a satisfactory fibrosis occurs in the diseased part of the lung, and the healthy part begins to function again. If, however, it is desired to maintain the pneumothorax, the fluid should be aspirated from time to time, and if any signs of obliteration are found, the fluid should be completely removed and replaced by a 5 per cent. solution of gomenol in olive oil. Usually, after one or two aspirations, the fluid does not reappear.

TUBERCULOUS PURULENT EFFUSION

If an effusion changes into tuberculous pus the condition is much more serious. I have had a few cases in which the pneumothorax has been maintained and the patient has done well, in spite of having had a tuberculous empyema; but these are very exceptional, and the majority die. For this reason, as soon as a tuberculous empyema forms, I encourage the lung to re-expand by frequent wash-outs with Dakin's solution, leaving a negative intrapleural pressure. In most cases this is successful, the lung can be made to re-expand, and in favourable cases becomes a chronic fibroid lung. If, however, it does not re-expand, I advise thoracoplasty, provided there are no serious contraindications to the operation. The principles of treatment in a case of tuberculous empyema are therefore:

1. Remove the pus by aspiration, and not by open drainage. Wash out the pleural cavity with Dakin's solution in order to remove the fibrinous lining round the pleura and to encourage the lung to re-expand. If there is a bronchial fistula or perforation into the lung, as in a case of spontaneous pneumothorax, Dakin's solution is too irritating to use, and the pleura should be washed out gently with saline or methylene blue. When there is a large perforation, however, it is unusual for the lung to re-expand, and thoracoplasty becomes necessary.
2. If the lung fails to re-expand and to obliterate the pneumothorax or empyema cavity in spite of this treatment some thoracoplastic operation should be performed to obliterate the cavity.
3. Attend to the general condition of the patient.

PYOGENIC PURULENT EFFUSION

The treatment of non-tuberculous empyema depends almost entirely on whether the pus is free in the pleural cavity or whether it is pocketed. If it is free, the condition is, in effect, pyothorax, and any operation for drainage will convert it into an open pyopneumothorax, a condition in which the mortality is very high indeed. If there are no adhesions and the mediastinum is free, a wound which opens the pleural cavity on one side affects the pressure not only on that side, but to practically the same degree on the other. The result of this is that, during inspiration, some of the air that should enter the lungs through the trachea enters the pleural cavity through the open wound. If, therefore, the opening into the pleura is larger than that into the lungs through the larynx, it follows that the lungs will not expand, and the patient will die of asphyxia. This was found to be the case in gunshot wounds during the war, and also by experiments on dogs. In the case of pneumonia the lungs are already getting insufficient air, so that the effect of an open pneumothorax is still more disastrous.

The first principle of treatment, therefore, should be to avoid an open pneumothorax. This may be done by using a drainage tube with a valve, which allows the pus to leave but prevents air from entering the pleural cavity. It is usually better, however, to aspirate the fluid at first until adhesions have formed, when incision and open drainage can be performed if necessary, although a certain proportion of cases get well with aspiration alone. In practice it is found that pneumococcal empyema in lobar pneumonia occurs after the illness. The pus is thick, and there are adhesions, so that it is safe to resect a rib and drain the cavity. Moreover, by the time the empyema forms, the patient has, as a rule, recovered from the toxaemia of the pneumonia. For these reasons treatment by incision and drainage is usually successful in pneumococcal cases, and when once the pus is found to be thick, it is better to drain the empyema.

In streptococcal cases, however, the effusion forms early, whilst the patient is still suffering from the toxaemia of the disease. The fluid is at first cloudy and thin, and there are no adhesions, consequently incision and drainage is likely to be fraught with danger. Dr. W. J. Stone published the results of three series of cases.[1] In the first series 85 cases were treated by early operation and drainage, and the mortality was 61.2 per cent. In the second series 96 cases were treated by early aspiration and late operation, and the mortality was 15.6 per cent. In the third series 94 were treated by early and late operation, and had a mortality of 9.5 per cent. In some cases aspiration alone is sufficient, but in the majority subsequent drainage becomes necessary, and when once the fluid has turned into frank pus it is usually safe to operate. After operation, in every case of empyema, it is essential to wash out the pleural cavity frequently with Dakin's or some similar solution in order to encourage re-expansion of the lung, and to disinfect the pleural cavity. The principles, therefore, in the treatment of pyogenic empyema are:

1. Remove the pus, but always avoid an open pneumothorax.
2. Encourage the lung to re-expand and obliterate the empyema cavity. This should be done by washing out the cavity, and any drainage should be arranged so that air cannot enter from outside.
3. Sterilize the cavity by frequent irrigations.
4. Attend to the general condition and nourishment of the patient.

REFERENCE

[1] *Amer. Journ. Med. Sci.*, 1916, clviii, 1.

BATH TREATMENT FOR DEAFNESS

BY

JAMES ADAM, M.A., M.D.

SURGEON FOR DISEASES OF EAR, NOSE, AND THROAT, GLASGOW CITY HOSPITALS

Any measure which will help, even in a minority of cases, what is commonly called chronic progressive deafness is worth consideration, especially if it sometimes succeeds where the usually approved methods fail, and if it is a simple procedure capable of supervision by the general practitioner. The following case illustrates the point.

CASE I

A man, aged 42, consulted me in December, 1927, about deafness in the left ear, which had increased during the previous two years. There was no obvious retraction or thickening of the tympanic membranes, but he had difficulty in self-inflation. With the right ear he could hear a whisper across the room (say 15 feet away); with the left ear, 5 feet away. After treatment by catheter, bougie, and inflation for a year, the condition was worse. A whisper was then heard by the right ear at a distance of 5 feet; by the left ear, 2 feet. He was ordered hot baths, with a pound of commercial Epsom salts added to each bath; immersion for ten to fifteen minutes was advised at bedtime every second night for a week, once during the following week, and then once a fortnight. Within a week, the hearing distances for whisper were 15 and 9 feet (instead of 5 and 2 feet) for right and left ears respectively. By May, 1930, the distance for each ear had increased to 30 feet. Improvement is still maintained, and is valuable not only to himself but to his colleagues. The baths are still necessary, but they are taken at longer intervals.

As often happens with new treatment, this first case has perhaps been the most striking. The success induced me to try the method in other cases, and sometimes gratifying results were obtained.

CASE II

For many years the manager of a large business, aged 64, had increasing deafness for which I tried in vain the usual measures. Some years elapsed, during which he did not consult me, but after the experience mentioned I asked him to see me. On examination, the right membrane was dull and indrawn, the left was ruptured and atrophied, and the ossicles were bound in cicatrix. Conversation voice was heard 4 feet away on the right side, 4 inches away on the left side. The latter figure is naturally open to question, because of possible hearing by the right ear even when closed. After treatment by baths for two months, the distances were 10 feet and 2 feet respectively, to his great delight.

CASE III

A hospital matron, aged 33, had tinnitus in the left ear, and slight deafness. The Eustachian tubes were narrow; systolic blood pressure 100 mm. Hg. Resection of nasal septum, removal of tonsils, and passage of Eustachian catheter and bougie were all tried, with no obvious benefit. When the patient reached the age of 38, the tinnitus was worse and was in both ears. When, two years later, in May, 1930, a whisper was heard by both ears at 8 feet, I asked her to try baths. A fortnight later the figures were 21 and 25 feet respectively, tinnitus not having improved.

CASE IV

A lady, aged 60, complaining of deafness beginning in the left ear ten years earlier, came to see me in October, 1930. Both membranes were dull, and inflation by catheter was difficult and imperfect. She heard the conversational voice 15 inches away on the right side, and 5 inches away on the left; Weber referred to left. As there was no improvement on inflation, she was asked to try baths. At the middle of December, conversation was heard on the right side at 16 feet distance (instead of 15 inches), on the left at 10 inches.

CASE V

A man, aged 58, had noticed deafness and tinnitus in the right ear for five months. Both membranes were indrawn. A whisper on the right side was heard 2 inches away, but after three weeks of bath treatment the distance had increased to 7 feet; tinnitus was still present, but less marked.

The less chronic cases respond more readily. Those described above were probably "catarrhal" cases, with narrowing of the Eustachian tube—the type in which sweating might be expected to help. Encouraged, however, by the improvement in the cicatricial ear of the patient (Case II) mentioned above, I resolved to try baths in the following case:

CASE VI

A man of 39, who complained of deafness in the right ear after an explosion in the trenches in 1916, came to me in June, 1930; there was also tinnitus in the right ear. The left ear was normal; the right drum was "gone," ossicles adherent, no discharge. He was asked to try baths. The hearing for whisper before treatment was at a distance of 3 feet; after two months' treatment, at 60 feet.

One might expect benefit from this treatment in patients suffering from Ménière's complex, if it is tried early. I have had the opportunity in only two such cases, both late ones. In the first there was complete failure; in the second there seems to have been some success, as shown by the history.

CASE VII

A widow, multipara, aged 47, weight 12 st. 10 lb., height 5 ft. 3 in. was first seen in January, 1930. She had a typical Ménière's syndrome for three years, beginning in the left ear, in which she was now stone deaf. The right ear had been affected for two years. She had well-marked tinnitus and frequent attacks of giddiness on turning quickly; on going upstairs, she had to cling to the rail and sometimes fell. Tinnitus, giddiness, and deafness were worse at menstruation. She could just hear a loud noise with the right ear at 3 inches distance. The Wassermann reaction was negative. Baths did no good. They did not make her sweat till she added 2 lb. of magnesium sulphate to the bath. With this treatment, however, she persevered. She now hears loud speech at 5 feet, has no giddiness, and can walk up and down stairs with ease. The baths may have nothing to do with this improvement. The course of Ménière's complex is sometimes capricious, but anyone who has read Dederding's monograph[1] would consider treatment by sweating not unlikely to help; to be a real help it would need to be used regularly and before irretrievable damage is done to the inner ear.

This treatment is as yet in the tentative stage, but these notes may suggest to others that the method is worthy of trial. It is likely to succeed only in a minority of chronic cases, though it has had good results in cases in which the usual methods had proved an utter failure and in which treatment had been abandoned. Success is more probable in the less chronic cases and in acute cases. It fails when it fails to sweat the patient. Whether magnesium sulphate is essential I do not know; it is hygroscopic and has been used in packs for chronic rheumatism. Doubling the quantity of salt to the bath seemed effectual in causing the last-mentioned patient to sweat. Treatment by the emunctories is an old-established method, but far too little attention has been paid to the skin and to the effect of sweating on the mucous membranes; probably civilized peoples sweat themselves too little and pay a price in catarrhal affections. Thirty years ago treatment by pilocarpine was tried, but had only a short vogue as "the remedy was worse than the disease." Caution must be used with baths, too. Hot baths are exhausting and too risky for elderly, weakly, and cardiac patients; ten minutes immersion may be long enough, and should be followed by a brisk towelling and a warm bed.

REFERENCE

[1] Dola Dederding: Morbus Menieri, *Acta Oto-laryngologica*, 1929, Supplement x.

CHYLOUS ASCITES COMPLICATING ABDOMINAL LYMPHADENOMA

BY

THOS. A. PRATT, M.D.
ASSISTANT PHYSICIANS, CITY OF GLASGOW FEVER HOSPITAL, KNIGHTSWOOD

AND

H. W. O. FREW, M.D., D.P.H

The presence of serous fluid in the peritoneal cavity may be due to a variety of causes, but it is very seldom that cases are reported in which the fluid is chylous in nature. One such case came under our observation, and was considered, on account of its rarity, worthy of record.

Case History

The history of the case dates from September, 1928, when the patient, who was a young man of 20 years, first complained of weakness, tiredness, and loss of flesh. Though able for a time to carry on his work, he had ultimately to give it up on account of the weakness. In January of the following year he developed an attack of influenza, and during convalescence from this illness noticed for the first time, owing to slight pain a fullness of his abdomen. It was not, however, till coughing and spitting became troublesome that he consulted his doctor. From the history given, the presence of tuberculosis was suspected, but examination of the chest revealed only a few moist sounds at the base of both lungs. *X*-ray examination confirmed the absence of any evidence of tuberculosis of the lungs. The sputum was examined, and was found to be negative for tubercle bacilli. From this time till his admission to hospital his condition rapidly became worse. The general weakness increased, the abdomen became much more distended, and he was in consequence confined to bed.

When admitted to hospital, in the middle of May, the patient's condition was obviously serious. He appeared thin, wasted, and cyanosed, and complained of pain in his left thigh and leg. The distension of the abdomen was marked, and gave rise to considerable respiratory embarrassment. In the feet and legs there was a moderate amount of oedema. Examination of the chest was negative, save for signs of congestion at both bases, and the sputum was negative for tubercle bacilli. The heart showed no evidence of organic disease. The urine, which was diminished in amount, contained albumin. During the succeeding days the oedema present in the legs spread upwards till even the chest wall was involved, and with the increase in the abdominal swelling the breathing became more distressed.

On May 24th, 1929, paracentesis was performed, and 26 ounces of milky fluid were removed from the abdomen. The procedure afforded relief, which, of course, was only temporary, and the operation had again to be performed. Altogether the abdomen was aspirated six times, and 38 pints of fluid were withdrawn. When the abdomen was palpated just after paracentesis a hard fixed mass was felt in the epigastric region. In addition to the large mass, smaller masses were felt throughout the abdomen. In spite of these aspirations his condition gradually became worse, and he died on June 18th, 1929.

The fluid which was removed from the abdomen was subjected to chemical and bacteriological examination. To the naked eye it had the appearance of milk. Under the microscope it appeared as a fine fat emulsion, in which were observed a few red corpuscles and a few leucocytes containing fat globules. A differential cell count was performed, and the mononuclear leucocytes were found to be slightly in excess of the polymorphonuclear leucocytes. Stained smears failed to reveal acid-fast bacilli, and no growth resulted from inoculation of culture media. A guinea-pig was inoculated with the chylous fluid, and when killed at a later date was found to be normal.

The result of the chemical analysis was as follows:

Fat	11.42 per cent.
Proteins	11.57 "
Other organic matters	1.10 "
Mineral salts	7.89 "
Total solids	31.98 "

Of the mineral salts 58.22 per cent. consisted of sodium chloride.

Necropsy

The body appeared very emaciated. Post-mortem mottling was most marked over the right side of the chest. The abdomen was greatly distended, the linea albicantes being very marked, especially on the right side. When the body cavities were opened they were found to contain large quantities of milky fluid; 140 ounces were recovered from the abdominal cavity, 50 ounces from the left pleural cavity, and 36 ounces from the right pleural cavity. The fluid from the abdomen seemed to be of a more yellowish colour than that collected from the pleural cavities.

Heart.—The pericardium was found to contain about 6 c.cm. of straw-coloured fluid. The heart was small and in a state of contraction. The surface of the organ presented a whitish appearance, and the blood vessels were outlined by a white marginal line on each side. The heart muscle in its cut surface presented a finely streaked appearance due to the presence of delicate white lines radiating unevenly towards the surface. The muscle itself did not assume the normal reddish appearance, being dull and glistening and slightly brownish in colour.

Lungs.—Beyond a slight degree of hyperaemia the lungs appeared to be normal. The left lung was slightly adherent at its base, but no evidence of involvement of the bronchial glands was discovered.

Diaphragm.—The pleural surface of the diaphragm was found to be studded with nodules varying from 1/4 inch to 1½ inches in diameter.

Spleen.—The spleen was greatly enlarged and firmly adherent to the diaphragm and other neighbouring structures, and was removed with great difficulty. On section, a very large portion was found to consist of a tumour which was growing at the periphery and in offshoots into the remaining splenic tissue. In the greater part of its extent the tumour appeared to be undergoing a process of necrosis with softening and cavity formation at the centre. When it was sectioned a thick yellowish fluid escaped from the cavity.

Liver.—The liver was firmly adherent to the diaphragm and to a large mass of tissue which occupied the epigastrium. The capsule of the organ was marked by white lines, which had a root-like appearance. A large rounded tumour, measuring 3 by 2 inches, occupied the lower surface of the right lobe. It was subcapsular and compressed the liver tissue. At only one place, however, had actual invasion of the liver occurred. When sectioned the liver had a dull, greyish colour, and at one point of the right lobe approached the nutmeg appearance.

Kidneys.—The right kidney was shelled out from its capsule, which was firmly adherent to dense surrounding tissue. It presented in a marked degree the foetal lobulation. Apart from slight hyperaemia it appeared to be otherwise normal. The left kidney was also surrounded by dense adhesions, but its capsule stripped easily, revealing the fact that the organ was also misshapen. It was sectioned, and this alteration in shape was found to have resulted from the presence of two cysts, one projecting into the other. In other respects the renal tissue appeared normal. Both suprarenals were enveloped by fibrous tissue, but otherwise appeared normal.

Intestines.—The small intestine had a greyish appearance, and its wall was thickened and oedematous. The duodenum was found to emerge from a large tumour mass which occupied the epigastrium. The large intestine was also greyish and thickened in appearance. The wall of the colon and its mesentery were finely mottled white from engorgement of the lacteals. The transverse colon was firmly adherent to the tumour mass in the epigastrium, and its mesentery was studded with small tumour nodules. When the intestine was opened the margin of the ileo-caecal valve was ulcerated, and at a short distance from it there was an ulcer, 5/8 by 1/4 inch, with dark hyperaemic margin and yellowish floor. The valvulae conniventes were whitened and fringe-like from engorgement of the lacteals. This engorgement was not so evident to the naked eye, but with transmitted light the lacteal vessels appeared markedly engorged.

Stomach.—The stomach overlay the tumour mass, and was firmly bound down to it. On removing the stomach by blunt dissection the mucous membrane was intact, save for a small commencing ulcer on the posterior wall. Judging from the mucous surfaces there was no invasion of the stomach wall by tumour tissue, but the section showed that the wall in its outer part was invaded by the tumour growth.

Mesentery.—The surface of the mesentery had a slate-grey appearance, and the lacteals were all very conspicuous. The mesenteric glands were much enlarged, and had a finely-mottled yellowish-white appearance.

When the abdominal viscera were removed a large mass was exposed, almost filling the epigastrium. It was firmly adherent to the prevertebral fascia and to the diaphragm, and it extended down into the lumbar region. On closer examination it was found to be composed of smaller masses firmly adherent to one another. When sectioned the cut surface appeared white and glistening. Portions of the tumour mass were subjected to histological examination, and the following features were observed. There was a marked proliferation of the endothelial cells, which had single and occasionally multilobed nuclei. Larger cells of a pseudo-giant-cell type were present. Polymorph leucocytes and eosinophil cells were definitely increased. Sections of the stomach wall demonstrated that the inner portions, mucosa, submucosa, and most of the inner muscular coat were not involved. The greater part of the muscular wall, extending to the serous surface, displayed marked lymphocytic infiltration. Endothelial cells were observed in places. From these findings a diagnosis of lymphadenoma can be made.

Discussion

In most of the recorded cases of lymphadenoma, more especially of the abdominal type, the diagnosis has been difficult, the condition being mistaken for tuberculosis, syphilis, sarcoma, and other tumours. In the present case the initial diagnosis was one of tuberculosis, and, although repeated examinations failed to confirm this opinion, it was only after histological examination of a section of the tumour tissue obtained at the post-mortem examination that the final diagnosis of lymphadenoma could be made. It is of interest, too, that while the superficial glands were not appreciably affected, the spleen showed gross involvement. This latter fact has led certain observers to recognize what they term the splenic type of abdominal lymphadenoma.

Other noteworthy points were the absence of involvement of the alimentary tract apart from the slight infiltration of the stomach wall, the relatively slight involvement of the liver, and the freedom of the kidneys from any evidence of new growth.

The analysis of the chylous fluid also revealed certain interesting features when compared with the results of similar analyses of chylous ascites obtained from cases of abdominal tuberculosis or cancer (see Table).

	Present Case (Lymphadenoma)	Tuberculosis. Boy aged 13 years	Cancerous Growths
	Per cent.	Per cent.	Per cent.
Fat	11.42	10.30	9.48
Proteins	11.57	23.78	21.68
Other organic matters	1.10	8.02	11.585
Mineral salts	7.89*	9.95	1.595
Total solids	31.93	59.15	43.795
			Loss 0.510

*58.22 per cent. of the mineral salts consisted of sodium chloride.

As will be seen from the above table, the percentage of protein present in this case of lymphadenoma was roughly only half the amount noted in the other conditions. Protein and fat were present in approximately the same proportions, while in the other two diseases the amount of protein was much in excess of the fat. These findings raise the question of the possible diagnosis of the condition by the examination of the chylous fluid obtained from the abdomen.

We desire to express our thanks to Dr. R. M. Buchanan and Dr. W. R. Wiseman, and to Mr. F. W. Harris, F.I.C., for their assistance in the examination of specimens.

SURFACE TENSION OF SERUM IN GENERAL PARALYSIS

AN AID TO DIAGNOSIS

BY

B. H. SHAW, M.D.

MEDICAL SUPERINTENDENT, COUNTY MENTAL HOSPITAL, STAFFORD

During an investigation of the surface tension of syphilitic serum an interesting fact was observed, which appears to throw some further light on the nature of amboceptor and tends to confirm Friedemann's view that it is a globulin soap compound. The finding may also serve as a help in diagnosis, since nothing could be simpler than the technique of its application.

By adaptation of the torsion balance capable of weighing from 1 to 500 mg., a method was devised of estimating surface tension of fluids in a direct and accurate manner—namely, by suspending a small platinum ring (about 1 cm. in diameter 0.0076 wire) by a light thread from the balance, and allowing it to float on the surface of the fluid. In carrying out the test 0.25 c.cm. of serum is

added to 50 c.cm. of distilled water in a small beaker; the fluid is drawn back into the pipette and forcibly expelled again a few times, thorough mixture being ensured. The beaker is suitably adjusted under the limb of the balance. The suspended ring is then lowered on to the surface of the fluid, the lever of the instrument evenly moved, and the reading in milligrams just necessary to make the ring part company with the fluid, less the weight of the platinum attachment, gives an accurate measure of the surface tension.

As might be expected there is considerable variation in the surface tension of serum diluted 1 in 200 in this manner, but in all persons examined so far there is a consistent variation from normal in the serum of those with general paralysis when it is inactivated at 56° C. for thirty minutes. In conditions other than general paralysis this inactivation has the effect of raising the surface tension; at any rate no definite degree of lowering is observed, while as regards the serum of general paralytics the reverse is the case.

The following tables, giving the pull-off readings of surface tension in milligrams, illustrate this difference.

General Paralysis, Wassermann Reaction Positive

	Tension in mg.		Loss on Inactivation in mg.
	Fresh Serum	Inactivated Serum	
A.	314	214	100
M.	344	311	33
C. H.	335	305	30
E. T. B.	340	310	30
T. B.	325	300	25
D. J.	330	310	20
W. H. P.	330	365	25
G. B.	330	365	25
J. W.	358	340	18
J. Br.	363	345	18

Non-syphilitics, Wassermann Reaction Negative

	Tension in mg.		Gain on Inactivation in mg.
	Fresh Serum	Inactivated Serum	
B.	294	329	35
M.	330	305	5
B.	310	310	0
F.	295	317	22
H. E.	345	345	0
D. M. N.	345	350	5
T. G.	335	365	30
S. A.	350	350	0
A. S.	345	355	10
W. N.	342	343	1
T. H. C.	370	385	15
W. S.	387	404	17

In cases of syphilis investigated up to the present showing no clinical signs of general paralysis this alteration in tension has not been observed, and consequently it may be of value as an aid to diagnosis in incipient syphilitic meningo-encephalitis, and has no doubt some relation to the stuff positives present in this condition. In high dilutions of serum in distilled water precipitation soon occurs, consequently the reading should be quickly taken after thorough mixture.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

CUTANEOUS HORN ON AN AMPUTATION STUMP

The case reported below appears to be unique. Turner[1] in 1815 described a cutaneous horn arising in a scar, but on careful search of the literature since that date no

reference to the condition in relation to an amputation was found. Rhodenburg[2] stated that in 13 per cent. of cases epithelioma developed at the base of the horn, but despite the long history this had not occurred in our case.

The patient, an Arab woman aged 70 years, had a cutaneous horn arising from the end scar of an amputation of the foot. This had been present for many years without special inconvenience, but recently the slightest touch on it caused her intense pain, which radiated up the leg. The amputation had been carried out in the days of the Mahdi, some fifty years previously, for Madura foot, by a native operator.

On examination there was found to be a slow septic process at the base of the horn, but no evidence of epithelioma, nor were the inguinal glands enlarged. The "ram's horn" appearance of the growth is well shown in the photograph. Reamputation was performed (by F. E. M.). A large neurofibroma was found in the base of the scar, and the nerve leading to it was followed up into the leg, crushed, and divided. The patient was discharged cured.

We are indebted to Mr. O. F. H. Atkey, C.M.G., Director Sudan Medical Service, for permission to publish this note.

F. E. MAYNE, F.R.C.S.Ed.
LAURENCE O'SHAUGHNESSY, F.R.C.S.
Sudan Medical Service.

[1] Turner, M. J.: *Monthly Journal of Medical Science*. London and Edinburgh. 1815, p. 361.
[2] Rhodenburg, A.: *Journ. Amer. Med. Assoc.*, 1908, li, 1326.

British Medical Association

CLINICAL AND SCIENTIFIC PROCEEDINGS

CHESTERFIELD DIVISION

A crowded meeting of the Chesterfield Division was held on March 13th, when Dr. A. NIVEN ROBERTSON, chairman of the Division, presided. Dr. ROBERT HUTCHISON gave a British Medical Association Lecture on rheumatism in childhood.

Rheumatism in Childhood

Dr. Hutchison began by saying that the importance of rheumatism in childhood was chiefly due to its serious consequences and not so much to the acute infective outbreak itself. Mentioning the fact that the disease was definitely of microbic origin, he went on to outline its distribution, dealing with this under three headings: (*a*) geographical; (*b*) social; (*c*) age. Rheumatism in children was chiefly localized in the temperate zone, with variations in every country; thus it was common in Edinburgh and London, but rarer in some parts of the British Isles. These variations, Dr. Hutchison thought, might be due to the extent of moisture in the affected

areas. The upper classes were almost immune, but the better class of artisan and the lower middle class were particularly prone. Acute rheumatism was never found in children below the age of 2½ years.

Dealing with the "soil" and the "seed," Dr. Hutchison said that the kind of child usually affected was the healthy-looking child with dark hair, clear skin, bluish-white sclerotic, and particularly well-formed incisor teeth, sometimes known as "grave-stone" teeth. The red-haired child was also prone to rheumatism, often of malignant type. Dr. Hutchison mentioned the difficulty in the definite recognition of the infective organism. The latest view was that a streptococcus allied to the scarlatina organism was responsible, but there might be many types of streptococci involved. In all probability entry was made through the throat, but the speaker was careful to exculpate the tonsils, and did not advise their removal solely for prophylactic treatment. Most probably an acute pharyngitis preceded an attack of acute rheumatism by ten to twenty-one days. Damp and cold weather favoured the development and recrudescence of acute rheumatism. The infective organism invaded chiefly the tendinous portions of the muscles, the joints, skin, and the blood, which often showed an anaemia, owing to the rapid fall in the red blood cell count (often as much as a million in a day).

The trivial pains commonly known as "growing pains" were often the earliest indication of the condition, being felt behind the knees or round the ankles. Arthritis was soon noticeable because of the swelling of the joints in more than one situation. An erythema of the skin was another manifestation, showing large crescentic areas over the trunk and limbs. Nodules were found in the skin where bones approached near the surface—for example, at the elbow, knee, and occiput. The larger the nodules, the more severe the attack. Though nodules of themselves were not important they accompanied inflammatory changes in the heart.

Rheumatic carditis was of great importance; the heart tissues could be involved separately or simultaneously. Endocarditis was the earliest sign, and produced a short, local, and superficial systolic murmur heard at the apex; this was followed by a reduplication of the second sound at the apex, then a mitral diastolic murmur, and, last of all, a mitral presystolic murmur indicative of mitral stenosis. Myocarditis was more difficult to detect and was more important than endocarditis. The two chief signs were dilatation of the heart and alteration in rate. The pulse rate must be studied in all cases, and was of far more value than the temperature chart. Pericarditis was diagnosed by a superficial friction over the precordium. There was rarely a large fluid effusion. "Bamberger's sign" was very important. Under differential diagnosis, Dr. Hutchison mentioned that acute rheumatoid arthritis, acute staphylococcal infections, acute osteomyelitis, acute poliomyelitis, and infantile scurvy must all be eliminated.

Discussing treatment the lecturer said that acute rheumatism was not preventable, but much could be done in the protection of susceptible children by taking great care of them. He did not recommend the massive use of salicylates. Prolonged rest was necessary in all heart lesions; opium was of use in pericarditis and restlessness. In pericarditis, leeches, blisters, and ice bags could be applied. The convalescence should be well watched to prevent relapses.

Dr. A. E. NAISH (Sheffield), in proposing a vote of thanks to Dr. Hutchison, commented on the masterly way in which the lecture had been given. The vote was seconded by Dr. H. W. POOLER (Chesterfield), and was warmly accorded.

Reports of Societies

EXCRETION UROGRAPHY

At a meeting of the Section of Urology of the Royal Society of Medicine, held on March 26th, with Mr. S. G. MACDONALD in the chair, Professor A. VON LICHTENBERG of Berlin spoke on the principles of excretion urography and new advances in its technique.

Professor v. Lichtenberg said that he had based his conclusions on the study of over 2,000 cases and of seven intravenous contrast substances. Five of the latter were now being reported on for the first time, and of these D.40, or uroselectan B, had decided advantages. The older method of instrumental urography had been able to demonstrate anatomical defects only, but excretion urography was capable of showing certain physiological details. For example, the degree of elimination of the contrast substance was an index of kidney function. Moreover, the excretion method made it possible to visualize dynamic disturbances; instrumental urography could never produce an accurate picture of the pelvis of the kidney, because it was always either distended with fluid or contracted owing to irritation. By the excretory method it was possible to observe the peristalsis of the pelvis; not only the anatomical changes, but also the physiological details of the disease were shown. The urinary tract could be studied as a physiological entity, and the excretory method emphasized system pathology rather than organ pathology.

The most important quality in a contrast substance was that it should be well tolerated on intravenous injection. Secondly, the quantity eliminated must be sufficient to give satisfactory visualization. The absolute quantity of the substance eliminated was no criterion of its suitability for excretion urography; its usefulness depended neither on the proportion eliminated through the kidney nor on the concentration in the blood. The only requirement was that the quantity eliminated should appear in the urine as quickly and in as strong a concentration as possible. The accompanying diuresis was important because it influenced the concentration of the contrast substance in the urine.

The five new substances—D. 34, D. 50, B. 1015, D. 40, and Sch. 122—compared favourably with abrodil and uroselectan, which were already on the market. In the first place the dosage with the new substances was considerably lower; when using them only one-fifth to three-fifths of the amount of iodine previously believed to be necessary was injected. It was possible to obtain better visualization with 2½ grains of D. 34 than with 12 grains of uroselectan. This seemed to destroy the postulate that much iodine was necessary for the success of excretion urography, and emphasized the importance of physiological rather than chemico-physiological factors. Secondly, the new substances were eliminated more rapidly and in greater concentration than the old substances. With abrodil and uroselectan the highest concentration occurred three-quarters to one and a quarter hours after injection; with the new substances, however, the highest concentration was reached within half an hour, and with D. 40, which gave the highest concentration of all, the maximum was attained a quarter of an hour after injection. Good solubility and high iodine content were only relatively important; the absolute value of the various substances rested on a group of factors, some of which were still unknown. Apart from toxicity, elimination appeared to be the most important factor. It was not the amount of any substance introduced, but the amount eliminated, which gave the optimum success, particularly when the

eliminated substance illustrated the concentration power of the kidneys.

In some cases where excretion urography was used to supplement instrumental urography, the detail of the pelvis and calyces, as shown by the excretory method, was finer. In other cases, where the kidney function was gravely impaired, the excretory method gave little or no shadow, denoting a severe degree of injury, and thus indicating the damage to the concentration power of the kidney; instrumental pyelography was, of course, also valuable in such cases. When mechanical interference prevented the introduction of a ureteric catheter, and when at the same time the kidney function was seriously impaired, both methods failed. In a large series of cases in which instrumental pyelography failed to give information, excretion urography furnished exceptionally good visualization. These cases fell into three groups: first, cases in which instrumental pyelography failed and excretion urography gave good pictures; secondly, cases in which instrumental pyelography furnished defective, and excretion urography good, pictures; and thirdly, cases in which the failure of certain portions of the pelvis to fill with instrumental pyelography caused diagnostic difficulties which were clarified by excretion urography.

Dr. P. B. HUGHES exhibited Professor v. Lichtenberg's remarkable collection of slides demonstrating the value of the new contrast substances, D. 40 in particular. These included illustrations of cases in which obstruction by stone had prevented the performance of instrumental pyelography, and in which excretion urography had shown that obstruction was not complete. Other radiographs showed that extreme dilatation of the ureters did not necessarily prevent them from emptying themselves actively. In some cases the irritation of the pelvis by the fluid introduced in instrumental urography had prevented the filling of one or more of the calyces, and so gave a false idea of the condition of the kidney; the substances used for excretion urography, being non-irritating, filled calyces which were invisible by the older method. Tuberculosis, Dr. Hughes said, often prevented the introduction of the cystoscope or ureteric catheter; excretion urography showed both the anatomical and the functional disability of the kidney; if the lesion was sufficiently advanced no excretion took place, and the kidney was not visible. In tuberculous disease of the adnexa in men a curious appearance was sometimes found; the shadow of the ureter ended abruptly just before it should have entered the bladder, and a condensation of the contrast substance was seen at the site of the apparent obstruction; there was no dilatation of the pelvis, however, and the condition was no contraindication for removal of the other kidney. Excretion urography was especially valuable in estimating the importance of ureteral changes. Kinks in the ureter, for example, when due to fixation, appeared in the same place in successive pictures; ureteral catheterization made it difficult to assess the importance of such deviations, and it was possible to overlook a fix[illegible] he ureter which was giving rise to [illegible]acks of [illegible] n if this method only was used. W[illegible] [illegible]es due to ascending infection from [illegible]natic or prostatic abscess were well shown by [illegible]etion method. The chief value of the newer [illegible] lay in the insight which it gave the surgeon into [illegible]iology and pathology of the urinary tract; it [illegible] a new field of therapeutic progress by defining [illegible]ne for conservative treatment and for surgical [illegible]. The importance of D. 40 as an agent in [illegible]raphy lay in its non-toxicity, its rapid and [illegible]mination, and in the small dosage in which only 20 c.cm. of the solution being used

In cases showing [illegible] tension [illegible] be of value [illegible] meningo-encephalitis [illegible] the stiff posit[illegible] dilutions of serum [illegible] occurs; consequently [illegible] after thorough mixing

Mr. FRANK KIDD, in thanking the speakers, said that the Section was honoured in being the body chosen by Professor v. Lichtenberg to hear his first official pronouncement on his work with the new contrast substances. Besides being the inventor of the method of ascending pyelography, Professor v. Lichtenberg was the first person to produce an effective technique in excretion urography. Mr. Kidd understood that D. 40 would shortly be placed on the market.

TONSILLECTOMY AND RHEUMATISM

At a meeting of the Liverpool Medical Institution on Thursday, March 19th, with Mr. G. C. E. SIMPSON, vice-president, in the chair, Mr. P. W. LEATHART read a paper on the value of removal of tonsils and adenoids in subacute rheumatic heart disease.

Fifty in-patients at the Liverpool Heart Hospital were chosen for operation. All suffered from fever for a long period before operation, and had one or more cardiac lesions. The reason for operating was based on the assumption that the patient was a "carrier" of the infection in his tonsils and adenoids. The speaker pointed out that the size of the tonsil was not important. The presence of enlarged glands in the anterior triangle of the neck was considered to be of more importance, inasmuch as it was clinical evidence of absorption of poison from the tonsils into the lymphoid system. Removal of the tonsils could not do more than prevent further absorption from them. The results of the operations were tabulated after the patients had been under observation for periods in some cases as long as four years, and gave the following statistics:

1. In 16 cases the temperature finally became normal and stayed normal.
2. In 20 cases the cardiac condition became stationary.
3. In 8 cases there was improvement in the cardiac condition.
4. In the rest it was impossible to give an opinion.
5. In all cases except one the relatives were emphatic that the general health had improved.

The fact that improvement took place in some cases after operation opened up the question of the physiology of the tonsils. Were they "front line" barriers to infection, or were they open doors for the purpose of admitting disease elements? The latter view was the more reasonable, for they knew that all tonsils and other external lymphoid masses, such as Peyer's patches and solitary follicles, contained organisms even in healthy subjects. It was probable, therefore, that in health poison was being absorbed from the tonsils, the object being to establish or to keep up immunity. If the immunity was at a low ebb or was failing, more poison was being absorbed than could be dealt with, and the patient was in danger. In such cases, if there was evidence (such as enlarged cervical glands) that the tonsil was allowing poison to enter the blood, the tonsil should be removed.

In the discussion which followed Mr. COURTENAY YORKE made a plea for a more conservative attitude with regard to the tonsils. He considered that local infection in the tonsil was a very uncommon cause of systemic disease, and he believed that the tonsils were sacrificed far too often from the mistaken view that they were centres of auto-infection. He pointed out that the tonsil crypts were lined by stratified epithelium, which afforded an effective barrier to infection. The presence of cheesy material in the follicles was very common, and could not be regarded as pathological. The operation of tonsil dissection, under a general anaesthetic, in adults, was a severe one, and fraught with obvious dangers. It should therefore be performed advisedly at all times, and especially in the type in which the condemnation of the tonsils was based on the supposition of auto-infection.

Mr. H. V. FORSTER remarked upon the physiological and protective function of the lymphadenoid tissue of the pharynx and post-nasal space. They were on common ground in recognizing the importance of that aspect, but might not yet be in full agreement concerning the lecturer's view that these areas were open doors through which the individual invited combat and was content to prove victorious or to be eliminated on the result of the fight. It would be better if the invader were fought in a front line engagement, rather than that a serious conflict be allowed to occur with the more deeply placed reserves; and it was interesting to know that Kaiser had recently recorded that in a large group of American children, deprived by operation of the familiar masses of lymphadenoid tissue of the upper respiratory and food passages, there was shown a greater incidence of bronchitis and pneumonia than in controls.

Dr. I. HARRIS pointed out that the danger of operating on these cases was exaggerated. As long as there was no grossly damaged heart muscle the cardiac patient usually stood an operation as well as the patient whose case was uncomplicated.

Mr. E. MALCOLM STOCKDALE considered that the structure of the tonsil was such that it constituted a weak spot, readily becoming infected, and apt to disseminate disease. Few individuals escaped an attack of tonsillitis. As the treatment of adenoid and tonsil disease had progressed, the number of cases of enlarged tuberculous glands in the neck had greatly diminished, as had also Pott's disease of the spine. The size of an infected tonsil was no indication of its power for evil, a small red buried tonsil being more dangerous than the greatly enlarged pale protruding tonsil.

INHALATION ANAESTHESIA

Dr. R. J. MINNITT read a paper describing a new technique in the administration of inhalation anaesthesia, with some biochemical comparisons. He said that he had examined in detail different forms of anaesthesia, having regard to the removal of the patient's discomfort during induction, the allowance of maximum surgical approach through satisfactory relaxation and tranquillity of abdominal viscera, and the minimum amount of post-anaesthetic toxaemia and damage to the organs of elimination. He described the McKesson-Nargraf apparatus by means of lantern slides, and explained the technique of inhalation anaesthesia both with the face mask and with de Caux's intratracheal catheters. Particular attention was paid to rebreathing, and to the small amount of ether used with the machine. He had had experience in over two hundred cases, including almost every kind of operation. The advantages were comfort and speed of induction, the minute quantities of ether used, absence of cyanosis, speedy recovery, reduction of post-anaesthetic vomiting and taste or smell of ether, and the freer atmosphere in the operating theatre from ether exhalations. Tables were presented showing the influence on blood sugar of the open ether method, and the effect of the anaesthetic on the carbon dioxide of the blood and on the blood urea. The evidence was much in favour of rebreathing, the addition of carbon dioxide to the anaesthetic gases, and the elimination of ether as far as possible in kidney disease.

In the discussion which followed, Dr. JOHN HALTON thought that the success or failure of any anaesthetic depended largely upon the patient's condition immediately prior to induction. He had recently perfected a technique which, for open ether anaesthesia, required the average use of only 8 to 12 ounces of ether for the first hour of major operations. In roughly 300 recent anaesthetics administered in this way as hospital routine, compared with 100 by ordinary methods, the difference in post-operative comfort and absence of complications was very marked. Mr. H. C. W. NUTTALL thought that if the method described by the lecturer was found to be superior to other methods in hospital, its use must be extended to private practice; here its cost and the bulk of the apparatus were difficulties. He did not agree that it should be reserved for specially difficult cases, routine use with all types of case being essential for perfecting technique.

CERVICAL CARCINOMA

A meeting of the Edinburgh Obstetrical Society was held on March 11th with the president, Dr. H. S. DAVIDSON, in the chair. Mr. HENRY WADE and Mr. DAVID BAND contributed a paper on the cystoscopic appearances in carcinoma of the cervix uteri, including in their remarks a consideration of the advantages which might be gained by intrasigmoid transplantation of the ureters.

The reports of two necropsies were quoted as illustrative of the end-results of extension of carcinoma of the cervix to the urinary tract. In the first case, the carcinoma had involved the bladder and one ureter, with atrophy of the kidney above. A vesico-vaginal fistula was present. Death had resulted from ascending infection and pyelonephritis of the remaining kidney. In the second case, the neoplasm had extended from the cervix and had involved the ureter at the base of the broad ligament. Atrophy of the kidney had resulted. Death was caused by renal suppression and anuria, the result of disease of the remaining ureter.

A fatal issue in carcinoma of the cervix was frequently brought about by one of the following complications: (1) renal infection—(*a*) ascending pyelonephritis, (*b*) blood-borne pyelonephritis; (2) renal suppression. As radium therapy had now superseded radical operation in the treatment of the majority of cases of cervical carcinoma, the information obtained from the use of the cystoscope was of considerable importance if the extent of the disease was to be accurately determined. The effect of radium on healthy as well as on neoplastic tissues rendered it essential that due attention be paid to the neighbouring organ as a guide to technique, dosage, and prognosis.

Involvement of the bladder from anterior extension of carcinoma of the cervix might be recognized in six stages, of increasing gravity—namely, elevation of the bladder floor, fixation of the bladder floor judged by digital manipulation of the cervix, circulatory changes, transverse ridge formation, oedema, and malignant invasion. Of these the first three were those associated with any retro-vesical collection or swelling, and as such might be produced by radiation of a cervical carcinoma, although the bladder was unaffected by malignant disease. The condition of the ureteral orifice was most important, as it was the earliest guide to the diagnosis of involvement of the lower urinary tract; in a series of cases in which spread of the cervical carcinoma was taking place the first changes in the bladder were noted at the openings of the ureters. The appearances of the ureteral orifice were, in order of gravity: (1) fixation, (2) retraction, (3) circulatory changes, (4) irregular gaping, (5) ulceration and nodule formation. It was found that the general health of many patients remained excellent for over eight months before mechanical interference of the excretion of urine brought about renal incompetence.

By the operation of intrasigmoid transplantation of the ureters, total vesical exclusion could be carried out with safety, and following the operation the patient had comfort and complete urinary control. The lesion in the pelvis might then be attacked with renewed hope, and radiation or radical surgery might be directed entirely to the carcinoma, without limiting the efficacy of the method by allowing for the protection or preservation of components of the urinary system.

Reviews

BURNS

In 430 B.C. Hippocrates advised for the treatment of burns "molten old swines seam mixed with resin and bitumen," a formula curiously suggestive of the olive oil, resin, and asphalte constituents of the modern paraffin applications for the same condition; and so comprehensive is the American publication *Burns: Types, Pathology, and Management*,[1] by G. T. PACK and A. H. DAVIS, that both of these treatments, chronologically so far apart, are mentioned. The whole book indeed, with its short excursions into the historical side, emphasizes the significance of the authors' quotation from St. Jerome, "Perish those who have said our good things before us." Thus we find that in 1864 Lawson Tait advised melted paraffin, the efficacy of which had been noted in 1854 by Nelaton, while in 1842 Curling read a paper before the Royal Medical Chirurgical Society upon the occurrence of acute duodenal ulceration in burns, a complication also previously noted by Dupuytren and Cooper in 1832.

The book is divided into three parts; the first deals with the anatomy, physics, and pathology of burns. In this section it is noted that there are 7,000 deaths yearly in the United States of America from this cause, and that the death rate is 7.0 per 100,000 as compared with 15.0 for appendicitis—adequate reason, if any were needed, for the appearance of a monograph upon the subject. The blood and tissue changes are described fully, but the nature of the toxaemia, which is one of the commonest causes of a fatal ending, remains completely obscure, as is indicated by the formidable list of some twenty-four possible substances. Until this biochemical problem is solved there can be little hope of treating the toxaemia upon any other than general lines, and, of these, infusion with a glucose-saline-insulin solution is very strongly advocated upon both a theoretical and an experimental basis. The incidence of duodenal ulceration is given as about 6 per cent., but this figure is obtained from rather old statistics, and it is not mentioned whether the newer forms of treatment have produced any diminution.

The second section deals with the management of thermal burns, and includes a complete summary of practically every form of treatment and application that has been devised. There can, however, be no doubt about the authors' preference for the tannic acid method introduced by Davidson of Detroit, which they consider gives better results than the paraffin spray or dusting with zinc stearate. Few who have had experience of the method will be inclined to disagree with their conclusions, for, although good results have been obtained by both the other methods, there is a certainty, ease of application, and absence of complications about the tannic acid treatment which renders it now the method of choice. Picric acid, aluminium acetate, acriflavine, and a host of other watery antiseptic applications are condemned upon logical grounds, and although the theoretical arguments used in favour of tannic acid as opposed to other occlusive dressings are perhaps not convincing, yet there can be little doubt concerning the superiority of the practical results obtained. This section includes also chapters upon the care of granulation tissue, skin grafting, and plastic work in the correction of deformities following burns. It is interesting to notice, in view of the recent treatment of varicose ulcers by complete enclosure in strapping without exit for discharges, that this method was advocated by Parker in 1915 for the preparation of large burned areas, to reduce their size and as a preliminary to skin grafting. In this chapter a curious case is recalled in which L. Frazer (*British Medical Journal*, April 1st, 1905) used Thiersch grafts from a rabbit which, transplanted to a burnt area on a child's chest, took and grew a "soft fur." Despite the date under which this case was reported, and the fact that it does not agree with general ideas about heterogeneous grafts, it is certain that the tissues of the rabbit can be grown upon human plasma *in vitro* (N. C. Lake: *Lancet*, October, 1917; *Journ. Physiol.*, September, 1916). The chapter upon reconstructive operations is largely founded on the plastic work of Dr. Sheehan, and indicates graphically what results may be expected. The final section is devoted to regional burns, and those caused by specific agents, including radium, *x* rays, war gases, etc., and each of these chapters is more than adequate.

Altogether this is a very instructive book, well-illustrated and well produced, giving the practitioner who may be called upon at any moment to deal with a severe burn—and this applies to all—a good idea as to the best method of treatment from the earliest to the latest stages.

[1] *Burns: Types, Pathology, and Management.* By George T. Pack, B.S., M.D., and A. Hobson Davis, B.S., M.D. London: J. B. Lippincott Company. 1930. (Pp. xii + 364; 60 figures. 25s. net.)

CLINICAL CHEMISTRY

In the preface to their book *Clinical Chemistry in Practical Medicine*,[2] Drs. C. P. STEWART and D. M. DUNLOP indicate very accurately its scope and aims. In brief, they say that it is meant to give information to the practitioner, the house-physician, and the senior student about the part played by chemical methods in the diagnosis and treatment of disease.

The problem which the authors have set themselves, and in which they have in the main succeeded, is one of selection. They have inevitably been faced, all along, by the problem of what to leave out. The subject is already so large that wholesale inclusion, whether of methods or of theories, is clearly out of the question. The selector's task is always an invidious one, and it is certain that his readers will be prepared to quarrel with him from time to time, no matter how nice his judgement; but on the whole Drs. Stewart and Dunlop may hope to escape lightly. Their plan of campaign has, however, laid them open to certain criticisms; for example, they have devoted a good deal of space to the description of methods, doubtless with the intention of familiarizing their readers with the way in which relevant information may be obtained and the standards of accuracy attainable in given circumstances. Yet their descriptions are necessarily cut as short as possible, and, in consequence, are not detailed enough to serve as laboratory guides for the actual performance of the tests. In these circumstances, are they really worth giving at all? Those familiar with laboratory technique will realize their inadequacy and go elsewhere; those who are without laboratory experience will "skip" the passage, since they will be unwilling to burden their memories with data that, to them, are more or less meaningless. However, faced with the twofold difficulty of compression and selection, perhaps the authors had little choice open to them. There is no doubt that the book contains very much that is of value, while the clear and definite style in which it is written will commend itself to all readers.

A few passages are open to criticism of a less general kind. In the section on the CO_2 combining power of the blood, phosphates are cited as one of the three important buffering mechanisms concerned. Now there are about 4 mg. of phosphorus per 100 c.cm. of blood, and only

[2] *Clinical Chemistry in Practical Medicine.* By C. P. Stewart, M.Sc.Dunelm, Ph.D.Ed., and D. M. Dunlop, M.D., M.R.C.P.Ed. Edinburgh, E. and S. Livingstone. 1930. (Pp. ix + 246; 24 figures. 7s. 6d. net.)

part of this is inorganic phosphate. Even if it all represented inorganic phosphate, it would be capable of providing alkali to combine with only about 2.9 out of the 40 to 60 c.cm. of CO_2 carried by 100 c.cm. of blood. The important part played in the process by haemoglobin does not, on the other hand, receive specific mention. In discussing bile formation, the authors do not mention the recent work of F. C. Mann and his collaborators, which brought out the interesting suggestion that the bone marrow of the long bones was an important site of pigment formation. In the description of the glycerophosphate test for renal efficiency, the authors should have shown more clearly that it is the esterase activity of the organ that is being investigated. On the other hand, the section on fractional test meals is admirably clear, and the specimen charts are most instructive.

EPIDEMIOLOGY

The principal difficulty of a reviewer who wishes to be just, both to his author and to the public, is that praise is easily given in a few words, while blame, unless it is merely arrogant, must be accompanied by detailed reasons. Hence the risk that, in the limited space of a review, blame may predominate although the reviewer may wish to convey a favourable impression of the book as a whole. In writing on Dr. STALLYBRASS's book on *Epidemiology*,[2] the reviewer feels this difficulty acutely. A good deall of the book seems to him so good that he would be sorry to deter any reader from studying it, but at the same time he thinks that the medical officer of health—for whom the book is specially written—who reads it straight through will be frequently puzzled and sometimes misinformed. Perhaps the fairest thing to say is that if the medical officer of health will begin at Chapter VII and go straight on, skipping all excerpts from mathematical papers and equations, he will have read an excellent treatise, containing not only some original contributions to science, but a good summary of investigations not readily accessible to the ordinary English reader. The chapters on alimentary infections and on aggregation and dispersal are particularly good, and would alone suffice to justify the existence of the book. Indeed, if reduced to the 450 odd pages mentioned, the treatise could have been commended with few reservations.

Unfortunately, Dr. Stallybrass has thought it his duty to write on topics really outside the scope of his undertaking. "Epidemiology," he says, "is the science of the infective diseases—their prime causes, propagation, prevention. More especially it deals with their epidemic manifestations." This is a faulty definition. The first sentence includes much that is not epidemiological, and excludes something which is, while the second is merely circular reasoning. Epidemiology is concerned with the study of disease as a herd phenomenon; it takes as the unit of observation a group, not, as does clinical medicine, an individual. Whether the disease in question is "infectious" or not does not arise. But the faulty definition would not have mattered—in the good parts of the book the proper point of view is adopted—had not Dr. Stallybrass made the further mistake of supposing that because knowledge of a particular kind is useful to an epidemiologist, therefore the teaching of it ought to be included in a treatise on epidemiology. He has devoted many pages to subjects which no more belong to epidemiology than does German grammar. A knowledge of statistical methods and of the principles of bacteriology and immunology is desirable—indeed, essential—for an epidemiologist, but so is a knowledge of German. Dr. Stallybrass has not, however, provided a table of the German irregular verbs, but he has provided longish chapters on subjects quite adequately treated in accessible English textbooks, and these chapters, particularly that on statistical methods, are not satisfactory. For example, the italicized passage at the top of page 66 betrays a misconception of how "spurious" correlation arises, and of how, if desired, it may be eliminated, while the worked example of correlation on page 70 is faulty. Dr. Stallybrass had the less excuse for writing on subjects which he has not mastered inasmuch as the good parts of his book demonstrate what valuable information he can convey without going outside the sufficiently wide field of his own knowledge.

It will be seen that, as feared, unfavourable criticism has taken up more space than commendation, and the reviewer desires to end on another note. He thinks that the positive merits of the book outweigh its defects, and that a judicious reader will have cause to be grateful to Dr. Stallybrass, who can teach him much well worth knowing.

HISTOLOGY FOR MEDICAL STUDENTS

Students of normal histology will find HARTRIDGE and HAYNES's *Histology for Medical Students*[4] a most useful handbook for reference in the course of their practical work. The information contained in it, so far as human anatomy is concerned, is very complete, and the student will meet with few difficulties in his work, both with regard to technical details and in the interpretation of his sections, which a reference to its pages will not clear up. The descriptions are short and to the point, and the essential characters of the tissues are explained without burdening the descriptions with details that only specialists would require. With few exceptions the tissues of the body are depicted by means of coloured figures, which, although small and in many instances semi-diagrammatic, have been made by the authors themselves with the aid of the camera lucida, and are well chosen and accurate. The figures number more than 500, and it is evident, therefore, that almost every anatomical statement in the text receives pictorial illustration. The sections on microscopical technique are excellent, and include the principles of staining, microscopical tests, section cutting, micro-dissection and injection, grafting and tissue culture, blood counts, intravital staining, photomicrography, and the general management of the microscope. The functions of the tissues are in many cases referred to, and, where necessary, the embryology is described. A short but important section is devoted to a matter which the student is apt to neglect—namely, the proper method of diagnosis. Two methods of identifying tissues are described, which may be termed respectively the method of "recognition without reason given," and the "analytical method," the former depending on familiarity with the tissues, which are recognized as soon as seen, the latter on a systematic study of the constituent elements and their arrangement. The latter is the method which will be indispensable to the student in his later pathological work, in which a "lightning diagnosis," although brilliant, is always dangerous. The book is provided with a very good index—a matter of some importance in a work of this kind. The microscopical sections used for furnishing the illustrations are from those given out as routine specimens to the class in histology, and they convey a very good idea of the thorough grounding in normal histology which is offered to the student in these days.

[2] *The Principles of Epidemiology.* By C. O. Stallybrass, M.D. State Medicine, D.P.H. London: G. Routledge and Sons, Ltd. 1931. (Pp. xii + 696; 104 figures, 1 plate. 30s. net.)

[4] *Histology for Medical Students.* By H. Hartridge, M.D., Sc.D., M.R.C.P., F.R.S., and F. Haynes, M.A. Oxford Medical Publications. London: Milford, Oxford University Press. 1930. (Pp. x + 369; 512 figures. 15s. net.)

"THE MATERIALS OF LIFE"

The interest of the intellectually minded section of the non-scientific public has of late years shifted away from the biological and towards the physical sciences. The situation is in sharp contrast to that which prevailed in the latter part of last century, when the influence of Huxley was still dominant. The change can be easily understood. The mechanical sciences have been responsible for most of the more recent and striking developments of civilization; not only this, but it must be a dull mind indeed that is not stirred and fascinated by the stories which the modern worker in atomic physics can unfold. Biology, on the other hand, while progressing probably with equal rapidity, has nothing so spectacular to show: the most interesting fields of modern biological research cannot be easily appreciated without at least some scientific discipline. It is undoubtedly beneficial to the individual layman to take some interest in biology. For one thing, a little learning, far from being a dangerous thing, may easily save him from some very silly blunders. However, to help him over the preliminary stages, there is a real necessity for the right sort of popular book and newspaper article. Of such a kind is T. R. PARSONS's *The Materials of Life*.[5] It is eminently readable, and is written in a very easy and pleasant style. It covers quite a wide ground; while dealing primarily with biochemistry, it touches on many of the fundamental facts of biology. It is chiefly concerned with the human body, but the author's interpretation of his scope is by no means narrow. The book is really interesting and informative; it puts before its readers the more important and fundamental facts concerning their own bodies and their food without that lamentable atmosphere of prejudice and propaganda that destroys the value of too many "popular" books.

NOTES ON BOOKS

The useful volume on *General Medicine*[6] in the Practical Medicine Series (1930) consists, as in previous years, of five parts, devoted respectively to infectious diseases, diseases of the chest (excepting the heart, but including tuberculosis), diseases of the blood and kidneys, diseases of the heart and blood vessels, and diseases of the digestive system. The editors of the different parts are the same as last year (see *Journal*, 1930, i, 548).

We have received the first four numbers of *Nosokomeion*,[7] or Quarterly Hospital Review, which is published at Stuttgart under the editorship of Geheimrat Dr. W. Alter of Düsseldorf, assisted by E. H. L. Corwin of New York, A. Gouachon of Lyons, R. H. P. Orde of London, and R. Sand of Paris. Papers are published in English, French, or German, followed by a brief summary in two languages. Among the twenty-four papers—fifteen of which are in German, seven in English, and two in French—published in the present volume, we may draw attention to the following: "The hospital with a soul," by Dr. E. H. L. Corwin, general secretary of the International Hospital Committee; "What can European and American Hospitals learn from each other?" by Dr. W. H. Mansholt, medical superintendent of the general hospital at Groningen; "Occupational therapy," by Mr. T. B. Kidner, president of the American Occupational Therapy Association; "The legal aspects of the patient and the hospital," by Dr. Alexander Philipsborn of Berlin; and "The new possibilities of hospital treatment of malignant tumours," by Mr. J. Courtney Buchanan, late honorary secretary of the British Hospitals Association.

The fourth edition has now been published of Professor LOGAN CLENDENING'S *Modern Methods of Treatment*.[8] It is little more than a year since we reviewed the third edition. The general plan and purpose of the book have not been changed, but a good deal of new matter has been added here and there, and "several mistakes which, as Horace Walpole said, indicated that it was the work of a gentleman rather than of a mere scholar, have been corrected."

Ionization and its Medical Applications,[9] by Drs. P. DUHEM and J. DUBOST, opens with a short account of the physics of electrolysis, and the greater part of the volume is devoted to its therapeutic applications. Perusal of the work shows that French theory and practice differ in many respects from the current teaching in this country. For example, electrolysis with lithium salts is recommended for the treatment of gout, and the treatment of hemiplegia by electrolysis of calcium salts is discussed at some length.

The proceedings of the Third Congress of the World League of Sexual Reform,[10] which was held in London last September, under the presidency of Dr. Magnus Hirschfeld of Berlin, have recently appeared. The communications, of which there are over 120, deal mainly with the reform of marriage, birth control, sterilization, the censorship of literature and films, sexual education, and rejuvenation. They will no doubt be read with interest by many students of social hygiene.

The history of "The Ginepathic Institute Free Hospital," which, after several changes of title, became the Samaritan Free Hospital, and as such was made famous throughout the world by Spencer Wells, is well told by Dr. ARNOLD WHITAKER OXFORD in a small booklet.[11] Started in 1847 in Gray Street, Manchester Square, the early minutes of its committee amply explain the prejudices against special hospitals, which were so strong in the profession and in the medical press at that time. Like a few other institutions, the Samaritan outlived the defects of several of the members of its staff and committee, and some of the practices which, to the present-day reader, seem to be almost incredible.

[5] *The Materials of Life*. By T. R. Parsons, B.Sc. Lond. London: G. Routledge and Sons, Ltd. 1930. (Pp. xi + 288; 8 figures. 10s. 6d. net.)

[6] *General Medicine*. The Practical Medicine Series. Chicago: The Year Book Publishers. 1930. (Pp. 848; 44 figures. 3 dollars.)

[7] *Nosokomeion* (Quarterly Hospital Review). No. 1–4. Stuttgart: W. Kohlhammer. 1930. (Pp. 387. Annual subscription 11s.; single copies 4s.)

[8] *Modern Methods of Treatment*. By Logan Clendening, M.D. Fourth edition. London: H. Kimpton. 1931. (Pp. 819; 95 figures. 42s. net.)

[9] *L'Ionisation et ses Applications Médicales*. Par Dr. Paul Duhem et Dr. Jean Dubost. Les Actualités Physiothérapiques. Paris: Gauthier-Villars et Cie. 1930. (Pp. viii + 105; illustrated. 15 fr.)

[10] *Sexual Reform Congress*. Proceedings of the Third Congress. Edited by Norman Haire, Ch.M., M.B.Lond. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1930. (Pp. xl + 670; 8 plates. 25s. net.)

[11] *The History of the Samaritan Free Hospital*. By Arnold Whitaker Oxford, M.D. Cambridge: W. Heffer and Sons, Ltd. 1931. (Pp. 96. 3s. 6d. net.)

PREPARATIONS AND APPLIANCES

SURGICAL GLUE

Major MEURICE SINCLAIR, R.A.M.C. (ret.), writes: On account of frequent requests, Messrs. Bell and Croyden, 50, Wigmore Street, London, W.1, have put up in a very convenient carton "Sinclair's glue," for extension, etc. Inside is a brush and screw-top aluminium box, which contains a correct measure of this preparation in a new, powdered form. They have sent me several samples for trial, and I have found it of pleasant odour, very tenacious, exceedingly strong, and translucent; it dries effectually without getting brittle, may be indefinitely stored, and can be exported to damp climates abroad. It can also be sterilized. Each carton contains a sufficient quantity of the adhesive to apply extensions to about six limbs. When the glue is required for use, cold water is simply added up to the lowest thread of the screw on the box, and the latter is then put into a pan of water, which is made to boil. When the contents are dissolved, with the aid of little stirring, the glue is ready for use, ordinarily within 10 minutes. The outfit is very practical.

INVESTIGATION OF MATERNAL MORBIDITY

Queen Charlotte's Research Laboratories

Queen Charlotte's Maternity Hospital is gradually bringing to completion, on its site of five acres in West London (at Ravenscourt Gardens, Shepherd's Bush), the most comprehensive obstetric unit in the country. Some account of the general plan was given in the *British Medical Journal* of July 19th, 1930 (p. 118). The isolation block for infected cases has been built, and plans have been completed for a great building with 200 public beds, a labour ward unit, a private block of 80 to 100 beds for paying patients, an out-patients' block, an administrative block, a students' college, and a nurses' home.

The block containing the pathological laboratories was opened recently for inspection, when the arrangements of the building and the projected programme were described by Dr. Leonard Colebrook, who was for some time honorary pathologist before the isolation block was erected, and is now director of research. The Medical Research Council, fully alive to the importance of the investigation into maternal mortality and morbidity, is providing the whole-time services of Dr. Colebrook and Dr. Ronald Hare.

The Pathological Block

The laboratory block is separate from, but in close connexion with, the isolation hospital and its auxiliaries. It is a three-story building, the ground and first floors containing the laboratories, and the second floor stores and offices. The construction and finishing is on the most modern lines. The heating system, for example, is on the unusual principle of heating from above downwards; the radiators are installed behind cast-iron ceiling panels, all easily removable, and the panels in each room are separately controlled, so that the heat can be regulated to a nicety. Ventilation is assisted by fanlights over the doors, controlled by a novel form of gearing. The general lighting is by means of opal ceiling lamps and special wall fittings adjustable to any desired vertical or horizontal position by means of elbow-joints. Internal drainage is by means of wide untrapped porcelain piping.

The first of the series of laboratories is for routine pathological work. All the investigations necessary to a bacteriological diagnosis of every case admitted to the isolation hospital are carried out here, and a report on the case is available at latest on the day following admission. In the histological laboratory sections of tissue are cut to a thinness of approximately 1/2000th inch, and examined; and in the biochemical laboratory the work to be done includes the differentiation of bacterial species by chemical means, the search for substances for checking puerperal infections at the beginning—Dr. Colebrook indicated metarsenobillon as offering the most hopeful line in this respect—and investigation into the toxaemias of pregnancy. An inoculation room is also on the ground floor, and there is a balance room, where special provision has been made to keep balances free from dust and immune from shocks.

Bacteriological Research

On the first floor are situated the two best laboratories in the block. These are for bacteriological research, and here the problem will be investigated as to why it is that even in perfectly normal confinements some women pick up the micro-organisms of puerperal fever. It is hoped to elicit whether there are only a limited number of strains of streptococci which are particularly dangerous to women at childbirth, to work out better methods for the final differentiation of these strains from others not so dangerous, to discover whether it is possible by the inoculation of a vaccine so to stimulate the defensive mechanism of the mother during the later weeks of pregnancy as to enable her to overcome infection, and to investigate the possibility of preparing a serum which will afford protection against a large number of dangerous strains. Other rooms are an incubator room, which is steadily maintained at body heat all the year round, a dark room for photographic purposes, a refrigerator, and a still-room, where provision is made to exclude contamination of cultures by dust. There is also what is known as the "medium suite," where the culture medium is prepared. The laboratories have been equipped with much special apparatus. One device is a modern centrifuge, making 3,000 revolutions a minute, for separating bacteria from the liquid medium in a test tube, a result which it accomplishes in about a quarter of an hour, whereas many hours would be required if the method of settlement by gravity were adopted. An electric blower for sealing off glass tubing, enormous quantities of which are required, is also installed, and another interesting apparatus is the Mackintosh-Fildes jar, providing the oxygen-free condition essential for the cultivation of anaerobes.

The unit is extremely well furnished, and Dr. Colebrook claimed that it was the first complete unit in the world for tackling its problem. At the same time he said that only three people were engaged in the research, and if the requisite funds were available a chemist and two more workers could be advantageously employed.

ROYAL MEDICAL BENEVOLENT FUND

At two recent meetings of the committee of the Royal Medical Benevolent Fund, seventy-seven grants, amounting to £1,779 4s. 8d., and forty grants, amounting to £947 10s., were voted, making a total of £2,726 14s. 8d. during the first two months of this year. Of this sum £2,218 was distributed as maintenance grants among ninety-two beneficiaries whose incomes, being so small, required extra help in order that the necessities of life might be obtained. The balance was given to some who had broken down in health and to others who were in temporary difficulties.

Subscriptions and donations are urgently needed in order that the activities of the Fund may be continued, and applicants given the help which is so very sorely needed. Cheques should be forwarded to the Honorary Treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, Cavendish Square, W.1.

The following are particulars of a few of the cases recently helped.

M.R.C.S., L.R.C.P., aged 75. Suffering from malignant disease of the prostate, and has for many months been bed-ridden. The applicant and his wife, who is worn out by nursing him, were found to be living from hand to mouth in very straitened circumstances. The local medical society has made a collection among its members to assist this old couple. Voted £45.

M.R.C.S., L.S.A., aged 76. Applicant gave up practice after thirty-eight years of work owing to ill-health. His practice was not a lucrative one, and he brought up and educated six children, one of whom qualified in the medical profession. Owing to his heavy family expenses his savings on retirement were very small, and he and his wife are practically penniless. The couple are now boarding with a son, who is an electrician earning £300 a year; this extra burden has thrown the son into debt. Voted £45.

M.R.C.S., L.R.C.P., aged 67. Suffering from aortic disease and unable to work. The capital saved after thirty years of work was lost through a business failure. Relations are contributing £100, and the wife has a private income of £25. Voted £40.

Widow, aged 63, of M.B. The husband died in 1895 at the age of 28, when he was a medical missionary. Since then the applicant, by her own industry and efforts as a hospital nurse in England and Australia, as matron in a school in Canada, and finally as secretary to a society in England, has maintained herself. Ill-health has now forced her to resign and to give up all active work; she has an income of only £60. Voted £26.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, Tavistock House (North), Tavistock Square, W.C.1.

British Medical Journal

SATURDAY, APRIL 11th, 1931

TECHNICAL OFFICERS IN GOVERNMENT DEPARTMENTS

The British Science Guild is a voluntary society, non-political in character, whose object is to promote the application of scientific methods and results to social problems and public affairs. It has submitted evidence to the Royal Commission which is now considering the structure and organization of the Civil Service. The memorandum of this evidence, and the larger report[1] on which it is based, embody observations and opinions which are of much importance and interest to the medical profession, as to others. They deal with the position of the scientific and professional staffs in the public services, viewing this position, not as a matter of class grievance, but as a national imperfection. The committee of the Guild responsible for these documents contained only one medical member, Sir Arthur Newsholme; and there is but little explicit or specific reference to medical matters in them. It may be a fact that the position of the medical staffs of some Government departments is less unsatisfactory than that of other scientists and technicians. The principles stated, and the suggestions made, by the Guild are, however, of general application, and with some of them, at least, the medical profession will certainly wish to associate itself.

When the permanent Civil Service was first established its organization was appropriately such as had reference to the purely administrative, fiscal, and clerical duties it had to perform. Later it was found that certain specialized scientific and technical matters, as distinguished from simple administrative problems, had to be handled by the departments, and a small number of professional experts, usually acting in a purely consultative capacity, were introduced into the staff organization, where they occupied a subordinate position. Of recent years there has been a great enlargement in the sphere of Governmental activities; the work of the professional, scientific, and technical members of the Service has grown in value and importance; the character of this work has largely ceased to be merely advisory; and there have even been established separate departments of scientific, industrial, and medical research. Yet with all this the position and status of technical members of the staff relative to that of the purely administrative members has scarcely changed. The Guild points out that "officers of the administrative class continue to dominate the whole situation in the State departments. . . . The methods of organization are such that the technical experts, instead of occupying positions giving them direct access to Ministers, are, as a rule, subordinates of the permanent head of the department. Sometimes they are subject not only to the control of a single administrator, but also to that of clerical officers of the secretariat. This sometimes leads to the usurpation by non-technical officers of the proper functions of the professional and technical groups." This often results in the Minister being provided only with a layman's interpretation of the expert's advice, or, on occasion, in the suppression of some technical reports altogether. In view of this position it is essential, in the opinion of the British Science Guild, that "the Civil Service should now be organized internally so as to enable those having the best available knowledge in any department to take a full share in the formation of policy, and to have the right of access on major issues to the controlling administrative authority and the Ministers," and that there should be "a system of Boards on which the experts would serve on equal terms with the administrators." The principle underlying these contentions is one which, in its relation to public health administration and the medical side of other Government services, may well receive the support of the medical profession.

With regard to further recommendations that "the essential unity of the professional, scientific, and technical services should be recognized by treating them as a single national technical service," and that "the fullest opportunity should be given to specialist officers possessing administrative gifts to rise to the highest administrative posts, including the permanent secretaryships of the larger departments," there may be less unanimity and greater difficulty. Certainly the classification and systematization of the professional and technical staffs might well be made simpler and more uniform, and there may be occasions on which the head of a technical department, by reason of great administrative ability, should be appointed a Permanent First Secretary. It is more than doubtful, however, whether he should continue to exercise the duties of both offices.

In this connexion two other points may be mentioned which are not referred to by the British Science Guild. It has lately been contended that the technical sections of Government departments should be reduced to a minimum, and that most of their work should be given to private individuals or firms. This does not seem to be a feasible proposition, at any rate as regards matters of public health and medicine, but even in that sphere the employment of part-time officers for suitable purposes may well be encouraged, and it is possible that other Government departments sometimes undertake work which might preferably be done elsewhere. The second point is that in association with any professional group in a Government office it will usually be found advantageous to have a small advisory committee of representatives of the whole profession concerned. Such a committee is established—perhaps it would be more correct to say that such committees are established—at the Ministry of Health in relation to the medical

[1] Report on the Scientific and Professional Staffs in the Public Services and Industry. The British Science Guild, 6, John Street, Adelphi, London, W.C.2. (1s.)

profession ; and though there may be periods during which the activities of such a committee seem of little importance or effect, yet it continuously serves as a useful means by which the official department can be kept in touch with the daily work and the organized opinion of the whole profession, of which the official technical group in the Civil Service forms a part.

TENDON RUPTURES

Mr. Harry Platt's lecture on this subject to the Students' Medical Society of the University of Leeds, on which is based the paper printed in this issue at page 611, contained a great deal that is of practical surgical value and importance. Such accidents are not dangerous to life, but the resulting disabilities, if not properly treated, may cause lifelong inconvenience or even crippling inefficiency. The injuries referred to range from the tendons of the fingers to that of the triceps cruris, the largest and strongest tendon in the body. Cricketers in this country, and baseball players elsewhere, are familiar with the dropped finger which follows a maladroit attempt to catch a hard-hit ball ; and among sufferers from rupture of the tendo Achillis there have been distinguished surgeons who have described the injury in their own persons and their treatment of it. Such were Munro Secundus of Edinburgh, John Hunter, and, in our day, Sir John Lynn Thomas.

Early diagnosis and prompt treatment of these injuries are greatly to be desired, but it is reassuring to find from Mr. Platt's statistics that even long-deferred operative treatment of such a serious injury as total rupture of the tendo Achillis can be so successful as it has proved to be in his hands. Nine out of the ten cases on which he operated enjoyed perfect function as an end-result, and the remaining case had "good function." These results were obtained by suture and in some cases by grafting of fascia or tendon. They are all the more satisfactory because, strange as it may at first sight seem, complete rupture of the tendo Achillis has, in many recorded cases, escaped detection until weeks have passed. Such oversight is due to the amount of effusion and oedema which follows immediately after the injury, but should not occur if the surgeon has in mind the fact that careful examination is necessary in all disabling injuries. Ruptures which, if promptly diagnosed, could be satisfactorily treated by means of simple suture, may, when left untreated for weeks, require extensive and bold operations. For example, in one of Mr. Platt's cases he used both the peroneus and the tibialis posticus tendons to bridge the gap left by retraction and atrophy. It is fortunate that dropped finger is easily recognized, because open operations for this injury are seldom successful.

The best known of the spontaneous ruptures of tendon is that of the extensor longus pollicis, either associated or not with fracture of the lower end of the radius, and usually following painful tenosynovitis. In such cases success in restoring function will not be attained unless the obliquity of the tendon is preserved. In order to secure this, Mr. Platt adopted successfully the device of a loop or pulley formed from a piece of free fascia. Ruptures of the long tendon of the biceps brachii at its upper part are not uncommon, and, considering the importance of the area involved, they give rise to comparatively slight inconvenience, but ruptures of the distal tendon at the elbow were hitherto practically unknown. Mr. Platt describes the symptoms and successful treatment of a case, which he is probably right in supposing to be unique in surgical literature. The bicipital fascia and the attachment of the tendon to the radius had wholly disappeared at the time of operation, but complete recovery of function followed reattachment of the tendon through a tunnel fashioned in the bone.

Rupture of the ligamentum patellae, and tears of the insertion of the rectus femoris, are also described in Mr. Platt's paper, which contains much sound advice, the outcome of a rich experience and good judgement.

AN ADVANCE IN EXCRETION UROGRAPHY

The uncertainty of some of the earlier methods in excretion urography has made instrumental pyelography the method of election with genito-urinary surgeons. Professor A. von Lichtenberg of Berlin, who was a pioneer of the instrumental technique, has recently achieved results with certain new contrast substances by which the excretory method acquires a fresh importance as a supplement to instrumental urography, and in some cases must supplant it. As will be seen from the report of the proceedings at the Royal Society of Medicine, printed at page 625 this week, he claims that the new preparations have decided advantages over uroselectan and abrodil, which have been in use until now. Not the least is the fact that their toxicity is much lower ; uroselectan B, to which Professor von Lichtenberg has given the name D. 40, can be given in a dose of 20 c.cm., and produces no untoward effects. The iodine content of the new substances is only between one-fifth and three-fifths of the amount previously thought to be necessary ; their elimination, moreover, occurs much more rapidly, D. 40 appearing in the urine in its highest concentration about fifteen minutes after injection ; this is a decided advance, the excretion of the older substances having been delayed for an hour to an hour and a half after injection. The rapidity with which a high proportion of the preparation is eliminated gives an index of kidney function which cannot be obtained by the instrumental method. A negative result with the excretion method has therefore a certain value, indicating that the concentration power of the kidney is too severely damaged for secretion to take place. Various advantages of an excretory over a mechanical method of urography can be readily appreciated, such as the avoidance of distension of the pelvis with injected fluid and its consequent distortion or irritation, and the discovery of fixations or deformities of the ureter, which cannot be readily detected with a ureteric catheter in place. Such admitted advantages have only been awaiting the perfection of an excretory technique. Professor von Lichtenberg has found that other details come to light

with the use of the new method. For example, the instrumental method may induce an irritation of the pelvis, which prevents the filling of one or more calyces, and so gives rise to a faulty impression of the state of the kidney. The absence of irritation by the excretory method leads to a uniform filling, often finer in detail than that produced by the injection of fluid from below. Again, the excretory method may show that obstruction by a stone impacted in the ureter is only partial, although preventing the passage of a catheter. He believes that the new contrast substances mark an advance in technique which will be reflected in improvement of diagnosis, and hence of treatment in kidney conditions. The compliment he has paid to the Section of Urology by coming to England to announce the results of his work on this subject was duly appreciated at the meeting held on March 26th.

THE NATIONAL HEALTH INSURANCE SERVICE

In the *Canadian Public Health Journal* for February last appears an article, entitled "National Health Insurance Medical Service in Great Britain," which contains probably the best descriptive account of that service which has yet been published within similar compass. It is from the pen of Mr. R. W. Harris, whose book on *Medical Insurance Practice* should be a familiar possession of every insurance practitioner in this country. The article may be commended to the attention of all those who would like to know broadly what the service really is, but who have time to read only a few pages on this subject. Mr. Harris's article is singularly complete in its descriptive survey, every essential feature and characteristic of the service being lucidly set out. There is perhaps only one fact the omission of which is to be regretted. It seems desirable, when describing the service to those who are ignorant of it, that whenever the statement is made that an insurance practitioner, single-handed, may accept on his list persons up to a maximum number of 2,500, there should be added the even more important statement that the average number of insured persons on a practitioner's list is actually in the neighbourhood of 900 only. Mr. Harris notes as perhaps the two most essential and remarkable features of the service, its retention of all the best characteristics of private practice, and the extent of the share accorded to the medical profession itself in its administration. "Comparing the English system with all the other Continental systems," he says, "the difference is very marked, and that is doubtless the reason why, compared with the Continental system, the doctors here are comparatively satisfied, and in my opinion give a better service." He adds—and this is important in view of certain recent utterances of one or two members of the profession of some eminence—"Criticism of the service from those medical men not engaged in it is now confined to very few and occasional critics whose observations, often ill informed and twisted out of any real resemblance to the facts as they are, make it difficult to treat them seriously." Mr. Harris's article contains two paragraphs which might have been better omitted, in view of the general scope of the article and the limited amount of space at his disposal; indeed, the author himself says of one of them, "I realize that such scrappy comments seem hardly worth while." The tentative proposals for considering the extension of the service to the dependants of insured persons and others are, of course, based, not upon the value of the health of these dependants to employers of labour, but upon the supposition that in the not distant future the community as a whole may regard the health of its individual members as a national asset to be nationally catered for. With regard to an alternative salaried medical service, no one questions either the amenities or the good work of the Civil Service, but were the conditions of such a service applied to medical practice it would be very difficult, if not impossible, to preserve the two great features mentioned above as being commended by Mr. Harris, and there would be other manifest disadvantages. The concluding paragraph of the article, concerning the relationship of the insurance service to preventive medicine, is important. While noting that the service is preventive in the sense that the doctor is consulted in earlier stages of illness than would otherwise be the case, the author goes on to say: "In the wider sense real preventive effort became largely unattainable when it was decided to create *ad hoc* bodies for administration. This will some day be remedied, and the insurance committees will become merged in new committees of the county and county borough councils."

EPIDEMIOLOGY OF ACUTE POLIOMYELITIS

The recent incidence of acute poliomyelitis is discussed by Dr. Pierre Sée in the issue of the *Gazette des Hôpitaux* for February 14th, which is devoted to a consideration of this disease. In 1926 the countries chiefly affected were Scandinavia, England, Germany, Hungary, and France, where about twenty cases occurred, scattered over Savoy, Pas-de-Calais, Loiret, La Vendée, and Aube. During the next two years there was a general decline of the disease, but in 1929 fresh outbreaks occurred in Switzerland, North Italy, Holland, and Belgium, as well as isolated cases in La Vendée, Haute Saône, Calvados, Aube, Savoy, Jura, and the Landes in France. In 1930 numerous cases were notified throughout France and particularly in the Lower Rhine and Moselle district, where the epidemiological and experimental aspects of the outbreak were studied by Levaditi, Schmutz, and Villemin. The epidemic in the Lower Rhine district lasted from July to October, and gave rise to 405 cases, or a proportion of 60.3 per 100,000 inhabitants. Of these cases, 110 occurred at Strasbourg, 61 in the canton of Schiltigheim, and 53 in the canton of Bischwiller. Four-fifths of the patients were children under 5 years of age. Levaditi and his collaborators found experimentally that the virus of this outbreak had a relatively attenuated virulence, which accounts for the maximum incidence at that time of life. The epidemic in the Vosges coincided with outbreaks in Belgium and Northern France, as well as with a recrudescence of the disease in Sweden, Denmark, and Spain. In Germany the frequency of the disease was about the same in 1930 as in the previous year, the case mortality during the period 1927 to 1930 showing a progressive decline from 15 per cent. in 1927 to 9.5 in 1930. In Switzerland the disease tends to be stationary, with 200 cases a year, the incidence being higher in the rural districts than in the towns. An

epidemic also occurred in Finland in 1930. Outside Europe the disease has recently been more frequent among children in various parts of Madagascar. In the United States 594 cases had been notified by October, with the following distribution: Ohio, 109 cases; New York, 65 cases; and numerous others in Kansas, California, and Connecticut, as well as isolated cases in various other States. The spring and summer were the seasons of predilection.

IN DARKEST LIBERIA

In 1787 Great Britain acquired Sierra Leone for the purpose of providing liberated slaves with a homeland in Africa. In 1816 the American Colonization Society was formed for the purpose of devoting itself to the welfare of a similar class in the United States; and five years later the foundations of the present Republic of Liberia were laid. The affairs of this republic have received much unfavourable attention in recent weeks on account of alleged slavery—a curious situation in a republic of this nature. Very little, however, is known about Liberia. Whereas Sierra Leone is now a well-organized country about which we possess a considerable fund of information, Liberia has remained for many years the least known of all the African countries—the darkest spot in darkest Africa. Recently Professor Strong of Harvard University Medical School, with a number of his colleagues, made an extensive biological and medical survey of the country, penetrating a considerable distance into the hinterland as well as surveying the better-known coastal lands. The expedition then crossed Central Africa, through the Belgian Congo to Nairobi. The results of that expedition have recently been issued as two handsome volumes[1] by the Harvard University Press, and provide a most illuminating account of the conditions which prevail there. Liberia now has a population of about one and a half to two million inhabitants, of whom between ten and twenty thousand are descended from the "repatriated" negroes, and are called Americo-Liberians; the remainder are indigenous Africans. The Americo-Liberians live on the coast, and the government of the country is entirely in their hands. The inhabitants of the hinterland are not represented in the Liberian Assembly, though they pay taxes and are liable to forced labour, which is apparently not far removed from a form of slavery. The capital of the country is Monrovia, a town without a general water supply or sewage system. It has, however, a large swamp where mosquitos breed. Fortunately, most of the inhabitants appear to be more or less immune to the effects of malaria, which, as might be supposed, is still very common. The history of Liberia in respect to hygiene and sanitation has been, in general, very simple; and the present situation is even simpler. There is no health organization of any sort, no adequately trained sanitarian or physician, no public health laboratory. There is a Government hospital of sorts, but it is in charge of a poorly trained Liberian physician and a Liberian nurse—the only gesture the country has made towards the care of the sick. Drinking wells and latrines share the same porous soil of the back yards of Monrovia. There are, of course, no public health statistics and no records of births, marriages, and deaths. Until recently there have been two or three private European physicians in the country; but several more are now at work in connexion with the establishment of the Firestone Rubber Plantations. The Harvard expedition has collected much valuable information about the sanitation and diseases of the country. The chief of these include malaria, helminth infections of various kinds, yaws, leprosy, syphilis, gonorrhoea, tuberculosis, small-pox, chicken-pox, and various skin conditions. More rarely one encounters pneumonia, bacillary dysentery, typhoid, trypanosomiasis, yellow fever, beri-beri, and nutritional diseases, while plague and relapsing fever are absent. Some of these are considered in detail in the report, more particularly malaria, yellow fever, schistosomiasis, leprosy, filariasis, onchocerciasis, yaws and syphilis, leprosy, skin diseases, and trypanosomiasis. Important as is the contribution to the medical problems of the country, the report is by no means limited to their consideration. It embraces a most interesting anthropological account of the peoples, a detailed investigation into the flora and fauna of the country, and briefer accounts of the geology, geography, and history. It is extremely well illustrated, both with half-tone plates and with coloured drawings. It shows that, potentially an extremely wealthy land, Liberia is very backward in the services essential for the proper development of a tropical country. The recent establishment of the Firestone Plantations should have an immense influence on the expansion of health services, as well as on the reduction of the admittedly undesirable practices of some of its inhabitants. "Big Business," in the Tropics cannot afford merely to look for profits; it must see that proper conditions are not only established but maintained; and the Firestone corporation is well aware of this necessity.

[1] *The African Republic of Liberia and the Belgian Congo.* Edited by Richard P. Strong. Cambridge, Mass.: Harvard University Press; London: Milford, Oxford University Press. (15 dollars the two volumes.)

A MEDICAL LORD CHESTERFIELD

During the last year of the war Dr. Clément Simon, then in charge of a military hospital devoted to the treatment of skin affections and venereal disease, was allotted as a colleague a young practitioner, who, though well versed in general medicine, knew singularly little of dermatology or venereology. Being, however, endowed with intelligence and aptitude, he soon, under the guidance and tuition of his chief, became a colleague both skilled and trustworthy. Separated from his teacher by the exigencies of the peace, which seemed likely to bring his dermatological studies to an untimely end, he exacted a promise from Dr. Simon to continue the instruction by correspondence. The pledge so given has been amply redeemed, and the epistles of the professor, carefully preserved by the disciple, have now, to adopt a more modern metaphor, been "released" for the benefit of the general medical public. The letters[1] are forty-six in number, and, no doubt with the object of preserving the epistolary flavour, they are all printed in italics. The resulting volume is not

[1] *Lettres à un Médecin Praticien sur la Dermatologie et la Vénéréologie.* Par Clement Simon. Paris: Masson et Cie. 1930. (35 fr.)

in any way a textbook, but it comprises an interesting series of observations and speculations on subjects and topics occurring in the everyday practice of a learned and skilful physician. All kinds of interesting points are discussed, and the letters (or chapters) vary greatly in length. Syphilis is the foundation of about a third of the whole series. One of the subjects discussed at some length is syphilis and marriage. This question was studied and reported upon by a strong committee of the French Society for the Study of Dermatology and Syphiligraphy in 1920, and the author is of opinion that nothing has occurred since then to modify the conclusions arrived at. Shortly, his opinion is that a patient whose treatment has been started during the "pre-serological" period may marry after a year's treatment and a year's observation; if treated after the development of a positive serum reaction, but before the appearance of secondary signs, he must wait four years; if he presents a persistently positive Wassermann reaction he may marry provided the cerebro-spinal fluid is normal; but if the patient is a woman she must have a course of treatment during every pregnancy. Interesting topics of less gravity also discussed by Dr. Simon are eruptions due to the use of eau-de-Cologne, lupus erythematosus and its treatment by gold preparations, and pediculosis in ladies of the higher social strata. The occasional incidence of this humiliating infection he ascribes to the fact that clothing which conforms to the dictates of modern fashion affords insufficient protection against the contact of the skin with the seats of public conveyances. It is to be hoped that the anonymous recipient of these letters will do his mentor more credit than the son to whom the fourth Earl of Chesterfield addressed his celebrated series.

PROGRESS OF CREMATION

At the annual meeting of the Cremation Society, held on March 25th, the chairman of council, Mr. Murray N. Phelps, stated that during 1930, at the twenty crematoriums in Great Britain, 4,527 cremations were carried out, comparing with 4,341 in 1929. The municipal crematoriums now number ten; the other ten are owned by proprietary companies or cemeteries. Since the first crematorium was opened, at Woking, in 1885, a total of 52,921 cremations have been carried out in this country. The latest figures from Germany afford a striking contrast to the British figures, as the number of crematoriums in that country has reached a total of 103, and the annual number of cremations now exceeds 50,000, almost equalling in one year the British achievement for the last forty-five years. An account of the jubilee of the Danish Cremation Society, which was given to the meeting, showed that in Denmark, also, cremation is making rapid progress; the membership of the society is 63,000, and Denmark has five crematoriums, with four more in contemplation. Mr. Murray Phelps said that owing to the increased interest in cremation shown by the working classes in this country, efforts have been made to include cremation at a nominal charge under health insurance benefits. The municipal and proprietary cremation authorities have unanimously agreed to make a reduction of the fees in such cases, but so far it has not been possible to get this question considered by the Ministry of Health.

NARCOTIC DRUGS IN EGYPT

In the *Journal* for February 1st, 1930 (p. 208), attention was called to the exposures by Major-General T. W. Russell Pasha of a mid-European source of illicit production and distribution of narcotic drugs. Tons of heroin, morphine, and cocaine were reported to have passed through Genoa, Trieste, Piræus, and Constantinople into Egypt, which country was said to contain some 500,000 addicts to these drugs. Russell Pasha as director of the Central Narcotics Intelligence Bureau of the Egyptian Government, has just issued his report for the year 1930, in which he relates the rigorous action he has continued to take against foreign smugglers of the above-named alkaloids, opium, and hashish into Egypt. He produces photographs of the most notorious traffickers who have been deported from Egyptian territory, and describes the means by which several organized gangs of drug smugglers have been traced, exposed, and convicted. The report contains also illustrations showing the misplaced ingenuity employed in concealing the contraband drugs. Weighing-machines with false floor-boards, hollowed out water-closet seats, millstones stuffed with bags and tins of hashish, and blocks of wax enclosing tins of heroin afford samples of the resources employed to evade the vigilance of the customs authorities. As might have been anticipated, the newly established drug factories in Stamboul, to which attention was called in our issue of January 31st last (p. 190), have provided a fertile source of the illicit imports into Egypt. Four tons of heroin were admittedly consigned from these factories in six months, or about double the estimated annual requirement of the world for medical and legitimate purposes. This alkaloid appears to be that most largely resorted to by Egyptian addicts, though tons of hashish have been seized by the police and customs authorities. The narcotic laws now in operation in Egypt are certainly stringent, and their administration in the hands of Russell Pasha is commendably drastic; moreover, the cultivation of opium, which has been carried on for years, is now absolutely forbidden. The conference on limitation of narcotic drugs, which assembles at Geneva next month, will have something to learn from the vigorous methods that have been adopted in the land of the Pharaohs.

We regret to record the death, on April 1st, at the great age of 92, of Professor William Carmichael M'Intosh, M.D., F.R.S., who held for thirty-five years the chair of natural history in the University of St. Andrews.

THE KING

The attack of subacute bronchitis from which the King has been suffering since the close of last week has naturally given rise to concern in the public mind; and medical men who are asked to interpret the reassuring statement that "His Majesty is making slow but satisfactory progress" will do well to underline the word "slow," because a bronchitis which has probably involved the tubes within the lung and has occurred at the end of the winter must take time for recovery.

NINETY-NINTH ANNUAL MEETING
of the

British Medical Association

EASTBOURNE, 1931

BEACHY HEAD

THE ninety-ninth Annual Meeting of the British Medical Association will be held at Eastbourne this summer under the presidency of Dr. W. G. Willoughby, medical officer of health for Eastbourne, who will deliver his address to the Association on the afternoon of Tuesday, July 21st. The sectional meetings for scientific and clinical work will be held, as usual, on the three following days, the morning sessions being given up to discussions and the reading of papers, and the afternoons to demonstrations. The Annual Representative Meeting, for the transaction of medico-political business, will begin on the previous Friday, July 17th. The provisional programme for the work of the fourteen Scientific Sections is being drawn up by an Arrangements Committee, consisting partly of Eastbourne representatives and partly of members appointed by the Council of the Association. The full list of presidents, vice-presidents, and honorary secretaries of the Sections, together with the provisional time-table, was published in the *Supplement* of March 7th. Other details of the arrangements for the Annual Meeting will appear in later issues. During the week, and in particular on the last day of the meeting (Saturday, July 25th), there will be excursions to neighbouring places of interest. We publish below, the second of a series of articles on Eastbourne and its neighbourhood, with special reference to medical institutions. The first article—"Eastbourne in History and To-day"—appeared in our issue of March 14th (p. 464).

THE HOSPITALS OF EASTBOURNE

Owing to the rapid growth of the borough of Eastbourne, the general hospital and similar institutions, though efficient for their purpose, are not as attractive architecturally as they might have been had allowance been made in their original plan for a series of additions to meet urgent requirements. The beautiful buildings of All Saints Convalescent Hospital might be mentioned as an exception.

The general hospitals include the Princess Alice Memorial Hospital, the Leaf Homoeopathic Cottage Hospital, and St. Mary's Hospital (formerly the Poor Law Infirmary).

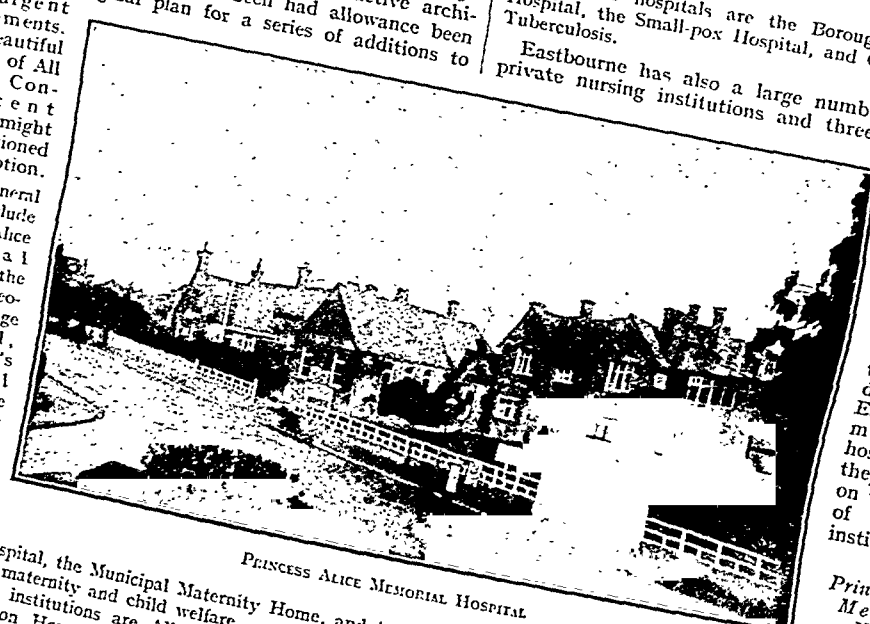
The special hospitals are the Royal Eye Hospital, the Municipal Maternity Home, and the Bell Hostel for maternity and child welfare.

The convalescent institutions are All Saints Convalescent Hospital, the London Homoeopathic Hospital Convalescent Home, and the Sailors and Soldiers Convalescent Home.

The fever hospitals are the Borough Infectious Diseases Hospital, the Small-pox Hospital, and Gildredge Hospital for Tuberculosis.

Eastbourne has also a large number of well-equipped private nursing institutions and three municipal clinics.

There is a thriving branch of the Royal Surgical Aid Society, and a very efficient division of the St. John Ambulance Brigade. During the war the V.A.D. detachments of Eastbourne had many local hospitals, and they still carry on work at two of the above institutions.



PRINCESS ALICE MEMORIAL HOSPITAL

Princess Alice Memorial Hospital

The general hospital for Eastbourne and the surrounding parts of Sussex was named after H.R.H. Princess Alice, sister of King Edward VII. It was opened in June, 1883, by the Prince and Princess of Wales, afterwards King Edward VII and Queen Alexandra, the foundation stone having been laid in the previous July by

His Majesty's sister, H.R.H. Princess Christian. The hospital has had to be continuously extended in order to meet the growing requirements of the district. It began with two wards of 10 beds, and has been enlarged from time to time; when the additional buildings now under construction have been completed it will provide accommodation for 110 patients, and be capable of treating about 1,800 in-patients annually. The radiological, electrical, massage, therapeutical, and pathological departments and laboratories, which have been added by degrees, will be brought thoroughly up to date in the buildings now in course of erection.

The hospital at present accommodates 96 in-patients. The staff consists of two resident medical officers, a matron, house and sister tutor, eight sisters, ten staff nurses, twenty-one nurses, twenty domestics, besides porters, etc. The chief work of the hospital is the care and treatment of in-patients. An increasing number of these, however, continue to be treated after they have left the hospital, mainly in radiological, electrical massage, and massage departments.

The management includes a number of prominent residents of the town and surrounding country, from whom are chosen a house committee, finance committee, and enlargement and improvements committee. There is also a strong and influential medical committee. The services of the physicians and surgeons are gratuitous.

The Leaf Homoeopathic Cottage Hospital

The foundation in 1888 of this cottage hospital of 16 beds was due to the beneficence of two ladies, the Misses Leaf, who placed in the hands of trustees the two properties Nos. 1 and 2, Marine Road. Later No. 3, Marine Road was added through the generosity of Mr. Alfred Tabor, as a memorial to his son. Since the hospital was established over 12,000 patients have received treatment. Although it has been brought up to modern requirements, it is still inadequate for the increasing demands made upon it, and removal to an up-to-date building has become an urgent necessity. It is the desire of the committee to erect a model cottage hospital of 25 beds on a site which has recently been acquired.

The honorary medical staff consists of three local practitioners. The services of three consultants are also available. The nursing staff comprises a matron, sister, and four nurses. The average stay of in-patients is three weeks; many of these attend later as out-patients.

St. Mary's Hospital

This hospital was the Poor Law Infirmary of the Eastbourne Union until April, 1930, when it was transferred to the borough council. The original building, which dates from 1889, had 120 beds. By alterations and late guardians were able to hand over to the council a satisfactory and efficient hospital. The new buildings included a separate maternity block and nurses' home, as well as up-to-date wards. Owing to its situation and dependence for certain services on the institution in the same grounds, the hospital is not separated in management from the Public Assistance Committee.

The number of beds is as follows: for men 50, women 82, maternity cases 7, children 20, and for the generally infirm 26, making a total of 185. An extension of 16 beds is being arranged. With the exception of 12 beds, which are retained for county cases, the hospital serves Eastbourne only. The treatment of out-patients is confined to emergencies and after-treatment. There is a special department for massage, light, and electrical treatment. The medical superintendent (non-resident) has the assistance of a consulting surgeon and other specialists as required. There is no resident house-surgeon. The hospital is a training school for probationer nurses.

The ... Nose, and Throat Hospital

This hospital, ... Cavendish Place, founded in 1917 by Dr. M. V. Mc... hnie, Dr. Ashley Cluffe, and Councillor W. E. Wo... commenced as a small room for out-patients only. In 1921 the committee purchased No. 49, Cavendish Place, and provided accommodation in three wards for twelve in-patients, and for out-patients. The adjoining house, No. 47, was purchased, reconstructed, and equipped, and was opened in December, 1930. There are now six wards with 17 beds, and accommodation for out-patients has been greatly improved. The operating theatre and anaesthetizing room are on the first floor, where the wards for men, women, and children are also situated. In 1930 there were 308 in-patients and 1,942 out-patients. The recent extension will enable a much larger number of both classes of patients to receive treatment.

The Royal Eye Hospital

This hospital was founded in 1914 by the late Dr. Ewart and Dr. Milner Moore. The accommodation, to begin with, was only two rooms, where out-patients were attended. Largely through the efforts of the late Alderman C. F. Simmons, the present premises in Cavendish Place and Pevensey Road were acquired, and the hospital is now fully equipped to deal with all sorts of ophthalmic diseases.

The accommodation consists of 14 beds and an operating theatre. On an average about 100 out-patients are treated weekly, and during a year about 150 operations are performed. The nursing staff comprises a matron and four assistant nurses. The hospital is entirely supported by voluntary subscriptions and donations, and is governed by a board of management under the chairmanship of Councillor E. H. Hill.

Municipal Maternity Home

This popular home was opened in March, 1920, in a private house with a large garden. Extensions were completed in May, 1925. The 16 maternity beds are increasingly used. In 1930, 248 cases were admitted; this number represented over 35 per cent. of the total births in the borough. There is a consultant obstetric surgeon, but the mothers are attended by their own doctors or by the resident midwives. In connexion with the training school for midwives. The home is a home there is an ante-natal and post-natal centre, where medical practitioners can attend their patients if they wish. As no patients are admitted or attended by the external midwife without ante-natal consultation, this advantage is assured in at least 50 per cent. of births in the borough, independent of ante-natal consultations elsewhere.

The Bell Hostel

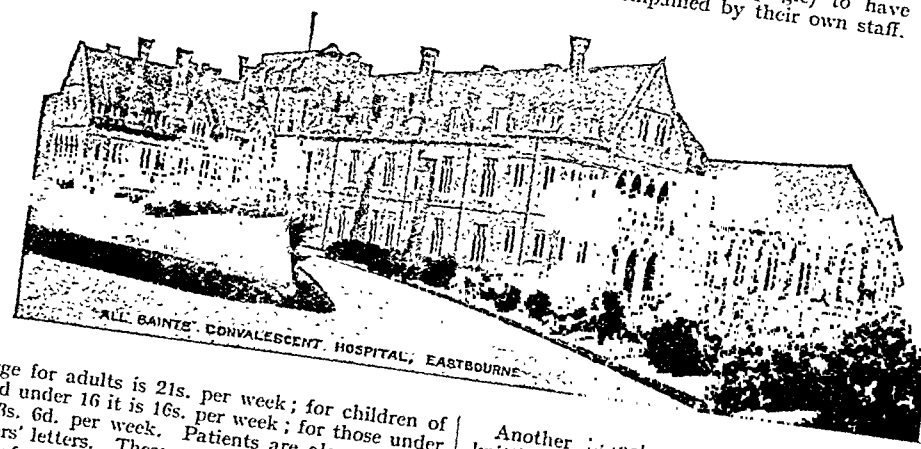
The Bell Hostel, in Salehurst Road, is a Church of England maternity home for unmarried mothers, and a boarding-out home for their children.

All Saints Convalescent Hospital

The All Saints Convalescent Hospital is situated at the foot of Beachy Head, and consists of two buildings—one for adults, with about 70 beds for men and 120 beds for women patients, the other for children, with beds for over 100 children of ages ranging from 3 to 16 years. In the Children's Hospital there are also 5 beds for mothers with infants under 6 months. The present building for adults was opened in 1869 on a site given by the Duke of Devonshire. The Children's Hospital was opened considerably later, in 1890. Both hospitals and the grounds surrounding them are the property of the All Saints Community.

The hospital is under the care of four visiting physicians. For each of the three departments—men, women, and children—there is an experienced trained nurse, responsible for the medical care of her patients under the supervision of the visiting medical officers. Patients are admitted on a medical certificate filled in by their own doctors and approved by the hospital medical officers. The adult hospital is approved by the Ministry of Health for the admission of ambulant non-pulmonary cases of tuberculosis. Persons over 70 years and those convalescent from infectious or contagious

diseases are ineligible. Patients are expected to be up and about during the day, and able to manage generally for themselves. Bed cases are ineligible. The usual length of stay is three weeks, but this period can be extended with the approval of the hospital medical officers. Patients are sent for convalescence by the chief hospitals in London and the provinces, and by health insurance and other charitable societies. Over 3,000 patients are admitted in the course of the year. The hospital is open all the year round, and to patients of all religious denominations. Children have to obtain a negative result of nasal-throat swab before admission.



The charge for adults is 21s. per week; for children of 12 years and under 16 it is 16s. per week; for those under 12 years, 13s. 6d. per week. Patients are also admitted on subscribers' letters. These are issued to regular annual subscribers of 21s. or more, one letter for each 21s. subscribed. There is an additional charge of 25s. 6d. for three weeks on these letters.

The sister superior, who is responsible for the management of the hospital, realizes fully the importance in convalescence of fresh air, rest, and plentiful nourishing food. Application for admission and all inquiries about the hospital should be addressed to the secretary. The hospital is open to visitors every afternoon except Sunday, and the sisters always welcome visits from those who are interested in the work.

The London Homoeopathic Hospital Convalescent Home

With promised liberal support, it was decided in 1887 to establish the above home for the reception of convalescent women and girls, and the home was opened in August of the following year. It has proved a valuable help to the hospital by enabling patients to be discharged from the wards at an earlier date than would otherwise be possible. Since its foundation the home has received an average of 200 patients annually, a large number having undergone severe operations. It has also provided a very useful service in accommodating hospital nurses during short periods of rest.

In 1888 the home was started as a separate institution, but it has now become incorporated with the London Homoeopathic Hospital under a Royal Charter granted in 1928. A subscriber of £3 3s. per annum is entitled to recommend an eligible patient for residence at the home for three weeks.

Sailors and Soldiers Convalescent Home

This home is organized and staffed by V.A.D. Sussex 2, assisted by a trained nurse. There are 53 beds for Ministry of Pensions cases; 2,773 patients have been admitted since the detachment (commandant, Mrs. F. S. Williams) undertook the management of the home in 1919, when it was recognized by the Ministry of Pensions. Ex-service men, the majority being surgical cases, are sent by the Ministry for convalescent treatment. They come from all parts of England and Wales, and occasionally from Scotland. Since the number of ex-service men eligible for treatment under the Ministry of Pensions has decreased, the home has been able to admit patients recommended by the Emergency Help Committee of the Joint Council of the Order of St. John of Jerusalem and the British Red Cross Society—men severely disabled, who would otherwise not be able to get treatment in a convalescent home, or who are too helpless to go to the seaside for a holiday. Each summer Mrs. Hay of Gifford House, Roehampton, arranges for about forty-eight patients (mainly paraplegic) to have a seaside holiday here, accompanied by their own staff.

Another branch of the home is concerned with the knitting industry, which was started in 1921 to employ severely disabled ex-service men trained under the Ministry of Labour. Their number has risen from four to fifteen, twelve being employed in the workshop and three in their own homes. Proceeds from sales have increased from £992 in 1923 to £3,378 in 1930, but it is most difficult to keep these men employed all the year round, and appeal must be made to the public to support them by buying their work.

Borough Infectious Diseases Hospital

The general isolation hospital is situated in East Dean Road at the foot of the Downs, and has 62 beds in seven blocks. The number of separate wards enables various diseases and observation cases to be admitted, apart from scarlet fever and diphtheria. An unusual provision in a health resort, but a long-established feature, is that the private schools have their own blocks in the grounds, so that they have not to maintain separate sanatoriums. The medical service at these blocks is provided by the hospital staff. The hospital has been added to from time to time, the latest blocks being erected in 1904.

Small-pox Hospital

This hospital of 18 beds in three wards is situated on the Crumbles near the sea, and just outside the borough in the parish of Westham. The surrounding rural districts have contracted for the use of the hospital, but it is entirely under the management of the Eastbourne Borough Council.

Gildredge Hospital

This hospital is situated near the Infectious Diseases Hospital at the foot of the Downs, and is solely for the treatment of pulmonary tuberculosis. There are 24 beds in bungalows of 2 beds each—12 for men and 12 for women. The hospital was opened by Sir Arthur Newsholme, the Chief Medical Officer of the Local Government Board, in 1914. It is a hospital for tuberculosis, and not a sanatorium, being used mainly for advanced cases and for the institutional accommodation of patients awaiting admission to sanatoriums. It has been one of the most useful institutions of the borough, enabling a very large number of patients to receive institutional treatment. The clinical medical officer is a practitioner in the borough.

MATERNITY WORK IN HONG-KONG

WITH SPECIAL REFERENCE TO TROPICAL DISEASES ASSOCIATED WITH PREGNANCY

BY

ANNIE SYDENHAM, M.R.C.S., L.R.C.P.

The Alice Memorial Maternity Hospital, part of the Alice Memorial and Affiliated Hospitals, Hong-Kong, provides accommodation for fifteen patients; in addition, beds are available in the adjacent Women's Hospital for the ante-natal treatment of patients with concurrent medical complications; there is also an isolation ward for septic cases.

During the period under review—1926–30—there were 1,600 deliveries, about one-third of the patients being primiparae. Most of the women were seen for the first time on their admission to hospital, often after the onset of labour, though the attendances at the ante-natal clinic gradually increased year by year. As the patients were all Chinese, opportunity was afforded for comparing their pelvic measurements with those of English women. It was found that on the whole the measurements of the Chinese (mostly Cantonese) were smaller; there were many cases of natural delivery or easy forceps delivery in patients with an external conjugate diameter of between 6½ and 7 inches, and with correspondingly small interspinous and intercristal diameters. The babies, however, were usually smaller, the average weight being nearer 6½ than 7 lb. The most difficult forceps cases were those in which the pelvis was normal, with a large and unyielding foetal head, often due to post-maturity. There were very few cases of serious pelvic contraction, and the only case where Caesarean section was performed in this series of 1,600 cases was in a very small, deformed, kyphotic woman. Very few people in Hong-Kong suffer from rickets, and osteomalacia is unknown there.

Abnormal Labour

Presentations other than vertex were as follows: breech 44, face 4, brow 1, transverse 7, and twins 22. The large number of breech deliveries is accounted for partly by the fact that external version was seldom performed, and partly by the fact that several of these breech deliveries were of premature (often syphilitic) foetuses. With regard to twin deliveries, it is interesting to note that three out of the twenty-two patients suffered from severe toxaemia of pregnancy, one of them dying from eclampsia and one from yellow atrophy of the liver; the third recovered from pregnancy toxaemia with acute nephritis.

Forceps were used in 77 cases (4.8 per cent.), and craniotomy was performed twice, one of the two patients being an eclamptic, who subsequently had a living child after a normal labour.

Drugs during Labour

Potassium bromide and chloral were the chief analgesics used, but in primiparae having severe pain 1/4 grain of morphine was sometimes given before the first stage was too far advanced; no ill effects were noted in the foetus in any of these cases. During the second stage use was made increasingly of 1/2 c.cm. of pituitrin in cases where delay occurred after the head was on the perineum. These cases had previously formed the bulk of our forceps deliveries; by the administration of pituitrin the number of forceps cases was reduced by one-half during 1929. Where instrumental delivery ultimately became necessary, there was a perceptible strengthening of uterine contractions, with consequent prevention of post-partum haemorrhage.

Complications during Pregnancy and Labour

Complications during pregnancy and labour were as follows:

Pre-eclamptic symptoms	16
Placenta praevia	15
Accidental haemorrhage	11
Beri-beri	10
Eclampsia	9
Ankylostomiasis	6
Prolapsed cord	5
Hydatidiform mole	4
Hyperemesis gravidarum	3
Acute yellow atrophy of liver	2
Hydramnios (severe)	1

There were many other medical complications not enumerated above, such as valvular disease of the heart, myocarditis with chronic bronchitis, pneumonia, broncho-pneumonia with empyema, acute phthisis, acute and chronic nephritis, pyelitis, cystitis, venereal diseases, amoebic hepatitis and amoebic dysentery, malaria, etc. It will be seen from the causes of death given below that these complications were responsible for nearly half the deaths recorded.

The case of hydramnios was of special interest, as the foetus was an anencephalic monster presenting by the face, and accompanied by 150 oz. of liquor amnii. Although the mother was only 24 years old, this was her sixth pregnancy. The previous children were all living and healthy, but the husband had recently died of syphilis.

The figures referring to eclampsia are too small to furnish any deductions, but the after-history of three of the cases is noteworthy. All three patients had severe eclampsia with marked oedema and albuminuria in their first pregnancy. It is probable that albuminuria had continued for some time, as none of these patients came under observation before labour. It would therefore seem more reasonable to expect permanent kidney damage in these cases than in most of the cases in England which come under observation early and receive prompt treatment. The urine, however, was free from any trace of albumin during their second pregnancy, and no symptoms of toxaemia were present. The labour and the puerperium were normal in the three patients, each of whom had a living child.

The study of beri-beri in pregnant women is of special interest in view of the statement that this disease occurs almost solely in males.[1] I have not seen any cases in non-pregnant women, though I have heard of their occurrence, but it is certain that pregnancy predisposes to the disease, probably on account of the extra demand which it makes on metabolism. Besides the ten cases enumerated above, several others have come under observation during the puerperium, the patients having been admitted into hospital after delivery in their own homes. Features common to most of the cases were oedema, varying in severity; enlargement and incompetence of the right heart; and albuminuria (usually slight). In the three fatal cases oedema was extensive, and the "swelling" of the heart correspondingly severe. Moreover, these patients had no period of rest in bed before labour, and in all three cases operative delivery was necessary. In regard to the central nervous system, the special features in most cases were numbness and loss of power, sometimes in the legs only, but sometimes also in the arms. There was usually tenderness on pressure of the calf muscles; a few of the patients complained of very severe pains in the limbs during the first two or three weeks of the disease. Wasting of the calf muscles was apparent during the puerperium, after subsidence of oedema, and peroneal atrophy with foot-drop became marked in some patients.

[1] Cannon, Alexander: Some Observations on Beri-beri, *British Medical Journal*, 1929, ii, 852.

As to the effect of beri-beri on labour, four of the ten patients required forceps delivery, one because of face presentation, two on account of the serious condition of the heart, and one owing to weakness of labour pains. Poor uterine contractions were noted in some of the cases. Four of the babies were stillborn, or died within the first two days. As the blood pressure is low in this condition, and as heart stimulants are required during labour, pituitrin is particularly useful in these cases, having the double effect of stimulating the heart and strengthening uterine contractions.

However great a part vitamin B deficiency may play in the causation of this disease, the effect of dietetic treatment alone was found of little value when once the symptoms were well marked. Two patients who had suffered from the disease in a previous pregnancy came for treatment at the onset of early symptoms of numbness, and in these cases dietetic treatment proved sufficient to arrest the disease.

Treatment during the puerperium is difficult in most Chinese patients. As soon as the heart condition clears and the pains in the limbs disappear, with improvement in the general condition, they seldom have patience to wait until they regain the use of their limbs. The few who remain for a prolonged period are greatly benefited by massage treatment after the painful stage. Without treatment it is sometimes as long as six months before a patient recovers the complete use of her limbs.

Ankylostomiasis becomes a serious disease in pregnant women. The greater demand made on the blood by the growing foetus soon reveals the incipient anaemia, and the picture is a typical one. The face is pale, the lips and conjunctivae almost white; there is a general oedema, with shortness of breath, and often a hard, unproductive cough. Examination often discloses a systolic heart murmur, crepitations at the bases of the lungs, and a cloud of albumin in the urine. Microscopical examination of the faeces in these cases reveals the presence of ankylostoma eggs in sufficient numbers to suggest a heavy infection. Treatment consisted in the giving of 3 c.cm. of carbon tetrachloride, followed by iron and arsenic injections. If eggs were still present after two weeks the treatment was repeated. The babies were very small for the period of pregnancy, and in only two of the cases did the baby survive for more than a few hours. In every case, however, the condition of the mother showed marked and rapid improvement after treatment. In one case of repeated miscarriages I found and treated ankylostomiasis, and the patient subsequently had a living child.

Complications during the Puerperium

Of the deaths recorded during the four years under review, there was only one from puerperal sepsis. The case of secondary post-partum haemorrhage—the patient died on the twelfth day—might also be included under this heading, as a retained succenturiate placenta was found to be the cause of haemorrhage. The percentage of deaths from puerperal sepsis was 0.13.

It is surprising how seldom a case of severe puerperal sepsis is seen, though mild cases of sapraemia are not rare. In these cases the injection of glycerin into the uterus, together with daily mixed phylacogen injections, soon bring the fever down and clear up the condition. It is difficult to explain why we get so few cases of severe sepsis, except on the theory that the patients have acquired a strong resistance to streptococci on account of previous chronic infections. We find that better-class patients, who have lived more sheltered lives, are less resistant to infection. The causes of auto-infection, such as septic teeth, constipation, and gonorrhoea, are probably more prevalent in Hong-Kong than in England.

Mortality

The causes of death during the period under review were as follows:

Eclampsia	3
Chronic nephritis*	3
Beri-beri	3
Placenta praevia	2
Accidental haemorrhage	2
Acute yellow atrophy of liver	2
Acute phthisis	2
Secondary post-partum haemorrhage	1
Puerperal sepsis	1
Pulmonary embolism	1
Valvular disease of heart	1
Myocarditis and chronic bronchitis	1
Broncho-pneumonia and empyema	1
Tuberculous meningitis	1
Cerebral haemorrhage†	1
	25

* Probably due to pregnancy toxaemia.
† Patient admitted before labour with hemiplegia.

Excluding the ten deaths from diseases not directly connected with pregnancy, the percentage of deaths was 0.9. It may be mentioned that in the two cases of placenta praevia and of accidental haemorrhage the patients were moribund on admission, and that one of the patients with eclampsia died before labour during her first fit after admission. Most of the deaths—four from haemorrhage and eight from toxaemic conditions—might have been prevented if medical advice had been sought earlier. Increased confidence in ante-natal treatment should do much to decrease the death rate in future.

I am indebted to Dr. R. M. Gibson, medical superintendent of the Alice Memorial and Affiliated Hospitals, for permission to publish this review of work done in the Maternity Hospital.

PATENTS AND DESIGNS

REPORT OF DEPARTMENTAL COMMITTEE

The report of the Departmental Committee on the Patents and Designs Acts and practice of the Patent Office was issued on March 31st (Cmd. 3829, H.M. Stationery Office, 1s. 6d.). The minutes of evidence taken before the committee will be published in the course of the next few weeks.

The committee was appointed by the Board of Trade in May, 1929, to consider and report whether any, and if so what, amendments in the Patents and Designs Acts or changes in the practice of the Patent Office are desirable. Its members were Sir Charles Sargant (chairman), Mr. H. Ballantyne, Mr. H. A. Gill, Mr. E. H. Hodgson, Sir Herbert Jackson, F.R.S., Sir William Jarratt, Mr. Fearnley Owen, Mr. J. G. Weir, and Mr. J. Whitehead, K.C.

In the course of its inquiry the committee heard oral evidence by witnesses on behalf of the following, among other bodies: British Medical Association, British Science Guild, Chartered Institute of Patent Agents, General Council of the Bar, International Association for the Protection of Industrial Property (British Group), Joint Chemical Committee set up by the councils of a number of chemical institutions, Law Society, and Medical Research Council. Oral evidence was given also by several witnesses on their own behalf, and a large number of observations and suggestions in writing were received from various associations, bodies, and persons.

COMMITTEE'S FINDINGS AND RECOMMENDATIONS

The report is divided into three parts: (1) patents; (2) designs; and (3) general; and contains a summary of the committee's main recommendations.

The committee finds no general demand for any alteration of the basic principles underlying the existing law in this country in relation either to patents or to designs, but recommends a large number of amendments in the Acts, some of which it regards as important and such as to justify early legislation. Among the more important recommendations are the following:

1. An extension of the area of the official search as to the novelty of inventions for which patents are sought. The committee recommends the adoption of a scheme by which the statutory duty now imposed upon the Patent Office of searching through the specifications of British patents published within the previous fifty years should remain, but the search would not necessarily be restricted to those documents. The examiners would be at liberty, acting under the directions of the comptroller, given either generally or in any particular case or class of cases, to make search in any other documents (including foreign specifications) or books which might offer any prospect of containing anticipations of the invention in question. The committee came to the conclusion that such a search, under well-informed direction, would be as adequate and useful as that undertaken by any other country.

2. Drastic amendments of Section 32A (which deals with the power of the court in infringement actions to grant relief in respect of particular claims) in order to avoid or mitigate the difficulties and abuses that have arisen as a result of the enactment of the section by the Patents and Designs Act, 1919.

3. Strengthening of the law relating to groundless threats of legal proceedings in regard to patents.

4. An amendment of the law in order to remove the grievance which exists among inventors in the fields of chemistry, medicine, and food, that invention in these fields is being unduly hampered by reason of the operation of Section 38A (1) of the Acts.

5. The appointment of a judge of the High Court as the tribunal for hearing those appeals from the comptroller in patent cases that are now heard by the law officer. The committee further recommends that the persons who at present have audience before the law officer should have audience before the judge, and that these changes should not constitute these proceedings High Court proceedings.

PROPOSALS REJECTED

Among the more important proposals which were placed before the committee in evidence, but which it does not recommend for adoption, are:

(*a*) A proposal to introduce into the industrial property laws of this country a new form of monopoly in respect of "useful designs" or so-called "short-term patents." The committee's conclusion is that the risks of hampering industry outweigh the possible advantage to individuals from introducing such a form of protection.

(*b*) A proposal that medical patents should in future be dedicated to the public and administered by a State department. The committee came to the definite conclusion that no sufficient case had been made out for any compulsory dedication, and that such an alteration of the law would operate adversely to the British fine chemical industry and discriminate unfairly against research workers in this country.

(*c*) A proposal that the jurisdiction of the comptroller should be extended in order to enable him to try comparatively simple patent actions in regard to infringement and invalidity. Although the majority of the committee were opposed to the suggestion, a substantial minority favoured such an extension of the comptroller's jurisdiction, mainly because of the need for providing some less costly method of settling disputes relating to patents than at present obtains.

Scotland

Scottish Vital Statistics

The quarterly return of the Registrar-General for Scotland for the quarter ending December 31st, 1930, has just been issued, and includes a preliminary statement of the statistics for the past year. The vital statistics for the year show a birth rate slightly higher than that of the previous year, a marriage rate which remains the same, and a death rate which is lower than in the previous year, and lower than the average of recent years. The birth rate was 19.3 per 1,000, which is 0.3 more than that for the previous year, but 2.9 less than that of the preceding ten years. The death rate was 13.2, which was 1.3 below the rate for 1929 and 0.6 lower than that for the preceding ten years. The infantile mortality rate of the year was 83 per 1,000 births, which is 4 less than that of the previous year, and 7 less than the average of the preceding ten years. The death rates both from all forms of tuberculosis and from respiratory tuberculosis were the lowest yet recorded. The death rate for all forms of tuberculosis was for the first time below 90 per 100,000, and that for respiratory tuberculosis was 62 per 100,000, which is 5 less than in the previous year, and 14 less than the average of the past ten years. Deaths from malignant disease, on the other hand, showed the highest number yet recorded. The births of 23,087 living children were registered during the fourth quarter, and the deaths numbered 15,985. With regard to the ages at death, 16.9 per cent. were children under 5 years, 40.5 per cent. were persons between 5 and 64 years, and 42.6 per cent. were persons aged 65 and over. As to the causes of death during the quarter, 3.1 per cent. were due to the principal epidemic diseases, of which whooping-cough, diphtheria, and the diarrhœas of childhood caused the greatest part. Malignant disease had been responsible for 11.3 of the total deaths, tuberculosis for 6.1 per cent., pneumonia for 9.2 per cent., bronchitis for 6.1 per cent., and violence for 4.5 per cent. The deaths due to diseases and accidents of pregnancy numbered 157, equivalent to a death rate of 6.8 per 1,000 registered births, which was 0.1 more than in the previous quarter and 0.9 more than in the fourth quarter of the previous year. Deaths due to accidents with motor vehicles numbered 197.

Medical Services in the Highlands and Islands

Under the auspices of the Institute of Public Administration, an address was recently delivered in the City Chambers, Edinburgh, by Dr. A. Shearer of the Department of Health for Scotland. Councillor Mrs. Morison Miller, chairman of the Public Health Committee of the Edinburgh Town Council, presided, and remarked that the Highlands and Islands Medical Service was concerned with a population of 320,000 scattered over an area of ten million acres. Dr. Shearer said that no more humane or beneficent social service existed anywhere in the Empire, and the money expended upon it had gained a better return than that of any similar fund. In 1850 the Royal College of Physicians had appointed a committee to inquire into the number of medical practitioners in the northern counties of Scotland, and to ascertain whether there was much complaint in regard to the difficulty of obtaining medical aid. It had been found that out of 155 parishes, 62 only were adequately supplied with medical practitioners, 52 were partially supplied, while 41 parishes were hardly ever visited by a medical practitioner. It was estimated that 124,000 people received practically no medical assistance. Owing to poverty, two-thirds of the people paid nothing for medical attendance, and elsewhere the ratio of non-paying to paying patients was 19 to 1. One practitioner in a parish of 5,000 people stated that he did not receive more than £5 annually from private patients. On the passing of the National Health Insurance Act in 1911, a great step forward had been taken, and this was followed by the Highlands and Islands Medical Service Act, which did something to remedy the totally inadequate medical and nursing services that prevailed. A scheme of grants to medical practitioners had then been put into operation, enabling the service of doctors to be brought to the humblest homes in any part of the Highlands at

low uniform fees. These fees were fixed at a maximum of 5s. for the first visit and 3s. 6d. for subsequent visits. In paying a tribute to the work of doctors in the Highlands and Islands the lecturer said he doubted if the great hardships which these doctors had to contend with in treating their widely scattered patients were generally appreciated.

Aberdeen Spring Graduation

At the spring graduation ceremony at Aberdeen University, held in the Hall of Marischal College on April 1st, the recipients of the honorary degree of Doctor of Laws included Sir Leonard Hill, M.B., F.R.S.; Sir Frank Edward Smith, secretary of the Royal Society; Charles Robertshaw Marshall, M.A., M.D., emeritus professor of materia medica in the University of Aberdeen; and Sir J. Arthur Thomson, M.A., LL.D., emeritus professor of natural history, University of Aberdeen. The degree of M.D. was conferred upon four graduands, and the M.B., Ch.B. upon twenty-one. In his address Principal Sir George Adam Smith remarked that although there had again been a drop during the winter session in the number of arts students, the number in medicine had increased from 296 to 332. With a view to improving the medical curriculum, it had been decided that all new students in medicine should begin their courses in October. Aberdeen, he said, had been selected as the centre of distribution for the North and North-East of Scotland of the radium belonging to the National Radium Commission, and arrangements for the use of the radium had been made with the Royal Infirmary and of radon in the natural philosophy department at Marischal College. A new lecturer on malignant diseases had been appointed.

Glasgow Samaritan Hospital

At the annual meeting of the Royal Samaritan Hospital for Women, Glasgow, held on March 30th, Sir John Stirling Maxwell, Bt., who presided, recalled that he had attended a meeting of this hospital in 1891, when it was mentioned that 593 in-patients and 508 out-patients had been treated. Since then the figures had increased enormously; last year the number of in-patients was 3,013, and of out-patients 5,078. These figures exceeded the total of the previous year by 749. In regard to finance, the ordinary income amounted to £16,024, but showed a decrease of £508 as compared with that of the previous year. Employee subscribers contributed £6,857—about £20 less than the receipts last year from the same source. In seconding the adoption of the report, the deacon convener said that they were passing through a time of great depression, and the donations might be somewhat decreased in consequence for the next year or two, but he did not think that there was any cause for being disheartened about the ultimate success in carrying on this good work.

Edinburgh Post-Graduate Courses in Medicine

The syllabus for post-graduate courses in medicine, organized by a committee representing the University and the School of Medicine of the Royal Colleges at Edinburgh, has just been issued. The series of courses will begin this year on July 13th, with a course on obstetrics, gynæcology; and diseases of children, which continues till August 8th, and is to be conducted in the Maternity Hospital, the gynæcological wards of the Royal Infirmary, and the Royal Hospital for Sick Children. It is to be followed by a general practitioners' course, which lasts from August 10th to September 5th, and includes instruction on applied anatomy, medical clinics, and clinical demonstrations, surgical out-patients, and surgical clinics, clinics on gynæcology and infectious diseases, and on special subjects such as diseases of children, diseases of the eye, and dermatology. Concurrently with the general practitioners' course there is a general surgical course for those specially interested in surgery; in addition to surgical clinics in the Royal Infirmary and Royal Hospital for Sick Children, this course includes instruction upon applied anatomy, diagnosis of renal disease, abdominal surgery, surgical pathology, surgical physiology, radiology, etc. A special feature of these courses is that on one day each week cases of medical and surgical interest will be exhibited for the purpose of promoting discussion. There are also special courses which may be arranged for limited numbers upon the pathology of the nervous system, vaccine therapy, diagnostic methods, diseases of the blood, *x*-ray physics, ultra-violet radiations, and ophthalmoscopy. A detailed syllabus, with information about fees, may be obtained from the secretary, Post-Graduate Courses in Medicine, New University Buildings, Edinburgh.

New Edinburgh Professor

The curators of patronage of Edinburgh University have appointed Professor James Couper Brash, *M.C.*, to the chair of anatomy in the University of Edinburgh, in succession to Professor Arthur Robinson, who resigns at the end of the current academical year. Educated at George Watson's College, Edinburgh, and the University of Edinburgh, Professor Brash graduated M.A. in 1906, B.Sc. in 1908, and M.B., Ch.B. in 1910. After acting as demonstrator of anatomy at Edinburgh University, he became demonstrator and assistant in the anatomical department at the University of Leeds, and was subsequently appointed professor of anatomy at Birmingham University. He has carried out much research work in the embryology and development of the jaws and teeth, and has contributed extensively to the literature of the subject.

Church of Scotland Deaconess Hospital

The thirty-sixth annual meeting of the Church of Scotland Deaconess Hospital, Edinburgh, was held on March 26th, under the presidency of Lord Sands, chairman of the hospital board. The number of patients treated in the hospital during the year was 941—240 more than in the previous year, and a record number for the hospital. Of these, 388 were children. As to maternity cases 98 were attended from the hospital, and the out-patient department dealt with 7,573 patients, compared with 6,703 in the previous year. The total number of cases treated by the hospital during the year was 8,705, as compared with 7,813 the preceding year. Total receipts amounted to £6,319 and the expenditure to £6,166. During the past year £4,000 was given to the hospital in legacies and donations.

England and Wales

Royal Victoria Infirmary, Newcastle

The annual meeting of the Royal Victoria Infirmary, Newcastle-on-Tyne, was held in the city hall on March 28th, under the presidency of the Lord Mayor. The returns for the year show an increase in the number of patients treated, the demand for in-patient treatment being in excess of the supply of beds. Schemes for increased bed accommodation, including a complete orthopædic block, are under consideration. The pay-bed section of the hospital is nearly complete. Approximately £140,000, including the generous gift of £25,000 from Sir Walter Runciman, has been subscribed towards the estimated capital expenditure of £150,000 necessary to carry out this work. At the Royal Victoria Infirmary, as at many other hospitals, an attempt is being made to

confine the activities of the out-patient department to purely consultative work, adequate medical provision having been made for the greater number of out-patient cases under the National Health Insurance Acts and the Local Government Acts. An agreement has been made with the National Radium Committee whereby the hospital will be constituted the national radium centre for Newcastle and district. The income of the hospital amounted to £100,257, and expenditure to £93,537.

Infectious Diseases at London Council Hospitals

The Central Public Health Committee of the London County Council has been considering what steps can be taken to prevent patients who enter a Council hospital suffering from one infectious disease contracting some other infectious disease at that hospital. It is stated that the prevention of cross-infection in infectious diseases hospitals has always presented great difficulty, since cases are frequently admitted in a latent or incubation stage of secondary disease, the detection of which is impossible before the disease develops. Although these patients are at once isolated, the other patients in the ward have, in the meantime, been exposed to risk of infection. The only effective means of prevention would be to place every infectious patient for the first few weeks of his stay in hospital in a separate room, an impracticable arrangement in London, and unnecessary so far as the vast majority of patients admitted are concerned. For some years the Metropolitan Asylums Board pursued the policy of enlarging isolation accommodation for these and other doubtful cases, and had been advised that such accommodation should comprise 33 per cent. of the total beds. The execution of schemes for converting large wards into separate chambers or cubicles has been deferred, however, pending the result of an experiment, suggested by the Ministry of Health, at the South-Eastern Hospital, New Cross. This experiment, which started in 1929, consists in dividing two of the wards in such a way as to permit of adequate cross-ventilation. These small wards have been in use now for just over a year, and have proved satisfactory as regards ventilation and practical working, and also from the point of view of medical results. The Central Public Health Committee proposes to inform the Ministry of Health that the schemes for provision of additional isolation accommodation at other hospitals, so far as they take the form of subdivision of existing wards, shall be on the same lines as at the South-Eastern Hospital. The system involves a considerable diminution in the number of beds; at the South-Eastern Hospital the number has been reduced from forty-four to thirty. Statistics as to the decrease of cross-infection are not yet available, as no hospital has yet its full proportion of isolation beds, but the matter will be reviewed again in a year's time, when it is hoped that experience will be sufficient to enable reliable deductions to be drawn.

Harrow Hospital Extensions

A scheme of enlargement, to cost £50,000, is in progress at Harrow Hospital, Roxeth Hill, Middlesex, and the new buildings are to be opened by the Duke and Duchess of York on May 6th. The Stuart Memorial extensions, by which name they will be known, embody some interesting innovations in planning, engineering, and administration, which have attracted the attention of the hospital world, and nearly eighty representatives of other hospitals were present recently at a visit of inspection. Special methods have been installed for sound absorption, for the maintenance of an even temperature throughout the buildings, and for the arrangement of the new operating theatre, which carries out the most modern principles of design and ventilation. Adjoining the main theatre is a dark room to which appropriate cases can at once be moved when necessary. The air for the operating theatre enters clean and warm through oil filters, and there is provision for the rapid escape of ether. In the sterilizing room, which leads by an archway off the operating theatre, the sterilizers are built into a counter; the work is done by electricity, and there are no fumes. The control of the temperature of the hospital itself is also on modern lines: a system of panel heating is adopted which the engineers claim to be a perfect method of radiating heat on the principle of equalized distribution. This panel method, which eliminates the use of radiators, requires a temperature of only 100 to 105° F., as against a temperature for convection of 150 to 180° F., thus saving fuel consumption. Magnetic valves are set in little boxes here and there on the walls to permit of the regulation of temperature in a given space within a limit of 1° F., and thus maximum comfort and economy are assured. A new *x*-ray department is being constructed, at a total cost of £2,000. Other features of interest in the new extensions are electric lifts, capable of taking bed, patient, nurse, and attendants to all floors; a soiled-linen chute opening on each floor and delivering to the basement, so that no germ-laden linen needs to be carried through the corridors; running water in all the wards, with elbow levers in place of ordinary taps, thus leaving both hands free; and the provision for each bed of its own switchboard, for bed-light, bell, wireless headphones, and inspection lamp. The windows have rounded corners, and the doors are without panels, thus avoiding dust. All pipes are built into the wall and equipped with inspection doors. Altogether the Harrow Hospital, which was founded as a cottage hospital rather more than sixty years ago, will furnish a noteworthy example of modern construction and arrangement, adapted to the needs of a growing district which is now almost a London suburb. The beds will be increased in number from forty to seventy-five.

National Dental Hospital

A complimentary luncheon was given on March 28th at the Trocadero Restaurant by the staff of the National Dental Hospital—the dental department of University College Hospital—the occasion being the resignations of Drs. C. J. Ogle and James Maughan as honorary anaesthetists. Dr. J. L. Dudley Buxton, the subdean, after announcing with regret the absence of Dr. Ogle, pointed out how Dr. Maughan had quietly devoted himself to the work of the hospital for forty-three years. His classes in anatomy, physiology, pathology, and anaesthetics were successful, and always well attended, and he also took an active part in the life of the students, who elected him president of the Students' Society for many years in succession. He was editor of the hospital gazette from 1906 onwards, and by this means fostered a closer *rapport* between the hospital and old students all over the world. The toast to Drs. Ogle and Maughan, proposed by Dr. Buxton, was received with acclamation. Dr. Maughan, in replying, expressed sympathy with Dr. Ogle in his recent bereavement. One of his early impressions of hospital life was an interview in 1886 with Sir Benjamin Ward Richardson, who prophesied that the day would come when anaesthetists would recognize that hypervenosity of the blood constituted an important factor in the induction of general anaesthesia. Dr. Maughan reminded his hearers that the "National" had been the happy hunting ground of Sir Henry Head. At the time when Dr. Head pursued his researches there, two diagrams of "referred pain" areas were actually on the walls of the building. Dr. Maughan thanked the staff for the honour they had accorded to Dr. Ogle and himself, and expressed the belief that the hospital would always be an efficient training ground for dental students of pluck, energy, and tenacity of purpose.

British Spas Federation

At the half-yearly meeting of the British Spas Federation, held in London, many matters of interest were discussed. Bridge of Allan was admitted to membership. A special committee was formed with a view to investigating the possibilities of arranging for lectures on spa treatment at the leading hospitals in London and elsewhere. It was reported that the British Medical Association had approved a scheme for the treatment of friendly society patients at spas, and the necessary machinery was being set up immediately. The scheme allows for friendly society patients to take treatment at spas in the federation, for rheumatism and kindred troubles. Mr. W. J. Leist (Leamington Spa) was appointed secretary in place of Mr. J. E. Boddington (Buxton). Alderman Hacker (Bath), on behalf of the federation, expressed to Mr. Boddington thanks for the able manner in which he had carried out the duties of honorary secretary during the past three years, and handed him a silver tea service as a tangible expression of their appreciation.

Correspondence

HALLUX VALGUS

SIR,—The discussion on this subject induces me to contribute an experience of the operative treatment with the hope of establishing a procedure alternative to that of removal of the head of the metatarsal bone—namely, removal of a part of the first phalanx. This method is described by one of your correspondents, Mr. James Phillips; it is not mentioned in any of the modern textbooks on surgery, though it is described by the writers on orthopaedics.

A reference to the first description of the operation will, I am sure, be appreciated, and the experience here recorded may lead to its general adoption. Mr. Davies-Colley of Guy's read a paper before the Clinical Society on March 26th, 1887, on contraction of the metatarsophalangeal joint of the great toe (hallux flexus), published in volume xx of the *Transactions* (p. 165). He gives his views on the production of both deformities, and records successful cases of operation for hallux flexus. This method I carried out from the above date till the conclusion of my Army service in 1919. At the Lambeth Hospital, where both varieties are not uncommon, removal of part of the phalanx, even to one-half or two-thirds, is the invariable practice. The operation and its results are well illustrated by the following case.

Colonel C., a tall and heavy man, aged 62, suffered from hallux flexus of both great toes. The rigidity hampered his walking, and prevented his playing golf. The articular surface of the phalanx was removed by a saw through a dorso-lateral incision on April 6th, 1909; the marginal osteophytes, though of unusual size, were not removed. In the final position the toe was a little cocked up, just enough to permit easy walking, while the movement in the joint allowed a little further play. He was so pleased with the result that he desired a similar operation on the other toe, which was done in November, 1910. On this occasion the marginal outgrowths were removed. The overlying tissues, however, became adherent to the bone, causing some tenderness and temporary restriction of movement. Some time later, on examining the toe first operated upon, it was found that the osteophytes had disappeared, showing that removal was unnecessary. The final result was excellent; he walked in comfort and played his golf.

The same operation is applicable to hallux valgus, though a much larger removal of bone is necessary to bring the toe into line. So long as the head of the metatarsal and the sesamoids are not interfered with, one-half or more of the phalanx may be removed without impairing the result. Mr. Phillips sets out briefly the merits of this operation, and the disadvantages following removal of the head of the bone in cases of valgus. Two points as to detail. The incision should be as Davies-Colley directs: one and a half inches long, at the junction of the upper and inner surfaces of the joint. Personally, I prefer division with a saw, for which purpose the phalanx can easily be turned out if the incision be of sufficient length. It is interesting to note that one general surgeon, at any rate, has in recent times practised an operation first described forty-five years ago, which has remained almost unknown in the interval except to the immediate pupils of the surgeon who originated it, and to certain orthopaedic surgeons. Having myself carried out this operation on many occasions, and with excellent results, it may be hoped, from the experience recorded by Mr. Phillips and that mentioned at Lambeth, that the method will be generally adopted, and removal of the head of the bone abandoned.—I am, etc.,

London, March 31st. CHARTERS J. SYMONDS.

THE KELOID OVARY

SIR,—I have read Mr. T. C. Clare's contribution in the *Journal* of to-day's date with very great interest, not merely because of the arguments brought forward against my conception of the etiology of metropathia haemorrhagica, but because his article illustrates the attention which is being paid to the physiology and pathology of the human ovary. There are well-marked signs at the present day that the purely theoretical side of gynaecology is receiving recognition, and the few remarks I have to make on Mr. Clare's paper may perhaps be of some help.

I am afraid that I am in complete disagreement with Mr. Clare's views on the etiology of Krukenberg tumours. Some years ago I published a short paper on these interesting tumours, and concluded, mainly by a process of exclusion, that the cause was to be attributed to lymphatic permeation of the medulla of the ovary. Recently I have succeeded in demonstrating this process at work at a very early stage, and I believe that the findings are beyond criticism. These results will be published in due course. Meanwhile it may be of interest to know that it is relatively simple to demonstrate this mechanism in ovaries which are obtained at necropsy from cases of carcinoma of the stomach. The ovaries may appear normal to the naked eye, but microscopically they are often found to be invaded by carcinoma cells which lie in the lymphatics of the medulla. I am doubtful if Schauta's view of the etiology of ovarian metastatic tumours ever received wide recognition, although his opinions always demanded the greatest respect. The obvious objection to his view is the incidence of Krukenberg tumours after the menopause, when follicles have ceased to rupture in the ovaries.

The problem of the etiology of the necrosis of the endometrium in cases of metropathia haemorrhagica is much more difficult. I admit that the explanation I offered was in many ways purely hypothetical, but my excuse for this is the absence of reliable evidence of the physiological processes at work in normal menstrual necrosis. I have repeatedly emphasized my opinion that the exact etiology will never be known until further advances have been made in the physiology of menstruation. Until then the explanations that are put forward will be only approximate, and will be open to such objections as Mr. Clare brings forward. It seems to me, therefore, that the correct policy is to await patiently for these advances to be made rather than to debate the subject on pure conjecture. Mr. Clare's views are extremely interesting, but they are in many ways open to criticism. I am doubtful if anything will be gained by indicating these objections, for, as I have said, the basis of the discussion is not as yet one of mathematical precision.

I am extremely grateful to Mr. Clare for directing attention to my work, but I wish to make clear that the views I have expressed on the etiology are to be regarded as what I believe to be the best explanations of the established facts. I am quite prepared to acknowledge that they may have to be modified when more becomes known of the physiology of menstruation.—I am, etc.,

St. Bartholomew's Hospital, March 28th. WILFRED SHAW.

THE ELECTROCARDIOGRAM

SIR,—I marvel at the studied moderation of the letters of Dr. C. Blaxland Levick and Dr. Jenner Hoskin in response to the reactionary leading article published on March 7th. For my part I find it difficult to comment temperately on it, even after allowing myself three weeks in which to cool down.

I must confess that I have no experience as to what happens when my electrodes are "in contact with a circular pad of filter paper moistened with saline"; nor have I investigated "the distribution of potential in a linear conductor, consisting of a thread previously moistened with saline and supplied with stationary doublets in the form of pairs of non-polarizable electrodes." But, in common with other cardiologists all over the world, I have for the last eighteen years been attempting to correlate the electrocardiographic and clinical findings of many hundreds of patients with their after-histories, and, like my brother cardiologists, have come to the conclusion that an electrocardiogram is often an invaluable, and sometimes an indispensable, factor in diagnosis and prognosis. For example, an electrocardiogram taken during the course of what appears to be quite a trivial rheumatic infection sometimes reveals an entirely unsuspected active carditis, with the result that a longer rest is enjoined on the patient than would otherwise have been the case, possibly saving him from subsequent invalidism. In my opinion, every case of mild or subacute rheumatism should be examined electrocardiographically.

The diagnosis of a severe coronary occlusion is usually easy on purely clinical grounds (and I would like here to point out that the "vociferous adherents" of electrocardiography in the United States were fully conversant with the clinical picture of coronary infarction for several years before more than a select few of the countrymen of Mackenzie and Lewis became aware of the possibility of the clinical recognition of this common accident). But the less extensive and the more insidious infarctions are not always easy to diagnose, and time after time an electrocardiogram enables us to say with conviction that a patient is suffering from a coronary infarction, in spite of his symptoms being not at all alarming. Here, again, a few weeks in bed for such a patient may be literally a matter of life or death. There must be hundreds of lives lost in this country every year owing to slight attacks of coronary occlusion being diagnosed as angina, or, more probably, as "gastritis," and allowed to return to work with a necrotic myocardium. Many of these lives would be saved by electrocardiographic examination.

Finally, I would like to refer to the cases of slow myocardial degeneration due to coronary arterio-sclerosis. Here there is no doubt at all that the finding of a bundle-branch block, or of less gross electrocardiographic abnormalities, adds considerably to the gravity of the prognosis. Any experienced cardiologist can produce dozens of instances of the unsuspected finding of a pathological electrocardiogram, where the bad prognosis then given, in spite of negative clinical findings, has subsequently turned out to be justified. Moreover we frequently have the opportunity of observing progressive changes in the electrocardiogram year by year, and experience teaches us that the galvanometer is of assistance to us in expressing an opinion as to whether a degenerative condition is rapidly progressive or not.

I am fully conscious of the shortcomings of electrocardiography, and of the possibilities of its abuse. I admit that from time to time we find a normal electrocardiogram in cases where the myocardium is diseased, and that, very occasionally, a grossly aberrant electrocardiogram may be compatible with long years of good health. As in all other branches of medicine, the clinical history is of paramount importance in cardiology, and the physical signs are subsidiary. But I submit that to withhold electrocardiographic examination from a patient suffering from anginal symptoms, or presenting other evidence of myocardial degeneration, is to-day unjustifiable, to put it mildly.—I am, etc.,

London, W.1, March 30th. MAURICE A. CASSIDY.

DIVERTICULA OF THE COLON

SIR,—Even after most careful scrutiny of the colon from various angles, as advocated in the excellent paper on diverticula of the colon by Mr. Lockhart-Mummery and Dr. Graham Hodgson in the *Journal* of February 28th (p. 525), many diverticula will escape detection unless the patient is examined twenty-four hours after the opaque enema has been administered. In fact, the investigation cannot be considered complete unless this second examination is included.

The conclusion that those diverticula which show a "ring-like" shadow contain concretions is, I think, not quite correct. In the first place, the opaque emulsion is hardly likely to gain entrance to a diverticulum already full, and one has seen diverticula which, fully filled at the time of the enema, show these ring-like shadows in twenty-four hours; so one concludes that in most cases this outlining effect is due to the barium emulsion adhering to the inner wall of the sac.—I am, etc.,

S. GILBERT SCOTT, M.R.C.S.,
London, W.1, March 31st. L.R.C.P., D.M.R.E.

SIR,—I wish to draw attention to a possible misconception that may arise from the very interesting description of diverticula of the colon in the *Journal* of March 28th.

Emphasis was there strongly, and deservedly, laid upon the value of radiological diagnosis of the condition, but a danger arises from the importance given to radiographic demonstration. This was doubtless unintentional, as I feel sure that Dr. Graham Hodgson carries out a complete screen examination of each case. The article does, indeed, draw attention to the value of screening, but it also insists upon the necessity of films being exposed in various positions of the patient. It is from this insistence that misconception may arise, since the surgeon may be led to assume that a sufficient number of such exposures is all that is necessary. On the contrary, the colon can be much more conveniently inspected in all diameters by screen observation, and such observation is essential for differentiation of spasm from organic change. No number of films can so effectively make this differentiation, and the commonest errors in radiological observation of the colon are due to reliance upon films, in the absence of screen observation or the interpretation of an experienced radiologist aware of the possible fallacies.

This letter in no wise detracts from the value of the contribution referred to; on the contrary, it is a tribute to the excellence of the demonstration that such danger of its over-emphasis should be feared. Radiology must, however, never be allowed to appear as a matter primarily of skilled technique. This is certainly called

for, but, above all else, as in other observations in medicine, a skilled and experienced interpretation is required.—I am, etc.,

Radlett, March 31st. JOHN MUIR, B.Sc., M.B., Ch.B.

TREATMENT OF GASTRIC AND DUODENAL ULCER

SIR,—Mr. Rendle Short's survey of the treatment of peptic ulcer contains a few points of special interest to radiologists. Both Mr. Rendle Short and Mr. Lake have found gastric ulcers still active at operation which were absent on the radiograms, thus suggesting their recovery. If, as I suspect, a niche was still present in these cases, its absence on the film was due either to an omission on the part of the radiologist to make a preliminary screen examination before exposing his film (to ensure correct position), or, if he did screen, to an imperfect knowledge of technique and quite easily from failure to see the small niche, for skill in screening is only obtained after long and patient practice. When the niche has gone the real difficulty begins. Personally, I do not know when the granulations in the ulcer crater are covered with epithelium —some day I may know. At present I find it easier to record progress in the healing of a duodenal ulcer than a gastric ulcer.

My observations on duodenal ulcer after gastro-enterostomy show an ulcer crater present in most cases even ten years after operation. It is true that most of these cases are sent to me because of symptoms, but I do see patients sometimes without gastric symptoms where the ulcer crater is still visible. Moreover, during the systematic medical treatment in hospital of duodenal ulcers I find radiological evidence present long after symptoms have subsided, and occult blood tests of the stools are decidedly negative, clearly indicating that the healing process is very much slower than is currently believed. The final *x*-ray evidence I rely upon is the presence or absence of the crater pool. One such case I watched for fifteen to eighteen months with the aid of six barium meals. Only once during this period was I unable to find the crater. This was quite an early case in a young woman about 22 years of age. At the end of this period she was not greatly improved radiologically. To-day she still has her ulcer, with symptoms.

I see many duodenal and fewer gastric ulcers. The latter yield more readily to treatment, but the former appear to require very prolonged treatment after all symptoms have disappeared.—I am, etc.,

London, W.1, March 31st. JOHN R. WYLIE.

TREATMENT OF DETACHMENT OF THE RETINA

SIR,—In the *Transactions of the Ophthalmological Society of the United Kingdom* for 1931, just published, I note that Professor J. Gonin says, on page 535: "... It may appear curious that all the author's communications on that matter [that is, detachment of the retina] remained unknown to the English-speaking world until the International Congress in Holland." For the credit of English medical journalism, may I be allowed to point out that, in an abstract in the *Medical Annual* for 1929 (p. 412), written in the summer of 1928, I gave the essential points of Gonin's treatment so far as were then available, and a reference to his original paper in the *Annales d'Oculist.*, 1927. Knowing that in some parts of Europe we English are supposed to be somewhat insular and ignorant of what is being done elsewhere, I think it well that this statement should not be allowed to pass unchallenged.—I am, etc.,

Clifton, Bristol, March 29th. A. E. J. LISTER, M.B., B.S., F.R.C.S.

GONOCOCCAL RHINITIS

SIR,—In reply to Dr. A. Scott's query (March 28th, p. 561), might I say that there should be no difficulty in growing the gonococcus from a specimen of nasal pus, provided a suitable medium, such as hydrocele agar *p*H 7.5), be used. On this medium the gonococcus grows relatively freely in spite of severe competition by "secondary organisms." Should the growth of the latter be predominant, the gonococcal colonies may easily be seen by means of the pink coloration produced by the oxidase reaction, and thus may be subcultured for further investigation.—I am, etc.,

I. N. ORPWOOD PRICE

The Whitechapel Clinic, Mile End, E.1, March 30th.

Obituary

JOHN ANDERSON, M.A., M.D., B.Sc., M.R.C.P., D.T.M. AND H.

Head of the Medical Division, Henry Lester Institute for Medical Research, Shanghai; late Professor of Medicine, Hong-Kong University

By the death of John Anderson, at the early age of 52, the cause of medical education in China has suffered a severe loss. Though comparatively unknown in this country, he was widely esteemed in the East, and, indeed, in time to come it may be acknowledged that the part he played in recent years will rank as a pioneer effort in that great and developing country.

Born in Glasgow in 1879, he received his early education in that city. Graduating M.A. in 1901, he devoted so much time to advanced zoology, a branch of study to which at first he intended to devote himself, that he did not qualify till 1907, in which year he took his M.B., Ch.B., but did not proceed to the degree of M.D. till thirteen years later. Having sufficiently equipped himself, he settled down in the town of Wallasey, near Liverpool, where he practised with considerable success till 1914. Indeed, his professional capabilities were rated so high in the neighbourhood that he frequently acted as consultant in Liverpool. At the outbreak of the great war he was soon gazetted to a casualty clearing station, and was drafted as medical officer to Gallipoli, where in the heavy work which ensued he soon showed his mettle, and afterwards became surgical specialist. His devotion to his unit, his powerful influence for good, and his authority over the men under his command were appreciated, but owing to his modesty and self-effacement did not gain official recognition. Many acts of gallantry were accredited to him and were known to his close friends. On one occasion he continued unperturbed to complete an abdominal operation while enemy bombs dropped around his operating tent, one of which exploded immediately above him and set the neighbouring structures ablaze.

Towards the end of 1917 Anderson began to evince a very keen interest in practical bacteriology and pathology as applied to field conditions in the advanced laboratories of the Egyptian Expeditionary Force. Having already acted as surgical and medical specialist, he now became an expert pathologist, and held commands of various field laboratories till the armistice. For two years after the cessation of hostilities he remained in Egypt and the Sudan, becoming a general consultant in medical matters to the Director of Medical Services. For this he was awarded a free tour round India, and, returning to England in 1920, he became a student, and subsequently demonstrator, at the London School of Tropical Medicine. Gaining the Wandsworth Scholarship, he accompanied Professor R. T. Leiper to British Guiana on a research in filariasis in 1921. He was responsible for the admirable

memoir (No. 7) of that research published by the School, and he executed the fine line drawings which illustrated it. Soon after the termination of this research he assisted in the helminthological department, and in 1925 was selected as professor of medicine to Hong-Kong University. There he achieved his chief work in remodelling Manson's university as a live thing. He directed and reorganized the teaching of medicine in a most able manner, so that almost the whole work of this department devolved on his shoulders. In addition, he was widely known in the town for his medical skill, so that he obtained a large consulting practice among the Chinese and Europeans. His extraordinary insight into the mind and character of the Chinaman, and his sympathy with his national aspirations, gained for him great popularity, and led indirectly to his appointment in 1930 as director of the Henry Lester Institute for Medical Research at Shanghai, for which a sum of over one million pounds had been bequeathed. To Shanghai, then, he proceeded late in 1930, and was successful in negotiations about the future status of this institution in the medical education of China. The plans of the institute were complete, and he was formulating schemes for research in the future, as visualized in a letter received by the writer on the very day of his death.

John Anderson possessed an exceptionally strong and sympathetic character, and there can be few men of his generation who inspired such sincere affection in everyone with whom he came into contact. He will long be remembered as a staunch friend, and as a brave and resourceful companion, one whose modesty and self-effacing character prevented him to some extent from securing those academic and scientific honours to which he could legitimately have aspired.

P. H. M.-B.

JOHN EDWARD THOMAS, M.D., C.M.

Senior Surgeon, Carnarvonshire and Anglesey Infirmary, Bangor

The death occurred at his home, Nantlys, Bangor, on March 24th, of Dr. J. E. Thomas, one of the best-known practitioners in North Wales, at the age of 62. The second son of the late Mr. W. Thomas, J.P., of Plas Newydd, he was educated at the University College of Wales, Aberystwyth, and at Edinburgh University, where he graduated M.B., C.M. in 1890, proceeding M.D. in 1900. After a period as house-surgeon to the Carnarvonshire and Anglesey Infirmary (where he was later to give so many years to devoted and enthusiastic service), he settled in Bangor, and soon established a large practice in the town and surrounding district.

From his earliest days Dr. Thomas had shown a marked inclination and aptitude for surgery, and it was therefore not surprising that when in 1910 he was appointed surgeon to the Carnarvonshire and Anglesey Infirmary a new era in the surgical work of that hospital commenced. At the termination of his twenty years' tenure of office in November last, the hospital committee, as a mark of the great appreciation of his services, took the unusual step of inviting him to continue as senior surgeon.

During the whole of the war Dr. Thomas was surgeon to the Military Hospital at Bangor. His reputation as a surgeon was such that for many years his colleagues throughout North-West Wales had availed themselves fully of his experience and operative skill. His surgical appointments included those of consulting surgeon to the Blaenau Festiniog and Portmadoc War Memorial Hospitals. He was a member of the court of governors of the University College of North Wales, and in addition to being medical officer to this College was also medical officer to the Normal College, Bangor.

Dr Thomas was always a keen and enthusiastic member of the British Medical Association, and was president of the North Wales Branch in 1925–26. His activities were not confined to his profession, for he was much interested in public work. He was an alderman of the Corporation of Bangor, and was mayor of the city in 1920-21. He was a justice of the peace for the county of Carnarvon, and sat regularly on the magisterial bench. He inspired confidence by his quiet simplicity and rectitude, and his unfailing kindness will always be remembered by his patients and friends. He is survived by his widow, three daughters, and one son, who is a surgeon in London.

Dr. SPENCER STAWELL CROSSE, *M.C.*, died suddenly from cerebral haemorrhage at Kudat, British North Borneo, on February 10th. He was the third son of the late Rev. Edward Ilbert Crosse, and was born at Long Wittenham, Berks, in 1888. He was educated at Clifton College, and Pembroke College, Cambridge, completing his medical curriculum at Guy's Hospital. He took his B.A. (Nat. Sci. Trip.) Camb. in 1909, and qualified M.R.C.S., L.R.C.P. in 1912. After serving as house-surgeon and house-physician at the Royal Berks Hospital, he joined the R.A.M.C. in the first week of the war, hurrying home from a holiday abroad to do so. During the greater part of the war he was on active service in France, chiefly with field ambulances or at casualty clearing stations, and received the Military Cross. At the close of the war he remained in the Army for another six years, and was stationed in India during a large part of this period. On leaving the Army he held various posts as medical officer in the Tropics, on the Gold Coast, in British Guiana, and in Borneo. He took the Diploma of Tropical Medicine in 1928, shortly before sailing for Borneo on his last appointment. A straight man in all his dealings, Spencer Crosse was greatly beloved by all who knew him. Of an easy-going temperament, he took the ups and downs of life in a true philosophical spirit. He was kind and tolerant, and always endeavoured to put the best interpretation on the actions of others. He was never pushful, and though he had brains above the average he preferred to exercise them in what immediately lay before him. His sudden death at a comparatively early age came as a shock to his friends, since, although he had spent many years in the Tropics, he had always appeared to enjoy excellent health.

The sudden death of Dr. JOHN STEELE, J.P., of South Bank, Yorkshire, came as a great shock to the people of Eston district, where for over forty years he was in practice. He was one of the oldest members of the British Medical Association in the district, surgeon to Eston Hospital, medical officer of health, and casualty surgeon to four large works in the district. A colleague writes: Dr. Steele was gifted with that medical instinct which only comes as the reward of knowledge and experience. His life was one of unbroken service, which he loved to give, and his work had become so much part of himself that he feared the day when he should have to withdraw from practice, having often been asked to do so by his friends and relations. His patients were all his friends, and to many he was their best friend. Among the flowers at the funeral were to be seen tributes from the poor, who had made a collection to show their respect to a man of so outstanding a personality. Evidence of the esteem in which the people of the district held him was shown by the fact that over 12,000 people lined the processional route.

The following well-known foreign medical men have recently died: Dr. JEAN BAPTISTE COPPEZ, professor of ophthalmology at Brussels from 1891 to 1905, aged 90; Dr. AUGUSTE SLOSSE, professor of physiological chemistry at Brussels; Dr. PAUL FRANGENHEIM, professor of surgery at Cologne and an authority on bone surgery, aged 54; Dr. GIULIO TUNO, a physiologist of Rome; Professor VOGT, a Moscow pathologist, aged 83; and Dr. FÉLIX POUSSINEAU, formerly accoucheur to the Hôpital Lariboisière, Paris, aged 88.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons will resume its sittings on April 14th, when the Vote for the Ministry of Health is to be taken in committee. The second reading of the Town and Country Planning Bill is set down for the following day. Mr. Snowden hopes to open the Budget on April 27th.

Yarmouth Naval Hospital Bill

The Yarmouth Naval Hospital Bill, which had already passed the House of Lords, came before the House of Commons on March 27th. Mr. AMMON, for the Government, recapitulated the history of the hospital, and explained the legal doubts which the Bill was intended to resolve. The hospital at present contained 57 ordinary naval patients and 62 naval great war patients, whose cost of maintenance was borne by the Ministry of Pensions. The normal accommodation was for 213, but could be increased to 260 without structural alteration. If the Bill passed, the Ministry of Pensions would probably transfer 100 to 130 of their patients from other institutions. Up to the present no voluntary patients had been received at Yarmouth, but the Bill made provision for this. With regard to the indemnity clause against any legal action arising out of past use of the hospital, Mr. Ammon said that those in charge and their subordinates had acted in good faith and in the public interest, and should be protected.

Mr. MACPHERSON said there was disquiet in the country in regard to this Bill. So far as he knew the Army had no such institution, and never had had. The Admiralty had run this institution in disregard of the existing lunacy laws. Medical treatment and diagnosis of insanity required special care and skill, but under the Bill there was to be no diagnosis by a specialist. It would be diagnosis by two ship surgeons. There was nothing in the Bill to secure that this institution would be under the general Board of Control even for inspection.

Mr. KINLEY, in criticizing the Bill, said that the House was asked to agree that, because a man had been attached to the Admiralty, he must not be permitted treatment for his mental sickness near his own home.

Major TRYON remarked that Mr. Kinley now asked for ex-service men to be put into asylums with the rest of the community—a thing which the ex-service men's organizations had striven to prevent. To meet the demand of those organizations the Ministry of Pensions had started special hospitals at the Old Manor, Salisbury, and at Kirkburton, near Huddersfield, to which certified ex-service men could go if their families so desired. It was found that many friends and relations of these unhappy men did not like them taken away from the neighbourhood, and he thought it was the case that the Ministry of Pensions might not be able longer to retain one or two of these special hospitals, which had worked well. The Ministry might be glad to avail itself of the Yarmouth Hospital, but, if so, it would be fairer for that Ministry to tell the House that it wished to have the hospital, and why. He added that the Ministry of Pensions fought against certification wherever possible, and its medical staff had found methods which would be of use in mental cases throughout the world.

Mr ERNEST BROWN moved, and Mr. SHAKESPEARE seconded, the rejection of the Bill.

Dr FREMANTLE thought much could be said in favour of closing the Yarmouth Hospital altogether. It was infinitely better that patients belonging to the Services should be treated as if they were civil patients, and the cost charged to the proper authority. That was the procedure generally adopted in the Army. There was a good deal to be said, however, for keeping a separate naval hospital, if patients and their friends preferred it as he believed they did. As far as he could make out the Yarmouth institution was not half full, and he imagined the Bill was intended to fill vacant places and spread the overhead charges. A great increase of institutions for mental treatment was bound to occur under the Mental Treatment Act and the Local Government Act, 1929. Would it be right to bolster up an institution which was built one hundred years ago or so? He would agree to the Bill being passed if assured that it was intended to improve Yarmouth Hospital in the interests of the patients.

Mr. AMMON said the hospital had always been a voluntary one, and that was made explicit in the Bill. There was no question of compelling anyone to go there against his will or against the will of his friends or relatives. The House was dealing only with long-service men. A pensioner certified as of unsound mind would be sent to the nearest hospital, and would afterwards be removed to Yarmouth unless objection had been raised. The Bill had been submitted to the Scottish General Board of Control, which was satisfied. The Bill was earnestly desired by persons connected with the Navy. Next August Kirkburton, under the Ministry of Pensions, would close down, and that Ministry was anxious that the Yarmouth Hospital should be in readiness for this, so that the patients might then be transferred. The Board of Control had advised the Admiralty to retain the hospital, and Sir Hubert Bond was on the board of governors. Medical officers at Yarmouth had all had experience in civil mental institutions, and were chosen with special regard to their qualifications. There was no question of a man being put into Yarmouth Hospital, certified as cured, and put back into the Navy. He would be invalided out of the Navy. If there was any difficulty about a right of appeal to the Board of Control, he would look into it, and it could be met in committee

The Bill was then read a second time without a division and sent to committee of the whole House, where Mr. KELLY moved an amendment to ensure, in Clause 1, that no man should be certified from the Navy to the Yarmouth Hospital save with the certificate of an additional medical practitioner not in the service of the Admiralty. He contended that stronger evidence was required than the certificate of two doctors in the service of the Admiralty. Mr. AMMON, for the Admiralty, asked Mr. Kelly to withdraw the amendment. There was no compulsion on anyone to enter the hospital. Even greater precautions were taken than if the patient was to go into a civil mental hospital. When mental affliction was noticed in a naval rating the man would be taken into the sick bay for observation. The surgeon could not deal with the case out of hand, but could send the man to a naval hospital at Chatham, Devonport, or Haslar. If the authorities were of opinion that the man was mentally afflicted the Admiralty would send him to a consultant in mental diseases, who would be Sir Hubert Bond. If there was no doubt, the man would be certified by two medical officers of the hospital, and the whole set of reports sent to the Admiralty for the man to be invalided out of the Service. In the meantime, the man's relatives would be communicated with, and could allow him to go to the Yarmouth Hospital, or could transfer him to any other mental hospital. All these steps were taken before a man was certified.

Mr. KELLY withdrew his amendment, and the clause, with subsequent clauses, was accepted. A new clause was added making any misstatements on certificates under the Bill a misdemeanour. The Bill was then reported to the House and passed forthwith through report stage and third reading without debate.

Prices of Drugs

On March 30th Mr. GRAHAM moved the second reading of the Consumers' Council Bill. During the debate Mr. HERBERT GIBSON expressed a hope that, under the power which the Bill would give, the Consumers' Council would deal with the price of aspirin tablets. He cited an advertisement which suggested that retailers could make 102½ per cent. profit on a brand of these. Mr. LOVAT FRASER said that on no class of article supplied to the public were more unjustifiable profits made than on some articles supplied by druggists. He asked if the Consumers' Council would consider the prices of embrocation, camphorated chalk, and sodamint. Mr W R SMITH, for the Government, said the House had examples that evening of the profits made from a chemical product aspirin, for which a fixed price was asked. The Government objected to a system of price-fixing against the interests of the consuming public

The Bill was read a second time by 263 to 220.

Venereal Disease in the Navy

In reply to Dr. Fremantle, on March 25th, Mr. AMMON said reductions (or increases) in the incidence of venereal diseases in the Navy were shown in the following figures. In 1924 there were 5,987 cases, a ratio of 68.32 per 1,000 of strength, and a decrease on the previous year of 10.19; in 1925 there were 5,412 cases, a ratio of 60.16 and a decrease of 8.16; in 1926 there were 5,184 cases, a ratio of 57.18 and a decrease of 2.98; in 1927 there were 5,341 cases, a ratio of 57.28 and a 0.10 increase; in 1928 there were 5,160 cases, a ratio of 56.81, a 0.47 decrease; in 1929 5,342 cases, a ratio of 61.94 and a 5.13 increase. Comprehensive education schemes were in force in the training establishments. In the general depots all new entrants received special instruction. In boys' training establishments very special care was taken to ensure adequate and suitable instruction in sex hygiene. This instruction formed part of the general scheme of moral training, and was carried out in close co-operation by the divisional executive officers, the chaplain, and medical officers. Thorough instruction, especially with regard to venereal diseases and their dangers, was imparted to those boys before they were drafted to sea-going ships.

Opium

On March 30th Mr. SHORT informed Mr. Campbell that the production and distribution of opium would not be included in the purview of the conference on the limitation of the manufacture of dangerous drugs, to be convened by the League of Nations at Geneva next May.

Mr. SHORT, replying to Commander Bellairs on March 30th, said that the Home Secretary was not aware that quantities of opium and its derivatives were sent from Russia into China. He did not see that any action was called for on the part of the British Government.

Workmen's Compensation

Mr. CLYNES, in a reply to Mr. M'Kinlay on April 2nd, said he had received complaints as to several of the medical referees appointed for Lanarkshire under the Workmen's Compensation Act. The allegations had been of a general character, to the effect that the referees were biased against the workmen and their decisions unfair. These allegations had not been supported by evidence. Particulars of only three cases in which it was alleged that the workman had been unjustly treated had been submitted. While not in a position to review the decisions of referees, he had carefully examined these particulars, and could not find anything in them to sustain such a charge. Great pains were taken to appoint as referees doctors of the highest possible standing and professional qualifications; once a person was appointed to a judicial post of this kind he was entitled to expect that the Home Secretary would not countenance charges of unfairness except on clear and definite evidence of incompetence or bias. Mr. M'Kinlay further asked if Mr. Clynes would appoint a small committee to survey the decisions of the referees. Mr. CLYNES replied that such a general survey would not be justified even if practicable.

Atmosphere of House of Commons.—On a vote for expenditure on the Houses of Parliament, Miss WILKINSON asked if anything was being spent on improving the system of ventilation. The sickness rate, and even the death rate, among members of Parliament had been high in the past few months. All of them felt that when they came into the House they were entering a building where no fresh air seemed to enter. Mr. LANSBURY said that he did not understand the criticisms of the atmosphere of the House. The reports on it all disagreed with one another, and the experts that he had consulted contradicted one another. A committee was appointed recently on the subject, and it reported that such defects as existed in the ventilation were attributable to the methods of distributing the air current, and not to the quality of the air admitted, which was both chemically and bacteriologically pure. Mr. SOMERVILLE HASTINGS asked if that examination had been made when the House was sitting. Mr. LANSBURY said that all he knew was that the committee reported in 1905. In 1923 another committee made certain recommendations, the important part of which had been carried out. The House agreed to the vote.

Patent Medicines.—On March 30th Mr. PETHICK-LAWRENCE told Mr. Hastings that the cheap edition of the report of the Select Committee on Patent Medicines (1914) had been out of print for some years. There was no evidence of a substantial demand to justify a reprint. The full edition, containing the Proceedings and Minutes of Evidence, was still available.

Sweepstakes for Hospitals.—On March 31st Mr. TOOLE asked the Prime Minister if the Government could see its way to introduce legislation to enable sweepstakes similar to those in the Irish Free State to be conducted in this country to aid hospitals in need of funds. Mr. CLYNES, who replied, said that, apart from any other consideration, he had yet to learn that the hospital authorities desired such legislation.

Bethlem Royal Hospital.—On March 31st the House of Commons considered the Civil Estimates in committee. Mr. CHARLES WILLIAMS called attention to an item headed "Bethlem Royal Hospital: adaptation for Imperial War Museum." He said that that represented £50,000, and the committee was entitled to know what was being done to the hospital. Mr. LANSBURY, in reply, said that originally it was proposed to pull down the whole building, but it had now been decided that the War Museum should be transferred there. The London County Council would have to bring in a Bill to obtain powers from Parliament to alter the original Act for dealing with Bethlem Hospital.

Refuse Disposal.—Miss LAWRENCE, answering Mr. Mills on March 30th, said that it was not proposed to bring in a Bill this session dealing expressly with the dumping of refuse. The Town and Country Planning Bill recently introduced would strengthen the hands of the planning authorities in preventing or controlling the use of land for such a purpose. Local authorities might also prevent nuisance if by-laws dealing with the disposal of refuse were made and strictly enforced.

Vaccination.—In the House of Commons, on March 30th, Mr. GROVES presented a Bill to repeal the law relating to compulsory vaccination.

Contraceptive Literature.—Replying to Sir James Reynolds on April 1st, Mr. VIANT said his attention had been drawn to the fact that birth control literature was being disseminated by post, but unless the language used was indecent or obscene he had no power to prohibit the transmission of such matter in this way.

Research on Animal Diseases.—Dr. ADDISON told Sir Bolton Eyres-Monsell, on April 2nd, that a scheme for developing research into animal diseases upon a considerable scale was in an advanced state of preparation.

Notes in Brief

In Scotland 7,851 children under the age of 12 months died during 1930—an infantile death rate of 83 per 1,000.

Universities and Colleges

UNIVERSITY OF LONDON

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL

Entrance Scholarships and Exhibitions

Goldsmid Entrance Scholarships (value 112 guineas each), entitling the holder to the final course of medical study, are offered for competition in July, 1931, and are open to students who are preparing for the degrees of the Universities of London, Oxford, Cambridge, Durham, or other British universities, or for the diplomas of the Royal Colleges of Physicians and Surgeons, or for the licence of the Society of Apothecaries. A Goldsmid Entrance Exhibition (value £60) entitles the holder to a reduction by £80 of the fees due for the full course of final medical study. Only candidates who are graduates in arts or science of a university of the British Empire are eligible for this award. The Filliter Entrance Scholarship in Pathology (value £52 10s.) entitles the holder to a reduction by £52 10s. of the fees due for the full course of final medical study. No two of these awards can be held simultaneously, and holders of the Bucknill Scholarship are not eligible for them. Further particulars may be had from the secretary, University College Hospital Medical School, University Street, W.C.1.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

A meeting of the Royal College of Physicians was held on March 30th.

The Right Hon. Lord Dawson of Penn, P.C., G.C.V.O., K.C.B., K.C.M.G., M.D., was elected President.

The retiring President, Sir John Rose Bradford, Bt., delivered the presidential address for the past year.

Lord Dawson was appointed to represent the College at the forthcoming centenary celebrations of the University of Leeds on June 30th and July 1st, and Dr. William Hunter was nominated to represent the College at the forthcoming Congress of the Universities of the Empire, to be held in London and Edinburgh in July.

Diplomas

The following diplomas were granted jointly with the Royal College of Surgeons:

IN TROPICAL MEDICINE AND HYGIENE.—N. J. Abbensetts, M. Akram, J. Cairns, H. G. Calwell, C. P. Campion, M. M.-D. Chughtai, G. J. Clarke, Annie E. Connan, S. Dakshinamurty, D. Ellis, M. El Huseini, H. G. Floyd, J. R. Jensen, W. P. Jones, R. Kashwal, A. Ma, T. T. Mackie, E. W. Martindell, A. Mearns, P. B. P. Mellows, Myrtle Noronha, S. Noronha, M. Sangarapillai, D. W. Semmens, S. Thambiah, R. B. Wallace, Janet Welch, Ethel M. Weir, G. F. West, W. A. Wilson.

IN OPHTHALMIC MEDICINE AND SURGERY.—S. Atta-Ullah, B. P. Danard, H. D. Dastoor, T. E. Davies, J. Foster, Dorothy Guest, J. Hill, H. Kaitz, M. Kalra, J. G. Kshatri, I. Marais, G. R. Marcano, M. S. Mehkri, H. G. Nimbalker, K. J. O'Day, V. P. Patel, F. G. Roberts, A. L. Sutherland.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

The following candidates have been admitted Licentiates in Medicine and Midwifery of the College under the conjoint scheme with the Royal College of Surgeons in Ireland: G. A. Buggle, P. T. Casey, Annie J. Dunlevy, E. F. C. Earl, M. J. Kohane, A. C. L'Estrange, J. D. S. Murray, I. M. McLachlan, J. D. H. Widdess.

Medical News

May 12th, the anniversary of Florence Nightingale's birthday, is to be celebrated this year as Red Cross Day throughout the Empire. In London the County of London branch of the British Red Cross Society will lay a wreath on the Florence Nightingale memorial in Lower Regent Street. In Hampshire the county branch is organizing a pilgrimage to Florence Nightingale's grave in the little churchyard near Embley. Other county branches throughout the country are arranging their own ways of illustrating the work they are carrying on. In London a Red Cross flag day is to be held on May 14th, and on May 16th there is to be a big parade of V.A.D. detachments at the Duke of York's headquarters, Chelsea, at which H.R.H. Princess Mary, Countess of Harewood, will present colours to the County of London branch of the society. Notifications have already been received at the headquarters of the society that Red Cross Day is to be observed widely throughout the Empire. In Canada, Australia, and South Africa preparations for its observance are now in progress.

At the next meeting of the Society of Medical Officers of Health, to be held at 1, Upper Montague Street, Russell Square, W.C., on Friday, April 17th, at 5 p.m., a discussion on the pre-school child will be opened by Dr. Ethel Cassie, chief child welfare medical officer, Birmingham, and Dr. G. C. M. M'Gonigle, M.O.H., Stockton-on-Tees.

At a meeting of the British Institute of Radiology, to be held on Thursday, April 16th, at 8.30 p.m., at 32, Welbeck Street, W., papers will be read by Mr. H. S. Souttar on the ideal distribution of radon seeds, by Mr. W. E. Schall on a two-valve transformer unit for diagnosis and therapy; by Dr. Orliansky on uniformly impressed reduced prints from contrasty negatives; and by Dr. L. A. Rowden on a technique of radiographic pelvimetry. On the morning of April 17th medical members are invited to visit the radiological department of the North Middlesex Hospital, Silver Street, Edmonton, N., at 11 o'clock.

The Standing Conference of Metropolitan Borough Tuberculosis Care Committees has arranged an exhibition and sale of handicrafts by tuberculous patients, to be held on April 22nd and 23rd, at the Carpenters' Hall, Throgmorton Avenue, E.C. The exhibition will be opened on Wednesday, April 22nd, at 3 p.m., by the Lord Mayor, accompanied by the Sheriffs.

The annual dinner of the Medical Superintendents' Society was held at the Holborn Restaurant on March 27th. Eighty-four members and guests sat down, under the chairmanship of Dr. E. W. G. Masterman. Among the visitors present were Sir Arthur Newsholme, K.C.B., Sir William Barber, Dr. Tate (medical officer of health for the county of Middlesex), and Drs. Brincker, Daley, and Fairfield, representing the headquarters medical staff of the London County Council. Sir Arthur Newsholme responded to the toast of "The Visitors," and a musical programme added to the enjoyment of a most successful evening.

The Tavistock Square Clinic for Functional Nervous Disorders announces that twenty-four lectures on psychological types and mechanisms (an introductory course of psychological medicine for the general practitioner) will be given by Dr. H. Crichton-Miller and Dr. E. Graham Howe, at the Royal Anthropological Institute, 52, Upper Bedford Place, W.C., on Thursdays, beginning April 30th. The lectures are open to the medical profession only. Fee for either series, £1 11s. 6d.; for both series, £2 2s. Tickets for the course must be obtained in advance from the honorary lecture secretary at the clinic, 51, Tavistock Square, W.C.1.

As already announced, the annual meeting of the Canadian Medical Association will be held at Vancouver from June 22nd to 26th, and a special section of military medicine is being arranged in connexion with it. Steamship and other excursions are contemplated, and those who wish to have hotel accommodation reserved should communicate, before April 30th, with Dr. W. S. Turnbull, 925, Georgia Street West, Vancouver, British Columbia.

A post-graduate course on the medical and hydrological treatment of diseases of the alimentary canal, liver, and nutrition will be held at the Hôpital Necker, under the direction of Professor Maurice Villaret, from April 20th to May 1st, followed by a visit to Vichy from May 2nd to 4th. The fee is 300 francs. Further information can be obtained from the secretary of the Paris Faculty of Medicine.

The report of the Department of Scientific and Industrial Research for the year 1929–30 has now been published (Cmd. 3789. London: H.M. Stationery Office. 3s. 6d.). Among the subjects discussed by the Advisory Council are food investigation, water pollution, atmospheric pollution, and the work of research associations.

The annual report of the Industrial Health Education Society for 1930 records the fact that, in the six years of the existence of this society, 1,600 health talks have been given to all classes of workers in England, Scotland, and Wales. So many requests were received last year for these talks that several had to be deferred until 1931. It is proposed to develop the work of the society among the large body of women workers in mills, workshops, and factories, and also among male workers unattached to trade unions. A leaflet on eye troubles has been distributed widely.

The first Bolivian Medical Congress will be held at Sucre, the capital of Bolivia, on May 25th, under the auspices of the Government.

The French Society of Ophthalmology will hold its congress in Paris on May 4th, when the principal subject for discussion will be heredity of ocular affections, introduced by Professor van Duyse of Ghent. During the congress there will be an exhibition of optical instruments.

The following German congresses will be held in May: General Medical Society for Psychotherapy at Dresden, 14th to 17th; Oto-rhino-laryngological Society at Leipzig, 21st to 23rd; Dermatological Society at Vienna, 24th and 25th; Tuberculosis Congress at Kissingen, 26th to 30th.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediscra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Alcoholism

"W. E. M." writes: In reply to the inquiry by "A. B. C." (April 4th, p. 610) for some substance which can advisedly be put into alcoholic drinks, such as whisky, to engender a distaste in an addict, I suggest 1½ ounces of paraldehyde into one bottle of whisky. If this is not effective, send the patient to a voluntary home for alcoholic addiction.

Pregnancy Records

Dr. J. L. DIGBY (Tenterfield, N.S.W.) writes: In reply to "J. J. S." in the *Journal* of December 20th, 1930 (p. 1072), I would like to inform him that the pregnancy record published by him is beaten by a patient of mine, who was delivered on February 3rd, 1929, of a healthy full-time female child. The child was breast-fed, and the mother never menstruated. On December 1st, 1929, I confined her again; another fully developed female child was born.

LETTERS, NOTES, ETC.

Treatment of Varicose Ulceration

Dr. E. GARDEN (Leyton, E.) writes: Your columns have been so much occupied lately with correspondence either eulogizing or deploring the direct application of adhesive strapping to varicose ulcers that a method described in your issue of October 4th, 1930, would seem almost to have been overlooked. The moist paste bandage treatment described by K M and C J. Cellan-Jones appealed to me because of its simplicity of application, and I have had opportunities to prove its value in different cases. I am prompted to write this letter by reason of a recent severe case of varicose ulceration where the all-important demand was a speedy return to full work. The ambulatory paste bandage technique was carried out according to the authors' instructions, and sound healing was secured in a period of just over three weeks. The patient was delighted with the freedom from pain which followed the first application, and the other noteworthy feature was the rapidity with which a considerable degree of oedema was reduced. I have no hesitation in commending the paste bandage to the busy general practitioner, for the following reasons: (1) no special skill is required in its application; (2) it allows of the evaporation of secretions and is the readiest means of relieving pain; (3) it secures healing if conscientiously applied.

Dr R W. COCKSHUT (Hendon) writes: I do not think that sufficient gratitude has been expressed by the general practitioner to Mr Dickson Wright for perfecting the elastoplast treatment of varicose ulcers. This treatment may be as old as [illegible] but I do not recollect anybody telling me about it when I was a student. I have spent many hours using [illegible] paste with absolutely no success. Mr. Dickson Wright is one of the benefactors of the twentieth century. When he thinks of the thousands of ulcers now [illegible] England he must be a happy man. May I say that I have found painting the leg with glycerin ichthyol 5 per cent. an excellent preventive of irritation and dermatitis?

Hypodermic Medication

"J. V. M." (Co. Cavan) asks us to reproduce the description of subcutaneous injection published in the *Dublin Medical Press*, March 12th, 1845, "as it would be of interest after Mr. Cathcart's quotation of Dr. Wood's description of hypodermic medication in the *Journal* of February 21st (p. 336)."

*** The report is headed "Neuralgia—Introduction of Fluid to the Nerve. By Mr. Rynd." The patient was a woman, aged 59, admitted into the Meath Hospital and County of Dublin Infirmary on May 18th, 1844, complaining of acute pain over the entire left side of the face. She had been so much in the habit of taking laudanum that latterly half a drachm, three times a day, had no effect in lulling the pain, and this was the quantity she commonly took. "She was a miserable sallow-complexioned looking creature, had been sleepless for months, and her face was furrowed with constant pain. On the 3rd of June a solution of fifteen grains of acetate of morphia, dissolved in one drachm of creosote, was introduced to the supra-orbital nerve, and along the course of the temporal, malar, and buccal nerves, by four punctures of an instrument made for the purpose. In the space of a minute all pain (except that caused by the operation, which was very slight) had ceased, and she slept better that night than she had done for months. After the interval of a week she had slight return of pain in the gums of both upper and lower jaw. The fluid was again introduced by two punctures made in the gum of each jaw, and the pain disappeared. After this the pain did not recur, and she was detained in hospital for some weeks, during which time her health improved, her sleep was restored, and she became quite a happy-looking person. She left the hospital on the 1st of August in high spirits, and promised to return if she ever felt the slightest pain again. We conclude she continues well, for we have not heard from her since." Another case, that of sciatica in a man, aged 28, treated in the same way by Mr. Rynd, was reported in the same issue of the *Dublin Medical Press*. A description of Francis Rynd's instrument appeared in the *Dublin Quarterly Journal of Medical Science*, 1861, xxxii, 13.

Peking Man

The issue of *Antiquity* for March is especially distinguished by an admirable account of the discovery of primitive man in China by Professor G. Elliot Smith, whose lectures on the subject in London and in Edinburgh have been noted in recent issues of the *Journal*. It will be recalled that Professor Elliot Smith regards the discovery of the Peking remains as marking a new epoch in human palaeontology, since they not only provide much unequivocal information concerning a third and hitherto unknown genus of early Pleistocene man, but demonstrate that the *Pithecanthropus* of Java and the *Eoanthropus* of Piltdown are not really incompatible, "with one another. "The brain-case of *Sinanthropus*," he writes, "reveals many features which are unknown either in the Ape-man of Java or in the Piltdown skull, and throws a great deal of light upon the characters of the common ancestor of the human family, from which all these genera had been derived. One of the most striking illustrations of this fact is the peculiar form of the mastoid region of the temporal bone, recalling as it does the condition found in the newborn child and in the adult anthropoid apes. For it lacks that salient character which is so distinctive of the adult human being of other genera." The article is vivaciously written, and is illustrated by a number of plates.

A Link with the Past

The widow of Fred Wood, who was for many years the resident apothecary of St. Bartholomew's Hospital, died on April 2nd at Bournemouth, within two months of completing her hundredth year. She was the eldest daughter of William Birch of Barton, and the aunt of Mr. J. Lionel Stretton of Kidderminster.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 51, 52, 53, 54, 55, 58, and 59 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 56 and 57.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 115.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

338 Etiology of Chorea

R. LENZ (*Wien. Arch. f. Innere Med.*, January 20th, 1931, p. 95) discusses the etiology and pathology of chorea and refers to the toxicity of nirvanol (see *Epitome*, February 21st, para. 172). He regards the streptococcal origin of infective rheumatism as definitely proved; it is a disease of adolescence, appearing about the 16th year as arthritis or chorea in 60 per cent. of all cases. Dental sepsis and tonsillitis at that age play only a subordinate part in the etiology. Rheumatic chorea is attributed to infective emboli of cardiac origin, initiating a cerebral periarteritis, followed by a round-celled exudate and, in severe cases, a choreic polioencephalitis. The arterial walls undergo degenerative changes, and the generalized infection produces cardiac dilatation, tachycardia, and albuminuria. In a fatal case of chorea in a boy, aged 15, the small ganglion cells of the neostriatum showed advanced degeneration, and in the subthalamic region a haemorrhage was found. Lenz believes that all concurrent systemic changes found in chorea are due to these generalized arterial lesions. He prescribed nirvanol in 27 cases, but it produced toxic symptoms in 41 per cent. of the patients; 19 improved, but of these 10 exhibited toxic symptoms—fever and dermatitis—while 5 had dermatitis only. Further, three patients had hyperpyrexia but no rash, though polyarthritis occurred. Two patients recovered completely without toxic symptoms. Nirvanol is cumulative in action, and the maximal approximates to the toxic dose. Lenz affirms that the proofs of definite arterial lesions of the central nervous system in chorea are: (1) degenerative changes in the small ganglion cell system of the corpus striatum, and in the cells of the hypothalamic nuclei; and (2) inflammatory vascular lesions in comparatively chronic, mild cases, or acute (polioencephalitic) cases. Nirvanol relieves irritation of the large cell systems of the corpora striata. It appears to have a specific organic action, with a narrow margin between the maximal and the toxic doses. Toxic albuminuria may occur early or late. Toxic pyrexia may subside when cerebral congestion is relieved.

339 Dengue Fever

J. S. SIMMONS, J. H. ST. JOHN, and F. H. K. REYNOLDS (*The Philippine Journ. of Sci.*, January–February, 1931, p. 1) present a comprehensive experimental study of dengue which they made in the Philippine Islands. Two important vectors of the disease are the mosquitos *Aedes aegypti* and *Aëdes albopictus*; these insects are influenced by variations in the rainfall and temperature, and dengue shows corresponding seasonal variations. The virus was not identified microscopically; in certain circumstances it may be passed through diatomaceous earth filters. In man the average incubation period was between five and six days. The onset was abrupt, with fever, headache, flushing of the face, aching of the eyes, pain in the back and extremities, and leucopenia on the first or second day after the onset. As the disease progressed, further symptoms were primary and secondary rashes, post-orbital pains and backache, pains in the limbs and joints, altered sense of taste, and adenopathy. The leucopenia was mainly due to a decrease in the lymphocytes and mature neutrophilic granulocytes. The marked cellular degeneration indicated that the leucopenia was due to a destruction of these cells; it also seemed possible that the virus might multiply within the leucocyte, causing its death. The immunity following an attack of dengue is probably completely protective in most cases. With the possible exception of complement-fixing bodies, specific antibodies were not demonstrated in the serum during and following recovery from the disease. Though results so far have been negative, it is believed that an effective prophylactic vaccine may eventually be obtained. Dengue outbreaks in lower animals are also discussed.

340 Diagnosis of Congenital Syphilis

D. NABARRO (*Brit. Journ. Vener. Dis.*, January, 1931, p. 1) discusses certain symptoms common in congenital syphilis, the non-recognition of which leads to diagnostic errors. Frequently a child is born apparently healthy, but it develops snuffles, and some weeks later a rash, which must be differentiated from the napkin rash due to irritation by urine; the latter rash is usually brighter and less extensive. Condylomata, not common in children, are rarely seen before the age of 1 year; these lesions are usually quite characteristic. Syphilitic osteo-periostitis or epiphysitis are demonstrable by systematic *x*-ray examinations. A mild hydrocephalus may be associated with inherited syphilis in early childhood. An important symptom of neurosyphilis, often overlooked, is inequality of the pupils with or without reaction to light and accommodation. Spastic paraplegia is another overlooked symptom; this may be a mono-, di-, or paraplegia. Bilateral hydarthrosis, especially of the knee, is usually of a syphilitic nature. Interstitial keratitis is the commonest symptom of late inherited syphilis. Minor degrees of Hutchinsonian teeth often occur. Nabarro emphasizes the importance of the Wassermann test in all doubtful cases, and the need of its repetition if the reaction is doubtful. He believes that mercury alone is not a reliable drug in congenital syphilis, but that it should be associated with an arsenical; as soon as the diagnosis is made he begins injections of some arsenical or bismuth preparation. In certain cases it is advisable to start with mercury for a few weeks, and then to give very small arsenical injections.

341 Erythema Nodosum and Tuberculosis

A. CEDERCREUTZ (*Finska Läkaresällskapets Handlingar*, January, 1931, p. 61) has investigated the after-histories of the patients in private or hospital practice who, before 1910, had suffered from erythema nodosum or multiform exudative erythema. There were 63 cases of erythema nodosum, only 10 of the patients being males; of 78 patients with multiform exudative erythema 40 were males. Both these skin diseases occurred most frequently between the ages of 20 and 40, and they were most common in the colder months of the year. Cedercreutz succeeded in tracing 26 of the 63 patients who had had erythema nodosum, and among these 26 there were nine deaths. Only in two instances was pulmonary tuberculosis the cause of death; it had proved fatal from eleven to fifteen years after the outbreak of the erythema nodosum. Of the 78 cases of multiform exudative erythema 36 were traced, and as many as 20 of these patients were found to have died, but only in five instances was the cause of death notified as being pulmonary tuberculosis. This investigation suggests that patients who have undergone one or other of these two skin diseases are not as a class peculiarly susceptible to fatal pulmonary tuberculosis.

342 Post-vaccinal Encephalitis and Generalized Vaccinia

M. WEICHSEL (*Monatsschr. f. Kinderheilk.*, January 30th, 1931) records the case of a male infant, aged 17 months, who nineteen days after vaccination which had run a normal course developed severe cerebral symptoms and convulsions, followed by left spastic hemiplegia. Varicella and epidemic encephalitis could be excluded, and the cause of the generalization of the vaccinia was obscure. Inoculation of a rabbit's testicle with the cerebro-spinal fluid, and of its cornea with the contents of a vesicle, had no result. The long incubation period of nineteen days was remarkable, but several cases in which it was even longer have been observed in both England and Holland.

343 Pancreatitis complicating Mumps

Pancreatitis is an infrequent complication of mumps; at the same time it presents a characteristic symptom-complex. M. B. BRAHDY and I. H. SCHEFFER (*Amer. Journ. Med. Sci.*, February, 1931, p. 255) report 13 cases in 252 patients during slightly over a year. The disease may occur in either sex at any age. In this series the age extremes were 6 and 30 years. The onset is sudden between the fifth and eleventh days of the illness, with nausea, anorexia, and fever. The temperature rises in a day or two to 103° or 104° F. in moderately severe cases, and returns to normal in three to five days. As a rule the pulse is relatively slow. Patients complain of malaise, nausea, headache, and abdominal pain; they usually vomit. In the present cases the pain and tenderness were always referred to the upper part of the abdomen. Most of the patients were constipated; diarrhoea, reported by other observers, did not occur. There was no glycosuria. Pancreatitis may be confused with other complications of mumps, such as meningitis, aural complications, and oöphoritis in females. Only two necropsies have been recorded in the literature. The pathological pancreatic changes reported by Lemoine and Lapasset are described; these are comparable to those found by Wollstein in the parotid glands of monkeys experimentally inoculated with mumps. Reports of three illustrative cases are given.

344 The Intradermal Tuberculin Reaction

A. MONCRIEFF (*Quart. Journ. Med.*, January, 1931, p. 153) discusses the value of the intradermal tuberculin test, and reports a series of 206 children suffering from various illnesses who were submitted to it. He concludes that in pneumonia a positive reaction by no means necessitates a gloomy prognosis, and a negative one does not exclude tuberculosis if the usual dose of 0.1 mg. is employed. In two cases of acute bronchitis positive results were obtained, but the conditions nevertheless proved subsequently to be non-tuberculous. A general survey of the 118 cases leads Moncrieff to give a warning that the instances where the Mantoux intradermal tuberculin test is helpful are limited. The value of a negative reaction is reduced by four possibilities—namely, the brand of tuberculin used may not be potent; the injection may have been made subcutaneously instead of intradermally; the patient may be one of the small group where bovine tuberculin is necessary to obtain a positive result; and the patient may be in such an acute state of tuberculosis that a negative result is obtained with ordinary doses of tuberculin. A positive reaction implies at the most that there has been some previous infection with tuberculosis, but the test must be carefully controlled. Even at an early age a positive reaction should not be allowed to establish a diagnosis, but should merely be one of the factors in reaching it.

Surgery

345 Cerebellar Astrocytomas

H. CUSHING (*Surg., Gynecol. and Obstet.*, February, 1931, p. 129) in a critical review of 76 cases records experiences with the cerebellar astrocytomas, gliomatous tumours having a neoplastic basis composed of highly differentiated neuroglial cells known as astrocytes. The symptoms usually date from childhood, and include periodical morning headache and vomiting. Secondary hydrocephalus invariably results from their mid-cerebellar situation, leading to choked disc so insidious in origin that impaired vision may be the first symptom noticed; the tumour may attain considerable size before any cerebellar signs of instability become manifest. Headache is more often frontal than suboccipital, and the symptoms depend more upon the variability of tension of the secondary hydrocephalus than upon purely [illegible] factors. The physical signs of cerebellar involvement may be inconspicuous; nystagmus when I was a student the hydrocephalus is often out of all proportion to the determinable cerebellar signs. Pain mainly affects the lower extremities, often some suboccipital tenderness, tilting of the head is not noticeable owing to the usual mediate position of the growth. The tumours may be either compact or largely cystic, in which latter condition recurrence of symptoms after operation is inevitable unless the mural nodule of tumour is identified and removed. The tumours may be exposed on the surface or be wholly concealed; if buried, they can be exposed and removed under local anaesthesia by means of a vertical incision through the vermis. The astrocytomas are almost equally divided between the sexes, and, though probably congenital in origin, a history of pre-symptomatic trauma is given in a large proportion of the cases.

346 Hydatid Cysts of the Lung

J. ABADIE (*Bull. et Mém. Soc. Nat. de Chir.*, February 7th, 1931, p. 124) reports ten cases of hydatid cysts of the lung which were treated surgically. The disease, which is rare in France, occurs frequently in Northern Africa. Although statistics generally show that hydatid cysts are most common in men, and in the right lung, it was found that in the ten cases under review the incidence was equal in the two sexes and occurred as often in the left lung as in the right. Five of the patients were under the age of 20, the two youngest being only 9. Typical vomiting and expectoration are the most characteristic symptoms, but diagnosis is confirmed by the use of radiography, which discloses the site of the cyst. Treatment depends on the position and condition of the cyst; if it is central and not infected immediate operation is not advisable, whereas if it is infected and in a central position operation must be performed immediately in spite of the risk. If the cyst is peripheral but not infected an operation should only be undertaken after careful deliberation. In cases where an operation discloses adhesions, these should be left, the cyst being opened and the pocket removed. If the cyst is suppurative ample drainage must be left, and in any case it is advisable to leave a small transitory drain which can be removed if all goes well. In cases where no adhesions are present a two-stage operation is advocated. One patient who was intensely cyanosed was relieved immediately by the attachment of the pleural drain to a tube which was sunk in a jug of water placed near the ground. There were no cases of post-operative bronchial fistula, and all ten patients made a good recovery.

347 Renal Sympatheticotonus and Sympathectomy

S. H. HARRIS and R. G. S. HARRIS (*Canadian Med. Assoc. Journ.*, February, 1931, p. 235) believe that renal sympatheticotonus is a definite clinical and pathological entity. The possibility of a neuropathic basis was considered in many patients with renal pain in whom urological examination revealed little or no abnormality. Accordingly, a denervation of the kidney (renal sympathectomy) was performed on one patient; the results were so satisfactory that the operation has since been performed in 28 cases with equally gratifying effects. The nerve supply of the kidney and the operation are described. The latter, though extremely tedious and necessitating painstaking care, has been found to relieve the pain completely and permanently. The following syndrome definitely indicates renal sympatheticotonus: positive pain reproduction test on cystoscopic examination; positive pyeloscopic and pyelographic findings; delayed emptying time of the renal pelvis and calyces, or possibly of a single calyx; recurrence of pain after its temporary relief by eserine; evidence of generalized sympatheticotonus, which may be most marked on the side of the lesion; negative urinary findings on microscopical and cultural examinations; proved absence of organic ureteral stricture. The indications for sympathectomy fall broadly into three groups: irregular and incomplete contractions of the calyces and pelvis, so that the peristaltic impulse either does not reach or does not pass beyond the uretero-pelvic junction; marked slowing down with irregularity and increased power of the contractions, associated generally with dilatation of the pelvis and clubbing of the calyces; and dilatation and immobility of a single calyx. Delayed emptying occurs in all the groups.

348 **Actinomycosis of the Abdomen**

L. P. GOOD (*Arch. of Surg.*, February, 1931, p. 307) states that out of 62 cases of abdominal actinomycosis the primary lesion occurred in the ileo-caecal region in 77.5 per cent. It was not found possible to substantiate or contradict the theory that the organism is carried into the tissue by some foreign material such as straw, nor was evidence obtained that an injury, such as might be caused by straw, provided a point of entry for the organism already present in the mouth; 12 of the 62 patients were farmers. Symptoms of abdominal actinomycosis may be chronic, when the presence of a mass in the right lower abdominal quadrant is usually the first indication; in the acute form there is pyrexia with pain and tenderness. A diagnosis of appendicitis is generally made, and operation frequently discloses an appendix abscess, which is drained. Several weeks after the operation, however, symptoms recur and another abscess is found either in the incision or in some other part of the right flank or renal region, which, after drainage, leaves a sinus. The fungus makes its way by direct growth along the fascia, peritoneum, and muscles until a new abscess and sinus is formed. Later the blood stream may become infected and metastatic abscesses develop in any part of the body. If the lesion is primary in the ileo-caecal region the lung is affected in 20 per cent. of cases, but if the actinomycosis originates in the upper part of the abdomen the lung is affected in 50 per cent. Treatment, which must be surgical, consists of incising and draining the abscesses, curetting the sinuses, and establishing perfect drainage, in conjunction with medical treatment and *x*-ray or radium therapy. Massive doses of a saturated solution of potassium iodide have given good results, but the prognosis is poor. Of the 62 cases reported, 29 patients died, 7 did not improve, and 6 had improved; the disease had apparently been arrested in 8 cases, and 12 cases could not be traced.

349 **Acute Necrosis of the Pancreas**

M. MARTENS (*Med. Klinik*, January 30th, 1931, p. 155) believes that acute pancreatic necrosis is more common than was formerly supposed. With the necrosis of the gland, in whole or in part, are associated haemorrhage, inflammation and fat necrosis, and self-digestion of the pancreatic tissue by its own secretion rendered prematurely active within itself. Possible predisposing factors include disease of the gall-bladder or bile ducts (especially in pregnancy and labour), gastric or duodenal ulcers, threadworm in the pancreatic duct, pancreatic stone, and excesses in eating and drinking; stout elderly women are frequent subjects. Among external causes are violence, accidental trauma during operation, and the passage of a sound up the ducts of Santorini or Wirsung. The symptoms are characteristic—namely, sudden onset of steady, excruciating pain in the upper part of the abdomen, radiating to the back and occasionally to the left shoulder; the abdomen is soft, and a tumour lying in the position of the pancreas may be located. Tenderness is found, not only towards the left. Vomiting is usual; it is not faecal, but the vomit contains blood, at first altered, and later fresh; this associated with anuria and cyanosis is a bad sign. The pulse, temperature, and degree of leucocytosis are variable, but collapse is common. There is no passage of faeces or flatus, but the bowel is not palpable. An *x*-ray examination gives a characteristic picture. Rise of diastase in the urine to over 64 units is almost diagnostic, the blood sugar is high. The differential diagnosis must be made from a perforating peptic ulcer, ileus, appendicitis, embolism, or thrombosis of mesenteric vessels; diseases of the gall-bladder and ducts are frequently concurrent. The most satisfactory treatment is early and very careful operation. The after-treatment is difficult; insulin may be necessary. Complications and even recurrences may ensue. As prophylaxis the author suggests early treatment of the predisposing condition, and examination of the pancreas in gall-bladder operations; an estimation of the diastasic content of the urine is an important precautionary measure in doubtful cases.

Therapeutics

350 **Sodium Iodide in Nasal Infections**

A. LEWY (*Arch. of Otolaryngol.*, January, 1931, p. 97) reports successful results in hypertrophic rhinitis and the early stages of acute coryza from the hypodermic injection of a 3 per cent. solution of sodium iodide. After the solution has been prepared and sterilized, it is allowed to stand for several days in a white glass-stoppered bottle until free iodine appears, when 1 c.cm. of the solution is injected. There is sometimes a temporary exacerbation of the symptoms, and five days are allowed to elapse before the next injection. After some weeks too much free iodine is present, and the solution must be discarded, since its use is attended by excessive pain. In some cases the solution was diluted ten times, with a view to minimizing the local reaction, but the results were more doubtful. Several patients were relieved in this way from chronic rhinitis after other treatment such as local applications and allergic stimulation had failed. The author commends for further trial this method, which was originally suggested by H. Sternberg and M. Sugar.

351 **Rectal Injections of Hypertonic Saline Solution**

R. SOUPAULT (*Paris Méd.*, February 14th, 1931, p. 154) has found intravenous injections of hypertonic sodium chloride solution most valuable in relieving post-operative and other grave forms of intestinal obstruction. One patient, fifteen days after appendicectomy for perforation and purulent peritonitis, developed alarming symptoms of obstruction. These were relieved rapidly by the intravenous injection of hypertonic saline solution. Soupault could not determine whether the success was due to its effect on the general toxic condition, or whether it had a more direct action on the intestinal musculature. In any case, the toxic symptoms of vomiting and tachycardia subsided, and the patient passed much flatus. On the hypothesis that the hypertonic saline solution might have a specific action on peristalsis, Soupault decided to try the rectal injection of hypertonic solution in the case of an obese woman suffering from paralytic ileus of three days' duration following cholecystectomy. The patient was greatly distressed by abdominal distension and consequent dyspnoea, so 50 c.cm. of a 15 per cent. sodium chloride solution (containing 75 grams of the salt) was injected. Within a few minutes a great volume of flatus was passed, followed by copious evacuations during the next twenty-four hours. Soupault had a similar success in a woman operated upon for a pelvic peritonitis following ruptured pyosalpinx. Another patient was a cachetic old man who had repeated attacks of partial obstruction due to some chronic inflammatory adhesions. Small injections of hypertonic saline solution invariably relieved him. Soupault now employs this method as a routine procedure in cases of threatened obstruction, and also in cases of localized pelvic peritonitis, acute pericholecystitis, and subacute appendicitis. He considers that it is indicated in all obscure subacute abdominal cases which do not need an operation. The technique is very simple: 100 c.cm. of 10 per cent. hypertonic sodium chloride solution is injected into the rectum through a small catheter, sterilization of the solution being unnecessary.

352 **Treatment of Addison's Disease**

L. G. ROWNTREE and others (*Journ. Amer. Med. Assoc.*, January 24th, 1931, p. 231) record the treatment of a series of cases of Addison's disease with a hormone derived from the cortex of the suprarenal gland, and lay down the following principles of therapy in this disease. In addition to the most assiduous attention to the details of general care, dieting, and resting, three forms of treatment are of importance. The dehydration which occurs during the crises should be countered by the administration of a solution containing dextrose (10 per cent.) and sodium chloride (1 per cent.), the authors consider that this is unquestionably the best method to adopt in the absence of supplies of the hormone. The second form of treatment

is the "Muirhead" method of pushing adrenaline to the point of intolerance by subcutaneous injections and maximum doses by the mouth and rectum; this is effective in some cases, but apparently valueless in others. The third line of treatment is the daily intravenous injection of 10 to 20 c.cm. of the cortical hormone in divided doses, the immediate results of which in a crisis are most gratifying. Such injections prove effective as a rule within forty-eight to seventy-two hours, but it remains to be shown whether such a combination of various lines of treatment will sustain life and health for a number of years. This is not the case with the Muirhead method alone, but its association with the cortical hormone seemed much more hopeful. This hormone is said not to be yet available commercially, but the authors state that the problem of its preparation is engaging the attention of the council on pharmacy and chemistry of the American Medical Association.

353 Massive Doses of Sodium Salicylate in Acute Rheumatism

CASSAËT, GRÉ, and J. LÉVY (*Journ. de Méd. de Bordeaux*, February 20th, 1931, p. 138) describe two cases in which large doses of sodium salicylate proved very efficacious. A previously healthy woman, aged 38, had a sudden attack of pain in the right hypochondrium, with frequent dry cough. Basal pleurisy was found, and two days later a pericardial friction sound appeared. After eight days transient arthralgias occurred. Daily doses of 185 grains of sodium salicylate were given, and all symptoms disappeared in two days, but a mitral systolic bruit appeared subsequently and became permanent. Notable features in this case are the unusually late incidence of a first attack of acute rheumatism; the occurrence of pleurisy and pericarditis before arthritis; and the failure of large doses of sodium salicylate to prevent endocarditis. The second patient, a woman aged 49, had had acute articular rheumatism for two months, and had been taking more than 2 drachms of sodium salicylate daily. She had generalized arthritis, pleurisy, and dry pericarditis, and was very ill, emaciated, and anaemic. She was given by the mouth 185 grains of sodium salicylate each day in 35 ounces of alkaline water, together with intravenous injections twice a day of 15 grains of this salt in 5½ drachms of glucose solution. The pyrexia subsided, and became normal on the third day. The treatment was continued for twelve days; the intravenous injections were then discontinued and 216 grains of sodium salicylate were given daily by the mouth, but two days later the temperature returned to 102.6° F. The oral administration was stopped, and an intravenous dose of 31 grains of sodium salicylate was given; the temperature fell and the patient remained afebrile until discharge. The pleurisy disappeared, but a mitral lesion developed. The authors conclude that in refractory cases of acute rheumatism the intravenous administration of sodium salicylate is indicated.

354 Calcium and Parathyroid in Chronic Ulcerative Colitis

B. HASKELL and A. CANTAROW (*Amer. Journ. Med. Sci.*, February, 1931, p. 180) report a series of cases of ulcerative colitis in which prompt improvement followed the administration of calcium lactate or gluconate by the mouth, associated with intramuscular injections of parathyroid extract. Eleven out of thirteen patients became clinically well in from four to eight weeks, and remained well for periods up to two years, during which observation was continued. The mucous membrane of the lower part of the bowel regained its normal appearance in eight. In two instances there was a slight and only temporary relapse. The authors state that experimental calcium studies in one group of patients suffering from mucous colitis, and in another group with ulcerative colitis, suggest that the ulcerative lesions are not infrequently secondary to long-standing mucous colitis. The treatment included a cellulose-free non-irritating dietary, the use of belladonna and kaolin, and doses of 20 to 30 grains of ammonium chloride, which, by intensifying the hydrogen-ion concentration of the tissues, enhanced the availability or utilization of the tissue calcium. The average adult dose of the parathyroid extract was 20 to 30 units, according to the body weight. The authors' observations indicated that it resulted in an increase in the availability and utilization of the calcium, tending also to restore a normal ratio of diffusible to non-diffusible calcium. The lactate or gluconate of this metal was administered orally in doses of 30 grains or 60 grains respectively, three or four times daily, and between three and four hours after meals. Another benefit of this treatment was the diminution of colonic spasm, even when high doses of belladonna had previously proved ineffective. The authors discuss the way in which this combined treatment acts upon the diseased tissues, and recommends its more extensive adoption.

355 Percutaneous Diphtheria Immunization

A. F. ABT and B. F. FEINGOLD (*Amer. Journ. Dis. Child.*, January, 1931, p. 8) since July, 1929, have used Loewenstein's percutaneous method for producing an active immunity against diphtheria in 62 Schick-positive children aged from 11 months to 17 years. The material used was an ointment containing not only diphtheria toxoid, but also an unfiltered culture of dead diphtheria bacilli. Three rubbings were given at weekly intervals, the back, chest, abdomen, or arms being used as the site for them. In 44 of the 62 children (70.9 per cent.) a negative Schick reaction followed the last rubbing in periods varying from 2½ to 7 months. The authors maintain that the percutaneous method produces active immunity in as large a percentage of cases as is induced by the other methods now in use, and possesses the following advantages: (1) it avoids the dangers which may be produced by introducing a foreign protein directly into the lymphatic circulation; (2) it eliminates the danger of liberating free toxin in the system; (3) it avoids the occurrence of constitutional reactions; and (4) it does not sensitize the child to other serums. A. H. KEGEL and B. M. GASUL (ibid., p. 44) applied the percutaneous method in 47 Schick-positive children, aged from 12 months to 10 years, at an infant welfare station at Chicago, three inunctions being given with ten-day intervals between them. Six weeks after the last inunction a control Schick test was performed, and 26, or 53.3 per cent., gave a negative reaction. No local or general reactions were observed.

Anaesthetics

356 Indications for Spinal Anaesthesia

Reviewing 500 cases of spinal anaesthesia induced during the last three years, J. PARRY (*Canadian Med. Assoc. Journ.*, January, 1931, p. 64) concludes that nearly all cases in which the operative field lies below the diaphragm are suitable for this type of anaesthetic. Operations above this level are at present excluded, though the author has performed double amputation of the breasts in one case, in addition to cholecystectomy, without any difficulty. Vasomotor depression constitutes the chief risk in spinal anaesthesia, and, consequently, the lower the segmental nerve block is established, the safer the case should be. Commenting on his results, Parry remarks that he has found 1 c.cm. of spinocain very useful in the disagreeable procedure of cystoscopic examinations in male patients. Contraindications to spinal anaesthesia include a profound state of shock, or severe haemorrhage with low blood pressure, but in any such case it is questionable whether any operation with any type of anaesthetic is justified before suitable pre-operative treatment has been administered. Other contraindications are: ankylosis of the spine, rendering spinal puncture impossible; infections of the back over the site of puncture, making meningitis a conceivable contingency; and disease of the spinal cord, where, in the event of paralysis supervening, the spinal anaesthesia might be blamed. The chief risk during spinal anaesthesia is cerebral anaemia, due to paralysis of the vasomotor fibres that leave the cord between the

second dorsal and third lumbar segments. This may be prevented or corrected by the administration of ephedrine or of a slowly diffusible novocain solution, or by adopting the Trendelenburg position. The author emphasizes the importance of careful observation of the patient during the onset of the anaesthesia, which in some cases takes twenty-five minutes and in others only four. The blood pressure should be recorded every three or four minutes, especially during the first half-hour, and arrangements should be made in advance for giving intravenous injections promptly should they be required.

357 Ethyl Chloride as a General Anaesthetic for Children

Although ethyl chloride (without admixture of other anaesthetics) has been used as a general anaesthetic for more than thirty years, H. SCHAEFER (*Schmerz Narkose-Anaesthesie*, December, 1930, p. 330) finds a great divergence of opinion regarding its safety that requires careful investigation. Ethyl chloride has been used very largely in brief operations and was regarded as a safe general anaesthetic, but a death occurred in 1902. Schaefer classifies all published cases as uncomplicated and complicated. In some uncomplicated cases anaesthesia was prolonged for 20 to 50 minutes. Rose has recorded 15,000 successful cases in children and adolescents up to the age of 18. Schaefer considers that ethyl chloride is indicated chiefly in operations on the nose, throat, and ear, and mentions that two authors reported 500 successful tonsillotomies. McCardie described the case of a boy, aged 11, who after five minutes of ethyl chloride anaesthesia vomited for thirty hours; he vomited for a similar period after chloroform. Seiffert described two cases in children about 2 years old. After the administration of 25 drops of ethyl chloride in a closed ether mask, apnoea with alarming symptoms of collapse occurred, but both recovered with artificial respiration, heart massage, and the administration of oxygen and camphor. In another case of collapse an intracardial adrenaline injection was successful. Hayward has recorded severe collapse, asphyxia, and cyanosis; he has discarded ethyl chloride as a general anaesthetic. Schaefer has collected nine fatal cases, and classifies the causes of these fatalities as (1) primary heart failure; (2) irritation of the olfactory and fifth nerves; (3) hypopiesis and sudden cardiac paralysis; (4) respiratory paralysis; (5) toxic action on the heart; and (6) psychic shock. He concludes that, whatever theory is accepted, it is evident that the use of ethyl chloride is not free from danger.

358 Pernocton

B. FRIEDLAENDER (*Anesthesia and Analgesia*, January–February, 1931, p. 26) records 735 cases in which pernocton was used as an anaesthetic without a single fatality. This drug (the sodium salt of the secondary butyl-β-bromallyl-barbituric acid) combines the advantages necessary in anaesthesia of possessing a long side-chain and a halogen replacement of the hydrogen atom without the disadvantages associated with some similar compounds—namely, insolubility and toxicity. It produces a state closely related psychologically to natural sleep, but the patient is impervious to external stimuli. It completely eliminates the emotional disturbances which may be so detrimental in inhalation anaesthetics. Pernocton should be administered in a dosage relative to the body weight; the average dose is 1 c.cm. per 12.5 kilos of weight. It should be given very slowly—1 c.cm. every one to two minutes. The dose may be diminished if psychological preparation is provided, and should never be large enough to abolish the reflexes. Pernocton may be used effectively as the sole anaesthetic for painful examinations, minor operations, and many obstetrical procedures. In major operations it should be used as a deep hypnotic for induction, and be associated with a small amount of ether. Friedlaender claims that pernocton is an ideal anaesthetic, since it combines efficacy and the production of benign psychic conditions with a minimum of toxicity and psychological disturbance.

Obstetrics and Gynaecology

359 Chronic Cystic Mastitis

C. SEMB (*Nordisk Medicinsk Tidskrift*, February 7th, 1931, p. 81) of the Ullevaal Hospital in Oslo discusses the pathology of chronic cystic mastitis and the divergent opinions as to this condition being a new growth, an inflammatory reaction, a degenerative process, or a developmental anomaly. He finds the average age of patients suffering from fibro-adenomatosis simplex to be about 33 years, and of those with fibro-adenomatosis cystica to be about 44 years, so that if the one is a later stage of the other the change takes on an average about eleven years. But fibro-adenomatosis simplex may remain as such or even disappear spontaneously. In a series of about 600 tumours of the breast, Semb found fibro-adenomatosis as a disease *sui generis* in just over 23 per cent., about one-third of these cases belonging to the class fibro-adenomatosis simplex, and about two-thirds being cases of fibro-adenomatosis cystica. He regards this condition as precancerous, and while he found malignant disease in only about 2 per cent. of his cases of fibro-adenomatosis simplex, it occurred in about 24 per cent. of patients suffering from fibro-adenomatosis cystica. Fibro-adenomatosis was most common among married nulliparae, whereas it was practically non-existent among multiparae. Of all his 600 cases of tumours of the breast, a bare 50 per cent. were malignant, a bare 30 per cent. were benign, and the remainder represented transitional forms. As for the treatment of fibro-adenomatosis simplex in young women, he recommends conservative methods (though he states earlier in his paper that no effective and reliable conservative treatment exists at present) or a limited operation, the patient being subsequently kept under observation. Fibro-adenomatosis cystica between the ages of 20 and 30 should also be an indication for conservative treatment, and amputation of the breast is only indicated in exceptional circumstances. But after the age of 35 or 40 the danger of cancer is so great that amputation should usually be performed.

360 Pyelonephritis in Pregnancy

D. K. ROSE and P. R. ROLLINS (*Journ. Amer. Med. Assoc.*, January 24th, 1931, p. 235) discuss the prevention and treatment of pyelonephritis in pregnancy, recording the conclusions reached after they had undertaken a series of cystometric investigations, of which details are given. They found that the pyelonephritis of infancy might be continued with markedly attenuated organisms throughout life, exacerbations occurring subsequently in consequence of the trauma and urinary retention incidental to pregnancy and labour. During pregnancy urinary retention might be caused by such factors as myomas, pelvic adhesions, cystocele, uterine abnormalities, and changes in the vesical and ureteral walls, while after labour there might ensue a special type of spasticity of the bladder wall. The authors state that the cystometer differentiates two types of neurogenic post-partum urinary retention, one being due to pressure of the child's head in the second stage of labour, and the other being of a reflex nature associated with dilatation and trauma of the outlet. In the first type, bladder drainage will cause a cystitis, but will prevent pyelonephritis, diminish moderate forms of ureteral stasis, and lessen the danger of infection or reinfection of the ureter from the bladder. They add that one useful preventive measure is the termination of the second stage of labour when it has lasted two or three hours, and when the greatest diameter of the head is within the pelvis. The employment of forceps and of morphine-scopolamine analgesia seems to exert no direct influence on urinary retention. The cystometer is an instrument which measures resistance of the bladder wall under constant filling conditions, and differentiates the myogenic and neurogenic factors in retention. The authors define the bladder sensations of "temperature," "slight pressure," "first desire to void," "fullness," "pain,"

and the "severe pain" of over-distension, basing their conclusions on the points of filling and pressure at which the various sensations occur, and their relation to each other.

361 Pregnancy and Labour in the Elderly Primipara

J. K. QUIGLEY (*Amer. Journ. Obstet. and Gynecol.*, February, 1931, p. 235) thinks the risks attending a first pregnancy and labour after the age of 30 have been much overestimated, and he does not consider that there need be any special difference in the obstetrical treatment. He reports a series of 234 private and 70 ward cases which (1) did not show a higher percentage than normal of twin pregnancies—1 to 101; (2) did not produce larger infants than the normal, the average weight being 7½ lb.; (3) did not give a higher incidence of abortions or premature labours; (4) did not disclose more fibromyomas than in multiparae of the same ages; and (5) did not result in a higher foetal mortality than the general average. Dry labours, while being frequent, were shorter than those in which the membranes ruptured earlier. Quigley found, moreover, that the duration of labour was always appreciably shorter in such elderly primparae, but there was a slight increase in the toxaemia of pregnancy. There were more cases of funnel pelves, but only a slight rise in the number of unfavourable presentations and positions. Caesarean section was required rather more often. In the small group of cases of first-stage dystocia, in which long labour does not dilate the cervix, primary inertia seemed to be mainly concerned, and cervical rigidity much less often. The dystocia in the author's series ensued usually after a satisfactory short first stage, a delay in the second stage being caused by inertia generally, but sometimes by a rigid pelvic floor. This explains, he remarks, the frequent resort to low or mid-low forceps extractions, the results as far as foetal mortality or condition of the pelvic floor were concerned being good. Lactation was, however, seldom satisfactory in elderly primiparae.

Pathology

362 Acute Nephritis produced by a Pneumococcal Autolysate

Many investigators have endeavoured to produce nephritis in animals by artificial bacterial infection or by the injection of bacterial products; their results have hitherto been negative. S. S. BLACKMAN, J. H. BROWN, and G. RAKE (*Bull. Johns Hopkins Hosp.*, February, 1931, p. 74) now report the successful production in rabbits of a characteristic acute and subacute nephritis by means of an absolutely sterile autolysate prepared from Type I pneumococcus, and also by means of intradermal infection with virulent strains of pneumococci. The toxin was shown to exert its action on the glomerular capillaries, as was evidenced by the appearance of hyaline and fibrin thrombi, and the presence of blood and fibrin in the tubules; it gave rise to injury and necrosis of the epithelium of the tubules and glomeruli. In certain cases the renal damage was associated with marked oedema of the tissues and with ascites. In man, mild acute and subacute nephritis, often unrecognized clinically, can be demonstrated in 40 to 50 per cent. of patients dying from pneumococcal infections; the renal lesions revealed closely resemble those produced in rabbits by the present authors.

363 Clinical Chemistry of the Skin

E. UEHLEIN (*Munch. med. Woch.*, January 16th, 1931, p. 89) states that the micro-chemical examination of freshly removed skin offers new possibilities for study of its physiology and pathology. The normal content of chlorides, non-protein nitrogen, sugar, uric acid, etc., is markedly different from that of the blood. The water content of the skin is high in infancy and old age, and also in obesity, scleroderma, ichthyosis, and eczema. In the last-mentioned disease the water content is high even in apparently healthy areas of the skin, whereas in inflammatory conditions such as erysipelas normal values are obtained except in the affected part. Pemphigus and dermatitis herpetiformis are characterized by an abnormal retention of chlorides in the skin. In some of the cases the actual chloride value is normal, but it invariably rises to a pathological figure after the intake of chloride. The skin is shown to be an important reservoir for sugar, nitrogen, chlorides, and water. In many cases associated with pruritus an increased non-protein nitrogen was found in the skin, even though there was no nephritis, and in some the itching appeared to be related to the uric acid fraction. Occasionally the symptom was relieved by atophan administration. It is interesting to note, however, that a prolonged protein-free diet leads to an actual increase of uric acid in the skin. Urbach believes that examination of the skin may shed new light on certain metabolic problems which have so far only been studied by chemical investigations of the blood and urine.

364 Infection due to Aberrant Paratyphoid Bacilli

M. MONNEROT-DUMAINE (*Thèse de Paris*, 1930, No. 497) applies the term "aberrant paratyphoid group" to bacilli capable of producing typhoid infections or gastro-enteritis in man, and possessing all the general characters of Schottmüller's paratyphoid B bacillus, but differing from it in their serological properties and in some of their cultural features. A large number of microbic varieties have been defined in this group, including Gaertner's bacillus, *B. aertrycke*, *B. breslau*, the Newport bacillus, the bacilli of hog cholera which are occasionally pathogenic for man—namely, the suipestifer type, the Voldagsen type, and the Kunzendorf type, which correspond to the German group of paratyphoid C bacilli, the paratyphoid C bacillus isolated by Hirschfeld in Serbia, the paratyphoid N bacilli of the G type of Russian authors, the paratyphoid bacilli of the Japanese Sasaki type, and lastly, the very rare strains which are more closely related to paratyphoid A than to paratyphoid B. Hirschfeld's paratyphoid C bacillus is important owing to its bacteriological individuality and its pathogenic role. It gives rise to septicaemic syndromes of the typhoid type, or infections without any localization or visceral forms such as broncho-pneumonia, endocarditis, and possibly jaundice and collections of pus. It is probable that aberrant paratyphoid septicaemic infections would be found to be less uncommon if all the paratyphoid bacilli isolated from the blood were submitted to agglutination tests.

365 The Blood Sugar Content in Later Life

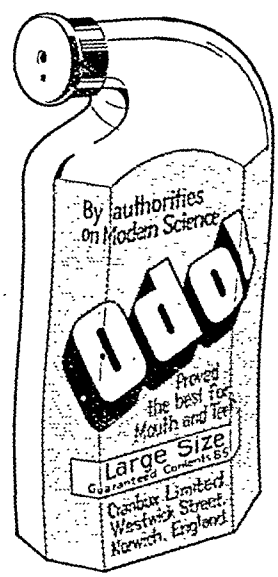
F. W. MARSHALL (*Quart. Journ. Med.*, January, 1931, p. 257) records investigations upon the sugar content of the blood in 50 men, ranging in age from 65 to 94. After an examination of the cardio-vascular system, including the blood pressure, and of the respiratory and alimentary systems, the blood sugar was estimated by MacLean's method, and the glucose-tolerance test was performed as follows. No food was allowed after breakfast at 7 a.m. until after the completion of the test, and, following an estimation of the blood sugar at 2 p.m., the urine was tested for sugar and acetone, and 50 grams of powdered glucose in 200–300 c.cm. of water were given. During the following 2½ hours half-hourly estimations of the blood sugar were made, and the urine was tested for sugar and acetone at the end of the first, second, and fourth hours. A positive reaction for acetone never occurred. It was found that five types of glucose-tolerance curves occur in healthy old persons. The "lag" type of curve was found in 25 per cent. of healthy cases; this is probably a higher incidence than in the normal adult. In the group of unhealthy cases the same five types were noted, but their incidence was altered, and the diabetic type preponderated, being found in 50 per cent. The author concludes that the majority of diseases, particularly chronic bronchitis, occurring in old age have a deleterious effect upon sugar tolerance. There did not appear to be any relation between the blood pressure, the blood sugar content, and the renal threshold; the last of these in healthy old age was found to be generally raised, and in the neighbourhood of 0.2 per cent. The presence of a septic focus produced a diminution of sugar tolerance, though dental sepsis exerted but little influence on the curve.

AN EFFICIENT ORAL ANTISEPTIC NEED NOT BE DISAGREEABLE TO THE TASTE

Too often the use of an oral antiseptic is associated in the patient's mind with disagreeable taste. That such an antiseptic need lack nothing in efficacy whilst being pleasant in taste is most forcibly proved in the instance of Odol Mouthwash.

Experiments and the experiences of medical men in the past with Odol have proved it to be a most efficient bactericide. In addition, it is absolutely harmless and cannot in any way injure the most delicate mucous membrane of the mouth.

In prescribing Odol Mouthwash doctors will obtain the desired results in a way most pleasant to the patient.



CRANBUX LIMITED
NORWICH, ENGLAND

Samples and literature will be gladly sent to members of the Medical Profession on request.

Valentine's Meat-Juice

In the **Treatment** of **Weak Babies**, in the **Gastric** and **Enteric Troubles** of **Infants** and in the **Wasting** and **Febrile Diseases** of **Children**, the **Ease** of **Assimilation** and **Power** of **Valentine's Meat-Juice** to **Sustain** and **Strengthen** has been **Demonstrated** in

Hospitals for Children.

The quickness and power with which **Valentine's Meat-Juice** acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 95

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.
EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel.

SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ½-doz. SOAP TABLETS.

Samples and Literature on Request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.

Trade Mark **'Progynon'** Brand

Female sexual hormone.

Biologically standardised according to the method Allen & Doisy.

Oral and Intramuscular administration.

SCHERING LTD., 3, Lloyd's Avenue, London, E.C.3.

BISMUTH CARB.

Evans'

A WHITE FLUFFY CARBONATE
which diffuses immediately and completely on shaking the bottle. Physicians to-day prescribe Evans' Bismuth for this reason

Made at their
FINE CHEMICAL WORKS
by
EVANS SONS LESCHER & WEBB LTD.

Alimentary Toxæmia and Neurasthenia

NEURASTHENIA is no doubt a comprehensive term which includes several affections of different ætiology

In many of the cases alimentary toxæmia plays a considerable part; the digestion is upset and flatulence is frequent, the bowels are fickle in their action, and the indican and ethereal sulphates in the urine are markedly increased—sure signs of putrefactive changes in the bowel.

Intestinal Disinfection

In this class of cases intestinal disinfection is one of the principal lines of treatment to be adopted, and for this purpose nothing surpasses the use of Kerol Capsules

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.

Kerol Capsules

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD., Ravens Lane
Berkhamsted England

"HOMMEL'S HAEMATOGEN"

A natural organic TONIC associated with nourishing albuminous proteids.

AN EFFICACIOUS REMEDY IN ALL FORMS OF ANAEMIA associated with constitutional diseases.

Obtainable in Syrup *and* Tablets.

"SEDIN"

Nervinum-Sedativum

Consisting of

Pot. Brom.	0.4	gramme	(grains 6½ approx.)
Sod. „	0.4	„	(grains 6½ approx.)
Ammon. „	0.2	„	(grains 3 approx.)
Salt „	0.1	„	

combined with Vegetable Extract in form of soup tablets. (A disguised dietetic form.)

Samples free and carriage paid on application to—

HOMMEL'S HAEMATOGEN & DRUG CO., 121, Norwood Road, Herne Hill, London, S.E.2

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ITAL.
HOSPITAL.
KENT COUNTY [illegible], MAIDSTONE.
NEWPORT, [illegible]
NEWCASTLE [illegible] INFIRMARY.
OXFORD [illegible]
ST. PAUL'S [illegible]
SWANSEA [illegible]
WESTERN [illegible]
WOLVERHAMPTON [illegible]
SIR C. J. [illegible], BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 2096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

VERONIGEN

A liquid preparation of the Hypnotic Barbitone or Diethyl-barbituric acid has long been desired as a useful means of procuring sleep. When given in reasonable doses it is claimed that it does not produce any toxic symptoms whatever, nor is cumulative in action, and in ordinary cases of insomnia, one fluid drachm of VERONIGEN is sufficient dose for an adult. As a preventive of post-operative vomiting, one to two fluid drachms of VERONIGEN may be given one and a half to two hours before general anæsthesia is produced, and as a result much less of the anæsthetic is required. As BARBITONE has a slight diuretic action, the mixture can be used when the heart is weak. Where sleeplessness is a consequence of pain, rest and relief can frequently be obtained by the administration of one dr[illegible] of VERONIGEN [illegible] two drachms of ELIXIR ACID. ACETO-SALICYLIC [illegible].

DOSE FOR ADULTS.—One fluid drachm diluted, one hour before going to bed.
For Nervous Sleeplessness in Children.—10 to 20 minims diluted.

VERONIGEN. Price 10/6 per lb. In 5, 10, 22, 40, and 90 oz. Bottles.

Introduced and Prepared only by C. J. HEWLETT & SON, LTD. Wholesale and Export Druggists
35-42, CHARLOTTE STREET, & 83-85, CURTAIN ROAD, LONDON, E.C.2.

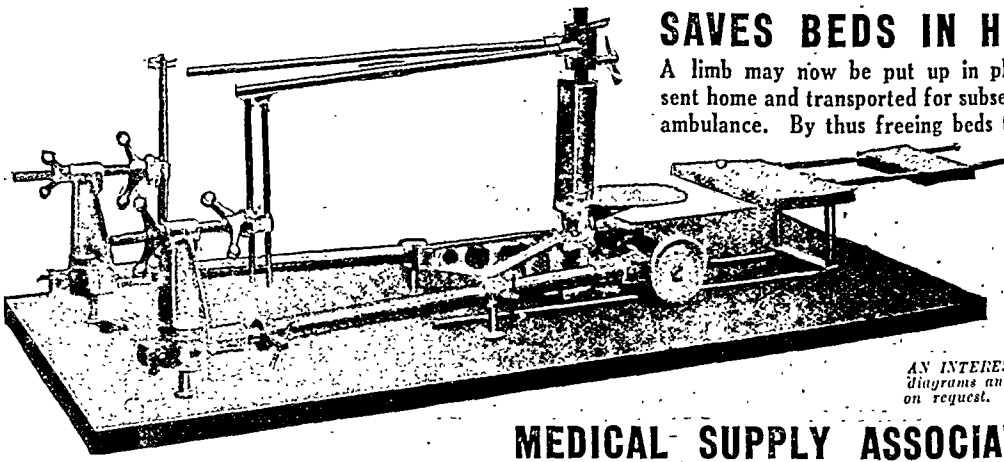
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

167/185, Gray's Inn Road, LONDON, W.C.1. 12, Holly Street, SHEFFIELD. 10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines)

DEAF DOCTORS

AND DEAF PATIENTS

have proved "ARDENTE" a boon—a Heart Specialist whose work is so dependent on his hearing writes: "*'Ardente' is a godsend to me*"; without "ARDENTE" he is, to all intents and purposes, "stone" deaf; with "ARDENTE" he carries on his work—what better testimony to "ARDENTE" merit?

Mr. Dent makes a Stethoscope specially for deaf Doctors—the only one of its kind, which is widely used and praised. Doctors whose work lies amongst the deaf prefer to prescribe "ARDENTE" because they know that "ARDENTE" is the only individual method in the whole deaf world (no mass production way can ever succeed with human disabilities) and they know what "ARDENTE" service stands for to the deaf. Many doctors who are deaf use "ARDENTE."

"ARDENTE" is entirely different and uncopyable and succeeds in widely differing cases. A full range covers the needs of those suffering from varying forms and degrees of deafness and tinnitus. Minutely adjusted to the requirements of the case for young, middle-aged, or old, and so sensitive as to have the desired effect even in middle-ear and nerve cases, bringing into action and stimulating the auditory system, enabling it to function naturally and saving atrophy. "ARDENTE" can be used or not at will, and is sold under guarantee.

"ARDENTE" is the choice of Doctor and patient—only after test and hearing, or from prescription or particulars, is "ARDENTE" fitted, toned, tried, adjusted, supplied, and serviced.

Tests and demonstrations given at Doctors', patients' or our addresses, without fee or obligation.

Mr R.H.DENT'S

Ardente

FOR DEAF EARS

309, OXFORD STREET, LONDON, W.1

(Midway between Oxford Circus & Bond Street). *Telephone*: MAYFAIR 1380/1718.

9, Duke Street, CARDIFF.
118, New Street, BIRMINGHAM.
27, King Street, MANCHESTER.
37, Jameson Street, HULL.
271, High Street, EXETER.
64, Park Street, BRISTOL.
23, Blackett Street, NEWCASTLE.
206, Sauchiehall Street, GLASGOW.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
30, Wellington Place, BELFAST.

SURGICAL SERVICE
SALTAIR

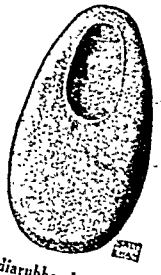
SALTAIR SURGICAL SERVICE

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

Showing attachment of receiver and bag to belt.



Indiarubber bag which can be detached at will for cleaning.

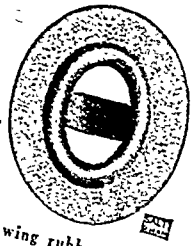
SALT'S (PATENT) COLOSTOMY BELT EMBODIES THESE VITAL POINTS

1. Moulded Indiarubber Receiver, sterilizable by boiling.
2. Mouth of Bag kept open for free entry of Faeces.
3. Easy removal and cleaning of Bag without removal of Belt.
4. No crevices to hold Faeces and therefore little odour.
5. Less bulky and more sanitary than any other.
6. Rubber portions far more durable than in the old style Belt.

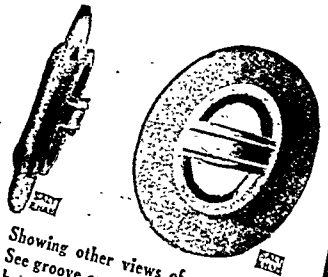
Showing bag attached to receiver.

This belt can also be provided with special cup instead of bag.

Full particulars on request.



Showing rubber receiver with pad fitting next to body and rubber flange to prevent belt becoming soiled.



Showing other views of receiver. See groove over which aperture in bag is stretched and curved bridge to hold open mouth of bag.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

ESTABLISHED 1793.

COPYRIGHT.

Priced at 3/- and 3/8 per lb.

A super quality at 4/2 per lb.

DOCTOR'S CHINA TEA

WHY IT IS PRESCRIBED FOR GASTRIC PATIENTS.

When ordinary tea is out of the question it is essential that only really good China should be drunk. The Doctor's China Tea has won the enthusiastic approval of practitioners simply because it is a perfect blend of a good China leaf with all excess tannin eliminated. It can therefore be prescribed for invalids and dyspeptics with safety—it has no ill after-effects.

HARDEN BROS. & LINDSAY, LTD.

(Dept. 153), 30/34, Mincing Lane, London, E.C.3.

CTS-8

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is counter-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A amacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Kliniek (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

ACKERMAN-LAURANCE

"Brut-Royal"
and
"Dry-Royal"

"may be recommended with every confidence. By reason of the very low content of sugar these wines are specially suitable for persons with a rheumatic or gouty tendency."

(*Vide Report: Institute of Hygiene, Feb. 1927*)

Obtainable everywhere

Per bottle	9/-
Per half-bottle	4/9
Per quarter-bottle	2/6

General Agents (Wholesale only) for U.K. and Colonies

ANDERSON DOBSON & CO., LTD.

13, COOPER'S ROW, LONDON, E.C.3

A useful attachment for U.K. Telephone, holding Memo Block, sent post free on application.

The Ideal Laxative

REGULOL

REGD.

"REGULOL" IS AVAILABLE IN TWO FORMS: "PLAIN" or "COMPOUND." The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient.

CUXSON, GERRARD & Co., Ltd.

Oldbury, *Birmingham.*

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

SAMPLE 1-lb. JAR FREE ON REQUEST.

Please indicate whether Plain or Compound is required.

(This offer is limited to the British Isles.)

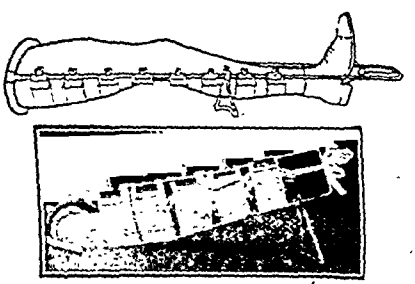
NORVIC Reg'd

CLIPPER

BANDAGES

The most modern method of accurate extension and safe transport is provided by

COLLENDER'S SPLINTS



(Patented in the leading countries of the world.)

An evolution of the Thomas splint, preserving all its advantages with many improvements.

Invaluable for Hospital, Emergency, and District Surgeons' work. Indispensable for Mines, Ranches, Lumber Camps, Railways, Shipping Cos., and all places remote from surgical aid. Made of Duralumin, untarnishable, light, and of great tensile strength. All parts interchangeable. Complete splints constructed in a few minutes for limbs of any dimensions. Sufficient members to accommodate ten fractures simultaneously. Supplied in strong fitted case.

Write for full descriptive booklet, post free.

WATSON BAKER COMPANY, WEST END LANE, BARNET, HERTS, ENGLAND

BANTAM Coffee

Bantam Coffee is prepared from the *finest selected Empire grown beans* which are powdered and all the *waste grounds extracted* so that it dissolves *instantly and completely* when hot water or milk is added. *A little Bantam Coffee dropped in a glass of* warm milk makes a *very palatable beverage. Bantam Coffee is* absolutely free from adulterants and has been awarded the certificate of the *Institute of Hygiene.*

A 2/- tin yields 50 cups of delicious coffee.

Dept. 68. BANTAM PRODUCTS LTD., LEEDS.

Samples for testing will be sent on application.

Vapo-Cresolene

Sold by all Chemists

Write for descriptive Booklet No. 29.

ASTHMA

There are certain types of chronic asthmatics who require relief of their paroxysms. While adrenaline is generally effective, it must be given hypodermically, and its action is short lived. Vapo-Cresolene (specially prepared cresols of coal tar) vaporized in the bedroom at night will give the desired relief. The patient is not disturbed as he breathes the medicated air of the bedroom.

This antiseptic vapour is particularly effective in bronchial ailments accompanied with cough and difficult breathing—as bronchitis, whooping cough, spasmodic croup.

ALLEN & HANBURYS, LTD. :: :: Lombard Street, London, E.C.3.

NEW SUITS FOR SPRING

TERMS £1 PER MONTH

BRIGHT sunshine shows up the shiny and shabby spots now that overcoat days are being left behind. Apart from being a necessity, a new Spring suit gives increased confidence and presence to the wearer especially when the worry of paying for it is banished . . . . At Keith Bradbury's good cloth is tailored into attractive garments by the deft hands of West End craftsmen—and all financial worry is avoided by the arrangement of systematic payments out of income FROM £1 PER MONTH to meet the individual requirements of customers. . . . A FREE VALETING SERVICE is provided for sponging, pressing and repairing all garments after purchase, as often as is desired, and the same care is given to every suit irrespective of the initial cost . . . A trial is solicited on the understanding that if any garment is not to your satisfaction, you need not accept it—and you will have incurred no obligation.

Lounge or Plus-four suits from 5 gns.
Flannel trousers from 21/-. Blazers from 45/-.
Dinner and Evening Dress from 6 gns.
Catalogue and patterns gladly sent free on request.

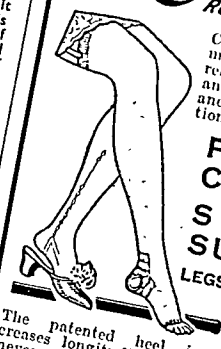
Coats for Spring
Ready to wear from 3 gns.
To measure from 4 gns.

KEITH BRADBURY LTD
TAILORS OF CREDIT
137/141 REGENT ST., LONDON, W.1
TELEPHONE: REGENT 5288
HOURS OF BUSINESS 9-7 Saturdays 9-1

JOHN WARD LTD

TOTTENHAM COURT ROAD, LONDON

PERMANENT RELIEF for
VARICOSE VEINS
is ensured by the world famous
"Academic" RUBBERLESS STOCKING



Claimed as the best and most effective means for relieving Varicose Veins and other leg ailments, and preventing the formation of new varicose veins.

PERFECT COMFORT
STRONG SUPPORT
LEGS ALWAYS SLIM & SHAPELY

The patented heel increases longitudinal pull, never curls, always retains its position, and there is no discomfort or damage to silk hose.

HYGIENIC, WASHABLE & INVISIBLE under the finest silk hose.

From D. H. Evans, Harrods, Army & Navy, Selfridge's, all branches of Boots The Chemists, and all the leading London and Provincial stores.

Doctors are cordially invited to write for further details.

ACADEMIC DEPOT, 158, Oxford St., W.1.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.
Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS
ive cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA
Issued in tube and in bulk.

Address enquiries to the Secretary,
6, HARLEY STREET, LONDON, W.1.

Doctors' Mc. Forms a Specialty
Printed in Best Style.
Account Forms Letterheads, Cards, etc.
Samples Sent
R ANDERSON & SON
Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH

ANTIQUE AND MODERN HIGH-CLASS SECOND-HAND
FURNITURE
FOR IMMEDIATE DISPOSAL

THE ENTIRE VALUABLE CONTENTS OF SEVERAL NOTABLE MANSIONS, Town and Country Residences, Flats, etc., removed for convenience of sale, including many important items from the following collections.

LANSDOWN HOUSE.
THE PRINCESS PALEY (Paley Palace).
SIR FREDERICK CHARLES HOLIDAY (Deced.).
MARY ANNA DUCHESS OF ABERCORN (Deced.).
THE THIRD EARL OF DURHAM (Deced.).

THE MAGNIFICENT BEDROOM APPOINTMENTS comprise: 500 Complete Suites in English Walnut, Finely Figured Mahogany, Cream, Green, and Black Lacquer, Painted and Figured Satinwood, Fine Oak, ranging in price from £4 10s. to 250 Guineas per suite, many of which originally cost over double, including a special offer of 36 only Club Bedroom Suites in Solid Oak, with Bedsteads complete, £4 10s. set.

GENUINE ANTIQUE FOUR-POST BEDSTEADS, Tallboy and shaped front Chests, Sofa Tables, Corner and other Washstands, Toilet Mirrors, and numerous Dressing Tables, Bow-front Wardrobes, etc. Several Fitted Gentlemen's Wardrobes offered at £4 each.

5,000 CARPETS AND RUGS, including fine Persian, Turkey, Wilton, Axminster, Chinese, and Aubusson, including a large salvage stock now being offered at remarkable bargain prices. A quantity of fine Pile Carpet at 2s. 9d. per yard, together with a large number of Seamless Squares in various designs and colourings from 21s. each.

750 SETTEES AND LOUNGE EASY CHAIRS, some covered Morocco Leather, Tapestry, rich Silk, Hide, etc., removed from a large West End Club and Hotel. A large quantity covered Plain Art Reps, all being of excellent quality and in all cases equal to new. Small Lounge Easy Chairs offered at 21s. each, several in Real Hide, £3 3s. each. Large Club Lounge Chairs, £4 17s. 6d. to 12 gns. Well-made softly-sprung Chesterfield Settees, 3 gns.; and a large quantity of Chesterfield Settees with Loose Pillow Backs and Seats, ranging from £7 15s. to 25 gns.

THE MAGNIFICENT DINING ROOMS, LOUNGES, LIBRARIES, and HALLS comprise a wonderful collection of all periods, Early Tudor, Queen Anne, Chippendale, Hepplewhite, Adams, and Sheraton, in Oak, Mahogany, and Walnut. Complete Dining Room Suites, comprising Sideboard, Set of Chairs, and Dining Tables, being offered for 10 Guineas set, whilst the more elaborate suites range from 25 Guineas to 300 Guineas, many of these exquisite sets having cost over treble the price now asked to clear. Special attention is called to a quantity of Cottage Wheelback Chairs offered at 6s. 9d. each.

A LARGE NUMBER OF PIANOFORTES by eminent makers, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, important collection of Statuary, Pictures, Silver and Sheffield Plate, quantity of fine old Cut Glass, Bed and Table Linen, a large quantity of Office Furniture, including Iron Safes, Roll-top Desks, Pedestal Desks, Bookcases, etc., etc.

PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F.) POST FREE.

ON SALE DAILY, 9 till 7. Any item may be purchased separately, and can remain warehoused free for 12 months or delivered to any part.

SETTLEMENT OF ACCOUNTS CAN BE ARRANGED TO SUIT CUSTOMER'S CONVENIENCE.

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.
(By Royal Appointment to H.M. the King of Spain.)
PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1.
(Within Ten minutes of West End)
Phone: North 3580.

PERMANENT ALL SICKNESS AND ACCIDENT INSURANCE
FOR MEDICAL MEN
AT THE LOWEST RATES

The following specimen rates show the cost of each guinea per week payable during total incapacity arising from any form of Sickness or Accident, except those due to the wilful misconduct of the insured.

The full sum insured is payable for the first 26 weeks, and thereafter half that amount so long as the total incapacity lasts, up to the age of 65.

Age 25, £1 : 12 : 8	Age 35, £2 : 1 : 0
„ 30, £1 : 16 : 5	„ 40, £2 : 6 : 7

A Reversionary Bonus of 15/- per guinea per annum was declared on these Policies at the last valuation.

SICKNESS FUND exceeds £370,000

Write for full particulars and Booklet "B. 17" to the Manager and Secretary,

The MEDICAL SICKNESS, ANNUITY, & LIFE ASSURANCE SOCIETY, Ltd.

300, HIGH HOLBORN, LONDON, W.C.1.

PLAYER'S

THE INCREASING DEMAND for PLAYER'S NAVY CUT CIGARETTES proves that [illegible]

Quality and quantity

IN THE CIGARETTES

10 for 6d 20 for 11d

AT
SAVILE
ROW

WE will build you a hand-made suit for 8 guineas. Pay us a visit. We are sure you will find it an economy to buy the VERY BEST CLOTHES from us at reasonable prices.

ENTICKNAPP & GRIMES
21a, SAVILE ROW,
Regent 2467. LONDON, W.1.

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.
Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our
"NEW SANITUBE"
keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request:
HILLIARD, 123, Douglas Street, Glasgow, C.2.

A Gentleman Always Looks Well Dressed in Savile Row Clothes.
NEW MISFITS [illegible]
the eminent tad [illegible]
& ROBERTS, SC [illegible]
LOUNGE, DRESS, SPORTS Suits, &c., 4 to 9 Gns.
Alterations on Premises.
REGENT DRESS CO., Piccadilly Mansions,
17, Shaftesbury Avenue, Piccadilly Circus, W.1.
(Next door to Cafe Monico.) Gerrard 7611
Ladies' Department on First Floor.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
[illegible] Desks, Tables & Chairs
Est. 1884.

Write for Bargain List 32.
Phone—Holborn 3793.
THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.
BUY A BIJOU FOR 5/- per week.
74, CHANCERY LANE (Holborn End), W.C.2

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

SEND for our NEW SAMPLES of the very BEST STATIONERY, Etc.
HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

NAME PLATES
in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet.
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

ALCOHOLISM AND DRUG HABITS.
ALBION HOUSE,
BEVERLEY, EAST YORKS.
A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

WOODLANDS PARK
GREAT MISSENDEN BUCKS.
550 feet above sea-level on Southern Chilterns. 90 acres, Gardens, Woods, and Park.
FOR INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and REST AFTER OPERATION or ILLNESS.
FEES FROM 8 GUINEAS.
Telephone: 91 Gt. Missenden. Apply: C. W. J. BRASHER, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.
BAY MOUNT, PAIGNTON.
ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.
A comfortable, private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system and the general health is improved. Alcohol and drugs reduced gradually, without suffering.
FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.
Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY
ECCLESFIELD, ASHFORD, MIDDLESEX.
(*Also private address to secure secrecy.*) Telephone: 158.
Beautiful large Residential Home, with 50 acres of park land, attached to R.C. Convent, and under the care of the Sisters. Established 1899. Most successful MEDICAL and PSYCHOLOGICAL TREATMENT for LADIES. Every home comfort, and bright happy social amusements. Splendid results proved by the numbers of former patients who return to the Home for holiday visits. *Medical Superintendent*: J. YOUNG SCOTT, M.B., Ch.B., and J. KENNEDY.

INEBRIETY
DALRYMPLE HOUSE,
RICKMANSWORTH, HERTS.
For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—
F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

SHAFTESBURY HOUSE, FORMBY-BY-THE-SEA, Nr. LIVERPOOL.
Specially built and licensed for the care and treatment of a limited number of Ladies and Gentlemen suffering from Nervous and Mental breakdown. Voluntary and certified patients received. Ladies also admitted as "Temporary Patients" without certification. Terms moderate. Apply RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

ALCOHOLISM & OTHER DRUG HABITS.
THE HARE NURSING HOME.
As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.
"THE OLD HILL HOUSE,"
CHISLEHURST, KENT.
Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.
Ladies and gentlemen admitted for treatment.
For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).
Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

BOREATTON PARK,
BASCHURCH, SALOP.
A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.
Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.
Apply for particulars to Dr. SANKEY.

THE MOAT HOUSE,
TAMWORTH, STAFFS.
Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 3417.)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

ST. ALBANS, HERTS.
(20 miles from London.)
Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as
"HIGHFIELD HALL,"
situate about a mile away from the Hospital.
Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

ALCOHOLISM
DRUG ADDICTION & NEURASTHENIA
CALDECOTE HALL, NUNEATON.
At this beautifully situated country mansion residential Treatment of the above affections is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.
In cases of urgency 'phone NUNEATON 341.

BOURNEMOUTH.
West Haven, Chine Crescent Road.
FUNCTIONAL NERVOUS DISORDERS,
MEDICAL AND CONVALESCENT CASES.
The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.
Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

THE LAWN, LINCOLN.
This Registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY and PRIVATE PATIENTS of both sexes for treatment of Mental and Nervous Disorders, including Post-Encephalitic conditions in adults. Special facilities for Psychotherapy in co-operative cases.
All particulars may be obtained from the Resident Medical Superintendent,
Dr. MARY R. BARKAS, M.D., D.P.M.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

NOW removed to:

CHISWICK HOUSE,
PINNER,
MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NEUROTIC and MENTAL DISORDERS. Within two miles of the G.W. Railway and L.M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary Boarders of both sexes are also received for treatment. Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received. For terms, etc., apply to the Medical Superintendent J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 481 GATLEY.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Miss OLIVER.
Tel.: Hindhead 27.

BAILBROOK HOUSE,
BATH.

A PRIVATE HOSPITAL for the care and treatment of Persons with mental and nervous disorders.

Voluntary Boarders received in the Villas, Mansion, or outdoors of Bath, with 20 acres of grounds. (See *Medical Directory*, page [illegible].)

For terms apply to SAMUEL J. GILFILLAN, M.B., C.M.Edin., Resident Physician.
Telephone No.: Bathaston 6189.
Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea.
HOME for Ladies Mentally Afflicted. Voluntary Boarders received.
Private Stations: Brentwood and Shenfield 1 mile. Electric Service from Liverpool St. 25 mins.—Apply, Dr. HAYNES.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients, of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital, or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombieres treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, golf courses, and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, football and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Disease Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.
Tel.: 64117.

For terms, etc., apply to the Medical Superintendent.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.

Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0332.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

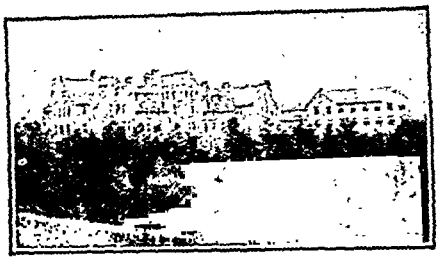
Telegrams: "PSYCHOLIA, LONDON." *Telephone*: RODNEY 4731—4732.

FOR THE TREATMENT OF MENTAL DISORDERS.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Staff: Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

The MUNDESLEY SANATORIUM

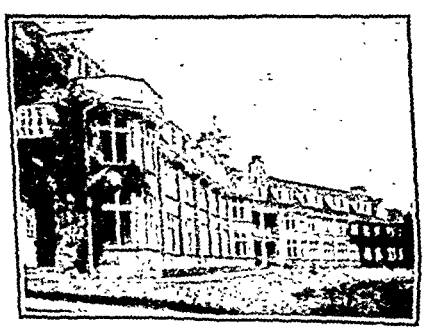
The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless head-phones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON, M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP, M.B.(Cantab.).
ANDREW MORLAND, M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

EAST ANGLIAN SANATORIUM.



This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

For full particulars, illustrated prospectus of the Anglian Sanatorium ...

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level, on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabitated districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1931. Elevation 660 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray Plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 7s. 6d. to £6 6s. per week.

MEDICAL SUPT.: FELIX SAVY, M.D. For particulars apply to the Secretary.

ITALIAN HEALTH RESORTS

IN WINTER AND EARLY SPRING there are, in Italy, more SUNNY and WARM RESORTS and SPAS than in any other country in Europe. Many of them have the best all-round climatic conditions to be found in Europe.

IN SUMMER AND AUTUMN. The greater part of Italy is more pleasant in Summer than at any other Season of the year. There are HUNDREDS of DELIGHTFUL ALPINE, DOLOMITE, LAKE and SEA-SIDE RESORTS.

THE SPAS OF ITALY are world famous for their 'cures,' and besides those having seasons in the Spring, Summer, and Autumn there are many that have a pleasant Winter climate.

ENIT ALL THE YEAR ROUND ENIT

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

DARTMOOR CONVALESCENT HOME.

750 FEET ABOVE SEA-LEVEL

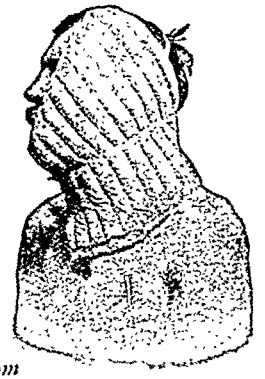
Established 1903 for Treatment of Pulmonary and other forms of Tuberculosis. Sheltered Situation on the slopes of the bracing moorland. Radiographic Installation, Electric Light, Central Heating, Separate Bedrooms, Efficient Treatment, combined with individual comfort and minimum restrictions. Illustrated Prospectus on request to the Resident Physician: C. H. BERRY, M.R.C.S, L.R.C.P., Torr House, Chagford, Devonshire. Telephone: 11 CHAGFORD. Telegrams: TORR, CHAGFORD.

NEURALGIA AND NEURITIS

Few diseases cause so much suffering as nerve pains, such as sciatica, trigeminal neuralgia, brachialgia, and intercostal neuralgia.

This group of diseases is rapidly and effectively treated at Pistany (Czechoslovakia) by volcanic mud—driven to the surface by hot sulphur springs. Statistics show that of 100 patients, only less than 5% do not respond to the treatment—30% are completely relieved and 65% are considerably improved.

Pistany RADIO-ACTIVE Mud Packs and Compresses are simply and easily applied. This treatment may be successfully combined with other physiotherapeutic methods.



PISTANY SPA

CZECHOSLOVAKIA (36 HOURS FROM LONDON)

Send for interesting Medical and Tourist literature from

PISTANY SPA REPRESENTATION, 38, SACKVILLE STREET, W.1 *'Phone: Regent* 2638.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, Turkish and Russian Baths, Aix and Vichy Douches, Radiant Heat, D'Arsonval High Frequency Treatment, an Electric Installation for Bathes, New Soapless Foam Baths, etc. Milk from our farm of 300 acres. Large Garage. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Telegrams: "SMEDLEY'S MATLOCK." Telephone: No. 17. For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and gentlemen received for treatment as voluntary patients and without certification. VOLUNTARY or TEMPORARY patients admitted weekly for one of TWO GUINEAS

Grove House, All Stretton, Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.

Medical Superintendent: Dr. MCCLINTOCK.

THE GRANGE, near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

BROOKE HOUSE, CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

STRETTON HOUSE, Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Mental or Nervous allied disorders of Habit. All types of cases are received Voluntary Boarders. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton

CLARENCE LODGE, CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone*: Brixton 0494. Apply: Miss THWAITES.

Bishopstone House, Bedford.

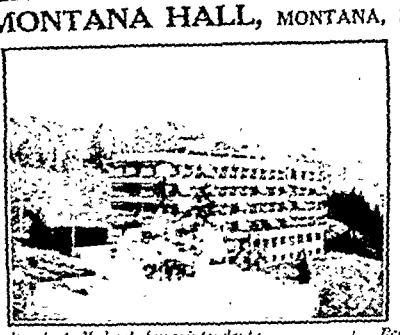
PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2703.

SCOTTISH FJORDS
Summer Cruises
S.Y. "KILLARNEY"
from LIVERPOOL

Special Cruise May 30th
TO BRITTANY AND CHANNEL ISLANDS

For illustrated Folder apply:—
COAST LINES LTD., Royal Liver Bldg., Liverpool.
TRAVELLERS LTD., 29 Lr. Regent St., London, S.W.1.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montail," Montana, Vermala.

President Medical Superintendent: HENRY ROCHE, M.D.Melb., M.R.C.P.Lond., Tuberculous Dis. Diploma (Wales); *formerly* House Physician, Brompton Hosp., London; Medical Supt., Palace [illegible]

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.); formerly House Physician [illegible]

MEDICAL COACHING
for STUDENTS and PRACTITIONERS.

ARE YOU PREPARING FOR ANY MEDICAL EXAMINATION
DO YOU WANT TO PASS AT THE FIRST ATTEMPT?
DO YOU WANT TO REDUCE YOUR WORK TO A MINIMUM?

Enrol for a Course of Postal Tuition for your Examination at the
MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, Cavendish Square, London, W.1.
Telephone: Welbeck 8901.

Courses always in progress for the
1st, 2nd and Final M.B., B.S. London, and all other Universities.
1st, 2nd and Final Conjoint, Edinburgh. Triple, and L.M.S., S.A.
D.P.H. (Cantab., Lond., Vict., Dublin, &c.)
M.D. London, M.R.C.P. London and Edin.
M.D. Thesis (all Universities, Brit. and Colonial).
F.R.C.S. of England, Edinburgh and Ireland, M.S. Lond., M.C. Cantab., &c.
Diploma in Psychological Medicine.
Diploma in Tropical Medicine.
Diploma in Ophthalmology.
Dental Examinations.

DO NOT RISK FAILURE!

VALUABLE BOOK
FREE!

Write at once for our "Guide to Medical Examinations," and a copy will be sent post free by return.

PEEBLES HYDRO.
Beautifully situated 900 feet above sea-level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.
All modern Baths, Douches, Massage, and Electrical Treatment. Ultra-Violet Radiation. Physician in attendance.
IDEAL HEALTH RESORT.
Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Badminton, Croquet Lawn, Golf Course. Prospectus from Manager. Tel.: Peebles 2 & 3.

BOURNEMOUTH HYDRO,
with Vita-glass Sun lounge and Marine Balcony on the South Coast.
Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Read at { W. JOHNSON SMITH, M.D.
Physicians { L. T. ROSE HUTCHINSON, M.D.

HOME FOR FEEBLE-MINDED, BRUNTON HOUSE, LANCASTER.
This well-appointed private establishment overlooks Morecambe Bay, and possesses extensive gardens and grounds, with tennis and croquet lawns. Varied scholastic and manual instruction. Individual attention given by experienced staff under Lady Matron. For terms apply, Dr. W. H. COUPLAND, Med. Supt.

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally affected. Voluntary Boarders received. Situated 1,200 ft. above sea-level. [illegible] 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HOUSE, M.D. Nat. Tel. 130

Medical and Dental Students.
Special Classes for Pre Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

CITY OF LONDON MATERNITY HOSPITAL,
CITY ROAD, E.C.1.
MIDWIFERY TRAINING SCHOOL.
MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.
PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.
PRIVATE WARDS for paying patients.
MATERNITY NURSES sent out for private cases.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.
The Prince of Wales's General Hospital, Tottenham, N.15, and the North Middlesex Hospital, Edmonton, N.18.

A ONE WEEK COURSE IN GASTRO-ENTEROLOGY will be held from April 13th to 17th inclusive.

Enquiries and applications should be sent to the Dean at the Prince of Wales's General Hospital, or to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,
PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BEDDARD, F.R.C.S., Dean.

POST-GRADUATE MIDWIFERY.
Qualified Medical Women are admitted to The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5 for practical fortnightly Courses in Midwifery. These include deliveries of normal cases, attendance at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR BOWERS, the Secretary.

BEIT MEMORIAL FELLOWSHIPS FOR MEDICAL RESEARCH.
Notice is hereby given that an ELECTION of JUNIOR FELLOWS will take place in July, 1931. The Fellows then elected will be required to begin work on October 1st. Junior Fellowships are of the annual value of £400; the usual tenure is for three years. Applications from candidates must be received not later than, and preferably well before, June 1st, 1931.
Forms of application and all information may be obtained by letter only, addressed to—
Professor T. R. ELLIOTT, M.D., F.R.S.,
Hon. Secretary,
Beit Memorial Fellowships for Medical Research,
University College Hospital Medical School,
University Street, London, W.C.1.

STAMMERING, SPEECH DEFECTS.
BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and [illegible]" ... "Times." ... "Lancet." ... and perfectly ... ect.

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

F.R.C.S.(Edin.).
CLASSES, with [illegible] and Anatomical [illegible] Exam., will commence [illegible] work at any time. [illegible] Rome CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Aberdeen Medical School.
A COURSE OF POST-GRADUATE STUDY on Radium, Pneumonia, and Haematology will be held at Aberdeen Royal Infirmary and Aberdeen University from April 21st to June 25th, on Tuesdays and Thursdays at 5.15 p.m.
Syllabus of the Lectures and Demonstrations may be had on application to the Secretary, The University, Aberdeen.

THE CLINICAL RESEARCH ASSOCIATION, LTD.

WATERGATE HOUSE, ADELPHI, W.C.2. *(Close to Charing Cross Station.)*

A COMPLETE LABORATORY SERVICE.

The Consulting Rooms and Laboratories of this Association (established in 1894) are available for all Medical Practitioners desiring Laboratory assistance in the investigation and diagnosis of cases under their care. All necessary apparatus and full instructions for collecting pathogenic material, or for the personal attendance of Patients at the Consulting Rooms of the Association, will be forwarded immediately on application.

CARDIOGRAPHIC AND X-RAY EXAMINATIONS, ALSO NURSING HOME ACCOMMODATION ARRANGED.

Telephone: TEMPLE BAR 8993 (3 Lines). Telegrams: "TUBERCLE, WESTRAND, LONDON." W. J. CURRY, Secretary.

Post-Graduate Teaching, West London Hospital

OPENING OF SUMMER SESSION.

The SUMMER SESSION will open on WEDNESDAY, APRIL 15th, when an Introductory Address will be delivered at 4.30 p.m. by the Dean, Sir HENRY SIMSON, K.C.V.O., on "POST-GRADUATE MEDICAL EDUCATION," to which all Medical Practitioners are cordially invited.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.), 1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.), *Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.), *Primary* 1906-30)	162
Final	161
M.R.C.P.(Lond.), 1914-30	192
D.P.H. (Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.), 1918-30	46
M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.) (Practitioners) 1906-30	38
M.D. Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes

ORAL CLASSES.

M.R.C.P., M.D., *Final* F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48 pp.) *CONTENTS* — The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations [illegible] the higher Surgical [illegible] for the Special Diplor[illegible] Course. Openings for Women. Hints for writing theses. Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr E. S. WEYMOUTH, M.A., 17, *Red Lion Sq.*, London, W.C.1. (Telephone: HOLBORN 6313.)

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now.—H. C. OGLIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Refraction and the Ordering of Glasses taught by Practising Ophthalmic Surgeon in London £8 8s. for 10 lessons.—Address No. 123, B.M.A. House, Tavistock Square, W.C.1.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.

Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above school, commencing Monday, June 1st, 1931. Full particulars will be published later.

The Course will be repeated on subsequent dates.

Applications for copies of the syllabus, etc., may be made at once, and these will be forwarded as soon as available.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

THE ROYAL DENTAL HOSPITAL OF LONDON SCHOOL OF DENTAL SURGERY

(University of London), Leicester Square, London, W.C.

SESSIONS COMMENCE MAY AND OCTOBER.

Students are admitted for the curriculum for the B.D.S. Degree and the L.D.S. Diploma.

PRE-MEDICAL EXAMINATION.

Classes in Chemistry and Physics are held during the Winter and Summer Sessions, and are open to Students who have not commenced their professional study.

DENTAL MECHANICS.

Pupils may join at the commencement of either the May or October Sessions for the training in Dental Mechanics specified in the curriculum.

HOSPITAL PRACTICE.

The School is thoroughly equipped. The Clinic of the Hospital is unrivalled.

POST-GRADUATE INSTRUCTION.

Classes can be arranged for Post-Graduate instruction in all branches of Dental Surgery. Write for further particulars and School Calendar to the DEAN as above.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.M. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

TAUNTON SCHOOL, TAUNTON.

A PUBLIC SCHOOL FOR BOYS

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

Royal College of Surgeons of ENGLAND.

ELECTION OF EXAMINERS UNDER THE CONJOINT EXAMINING BOARD IN ENGLAND.

Notice is hereby given that the Council in June next will proceed to the election of four Examiners in Elementary Biology for the Pre-Medical Examination; three Examiners in Physiology, four Anatomy, two Examiners in *Physiology*, four *Examiners in Midwifery*, and four Examiners in Pathology for the Diplomas of L.R.C.P., M.R.C.S.; two Examiners for the Diploma in Public Health, two Examiners for the Diploma in Tropical Medicine and Hygiene, three Examiners for the Diploma in Ophthalmic Medicine and Surgery, one Examiner for the Diploma in Psychological Medicine, three Examiners for the Diploma in Laryngology and Otology, and one Examiner for the Diploma in Gynæcology and Obstetrics.

The present Examiners are eligible for re-election, except two Examiners in Elementary Biology, one Examiner in Midwifery, and one Examiner in Pathology for the Diplomas of L.R.C.P., M.R.C.S.; and one Examiner for the Diploma in Ophthalmic Medicine and Surgery (*Part 1*).

Candidates for the Examinerships in Midwifery for the Diplomas of L.R.C.P., M.R.C.S., must be Fellows or Members of the Royal College of Surgeons.

Candidates must make written application to the Secretary on or before Tuesday, the 5th proximo.

S. FORREST COWELL, Secretary.

April 11th, 1931.

Royal College of Surgeons of ENGLAND.

ELECTION OF EXAMINERS IN ANATOMY AND PHYSIOLOGY FOR THE FELLOWSHIP.

Notice is hereby given that the Council in June will proceed to the election of four Examiners in Anatomy and four Examiners in Physiology.

The present Examiners are eligible for re-election except one Examiner in Physiology.

Candidates for the Examinership in Anatomy must be Fellows of the College.

Candidates must make written application to the Secretary on or before Tuesday, the 5th proximo.

S. FORREST COWELL, Secretary.

April 11th, 1931.

Four Lectures on "Programme OF PUBLIC HEALTH SERVICE," illustrated with lantern slides, will be delivered by SIR GEORGE NEWMAN, K.C.B., M.D., D.C.L., on the 14th, 15th, 16th, and 17th April, 1931, at Gresham College, Basinghall Street, E.C.2. The Lectures will commence at 6 o'clock. Admission free.

Post-Graduate Courses for Ship SURGEONS.

Courses devised and approved by the Ship ing ons' Post-Graduate Committee will be anis d by the SEAMEN'S HOSPITAL CIETY.

ost-Graduate Instruction will be divided into w parts, each part occupying three weeks. ne Seamen's Hospital Society announces that art 2 of these courses—i.e., "Tropical Medicine nd Hygiene"—will commence on June 15th, 931, at the Hospital for Tropical Diseases, ndolph Gardens, W.C.

Part 3—"Refresher Courses" in Clinical bjects will commence on July 6th at the adnought Hospital, Greenwich, S.E.

art 1—"Ships Hygiene, the Shipping Acts Quarantine Procedure," will be held towards he end of the year at a date to be announced ater.

Further particulars may be obtained on apdication to the Secretary, Seamen's Hospital ociety, Greenwich, S.E.10.

Nutrition Research Laboratories,

INDIAN RESEARCH FUND ASSOCIATION

under the direction of Colonel R. MCCARRISON, C.I.E., K.H.P., I.M.S.)

Applications are invited for the post of CHIEF RESEARCH WORKER in the above Laboratories.

Candidates must be Graduates in Medicine who have been engaged in research on Nutrition and who have made original contributions to the subject. They must be of sound constitution and not more than 45 years of age.

The pay of the appointment will be at the rate of Rs.1,500 to Rs.2,500, equivalent at present rate of exchange to about £112s to £187s per mensem, depending on the qualifications and standing of the person appointed.

The appointment will be for a period of one year in the first instance, when, if the person selected be found suitable, he will be confirmed in the post. The appointment will be terminable by three months' notice on either side.

The salary will start from date of landing in India. Free passages out and home, first-class (B) p a or, or equivalent, at termination of period of employment; return passage also paid if first year's probation not satisfactory. Usual departmental travelling allowance and halting allowance; usual service conditions regarding leave, one month's leave with full pay after seven months' service or equivalent proportion, cumulative; with usual casual leave not exceeding 15 days in the year.

Applications, stating qualifications and experience, with copies of relevant testimonials, should reach the Secretary, Indian Research Fund Association, Simla, India, not later than June 1st, 1931.

University of St. Andrews.

ENTRANT MEDICAL STUDENTS, 1931—32.

Intending Students of Medicine, resident in Great Britain, who propose to enter the University of St Andrews at the beginning of Session 1931-32 are reminded:

That the University can only receive a specific number of entrant students, and

That to ensure favourable consideration, applications for admission should be sent to the Dean of the Faculty of Medicine not later than July 15th, 1931.

University of Bristol.

The University invites applications for a LECTURESHIP IN PHYSIOLOGY. Salary £300 to £400 per annum, according to qualifications.

Applications should reach the undersigned, from whom further particulars may be obtained, on or before Friday, April 24th.

WINIFRED SHAPLAND, Secretary and Acting Registrar.

Liverpool and District Hospital FOR DISEASES OF THE HEART.

Vacancy for RESEARCH FELLOW, male or female. £200 a year. The appointment is for one year in the first instance. Work may be used for M.D. Thesis. Apply Secretary, Heart Hospital, Oxford Street, Liverpool.

ANOTHER RESEARCH FELLOWSHIP. £150 a year. Apply as above.

Manchester and Salford Hospital FOR SKIN DISEASES.

HOUSE SURGEON.

Applications are invited for the post of House Surgeon. Must be registered. The appointment is for six months. Salary at the rate of £100 per annum, with board and residence.

Applications, with copies of three testimonials, to be sent to the undersigned, Quay Street, Manchester, on or before Wednesday, April 22nd.

JOHN NALL, Secretary.

Glamorgan County Council.

PUBLIC ASSISTANCE COMMITTEE.

LLWYNYPIA HOSPITAL.

The Public Assistance Committee invite applications for the post of ASSISTANT MEDICAL OFFICER at the Llwynypia Hospital (182 beds), at a salary of £350, rising by annual increments of £25 to £450 per annum, together with residential emoluments valued for the purposes of the Local Government and Other Officers Superannuation Act, 1922, at £75 per annum. Accommodation is provided for an unmarried officer.

The post is established under the County Superannuation Scheme, and for this purpose a deduction of 5 per cent. of the annual salary will be made, repayable with interest on retirement before the pensionable age.

The person appointed will be required to give his whole time to the duties, under the control and supervision of the Medical Superintendent.

The appointment will be terminable by two months' notice on either side.

Applicants should have already held a resident hospital appointment, and should have had experience in a maternity department. Preference will be given to those who have had special experience in Orthopaedics and the administration of Anaesthetics. Applicants must not be over 35 years of age.

Applications for the appointment, stating age and qualifications, and accompanied by copies of not more than three recent testimonials, should be sent to the County Medical Officer, Glamorgan County Hall, Cardiff, and should be received by him not later than the first post on the morning of May 2nd.

Canvassing, personal or otherwise, will be a disqualification.

Glamorgan County Hall, Cardiff.

Borough of Cambridge.

Applications are invited from fully qualified Medical Practitioners under 35 years of age for the post of Whole-time ASSISTANT SCHOOL MEDICAL OFFICER and ASSISTANT MEDICAL OFFICER OF HEALTH. Salary £500 per annum, advancing by annual increments of £25 to £700; previous experience in a similar capacity will be taken into account in assessing the commencing salary.

Applicants must have had at least three years' practice since qualification, and must have had experience in the correction of errors of refraction. A Diploma in Public Health will be an additional qualification.

The successful applicant will be required to undergo a medical examination, and to contribute to the Local Government and Other Officers Superannuation Scheme.

A list of duties and application forms may be obtained (on receipt of a stamped addressed foolscap envelope) from the Secretary for Education, The Guildhall, Cambridge, to whom applications, with copies of not more than three recent testimonials, must be sent not later than Thursday, April 23rd.

The Guildhall, Cambridge. C. H. KEMP, Town Clerk.

April, 1931.

County Borough of Darlington.

HEALTH VISITOR.

Applications are invited from properly qualified persons for the appointment of Health Visitor.

The duties are chiefly concerned with Maternity and Child Welfare, and the successful applicant will be required to carry out such duties under the direction of the Medical Officer of Health.

The salary (under the Corporation's Scale), as at present adjusted by reference to the rise or fall in the cost of living, is £165 12s. per annum, and is subject to such other conditions of the Scale as are applicable. Additional allowances amounting to £11 per annum in respect of travelling and uniform are made.

The appointment will be subject to the Local Government and Other Officers Superannuation Act, 1922, and the successful applicant will be required to pass a medical examination.

Applications, stating age, qualifications, and experience, must reach the Medical Officer of Health, Feethams, Darlington, not later than Monday, April 20th.

Town Clerk's Office, Darlington. H. HOPKINS, Town Clerk.

April 4th, 1931.

Durham County Hospital (75 Beds.)

HOUSE SURGEON required immediately (two kept). Salary £150 per annum, with board and lodging.

Applications, with copies only of testimonials, stating age and when at liberty, to be sent to WM. R. WILSON, Secretary, 79, Saddler Street, Durham.

A Vacancy at present exists for an ASSISTANT MEDICAL SUPERINTENDENT in the MENTAL HOSPITAL, SINGAPORE, STRAITS SETTLEMENTS. Applicants, who must be British subjects of European parentage and under 35 years of age, should have had two years' experience as an Assistant Medical Officer at an Asylum or other Institution for Mental Diseases. Salary $500 per mensem (£700 per annum), rising by annual increments of $25 per mensem (£35 per annum) to $800 per mensem (£1,120 per annum) together with a temporary allowance of 10 per cent. if married, which may however be withdrawn at any time. Free quarters and free passage are provided. The appointment for three years in the first instance. Further particulars and forms of application may be obtained, on application in writing, from the Director of Recruitment (Colonial Service), Colonial Office, 2, Richmond Terrace, London, S.W.1.

Staffordshire County Council.

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

Applications are invited from Medical Practitioners holding the Diploma of Public Health for the above post. Candidates should have had at least three years' experience in the practice of their profession subsequent to qualification. Preference will be given to those who have held residential Hospital appointments.

The person appointed will work under the direction of the County Medical Officer, and the duties of the office will include School Medical and Maternity and Child Welfare work, in addition to such general public health work as may from time to time be prescribed.

The salary will be at the rate of £600 per annum, rising to £800 per annum by annual increments of £50, subject to a deduction of 5 per cent established under the Local Government and Other Officers Superannuation Act, 1922. Travelling expenses will be paid by the Council.

The appointment will be subject to three months' notice on either side.

Forms of application may be obtained from the undersigned, and should be returned by April 22nd, together with copies of not more than three testimonials.

County Buildings, EUSTACE JOY, Stafford. Clerk of the County Council.

March, 1931.

Borough of Ealing.

ASSISTANT MEDICAL OFFICER OF HEALTH.

Applications are invited from duly qualified Medical Men with a Public Health qualification for the position of Assistant Medical Officer of Health.

Candidates will be required to carry out Medical Inspection of School Children and Child Welfare work and perform such other duties as may be allotted as Assistant to the Medical Officer of Health and School Medical Officer.

The person appointed will be required to devote his whole time to the duties, and will not be allowed to engage in private practice. Salary will be at the rate of £500 per annum, rising to £700 by £25 per annum.

A deduction of 5 per cent. will be made from the salary in accordance with the provisions of the Local Government and Other Officers Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to passing the Council's medical examination in connection therewith.

Copies of application form and terms of appointment can be obtained from the undersigned, to whom applications, accompanied by copies of not more than three recent testimonials, must be delivered not later than April 21st.

Town Hall, THOMAS ORR, M.D., D.Sc., Ealing, W.5 Medical Officer of Health.

North Devon Infirmary, BARNSTAPLE. (70 Beds.)

Wanted, May 1st, duly qualified RESIDENT MEDICAL OFFICER (male or female). Salary £150 per annum, with board, apartments, and laundry. Appointment to be for not less than six months. Applications, stating age, qualifications, with copies of recent testimonials, to be sent forthwith to the Hon. Secretary.

North Devon Infirmary, BARNSTAPLE.

Wanted May 1st, duly qualified HOUSE SURGEON, lady or gentleman, per annum, with board apartments and laundry. Appointment to be for not less than six months.

Applications, stating age, qualifications, with copies of testimonials, to be sent forthwith to the Hon. Secretary.

Bethlem Hospital,
MONKS ORCHARD, EDEN PARK, BECKENHAM, KENT.

Wanted, TWO RESIDENT HOUSE PHYSICIANS (gentlemen, unmarried), recently qualified in Medicine and Surgery. The term of residence is for six months from May 1st, apartments, complete board and laundry being provided, and an honorarium at the rate of £25 per quarter will be paid. They will be under the direction of the Physician-Superintendent, to whom they must present themselves previous to the date of election.

Copies of the duties can be obtained from the undersigned, and applications, with testimonials, are to be forwarded to the Treasurer, Bethlem Hospital Office, 14a, New Bridge Street, E.C.4, before April 27th, endorsed "House Physician."

Candidates must attend at the Hospital on Wednesday, April 29th, when the House Committee will make the appointments.

JOHN L. WORSFOLD, Clerk, etc.

Bethlem Hospital Office,
14a, New Bridge Street, E.C.4.
April, 1931.

Royal Victoria Infirmary,
NEWCASTLE-UPON-TYNE.

WHOLE-TIME JUNIOR SURGICAL REGISTRAR.

Applications are invited for the post of Whole-time Junior Surgical Registrar.

This appointment is designed for Graduates who desire to gain Surgical experience, and who have already held a post as House Surgeon. Certain duties in the allied Departments of the College of Medicine will offer opportunities of post-graduate study.

The appointment will in no case extend beyond three years, and will be for one year in the first instance beginning May 1st, renewable for two further periods.

The rate of remuneration is £150 per annum.

Applications, with copies of not more than three recent testimonials, must be lodged on or before Wednesday, April 22nd, with the House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne, from whom further particulars may be obtained.

S. DUNSTAN,
April 2nd, 1931. House Gov. & Secretary.

Chesterfield & North Derbyshire
ROYAL HOSPITAL.
(190 Surgical and Medical Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post. There are five residents.

The appointment is for six months.

Salary at the rate of £150 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned.

G. SUNNUCK,
April 7th, 1931. Supt. & Secretary.

Royal Sussex County Hospital,
BRIGHTON. (238 Beds.)

HOUSE PHYSICIAN (male) required about middle of May next, with charge of beds. Salary £150 per annum, with board, residence, and laundry.

Candidates must hold a Medical and Surgical qualification of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of testimonials, should reach the undersigned by April 24th.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Chester Royal Infirmary.
(211 Beds.)

Wanted, HOUSE SURGEON (male) to commence duties May 1st. Salary £150 per annum, with board, lodging, and washing. Application list closes on April 25th.

Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P.,
Hon. Superintendent of the Resident Medical Staff.

St. Mary's Hospitals, Manchester

Two HOUSE SURGEONS for the WHITWORTH ST. WEST HOSPITAL (Maternity), and Two for the WHITWORTH PARK HOSPITAL (Gynaecological), each for a period of six months from May 1st next. Salaries at the rate of £50 per annum, with board and residence. Applications, with copies of three testimonials, to be sent to the undersigned on or before April 16th.

R. RATCLIFFE, Secretary.

St. Chad's Hospital, Birmingham
(For Paying Patients—100 Beds.)
Recognised Training School.—Federated Superannuation Scheme for Nurses and Hospital Officers (Contributory) adopted.

APPOINTMENT OF MATRON.

The Committee invite applications for this post.

Salary £150 per annum, with furnished apartments, board, and laundry.

Candidates must be fully trained State Registered Nurses, and must be willing to undertake housekeeping with a Chef.

Previous administrative experience essential. There are 34 Consultants on the visiting staff, and a Resident Medical Officer.

Applications, stating age, where trained, previous experience, and enclosing copies of recent testimonials, should be sent before April 28th to the undersigned.

DAVID J. RICHARDS,
House Governor.

Rochdale Infirmary and
DISPENSARY. (110 Beds.)

The Board of Management invite applications for the following appointments:

SENIOR HOUSE SURGEON, salary £250 p.a.;
JUNIOR HOUSE SURGEON, salary £200 p.a.;
including board, residence and laundry, etc. The candidate elected Junior House Surgeon will be eligible for appointment of Senior House Surgeon after about six months' service.

Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon." Particulars of duties and conditions of appointment may be had on application to the Secretary.

Infirmary Office, Rochdale. W. WYNNE, Secretary.

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION, GLOUCESTER.
(155 Beds.—4 Residents.)

Applications are invited for the post of SECOND HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned on or before Wednesday, April 22nd. The elected candidate will be required to enter upon his duties on May 2nd.

F. J. SYMONS, Secretary.
April 2nd, 1931.

Southport General Infirmary.
(150 Beds.)
Special Departments for Eye, Ear, Nose, and Throat, X-Rays, Massage, Pathology, Skin, and V.D.

Wanted immediately, a JUNIOR HOUSE SURGEON, fully qualified and registered, unmarried. Salary £120 per annum, with residence, board, and laundry. Excellent opportunity for gaining experience in a fully equipped, up-to-date Hospital, situate in beautiful surroundings.

Applications, stating age, nationality, and experience, with copies of testimonials, to be sent in by April 16th to Secretary, Infirmary Office, Southport.

Royal Infirmary, Blackburn.
(240 Beds—5 Residents.)

FOURTH HOUSE SURGEON (male) required at a salary of £150 per annum, rising to £250, with board, residence, laundry, etc. To commence duties on May 1st.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, Blackburn. NATHAN A. SMITH, General Supt. & Secretary.

This Institution is recognised for the Surgical practice required for the F.R.C.S. Final Examination.

County Mental Hospital,
RAINHILL, LANCS.

VISITING RADIOLOGIST, who must possess a Diploma in Radiology, required. Salary £150 per annum for two half-day visits per week. All applications should be sent to the Medical Superintendent, County Mental Hospital, Rainhill, Lancs.

Herzl Moser Hospital,
Leopold Street, LEEDS.

RESIDENT MEDICAL OFFICER required immediately. Salary £100 per annum. Ample time for post-graduate study. Apply Secretary as above.

Bury Infirmary, Lancs.
(A General Hospital of 165 Beds)

Applications are invited for the post of HOUSE SURGEON to Special Departments. The appointment is for six months, at a salary at the rate of £200 per annum, with board, residence, and laundry.

The appointed candidate will be required to commence duty on or about April 26th.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the under-signed not later than the first post of Saturday, April 18th, endorsed "House Surgeon."

Particulars of duties may be obtained on application.

ALEX. W. MAITLAND, Hon. Secretary.

The Hospital for Epilepsy and
PARALYSIS, Maida Vale, W.9.

A RESIDENT MEDICAL OFFICER require May 1st. HOUSE PHYSICIAN required May 1st

Applications are invited for these posts Th salaries are at the rate of £150 and £100 p annum respectively, and the appointments ar for six months. Candidates for the post o Resident Medical Officer should state if they are willing to take that of House Physician and applications, accompanied by copies o three recent testimonials, should reach me b April 24th.

The accommodation at the Hospital does no permit of Women Graduates holding thes appointments.

H. W. BURLEIGH,
Secretary and General Superintendent.

Poplar Hospital for Accidents,
East India Dock Road, E.14.

Applications are invited for the post of SENIOR RESIDENT OFFICER.

Salary £200 per annum, with board, residence, and laundry, plus fees £75 per annum as Anaesthetist to Dental Clinic for L.C.C. School Children. Appointment for twelve months.

Applicants must be Fellows of the Royal College of Surgeons. Post offers considerable scope for Surgical practice.

Applications, stating age, qualifications, and enclosing copies of three recent testimonials, to be sent to the undersigned on or before April 30th.

D. H. LINDSAY,
House Governor & Secretary.

The Sheffield Royal Hospital.
(340 Beds.)

Required, OPHTHALMIC HOUSE SURGEON, salary £120 per annum; also a HOUSE PHYSICIAN, a HOUSE SURGEON, and a RESIDENT ANAESTHETIST (males), salary £80 per annum, rising to £100 in six months, to commence duties at once. Board, residence, and laundry. There are twelve resident Medical Officers. Applications should be forwarded at once to—

W. H. BOOTH,
Superintendent & Secretary.
April 2nd, 1931.

South London Hospital for
WOMEN, South Side, Clapham Common, S.W.4.

The Board of Management invite applications from fully qualified Medical Women for the following appointment.

HOUSE PHYSICIAN. For a period of six months from May 1st. Salary at the rate of £100 per annum, with board, residence, and laundry.

Applications and copies of testimonials must reach the Secretary at the Hospital on or before the first post Saturday, April 18th.

The Royal Infirmary, Doncaster.
(185 Beds.)

HOUSE SURGEON (male) required. Opportunity for gaining excellent experience. Appointment is for six months, and successful candidate is eligible for re-appointment.

Salary £175 per annum, with board, residence, and laundry. Applications, with full particulars, should be addressed to the undersigned by Thursday, April 16th.

WALTER R. SMITH,
Secretary-Supt.

The Royal Infirmary,
SUNDERLAND. (290 Beds.)

Wanted, beginning of June, HOUSE PHYSICIAN (male). Salary £140 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Lancashire Mental Hospitals
BOARD.

COUNTY MENTAL HOSPITAL, WHITTINGHAM, near PRESTON.

APPOINTMENT OF MEDICAL SUPERINTENDENT.

Applications are invited for the appointment of Medical Superintendent at the above Mental Hospital. The salary is £950 per annum, rising by annual increments of £100 per annum to a maximum of £1,350 per annum, with emoluments for pension purposes valued at £150 per annum. No bonus is payable. The gentleman appointed will be required to devote his whole time to the duties of the office.

Applicants are required to send in their applications on a form to be obtained from the undersigned, and the applications, endorsed "Medical Superintendent," should be sent to or delivered at my office not later than Monday, April 27th.

The appointment will be subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Canvassing, either directly or indirectly, will be a disqualification.

GEORGE ETHERTON,
County Offices, Clerk of the Board.
Preston. April 7th, 1931.

Western Ophthalmic Hospital,
Marylebone Road, N.W.1.

[illegible] for the posts of JUNIOR NON-RESI- [illegible] The salaries are [illegible] at the rate of £150 and £100 per annum respectively, and the appointments are for six months. Ophthalmic experience is required. The selected candidates will be required to take up duty on May 1st.

Applications, accompanied by copies of not less than three testimonials, should reach me by April 18th, and candidates should be prepared to attend before the Medical Committee on April 24th, at 5 p.m.

Candidates should state in their application whether they are prepared to accept either post.

H. W. BURLEIGH, Esq.,
Honorary Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and Children's Wards.
HOUSE SURGEON in charge of Male Wards.
HOUSE SURGEON in charge of Out-Patients and Special Departments (in this post a knowledge of Refractions is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

The Willesden General Hospital
(Incorporated), N.W.10.

CLINICAL ASSISTANTS.

Applications are invited for the following Honorary appointments for a period of six months:

Clinical Assistant to the Medical Out-patients' Department, Tuesday afternoons, and Clinical Assistant to the Surgical Out-patients' Department, Friday afternoons.

Applications must be received by the Secretary of the Hospital not later than Monday, April 13th from whom details of the appointments may be obtained.

March 30th, 1931.

The Willesden General Hospital
(Incorporated), N.W.10. (106 Beds.)

APPOINTMENT OF HOUSE PHYSICIAN.

Applications are invited from fully qualified and registered candidates for the appointment of House Physician.

Candidates must be unmarried.

Salary at the rate of £100 per annum.

The appointment is for a period of four months.

Detailed applications, with copies of testimonials, should be sent at once to the Secretary, the Willesden General Hospital, N.W.10.

March 30th, 1931.

House Surgeon wanted.—Salary
£150 per annum, with board, etc. Applications, stating qualifications, experience, and copies of testimonials, to be sent to the Secretary, CAMERON HOSPITAL, WEST HARTLEPOOL.

Hull Royal Infirmary.
(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in Laryngology and Otology.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, with copies of testimonials, should be sent immediately to the undersigned.

R. J. CARLESS,
March 16th, 1931. House Governor.

The Staffordshire General
INFIRMARY, STAFFORD.

Applications are invited for the post of HOUSE PHYSICIAN (either sex), which will become vacant at the end of April. Candidates must be duly qualified and registered under the Medical Acts. Salary at the rate of £150 per annum, with board, residence, and laundry. The appointment to be held for at least six months.

Applications, stating age, accompanied by copies of three recent testimonials, should be received by the undersigned not later than Tuesday, April 14th.

Stafford. A. E. COLLINS,
April 2nd, 1931. Secretary.

Harrogate Royal Bath Hospital
AND RAWSON CONVALESCENT HOME.

Applications are invited for the post of HOUSE PHYSICIAN.

The appointment will be for six months from May 1st. Salary at the rate of £156 per annum, with board, residence, and laundry. Candidates, who must be unmarried and duly registered, are asked to forward their applications, stating age, qualifications, etc., together with copies of not more than three testimonials, to the undersigned on or before Friday, April 17th.

E. P. L. DIXON, M.A.,
March, 1931. Secretary.

Merthyr General Hospital,
MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry.

Applicants must have had experience in administration of Anaesthetics.

Applications, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

St. Mary's Hospital for Women
AND CHILDREN, Plaistow, E.13.

Applications are invited for the post of ASSISTANT RESIDENT MEDICAL OFFICER (vacant May 1st), male or female. The appointment is for six months. Salary at the rate of £120 per annum, and £5 allowance for laundry. Board and residence are provided. The duties are mainly Medical. Personal canvassing not desired.

Applications, with copies of three recent testimonials, to be sent to the undersigned not later than April 15th.

A. ERNEST WILKES, Secretary.

Bolingbroke Hospital,
Wandsworth Common, S.W.11.
(121 Beds.)

HOUSE SURGEON (male) required. The appointment is for six months. Salary £120 per annum, with board, residence, and laundry. Candidates must be fully qualified and registered.

Application, stating age, qualifications, and experience, with copies of not more than three testimonials, should be sent to the undersigned as soon as possible.

W. S. RANDOLPH BISS,
Secretary-Superintendent.

Walsall General Hospital.

The Committee invite applications from men or women for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months. The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, must be received by the undersigned not later than first post Monday, April 13th.

WALTER FRANCOMBE, Secretary.

Tynemouth Victoria Jubilee
INFIRMARY.

Two HOUSE SURGEONS (male) required about May 20th. Applicants must be doubly qualified and registered. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age and other essential particulars, and accompanied by copies of recent testimonials, to be addressed to the undersigned, from whom all particulars may be obtained.

The Hospital has two resident House Surgeons, and contains 80 Beds and Cots, an X-Ray Department, and an Out-patient Department where accidents cases are received.

CHARLES ROWELL,
Assistant Secretary.
1, Northumberland Place, North Shields.

Northampton General Hospital.
(230 Beds.)

The Board of Management invites applications for the appointment of an HONORARY SURGEON.

Candidates must be Fellows of the Royal College of Surgeons of either England or Edinburgh, and shall not be connected with any dispensary, nor engaged in panel practice.

Full particulars of the appointment may be obtained from the undersigned, to whom applications, accompanied by copies of testimonials, should be sent on or before April 15th.

The present Honorary Assistant Surgeon will be an applicant for [illegible]

H. St. [illegible]

March 31st, 1931.

Hampstead General and North-
WEST LONDON HOSPITAL,
Haverstock Hill, N.W.3.

APPOINTMENT OF A HOUSE SURGEON.

Applications are invited from unmarried registered Medical Men for the appointment of House Surgeon, vacant on May 1st next. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Applications, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on April 18th next.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIMB, Secretary.

Victoria Central Hospital,
WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry, with prospects of appointment to Senior House Surgeon at six months' time, at a salary of £150.

Candidates chosen will be appointed for six months.

Applications, with copies of testimonials, to be sent to the Secretary.

General Hospital, Nottingham.

A HOUSE SURGEON is required at the above Institution. The appointment is for six months, with salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the undersigned not later than Saturday, April 25th.

The appointment will be made on Wednesday, May 6th.

Duties to commence Saturday, May 16th.

P. M. MACCOLL,
House Governor & Secretary.

General Hospital, Nottingham.

A HOUSE PHYSICIAN is required at the above Institution at once. The appointment is for six months. Salary at the rate of £150 a year, with board, residence, and laundry. Candidates are desired to send applications, stating age, qualifications, and experience, together with copies of testimonials, to the undersigned.

PETER M. MACCOLL,
House Governor & Secretary.

Bethlem Hospital,
MONKS ORCHARD, EDEN PARK, BECKENHAM, KENT.

Wanted, TWO RESIDENT HOUSE PHYSICIANS (gentlemen, unmarried), recently qualified in Medicine and Surgery. The term of residence is for six months from May 1st, apartments, complete board and laundry being provided, and an honorarium at the rate of £25 per quarter will be paid. They will be under the direction of the Physician-Superintendent, to whom they must present themselves previous to the date of election.

Copies of the duties can be obtained from the undersigned, and applications, with testimonials, are to be forwarded to the Treasurer, Bethlem Hospital Office, 14a, New Bridge Street, E.C.4, before April 27th, endorsed "House Physician."

Candidates must attend at the Hospital on Wednesday, April 29th, when the House Committee will make the appointments.

JOHN L. WORSFOLD, Clerk, etc.

Bethlem Hospital Office,
14a, New Bridge Street, E.C.4.
April, 1931.

Royal Victoria Infirmary,
NEWCASTLE-UPON-TYNE.

WHOLE-TIME JUNIOR SURGICAL REGISTRAR.

Applications are invited for the post of Whole-time Junior Surgical Registrar.

This appointment is designed for Graduates who desire to gain Surgical experience, and who have already held a post as House Surgeon. *Certain duties in the allied Departments of the* College of Medicine will offer opportunities of post graduate study.

The appointment will in no case extend beyond three years, and will be for one year in the first instance beginning May 1st, renewable for two further periods.

The rate of remuneration is £150 per annum.

Applications, with copies of not more than three recent testimonials, must be lodged on or before Wednesday, April 22nd, with the *House Governor and Secretary, Royal Victoria* Infirmary, Newcastle-upon-Tyne, from whom further particulars may be obtained.

S. DUNSTAN,
April 2nd, 1931. House Gov. & Secretary.

Chesterfield & North Derbyshire
ROYAL HOSPITAL.
(190 Surgical and Medical Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post. There are five residents.

The appointment is for six months.

Salary at the rate of £150 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned.

G. SUNNUCK,
April 7th, 1931. Supt. & Secretary.

Royal Sussex County Hospital,
BRIGHTON. (238 Beds.)

HOUSE PHYSICIAN (male) required about middle of May next, with charge of beds. Salary £150 per annum, with board, residence, and laundry.

Candidates must hold a Medical and Surgical qualification of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of testimonials, should reach the undersigned by April 24th.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Chester Royal Infirmary.
(211 Beds.)

Wanted, HOUSE SURGEON (male) to commence duties May 1st. Salary £150 per annum, with board, lodging, and washing.

Application list closes on April 25th.

Application forms may be obtained from the undersigned

W. H. GRACE, M.D., M.R.C.P.,
Hon. Superintendent of the Resident Medical Staff.

St. Mary's Hospitals, Manchester

Two HOUSE SURGEONS for the WHITWORTH ST. WEST HOSPITAL (Maternity), and Two for the WHITWORTH PARK HOSPITAL (Gynæcological), each for a period of six months from May 1st next. Salaries at the rate of £50 per annum, with board and residence. Applications, with copies of three testimonials to be sent to the undersigned on or before April 16th.

R. RATCLIFFE, Secretary.

St. Chad's Hospital, Birmingham
(For Paying Patients—100 Beds.)
Recognised Training School.—Federated Superannuation Scheme for Nurses and Hospital Officers (Contributory) adopted.

APPOINTMENT OF MATRON.

The Committee invite applications for this post.

Salary £150 per annum, with furnished apartments, board, and laundry.

Candidates must be fully trained State Registered Nurses, and must be willing to undertake housekeeping with a Chef.

Previous administrative experience essential. There are 34 Consultants on the visiting staff, and a Resident Medical Officer.

Applications, stating age, where trained, previous experience, and enclosing copies of recent testimonials, should be sent before April 28th to the undersigned.

DAVID J. RICHARDS,
House Governor.

Rochdale Infirmary and
DISPENSARY. (110 Beds.)

The Board of Management invite applications for the following appointments:

SENIOR HOUSE SURGEON, salary £250 p.a.;
JUNIOR HOUSE SURGEON, salary £200 p.a.;
including board, residence and laundry, etc. The candidate elected Junior House Surgeon will be eligible for appointment of Senior House Surgeon after about six months' service.

Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon." Particulars of duties and conditions of appointment may be had on application to the Secretary.

Infirmary Office, Rochdale. W. WYNNE, Secretary.

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION, GLOUCESTER.
(155 Beds.—4 Residents.)

Applications are invited for the post of SECOND HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned on or before Wednesday, April 22nd. The elected candidate will be required to enter upon his duties on May 2nd.

F. J. SYMONS, Secretary.
April 2nd, 1931.

Southport General Infirmary.
(150 Beds.)
Special Departments for Eye, Ear, Nose, and Throat, X-Rays, Massage, Pathology, Skin, and V.D.

Wanted immediately, a JUNIOR HOUSE SURGEON, fully qualified and registered, unmarried. Salary £120 per annum, with residence, board, and laundry. Excellent opportunity for gaining experience in a fully equipped, up-to-date Hospital, situate in beautiful surroundings.

Applications, stating age, nationality, and experience, with copies of testimonials, to be sent in by April 16th to Secretary, Infirmary Office, Southport.

Royal Infirmary, Blackburn.
(240 Beds—5 Residents.)

FOURTH HOUSE SURGEON (male) required at a salary of £150 per annum, rising to £250, with board, residence, laundry, etc. To commence duties on May 1st.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, Blackburn. NATHAN A. SMITH, General Supt. & Secretary.

This Institution is recognised for the Surgical *practice* required for the F.R.C.S. Final Examination.

County Mental Hospital,
RAINHILL, LANCS.

VISITING RADIOLOGIST, who must possess a Diploma in Radiology, required. *Salary* £150 *per annum* for two half-day visits per week. All *applications* should be sent to the Medical Superintendent, County Mental Hospital, Rainhill, Lancs.

Herzl Moser Hospital,
Leopold Street, LEEDS.

RESIDENT MEDICAL OFFICER required immediately. Salary £100 per annum. Ample time for post-graduate study. Apply Secretary as above.

Bury Infirmary, Lancs.
(A General Hospital of 165 Beds)

Applications are invited for the post of HOUSE SURGEON to Special Departments. The appointment is for six months, at a salary at the rate of £200 per annum, with board, residence, and laundry.

The appointed candidate will be required to commence duty on or about April 26th.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned not later than the first post of Saturday, April 18th, endorsed "House Surgeon."

Particulars of duties may be obtained on *application.*

ALEX. W. MAITLAND, Hon. Secretary.

The Hospital for Epilepsy and
PARALYSIS, Maida Vale, W.9.

A RESIDENT MEDICAL OFFICER required May 1st. HOUSE PHYSICIAN required May 1st.

Applications are invited for these posts. The salaries are at the rate of £150 and £100 per annum respectively, and the appointments are for six months. Candidates for the post of Resident Medical Officer should state if they are willing to take that of House Physician, and applications, accompanied by copies of three recent testimonials, should reach me by *April 24th.*

The accommodation at the Hospital does not permit of Women Graduates holding these appointments.

H. W. BURLEIGH,
Secretary and General Superintendent.

Poplar Hospital for Accidents,
East India Dock Road, E.14.

Applications are invited for the post of SENIOR RESIDENT OFFICER.

Salary £200 per annum, with board, residence, and laundry, plus fees £75 per annum as Anaesthetist to Dental Clinic for L.C.C. School Children. Appointment for twelve months.

Applicants must be Fellows of the Royal College of Surgeons. Post offers considerable scope for *Surgical practice.*

Applications, stating age, qualifications, and enclosing copies of three recent testimonials, to be sent to the *undersigned* on or before April 30th.

D. H. LINDSAY,
House Governor & Secretary.

The Sheffield Royal Hospital.
(340 Beds.)

Required, OPHTHALMIC *HOUSE* SURGEON, salary £120 per annum; also a HOUSE PHYSICIAN, a HOUSE SURGEON, and a RESIDENT ANAESTHETIST (males), salary £80 per annum, rising to £100 in six months, to commence duties at once. Board, residence, and laundry. There are twelve resident Medical Officers. Applications should be *forwarded* at once to—

W. H. BOOTH,
Superintendent & Secretary.
April 2nd, 1931.

South London Hospital for
WOMEN, South Side, *Clapham* Common, S.W.4.

The Board of Management invite applications *from fully qualified* Medical Women *for* the following appointment.

HOUSE PHYSICIAN. For a period of six *months* from May 1st. Salary at the rate of £100 per annum, with board, residence, and laundry.

Applications and copies of testimonials must reach the Secretary at the Hospital on *or before* the first post Saturday, April 18th.

The Royal Infirmary, Doncaster.
(185 Beds.)

HOUSE SURGEON (male) required. *Opportunity* for gaining excellent experience. Appointment is *for six months, and* successful candidate is eligible for re-appointment.

Salary £175 per annum, with board, residence, and *laundry.* Applications, with full particulars, should be addressed to the *undersigned* by Thursday, April 16th.

WALTER R. SMITH,
Secretary-Supt.

The Royal Infirmary,
SUNDERLAND. (290 Beds.)

Wanted, *beginning* of June, HOUSE PHYSICIAN (male). Salary £140 *per annum,* with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
Secretary & Secretary.

Lancashire Mental Hospitals BOARD.

COUNTY MENTAL HOSPITAL, WHITTINGHAM, near PRESTON.

APPOINTMENT OF MEDICAL SUPERINTENDENT.

Applications are invited for the appointment of Medical Superintendent at the above Mental Hospital. The salary is £950 per annum, rising by annual increments of £100 per annum to a maximum of £1,350 per annum, with emoluments for pension purposes valued at £150 per annum. No bonus is payable. The gentleman appointed will be required to devote his whole time to the duties of the office.

Applicants are required to send in their applications on a form to be obtained from the undersigned, and the applications, endorsed "Medical Superintendent," should be sent to or delivered at my office not later than Monday, April 27th.

The appointment will be subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Canvassing, either directly or indirectly, will be a disqualification.

GEORGE ETHERTON,
County Offices, Clerk of the Board.
Preston, April 7th, 1931.

Western Ophthalmic Hospital,

Marylebone Road, N.W.1.

for the posts of
UNIOR NON-RESI-
The salaries are
at the rate of £150 and £100 per annum respectively, and the appointments are for six months. Ophthalmic experience is required. The selected candidates will be required to take up duty on May 1st.

Applications, accompanied by copies of not less than three testimonials, should reach me by April 18th, and candidates should be prepared to attend before the Medical Committee on April 24th, at 5 p.m.

Candidates should state in their application whether they are prepared to accept either post.

H. W. BURLEIGH, Esq.,
Honorary Secretary.

Oldham Royal Infirmary.

Applications are invited for the under mentioned posts:

e of Women's and
ge of Male Wards.
ge of Out-Patients
(in this post a
is desirable).

Salary £175 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

The Willesden General Hospital

(Incorporated), N.W.10.

CLINICAL ASSISTANTS.

Applications are invited for the following Honorary appointments for a period of six months

Clinical Assistant to the Medical Out-patients' Department, Tuesday afternoons, and Clinical Assistant to the Surgical Out-patients' Department, Friday afternoons.

Applications must be received by the Secretary of the Hospital not later than Monday, April 13th, from whom details of the appointments may be obtained.

March 30th, 1931.

The Willesden General Hospital

(Incorporated), N.W.10. (106 Beds.)

APPOINTMENT OF HOUSE PHYSICIAN.

Applications are invited from fully qualified and registered candidates for the appointment of House Physician.

Candidates must be unmarried.

Salary at the rate of £100 per annum.

The appointment is for a period of four months.

Detailed applications, with copies of testimonials, should be sent at once to the Secretary, the Willesden General Hospital, N.W.10.

March 30th, 1931.

House Surgeon wanted.—Salary

£150 per annum, with board, etc. Applications, stating qualifications, experience, and copies of testimonials, to be sent to the Secretary, CAMERON HOSPITAL, WEST HARTLEPOOL.

Hull Royal Infirmary.

(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in Laryngology and Otology.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, with copies of testimonials, should be sent immediately to the undersigned.

R. J. CARLESS,
March 16th, 1931. House Governor.

The Staffordshire General

INFIRMARY, STAFFORD.

Applications are invited for the post of HOUSE PHYSICIAN (either sex), which will become vacant at the end of April. Candidates must be duly qualified and registered under the Medical Acts. Salary at the rate of £150 per annum, with board, residence, and laundry. The appointment to be held for at least six months.

Applications, stating age, accompanied by copies of three recent testimonials, should be received by the undersigned not later than Tuesday, April 14th.

Stafford. A. E. COLLINS,
April 2nd, 1931. Secretary.

Harrogate Royal Bath Hospital

AND RAWSON CONVALESCENT HOME.

Applications are invited for the post of HOUSE PHYSICIAN.

The appointment will be for six months from May 1st. Salary at the rate of £156 per annum, with board, residence, and laundry. Candidates, who must be unmarried and duly registered, are asked to forward their applications, stating age, qualifications, etc., together with copies of not more than three testimonials, to the undersigned on or before Friday, April 17th.

E. P. L. DIXON, M.A.,
March, 1931. Secretary.

Merthyr General Hospital,

MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry.

Applicants must have had experience in administration of Anaesthetics.

Applications, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

St. Mary's Hospital for Women

AND CHILDREN, Plaistow, E.13.

Applications are invited for the post of ASSISTANT RESIDENT MEDICAL OFFICER (vacant May 1st), male or female. The appointment is for six months. Salary at the rate of £120 per annum, and £5 allowance for laundry. Board and residence are provided. The duties are mainly Medical. Personal canvassing not desired.

Applications, with copies of three recent testimonials, to be sent to the undersigned not later than April 15th.

A. ERNEST WILKES, Secretary.

Bolingbroke Hospital,

Wandsworth Common, S.W.11.
(121 Beds.)

HOUSE SURGEON (male) required. The appointment is for six months. Salary £120 per annum, with board, residence, and laundry. Candidates must be fully qualified and registered.

Application, stating age, qualifications, and experience, with copies of not more than three testimonials, should be sent to the undersigned as soon as possible.

W. S. RANDOLPH BISS,
Secretary.

Walsall G

The Committee invite applications from men or women for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months. The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, must be received by the undersigned not later than first post Monday, April 13th.

WALTER FRANCOMBE, Secretary.

Tynemouth Victoria Jubilee

INFIRMARY.

Two HOUSE SURGEONS (male) required about May 20th. Applicants must be doubly qualified and registered. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age and other essential particulars, and accompanied by copies of recent testimonials, to be addressed to the undersigned, from whom all particulars may be obtained.

The Hospital has two resident House Surgeons, and contains 80 Beds and Cots, an X-Ray Department, and an Out-patient Department where accidents cases are received.

CHARLES ROWELL,
Assistant Secretary.
1, Northumberland Place, North Shields.

Northampton General Hospital.

(230 Beds.)

The Board of Management invites applications for the appointment of an HONORARY SURGEON.

Candidates must be Fellows of the Royal College of Surgeons of either England or Edinburgh, and shall not be connected with any dispensary, nor engaged in panel practice.

Full particulars of the appointment may be obtained from the undersigned, to whom applications, accompanied by copies of testimonials, should be sent on or before April 15th.

The present Honorary Assistant Surgeon will be an applicant for the appointment.

H. St. JOHN WOOD,
Secretary-Superintendent.
March 31st, 1931.

Hampstead General and North-

WEST LONDON HOSPITAL,
Haverstock Hill, N.W.3.

APPOINTMENT OF A HOUSE SURGEON.

Applications are invited from unmarried registered Medical Men for the appointment of House Surgeon, vacant on May 1st next. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Applications, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on April 18th next.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIMB, Secretary.

Victoria Central Hospital,

WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry, with prospects of appointment to Senior House Surgeon in six months' time, at a salary of £150

Candidates chosen will be appointed for six months.

Applications, with copies of testimonials, to be sent to the Secretary.

General Hospital, Nottingham.

A HOUSE SURGEON is required at the above Institution. The appointment is for six months, with salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the undersigned not later than Saturday, April 25th.

The appointment will be made on Wednesday, May 6th.

Duties to commence Saturday, May 16th.

P. M. MACCOLL,
House Governor & Secretary.

General Hospital, Nottingham.

A HOUSE PHYSICIAN is required at the above Institution at once. The appointment is for six months. Salary at the rate of £150 a year, with board, residence, and laundry. Candidates are desired to send applications, stating age, qualifications, and experience, together with copies of testimonials, to the undersigned.

PETER M. MACCOLL,
House Governor & Secretary.

Nottinghamshire County Council

EDUCATION COMMITTEE.

ASSISTANT SCHOOL MEDICAL OFFICER (Male).

Applications are invited from duly qualified and registered Medical Practitioners for the post of Assistant School Medical Officer.

Candidates must possess a Diploma in Public Health and have had at least three years' experience since qualification.

The officer appointed will be required to devote his whole time to the duties of the office. He will be a member of the Staff of the County Medical Officer, will work under his control and direction, and will be required to reside in a part of the County to be approved by him and to carry out such duties as may be prescribed.

The salary will be at the rate of £500 per annum, rising by annual increments of £25 to £700, with travelling allowances in accordance with the County Council's Scale.

The engagement will be terminable by three months' notice on either side.

The successful candidate will be required to pass a medical examination.

The appointment is an established post under the Local Government and Other Officers Superannuation Act, 1922.

Applications on the prescribed form (which may be obtained on application to me), accompanied by copies of not more than three recent testimonials, should be forwarded to the County Medical Officer, Shire Hall, Nottingham, not later than April 18th.

K. TWEEDALE MEABY,
Clerk of the County Council.

Shire Hall, Nottingham.
March, 1931.

City of Nottingham.

The Health Committee invite applications from duly qualified Medical Practitioners for the post of MEDICAL OFFICER to the CITY INFIRMARY, Hucknall Road, Nottingham.

The Hospital has 900 beds for the treatment of all classes of sick persons. It is a recognized Training School for Nurses, and is equipped with all modern requirements. Candidates must possess General Hospital experience, and preference will be given to those having Poor Law experience.

The salary will be £350 per annum, rising by annual increments of £25 to £450, with rations and furnished apartments. The successful candidate will be required to contribute to the Corporation's Superannuation Fund.

Applications, on forms to be obtained from the undersigned, with copies of not more than three recent testimonials, and endorsed "Medical Officer," should be forwarded not later than May 2nd.

(Signed) W. J. BOARD,
Town Clerk.

Guildhall, Nottingham. April 1st, 1931.

Lincoln County Hospital.

Wanted, JUNIOR HOUSE SURGEON, male, unmarried. Salary at the rate of £150 per annum, rising to £200 per annum at the conclusion of six months' approved service. Board, residence, and washing will also be provided.

Every candidate for the appointment must be registered under the Medical Acts.

Applications, stating age and other particulars, with copies of testimonials (not more than three), are to be sent to the undersigned, from whom further particulars may be obtained.

ARTHUR MOORE,
Secretary-Superintendent.

Lincoln.
April 4th, 1931.

Brighton, Hove and Preston DISPENSARY.

Applications are invited from registered Practitioners for the appointment of DISTRICT MEDICAL OFFICER to the above Institution. Further details regarding area, etc., can be obtained from the General Secretary.

Applications, together with testimonials, must be received by the undersigned not later than April 18th.

H. A. FROGGATT,
General Secretary.

Hove Hospital

Caernarvonshire and Anglesey INFIRMARY BANGOR (General Hospital)

HOUSE SURGEON wanted. Salary £200 per annum, with residence, board, and laundry. Duties to commence early in May. Hospital consists of Orthopædic Ear, Nose, and Throat, X-Ray and V.D. Departments.

Applications, stating age, nationality, and experience, with copies of three recent testimonials, to reach the Secretary not later than April 22nd.

City of Birmingham.

SELLY OAK HOSPITAL.

RESIDENT PHYSICIAN (Male).

Applications are invited for the above whole-time appoi[illegible] who are fully qualifi[illegible]

The prese[illegible] beds, divid[illegible] Surgical, Children's [illegible] pletely equi[illegible] laboratories, X-Ray, Electro-therapeutic, Massage, Ultra-violet Ray, and Electro-cardiographic departments.

Candidates for the appointment must have had good Medi[illegible] and should hold the degree of [illegible] of the Universities o[illegible] or be Members of th[illegible] ysicians of London.

The scale of salary will be £550, rising, subject to satisfactory service, by annual increments of £50 to a maximum of £750 per annum.

Furnished quarters, rations, laundry, and attendance will be provided. Alternatively, a cash allowance will be paid if the officer appointed is non-resident. The officer appointed will be required to refund to the Council all fees, allowances, and emoluments (other than the foregoing) received by him. [illegible] e subject to the Superannuation [illegible] passing a medical [illegible]ject to one month's [illegible] appointment may [illegible]al Superintendent, [illegible] Esq., M.B. Ch.B., [illegible] at the Selly Oak Hospital.

Applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, and endorsed "Physician," should be addressed to me, and delivered at my office not later than Thursday, April 23rd.

F. H. C. WILTSHIRE,
Town Clerk.

The Council House, Birmingham. April, 1931.

County Borough of West Bromwich.

CHIEF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Council invite applications for the above post from registered Medical gentlemen holding a Diploma in Public Health and not over 40 years of age.

Preference will be given to those candidates who have had previous experience in the Public Health Service in Tuberculosis and Infectious Diseases. Knowledge of Eye Refractions and Ante-natal work will be deemed additional qualifications.

The salary attached to the appointment will commence at £600 per annum, rising by annual increments of £50 to £750, in addition to which reasonable travelling expenses are allowed.

The gentleman appointed will be required to live in the Borough and devote his whole time to the services of the Council. He will work under the direction and supervision of the Medical Officer of Health. The appointment will be subject to three months' notice.

Application must be made on a prescribed form obtainable from the Medical Officer of Health, Health Department, 2, Lodge Road, West Bromwich, and forwarded to the undersigned, accompanied by copies of three recent testimonials, not later than Wednesday, April 22nd.

ALFRED WICKHAM,
Town Clerk.

Town Hall, West Bromwich.
April 3rd, 1931.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY. The Institution, which contains over 100 beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession. Salary at the rate of £100, rising to £150 per annum.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84, Irish Street, Dumfries, at once.

Royal Berkshire Hospital. (243 Beds.)

Wanted immediately, CASUALTY OFFICER (with charge of beds), and RESIDENT ANÆSTHETIST. Candidates (male) must be fully qualified and registered. Appointments are for six months. Salaries at the rate of £150 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be addressed to the undersigned.

F. A. LYON,
Secretary.

Reading.
April 4th, 1931.

County Council of Middlesex.

DISTRICT MEDICAL OFFICER AND PUBLIC VACCINATOR.

The County Council invites applications from duly qualified Medical Practitioners for the undermentioned appointments:

DISTRICT MEDICAL OFFICER,
Edgware, Little Stanmore, and Lower Hale (Hendon).

Salary £80 per annum. The officer appointed will be required to carry out his duties in accordance with the Public Assistance Order, 1930, of the Minister of Health, to reside in the district, and to name to the Council some duly qualified Medical Practitioner who will, in the case of his absence or other hindrance to his personal attendance, act in his place.

PUBLIC VACCINATOR.
Edgware, Little Stanmore, and Lower Hale (Hendon).

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination, unless such certificate was required as a condition of obtaining any diploma, licence, or degree which he possesses.

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order, 1930, of the Minister of Health. The contract will provide for the payment of the minimum fees laid down in the Order.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than April 18th.

No special application forms are provided. Envelopes must be endorsed "District Medical Officer" or "Public Vaccinator" as the case may be.

Canvassing, directly or indirectly, will be a disqualification.

ERNEST S. W. HART,
Clerk of the County Council.

Guildhall, Westminster, S.W.1.
March 23rd, 1931.

Corporation of Paisley.

PUBLIC HEALTH DEPARTMENT.

Applications are invited for the post of ASSISTANT MEDICAL OFFICER. The officer appointed will act as Resident Medical Officer at BARSHAW MATERNITY AND CHILD WELFARE HOSPITAL, and will also be required to assist generally in the work of the Public Health Department, especially under the Maternity and Child Welfare Scheme. Previous experience as Resident Medical Officer in a Maternity Hospital is essential.

Salary £400 per annum, rising by annual increments of £20 to £500 per annum, together with board, lodging, etc.

Applications, giving age, full details of experience, etc., together with copies of three recent testimonials, should be lodged not later than Friday, April 17th, with the Medical Officer of Health, 14, Gilmour Street, Paisley, from whom copies of the conditions of the appointment may be obtained.

Public Health Department,
Paisley. April 2nd, 1931.

Rotherham Hospital. (130 Beds.)

The Weekly Board invite applications for the post of HONORARY SURGEON for the Ear, Nose, and Throat Department. Arrangements as to attendance required may be discussed later.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital. (130 Beds.)

The Weekly Board invite applications for the post of HONORARY DENTAL SURGEON in the Out-patients Department. Arrangements as to attendance required may be discussed later.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital. (130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £120, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Alnwick Infirmary.

HOUSE SURGEON wanted. Salary £150 a year and board, to which may be added occasional Locums for Honorary Staff at £5 5s. a week. Modern Hospital of 25 beds.—Apply, Dr. SCOTT PURVES, Alnwick.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH** *(contd.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)* *(Male Assistant Medical Officer, Colony for Mental Defectives, Shenley.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	**PUBLIC HEALTH.**	PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	CAERNARVONSHIRE EDUCATION COMMITTEE. *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	RENFREW COUNTY COUNCIL. *(Assistant Medical Officer of Health.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*	STAFFORDSHIRE COUNTY COUNCIL. *(Third Assistant Medical Officer, Burntwood Mental Hospital.)*
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	EAST HAM COUNTY BOROUGH. *(Assistant Medical Officer.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
NEATH AND DISTRICT. *(Medical Aid Association.)*	EAST SUFFOLK COUNTY COUNCIL. *(Male Assistant County Medical Officer of Health.)*	

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	WELLINGTON, NEW ZEALAND. *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical B.M.A. laide	VICTORIA. *or Medical aries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

April 8th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Hospital of St. Cross, Rugby.
(114 Beds.)

THREE RESIDENT MEDICAL OFFICERS (Males) REQUIRED.

Applications are invited for the posts of:
First Resident Medical Officer, qualified. Salary at the rate of £150 per annum, with full board, etc., to commence duties on May 1st.
Second Resident Medical Officer, qualified. Salary at the rate of £125 per annum, with full board, etc., to commence duties on May 1st.
Third Resident Medical Officer, qualified. Salary at the rate of £100 per annum, with full board, etc. Commence May 1st.
Six months' appointments, and eligible on completion of service for extension or other resident's posts.
Applications, stating age, nationality, and full details, with copies of three recent testimonials, to be sent to the undersigned.

W. COCKBURN,
Superintendent and Secretary.

Newark General Hospital
(50 Beds).

Wanted, a fully qualified RESIDENT HOUSE SURGEON (male or female), unmarried. Salary £175 per annum, with board, residence, and laundry. Appointment for six or twelve months if mutually desired. Applications, with copy testimonials, to be sent to W. T. CRAMPTON, Secretary, 27, Kirk Gate, Newark, Notts.

Tiverton Hospital, Devon.
(35 Beds.)

Applications are invited for the post of HOUSE SURGEON. Salary £100 per annum, with board, residence, and laundry. Six months' appointment, commencing as early as possible.
Applications, with testimonials, to be sent to the undersigned.

C. H. DEEKS, Hon. Secretary.

Bristol General Hospital.

SENIOR RESIDENT MEDICAL OFFICER (male). The Committee invite applications for this appointment. Salary at the rate of £200 per annum, with board, residence, etc., provided in the Hospital. Candidates must be registered under the Medical Acts and produce testimonials of good personal character and ability. The duties attaching to the post are chiefly Surgical, but being also in part administrative, experience in this direction is therefore essential.
Applications, accompanied by copies of testimonials, three of which must preferably be given in support of the application, to be forwarded to the undersigned on or before Monday, May 11th next, from whom forms of application and copies of the duties may be obtained.
The Hospital contains 270 beds and is a School of Medicine attached to the University of Bristol.

THOMAS W. GREGG, Secretary.

Scarborough Hospital and
DISPENSARY. (70 Beds.)

Wanted May 1st, Two *HOUSE SURGEONS* (male or female). Duties include home visiting. Salary £175 *per annum, with board, residence,* etc. *Appointment for six months.*
Applications, stating age, with copies of testimonials and essential particulars, to be sent to the undersigned by April 15th, from whom further particulars may be obtained.

J. DOUGLAS MUNDY,
Hon. Secretary.

West Suffolk General Hospital,
BURY ST. EDMUND'S. (108 Beds.)

HOUSE SURGEON required on May 1st. Salary £180 per annum, with board, residence, and laundry.
Applicants must be fully qualified and registered. Applications, giving particulars of experience, and enclosing three recent testimonials, to be sent to the undersigned.

E. E. HARDWICKE,
March 25th, 1931. Secretary.

North Riding Infirmary,
MIDDLESBROUGH.
(General Hospital—150 Beds.)

Applications are invited for the posts of:
Second HOUSE SURGEON (gentleman) to take up duties May 1st;
Third HOUSE SURGEON (lady eligible) to take up duties early as possible.
The appointments will be for a definite period of six months, with salary in the former case of £150 per annum, and in the latter case of £125 per annum, with board, residence, and laundry.
Applications, *stating age, nationality, and* previous experience, with copies of three recent testimonials, *should be sent forthwith to the* undersigned.

CHARLES POSTGATE,
Secretary-Superintendent.

Swansea General and Eye
HOSPITAL. (316 Beds.)

CASUALTY OFFICER required, gentleman, single. Must have had previous Hospital experience. Appointed candidate also required to act as Deputy Senior R.M.O. Duties to commence immediately.
Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary-Superintendent.

Birkenhead General Hospital.
(156 Beds.)

HOUSE PHYSICIAN (gentleman) wanted immediately. Salary £100, with board and residence.
Applications, stating qualifications, experience, and nationality, with three testimonials, to be sent to the undersigned as early as possible.

W. H. DANIELS, A.C.I.S.,
Secretary-Supt.

(Appointments continued on p. 58.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted. — Male Assistant, in large City in West of England. Must be keen and willing to take full charge when necessary. Practice easily worked. Own car an advantage. £400 per annum, partly furnished house. One-third share given "gratis" if satisfactory after twelve months. Age, photo.—Address, No. 2225, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant, capable of undertaking responsible work, country Practice in Shropshire. Must be University Graduate, ex H.S. preferred. Previous experience of private practice essential. Definite view Partnership Preference to Graduates of Glasgow or Edinburgh. — Address, No. 2295, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, July 1st, married, abstainer. Good Accoucheur and Anaesthetist. £500 p.a. with extras, including half share in unopposed Branch Practice. Industrial district Midlands. House free. No premium.—Address, No. 2234, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Part-time Assistant for Branch Surgery doing £300 cash p.a. in Midlands. Remuneration half cash takings, but must buy resid. growing Nucleus Practice of £100 a year. Premium £100. House to let. Married, motor cyclist pref. Any nationality. —No. 2299, B.M.A. House, Tavistock Sq., W.C.1.

Wanted immediately. — Assistant, male, for good-class residential Practice, Yorkshire coast. Scotch graduate. Hospital experience necessary. Commencing salary £300, all found, outdoor. Able to cycle and drive a car. Usual bond.—Address, No. 2203, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship with view to PARTNERSHIP, preferably in South or near London, by Conjoint man, aged 29, single. Own car. Free now. Interview.—Address, No. 2213, B.M.A. House, Tavistock Square, W.C.1.

Wanted for Liverpool, recently qualified man as ASSISTANT. Salary commencing £300, indoor. Good middle-class Practice, panel and private.—Add., with photo, copy tests, stating age, nationality, etc., No. 2202, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Male Assistant (British), indoor, Derbyshire. Panel and private. Nice country. Work light in summer. £300. Newly qualified man would suit. — Address, No. 2217, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant, male, British, single, for Industrial Panel and Private Practice, Yorkshire. Salary £250–£350 (according to experience), and all found. Usual bond. No view.—Address, No. 2229, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Outdoor male Assistant for Cornwall. May 1st. Must be English or Scotch, about 30. Able to drive car. Must have experience. Salary £450.—Address, No. 2215, B.M.A. House, Tavistock Square, W.C.1.

Wanted.-Assistantship by M.B., B.Ch., 2 years' experience G.P., panel, dispensing, etc. Act. 30. Now free and in London.—Address, No. 2226, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistantship (temp.) or long LOCUMS by Woman M.B., M.R.C.S., aged 27 years. Exper. private and panel. English.—Address, No. 2297, B.M.A. House, Tavistock Square, W.C.1.

Wanted in busy East End Practice, male ASSISTANT, British, married, some experience, live at surgery, with view to Partnership.—Address, with references, No. 2221, B.M.A. House, Tavistock Sq. W.C.1.

Wanted at once, young male or female ASSISTANT (indoor), for an industrial Practice near Nottingham.—Address, No. 2208, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, Assistant, indoor, ex H.S. or Obstetrician preferred. District semi-rural, Yorkshire. Good salary. Work light. Permanency if suitable.—Address, No. 2201, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, a Welsh - speaking ASSISTANT for General Practice. Good anaesthetist. References required. Salary £500. Outdoor. Usual bond. — Address, No. 2103, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Male Assistant for Country Practice, with view (Norfolk). Salary £400 p.a. and small unfurnished house. Photo and references. — Address, No. 2230, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, outdoor Assistant. Salary £400. Welsh desirable. North Wales Coast. Able to drive car.—Address, No. 2218, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Male Assistant, Colliery Practice and Country, S. Wales. £400 p.a., outdoor. Midwifery essential—Add., No. 2236, B.M.A. House, Tavistock Sq., W.C.1.

Assistant wanted immediately, outdoor, Scotch preferred, male. Salary £350. Usual bond.—Address, stating age, experience, etc., No. 2209, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, preferably outdoor, in panel and G.P. wanted, in or near London, with view to Partnership. Now in London.—Address, No. 2227, B.M.A. House, Tavistock Square, W.C.1.

North Wales and Shropshire.— Several outdoor ASSISTANTS wanted; early Partnerships if suitable. Welsh an advantage.—Full particulars to "CHEMICALS," 40, Hamilton Street, Hoole, Chester.

Pathological and Bacteriological LABORATORY ASSISTANTS ASSOCIATION ... equir... ing ... TORY ASSI... with H. G... Grove, Victoria Park, Manchester. No fees.

Woman M.B., B.Ch., free May 1st, desires ASSISTANTSHIP or LOCUM. Able to drive car. Three years' experience.—Address, No. 2296, B.M.A. House, Tavistock Square, W.C.1.

Woman M.B., Ch.B.(Edin. 192... ably in or ... prefer... panel and ... d G.P., House, Tavi... B.M.A.

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, TEMPLE BAR 1054.
15, YORK BUILDINGS, *Tel.* RIVERSIDE 1254.
ADELPHI, W.C.2. (*Night Calls*)
Telegrams:
"REASIDE, TUBERCLE, WESTRAND, LONDON."

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

MEDICAL POSTS, DISPENSERS, etc.

Wanted. — Lady Dispenser for firm of Three Doctors on borders of Devon and Cornwall. No accountancy.—Add., stating age, qualifications, salary, to No. 2233, B.M.A. House, Tavistock Square, W.C.1.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Lady Dispenser - Bookkeeper (Hall), desires POST with Doctor or firm of Doctors. Experienced in panel, club, and private work. Excellent testimonials.—Address, "K.R.," 6, Thorney Court, Palace Gate, Kensington, W.8.

Male Dispenser - Bookkeeper (42), tall, good appearance, smart and methodical, desires POST. Life experience. At liberty now. — "DISPENSER," c/o 3, Kenton Street, W.C.1.

Middle-aged Medical Man, experienced General and Mental. Free. Institution or travel. Capital available. — Address, No. 2210, B.M.A. House, Tavistock Square, W.C.1.

Practitioner wishes Resident Post General Hospital during May. Experienced in Special Departments, but would prefer general work. Single, 36, quite reliable.—Add., No. 2231, B.M.A. House, Tavistock Sq., W.C.1.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

To Medical Men.—Gentlewoman seeks post in London as SECRETARY-RECEPTIONIST; aged 36. Nine years' reference from last employer. Sunday work if required. — Address, No. 2223, B.M.A. House, Tavistock Square, W.C.1.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted. — Partner in rapidly growing Practice in Northern City. Receipts last twelve months £2,300 (audited). One appointment £140 per annum approx. One appointment £140 per annum approx. Panel over 1,400, rapidly increasing. Premium 1 3 share £1,200. Early succession.—Address, No. 2118, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Partnership or Practice of about £1,200, by Practitioner (Bart's) with 5 years' teaching hospital experience, in good London suburb or outlying dist. Preferably S. or W., within 60 miles.—Add., No. 2228, B.M.A. House, Tavistock Sq., W.C.1.

Manchester residential suburb.—HALF SHARE PARTNERSHIP, with view to early succession. Receipts £1,800, with much scope for increase. House available. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Near Manchester.—Partnership. —Half Share in Practice doing £3,000. Panel over 3,000. Excellent Hospital in town; Vendor on staff. Premium, including interest in house and surgery, £2,500; £2,000 down.—No. 1801, B.M.A. House, Tavistock Sq., W.C.1.

Partnership in industrial Practice near Manchester. Large panel. Share for sale £2,000 p.a. (audited). In same hands many years. Good house on lease. 1½ years' purchase.—Address, No. 2224, B.M.A. House, Tavistock Square, W.C.1.

South Coast.—2/5 Share of first-class non-panel non-dispensing PRACTICE of £3,000 p.a., in favourite seaside resort. Prem. £2,250. Applicant should be Pub. School man, grad. in Med., aged 35-45; prev. exp. in G.P. or Services essen. Fine mod. house avail. £5,800. —No. 2222, B.M.A. House, Tavistock Sq., W.C.1.

PRACTICES.

Wanted, a good-class Practice of about £2,000 a year in a good part of London, or in a residential district within about an hour of London. Applicant is an experienced Graduate, married, F.R.C.S., etc., and ready to pay down the necessary purchase money.—Details will be received in confidence by PERCIVAL TURNER, LTD., No. 1262, 4 & 5, Adam Street, W.C.2.

Wanted.—A middle and working-class PRACTICE, £800—£1,000, with scope. Easy reach London, or in good Coast Town. Good house essential, preferably on lease.—Address, No. 2216, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—London and District. —The Medical Agency has a large clientele seeking suitable INVESTMENTS in the London area with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2. 'Phone: Temple Bar 1054 and 1054.

Wanted. — Good Practice, easy reach good schools, income about £1,200 —£1,500. Good house and garden, 5—6 bedrooms. Cash available.—Address No. 2212, B.M.A. House, Tavistock Square, W.C.1.

Wanted by Partners, Practice with scope. Country Town with Hospital preferred. Hampshire or West Country. —Address, No. 2300, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — A Panel Practice or PARTNERSHIP in or around New Cross, S.E. — Address, No. 2211, B.M.A. House, Tavistock Square, W.C.1

Central Scotland.—General Practice, increasing, excellent scope. Panel 650. Receipts for last 3 years: £718, £770, £860. Modern villa, 2 public, 3 bedrooms, maid's room, large garden, garage, all conveniences. Moderate premium for quick sale.—No. 2232, B.M.A. House, Tavistock Sq., W.C.1.

Cheshire.—Death Vacancy (after one week's illness) in best suburb of Manchester. £1,200 per annum, no panel. Premium £1,000. House in best situation to rent at £100.—Address, No. 2214, B.M.A. House, Tavistock Square, W.C.1.

Death Vacancy. — North Wales. Ample scope for surgery. £1,850 p.a. and room to increase. Panel 400. Appointment £90 p.a. Very little midwifery, 2 to 5 gns. Visiting fees 5/6 to 10/6, and up to 21/-. Large house, which need not be taken over. All sport obtainable. Beautiful country. Excellent schools and hospital in town.—Apply, No. 8827, c/o PERCIVAL TURNER, LTD., 4, Adam Street, W.C.2.

For immediate Disposal (urgent family reason). — Prettiest part Italian Riviera.—Long-established steadily increasing PRACTICE. Previously run by man, last 4 years by woman; suit either. Flat, good position, modern sanitation, good water supply, central heating, gas, electric, telephone. Rent £70. Premium £750. English furniture for disposal if wanted; also 2-seater 12 h.p. Fiat (done 2,000 kilom.), and wooden garage. Well-trained maid could be left.—Address, No. 2207, B.M.A. House, Tavistock Square, W.C.1.

For Disposal. — Riverside Practice and RESIDENT PATIENT in favourite Town within 30 miles of London. Old-established. Vendor retiring. Panel 300 names. No dispensing or night work. Unlimited scope. Good family house, 7 bedrooms, garden, etc. Practice returns about £300, and a permanent patient pays £8 8s. a week.—Apply, No. 8831, PERCIVAL TURNER, LTD., 4 & 5, Adam Street, Adelphi, Strand, W.C.2.

For Sale, Kent town, near London, newly estab. PRACTICE, already taking £9 weekly, great scope, low rent. £450, incl. furn., drugs, etc., or £150 and bal. later. Or Assis. with view to part. or success. consid.—No. 2220, B.M.A. House, Tavistock Sq., W.C.1.

For Sale.—London, E.—Well-established compact PRACTICE. Increasing income of over £2,200. Panel nearly 3,000. Near new developments. Expenses mod. Suitable house. — Address, No. 2235, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Woman's Practice, North Country Health Resort, about £300 p.a.—Address, No. 2205, B.M.A. House, Tavistock Square, W.C.1.

London, E. — Old-established Cash and Panel PRACTICE. Receipts £1,200 p.a. Panel over 1,500. Lease of house. Premium moderate.—Apply, ADLER & PEROWNE, 46, London Wall, E.C.

Lossiemouth.—Death Vacancy.—PRACTICE of late Dr. A. H. H. BARCLAY for Sale.—Particulars from GRIGOR & YOUNG, Solicitors, Elgin.

Manchester.—Old-established.—Nice house, gardens, £50. Receipts (including panel £135) over £600. Great scope. Price £1,000 or near offer (to include fittings, drugs, linoleum coverings, and good debts £600), part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

Medical Practice, Central Scotland. Receipts approximately £800. Panel 660, increasing. Suitable house for sale. —ROBERT FLEMING, S.S.C., 21, Hill Street, Edinburgh.

North Wales.—Death Vacancy for Sale in Hospital Town.—Old-established Practice. Good scope for Surgeon. Receipts nearly £2,000. Premium 1½ years' purchase. House available.—Address, No. 2112, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

West Riding Town. — Good middle and working-class PRACTICE for Sale in healthy suburb. Panel 1,400. Average annual receipts for the last 3 years £2,500. Premium about 1½ years' purchase. Good educational facilities. Comfortable freehold house in excellent condition for sale, which may be rented for 2 years.—Apply 2604, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 15, Briggate, Leeds.

HOUSES, CONSULTING ROOMS.

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.),

Surveyors, Auctioneers, and Estate Agents,

10, WIGMORE STREET, CAVENDISH SQUARE, W.1.

SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS

In Harley Street and leading Medical Positions.

Telephone: Langham 3927 and 3928.

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £30 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & CO., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Tonbridge (centre) Large stonebuilt detached RESIDENCE, 15 bedrooms, 4 reception, 3 bathrooms, 5 w.c.'s. Suitable for School, Medical Home, or Institute. Garage, garden with lawn, large kitchen garden, in all about 1 acre. Inspection any time. Immediate possession. Price, freehold, £3,400 (or near offer). — HARRODS, LTD., 62/64, Brompton Road, S.W.1.

Glasgow.—Consulting Room and WAITING ROOM to Let. Charing Cross. Electric lighting and heating. Telephone. Reasonable inclusive rent. Living accommodation if necessary.—Address, No. 2219, B.M.A. House, Tavistock Square, W.C.1.

London Medical Man has small furnished FLAT to Let in own house. Central situation. Moderate terms.—Address, No. 2204, B.M.A. House, Tavistock Sq., W.C.1.

London, North.—For Sale (about £700 cash), Doctor's CORNER HOUSE, 1/2 min. station. Most progressive new suburb. Splendid opening. Also practically new Austin saloon cheap. — Address, No. 2294, B.M.A. House, Tavistock Square, W.C.1.

Modern Hydro for Disposal.—Accommodation for 100 guests. Beautifully fitted and furnished. Lift. Hot and cold water all rooms. Modern Electric, Medical, Turkish, and Russian Baths. Replete in every detail. Centrally situated in South Coast town. —Write, MORRIS, 41, Syke Ings, Iver, Bucks.

Part-time Consulting Room to Let, Harley Street. Plate available. Living accommodation might be arranged.—Address, No. 2206, B.M.A. House, Tavistock Sq., W.C.1.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 2114, B.M.A. House, Tavistock Square, W.C.1.

Scotland.—*To Sell or Let, large RESIDENCE, 10 bedrooms, 4 public rooms, bathrooms, kitchen premises. Stands in own grounds, 18 miles from Edinburgh. Suitable for Convalescent Home.* — Address, No. 2041, B.M.A. House, Tavistock Square, W.C.1.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.

Telephone: 3204 MAYFAIR.

MISCELLANEOUS SALES, etc.

Mercury Vapour Lamp for Sale. Standard floor model, suitable for consulting room or hospital work. In good condition for use on A.C. Mains.—Write, "E.," c/o DEAN & CO., 14, Baldwin's Gardens, Holborn.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
S.LID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS " £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists

181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS.

49, Chancery Lane, London, W.C.2.

'Phone: Holborn 6659.

INCOME TAX.

Consult me regarding all Income Tax and Accountancy matters. I guarantee satisfaction and immunity from tax worries.—For appointment write Mr. C. G. C. KILNER (*late H.M. Inspector of Taxes*), 17, George St., Baker St., London, W.1. ('Phone Welbeck 2012).

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

APPOINTMENTS.—Contd.

The Kent County Ophthalmic AND AURAL HOSPITAL, MAIDSTONE, requires an experienced Ophthalmologist as REFRACTIONIST to attend six Clinics (five mornings and one evening) per week.

The post is non-resident, with a salary at the rate of £250 per annum.

Applications, which may only be from fully qualified and registered Medical Practitioners, must reach the undersigned not later than April 17th.

JOHN W. STRICKLAND, Secretary.

The Royal Earlswood Institution, REDHILL, SURREY.
(Under Mental Deficiency Acts, 1913—27.)

JUNIOR ASSISTANT MEDICAL OFFICER required.

Applicants must be registered Practitioners, males, unmarried, and willing to assist in the games and amusements.

The appointment is temporary for six months. Inclusive salary at the rate of £250 per annum, with board, residence, and washing. Good facilities for post-graduate studies, classes, and examinations.

Applications, stating age, religion, and qualifications, with copies of three testimonials of recent date, and two references, to be sent on or before 15th inst. to the Medical Superintendent at the Institution. The envelope to be endorsed "Assistant Medical Officer."

H. STEPHENS, Secretary.

April 1st, 1931.

The Middlesex Hospital, W.1.

A vacancy is hereby declared for an ANAESTHETIST to the Hospital.

A vacancy will also occur for an ASSISTANT ANAESTHETIST to the Hospital. Applications for this latter post, accompanied by copies of testimonials, are invited to be sent to the undersigned, from whom particulars as to the form of the application may be obtained, by Saturday, May 16th.

Candidates must be qualified registered Medical Practitioners, and an honorarium of £100 per annum attaches to the post.

By Order of the Board,
S. R. C. PLIMSOLL,
April 10th, 1931. Secretary-Supt.

Victoria Hospital, Burnley.
(120 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN (male). The duties also include the giving of a certain number of anaesthetics. The appointment is for six months from May 1st, and carries a salary of £150 per annum, with board, etc. This Hospital is approved by the London University for the purpose of the M.B. and M.S. examinations.

Applications, with copy testimonials, should be addressed to the undersigned forthwith.

GEO. W. COOLING,
Secretary-Superintendent.

Wrexham & East Denbighshire WAR MEMORIAL HOSPITAL.
(109 Beds.)

RESIDENT HOUSE SURGEON required by the above Hospital, to commence immediately. Appointment for a period of not less than six months. Salary £150 per annum, with board and laundry.

Applications, stating age, nationality, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned immediately.

LESLIE SPENCER, Secretary.

Cumberland Infirmary
CARLISLE. (160 Beds.)
Resident Medical Staff—Four Qualified Officers.

Required at once, Resident Medical Officer as SECOND HOUSE SURGEON, or as HOUSE SURGEON in charge of Eye, Ear, Nose, and Throat Department. Six months' appointment. Male. Previous experience desirable, but not essential. Salary at the rate of £155 per annum, with board, residence, etc.

Apply at once, stating age, with copies of three testimonials, to the Secretary.

Burton-on-Trent General INFIRMARY.

Applications are invited for the post of JUNIOR HOUSE SURGEON (male). Salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, giving age and qualifications, together with copies of testimonials, to be sent to—

E. W. THORNLEY,
Secretary.

Greenock Royal Infirmary.

Wanted, a HOUSE SURGEON (lady) for May 1st. Salary £100 per annum, including board, residence, and laundry. Other two Residents on Staff. 150 beds. Good experience. Applications invited, with testimonials, to be sent to the *Secretary*, 2, Hamilton Street, Greenock.

JAS. A. LOVE, Secretary.

City and County of Kingston-upon-Hull.

APPOINTMENT OF ASSISTANT TUBERCULOSIS OFFICER.

The Corporation invite applications from Medical Practitioners (male), of not more than 40 years of age, for the appointment of Assistant Tuberculosis Officer, at a commencing salary of £600 per annum, rising by annual increments of £25 to a maximum of £700. Applicants should have held, prior to April 1st, 1930, an appointment as Tuberculosis Officer, with the approval of the Minister of Health, or should, subsequent to qualification:

(1) Have had at least three years' experience in the practice of their profession;
(2) Have spent in general clinical work a period of not less than eighteen months, of which not less than six months have been spent in a hospital as resident officer in charge of beds occupied by general medical or surgical cases; and
(3) Have received special training, for a period of not less than six months, in the diagnosis and treatment of tuberculosis.

The candidate appointed will work under the administrative supervision of the Medical Officer of Health, and will be immediately responsible to the Senior Tuberculosis Officer.

This appointment is a designated post under the Local Government and Other Officers Superannuation Act, 1922.

Application forms may be obtained from the undersigned, to whom they should be returned not later than April 22nd.

Guildhall, W. M. FRAZER,
Hull. Medical Officer of Health.
April, 1931.

Brentry Colony.

APPOINTMENT OF RESIDENT MEDICAL SUPERINTENDENT.

The Board of Management of the Brentry Colony for Male Mental Defectives, situate at Westbury-on-Trym, near Bristol, invite applications from registered Medical Practitioners having had special training and experience in the Treatment of Mental Disorders for the post of Resident Medical Superintendent of their Institution containing 324 beds. The salary is £650 per annum, rising to £750 per annum, with quarters, rations (or allowance in lieu thereof), washing, light, and coal.

Further particulars and form of application may be obtained from the undersigned.

EDMUND R. ABBOTT, Hon. Sec.
Brentry Colony, 13, Victoria Street, Westminster, S.W.1.

County Council of the County of STIRLING.

ASSISTANT TO THE COUNTY MEDICAL OFFICER.

Applications are invited for the appointment of an Assistant to the County Medical Officer, at a commencing salary of £500 per annum, rising by annual increments of £25 to £700, and actual travelling expenses.

Applicants must be duly qualified, and must hold the Diploma in Public Health or similar qualification, and have had some experience of Eye work. Canvassing prohibited.

Forms of application may be obtained from the undersigned, with whom applications (with copies of three recent testimonials) must be lodged not later than April 20th.

JAMES LEARMONTH,
County Clerk.
County Buildings, Stirling. April 2nd, 1931.

East Sussex County Mental HOSPITAL, HELLINGLY.

JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited for the above post from duly qualified registered gentlemen (unmarried).

Salary £350 a year, rising by two annual increments of £25 to £400, together with board, lodging, washing, and attendance, valued for superannuation purposes at £90 a year. An additional £50 a year will be paid if the candidate appointed holds the Diploma in Psychological Medicine, or a similar Diploma.

Preference will be given to those holding a University degree.

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, marked "A.M.O.," giving particulars of previous experience and copies of not more than three testimonials (*ad hoc*), should be addressed to the Medical Superintendent not later than April 24th.

Bedford County Hospital.
(124 Beds.)

HOUSE SURGEON (male) fully qualified, unmarried, required for a term of not less than six months, commencing April 22nd. Salary £175, with board, lodging, and laundry.

Applications, stating age, nationality, and qualifications, together with three recent testimonials, to be sent to the Hon. Secretary, Hon. Medical Staff Committee, as soon as possible.

Medical Practitioners' Union Agency Limited
56, Russell Square,
LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Ufabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

Telephone: WELBECK 2723.
Telegrams: "ASSISTIAVO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER*: 176, *Oxford Rd*
GLASGOW: 28, *Windsor Terr*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3162 Ardwick.

Messrs. R. SUMNER & Co., Ltd.,
Manufacturing Chemists,
40, HANOVER ST., LIVERPOOL.

PRACTICE for disposal near Burnley, receipts £700 per annum, number on panel 600; house on rental, or can be purchased; one year's purchase.

PRACTICE for disposal in large seaport in Co. Clare, number on panel 1,181; house, sale or rental.

For further particulars apply to the above.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 5932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

Eastern County.—An unopposed *Country PRACTICE* of £1,200 a year. Station near. Held over 30 years. Vendor returning. Panel over 750. *Good house and garden.* Rent about £40. *Premium* 1½ years' purchase.—No. 8829.

Death Vacancy. — £500 a year. Liverpool district. Held 32 years. Easily worked. Good fees. Panel 250. Premium £500 or offer.—No. 8828.

Western County. — Old-estab. Income over £500 a year. Panel over 1,200. *Good house and garden.* Agricultural and manufacturing district. Price £2,500.—No. 8825.

Seaside Resort.—N.W. Coast.— Over £2,000 p.a., scope. Panel 600. Very good schools. *Medium house, small garden.* Scope for surgery. Cottage Hospital.—No. 8824.

Northern 'Varsity City. — Over £1,600 p.a. Panel 1,500. 12/15 midwifery cases. Fees 5/6 to 5/- and up. Good house and garden.—No. 8823.

London, West End. — Electrical PRACTICE. About £1,500. *Fees usually 21/- upwards. Premium £2,000,* including apparatus, furniture, etc.—No. 8822.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 386. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

London, W. — £450 p.a., ample scope. Vendor retiring. Select panel 300. Fees 5/- to 21/-. Good house, with garden, *need not be taken.*—No. 8818.

S. Wales.—£850 with scope.— £750 from panel and contract work. Convenient house; surgery. Rent 17.6 p.w. *Premium £700.*—No. 8817.

London, S.E. — Woman's Practice. £550 or more. Panel 148. Fees 3/6 to 21/-. Small flat, with chance of additional accom. *Premium £650.*—No. 8811.

S.W. Scotland.—Near Coast.— £1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

London, S.E., near River. — Over £1,200. Half Partnership with succession in 12 months. 35 years in present hands. Dispensing, industrial. No midwifery. Panel £565. Bachelor could live in. £1,200, £800 down, for half.—No. 8806.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 5/6 to 21/-. No dispensing. Small panel.—No. 8799.

West Riding.—£1,030 p.a., increasing. Panel 400. *Appts. £45. Fees 5/6 to 10/6* and up. Midy. 5 to 7 gns. *Small modern house to rent or on mortgage.*—No. 8797.

S. Midland. — Country. — £480 and *scope to young man.* Small panel. Fees 2/6 to 7/6, excluding medicine. Good house, 7 bed., sep. surgery, etc., to rent or buy. *Premium only £300.*—No. 8796.

Favourite South Coast Resort.— Average £2,300. Panel 1,500. Fees 7/6 up. Excellent house, 6 bed., 2 reception., and large garden, to rent or buy.—No. 8762.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants.

Full particulars on application to Mr. Percival Turner.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,
MEDICAL TRANSFER AGENCY,
19, Craven Street, Strand, W.C.2.
Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. LONDON, S.E.—*Death Vacancy.*—Old-established *cash and panel PRACTICE* for immediate disposal. Receipts average nearly £1,800 p.a., including panel 1,395. Surgery rent £69. Premium £2,500. Locum in charge.
2. LONDON, S.E. (nice residential part).—Half share of PRACTICE doing £3,000 p.a. *Good panel. House or flat available.* Premium 2 years' purchase, payable about £1,000 down, rest spread over 3 or 4 years.
3. LONDON, S.W.—Well-established cash and panel PRACTICE. Receipts about £2,500 p.a., panel over 2,000. Rent of flat £100 p.a. Prem. £4,000, payable £2,000 down.
4. LONDON, S.E. (7 mins. Charing Cross).—Lady Doctor's PRACTICE for sale. Receipts average £550 p.a., panel 150. Nice flat available, rent £60. Premium £600.
5. LONDON, S.W.—Lady Doctor's small PRACTICE for sale. Receipts £150 p.a., panel over 130. Lock-up surgery. Illness cause of selling. Premium £200, including furniture, drugs, etc.
6. LONDON, S.E.—Small well-established PRACTICE, capable of increase. Receipts £250 p.a., panel 185. Surgery rent 25/- per week, inclusive. Premium £350.
7. Near CAMBERWELL GREEN.—Well-established cash and panel PRACTICE. Receipts last 12 months £1,900, panel 1,100. House, rent to be arranged, lease granted. Premium £3,000.
8. LONDON, S.E. — Old-established working-class PRACTICE, held 35 years by Vendor, now retiring. Receipts £1,200 p.a., panel 1,250. Rent £60 p.a., long lease. Premium £1,600.
9. LARGE SEAPORT TOWN, NORTH.—*Death Vacancy.*—*Old-established PRACTICE,* held 24 years by late Vendor. Receipts £1,600 p.a., non-panel. Rent of rooms, including lighting, £100. Premium only £800.

No charge to purchasers or for enquiries.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT

The
Medical Insurance Agency
(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054 & 1034, RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

YORKS, N.—Well-established G.P. in busy thickly populated town, with excellent prospects of still further development. Suitable for two friends in Partnership; preferably one should be R.C. Receipts approx. £3,000. Panel 3,200. Fees 3/6 up. Choice of houses, two available. Good hospitals and schools. Scope for Surgery and Gynaecology if desired. Premium £6,000 cash.

SURREY.—PARTNERSHIP in rapidly developing residential locality, with splendid scope. Receipts approximately £1,000 p.a. Panel nearly 300. Fees 2/6 up. Premium for 2/5ths share, 2 years' purchase. Excellent opportunity for young and energetic man.

BUCKS.—Under 25 miles from London.—Middle-class G.P. Good-class residential locality. Modern house to rent on lease. Receipts over £400 p.a. Fees 3/6 up. Increasing population. Good schools. Premium £600. Suitable for semi-retired Practitioner, or one with private means.

NORTH-WEST COAST.—PARTNERSHIP in old-established good-class non-panel and non-dispensing Practice. Suitable house available. Receipts approx. £3,600. Fees 10/6 up. One-third share, with view to half and possible succession, 1½ years' purchase, cash. Excellent scope for Physician.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approx. £300 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

KENT.—Within easy reach of London.—Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Premium £1,300. Excellent scope for energetic man.

LONDON, S.E.—Well-established middle and working-class PRACTICE in residential locality. Receipts nearly £1,000. Growing panel of 924. Medium-sized house. Fees 2/6 up. Excellent scope for energetic man. Premium 1½ years' purchase.

BEDFORDSHIRE. — PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

LONDON, E. — SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £30 p.a. Fees 2/- up. Average receipts £516. Panel 350. Excellent scope for young man. Premium for Practice and lease, £1,050 cash or near offer.

LONDON, S. — PARTNERSHIP in growing middle and working-class Practice. Suitable house available. Earnings approximately £6,600. Panel 4,800. Excellent scope. Suitable to young and energetic man having a speciality, preferably Gynaecology. Premium for one-sixth share, with view to one-quarter share, 2 years' purchase.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for Surgery. Premium third share with view to larger share £1,300.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery, scope. Suitable house available. Premium 1½ years' purchase.

S.W. COAST.—Well-established general PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220, growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £300.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.

(Temple Bar 3873.) —— (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. BUCKS.—£1,200 p.a. Panel about £300. Rapidly increasing attractive district, with educ. and social facilities. Small house, garden, garage, on lease. Price £1,500.
2. VICTORIA PARK.—Lock-up (resid. accom. if required).—Very old-estab. Income £625. Ample scope. Rent on lease £55. Price £750.
3. LONDON, N.—Old-estab. PRACTICE, average over £1,200. Panel 1,100. Ample scope for resident owner. Rent £70, lease. Price (6 months' introd.) £2,100.
4. MIDLANDS.—PARTNERSHIP.—Half share of Practice within 5 miles of county town. Income £2,000. Panel £1,000. Price 2 years' purchase.
5. SEASIDE.—PRACTICE of £2,000. Panel and appts. £800. Safe investment. Good house and grounds. Price 1½ years' pur.
6. LONDON, S.E. — Lucrative PRACTICE of £2,000. Panel 1,200 (growing). Rent £80. Accom. limited. Car. Price 1½ yrs.' pur.
7. LONDON SUBURB, W.—PARTNERSHIP in Practice of £2,000. Panel over £700. Nice house, garden, garage, at £100. Two-fifth share at first.
8. HANTS.—Country PRACTICE (unop.) £750. Panel and appts. Price £1,000. Capital family residence for sale.
9. GOLFING S.E. SUBURB.—Very promising NUCLEUS £350. Capital house, ideal [illegible] garden and garage, rent moderate. Any reasonable offer accepted.
10. REQUIRED by Capitalist. Income of £800—£1,200. Near London or Southern County. Details in confidence.

THE

WESTERN MEDICAL AGENCY

(DR. K. H. BENNETT, DR. W. J. PARAMORE.)

PHOENIX CHAMBERS, 22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. MIDLANDS.—Cathedral Town.—Good PRACTICE. Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a. Premium 1½ years' purchase
2. CHESHIRE BORDERS.— One-third share of PARTNERSHIP, averaging £2,000 p.a. Pleasant country district. Panel over 1,700, Plenty of scope. Prem. £1,000. Suit young doctor. Purchaser could live with Vendor.
3. SOUTH WALES. — Large City. — Industrial PRACTICE averaging £600 p.a. Opposition not strong. Good house to buy or rent. Premium £600.
4. S. DEVON. — Old-established PRACTICE, averaging £2,400 p.a., for sale in favourite town. Panel 1,500, increasing. Large house in grounds, for sale or rent. Seaside. Ideal climate.
5. INDUSTRIAL PRACTICE. — Old-established Industrial and Contract Practice in South-West Wales. Panel 1,300. Opposition weak. Receipts over £1,300. Good house on lease. Premium £1,600.
6. WEST OF ENGLAND [illegible].—Ear, Nose, a[illegible] Three Hospi[illegible] p.a. audited. Exc[illegible] nts
7. NEAR CHESH[illegible] 00. PARTNERSHIP returning last year £830 net. Mostly panel and contract work. Car [illegible] of not essential. Good house to rent £78 p.a. Good schools, two Hospitals. Premium £950.
8. SOUTH-WESTERN COUNTY. — One-sixth to one-third share of Partnership, over £5,500 p.a. Good scope for Surgeon. Four Hospitals and Nursing Home near. Applicants should be about 30-35. Panel 4,100. Several appts. Good house. Near sea. All sports. Premium 2 years' purchase.
9. WEST OF ENGLAND CITY. — PARTNERSHIP.—Half Share in sound mixed general Practice. Receipts about £2,000 p.a. Panel 2,120. Central Surgery. Good scope for increase. Prem. 1½ years. Choice of resid.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency.

71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. NORTHERN UNIVERSITY CITY.—Old-estab. middle-class PRACTICE. Receipts average £1,603 p.a. Panel 1,500, and increasing. Good fees. Nice house, garden, etc.
2. LINCOLNSHIRE. — Well-estab. Unopposed country, working, and middle-class PRACTICE. Receipts average £1,173. Panel 767. Good house to rent, 5 beds., garage, etc.
3. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope Good house, etc.
4. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
5. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.s., transfer. Good house, garage, and all conven.
6. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district Receipts £1,572. Panel 500. Appts worth £118. Good house, garage, etc.
7. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.
8. LANCASHIRE.—Old-established and Industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: { MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with *every confidence* to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly *trustworthy* medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

MANCHESTER. — INDUSTRIAL DISTRICT. — PARTNERSHIP in old-estab. Practice. Average cash receipts £6,000 p.a. Panel 6,865. Premium—1/5 share—1½ years' purchase, part by arrangement. Further share later. Purchaser may make own arrangements as to residence.—No. 249.

LIVERPOOL (Near).—Cheshire Coast Town. Average cash receipts £1,187 p.a. Panel 783. Much scope. Good double-fronted house (freehold), 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100.—No. 248.

MANCHESTER.—PLEASANT RESIDENTIAL SUBURB.—Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purch. Vendor retiring.—No. 246.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistantship. Purchaser could live with Vendor. Premium—one-third share—£1,000.—No. 245.

MANCHESTER. — Old-established PRACTICE. Average cash receipts £2,561 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 63.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. House to rent, 2 reception, 3 bedrooms. Premium 1½ years' purchase.—No. 194.

CHESHIRE COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

MANCHESTER (near).—PARTNERSHIP in old-estab. Practice. Average cash receipts £1,766 p.a. Appointments and panel about £500 Hous. available, 2 reception, 6 bedrooms. Premium—half share—1½ years' purchase.—No. 224.

LANCS TOWN.—Old-established PRACTICE. Average cash receipts £1,200. Panel 900. Great scope. Excellent house, 2 reception, 4 bedrooms. Garage. Prem. 1½ years' purchase.—No. 178.

NEAR NORTH-EAST COAST. — SEASIDE RESORT. — Country PRACTICE.—Average cash receipts over £1,000 p.a. Income from panel £470 p.a. Good house, 2 reception, 4 bedrooms. Garage and large garden. Rent £55 p.a. Premium £600 for quick sale.—No. 220.

YORKSHIRE (W.R.). — PARTNERSHIP in Industrial Practice. £2,500 p.a. Large panel. One-third share offered after preliminary assistantship at £400 p.a., with house rent free.—No. 245.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential — Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No 234.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Touch, Belfast.")

LIVERPOOL (Near). — Old-established *middle-class* PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Prem. 1½ years' purchase.—No. 209.

MANCHESTER. — RESIDENTIAL DISTRICT. — Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium £1,000 (or near offer).—No. 191.

CHANNEL ISLANDS.—PRACTICE in beautiful district. Cash receipts last year £425. Excellent house, 2 reception, 3 bedrooms. Garage and large garden Premium—Practice—£500. —No. 167.

MANCHESTER. — INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—No. 173.

NORTH-WEST COAST.—SEASIDE RESORT.—Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 550. Excellent freehold house in good position facing Sea, 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £552 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium 1½ years' purchase.—No. 226.

SOUTH COAST.—SEASIDE RESORT.—PRACTICE. Average cash receipts £745 p.a. Panel 700. Excellent house, 3 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 197.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT A VIEW. Good salaries offered. State full particulars

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch.

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 LONDON, S.E.—Good-class Practice averaging £2,800 p.a. in one of the best residential suburbs. Small select panel. Good house (5 bedrooms) to rent. Premium £3,500.

2 LONDON, E.C.—City Practice. Receipts 1930, over £1,500. Consultations mainly £1 1s., some £1 11s. 6d. and £3 3s. Excellent consulting rooms. Premium 1½ years' pur.

3 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

4 DERBYSHIRE. — Country Practice £450 p.a., close to important town. Panel 228. House (3 large bedrooms), with good garden and garage, for sale or rent. Plenty of scope. Premium £500.

5 HOME COUNTIES.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Prem. £300.

6 ISLE OF MAN. [illegible] Practice in small Seaside Town. Rece[illegible], 350 from panel). Nice compact l[illegible] for sale. Sport. Premium £1,200, or offer.

7 DEATH VACANCY.—NORTH WALES. —PRACTICE of over £1,850 p.a. (£400—£500 from Consulting work—mainly Surgical) in beautifully situated town with Hospital. Small select panel. Suitable house for sale or rent. Very good opening for Surgeon.

8 SURREY. — Partnership in Practice in desirable residential town. Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

9 CHESHIRE. — Partnership (after preliminary Assistantship) in Practice over £2,500 p.a. in manufacturing town. Panel 2,100. Plenty of sport. One-third share to suitable man at 2 years' purchase.

10 SOUTH OF ENGLAND. — Small easily worked PRACTICE about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

11 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

12 DEATH VACANCY. — London, S.W. — PRACTICE over £950, close to Victoria. Panel 795. Shop-fronted house, with garage and garden, to rent on lease. Ample scope.

13 HOME COUNTIES. — Partnership in steadily increasing Country Town Practice of about £5,000 p.a. Panel over 3,000. Incoming Partner must be well qualified, aged about 30, with Hospital experience. Good Hospital and scope for surgery. Premium one-fifth share 1½ years' purchase.

14 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope. Premium £1,200.

15 BEDS.—Increasing Country Practice doing about £600 p.a. Panel 650. Centrally situated house to rent. Scope for increase. Premium £500 for quick sale.

16 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

17 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a. in attractive country town on coast. Panel about 500. Suitable house to rent. Hospital. Share to suitable man after preliminary Assistantship.

18 LONDON, N.W. — Nucleus of Practice in residential district. Income last year £300. Panel 150, rapidly increasing. Detached corner residence, in good position, for sale. Scope. Premium £300.

19 FAVOURITE HOME COUNTY.—Practice over £2,000 p.a. in pleasant residential country town within 50 miles of London. Panel 1,080. Well-situated detached house (6 bed and dressing rooms), garage, and large garden, for sale or rent. Scope for increase. Premium 2 years' purchase.

20 EAST ANGLIA.—Partnership in Practice over £3,000 p.a. in beautiful country district near the coast. Panel 2,080. Good house (8 bed and dressing rooms), garage, and half acre garden, to rent. Two-fifths or one-half share at 2 years' purchase. Oxford, Cambridge, or London Graduate preferred.

21 EAST COAST.—Practice of £1,050 p.a. in small attractive seaside resort. Panel 225. Modern detached house (5 bedrooms), garage, and garden, for sale. Excellent sport and educational facilities. Premium 1½ years' purchase.

22 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good-class Practice in charming little residential seaside resort. Suitable house to rent. Share of £800—£900 after preliminary Assistantship. Applicant should be aged 28—35, and preferably a Graduate of Cambridge or Oxford. Cottage Hospital and scope for Surgery if desired.

23 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, to rent. Scope for increase. Premium £2,250.

24 MIDDLESEX. — Partnership in Practice nearly £2,800 p.a. in rapidly growing Industrial Town. Panel over 2,500. Suitable house could be obtained. Cottage Hospital. Great scope. Premium one-third share 2 years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

25 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,250. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 2 years' purchase.

26 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

27 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

28 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

29 LONDON, S.W.—Practice averaging £880 p.a. in suburban district. No panel, appointments, or midwifery. Large double-fronted house on main throughfare for sale. Scope for panel and midwifery. Premium £1,200.

30 W. OF ENGLAND. — Practice, £450 p.a., increasing, in Cathedral City. Panel 570. Semi-detached house (4/5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

31 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

32 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

33 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

34 MIDDLESEX.—Partnership in good residential outlying suburban district. Very attractive detached house (8 bed and dressing rooms) in own grounds, with garage and good garden, to rent. Cottage Hospital. Share worth £1,020 p.a. at 2 years' purchase.

35 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

36 SURREY.—Practice averaging £900 p.a. in attractive residential country district. Panel 300. House (6 bedrooms), garden one and a half acres, garage, to rent on lease.

37 S. COAST. — Partnership in Practice between £1,600/£2,000 p.a. in fashionable watering-place. Panel over 900. Partner should be young, with knowledge of minor Surgery. Premium one half share 2 years' purchase.

38 LONDON, W. — Middle-class Practice of over £800 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,100.

39 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

40 S.E. ENGLAND. — Small Practice about £500 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

41 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). Premium £550.

42 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., for sale. Golf. Premium £1,000.

43 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

44 S.W. OF ENGLAND. — Third Partner required in Practice, over £5,600 p.a., in small Industrial Town. Panel 4,100. Suitable house to purchase. Excellent scope for Surgery. One-sixth share at first at 2 years' purchase. Preliminary Assistantship.

45 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

46 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

47 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £680 p.a. Small panel. No midwifery. Six-roomed house to rent. Premium £800, to include drugs, etc.

48 S. OF ENGLAND. — Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one fourth share, £1,750. Preliminary Assistantship.

49 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

50 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

51 YORKSHIRE (W.R.). — Partnership in non-dispensing Practice in residential town and Health Resort. Panel 800. After preliminary Assistantship, share gradually increasing to one-half (worth about £1,600 p.a.) at 2 yrs.' purchase.

52 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small House, rent £50. Scope for large increase. Premium £400.

53 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

54 KENSINGTON. — Small good-class non-dispensing PRACTICE of about £450 p.a. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

55 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

56 OXON.—Partnership in Country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one third share 2 years' purchase.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BOUND & STOCKED) *Post free 1/6*

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telephone: TEMPLE BAR 1616 (3 Lines).

Telegrams: BOVMEDICAL, WESTRAND-LONDON.

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.

Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. PARTNERSHIP.—NORTH-WEST COAST.—Popular Seaside Resort.—The third share, with option up to half in 3 years, of very old-established non-dispensing good middle-class Practice, averaging over £4,200 p.a. (last year £4,567), including panel £300. Held many years by Vendor. Visits 3/6 to 21/-. Good house available on lease. Premium 2 years' purchase, part by instalments. Ingoing partner should be about 30 years of age and able to do minor surgery. Hospital in town.

2. MIDLANDS. — LARGE INDUSTRIAL TOWN. — Mixed private and panel PRACTICE, averaging between £2,700 and £2,800 p.a., including panel of approximately 3,600. Fees 1/6 to 2/6, visits from 3/6. No midwifery, but large scope. Lock-up Surgery, with two consulting rooms, waiting room and dispensary, etc. Rent 25/- per week. Premium £5,000, or near offer for prompt sale, owing ill health.

3. DEATH VACANCY.—NORTH WALES.—Pleasant Coastal Town amidst beautiful surroundings. — Old-established Practice, averaging over £1,800 p.a., including appt. worth £90 and panel of 400. Visits 3/6 to 10/6, occasionally 21/-. Large house in 1/2 acre of garden. Price, freehold, £3,500, or might be rented. Can be easily divided, leaving professional accommodation, 2 sitting, 5 bedrooms, bathroom, etc., at rental of £80. Premium £2,000. Excellent scope for surgery. Good Hospital

4. LONDON, WEST CENTRAL.—Old-established and increasingly mixed-class PRACTICE, producing for immediate past 12 months £1,790, including panel of 1,590. Fees 2/6 t [illegible] House in excellent repair, contains 2 recepti [illegible] etc. Price for freehold £2,500. Premiu [illegible] purite

5. CORNISH [illegible] ,150, resort, hav [illegible] Fees including l [illegible] 4 miles. [illegible] house, 3 6 to 21/- [illegible] with 2 reception, 6 bedrooms, etc., and professional rooms. Good garden. Rent on lease, £52 p.a. Premium £1,650.

6. HANTS.—Easily worked Country PRACTICE within about 60 miles of London. Receipts for the last 12 months over £1,000, with panel of 450. Visits from 7/-. Nice house, with 3 reception, 6 to 7 bedrooms, etc. Good professional accommodation. Large garden. Freehold for sale. Premium 1½ years' purchase.

7. LONDON, E.C. (near Holborn Circus).—Old-established mainly working-class PRACTICE, averaging over £700 p.a. (last year £750), including recently started panel of 360. Fees from 2/-. No midwifery. Six-roomed house, with good professional accommodation. Rent on lease £95 p.a. Premium £1,000.

8. LONDON, EAST.—Well-established mixed-class PRACTICE, averaging about £1,150 p.a., including panel of 1,400. Small house, with 1 reception, 2 bedrooms, etc., and 3 professional rooms. Rent on lease £13 per quarter. Premium £2,000.

9. SURREY.—Favourite residential district within easy reach of London. —Mixed class PRACTICE, averaging £900 p.a. (last year £997), including panel of 500. Good fees. Nice house, with 3 reception, 6 bedrooms, etc. Separate entrance to professional rooms. Garden, with tennis court. Can be rented on lease. Premium £1,600.

10. EASTERN COUNTIES.—About 50 miles from London and within 10 miles of County Town.—Old-established PRACTICE in pretty country dist [illegible] last year over £800, including appt. £60 and pan [illegible] commodation (bathroom h. and c.). Gar [illegible] las. Rent £52 p.a., or freehold can [illegible] purchase.

11. DE Re ch ov [illegible] ES.—Pleasant Seaside and Health averaging over £1,800 p.a., in- l of 400. Visits 3/6 to 10/6, and 1/2 acre of garden. Price, freehold. £3,500, or might be rented. Can be easily divided, giving professional, 2 sitting and 2 bedrooms, etc. Rent £80. Premium £2,000. Good Hospital.

12. HOME COUNTY.—Unopposed Country PRACTICE, producing about £500 to £600 p.a., including panel of 650. Small house on main road, with 2 reception, 3 bedrooms, etc., and professional rooms. Rent on lease £52 p.a. Good sport and schools within reach. Low premium for quick sale.

13. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.

14. NORTH WALES.—PARTNERSHIP.—A one-third share is offered in [illegible] mixed-class Practice producing over £1,700 p.a., including [illegible] of 470 and appts. of about £100 p.a. Fees 3/6 to 21/-. Pur- [illegible] Bachelor, could reside with Vendor. Good sport and schools. Pr [illegible] years' purchase.

15. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium 1½ years' purchase. Ill health reason of sale

16. WEST MIDLANDS.—Easily worked PRACTICE in residential village within easy reach of two good towns, and having very pretty surrounding country. Receipts average over £1,000 p.a., including panel of 500 and an appt. worth £150. Nice house with good garden and land of about 2 acres. Price for freehold £1,600. Fishing, hunting, etc. Premium 1½ years' purchase.

17. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.

18. YORKS.—LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,500 p.a., including panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and dressing room, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase, chiefly by instalments.

19. PARTNERSHIP.—LONDON, NORTH.—A two-fifths share (to commence with) is offered in a well-established non-dispensing Practice, situated in pleasant and rapidly developing residential suburb. Cash receipts £2,600 to £2,700 p.a. There is considerable scope for surgery at good fees, which latter it is proposed ingoing Partner should retain. Patients good middle-class. Incomer, if unmarried, can live with Vendor, but no difficulty anticipated in obtaining suitable house. Premium [illegible]

20. NORTH [illegible] Town. — Very sound steadily increasing [illegible] PRACTICE, offering good scope. Gross cas [illegible] onths £3,408, including panel of 2,794. [illegible] house with 3 reception, 5 bedrooms, et [illegible] on mortgage. Good sport and schools. [illegible] Very suitable for two friends in partnership.

21. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.

22. WITHIN 15 MILES OF LONDON.—Developing neighbourhood.—PARTNERSHIP.—A one-half share is offered in a steadily increasing PRACTICE owing to the retirement of the senior partner. Gross cash receipts for last twelve months £2,696. Panel of over 1,000. Good house with 3 reception, 6 bedrooms, etc. Nice garden. Price £1,400, part on mortgage. Good sport and schools. Prem. 2 years' purchase.

23. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.

24. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs. [illegible] Ill-health reason for sale.

25. [illegible] within easy reach of Plymouth—[illegible] in a very old-established mixed-class Practice, [illegible] a., including panel of 850. Fees 3/6 to 21/. Not [illegible] Good house, with 3 reception, 6 bedrooms, etc. [illegible] hold £2,000. Sport of all kinds. Premi [illegible] ted PRACTICE, produc- ing last year ne [illegible] panel of 1,700. Fees 3/6 to 21/-. [illegible] d modern house, with special profession [illegible] age. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase

27. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.

28. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts average about £1,700 p.a., including appt. £70 and panel of over 1,000. Good house, with ample accommodation. Small garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.

29. NEW ZEALAND. — (North Island). — Well-established PRACTICE, situated within 20 miles of Capital City, and producing £1,500 p.a. Two-storied house (surgery, waiting room, 3 reception, 4 bedrooms, bathroom, etc.), in half an acre of garden. Price for Practice and house £3,500, £1,000 cash and rest on mortgage. Good scope for surgery. Private hospital. Golf, tennis, etc.

30. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,157, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 6 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £51 p.a. Sport of all kinds. Premium 1½ years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

Who is your Patient?

A MAN or woman? Adult or child? A very necessary question when you prescribe a remedy for constipation—unless it is Agarol Brand Compound the original mineral oil and agar-agar emulsion with phenolphthalein. Then you need to give thought only to the dose. And that is simple. Begin with a tablespoonful for adults and a teaspoonful for children, at bedtime. Reduce the dose as improvement takes place.

No excess of mineral oil to make adjustments of the dose necessary. An emulsion as fine as it can be made, that mixes thoroughly with the intestinal contents, carries unabsorbable moisture to them and makes evacuation easy and painless.

Besides, it *gently stimulates* peristalsis, and thereby makes the result certain and the re-education of the bowel function possible.

One tablespoonful at bedtime —is the adult dose

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

AGAROL BRAND COMPOUND *for Constipation*

FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C. 1.

Prepared by WILLIAM R. WARNER & CO., INC. *Manufacturing Pharmacists Since 1856.*

LONGMANS

GRAY'S ANATOMY, DESCRIPTIVE AND APPLIED

TWENTY-FOURTH EDITION. Edited by Professor T. B. JOHNSTON, M.B., Ch.B.
With Illustrations, many of which are coloured. 8vo. 42s. net.

A MANUAL OF PRACTICAL ANATOMY

A Guide to the Dissection of the Human Body

By THOMAS WALMSLEY, M.D. With a Preface by THOMAS H. BRYCE, M.A., M.D., F.R.S.
In Three Parts. 8vo.
Part I.—The Upper and Lower Limbs. 9s. net. Part II.—The Thorax and Abdomen, 10s. 6d. net.
Part III.—The Head and Neck, 10s. 6d. net.

THE HEART

By THOMAS WALMSLEY, M.D. (Being Quain's Elements of Anatomy, Vol. IV, Part III).
With Coloured Plates and other Illustrations. Royal 8vo. 16s. net.

PRINCIPLES OF GENERAL PHYSIOLOGY

By Sir W. M. BAYLISS, M.A., D.Sc., LL.D., F.R.S.
FOURTH EDITION. With Illustrations. 8vo. 28s. net.

BAINBRIDGE & MENZIES' ESSENTIALS OF PHYSIOLOGY

SIXTH EDITION. Edited by HAMILTON HARTRIDGE, F.R.S.
With Illustrations, some of which are in colour. 8vo. 14s. net.

THE ESSENTIALS OF CHEMICAL PHYSIOLOGY

For the Use of Students

By W. D. HALLIBURTON, M.D., LL.D., F.R.C.P., F.R.S.; J. A. HEWITT, Ph.D., D.Sc.; and W. ROBSON, Ph.D., D.Sc.
TWELFTH EDITION. With coloured Plate and numerous Illustrations. 8vo. 9s. net.

AN INTRODUCTION TO HUMAN EXPERIMENTAL PHYSIOLOGY

By F. W. LAMB, M.D. With a Foreword by A. V. HILL, Sc.D., F.R.S.
With Illustrations. 8vo. 12s. 6d. net.

SENSATION AND THE SENSORY PATHWAY

By JOHN S. B. STOPFORD, M.A., F.R.S.
With Illustrations. 8vo. 7s. 6d. net.

THE ESSENTIALS OF HISTOLOGY

Descriptive and Practical. For the Use of Students

By Sir EDWARD SHARPEY-SCHAFER, F.R.S.
TWELFTH EDITION. Revised by the Author, with the co-operation of H. M. CARLETON, Ph.D.
With 700 Illustrations, many of which are in Colour. 8vo. 15s. net.

EXPERIMENTAL PHYSIOLOGY

By Sir EDWARD SHARPEY-SCHAFER, F.R.S.
FOURTH EDITION. With 92 Illustrations. 8vo. 6s. net.

THE INTERNAL SECRETIONS OF THE OVARY

By A. S. PARKES, M.A., Ph.D., D.Sc.
With Illustrations. 8vo. 21s. net.

39, PATERNOSTER ROW, LONDON, E.C.4

BAILLIÈRE, TINDALL & COX'S

RECENT PUBLICATIONS

¶ "This work supplies the needs of the student and practitioner more closely than any other."—*British Medical Journal.*

13TH ED. ROSE & CARLESS' SURGERY 13TH ED.

By CECIL P. G. WAKELEY, F.R.C.S., and JOHN B. HUNTER, F.R.C.S.

Special Contributors:—W. E. CARNEGIE DICKSON; V. E. NEGUS; N. BISHOP HARMAN; EARDLEY HOLLAND; C. F. HADFIELD; Sir FRANK POWELL CONNOR; H. GRAHAM HODGSON.

Size 9½ × 6½. Pp. xiii + 1,592, with 654 Illustrations, 19 Coloured Plates, and a Radiographic Supplement of 43 Radiograms. Price 30s.

¶ "*An exceptionally clear and reliable guide to basic technical procedures.*"—JOURNAL OF PATHOLOGY.
¶ "*The work has been well and carefully done, and complete reliance may be placed upon it.*"—PUBLIC HEALTH.

EYRE'S BACTERIOLOGICAL TECHNIQUE

By J. W. H. EYRE, M.D., M.S., F.R.S.Edin., Professor of Bacteriology, University of London.

THIRD EDITION. Size 5½ × 8½. Pp. xii + 619, with 238 Illustrations. Price 21s. Postage 9d.; Abroad 1s.

SECOND EDITION.

HADFIELD'S PRACTICAL ANAESTHETICS

By CHARLES F. HADFIELD, M.B.E., M.A., M.D.Camb., Anaesthetist and Lecturer on Anaesthetics, St. Bartholomew's Hospital.

¶ "*This excellent handbook is eminently suited to the general practitioner. The advice is sound and the descriptions of methods and of principles involved are always clear and logical.*"—LANCET.

Pp. xvi + 304, with 32 Illustrations. Price 7s. 6d. Postage 6d.; Abroad 9d.

¶ "*The most exhaustive treatise on Midwifery produced in these Islands.*"—BRITISH MEDICAL JOURNAL.

JELLETT & MADILL'S MANUAL OF MIDWIFERY

FOURTH EDITION. Size 9½ × 5½. Pp. xii + 1,231, with 570 Illustrations. Price 25s.

¶ "*It constitutes a valuable contribution to the literature on the subject. It cannot be ignored.*"—MEDICAL TIMES.

THE THEORY OF OBSTETRICS

A Functional Study of Child-bearing based on a new definition of Normal Labour and on a new theory of Uterine Inertia, and Illustrated by a Detailed Statistical Analysis of 100 consecutive Labours, and some Records of Cases of Painless Labour.

By M. C. DE GARIS, M.D., Author of "Clinical Notes and Deductions of a Peripatetic."

Size 5½ × 8½. Pp. × 11 + 272. Price 12s. 6d. Postage 6d.; Abroad 8d.

¶ "*A concise and well illustrated volume in which material of the utmost importance to the student and practitioner is clearly set out and admirably indexed.*"—BRITISH MEDICAL JOURNAL.

DISEASES OF INFANTS AND CHILDREN

By F. M. B. ALLEN, M.D., Assistant Physician, Belfast Hospital for Sick Children.

Size 5½ × 8. Pp. viii + 595. Price 15s. Postage 6d.; Abroad 9d.

¶ "*One of the best of the text-books upon diseases of the eye intended for the use of students or practitioners.*"—EDINBURGH MED. JOURN.

MAY & WORTH'S DISEASES OF THE EYE

SIXTH EDITION. Demy 8vo. Pp. viii + 460, with 337 Illustrations, including 23 Coloured Plates. Price 15s. Postage 9d.

¶ "*Indispensable as a trustworthy guide . . . should be read and referred to by all who are called into relation with the mentally defective.*"—JOURNAL OF MENTAL SCIENCE.

TREDGOLD'S MENTAL DEFICIENCY

By A. F. TREDGOLD, M.D., Lecturer on Mental Deficiency, London University.

FIFTH EDITION. Size 9 × 6. Pp. xvi + 520, with 35 plates. Price 25s. Postage 9d.; Abroad 1s.

¶ "*Dr. J. Ernest Nicole has provided an excellent survey.*"—LANCET.
¶ "*He has made a most important contribution to current literature on psychology.*"—INDIAN MEDICAL GAZETTE.

PSYCHOPATHOLOGY. A Survey of Modern Approaches

By J. ERNEST NICOLE, L.M.S.S.A., D.P.M.R.C.P. & S. With Foreword by W. H. B. STODDART, M.D., B.S., F.R.C.P.Lond

Size 5½ × 8½ Pp. xii + 203. Price 10s. 6d. Postage 6d.; Abroad 9d.

BAILLIÈRE, TINDALL & COX, 7 & 8, Henrietta Street, London, W.C.2

From EDWARD ARNOLD & CO.'S List

DISEASES OF WOMEN

By TEN TEACHERS, under the direction of COMYNS BERKELEY, M.D., B.S., F.R.C.P., F.R.C.S. **Fourth Edition**, completely rewritten. xii + 558 pages, 8 Plates and 186 Illus. Price reduced to 18s. net.†

A System of CLINICAL MEDICINE

By THOMAS DIXON SAVILL, M.D. Lond. **New (Eighth) Edition.** Revised by Dr. AGNES SAVILL and Others. xxviii + 1,016 pages. 4 Coloured Plates and 176 Illustrations. 28s. net.†

"The editor and her collaborators are to be congratulated on having brought the present edition of this deservedly popular work well up to date."—BRITISH MEDICAL JOURNAL.

A MANUAL OF PHARMACOLOGY

By W. E. DIXON, M.A., M.D., B.Sc., F.R.S., Examiner in Pharmacology in the Universities of London, Oxford, and Cambridge. **Seventh Edition.** xii + 486 pages. 95 Illustrations. 18s. net.

LECTURES ON DISEASES OF CHILDREN

By ROBERT HUTCHISON, M.D., F.R.C.P., Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street. **Sixth Edition.** viii + 476 pages. 104 Illustrations. 21s. net.

Garrod, Batten & Thursfield's DISEASES OF CHILDREN

Second Edition, with Contributions by 36 Authors. Edited by HUGH THURSFIELD, D.M., M.A., F.R.C.P., and DONALD PATERSON, M.D., F.R.C.P., Physicians to the Hospital for Sick Children, London. xii + 1,106 pages. 205 Illustrations. 45s. net.†

SURGERY OF CHILDHOOD

By JOHN FRASER, M.D., *Ch.M., F.R.C.S.Edin.*, Regius Professor of Surgery in the University of Edinburgh. Two Volumes. xii + 1,154 pages, 598 Original Illustrations. 42s. net.†

INSOMNIA: An Outline for the Practitioner

By H. CRICHTON-MILLER, M.D.(Edin. and Pavia)

Hon. Director, Tavistock Square Clinic for Functional Nervous Disorders.

xii + 172 pages. 10s. 6d. net.

This attractively written book includes some account of the various theories of sleep, and its therapeutic advice will be found useful in the treatment of many functional nerve cases.

"The work is to be cordially recommended. It serves as an admirable introduction and up-to-date review of a difficult subject."—LANCET.

† *Prospectus available*

LONDON: EDWARD ARNOLD & CO., 41-43, MADDOX STREET, W.1

JUST PUBLISHED. 49th YEAR.

With many Text Illustrations and 70 Plain and Coloured Plates. 20/- net. Postage 9d.

MEDICAL ANNUAL, 1931

A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX. A Review of the Year's Progress in Medicine and Surgery, arranged in Alphabetical order.

EDITORS: CAREY F. COOMBS, M.D., F.R.C.P., and A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.

CONTRIBUTORS:

ABDOMINAL SURGERY: A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.
ANÆSTHESIA: JOSEPH BLOMFIELD, O.B.E., B.A., M.D.Camb.
CHEST SURGERY: A. TUDOR EDWARDS, M.A., M.D., M.Ch., F.R.C.S.
CHILDREN, MEDICAL DISEASES OF: REGINALD MILLER, M.D., F.R.C.P.
CHILDREN, SURGICAL DISEASES OF: JOHN FRASER, M.C., M.D., F.R.C.S.E.
DENTAL SURGERY: L. E. CLAREMONT, M.D.S., L.D.S., R.C.S., M.R.C.S., L.R.C.P.
DIABETES: WALTER R. CAMPBELL, M.A., M.D., Toronto, F.R.C.P. Canada.
EAR, NOSE AND THROAT DISEASES: A. J. M. WRIGHT, M.B., F.R.C.S.
ENDOCRINOLOGY: W. LANGDON BROWN, M.A., M.D., F.R.C.P.
EYE DISEASES: W. S. DUKE-ELDER, M.A., D.Sc., Ph.D., M.D., F.R.C.S.
GASTRO-INTESTINAL DISORDERS: ROBERT HUTCHISON, M.D., F.R.C.P.
GENITO-URINARY SURGERY: Sir JOHN THOMSON-WALKER, O.B.E., M.B., F.R.C.S.
GYNÆCOLOGY AND OBSTETRICS: BUCKWITH WHIT
HEART [illegible] F. THE: A. G. C.P.
INFECTIO [illegible] OLLES-TON,
MEDICINE [illegible] M.D., F.R.C.P.
MENTAL DISEASES A[illegible] HENRY DEVINE
NERVOUS SYSTEM, CRITCHLEY, M.D., F.R.C.P.
NERVOUS SYSTEM, SURGERY OF: GEOFFREY JEFFERSON, M.S., F.R.C.S.
ORTHOPÆDIC SURGERY: ERNEST W. HEY GROVES, M.S., M.D., F.R.C.S.
PUBLIC HEALTH AND FORENSIC MEDICINE: [illegible] M.D., D.P.H., [illegible] CAMB., F.R.C.S.
RESPIRATORY TRACT, DISEASES OF: WILLIAM H. WYNN, M.D., M.Sc., F.R.C.P.
SKIN DISEASES: A. M. H. GRAY, C.B.E., M.D., F.R.C.P.
SURGERY, GENERAL: Sir W. IRELAND DE COURCY [illegible] M.S., F.A.C.S.(Hon.), [illegible] CHART-MUMMERY, [illegible]
[illegible] LEONARD ROGERS, F.R.C.P. & S. (Ire.), I.M.S. (retd.).
[illegible] HARRISON, D.S.O., Brevet-Col. R.A.M.C. and King's Hon. Physician (retd.).

BRITISH MEDICAL JOURNAL: *"There can be few medical publications in the English language that are so widely read as the 'Medical Annual.'"*
THE LANCET: *"A reference book used and valued by medical men in every part of the Empire."*

Bristol: JOHN WRIGHT & SONS LTD. London: SIMPKIN MARSHALL LTD.

THE CLINICAL JOURNAL.

6d. An Illustrated Weekly Record of CLINICAL MEDICINE and SURGERY. 6d.

Including a Section on MEDICAL PROGRESS dealing concisely with the most important advances.

"... my weekly perusal of the 'Clinical Journal' was a very important factor in my medical education."
—SIR THOMAS HORDER.

** Special Leaflet, with selected list of articles and other details, on application.

ANNUAL SUBSCRIPTION (commencing at any date), 26s.; Six Months, 13s. 6d.; Three Months, 7s., post free.

London: H. K. LEWIS & CO. Ltd., 136, Gower Street, and 24, Gower Pl[illegible], W.C.1.

THE PRACTITIONER

THE first four numbers of THE PRACTITIONER for 1931 have more than maintained the high reputation of the journal. The first, a greatly enlarged Special Number on Common Ailments, has had a record success and is completely sold out; the other three numbers contain valuable symposia on venereal disease, kidney disease and mental disease respectively, as well as other articles and practical notes on a great variety of medical subjects.

In the April issue Lord Moynihan, in a vigorous article, discusses the Milk Problem, while the May number will contain a symposium on rectal disease, with articles by Sir Charles Gordon-Watson, Mr. Lockhart-Mummery and Mr. Ernest Miles.

In July a Special Number will be published, devoted to Fractures and Accidents, a subject which is nowadays of the greatest importance to every general practitioner, as well as being a constant source of anxiety to him.

The annual subscription to "The Practitioner" is £2 2s., post free, to any part of the world, and includes two Special Numbers each year.

Price of Ordinary Numbers, 4s., post free
Price of Special Numbers, 7s. 6d., post free

SUBSCRIPTION FORM

To The Publisher, THE PRACTITIONER, 6-8 Bouverie Street, E.C.4

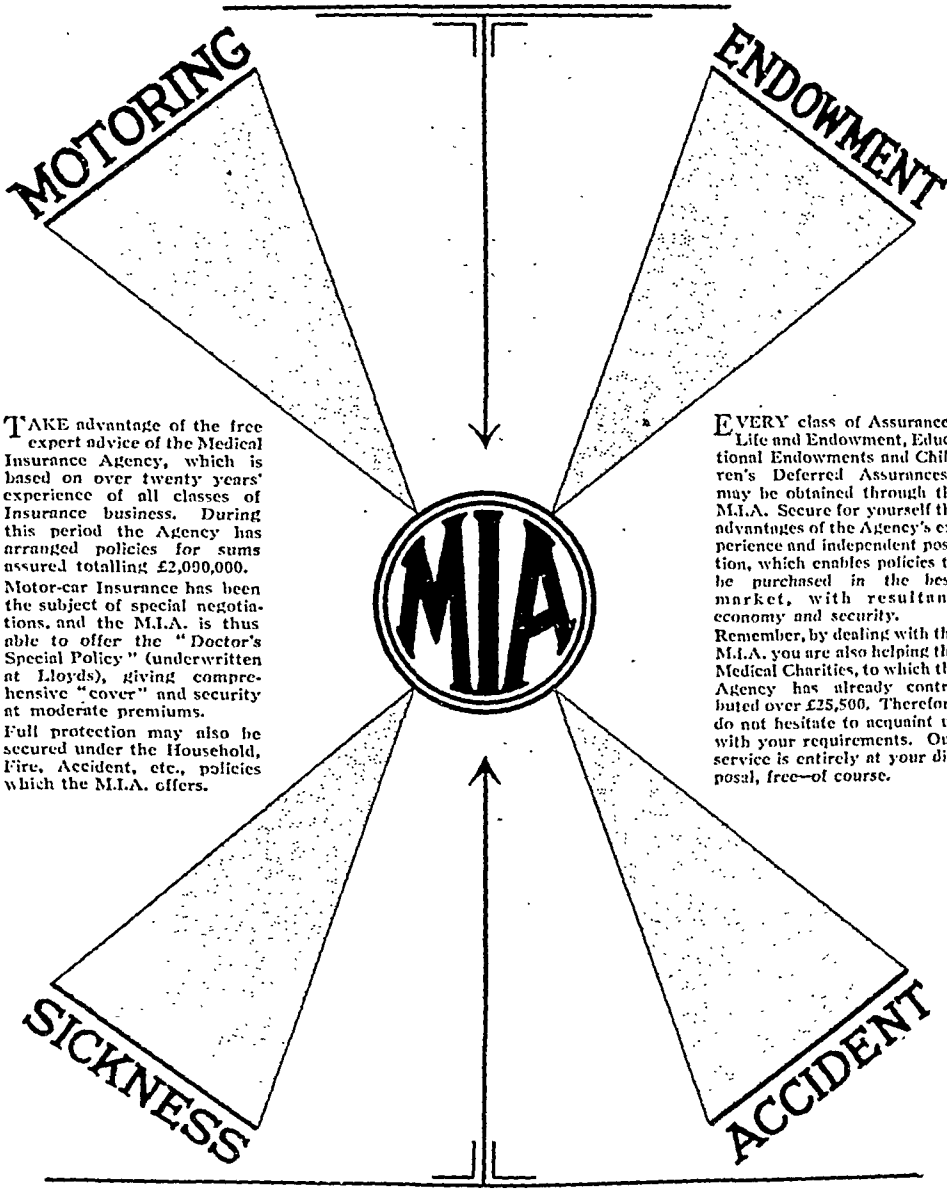
I enclose herewith remittance value £2 2 0. Please send to me THE PRACTITIONER *post free for twelve months including all Special Numbers without extra cost.*

Name and Qualifications.....

Address.....
(BLOCK LETTERS)

.....

Insurance



TAKE advantage of the free expert advice of the Medical Insurance Agency, which is based on over twenty years' experience of all classes of Insurance business. During this period the Agency has arranged policies for sums assured totalling £2,000,000.

Motor-car Insurance has been the subject of special negotiations, and the M.I.A. is thus able to offer the "Doctor's Special Policy" (underwritten at Lloyds), giving comprehensive "cover" and security at moderate premiums.

Full protection may also be secured under the Household, Fire, Accident, etc., policies which the M.I.A. offers.

EVERY class of Assurance—Life and Endowment, Educational Endowments and Children's Deferred Assurances—may be obtained through the M.I.A. Secure for yourself the advantages of the Agency's experience and independent position, which enables policies to be purchased in the best market, with resultant economy and security.

Remember, by dealing with the M.I.A. you are also helping the Medical Charities, to which the Agency has already contributed over £25,500. Therefore do not hesitate to acquaint us with your requirements. Our service is entirely at your disposal, free—of course.

Medical Insurance Agency (LTD).

c/o B.M.A House, Tavistock Square, London, W.C.1. &
c/o B.M.A House, 7. Drumsheugh Gardens. Edinburgh

Which Exists to Protect Your Interests & Save Your Money.

The Medical Man will find our Special SERVICE SECURITY 1898 *Services extremely helpful and valuable*

CAR BARGAINS

Specially selected for Doctors and Guaranteed

• • •

1931 Series—**TALBOT** '90' Model chblt. Sports Coupe; cost £830; 1,100 miles. Very latest model **£685**

1930 Series—**STANDARD** 9 h.p. Fabric Saloon. Bargain **£150**

1930 Series—**HUMBER "Snipe"** chblt. Saloon; 5,000 miles; maroon **£325**

1930 Series—**ALVIS "Silver Eagle"** chblt. Saloon; 6-cylinder. As new ... **£395**

1929 Series—**ARMSTRONG SIDDELEY** 12 h.p. Fabric Saloon. Carefully used **£115**

1929 Series—**ARMSTRONG SIDDELEY** 12 h.p. 2-seater. Exceptional order ... **£100**

1929 Series—**AUSTIN** 16 h.p. Fabric 6-light Saloon. Very nice condition **£165**

1929 Series—**WOLSELEY** 16/45 h.p. Saloon; roomy 5-seater; leather upholstery ... **£165**

1928 Series—**CHRYSLER** Saloon. Carefully used. One owner **£150**

NEW—**SUNBEAM** 20 h.p. M.E. chblt. Saloon. A brand-new car, slightly shop-soiled. Listed at £979... ... **£800**

Immediate Delivery
also of
AUSTIN
HUMBER
MORRIS
VAUXHALL
SUNBEAM
DAIMLER
ETC.

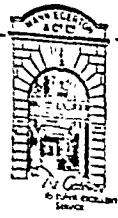
Extended Terms
Up to TWO YEARS at Special Rate of Interest to Doctors.

Part Exchanges
Highest Allowances.

Cars loaned during Repairs
A smart Car loaned whilst yours is being repaired at our Works.

M.E. Special After Sales Service

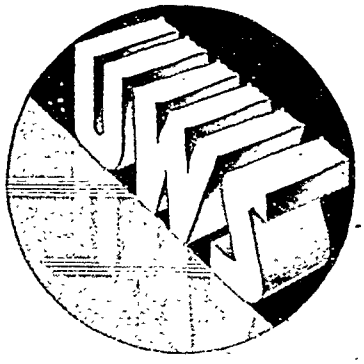
OVER **300** NEW AND USED CARS IN STOCK



MANN EGERTON & Co LTD

West End Showrooms: 156, NEW BOND STREET, W.1. *Gerrard 9060*
Super Service Works: CHURCH ST., EDGWARE RD. *Padd. 9011*
Five Minutes Marble Arch
Also Norwich · Ipswich · Bury St. Edmunds · Lowestoft

THE MOST SATISFACTORY METHOD OF ENSURING A SOFT WATER SUPPLY

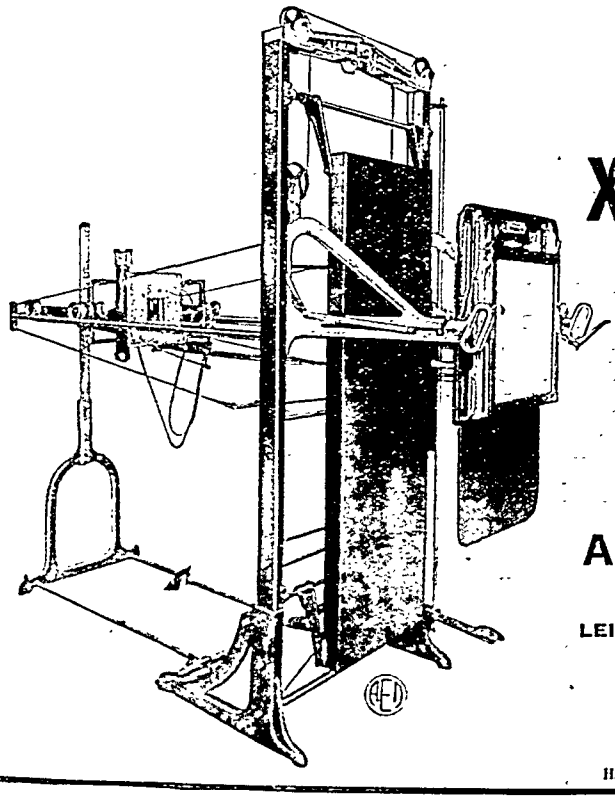


It is a fact of considerable significance that 'Permutit' Water Softening Plants are to-day to be found in over 15,000 homes, and in the leading hospitals, clubs and hotels. No chemicals are used in the 'Permutit' System. This plant provides a soft water which is healthful and palatable to drink, at a moderate initial outlay and an infinitesimal running cost. The plant can be fitted without any alteration to existing arrangements.

Special Booklet Sent Free on Request
"Soft Water in the Home," an illustrated sixty-four page booklet, will gladly be sent to any doctor upon request.

'PERMUTIT' REGD
WATER SOFTENER

UNITED WATER SOFTENERS LTD., ALDWYCH HOUSE, LONDON, W.C.2



DEAN'S LATEST PATTERN X-RAY DIASCOPE

WITH TWO-METRE ATTACHMENT

This Vertical Screening Stand has been designed to meet the requirements of the latest techniques in Stomach and Chest Examinations.

INDISPENSABLE TO SANATORIA & T.B. CENTRES

Full particulars in Catalogue Section from the Sole Makers:

A. E. DEAN & CO.

Manufacturers of X-Ray and Electro-Medical Apparatus of the Highest Grade.

LEIGH PLACE, BROOKE STREET, HOLBORN
LONDON, E.C.1

Showrooms: 14, BALDWIN'S GARDENS—adjoining.
AGENTS FOR MIDLANDS:
WATSON & GLOVER, 2, Easy Row, BIRMINGHAM.
NEW ZEALAND AGENTS:
H. COONEY & SON, The Esplanade, Kohimarama, AUCKLAND.

"Eastman
"Diaphax"
X-Ray Film

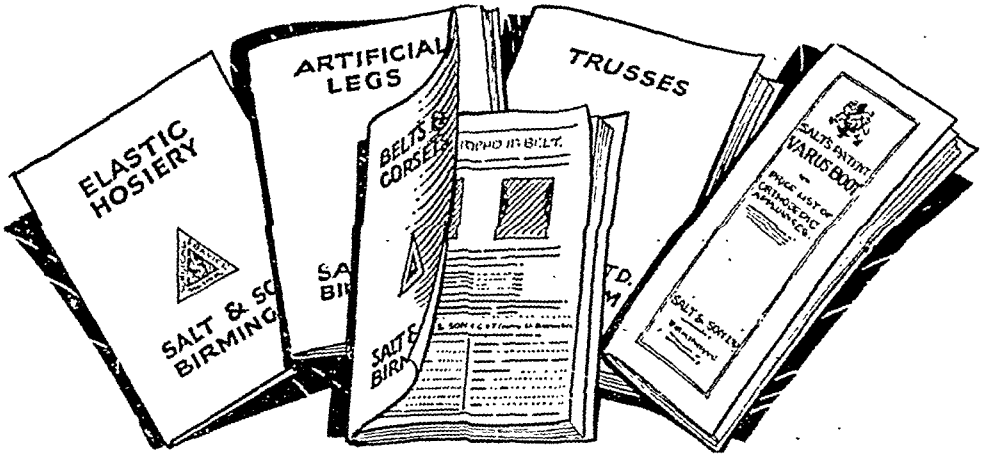
A matt film of increased sensitivity

Coated with ultra-speed emulsion. No change in development procedure. Has a surface suitable for pencil or pen notes. May be viewed on illuminator or before window. No alteration in price.

Retains all the desirable features of Kodak Emulsion

Kodak Limited, Medical Department,
Kingsway, London, W.C.2

SALTAIR



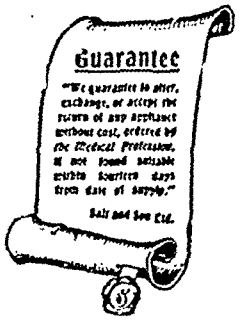
Our Catalogues illustrated above will be forwarded Post Free on request.

TO

BOON

A

Every article made by us to Doctor's instructions is covered by our unique Guarantee.



SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT.

SERVICE

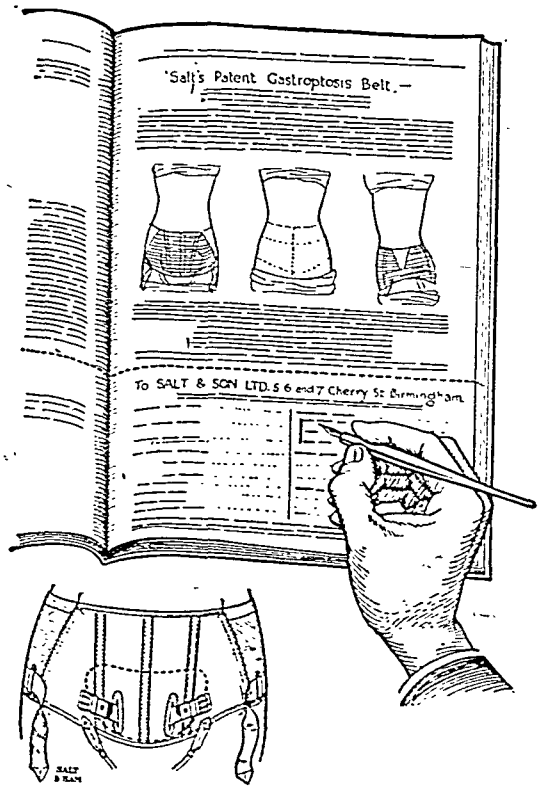
G·P·

BUSY

THE

By means of our Catalogues containing simple order forms a Doctor can prescribe the desired Surgical Appliance as easily as he prescribes a mixture.

It is equally certain that the Appliance will be accurately made to the individual patient's requirements.



SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

ENGLISH 1793

Iodine-Medol

Clinical Data in Cases of Psoriasis

collected over a considerable period, show Iodine-Medol to have given good results in this indication. Iodine-Medol is an *Antiseptic Unguentum* presenting Iodine and Creolin in a form possessing peculiar penetrative powers with high germicidal efficiency. Indicated for use whenever Iodine medication would be employed.

Testing samples and full particulars sent on application to :—

Pearson's Antiseptic Co., Ltd., 61, Mark Lane, London, E.C.3.

UNG. SEDRESOL (Ferris).

A Valuable Sedative Antiseptic and Healing Ointment.

UNG. SEDRESOL is a combination of the products obtained by the destructive distillation of the wood and bark of the ***Betula alba*** in combination with Oxide of Zinc and Antiseptics.

UNG. SEDRESOL is supplied to the Medical Profession at the following prices:—
¼-lb. Jars, 1/8 each; ½-lb. Jars, 3/- each; 1-lb. Jars, 5/9 each; 2-lb. Jars, 11/- each; 4-lb. Jars, 21/- each. *(Empty Jars allowed for on return.)*

SEDRESOL DRY DRESSING (Ferris).

A useful surgical dusting powder for cases in which it is not desirable to apply ointments. Sedative, healing, analgesic, stimulating.
Price: 4-oz. tins, 1/6 each; ½-lb. tins, 2/4 each; 1-lb. tins, 4/- each.

SEDRESOL SOAP (Ferris).

A pure superfatted soap for the skin containing the same medication as Ung. Sedresol.
Price: 10d. per tablet, 8/- per dozen. Box of 3 tablets, 2/2.

(The word "Sedresol" is registered under the Trade Marks Act and is the sole property of Ferris & Co., Ltd.)

FERRIS & COMPANY, Ltd.

BRISTOL

Wholesale and Export Druggists and Manufacturing Chemists.

PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic oedema, cyclic vomiting, periodic diarrhoea, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Also Peptone "Sterules" according to prescription in article. *Lancet*, April 11th, 1931, p. 805. *Leaflet on application.*

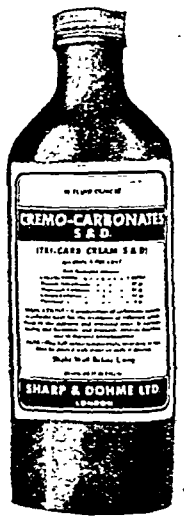
W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1.

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON."

Telephone Nos.: LANGHAM 2440 and 2441.

CREMO-CARBONATES

is pre-eminent as an Antacid and Corrective *because* . . . .



the submicroscopic size of the particles in colloidal suspension gives a greatly increased surface area and surface energy, and therefore greater acid-neutralizing ability.

Including two recognized antacids in colloidal form—magnesium and calcium carbonates, together with the protective bismuth subcarbonate—it is particularly effective in the treatment of gastric and duodenal ulcers, and in all digestive disorders caused by or accompanied by high gastric acidity.

Other Advantages

Entirely harmless in large doses, does not constipate, is not absorbed and therefore does not disturb the acid-base balance of the blood.

Supplied in 12 oz. bottles.

SHARP & DOHME, LTD.

Regent Arcade House, 252, Regent Street, London, W.1.

Telephone: Regent 2567

Vitamin Deficiency?

Put them on BEMAX

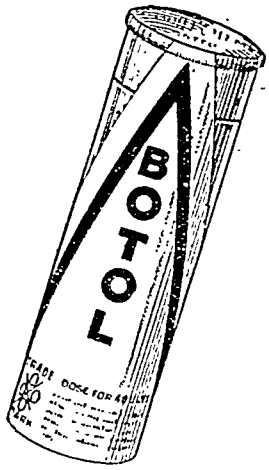
THE NATURAL VITAMIN TONIC FOOD

Bemax was prepared to provide a food rich in natural vitamins, which, added to the normal diet, would restore a balanced metabolism, and so create a condition in which remedial measures by the physician would be assured of the fullest success in all ailments due to deficiency of Vitamins A, B and E.

Laboratory reports on Bemax and clinical sample for personal trial will be sent to any medical man on receipt of his professional card.

THE BEMAX LABORATORIES, 23, UPPER MALL, LONDON, W.6.

BOTOL



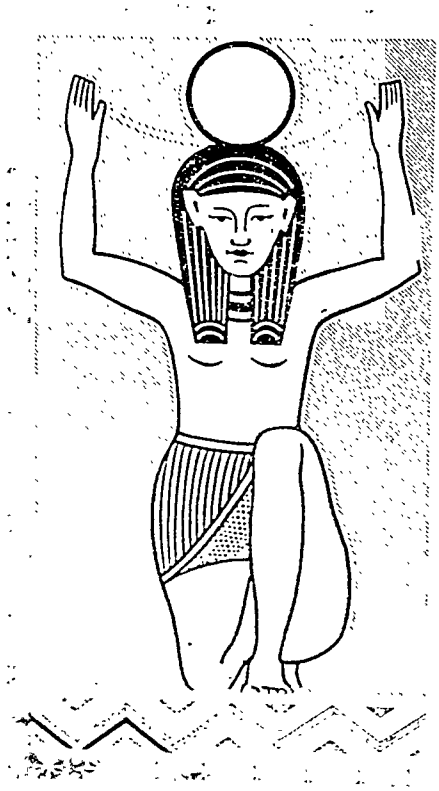
REG. TRADE MARK.

A LARYNGEAL NARCOTIC

Prepared by a new process which enables SOLID BROMOFORM to be combined with CODEINE

IN TUBES OF TWENTY TABLETS

"Taxolebs, Sowest, London" CONTINENTAL LABORATORIES LTD 30, Marsham Street, LONDON, S.W.1 Victoria 2041



OVALTINE

WHEN SLEEP IS DIFFICULT

Judged by the numerous reports received from physicians and also from grateful patients, the use of "Ovaltine" for ensuring sound refreshing sleep deserves the widest recommendation.

It has been remarked that a more helpful prescription could not be wished for because:

1. Taken last thing at night before retiring it exercises a pronounced sedative effect and one that is natural in every sense.
2. It has a pleasantly soothing action on the stomach and nervous system, and does not cause the slightest digestive unrest, or occasion constipation.
3. It promotes a sufficiency of healthful sleep without resourse to hypnotic drugs.

"Ovaltine" is a delicious concentrated extraction of malt, milk, and eggs, in the form of golden granules, which dissolve instantly in milk.

A liberal supply for clinical trial sent free on request.

A. WANDER, Ltd., 184, QUEEN'S GATE, S.W.7.
Works: KING'S LANGLEY, HERTS.

SHU.—The personification of sun, light, air, dryness, etc. M 245

The Pre-eminent Vitamin Food.

'BYNOTONE'

Contains essentially—bone marrow, yeast extract, hæmoglobin, liver fat and a proportion of irradiated ergosterol.

It is thus a concentrated nutrient, rich in the vitamins A, B and D and other elements which, often deficient in the ordinary everyday diet, are of vital importance to nutrition.

"Bynotone" is the ideal accessory food during the ages of active growth and adolescence, the periods of expectant and nursing motherhood and the stage of convalescence after acute disease.

Literature and clinical trial sample will be sent post free on request.

Allen & Hanburys Ltd., London, E. 2.

Telephone: Bishopsgate 3201 (10 lines). *Telegrams*: "Greenburys Edo London."

The "Allenburys"

ORANGE JUICE

DOUBLE STRENGTH. SWEETENED.

Supplies a potent source of the anti-scorbutic Vitamin C in a form convenient for infant feeding and other purposes.

It is equivalent to *double strength* fresh orange juice and retains its full activity for a long period.

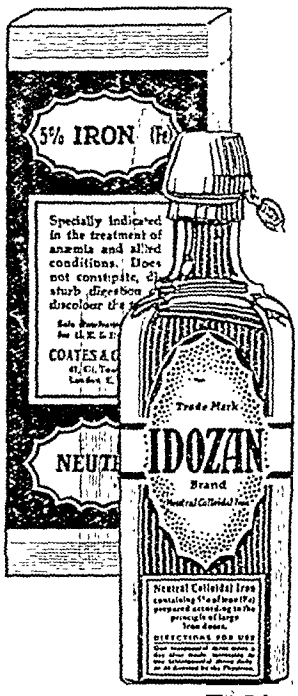
Employed with advantage in all cases in which fresh orange juice is used.

May be taken by children and adults in the form of a delightful drink by *diluting* with about ten times its volume of plain or aerated water or milk. Contains no alcohol or chemical preservative.

Further particulars and clinical sample will be sent post free on application.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: Bishopsgate 3201 (10 Lines) Telegrams: "Greenburys Edo London."



5% of pure iron (Fe)
in readily assimilable form

. . . does not constipate, disturb digestion or discolour teeth

Colloidal Iron Concentrate	83%
Pure Alcohol	6%
Sugar	10%
Flavouring	1%

That is the formula of this tonic preparation, which contains a larger percentage of assimilable iron than has hitherto been provided in either a general or colloidal form. A more rapid response may therefore be anticipated from the administration of this preparation, which is very pleasant to take and well tolerated by all patients.
Idozan has no constipating effect, it does not derange the stomach or discolour the teeth. Though incompatible with alkaline salts, it may be combined with Liq. Arsenicalis and vegetable tinctures. It is therefore very suitable for therapeutic administration, where it is desired to give large doses of iron; both as a restorative after illness and in cases of anæmia it can be prescribed either with or without additional drugs with confidence and freedom.

IDOZAN

IDOZAN HAS BEEN REGULARLY PRESCRIBED BY DOCTORS IN FIFTEEN DIFFERENT COUNTRIES

Samples and literature sent post free on request to Sole Distributing Agents:
MESSRS. COATES & COOPER
41, Great Tower St., London, E.C.3.

MARSHALL'S Lysol is made to the original Lysol formula and specification. Every bottle is tested for purity and strength. Only the finest grade chemicals are used. Sample will be sent upon request to members of the medical and nursing professions. Lysol Ltd., Dept. K.14, Raynes Park, London, S.W.1.

NURSES, DOCTORS HOSPITALS, CLINICS
use *MARSHALL'S LYSOL*

The preference shown to MARSHALL'S Lysol by the medical profession is not an accidental one. It is not merely a matter of old-established custom . . . It is a matter of experience and knowledge: of reliance placed on an antiseptic that has never betrayed a trust. MARSHALL'S Lysol is SAFE. It is a germicide and antiseptic of *proven* worth . . . harmless to tissue when used in the correct dilution.

SAFE

CONTRAMINE

Contramine is a typical example of a chemotherapeutic drug which, according to the present prevailing medical opinion, acts by building up the resistance of the patient and not by the direct destruction of the organism. Of these chemotherapeutic drugs, those with complex molecules with a sulphur atom loosely attached to the molecule possess remarkable power to build up the patient's resistance against many chronic infections.

Contramine is such a sulphur compound with a complex molecule, and it is probably unequalled by any other drug in its action in building up resistance against such infections as the chronic complications of gonorrhoea.

In
Chronic Complications
of
Gonorrhoea

Chronic Epididymitis
Conjunctivitis and Iritis
also in
Rheumatism *Arthritis*
Fibrositis *Neuritis*

Literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

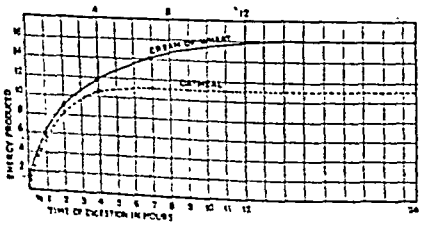
Co118

Research Institute investigates the relative value of wheat cereal and oats as first solid diet

Greater digestibility and 50% more energy intake proved for wheat

Recent tests by a leading biochemical institute have established the superiority of "Cream of Wheat" over oatmeal as a first starch food for infants. Some of the advantages are indicated in the accompanying graphs, which summarize the results of careful experimental work on these two cereals.

DIASTATIC DIGESTION

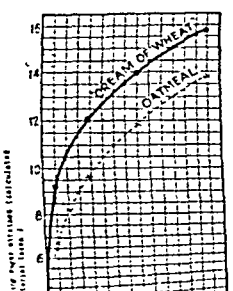


Not only did the digestion of "Cream of Wheat" continue at a scarcely diminished rate 4 hours after the digestion of oatmeal was practically at a standstill, but the amount of sugar yielded was 50% greater. "Cream of Wheat" thus affords 1½ times as much energy as oatmeal, and, by maintaining the blood sugar at an optimal level, helps to bring about the complete hydrolysis and metabolization of fats.

PANCREATIC DIGESTION

The growing tendency among practitioners to give starch as early as the third month makes these tests of paramount importance. Many leading paediatrists are putting "Cream of Wheat" on their diet sheets for infants.

It can be given both as a first solid diet—particularly for children prone to indigestion or fat intolerance—and as an adult food in the post-operative period. A sample and fuller details of the above tests will be gladly sent you on receipt of a professional card. —Dept. W.3, Fassett & Johnson, Ltd., 86, Clerkenwell Road, London, E.C.1.



Stomach Tissue

in the treatment of

Pernicious Anæmia

'Byno Eugastrol'

A combination of hog's stomach tissue extract with 'Bynin' Liquid Malt.

The usually recommended daily dose is three tablespoonfuls, which represents an amount of extract equivalent to 100 grammes of fresh stomach tissue.

A very palatable preparation.

In bottles, 4 oz., 10 oz. and 20 oz.

'Kapsol Eugastrol'

Presents hog's stomach tissue extract in the form of capsules, each equivalent to 25 grammes of fresh stomach tissue.

The usual daily dose is four capsules.

In tins containing 20, 40 and 80 capsules.

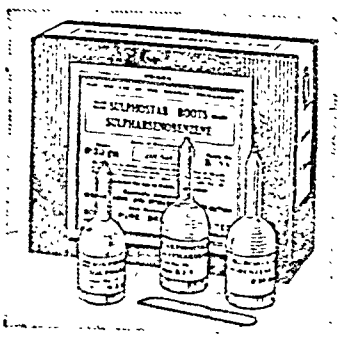
Further particulars sent on request.

Allen & Hanburys Ltd., London, E. 2

Telephone: 3201 Bishopsgate (10 lines). *Telegrams*: "Greenburys Edo London."

BOOTS PRODUCTS

ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS



TRADE MARK BRAND

SULPHOSTAB (BOOTS)

(SULPHARSENOBENZENE)

SPECIALLY prepared for subcutaneous and intramuscular injection in the treatment of Syphilis and other spirochætal diseases. It is practically painless in use, and its high therapeutic activity has been fully demonstrated. Exhaustive clinical trials, both with children and adults, have proved highly satisfactory. Approved by the Ministry of Health for use in Public Institutions. Manufactured under Licence No. 19 and biologically tested under approved arrangements.

Obtainable in hermetically-sealed ampoules in the following doses:

0.025 gm. 0.050 gm. 0.075 gm. 0.10 gm. 0.15 gm. 0.20 gm. 0.30 gm. 0.45 gm. 0.60 gm.

SUPPLIED IN SINGLE AMPOULES OR IN BOXES OF TEN AMPOULES.

WHOLESALE AND EXPORT DEPARTMENT

BOOTS PURE DRUG CO. LTD.

NOTTINGHAM, ENGLAND

TELEPHONE: NOTTINGHAM 45501

TELEGRAMS: "DRUG, NOTTINGHAM"

REMINERALISATION
POLYOPOTHERAPY

The oldest and most active of recalcifying agents in endocrino-mineral combination

—•—

OPOCALCIUM

In Tablets and Granules

—•—

Manufacturers
LABORATOIRES de l'OPOCALCIUM
121, Avenue Gambetta
PARIS

Distributors
CONTINENTAL LABORATORIES Ltd.
30, Marsham St., London, S.W.1
TAXOLABS, SOWEST, LONDON VICTORIA 2041

A Highly Efficient Local Anæsthetic for Sub-cutaneous Regional & Spinal use

"PLANOCAINE" Trade Mark
BRAND ETHOCAINE

Replacing with advantage cocaine and its substitutes, Planocaine is the ideal agent for use in all cases where a local anæsthetic is indicated.

Supplied in the form of powder, tablets or solution.

Descriptive literature and clinical trial sample on request.

Prepared in the Laboratories of
MAY & BAKER, LTD.
BATTERSEA LONDON, S.W.11
Telegrams: Bismuth, London.
Telephone: Battersea 1813 (6 lines)

MONSOL BRAND

PESSARIES

Monsol Liquid for dressings, douches, packs, and all sick-room purposes.

Monsol Capsules, keratin-coated, for intestinal disinfection.

Monsol Ointment and *Monsol Throat Pastilles.*

Monsol Dental Cream.

Monsol Medicated Soap.

Monsol Pessaries.

In response to repeated requests from the Medical Profession, Monsol is now available in the form of Pessaries containing 2½% of Monsol in a glyco-gelatine base. Powerfully germicidal, non-irritant, and possessing all the essential characteristics of Monsol Liquid, they have proved of value in the treatment of both acute and chronic cervicitis and vaginal infections, particularly when of gonorrhoeal origin, and are specially indicated for a chronic infection in pregnancy when douching is undesirable.

Manufacturers:

THE MOND STAFFORDSHIRE REFINING CO., LTD., ABBEY HOUSE, LONDON, S.W.1

INDISPENSABLE!

WHEN EXHAUSTION PROHIBITS SOLID FOOD . . .

WHEN ANOREXIA RETARDS RECOVERY . . .

In serious illness when vitality is at its lowest and solid foods are prohibitive, these essences are of inestimable value.

Combining quick stimulation with almost effortless assimilation Brand's Essences of Beef or Chicken revive vitality while conserving the patient's energy.

99 out of every 100 doctors recently interviewed recommend them in illness and convalescence.

Suave and non-irritating, Brand's Essences can be digested 40 minutes quicker than ordinary foods and without the formation of residue.

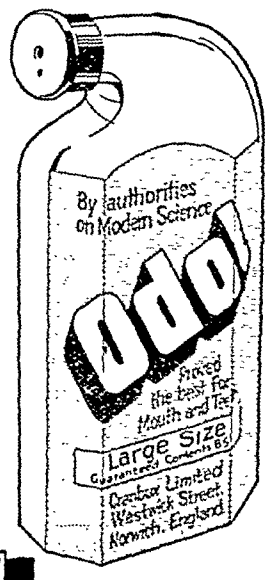
They are prepared by an exclusive process from the finest freshly killed English meats. No preservatives or colouring matter are used. They are easy to swallow and deliciously appetizing.

Samples will be gladly sent on receipt of a professional card. Dept. F31, Brand & Co., Ltd., Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S ESSENCES OF BEEF OR CHICKEN

BY APPOINTMENT

What three doctors say about Odol



1. STOMATITIS

"I have often recommended Odol to patients suffering from Stomatitis and have found it very efficacious."
. . . . . M.R.C.S.Eng., L.R.C.P.Lond.

2. NOSE WORK

"I use a solution of Odol for all nose work, washing out the antrum and sinuses, etc. It is excellent and a soothing antiseptic." . . . . . M.D.

3. ZYMOTIC DISEASES

"It is most excellent in septic conditions of the mouth such as one finds in the zymotic diseases."
. . . . . M.C., L.R.C.P., M.D.H.

Not only is Odol definitely antiseptic—not only does it destroy disease germs of the mouth and throat—not only does it check the growth of bacteria for hours after use—but it is perfectly safe. Non-toxic, non-caustic and non-acid, Odol does not injure the teeth or the mucous membrane of the mouth.

Samples and literature will gladly be sent to any member of the Medical Profession on application to:—

CRANBUX LIMITED of NORWICH

BRITISH MADE BY BRITISH LABOUR
FINANCED BY BRITISH CAPITAL

ANTI-ACID
NON-CAUSTIC
NON-TOXIC

Aldwych

MALNUTRITION and MARASMUS

Mellin's Food has met with very remarkable success in the treatment of infants of retarded development due to nutritional disorders. Infants in this condition need a food substance that is assimilated quickly and one that may be taken in comparatively large amounts.

The carbohydrate maltose, which is the principal sugar in Mellin's Food, is a food substance that offers the greatest assistance in the adjustment of the diet because it yields immediately available nutrition and can be at once utilised to furnish the necessary heat and energy.

Mellin's Food

"MODIFIED MILK IN INFANT FEEDING"

The above-named booklet of 64 pages, which gives further information regarding the use of Mellin's Food in cases of malnutrition, will be gladly sent to Members of the Medical Profession.

MELLIN'S FOOD LTD., LONDON, S.E.15.

'PANOPEPTON'

Ideal Food for the Sick.

Agreeable, highly Diffusible, Assimilable.

The patient or the nurse may stretch out a hand at any time, in the night or any daylight hour, and find in 'Panopepton' a stimulating, fortifying food, especially "heartening." It quickly and substantially relieves that "gone feeling" consequent upon innutrition.

'Panopepton' is a dynamic food, the naturally soluble and hydrolysible substance of the entire beef and the entire wheat, set free by direct physiological conversion by contact with actual gland tissue juice of the stomach and pancreas.

'Panopepton' presents this important complex of nitrogenous derivatives, associated mineral and organic extractives, as well as those of the glands by which this physiological conversion is accomplished.

'Panopepton' is a food in imitation of nature at its best, and for this reason is of special service in the nutrition of the sick.

The rich colour, the agreeable, diffusible, realizable properties of 'Panopepton' are peculiar to itself.

Panopepton' should be taken without dilution—cold if convenient.

Fairchild Bros. & Foster,

Makers of original products suggested by the progress of science in medicine.

SUPPLIED IN 12-oz. BOTTLES.

Originated and Manufactured by
Fairchild Bros. & Foster (Inc. N.Y.)
NEW YORK and 65, Holborn Viaduct, LONDON, E.C.1.

Agents:
Burroughs Wellcome & Co.,
LONDON, SYDNEY, and CAPE TOWN.

Medisoap

MIDGLEY'S MEDICATED SOAP

The word MEDISOAP is a registered trade-mark indicating the pure soap base made and scientifically medicated by CHARLES MIDGLEY, LTD., according to published formulae. This method of skin medication has been brought into favour by the ease with which applications can be made and the certainty of absorption through regularity of use by the patient.

A PRESCRIBER'S INDEX

relative to the comprehensive range of Medisoaps is available to members of the medical profession on application to EVANS' BIOLOGICAL INSTITUTE, RUNCORN.

Medisoap Depots all over the country.

Sole Makers:

SEBORRHOEA

In the treatment of scalp conditions Medisoap Therapy merits special consideration, as the presence of hair complicates other schemes of treatment. The following containing Resorcin are very effective:—

MEDISOAP No. 40, containing Resorcin 11% and Acid Salicylic 11%.

MEDISOAP No. 41, containing Resorcin 11%, Acid Salicylic 12% and Sulphur 10%.

MEDISOAP No. 57, containing Resorcin 21%.

MEDISOAP No. 71, containing Resorcin 11% and Sulphur 11%.

For further particulars see *"Prescriber's Index."*

CHARLES MIDGLEY, LTD. Medicated Soap Specialists **MANCHESTER**

Associated with EVANS SONS LESCHER & WEBB, LTD., Liverpool, London, and Dublin.

Regesan

CREAM OF MAGNESIA

A PURE, finely divided Magnesium Hydroxide ($Mg(OH)_2$) suspended in water. A simple antacid and valuable laxative. Digestive troubles and gastric conditions indicating the necessity of a corrective of this type quickly respond to treatment with Regesan Cream of Magnesia. It does not gripe nor cause discomfort, and is mild in action.

FULL-SIZE TRIAL PACKAGE FREE TO MEDICAL PRACTITIONERS IN THE BRITISH ISLES ON APPLICATION TO BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM.

OBTAINABLE FROM

The Boots Chemists

Over 900 Branches in Great Britain.

Price 1/3 and 2/3 per bottle
(Special discount to medical profession).

BOOTS PURE DRUG CO. LTD., NOTTINGHAM.

RADIO-MALT

Vitamins A B_1 B_2 and D

In Convalescence

After serious illness when resistance is reduced and the patient lacks vitality and recuperative power, the value of a vitamin tonic of the nature of Radio-Malt is incalculable.

Each of the Vitamins A B_1 B_2 and D contained in Radio-Malt performs a specific function, with the result that the resistance of the patient is built up and the depleted reserves are replenished.

Clinical sample on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Rm1111

Peptonised Beef Jelly (BENGER)

and

Peptonised Chicken Jelly (BENGER)

These can be served either in their jelly state with a few biscuits, or dissolved in hot water in "beef-tea" form, making a valuable restorative readily assimilated by weak digestions.

Containing much of the flesh-forming elements of the meat in soluble form, these peptonised preparations are superior in effect to ordinary essences or extracts. Added to soups they considerably increase the nutrient value.

In hermetically sealed glass jars, 2/- and 3/- each.

NOTE.—Benger's Peptonised Beef Jelly and Chicken Jelly are entirely free from preservatives.

BENGER'S FOOD, LTD., Otter Works, MANCHESTER.
Branch Offices:—NEW YORK: 90 Beekman St. SYDNEY (N.S.W.): 350 George Street.
CAPE TOWN (S.A.): P.O. Box 575.
B5.144

BENGER'S Food

BETTER MILK FOR BABIES

FACTS ABOUT
LACTOGEN

Vitamins and Minerals

To fulfil the requirements of the rapidly growing child an adequate supply of vitamins and mineral salts must be provided.

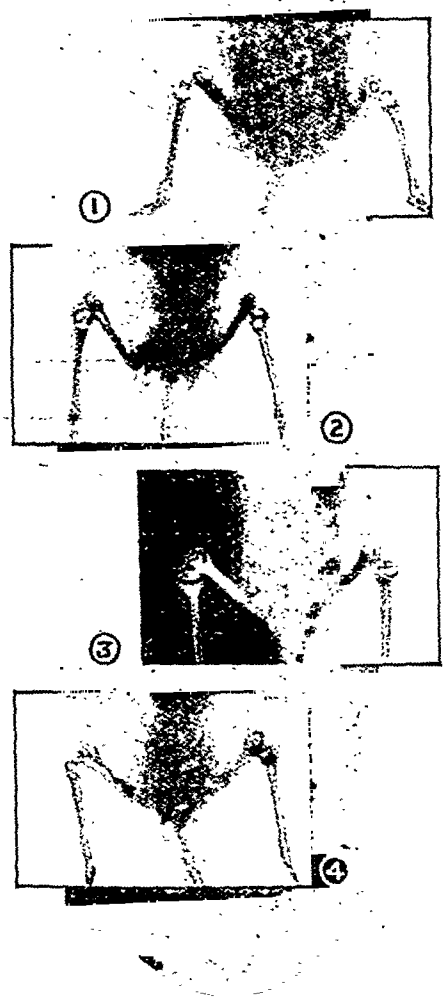
Milk furnishes a sufficiency of these essentials, and in Lactogen their complete conservation is effected.

For the final desiccation of the modified fresh milk the roller process is employed. The heat applied is thus reduced to a minimum and the exposure confined to a matter of seconds.

Lactogen provides a full complement of mineral salts in organic combination, together with the adequate vitamin allowance. It is a complete and balanced diet furnishing the infant with every essential necessary for good health and normal development.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

"LACTOGEN"
REG. TRADE MARK
BETTER MILK FOR BABIES



1 Rickets (faulty bone development) induced by a deficient diet. Rat A.

2 Recovery in the same rat after Lactogen feeding for 14 days. Rat A.

3 Rickets (faulty bone development) induced by a deficient diet. Rat B.

4 Recovery in the same rat after Lactogen feeding for 14 days. Rat B.

—showing that the antirachitic factor is present in Lactogen in full protective amount.

FREE SAMPLES with detailed descriptive literature will be sent to any Member of the Medical Profession, upon request.

Lactogen Bureau (Dept. 15)
Nestlé and Anglo-Swiss Condensed Milk Co., 6 and 8, Eastcheap, London, E.C.3.

(Aesculapius)

THE ANAEMIAS

PERNICIOUS ANAEMIA

Careful observations of large numbers of cases and the numerous notable reports received during the last four years justify the assertion that if treatment with HEPATEX is properly carried out, marked benefit results in most cases within a few days. Should the improvement not occur within three weeks it is probable that it is not a case of Pernicious Anaemia, or there may be some factor intimately connected with the gastric aspects of the condition which does not respond to Liver Therapy. For such cases attention has recently been turned to the haematopoietic value of stomach tissue with promising results, and in this connection we have produced GASTREXO, a scientifically prepared desiccated and defatted whole stomach substance.

SECONDARY ANAEMIA

For the treatment of the Severe Secondary Anaemias the use of Hepatex may be of inconstant value, but combined with iron it has proved to be eminently satisfactory. For cases of stubborn Secondary Anaemia where powerful stimulation of the blood regenerating organs is highly desirable HEPATEX WITH IRON is strongly recommended. The special form of iron used is greatly superior to ordinary iron preparations as regards assimilation and produces no disagreeable after-effects.

HEPATEX — Issued in 4 oz. bottles. 1 fluid drachm equals 2 oz. of fresh liver.

HEPATEX with IRON — Issued in 2 oz. bottles, contains 1 grain of metallic iron in 1 drachm.

GASTREXO — Issued in boxes of 12 × 10 grammes and tins of 240 grammes. 10 grammes is equivalent to 80 grammes of whole substance.

EVANS SONS LESCHER & WEBB, LTD

Manufacturers of Fine Chemicals, Pharmaceutical & Biological Products.

LIVERPOOL *56, Hanover Street.* DUBLIN LONDON *50, Bartholomew Close, E.C.1*

Ed. and published by the British Medical Association

Fabritius, Oslo.

The Superiority of Cod Liver Oil as a Cure for Rickets

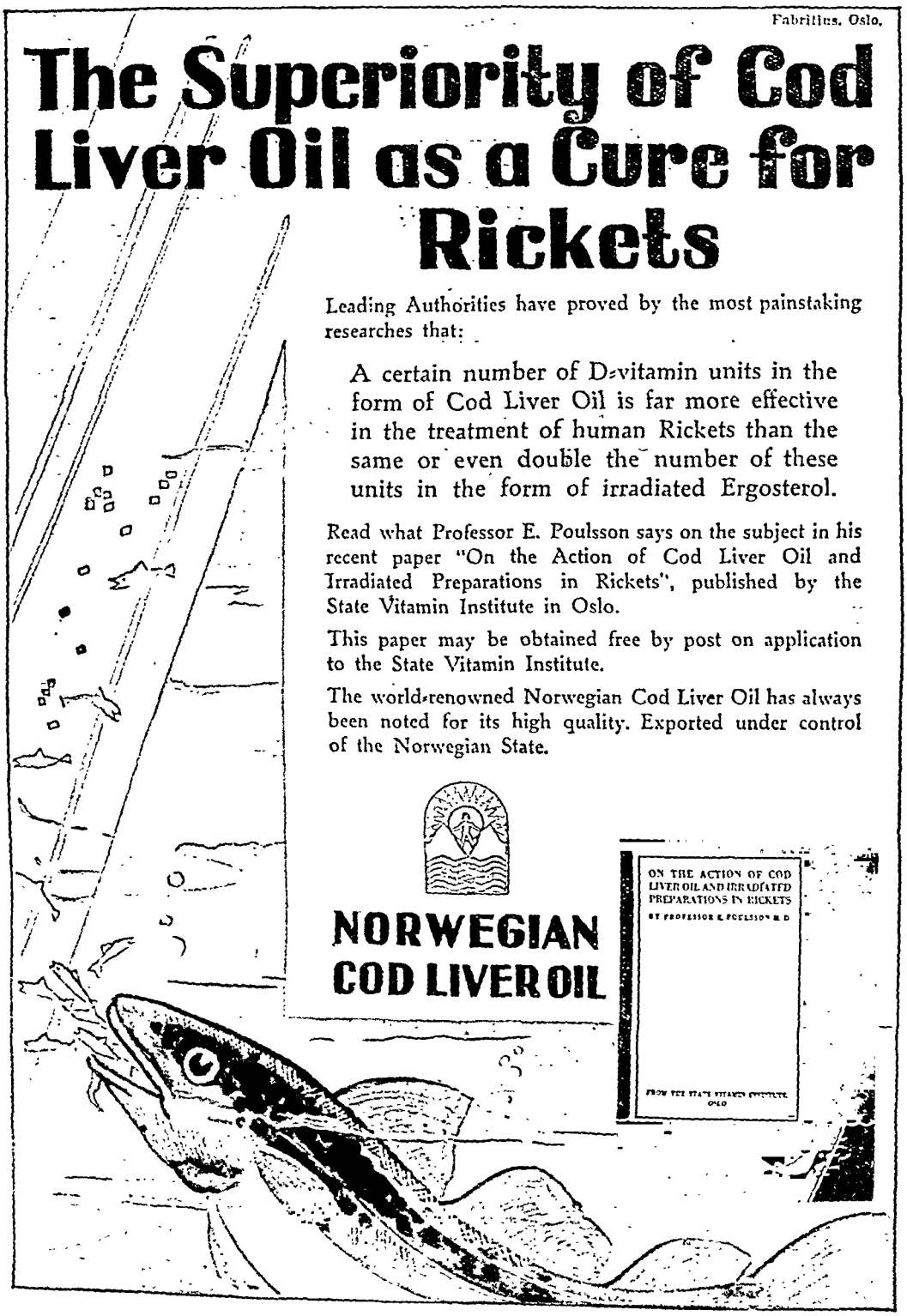
Leading Authorities have proved by the most painstaking researches that:

A certain number of D-vitamin units in the form of Cod Liver Oil is far more effective in the treatment of human Rickets than the same or even double the number of these units in the form of irradiated Ergosterol.

Read what Professor E. Poulsson says on the subject in his recent paper "On the Action of Cod Liver Oil and Irradiated Preparations in Rickets", published by the State Vitamin Institute in Oslo.

This paper may be obtained free by post on application to the State Vitamin Institute.

The world-renowned Norwegian Cod Liver Oil has always been noted for its high quality. Exported under control of the Norwegian State.



NORWEGIAN COD LIVER OIL

A List of

GLANOID MEDICINAL PRODUCTS OF ANIMAL ORIGIN

Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
Catgut
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Ligatures**
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
*Pituitary, W. G.**
*,, Ant. Lobe**
*,, Post. Lobe**
*,, Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
,, Co.
Thyropophosis
*Thyroid**
*Thyro Manganese**
Trypsin

*Literature available on request.

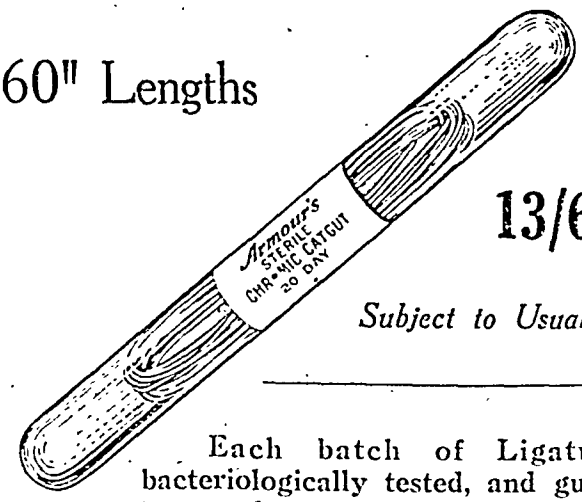
GLANOID BRAND

STERILE CATGUT

LIGATURES

PLAIN and CHROMIC 20-DAY

60" Lengths



13/6 per dozen Tubes.

Subject to Usual Discount.

Each batch of Ligatures is bacteriologically tested, and guaranteed to conform with the requirements of the Ministry of Health.

Sterilized under Licence No. 43.

Full Particulars will be sent to the Medical Profession on request.

Sizes, 000, 00, 0, 1, 2, 3, and 4

LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

Printed and published by the British Medical Associatio

The Lister Institute
OF PREVENTIVE MEDICINE

Therapeutic Substances Act, 1925
Manufacturing Licence No. 9

Vaccines and Sera

Vaccine Lymph

Compound Catarrhal Vaccine	In phials containing 235, 470, 940 and 1,880 million organisms per c.c.
Compound Influenza Vaccine	In phials containing 330 and 660 million organisms per c.c.
Micrococcus Catarrhalis Vaccine	In phials containing 25, 50, 100 and 250 million organisms per c.c.
Concentrated Tetanus Antitoxin	In phials of 1,000 to 40,000 units (=500 to 20,000 U.S.A. units).
Concentrated Diphtheria Antitoxin	In phials of 500 to 10,000 units.
Anti-Streptococcus Serum	In phials of 10 and 25 c.c.
Anti-Meningococcus Serum	In phials of 10, 15 and 30 c.c.

A descriptive pamphlet, issued under the Authority of the Governing Body of the Lister Institute, will be sent on request.

Sole Agents:

Allen & Hanburys Ltd., London

Telephone: Mayfair 2216 (three lines)

Telegrams: "Vereburys, Wesdo, London."

Rx 'CYCLOFORM' OINTMENT

TRADE MARK

Alkyl ester of p-amino benzoic acid (10 per cent.) with witch hazel and zinc oxide in a lanoline base.

ANALGESIC
ASTRINGENT
ANTISEPTIC

For
Haemorrhoids, Pruritus, Fissures, Ulcers, Burns.

Marked Analgesic Effect on Painful Surfaces.

Issued in Tubes of 1oz. (approx.) and Tins of 250g.

'PELIDOL' OINTMENT

TRADE MARK

Stainless 'Biebrich' Scarlet Red. Diacetyl amido-azo-toluol, 2 per cent. in a paraffin base.

TISSUE
STIMULANT

Promotes growth of epithelium in:—
Surface wounds, Burns, Varicose ulcers.

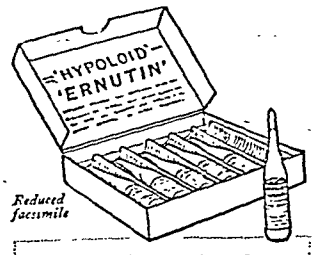
For the treatment of:—
Eczema. Pruritus. Intertrigo, Frost-bite, Chilblains, Gangrene.

Issued in Tubes of 1oz. (approx.) and Tins of 250g.

Write for Samples and Literature to:

BAYER PRODUCTS LTD
19 ST. DUNSTAN'S HILL, LONDON, E.C.3.

Australasia: FASSETT & JOHNSON, LTD., 36-40, Chalmers Street, SYDNEY, N.S.W., and P.O. Box 33, WELLINGTON, New Zealand.
South Africa: TAEUBER & CORSSEN (PTY.) LTD., P.O. Box 2953 CAPE TOWN.



Reduced facsimile

For Hypodermic and Intramuscular Injection:
'HYPOLOID' 'ERNUTIN,' in boxes of six hermetically-sealed containers of 0·6 c.c. (approx. min. 10) of Sterile Solution, at 3/4 per box

PIONEERS AND EMPIRE BUILDERS: No. 593
NINTH PERIOD—circa A.D. 300 to c. 1300

When Ergot is indicated always prescribe 'Ernutin'

Used with consistent success in obstetrical practice to induce contraction of the uterus after labour, thus assisting involution and controlling post-partum hæmorrhage

TRADE **'ERNUTIN'** MARK

A clear solution presenting Ergotoxine, the true, active principle of the official Ergot, in definite amount and in a state of chemical purity. Also contains 'Ergamine' and 'Tyramine'

Ergotoxine Ethanesulphonate—the most stable salt of Ergotoxine—was originated by Burroughs Wellcome & Co. and is used in the preparation of 'ERNUTIN'

Reduced facsimile

For Oral Administration:
'ERNUTIN' (Oral), in bottles of 30 c.c., 4 fl. oz. and 16 fl. oz., at 2/6, 7/6 and 25/- each, respectively

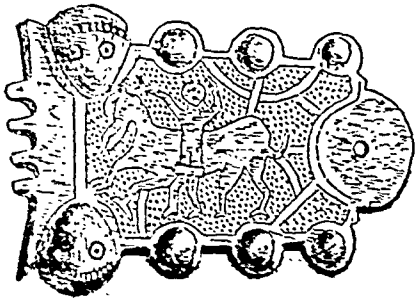
BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

THE ALEMANNI AND THE BURGUNDIANS.—The Alemanni, *i.e.*, the "All men," dwelt at first in the basin of the Main and were often at war with the Romans. About A.D. 400 they crossed the Rhine, conquered Alsace and part of Switzerland round Lake Constance, settled there and built up a kingdom which lasted until A.D. 495, when it was absorbed in the Frankish empire of Clovis. Their name survives as "Allemagne" and their dialects, Alemannic and Suabian, which remained Teutonic, are now spoken in Württemberg, in part of Bavaria, in German Switzerland, and in the south of Baden and Alsace. The Burgundians were in constant warfare with the Alemanni and were friendly to the Romans; they, unlike the Alemanni, allowed their speech to become modified into a Romance tongue. They first established a kingdom in the fifth century A.D., and extended its boundaries until it included among its chief towns Vienne, Lyons, Besançon, Geneva, Autun and Macon. The occupation by the Burgundians of the district round Worms is of interest, for this was the scene of the destruction of the Burgundian heroes by the Huns, described in the *Nibelungenlied*. Both tribes developed industrial art. An example of Burgundian metal work is illustrated.



DATE: A.D. c. 400–c. 500

COPYRIGHT

OSTELIN

VITAMIN D PREPARATIONS

OSTELIN LIQUID
("*Ostelin*")

Per bottle of 45 doses 2/6
In bottles of 2, 4, 8 and 16 fl. oz. for incorporation in aqueous mixtures per oz. net 5/-

OSTELIN TABLETS
("*Tab. Ostelin Co.*")

Per bottle of 45 tablets 2/6
Per bottle of 250 tablets 12/6

OSTOMALT
("*Ext. Malti c. Ostelin Co.*")

½-lb. jars, 2/6. ... 1-lb. jars, 4/-

OSTELIN EMULSION
("*Emuls. Ostelin Co.*")

In 8-oz. bottles 2/6

COLLOIDAL CALCIUM with OSTELIN VITAMIN D AMPOULES
For subcutaneous injection.

1 c.c. ampoules. 6 in a box. 5/-
1 oz. bottles. per bottle 10/-

OSTELIN with PARATHYROID TABLETS
("*Tab. Ostelin c. Parathyroid Co.*")

100 Tablets 8/9

OSNOL NASAL SPRAY
A solution of vitamin D in paraffin

In phials 3/-

VIOZIN OINTMENT
A preparation of irradiated ergosterol in arachis oil (10%) with lanolin (25%) zinc oxide (13%) and a paraffin base

In 2-oz. tins ... ... per tin 2/6

ADEXOLIN CAPSULES
Vitamins A and D in high concentration for use in the treatment of septicæmias.

Boxes of 25 capsules 5/-
Boxes of 100 capsules 15/-

These prices are subject to the usual professional discount.

Glaxo Laboratories, 56, Osnaburgh Street, London, N.W.1

MILK

from healthiest New Zealand cows, fed all the year round on green pastures—that is the basis of Sunshine Glaxo

The Glaxo Process gives a fine, easily-digested curd and ensures a germ-free food

The presence of a definite amount of vitamin D, makes the addition of more fat unnecessary. Thus, a common cause of indigestion in infancy is prevented

Mineral balance is given special attention

SUNSHINE GLAXO

The infant food which is in full accord with modern dietetic practice

GLAXO LABORATORIES
56 OSNABURGH STREET
LONDON, N.W.1

Remarks ON CONSERVATIVE GYNAECOLOGICAL SURGERY *

BY

W. BLAIR BELL, B.S., M.D., F.R.C.S.

HON. F.A.C.S.

PROFESSOR OF OBSTETRICS AND GYNAECOLOGY, UNIVERSITY OF LIVERPOOL; OBSTETRICAL AND GYNAECOLOGICAL SURGEON, ROYAL INFIRMARY, LIVERPOOL; PRESIDENT, BRITISH COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

Some day perhaps a surgeon, possessing a wide historical knowledge of the art and science of surgical intervention, and gifted with a philosophical quality of mind, will tell us why the rugged efforts of the earliest times have lingered on, even to the present day, side by side with the advance of scientific methods in gynaecological surgery. I cannot do more here than indicate the circumstances as they appear to me.

Until a hundred years ago surgery was almost entirely urgent in character—the surgery of injuries of war or of peace time. Gradually physiological and pathological knowledge was acquired, and this stimulated further surgical endeavour, at first without corresponding reward. Then came anaesthesia and antiseptic surgery, which made operations of convenience as well as life-saving and health-giving procedures possible.

The gynaecological enterprises of the general surgeon, following on the work of men like Spencer Wells and Lawson Tait, soon commenced: "Surely if *they* can remove ovaries, tubes, and uteri, so can we," said the general surgeon, and acted accordingly. For a time gynaecological surgery became an eradicative competition among all those who handled the knife; and, as I have indicated, to some extent it still is. At the end of last century, however, Liverpool began to tower over the rest of the surgical world in regard to conservative surgery. A scientifically-minded general surgeon, William Alexander, who will in due time be posthumously accorded his rightful place as a wise pioneer, as has happened in the case of Hugh Owen Thomas of the same city, was making contributions to conservative gynaecological procedures of the highest value. Elsewhere gynaecological surgery, Alexander neglected, lagged behind. The general surgeon still removed everything he found abnormal in the pelvis, and the gynaecologist did the same, when, indeed, he was not prevented from operating altogether by his surgical colleagues, as obtained at St. Bartholomew's and other hospitals in London.

About thirty years ago, when gynaecology shook off the medical trammels imposed upon it in many places by its surgical brethren, and reached out for surgical recognition, it was found that the physiologists, anatomists, and pathologists had overlooked the fact that before a person can function normally or abnormally he must be born, that the organs concerned in this process are worthy of consideration, and that all that is gynaecological is not restricted to the pelvis, as is still believed by the ignorant to-day. Consequently it was necessary that the gynaecologist should investigate the structure of the female genitalia and the physiological performances of which these organs are capable. This was the state of affairs when I myself entered the field of gynaecology: very little was known of the physiology and pathology of the genital organs and their functions. Only in the last few years has any real help been given by others who are not practising gynaecologists; so the fact remains that the gynaecologists of the present generation have themselves laid down the scientific lines on which recent advances and refinements have proceeded, and in so doing have legitimately excluded the conscientious general surgeon from cobbling on lasts with which he is not familiar.

It is therefore of the utmost importance that those practising gynaecology should have one mind on the question of conservative surgical procedures. This is physiological surgery, as opposed to the older anatomical surgery. Yet I have myself in recent years taken part in many controversies concerning the value ("if any," some have said) of the ovary in the functional equipment of woman, and the advantages of operations designed to conserve as far as may be her feminine state and functions, as opposed to what has been called the "clean sweep."

It seems curious that controversy should ever arise on such matters, for the principle of all surgical operations, whatever region be concerned, is the same: the mechanical treatment of lesions causing symptoms with the conservation of structure and function, so long as this practice does not endanger the life of the patient. I am, however, happy to think that, although the last discussion on this subject took place as recently as 1927,[12 18 22] it would be difficult to-day to find an advocate of the "clean sweep" as a routine procedure. It has never seemed to me unreasonable to regard the conservation of the ovarian function as of no less biological importance than that of the testicular. The fictitious difference some have sought to maintain has in reality been created by the prominent position of the male organ, and the pride men take in their potency! Yet the possibility of conception, pregnancy, and parturition is no less important psychically and physically to a woman, because she alone is capable of these life-giving phenomena.

FUNCTIONS OF THE PELVIC GENITALIA AND PASSAGES

Primarily reproductive, the genital organs in the consummation of this function are closely linked up with the metabolism of the soma. We cannot regard the reproductive phenomena as processes apart from the rest of the bodily functions.

Formerly the genitalia of woman were regarded as being local in function as well as in position. Now we know that from birth till after the menopause the genital secretions and functions play a very important part in determining the mental and physical development of the individual, and in maintaining the attributes of the normal woman. Moreover, as I showed many years ago, the ovaries are but one link in the chain of organs, such as the pituitary and thyroid, which form a genital system.[4] Ablation or serious disturbance of any one of these may seriously affect the other links in the chain, and therefore the metabolism of the body, with many physical and psychical consequences.

To-day, all surgeons have acquired a physiological, in place of a purely anatomical, outlook; so, with such knowledge as I have outlined, the scientific gynaecologist sets before him the ideal of preservation of function. Conservative gynaecological surgery, then, is concerned with the maintenance of the ovarian function and menstruation, and with the fostering of conception and childbirth.

CONSERVATIVE OPERATIONS ON THE OVARIES

Ovarian Resection.—One of the commonest and most important of conservative operations on the ovary is partial resection of the organ in well-defined circumstances. Unfortunately it is usually the custom of gynaecological surgeons to remove, quite unnecessarily, an ovary which is the seat of an innocent neoplasm. Often enough mere bisection of the specimen subsequently to removal shows us on naked-eye examination that part of the ovary could have been preserved, for very commonly—indeed, almost

* The substance of addresses, with lantern illustrations, delivered to the Southport Medical Society on March 4th, 1931, and to the Blackburn Medical Society on March 11th, 1931.

always—the unaffected portion is that which is in immediate connexion with the blood supply. One must be careful, of course, to be sure that the lesion is innocent, but only now and then is there any room for doubt. Nevertheless on one occasion I removed in their entirety bilateral ovarian tumours (fibromata) which very closely resembled solid malignant tumours; and on another occasion I removed bilateral ovarian cystic multilocular tumours from a young woman, preserving a portion of one ovary. On histological examination some parts of the tumours were difficult to recognize as being of an innocent character. However, no further pathological developments have occurred, and the patient is menstruating normally, nearly a year later. It is possible, too, that she may some day conceive. I have excised even endometriomata from the ovaries of women, and pregnancy has subsequently occurred. In this connexion I would refer to the view, which influences many surgeons, that one ovary is sufficient for all the needs of a woman, and in a sense this is perfectly true. But, on the other hand, how often when one ovary has been removed because it was the seat of an innocent neoplasm, has the second ovary been removed at a later date for a similar condition! It has never come to my knowledge that a new growth has developed subsequently in any ovary I have resected. This might happen, it is clear; but such an event must be very rare, for if resection be properly performed, the region in which neoplasms most frequently arise is excised, as they tend to grow away from the hilum. So, too, with retention cysts, whether follicular or parovarian, careful technique will generally enable us to save a considerable part of the normal ovarian tissue. When it is not possible to resect an ovary satisfactorily a graft from it may usually be made. The technique of ovarian resection may be very simple or may require careful planning, for the blood supply must not be impaired. Suture, too, of the ovarian wound should be neatly performed and a turning-in stitch employed. It is useful, also, to cover the scar with the peritoneum of the mesosalpinx, and to support the tube and ovary by making use of the round ligament.

Ovarian Grafting.—I have published so much on this subject, and have so often given statistics of the results of a large number of cases,[8] that I do not propose to deal at great length with this important procedure. Up to April, 1928, I had performed the operation of ovarian grafting 210 times in women during the reproductive period of life. Here, again, to secure good results the most careful technique is required. The chief factors for success seem to be:

1. Homoplastic grafting—that is, using the patient's own ovarian tissues.
2. Obtaining and using active ovarian substance.
3. Cutting the material into connected fragments with a sharp knife, that rapid vascularization may be favoured. I employ a skin-grafting knife and cut the ovarian substance in criss-cross fashion on a rubber pad.
4. Putting the material so treated in a suitable place.

Ovarian grafting may be (*a*) extragenital, or (*b*) genital. In the latter case the ovarian tissue is placed in the wall of the uterus—presenting, or not, in the uterine cavity according to the conceptional needs of the case. When extragenital implantation is practised this should be in a dry but vascular area, such as between fibres of the rectus muscle. So far as results are concerned, I can only speak of those attending the methods I have practised and published. These, however, have been confirmed recently by Norris[25] of Philadelphia, who states that he has followed my technique in all its details. My own results show that of all cases in which menstruation has been possible this function has been mantained in over 70 per cent.—not always regularly, of course, but often so—and has continued for many years. I have a patient in whom the function has now persisted for so long as thirteen years and three months, and is still regular. Of those cases in which menstruation was not possible, owing to the removal of the uterus, no less than about 90 per cent. remained free from menopausal symptoms, after the first few months following implantation—that is, after the graft has become vascularized. In spite of such good results let me repeat what I said in a paper on ovarian grafting many years ago:

> "I wish to insist that this procedure be looked upon as a measure of necessity, which can never be weighed in the balance against the preservation of the natural connexions of the normal ovary."[8]

Ovarian Transposition.—By this procedure we imply the transposition of an ovary with its normal connexions to an unusual site in order that conception may be made possible. The chief indication for this is unavoidable removal of the tubes in a woman, during the reproductive period, in whom an ovary can be preserved with its vascular supply. The operation was first suggested by Estes,[19] and Tuffier.[27] The former excised a cornu of the uterus and fixed an ovary, presenting in the uterine cavity, over the aperture. Pregnancy subsequently occurred in 4 cases out of 27 whose after-history was obtained. Tuffier placed the ovary partly in the uterine cavity through an incision in the posterior wall. I have practised the latter procedure nine times; the after-histories of seven of these patients have been obtained. In none of these seven has pregnancy yet supervened; some of the operations, however, were recently performed. On the other hand, it may well be that when practicable Estes' operation is the better, and I intend to give it a trial when a suitable case presents itself. A second indication for ovarian transposition, which I have practised, is in the case of an ectopic pregnancy when conservation of the tube is desired, but, owing to the oozing of blood from the fimbriated end, seems impossible of consummation. In these circumstances the slight pressure of an ovary placed in the lumen of the tube with the fimbriated end closed round it may enable a functional result to be secured. The technique of transposition of the ovary is, however, in its infancy, and we are still seeking the simplest and most effectual methods.

CONSERVATIVE OPERATIONS ON THE TUBES

Salpingotomy.—This was advocated for acute suppurative salpingitis first, I believe, by Holden in America, and subsequently practised by Bourne [13] and others in this country. The method of dealing with acute infections has not, however, received much support, probably because after the rude awakening, in the form of a high mortality rate, that came to many gynaecologists who formerly operated on salpingitis during the acute phases, the greater security afforded by operations conducted in the chronic stage, when the infecting organisms are dead, is not likely to be lightly cast aside.

It is, on the other hand, curious that salpingotomy in tubal pregnancy has not become a method of choice in suitable cases. In 1922 I recorded[10] my first case in which this procedure was deliberately performed to remove a tubal mole, which measured 5.5 by 3.5 cm., and contained chorionic villi. Since that time I have practised this method in suitable circumstances—that is to say, in those cases in which tubal haemorrhage had been arrested naturally or could be controlled, and in which there were still products of conception in the lumen which could not be removed through the abdominal ostium. In view of the routine way in which tubes and even ovaries together with the tubes were formerly, and still are by many, removed in cases of tubal pregnancy, even in those cases in which complete tubal abortion has occurred, it is necessary to say that such eradicative procedures may be entirely unjustifiable. It is enough to evacuate from

the peritoneal cavity the blood clots and products of conception which have been aborted through the abdominal ostium of the tube, or to remove them by that route with sponge forceps, and to suspend the tube and ovary if tubal haemorrhage has ceased. If bleeding is still going on, it may be necessary to remove the tube, but I think it is worth while in these cases to incise the tube and understitch, if possible, the bleeding points. In some cases the ovary may be transposed into the lumen of the tube as already described. I cannot believe that in such circumstances oozing of blood would continue for long. If the case is of longer standing, and a mole has formed in the tube, this may readily be removed by salpingotomy and the tube subsequently sutured. In some cases of this character salpingostomy may also be performed. Curiously enough in two consecutive cases of ectopic pregnancy on which I operated recently—one old-standing, and one in the acute stage—I found that each patient had a haematosalpinx on the other side, apparently due to a tubal pregnancy a long time previously. I have seen this several times. It is perhaps not an unexpected finding, for we have all operated on cases of repeated ectopic pregnancy in the same patient, and at considerable intervals of time. In the last of the two cases mentioned above lipiodol was injected into the uterus a fortnight after operation—double salpingotomy and salpingostomy—and both were seen to be patent. It is possible that this patient will now conceive normally.

Salpingostomy.—This, as I have just said, may be performed in cases of ectopic pregnancy, but undoubtedly the chief indication is occlusion of the fimbriated extremity of the tube due to infection. It is, of course, useless to perform this operation alone when there is obstruction in the isthmial or intramural regions, for which resection may be required. For the most part, therefore, salpingostomy is indicated for occlusion of the fimbriated extremity caused by pelvic infections following appendicitis, by ascending infections of the streptococcus (puerperal infection), or by infections following pelvic operations. Gonococci, unless the attack be very mild and the organisms rapidly perish, damage the mucosa of the tubes so much that it is rare to see fimbrial occlusion only. Even when this does happen, and salpingostomy is successfully performed so far as patency is concerned, pregnancy is not very likely to follow owing to the damage done to the mucosa, although at the time there be no obstruction elsewhere. Besides, reinfection with reocclusion is not uncommon. It is most important that, when the lumen has been exposed in the first step of salpingostomy, the patency of the isthmial and intramural regions should be tested by means of air inflation from above, as I first advocated in 1917,[7] some years before transuterine inflation was suggested. The technique of this procedure is simple. A metal syringe with a fine nipple-like nozzle is taken and the nipple gently inserted into the lumen of the tube. Pressure is then slowly exerted on the piston. If the tube be occluded nearer the uterus the distal portion is greatly distended. When the air has passed quickly to the uterine cavity it may often be heard gurgling through the cervix, or if the uterus be nipped between the fingers it can be felt and heard escaping into the vagina. As with other conservative operations, salpingostomy, if it is to be successful, requires the greatest care in its performance. The chief points on which stress must be laid are:

1. *Absolute haemostasis.* If there be any blood in the neighbourhood of the new ostium it will subsequently be occluded.

2. Close connexion between the ovarian end of the opening and the ovary; in this way an ovarian fimbria is replaced.

3. Suspension of the tube and ovary to the round ligament to prevent the new ostium adhering to the peritoneum of the lateral wall of the pelvis.

In a limited number of cases of salpingostomy subsequently tested by air inflation or with lipiodol we have found patency in over 70 per cent.

Tubal Resection.—This operation is concerned with the removal of portions of the tube which cannot satisfactorily be conserved, with the maintenance of the tubal lumen. The following are the conditions for which I have performed the operation:

(*a*) Ectopic pregnancy, when it is occasionally necessary to excise an affected area, usually at the fimbriated extremity.

(*b*) Infections, when the lumen of the tube is obstructed at one spot, generally in the intramural portion.

(*c*) Congenital abnormalities. The only states of congenital origin of which I have had the experience are in the case of an impervious uterine horn to which a normal tube has been attached, and in the not very uncommon forms of local impermeability of the tube. This latter condition is seen in the isthmial part of the tube, which is represented by a convoluted hard cord in the mesosalpinx.

In cases of tubal resection I have never myself performed tubo-tubal junction—that is, anastomosis of a patent fimbrial portion to a pervious uterine segment. I have, however, in a certain number of cases, resected the whole or part of the isthmial portion, together with the intramural, and have implanted the outer moiety of the tube in the uterus with success. As I have indicated, success may be noted by the subsequent examination with *x* rays of intrauterine lipiodol injections. Here I may relate a very remarkable case of tubal conservation, accomplished, first, by resection of an impervious uterine horn and implantation of the left tube into the main uterine body, and at a later date by salpingotomy of right tube for ectopic pregnancy, with subsequent full-term pregnancy for the first time in the uterus. These events are recorded below under sections (1), (2), and (3).

Mrs. C., aged 22 years; married for one year and four months; had never been pregnant.

(1) Admitted on December 18th, 1925, to the Royal Infirmary, Liverpool, suffering with pain in the back and premenstrual and intramenstrual dysmenorrhoea, which had been present since menstruation commenced when the patient was 13 years of age. The menstrual cycle was 3-5/23-26. On examination the uterus was found to be retroverted and retroflexed; nothing else abnormal was detected. The uterus was replaced in the normal position and a test made to discover whether the retroversion and flexion were responsible for the symptoms by keeping the uterus in the normal position with a pessary. All symptoms except the intramenstrual dysmenorrhoea were relieved. So the pessary was removed and surgical procedures were advised in order that the uterus might be fixed in a normal position. On February 4th, 1926, I performed laparotomy. The uterus was found to be retroverted and retroflexed, and the left cornu of the fundus was seen to terminate in a small rudimentary horn, such as I have described elsewhere as being a cause of intrinsic intramenstrual dysmenorrhoea. Attached to the distal end was an apparently normal Fallopian tube, which, on intra-abdominal inflation, was shown to be patent as far as its insertion into the rudimentary horn. Air passed through the right tube into the uterus. The rudimentary horn was excised and the tube was implanted into the cornu of the uterus. A "sling" operation was then performed to keep the uterus forwards, and the appendix was removed. The patient made a smooth recovery. On February 26th, 1926, lipiodol was injected into the uterus, and both tubes were found to be patent.

(2) The patient was not seen again until December 9th, 1927, when she returned to the out-patient department. She stated she had been quite well until November 20th, 1927, when a menstrual period began, and that since then she had bled without cessation. There had been no amenorrhoea. On examination a right tubal swelling was found, an ectopic pregnancy diagnosed, and she was admitted to the wards. On December 15th I once more opened the abdomen. A little blood was seen in the pelvis. The right tube and ovary were adherent to bowel. The tube was distended in its isthmial portion and dark in colour. The ovary was enlarged (ca. 7 by 5 cm.) and cystic. The distended tube was incised and the contents with blood clot were removed. The mole measured 3.2 by 1.5 cm., and chorionic villi were found in it. The wound in the tube was sutured, and the lumina of both tubes were tested by air inflation and found to be

patent. The cyst in the right ovary was removed by partial resection of that organ. Sections showed the cyst to be follicular in nature. The tube and ovary were suspended. There was no deformity on the left side where the tube had been implanted at the previous operation. An uneventful recovery followed.

(3) On April 7th, 1930, the patient reported at the ante-natal clinic that she had had amenorrhoea since January 30th, 1930. She was found to be pregnant. The patient went to full term. There was a breech presentation, and she was delivered in the Royal Infirmary on October 18th, 1930. Mother and child did well.

Successful tubal resection is not an easy operation, and it must be perfectly performed mechanically if the desired end is to be obtained. The chief points in the technique that make for success are:

1. Exposure of the uterine cavity through the cornu, or by means of vertical bisection of the uterus, as advocated by Solomons.[24]

2. Division into two flaps of the uterine end of the tube to be implanted, and the suturing of the anterior to the anterior wall of the uterine cavity and the other to the posterior.

3. Avoidance of pressure on the intramural part of the implanted tube when suture of the uterus is performed.

4. The passage of catgut or silkworm gut through the whole length of the tube into the uterine cavity.

CONSERVATIVE OPERATIONS ON THE UTERUS

Congenital Anomalies.—I have already discussed the resection of imperforate uterine horns. In many cases, however, of bicornuate uterus it is found that the two horns are well developed and of approximately equal size. In a majority, no doubt, there is no symptom or difficulty, but in some there is severe dysmenorrhoea, and occasionally obstructed labour, due to the non-pregnant horn blocking the pelvis. I have myself seen such cases. Provided the horns are not too widely separated, as may sometimes occur, and there is only one cervix, it is possible, by excising the inner sides of the two horns sufficiently to expose the cavities to unite the two outer halves and to form one uterus. I have performed this operation several times; so, too, has Munro Kerr,[23] and he has reported pregnancy subsequently to this operation; and this, indeed, is to be expected after so simple a procedure. When the cervix is duplex the operation is not so simple, but it is possible to deal with such cases surgically if there be necessity. Congenital occlusions of the cervix and uterine diverticula should always be treated conservatively, for hysterectomy is rarely required.

Infections.—The body of the uterus, to a great degree, is protected from infection and the lesions resulting therefrom by the endometrium, which undergoes cyclical changes and replacement. Nevertheless, the cornua and neighbouring fundus uteri are usually involved in serious tubal infections, even when of gonorrhoeal origin. In the acute phases of such an infection it is possible to find round-cell infiltration of the muscle coat of the uterus in these regions.[6] No doubt this and the subsequent fibrotic changes of chronic infection are in part responsible for the menorrhagia which is so common a symptom. For this reason Beuttner of Geneva, and I myself independently a little later, devised an operation which I called acrohysterectomy[5 6]—meaning removal of the summit of the uterus. At the same time, and in one piece, the seriously damaged tubes—pyosalpinges—are removed with it, and also the ovaries, if it is impossible to retain them safely in their normal situation, and an ovarian graft is made. So long ago as 1925 I recorded the results of 127 cases of acrohysterectomy.[11] In 108 of these ovarian grafting was necessary, and in 68 per cent. menstruation subsequently occurred. Success, in that the symptoms were relieved and the menopause averted, was obtained in 90 per cent. of all the cases. It is perhaps necessary to emphasize the fact that this operation—indeed, in my opinion, all operations designed for the treatment of salpingitis—should not be performed until the condition has become chronic. I have discussed this matter more fully elsewhere.[9] My mortality rate for the above series of cases, which included those of puerperal (streptococcal) origin, was 2.6 per cent., whereas Beuttner's, for his first 40 cases, was 12.5 per cent. It appears probable, therefore, that he may have been less cautious in this respect than I have been. In most of the patients, in whom the organism has been the gonococcus, the cervix is badly infected, and it may be lacerated. To complete the treatment it is necessary in such circumstances to amputate the cervix. An essential point—not practised by Beuttner—is the covering of the stumps of the infundibulo-pelvic ligaments and the sutured uterine wound with a flap of peritoneum dissected free from the utero-vesical pouch; this prevents intestinal adhesions. Undoubtedly this combination of conservative operations to relieve severe cases of salpingitis with cervical and fundal infection of the uterus is most satisfactory, for menstruation is usually maintained to the comfort and happiness of the patient.

Neoplasms.—Conservative surgery in regard to neoplasms of the uterus concerns, of course, only those which are innocent in nature. From the dawn of gynaecology it is certain that uterine polyps, adenomatous and fibromyomatous, have been successfully treated by conservative measures—vaginal removal—but I shall not have time to say more about such tumours here, although there are many points of clinical and operative interest in connexion with them. Fibromyoma uteri, and endometriomata and endometriomyomata uteri, however, are so common, and so much attention is at the present time being paid to the conservative principles enunciated by Alexander and others in connexion with them, that I must occupy some time in discussing them. First, with regard to endometrioma of the uterus. This is usually seen as a diffuse growth in the wall of the uterus, nearly the whole of which may be involved. The symptoms associated with the condition are severe dysmenorrhoea and menorrhagia. In well-developed states of this lesion I do not believe it is possible to conserve the whole of the uterus satisfactorily; but it may be possible to save some endometrium, and there is no justification for the removal of healthy ovaries. The case is often different with fibromyoma and endometriofibromyoma. In certain patients it may be possible to remove the tumours and to conserve the uterus for menstruation and pregnancy; and in others to leave enough endometrium to enable menstruation to continue.

Before I consider the operation of enucleation of fibromyoma, let me discuss the question of partial hysterectomy with endometrial conservation. As I have said, the "clean sweep"—removal of ovaries, tubes, and uterus—has been practised, and was advocated so recently as 1927,[16] for fibromyomata uteri and for some infections as a routine procedure. This I believe to be unjustifiable, except in a few exceptional cases. As with infections, even where subtotal hysterectomy is required for fibromyomata, it is nearly always possible to conserve some endometrium. I have known a patient in whom a very small area of endometrium has been preserved to menstruate subsequently for as long as seventeen years, until the natural menopause. It seems, therefore, that as with a small portion of ovary, so a little endometrium will sometimes go a long way. When, therefore, it is necessary to perform hysterectomy in young women it is advisable to leave some endometrium.

Transperitoneal Myomectomy.—I now come to the important conservative operation which during the last few years has been ardently proclaimed by Bonney.[16 17] What is the history of transperitoneal myomectomy? It has been stated that Spencer Wells first performed it, by removing subperitoneal pedunculated fibromyomata, and that it was afterwards practised on the Continent by A. Martin and by Shroeder, but was abandoned by them owing to a mortality rate of over 30 per cent. In 1894 William Alexander of the Liverpool Southern Hospital reported to the North of England Obstetrical and Gynaecological Society a case of myomectomy.[3] When Alexander read his second paper on the subject in Liverpool in 1897,[1] Professor Wallace called attention to his own paper[25] on the evolution of the treatment of fibromyoma uteri, read at the British Medical Association meeting in 1896, and stated that he had practised enucleation for twenty years—that is, since 1877—in the gynaecological ward of the Liverpool Royal Infirmary. However, there is no doubt that at the discussion which followed the third contribution by Alexander, before the British Gynaecological Society in March, 1898,[2 3] his position as a pioneer of myomectomy was recognized, if not applauded, by his London audience,[5 18] for he was the first strong advocate of the method, and showed that it could be safely performed even in difficult cases. From one patient he had removed nearly thirty tumours, a photograph of which is reproduced in his paper.[3] Since that date the operation has been consistently practised in suitable cases in Liverpool and elsewhere; and from 1903 transperitoneal myomectomy has figured among my own operations for fibromyoma uteri. In 1900 Giles[20] reported a successful case. In 1918 Bonney[14] published a short paper advocating an increase in the practice of myomectomy; no statistics were given. In 1922 Giles[21] and Bonney[15] read papers at a meeting in London. Whereas Bonney's paper, with a record of 100 cases, was an appeal for myomectomy without proper reservations being made, so far as I can discover, in regard to age and other essential qualifications, Giles's paper, as I shall show, was far more cautious. In mentioning Mayo's paper of 1911,[24] Bonney[15] wrote: "W. Mayo, in 1911, also wrote a paper on the myomectomies performed at the Mayo Clinic, 157 in number, with one death, but as they had done a very large number of hysterectomies during the same time it is obvious that the cases were selected." What else should be expected of an experienced surgeon of sound judgement and common sense? Giles, with Mayo, did not limit himself to myomectomy; he recorded and compared 987 cases of hysterectomy for fibromyoma with 167 cases of myomectomy performed by himself during the same period. I do not think a more judicial statement than his could be made to-day. The indications and limitations of the operation are clearly defined, and the important comparison between hysterectomy and myomectomy, to which I have referred, is made.

The chief difficulty associated with the enucleation of intramural, and of some cervical, fibromyomata is the bleeding. Bonney places a special clamp around the round ligaments and cervix, and sponge forceps on the infundibulopelvic ligaments. Other forms of compression may be used. The closure of the cavities is always effected by suture. In Bonney's latest series[17] the after-histories of 210 patients were obtained. This is about half the total number of his cases. In this series, moreover, 42.8 per cent were over 41 years of age. Of 77 in whom pregnancy was desired and possible, 30 conceived. Caesarean section was an unusually prominent feature in the delivery of these. In 13 (nearly half) of the 30 women who conceived, the fibromyoma was single; in 17 there were multiple tumours, but in more than half of these the number did not exceed 8, and we are given no indication of their sizes and positions, so we must draw our own conclusions. The value of such statistics in regard to well-recognized operations is that we can discover how far and in what direction our procedures have been justified.

Indications for Myomectomy.—In certain cases the indications are so definite that no gynaecologist would be performing his duty if he did not practise myomectomy. I do not propose here to discuss those in which nothing but one-eyed enthusiasm would lead an operator to perform this operation when it is clear the full genital functions cannot be conserved; by this I mean both menstruation and conception. I cannot insist too strongly, however, that the sole advantage of transperitoneal myomectomy over partial hysterectomy lies in the possibility of conception, for, as I have shown, it is easy to leave enough endometrium for menstruation in the performance of supravaginal hysterectomy. We should not as gynaecologists with judgement, and conscious of our duty to our patients, be interested in the performance of surgical feats once the pioneer stage has been passed, especially when at best they may lead, in inexpert hands, to worse results than other methods so far as immediate and remote mortality is concerned. Hence it may be definitely stated there is no place for myomectomy after the menopause, unless, perhaps, it be for solitary and pedunculated tumours causing symptoms. There are, at the same time, very definite indications for this operation, as has long been recognized, in women under 40 years of age, and in exceptional circumstances a little older, who can bear children, but in such cases the tumour should be single, or there should not be more than a few. The hunting out of dozens and dozens of "seedlings," and excessive trauma of the uterus must unfit this organ for reproduction. These facts have long been recognized, and seem supported by all the figures at present available. The operation is, too, a simple performance in comparison with certain of the other conservative gynaecological procedures. The indications, then, are:

1. Acute degenerations in fibromyomata during pregnancy.
2. The tumour is single or there is a limited number only of fibromyomata in women under 40 years of age, unless the patient marry shortly after that age and wish to bear children. If a woman has already several children, unless the fibromyoma are few in number and there is no special difficulty, this operation is not indicated; panhysterectomy by the vaginal or abdominal route is preferable in order that the cervix, which may have been injured in parturition, may be removed.

The contraindications are:

1. Women about or after the menopause.
2. Associated tubal infection, or old haematosalpinges.
3. When excessive mutilation of the uterus will be produced by the operation.

I have dealt with transperitoneal myomectomy somewhat fully, for there is, I believe, a very great danger that this operation, which is most beneficial in certain cases, will again fall into disrepute if it be practised indiscriminately in cases in which conception is not possible or thereby is made impossible.

CONCLUSION

In conclusion, I would ask those practising gynaecological surgery always to think conservatively rather than eradicatively when operating on women in the reproduction period for non-malignant conditions, and to give a proper trial to all conservative procedures that are designed to preserve function: time alone will show which deserve perpetuation and what is the best technique for their performance. I would, last of all, commend to notice the following words of my friend Professor W. P.

Graves of Harvard University, spoken in 1927 at the British Congress of Obstetrics and Gynaecology[22]:

"Conservative surgery of the pelvis is one of the most important branches of all gynaecology, in that its proper performance requires great skill, expert judgement, and a thorough knowledge of pelvic pathology. Success depends, therefore, in a great measure on the individual capacity of the operator."

REFERENCES

[1] Alexander, W.: *Med. Press and Circular*, 1897, cxiv, 411.
[2] Idem: Ibid., 1898, lxv, 349.
[3] Idem: *Brit. Gynaecol. Journ.*, 1899, xiv, 47.
[4] Bell, W. Blair: *Lancet*, 1913, i, 809 and 937; *The Sex Complex*, London, second edition, 1920.
[5] Idem: *System of Operative Surgery*, Burghard, 1914, v, 219.
[6] Idem: *Surg., Gynecol. and Obstet.*, 1914, xvi, 634.
[7] Idem: Disorders of Function, *New System of Gynaecology*, Eden and Lockyer, 1917, i, 409.
[8] Idem: *Lancet*, 1920, ii, 879; *Surg., Gynecol. and Obstet.*, 1925, xli, 706.
[9] Idem: *Journ. Amer. Med. Assoc.*, 1921, lxxvii, 696.
[10] Idem: *Journ. Obstet. and Gynaecol. Brit. Emp.*, 1922, xxix, 504.
[11] Idem: *Surg., Gynecol. and Obstet.*, 1926, xlii, 1.
[12] Idem: *Journ. Obstet. and Gynaecol. Brit. Emp.*, 1927, xxxiv, 213 and 384.
[13] Bourne, A.: Ibid., 1927, xxxiv, 185.
[14] Bonney, V.: *British Medical Journal*, 1918, i, 278.
[15] Idem: *Journ. Obstet. and Gynaecol. Brit. Emp.*, 1922, xxix, 591.
[16] Idem: *British Medical Journal*, 1925, ii, 931.
[17] Idem *Lancet*, 1931, i, 171.
[18] Donald, A., et al.: *Journ. Obstet. and Gynaecol. Brit. Emp.*, 1927, xxxiv, 360.
[19] Estes, W. L.: *Surg., Gynecol. and Obstet.*, 1924, xxxviii, 394.
[20] Giles, A. E.: *Obstet. Trans.*, 1901, xlii, 289.
[21] Idem: *Journ. Obstet. and Gynaecol. Brit. Emp.*, 1922, xxix, 608.
[22] Graves, W. P.: Ibid., 1927, xxxiv, 360.
[23] Kerr, J. M. Munro: *Proc. Roy. Soc. Med.*, (Sect. Obstet. and Gynaecol.), 1924, xvii, 123.
[24] Mayo, W.: *Surg., Gynecol. and Obstet.*, 1911, xii, 97.
[25] Norris, C. C.: Ibid., 1929, xlix, 642.
[26] Solomons, B.: *Journ. Obstet. and Gynaecol. Brit. Emp.*, 1927, xxxiv, 218.
[27] Tuffier, T.: *Surg., Gynecol. and Obstet.*, 1924, xxxix, 401.
[28] Wallace, J.: *British Medical Journal*, 1896, ii, 1284.

ACTIVATED (IRRADIATED) FLUORESCEIN IN THE TREATMENT OF CANCER

BY

S. MONCKTON COPEMAN, M.D., F.R.C.P., F.R.S.

EMERITUS LECTURER ON PUBLIC HEALTH, WESTMINSTER HOSPITAL

In a paper by Mr. Frank Coke, Dr. Gouldesbrough, and myself, published in the *Journal* in August, 1929,[1] we described a method of treatment, initiated about two years previously,[2] which had continued to afford satisfactory results in certain cases of cancer, some of so advanced a character that they had been regarded by the surgeons in charge as definitely inoperable. It consists of the use of a slightly alkaline solution of the sodium salt of fluorescein sprayed or painted widely over the surface of the growth and followed by the application of radium, or of a dosage of *x* rays of moderate penetration.

Internal Administration

In some instances this superficial use of fluorescein may suffice for the required purpose, but where the growths are somewhat more deeply seated, or where there is reason to suspect dissemination of the disease, the fluorescein is also given orally or intravenously. Owing to the extremely low toxicity of the fluorescein salt considerable quantities may be administered in one or other of these ways, an ordinary dose given by the mouth consisting of two capsules of 7½ grains each (15 grains, or 1 gram in all). Mr. Stanford Cade, however, has reported to me an instance in which 1 drachm was administered, by mistake, in place of the 1 gram ordered—fortunately without the supervention of any unpleasant symptoms. In a few cases, however, the oral method has caused a feeling of sickness, when it has therefore been discontinued in favour of the intravenous route. The drug is gradually eliminated by the kidneys, its presence in the urine being demonstrable within about an hour after the administration.

The object of giving the fluorescein internally is to bring under its influence, on irradiation, outlying cells which may have become affected, or an organ like the liver, which may be suspected of harbouring secondary deposits, even though no clinical evidence of the fact may be apparent. Our more recent experience has, indeed, afforded reason for the hope that by giving the fluorescein internally as well as by local application to the skin, together with appropriate distribution of the subsequent irradiation, this technique may prove successful in preventing recurrence, not only locally, but generally. For intravenous inoculation 20 c.cm. of a sterilized 5 per cent. solution of sodium fluorescein should be slowly injected. The rapid diffusion of the drug, when given intravenously, may be manifested within a few minutes after the injection by a yellow coloration of the skin, although in comparatively dark-skinned individuals this effect may not be marked.

Activity of *X* Rays or Radium Increased by Fluorescein

In the correspondence which ensued on publication of our former paper in the *Journal*, reiterated stress was laid on a criticism to the effect that no evidence was available to prove that when successful results were obtained following on treatment with activated fluorescein, these might not equally have been obtained by the use of *x* rays or of radium alone. It may be well, therefore, to point out that evidence is now available which appears to have definitely disposed of the suggestion that equally good results can be produced without concomitant application of fluorescein. As a matter of fact, details of three cases giving information on this question were reported in the paper referred to, and a set of photographs (to which we specifically directed attention) was published about nine months previously.[3]

Lately, Mr. Stanford Cade informed me that he has now treated eight additional cases of breast cancer with radium and fluorescein. He added that, though difficult of decisive proof, he was definitely of opinion that the action of the radium had been reinforced by the simultaneous use of fluorescein. He promised full clinical details at a subsequent date.

More recently further cases have been brought to our notice, in which successful results have been obtained after previous failure with *x* rays alone. Reference to one of these is to be found in the annual report for 1928-29 of the medical superintendent of the North Middlesex Hospital. He states, on page 20, that "recently one remarkable case which had proved refractory to *x*-ray treatment, a large rodent ulcer of the face, healed up in a remarkably short time" as the outcome of the additional use of fluorescein.

A similar sequence of events is reported (August 20th, 1930) by Dr. H. M. Cutler, who, writing from Sydney, Australia, of his experience of the use of activated fluorescein in the treatment of malignant disease, says, *inter alia*: "With reference to the treatment of superficial conditions we cannot speak too highly. . . ." He adds that the response of rodent ulcers to radiation, when a preliminary painting with fluorescein is undertaken, is more marked than in the cases where no such painting is done, and instances a case of rodent ulcer involving the cartilage of the nose, recurrent after previous *x*-ray treatment, which, when treated with fluorescein irradiated

with a two-thirds B dose applied through a 1 mm. aluminium screen, "completely healed in three weeks, and has not recurred after about one year."

In this connexion, also, reference may be made to another case of severe recurrent carcinoma of the breast, ulcerated so deeply as to have almost destroyed the cartilages of three of the underlying ribs. To Dr. R. Mather Cordiner, assistant radiologist to St. George's Hospital, I am indebted for a personal description of the circumstances of this case, as also for a promise of further clinical details. The patient, handed over to him for treatment by Mr. Mower White, failed to show any response when, in the first instance, *x* rays alone were employed for the purpose. Accordingly, Dr. Cordiner turned to the use of activated fluorescein, and he informed me that he was greatly impressed by the fact that the deeply ulcerated area shortly commenced to close in from the bottom and sides, eventually healing up satisfactorily and completely.

FURTHER RESULTS OF FLUORESCEIN TREATMENT

Up to the present the number of cases treated successfully is not large, for the reasons: (1) that not having access to clinical material of my own, I have necessarily been dependent on the courtesy of others for any patients that have been handed over for fluorescein treatment; (2) that cases, especially of breast cancer, are now rarely found in the wards of the various metropolitan infirmaries, with the exception of a few in which the patients are in the last stages of the disease, or are actually moribund; and (3) that the majority of the patients who have become available for treatment have either been previously untreated cases at an inoperable stage, or such as have relapsed after operation with or without the application of *x* rays and radium, or of a combination of these methods; cases, therefore, which might be regarded as unlikely to prove amenable to any further form of treatment.

Thanks to the interest mainly of personal friends, a few private patients have been submitted to treatment, but, as regards hospital cases, our own work has been confined almost entirely to patients attending the radiological department of the Royal Northern Hospital, where, through the provision of a small grant by the Ministry of Health, at the instigation of the Departmental Committee on Cancer, an extra part-time radiological assistant has been provided, to whom has been assigned the compilation and filing of clinical and radiological records of patients treated by the fluorescein method.

Royal Northern Hospital Records

Between September, 1927, when treatment with activated fluorescein of patients suffering from malignant disease was commenced at the Royal Northern Hospital, and November 30th, 1930, 120 cases were submitted to this form of therapy, and the results, year by year, are shown in the following table, abstracted from the records of the radiological department:

Year	Total Number Treated	Died	Apparently Recovered*
1927-28	22	4	3
1929	42	18	11
1930 (to Nov. 30th) ...	55	11	9
Totals	120	33	23

* Alive and well, November 30th, 1930.

In comparing the number of successful results with the total number treated, as set out in this table, it is, we think, desirable to stress the fact that many of our patients have only come under treatment when in a far advanced stage of the disease. On the other hand, we realize that the period of time which has elapsed since the date of discharge of those "apparently recovered," especially in the more recent cases, is obviously too short to permit, at present, of judgement as to the permanence of the results thus far obtained. Still, it is of interest to record the fact that one of our earliest patients, who suffered from a large fungating cancer of the male breast, is alive and well after an interval of more than three years from the date of his admission to hospital.

Of the cases previously reported as discharged "apparently recovered," one patient, suffering from cancer of the breast, died on June 20th, 1930, after an interval of two and a half years from the date on which she was sent for fluorescein treatment to the radiological department by Mr. Mower White, who stated that the case was then quite inoperable. Of the remainder, the majority have been induced to come up for re-examination at intervals of about three months. These all apparently remain well, after an interval, in the earliest cases, extending to three and a half years (see Table, p. 660).

Reports as to further successful cases have also been received from Westminster Hospital, King's College Hospital, West Middlesex Hospital, North Middlesex Hospital, Paddington Hospital, St. Mary (Islington) Hospital, and the Norfolk and Norwich Hospital. Information has also been received from medical men in private practice as to a few cases of malignant disease in which all symptoms have disappeared as the outcome of treatment with activated flourescein, but owing to lack of space such clinical details as have come into our possession must be reserved for publication elsewhere.

INVESTIGATIONS OTHER THAN CLINICAL

During 1930, in addition to the considerable amount of time devoted mainly to clinical work with fluorescein and allied dyes,[4] we have carried out, with the help of other voluntary workers, to whom our best thanks are due, some preliminary investigations, chiefly from the chemical and physical side, and with special reference to the degree of fluorescence exhibited, on a number of compounds supplied to us by the dyestuffs department of Imperial Chemical Industries, Ltd., British Colloids, Ltd., Messrs. Boots, Ltd., and the Bayer Products, Ltd. —especially salts of the rhodamine group, and of the sodium salt of dichloroanthracene-disulphonic acid, to experiments with which we made brief reference in our paper.[4] With this latter salt—which, though practically colourless in a weak watery solution, exhibits on exposure to daylight or to screened ultra-violet rays an intense blue fluorescence, even when enormously diluted—experimental work on laboratory animals has been done by Dr. W. S. C. Copeman of St. Mary's Hospital, and by Dr. Goldby of King's College Hospital, with the object of determining the extent (if any) of the toxic action following on subcutaneous or intravenous injection. These experiments are not yet completed, as it is only recently that we have been able to obtain specially prepared samples of the drug in a satisfactorily pure state.

In addition, Dr. Herta Schwarbacher (also of King's College Hospital) has carried out an investigation as to any germicidal action possessed by the various salts under review. She reports that, whereas fluorescein is almost inert in this respect, the anthracene salt is definitely germicidal for *Staphylococcus albus*, although it is not nearly so efficient in this respect as phenol. I have since found that it possesses really remarkable deodorant properties when used (in 1 per cent. solution or even less) as a dressing for ulcerating malignant growths.

Some evidence, however, is already available indicating that, when irradiated, it is capable of exerting a selective lethal effect on malignant cells when activated by *x* rays

Tabular Statement as to Royal Northern Hospital Cases Discharged "Apparently Recovered"

Sex and Age	Admitted	Diagnosis	Condition when Admitted	Operation	Recurrence	Fluorescein Treatment Commenced	Discharged Recovered	Remarks
F., 68	21/7/28	Cancer of left breast	Fungating tumour. Pain, ulceration, and discharge; gland in axilla. Possibly operable, but patient refused consent	—	—	1/8 28	12/3 29	Well; gaining weight
M., 69	31/5/28	Cancer of *penis*	Ulceration of penis, and enlarged *glands in left groin*	2/5/28	Yes	31/5/28	10/9/29	Healed scar on penis No evidence of glands in groin
F., 60	-/3/28	Melanotic sarcoma of foot	Tumour on outer side of right foot. Deeply pigmented skin from external malleolus to sole	24/5 28, radium on 7.8 29	Yes	1/6/28 8/10.29	11/4/30	No sign of disease
F., 78	-/1/28	Cancer of left breast	Left breast much enlarged; hard immobile; ulceration of surface which had destroyed nipple	--	—	-/1/28	17.7/28	16 9/30: quite well
F., 57	2/3,28	Epithelioma of orbit	Growth in orbit	7/2 '28 (at Royal Westminster Ophthalmic Hospital) Incomplete	Yes	2/3/28	2/5 28	No sign of disease
F., 36	-/1 29	Cancer of vagina	Nodules round labia	Yes, ? date (in private nursing home)	Yes	-/1 29	15/10/29	No sign of disease
F., 62	22/8 29	Cancer of neck	Large growth beneath right jaw, and discharging sinuses above *clavicle*	Inoperable	—	22 8/29	23/1/30	2/9/30: no evidence of disease
F., 57	25/7/28	Cancer of breast	Recurrent nodules after operation	Yes	Yes	25/7/29	15/10/29	4/11/30: no sign of recurrence
M., 62	21/12/28	Lympho-sarcoma of forehead	Nodules on right side of face	—	—	21/12/28	9/1 29	No sign of disease
F., 45	28 8 29	Cancer of breast	Nodule on operation scar	Yes	Yes	29/8/29	14 4/30	Nodule had disappeared by 31/1/30
F., 59	1/6/27	Cancer of breast	Nodules along operation scar	10/6/27	Yes	12/12 28	23 1/30	20 6 30: no sign of disease
M., 43	9/10/24	Multiple sarcomata of skin	Recurrent nodules on skin of chest	Yes	Yes	29/10/28	12 3/30	13/2/30: Satisfactory result
F. (?)	—	Cancer of breast	—	Yes	—	18 10/28	30 5/29	16/10 30: no sign of disease
F., 55	—	Cancer of left breast	—	-/11/28	—	29/1 29	10/7 29	8/11/30: no sign of disease
F., 23	—	Sarcoma of right breast	—	Yes	Yes	—	14 12/29	31/10 30: Patient quite well
F., 44	—	Cancer of right breast	—	Yes	—	20/9 28	24/10 29	31/10 30: In excellent health; no recurrence
F., 41	—	Cancer of left breast	—	Yes	—	25 9 28	12 10.29	No sign of disease
F., 42	—	Cancer of right breast	—	Yes	—	—	3 11/30	Quite well
F., 39	—	Cancer of left breast	Enlarged glands in axilla	Yes	Yes	1/10/30	7 11/30	No glands in axilla or other sign of disease
F., 34	—	Cancer of breast	Recurrence in region of hip two years subsequent to operation	1928	Yes	30/10/30	30 12 30	No pain or other evidence of disease
F., 44	22 5/30	Cancer of breast	—	April, 1930	Yes	22 5/30	5 10 30	No sign of disease
F., 79	4/6/30	Multiple epitheliomata of face	—	4/6/30, lower right eyelid treated with radium (no improvement)	—	27/7/30	10/10 30	"Whole lesion has completely disappeared," leaving slight scarring
F., 74	17/3/30	Cancer of right breast (and glycosuria) operable	Stony-hard tumour, 4½ × 4 in., of right breast attached to skin, but not involving nipple. No glands in axilla	Refused	—	24 3/30	29 10/30	No sign of growth or recurrence. Discharge delayed for 14 days owing to superficial dermatitis, ? due to glycosuric condition

or radium, exceeding that exhibited by fluorescein, but we are not at present in a position to make any definite pronouncement on the subject.

Yet another experimental inquiry on which I have been engaged during the past few months, as time and opportunity have permitted, has been concerned with an attempt to obtain further evidence as to the relative lethal properties on embryonic cells, when irradiated, of fluorescein, isamine blue, and Na-dichloroanthracene-disulphonate through the effect produced on the growth of dwarf garden peas. Brief reference to the outcome of certain of these experiments in respect of the effect on growth of treatment with activated fluorescein may be found in a letter published in the *Journal* of October 25th, 1930 (p. 709). It is hoped to publish a complete account of the work at a later date.

Summary

With improved technique the use of activated fluorescein has now been found capable of affording excellent results in the treatment of certain cases of cancer, especially cancer of the breast, whether primary or when recurrent after operation or other treatment, as well as in malignant growths of a comparatively superficial character in other situations, including rodent ulcers. Successful results have also been obtained in cases which had previously failed to respond to irradiation methods alone, or had been considered to be inoperable.

Of cases of breast cancer, believed to be still in the "operable" stage, thus far only three have become available for treatment, which, in all three cases, has sufficed to bring about complete disappearance of the growth. None of these, as yet, has shown any signs of recurrence, although in one instance more than three years has now elapsed since treatment with activated fluorescein was undertaken.

That the results reported have been obtained without the necessity of any mutilating operation, coupled with the fact that the treatment causes no pain or discomfort to the patient, indicates the desirability of extended investigation of the possibilities and rationale of the method under more satisfactory conditions than has hitherto been feasible.

Thanks to the initiative of the Departmental Committee on Cancer of the Ministry of Health, an official communication has recently been forwarded to the Medical Research Council and to the British Empire Campaign, conveying a request that they, through their Joint Radiology Committee, would afford special facilities to this end.

REFERENCES

[1] Copeman, S. M., Coke, F., and Gouldesbrough, C.: *British Medical Journal*, 1929, ii, 233.
[2] Copeman, S. M.: *Proceedings of International Conference on Cancer*, London, 1928, p. 256.
[3] Idem: *Journal of State Medicine*, 1928, xxxvi, No. 11, 642.
[4] Bernhardt, H.: *Med. Klinik*, January 17th, 1930, 83.

TYPES OF PNEUMOCOCCI IN RELATION TO DISEASE

BY

J. T. SMEALL, *M.C.*, M.B., CH.B., D.P.H.

BACTERIOLOGY DEPARTMENT, ROYAL INFIRMARY, EDINBURGH

During the past two years over 150 strains of pneumococcus, isolated from lesions in different parts of the body, have been typed, as a matter of general interest. The results are shown in Table I.

TABLE I

Condition	Type I	Type II	Type III	Group IV	Total
Nasal catarrh, sinusitis, dacryocystitis	1	0	0	15	16
Meningitis	4	5	7	8	24
Otitis media, mastoiditis	2	1	4	7	14
Lobar pneumonia	12	35	0	13	60
Broncho-pneumonia...	3	3	2	1	9
Empyema thoracis	14	1	1	5	21
Endocarditis	1	0	0	2	3
Peritonitis	2	1	0	2	5
Miscellaneous, including pericarditis, arthritis, osteomyelitis, abscesses	2	2	1	1	6

In the pneumococci obtained from the eye, nose, and accessory sinuses the preponderance of Group IV organisms is in accordance with general experience. Whittle[1] has tested the virulence of strains isolated from such situations, and has found that they possess a low order of virulence and mostly belong to Group IV. The only type strain met with was one from a case of sphenoidal sinusitis. Spread of the infection from the sinus to the brain led to a fatal meningitis. A Type I pneumococcus was isolated from the cerebro-spinal fluid during life and from the brain and sphenoidal sinus by cultures made at necropsy.

MENINGITIS

Of 24 cases of meningitis investigated, 17 were dealt with during life by examination of the cerebro-spinal fluid and 7 after death by cultures from the brain. An analysis of the cases is given in Table II.

TABLE II.—*Meningitis*

Antecedent Condition	Type I	Type II	Type III	Group IV	Total
Otitis media and mastoiditis ...	0	0	6	2	8
Pneumonia	1	4	0	0	5
Fractured skull	1	0	0	3	4
Sinusitis	1	0	0	1	2
Osteomyelitis	0	0	1	0	1
Ulcerative endocarditis	0	1	0	0	1
Bronchiectasis	0	0	0	1	1
Unknown	1	0	0	1	2
Total	4	5	7	8	24

It will be seen that in a third of the cases the intracranial complication was due to spread of infection from the middle ear and mastoid. The results are noteworthy for the large proportion of Type III infections. As in the majority of cases the infecting organisms in middle-ear suppuration reach the ear by way of the Eustachian tube from the nasopharynx, we would expect that the implicated organisms would be present with a certain amount of frequency in the throats of normal people.

The incidence of pneumococci in the saliva and nasopharynx of healthy people has frequently been investigated in America. I have been unable, however, to trace any work on a big scale in this country with a view to determining the types normally present, though it seems to be accepted that the pneumococci of healthy mouths belong to the heterogeneous Group IV. On the other hand, in America it has been observed that while the Group IV organisms predominate, the presence of Type III strains is not at all uncommon. Thus Stillman,[2] in a series of 116 strains isolated from the mouths of normal individuals, found that 53.7 per cent. belonged to Group IV, while 27.6 per cent. were Type III organisms. Glynn and Digby of Liverpool[3] failed to find the Type III pneumococcus in twenty-five salivas examined ; all the ten strains isolated belonging to Group IV. By way of explanation of their absence they comment on the greater prevalence of Type III pneumonia in America as compared with that in this country. The prevalence of Type III organisms in cases of mastoiditis in the present series seems to suggest that they may occur in the normal British oropharynx with greater frequency than has so far been observed.

Comparison of the figures in Table III with one published in America is instructive.

TABLE III.—*Twenty-two Cases*

Lesion	Type I	Type II	Type III	Group IV
Otitis media and mastoiditis (see Table I)	2	1	4	7
Otitis media and mastoiditis with meningitis (see Table II)	0	0	6	2
	2	1	10	9

TABLE III(A).—*Pneumococcus Types in Acute Mastoiditis and Pneumococcal Meningitis, by John T. Bauer and Huston St. Clair,[4] Philadelphia. Thirteen Cases*

Lesion	Type I	Type II	Type III	Group IV
Otitis media and mastoiditis	2	0	6	0
Otitis media and mastoiditis with epidural abscess	0	0	1	0
Otitis media and mastoiditis with meningitis	0	0	2	2
	2	0	9	2

Both sets of figures show that of the type-specific strains Type III is that most commonly found in acute middle-ear and mastoid disease. In the cases under review the Type III infection showed a greater tendency to extend to the meninges.

In order to put pneumococcal infections of the middle ear and mastoid into their true perspective, it is perhaps not irrelevant to point out and to emphasize the fact that, while such infections are not uncommon, it is the streptococcus which is *facile princeps* in the role of infecting agent. That this is so may be readily seen from the following results obtained by routine examination of 120 swabs from the middle ear and mastoid submitted by the ear, nose, and throat department of the Royal Infirmary, Edinburgh.

TABLE IV.—*Acute Otitis Media and Mastoiditis*

Haemolytic streptococcus	73	90 or 75%
Other forms of streptococcus ..	17	
Pneumococcus		17 or 14.2%
Staphylococcus		11 or 9.2%
Diphtheroids		2 or 1.6%

Fisher (Ontario), in a series of 50 cases of acute otitis media or acute mastoiditis, found:

Haemolytic streptococcus	37 or 74%
Staphylococcus	8 or 16%
Pneumococcus	3 or 6%
No growth	2

Two of the pneumococci were Type III, and one Group IV.

By reference to Table II it will be seen that five of the meningitic cases occurred as complications of lobar pneumonia, one being Type I and four Type II. The predominance of Type II infections in this connexion is in accord with the type incidence in lobar pneumonia in Edinburgh at the present time.

Fracture of the skull was responsible for four of the cases. All the fractures were through the anterior fossa, with involvement of the orbit and some of the accessory sinuses. One pneumococcus was Type I, and three belonged to Group IV. This result is in keeping with the commoner occurrence of Group IV organisms in such situations. In face of gross trauma, these organisms (although of low virulence, as Whittle has observed) are unfortunately powerful enough to give the patient his quietus.

One interesting case of meningitis, following on a pneumococcal osteomyelitis of the spine, is worthy of mention because of its comparative rarity. A Type III pneumococcus was isolated from the cerebro-spinal fluid during life, and a similar organism was obtained from the pus surrounding the spine at the post-mortem examination, at which the pathologist found an osteomyelitis of the tenth dorsal and first lumbar vertebrae, together with a large psoas abscess.

All the twenty-four cases of meningitis were fatal. Some cases of recovery, however, have been recorded. For instance, Broadbent[5] states that he cured two cases occurring as a complication of pneumonia, despite the fact that in one of them the cerebro-spinal fluid resembled the pus of an empyema.

LOBAR PNEUMONIA

Sixty cases were examined, either by blood culture of sputum test during life, or by post-mortem cultures from the consolidated lung. The results were as follows:

Type I	Type II	Type III	Group IV
12, or 20%	35, or 58.3%	0	13, or 21.7%

The figures serve to show that Type II pneumococcus has been the chief causal agent in lobar pneumonia in Edinburgh during the past two years, and they support those recently published by Alston and Stewart.[6] They also prove that the type incidence in lobar pneumonia varies from time to time in the same locality, since five years ago the predominant type was Type I (Davidson and McLachlan). Statistics from Manchester, Liverpool, and Cambridge all show a prevalence of Type I infections in these areas. In connexion with this variation in type incidence, Armstrong is of opinion that Type II infections may become for a time very prevalent and then almost disappear, whereas Type I is the common and persistent type, and is especially concerned in producing the more severe forms of the disease

As a rule, in our cases, the pneumococcus was isolated from the lung at necropsy without much difficulty. The culture obtained was sometimes pure, but often contaminating organisms were present, such as *B. coli* and occasionally a streptococcus. On two occasions a streptococcus only was isolated, no pneumococcus being found. No Type III lobar pneumonia was encountered. In passing, it may be mentioned that in one case a pure growth of Friedländer's bacillus was obtained. The patient gave a history of having been gassed with "mustard gas" during the war, and since then he had had a chronic cough, with much thick, green, evil-smelling sputum.

BRONCHO-PNEUMONIA

Specimens from nine cases only were examined. In contrast to their absence in lobar pneumonia, two cases of Type III infection were met with. One case of broncho-pneumonia deserves special mention. It occurred during the pregnancy of an unmarried girl of 16, and caused the premature birth of an eight months' foetus. The question arose as to which was the primary infection—the pulmonary or the uterine. As there were signs of lung consolidation on admission to the infirmary, and no outward evidence of uterine infection, it was thought that the pulmonary condition was the more likely to be the primary one, the uterus being subsequently infected by the blood stream. A Type II pneumococcus was isolated from the sputum; a similar type was obtained along with *B. coli* from the uterus after death, while a Type II organism was also got from the meninges. The pathologist found a confluent broncho-pneumonia, a septic endometritis, and an early meningitis.

EMPYEMA

Twenty-one cases of empyema were examined, fourteen being Type I, or 66.6 per cent.; one Type II, or 4.8 per cent.; one Type III, or 4.8 per cent.; and five Group IV, or 23.8 per cent. The outstanding feature is the marked preponderance of Type I infections.

In a series of thirty-one cases, Whittle found 77.4 per cent. belonging to Type I. Certain combined British and American figures, quoted by Glynn and Digby, bring out the high incidence of Type I and Group IV infections, and the low incidence of Type II. Remembering that the Type II pneumococcus is the most prevalent organism here so far as pneumonia is concerned, the frequency of Type I empyemata is all the more noteworthy. It seems to demonstrate the superior invasive power of the Type I organism. Of twelve cases occurring as a complication of pneumonia, eight were Type I, or 66.6 per cent.; of these four, or 50 per cent., ended in death. The Types II and III cases recovered, while all the Group IV cases were fatal.

To account for the high mortality in the Group IV infections, it may be mentioned that two of them were mixed infections, one being combined with Pfeiffer's bacillus and the other with *Staphylococcus aureus*. Another case was associated with acute pericarditis.

ENDOCARDITIS

Vegetations from the heart valves were examined on twelve occasions. A non-haemolytic streptococcus was obtained from six of the cases and a pneumococcus from three. Attempts to isolate the infecting agent in the other three cases were foiled by the overgrowth of Gram-negative contaminating organisms. One of the pneumococci was Type I, and two belonged to Group IV.

The Type I case was interesting in that no pneumococcus was isolated from the consolidated lung, only a haemolytic streptococcus and Pfeiffer's bacillus being obtained.

OTHER DISEASES

Peritonitis.—Of the five cases investigated, one accompanied a pneumonia, one was a spread from a septic endometritis following an incomplete abortion, while another followed a tubo-ovarian abscess.

Arthritis.—A purulent arthritis of the ankle-joint was met with. It yielded a pneumococcus corresponding in type to that isolated from the lung.

Abscesses.—Subcutaneous abscesses have been described as concomitants of pneumonia. One case was encountered. From an abscess in the arm a type of pneumococcus was obtained similar to that isolated from the sputum. Two other and rarer kinds of abscesses were investigated. They were gluteal abscesses occurring at the site of injection of quinine-urea, used in the routine treatment of pneumonia. A pneumococcus was isolated in both instances. Unfortunately, in one case it was not typed. In the other, however, a type was secured which tallied with that previously isolated from the sputum. Perhaps some mishap at the time of the injection had permitted the quinine to devitalize the tissues, and so allowed the blood-borne organisms to settle there. The abscess, in the case that was typed, gave rise to a pyrexia, which subsided on evacuation of the pus.

SUMMARY

1. The pneumococcus most commonly found in the eye, nose, and accessory sinuses belongs to Group IV.

2. In acute otitis media and mastoiditis, Type III strains and Group IV organisms were found in about equal numbers. The type-specific strains showed a greater tendency to infect the meninges.

3. Attention is drawn to the important part that the streptococcus plays in acute middle-ear and mastoid disease. *Streptococcus pyogenes* was found in the majority of cases.

4. The most prevalent type of pneumococcus in cases of lobar pneumonia was found to be Type II.

5. In cases of empyema due to pneumococci, Type I strain was present in a large percentage.

The type serum used in this investigation was obtained from Dr. Wadsworth and Miss Kirkbride, of the Division of Laboratories and Research, Department of Health, State of New York, to whom I wish to express my indebtedness.

I take this opportunity of thanking Dr. Logan for his encouragement in compiling this paper.

REFERENCES

1. Whittle, C. H.: Further Observations on Pneumococcal Infections, *British Medical Journal*, November 16th, 1929.
2. Stillman: *Journ. Exper. Med.*, xxvi, 513.
3. Glynn, E. E., and Digby, L.: Medical Research Council, Special Report Series, No. 79.
4. Bauer, J. T., and St. Clair, Huston: *Journ. Amer. Med. Assoc.*, 1928, xc.
5. Broadbent, W.: Pneumonia and its Complications, *Lancet*, January 5th, 1924.
6. Alston, J. M., and Stewart, D.: Incidence of the Serological Types of the Pneumococcus in Lobar Pneumonia, *British Medical Journal*, November 22nd, 1930.

BLACK HAIRY TONGUE*

BY

HUMPHREY H. GLEAVE, M.B., M.R.C.P.

LECTURER IN PATHOLOGY, UNIVERSITY OF LIVERPOOL

AND

SAMUEL HALLAM, L.D.S.

DENTAL SURGEON TO THE ROYAL INFIRMARY, LIVERPOOL

(From the Department of Pathology, University of Liverpool)

The condition known as hairy tongue appears to be more common in France than in England. General interest was first aroused by Raynaud in 1869, who likened the curious appearance to that of a field of corn laid low by the wind, a description which has struck successive observers as very appropriate. He also described the presence of numerous round bodies in the lesion, which he believed were fungus spores similar to those of ringworm. Much controversy took place among subsequent writers as to the relation of these spores to the disease, and it was established that though they were often present they were sometimes absent, as in the carefully described cases of Féréol. It was not until 1901 that Lucet identified these spores as yeast cells. He carefully investigated the yeast he obtained from a case, and it has since been known as *Cryptococcus linguae pilosae*. Attempts to transmit the condition failed. Dessois (1878) made inoculation experiments on his own tongue without success, and though "a sort of epidemic" of black tongue was seen in the Hospital for the Aged at Issy, Professor Chantemesse never succeeded, in numerous attempts, in transferring the condition to a healthy tongue.

A few cases have been recorded in England. R. Lake[1] of Barnes in 1891 had a typical case that showed the spores. The curious tongue described by Balfour-Graham,[2] in which the dorsum "looked exactly like the surface of a dog's nose," was probably of a different category, perhaps the result of mercurial treatment. Another case was described by Hunt and Leslie Roberts[3] at a meeting of the Liverpool Medical Institution in December, 1902. Other organisms have been suggested as a cause. Dinkler, in 1889, found the hairs covered with a Gram-positive filiform bacillus, as did Morelli in 1893. Guégan (1909) announced the discovery of a new species of oöspora, a fungus showing a mycelium composed of bacillary elements and bearing conidiophores and chlamydospores, which he believed, in symbiosis with the yeast of Lucet, was the causative organism. This organism is now classified in Brumpt's *Parasitologie* as an actinomyces. Weidman also isolated an organism which he believed was an actinomyces. Valuable recent observations are those of Catanei[4] (1928), who watched a case in a man, aged 80, for two years, and made four examinations of the hairs. On each occasion the yeast of Lucet was present, along with other moulds and bacteria, but none of these were pathogenic to animals, and inoculations into the healthy or scarified tongue of monkeys were without result. Charpy[5] attributed the disease to a nerve lesion, traumatic or functional, while Barnard[6] believed it was a disease of old people, and was an overgrowth of the filiform papillae due to the lack of normal rubbing of hard food. He states that he has known examination candidates mistake the condition for melanotic sarcoma. Heidingsfeld,[7] as a result of biopsy examinations, believed there were two forms of the disease—a spurious or evanescent, and a true or permanent, the latter dependent on a primary tendency to hyperkeratosis.

The nature of the pigment in these cases is uncertain, and we regret we did not investigate it fully in the case reported below. The prussian blue reaction for iron was negative. According to other observers it is insoluble in acids and alkalis, and bleaches in the mouth on treatment with hydrogen peroxide, but in our case a treatment on the spot with peroxide had no effect. Pigment-forming moulds have been reported in the lesion from time to time, but not with sufficient constancy to be considered an etiological factor. The yeasts of Lucet and Green are described as producing a certain amount of brown discoloration of the media, but in our case this did not take place.

The hairs are filaments of more or less keratinized epithelium attached to the summits of the filiform papillae. We consider the condition is probably a great exaggeration of the thick fur often seen in disease. An acid reaction of the mouth seems to be the essential underlying factor, whether produced by excess of fermentable food, gastritis, or paucity of saliva in the aged. The acid

* Read at a meeting of the Liverpool Medical Institution.

reaction favours the growth of yeasts and filiform acidophilous bacilli, and adhesion of the epithelial scales to each other. Once the condition begins the organisms are protected in the crypts between the filiform papillae, and by their fermentative power help to maintain the acidity of the mouth.

The case we report below yielded readily to a liquor potassae mouth wash. In other cases the lesion is said to disappear and recur in spite of treatment. In our view the essential treatment is to maintain an alkaline reaction in the mouth.

The patient was a man of 45, who had discovered a lesion on his tongue ten weeks before coming under observation. His tongue showed a triangular black hairy patch, the base at the circumvallate papillae and the sides a little distance from the margin and tip of the tongue. The hairs could be pushed in various directions with a spatula, but brisk scraping was necessary to remove them. They were longest at the centre and back of the lesion, where they measured up to three-quarters of an inch in length. The hairs were elastic, and stretched on attempting to pull them out. When removed the black colour was seen to occupy only the upper half of the hair, the remainder being white.

The patient was edentulous, but had good plates. He complained of a burning sensation over the tongue. He had rubbed off the growth once, and also stopped a bismuth mixture which he was taking for indigestion, without effect. After making the examination the growth was again briskly scraped away, and a liquor potassae and carbolic mouth wash prescribed. The patient reported that the lesion became gelatinous, and he scraped it away easily, so that it had disappeared a week later.

Pathological Findings.—Microscopically the hairs were not true hairs, but were composed of elongated masses of epithelial cells and scales. The pigment appeared as a diffuse brown coloration of the cells. The epithelial masses were covered on all sides with an enormous number of yeast cells, along with a Gram-positive filiform bacillus. Aerobic and anaerobic cultures on agar and 2 per cent. dextrose agar gave a growth of a few sarcinae and streptococci and very numerous colonies of a yeast and of a bacillus. The latter was finally identified as an acidophilus bacillus. It was non-pathogenic to guinea-pigs and rabbits. The yeast grew readily on dextrose agar, forming a white growth with no late pigment formation. Microscopically it showed round or oval forms, with sausage-shaped cells in some fluid media. Repeated tests for ascospore formation by placing an actively growing culture on plaster-of-Paris blocks standing in distilled water were negative, nor were ascospores seen in old cultures on carrot, potato, etc. In this respect it is identical with the yeasts obtained from cases of hairy tongue by Lucet, Guégan, and Green.[8] It produced acid and gas in dextrose, saccharose, and levulose, but had no effect on maltose, mannite, or lactose. These fermentation reactions are identical with those obtained by Lucet and Guégan. The pathogenicity of the yeast for laboratory animals was as follows. Doses up to 2 c.cm. of a saline suspension (strength 550 million per 1 c.cm.) given intraperitoneally to guinea-pigs (five experiments) or subcutaneously (three experiments) caused a local suppuration which healed readily and did not cause a generalized infection. Tested on two mice and two rats 0.5 c.cm. of this emulsion, given subcutaneously, was without effect. Three rabbits received intravenous injections of 0.5, 1.5, and 2 c.cm. respectively, and all survived.

Comment on Pathological Findings

From the morphology the yeast must be classed as a cryptococcus. It may be noted that had ascospores been found the yeast would correspond with certain of the common saccharomyces used in industry for brewing beer, etc. Hansen has shown that yeasts may lose their power of ascospore formation permanently if cultivated at a temperature of 32° to 37° C., and it seems likely that this cryptococcus is a saccharomyces which, owing to a long stay in the mouth, has become asporogenic. Yeasts are common inhabitants of the mouth and skin. Greenbaum and Klauder found yeasts on the skin in thirty-nine out of 150 unselected cases. These were saccharomyces or cryptococcus, of the same types that they isolated from their cases of yeast dermatitis. An examination of swabs from the tongue in seventy patients chosen at random in the casualty department of the Liverpool Royal Infirmary revealed the presence of yeasts in thirty-two, of which five showed mycelium formation (monilia).

REFERENCES

[1] Lake, R.: *British Medical Journal*, 1891, ii, 946.
[2] Balfour-Graham, R.: Ibid., 1887, i, 61.
[3] Hunt, M., and Roberts, L.: *Liverpool Med. Chir. Journ.*, 1903, xxiii, 106.
[4] Catanei, A.: *C. R. Soc. de Biol.*, 1925, xciii, 1462.
[5] Charpy, H.: *Thèse de Paris*, 1904 (British Medical Association Library—literature).
[6] Barnard, H. M.: *Clin. Journ.*, London, 1904, xxiv, 13.
[7] Heidingsfeld, M. L.: *Journ. Amer. Med. Assoc.*, 1910, lv, 2117 (literature).
[8] Green, R.: *Indian Med. Gazette*, 1928, lxiii, 381.

A CASE OF "BLACK TONGUE"

BY

H. MORTIMER WHARRY, F.R.C.S.

SURGEON FOR DISEASES OF THE THROAT, NOSE, AND EAR, BOLINGBROKE HOSPITAL

After seeing several ordinary, or minor, cases, it is sometimes useful to describe an extreme case, which may throw some further light on a subject usually dismissed by the textbooks in one or two paragraphs.

Report of Case

The patient, a man aged 52, living in comfortable circumstances, came to see me complaining of chronic irritation of the throat and a cough which caused him continual annoyance, although it was not very serious. He had had this for eighteen months, and had been told that it was due to septic teeth, several of which he had had removed, but without any amelioration of the symptoms.

On examination I found an extensive pale brown spongy mass occupying the posterior half of his tongue. I removed this growth with a pair of forceps, and it came away in several long strips, leaving the tongue underneath looking approximately normal to the naked eye. The strips of growth were placed in a white dish and dried rapidly, assuming a dark purple colour, which was in marked contrast to the previous pale brown of the appearance noted when upon the dorsum of the tongue.

A fresh piece of growth was sent to the Laboratories of Pathology and Public Health, where the membrane was reported to consist of a "budding yeast-like fungus" of the monilia type.

On culture the growth was extensive, and brown in colour, and the sugar reactions were those of the *Monilia macroglossia*, which is identical with the *Cryptococcus linguae pilosae* found in cases of black tongue.

Commentary

The following points emerge from consideration of this extensive and long-standing case:

1. Black tongue may spread over the posterior third of the tongue, and is not confined to localized patches anterior to the circumvallate papillae.

2. The dark colour is caused by the fungus, and not necessarily by any changes in the papillae of the tongue itself.

3. The disease may be of long standing, and yet not cause any hypertrophy of the papillae, either filiform or circumvallate.

4. The hypertrophy of the filiform papillae, so often noticed before, is probably due to continuous irritation of the tongue at one particular spot where the fungus has taken a firm hold.

5. The growth of the fungus is the primary condition, and may exist without any lingual hypertrophy.

FOUR BILIARY ANOMALIES: A PLEA FOR CHOLECYST-GASTROSTOMY

BY

E. W. M. HUBERT PHILLIPS, D.M., M.CH.OXON.
F.R.C.S.ED.
HONORARY SURGEON, PORT TALBOT GENERAL HOSPITAL

DONALD ISAAC, M.R.C.S., L.R.C.P.

AND

JAMES MACDONALD, M.B., CH.B.

The following four cases of biliary disorder seem not unworthy of record as curiosities, while each presents one or more features of clinical, therapeutic, pathological, or surgical interest. The first two, contemporaneous in the same nursing home, demonstrate extremes in gall-bladder dimensions.

A Diminutive Gall-Bladder

A farmer, formerly robust, was never well after phlegmonous tonsillitis in 1924. In August, 1929, he came into our care, gravely ill from pernicious anaemia, with advanced subacute combined degeneration of the cord. Vigorous treatment with liver, combined with arsenite of iron and hydrochloric acid, soon rendered feasible and successful an operation under novocain infiltration for a large left incarcerated scrotal hernia, and for a right hydrocele of generous proportions. The former was a menace, and both militated against his re-education in walking. A series of attacks of biliary colic began in May, 1930, of increasing frequency and severity, until the situation became intolerable; and his importunity overcame our reluctance to accept the operative risk. On operating through a Kocher incision, under ether-assisted infiltration anaesthesia, we found the liver, reduced to half its bulk, tucked high under the dome of the diaphragm, to which it was intimately bound by perihepatic adhesions defying mobilization. The gall-bladder, which was extricated with difficulty from its fibro-fatty shroud, was about three centimetres long, and of the width of a rather meagre appendix. Its lumen was charged with black grit, and contained one friable black pigment stone. The viscus was enucleated, and the cystic duct drained through a separate stab puncture. A complete and fairly rapid convalescence ensued, at first seriously interrupted by paralytic ileus, which fortunately proved tractable to anti-gas-gangrene serum.

This case not only exemplifies the modest size to which a gall-bladder may shrink, and the pathological association of the pure black pigment stone with haemolytic disorders, but it affords an instance of the value of liver therapy, even in the nerve manifestations of Addison's anaemia, and of the encouraging results, which, on the whole, outweigh the disappointments associated with the giving of anti-*B. welchii* serum in paralytic ileus.

A Large and "Pelvic" Gall-Bladder

A female, aged 38, married, was suddenly prostrated with lower abdominal pain, and frequent urgent micturition, following two days of mechanical difficulty with her corset. She had a history of two years' indigestion, so vague as to amount to little more than stomach consciousness. (After the operation she admitted that she *had* had one or two attacks mildly reminiscent of angina *pectoris*.) Her temperature was 100° F., and her pulse rate of 110 was full and bounding. The whole abdomen was too tender to attempt an accurate diagnosis. A large tense cystic swelling occupied the hypogastrium and right iliac fossa; there alone rigidity was present. Pelvic investigation revealed a *tender*, elastic, fluctuating tumour distending the recto-vaginal pouch. The elevated bladder yielded about eight ounces of residual urine. She collapsed on her way to the nursing home. On exploration through a *small* tentative gynaecological wound, a cystic mass reticulated with engorged veins was discovered in the pelvis, but with a taut and twisted attachment to the under surface of the *low-lying* liver. For the safer negotiation of a pedicle of such potentialities a Kocher incision was employed. The cyst, which was of the size and shape of a Rugby *football*, was attenuated, and proved to be a gangrenous gall-bladder, suspended by a twisted, elongated, and occluded cystic duct. The cystic duct had implicated the hepatic and *common* ducts, so that they occupied the upper reaches of the stem. The whole tumour was clothed in front by a flattened dependent prolongation of liver substance, comparable to a Riedel's lobe. The thin fluid content, bile-free, but iridescent with cholesterin, was evacuated. The detached mucous membrane was heavily cholesterosed, though no free calculi occupied either the ducts or gall-bladder. The gall-bladder and Riedel-like process were excised. Bleeding from the denuded bed was so profuse that deep sutures through the liver substance were needed to control it. Recovery was rapid, complete, and free from untoward incident.

Apart from its gigantic proportions, the clinical interest of this gall-bladder rests in its close resemblance to an ovarian cyst with torsion of the pedicle.

A Bifid Gall-Bladder, associated with Acute Pancreatitis

A colliery carpenter, aged 48, had recovered reasonably, but not well enough for work, from an operation for acute pancreatitis, which appeared to comprise drainage of the gall-bladder and pancreas. After an interval of nine months he suffered from distressing prurigo for a few weeks. Intense icterus then set in and he became bronzed, and wasted rapidly. While in this condition he was suddenly seized with severe epigastric pain, tenderness, and slight rigidity. There was marked tenderness in the left costo-vertebral angle, and, as there was suggestion of recurrent acute pancreatitis, he underwent immediate laparotomy, which was performed through a right paramedian incision. The abdominal cavity contained free, rather dark fluid. Fat necrosis was present, but not conspicuous. A rather small gall-bladder readily obtruded, but a much larger one lay buried in a forbidding mass of adhesions. The two communicated through a common ampulla opening into a single cystic duct. Ducts and gall-bladders contained floating agglomerations of cholesterin, but no formed calculi. The pancreas was bulky and unduly palpable, and its head was indurated. Neither diffuse nor focal necrosis had taken place, possibly because the interval between the onset of the acute pain and the operation was short. Cholecyst-gastrostomy was the chosen procedure, the larger and now mobilized gall-bladder being impressed for the anastomosis. A noteworthy feature in the convalescence was the absence of any but very slight vomiting. Recovery has been such that the patient boasts of a degree of vigour unknown to him for many years, and is regularly engaged upon exacting work. The smaller gall-bladder was too definite to be called merely a Hartmann's pouch.

A Double-Chambered Gall-Bladder

A female, aged 56, married, was admitted to hospital for a recrudescence of attacks of biliary colic occurring at short intervals. Two years previously she had had a similar series. A thickened, fleshy, and lustreless gall-bladder, *average in* size and shape, was delivered through a Kocher incision. Its contents consisted of bile, mucus in excess, and viscid fluid, together with two pigment-veneered, faceted cholesterin stones. Its cavity was partitioned by a thickened sphincter-like ring of elastic, but dilatable, muscular tissue into two compartments, the hiatus between them being lined by loosely attached mucous membrane, puckered radially. There was no apparent cholesterosis. The head of the pancreas was *nodular, and a little* indurated. The common duct felt like an atheromatous artery. Convalescence was as uneventful as *in* the case of an interim appendicectomy; while there was only slight post-anaesthetic vomiting after the operation of cholecyst-gastrostomy.

COMMENTARY

From our fortunate, though very limited, experience of the application of the general principle of which cholecyst-gastrostomy is the type, this operation seems one of decided and, we venture to believe, increasing appeal, the more so since physiology has dispelled the apprehension previously associated with bile in the stomach by establishing its habitual regurgitation through the pylorus. The persistent vomiting, of pessimistic prediction, does not appear to occur. Admittedly, technical difficulty may often be prohibitive; still, there remain occasions when

intravisceral drainage is a manœuvre almost as rapid of execution as external drainage. The anastomosis commends itself, therefore, in selected cases, as a valuable alternative to cholecystostomy, with its manifest disadvantages. In this connexion, it would seem especially worthy of trial in pancreatitis of varying grades, in view of the theory of its pathogenesis, which is founded on the work of Opie and of Archibald, and on the convincing researches of Bruce Dick.

Suitably modified to the occasion, the principle might well be applied in the case of biliary disorder with peptic ulcer in "an indifferent surgical risk." In such a case the inspiration to apply it came to one of us just too late to obviate the trauma of cholecystectomy followed by gastro-jejunostomy in a patient none too well equipped. The ulcer could easily have been excised and the gall-bladder joined to the margins of the stomach wound.

The operation is more readily performed through a Kocher approach, and is further facilitated by the use of Wilkie's duodeno-jejunostomy clamps.

The anastomosis operation has the merit of revocability, and might well become that of election when there is doubt of the viability of the common duct, or certainty of its occlusion, when measures for the relief of the obstruction are impracticable, or fraught with grave hazard.

UNUSUAL DISTRIBUTION AND MORPHOLOGICAL MODIFICATION OF COMEDO

BY

J. GOODWIN TOMKINSON, M.D.

VISITING PHYSICIAN, SKIN WARDS, AND MEDICAL OFFICER IN CHARGE, SKIN ELECTRICAL DEPARTMENT, WESTERN INFIRMARY, GLASGOW; McCALL ANDERSON MEMORIAL LECTURER, UNIVERSITY OF GLASGOW

Topographical and morphological variation in quite common skin diseases occasionally introduces an element of confusion in diagnoses which otherwise would present no difficulty. Until quite recently I little suspected that a condition so common and obvious as comedo might roughly simulate in distribution and colour the lesion of xanthoma palpebrarum.

A retired journeyman engineer, aged 72, sought relief, in October, 1930, at the skin department of the Western Infirmary, for an affection of the eyelids. He appeared to be well preserved for his years, exhibited a mild degree of acne rosacea, and was bald save for a fringe of hair, approximately three inches deep, laterally and posteriorly. He had been in the habit of occasionally taking a little alcohol, of smoking three ounces of tobacco a week, and of eating a fair amount of sugar. On taking his seat he gave the impression of being the subject of xanthoma palpebrarum, more particularly of the left upper eyelid. This impression, however, on closer inspection, was soon dispelled, the lesions proving to be comedones of atypical distribution and, in my experience, of unique shape.

He said that he had been accustomed to work in a very hot atmosphere—subject, however, to some temperature variation—and with a great deal of oil. He had perspired very freely, and blackheads had developed, especially round the lower eyelids. The blackheads had been removed from time to time. Later, about ten to twelve years ago, blackheads had appeared on the upper lids some of which had slowly increased in size, gradually become flattened and pale yellow in colour, but had caused no difficulty in the closing or opening of the eyes, and had never been treated.

On inspection the left upper eyelid, mainly anteriorly, showed flat, approximately circular plaques, raised slightly above the skin level, pale yellow in colour, with a more or less central black spot, and resistant to the touch. They were distributed mainly anteriorly, and some tended to project beyond the palpebral margin. The largest was about a quarter of an inch in diameter. The right upper eyelid was affected, but did not exhibit

Left upper eyelid shows modified flattened disc-like comedones, in one of which, near inner canthus, a central dark point is visible. Some project beyond the palpebral margin.

the same degree of modification. Comedones were present on both lower lids.

While I have seen comedo on the lower eyelid in more than one patient, I have never noticed it, save in this particular case, on the upper one, nor has one of my colleagues, an ophthalmologist of careful observation and long experience.

The morphological modification is of particular interest. Although working a good deal with oil, he had habitually washed his face with cold water. This ablution is practised by many in a careless, half-hearted manner, as may be demonstrated in the case of some town dwellers in large smoky industrial centres during foggy weather, where a "high-water mark" may sometimes be left in the orbital region. Assuming that the patient had washed in this perfunctory manner, and especially so with cold water, the follicles would tend to remain plugged with oil and particulate matter. Two factors would probably largely account for the peripheral increase and resulting disc-like shape of the lesions—namely, the underlying dense fibrous tissue of the tarsal plates, and the diurnal palpebral movements.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

SARCOMA OF THE LUNG

In view of the difficulties of diagnosis involved, the following case may be of interest.

G. B. A., of fair physical development and with a chest expansion of three inches, enlisted in the Army in 1916, at the age of 32. In 1917 he was accidentally burnt on the face and hands while on service. Three months later, while still in hospital, he had a "haemoptysis—right apex crepitations"; two months later, "bronchitis—feeling faint on exertion"; no other symptoms or signs. In 1919 he was pensioned on account of bronchitis—"coughing up blood-streaked phlegm; V.F. and V.R. plus at right apex." These conditions remained much the same until September 29th, 1925, when pulmonary tuberculosis was diagnosed, and there was "active infiltration of the upper lobes of both lungs." His expansion had become "poor," and "a few crepitations were heard at the apex." On March 11th, 1926, pulmonary tuberculosis was admitted by the Ministry. He continued to show very

little alteration in his condition, and in 1928 he was still expectorating "spit streaked with blood." In March, 1930, a rapid change for the worse began to set in. He became depressed and started to lose weight. His cough became more troublesome and was still blood-stained. Ultimately, in July, 1930, his mental condition became such that he was certified and admitted to a mental hospital, where he died on September 1st, 1930. No evidence of pulmonary tuberculosis was found at the post-mortem examination. Death was "due to a small-celled sarcoma of the upper lobe of the right lung, with great overgrowth of the fibrous tissue; lower lobe congested; middle lobe relatively healthy; Left lung congested and oedematous, bronchi thickened."

This man evidently died from a sarcoma of the lung. He said that he was "gassed" during the war, but did not go sick. If no necropsy had been performed the widow would have been given a pension, for there is no doubt that he died from the same disease as that for which he received his pension, and the history is continuous. Is this an isolated case? Have there been numerous cases of pulmonary neoplasm, following gassing, etc., on war service? The post-mortem examination showed evidence of fibrosis, but not of ordinary tuberculosis. There had never been a positive sputum. I have seen one other similar case in which a necropsy was not performed. It was an anomalous case of tuberculosis going suddenly and rapidly down-hill, when ordinary experience would have expected a much less rapid decline —in a gassed ex-service man too.

If any reader can throw more light upon this matter, and especially if anyone can give me assistance in support of the claim of the widow to the pension, to which, I believe, she is entitled, I shall be much obliged. I can send the full clinical reports of the case.

HOWARD E. COLLIER, M.C., M.B., Ch.B.

Redditch.

DISSECTING ANEURYSM OF CORONARY ARTERY IN A WOMAN AGED 42: RUPTURE

The case reported below is, I think, sufficiently rare, at any rate in a woman of 42, to merit publication.

Between 8 and 9 a.m., on November 12th, 1930, I was called to see a married woman, who had been very ill all the previous night. The history was that, soon after partaking of a good meal of fried fish and chip potatoes, obtained from a neighbouring fried fish and chips shop, and which the rest of her family had shared with her with no ill effect, she was suddenly seized with severe retching and vomiting, which persisted throughout the night.

On examination the pulse and temperature were normal; nothing was found in the abdomen, and nothing in the chest, other than a soft systolic murmur at the apex. Having satisfied myself that I was not dealing with an abdominal catastrophe, and that the cause of the trouble was "fried fish and chips," I prescribed 1 ounce of castor oil and a mixture of bismuth and soda, with 3 minims of dilute hydrocyanic acid for each dose; no food, and rest in bed.

At 3.15 a.m. on November 13th I received an urgent call to the patient's house because she had just died. On arrival, I gathered from her husband that during the day she had been feeling better, and she had not vomited so frequently, and had expressed a desire to get up. During the night, however, she had been restless and unable to sleep, and complained of pain in the chest, and nausea. At 3 o'clock she sat up in bed, and said she was going to vomit, and having retched once, suddenly fell back dead in her husband's arms.

On the afternoon of November 13th I made a post-mortem examination. In the abdomen I found nothing abnormal. On opening the pericardium, however, I was astonished to find it full of blood. The heart appeared normal, the muscles in good condition, and the valves were all normal. In the wall, however, there was a considerable area between the aorta and pulmonary artery, where there had been extensive haemorrhage, and on opening up the right coronary artery I found marked atheroma, with a dissecting aneurysm, which had evidently ruptured during the last sudden and violent retching attack. My findings were verified by my colleague Dr. J. Notley, to whom I am indebted for his assistance.

With regard to the patient's past history, I have known her many years. I attended her in her four confinements, and all her children are healthy and strong; she had had no miscarriages, and I have never had any reason to suspect any history of syphilis. Her father and mother both lived to the age of 70. Her father suffered from arterio-sclerosis, chronic bronchitis, and emphysema, and her mother from diabetes.

HAROLD C. PRETTY, M.R.C.S., L.R.C.P.

Kettering.

PERFORATIONS OF JEJUNUM

The following case seems worthy of publication in view of the age of the patient, the unusual situation of the perforations, and the failure of a technically perfect gastro-enterostomy to circumvent them.

From the age of 8½ years J. G. B. suffered from severe epigastric pain. In May, 1924, when he was 12½, Mr. S. T. Irwin saw him, and, after a confirmatory *x*-ray examination, diagnosed duodenal ulcer, and operated on him. Laparotomy revealed a large duodenal ulcer and a number of caseous mesenteric glands. A posterior no-loop gastro-enterostomy was done, and the appendix removed. Apart from occasional attacks of colic and nausea, he remained well until May, 1928, when he perforated. Mr. R. J. McConnell operated, and found a perforation of the jejunum just distal to the junction; he closed the perforation, and the boy made a good recovery. A subsequent *x*-ray examination showed slow emptying of the stomach and narrowing of the gastro-enterostomy opening.

Until October, 1930, the patient remained well, but took alkalis daily; then occasional attacks of pain, relieved by food, occurred. On December 21st he was seized with severe abdominal pain, and was seen by Dr. Wallace of Lavan, who diagnosed a perforation and asked me to see him. I opened his abdomen, and found a small perforation of the jejunum fully one-quarter of an inch proximal to the gastro-enterostomy opening, which itself showed no evidence of ulceration, admitted easily the tips of two fingers, and was normal in every way. The duodenum showed extensive scarring, but no sign of active ulceration; recovery was uninterrupted.

C. J. A. WOODSIDE, F.R.C.S.I.

Belfast.

Reports of Societies

BULLOUS DERMATOSES

At a meeting of the London Association of the Medical Women's Federation, held on March 24th, with the president, Dr. LETITIA FAIRFIELD, in the chair, Dr. ELIZABETH HUNT read a paper on bullous dermatoses. Symptoms were so obtrusive in skin diseases, she said, that it was not surprising that the obvious lesions had been made the basis of classification, but the result was that nomenclature in dermatology was heavily overloaded. The bulla differed from the vesicle only in size, and both were signs of increased permeability of the vessel walls—a part of the defence mechanism of the skin. Whereas vesicles and bullae were all produced by the release of a histamine-like substance, bullae seemed to arise usually when the inflammatory reaction was intense, but sometimes they appeared on normal skin. The contained fluid was first clear, but became cloudy or even haemorrhagic. It contained albumin, fibrin strands, and cells in which eosinophils might predominate. When the bulla broke down it left a raw surface, but healing usually followed without scarring. The name pemphigus was now

restricted to acute, chronic, or true pemphigus, and foliaceous pemphigus and pemphigus vegetans.

Acute pemphigus was very rare; there was always a history of a wound, followed a few weeks later by an outbreak of bullae with high fever. The condition was fatal. No organism had been isolated. In chronic pemphigus the bullae appeared in crops without any inflammatory areola, and their fluid was sterile. They often occurred first in the mouth or conjunctiva. There was a sensation of tightness and burning with malaise and irregular pyrexia, but no pain save for that of conjunctivitis. Depression and insomnia followed, and the patient was liable to intercurrent disease. The treatment was empirical: to maintain the strength and mitigate the misery. Septic foci should be eliminated. Arsenic was the favourite drug, but in Dr. Hunt's cases quinine had proved better. A water bed and a skilled nurse were essential. The denuded areas exposed by coalescence of the bullae must be protected. Pemphigus foliaceus was very rare, and usually occurred in young women as a persistent eruption of flaccid bullae, which rapidly ruptured, causing a generalized exfoliative dermatitis, which healed slowly. The prognosis was very grave. The diagnosis of pemphigus depended on the bullous eruption, especially in the mouth and eye. In many other conditions bullae developed later, but were then mixed with other types of lesion.

Dr. Hunt described modern work on allergy, and went on to give an account of some allergic manifestations in which cutaneous reactions occurred. Bullae might cap the wheals of urticaria, of which the commonest cause was sensitization to a food, though psychical factors also played a part. The first step in treatment was to find the cause, and occasionally an injection of the patient's own proteose would succeed when all else failed. Sometimes a change of environment alone would cure the urticaria papulosa or lichen urticatus of infants, but attention to diet and small doses of grey powder were also valuable. Dermatitis herpetiformis was characterized by polymorphous lesions grouped like herpes and apt to recur. There was a marked eosinophilia, but the general health remained good. Herpes gestationis or hydroa gravidarum occurred after the tenth week of pregnancy, and might recur in a subsequent pregnancy. It was characterized by multiform lesions with much itching, and was extremely hard to treat. Arsenic, bromides, autohaemotherapy, ultra-violet light baths, and proteose injections might be useful. It was believed to be a toxaemia of pregnancy. Cheiropompholyx caused grouped vesicles and bullae on the palms and soles. It affected women much more than men, and was apt to recur, sometimes seasonally. It had to be distinguished from eczematoid ringworm, in which a fungus was found. All these conditions had certain features in common: subjective symptoms, particularly itching, and a psychical factor in the etiology. In some complex manner the vegetative nervous system seemed to be involved.

There were two bullous conditions of infective origin. The bullous syphilide of infants might be present at birth or appear any time after, but usually about the third week. Prognosis was bad, and the treatment was mercurial. It was doubtful whether erythema multiforme belonged here, as it might be produced by drugs. It was characterized by symmetrical rose-red lesions of different sizes and shapes, with much exudation. There was usually a rheumatic history, and the streptococcus could often be found in the tonsils. The condition had been regarded as a streptococcide, and often cleared up with rest, dieting, and salicylates. Bullous erythema multiforme was distinguished from dermatitis herpetiformis by the burning rather than itching sensation it caused. Erythema iris showed a central bulla with a target-like arrangement of concentric rings round it. Impetigo contagiosa was an inoculation of the skin by *Streptococcus pyogenes*, and must be diagnosed from the bullous syphilide and epidermolysis hereditaria bullosa, which was a congenital vulnerability of the skin, in which bullae were produced by blows and pressure. Finally, there were bullous eruptions produced artificially, usually by young women, sometimes obviously to gain sympathy, but sometimes the patients were quite callous. The palatal and conjunctival reflexes were absent in these cases, and areas of hyperaesthesia and analgesia could be found.

SURGERY OF THE PITUITARY BODY

A joint meeting of the Liverpool Medical Institution and the Manchester Medical Society was held at Liverpool on March 5th, when Mr. GEOFFREY JEFFERSON read a paper on the surgery of the pituitary body.

After referring to the two main groups of pituitary dysfunction, Mr. Jefferson spoke of those symptoms which were once regarded as of pituitary origin, but which now seem to be tuberal. Striking hypopituitary pictures might be induced by tumours at a distance, notably by those in the cerebellum with retention dilatation of the third ventricle and damage to the hypothalamus. Illustrative cases were described. The acromegalic group were no longer the most important clinically, since they represented the minority of pituitary enlargements. In this disease the glandular change was not a true tumour, but a hypertrophy with toxic secretion. The commoner chromophobe adenoma appeared to be a true tumour, and produced its effects by interfering with the normal pituitary secretions. Mr. Jefferson thought that too much attention was paid in teaching and discussion to the somatic effects of pituitary tumours. These required some time to develop, and an adenoma might become large enough to cause blindness by pressure on the optic nerves before gross signs of body change appeared. He thought this fact ought to be more widely known, because the diagnosis of pituitary tumour was often considerably delayed or missed altogether on account of the absence of those signs which the clinician had been taught to expect in pituitary lesions. He then showed photographs illustrating this point. It seemed to him that the most obvious pictures of hypopituitarism were given by persons who had no pituitary tumour at all. In these, infection or acute illness seemed to have damaged the gland. At all events it was unwise to diagnose tumour on somatic changes alone. This represented the corollary of what he had said of optic nerve pressure by adenomata. Mr. Jefferson then described cases of suprasellar meningioma and of chiasmal arachnoiditis. The diagnosis of pituitary tumour was generally not difficult, for the ophthalmoscope, perimeter, and *x* ray left one in little doubt, though atypical cases existed. At operation he was using the transfrontal route of Frazier and Sargent, but thought that for the moderate-sized cyst the transphenoidal route was safer. The difficulty was to know beforehand which was the better route for any given case. The risks of post-operative hyperthermia were certainly less by the nasal route, but it was an unsatisfactory approach for the more solid tumours.

SANOCRYSIN FOR PHTHISIS IN CHILDREN

Dr. H. T. ASHBY, in a paper on the treatment of pulmonary tuberculosis in children by sanocrysin, said that sanocrysin in the treatment of tuberculosis was first introduced by Moellgaard of Copenhagen in 1925. The initial results obtained in this country were not good, the drug being used either in unsuitable cases or in too large

doses. Now, however, it had a recognized place in the treatment of pulmonary tuberculosis, being most useful in the exudative type. Abdominal and renal tuberculosis were contraindications to treatment. The drug was made up in a 3 per cent. solution, and the initial dose was 0.01 gram. A course consisted of ten to twelve intramuscular injections, with a maximum dose of 0.5 gram. These doses were well tolerated, with improvement of symptoms and increase of weight in most of the cases treated. The chief dangers were diarrhoea and albuminuria. The results of treatment, even in severe cases, were encouraging.

CALCULUS OF THE URETER

Mr. J. B. MACALPINE discussed the diagnosis of ureteric calculi, showing lantern slides of selected cases. Large stones might be diagnosed by the *x* ray alone, but small ones must be confirmed by cystoscopic examination, as they might be invisible on account of smallness or permeability to the *x* rays, also because shadows adjacent to the ureter might cause confusion. Plates were shown in which an opaque bougie acted as a pointer, its tip abutting on, or passing close to, the stone. Re-exposure from a different angle or stereoscopy would clear up doubtful shadows. Pyelography, by outlining the ureter, showed that the shadow was contained within its lumen. Quoting another case Mr. Macalpine said that no calculus was found by direct radiography, but a pyelogram showed an area of diminished opacity within the shadow of the ureter, caused by a radiographically transparent calculus.

ANALGESIA IN LABOUR

At the last meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, held in Dublin at the Royal College of Physicians, a paper by Dr. O'DONEL BROWNE on Gwathmey anaesthesia in labour was read in his absence by the president, Dr. A. H. DAVIDSON.

The results of the treatment of forty-three cases according to the technique of Gwathmey and Harrar were described and compared with those obtained by the use of scopolamine-morphine. The routine treatment consisted of a hypodermic injection of 1/4 grain of morphine and 2 c.cm. of a 50 per cent. magnesium sulphate solution as soon as labour was definite in a multipara or the os was three fingers dilated in a primipara. Twenty minutes later another 2 c.cm. of magnesium sulphate was given. The ears were plugged, and as the analgesic effect of these drugs wore off, anaesthesia was induced with the rectal ether anaesthesia mixture, given slowly between the pains. This mixture consisted of 2½ oz. of anaesthetic ether, 20 grains of quinine alkaloid, 40 minims of absolute alcohol, and 2 oz. of olive oil. Twenty minutes later a further dose of 2 c.cm. of 50 per cent. magnesium sulphate was given intramuscularly. It was found that magnesium sulphate prolonged the action of the morphine without increasing its toxicity. Rectal ether instillations were repeated whenever necessary throughout labour. The labours progressed normally, and the co-operation of an analgesic patient assisted greatly when any manipulation was needed. One case of inertia was under anaesthesia for thirty-seven hours, with no ill effects to mother or child. No bowel complications were noted, and the puerperium showed no abnormality. No cases of asphyxia neonatorum occurred; thus the stages functioned satisfactorily, and lactation was easily established. There was one stillbirth due to prolapse of the cord, and one patient became morbid, due to mastitis. The results were that 97 per cent. of cases derived benefit, in agreement with Harrar's report. Both these reports found rectal ether 30 per cent. higher in efficiency than "twilight sleep," and without danger to the infant; 2 per cent. of patients treated were absolutely unaware of any pain from the first injection of morphine and magnesium sulphate. Dr. O'Donel Browne considered that this method of relieving pain during such a long space of time was far in advance of any other means in use at the present day; it was simple and safe, and effective in 97 per cent. of cases.

Dr. G. MELDON said that he found rectal ether an extremely satisfactory anaesthetic, but in patients who came into hospital early on the morning of operation, or on the previous evening, it was not so successful. He thought the reason for this was that the bowels were not properly cleared out. As a routine, he put a catheter into the rectum, gave the injection, and left the catheter in. He had never seen any rectal trouble occur following injections of rectal ether.

Dr. T. M. HEALY said that when Gwathmey's paper on anaesthesia in labour appeared in 1923 some cases had been treated in this manner at the Coombe Hospital according to Gwathmey's technique, but the results were rather disappointing. Since the stronger solutions of magnesium sulphate had been introduced in 1924, however, he had been more satisfied with the results obtained. Some patients had scopolamine-morphine anaesthesia in one labour and Gwathmey anaesthesia in another, and seemed to think that the quinine was less nauseating. Magnesium sulphate was now always given intramuscularly, though this was not done when the method was first started. He had seen no cases of difficulty in the third stage of labour, and no difference in the stillbirth rate since this method of anaesthesia had been used.

Dr. D. V. MORRIS said he had been using Gwathmey anaesthesia for some time, and in private practice regarded it as very successful. He was content if he got analgesia. In hospital cases such good results could not be expected as in private practice.

Dr. SOLOMONS, Master of the Rotunda, said that when he suggested that Dr. O'Donel Browne should study the Gwathmey method of anaesthesia in labour, he was anxious to find out if this was a method that could be of general use, not only to the specialist, but to the general practitioner. Dr. Browne had demonstrated certain very definite points, even though the number of cases was small. It was extremely difficult for the assistants at the Rotunda to devote a great deal of time to such cases. The routine work was heavy, and the isolation wards so necessary for such an investigation were not always available. He had given the results in forty-one cases, and, as there were approximately 6,000 confinements in the hospital in the time under review, it seemed to show that the method was not one for the busy general practitioner. In fact, in spite of the statements, and in spite of the excellent work of Gwathmey and his disciples, he did not see that this method would be any more universal than "twilight sleep." When he and his co-assistant, the late Dr. Freeland, were working on the subject of scopolamine-morphine narcosis about twenty years ago, experiments had to be made as to correct dosage, so that the results of the paper, written at that time, could scarcely be compared with the results obtained by the Gwathmey method, where the dosage was definite. He did not see much to choose between the methods—both had disadvantages and advantages. He believed that the ideal anaesthesia was gas and oxygen.

Dr. DAVIDSON said that the conclusions which Dr. O'Donel Browne had come to regarding Gwathmey anaesthesia seem to bury the bogy about quinine. He personally had never seen a case in which the giving of quinine had done any harm to the baby.

Reviews

THE BILE ACIDS

The physiology of the bile acids remains one of the outstanding problems of hepatic physiology, and so far progress in our knowledge of their origin, metabolism, and functions, has been poor indeed. L. CUNY has therefore performed a great service in collecting in monograph form an account of all the work done on the bile acids by chemists, physiologists, and clinicians. Much of the contents is chemical, and difficult for the ordinary man to comprehend, but for those specially interested a mine of information is at hand. It is good to see on page 47 a full reference to the "réaction de Hay," which was erroneously introduced into French literature, as Cuny admits, as the "*réaction de Haycraft.*" *On looking up* Cuny's enormous bibliography of 342 publications about bile acids, it is seen, however, that Hay's name is absent. This is scarcely to be wondered at, for unfortunately Professor Matthew Hay, then in Edinburgh and later in Aberdeen (where he resides), did not publish his method as a separate paper. For the sake of those interested in this subject it is worth while recalling that Matthew Hay's method of testing for bile acids in urine with flowers of sulphur was first described in Landois and Stirling's *Text Book of Human Physiology*, published in 1886.

All the methods or attempted methods for the quantitative estimation of bile acids in conditions of hepatic disease are well described, but it is tacitly admitted that none of them has as yet proved satisfactory for routine clinical work. This monograph is indispensable to physiologists and to physicians specially interested in the problems of hepatic and biliary disease.

GLAISTER'S MEDICAL JURISPRUDENCE

The fact that a textbook has reached its fifth edition within a period of thirty years is good evidence that it is appreciated by that section of the public for which it is written. Professor Glaister has been engaged in medico-legal practice for about half a century, and his book bears evidence throughout of the practical first-hand knowledge of legal medicine accumulated during that period. In the latest edition,[2] the authors, father and son, have revised the text to a certain extent, and have included notes on recent legislation of interest to medical readers, but it is difficult to understand the omission of all reference to the Mental Treatment Act, which was before Parliament as a Bill in 1929 and passed into law in 1930. Nor have the authors taken any cognizance of the Road Traffic Act, which introduces a new and far-reaching principle in connexion with charges of intoxication brought against motorists. These statutory changes are of more interest to the practitioner than the new legal matter which has been included. A certain number of illustrations have been deleted, but there are others which could be removed without detracting from the value of the book—for example, Figs. 55 and 60 (stab wounds), Fig. 109 (a section of lung tissue), Fig. 117 (pus from gonorrhoea), and Fig. 167 (adipocere) serve no useful purpose. In the section on identification, a description of finger-prints and their classification occupies more than 14 pages; this is too detailed for the medical practitioner, and is of no value to the finger-print specialist, who must necessarily have much fuller information. The effect of putrefaction on skin papillae, the reconstruction and preservation of finger-tip skin, and the chemical treatment and development of invisible prints, subjects which are of interest to the medical man, are not touched upon. The chapter on hairs has been enriched by the addition of five excellent plates. The section on bloodstains has, to a certain extent, been rewritten, but the precipitin test has not been treated with that clearness which the student expects, and we regret an implication to the effect that the phenolphthalein or so-called Kastle-Meyer test is a definite test for blood.

The section on injuries and death from violence is treated in a masterly manner, and is full of practical detail, and documented with cases from the authors' ample experience. This section could be improved, not by the introduction of more material, but by greater care in its presentation. Many valuable observations are obscured by the method of expression. Take the following sentence, dealing with fractures of the skull:

> "The force being one of compression, acting in direction of the line of impact, compresses the skull and its contents, in lateral directions, thereby producing points of distension, due to resistance, their line being at right angles to the line of force, at which points the fractures take place, and at which the separation of the fractured surface is greatest; and from these, radiating toward the point of impact, and oppositely to the point of distension run the lines of fracture."

This certainly conveys the authors' meaning, but it is too involved to be of real value to the student trying to obtain some general knowledge of the effect of violence applied to the head. The sections on pregnancy, infanticide, abortion, rape, etc., have been left very much as they were, and indeed are so full and informative that little revision is necessary. It is to be noted, however, that the authors still retain the Abderhalden test for pregnancy, but make no mention of the newer Zondek-Aschheim test. The chapter on cases of insensibility is of considerable value, especially to the young practitioner. The chemical side of the toxicological section is weak in general, and unequal. The authors give considerable detail about the isolation and detection of certain poisons and none at all about many others. This section does not convey the impression of careful revision, and we note the absence of reference to tetra-ethyl lead, or to thallium, which has caused a number of cases of poisoning. In the description of carbon monoxide poisoning there is no mention of Hartridge's valuable contribution to the quantitative estimation of the substance, although his reversion spectroscope has been in use by medical jurists for some years; and the qualitative tests are inaccurately described.

This notice of an old-established work must be viewed in the right perspective. Glaister's book is of sufficient merit and is sufficiently well known to withstand criticism; but when a work is so well established, the author should, in producing a new edition, keep the material strictly up to date in his own interest. Moreover, with each new edition an attempt should be made, if the author has time, to improve the style of presentation.

RADIOLOGY OF THE CHEST IN CHILDHOOD

Dr. STOLOFF's book on the radiology of the chest in children[3] approaches this subject from the aspect of the clinician who is also trained in radiology, for "the best radiologist is the man who knows the complete history of the patient, who knows the clinical findings, examines him personally, fluoroscopes him if necessary, and puts

---

[1] *Le Dosage des Sels Biliaires dans la Bile et le Liquide Duodénal.* Par Louis Cuny. Preface de M. Chiray. Paris: Masson et Cie 1930. (Pp. 222. 30 fr.)

[2] *A Text-Book of Medical Jurisprudence and Toxicology.* By John Glaister, M.D., D.P.H., F.R.S.E., in collaboration with John Glaister, Jun., M.D., D.Sc. Fifth edition. Edinburgh: E. and S. Livingstone. 1931. (Pp. xv + 954; 132 figures, 7 plates. 30s. net.)

[3] *The Chest in Children, Roentgenologically Considered.* By E. Gordon Stoloff, M.D. Foreword by Bela Schick, M.D. *Annals of Roentgenology*, vol. xii. New York: P. B. Hoebe Inc. 1930. (Pp. xxx + 432; 401 figures. 15 dollars.)

together all these data before he issues his report." This is the ideal method when circumstances permit, but it is always advisable for both clinician and radiologist to discuss their respective findings before making a diagnosis, for it must not be forgotten that the radiologist sees only shadows and not the real pathological process, and that his interpretation can be just as debatable as the clinician's observations. The book deals with the radiology of the various diseases of the trachea, bronchi, lungs, pleurae, mediastinum, diaphragm, and chest wall: the heart is not considered. The findings are discussed more in relation to pathology than to clinical medicine, and little attention is paid to the subject of radiological technique. The author, however, advises the employment of the erect, inspiratory, dorsoventral position for pulmonary work, and includes a number of diagrams illustrating his technique which would be improved by a few words of explanation.

The largest section of the volume considers the radiology of primary tuberculosis. The author bases its diagnosis and differentiation from non-tuberculous lesions on visualization of (1) the primary focus, (2) the regional lymphatic nodes, which are described in detail, and necessarily supported by (3) a positive tuberculin reaction. Equally interesting are his remarks on broncho-pneumonia, for it is common for infants to have no definite physical signs of pulmonary infiltration and yet a radiogram may reveal broncho-pneumonic patches, sometimes surprisingly large. The reverse is also true: that in cases of unquestioned clinical or pathological evidence of a respiratory affection, the *x*-ray examination may have revealed no evidence of infiltration. But a book of this type depends more on its illustrations than on its text, and the author has freely illustrated his points with radiograms of an extraordinarily high standard. A special feature is made of serial radiograms, which are of inestimable value in the study of the pathogenesis and evolution of many pathological processes. They illustrate, for example, the development of a primary tuberculous lesion and its eventual healing by calcification, also the development from its earliest stages of a pneumonic process. Starting as a faint shadow due to engorgement of the vessels and slight exudation, it increases progressively in density, but generally does not affect the entire lobe. The different terminations of the pneumonic process are well illustrated: resolution in one case, the development of an empyema in another, and of a lung abscess in a third. A number of simple line diagrams illustrating and explaining the radiological appearances are included; those advocating the value of the lordotic position in the diagnosis of the pathological conditions affecting the large interlobar fissures are particularly striking.

FUNGOID INFECTIONS OF MAN

It is now eighteen years since the publication of the first edition of Professor R. O. STEIN'S monograph on the fungoid infections of man.[4] During that time our knowledge of the subject has greatly increased, and it has become of much wider interest. Diseases caused by fungi of different kinds are now known to be by no means limited to the surface of the skin and solely to concern the dermatologist, but to penetrate much deeper and to invade the realms of internal medicine. Sporotrichosis and blastomycosis, as well as actinomycosis, are recognized as serious infections. It has also been shown that many of the pus-producing varieties of ringworm evoke systemic reactions which give rise to cutaneous eruptions known as trichophytides and also cause the production of antibodies in the blood serum of those affected. These phenomena, which have been studied principally by Bruno Bloch and his pupils, are all adequately discussed in the present volume, but perhaps the most valuable part of Professor Stein's work consists of the numerous illustrations, which provide excellent representations of all the chief clinical varieties of fungoid infection to which the human integument is liable, and also illustrate adequately the microscopical appearances of the infecting fungi and their cultural characteristics. Besides eighty-one other illustrations there are no fewer than twenty-nine coloured plates, and these, which are obviously based on wax models, are extremely clear and good.

The chief fault we have to find with Dr. Stein's book is that he has omitted all reference to the recent work on the genus *Monilia*, which, during the last four years, has been shown by the researches of MacLeod, Dowling, and Garner to be of unexpected importance in the causation of various dermatoses, of which seborrhoeic eczema is the most frequent. The discovery that the organism formerly known as the spore of Malassez or the "bottle bacillus" is really only one stage of a monilia is certainly the most important advance in cutaneous pathology made in recent years, and in a monograph on mycelial infections it should not be ignored.

[4] *Die Fadenpilzerkrankungen des Menschen.* Von Prof. Dr. Robert Otto Stein. Zweite, ergänzte Auflage. München: J. F. Lehmann. 1930. (Pp. viii + 128; 78 figures, 32 plates. Bound, M.12.)

ALLERGY REVIEWED

The subject of anaphylaxis, with its important side-issues immunity and allergic disease, is now in a highly interesting and rapidly advancing stage. An enormous literature has accumulated, and, as F. M. RACKEMANN remarks in the first chapter of *Clinical Allergy*,[5] "It is difficult to realize that anaphylaxis was almost unknown up to the year 1900 . . . and the entire development of the conception of human allergy has taken place since 1915." The chief aims of this book are a summing-up of the great mass of evidence and a definition of the present-day conception of the phenomenon, and the author is to be congratulated on the way in which he has undertaken a stupendous task. There is a foreword by Professor Hans Zinsser, who refers to the importance of putting the immunological point of view before the clinician, and the clinical point of view before the immunologist.

Starting with the more theoretical aspects of hypersensitiveness and anaphylaxis, Dr. Rackemann passes on to the clinical manifestations and treatment of serum disease, hay fever, asthma, and other allergic conditions. A very difficult subject is dealt with, on the whole, in a masterly and readable fashion, and it is not the author's fault that until we know more of the ultimate nature of the processes at work, the complicated and somewhat confusing nomenclature of immunology, with its "allergens," "antibodies," "atopic reagins," "haptins," and the like, has to be used for purposes of classification. As Geoffrey Keynes remarks elsewhere, "*Ignorance must be abbreviated.*" In the more clinical aspects the author gives an unbiased account of the present state of knowledge, and any speculations he may occasionally be tempted to make are tempered by sound judgement. Most readers will agree that careful history-taking, and appropriate experiment, are much more important in the investigation of the exciting causes of asthma than indiscriminate skin tests, and a certain number will share the author's scepticism about the value of nose and throat operations. We might have expected a rather more detailed description of Van Leeuwen's methods in the investigation and treatment of

[5] *Clinical Allergy, particularly Asthma and Hay Fever.* By Francis M. Rackemann, M.D. The Macmillan Medical Monographs. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1931. (Pp. x + 617; 29 figures. £2 4s. net.)

asthma, but his opinions are carefully weighed, and Dr. Rackemann's wide experience gives much value to his statements on the results of therapeutic measures.

The work does not pretend to tell much that is new, yet there must be few readers whose mastery of the subject is so complete that they will not find many gaps in their knowledge. A useful bibliography is appended to each chapter. There is no doubt that *Clinical Allergy* will make a wide appeal both to clinicians and to laboratory workers. We suggest, therefore, that certain data—for example, the distribution of pollens—should in future editions be extended to countries other than the United States, and that such phrases as "the size of a fifty-cent piece," which convey little to the average English reader, should not be used.

THE CHARAKA CLUB

The Charaka Club, recalling by its name the authority on Brahminical medicine during the second century of the Christian era, consists of about thirty American medical men, and is well known among those fond of literary productions for its attractive *Proceedings*,[6] published from time to time. The seventh volume, of which 575 copies are printed, worthily maintains the club's reputation for conveying out-of-the-way information with a light touch. Most of the twenty-four papers read to the club and now reproduced are not strictly medical in tone; there are several humorous fragments in verse by Dr. G. D. Stewart, one, however, being "A Tired Doctor's Prayer"; "Sketching Boats on the China Coast," by Dr. R. L. Dickinson, carries the reader far away from his professional atmosphere; and Dr. E. L. Keyes's gloss on Paul Géraldy's "Notes on Love," which is entitled "The Stuff that Dreams are made of," has a psychological bearing, as well as a most pleasing style. There are two affectionate tributes to senior members of the club—G. L. Walton and "C. L. D. "(ana), and a sympathetic notice of W. B. James (1858–1927), who was determined "to make life pleasanter for his patients and friends, saner for his contemporaries and successors." Success crowned his efforts. Dr. Camac talks on the papyrus industry of the ancients, and this, like the article on Robert Estienne, the scholar-printer, may perhaps be regarded as a transition to those on medical history, such as Dr. E. C. Streeter's essay on the education of the barber-surgeons in France, and the hierarchy of the Monros, which Dr. B. Sachs begins with the graphic sentence, "Alexander Primus, Secundus, et Tertius may be said not only of the Romanoffs, but of the Monros as well, who were the czars of medicine and surgery in Edinburgh over a period of one hundred and twenty-five years." The most serious and considerable article is that on "The Journal of Jean Héroard, Physician to Louis XIII," contributed by Dr. Francis R. Packard, editor of the *Annals of Medical History*. These papers diffuse a pleasant impression of the clubbable relaxations of busy members of our profession.

NOTES ON BOOKS

The March number of the *Annals of Medical History*[7] contains seven articles on various subjects as far apart as Galen and the "Totentanz, 1914–18," which comes into the concluding instalment of Professor A. Scott Warthin's extremely interesting and generously illustrated account of "The Physician of the Dance of Death." Dr. C. W. Burr's paper read at the Galen memorial meeting at Philadelphia last October appropriately accompanies Dr. Joseph Walsh's refutation of the charges of cowardice made against Galen for leaving his native city Pergamum when a rebellion with its associated dangers broke out, and for absenting himself from Rome at the time the plague occurred there. Sir D'Arcy Power, in his address before the Section on Medical History of the College of Physicians of Philadelphia on December 8th last, dealing with "Touchpieces and the Cure of the King's Evil," tells us that, though the Hanoverian kings never touched, it was not until some years after the accession of George I that the form of prayer special to the occasion was removed from the Prayer Book, its last appearance being in Basket's folio edition, published by the University of Oxford in 1715. In a scholarly article on the history of lead poisoning Professor R. H. Major of Kansas City finds the first recognition of this disease in the poems of Nikander, whom he calls "the poet laureate of lead colic," in the second century B.C. Dr. D. I. Macht of Baltimore contributes an appreciation of Professor Louis Lewin (1850–1929), the pharmacologist, toxicologist, and medical historian, and supplies a list of his 227 publications. The review by Dr. T. H. Bast of the life and works of Max J. S. Schultze gives the history of his new cell theory and of the establishment of his *Archiv für Mikroskopische Anatomie* in 1865. A descriptive list of the incunabula in the library of the College of Physicians of Philadelphia shows that there are no fewer than 401. An illustrated editorial reports on the eighth Congress of the International Society of the History of Medicine, and there are good reviews by the editor and Professor Thomas McCrae of recent books.

We have received from Messrs. E. and S. Livingstone, of Teviot Place, Edinburgh, the following additions to their Catechism Series.[8] *Medicine*, Part II; *Chemistry*, Part II; *Pathology*, Part V. These continue the system of instruction begun in previous parts. The same publishers have also issued a copy of the *Fellowship Examination Papers*[9] for the higher diploma of the Royal College of Surgeons of Edinburgh, from 1927 to 1930.

Volume iii of the late Sir FREDERICK SMITH'S *Early History of Veterinary Literature*[10] deals with the period 1800–23. It is an important era in the development of veterinary science in England. The London school had been in existence for eight years, but it had had an unfortunate start, as it lost its principal two years after his appointment, and, immediately afterwards, its most powerful supporter, John Hunter. It was unfortunate, too, that the next principal was not a veterinarian, and that its examiners were physicians and surgeons. Teaching was limited to the horse, and the other animals were almost entirely neglected. Quacks flourished throughout the country. Free trade introduced the great epizootic diseases from abroad, and there was no one who understood them. A knowledge of the work of this period is essential for an understanding of the tremendous difficulties which veterinary science had later to overcome in the nineteenth century. Medical history is under a deep obligation to General Smith for bringing these facts together. Before his death he had collected material relating to the period up to 1869, and it is hoped that this will soon be published to complete what is a most valuable piece of work.

Parts VII and VIII in the *Synthetic Anatomy*[11] series, which is being published by Messrs Baillière, Tindall and Cox, are designed for use together, several plates in each part interlocking in such a way as to facilitate the complete trunk in various planes being indicated diagrammatically. This series of anatomical drawings on

[6] *The Proceedings of the Charaka Club*, volume vii. New York: P. B. Hoeber, Inc. 1931. (Pp. x + 190; 30 illustrations, 5 dollars.)

[7] *Annals of Medical History*. New Series, vol. iii, No. 2, March, 1931. Edited by Francis R. Packard, M.D. New York: P. B. Hoeber, Inc.; London: Bailhere, Tindall and Cox. 1931. (Pp. 127–252; illustrated. Subscription in Great Britain, 45s. per volume of six numbers.)

[8] *Medicine*, Part II, third edition; *Chemistry*, Part II, fourth edition; *Pathology*, Part V, third edition. Edinburgh: E. and S. Livingstone. 1930. (1s. 6d. net each volume.)

[9] *Fellowship Examination Papers for the Diplomas of the Royal College of Surgeons, Edinburgh, 1927–1930*. Edinburgh: E. and S. Livingstone. 1930. (2s. 6d. net.)

[10] *The Early History of Veterinary Literature and its British Development*. By Major-General Sir Frederick Smith, K.C.M.G., C.B. Vol. iii: The Nineteenth Century, 1800–1823. Reprinted from the *Veterinary Journal*, 1929–30. London: Baillière, Tindall and Cox. 1930. (Pp. vii + 184; 6 plates. 15s. net.)

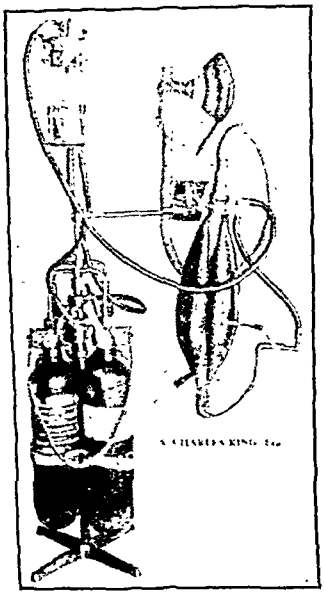
[11] *Baillière's Synthetic Anatomy*. By J. E. Cheesman. *Part VII*, The Thorax; Part VIII, The Abdomen. London: Baillière, Tindall and Cox. 1930. (3s., post free 3s. 2d., each part.)

transparent sheets has been designed by Dr. J. E. CHEESMAN, and is now nearly complete, the only parts remaining to be published being those on "The brain" and "The male and the female perineum." Each part is purchasable separately, price 3s. 2d. post free; loose-leaf binding cases to hold the twelve parts may be obtained, price 3s. 3d. post free.

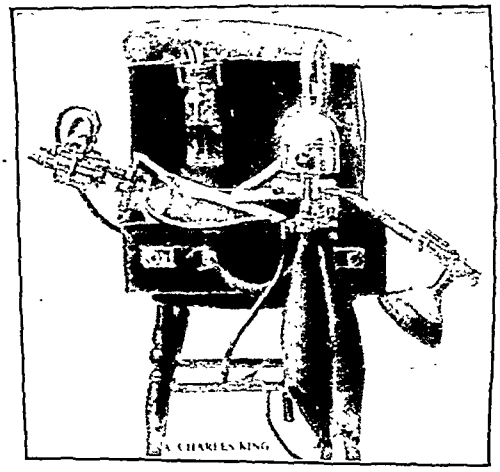
PREPARATIONS AND APPLIANCES

A SIMPLE GAS AND OXYGEN APPARATUS

Dr. E. ROLAND WILLIAMS (Maenclochog) writes: The portable apparatus illustrated has been used by me for a year. It allows an ordinary "dental gas" apparatus to be used for



administering gas and oxygen with an intermittent flow varying in accordance with the patient's breathing. Inclusive of one 100-gallon cylinder of gas and one 30-gallon cylinder of oxygen, it all packs into the attaché-case shown, the total



weight being 31 lb. Reducing valves are fitted to the cylinders. Those illustrated are Dr. MacGill's modification of the Adams valve. The "Endurance" regulators manufactured by the British Oxygen Co. for acetylene welding also make suitable reducing valves. The gas bag is fitted with a light steel spring framework, the springs not being powerful enough to impede rebreathing. At the side of the bag is suspended an ordinary gas tap. By means of a light rod the lever of this tap is connected to one of the springs of the framework in such a way that when the bag is moderately distended the tap is turned off. A flow-meter of the Boyle type provides a sight feed. Two ordinary Higginson syringe valves (Rigby ball valves would also be suitable) prevent the water from being forced out under the gas pressure. When not in use with a stand, this flow-meter hooks over a bed rail or over the lid of the bag. (The use of the "bubble bottle" is not essential; the proportion of gases can also be regulated by the graduated scales shown behind the tap levers on the reducing valves. A further refinement of control is obtainable by fitting a two-way tap controlling the bag inlet.) The gas bag is attached to a strong universal clip of the "ajustolite" pattern. This can be clipped on to the side of the attaché-case, or on to the bed rail. For nasal administration in dental cases it is conveniently clipped to the back of a chair. Fitting into the bag mount is a wide-bore flexible breathing tube, as used in the Walton apparatus. At the end of this is an ordinary Barth valve-piece. The face-piece used is a metal one, with three small hooks soldered on to enable it to be kept in position by an elastic T-piece.

For obstetric use the following device is employed: An adjustable stop is set so that the valves cannot be pulled further over than half-way between "valves" and "no valves." This gives the desirable amount of rebreathing, and economizes gas. A spiral spring is clipped on to connect the valve-piece to the end of the breathing tube, as shown. At the beginning of a pain the patient applies the face-piece (if it is not already strapped on) and pulls the valve-piece over, against the spring, as far as it will go (that is, to the "half rebreathing" position). Mixture then begins to flow automatically as she breathes. When she becomes anaesthetized and lets go, the spring returns the valve to the "air" position, at the same time stopping the flow of the gases. To secure a continuous supply the spring can instantly be unhooked.

The apparatus described has been used by me mainly under domestic conditions, and the presence of open fires and naked lights has generally prevented ether from being used with the gases. For the addition of ether vapour I suggest the arrangement illustrated, which has seemed to work satisfactorily on the very few occasions when it was needed and could be used. A Clover inhaler is interposed between the bag mount and the breathing tube by means of a simple adaptor, which keeps the Clover in the "no-ether" position when gas and oxygen mixture alone is in use. By revolving the inhaler body, however, any desired concentration of ether vapour can be added. In this way the ether is instantly available as an independent anaesthetic by the Clover method, if the gases, for any reason, cease to flow. In the side of the adaptor there is also a wide air-port normally stoppered by a rubber bung. Withdrawal of this bung (in the event, say, of a leaky or burst bag requiring to be repaired or changed) gives "open ether" through the Clover. In this case it is desirable to wrap a towel, wrung out of hot water, round a section of the breathing tube to warm the ether vapour.

The stand model illustrated was made by Messrs. A. C. King, Ltd., of Devonshire Street, W.

A LITHOTOMY SUPPORT

Dr. EDWARD BARON (London, N.15) writes: I have devised a lithotomy support which remedies the defects of Clover's crutch, and which is light, collapsible, and easily carried in the midwifery bag. It consists of adjustable bands of webbing arranged to fit on to the shoulders instead of the neck, pads to fit below the knees to which the four ends of the bands are secured, and a metal support, which, when fixed in position, not only keeps the legs apart, but also outwardly directed from the knees, it being then impossible for the patient to cause a collapse of the support. It should be applied either before or during anaesthesia, preferably with the patient in the dorsal position. The bands are placed across the shoulders, with the transverse connecting piece behind. The pads, with the incorporated metal plates placed along the inner surface of each tibia, are then fixed below the knees by buckles. The bands from the back of the shoulders are clipped on to the outer side of the knee pads, and the front bands are attached to the inner side of the pads. Adjusting bars enable the bands to be lengthened or shortened until complete flexion of each leg is obtained. The collapsible metal support consists of four links, the inner two forming the cross-bar when opened out. To each outer end a link is pivoted at an obtuse angle, and these latter links fit into slots in the knee pads. When these are inserted, and the inner links opened out until automatically locked, there is then formed a leg separator and abductor. The advantages are: complete flexion at hip and knee, with separation and abduction of legs, support from the shoulders, exclusion of the legs from the doctor's hands or instruments, excellent view of the area required, and compactness.

The support has been made for me by Messrs C. J. Hewlett and Son, Ltd., 35–42, Charlotte Street, E.C.2.

British Medical Journal

SATURDAY, APRIL 18th, 1931

SPECIALIZATION IN THE MEDICAL CURRICULUM

In his recent Silvanus Thompson Memorial Lecture Dr. A. E. Barclay discusses such a well-worn topic as the dangers of specialization in medicine, and he finds the beginnings of these mischiefs in the lack of co-ordination of the various teaching schemes that constitute the medical curriculum. Each teacher, the argument runs, inevitably cultivates on the highest scale his own particular department and claims for it a place in the sun, with little or no regard to its actual values in medical practice, and with scanty consideration either for the schemes of his colleagues or for the brevity of human life. Thus from the outset the student is led to believe that to become a "specialist" is the true ideal, although at the same time the instruction given in each subject is quite inadequate for this purpose, and remains for the majority of students mere "detail to cram up for examination." Under such influences the curriculum is unduly and unnecessarily prolonged; the student is burdened with facts which make no contribution to his work as a practitioner; and, newly qualified, he escapes into duties and responsibilities for which he is very imperfectly equipped. The remedies which Dr. Barclay proposes for this unhappy state of affairs are the creation of a dictator who shall determine what each teacher shall or shall not include in "the routine outline course"; the subordination of each departmental interest to a precise and practical educational purpose; the bringing of all branches of the biological services into mechanical and organic relations with the hospital wards; and the introduction of general practitioners as members of the teaching staffs.

That the medical curriculum is in many respects unsatisfactory is a proposition which few will be prepared to deny, and the suggestion may even be ventured that so long as medicine and the sciences on which it depends are alive and in movement, the perfect curriculum will not be achieved. The edifice carefully constructed to-day will meet with new assaults on the morrow, and will certainly be found wanting as tested by new conditions and new developments. It is in vain to sigh for the imposition of a fixed, rigid, and perfect educational pattern, and although dictators, it is true, are just now fashionable in many quarters, we doubt whether Dr. Barclay's summons will produce either the commanding autocrat or the submissive constituency; and even if the judge and ruler arrived we feel sure that his days would not be long in the land. It is not by the aid of such an ally that Dr. Barclay may hope to reconstruct the medical curriculum. The claim for the establishment of closer relations between the several parts of the curriculum has a much more reasonable quality. Admittedly each teacher is apt to exaggerate the relative importance of his own subject and to push details into undue prominence, though we can hardly believe that individualism in our medical schools and faculties is quite so rampant as Dr. Barclay's indictment suggests. The recent attempt in some of the schools to bring the teacher of physiology into relation with clinical medicine shows that not only without, but also within the citadel, there are advocates of effective co-ordination. The critics therefore may take heart of grace.

The complaint that the student is taught much that is of no practical value to him except as an aid to success in examinations, and that in the end he is "let loose" on the public while still inefficient, can no doubt be presented in a plausible setting. Yet, read by the inexperienced, it is in large measure misleading. Medical education means, and ought to mean, something more than a mere technical training, and to treat the scientific subjects in the curriculum as mere handmaids to practical medicine and practical surgery would not form for the best minds an attractive discipline. What medicine must offer if it is to remain a liberal education and a liberal profession is an opportunity for mental culture and for individual development, and this fundamental influence, not less than due regard to the art and craft of the calling, is essential to the attainment of the highest levels as tested by the sure verdict of time. It is in an atmosphere, not of rigid rules, but of mental methods, that the practitioner will find the training that promises the fullest opportunity for self-realization and for enlarging service. As for efficiency, the term is a relative one. Who will boast himself in general medical work to be efficient, not merely at the end of the curriculum, but even at the end of life? It is much if in his undergraduate days the student has acquired a right attitude towards his professional duties and responsibilities, has learned the virtues of accuracy and thoroughness in observation, and has enjoyed a sufficient body of experience to enable him to utilize whatever opportunities fate may bring to him. So equipped, he will always be moving towards efficiency, and sooner or later will in large measure attain it. Certainly if he is to be held in chains until he can leap fully armed into the arena, not five or even ten years will see him on his feet. What is possible in the course of the curriculum is the establishment of a habit of mind and the recognition of sound principles illustrated by such clinical experiences as may be carefully studied in a limited space of time. Upon such a foundation, followed by the cultivation of opportunities for mental discipline and for practical training, the right type of student will make himself a good doctor and an educated man; and he does this to-day even though the medical curriculum leaves many loopholes for the critics. These may well continue their useful service, for while perfection will escape them

they may always hope to press for adjustments to meet the changing demands of the day and hour.

Dr. Barclay recalls in particular the advantages of the discarded apprenticeship system, and thinks that these might be regained were general practitioners included in the teaching staffs of the medical schools. The really effective and inspiring teacher is not a frequent figure at any time, and when he can be found a medical school ought to be glad to secure him, whatever his professional activities. But general practice in action must be learned in general practice, and here more than anywhere else talk about the art apart from the routine of daily service is little to the purpose. In any event, short cuts in the matter of medical education are no substitute for the sure though slow methods of scientific and clinical discipline. Here, and here alone, is the sound foundation on which the fullest measure of efficiency may gradually be developed.

CENTRES FOR RHEUMATISM

It is now little more than a year since the British Red Cross Society's centre in London for the treatment and investigation of rheumatism was opened by the Queen for the reception of patients.[1] In this brief period the work of the clinic has increased to such an extent, and the sphere of its utility has become so obvious, that there is now apparently a movement on foot in many of the large industrial areas of England and Wales to establish local centres similar in plan to that in Regent's Park, where serious work on and for rheumatism may be carried out. The authorities in many of these areas have, not unnaturally, applied to the Red Cross Society for guidance in their project, and for details of the experience, both medical and financial, which has been gained during the year at Peto Place. The British Red Cross Society has now issued a comprehensive pamphlet prepared in response to these demands. Its clinic is the outcome of a national appeal launched in 1929 at the urgent representation of several Labour and health organizations, with the blessing of the medical profession, and the sympathetic approval of the Ministry of Health. It is the only institution of its type in England at present, and is reputed to be the finest in Europe. Though the experimental stages are admittedly not yet at an end, it is submitted that there is ample evidence to show that the venture has been amply justified, and that there can now be no legitimate doubt regarding the need for such clinics or the general plan which should be followed.

The recommendations made are based on the provision of clinics which shall (as at Peto Place) treat a maximum of 500 patients daily (400 in the general block and 100 in the private block) and where treatment shall be given from 8.30 a.m. until 9.30 p.m. every day except Sunday. The appointment system is favoured, with an average of two or three consultation periods a day. The medical administration should be under the control of six physicians with a competent knowledge of general medicine, in addition to a particular interest in rheumatism, since control by a single medical director in an institution of this kind is, in the opinion of the society, contrary to the best traditions of English medicine. The control of non-medical matters and finance should be in the hands of a house committee meeting monthly to receive reports from the medical board, matron, secretary, and almoner. This committee should decide all matters relating to the building, and should appoint all staff, though medical appointments should only be made on the recommendation of the medical board. With regard to the specialist medical staff, this was felt at first to be perhaps a luxury, and it was not appointed for some months after the opening of the clinic. It is interesting, therefore, to find that the minimum personnel now recommended in this pamphlet is as follows: a pathologist who is equipped for both bacteriological and biochemical work, or who has hospital facilities for dealing with both classes of work (this appointment should preferably be held by a man engaged in research in addition to his routine work); a radiologist, who need not be a whole-time officer; a dental surgeon; an oto-laryngologist, who should attend for one session each week; an orthopaedic surgeon; a gynaecologist; a general surgeon; and an anaesthetist. It is advocated, further, that one of the general physicians should have a specialized knowledge of hydrology and another of electrotherapeutics, whilst a whole-time "medical registrar" to supervise the carrying out of the treatment is essential. The details of running such a clinic are exhaustively discussed under the headings of "The building," "General administration," "Medical administration," "The matron's department," "The almoner's department," "Schedule of rooms, etc.," "Equipment, furniture, and linen," and "Summary of staff." Much well-informed labour must have been expended in compiling this valuable document, which is a mine of information, and should be of great use, also, to those responsible for medical institutions of all sorts.

The British Red Cross Society makes it plain that while realizing, and indeed emphasizing, the need for rheumatism centres outside London, it feels that there would be a real danger, in view of the rapidly increasing scientific interest which is being taken in "physical medicine," if such clinics were to be established by all and sundry with no links, however loose, through which the campaign against rheumatism could be co-ordinated and pushed forward as a concerted effort on the part of everybody concerned in the movement. By these means, and by these means alone, the Red Cross Society feels that the grave social and industrial burden of chronic rheumatism may in time be lifted, even as the burden of tuberculosis was lightened by similar organization three decades ago. The basis of the Red Cross scheme is a simple and elastic linking up of organizations, and the raising of

[1] *British Medical Journal*, 1930, i, 409.

a national fund to assist in providing, in one place, the desired equipment, in another the desired accommodation, in a third no more, perhaps, than the interchange of information. It advocates, moreover, the association, wherever possible, of the clinics for rheumatism with voluntary or municipal hospitals, of which they might with advantage form a department. In this case auxiliary clinics could be established in surrounding small towns and villages to work in conjunction with them. It is gratifying to find that such an urgent problem of modern life is being seriously tackled by a body with the influence and importance of the British Red Cross Society.

THE DISCOVERY OF THE SPIROCHAETE

The discovery of the virus of syphilis forms an interesting chapter in medical history, and is well described in Dr. Erich Hoffmann's Lectures on the Twenty-fifth Anniversary of the Discovery of the Spirochaete.[1] Discoverers of new facts, if the latter are of any considerable significance, may be said to fall into two classes—the premature and the opportune. The former, advancing their discoveries before the times are ripe for them, usually meet with scorn, if not with obloquy, while the latter immediately receive a recognition somewhat analogous to that of admission to the calendar of the saints. The account of an effective discovery should therefore include some intimation of the prevailing scientific sentiment which renders the discovery acceptable. With regard to the spirochaete of syphilis, Dr. Hoffmann has gone very fully into this aspect of the subject. Interest in the causation of syphilis had recently been revived by the discovery of Metchnikoff and Roux that the disease was transmissible to the apes. Klingmüller also had shown that the virus failed to pass through a Berkefeld filter, and it was concluded from this—together with the fact (erroneous, as it turned out) that the disease could not be acquired from the cadaver—that probably the virus was a relatively large organism, such as a protozoon, rather than a bacterium. Among such organisms known at the time were the trypanosome and Obermeier's spirochaete; and Roux had described several varieties of the latter type in diseases of the mouth and genitalia. About this time Siegel, using Schaudinn's method, advanced the view that small-pox, measles, scarlet fever, and syphilis were caused by protozoa belonging to the family of the flagellata, and he claimed to have found the organism in the blood of syphilitic patients. This alleged discovery had the support of Professor Schulze and other prominent members of the Berlin Academy of Science; and the German Government also was impressed with its importance. Accordingly, the Minister of Public Health was instructed to nominate a small committee of investigation. Schaudinn, already known as a protozoologist of outstanding ability, was appointed as bacteriologist, Hoffmann as histologist, and Neumann (who later retired from the committee) as experimentalist. Hoffmann prepared smears and slides which he considered likely to contain the virus and to be as free as possible from contamination; these were examined by Schaudinn, and at the first sitting in March, 1905, a fine and a coarse spirochaete were demonstrated in specimens from a papule and condyloma. Deeper structures were then studied, and the examination of preparations from enlarged glands proved that the finer variety was present alone. Subsequent investigation was directed to ascertaining how far the new organism conformed to Koch's postulates. Professor Hoffmann exhibits a very natural enthusiasm in recounting the circumstances of the discovery, in which he played an essential part.

[1] *Vorträge und Urkunden zur 25 jährigen Wiederkehr der Entdeckung des Syphiliserregers (Spirochaeta pallida).* Von Dr. Erich Hoffmann. Berlin: S. Karger. (M.7.)

REFRESHER COURSES FOR SHIP SURGEONS

Travellers by sea are becoming more and more exacting in their demands upon the ship surgeon. The old days of temporization are past; it is no longer enough to treat gastronomic catastrophes with a wave of the hand, or to be content with first-aid methods in accidents on board ship. The medical officer of a passenger vessel must be surgeon, psychologist, sanitarian, and sailor rolled into one. Early in 1930 the British Medical Association, responsive to suggestions from the Ministry of Health, and alive to the need of some form of refresher course for the ship surgeon, appointed a special committee, consisting of members qualified to indicate the general framework of a post-graduate educational scheme. This body met several times during 1930, ultimately drafting a skeleton policy for the approval of the Council, which, at its November meeting, agreed that success could only result by co-operation with the shipping companies concerned; a conference was therefore convened by the Council for March, 1931. Every interested party was represented; delegates attended from the teaching bodies, the shipping companies, the Ministry of Health, the Board of Trade, the Port of London Sanitary Authority, and the British Medical Association itself. It was pointed out that the Association was acting only in an advisory capacity in the hope of establishing liaison between the companies and the teaching bodies. The business of the conference was to select the most useful subjects of study, to determine the most suitable periods of the year for holding the course, and to arrange the classes. A resolution was passed by the conference, "that no examination should be held at the end of the proposed courses of instruction, and that, if any certificates were issued, they should represent merely a record of attendance." The Seamen's Hospital Society indicated that it was prepared to proceed with the establishment of classes forthwith; similar assurances were given by the London School of Hygiene and Tropical Medicine, and by the University of Liverpool. Some courses have already been arranged; these were advertised in the *Journal* of April 11th, and will be inaugurated this summer. It is understood that the present syllabus is merely an experimental one; the conference decided that the question of holding future courses should be determined by the results of the existing programme. Much depends upon the response made by the doctors concerned. The Association has fulfilled its function in launching a new training ship in which the ship surgeon will have ample opportunity for perfecting himself in modern methods of practice. When, returned to his ordinary duties, he may be confronted with one or more of the abstruse problems of therapeutics, he will, so to speak, be less at sea than before.

STREPTOCOCCAL INFECTIONS

The first quarterly number of the *Guy's Hospital Reports*[1] for this year is, with the exception of Mr. R. C. Brock's short but concise paper on the platelet count in tuberculosis, devoted to a very valuable symposium on streptococcal infections, which thus forms a companion to that on staphylococcal infections in the April instalment of last year. In the opening article Drs. J. A. Ryle and R. E. Smith describe the natural history, prognosis, and treatment of streptococcal fever, which includes both streptococcal bacteriaemia and septicaemia, but excludes scarlet fever, erysipelas, and infective endocarditis. Attention is called to four clinical manifestations of streptococcal fever due to a haemolytic strain—namely, diarrhoea, albuminuria with red blood cells and casts, rapidly progressive anaemia, and a smooth, red, desquamated, and sore tongue. An important conclusion about treatment is that mercurochrome and other chemical antiseptics should be avoided, and that the use of antistreptococcal serum is open to grave doubt. In his account of streptococcal puerperal sepsis Mr. Gibberd takes the same view as regards these therapeutic measures. Mr. Mollison, however, urges the use of antistreptococcal serum in acute streptococcal throat infections unless there is some definite contra-indication, such as a known sensitivity to serum. In a general survey of the significance of the streptococci in clinical medicine Dr. F. A. Knott points out that a streptococcal infection produces first a toxaemia, then extensive toxic effects in the tissues, and, lastly, a general septicaemia, and that to exert any well-marked influence antiserum must be employed in the first stage, and not delayed until a positive blood culture is obtained. Mr. T. B. Layton writes at considerable length on haemolytic streptococci in the mastoid, and shows that routine cultivation from the bone is important in order to advance knowledge of the sequence of events in this condition. In his clear account of cutaneous diseases Dr. H. W. Barber recognizes two groups of streptococcal dermatoses: first, those due to invasion of the skin by living and actively multiplying micro-organisms, or external infective dermatoses ; and, secondly, toxic eruptions of varying morphological and histological types, probably allergic in nature, which, being comparable to the tuberculides, may conveniently be called streptococcides.

[1] *Guy's Hospital Reports*, Vol. 81 (Vol. 11, Fourth Series), No. 1, January, 1931. Edited by Arthur F. Hurst, M.D.

DIFFICULTIES OF MEDICAL PRACTICE IN CHINA

The right of foreigners resident in China to be tried by their own nationals is the principal subject of controversy that remains among the few outstanding diplomatic differences between China and the Foreign Powers, and is summed up under the term "extra-territoriality." Germany, Russia, and Belgium have already surrendered their former Treaty rights, but the other Powers, while agreeing in principle to such surrender, are holding out till the time when there is more evidence of law and order in China. The medical aspect of this political question, judged by some recent events, is important, and requires watching. In one case, of which information has reached us, a Chinese patient was brought to hospital in the last stages of auto-intoxication, and with a large perineal abscess. Though the chance was slender, the surgeon, a British subject holding the F.R.C.S.Ed. diploma, agreed to open the abscess. The patient died later on, and his death was followed by the visit of six policemen, who entered the surgeon's house while he was dining and marched him off with a pistol held behind his head. With difficulty he was later released by the intervention of the British consul. In Tientsin a German doctor performed an operation on a man's neck. The patient died. The doctor was tried and condemned to a fine of 3,000 dollars and three years' imprisonment. The German Minister protested, and the fine was reduced to 1,500 dollars, and the imprisonment to eighteen months. The German Minister protested again, this time without avail. Among the Chinese themselves medical practice on modern lines is still somewhat risky. The medical superintendent of the Kuling Mission Hospital, a Dr. C. S. Teng (Peking Union Medical College) was called to a case of diphtheria. The patient was the wife of a general, holding high office in one of the armies. Dr. Teng, after diagnosis, sent for a dose of antitoxin, which he at once injected. Death, however, ensued, and the doctor became the subject of a prosecution by the general, who charged him with murder, and claimed 85,000 dollars ; he also petitioned that the court should punish this "evil" doctor and confiscate his property, handing it over to the Government for the establishment of "a good and proper Chinese-style hospital." Eventually the local court found Dr. Teng, who had been arrested and imprisoned, to have been guilty of a mistake in judgement, and imposed on him a fine of 800 dollars. Leave to appeal was refused, and an attempt on the doctor's part to prosecute the general for unlawful imprisonment and defamation of character could not be entertained in a civil court, as, by Chinese law, military officials can be tried only in a military court. A meeting of all the foreign doctors at Kinkiang examined the case and found that Dr. Teng had not been guilty of any carelessness or malpraxis, but as a result the Kuling Mission Hospital and tuberculosis sanatorium has had to be closed, after many years' useful work. These facts are but incidents in the introduction of Western medicine and surgery to China, where the past decade has seen great advances, though evidently not without dangers from a people many of whom are still prejudiced in favour of the old empiric and other native methods of treatment.

VETERINARY OPERATIONS

Veterinary surgery, in the strict sense of the word, has in the past had severe limitations placed on its scope by economic considerations. It is theoretically possible to perform many operations on the horse or the cow, for example, which would not be justified by the commercial value of the animal. A broken leg in a horse can be healed in the same manner as in man ; but a horse's value depends on its legs, and an animal with a "limp" is useless except, perhaps, for breeding purposes. Similarly the cost of a long convalescence in the case of an ox may far exceed the ultimate value of the animal. In the case of dogs, cats, and pet animals, however, commercial considerations are of less account, and much can be done with these animals which cannot

be attempted with the farm mammals. There is still, of course, the disadvantage that, whereas a human patient can be placed in some form of intelligent constraint in hygienic surroundings for post-operative treatment, dogs and cats try to undo all the work of the surgeon, and cannot be kept under nearly such clean conditions. Nevertheless, much has been done with animals in recent years, and the March number of the *Veterinary Journal* is entirely devoted to articles on surgical operations in dogs and other animals. It is of considerable interest in illustrating the type of work which is now being attempted with animals, describing as it does superficial as well as deep operations, radiology in animal practice, and so on. It serves to emphasize, also, the close connexion between the two branches of surgery, and shows that the differences are due, not to the underlying principles, but to economic and hygienic conditions.

A MEDICAL FILM LIBRARY

Kodak Limited have issued a supplementary catalogue of their medical film library, giving particulars of more than thirty new films now available. These are additional to the sixty which appeared in the original catalogue reviewed in our issue of April 26th, 1930 (p. 791). The new films are grouped under the headings of anatomy, case records, dentistry, orthopaedics, physiology, ray therapy, research, and surgery. Some have been exhibited already at meetings of the Royal Society of Medicine, and of other professional bodies, and we have drawn attention to them in reports —for example, films illustrating the technique of posterior radium barrage in carcinoma of the rectum, employed by Sir Charles Gordon-Watson at St. Bartholomew's Hospital, and cholecystectomy as practised by Mr. Mortimer Woolf. There are a dozen short reels, shown recently in London by Dr. Lorenz Böhler of Vienna, illustrating the treatment of fractures and dislocations of the extremities. One illustrating the reduction and treatment of Colles's fracture occupies about two minutes, and a similar one on fracture of the forearm takes no more than four minutes. Interesting subjects include the operation for acute appendicitis as done in an American theatre; the highly specialized operation of hinged graft for depressed nasal bridge, by Sir Harold Gillies; the operative technique in exophthalmic goitre, by Mr. Cecil Wakeley; and phrenic evulsion and thoracoplasty, by Mr. H. Morriston Davies. From Continental laboratories there are two physiological films dealing with the exposed heart, and with mitral valve insufficiency. Two "research" reels demonstrate the behaviour of spirochaetes. The films are let out on hire by the day, and, with few exceptions, it is stipulated that they must be shown to none save qualified medical practitioners or registered medical students. In some cases the photography is supplemented by animated diagrams, which add greatly to the educative value of the record; the "close-ups" and captions are so arranged that the maximum information is conveyed in the clearest manner. While we hold that the living teacher is better in person than on the screen, there can be no doubt that this series is of great value to the student. The catalogues may be obtained from the Medical Department, Kodak Limited, Kingsway, London, W.C.2.

INCORPORATION OF VITAMINS IN BREAD

In a paper in the February issue of the *Canadian Medical Association Journal*, Drs. Frederick Tisdall, T. H. G. Drake, and Alan Brown of Toronto describe a method for adding vitamin D (in the form of irradiated ergosterol) and vitamins B and E (as wheat germ) to bread. They consider, presumably, that the addition of these substances to the food supply of the general population is desirable, particularly (as they point out) in northern climates, where irradiation of the skin is likely to be deficient. A good supply of vitamin D is essential to growing babies; there is no reason, however, to believe that the amount of vitamin D contained in the ordinary ration of the average adult is not amply sufficient for his needs. Bread plays a prominent part in the food supply of adults, but a small one in that of babies; and the authors seem unduly pessimistic about the vitamin D content of the ordinary baby food—milk. It is possible that good results on the general health of the population might follow an increased consumption of vitamin B, though the point is still open to much controversy. Since vitamin E seems undoubtedly (at least in animal experiments) to increase reproduction, some people might regard the automatic inclusion of this in their diet as an unwarrantable liberty. It seems, on the whole, unlikely that the artificial addition of vitamins to bread would profit any but the firms who could advertise the article to the disadvantage of their rivals.

CONGRESS OF TROPICAL MEDICINE AND HYGIENE

During the International Colonial Exhibition in Paris this coming summer there will be held a congress of tropical medicine and hygiene from July 22nd to 31st, under the presidency of Professor Tanon, who occupies the chair of hygiene in the Paris Faculty of Medicine. The subjects to be discussed include infant and child welfare; the anopheles and stegomyia problems; questions of food, drinking water, and intestinal parasitic diseases in tropical countries; emigration and the exclusion of epidemic diseases at ports; leprosy, and the campaign against syphilis; and trypanosomiasis. Two days will be devoted to aviation in its public health aspects; Dr. Charles Richet will preside over this Section, and there will be a special demonstration of various kinds of equipment. Attention will also be devoted to the French colonial health resorts. Free discussion will be promoted at all the meetings, and a full report will be published. A British exhibit is being prepared by Dr. S. H. Daukes, and this will be situated in the "Cité des Informations" part of the exhibition, where Great Britain has nine stands. Delegates have been invited from the British Government and the leading tropical medicine societies throughout the world. The British representative and liaison officer is Dr. Leonard Robinson. There will be a large number of official receptions and excursions to places of interest. The fee for membership of the congress is 100 francs; friends and relations of those attending will be admitted on payment of 50 francs, and special reductions of travelling expenses are obtainable. A full programme will be published later, and further information may be had from Dr. Robinson, 28, rue de Ponthieu (Champs Elysées), Paris, VIIIe.

EDUCATION IN OBSTETRICS AND GYNAECOLOGY

SYSTEM OF TEACHING IN THE ROYAL FREE HOSPITAL UNIT

BY

DAME LOUISE McILROY, D.B.E., M.D., D.Sc.

PROFESSOR, OBSTETRICAL AND GYNAECOLOGICAL UNIT, LONDON SCHOOL OF MEDICINE FOR WOMEN, UNIVERSITY OF LONDON

Much discussion is taking place as to the possibilities of carrying out the system of teaching which has been recommended by the Government Departmental Committee on Maternal Mortality. The chief difficulties encountered by those who are anxious to improve the training of medical students in obstetrics are the provision of maternity beds and accommodation for resident students. A system of training which has been in practice for a number of years in the Royal Free Hospital may show other schools that there is a possibility of carrying out the recommendations of the committee to some extent.

The Unit was established in February, 1921. It is affiliated to the University of London, and receives an annual grant from the Treasury through the University Grants Committee. The director's salary is paid by this grant, and also subsidiary salaries and expenses. It was the first university obstetrical unit to be established, and it is staffed by women with women students in attendance. Men may attend the post-graduate classes held by the director twice a year.

The hospital provides the Unit with 68 beds. The obstetrical beds number 45—31 for puerperal and ante-natal patients, 6 for V.D. maternity patients, 4 for isolated suspect and septic cases, and 4 for patients during labour. There are 23 gynaecological beds, which are accommodated in the main surgical block. Plans have been completed for the erection of a new building for the Unit, as the present accommodation is inadequate and out of date, but funds are required for its erection. The work of the district in the neighbourhood of the hospital was found to be somewhat restricted, owing to other maternity institutions. In 1926 a maternity clinic was established in Islington to provide attendance on patients in their own homes. The work of this clinic has steadily increased, and has proved itself of great value for teaching purposes. The expenses of the clinic are defrayed by the Scottish Women's Hospitals Memorial Committee of the Royal Free Hospital, which also supplies a motor car for the use of the resident obstetric officer. The rent of the clinic is defrayed by Lord Riddell, the president of the hospital. Grants from the Ministry of Health (now L.C.C. administration) also enable the clinic to be run without any financial aid from the hospital.

STAFF OF THE UNIT

The staff consists of a whole-time director, a senior part-time assistant, a whole-time second assistant, and a whole-time resident third assistant, who acts as tutor and is responsible for the students in residence. A part-time registrar is provided, and there are two house-surgeons. A senior obstetric officer is in residence at the clinic; Dr. Olive Rendel conducts the ante-natal cardiac clinic. A part-time anaesthetist undertakes the work in connexion with the gynaecological operations. Recently a resident anaesthetist has been provided for the maternity patients. There is a registrar's clerk for the keeping of case sheets and records, and a typist, who also acts as messenger. The director has a private secretary, who keeps the records of class attendances, prepares the material for lectures and demonstrations, and manipulates the lantern. The pathological and biochemical work of the Unit is carried out in the pathological department under the supervision of Professor Hadfield.

TRAINING OF STUDENTS

Each student has six months' training in gynaecology and obstetrics. Diseases of children are not included, but are taken as an entirely separate course.

Gynaecological Clerks

The students (four to five) spend three months as gynaecological clerks and are not in residence. This training is not confined to the Unit, but may be taken in the gynaecological department of the hospital or in the Elizabeth Garrett Anderson Hospital. The clerkships are whole-time, with the exception of attendance at the V.D. out-patient department.

The teaching consists of a weekly morning round with the director and senior assistants respectively. Each round is followed by a differential diagnosis demonstration in an examination room off the ward. The patients are examined one by one, and the condition is discussed and treatment indicated. This class is held the day before operations, so that the students may be able to verify the diagnosis and follow up the treatment. Patients are not examined, as a rule, in the ward. Each assistant has a certain number of beds allotted to her by the director. The students act as instrument and dressing clerks at the operations. They are responsible for the notes under the supervision of the registrar, and they label and convey the specimens to the pathological department. A special demonstration on gynaecological pathology is given once a week by the director. This is illustrated with specimens and lantern and microscopical slides. The students attend the out-patient clinic one morning and one afternoon under the direction of the director and senior assistants. Two students are in attendance on each examination couch. The students are responsible for the preparation of the notes of the new patients before the teaching begins.

Obstetrical Clerks

All students must take their obstetrical training in the Unit. Twelve students are in residence for three months. A preliminary course of six demonstrations in midwifery is given by the third assistant before the students take up residence.

First Month.—Four students are in attendance in the wards. The third assistant demonstrates the first three labour cases or "show cases." The subsequent cases are taken by the students in rotation. No vaginal examinations are made and no delivery of a patient takes place unless a member of the staff is in the labour ward. The students are provided with sterile gowns and masks, the student who is delivering the patient being also provided with sterile gloves. The sisters of the wards do not undertake the teaching of the students. They are responsible for the cases of the pupil midwife, who receives her training as a scholarship from the hospital board. Only one is trained at a time. No case is credited to the student unless she delivers the patient herself. Operations, such as forceps or Caesarean section, are not counted as students' cases. Only one student counts the case, although others are acting as assistants at the delivery.

Second Month.—At the end of the first month the students take up residence in the Islington Clinic and attend district patients under the supervision of the obstetric officer, who must visit the patient at least once during the confinement or puerperium. Strict rules are enforced as to sending for assistance when any abnormal condition is diagnosed.

Third Month.—The senior students return to hospital and take up the work of the district, and also the delivery of the patients in the V.D. maternity department. This department is under the supervision of the second senior assistant and the district obstetric officer. The director of the V.D. department pays a weekly visit to superintend the carrying out of treatment. All students attend, when possible, the morning teaching rounds. These are held once a week by the director and two senior assistants respectively. Weekly demonstrations are given by the director and senior staff. These consist of questions and answers on clinical obstetrics. The third assistant also has small demonstrations. The junior and senior students attend the three weekly ante-natal clinics and one post-natal clinic at the hospital. The students at the Islington clinic attend weekly ante-natal and one post-natal clinic for the district patients. The septic and suspect ward is

entirely separate from the general maternity wards, and is looked after by the senior staff and gynaecological house-surgeon. The gynaecological students, and not the obstetrical, are in attendance.

Final-year students preparing for examinations are given demonstrations on obstetrics and gynaecology by the director and senior assistants weekly. They also attend the ante-natal clinics. The director gives a lecture demonstration once a week to senior students. Systematic lectures are omitted. Instruction takes the form of demonstrations either in the labour wards or by lantern and phantom. The development of teaching by means of the cinema is being carried out by the director at present.

The chief aim of the teaching in the Unit is the study of normal conditions and the prevention and diagnosis of complications. The adaptation of institutional to domestic conditions is of the utmost importance to students in teaching them self-reliance. Successful midwifery means the expenditure of time and infinite patience, with accuracy of diagnosis. It is the teacher of the undergraduate who is responsible for the future success of a national maternity service.

THE CAMPAIGN AGAINST LEPROSY

INTERNATIONAL CONFERENCE IN MANILA

Under the auspices of the Leonard Wood Memorial for the Eradication of Leprosy, an international conference was held at Manila, in the Philippine Islands, from January 9th to 23rd. To this conference twenty-five members were invited, of whom twenty-three were able to attend. The following is a list of those present at the conference:

Dr. Et. Burnet, secretary, Leprosy Commission, League of Nations; Dr. Robert G. Cochrane, secretary, British Empire Leprosy Relief Association; Mr. H. I. Cole, Ph.D., chief chemist, Culion Leper Colony; Dr. J. Fajardo, Director of Health, Philippine Health Service; Major-General J. D. Graham, Public Health Commissioner, Government of India; Dr. G. Gushue-Taylor, superintendent, Mackay Memorial Hospital, Taihoku, Formosa; Dr. V. G. Heiser, Director for the Far East, Rockefeller Foundation; Dr. Lee S. Huizenga, superintendent, Mission Hospital, Jukao, Ku., China; Dr. A. N. Kingsbury, director, Research Institute, Kuala Lumpur, F.M.S.; Dr. P. H. J. Lampe, Director of Health, Surinam, South America; Dr. C. B. Lara, chief physician, Culion Leper Colony; Dr. J. Lowe, medical superintendent, Dichpalli Leprosy Hospital, India; Dr. James L. Maxwell, Lester Institute of Medical Research, Shanghai; Dr. E. Muir, leprosy research worker, Calcutta School of Tropical Medicine; Dr. A. E. Neff, superintendent, Makogai Central Leper Hospital, Fiji; Professor Nocht, president, Leprosy Commission, League of Nations; Dr. M. Ohta, Tohoku Imperial University, Japan; Dr. J. N. Rodriguez, supervisor of treatment stations, Philippine Health Service; Dr. J. C. Tull, Government pathologist, Singapore, Straits Settlements; Dr. H. W. Wade, chief pathologist, Philippine Health Service, and medical director, Leonard Wood Memorial; Dr. N. E. Wayson, Leprosy Investigation Station, Honolulu; Drs. LeRoy Desbarres and H. Joyeux of French Indo-China.

The conference was unique in that no formal papers were presented. This meant that the whole time was devoted to discussions. Because of the controversial nature of many topics, it was decided that it would be better not to admit the press, lest lay reporters should mistake enthusiasm in debate for violent disagreement. The subjects for discussion were allocated to subcommittees, of which there were eleven. These subcommittees prepared memoranda, which were then discussed by the whole session, and finally incorporated into the findings of the conference. It was no mean achievement for twenty-three men, all with different experiences and with varying points of view, to issue a unanimous report on every subject which was discussed.

SCOPE OF THE CONFERENCE

The comprehensive nature of the findings will be appreciated by a glance at the following headings:

I. *International Viewpoint.*
   Study tours; transfer of workers; leprosy digest or annuaire.

II. *Uniformity of Methods and Terms.*
   1. Designation of cases of leprosy.
   2. Designation of lesions. Definition of macular; acroteric; skin changes; leprotic, leproma, ulcers, infiltration, nodule, papule, macule.
   3. The micro-organism. Nomenclature; toxins.
   4. Clinical classification of cases. Primary classification; proposed classification of types of leprosy; main types, subtypes.
   5. Administrative classification of cases.
   6. Lepra reaction.
   7. Early diagnosis of leprosy.
   8. Methods of examination. Clinical, bacteriological.
   9. Treatment of leprosy.
   10. Evaluation of progress. Definitions of active cases, quiescent cases, arrested cases, cure, relative cure (negative, interrupted, and relapsed).
   11. Follow-up of patients.
   12. Study of contacts.
   13. Standardization of records.

III. *Prophylaxis.*

IV. *Research.*

Appendices.—(1) Details of examination. (2) Method of treatment by intradermal injection. (3) Treatment of lepra reaction. (4) Manufacture of mixed ethyl esters of hydnocarpus group oils. (5) Epidemiological surveys.

SUMMARY OF FINDINGS

The first point which is dealt with in the report of the conference is the importance of an international understanding among leprosy workers. It is pointed out that until recently insufficient appreciation of the fundamental differences in conditions and practices existing in different regions has given rise to a great deal of confusion.

Leprosy has a wide range of manifestations, and local conditions differ to so great an extent that they must determine, in a large measure, the nature of antileprosy activities. Apparent results of treatment are influenced by such features as the type of case, the degree of advancement, and the conditions under which patients come under observation. Because of these varying conditions it is not only highly desirable that leprosy workers should be afforded an opportunity for making study tours, but it would greatly assist progress if some kind of system were organized whereby workers could be transferred from one region to another, so that they might have a better understanding of the conditions prevailing in other countries. The report suggests that the desirability of such a transfer of workers should be brought to the notice of institutions and organizations concerned with the study of leprosy.

Under the heading "Uniformity of Methods and Terms" it will be seen that a large field is considered. It is of the utmost practical importance that terms should be defined, and certain definitions which tend to cause confusion should be omitted. Such indefinite terms as clinical, incipient, infectious, burned-out, should, whenever possible, be replaced by more specific terms. "Burned-out" is more descriptive than accurate, and "arrested with deformity" is substituted.

Under "Designation of Lesions" the various neural and cutaneous lesions are described. This is one of the most important parts of the report, for the terms in common use need international definitions so that they will be understood by all workers. One of the most important definitions is that of "leprotic," which is defined as follows:

> "The term 'leprotic' should be applied to those changes which present clinical or microscopic evidence of inflammatory processes, typically of granulomatous nature, which are apparently caused by the *Mycobacterium leprae* in them. In such lesions the organism can usually be demonstrated by the ordinary methods of examination."

In this a sharp distinction is made between true leprotic lesions and those of trophic or traumatic nature, which are the usual accompaniment of the majority of cases of leprosy. The section of the report on skin lesions and their description should be of great assistance to clinicians generally.

The micro-organism is next dealt with; it is recommended that the name *M. leprae* be adopted, and that *B. leprae* be discontinued. After a short dissertation on the question of the existence of toxins of the disease, the important

subject of clinical classification is then considered. While it is recognized that leprosy is a generalized disease, for the sake of clarity and for clinical purposes two main groups are recognized—namely, (1) neural, (2) cutaneous. It is also acknowledged that the pure cutaneous case rarely exists as such, for even though no clinical signs of neural involvement are present, pathological examination, either by biopsy or necropsy, will reveal nerve changes. The two types are divided into subtypes—namely, N_1, N_2, N_3, or C_1, C_2, C_3, or N_1C_1, N_1C_2, etc.—according to the degree of severity of the disease, and whether neural or cutaneous signs are predominant. Combinations of the two letters are used in those cases where both nerve and skin signs are obvious.

In an important paragraph on administrative classification it is recommended that the old terms "infective" and "non-infective" be omitted, for in rare instances neural cases may be infectious on account of a positive nasal discharge. This classification is being brought more into line with that of tuberculosis, by dividing the cases into "open" and "closed." It is suggested that administrative action may well differ in the two types. The report then deals in a clear manner with the subjects of lepra reaction and early diagnosis and methods of examination.

A long section follows on treatment. It is this section which will be studied most carefully by those whose duty it is to take charge of cases of leprosy. The first point stressed is that no special treatment is likely to succeed unless the general measures are vigorously pursued. The report states that it is believed by physicians experienced in this disease that careful and persistent efforts to eliminate intercurrent affections which tend to reduce the general health of the patient are very essential to successful therapy. Observations suggest that the adjustment of both quality and quantity of the diet may be an important therapeutic measure. It is the belief of those with a large experience that other general measures, including personal hygiene, supervised or graduated physical exercise, occupational therapy, and moral and mental welfare, are also of definite value.

Special measures dealt with are, first, the oils of *Hydnocarpus wightiana* and *Hydnocarpus anthelmintica* (chaulmoogra group) and their derivatives, the chief of which are the ethyl esters of the fatty acids and the soaps (sodium salts) of these acids. No special drugs are definitely recommended, as the choice depends on factors such as the ease with which they are procured, their cost on delivery, their purity, freshness, and keeping qualities. Other drugs mentioned are gold salts and other heavy metals; foreign proteins, and measures such as ultra-violet light, radiant heat, carbon dioxide snow, fulguration, and diathermy, also have their place.

The sections on appraisal of treatment and evaluation of progress are important. Working definitions are given of the terms "active," "quiescent," and "arrested," also an indication of the period of time which should elapse before a case is considered to have passed from the stage of quiescence to that of arrest. As the term "cure" in relation to results of treatment is open to misunderstanding, it is recommended that this should not be used in the terminology of leprosy. Since "negative" is often misinterpreted, and "quiescent" is more descriptive, it is recommended that the latter term be used. For relative cure the word "arrest" is suggested.

The importance of examining persons who have lived in contact with cases of leprosy is emphasized, for the eradication of this disease in any given area may depend largely upon the application of the knowledge so gained. The report lays stress on the need of standardizing the records made by leprosy workers everywhere, and it has been suggested that an organization such as the Leprosy Commission of the League of Nations might well take up this matter. The question of leprosy research is dealt with at some length, and many suggestions are made concerning the direction which such research should take. The epidemiological problems are given special prominence, and this section of the report will serve as a useful guide to those who are doing leprosy research work.

FORMATION OF INTERNATIONAL ASSOCIATION

Possibly the most important action taken by the conference was the formation of an International Leprosy Association, the purpose of which is to encourage and facilitate collaboration between persons of all nationalities concerned in leprosy work, and the co-ordination of their efforts, to promote the dissemination of knowledge of leprosy and its control, and in any other practicable manner to aid in the antileprosy campaign throughout the world. For the period of organization the following temporary officers were elected:

President, Dr. Victor G. Heiser; Vice-President for the Western Section, Professor Carlos Chagas of Brazil; Vice-President for the Eastern Section, Dr. Ernest Muir of Calcutta; General Secretary, Dr. Robert G. Cochrane of London; General Treasurer, Mr. William H. Brown, Ph.D., of Manila. Sir Leonard Rogers of London, Dr. Etienne Burnet of the League of Nations Secretariat, and Professor de Langen of Batavia are General Councillors.

One of the most important activities of this association will be the issue of a *Journal of Leprosy*, which will endeavour to publish articles on every aspect of leprosy, and so make an outstanding contribution towards the unification of leprosy work. Dr. H. W. Wade has been appointed temporarily as editor, with Dr. Lie of Norway and Dr. Maxwell of China as associate editors.

It is hoped that a large amount of support will be forthcoming from medical men interested in leprosy, for only through collaboration and co-operation can progress be maintained, and further opportunities such as the Manila Conference be afforded for mutual discussion on international lines. The Far Eastern Association of Tropical Medicine has become an established institution, and those interested in research and progress in leprosy are urged to combine to make this new association an outstanding success. Inquiries should be sent to the secretary at 29, Dorset Square, N.W.1.

Printed copies of the full report on the conference will be available shortly, and those desirous of obtaining them should apply to the British Empire Leprosy Relief Association at the address given above.

ROBT. G. COCHRANE.

England and Wales

Motor Ambulance Service in Wales

The Priory for Wales of the Order of St. John has reduced the charges for the use of its motor ambulances by non-subscribers from 2s. to 1s. 6d. a mile, with a minimum fee of 10s. 6d., instead of £1 1s., up to seven miles; and the charge for waiting time has been reduced to 5s. an hour from 10s. This announcement is of no little importance, because the Priory's motor ambulance transport service has become an indispensable factor in the public life of South Wales. The provision of ambulance transport was one of the earliest aims of the Priory, and a scheme was evolved in 1918 under which colliery lodges and bodies of workmen were invited to subscribe at the rate of one penny per man per week for the free use of an ambulance for himself and any member of his household in case of accident or sickness; and colliery companies were given an opportunity of contributing 1s. per man per annum for the removal of injured workmen. The advantages of subscribing to an efficient service of interchangeable cars in comparison with the upkeep of one ambulance were readily perceived, and the Home Office agreed that any colliery company subscribing to the Priory's service would be deemed to be complying with the regulations regarding the provision of ambulance transport. There are to-day seventy-five colliery and other companies under contract with the Priory; and fifty-six colliery lodges are affiliated, whilst thirty-three other

bodies of workmen and townspeople are subscribing at the rate of one penny a week. Cars are stationed at Ammanford, Bryn, Cardiff, Coedely, Cross Keys, Cymmer, Gwaun-cae-Gurwen, Kenfig Hill, Llanbradach, Llanelly, Pencoed, Pontardulais, Pontypridd, and Tumble, with a central garage and relief cars at Cardiff. During 1930 three stations were opened, each new car adding a further link to the increasing chain of ambulances which the Priory hopes, with the support of the colliery owners and workmen, to extend over the whole coalfield. These cars are maintained in day and night commission, in charge of whole-time drivers—qualified ambulance men—and are available for all sections of the public. Innumerable cases are carried at reduced charges or free of cost, as, although the service has been established and maintained at a great cost, the primary aim is to enable the sick or injured, irrespective of means, to be brought speedily and without undue suffering within the scope of medical and surgical aid. The Priory is endeavouring to make the extension of these provisions keep pace with the growing demand consequent on the ever-increasing number of accidents.

British Legion Village at Preston Hall

The annual report of the medical director of the British Legion Village at Preston Hall, Aylesford, Kent, covers the eighteen months ending September 30th, 1930. The community now numbers 770. During the period under review 446 patients were admitted to the sanatorium, and 407 discharged, of whom 94 were fit for ordinary work and 123 fit for some modified work adapted to their clinical condition. The tuberculosis statistics are not comparable with those of sanatoriums elsewhere, because the majority of tuberculous ex-service men are ageing out of all proportion to their years; the tuberculous pensioner is rapidly disappearing, and it is rare to find one admitted for treatment who is not suffering from extensive bilateral disease. The number of cases receiving treatment in the sanatorium at any time remains about 180, and, as the years pass on, the numbers available from so limited a section of the population will dwindle; local authorities are therefore being invited to send dependants of ex-service men for treatment. Routine visits are paid to houses in the village as part of the preventive mechanism which is so essential in settlement work. *X*-ray examinations are made systematically of the children of tuberculous parents, but so far very little evidence of infection has been detected even in this way, and during the past five and a half years no infants have developed tuberculous meningitis in the community at Preston Hall—one of the indications that this settlement is operating effectively as a preventorium for children. A new child welfare centre is being instituted. The difficulties of finding employment for patients discharged from the sanatorium are being tackled, but it is recognized that it is impracticable for village settlements to absorb these persons in the numbers in which they present themselves. The resources of the different charitable organizations are proving very valuable in this connexion. As a trading concern Preston Hall has prospered well of late; the thrift club has over £800 to distribute at Christmas each year, and efforts are being made by many parents to provide higher education for their children. As a social as well as a medical experiment, Preston Hall has justified the interest taken in it by the British Legion, and it is approved by the Ministry of Health. The cost of treatment is £2 12s. 6d. per patient per week. The Legion pays the travelling expenses of patients, whether ex-service or dependants, sent by authorities outside the Home Counties. Forms on which such persons may be recommended for treatment are obtainable from the medical director, Dr. J. B. McDougall.

Staffing of Laboratory Services under the London County Council

The pathological laboratory services to be provided for the hospitals transferred to the London County Council under the Local Government Act, 1929, have been the subject of lengthy consideration by the Central Public Health Committee. There were transferred to the Council from the Metropolitan Asylums Board, the Northern Group, and Southern Group laboratories (located at the North-Eastern Hospital and at Park Hospital respectively), where complex and special work which cannot be dealt with at the ordinary laboratories is carried out, and also a special laboratory at Belmont, at which serums are prepared. The committee considers that the director of the antitoxin establishment at Belmont and the directors of the Northern and Southern Group laboratories should have a salary of £1,100 a year, rising by annual increments of £50 to £1,300. The bacteriologist or deputy director at Belmont is to have a salary of £800, rising by £50 to £1,000, and the biochemist £700, rising by £25 to a maximum of £900. At the Northern and Southern Group laboratories the scale for the assistant director is to be £750, rising by £25 to £900, and for the assistant pathologist £650, rising by £25 to £800. Five group laboratories are to be established at selected hospitals, capable of dealing with a certain amount of specialized work. The pathologist in charge of each of these laboratories is to have a salary of £1,100, rising by annual increments of £50 to £1,300. To serve the group laboratories a histological branch will be required, and the remuneration of the histologist is to be £1,000, rising by £50 to £1,200. It is proposed to set up a special grade of women laboratory technicians for the service of these laboratories, obtaining recruits by the selection of girls of good education, not less than 18 years of age, who have specialized in science at a secondary school.

Queen's Hospital, Birmingham

The annual meeting of the governors was held on April 1st. Considerable concern about the financial state of the hospital was shown by several speakers. The Lord Mayor, presiding, said that he learnt with dismay that the working expenses for 1930 were £12,000 in excess of income. The chairman of the Committee of Management informed the meeting that, unless £3,800 was found by the end of June, a ward of twenty-four beds would have to be closed on July 1st. This state of affairs had arisen, said the honorary treasurer, because, in order to further the Hospitals' Centre Scheme, appeals for public support for the hospital had not been issued. It was pointed out by Professor Emanuel that, although the Hospitals' Contributory Scheme was increasing its income each year, the General and the Queen's Hospitals had had to limit their activities on account of lack of funds. Professor W. Billington urged that money should be set aside for laboratory and research work, so that the public obligations of a teaching hospital in advancing medical knowledge might be fulfilled.

Central Midwives Board

At the April meeting of the Central Midwives Board for England and Wales, Dr. J. S. Fairbairn was elected chairman. A letter was read from the Ministry of Health stating that the Minister had approved, for the purpose of appointment, the balance against the Board of £4,861 13s. 6d. for the year ended December 31st, 1930. It was announced that Dr. T. Vincent Dickenson had been re-elected as representative on the Board by the Society of Apothecaries of London, and that the following had been appointed members of the Approvals and Examination Subcommittee: Mr. Comyns Berkeley, Dr. W. Allen Daley, Miss A. Davies, Miss E. M. Doubleday,

Miss E. E. Greaves, Councillor W. J. Loxley, Miss A. A. I. Pollard, and Mrs. Elena Richmond. The list of examiners, as submitted for the year ending March 31st, 1932, was approved, as were also the amended list of lecturers, and the institutions, homes, and midwives at which, and under whom, midwives may be trained.

Ireland

Medical Benefit in Northern Ireland

Mr. J. M. Andrews, Minister for Labour, recently stated in the House of Commons of Northern Ireland that 476 doctors and 399 chemists were participating in the medical benefit scheme, and that only three complaints had been received by the department in reference to the service provided for insured persons. This, he thought, was a very gratifying result. Since the introduction of medical benefit there had been a fall in the demand for sickness benefit, due partly to skilled treatment at an early stage of disease. As about one and a half million records and other documents had to be prepared he thought that those engaged in this work deserved credit for the way in which they had brought this service into existence.

Goitre in Northern Ireland

Dr. R. Olesen and Dr. P. A. Neal have contributed an interesting note to the United States Public Health Reports on the incidence of endemic goitre in Northern Ireland. Between July, 1929, and June, 1930, they examined 8,640 Irish emigrants, of whom 4,648 were men and 3,992 were women. Nearly all of these came from Ulster. Enlargement of the thyroid was found in 552 men (11.8 per cent.), and in 1,095 women (27.4 per cent.). By enlargement of the thyroid the authors mean anything from a very slight enlargement to definite adenoma; and as 9.4 per cent. of the men and 16.3 per cent. of the women come under the heading of "very slight" enlargement, the statistics may give an exaggerated idea of the incidence of "goitre" in Northern Ireland. The figures indicate that the greatest number of cases in females occur between the ages of 15 and 19, and in males between the ages of 20 and 24.

Vital Statistics for the Irish Free State

During the quarter ending December 31st, 1930, 13,717 births were registered in the Irish Free State, this number representing an annual birth rate of 18.6 per 1,000 of the estimated population. The equivalent figure for Northern Ireland was 19.6, for England and Wales 15.4, and for Scotland 18.8. The rate in the Irish Free State is 0.1 below the rate for the corresponding quarter of 1929, and 0.3 below the average rate for the fourth quarters of the ten years 1920 to 1929. Deaths registered during the quarter numbered 9,836, or an annual rate of 13.4 per 1,000. This rate is 0.3 above the rate for the corresponding quarter of 1929, and 0.1 above the average rate for the fourth quarters of the preceding ten years. Of the deaths registered, 969, or 9.9 per cent., were those of infants under 1 year, the number of deaths of infants being equivalent to 71 per 1,000 births, compared with 79, 67, and 52 for the three previous quarters. Deaths from tuberculous disease numbered 780, or a rate of 1.06 per 1,000, and deaths from cancer 767, or a rate of 1.04. The average mortality rates for these diseases for the fourth quarters, 1927 to 1929, were 1.15 and 1.11 respectively. The urban mortality from the principal epidemic diseases recorded during the quarter was equivalent to an annual rate of 1.2 per 1,000 of the population, the death rate from these diseases being 0.3 for the remainder of the Irish Free State. Included in the returns is a detailed statistical summary of births and deaths relating to the twelve principal towns and other urban districts in the Irish Free State for the year 1930.

Legislation for Clean Milk

In a letter to Sir James Craig (Dublin University), the Minister for Local Government and Public Health explains that the delay in introducing legislation in regard to the milk supply has been caused by lack of parliamentary time. Since October, 1929, consideration has had to be given to the Local Government (Dublin) Bill, the National Health Insurance Bill, and to Bills on housing and poor relief. While recognizing fully the importance of early legislation on milk, the Minister states that he does not consider that the above mentioned Bills could have been postponed. He affirms that he will do everything possible to have the desired legislation expedited during this session, but points out that there are also urgent demands for Bills relating to road traffic, electoral redistribution, town planning, and housing. Replying in the Dail to a question on the same subject from Dr. T. Hennessy (Dublin City South), the Minister stated that he was unable at present to introduce legislation dealing with the matter.

Correspondence

EMPYEMA THORACIS

SIR,—The two recent communications in the *Journal* on the subject of empyema thoracis are important, emphasizing as they do fundamental principles on which treatment must be based. For a proper assessment of these, however, there are some further facts which have to be kept in view, and which, I think, are not given full weight in these papers (particularly Dr. Burrell's), although I am in full agreement with the main tendency of their conclusions. The calculations regarding the size of opening in the chest wall compatible with life assume a perfectly mobile mediastinum. In practice this probably never occurs. Even in healthy animals these theoretical considerations do not apply *in toto*. War experience showed, not that open pneumothorax was incompatible with life, but that a "sucking wound" of the chest led to a pneumothorax with a constantly rising intrapleural pressure and an early fatal result.

It is easy to talk of "sterilizing" the cavity. This is very difficult to accomplish. Attempts to do so by washing out the cavity in the early stages of a streptococcal empyema are, I believe, actually dangerous, as they tend to spread infection and interfere with the formation of adhesions. In a chronic empyema conditions are quite different.

There is, lastly, a point mentioned by Mr. Morriston Davies which needs reiteration. The majority of cases of chronic empyema sinuses are due, not to errors of technique or infection of cut ribs, but to the fact that when the surgeon is called in there is already a cavity with rigid walls, which can be collapsed, if at all, only with great difficulty. The treatment is prevention, by earlier exploratory puncture and by institution of the correct treatment, whether that be by the open or the closed method.—I am, etc.,

Liverpool, April 11th. JOHN T. MORRISON.

EMPYEMA THORACIS: OLEOTHORAX AND GELATINOTHORAX IN TREATMENT

SIR,—Mr. Morriston Davies, in his excellent and illuminating article on empyema thoracis in the issue of the *British Medical Journal* of April 4th, deals very fully with aspiration, suction drainage, and operation in the

treatment of this condition. In his concluding paragraph in the section on aspiration he observes that: "In the majority of cases further measures are needed, but an open pneumothorax . . . is not advisable if there is a chance that the empyema can be cured by some other method . . . for example, by siphon or suction drainage." He does not mention the treatment of the condition by the intrapleural injection of antiseptics. These undoubtedly may prove of great value, and should be given a trial before undertaking any procedure which may very easily lead to mixed infection, and thus make a bad case still more serious. There are two forms of intrapleural injections which have proved of particular value: oleothorax and gelatinothorax.

Oleothorax was introduced to the profession in 1921, and has been much used, particularly by Continental workers. An 8 to 10 per cent. preparation of gomenol in olive oil or liquid paraffin is employed. When olive oil is used it is sterilized at 105° C. for an hour and a half. When liquid paraffin is used it is sterilized at 150° C. for twenty minutes. The gomenol is added after sterilization. Messrs. Wilcox, Jozeau, and Co., London, I believe, market the preparations ready for injection. The prepared oil is heated to 38° C. on a water-bath immediately before use, to facilitate its introduction. At the first injection, to test the susceptibility of the individual, 5 to 10 c.cm. only are introduced into the pleural cavity. If there be no marked reaction, as much as 400 to 500 c.cm. may be injected in the course of four or five days after the removal of the fluid and its replacement by gas. Further injections may be given every four or five days until the pleural cavity is filled up with the fluid. The action of the gomenol is not merely that of an antiseptic; it has a congestive effect on the pleural membrane, which determines a flow of polymorphs to the part. According to Bernou, these polymorphs produce a ferment which has not only a proteolytic but also a lipolytic action. This results in an intensification of the antiseptic properties of the injected oils.

Gelatinothorax is a technique of great promise in the treatment of empyema. It has been developed at the Consumption Sanatoria of Scotland, Bridge of Weir, during the past year, and consists of the injection of a 2 to 5 per cent. preparation of gelatin, in which there is dissolved 1 in 2,000 to 1 in 5,000 acriflavine. This may be prepared according to the process described by R. A. Hunter in *Tubercle*, February, 1931. It may more readily be made up from sterules of concentrated gelatin in normal saline, such as are sold by Messrs. Martindale of London. Sterile water is added to the contents of one of these sterules as directed, and that gives 5 ounces of a 2 per cent. solution of gelatin in normal saline. Larger-sized sterules are obtainable. Tablets or sterules of euflavine (neutral acriflavine) may also be obtained, which can be rapidly dissolved in this solution of gelatin, in order to give a concentration of 1 in 1,250 to 1 in 5,000 acriflavine in the gelatin solution, as may be required. As acriflavine is an aniline dye, it is advisable to mix the gelatin and the acriflavine together just before use, rather than to have the two together as a stock preparation. The technique of treatment is very simple.

Of the purulent material in the pleural cavity 20 c.cm. is removed with a syringe having a two-way stopcock, and this is replaced by 20 c.cm. of the gelatin-acriflavine preparation, which has been previously heated to 100° F. If there be no febrile reaction, at intervals of two or three days increasing quantities, up to 300 or 400 c.cm., of purulent fluid are removed and replaced by gelatin and acriflavine. No more should be added than is necessary to sterilize the purulent collection in the pleural cavity. This will evidence itself mainly by the clearing up of the symptoms. The gelatin preparation mingles intimately with the fluid in the pleural cavity and converts the pleural sac into a vessel filled with an antiseptic solution.

As Dr. Lawrence P. Garrod points out in the same issue of the *British Medical Journal*, acriflavine is an antiseptic which has "the property of exerting a bacteriostatic action in enormous dilutions"—very much greater than that of any other commonly used antiseptic. As Browning, who introduced acriflavine, has demonstrated, acriflavine has an enhanced value as an antiseptic in the presence of serum. If, because of susceptibility of the patient to the drug, reactions show themselves, aspiration of the fluid and its replacement with air causes the symptoms to pass off. The temporary presence of the antiseptic seems to exert a beneficial effect in every such case in our experience. A number of cases could be instanced where this simple procedure has had a definite and apparently permanent beneficial effect on pleural fluid which had become septic or which showed numerous tubercle bacilli. In one or two cases of open pneumothorax in which operation could not be performed, repeated injections have so cleaned up the pleural cavity as to make successful operative procedure possible.

In my opinion oleothorax or gelatinothorax should always be tried in cases of empyema before siphonage, suction drainage, or operation is considered. Of these two measures, gelatinothorax is to be preferred.

Many early workers in bacteriology, including Koch, demonstrated that aniline dyes had a selective action on the various classes of bacilli—bacteriostatic or bacteriocidal. Practical application of this has been found in the laboratory in the isolation of organisms such as the typhoid bacillus. Churchman showed that Gram-positive organisms were susceptible to gentian violet and Gram-negative organisms to acid fuchsin, and used gentian violet successfully in closed cavities and in joint affections. The action of the dyes in pyogenic conditions he characterized as bacteriostatic rather than bactericidal. Even weak dilutions had considerable power of penetration.

Many workers have used aniline dyes in the treatment of septic effusions in the pleura. I have had several cases during the past fifteen years which responded very satisfactorily to repeated lavage with brilliant green, using a 1 in 3,000 dilution. The pleural cavity was filled up with this and thereafter emptied. This was repeated until the solution was returned as it had been put in, and at the end 200 to 300 c.cm. of the solution was left in the pleural cavity. This procedure had to be resorted to every two to five days, and was slow and somewhat painful, although productive of good results. The gelatin-acriflavine technique more recently adopted is simpler and much more rapid. Lavage is not called for, though aspiration may be required. The method has of course not been long enough in use to enable one to speak of permanent results. One can but reiterate that it promises very well.

If an empyema can be cured by some method that does not involve the risk of an open pneumothorax, that should be given a trial. This letter is a plea for intrapleural injections, particularly gelatinothorax.—I am, etc.,

Glasgow, April 10th. JAMES CROCKET, M.D.

HALLUX VALGUS

SIR,—I should like to add my testimony to that of Mr. James Phillips and Sir Charters Symonds as to the excellent results of the operative treatment of hallux valgus and hallux rigidus by the method they recommend—namely, the removal of the proximal part of the first phalanx. I published in the *Clinical Journal* of March 5th, 1930, a plea for its general use, with a full discussion and details of the operation. The tripod of the foot is preserved. The after-treatment has the merit of being extremely simple, no extension of the toe and no massage

being necessary, nor any plate to support the anterior arch. The results are uniformly good, and admit of the normal performance of army route marches or police gymnastics, or of the full enjoyment of dancing, after the bilateral operation.—I am, etc.,

Bradford, April 11th. PETER MCEWAN.

THE CANFIELD OPERATION FOR PARANASAL SUPPURATION

SIR,—Sir James Dundas-Grant, with Dr. Perry Goldsmith, is an advocate of the Canfield operation for drainage and instrumentation of the maxillary antrum. Any observations that Sir James makes must be treated with respect. His reasons for this operation are twofold:

1. That the opening, whether small or not, lies far forward in the nasal cavity, and therefore nearer the open air.
2. That it is situated in a narrow part of the passage, so that the current of air going past it in respiration acts on the antrum like wind over a chimney.

May I be allowed to bring, as briefly as I can in a letter, some argument against the claims of this operation? An operation to be a success must be based on physiological grounds. It would appear to me that Canfield's operation is opposed to the proper function of the nasal sinuses, for the following reasons.

The nasal sinuses, in my view, are expiratory cavities. With the exception of two openings—namely, the sphenoid and Eustachian tube, which are not nasal sinuses—all the ostia look towards the post-nasal space. Moreover, if a disc of bone is removed from the anterior wall of the frontal sinus it will be noticed that, during expiration, the lining membrane bulges, and on inspiration it is sucked in. It is upon this proper functioning that facial symmetry largely depends. In anterior block of the nares in children there will be no asymmetry. With a block about the middle of the nares, interfering with proper aeration of the sinus, facial asymmetry results. Physiologically it is incorrect to make an anterior opening into the antrum.

If the lining membrane is polypoid, a radical operation, such as the Caldwell-Luc, is the efficient one. If drainage is all that is required, an opening should be made through the inferior meatus a little behind the middle line. The difficulty I used to encounter in making my opening was to form one which would remain patent. This led to imperfect drainage and douching. To overcome this, Messrs. Mayer and Phelps have made for me an instrument which, with a powerful pair of punch forceps, has completely met the difficulty. Nevertheless, unless a suitable lotion is used for douching, the purulent condition remains, and the patient has periodic outbursts of illness. Having been a sufferer from this condition myself since I was on active service in 1916, it is a great relief to me that I have, after many trials, succeeded in concocting a lotion which seems to have conquered this, and which does no harm to the mucous membrane of the nares.—I am, etc.,

Maidstone, April 4th. J. ALDINGTON GIBB.

CONVULSIONS DURING SURGICAL ANAESTHESIA

SIR,—Diacetic acid and acetone are found in the urine in a considerable percentage of all surgical cases in children. Much less frequently they are found in adults. This result of incomplete metabolism arises in the subjects of operations of election as well as emergency operations, and in non-septic as well as in septic cases. Dr. Louise Fraser suggests (*British Medical Journal*, March 28th, p. 562) that ketosis may have been one of the toxaemic factors in the etiology of these convulsions. Ketosis readily occurs in the presence of suppurative processes, and may be a contributory or aggravating element, but in my opinion the primary and essential condition which gives rise to these convulsions is acute sepsis and toxaemia, to which the organism has not had sufficient time to develop defences. The administration of carbohydrate to surgical patients in my own practice is carried out on these lines: adults have one teaspoonful of glucose three times a day, children are given barley sugar *ad lib.*, and infants have frequent sips of sweetened water before and after operation.—I am, etc.,

Aberdeen, April 3rd. J. ROSS MACKENZIE.

VACCINE DOSAGE

SIR,—I sympathize with Dr. Harold Balme in his complaint against the varying dosage of streptococcal vaccines suggested by different pathologists (*British Medical Journal*, April 4th, p. 604). At the same time I think that his case is a little weak. Vaccine dosage is assessed usually on such factors as the patient's weight, his age, his past history of reaction to vaccines, and present condition, and unless the four cases are exactly comparable in all these respects his plea falls to the ground. Again, the types of streptococci vary, the haemolytic types being more active than the others, so that lower doses are generally necessary. Methods of standardization vary in accuracy, but are generally sufficiently comparable. The usual experience is that a trial dose or two has to be given to estimate the patient's resistance to dosage; the dose is then regulated so as to produce a mild reaction. It is up to the practitioner to try the vaccine out, and afterwards to have the strength lessened or increased, according to results. In my experience there are no fixed rules in this matter. It is a question of assessing the various factors and then trying out.

This brings out very clearly the real need for close co-operation between pathologist and practitioner. If he is to produce a satisfactory vaccine the pathologist should have all clinical data and the patient before him. I might add two instances of what happens if there is insufficient clinical assistance. I was criticized because an autogenous vaccine from the sputum failed to clear up a catarrh. The patient was subsequently found to have a neoplasm of the lung. In another case, undetected nasal polypi caused an autogenous catarrhal vaccine to be a "wash-out." The day of water-tight compartments is over.—I am, etc.,

Eastbourne, April 7th. A. GEOFFREY SHERA, M.A., M.D.

THE POST-INFLUENZAL COUGH

SIR,—Once again every practising physician has had his life made a burden to him by the persistent irritating cough which follows to a greater or less extent after influenza. Years ago—early in 1918 to be exact—the fact that the main lesion in influenza was an acute tracheitis was borne in upon me when I happened to compare the tracheae of men who had died from mustard gas poisoning with those who had succumbed to influenza. The similarity was striking—in fact, one could not distinguish between them. The acute congestion began below the larynx and extended down the whole length of the trachea to reach a climax at the bifurcation, where the mucosa was often purplish in colour, with small pin-point erosions scattered over it. Of course I do not imagine that in an ordinary case of influenza one would meet with this degree of inflammation, but I do most strongly maintain that the commonest pathological change in influenza is an acute tracheitis. Granted that this is so, it is easy to understand what happens in influenza. A very short time after exposure to infection the unfortunate individual

feels an uncomfortable sensation low down in his throat—a hot tickly feeling—and soon he demonstrates the effects of influenza toxin and its peculiar temperature. If he is a sensible man he at once retires to bed and sends for his medical attendant, who diagnoses the complaint and, shall we say, injects S.U.P. 36, orders bovril and toast with lots of fluids and so on, and gives some antipyretic. Personally, I have tablets made up consisting of 2 grains of pulv. ipecac. co., 1½ grains of aspirin, and 1½ grains of amidopyrin; I give two at 4 p.m., two at 6 p.m., and two at 8 p.m., with very beneficial results.

So the patient gets over his febrile attack, but there remains a typical cough, paroxysmal in character, always coming on when lying down in bed at night or when going from a warm area to a cold one; in other words, whenever cold air is inhaled over the congested tracheal mucosa. Once a patient starts coughing he finds it very hard to stop. One of my patients, a boy, started to cough at 8 p.m. and finished at 6 a.m. Further, the intensity of the cough varies with the individual; the short, stout-necked person gives a most alarming display, with his empurpled visage, bulging, bloodshot, and streaming eyes, and, whenever he has any breath to spare, his objurgations; but whatever the degree of the paroxysm it is a great nuisance to the owner and to the audience. It bears a startling resemblance to that of whooping-cough, and I have often been asked if I am quite sure that it is not the latter disease.

Now for the treatment of the condition. It is, to be quite frank, disappointing; the ordinary expectorants and the whole extensive group of morphine-heroin remedies spoil the appetite and practically do no good at all. Non-irritating steam inhalations—for example, friar's balsam—are soothing, but anything containing menthol, etc., has naturally just the opposite effect. Counter-irritants to the trachea—camphorated oil, iodine, musterol, linseed poultices, and antiphlogistine—can all be tried; but the only external remedy that does any good is the mercury vapour lamp, which is a most useful line of treatment, and should always be employed whenever possible. The internal remedy has to be a definite antispasmodic, and I find bromoform the best; for children I use the syr. bromoform co. (*B.P.C.*), one teaspoonful morning and afternoon and a dessertspoonful at bedtime, while for adults the elixir bromoformi, one teaspoonful three times a day, is employed with, in severe cases, an allonal tablet at bedtime as well. This treatment certainly makes life more endurable for the patient; but I always impress on him the fact that the cough cannot be cured in a few hours, that it will go on for a while, but that the paroxysms will become less frequent and less severe, that he is not to be frightened about it, as it has nothing to do with the lungs, and that there is no necessity to stay indoors once convalescence is established. Where possible, finances and weather permitting, a change of air is always to be advised.—I am, etc.,

Sydenham, S.E 26, April 10th. G. RICHARDSON, M.D.

LIVER THERAPY IN ASTHMA

SIR,—The *Epitome* of March 28th (para. 295), quoting Matzger (*Journ. Amer. Med. Assoc.*, January 10th, 1931), mentions a case of asthma intensified by ingestion of liver. Last year I tried this treatment on four asthmatics by way of experiment because there is evidence of defective action of the liver in asthma, but with doubts as to the possible benefit, since: (1) both in asthma and after ingestion of liver there is eosinophilia; (2) there is often already erythrocytosis in asthma; and (3) the usual test dose of 15 grams of urea raises the eosinophil count in asthmatics, and may produce severe status asthmaticus. In three of the four asthmatics liver made the asthma worse; it seemed to benefit the fourth, who, however, had only 5 per cent. eosinophils. The disappointing results are only such as might have been expected by anyone familiar with the effect of the urea test in asthmatics. So far as the liver is concerned with haematopoiesis, it is not that function which lags in asthma.—I am, etc.,

Hamilton, Lanarkshire, April 7th. JAMES ADAM.

PRIMARY TREATMENT OF CARBOLIC ACID POISONING

SIR,—The article on carbolic acid poisoning, by Professor O. S. Gibbs, in the *Journal* of April 4th, recalls my experience of immediate contact with severe cases many years ago. Professor Gibbs advocates the use of medicinal liquid paraffin, both externally and internally. In the latter case he recommends a dose of half a pint, or "as much more as one could induce the patient to take." It is easy to understand how paraffin could be confused off-hand with the true oils—that is, with oils of vegetable or of animal origin—but it is important, clinically, that the error should be recognized. Carbolic acid, whether in the form of phenol or of the mixed cresols, is practically insoluble in paraffin in the presence of water. Phenol, for instance, is only soluble to the extent of 1 in 100 of *B.P.* liquid paraffin and 5 in 100 of ordinary vaseline, while in water the solubility is 8 in 100, and in olive oil about 30 in 100. If equal parts of phenol, water, and paraffin are shaken together and allowed to settle overnight, a layer of paraffin will be found at the top practically unaltered in volume or in composition, a layer of phenol at the bottom containing about 40 per cent. of water, and a layer of water in between containing 8 per cent. of phenol. If the experiment is repeated, using castor oil in place of paraffin, two layers only will be found: a water solution of phenol, with castor oil in emulsion, floating on a solution of castor oil, and a little water, in phenol.

Why is it inferred that paraffin forms a protecting layer, or allays irritation, over the surfaces of the stomach and small bowel? It could only be expected to do so if the tract was first emptied. After filling up with normal contents and the resumption of normal movements the paraffin would enter into the general emulsion. Presumably paraffin is eliminated at the same rate as the other contents up to a section of the colon where the dehydrating process is well advanced. At this point part will be expressed by the consolidating contents and serve to lubricate the distal half of the colon and the rectum, and part will serve to maintain the state of emulsion, thereby increasing the normal water content in the stools and rendering them soft. It is claimed that paraffin exerts a mild laxative action in the small bowel; but this would be a small excuse for administering it in the emergency of carbolic poisoning. The heroic dose of half a pint or more might conceivably embarrass the absorbing glands and impair the nourishment of an already damaged system. If carbolic has been swallowed we may eliminate much of it by emesis, or by the wash-out tube, in the more fortunate cases; and we can hinder absorption and encourage secretion by magnesium sulphate; but nothing which we can administer reasonably will remove the poison from moist tissue already penetrated, however superficially. If there was carbolic still floating about in the stomach, as there might well be some considerable time after swallowing disinfecting fluids of the sheep-dip variety, it is clearly best to get rid of it by thorough lavage without wasting time in what would probably be an unsuccessful attempt to immobilize the poison in any oil.

With regard to external injury, poisoning and severe "burns" may be avoided by persistent mopping with castor oil, which removes much of the carbolic from loose association with precipitated protein material. In the days when I was a manufacturer of carbolic acid and tar products I had splashes of melted phenol twice in one eye, and a mixture of cresols and creosote in the other. These were bathed promptly with castor oil, as well as the rapid oedema of the lids would allow, and on each occasion almost all signs of injury passed off within ten days. Frequently workmen were splashed with crude carbolic from buckets suspended below the taps of overhead tanks, etc. Experience taught us the urgent need for thorough treatment when the neck, axillae, groins, or thighs were soaked. The man was rushed off to a drying room, where the temperature induced profuse sweating within a few minutes. A large stock of castor oil and clean rags was always kept in this room. The skin was repeatedly mopped over by fresh relays of warm oil and rags, while large drinks were given of tea, water, or milk. The only stimulant used, as such, was sal volatile. Not until this routine treatment had been carried out was it judged safe to take the man home and summon his medical practitioner. There were no fatal cases of accidental poisoning by carbolic since the works were founded in 1866. Those who have dutifully absorbed the textbook traditions may be shocked to hear that when we were splashed about the hands, arms, or face we turned at once to soap and water, and applied castor oil to the dried parts afterwards. But this was done within seconds rather than minutes. Soft soap is one of the very best solvents for carbolic. We objected most to cresol hot from the still, and were least concerned about pure phenol splashes. The various lysols, disinfecting fluids, sheep-dips, creosotes, and other vehicles of carbolic; each had their relatively better points and objections, and slightly different methods of removal. Perhaps we established a large measure of immunity. One man retired in ripe and healthy old age who had spent most of his working days in an atmosphere of warm phenol vapour. I remember debating with him whether beer or "bolic" had done him most good. It was the same man who told me that one of his friends was eating large meals of sheep's kidney fat for "sores in his bowels." But then, there is a long geological epoch between paraffin and kidney fat!

The use of liquid paraffin internally in cases of carbolic poisoning would be a waste of precious time, and if it was used externally, for the purpose of eliminating the poison, lives would be lost which might have been saved. It is not within my province to deal with secondary treatment for poison already absorbed into the system, beyond suggesting that the intravenous injection of sodium sulphate might well be life-saving in selected cases.

I would summarize my suggestions for primary treatment as follows:

1. For external application in carbolic acid poisoning persistent mopping with warm castor oil. The oil is rather viscous normally, and its solvent powers rise rapidly with the temperature.

2. If castor oil or other suitable oils or fats are not available within a few minutes, do not hesitate to use plenty of soap and a little warm water, applying castor oil dressings later.

3. If the poison has been swallowed, the wash-out tube, using plain water should be used, unless strongly contra-indicated.

4. Give full doses of magnesium sulphate and sodium sulphate together, whether the poison has been applied externally or has been swallowed.

—I am, etc.,

St. Thomas's House, S.E.1, April 7th. W. A. BOWDLER.

"PREPARATION FOR MARRIAGE"

SIR,—It is, I think, fairly widely known that in addition to direct propaganda on the medical aspect of problems of social hygiene and the prevention of venereal disease, the British Social Hygiene Council has given considerable study to the broader problem of preventive education. For some years the approach to the adolescent was a matter of study, and, as a sequel, approved courses of lectures are now being given under the aegis of the Consultative Committee for Youth to leaders of voluntary organizations, and to young people between the ages of 16 and 20. This programme immediately brought to light the need for a further step—that of direct teaching on "preparation for marriage" and the hygiene of marriage.

The council recognizes that in unhappy marriages and broken homes are found the causes that contribute to those practices which lead ultimately to the dissemination of venereal disease, and that any educational measures that can be taken that will reduce the amount of maladjustment within marriage will necessarily tend towards the reduction of the condition with which the council is particularly concerned. For some months a special committee, on which serve prominent technical experts, have studied the method of approach and considered the type of information that should be in the hands of leaders of the community. As a result of these deliberations, arrangements are being made for an experimental course of lectures to be given by members of the committee concerned to selected audiences of leaders in the fields of religion, education, and medicine. The audience is invited to act as a consultative committee to participate actively in the discussion following the lectures, the objective of the course being ultimately the production of a handbook for leaders.

The council wishes to extend a cordial invitation to medical men and women interested in this subject to attend the lectures and give the council the benefit of their advice and suggestions. Full particulars will be forwarded on application to the secretary, the British Social Hygiene Council, Carteret House, Carteret Street, Westminster, S.W.1. The lectures will take place at this address on Tuesdays, at 5.30 p.m., from May 5th to June 9th. The lecturers will include Professor Malinowski, Dr. Crichton-Miller, and Dr. I. Feldman.—I am, etc.,

A. H. HARKNESS,
London, April 13th. Honorary Medical Secretary, British Social Hygiene Council.

Obituary

Dr. ARTHUR STANLEY, formerly commissioner of public health, Shanghai, died in London on March 28th, at the age of 62. He was educated at Truro, the Royal College of Science, South Kensington, Leeds University, and St. Mary's Hospital, London, where, after a distinguished career, he became assistant demonstrator of physiology. He graduated M.B.Lond. in 1894, and proceeded M.D. in the following year. After holding several appointments in England, including that of pathologist and assistant medical officer to the London County Asylum, Banstead, and assistant medical officer to the North-Western Fever Hospital, he was appointed in 1898 as the first full-time medical officer of health of the foreign settlement of Shanghai, and became its first commissioner of public health. He was a pioneer of public health in China, and his great gifts of organization and administration were devoted, often in the face of considerable difficulties, to establishing and developing the department, which has to-day a world-wide reputation, and is one of the most efficient and best-organized public health departments in the Far East. Among other divisions, he founded a Pasteur Institute, the first under British control, himself

acquiring the technique of antirabic treatment in Kitasato's laboratory in Tokyo, and undergoing a course of antirabic inoculation for prophylactic purposes. In 1911 he was a member of the commission appointed to investigate the epidemic of plague in Manchuria, and later his advice was sought and his services requested by the Chinese Government in the prevention of plague. His contributions to medical and other scientific journals were numerous and varied, and showed the wide scope of his scientific interest. Beyond his purely professional work, Dr. Stanley took a great delight in natural history, was a lover of literature and of music, and was an accomplished student of Chinese art. For many years he was curator of the museum of the North China branch of the Royal Asiatic Society, for which he prepared a comprehensive catalogue. He was at one time president of the society, and was a frequent contributor to its journal. His writings were lucid and graceful, and showed the delicacy and keenness of his aesthetic perception. He retired from Shanghai in 1921, and until the serious breakdown of his health a few months ago spent a happy life at Hampstead, with his family and among his friends, in a serene contemplation of nature.

The Rev. Canon ARNOTT, F.R.C.S., died at his residence in the Precincts, Rochester, in the last week of March, at the age of 88. He was the son of Dr. James Arnott, and began the study of medicine at University College. He took the diploma of M.R.C.S. in 1864, and was admitted to the Fellowship in 1868. He was elected to the staff of the Royal Northern Hospital, and was also assistant surgeon and lecturer on surgical pathology at the Middlesex and St. Thomas's Hospitals. Canon Arnott was always a deeply religious man, and in his student days, with three other students, he laid the foundations of the Guild of St. Luke, Evangelist and Physician, a society which is still flourishing and achieving excellent results. He was the last survivor of the original band of four, one of the others being the late Mr. Robert Brett, who practised in Stoke Newington, and whose memory still lives in that district. In 1876 Canon Arnott studied for the Church. He was rector of Beckenham for thirty-four years, and was later made an honorary canon of Rochester. He was laid to rest in Beckenham Churchyard on March 30th, after a service in Rochester Cathedral. It adds interest to the association of Canon Arnott with the medical profession that his wife, who predeceased him by a year, was a sister of the late Sir Richard Douglas Powell.

The following well-known foreign medical men have recently died: Dr. IGNAZIO SALVIOLI, for thirty-five years professor of general pathology at Padua, aged 68, of acute pneumonia; Dr. ROBERTO BINAGHI, professor of surgery and rector of the University of Cagliari, Sardinia; Professor FRIEDRICH KOVÁCS, director of the fourth medical department of the General Hospital, Vienna, aged 70; Professor BERNHARD VAS of Budapest, a distinguished histologist and chemist; Dr. WILHELM HERZOG, emeritus professor of surgical diseases of children at Munich; Dr. ALEXIS PISSAVY, physician to the Hôpital Cochin, Paris, aged 60; Dr. EDOUARD CADENAULE, a Bordeaux paediatrist, aged 75; Professor PAUL FÜRBRINGER of Berlin, an authority on genito-urinary diseases, aged 80; Professor CARL LEWIN of Berlin, author of several works on cancer, aged 54; Dr. AUGUST HOUBERGER, extraordinary professor of psychiatry and director of the psychiatric and neurological clinic at Heidelberg; Dr. LUIGI SALA, professor of normal human anatomy at Pavia, aged 67; Dr. RALPH WALDO WEBSTER, professor of clinical medicine at Rush College, Chicago; Professor ADOLPHE D'ESPINE, formerly occupant of the chair of children's diseases at Geneva, aged 85; Professor THEODOR AXENFELD, an eminent ophthalmologist of Freiburg, aged 63; Dr. JUAN ORRICO, professor of clinical paediatrics, Cordoba (Argentine Republic); and Dr. SIMOCS CORREA, formerly professor of children's diseases at Rio de Janeiro, aged 82.

Universities and Colleges

UNIVERSITY OF LONDON

Dr. R. A. Young has been appointed to represent the University at the annual conference of the National Association for the Prevention of Tuberculosis at Margate on June 25th to 27th, and Sir William Collins as the representative at the fourth centenary celebrations of the Collège de France, to be held in Paris from June 18th to 20th.

Presentation Day

The ceremony of presentation for degrees will take place in the Albert Hall on May 13th, at 2.30 p.m. The graduation dinner will be held in the evening at Drapers' Hall, under the presidency of the Chancellor of the University. The annual service for members will be held in Westminster Abbey on the same day, at 5.30 p.m.

Lectures

The Semon Lecture for 1931 will be given by Mr. W. D. Harmer, consulting surgeon to the throat department of St. Bartholomew's Hospital. The subject will be the relative value of radiotherapy in the treatment of cancers in the upper air passages.

A course of six lectures on medical aspects of dietetics will be given by Professor S. J. Cowell in the lecture room attached to the dietetic kitchen of St. Thomas's Hospital on May 7th, 14th, 21st, and 28th, and June 4th and 11th, at 5 p.m.

Two lectures on the treatment of malignant tumours by radium placed at a distance, with lantern illustrations, will be given by Dr. Max Cheval of Brussels at the Westminster Hospital Medical School on May 4th and 5th, at 5.30 p.m. Mr. E. Rock Carling will preside at the first lecture and Dr. H. T. Flint at the second lecture.

Professor Otfrid Förster, professor of neurology in the University of Breslau, will give three lectures on neurology, illustrated with lantern slides, at the University College Hospital Medical School, on April 29th and 30th, and May 1st, at 5.30 p.m. Mr. Wilfred Trotter will take the chair at the first lecture.

A course of three lectures on the pharmacology and therapeutics of lead colloids, with lantern illustrations, will be given by Professor W. J. Dilling of Liverpool University at King's College on May 7th, 8th, and 11th, at 5.30 p.m. Sir William Willcox will preside at the first lecture.

Mr. G. Grey Turner, professor of surgery in the University of Durham, will give two lectures on resection of the rectum, at St. Thomas's Hospital, on May 13th and 15th, at 5.30 p.m. The chair at the first lecture will be taken by Sir Percy Sargent.

Diploma in Public Health

It has been decided that the examination for the Diploma in Public Health shall be common for both internal and external students.

UNIVERSITY COLLEGE, LONDON

The annual dinner of the Fellows of University College, London, will be held at the College on Thursday, April 30th, at 7.15 for 7.30 p.m., that day being the anniversary of the laying of the first stone of the College buildings by H.R.H. the Duke of Sussex, on April 30th, 1827. Sir John Rose Bradford, M.D., F.R.S., will preside.

KING'S COLLEGE, LONDON

A course of three public lectures on the biophysical chemistry of colloids and protoplasm will be given by Victor Cofman, D.Sc., in the Biological Theatre of King's College, Strand, W.C.2, on May 4th, 11th, and 18th, at 5.30 p.m. Admission to the lectures is free without tickets; they will be illustrated by experiments and lantern slides.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A quarterly council meeting of the Royal College of Surgeons of England was held on April 9th, when the President, Lord Moynihan, was in the chair.

Diplomas

The Diploma of Fellowship was granted to K. H. Pridie.

The following Members of twenty years' standing were elected to the Fellowship: George Henry Edington, M.D., D.Sc.Glas., and Ernest Frederic Neve, M.D., F.R.C.S.Ed.

Diplomas of Membership were granted to Inez E. Banner, W. Dodd, and Margaret M. White, who had complied with the by-laws.

The Licence in Dental Surgery was granted to M. A. B. Brito-Mutunayagam.

Diplomas in Tropical Medicine and Hygiene were granted jointly with the Royal College of Physicians to thirty candidates. (The names were printed in the report of the meeting of the Royal College of Physicians of London, published in the *Journal* of April 11th, p. 651.)

Prizes

The Jacksonian Prize for 1930 was awarded to E. S. J. King, F.R.C.S. (Melbourne), for his dissertation on "The pathology of ovarian cysts and its bearing on their treatment." A certificate of honourable mention was awarded to Wilfred Shaw, F.R.C.S. (St. Bartholomew's Hospital). It was decided that the subject for the Jacksonian Prize for 1932 should be "The pathology, diagnosis, and treatment of diverticuli of the large and small intestine."

The John Hunter medal in bronze with the triennial prize of £50 was awarded to Thomas Bramley Layton, D.S.O., M.S., F.R.C.S., for his contributions to otology, and for his valuable services to the museum, particularly in connexion with the Onodi Collection.

The Walker Prize of £100 was awarded to Sir G. Lenthal Cheatle, K.C.B., C.V.O., F.R.C.S.

The committee appointed by the council for the administration of the Walker Prize Fund reported as follows: "The work of Sir Lenthal Cheatle, continued over many years and up to the present time, has been of great help to surgeons in the elucidation and treatment of the precursory conditions of cancer of the breast. It has shown that cancer is preceded by papillomatous hypertrophies chiefly affecting the smaller ducts of particular lobes of the breast, and often associated with the formation of cysts due to distension of the duct system. The methods employed have been laborious and systematic, and have correlated the microscopic and macroscopic anatomy of the conditions studied. This has involved the making of whole sections of the breast by means of the giant microtome, an instrument of which this work has shown the great value. The committee considers that Sir Lenthal Cheatle has thus made a definite and important contribution towards the solution of the etiological problem of cancer of the breast."

The Cartwright Prize for 1926–30 was awarded to F. W. Broderick, M.R.C.S., L.D.S. (Bournemouth), for his essay on "The etiology, pathology, and treatment of chronic general periodontitis (pyorrhoea alveolaris)." The subject for the Cartwright Prize for 1931–35 is "The relationship of pulpless teeth to general disease and their treatment, with special reference to periapical rarefaction."

Appointment of Representatives

Lord Moynihan was appointed to represent the College on the Governing Body of the proposed British Post-Graduate Hospital and Medical School. A petition for a Royal Charter of Incorporation will shortly be presented. Lord Moynihan was appointed to represent the College at the celebration, at the end of September, of the fiftieth anniversary of the opening of the Natural History Museum building at South Kensington.

Lectures

Colonel Robert McCarrison, C.I.E., I.M.S., was appointed to give two lectures at the College.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

The following were elected Fellows of the College on April 10th: John George Cullinane, Robert Allen Quain O'Meara, and Vishwa Nath.

The Services

ROYAL AIR FORCE MEDICAL SERVICE

In the *Journal* of April 4th (p. 608) the report of a parliamentary discussion on the shortage of medical officers in the Royal Air Force contained a statement that the "deficiency was in large part made up by the employment of short-service officers on a commissioned or a civilian basis." It has been pointed out to us that the word "contract" should be read instead of "short-service." The regular medical officers in the Royal Air Force comprise those holding either short-service or permanent commissions. All enter on short-service commissions for three years (sometimes extendable to five), and a certain number are selected and appointed to permanent commissions during these years. The deficiency in numbers of these officers is partly made good by employing doctors either as commissioned officers on a yearly contract or as civilians on a short contract terminable by either side at a week's notice.

DEATHS IN THE SERVICES

Major-General Sir Tom Percy Woodhouse, K.C.M.G., C.B., late R.A.M.C., died at the house of his son-in-law, Lord Kingsale, at Coffinswell, Devon, on April 10th, aged 73. He was born at Pontefract on August 10th, 1857, the son of Mr. John Woodhouse of Marlpit House, Pontefract, was educated at St. Paul's College, Stony Stratford, and at St. Thomas's, and took the L.S.A. in 1879 and the M.R.C.S. in 1880. Entering the Army as surgeon on February 5th, 1881, he became lieutenant-colonel after twenty years' service, brevet-colonel on April 8th, 1909, colonel on November 17th, 1909, and surgeon general on July 14th, 1914. He was retained on the active list for some months after attaining the age of 60, and retired on December 26th, 1917, his title of rank being changed to major-general in 1918. He served throughout the South African war (1899–1902), taking part in the operations in Cape Colony, the Orange River Colony, and the Transvaal, including the relief of Ladysmith, was mentioned in dispatches in the *London Gazette* of February 8th, 1901, and received the Queen's medal with three clasps, and the King's medal with two clasps. From 1909 to 1913 he was P.M.O. of the Scottish Command, and became D.D.M.S. of the Aldershot Command in 1914. During the war of 1914–18 he served as Director of Medical Services in France, was mentioned in dispatches in the *London Gazette* of October 19th, 1914, January 1st, 1916, and May 29th, 1917, was made C.B. in 1915, and K.C.M.G. in 1917, and also Commander of the Legion of Honour, and Commander of the Order of the Crown of Belgium in 1917. After the war he filled the post of Deputy-Inspector of Medical Services in the War Office in 1918–19. In 1881 he married Mary Hannah, daughter of Mr. John Holmes Greaves of Carleton Hall, and leaves a son, Lieut.-Colonel Percy St. John Rance Woodhouse, O.B.E., late Indian Army, and two daughters, the elder of whom is Lady Kingsale, while the younger is the wife of Flying Officer E. N. Hewitt, R.A.F.

Lieutenant Desmond Blewitt, R.A.M.C., died in Cairo on February 22nd. He was educated at Trinity College, Dublin, where he graduated as M.B., B.Ch., and B.A.O. in 1927, and joined the R.A.M.C. as lieutenant on December 13th of that year.

BRITISH EMPIRE CANCER CAMPAIGN

The quarterly meeting of the Grand Council of the British Empire Cancer Campaign was held on April 13th, with Sir JOHN BLAND-SUTTON, Bt., in the chair.

The finance report showed that, including grants approved at the meeting, the Campaign had now subsidized research centres and independent research workers since its inception to the extent of £157,000. Apart from this, over £500,000 had been subscribed and is being administered by the branches and affiliated organizations of the Campaign throughout the British Empire.

On the recommendations of the executive committee, the council approved the following grants: £2,500 to the Cancer Hospital, London, for its general research work, together with £500 to meet the expense incurred by the Research Institute by the appointment of its biochemist, Dr. J. W. Cook; £650 for one year to St. Mark's Hospital, City Road, and £2,500 to St. Bartholomew's Hospital. For the sixth year in succession the council renewed the grant of £680 to the Medical Research Council towards the upkeep of the Radon Centre at the Middlesex Hospital, which supplies a number of organizations with radon for scientific experimental investigations.

Mr. S. A. Courtauld and Mr. R. H. Jocelyn Swan, F.R.C.S., were elected members of the council as the representatives respectively of the Middlesex Hospital and the Cancer Hospital. Professor W. S. Lazarus-Barlow, M.D., was elected to fill the vacancy in the five nominees of the Campaign on the Scientific Advisory Committee, the other five members of which are nominated jointly by the Royal Society and the Medical Research Council.

The council acceded to the request that the Glasgow Royal Cancer Hospital should be affiliated officially to the British Empire Cancer Campaign. Although a considerable amount of cancer research work has been carried out hitherto, aided by funds from the Campaign, in Scotland, this is the first organization in Scotland to become affiliated to it.

It was arranged that the annual general meeting of the Campaign should be held on Monday, July 20th, and it was reported that the President, H.R.H. the Duke of York, had intimated his intention of being present.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

MINISTRY OF HEALTH VOTE

Mr. Greenwood's Speech

When the House of Commons reassembled on April 14th, the Minister of Health (Mr. GREENWOOD) moved a vote of £19,616,212 for the salaries and expenses of the Ministry.

National Health Insurance

Mr. Greenwood said that national health insurance had given a good deal of trouble. The House was well aware of the increased expenditure of approved societies in recent years on sickness and disablement benefit. About a year ago the report of the Government Actuary drew attention to these very disturbing facts. Since then a special Interdepartmental Committee had been investigating this trouble further. It was very difficult to assess the exact weight which should be given to the various factors causing this increase of expenditure. He was not satisfied that there had been any substantial deterioration in the general health; there might have been here and there, and in particular areas. It was largely due to the fact that there had been an expansion of additional benefit using up reserves created in earlier years, and partly because insured persons were properly taking full advantage of the rights which the law had conferred on them. It was very important that in the early stages of illness the insured person should go to the doctor and get the earliest possible treatment. But, behind all legitimate causes, everyone associated with approved society work knew that there was undoubtedly a certain amount of laxity. There could be no desire on the part of any member to deprive any sick person of what was due to him. On the other hand, there would be no difference of opinion as to the desirability of depriving people of benefit to which they were not entitled. The Ministry of Health was issuing to all approved societies memoranda which, he hoped, would be of assistance in the matter of certification and supervision of claims for benefit. Last year the amount paid out in sickness benefit was £2,000,000 less than in the previous year. That was due to the fact that 1930, on the whole, was a pretty good year compared with 1929 in regard to sickness, and also partly, no doubt, to the fact that there had been some improvement in administration. The great increase in the expenditure of societies in sickness and disablement benefit was naturally reflected in the financial condition of the approved societies. They had now almost completed the third valuation of the approved societies. It would be found that the big majority of societies would still have disposable surpluses out of which they would be able to continue to pay additional benefits during the next five years. There were societies, however—and especially those which had separate funds for women, where the drain had been more than the average—whose disposable surpluses, unfortunately, had fallen to very small dimensions, or had entirely disappeared. That was a serious problem which was now under sympathetic consideration.

Maternal Mortality

There could be no difference of opinion as to the seriousness of the problem of maternal mortality. They could not attempt to justify the death of 3,000 mothers a year in the existing state of knowledge. It made maternity the most dangerous occupation of this country, and the Departmental Committee on Maternal Mortality appointed by Mr. Chamberlain three years ago had examined these deaths, and had arrived at conclusions which were serious. He could say, on the basis of the finding of this committee, that not less than one-half of these maternal deaths were preventable. That was a national scandal. After consideration of the report he had approached the local authorities in a circular, pointing out to them ways in which they might co-operate in this problem. At the end of March he had received replies from seventy local authorities. Of these, thirty-six had adopted proposals for improving their maternity services, while a number of others had these matters still under their consideration. Fifteen authorities were establishing or extending their ante-natal clinics, ten were providing private medical practitioners for ante-natal examinations; twelve were improving their arrangements for the supply of midwives; twenty-one were arranging consultant services; nine were providing or extending hospital accommodation; and a number of others were arranging various ancillary services. Thus, in the three months since the circular went out, there had been an earnest intention on the part of the local authorities to co-operate with the Ministry in an attack on this problem. He was keeping in touch with the local authorities to see that, so far as possible, they acted up to their responsibilities. Any national scheme would involve the services of those authorities. The figures of maternal mortality for the past year were about the same as for the year before.

Post Graduate Medical Education

As to the Post Graduate Hospital and Medical School, his predecessor had presided over a committee, and it had been his privilege to complete that work. He believed that the Post-Graduate Hospital and Medical School was perhaps the biggest single step taken in this country in the interests of public health since the war, and he made no party capital out of it at all. When the report of the committee came to hand, he asked Lord Chelmsford to be the chairman of an organization committee to work out the details. This had been done, and they were now beginning the task of setting up the governing body of this institution. The Government was prepared to provide up to £250,000 for the actual building of the medical school, and would continue to make grants to the school. He believed that in the very near future the school and hospital would be actually at work, and would exercise a very profound influence on the public health of the country.

Local Government Act, 1929

They could congratulate themselves on the smoothness with which the transfer of functions under the Local Government Act, 1929, had taken place. One of the purposes of the Act was to promote the break-up of the old Poor Law system. On the whole, having regard to the fact that only one year had elapsed, a good deal had been done in the direction of the break-up of the Poor Law. Sixteen county councils and forty-nine county borough councils had found it possible to make immediate declarations in their schemes. These consisted of twenty-four by county borough councils under the Public Health Acts, one by a county council, and sixteen by county borough councils under the Mental Deficiency Acts; three by county councils and thirty by county borough councils under the Maternity and Child Welfare Act; ten by county councils and thirty-three by county borough councils under the Blind Persons Act; three by county councils and sixteen by county borough councils under the Public Health (Tuberculosis) Act; and nine by county councils and forty-one by county borough councils under the Education Act. Twenty county borough councils had appropriated their Poor Law institutions to Public Health Act purposes; three county borough councils had appropriated Poor Law institutions for Maternity and Child Welfare Act purposes; and four county councils and one county borough council had appropriated their Poor Law institutions for purposes of the Mental Deficiency Act. The London County Council had appropriated twenty-seven Poor Law institutions for the purposes of general hospitals, and ten for the purpose of children's hospitals or convalescent homes.

Housing Act, 1930

Since the war very little had been done in the way of slum clearances. He believed that local authorities were fully alive to the responsibility for slum clearances placed on them by the Act last year. He was, however, bound to point out that if there should be local authorities which failed to realize their responsibility in that respect, the powers entrusted to the Ministry by the Act would be exercised. Such authorities as failed to realize their responsibility must expect that the rigours of the law would be used against them.

Dr. FREMANTLE asked for an assurance that the authoritative report on the question of tuberculous cattle, which was presented three months ago, would be published without delay. He said that the restriction on the change of doctor in connexion with the insurance regulations was considered by the medical profession to be a most retrograde step. There ought to be greater co-operation between the Ministry and the local authorities in the appointment of medical officers of health.

Dr. MORRIS-JONES said that he was very glad to hear what Mr. Greenwood had said about the post-graduate course. The general practitioners were the first line of defence against illness, and he hoped that the Government would give facilities to them to come to London from time to time to review their knowledge. He was, however, very disappointed with the general review given by the Minister of Health.

Mr. LEWIS moved a reduction of the vote by £100.

Dr. ELLIOT said that the vital question of public health, and of whether the physical condition of the nation was becoming rotten or improving, merited a whole day's discussion. It was more than ever necessary to examine this question at present, to see whether the long-continued stress of unemployment was being reflected in the physical condition of the nation.

Miss LAWRENCE replied for the Government, and the motion to reduce the vote was defeated.

Medical News

On Monday, April 20th, at 8.15 p.m., Sir Arthur Keith will deliver an address entitled, "Fresh Light on John Abernethy," before the Abernethian Society at St. Bartholomew's Hospital.

At a meeting of the Royal Society of Arts at John Street, Adelphi, W.C., on Wednesday, April 22nd, at 8 p.m., Professor Major Greenwood, F.R.S., will read a paper on the work of the London School of Hygiene and Tropical Medicine. The paper will be followed by a demonstration of a malaria film by Professor J. Gordon Thomson. Dr. Henry S. Wellcome will preside.

At a meeting of the Royal Sanitary Institute to be held in the Town Hall, Batley, on Friday, May 1st, at 5 p.m., under the chairmanship of Professor W. W. Jameson, M.D., papers will be read on housing, with special reference to the Housing Act, 1930. On the following morning there will be a discussion on the practical value of meat inspection.

The annual meeting and luncheon of the Tavistock Square Clinic for Functional Nervous Disorders will be held at the Wharncliffe Rooms, Hotel Great Central, on Monday, May 11th, under the chairmanship of Dr. H. B. Brackenbury.

A meeting of the Medico-Legal Society will be held at 11, Chandos Street, W.1, on Thursday, April 23rd, at 8.30 p.m. Dr. Percy B. Spurgin will read a paper on "The Harley Street Mystery," which will be followed by a discussion.

At a meeting of the London Society to be held to-day (Friday, April 17th), at 5 p.m., in the Hall of the Royal Society of Arts, 18, John Street, Adelphi, W.C., Dr. Dan McKenzie will read a paper on "Noise: A modern plague of London."

Several special courses have been arranged by the Fellowship of Medicine to be held before Whitsun, and there is also a series of seventeen lectures for the M.R.C.P. examination, on Tuesdays and Fridays, at 8.30 p.m., in the House of the Medical Society of London. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1.

A post-graduate course in diseases of the nervous system will be held at the National Hospital, Queen Square, from May 4th to June 26th. The general course will consist of thirty-two lectures and demonstrations at 3.30 p.m. chiefly on methods of examination of the nervous system, each week-day except Wednesday and Saturday; teaching in the out-patient department, and pathological lectures and demonstrations. The fee for the course is £6 6s. A course of ten lectures on the anatomy and physiology of the nervous system will be arranged on Wednesdays and Fridays at 12 noon if there are sufficient applicants; fee £2 2s. A course of twelve clinical demonstrations will be given on Tuesdays and Thursdays at 5 p.m.; fee £2 2s. Applications should be addressed to the secretary, Medical School, National Hospital, Queen Square, W.C.1.

A series of free public lectures will be given in the Public Health Division of the London School of Hygiene during the forthcoming summer term. The course opens with four lectures on the laws of inheritance, by Professor F. A. E. Crew, on April 28th, 29th, and 30th, and May 1st, at 5 p.m. Subsequent lecturers include Dr. C. F. White, Dr. J. J. Buchan, Dr. Bernard Hart, Professor E. L. Collis, Dr. R. H. Crowley, Dr. F. C. Shrubsall, Dr. Howard Mummery, Dr. C. J. Thomas, Sir George Buchanan, and Sir Thomas Legge. An important series of lectures—the first under the terms of the Heath Clark Bequest to the University of London—is announced to be given in the school on May 4th, 5th, 6th, 7th, and 8th, at 5 p.m., by Sir George Newman, who has taken as his subject "The rise of preventive medicine." The chair at the lecture on May 4th will be taken by the Right Hon. Arthur Greenwood, M.P., Minister of Health. A list of all these lectures can be obtained on application to the secretary, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1.

A post-graduate course in cardiology will be held at the Liverpool and District Hospital for Diseases of the Heart from May 4th to 15th inclusive. The course is limited to twenty, and the fee is £1 1s.

The midwifery centre of the Nursing Sisters of St. John the Divine, at St. John's Home, Watson Street, Deptford, will be opened on Wednesday, April 29th, at 3 p.m., by Dame Janet Campbell, M.D. The chair will be taken by the Bishop of Woolwich.

The sixth International Congress of Military Medicine and Pharmacy will be held at The Hague from June 15th to 20th. The subjects to be discussed include the recruiting, organization, and training of military medical officers; the immediate and remote effects of war neuroses; the methods of arresting haemorrhage in the field; and the sequels of injuries to the jaws and teeth. Special arrangements for the journey to The Hague and back are in the hands of Thomas Cook and Son, Berkeley Street, W.1, to whom inquiries should be addressed. The general secretary of the congress is Jhr. R. Sandberg Van Boelens, 3, Surinamestraat, The Hague, from whom further details may be obtained. The fee for those attending as delegates is 10 Dutch florins, and for their friends 5 florins; special travel reductions are obtainable.

According to an estimate given by the *Journal of the American Medical Association* for March 28th, approximately two-thirds of the active medical practitioners of the United States are now connected with hospitals. In 1929 there were 152,503 licensed physicians, about 10,000 of whom were not in practice. Of the 142,500 who were in practice, 98,491 were connected with hospitals as staff members, superintendents, residents, and interns. In 1929 the numbers of practitioners in the various specialties were: internists, 3,378; surgeons, 12,939; neuropsychiatrists, 1,973; radiologists, 1,653; dermatologists, 896; pathologists, 672; paediatricians, 3,505; obstetricians and gynaecologists, 6,108; orthopaedists, 810; ophthalmologists, 1,343; oto-rhino-laryngologists, 6,805; specialists in tuberculosis, 984; urologists, 2,249; other specialists, 1,972.

The first annual report of the Institute of Ray Therapy in the Camden Road, London, N.W., contains encouraging news of the activities of the institute since its formal inauguration in March, 1930. During the year 1,450 patients were under treatment, having been referred to the clinic by general practitioners. The chief diseases treated were various rheumatic conditions, general debility, asthma, bronchitis, nervous conditions, skin diseases, and children's ailments; and out of 500 patients discharged, 400 were fit for work. The clinic is under the charge of an honorary medical director, and there is a training course for qualified nurses in matters relating to ray therapy.

Dr. R. Prosser White has been elected an honorary member, and Dr. H. W. Barber and Dr. A M H Gray corresponding members, of the Vienna Dermatological Society.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9561, 9562, 9563, and 9564 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medusera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish *Office*, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Wagstaff's Forceps

"CROYDONIAN" writes: Would any reader of the *British Medical Journal* give his experiences of Wagstaff's obstetrical forceps? They are praised by Stark in his work on general practice, but I can find no reference elsewhere. How does one distinguish upper from lower blade, and how does one determine the correct axis of pull?

Hemicrania

Dr. R. A. HOLLINGSWORTH (Sydenham) asks for suggestions in the treatment of the following case. A lady, aged 50, has suffered from migrainous attacks from the age of 15. The attacks have always been of the severest type, the pain being above concert pitch. Of late they have become more frequent, barely a week elapsing between them. The pain is worse when it settles in the left eyeball, and is attended with severe vomiting. The intensity of the pain is such that the patient asserts that she is hardly able to see with the left eye at the height of the paroxysm. An attack usually lasts three to four days, during which no food can be retained. There is evidence of hypopituitarism. The eyes have been examined, and suitable glasses prescribed. The teeth are in good condition. The bowels are constipated, and are only opened by laxatives. The liver is peculiarly intolerant to such drugs as calomel and ammonium chloride, a dose of any of these precipitating a typical attack of biliary colic. Eight years ago the patient was operated on for gall-stones. All the usual drugs, such as bromides, phenacetin, antipyrin, and aspirin, have been tried to little or no purpose. Morphine injections alone afford relief from pain, but the undesirable after-effects of this drug, coupled with the nerve-exhausting nature of the attacks themselves, are seriously undermining the patient's general health.

Coincident Zoster and Varicella

Dr. J. BORRIE HARRIS (Armagh) writes, in reply to Dr. S. R. Hunter (April 4th, p. 610): The herpes zoster is very likely the cause of the varicella. Sir James Purves-Stewart, in his *Diagnosis of Nervous Diseases*, states: "The infective organism which produces herpes is apparently identical, in many cases, with that of varicella, for a chicken-pox epidemic may take its starting-point from a case of herpes zoster" (vide also Bokay, *Wien. klin. Woch.*, September 30th, 1909, and R. C. Low, *British Medical Journal*, January 25th, 1919). Osler also points out that varicella may then attack adults who have escaped in childhood, and he, too, refers to the association with herpes zoster. Some time ago, when in Scotland, I treated a male patient, aged 38, who developed varicella while suffering from herpes zoster, although there was no other case of varicella in the neighbourhood. On another occasion, in a small town similarly free from varicella, a child developed varicella while living in the house of a patient who had herpes zoster.

Income Tax

Change in Share of Partnership Profits

"R. O. E." was a partner on the basis of one-third share to January 1st, 1931, and subsequently on a one-half basis. How will his liability be calculated for 1931-32?

*** On one-half of the amount of the profits of the year 1930. Further, his proportion of the gross assessment for the year ended April 5th, 1931, should be three-quarters of one-third + one-quarter of one-half = one-quarter + one-eighth—that is, three-eighths.

Earnings Abroad during Short Period

"MAHARAJAH" left England on March 14th, 1930, to take up an appointment in an Indian Native State which was expected to last some years. Owing to unexpected circumstances the appointment was of short duration, and our correspondent arrived back in England on September 5th, 1930. Is he liable to income tax here on the earnings of the appointment? No residence was maintained in the United Kingdom during his absence. The remuneration was paid in India in rupees.

*** The circumstances are unusual, and in our opinion "Maharajah" is not liable in respect of the earnings accruing to him while abroad. If in the absence of due notice he received as pay, or in lieu of pay, sums calculated to cover a period ending after September 5th, 1930, then he would apparently be liable in respect of pay accruing for a period after that date.

LETTERS, NOTES, ETC.

Visit of Scientists to Russia

We have received the following letter for publication from Lady Sprigge (chairman), Sir Peter Chalmers Mitchell, and Professor Julian Huxley, on behalf of the Society for Cultural Relations between the Peoples of the British Commonwealth and the U.S.S.R.: It is proposed to organize a tour of scientists to the U.S.S.R., and the first party will leave London Bridge by Soviet ship for Leningrad on July 18th. The return fare will be £18 inclusive. The party will spend a total of sixteen days in Russia: three days in Leningrad, five days in Moscow, half day in Nizhni-Novgorod, and four days on the river down to Stalingrad (if desired), and the cost per day will be £1 per head inclusive, the balance of the days being spent in travelling. Meetings will be arranged, which members of the party will be invited to address, and there will be excursions, with guides, to scientific institutions of interest to the members. The Soviet authorities are prepared to give this tour second category accommodation at third category prices. The accommodation will be comfortable, and persons will sleep three or four in a room. Those wishing to sleep two in a room will pay 5s. per day extra. In the first instance, the party will consist of twenty-five persons. If there is a large demand for places a second party will be made up of twenty-five; the Russian authorities are prepared to accommodate up to one hundred persons if necessary. A further party may be arranged, if sufficient names are received, to leave London about the second week of August, returning to London in time for the British Association Meeting. The latest date for receiving applications is April 30th. Applications and all inquiries should be addressed to the secretary, Society for Cultural Relations, 1, Montague Street, W.C.1.

Filter-tipped Cigarettes

A device for intercepting the acrid constituents of tobacco smoke without impairing its flavour or obstructing free draught has been introduced by the firm of Peter Jackson (Tobacco Manufacturers) Ltd., in their du Maurier Virginia filter-tipped cigarettes. The cork-covered tip is made up of three layers of crinkled vegetable tissue, interleaved with two layers of absorbent cellulose, the edges of the coiled layers being presented axially. The aim of this ingenious filter is to trap the irritating pyridine derivatives and other non-volatile bodies, while permitting free passage of the agreeable volatile constituents of tobacco smoke.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 55, 56, 57, 58, 59, 62, and 63 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 60 and 61.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 127.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

366 Etiology of Sero-fibrinous Pleurisy

In an endeavour to elucidate the etiology of primary serous pleurisy and to determine if a differential diagnosis can be made between undoubtedly tuberculous exudations and those of uncertain origin, A. LANDAU, J. GLASS, and M. MARKSON (*Ann. de Méd.*, January, 1931, p. 41) have recorded a careful study of 28 cases. Their investigations indicated that the two types were almost indistinguishable, such differences as existed being too slight to be of diagnostic value. In 54 per cent. of the cases the origin was proved to be tuberculous; in 46 per cent. the etiology was uncertain, but in 27 per cent. of these a tuberculous etiology was strongly suspected. The authors agree with the French school that all primary pleurisies are tuberculous. The negative results of guinea-pig inoculations in some cases may be due to bacteriolytic properties of the exudate, or to the occurrence in them probably of an attenuated type of the Koch bacillus. In the cases of secondary pleurisies, of which only 50 per cent. were tuberculous, other etiological factors, such as streptococci and pneumococci and influenza bacilli, were present. The absence of a tuberculous causation in cases of secondary pleurisy must be proved by the negative results of animal inoculations, by the existence of a plain and direct relation between the effusion and another focus of infection such as rheumatism or influenza, and by the eventual discovery of the causal micro-organism.

367 Cerebral Aspergillosis

E. MONIZ and R. LOFF (*Presse Méd.*, February 21st, 1931, p. 273) record a case of cerebral aspergillosis in a woman, aged 44. Three years previously the patient had suffered from an inflammation of the left eye, with great pain in the globe and immediate amaurosis of that eye. When admitted to hospital a grave iridocyclitis was present, associated with mental disturbances and great intellectual torpor. Headache and vomiting were absent. Examination showed a right hemiplegia with involvement of the lower facial nerve branches and slightly of the upper ones. No cerebellar troubles were apparent. A diagnosis of syphilis was entertained, but specific treatment produced no improvement. Death occurred in four days; the necropsy revealed an extensive aspergillosis in the left frontal region, which extended to the centrum ovale and posteriorly into the caudate nucleus and internal capsule. Mycotic infections of the eye have been reported, but the condition is usually limited to the external ocular media. In the present case the fungus had evidently reached the brain through a corneal ulceration. The authors emphasize the possibility of such transmission and the need of immediate appropriate treatment when a diagnosis of ocular aspergillosis is made. They also note the slow evolution of the cerebral condition.

368 Fourth Disease

DRENKHAHN (*Deut. med. Woch.*, February 20th, 1931, p. 319), who records an illustrative case, states that in 1917 an epidemic occurred among the children in Godesberg which was regarded as "fourth disease." On this occasion his patient, a girl aged 8 years, contracted the disease, as did four other members of the family. Thirteen years later, when she was employed as a hospital nurse in charge of infants within the first eight months of life who were not suffering from any infectious disease, she developed similar symptoms—namely, a scarlatiniform rash, with a negative extinction sign, fever, and sore throat. There was no desquamation. She was sent home, where twelve days after the onset of the disease two children showed similar symptoms, except that there was also a branny desquamation. In none of the cases was there any renal involvement.

369 Insulin Oedema

I. H. MARCUS (*Med. Journ. and Record*, January 7th, 1931, p. 12) reports a case of the occurrence of oedema during insulin therapy, in view of the rarity of references in the literature to this complication. In a married woman, aged 32, oedema appeared in the legs on the fifth day after starting insulin injections for diabetes, and spread thence to the thighs; the eyelids were also affected. The patient gained 19 lb. in weight in less than a fortnight. Her fluid intake had been excessive, though this was not the case as regards mineral salts. Recovery ensued without any restriction of salts being found necessary. Marcus discusses the various etiological explanations which have been put forward, and concludes that the mechanism of its production is unknown. Retention of water by the body during the first days of a course of insulin therapy seems to be frequent, possibly owing to some increase of the hydration capacity of the tissue colloids.

370 Meningococcaemia with Endocarditis

A. M. MASTER (*Journ. Amer. Med. Assoc.*, January 17th, 1931, p. 164), who records three illustrative cases in a man aged 30, a boy aged 11, and a woman aged 48 respectively, states that though the number of cases of meningococcaemia on record is increasing, the disease is still relatively rare. Its similarity to subacute bacterial endocarditis is shown in the embolic phenomena in the skin, kidneys, and spleen, the fungating endocarditis often engrafted on an old rheumatic endocarditis, the septic course, the joint pains without local inflammation, and the positive blood cultures. Although many writers regard endocarditis as a rare complication of meningococcaemia, endocarditis may be present without any clinical evidence, as is shown by Mackarell's case, in which a massive fungating mitral endocarditis was found at the necropsy. All Master's patients recovered, the diagnosis of endocarditis being made by clinical examination and the teleroentgenogram and electrocardiogram.

Surgery

371 Diverticula of the Urinary Bladder

W. E. LOWER (*Surg., Gynecol. and Obstet.*, February 15th, 1931, p. 324), from a series of 151 cases, points out that diverticula of the urinary bladder may exist without causing any symptoms suggestive of their presence. Their most usual site is in the lateral wall near the ureters. They may be single or multiple, arising from some congenital defect which becomes intensified by obstruction to the urinary outlet. While they may occur at any age, over 80 per cent. were detected only after the age of 50. Frequency and difficulty in urination, with a pyuria persisting after repeated irrigations, should lead to this condition being suspected, but the best diagnostic method is by radiographic examination of the bladder from different angles after catheterization, and refilling with a solution of sodium iodide. Apart from prostatic conditions, the commonest complications are vesical infection, calculi, and tumours. It is generally agreed that complete excision is the only satisfactory treatment. To avoid recurrence any obstruction likely to have been a causative factor should also be removed. Under spinal anaesthesia the bladder is explored through a suprapubic incision; the diverticula are located, and the mode of procedure is determined. By converting the collapsed diverticulum into a semi-solid mass by packing it with gauze tape from within the bladder it can be approached from outsid the bladder, and its attachment be severed and the bladd opening closed. When the ureter is involved it may necessary to transplant it, retaining its physiologi function as far as possible. The prognosis is good if

radical operation is performed early, and before the renal impairment has become marked. Such an operation is the method of choice because it affords greater relief than can be obtained by palliative measures.

372 Minimal Exploratory Laparotomy

J. SOUZA MENDES (*Rev. Sud-Amér. de Méd. et de Chir.*, January, 1931, p. 45) advocates a method consisting in a direct inspection of the peritoneal cavity through an incision not more than 2 cm. in length, with the aid of a Killian's nasal speculum and a head-lamp. A long pair of Hartmann's forceps is employed to push aside coils of intestine which impede a view of the region inspected. It is claimed that this procedure can be conducted with the aid of novocain anaesthesia alone. The method is recommended in particular for the following conditions: (1) in cases of abdominal contusion where rupture of gut is suspected; (2) in perforating wounds of the abdominal wall, the wound itself providing an opening for inspection; (3) where it is desirable to make a certain decision about the site and extent of tumours before a major operation, and sometimes for the removal of biopsy specimens, or of fluid from cystic tumours, when transabdominal puncture is difficult or dangerous; (4) in cases of chronic peritonitis, to facilitate direct inspection of characteristic tuberculous or neoplastic lesions; and (5) in certain cases where direct inspection of the stomach, duodenum, or gall-bladder is a valuable preliminary to ordinary laparotomy.

373 Pseudarthroses of the Neck of the Femur

J. LEVEUF (*Presse Méd.*, February 11th, 1931, p. 204) refers to Delbet's work during the last twenty years on fractures of the neck of the femur; transcervical fractures, unlike the cervico-trochanteric variety, seldom unite spontaneously, and it is with the first of these that the present article is concerned. In a recent thesis the percentage of good results under present-day treatment was given as 37.5 per cent., a figure which contrasts unfavourably with the 95 per cent. of Leveuf, who judges by the functional result in reference to walking. Inquiring into the cause of this discrepancy, he emphasizes the importance of realizing that in transcervical fractures there is always some destruction of the remains of the femoral neck. So long as there is apposition between the trochanter with the remains of the neck and the head, correct anatomical realignment of the parts is not essential for a good functional result; a simple pegging operation with a fibular graft as practised by Delbet ensures good bony union, the graft acting simply as an osteogenetic factor. In recent years surgeons have attempted to overcorrect the displacement by extension; as a result the graft has had considerable strain imposed on it, and has consequently failed to induce union in a large percentage of cases. Leveuf holds that the original technique of Delbet (which does not involve arthrotomy) gives much the best prospect of good functional result, and that the more severe operations of arthrotomy and ablation of the head of the femur are not justified as procedures of election.

374 Staphylococcal Septicaemia

B. COHN (*Med. Klinik*, February 13th, 1931, p. 243), who records an illustrative case, states that septicaemia due to haemolytic staphylococci is a relatively rare but prognostically very unfavourable disease; only one of 24 patients treated by Jochmann recovered. Almost nine-tenths of Lenhartz's cases were fatal, and of Soper's 40 patients 29 died. Otten lost 44 of his 55 cases, a mortality of 80 per cent. The staphylococcal differs from other forms of septicaemia by its well-marked tendency to the formation of metastases, especially in the cases of boils of the lip, also by giving rise to paranephritic abscesses, pulmonary abscesses, and occasionally pulmonary gangrene. Cohn's patient was a man, aged 24, who developed staphylococcal septicaemia secondary to a boil on the upper lip. Little effect resulted from the injection of antistaphylococcal serum, and empyema followed by septic myocarditis ensued. Gradual improvement, however, took place, and finally the patient completely recovered.

Therapeutics

375 Strychnine in Alcoholic Delirium

P. PAGNIEZ and P. CHATON (*Presse Méd.*, February 28th, 1931, p. 297) believe that strychnine as a remedy for alcoholic delirium has undeservedly fallen into disuse. This method of treatment was introduced by Luton over fifty years ago, and although it is still sometimes used in delirium tremens, its value in alcoholism in general has been largely neglected. The authors believe that strychnine is valuable at all stages of the malady, and their procedure is to inject its sulphate in doses of 2 mg. every three hours, or in severe cases every two hours; amounts of 10 to 16 mg. are thus given every 24 hours. Small frequent doses are indicated, since the drug is eliminated rapidly from the body. Fluids are given freely. If restlessness is not excessive the patient is left at liberty in his room, which contains only a mattress. When there is great violence, or a medical or surgical complication such as pneumonia, the patient is restrained, and no ill effects have resulted from tying him to the bed. Confusion, hallucinations, tremulousness, and sweating are all generally relieved within twenty-four or forty-eight hours; when this stage is reached the amount of strychnine is reduced to 10 and 8 mg. daily, and is gradually further diminished. No dangers have been encountered in this treatment, and good results have been obtained in 42 serious cases, some being complicated by fever, pneumonia, or fracture. No such beneficial effect is obtained in non-alcoholic delirium, nor has the drug any harmful effect in these patients. The specific value of strychnine in alcoholism is attributed by the authors to a pharmacological antagonism, and they quote the work of Vulpian, who showed that dogs to which alcohol had been administered were protected from the harmful effect of normally lethal doses of strychnine given by the mouth.

376 Mercurialism following the Application of Mercurochrome

D. E. H. CLEVELAND (*Canadian Med. Assoc. Journ.*, February, 1931, p. 272) reports a case of mercurialism in an infant which followed the application of a 4 per cent. solution of mercurochrome 220 soluble. Six days after birth groups of vesicles developed around the ears and neck, and the application of mercurochrome was ordered, associated with ultra-violet irradiation. After rupture of the vesicles slight suppuration ensued, but healing followed. Subsequently more vesicles appeared on the chest, one arm, and one leg, and a transient cyanotic swelling of the right thumb and index finger developed, with a vivid red rash over the whole body. There was a definite blueness of the extremities, and the child held the neck and body in a hyperextended position. There was much frothy saliva, and the mucous membrane of the mouth was reddened. There was a trace of albumin in the urine, but no casts or red cells; the weight decreased a little. The mercurial applications and irradiation were stopped, and the infant steadily improved. Cleveland criticizes the use of irradiation in dermatology as a routine procedure, but thinks that in the present instance it was in no way to blame. He considers this a definite case of general poisoning following the external application of mercury, which indicates that there is some risk attending the employment of mercurochrome in this way, a point to be remembered in prescribing it for such a common disorder as impetigo contagiosa.

377 Treatment of Pernicious Anaemia

K. GUTZEIT and J. HERRMANN (*Münch. med. Wöch.*, February 13th, 1931, p. 266) have administered daily by the mouth to three patients with pernicious anaemia 75 to 100 c.mm. of gastric juice obtained from dogs after it had been allowed to act on 250 grams of muscle for one hour at 37° C. They obtained a marked reticulocyte reaction with subsequent rise in the red cell count and the haemoglobin percentage after four to eight days. A similar

reaction was obtained by giving a special pepsin preparation, but only after this had been allowed to act on muscle for one hour at 37° C. The authors assert that the ferment of ventriculin does not contain the anti-anaemia substance, and that the powdered extract from the membrane of the fundus always gave a quicker and more certain reaction to reticulocytes and red cells than the extract obtained from the pyloric mucous membrane. Powdered extract obtained from the small intestine of the pig was tried in one case of pernicious anaemia without effect.

378 Tryparsamide in Neurosyphilis

J. SPITZ (*Urol. and Cut. Rev.*, February, 1931, p. 122), who records two illustrative cases of its use in men, aged 36 and 43 respectively, states that tryparsamide, the sodium salt of N-phenyl-glycine-amido-*p*-arsonic acid which was discovered by Jacobs and Heidelberger in 1915, has an affinity for the central nervous system and exerts a general tonic effect. It is, however, of little value in the treatment of syphilitic conditions other than those of the central nervous system, but it is most effective in the early stages of tabes and general paralysis. Its toxicity is slight, and when toxic sequels such as arsenical dermatitis occur they soon clear up. The greatest danger is optic neuritis. A careful ophthalmoscopic examination should therefore be made before beginning the use of the drug, and a close watch should be kept for the earliest manifestation of retinitis during treatment.

Laryngology and Otology

379 Laryngeal Complication of Quinsy

G. MARTUSCELLI and M. ALEMI (*Arch. Ital. di Otol., Rinol. e Laryngol.*, January, 1931, p. 1) record a personal case with a review of the literature dealing with involvement of the larynx secondary to quinsy. Their patient was a man, aged 34, who on the day following evacuation of a peritonsillar abscess developed difficulty in breathing. Laryngoscopic examination revealed oedema of the vestibule of the larynx, especially of the arytenoids and aryepiglottidean folds. Throat swabs showed a mixed growth of staphylococci and streptococci. Ice was applied externally and the throat was sprayed with carbolic acid. As the symptoms became worse the next day, free incisions were made in the affected parts with Tobold's knife, and intragluteal injections of antipyogenic stomosine were given; in four days the symptoms subsided, and in about a week the patient made a complete recovery. The authors have collected four other cases of quinsy with laryngeal complications from the literature, of which two were fatal and one recovered after tracheotomy; the issue in the fourth instance is not recorded.

380 Involvement of the Acoustic Nerve in Encephalitis

E. WODAK (*Rev. de Laryngol., d'Otol. et de Rhinol.*, December 15th, 1930, p. 681) examined all the cases of epidemic encephalitis admitted to the German Neurological Clinic at Prague from 1925 to 1927 and found that almost every patient had had at some period of his illness involvement of the eighth cranial nerve. The vestibular division was most commonly affected, and a few cases of both divisions being attacked were seen, but in no instance was involvement of the cochlear division alone observed. The affection may be either a hyper-excitability or a hypo-excitability, and may involve one or both sides. The patient complains of vertigo, nausea, and vomiting, and, if both divisions are involved, of deafness and tinnitus. Spontaneous rotary nystagmus is observed. The author was also impressed by the differences noted in the responses to the caloric and rotatory tests in the same patient. Hyper-excitability to one stimulus may coexist with hypo-excitability to the other. Differences between the tonic reflexes and the nystagmus were also noticed in some cases during the rotation tests. A number of cases were examined which presented the post-encephalitic condition of ocular muscle spasm, pseudo-Parkinsonian retropulsion and propulsion, and spasmodic torticollis. It was found that all these signs were altered or abolished if the vestibular nerve was stimulated by either hot or cold caloric tests, and the author claims that these well-known post-encephalitic phenomena are always due to disordered labyrinthine reflexes. Cases have been seen which presented no other symptoms than the vestibular. Labyrinthine symptoms often persist in patients who have made an otherwise complete recovery. They complain of sudden giddiness, often associated with change of position of the head, and simulating otolithic disorder. There are often long periods of freedom from symptoms, but each relapse is more severe than its predecessor.

381 Intrinsic Carcinoma of the Larynx

W. O. JOHNSON (*Amer. Journ. Surg.*, January, 1931, p. 16) emphasizes the importance of early diagnosis and treatment of carcinoma of the larynx. The condition occurs most often after the 30th year in men, and constitutes 98 per cent. of the malignant lesions of the larynx; of these 96 per cent. are of the squamous-cell type, and are of Group 4 malignancy. The initial symptom in 90 per cent. of cases of carcinoma of the larynx is a persistent hoarseness, with pain, dryness, and dysphagia as later symptoms. Direct laryngoscopy is of value where the diagnosis is in doubt. Surgical treatment should be undertaken as soon as possible, before the vocal cord has become immobile through the penetration of the subadjacent muscles by the neoplasm. Immobility is usually dependent upon infiltration posteriorly into the base of the arytenoids, with extension of the growth across the anterior commissure, posteriorly to the ventricular band on the epiglottis, and downwards to the cricothyroid membrane. When this extension is present the lymphatic channels are involved, and metastasis becomes probable, with a poor prognosis. Laryngo-fissure should be performed only in very incipient cases in the anterior quarter of the cord, where much normal tissue can be removed with the growth. For the great majority of cases laryngectomy is the operation of choice. Local anaesthesia by novocain block and infiltration has been found to be successful, and general anaesthesia should be avoided whenever possible. Careful pre-operative and post-operative treatment is of the greatest importance. The mortality after laryngectomy was only 3 per cent.; it was found that 70 per cent. of patients suffering from intrinsic carcinoma of the larynx could be cured by this means, and were able to return to their normal life and occupation.

Obstetrics and Gynaecology

382 The Diagnosis of Pregnancy

According to J. K. COUCH (*Med. Journ. of Australia*, January 24th, 1931, p. 99) one of the most reliable signs of pregnancy is that discovered by Jacquemin in 1836, which consists in the blue staining of the vulva, usually most marked around the meatus, in the vestibule, and extending up the anterior vaginal wall. It commences about a month after the beginning of pregnancy, and becomes more marked with its advance. It disappears if abortion ensues or the ovum dies. Couch has also found a violet discoloration of the cervix, most marked at the os and gradually fading upwards. These colour changes must be observed by daylight; they are said to be absent in other forms of uterine enlargement. Other of the more trustworthy indications of pregnancy are amenorrhoea, confirmed by increase in the size of the uterus to a corresponding degree, marked anteflexion, softening of the cervix and of the uterine fundus, especially anteriorly, and breast signs in the primipara, though not in the multipara. Couch believes that the most useful diagnostic evidence of an early tubal mole is the cessation of menstruation at the proper time, and then its reappearance for a couple of weeks, though not profusely. He thinks that many early ectopic pregnancies are undiscovered, the patients recovering without an operation

being indicated or required. Although the uterus enlarges in a case of ectopic gestation, it never exceeds the size of a three months' pregnancy, even when the ovum is at full term.

383 Lymphocytosis associated with Ovarian New Growth

H. M. WINANS (*Amer. Journ. Med. Sci.*, February, 1931, p. 251) reports a case of leukaemia developing apparently in association with the appearance of a pseudo-mucinous cyst of the right ovary and a papillary adenoma of the left ovary. A married woman, aged 29, was admitted to hospital with a normal blood picture and a respiratory infection with Vincent's organisms which yielded promptly to treatment. A cyst of the right ovary was discovered by a radiographical examination, and at the operation a papillary ovarian adenoma on the other side was found and removed also. Abdominal tenderness had caused attention to be directed to this part of the body, and simultaneously with its appearance there had been a leucocytosis of over 18,000 per c.mm., with a lymphocyte percentage of 85. Following the operation the leukaemic picture gradually diminished until the blood count returned to the normal. Winans is satisfied that the original infection with Vincent's organisms was not the cause of the lymphocytosis; he thinks it possible that there might have been some degree of peritoneal irritation associated with the ovarian growths, and that this affected the blood. Alternatively, the growths themselves might have been responsible, but no evidence in support of this view was obtained.

384 Salpingostomy for Sterility

According to W. T. MATWEJEWA (*Zentralbl. f. Gynäk.*, January 31st, 1931, p. 302) salpingostomy is capable of restoring tubal function in a not inconsiderable number of cases, including some in which the morbid anatomical conditions are long-standing and extensive. At the operation, which must be deferred until all acute inflammation has subsided, it is essential to perform ventrofixation simultaneously. The combined procedure, employed at the author's clinic on forty-five occasions during the last two years, and sometimes preceded by partial resection of the tube, has so far been followed by five pregnancies, two after sterile marriages lasting nine and five years respectively. The operation should be followed by periodical insufflation of the tubes.

Pathology

385 Etiology of Blood Transfusion Reactions

J. BORDLEY (*Arch. Int. Med.*, February, 1931, p. 288) describes a delayed or prolonged reaction following blood transfusions in 17 cases, which he believes was due to the injection of incompatible blood. The signs and symptoms develop from severe functional renal damage. Most of the patients were relatively young adults. Anaemia was present in all, but this and the patients' general condition had little influence on the occurrence of the reaction or its outcome. The reaction presents the following characteristic features. Immediately after transfusion a sharp febrile reaction occurs, followed frequently by haemoglobinuria, and invariably by suppression of urine. For several days afterwards there is symptomatic improvement, but continued oliguria. After this interval the delayed reaction develops rapidly, commencing with agitation or drowsiness, which is replaced by evident uraemia. Convulsions and coma may supervene. The outcome is frequently fatal; 11 of the 17 patients died. Recovery is associated with diuresis; death occurs in uraemia. At the necropsy the kidneys are swollen; the tubular epithelial cells contain droplets of pigment, and show advanced degenerative changes; the tubular lumina are filled with various cells, blood pigment, and debris. Small hepatic necroses are generally found. Four possible explanations of the mechanism by which incompatible blood damages the kidneys are discussed—namely: (1) by mechanical blockage of their tubules; (2) by a local reaction of an anaphylactic nature; (3) a metabolic disturbance; and (4) damage of the renal substance by toxic substances set free in the blood. The daily output of urine greatly aids in prognosis; haemoglobinuria is of far less prognostic significance than the amount of urinary excretion. The delayed reaction is not rare. In addition to the detailed reports of the present cases, brief mention is made of several others which have been recorded.

386 The Titre of Isoagglutinating Serums

P. GIOVANNI and C. ANGELERI (*Rif. Med.*, January 5th, 1931, p. 8) consider that for the determining of blood groups it is essential to use serums of high activity, and describe a method of estimating the titre of isoagglutinating serums. They also recommend the determination of the panagglutinating content. Small amounts (4 to 5 c.cm.) of blood are removed from a series of persons of Groups II and III; preliminary hanging-drop tests are made with them. The titres of the positive serums are estimated as follows. With an ordinary red-cell pipette, serum is drawn up to the mark ½, blood cells of suitable group to mark 1, and sodium citrate to mark 101, the serum being diluted 100 times. After mixing, the contents of the pipette are blown out into a haemolysin tube, kept at 37° C. for an hour, and then examined microscopically in hanging drops. This procedure is repeated with the same serum, and in the case of several individuals of the same group. The positive serums indicate that a titre above 1 in 100 is reliable for determining blood groups. To estimate the panagglutinin content a white-cell pipette is used. The serum to be tested is drawn up to mark 1, red cells (from the same group or from Group I) to mark 3, and sodium citrate to mark 11, the serum being diluted 1 in 10; the number of red cells is not excessive, or likely to mask the presence of panagglutinin. The contents of the pipette are blown into a haemolysin tube, placed on ice for an hour, and then tested microscopically in hanging drops. Safety is ensured when no trace of agglutination is observed.

387 Seasonal Variations in Resistance to Disease

F. MAIGNON (*C. R. Soc. de Biologie*, February 20th, 1931, p. 445), discussing the increased susceptibility of animals at different times of the year to the action of certain viruses, toxins, and chemical substances, draws attention to the work that he has carried out on the seasonal alteration in metabolic activity. He finds that, in the dog, muscular glycogenesis reaches its first maximum in the spring, and a second less marked maximum in the autumn; in the summer and winter it is at a minimum. Similar observations have been made on the carp and the guinea-pig. The author has also found that in the dog and the guinea-pig the activity of respiratory combustion, or the oxidation of organic compounds, displays the same seasonal variations, being at a maximum in the spring and autumn, even in animals kept at a uniform temperature and fed on a uniform diet. It is noteworthy that these maxima coincide with the periods of activity of the genital glands. That these glands have an effect on nutrition is indicated by the fact that the titre of glycogen in the muscles is always higher in males than in females; castration of the male lowers the titre to that of the female, while the injection of testicular extract into the normal but not the castrated male raises the glycogen titre. Maignon has further observed that white rats fed exclusively on ovalbumin and mineral salts survive for four to six weeks in the summer and winter, while they die in three to six days in the months of May and November. The addition of vitamins to the diet does not modify this result. He concludes, therefore, that the seasons influence muscular glycogenesis, respiratory combustion, and nutrition as a whole, altogether apart from any change in temperature; that in spring and autumn nutritional activity reaches its maximum; and that at these times the susceptibility to infections and intoxications is increased.

PERCAINE "CIBA"

Trade Mark Registered

The New Local Anæsthetic for Regional, Infiltration, Surface and Spinal Anæsthesia

Acts in extreme dilution (0·5—2 : 1000).
Produces anæsthesia of unattained intensity and duration.
Not a narcotic. Economical in use.
Belongs chemically to a class entirely different from cocaine and its derivatives.

Vide *British Medical Journal*, March 15, 1930, pp. 488-9, and 495-6, and April 5, 1930, pp. 660-70. *The Lancet*, March 15, 1930, pp. 573-4 and 587. *British Journal of Anæsthesia*, April & July, 1930. *Proceedings of the Royal Society of Medicine*, May, 1930, pp. 919-928. *British Journal of Urology*, June, 1930, pp. 129, 130 and 179.

Packages available :

Percaine Crystals. 1 grm. and 5 grm.

Percaine Tablets (for the preparation of solutions). Tubes of 20 × 0·05 grm. Tubes of 10 × 0·1 grm.

Percaine Ampoules.

Boxes of 5 × 5 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 2 : 1000 (with Adrenalin).
Boxes of 12 × 2·0 c.c. Solution 1 : 1500, for Spinal Anæsthesia.

THE CLAYTON ANILINE Co. Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1
Telephones: Hop 6954, 6955. Pharmaceutical Department. Telegrams: Cibadyes Boroh London

CAREFUL ATTENTION GIVEN TO DOCTORS' INSTRUCTIONS AND PROMPT DISPATCH.

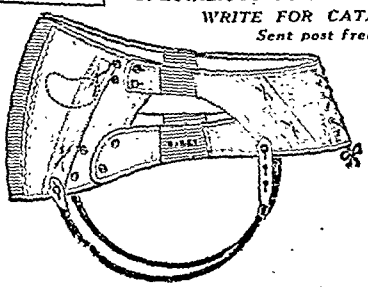
W. H. BAILEY & SON

45, OXFORD STREET, LONDON, W.1.

SPECIALISTS IN ABDOMINAL BELTS, TRUSSES, AND ELASTIC STOCKINGS.

Telephone: GERRARD 3185. 2313. *Telegrams:* BAYLEAF, LONDON.

WRITE FOR CATALOGUE. Sent post free.



No. 5a. BELT (Bailey's Patent) FOR FLOATING KIDNEY.

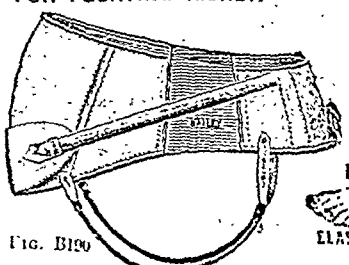
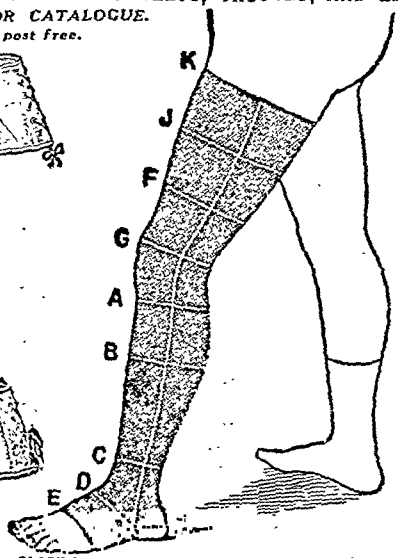


FIG. B190

BELT FOR ENTEROPTOSIS.



ELASTIC STOCKINGS FOR VARICOSE VEINS.
Uniform support maintained throughout.
Superior to any bandage; harm often being caused through unequal pressure in winding round the limb.
97 YEARS' REPUTATION FOR BEST QUALITY AND COMFORT.

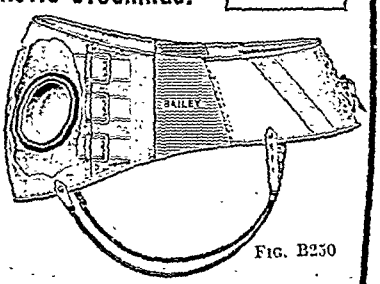
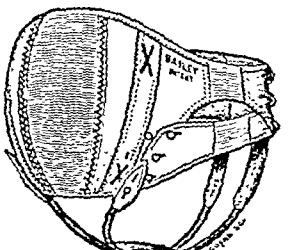


FIG. B230

(Showing Interior of Cup.)
SPECIAL BELT FOR AFTER COLOSTOMY.



No. 3. BELT (Bailey's Patent) FOR PROLAPSUS UTERI.

THE CROWNING ACHIEVEMENT

U.G.B. MEDICAL BOTTLE *Service*

DURING the past ten years at tremendous expense, a very wide range of automatic machine mould equipment has been built up by the U.G.B. to cater for practically every bottle requirement of the Chemist and Dispenser. New and attractive shapes are now being added from time to time.

The Crowning Achievement was the introduction of the "Washed and Sterilised Ready-to-Use Package" which is daily growing in demand.

Only a small percentage of the actual cost of this service is passed on to the customer.

Supplied either for corks or complete with Rustless White Enamelled Screw Caps.

Once you have experienced the value and convenience of this U.G.B. Service you will use nothing else. Try it NOW and be prepared for the WINTER.

Obtainable from all leading Wholesalers.

UNITED GLASS BOTTLE MANUFACTURERS · LIMITED
The largest manufacturers of Glass Bottles in Europe.

Head Offices:
40-43, NORFOLK STREET, STRAND,
LONDON, W.C.2.
'Phone: Temple Bar 6680. 'Grams: 'Unglaboman, Estrand, London.'

RHEUMATOID and OSTEO-ARTHRITIS

Amidst the recognised difficulties in treatment of advanced cases of Rheumatoid and Osteo-Arthritis it is not generally realized that many patients have been restored to active life after being bedridden, suffering great pain for years, by Hoefftcke's Ambulatory Extension Treatment.

Many cases have been described by eminent medical men, some results of which are shown below.

FIG. 1.—December, 1921.

Case of Mrs. H., aet. 35.

FIG. 1.—Shows the knee-joint fixed in a position of partial flexion; patella ankylosed.

FIG. 2. — Shows after an interval of 9 years the improvement which resulted from 3 years' extension treatment—the complete restoration of the tibio-femoral joint which permits of free and painless flexion and extension.

This case was one of exceptional severity. In the average case the Extension Walking Appliance can be discarded in one or two years from the time of its first application.

FIG. 2.—April, 1930.

FIG. 3.—December, 1921.

FIG. 3.—Shows the irregularity of the outline of the articular surfaces as seen from before backwards. The interval between the bones is practically obliterated.

FIG. 4.—Shows the joint in an antero-posterior plane. Note the restoration of the outlines of the articular surfaces and the formation of a practically normal interval between the bones.

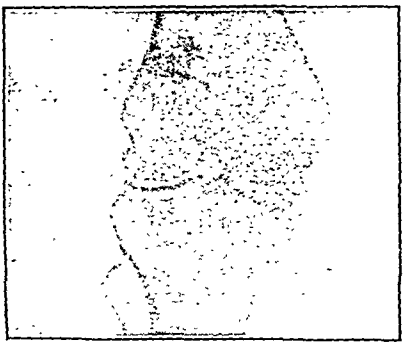


FIG. 4.—April, 1930.

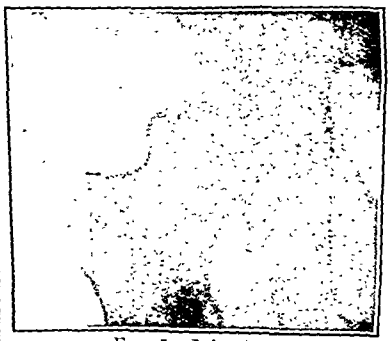


FIG. 5.—July, 1929.

Case of Mr. S., aet. 68.

FIG. 5.—Shows the hip-joint practically ankylosed in the *adducted* position. Patient hardly able to walk with great pain.

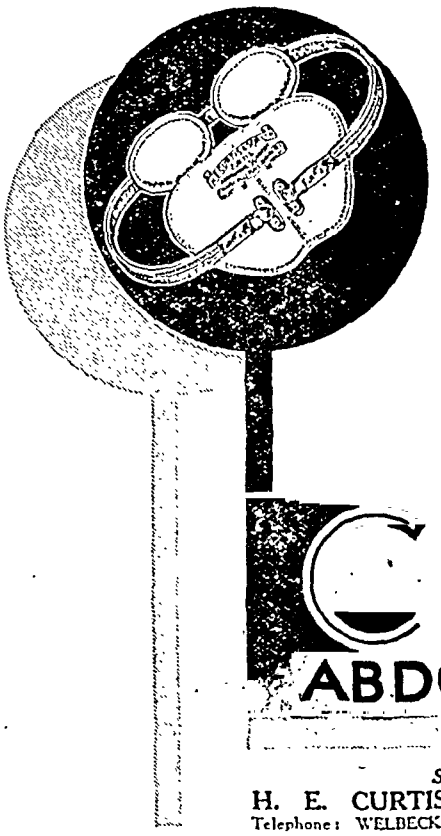
FIG. 6. — Shows spike absorbed; cavity filled in; head of femur covered with new cartilage, resulting in free abduction with full painless movement in the joint.

FIG. 6.—February, 1931.

Particulars and illustrations of this treatment will be forwarded on application, and original radiograms of these and other cases can be shown

by

CAREL A. HOEFFTCKE, 7, Harley Street, London, W.1.



Comfortable, and Correct Support

Assured to all sufferers from abdominal ptosis who wear the Curtis Abdominal Support, Model No. 1. The principle of this support—that of anterior posterior support—has been proved by scientific research to be the most efficient. There is no circumferential pressure, hence the wearer's freedom of movement is in no way restricted. There is no cramping or binding of the hips. It is light in weight, and easy to apply. There are no complicated fastenings.

IN USE IN MOST OF THE LONDON HOSPITALS.

CURTIS
ABDOMINAL SUPPORT

Sole Manufacturers of the Curtis Appliances:—
H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.
Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

BUY BRITISH
SAVE 33⅓%
IMPORTATION

The field for Diathermy Current applications is rapidly increasing

DIATHERMY
MEDICAL AND SURGICAL

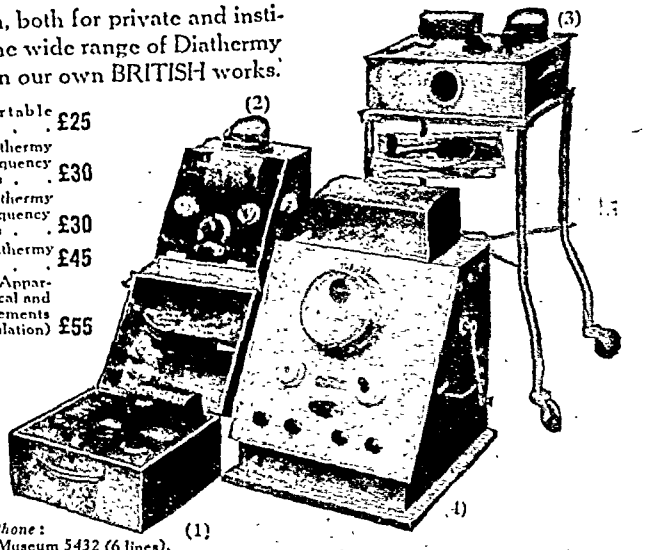
EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available:—

FOR SURGERY
e.g.: Surgical cutting by High Frequency indulations or coagulation.

FOR THE PHYSICIAN
for treatment purposes only.
also
FOR BOTH SURGICAL and MEDICAL.

No. 1. "EMESAY" Portable Diathermy . . . £25
No. 2. "AMAZON" Diathermy and High Frequency Current Apparatus . . £30
No. 3. "MERIDIAN" Diathermy and High Frequency Current Apparatus . . £30
No. 4. "EQUATOR" Diathermy Apparatus . . . £45
No. 5. "MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation) £55



Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

MEDICAL SUPPLY ASSOCIATION, LTD.
167-185, Gray's Inn Road, London, W.C.1.
ACTUAL BRITISH MAKERS.

Phone: Museum 5432 (6 lines).

"VARIBAN"

Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. *Self-adhesive, readily conforming to* the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove. Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc. Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SUPPLIED IN WIDTHS

2"	2½"	3"
1/7	1/9	2/-

— EACH —

When stretched measure six yards (approximately)

SAMPLE 3in. "VARIBAN" Elastic Plaster Bandage SENT POST FREE on receipt of P.O. for 2/3

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.

SAMPLE BANDAGE 1/- Post Free

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

"CELLANBAND"

DESCRIPTIVE LITERATURE AVAILABLE ON REQUEST

"SANOID"

TUBES OF STERILE LIGATURES

Exceptional Flexibility

Tensile strength and smooth surface are prominent features of these Ligatures. They are prepared in accordance with the Therapeutic Substances (Catgut) Regulations, 1930.

PRICE 9/-
PER DOZ. TUBES

LICENCE No. 40.

Sole Manufacturers—

CUXSON, GERRARD & CO. LTD. MANUFACTURING CHEMISTS OLDBURY, BIRMINGHAM.

Distributors to the Medical Profession—

The MEDICAL SUPPLY ASSOCIATION LTD.,

167-185, Gray's Inn Rd., LONDON, W.C.1 10-13, TEVIOT PLACE, EDINBURGH 6-12, Holly St., SHEFFIELD.

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr R. H Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting.

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopiable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS
arranged for Doctors and Patients.
Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

M! R.H.DENT'S
Ardente
FOR DEAF EARS

309, OXFORD ST., LONDON, W.1.
Tel.: Mayfair 1380/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.

206, Sauchiehall Street, GLASGOW.
23, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.
30, Wellington Place, BELFAST.

PEAT HEALS!

"May I thank you for the sample of Sphagnol Soap and Ointment which I have used—together with another box—with great success in an obstinate case of Psoriasis and Eczema? I shall have no hesitation in recommending it for my skin trouble."

Signed....., S.R.N.

Sphagnol

APPROVED PEAT OINTMENT

FOR FREE SAMPLE WRITE TO PEAT PRODUCTS (SPHAGNOL) LIMITED, (DEPT. B 49), 21, BUSH LANE, LONDON, E.C.4.

A POWERFUL ANTISEPTIC *well known on the Continent* in Syrup, Capsule, and Pastille form

Syrup—capsules—pastilles—all three have Gomenol (the powerful antiseptic so widely used on the Continent) as their base. The principal constituents of Gomenol are Cineol, Pinene, Terpineol, Citrene. Gomenol is an essential oil of great diffusibility: non-toxic, non-irritant, analgesic.

Full particulars, together with reports of medical authorities and evidence of its therapeutic efficacy, are given in a publication which is sent free to the Medical Profession on request to the Sole Distributors, Messrs. Coates & Cooper, 41, Great Tower Street, London, E.C.3.

TRADE MARK

Gomenol

PREVET BRAND.

Gomenol Laboratories, Prevet, 48, Rue des petites Ecuries, Paris, 10me.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 39% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to

COATES & COOPER,
41, Gt. Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.

Two sizes, 4/6 and 7/-.

Salvitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co., New York.

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.

KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.

Telephone GLADSTONE 1071 (2 lines) *Telegrams:* KAYLOIDOL, CRICKLE, LONDON.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

CLEFT PALATE AND HARE-LIP.

Typical Cases.

K. E., aged 26 years.

Diagnosis: Cleft palate and hare-lip.

Operation: Plastic repair.

Anaesthesia: 60 *c.c. of a* 2 per cent. Novocain-Adrenaline solution were used. The Anaesthesia was ideal. Healing was perfect throughout the line of suture.

A. S., aged 15 years.

Diagnosis: Cleft palate.

Operation: Plastic repair.

Anaesthesia: Local infiltration, Novocain-Adrenaline 2 per cent. Under ideal Anaesthesia this complete cleft was repaired and the repair was followed by primary healing. The boy had been operated upon twelve years previously, and notwithstanding the presence of scar tissue perfect anaesthesia was obtained. —EXTRACTS from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

WYLEYS LIMITED WHOLESALE DRUGGISTS COVENTRY *Established 1750.*

ELIXIR BROMO-VALERIAN CO.

Free from any disagreeable taste or odour.

Each fluid drachm (4 c.c.) contains:

Strontii Bromidi	5 gr.	Tinct. Adonis Vernalis	5 m.
Tinct. Valer. Deodorat.	10 m.	Tinct. Visci Alb.	5 m.

Useful for functional nervous affections, particularly in controlling epileptic seizures.

Price 5/- lb.

FULL LISTS ON APPLICATION.

TAILORS HATTERS HOSIERS By Appointment
GIEVES LIMITED
21 OLD BOND STREET
31 BURLINGTON ARCADE
LONDON W.1.
OUTFITTERS Established 1785 By Appointment

BRANCHES.
PORTSMOUTH SOUTHAMPTON LIVERPOOL EDINBURGH MALTA PLYMOUTH WEYMOUTH SOUTHSEA CHATHAM GIBRALTAR

WITHOUT OFFENCE
The Collection of Overdue Accounts

MEMBER'S STATEMENT:
"You have collected my debts for years now, and it has been most gratifying to receive quarterly cheques from you on debts that otherwise would not have been paid."

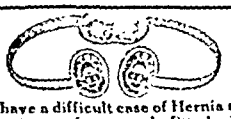
DEBTOR'S STATEMENT:
"I am sorry to say I am not in a position to send you a further instalment until the end of the month. I hope you will treat me with the same courtesy and leniency as you have done in the past."

Your visiting card marked "B" placed in an envelope will produce all information

All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.) Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.



If you have a difficult case of Hernia send your patient to be properly fitted with a
SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency Perfect freedom of movement
The most scientific truss ever devised

SALMON ODY LTD.
Highly recommended by the Medical Profession
7, NEW OXFORD STREET, LONDON, W.C.1
Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS
The best Medical authorities are agreed that rigid plates are injurious and are prescribing these supports for foot troubles—tired, aching feet, weak instep, or rheumatic joints. 15/6 per pair. Metatarsal 18/6 per pair. State size of footwear when ordering.

Estab. 120 years.

DOWIE & MARSHALL, Ltd., 16, Garrick Street, London, W.C.2
[ESTABLISHED SINCE 1824.] Telephone: TEMPLE BAR 5587.

The instructions of the Profession intelligently carried out.

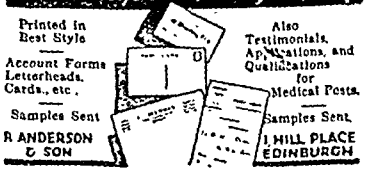
In addition to the departments for Ladies and Gentlemen, special attention is given to provide properly shaped shoes for Children, parcels of which can be forwarded on approval to any part of the country. Please send outlines of the feet.

Dowie & Marshall have had great experience in the shoeing treatment of weak ankles and flat feet.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 33*
'Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.
74, CHANCERY LANE (Holborn End), W.C.2
Desks, Tables & Chairs
Est. 1884.

THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.

Doctors' Office Forms a Speciality
Printed in Best Style
Account Forms Letterheads, Cards, etc.
Samples Sent
R. ANDERSON & SON
Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH



KEROL CAPSULES

Tycos
MANUFACTURED by SHORT & MASON LTD WALTHAMSTOW LONDON, E.17
SPHYGMOMANOMETERS

BRASS and BRONZE
NAME PLATES
by the Actual Maker. Send for List.
FORD, 37, Palace Rd., Bromley, Kent.

NAME PLATES
in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet.
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

PATTERNS ON REQUEST

A UNIQUE OPPORTUNITY

Gamages recently secured the whole of a West End merchant's stock of genuine Handwoven Harris Tweed, at a price which is but a fraction of what it would cost to buy in the ordinary market. The benefit of this deal is immediately passed on to you. Here it is—

Real Handwoven HARRIS TWEED

PLUS FOUR SUITS, LOUNGE SUITS, AND OVERCOATS

TO MEASURE ONLY **75/-** USUALLY 6 GNS.

Suit and Overcoat to match 6½ gns.

Gamages usual high standard of workmanship will be rigidly adhered to in every garment. The linings and trimmings are of tested dependability. The designs are pleasing and typical of this superb cloth.

GAMAGES

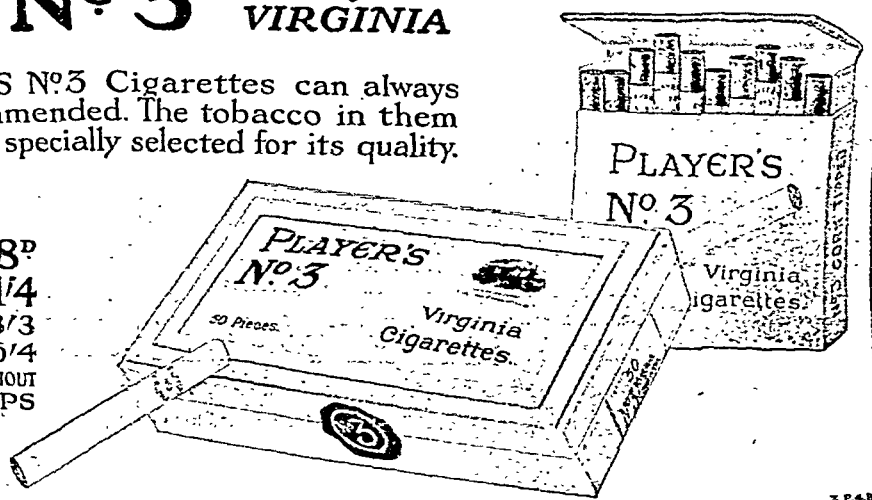
HOLBORN, LONDON, E.C.1

Telephone: Holborn 8484.

PLAYER'S No 3 *EXTRA QUALITY VIRGINIA*

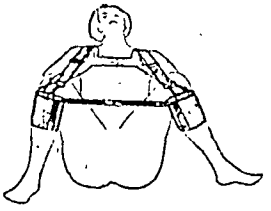
PLAYER'S No 3 Cigarettes can always be recommended. The tobacco in them has been specially selected for its quality.

10 *for* 8D
20 *for* 1/4
50 *for* 3/3
100 *for* 6/4
WITH OR WITHOUT CORK TIPS



3.P.4.B.

Baron's
New Lithotomy Support



consists of bands of webbing and collapsible metal support, giving Complete Flexion at Hip and Knee with separation and abduction of legs (as illustrated). Compact, collapsible, and easily carried in midwifery bag.

Price 29/6

May be obtained from
JOHN BELL & CROYDEN, 50-52, Wigmore Street, W.1,
C. J. HEWLETT & SON, Ltd., 35-42, Charlotte St., E.C.2,
and all the leading Surgical Instrument Houses.
Wholesale Distributors: EDWARD DOHERTY & SONS, 700-710, Seven Sisters Road, N.15.

"Should be in the possession of every medical man."—*Glasgow Medical Journal.*
URINARY SURGERY
A HANDBOOK FOR THE GENERAL PRACTITIONER
By W. K. IRWIN, M.D., F.R.C.S.,
Assistant Surgeon, St. Paul's Hospital for Genito-Urinary Diseases.
¶ "Clearly written . . . furnishes the practitioner with information of great practical value in his everyday work."—*British Medical Journal.*
SECOND EDITION. Revised and Enlarged. Price 10s. 6d. (postage 6d.).
BAILLIÈRE, TINDALL & COX, 7 & 8, Henrietta St., London, W.C.2.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS
OSTEOLOGY, MICROSCOPES, POST FREE.
Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.
MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

ORAL SEPSIS.
"EUMENTHOL JUJUBES" (HUDSON)
Made in Australia.

HARMFUL THROAT TABLETS. Throat Tablets and Lozenges containing Formalin (Formaldehyde) are harmful. Wiley, of the United States, investigated the effects of small doses of Formalin (Formaldehyde) given with milk, on 12 men during 15 days. Burning in the throat, itching, rash, and loss of body weight were observed.—*Vide* Martindale. All countries which have made legal enactments and laws regarding the purity of its food supply have prohibited the addition of Formaldehyde (Formalin) as a preservative of food. HUDSON'S EUMENTHOL JUJUBES contain no Formalin, Cocaine, or other harmful or poisonous drug. Sold everywhere.
FREE SAMPLES forwarded to Physicians on receipt of professional card by F. NEWBERY & SONS, Ltd., 31-33, Banner St., London, E.C.1. DUNCAN FLOCKHART & Co., Agents, Edinburgh, Scotland.
Manufactured by
G. INGLIS HUDSON, Chemist, for
HUDSON'S EUMENTHOL CHEMICAL CO., LTD.,
Manufacturing Chemists, 31, BAY STREET, SYDNEY, AUSTRALIA.
Distillers of Eucalyptus Oil Rectified by Steam Distillation.
Manufacturers of Pure Eucalyptol (Cineol).

NASAL CATARRH
By WM. STUART-LOW, F.R.C.S., Consulting Surgeon, Central London Throat, Nose, and Ear Hospital.
PRICE 5/-; postage 3d.
"This is a very useful book which every general practitioner would do well to read, while many rhinologists even would pick up hints from it . . . It is a point of view that needs emphasis in these days."
—THE PRACTITIONER.
H. K. LEWIS & Co., 28, Gower Place, W.C.1.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.
LABORATORY PRODUCTS.
VACCINES
AUTOGENOUS AND STOCK.
Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS
ive cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA
Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

Duplicate Prescription Books
INVALUABLE TO ALL DOCTORS
Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.
Send for Sample Book, together with Prices and Styles of Printing,
To G. CARLYLE,
116, DUKE STREET, LIVERPOOL.

Give the Patients
FOX'S GLACIER MINTS
THEY ARE SO PURE AND SO GOOD FOR THE DIGESTION
SAMPLES GLADLY SENT ON REQUEST.
FOX'S GLACIER MINTS LTD., LEICESTER.

If you must smoke!

With pure Turkish tobacco and an absorbent linen filter hidden in the mouthpiece, Royal Beauties are one of the nicest and quite the most harmless cigarettes in the world. Free sample to doctors on request
In three sizes.
Turkish 9/6, 10/6, 12/6 a hundred
ROYAL BEAUTIES
CIGARETTES
From leading stores or direct from Louis Coen Ltd., 88 Piccadilly, W1
Tel. Grosvenor 1979.

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

NEW SUITS FOR SPRING

TERMS £1 PER MONTH

BRIGHT sunshine shows up the shiny and shabby spots now that *overcoat days are being left behind.* Apart from being a necessity, a new Spring suit gives increased confidence and presence to the wearer especially when the worry of paying for it is banished . . . . *At Keith Bradbury's* good cloth is tailored into attractive garments by the deft hands of West End craftsmen—*and all financial worry is avoided* by the arrangement of systematic payments out of income FROM £1 PER MONTH to meet the individual requirements of customers. . . . . A FREE VALETING SERVICE is provided for sponging, pressing and repairing all garments after purchase, as often as is desired, and the same care is given to every suit irrespective of the initial cost . . . . A trial is solicited on the understanding that if any garment is not to *your satisfaction, you need not accept it—and you will* have incurred no obligation.

Lounge or Plus-four suits from 5 gns.
Flannel trousers from 21/-. Blazers from 45/-.
Dinner and Evening Dress from 6 gns.
Catalogue and patterns gladly sent free on request.

Coats for Spring
Ready to wear from 3 gns.
To measure from 4 gns.

KEITH BRADBURY LTD
TAILORS OF CREDIT
137/141 REGENT ST., LONDON, W.1
TELEPHONE: REGENT 5288
HOURS OF BUSINESS 9-7 Saturdays 9-1

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.
Day pattern 55/-, for day and night use 70/-; by post. Our Absorbent Bags *(new principle)* catch all leakage, but allow *natural* micturition *without* disturbing clothing; *lavatory* privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our
"NEW SANITUBE"
keeps bed and patient *dry, night* and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request:
HILLIARD, 125, Douglas Street, Glasgow, C.2.

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

Every engine has a definite limit to its possible output and the best sparking plug in the world cannot improve the output beyond that limit, but it is surprising how many engines are run below their best performance owing to the use of unsuitable plugs.

Until you have tried a new set of

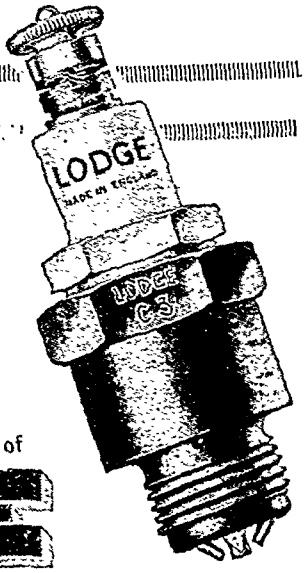
LODGE

SPARKING PLUGS

you cannot be sure that you are getting the best results out of your engine.

They can be bought at all good garages.

LODGE PLUGS LTD., RUGBY.



LODGE C3
the plug for most English and Continental engines.
5/-
everywhere
in sealed metal box (red).

NATURAL APERIENT MINERAL WATER
OF
RUBINAT LLORACH
(Hydragogue, Purgative, and Cholagogue.)

The *official* analysis shows in each litre about 1601.321 grains of **Anhydrous Salts**, of which are **Sulp. Soda** 1485.368 grains, and **Sulp. Magnesia** 50.301 grains.

Prescribed in cases of Gall-stones, Liver Disease, and threatened *Appendicitis, Constipation* associated with Gout, Hepatic *Dyspepsia*, Gastric Fever, and generally in Abdominal Obstruction.

DOSE.

Wineglassful fasting; can be increased according to temperament. Effect is more rapid if followed by a cup of hot tea.

NO GASTRIC IRRITATION. NO ALTERATION IN DIET REQUIRED.

"A moderately powerful stimulant of the liver, and a powerful stimulant of the intestine.

Cook's Non-Scratch

MOTOR MOP

(Pat. No. 232386)

As good as Two Hands and a Long Arm.

Mop & Brush combined

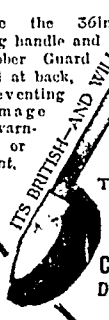
Every Motorist will appreciate it

BECAUSE:

It is so light and easy to use;
It cleans so thoroughly and so quickly;
It prevents chapped hands, for with it you need not even get the hands wet.

Note the 36in. long handle and Rubber Guard Pad at back, preventing damage to varnish or paint.

ITS BRITISH—AND WILL LAST A GOOD TWO YEARS.



The only Mop that will get anywhere—even on the smallest car. Sent Carriage Free for 7/9

COOK'S, Brush Specialists, DAVEY PLACE, NORWICH.
ESTAB. 1814.

AT SAVILE ROW

WE will build you a hand-made suit for 8 guineas. Pay us a visit. We are sure you will find it an economy to buy the VERY BEST CLOTHES from us at reasonable prices.

ENTICKNAPP & GRIMES
21a, SAVILE ROW,
Regent 2467. LONDON, W.1.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No: Bathcaston 8189.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

CHEADLE ROYAL, CHEADLE, CHESHIRE.

This Registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 2231 GATLEY.

ST. ANDREW'S HOSPITAL FOR MENTAL DISORDERS, NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy *is a feature of this branch, and patients are given every facility for occupying themselves* in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

HAYDOCK LODGE, NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. ... the own farm and gardens, in which patients are encouraged to occupy ... idoor and out-door recreation. For *terms, prospectus*, etc., ap...

TYKEFORD ABBEY, NEWPORT PAGNELL, BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.
Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

BOWDEN HOUSE,

HARROW-ON-THE-HILL.

A NURSING HOME OPENED IN 1911 FOR THE INVESTIGATION AND TREATMENT OF FUNCTIONAL NERVOUS DISORDERS OF ALL TYPES.

No cases under certificate. Thorough clinical and pathological examinations. Psychotherapeutic treatment. occupation, and recreation as suited to the individual case.

PARTICULARS FROM THE MEDICAL SUPERINTENDENT. *Telephone and Telegrams*: HARROW 0545.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E. Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"

STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

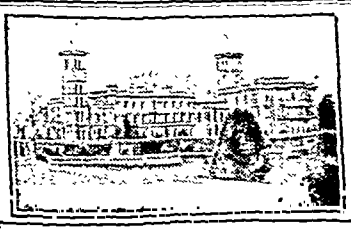
Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281. Matron: Mrs. Ellen Allfrey, S.R.N.



King Edward VII Convalescent Home for Officers of the Navy, Royal Marines, Army, and Air Force.

Massage.
All forms of Electricity.
Ultra-Violet Rays.
Special Dieting.
Golf Course in the Grounds.

TERMS:
4l6 to *6l-* per day, inclusive.

Hard Tennis Court.
Squash Racquets.
Badminton.
Sailing.
Bathing, etc.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.

Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0288.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

NORMANSFIELD

For Mental Defectives of all ages.

Under private management.

Apply to Dr. Langdon-Down,

Normansfield, Teddington.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital.
Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

BOREATTON PARK,

BASCHURCH, SALOP.

A first class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.

Apply for particulars to DR. SANKEY.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

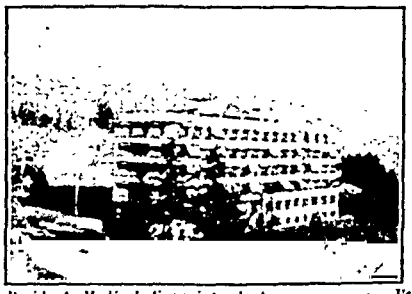
Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES).

Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone*: Brixton 0494. Apply, MISS THWAITES.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montail," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D.Melb., M.R.C.P.Lond., Tub-rculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: N. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

The MAUDSLEY HOSPITAL

DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: (*a*) 189 beds (both sexes) in wards or separate rooms. (*b*) 15 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS:

(*a*) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(*b*) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

HOME FOR DELICATE CHILDREN.

"THE LOG HOUSE," KLOSTERS

GRISONS, SWITZERLAND. 4,000 ft. above sea-level

Inclusive terms from five guineas weekly.

No Infectious cases taken. All particulars from *Mrs. or Dr. B. HUDSON (above address).*

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—ARTHUR TOWNSEND, M.D., Medical Supt.

Telephone: No. 7 Barnwood.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*: A. E. CARVER, M.D., D.P.M.

Telephone: Nuneaton 241.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—**WOODBRIDGE, SUFFOLK.**

Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16.
(Toll Call from London.)

RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham,

as carried on for the last twenty years, is available. Booklets and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: The Norwood Sanatorium, Limited.

THE ROYAL EARLSWOOD INSTITUTION

FOR MENTAL DEFECTIVES, REDHILL, SURREY.

(Formerly the EARLSWOOD ASYLUM.)

FOR THOSE REQUIRING CONTROL with EXPERT SUPERVISION and needing SPECIAL TRAINING in useful occupations. *SCHOOLS, FARMING, and various TRADE WORKSHOPS.* Inclusive fees from £110 p.a. *THOSE UNABLE TO PAY* admitted by votes of subscribers, with part payment towards cost.

RECREATIONS: ALL outdoor games, EXCELLENT BAND by Male Staff, for Concerts, Dancing, etc.

Apply, THE MEDICAL SUPERINTENDENT, Earlswood, Redhill, Surrey, or to the Secretary, Mr. H. STEPHENS, 14-16, Ludgate Hill, E.C.4.

Telephone: REDHILL 344. *Telephone*: CENTRAL 5297.

WOODLANDS PARK

GREAT MISSENDEN **BUCKS.**

550 feet above sea-level on Southern Chilterns. 90 acres, Gardens, Woods, and Park.

FOR INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and REST AFTER OPERATION or ILLNESS.

FEES FROM 8 GUINEAS.

Telephone: 91 Gt. Missenden. Apply: C. W. J. BRASHER, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuses. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

THE LAWN, LINCOLN.

This Registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY and PRIVATE PATIENTS of both sexes for treatment of Mental and Nervous Disorders, including Post-Encephalitic conditions in adults. Special facilities for Psychotherapy in co-operative cases.

All particulars may be obtained from the Resident Medical Superintendent,

Dr. MARY B. BARKAS, M.D., D.P.M.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate.

Further particulars from the Central Secy., 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS, at a weekly fee of TWO GUINEAS and upwards.

BRIDGE of ALLAN SPA
Stirlingshire

INHALATION TREATMENT with vaporized Mineral Water is strongly recommended for asthma, bronchitis, and other catarrhal affections.

Bridge of Allan is an Ideal Spring Resort, being mild, sunny, and sheltered from North and East winds.

The Allan Water and Spa Hotel has covered communication with the Spa.

For further particulars apply SPA DIRECTOR.

THE COTSWOLD SANATORIUM

Specially built in 1893 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

SCOTTISH FJORDS
Summer Cruises
S.Y. "KILLARNEY" *from* LIVERPOOL

Special Cruise May 30th
TO BRITTANY AND CHANNEL ISLANDS

For Illustrated Folder apply:—
COAST LINES LTD., Royal Liver Bldg., Liverpool. | TRAVELLERS LTD., 29 Lr. Regent St., London, S.W.1.

asthma
TREATED AT MONT-DORE
THE FAMOUS FRENCH SPA

40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE Tavistock House (North), Tavistock Square, LONDON, W.C.1. Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).

VICTORIA SANATORIUM : : DAVOS
SWITZERLAND
(BRITISH SANATORIUM), 5,200 feet above sea-level.
ALTERED AND MODERNISED IN SUMMER 1930.
Terms from £5 . 12 . 0 per week.
Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

THE GRANGE,
near ROTHERHAM.
A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

FENSTANTON,
CHRISTCHURCH ROAD,
STREATHAM HILL, S.W.2.
A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2234.) Apply J. H. EARLS, M.D., Resident Physician. Telephone: Streatham 8430.

STRETTON HOUSE,
Church Stretton, Shropshire.
A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

BROOKE HOUSE,
CLAPTON, LONDON, E.5.
Telephone: Clissold 1648.
PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

SOUTHBOURNE HOUSE NURSING HOME,
Southbourne-on-Sea, Bournemouth.
Medical, Surgical and Convalescent Patients.
Quiet house on cliff.
Matron: Miss MACMILLAN (London Hospital). Tel.: Southbourne 1186.

GRAMPIAN SANATORIUM,
KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 ft. above sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms £4 7s. 6d. to £6 6s. p.w. inclusive. No extras. Med. Supt.—FELIX SAVY, M.D.
For particulars apply to the Secretary.

BOURNEMOUTH HYDRO,
with Vita-glass Sun-lounge and Marine Balcony on the South Coast.
Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.
Resident Physicians: W. JOHNSTON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

"BANKSEA," Dovercourt Bay, ESSEX.
CONVALESCENT HOME FOR GIRLS.
This Home, conducted by the Dominican Sisters, is certified by the Essex County Council under the Ministry of Health.
Beautifully situated on the sea front. Bracing air. Bright and airy dormitories. Central heating. Pleasure Park adjoins Convent grounds. Individual attention. Trained Certificated Nurse. Infectious or Epilepsy cases not received.
Terms moderate. Vouchers issued for reduced railway fares. — Apply, MOTHER PRIORESS, Dominican Convent, Dovercourt, Essex.

BOURNEMOUTH.
West Haven, Chine Crescent Road.
FUNCTIONAL NERVOUS DISORDERS,
MEDICAL AND CONVALESCENT CASES.
The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—*rest cures, electrical massage,* and ultra-violet light. (Established 1922.
Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

THE MOAT HOUSE,
TAMWORTH, STAFFS.
Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 3417.)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

Bishopstone House, Bedford.
PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs PEELE. *Telephone:* 2708.

Upton Lodge Nursing Home,
BIRCHINGTON, THANET.
All types of cases taken; special care for aged; shelters in garden; charming comfortable home; r.r. s.a. Terms mod.—Miss ROBERTSON, Matron.

Grove House, All Stretton,
Church Stretton, Shropshire.
A Private Home for the care of and treatment of a Limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

BRITISH SPAS
ARE BEST
and membership of the British Spas Federation is a guarantee of efficiency

AT British Spas, treatment is only given (except in a few minor cases) upon medical prescription.

At British Spas the staffs are educated and properly trained and, in some cases, medically trained and medically certificated.

Equipment and administration are thoroughly up to date and scientific. Every new treatment is tested and reported upon before being adopted.

British Spas are also remarkably fortunate as regards situation, scenic beauty and pure air. These factors, combined with the social amenities of a home town, aid the cure considerably.

BATH Hot Springs (120° F.) Radio-active. Royal Baths extensions now open.

BRIDGE OF ALLAN Saline Water. Rich Calcium Bromide and Iodine Content.

BUXTON Radio-active Mineral Water. New Natural Baths. 3 Guineas Course.

CHELTENHAM Five Natural Waters. *Modern* Baths.

DROITWICH The Brine Baths Spa in charming Worcestershire.

HARROGATE 88 Waters. 100 Treatments. Medically *certificated staff.*

LEAMINGTON Advanced Spa Treatment. Saline Springs.

LLANDRINDOD WELLS The Modern Welsh Spa.

TREFRIW WELLS Rich Sulphate Chalybeate Waters.

WOODHALL SPA Bromo-Iodine Waters. Pinewoods. Restful Air.

¶ *A New Medical Handbook is being published, specially prepared for the use of the medical profession. A copy will gladly be sent you if you will write to the Hon. Secretary, Box 1, British Spas Federation, Pump Room, Leamington Spa, or to the Managers of any of the Spas here mentioned.*

ANNOUNCEMENT BY BRITISH SPAS FEDERATION

The MUNDESLEY SANATORIUM

The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless head-phones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON, M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP, M.B.(Cantab.)
ANDREW MORLAND, M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.

Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

EAST ANGLIAN SANATORIUM.

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and is situated on an ideal site facing S.S.E.—very sunny district in the "Constable" Country. Special Treatment by artificial Pneumothorax (X-ray Controlled). Electric lighting throughout; radiators and wireless in all rooms. Ultra-violet Ray treatment is available for suitable cases.

TERMS: From 4 to 8 guineas per week.

On the estate of 330 acres there is ample opportunity for training in General Farming, Poultry Farming, or Gardening, and various Handicrafts.

Med. Supt.: Dr. Jane Walker; Asst. Med. Supt.: Dr. Eleanor Soltau; and other Medical Officers.

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1893 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams*: Nordrach, Blagdon. *Telephone*: Blagdon 23.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for Invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.) R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.), 1901-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.), *Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.), *Primary* 1906-30	162
Final	161
M.R.C.P.(Lond.), 1914-30	192
D.P.H. (Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.), 1918-30	46
M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.) (Practitioners) 1906-30	38
M.D. Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48 pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medi* ... and Oral Classe ... Medical Exam ... ier Surgical ... Special Diplor ... Openings ... ses. Med ... list of Tutor ... incipal, Mr. I ... ton Sq., Lond ... 6315.)

Fellowships in Psychiatry.

The CHILD GUIDANCE COUNCIL offers one or two Fellowships in Psychiatry tenable at the London Child Guidance Clinic, 1, Canonbury Place, N.1, on the basis of six months full-time training or one year half-time training. Candidates should be registered Medical Practitioners and should possess the Diploma in Psychological Medicine or be able to produce evidence of psychiatric experience. The financial value of the Fellowships will be not less than £150 for six months' full-time training, the actual financial value depending upon the qualifications and experience of the applicant. Further particulars and forms of application may be obtained from the Secretary, Child Guidance Council, 7, Buckingham Palace Gardens, S.W.1. Applications must reach the Secretary not later than May 2nd, 1931.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees should be given.

J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

TAUNTON SCHOOL, TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

CHELTENHAM COLLEGE.

Twelve Scholarships and Exhibitions (not open to members of College or Junior School). These include five of £80 (increased to £100 for special merit); "James of Hereford" Scholarship of £35 for boys born or brought up in Herefordshire. Also R.A.M.C. Scholarship of £50 (preference to sons of Fallen Officers). Awards made for all-round excellence, or special proficiency in any main subject, including Music. Preliminary Examination (at Candidates' own Schools), Monday and Tuesday, June 1st and 2nd, 1931. Final Examination (at Cheltenham), Wednesday and Thursday, June 10th and 11th, 1931.

Apply BURSAR, Cheltenham College.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Post-Graduate Courses for Ship SURGEONS.

Courses devised and approved by *the Ship* Surgeons' Post-Graduate Committee will be organised by the SEAMEN'S HOSPITAL SOCIETY.

Post-Graduate Instruction will be divided into three parts, each part occupying three weeks.

The Seamen's Hospital Society announces that Part 2 of these courses—i.e., "Tropical Medicine and Hygiene"—will commence on June 15th, 1931, at the Hospital for Tropical Diseases, Endsleigh Gardens, W.C.

Part 3.—"Refresher Course" in Clinical subjects will commence on July 6th at the Dreadnought Hospital, Greenwich, S.E.

Part 1.—"Ships Hygiene, the Shipping Acts and Quarantine Procedure," will be held towards the end of the year at a date to be announced later.

Further particulars may be obtained on application to the Secretary, Seamen's Hospital Society, Greenwich, S.E.10.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

(University of London.)

Tropical Medicine and Hygiene.

The School provides Two Courses yearly, each of 22 weeks. The Autumn Course commences at the end of September, and the Spring Course in February, 1932. Composition fee, to include hire of Microscope, etc., £34 5s.

Diploma in Public Health.

The next Course of study commences on September 28th, 1931, and covers a period of twelve calendar months (nine calendar months in the case of those who devote the whole of their time to the work). This Course qualifies students to sit for the University of London Diploma. The composition fee of 54 guineas includes the cost of the necessary practical work and instruction in infectious diseases, etc.

Diploma in Bacteriology.

The Course of study, covering one academic year, commences early in October. Composition fee £47 15s.

Epidemiology and Vital Statistics.

Special three-monthly Advanced Courses. Composition fee £7 7s.

Applications for Prospectuses and for other information should be addressed to the Secretary, Keppel St. (Gower Street), London, W.C.1.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.

Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above school, commencing Monday, June 1st, 1931. Full particulars will be published later.

The Course will be repeated on subsequent dates.

Applications for copies of the syllabus, etc., may be made at once, and these will be forwarded as soon as available.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

... TRAINING SCHOOL.

MED ... to Hospital practic ... and Obstetrical ... fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

EDINBURGH POST-GRADUATE COURSES IN MEDICINE

IN CONNECTION WITH THE UNIVERSITY AND ROYAL COLLEGES, 1931.

The POST-GRADUATE COURSES to be held this year comprise:

(1) A GENERAL PRACTITIONERS' COURSE from August 10th to September 5th.

(2) A GENERAL SURGICAL COURSE from August 10th to September 5th.

The composite fee for each Course will be £10 10s. for the four weeks, or £6 6s. for either the first or second fortnight.

(3) A COURSE IN OBSTETRICS AND GYNAECOLOGY AND DISEASES OF CHILDREN, from July 13th to Aug. 8th. Fee £10 10s.

In addition to the above, the following *Special Courses* have been arranged:

SUMMER TERM.

SURGICAL PATHOLOGY.—Mr. Wade, F.R.C.S.Ed., and others. May 12th. Fee: £4 4s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. May 4th. 12 Meetings, thrice weekly. Fee: £5 5s. *Minimum number 6.*
CLINICAL MEDICINE.—Medical Staff of Royal Infirmary. During May. Fee: £3 3s.

SUMMER, AUTUMN, AND SPRING TERMS.

CLINICAL SURGERY (including Radiology).—Surgical Staff of Royal Infirmary. Fee: £4 4s.
DISEASES OF EAR, NOSE, AND THROAT.—Staff of Ear, Nose, and Throat Department, Royal Infirmary. Minimum number 6. Fee: £10 10s.
VENEREAL DISEASES.—Mr. Lees, F.R.C.S.Ed., Ward 5a, Royal Infirmary. Minimum number 5. Fee: £10 10s.
DISEASES OF EAR, NOSE, AND THROAT.—Dr. Douglas Guthrie. This Class will meet twice weekly at the Ear and Throat Dispensary, Cambridge Street. Fee: £4 4s.

DURING THE PERIOD OF THE GENERAL COURSES (AUGUST-SEPTEMBER).

PATHOLOGY OF THE NERVOUS SYSTEM.—Drs. F. E. Reynolds and James K. Slater. Minimum number 6. Fee: £3 3s.
DISEASES OF THE BLOOD.—Dr. Alex. Goodall. Fee: £3 3s. VACCINE THERAPY.—Dr. A. Nimmo Smith. Fee: £3 3s.
. . . . . —Drs. D. M. Dunlop, A. R. Gilchrist, and C. P. Stewart. Fee: £4 4s. Minimum number 6.
. . . . . ECHNICS.—Mr. C. Norman Kemp, B.Sc., A.I.C. Fee: £3 3s.
. . . . . THEIR USES.—Dr. Robert Aitken. Fee £3 3s.
. . . . . Ligertwood, and Paterson. Fee: £5 5s. Minimum number 5.

Further particulars may be had on application to the Hon. Secretary, Post-Graduate Courses in Medicine, University New Buildings, Edinburgh.

POST-GRADUATE STUDY AT THE
NORTH-EAST LONDON POST-GRADUATE COLLEGE

The Prince of Wales's General Hospital, Tottenham, N.15.

Morning and afternoon work in Medicine, Surgery, Bacteriology, Pathology and the Special Subjects. Study-leave, Panel, and individual Courses arranged. Practitioners' general Intensive Courses (limited to 25) held at frequent intervals. Practical instruction in Anaesthetics. Clinical Assistantships.

NEXT INTENSIVE FORTNIGHTLY COURSE, DEALING WITH SPECIAL AND GENERAL SUBJECTS, COMMENCES ON MAY 11th, 1931.

Prospectus and Syllabuses on application to the Dean.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL
MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,500 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times." "Thoroughly physiological principles."—"Lancet." "The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/8

of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to

The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5

for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the *Secretary*, College of Preceptors, Bloomsbury Square, London, W.C.1.

EXTEMPORE SPEAKING

(*Lecture Theatre, Platform, Pulpit, Banquet*).

PRIVATE LESSONS

given by Mr. CHAS. SEYMOUR

Tuition includes Fluency, Vocabulary, Retention of Ideas, Voice-Production, AUDIBILITY, Modulation, CONFIDENCE, Breathing, ELOCUTION, Accent and Phonetics.

Prospectus forwarded (Kindly mention B.M.J.)

401 Strand (Opposite Cecil) W.C.2 Temple Bar 2697

SOCIETY OF APOTHECARIES OF LONDON.

MASTERY OF MIDWIFERY.

Examinations will be held beginning Monday, May 18th, and Monday, November 16th, 1931. For regulations apply to the REGISTRAR, *Water Lane*, E.C.4.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE. 327, Oxford Road, Manchester.

Aberdeen Medical School.

A COURSE OF POST-GRADUATE STUDY on Radium, Pneumonia, and Haematology will be held at Aberdeen Royal Infirmary and Aberdeen University from April 21st to June 25th, on Tuesdays and Thursdays at 3.15 p.m.

A syllabus of the Lectures and Demonstrations may be had on application to the Secretary, The University, Aberdeen.

HIGHER MEDICAL QUALIFICATIONS

Are you desirous of obtaining one of the special higher qualifications?

Diploma in Psychological Medicine.
Diploma in Ophthalmology.
Diploma in Radiology.
Diploma in Laryngology, Otology, and Rhinology.
Diploma in Gynaecology & Obstetrics.
Diploma in Public Health.
Diploma in Tropical Medicine.
Mastery of Midwifery.
M.D. Thesis (all Universities).
All Higher Medical and Surgical Degrees and Diplomas.

You can qualify for any of the above by our Courses of Combined Postal & Practical Courses.

Write at once stating your requirements to the *Secretary*.

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, W.1. Tel: Welbeck 8901.

WE SPECIALISE IN POST-GRADUATE COACHING FOR ALL EXAMINATIONS.

Send Coupon below for Free Guide.

Name.....

Address.....

.....

Examination in which interested .....

University of Birmingham.

(Faculty of Medicine.)

CLINICAL BOARD.

POST-GRADUATE DEMONSTRATIONS, 1931.

A Course of Post-Graduate Demonstrations will be given at the General Hospital, Birmingham, on Tuesdays, from 3.30 to 5 p.m., and at the Queen's Hospital, Birmingham, on Fridays, 3.30 to 5 p.m., April to July, 1931, commencing on April 28th at the General Hospital, and on May 1st at the Queen's Hospital. The Course will be given by Members of the Medical and Surgical Staffs, and will also include two Demonstrations at the Children's Hospital, Birmingham. Fee for the Course, £2 2s. Cheques should be made payable to "The University of Birmingham." Members of the Medical Profession may obtain details of the Course on application to the Clerk to the Clinical Board, The University, Edmund Street, Birmingham.

The University of Manchester.

The following Fellowships are offered for competition:

PILKINGTON FELLOWSHIP IN CANCER RESEARCH, of the value of £300 for one year.

AMY HENRIETTA WORSWICK FELLOWSHIP for the investigation of the causes and treatment of Rheumatoid Arthritis, of the value of £150 per annum for one year, renewable for a second year.

KNIGHT FELLOWSHIP for the study of the factors concerned in the development of the symptoms of Mental Disturbance, of the value of £150 for one year.

Applications should be sent not later than June 1st, 1931, to the Registrar, from whom further particulars may be obtained.

University of London.

A Course of Three Lectures, illustrated with films and lantern slides, on "*Neurology*" will be given by Professor OTFRID FÖRSTER (Neurologist to the [illegible] Professor of [illegible] Breslau), at UNIVERSITY MEDICAL SCHOOL, University Street, Gower Street, W.C.1, on APRIL 29th, 30th, and MAY 1st, 1931, at 5.30 p.m. At the First Lecture the Chair will be taken by Dr. WILFRED TROTTER, M.D., M.S., F.R.C.S., Surgeon to University College Hospital. The Lectures will be delivered in English.

Admission free, without ticket.

S. J. WORSLEY,
Academic Registrar.

University of London.

THOMAS SMYTHE HUGHES MEDICAL RESEARCH FUND.

Application for grants from the Thomas *Smythe Hughes* Fund for assisting Medical Research, accompanied by the names and addresses of two references, must be made to the Academic Registrar, University of London, South Kensington, S.W.7 (from whom further particulars may be obtained), not later than May 15th, 1931.

March 15th, 1931.

A Vacancy at present exists for an ASSISTANT MEDICAL SUPERINTENDENT in the MENTAL HOSPITAL SINGAPORE, STRAITS SETTLEMENTS. Applicants, who must be British subjects of European parentage and under 33 years of age, should have had two years' experience as an Assistant Medical Officer at an Asylum or other Institution for Mental Diseases. Salary $500 per mensem (£700 per annum), rising by annual increments of $25 per mensem (£35 *per annum*) to $800 per mensem (£1,120 per annum), together with a temporary allowance of *10 per* cent of salary if unmarried, 20 per *cent. if* married, which may however be withdrawn at any time. Free quarters and free passage are provided. The appointment for three years in the first instance. Further particulars and forms of application may be obtained, on application in writing, from the Director of Recruitment (Colonial Service), Colonial Office, 2, Richmond Terrace, London, S.W.1.

Royal Northern Hospital, Holloway, N.

Applications are invited for the post of RESIDENT OUT-PATIENT CASUALTY OFFICER AND ANÆSTHETIST for 3½ months from May 15th.

Salary at the rate of £70 per annum, with board, *residence*, and laundry.

Applications, with copies of testimonials, should be sent by April 24th to the undersigned, from whom forms of application and rules can be obtained.

GILBERT G. PANTER,
Secretary.

City of Birmingham.

SELLY OAK HOSPITAL.

RESIDENT PHYSICIAN (Male).

Applications are invited for the above whole-time appointment from gentlemen who are fully qualified registered Medical Practitioners. The present Hospital accommodation is 550 beds, divided into General Medical, General Surgical, Gynæcological, Obstetrical, and Children's Disease sections. There are completely equipped Pathological and Biochemical laboratories, X-Ray, Electro-therapeutic, Massage, Ultra-violet Ray, and Electro-cardiographic departments.

Candidates for the appointment must have had good Med[illegible] the degree of [illegible] Universities o[illegible] Members of t[illegible] of London.

The scale of salary will be £550, rising, subject to satisfactory service, by annual increments of £50 to a maximum of £750 per annum.

Furnished quarters, rations, laundry, and attendance will be provided. Alternatively, a cash allowance will be paid if the officer appointed is non-resident. The officer appointed will be required to refund to the Council all fees, allowances, and emoluments (other than the foregoing) received by him.

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme, and to the candidate passing a medical examination, and will be subject to one month's notice on either side.

Further particulars of the appointment may be obtained from the Medical Superintendent, R. P. STANLEY KELMAN, Esq., M.B. Ch.B., F.R.C.S. (Eng. & Edin.), at the Selly Oak Hospital.

Applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, and endorsed "Physician," should be addressed to me, and delivered at my office not later than Thursday, April 23rd

F. H. C. WILTSHIRE,
The Council House, Town Clerk.
Birmingham. April, 1931.

Borough of Ealing.

ASSISTANT MEDICAL OFFICER OF HEALTH.

Applications are invited from duly qualified Medical Men with a Public Health qualification for the position of Assistant Medical Officer of Health.

Candidates will be required to carry out Medical Inspection of School Children and Child Welfare work and perform such other duties as may be allotted as Assistant to the Medical Officer of Health and School Medical Officer.

The person appointed will be required to devote his whole time to the duties, and will not be allowed to engage in private practice. Salary will be at the rate of £600 per annum, rising to £700 by £25 per annum.

A deduction of 5 per cent will be made from the salary in accordance with the provisions of the Local Government and Other Officers Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to passing the Council's medical examination in connection therewith.

Copies of application form and terms of appointment can be obtained from the undersigned, to whom applications, accompanied by copies of not more than three recent testimonials, must be delivered not later than April 21st.

THOMAS ORR, M.D., D.Sc.,
Town Hall, Medical Officer of
Ealing, W.5. Health.

Borough of Cambridge.

Applications are invited from fully qualified Medical Practitioners under 35 years of age for the post of Whole-time ASSISTANT SCHOOL MEDICAL OFFICER and ASSISTANT MEDICAL OFFICER OF HEALTH. Salary £500 per annum, advancing by annual increments of £25 to £700; previous experience in a similar capacity will be taken into account in assessing the commencing salary.

Applicants must have had at least three years' practice since qualification, and must have had experience in the correction of errors of refraction. A Diploma in Public Health will be an additional qualification.

The successful applicant will be required to undergo a medical examination, and to contribute to the Local Government and Other Officers Superannuation Scheme.

A list of duties and application forms may be obtained (on receipt of a stamped addressed foolscap envelope) from the Secretary for Education, The Guildhall, Cambridge, to whom applications, with copies of not more than three recent testimonials, must be sent not later than Thursday, April 23rd

The Guildhall, C. H. KEMP,
Cambridge. Town Clerk.
April, 1931.

City of Birmingham.

DUDLEY ROAD HOSPITAL.

JUNIOR ASSISTANT MEDICAL OFFICERS (Male).

Applications are invited from fully qualified Medical Practitioners for appointments as Junior Assistant Medical Officers (male) at the Dudley Road Hospital, Birmingham.

The Hospital accommodation is fixed at 926 beds, divided into Medical, Surgical, Children's Infectious, Maternity, Gynæcology and Obstetric Sections. There are completely equipped Pathological and Biochemical Laboratories, Deep Therapy, X-Ray, Electrical Massage, Sunlight and Dental Departments. Approximately 5,000 operations are performed annually.

The appointments will be for a period of six months in the first instance, but may be extended at the end of that time for a further period not exceeding six months.

The persons appointed will be required to assist at operations, to administer anæsthetics, and undertake casualty work and such other duties as may be assigned to them by the Medical Superintendent.

The salaries attached to the appointments will be at the rate of £200 per annum, together with full residential emoluments (rations, apartments, laundry, and attendance).

The officers appointed will be required to pay to the Council all fees, allowances, and emoluments (other than the foregoing) received by them.

Further particulars of the appointments may be obtained from the Medical Superintendent, F. W. ELLIS, Esq., M.D., *F.R.C.S., Dudley Road* Hospital, Birmingham, to whom applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Thursday, May 7th.

F. W. ELLIS, Esq.
Dudley Road Hospital, Birmingham.

City of Liverpool.

APPOINTMENT OF MEDICAL OFFICER OF HEALTH.

The Corporation invite applications for the position of Medical Officer of Health for the City and Port of Liverpool and Medical Officer to the Education Authority at a salary of £1,800 *per annum*. The duties will be those prescribed by statute, subject to such variations in administration as the City Council may from time to time direct, and will include the general supervision of the Municipal Hospitals.

The officer appointed will be *required to* devote his whole time to the duties of the office, and will not be allowed to engage in private practice, and all emoluments out of public moneys which may be payable to or received by him will have to be paid to the Corporation.

The officer appointed will hold office subject to the Standing Orders of the Council, and the appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922. He will also be required to reside within the City.

Canvassing of members of the Council will be regarded as a disqualification.

Particulars of duties may be obtained on application to the Town Clerk.

Applications, stating age and qualifications, with copies of testimonials (not exceeding three) endorsed "Medical Officer of Health," addressed to the Chairman of the Health Committee, under cover to the Town Clerk, Municipal Buildings, Liverpool, must be delivered at the *Town Clerk's Office, Liverpool, not later than* May 2nd.

Town Clerk's Office, WALTER MOON,
Liverpool. Town Clerk.
April 10th, 1931.

City of Nottingham.

The Health Committee invite *applications* from duly qualified Medical Practitioners for the post of MEDICAL OFFICER to the CITY INFIRMARY, Hucknall Road, Nottingham.

The Hospital has 900 beds for the treatment of all classes of sick persons. It is a recognized Training School for Nurses, and is equipped with all modern requirements. Candidates must possess General Hospital experience, and preference will be given to those having Poor Law experience.

The salary will be £350 per annum, rising by annual increments of £25 to £450, with rations and furnished apartments. The successful candidate will be required to contribute to the Corporation's Superannuation Fund.

Applications, on forms to be obtained from the undersigned, with copies of not more than three recent testimonials, and endorsed "Medical Officer," should be forwarded not later than May 2nd.

(Signed) W. J. BOARD,
Guildhall, Town Clerk.
Nottingham. April 1st, 1931.

City and County of Kingston-upon-Hull.

APPOINTMENT OF ASSISTANT *TUBERCULOSIS OFFICER.*

The Corporation invite applications from Medical Practitioners (male), of not more than 40 years of age, for the appointment of Assistant Tuberculosis Officer, at a commencing salary of £600 per annum, rising by annual increments of £25 to a maximum of £700. Applicants should have held, prior to April 1st, 1930, an appointment as Tuberculosis Officer, with the approval of the Minister of Health, or should, subsequent to qualification:

(1) Have had at least three years' experience in the practice of their profession;
(2) Have spent in general clinical work a *period of not less than eighteen months*, of which not less than six months have been spent in a hospital as resident officer in charge of beds occupied by general medical or surgical cases; and
(3) Have received special training, for a period of not less than six months, in the diagnosis and treatment of tuberculosis.

The candidate appointed will work under the administrative supervision of the Medical Officer of Health, and will be immediately responsible to the Senior Tuberculosis Officer.

This appointment is a designated post under the Local Government and Other Officers Superannuation Act, 1922.

Application forms may be obtained from the undersigned, to whom they should be returned not later than April 27th.

Guildhall, Hull. April, 1931. W. M. FRAZER, Medical Officer of Health.

Staffordshire County Council.

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

Applications are invited from Medical Practitioners holding the Diploma of Public Health for the above post. Candidates should have had at least three years' experience in the practice of their profession subsequent to qualification. Preference will be given to those who have held residential Hospital appointments.

The person appointed will work under the direction of the County Medical Officer, and the duties of the office will include School Medical and Maternity and Child Welfare work, in addition to such general public health work as may from time to time be prescribed.

The salary will be at the rate of £600 per annum, rising to £800 per annum by annual increments of £50, subject to a deduction of 5 per cent established under the Local Government and Other Officers Superannuation Act, 1922. Travelling expenses will be paid by the Council.

The appointment will be subject to three months' notice on either side.

Forms of application may be obtained from the undersigned, and should be returned by April 22nd, together with copies of not more than three testimonials.

County Buildings, Stafford. March, 1931. EUSTACE JOY, Clerk of the County Council.

Enfield and Edmonton Joint HOSPITAL BOARD,

Winchmore Hill, N.21.

APPOINTMENT OF RESIDENT MEDICAL SUPERINTENDENT.

The Board invite applications for the appointment of a Resident Medical Superintendent, at the salary of £700 per annum, rising by £50 annual increments to £900, subject to a deduction therefrom of five per cent. for superannuation under the Local Government and Other Officers Act, 1922. Applicant must not be over 40 years of age, and should have had experience as a Resident Medical Officer in an Isolation Hospital; experience of Ear, Nose, and Throat work an advantage. Forms of application may be obtained from me, and should be returned not later than noon on Friday, May 1st.

4, Porlock Road, Edmonton, N 9. April 14th, 1931. By Order, L. R. ITHELL, Clerk.

Chesterfield & North Derbyshire ROYAL HOSPITAL,

(190 Surgical and Medical Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post. There are five residents.

The *appointment is for six months.*

Salary at the rate of £150 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned.

April 7th, 1931. G. SUNNUCK, Supt. & Secretary.

County Borough of West BROMWICH.

CHIEF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Council invite applications for the above post from registered Medical gentlemen holding a Diploma in Public Health and not over 40 years of age.

Preference will be given to those candidates who have had previous experience in the Public Health Service in Tuberculosis and Infectious Diseases. Knowledge of Eye Refractions and Ante natal work will be deemed additional qualifications.

The salary attached to the appointment will commence at £600 per annum, rising by annual increments of £50 to £750, in addition to *which reasonable travelling expenses are allowed.*

The gentleman appointed will be required to live in the Borough and devote his whole time to the services of the Council. He will work under the direction and supervision of the Medical Officer of Health. The appointment will be subject to three months' notice.

Application must be made on a prescribed form obtainable from the Medical Officer of Health, Health Department, 2, Lodge Road, West Bromwich, and forwarded to the undersigned, accompanied by copies of three recent testimonials, not later than Wednesday, April 22nd.

Town Hall, West Bromwich. April 3rd, 1931. ALFRED WICKHAM, Town Clerk.

Lancashire Mental Hospitals BOARD.

COUNTY MENTAL HOSPITAL, WHITTINGHAM, near PRESTON.

APPOINTMENT OF MEDICAL SUPERINTENDENT.

Applications are invited for the appointment of Medical Superintendent at the above Mental Hospital. The salary is £950 per annum, rising by annual increments of £100 per annum to a maximum of £1,350 per annum, with emoluments for pension purposes valued at £150 per annum. No bonus is payable. The gentleman appointed will be required to devote his whole time to the duties of the office.

Applicants are required to send in their applications on a form to be obtained from the undersigned, and the applications, endorsed "Medical Superintendent," should be sent to or delivered at my office not later than Monday, April 27th.

The appointment will be subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Canvassing, either directly or indirectly, will be a disqualification.

County Offices, Preston. April 7th, 1931. GEORGE ETHERTON, Clerk of the Board.

The Radium Institute,

Riding House Street, London, W.1.

[illegible]ed for the post of [illegible]idates must be fully [illegible]. The appointment is for a term of six months, and the successful candidate will be required to take up his duties on May 1st next. The salary will be at the rate of £150 per annum, with board, lodging, and laundry.

Applications, stating age, qualifications, and experience, with copies of three recent testimonials, must be received at the Institute not later than April 28th.

Canvassing, either directly or indirectly, is not permitted.

THOS. A. GARNER, Secretary.

Royal Eye Hospital,

St. George's Circus, Southwark, S.E.1.

HOUSE SURGEON and ASSISTANT HOUSE SURGEON required at the above Hospital. The appointment is in the first instance for a period of six months, with board and residence as from June 1st.

Salaries: House Surgeon at the rate of £150 per annum; Assistant House Surgeon at £100 per annum.

Candidates must be registered Practitioners.

Applications, with copies of three recent testimonials, should be sent to the Secretary at the Hospital not later than Monday, May 4th.

F. E. D'ALTON, Secretary.

Wigan Infirmary.

(180 Beds—4 Residents.)

HOUSE SURGEON (male) required May 12th, for a period of six months. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.

April 14th, 1931. A. STANLEY BRUNT, Gen. Supt. & Secretary.

Borough of Hove.

URBAN DISTRICT OF PORTSLADE-BY-SEA.

MEDICAL OFFICER OF HEALTH.

The Council of the Borough of Hove and the Council of the Urban District of Portslade-by-Sea jointly invite applications from qualified Medical Practitioners for the dual appointment of whole time Medical Officer of Health, etc., for the Borough and the Urban District.

The successful candidate will also be appointed by the East Sussex County Council as Assistant County Tuberculosis Officer for the County District, comprising the Borough and Urban District. Candidates must hold the qualifications prescribed by the Sanitary Officers Order, 1926, and previous experience in Medical Officer's work and Tuberculosis is essential.

The total salary for the combined posts will be £1,000 per annum, allocated between the various services as set out in the Conditions of Appointment, copy of which, with form of application, may be obtained from the Town Clerk, Town Hall, Hove. An allowance of £50 per annum will also be made towards the expenses of a motor car, and a holiday deputy will be provided.

Applications, accompanied by not more than three testimonials, should be sent on or before May 4th next to the Town Clerk, Hove.

In respect of the Borough and the County there are Superannuation Schemes in force in which the successful candidate will participate subject to the conditions.

Town Hall, Hove. April, 1931. W. JERMYN HARRISON, Town Clerk. ERNEST H. KEMPE, Clerk to the Council.

County Borough of Burton-upon-TRENT.

DEPUTY MEDICAL OFFICER (Male).

The Council invite applications from candidates for the appointment of Deputy Medical Officer of Health, Assistant School Medical Officer, and Assistant Tuberculosis Officer.

Salary £600 per annum, rising to £700 by annual increments of £25, such salary to be inclusive of all duties. The candidate selected for the appointment will be required to pass a medical examination, and the appointment will be terminable by three calendar months' notice on either side.

The person appointed must have a Diploma in Public Health, and must have had not less than three years' post-graduate experience, and will be required to devote the whole of his time to the duties of the office, and to act under the direction of the Medical Officer of Health.

Applications, *stating* age, experience, and qualifications, and endorsed "Deputy Medical Officer," to be delivered to me, with copies of not more than three recent testimonials, not later than Tuesday, April 28th.

A list of the duties can be obtained on application.

Canvassing any member of the Council will disqualify.

Town Hall, Burton-upon-Trent. April 8th, 1931. H. BAILEY CHAPMAN, Town Clerk.

County Borough of Reading.

EDUCATION COMMITTEE.

Applications are invited from qualified Dental Surgeons (men or women) for the post of full-time SCHOOL DENTIST. Salary scale, £500 per annum, rising by one annual increment of £10, and then by two annual increments of £20 to a maximum of £550 per annum. Previous experience of School Dental work essential. The candidate appointed will work under the administrative direction of the School Medical Officer, and will be required to devote his or her whole time to the duties of the office.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination.

Forms of application, with particulars of the duties and conditions of appointment, may be obtained from the Chief Education Officer, Education Office, Blagrave Street, Reading, to whom applications must be sent on or before May 5th.

The Royal Liverpool Children's HOSPITAL.

There is a vacancy for one RESIDENT *HOUSE SURGEON* at the City Branch, Myrtle Street. The appointment will be for the six months ending September 30th. Salary at the rate of £100 per annum.

Applications, with copies of recent testimonials, to be sent to the Secretary, Royal Liverpool Children's Hospital, Myrtle Street, Liverpool.

Manchester Royal Infirmary.

CENTRAL BRANCH, ROBY STREET, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite application for the above appointment.

Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for nine months, commencing forthwith, three months as Junior at £100 per annum, three months as Assistant at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m. on Thursday, April 30th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

Manchester Royal Infirmary.

RESIDENT SURGICAL OFFICER.

The Board of Management invite applications for the above appointment, which will become vacant on June 1st. Applicants must not be less than 25 years of age. They must be registered and hold a Medical and Surgical qualification.

The appointment is for twelve months, renewable for a further period of one year, subject to the provision of the By-laws as to notice. Salary £200 per annum, with allowance for laundry.

Full information is obtainable from the undersigned, to whom applicants must send twelve copies of their application and testimonials by Wednesday, April 29th.

By Order,
FRANK G. HAZELL,
General Superintendent & Secretary.

Royal Cripples Hospital,

BIRMINGHAM.

Applications are invited for the post of HOUSE SURGEON, vacant May 1st. Salary £200 per annum, with allowance of £150 p.a. in lieu of residence.

The appointment, which is for a period of six months, is renewable on the discretion of the Medical Board, and is terminable by one month's notice on either side. Preference will be given to candidates with previous experience in General and Orthopaedic Hospitals.

Applications, with copies of three recent testimonials, to be sent not later than April 24th to the General Secretary, Royal Cripples Hospital, 80, Broad Street, Birmingham.

The Gloucestershire Royal

INFIRMARY AND EYE INSTITUTION, GLOUCESTER.
(155 Beds—4 Residents)

Applications are invited for the post of SECOND HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned on or before Wednesday, April 22nd. The elected candidate will be required to enter upon his duties on May 2nd.

F. J. SYMONS, Secretary.

April 2nd, 1931

Merthyr General Hospital,

MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry.

Applicants must have had experience in administration of Anaesthetics.

Applications, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

Manchester and Salford Hospital

FOR SKIN DISEASES.

HOUSE SURGEON.

Applications are invited for the post of House Surgeon. Must be registered. The appointment is for six months. Salary at the rate of £100 per annum, with board and residence.

Applications, with copies of three testimonials, to be sent to the undersigned, Quay Street, Manchester, on or before Wednesday, April 22nd.

JOHN NALL, Secretary.

Derby City Hospital.

THIRD RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Third Resident Medical Officer (male) at the above Hospital of 300 beds for the treatment of general cases.

Candidates must be registered in Medicine and in Surgery.

The appointment is for a period of twelve months; two months' notice of resignation to be given.

Salary at the rate of £200 per annum for the first six months, then rising to £250, with board and residence.

Applications, stating age, experience, and accompanied by three recent testimonials, should be sent not later than Wednesday, April 29th, to the undermentioned.

Public Health Department, Ford Street, Derby. GORDON LILICO, Medical Officer of Health.

April 11th, 1931.

The Hospital for Epilepsy and

PARALYSIS, Maida Vale, W.9.

A RESIDENT MEDICAL OFFICER required May 1st. HOUSE PHYSICIAN required May 1st.

Applications are invited for these posts. The salaries are at the rate of £150 and £100 per annum respectively, and the appointments are for six months. Candidates for the post of Resident Medical Officer should state if they are willing to take that of House Physician, and applications, accompanied by copies of three recent testimonials, should reach me by April 24th.

The accommodation at the Hospital does not permit of Women Graduates holding these appointments.

H. W. BURLEIGH,
Secretary and General Superintendent.

Royal Victoria Infirmary,

NEWCASTLE-UPON-TYNE.

Applications are invited for Two RESIDENT ANAESTHETISTS.

Candidates must be registered in Medicine and in Surgery.

The term of appointment is for three months and is renewable for a further period.

Payment is at the rate of £200 per annum, with board and residence.

Applications, stating age, experience, and accompanied by two recent testimonials, should be addressed to the House Governor and Secretary not later than Wednesday, April 22nd.

S. DUNSTAN,
April 11th, 1931. House Gov. & Sec.

Royal Sussex County Hospital,

BRIGHTON. (238 Beds.)

HOUSE PHYSICIAN (male) required about middle of May next, with charge of beds. Salary £150 per annum, with board, residence, and laundry.

Candidates must hold a Medical and Surgical qualification of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of testimonials, should reach the und
L. L. W
S

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIMB, Secretary.

Great Yarmouth General

HOSPITAL. (72 Beds.)

Applications are invited for the post of HOUSE SURGEON (one of two appointments). Applicants must be male and unmarried. Salary at the rate of £140 per annum, with board, residence, and laundry.

Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned.

FRANK JENNINGS, Secretary.

Huntingdon County Hospital.

HOUSE SURGEON needed. Salary £120 per annum, and laundry. Testimonials, etc., to Dr. GROVE, County Hospital, Huntingdon.

Rochdale Infirmary and

DISPENSARY. (210 Beds.)

The Board of Management invite applications for the following appointments:

SENIOR HOUSE SURGEON, salary £250 p.a.;
JUNIOR HOUSE SURGEON, salary £200 p.a.; including board, residence and laundry, etc. The candidate elected Junior House Surgeon will be eligible for appointment of Senior House Surgeon after about six months' service.

Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon." Particulars of duties and conditions of appointment may be had on application to the Secretary.

Infirmary Office, Rochdale. W. WYNNE, Secretary.

Oldham Royal Infirmary.

Applications are invited for the undermentioned posts:

HOUSE SURGEON in charge of Women's and
[illegible]
ge of Male Wards.
ge of Out-Patients
(in this post a
is desirable).

Salary £145 in each case, with board, residence, and laundry. Appointments tenable for six months. Successful applicants may re-apply for a further six months' service.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Poplar Hospital for Accidents,

East India Dock Road, E.14.

Applications are invited for the post of SENIOR RESIDENT OFFICER.

Salary £200 per annum, with board, residence, and laundry, plus fees £75 per annum as Anaesthetist to Dental Clinic for L.C.C. School Children. Appointment for twelve months.

Applicants must be Fellows of the Royal College of Surgeons. Post offers considerable scope for Surgical practice.

Applications, stating age, qualifications, and enclosing copies of three recent testimonials, to be sent to the undersigned on or before April 30th.

D. H. LINDSAY,
House Governor & Secretary.

Addenbrooke's Hospital,

CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON (male). The appointment will be for six months, but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum, with board, residence, and laundry. Candidates (male), who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials, to the undersigned as soon as possible.

W. H. HEAD,
Secretary-Superintendent.

Addenbrooke's Hospital,

CAMBRIDGE.

Applications are invited for the post of RESIDENT ANAESTHETIST AND EMERGENCY OFFICER (male). The appointment will be for three months. Salary at the rate of £130 per annum with board, residence, and laundry. Candidates, who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four recent testimonials, to the undersigned as soon as possible.

W. H. HEAD,
Secretary-Superintendent.

Durham County and Sunderland

EYE INFIRMARY.

Two HOUSE SURGEONS required. Must have Ophthalmic experience. Commencing salary £350 (non-resident). Particulars may be obtained from the Secretary. Applications, together with copies of three recent testimonials, to be sent to JOHN BUTTERFIELD, Secretary, Eye Infirmary, Sunderland.

North Devon Infirmary,

BARNSTAPLE.

Wanted May 1st, duly qualified HOUSE SURGEON, lady or gentleman. Salary £150 per annum, with board, apartments, and laundry. Appointment to be for not less than six months.

Applications, stating age, qualifications, with copies of testimonials, to be sent addressed Hon. Secretary.

East Sussex County Mental HOSPITAL, HELLINGLY.

JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited for the above post from duly qualified registered gentlemen (unmarried).

Salary £350 a year, rising by two annual increments of £25 to £400, together with board, lodging, washing, and attendance, valued for superannuation purposes at £90 a year. An additional £50 a year will be paid if the candidate appointed holds the Diploma in Psychological Medicine, or a similar Diploma.

Preference will be given to those holding a University degree.

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, marked "A.M.O.," giving particulars of previous experience and copies of not more than three testimonials (ad hoc), should be addressed to the Medical Superintendent not later than April 24th.

North Riding Infirmary, MIDDLESBROUGH.

(General Hospital—150 Beds.)

Applications are invited for the posts of:
Second HOUSE SURGEON (gentleman) to take up duties May 1st;
Third HOUSE SURGEON (lady eligible) to take up duties early as possible.

The appointments will be for a definite period of *six months*, with salary *in the former case* of £150 per annum, and in the latter case of £125 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three recent testimonials, should be sent forthwith to the undersigned.

CHARLES POSTGATE,
Secretary-Superintendent.

Hull Royal Infirmary. (270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in Laryngology and Otology.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, with copies of testimonials, should be sent immediately to the undersigned.

R. J. CARLESS,
March 16th, 1931. House Governor.

Victoria Hospital, Burnley. (120 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN (male). The duties also include the giving of a certain number of anæsthetics. The appointment is for six months from May 1st, and carries a salary of £150 per annum, with board, etc. This Hospital is approved by the London University for the purpose of the M.B. and M.S. examinations.

Applications, with copy testimonials, should be addressed to the undersigned forthwith.

GEO. W. COOLING,
Secretary-Superintendent.

Lincoln County Hospital.

Wanted, JUNIOR HOUSE SURGEON, male, unmarried. Salary at the rate of £150 per annum, rising to £200 per annum at the conclusion of six months' approved service. Board, residence, and washing will also be provided.

[illegible] intment must be
[illegible] cets
[illegible] d other particu-
[illegible] (not more than
[illegible] ndersigned, from
[illegible] be obtained.

ARTHUR MOORE,
Secretary-Superintendent.
Lincoln,
April 4th, 1931.

Swansea General and Eye HOSPITAL. (316 Beds.)

CASUALTY OFFICER required, gentleman, single. Must have had previous Hospital experience. Appointed candidate also required to act as Deputy Senior R.M.O. Duties to commence immediately. Salary £200 per annum, with board, residence, and laundry.

Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O C HOWELLS,
Secretary-Superintendent.

Cheshire County Mental HOSPITAL, PARKSIDE, MACCLESFIELD.

Male ASSISTANT MEDICAL OFFICER required. Previous Mental Hospital experience not essential. Salary £350, rising annually by £25 to £450, with board, apartments, and laundry, valued at £100. Subject to deductions under the Asylums Officers Superannuation Act, 1909.

The successful candidate will be expected to obtain the D.P.M. (which carries with it an addition of £50 per annum to the salary stated) as soon as possible after appointment. There is every scope for original research, the Hospital having a modern laboratory and full equipment for the latest methods of treatment.

Time will be arranged for attendance of lectures at Manchester University.

Preference will be given to candidate with Bacteriological experience.

Applications, stating qualifications, with copies of three recent testimonials, to be sent to the Medical Superintendent, to be received as soon as possible.

Cardiff Royal Infirmary.

(Associated with Welsh National School of Medicine.)

Applications are invited for the post of HOUSE SURGEON to the Ophthalmic Department of the above Institution. The post is tenable for six months, but may be extended for a further six months. This post is open to ladies.

Salary is at the rate of £75 per annum, with board-residence. Candidates must have experience of Refractions.

Application forms may be obtained from the undersigned, and should be returned completed, with copies of recent testimonials, at the earliest possible date, as the appointment commences immediately.

R. ARMSTRONG,
April 13th, 1931. Medical Supt.

The Staffordshire General INFIRMARY, STAFFORD.

Applications are invited for the post of HOUSE PHYSICIAN (either sex), which will become vacant at the end of April. Candidates must be duly qualified and registered under the Medical Acts. Salary at the rate of £150 per annum, with board, residence, and laundry. The appointment to be held for at least six months.

Applications, stating age, accompanied by copies of three recent testimonials, should be forwarded immediately to the undersigned.

Stafford. A. E. COLLINS,
April 13th, 1931. Secretary.

Wrexham & East Denbighshire WAR MEMORIAL HOSPITAL. (109 Beds.)

RESIDENT HOUSE SURGEON required by the above Hospital, to commence immediately. Appointment for a period of not less than six months. Salary £150 per annum, with board and laundry.

Applications, stating age, nationality, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned immediately.

LESLIE SPENCER, Secretary.

Walsall General Hospital.

The Committee invite applications from men or women for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months. The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, must be received by the undersigned not later than first post Tuesday, April 21st.

WALTER FRANCOMBE, Secretary.

Burton-on-Trent General INFIRMARY.

Applications are invited for the post of JUNIOR HOUSE SURGEON (male). Salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, giving age and qualifications, together with copies of testimonials, to be sent to—

E. W. THORNLEY,
Secretary.

Taunton and Somerset Hospital, TAUNTON. (104 Beds.)

Male HOUSE PHYSICIAN AND ANÆSTHETIST required. Two other Resident Officers. Salary at the rate of £100 per annum, with board, residence, and laundry.

Applications, with testimonials, to F. J. J. STACEY, Secretary.

Bethlem Hospital, MONKS ORCHARD, EDEN PARK, BECKENHAM, KENT.

Wanted, TWO RESIDENT HOUSE PHYSICIANS (gentlemen, unmarried), recently qualified in Medicine and Surgery. The term of residence is for six months from May 1st, apartments, complete board and laundry being provided, and an honorarium at the rate of £25 per quarter will be paid. They will be under the direction of the Physician-Superintendent, to whom they must present themselves previous to the date of election.

Copies of the duties can be obtained from the undersigned, and applications, with testimonials, are to be forwarded to the Treasurer, Bethlem Hospital Office, 14a, New Bridge Street, E.C.4, before April 27th, endorsed "House Physician."

Candidates must attend at the Hospital on Wednesday, April 29th, when the House Committee will make the appointments.

JOHN L. WORSFOLD, Clerk, etc.
Bethlem Hospital Office,
14a, New Bridge Street, E.C.4.
April, 1931.

Whitehaven and West Cumberland HOSPITAL, WHITEHAVEN. (90 Beds.)

Wanted, JUNIOR HOUSE SURGEON (male or female). Salary £100 per annum, including board, residence, and laundry. Twelve months' appointment. After six months as Junior an opportunity is given of becoming Senior for the second six months at the rate of £150 per annum.

Applications, stating age, nationality, etc., together with copies of three testimonials, to be sent to the Secretary, endorsed "House Surgeon," at once.

R. HIGGINS, Secretary.

Tynemouth Victoria Jubilee INFIRMARY.

Two HOUSE SURGEONS (male) required about May 20th. Applicants must be doubly qualified and registered. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age and other essential particulars, and accompanied by copies of recent testimonials, to be addressed to the undersigned, from whom all particulars may be obtained.

The Hospital has two resident House Surgeons, and contains 80 Beds and Cots, an X-Ray Department, and an Out-patient Department where accidents cases are received.

CHARLES ROWELL,
Assistant Secretary.
1, Northumberland Place, North Shields.

Victoria Central Hospital, WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry, with prospects of appointment to Senior House Surgeon in six months' time, at a salary of £150.

Candidates chosen will be appointed for six months.

Applications, with copies of testimonials, to be sent to the Secretary.

The Hospital for Women, Soho Square, W.1.

Applications from fully qualified men and women are invited for the post of RESIDENT MEDICAL OFFICER, for a period of six months commencing May 1st next.

The salary is at the rate of £100 per annum, with board, residence, and laundry. Applications must reach the undersigned, from whom further information can be obtained, by Saturday, April 25th.

J. P. HEMING, Secretary.

Tiverton Hospital, Devon. (35 Beds.)

Applications are invited for the post of HOUSE SURGEON. Salary £100 per annum, with board, residence, and laundry. Six months' appointment, commencing as early as possible.

Applications, with testimonials, to be sent to the undersigned.

C. H. DEEKS, Hon. Secretary.

Hounslow Hospital, Staines Rd., HOUNSLOW, MIDDLESEX. (70 Beds.)

Wanted, May 1st, HOUSE SURGEON. Salary £200 per annum, with board, residence, etc.

The appointment will be for six months.

Applications, stating age, qualifications, and experience, and enclosing copies of testimonials, should be sent by April 27th, marked "House Surgeon" top left-hand corner, to W. T. Ross, Secretary, Hounslow Hospital, Staines Road, Hounslow.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
GENERAL POST OFFICE. *(Assistant Medical Officer—Woman.)*	**CONTRACT PRACTICE** *(contd.)*.	**PUBLIC HEALTH** *(contd.)*
CONTRACT PRACTICE.	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)* *(Male Assistant Medical Officer, Colony for Mental Defectives, Shenley.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	**PUBLIC HEALTH.**	PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.)* *(Resident Medical Officer, Preston Institution, Fulwood.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	BELFAST COUNTY BOROUGH. *(Maternity and Child Welfare Medical Officer.)*	RENFREW COUNTY COUNCIL. *(Assistant Medical Officer of Health.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	CAERN[illegible] *(Assistant [illegible] nd Assistant School Medical Officer.)*	STAFFORDSHIRE COUNTY COUNCIL. *(Third Assistant Medical Officer, Burntwood Mental Hospital.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	CORNWALL [illegible] *(Assistant Scho[illegible]*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	EAST HA[illegible] *(Assist[illegible]*	
NEATH AND DISTRICT. *(Medical Aid Association.)*	EAST SUFF[illegible] *(Male Assistant County Medical Officer of Health.)*	

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 155, Macquarie St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

April 15th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Rotherham Hospital.

Wanted, HOUSE PHYSICIAN (male), qualified. Salary £180 per *annum*, with board, residence, and laundry, to have charge of Out-patients, administer Anæsthetics, and assist Honorary Physician.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Rotherham Hospital.
(130 Beds.)

The Weekly Board invite applications for the post of HONORARY SURGEON for the Ear, Nose, and Throat Department. Arrangements as to attendance required may be discussed later.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital.
(150 Beds.)

The Weekly Board invite applications for the post of HONORARY DENTAL SURGEON in the Out-patients Department. Arrangements as to attendance required may be discussed later.

Applications should be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham, from whom further particulars can be obtained.

Rotherham Hospital.
(130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £120, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

St. Marylebone General
DISPENSARY (Incorporated),
30, Marylebone Lane, W.1.

A vacancy having occurred in the office of HONORARY SURGEON to the Ear, Nose, and Throat Department, the Council invite applications for the vacant office. Every candidate for the post must be a Fellow of the Royal College of Surgeons, England, and practising as an Ear, Nose, and Throat Surgeon. Full particulars may be obtained from the Secretary, to whom applications and testimonials should be forwarded not later than Saturday, May 2nd.

Candidates will be asked to attend the meeting of the Medical Committee on Tuesday, May 5th.

M. J. ROXBURGH, Secretary.

St. Albans and Mid Herts
HOSPITAL & DISPENSARY,
CHURCH CRESCENT, ST. ALBANS.

Applications are invited for the post of Female RESIDENT HOUSE SURGEON. Salary £150 per *annum*, with board, residence, and laundry.

The post will become vacant on or about May 15th *next*.

Applications to be sent to the Secretary, St. Albans and Mid Herts Hospital, No. 38, St. Peter's Street, St. Albans.

April 13th, 1931.

St. John's Hospital, Lewisham, S.E.13.

[illegible] for a RESIDENT [illegible] six months beration £100 per [illegible] reach the under- 22nd instant.

[illegible] Secretary-Supt.

The Liverpool Eye and Ear
INFIRMARY,
MYRTLE STREET, LIVERPOOL.

Applications are invited for the post of HOUSE SURGEON to the Ophthalmic Department of the above Institution.

Salary £100 per annum, with board and lodging.

Applications, stating age and qualifications, together with copies of not more than three recent testimonials, should be sent in not later than mid-day, Tuesday, April 28th, to

CHAS. W. WRIGHT, *Esq.*
9, Harrington St., Liverpool.

The Royal Waterloo Hospital
FOR CHILDREN AND WOMEN,
Waterloo Road, S.E.1.

Applications are invited from qualified male *Practitioners* for the following post vacant on *May 1st*: A CASUALTY OFFICER, to work in the Out-patient Department on week-days, at £150 per annum, lunch and tea provided.

Applications, with copies of testimonials, should be forwarded by Tuesday *morning*, April 28th, to the Secretary at the Hospital, from whom further particulars can be obtained.

Cossham Memorial Hospital,
KINGSWOOD, BRISTOL.

[illegible] for the post of [illegible] tence duties at the [illegible] must be British registered.

Applications, stating age, qualifications, and previous experience, accompanied by three recent testimonials, should be sent to the Secretary.

(Appointments continued on p. 62.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
TELEGRAMS: ARTICULATE, WESTCENT, LONDON.
Telephone: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.

(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted at once, outdoor ASSISTANT, male, young, active. Residential country town, Cheshire, close to large centres. Able to drive car. Salary £350. Usual bond. Full-time Dispenser kept. Interview. Railway expenses paid. Full particulars.—Address, No. 2330, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship by Indian Doctor, M.B., M.R.C.P.(Edin.), 4 years' exp., act. 30, married, abstainer, energetic; ready to accept indoor or outdoor work; returning to England in July or earlier if required.—Address, No. 2311, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant, male, British, single, for Industrial Panel and Private Practice, Yorkshire. Salary £250—£300 (according to experience), and all found. Usual bond. No view.—Address, No. 2320, B.M.A. House, Tavistock Sq., W.C.1.

Wanted immediately, recently qualified man as indoor ASSISTANT for General Practice. Salary commencing £350 per annum.—Address, stating age, experience, nationality, with photo., references, etc., No. 2333, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, woman ASSISTANT, indoor, Scotch preferred, for Woman's Practice, London area. Good opening for suitable woman. Full essential particulars.—Address, No. 2334, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship, with view early Succession or Partnership, by L.R.C.P. and S.I. Aged 31, married. 8 years' G.P. Own car. — Address, No. 2322, B.M.A. House, Tavistock Square, W.C.1.

Wanted, a Welsh - speaking ASSISTANT for General Practice. Good anaesthetist. References required. Salary £500. Outdoor. Usual bond. — Address, No. 2103, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Junior Assistant. Salary £375 per annum, with rooms and attendance, light, coal, and 10/- extra Midwifery cases. Usual bond.—Apply, A. H. JAMES, M.D., etc., The Park, Blaenavon, Mon.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State [illegible]. MEDICAL BUREAU, 33

Assistantship ..., aged 48, married, two children, L.R.C.P. & S. Edin., experienced Practitioner, well received, strictly ethical. Gave up own practice after ten years owing to illness, now recovered. Wishes Assistantship in good-class Practice, with little night work. S. of England pref.—No. 2321, B.M.A. House, Tavistock Sq., W.C.1.

Glasgow M.B., Ch.B., wants married ASSISTANTSHIP. Two years' General Practice, ex H.S., ex H.P. Keen Accoucheur. Excellent refs. Own car. Free Birmingham by arrangement. — Address, No. 2331, B.M.A. House, Tavistock Square, W.C.1.

Lady Assistant required, indoor, recently qualified. Irish preferred. Essential particulars — Address, No. 2304, B.M.A. House, Tavistock Square, W.C.1.

Scots Graduate (1927) seeks ASSISTANTSHIP (outdoor, suitable married man), preferably in Scotland, London, or West Country Conscientious. Hospital experience. If necessary, could live at surgery or in similar accommodation.—Address, No. 2329, B.M.A. House, Tavistock Square, W.C.1.

LOCUMS.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." *'Phone:* Temple Bar 9011.
After Office Hours: Epsom 9142.

Wanted. — Locums throughout Summer in better-class Practices in East and South of England, preferably with view possible Assistantship and Partnership later, by M.B., Ch.B., ex H.S., H.P., S.R.M.O. Sanatorium, M.O.H., and 3 years' G.P. Excellent references. Own car if necessary. Usual terms.—Address, No. 2316, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by M.B., Ch.B., D.P.M., LOCUMCY in a Mental Defectives Institution for fortnight in July, first fortnight preferred.—Address, No. 2324, B.M.A. House, Tavistock Square, W.C.1.

Advertiser, M.D., experienced in General Practice, spending summer in Britain, on leave, would consider taking one or more LOCUMS in June—July, where hospitality could be extended to self and wife. Could use own car if desired. Correspondence will be dealt with after May 31st, when advertiser arrives in England.—Address, No. 2101, B.M.A. House, Tavistock Square, W.C.1.

General Medical Practitioner (retired, and life abstainer), large experience, undertakes LOCUM TENENS WORK. If duties light, 6 guineas charged.—Address, No. 2336, B.M.A. House, Tavistock Square, W.C.1.

Locums.—Conjoint man, age 28, wishes to book LOCUMS, priv. or Hosp., any period from April 24th, end Sept. Three yrs.' exp. G.P., panel and priv. Keen, reliable, well rec. Lond. or S. or E. Eng. pref., not essen. —No. 2332, B.M.A. House, Tavistock Sq., W.C.1.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

PARTNERSHIPS.

Will anyone give a Graduate a chance to obtain a SHARE or PARTNERSHIP on easy terms. Age 37, ex-Service, married. Seven years' experience of G.P. Accustomed to sole charge of large Practice. Experienced Maternity, Violet Ray, V.V. injections, minor operations, and Anaesthetics. Tired of working hard without prospects, but would do anything if given an opportunity. Free in one month.—Address, No. 2308, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Partnership or Institutional POST by Graduate, aged 32, 8 years' G.P., experienced Refractions and Children. Recent experience as Medical Registrar. Preferably where scope for modern scientific medicine and biochemistry.—Address, No. 2323, B.M.A. House, Tavistock Sq., W.C.1.

Lancs Town. — Partnership (3 months' preliminary Assistantship at £300 per annum) in large panel Practice. Receipts £1,700. Panel £1,200. Price 1/3 share £900, or 2/5 £1,200, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, S.E. (nice residential part).—HALF SHARE of PRACTICE doing £3,000 p.a. Good panel. House or flat available. Premium 2 years' purchase, payable about £1,000 down, rest spread over 3 or 4 years.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Middlesex.—Half Share Partnership for sale in good-class Practice, averaging £3,500 per annum, increasing rapidly. Good opening for young, well-qualified man with capital and experience. Good house and garden. Premium 2 years' purchase.—Address, No. 2319, B.M.A. House, Tavistock Square, W.C.1.

Partnership.—1/3 or 1/4 share in well-established Practice in large Midland Town. Suit active man about 30. 1½ yrs.' purchase, but easy terms to a suitable man.—Address, No. 2310, B.M.A. House, Tavistock Square, W.C.1.

Partnership in industrial Practice near Manchester. Large panel. Share for sale £2,000 p.a. (audited). In same hands many years. Good house on lease, 1½ years' purchase.—Address, No. 2224, B.M.A. House, Tavistock Square, W.C.1.

Partnership offered in old-established South Yorkshire Practice. General, middle-class, and colliery. One-third share. Panel over 4,500. Clubs about £600 p.a. Premium approximately £2,000. Good house and garage available, which can be rented.—Apply 2611, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

Partner wanted, country district of Cornwall. Preliminary Assistantship at £350, outdoor.—Address, No. 2328, B.M.A. House, Tavistock Square, W.C.1.

Partnership offered in Home for Mental Defectives. Receipts over £4,000. —Address, No. 2301, B.M.A. House, Tavistock Square, W.C.1.

Surrey. — Nice Town. — Half SHARE of well-established PRACTICE. Receipts of whole Practice £1,500 p.a. Good house, rent £85. Premium for share 1½ years' purchase.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Capable Secretary requires Post. Perfect English and French, shorthand-typing in both languages, bookkeeping. Can drive car. Last post 5½ years. Excellent testimonial from Doctor.—SPANIER, 839, Finchley Road, N.W.11.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and [illegible], or 'phone BUREAU FOR , E.C.1.

D (Hall) urgently desires POST. Bookkeeping and Secretarial work. Lady, 21. Very reliable and careful. Experienced; highly recommended. Locums accepted.—DISPENSER, 138, West Side, S.W.4.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5853, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Experienced M.B., doing Post-Graduate work, desires PART-TIME WORK in or near London, or Hospitality in exchange for services. References.—Address, [illegible], W.C.1.

G SECRETARIAL DUTIES, anywhere London area. Free after 6 p.m. Discreet, capable trustworthy. Refs. given.—Address, No. 2305, B.M.A. House, Tavistock Sq., W.C.1.

Lady Dispenser wanted for Seaside Practice on the East Coast. Preference given to one used to keeping panel records.—Apply, in first instance, giving full details, to THE MEDICAL AGENCY, Watergate House, Adelphi.

Middle-aged Medical Man, experienced General and Mental. Free. Institution or travel. Capital available.—Address, No. 2210, B.M.A. House, Tavistock Square, W.C.1.

Required in correspondence department of West End offices, a well educated young Lady as ASSISTANT SECRETARY. Knowledge of medical terms essential. Would suit lady who has undergone partial medical training. — Address, stating age and salary required. No. 2[illegible]535, B.M.A. House, Tavistock Square, W.C.1.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

To Medical Men.—Gentlewoman seeks post in London as SECRETARY-RECEPTIONIST; aged 36. Nine years' reference from last employer. Sunday work if required. — Address, No. 2223, B.M.A. House, Tavistock Square, W.C.1.

Typewriting, Duplicating. — Prompt accurate work by Expert. Many unsolicited testimonials. Theses copied from 10d. per 1,000 words. Testimonials—four copies of one, 3d.; 25 1/3.—Miss STRATFORD, 44, Liberia Road, Highbury, London.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6430 (any hour).

PRACTICES.

Wanted.—Practice or Partnership by Glasgow Graduate; 8 years' experience G.P. Energetic, Protestant. Income about £1,000, with scope. House in good locality, preferably on lease. — Address, No. 2430, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Mixed-class Practice, with some panel, income £900—£1,800, [illegible] England or Scotland. [illegible] 2312, B.M.A. [illegible]

Wanted.—London and District. —The Medical Agency has a large clientele seeking suitable INVESTMENTS in the London area with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2. 'Phone: Temple Bar 1054 and 1084.

For immediate Disposal (urgent family reasons), increasing PRACTICE held by woman; excellent scope for man or woman. Easy access Glasgow or Edinburgh. Panel (656) and private; dispensing optional. Last 3 years' receipts, £718; £770; £860. Modern villa, 6 apartments, recently decorated throughout, electric lighting, all conveniences, fine garage and garden. Premium for house and Practice £1,700. Bond can be got on house. —No. 2314, B.M.A. House, Tavistock Sq., W.C.1.

Hackney. — Well-established mixed PRACTICE, average past 3 years £c970. Panel over 900, steadily increasing. House to rent, cheap. Not much midwifery or night work. Prem., to inc. drugs, surg. fittings and furniture, linn., and gas fires, £1,000 cash. —No. 2315, B.M.A. House, Tavistock Sq., W.C.1.

Lancs Town.—Old-established.— Good house, garage, garden; rent £60. Excellent scope, growing district. Receipts £1,400. Panel 900, increasing. Price, 1 year's purchase for quick sale, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, S.W.—Owing to serious illness, Lady Doctor's small PRACTICE must be sold immediately. Receipts £150 p.a., including panel 150. Locum in charge. Any reasonable offer considered.—Apply, PEACOCK & HADLEY, LTD., 19, Craven St., Strand, W.C.2.

Northern Ireland. — Wanted, preferably in Belfast or neighbourhood, PRACTICE with panel of 1,500 upwards. All particulars.—Address, No. 2326, B.M.A. House, Tavistock Square, W.C.1.

Nucleus.—Lady Doctors or Others. Small house, 2 reception rooms, 3 bedrooms, bath (h. and c.), room for garage. London suburb, E. Deposit on house £35.—Address No. 2432, B.M.A. House, Tavistock Square, W.C.1.

Practice for Sale. — Lancashire Coast.—Developing residential seaside district. Income £1,500 p.a. Splendid double-fronted house, large front gardens, garage. Lease or sale. Good school. Sports centre, tube min. rail and sea. Estab. 30 years. 1½ yrs.' prem.—No. 2455, B.M.A. House, Tavistock Sq., W.C.1.

South Staffordshire. — Unique opportunity for establishing successful PRACTICE. House available, up-to-date, with garage and ample grounds. Housing schemes in progress, population of probably 8,000 needing medical facilities. Price extremely moderate. Very reasonable terms arranged to suit purchaser. Buyer's bargain.—INSTONE & INSTONE, Hadrian Chambers, Skinner St., Wolverhampton.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

HOUSES, CONSULTING ROOMS.

TO DOCTORS AND DENTISTS.

Brookman's Park Estate, Herts, presents a splendid opening for the above professions, which at the present time are unrepresented. The Estate, extending to 1,000 acres, is being rapidly developed, and over 100 houses have recently been erected.—Managing Agents: ALAWAY & PARTNERS, 20, Bloomsbury Square, W.C.1.

Cap d'Antibes. — Lady (M.B., Ch.B.) and Gentleman would receive a few GUESTS in their villa. Every comfort, and medical attention if required. — Address, No. 2431, B.M.A. House, Tavistock Sq., W.C.1.

Consulting Rooms to Let.—Harley Street and District.—Whole or part-time. Rents £50 to £450. Lists sent on application. Rooms wanted in Harley Street district. —ELGOOD & CO., 10, Henrietta Street, Cavendish Square, London, W.1. Langham 2601.

Consulting Room and Flat to Let in best part of consulting area. Well-appointed house, excellent attendance, use of waiting room and telephone. — Address, No. 2307, B.M.A. House, Tavistock Square, W.C.1.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Eminently suitable accommodation for two Medical gentlemen in Hyde Park Mansions, N.W.1. Two bed-sitting rooms and private dining room, handsomely furnished. Rent, including service and catering, £3 10s. per week.—Telephone: Ambassador 1025.

For Sale.—Richmond.—£2,100. Freehold CORNER HOUSE, main road, brick garage, suitable for professional, formerly Branch Dental. Two reception, surgery fitted h. and c., electric power, 5 bedrooms, usual offices, partial central heating. Near station. —No. 2305, B.M.A. House, Tavistock Sq., W.C.1.

Harley Street, best end.—Large first floor CONSULTING ROOM, fitted h. and c., electric power. Two door plates. Available June. — Address, No. 2302, B.M.A. House, Tavistock Square, W.C.1.

Harley Street. — Part-time CONSULTING ROOM to Let. With or without plate. Handsome waiting room. Good receptionist. Letters and 'phone calls forwarded and appointments made.—Address, No. 2313, B.M.A. House, Tavistock Square, W.C.1.

FULLY EQUIPPED VILLAGE HALL. FREEHOLD FOR SALE.

Kent. — Within six miles of Canterbury, comprising hall 50 ft. by 35 ft., two cloakrooms, kitchen, small billiard room. Electric light plant, central heating. Enclosed Grasphalt Tennis Court, in all about one acre. Suitable for conversion into a Bungalow or for a Welfare Centre. Price £1,200 (a further 2 acres could be had).—HARRODS LTD., 62/64, Brompton Road, S.W.1.

Modern Hydro for Disposal.— Accommodation for 100 guests. Beautifully fitted and furnished. Lift. Hot and cold water all rooms. Modern Electric, Medical, Turkish, and Russian Baths. Replete in every detail. Centrally situated in South Coast town. —Write, MORRIS, 41, Syke Ings, Iver, Bucks.

Nottingham Place, W.1.—Treatment ROOM (Diathermy, etc.) to LET PART-TIME. Private telephone. Use of waiting room. Message taken. — Address, No. 2327, B.M.A. House, Tavistock Square, W.C.1.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 2114, B.M.A. House, Tavistock Square, W.C.1.

Scotland.—To Sell or Let, large RESIDENCE, 10 bedrooms, 4 public rooms, bathrooms, kitchen premises. Stands in own grounds, 18 miles from Edinburgh. Suitable for Convalescent Home. — Address, No. 2041, B.M.A. House, Tavistock Square, W.C.1.

Stockport, Cheshire. — Modern RESIDENCE for sale. Would suit Doctor. On fringe of 700 house Council estate now building. Freehold £1,250. Nearest Doctor one mile away. — Address, No. 2317, B.M.A. House, Tavistock Square, W.C.1.

Two delightful Bed-sitting ROOMS, 1st and 2nd floors, facing South, in Doctor's well-appointed house, close Marble Arch. Suit City men or gentlemen requiring slight medical assistance. Terms inclusive—light, bath, and breakfast—4 gns. each room weekly.—"R. B. B.," 10, Connaught St., W.2.

Upper Wimpole Street.—To Let, large ground floor CONSULTING ROOM, with plate and attendance. £200 per annum. Also bedroom and breakfast. £2 2s. per week. —Address, No. 2318, B.M.A. House, Tavistock Square, W.C.1.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
& LIO FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear
OVERCOATS & SUITS to measure from £6 6s
SOLID WORSTED SUITS £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

An Ultra-Violet Ray Standard LAMP, Alternating Current 200 volts, Medical Supply Association. Two Sollux Radiant Heat Lamps. Two Jesionek Lamps, Alternating Current 200 volts. British Hanovia. One Actino-Therapy Lamp, Type 2. Cheap. What offers? —No. 2309, B.M.A. House, Tavistock Sq., W.C.1.

Philips Portable X-ray Apparatus required, for both A.C. and D.C. working, in good condition, at a reasonable price for cash. — Address, No. 2306, B.M.A. House, Tavistock Square, W.C.1.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148, 150, 61 Portland Street, W.1. Museum 3931 & 7236.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS.

49, Chancery Lane, London, W.C.2.

'Phone: Holborn 6659.

INCOME TAX.

Consult me regarding all Income Tax and Accountancy matters. I guarantee satisfaction and immunity from tax worries.—For appointment write Mr. C. G. C. KILNER (late H.M. Inspector of Taxes), 17, George St., Baker St., London, W.1. ('Phone Welbeck 2012).

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Eseff" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application) Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

Wanted.—Second-hand Carbon-ARC LAMP. Suitable for a Children's Clinic.—Full particulars to be sent to Dr. C. W. BROOK, 72, Balham Park Road, S.W.12.

APPOINTMENTS.—Contd.

The Royal Gwent Hospital,
NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to act as House Surgeon to Out-patients, and as House Physician.

Salary £135, with board, lodging, and laundry.

Resident Medical Staff 5. Eligible for promotion.

Large Out-patient Department.

Applications, stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.

Applications from ladies not entertained.

J. K. MILLWARD,
April 14th, 1931. Secretary Supt.

East Surrey Hospital,
REDHILL, SURREY.

JUNIOR HOUSE SURGEON (male) required to take up duties May 1st. Salary at the rate of £100 per annum, with board, furnished apartments, and washing. Candidates must be fully qualified, registered, and single. The appointment will be for six months, after which the successful candidate will be eligible for the Senior post.

Applications, stating age, experience, and copies of three recent testimonials, must be forwarded to me not later than April 25th.

B. K. FEILD, Secretary.

The St. Helens Hospital.

Applications are invited for the position of HOUSE SURGEON to this Hospital at a salary of £200 per annum, plus board, residence, and laundry. Applications, accompanied by three recent testimonials, to be sent to the Secretary, St. Helens Hospital, Lancs, not later than April 28th.

The successful candidate will be required to commence his duties on May 7th.

Royal Alexandra Hospital for
SICK CHILDREN, BRIGHTON.
(100 Beds.)

HOUSE PHYSICIAN (male) required. Salary at the rate of £100 per annum, with board, lodging, and washing. No canvassing allowed. To commence duties on June 1st.

Applications, in writing, accompanied by testimonials, should be sent to A. F. GRAVES, Secretary, on or before Friday, May 1st.

April 11th, 1931.

Southend Victoria Hospital,
SOUTHEND-ON-SEA. (96 Beds and Cots.)

JUNIOR HOUSE SURGEON (male) required (approximately) May 1st. Six months' appointment. Salary £150 per annum, board, residence, and laundry. Apply, stating age, qualifications, previous experience, with copies of three recent testimonials, to the Secretary on or before April 24th

Leicester Royal Infirmary.
(450 Beds)

Vacancies for Two SURGICAL DRESSERS (final-year Students preferred). Appointment for three months Honorarium 10/6 per week for approved service. Board, etc, provided.

Applications forthwith to the House Governor and Secretary, with copies of available testimonials.

April 13th, 1931.

Royal Manchester Children's HOSPITAL,
PENDLEBURY, near MANCHESTER.
(190 Beds.)

Wanted, a RESIDENT SURGICAL OFFICER, salary £125 per annum, who will be appointed for six months.

Candidates must be unmarried, doubly qualified, and duly registered. Previous Hospital experience essential.

Applications, stating age, and accompanied by copies of not more than three testimonials, to be sent to the undersigned at once.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY,
April 14th, 1931. Secretary.

General Hospital, Nottingham.

A HOUSE SURGEON is required at the above Institution. The appointment is for six months, with salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the undersigned not later than Saturday, April 25th.

The appointment will be made on Wednesday, May 6th.

Duties to commence Saturday, May 16th.

F. M. MACCOLL,
House Governor & Secretary.

General Hospital, Nottingham.

A HOUSE PHYSICIAN is required at the above Institution at once. The appointment is for six months. Salary at the rate of £150 a year, with board, residence, and laundry. Candidates are desired to send applications, stating age, qualifications, and experience, together with copies of testimonials, to the undersigned.

PETER M. MACCOLL,
House Governor & Secretary.

Caernarvonshire and Anglesey
INFIRMARY, BANGOR.
(General Hospital.)

HOUSE SURGEON wanted. Salary £200 per annum, with residence, board, and laundry. Duties to commence early in May. Hospital contains Orthopaedic, Ear, Nose, and Throat, X-Ray, and V.D. Departments.

Applications, stating age, nationality, and experience, with copies of three recent testimonials, to reach the Secretary not later than April 22nd.

Samaritan Free Hospital for
WOMEN, Marylebone Road, N.W.1.

Applications are invited for the post of HOUSE SURGEON, for a period of six months, commencing on May 10th next. Salary at the rate of £100 per annum, with board, lodging, and washing. Previous experience as House Surgeon essential.

Applications, stating age, accompanied by copies only of testimonials, must reach the Secretary at the Hospital on or before Thursday noon, April 30th.

G. H. HAWKINS, Secretary.

Cumberland Infirmary
CARLISLE. (160 Beds.)
Resident Medical Staff—Four Qualified Officers.

Required at once, Resident Medical Officer as SECOND HOUSE SURGEON, or as HOUSE SURGEON in charge of Eye, Ear, Nose, and Throat Department. Six months' appointment. Male. Previous experience desirable, but not essential. Salary at the rate of £155 per annum, with board, residence, etc.

Apply at once, stating age, with copies of three testimonials, to the Secretary.

Macclesfield General Infirmary.
(100 Beds.)

Wanted, SECOND HOUSE SURGEON.

Salary £150 per annum, with board and residence.

Candidates must be legally qualified, and have had experience in the administration of Anæsthetics. Appointment for six months.

Applications, stating qualifications, and enclosing copies of three testimonials, should be sent to the undersigned.

A. E. HANRAHAN, Secretary.

Burton-on-Trent General
INFIRMARY. (130 Beds.)

Applications are invited for the post of SENIOR HOUSE SURGEON (male). Salary at the rate of £200 per annum, with board, residence, and laundry.

Applications, giving age and qualifications, together with copies of testimonials, to be sent to—

E. W. THORNLEY, Secretary.

Queen's Hospital for Children,
Hackney Road, London, E.2.

CASUALTY OFFICER required June 1st. Some Throat and Ear work additional. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials, on or before April 30th.

CHARLES H. BESSELL,
April 13th, 1931. Secretary.

Queen's Hospital for Children,
Hackney Road, London, E.2.

HOUSE PHYSICIAN required on June 15th. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials on or before April 30th.

CHARLES H. BESSELL,
April 13th, 1931. Secretary.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited for the appointment of ASSISTANT SURGEON. Intending candidates (men or women), who must be Fellows of the Royal College of Surgeons, should submit applications, stating age, and accompanied by copies of three recent testimonials, to the undersigned on or before May 9th.

REGINALD R. GARRATT,
Secretary.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited for the appointment of ASSISTANT SURGEON to the Ear, Nose, and Throat Department. Intending candidates, who must be Fellows of the Royal College of Surgeons, England, should submit applications to the undersigned, stating age, and accompanied by three recent testimonials, on or before May 9th.

REGINALD R. GARRATT,
Secretary.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited from duly qualified Medical Women for the post of SENIOR RESIDENT MEDICAL OFFICER, vacant June 1st, and tenable for one year. Salary £150 per annum, with board and residence. Intending candidates should submit applications, stating age and experience, and accompanied by copies of three recent testimonials, to the undersigned on or before May 9th.

REGINALD R. GARRATT,
Secretary.

The Hospital for Sick Children,
NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a HOUSE SURGEON (male or female) to commence duties forthwith until September 30th. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle.

Scunthorpe and District War
MEMORIAL HOSPITAL.
(82 Beds—Two Residents.)

Applications are invited for the post of SECOND RESIDENT SURGEON (male), with charge of Medical beds, to take duties as early as possible. Salary at the rate of £150 per annum, with board, residence, and laundry. Candidates, who must possess registered qualifications, should forward applications stating age, nationality, etc., together with copies of recent testimonials, to

ARTHUR E. MAW, Secretary.

Resident Medical Officer required
for HERITAGE ORTHOPAEDIC HOSPITALS, CHAILEY, about May 1st. Applicants (male only) must have held appointment as House Surgeon at a recognised Hospital in Great Britain, and have had Orthopaedic experience. Salary £200, with board and rooms, plus £100 from the East Sussex County Council. Applications, accompanied by testimonials, to be sent to the Secretary, Heritage Craft Schools, Chailey, Sussex.

Penrhyn Quarry Hospital.

Wanted for July 1st, a MEDICAL OFFICER AND SURGEON for the above. Salary commencing at £600 per annum, with house, coal, and light. Knowledge of Welsh desirable.

Applications, with full particulars, to Mr. ALFRED H. RICHARDS, Port Penrhyn, Bangor.

North Staffordshire Royal INFIRMARY, HARTSHILL, STOKE-ON-TRENT.

VACANCY FOR AN ASSISTANT HONORARY SURGEON.

The Committee invite applications for the post of Assistant Honorary Surgeon.

Candidates for appointment to the Honorary ry will be required hold the Degree of by Special Exam- University, or the Diploma of Fellow of one of the Royal Colleges of Surgeons of Great Britain or Ireland.

All the members of the Honorary Medical and Surgical Staff must reside within five miles of the North Staffordshire Royal Infirmary, and must be communicable by telephone.

Candidates will be required to attend before the Election Committee at this Infirmary on Thursday, May 7th, at 3.30 p.m.

Canvassing will disqualify

No testimonials will be permitted, but a candidate will be allowed to send to each member of the Election Committee a copy of his application, in which will be stated his age, qualifications, and experience.

A list giving the names and addresses of the members of the Election Committee may be obtained from the undersigned, in whose hands applications for the post of Assistant Honorary Surgeon must be (with proof of the necessary qualifications) on or before Tuesday, May 5th, at 10 a.m.

By Order of the Committee,
W. STEVENSON,
Secretary and House Governor.

April 14th, 1931.

Hospital of St. Cross, Rugby.
(114 Beds)

THREE RESIDENT MEDICAL OFFICERS (Males) REQUIRED.

Applications are invited for the posts of:

First Resident Medical Officer, qualified. Salary at the rate of £150 per annum, with full board, etc., to commence duties on May 1st.

Second Resident Medical Officer, qualified. Salary at the rate of £125 per annum, with full board, etc., to commence duties on May 1st.

Third Resident Medical Officer, qualified. Salary at the rate of £100 per annum, with full board, etc. Commence May 1st

Six months' appointments, and eligible on completion of service for extension or other resident's posts.

Applications, stating age, nationality, and full details, with copies of three recent testimonials, to be sent to the undersigned.

W. COCKBURN,
Superintendent and Secretary.

Northampton General Hospital.
(230 Beds.)

The Board of Management invites applications for the appointment of an HONORARY SURGEON.

Candidates must be Fellows of the Royal College of Surgeons of either England or Edinburgh, and shall not be connected with any dispensary, nor engaged in panel practice.

Full particulars of the appointment may be obtained from the undersigned, to whom applications, accompanied by copies of testimonials, should be sent on or before April 22nd.

The present Honorary Assistant Surgeon will be an applicant for the appointment.

H. St. JOHN WOOD,
Secretary-Superintendent.

March 31st, 1931.

Bolingbroke Hospital,
Wandsworth Common, S.W.11.
(121 Beds)

HOUSE SURGEON (male) required. The appointment is for six months. Salary £120 per annum, with board, residence, and laundry.

Candidates must be fully qualified and registered.

Application, stating age, qualifications, and experience, with copies of not more than three testimonials, should be sent to the undersigned as soon as possible.

W. S. RANDOLPH BISS,
Secretary-Superintendent.

Birkenhead
(150 Beds.)

HOUSE PHYSICIAN (gentleman) wanted immediately. Salary £100, with board and residence.

Applications, stating qualifications, experience, and nationality, with three testimonials, to be sent to the undersigned as early as possible.

W. H. DANIELS, A.C.I.S.,
Secretary-Supt.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,

(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

London, N.W. — Nearly £400 p.a. and scope. Panel over 500, increasing. Fees, visits 3/6 up. Excellent surgery and living rooms, on lease.—No. 8835.

London, N.E. — £1,300—£1,400 p.a. Panel 1,200. No midy., but ample scope. Lock-up premises. Conv. flat near.—No. 8834.

S. Coast Resort. — £1,700 and scope. Panel 1,400. Half share for sale. Midy. refused, scope. Fees 3/6 to 7/6. Choice of houses.—No. 8832.

Riverside Town.—£300 p.a. and resident patient. £8 8s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8831.

Eastern County. — Unopposed £1,200 a year. Station near. Held over 30 years. Vendor retiring. Panel over 750. Good house and garden. Rent about £40. Premium 1½ years' purchase.—No. 8829.

Death Vacancy. — £500 a year. Liverpool district. Held 32 years. Easily worked. Good fees. Panel 250. Premium £500 or offer.—No. 8828.

Death Vacancy.—N. Wales.— Average £1,850 p.a. Panel 400. Appt. £90. Partly surgical; scope for F.R.C.S. Large house, in good position. Good schools and hospital.—No. 8827.

N. Wales.—Old-estab. Income over £1,500 a year. Panel over 1,200. Good house and garden. Agricultural and manufacturing district.—No. 8826.

Seaside Resort.—N.W. Coast.— Over £2,000 p.a., scope. Panel 600. Very good schools. Medium house, small garden. Scope for surgery. Cottage Hospital.—No. 8824.

Northern 'Varsity City. — Over £1,600 p.a. Panel 1,500. 12/15 midwifery cases. Fees 3/6 to 5/- and up. Good house and garden.—No. 8823.

London, West End. — Electrical PRACTICE. About £1,500. Fees usually 21/- upwards. Premium £2,000, including apparatus, furniture, etc.—No. 8822.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 386. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

S. Wales.—£850 with scope.— £750 from panel and contract work. Convenient house; surgery. Rent 17/6 p.w. Premium £700.—No. 8817.

S.W. Scotland.—Near Coast.— £1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

London, S.E., near River. — Over £1,200. Half Partnership with succession in 12 months. 35 years in present hands. Dispensing, industrial. No midwifery. Panel £560. Bachelor could live in. £1,200, £800 down, for half.—No. 8806.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 3/6 to 21/-. No dispensing. Small panel.—No. 8799.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES

MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)

Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER:* 176, *Oxford Rd.*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 3873.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

THE CENTURY INSURANCE COMPANY LTD.,

7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS TO PURCHASE A PRACTICE OR PARTNERSHIP

NO GUARANTORS REQUIRED.
REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054 & 1034. RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

NORTH WALES COAST.—DEATH VACANCY.—Well-established middle and better-class PRACTICE. Receipts approx. £1,850. Panel 400. Fees 3/6 up. Excellent large house available to rent or purchase; divided if necessary. Scope for surgery if desired. Premium 1½ years' purchase.

SWANSEA (near).—Old-established mixed PRACTICE. Medium-sized house (6 beds) to rent at £60 p.a. Garden, garage. Receipts £1,300. Panel 1,300. Fees 2/6 up. Midwifery 2 gns. Nearest Hospital 8 miles. Premium £1,600.

RICHMOND (near).—NUCLEUS non-dispensing and non-panel PRACTICE. Excellent freehold house (4 beds). Good garden, garage. Receipts £150 to £200. Premium for house and Practice £2,250 or near offer.

LONDON, E.1.—NUCLEUS working-class PRACTICE on borders of City. Excellent scope for full time work. House to rent on lease at profit rental. Panel 270. Receipts approx. £231, plus profit rental. Fees 2/6 up. Premium for Practice and lease £550 or near offer.

MIDDLESEX, WEST.—NUCLEUS BRANCH PRACTICE, situated within 10 miles of London, in rapidly developing district. Suitable flat available over surgery. Receipts for 15 months, over £300. Panel 100. Fees 2/6 up. Premium £450 or near offer, to include fittings, fixtures, etc.

LINCOLNSHIRE (near sea).—NUCLEUS Country PRACTICE. Suitable house available (5 beds), garden, garage, etc. Receipts £260. Panel 120. Fees 2/6 up. Good schools. Sport of all kinds. Excellent opportunity for young and energetic man. Premium £950 for house and Practice, or 1 year's purchase for Practice and rent house at £60 p.a.

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional accommodation consists of 3 rooms, centrally situated, held on agreement at £100 p.a. Receipts approx. £530. Fees 2/- up. Panel 430. Premium £650 cash. Scope for further development.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640 or near offer. Partnership considered.

SURREY.—PARTNERSHIP in rapidly developing residential locality, with splendid scope. Receipts approximately £1,000 p.a. Panel nearly 300. Fees 2/6 up. Premium for 2/5ths share, 2 years' purchase. Excellent opportunity for young and energetic man.

BUCKS.—Under 25 miles from London.—Middle-class G.P. Good-class residential locality. Modern house to rent on lease. Receipts over £400 p.a. Fees 3/6 up. Increasing population. Good schools. Premium £600. Suitable for semi-retired Practitioner, or one with private means.

CHESHIRE.—Well established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approx. £300 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

LONDON, S.E.—Well-established middle and working-class PRACTICE in residential locality. Receipts nearly £1,000. Growing panel of 924. Medium-sized house. Fees 2/6 up. Excellent scope for energetic man. Premium 1½ years' purchase.

LONDON, S. — PARTNERSHIP in growing middle and working-class Practice. Suitable house available. Earnings approximately £6,600. Panel 4,800. Excellent scope. Suitable to young and energetic man having a speciality, preferably Gynaecology. Premium for one-sixth share, with view to one-quarter share, 2 years' purchase.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery, scope. Suitable house available. Premium 1½ years' purchase.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220, growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £250 or near offer.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

THE
WESTERN MEDICAL AGENCY
(Dr. K. H. BENNETT, Dr. W. J.-PARAMORE.)
PHOENIX CHAMBERS,
22, CLARE STREET, BRISTOL.
Telep.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. S. DEVON. — Old-established PRACTICE, averaging £2,400 p.a., for sale in favourite town. Panel 1,500, increasing. Large house in grounds, for sale or rent. Seaside. Ideal climate.
2. SOUTH-WEST WALES. — General PRACTICE, returning £1,000 p.a. Present hands 10 years. Seaside and Country Town. Panel 750 Good house to rent. Premium 1½ years' purchase. No collieries.
3. NEAR CHESHIRE BORDERS.—One third of PARTNERSHIP returning last year £830 net. Mostly panel and contract work. Car not essential. Good house to rent £78 p.a. Good schools, two Hospitals. Premium £950.
4. MIDLANDS.—Cathedral Town.—Good mixed General PRACTICE. Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a. Premium 1½ years' purchase.
5. [illegible] are of [illegible] p.a. 1,700. Plenty of scope. Prem. £1,000. Suit young doctor Purchaser could live with Vendor.
6. SOUTH-WESTERN COUNTY. — One-sixth to one-third share of Partnership, over £5,500 p.a. Good scope for Surgeon. Four Hospitals and Nursing Home near. Applicants should be about 30-35. Panel 4,100. Several appts. Good house Near sea. All sports. Premium 2 years' purchase.
7. SOUTH WALES. — Large City. — Industrial PRACTICE averaging £600 p.a. Opposition not strong. Good house to buy or rent. Premium £600.
8. WEST OF ENGLAND.—Cathedral Town.—Ear, Nose, and Throat NUCLEUS £400 p.a. Three Hospital [illegible] audited. Excel [illegible]
9. INDUSTRIAL [illegible] Industrial and [illegible] West Wales P [illegible] Receipts over £1,500. Good house on lease. Premium £1,600.

Medical Practitioners' Union Agency Limited
56, Russell Square,
LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uffabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 6932 CITY.

TRANSFERS a [illegible] and Investigatic [illegible] ASSISTANTS & PRACTICES for [illegible]

ESTABLISHED 1868.
PEACOCK & HADLEY, Ltd.,
MEDICAL TRANSFER AGENCY,
19, Craven Street, Strand, W.C.2.
Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected.
LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

ESTABLISHED 1877.
LEE & MARTIN, LTD.,
The Birmingham Medical Agency.
71, TEMPLE ROW, BIRMINGHAM.
Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700 progressing. Good house, garage, and garden.
2. NORTHERN UNIVERSITY CITY.—Old-estab. middle-class PRACTICE. Receipts average £1,603 p.a. Panel 1,500, and increasing. Good fees. Nice house, garden, etc.
3. LINCOLNSHIRE. — Well-estab. Unopposed country, working, and middle-class PRACTICE. Receipts average £1,173. Panel 767. Good house to rent, 5 beds., garage, etc.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven. [illegible] PRACTICE
7. WEST [illegible] district. in mar [illegible] ts. worth Receipt [illegible] £118.
8. BERKS 2/5 share, with [illegible] and ultimate [illegible] £1,146 p.a. Pa [illegible] worth about £250. Good fees and house.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. {MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. Large List of Bona-fide Purchasers with Ample Capital Available.

FOR DISPOSAL.

Full Particulars Free on Request.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. Good house, 2 reception, 5 bedrooms. Garage. Rent £65 p.a. Premium 1½ years' purchase.—No. 251.

CHESHIRE TOWN, near MANCHESTER.—Death Vacancy.—Average cash receipts £1,178 p.a. Non-dispensing. Non-panel. Good scope. Excellent house in best situation to rent. Premium, best offer.—No. 252.

LANCS TOWN. — Old-established PRACTICE. Cash receipts 1930, £1,186. Panel 900. Much scope. Excellent house, 2 reception, 4 bedrooms. Garage. Premium, best offer. — No. 178.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

CHESHIRE.—COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented. 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

NORTH-WEST COAST.—SEASIDE RESORT.—Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 850. Excellent freehold house in good position facing Sea. 2 reception, 5 bedrooms. Scope as district is developing.—No. 236.

MANCHESTER.—INDUSTRIAL DISTRICT. — PARTNERSHIP in old-estab. Practice. Average cash receipts £6,000 p.a. Panel 6,865. Premium—1/5 share—1½ years' purchase, part by arrangement. Further share later. Purchaser may make own arrangements as to residence.—No. 249.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. House to rent, 2 reception, 5 bedrooms. Premium 1½ years' purchase.—No. 194.

MANCHESTER.—PLEASANT RESIDENTIAL SUBURB.—Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage, and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purchase. Vendor retiring.—No 246.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7635/7. 'Grams: "Vouch, Belfast.")

LIVERPOOL (Near). — Old-established middle-class PRACTICE. Cash receipts 1929, £1,431. Excellent corner house, 2 reception, 5 bedrooms. Garage and garden. Prem. 1½ years' purchase.—No. 209.

MANCHESTER SUBURB. — Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium £800.—No. 226.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—No. 175.

LIVERPOOL (Near).—Cheshire Coast Town. Average cash receipts £1,187 p.a. Panel 785. Much scope. Good double-fronted house (freehold), 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100.—No 243.

MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,361 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 65.

SOUTH YORKSHIRE.—Old-established PRACTICE. Cash receipts 1931, £1,233. Panel 1,450. Excellent house, 3 reception, 4 bedrooms. Garage and good garden. Premium 1½ years' purchase.—No. 255.

MANCHESTER (near).—PARTNERSHIP in old-estab. Practice. Average cash receipts £1,766 p.a. Appointments and panel about £500. House available, 2 reception, 6 bedrooms. Premium—half share—1½ years' purchase.—No. 224.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistantship. Purchaser could live with Vendor. Premium—one-third share—£1,000.—No. 245.

NEAR MANCHESTER. — PLEASANT TOWN, largely residential. — Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No 234.

CHANNEL ISLANDS.—PRACTICE in beautiful district. Cash receipts last year £425. Excellent house, 2 reception, 3 bedrooms. Garage and large garden. Premium—Practice—£500.—No. 167.

MANCHESTER.—INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 450. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

MANCHESTER.—RESIDENTIAL DISTRICT.—Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium £1,000 (or near offer).—No. 191.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. Full particulars sent free.

1 LONDON, W. — Mixed Practice of over £3,000 p.a. in outlying suburban district. No panel. Semi-detached corner residence (5 bedrooms), garage, etc., to rent on lease. Premium 1½ years' purchase.

2 N.E. OF ENGLAND.—Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,425.

3 S. MIDLANDS.—Practice averaging nearly £1,450 p.a. in beautifully situated market town, 400 ft. above sea-level. Panel 930. House (6 bedrooms), garage, and good garden, for sale. Cottage Hospital and scope for Surgery. Premium 1½ years' purchase.

4 FAR EAST.—Assistant required in General Practice, with view to Partnership. Applicant should be aged about 30, and have held resident appointments. A mild degree of specialism in Eye, Ear, Nose, and Throat, or X-ray work would be advantageous. Share to suitable man.

5 S. OF ENGLAND.—Partnership in Practice of £3,000 p.a., in small country town within 35 miles of London. Panel 3,000. Suitable house to rent. Incoming partner should be able to do Surgery. Cottage Hospital. Good scope. Premium two-sevenths share 2 years' purchase.

6 MIDDLESEX. — Compact non-dispensing PRACTICE of £800 p.a. in rapidly developing district. Panel about 260. Large old-fashioned house (7 bed and dressing rooms), garage, etc., for sale. Considerable scope. Premium 1½ years' purchase.

7 LONDON, E. — Practice worked from separate Surgery averaging £1,070 p.a. in populous area. Panel over 1,800. Premises comprise 3 bedrooms, dispensary, waiting and two consulting rooms, etc. *Leasehold for sale.* Private residence may be purchased if desired. Scope. Premium 1½ years' pur.

8 LONDON, E.C.—City Practice. Receipts 1930, over £1,300. Consultations mainly £1 1s., some £1 11s. 6d. and £3 3s. Excellent consulting rooms. Premium 1½ years' pur.

9 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

10 HOME COUNTIES.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Prem. £300.

11 ISLE OF MAN.—*Non-dispensing* Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

12 DEATH VACANCY.—NORTH WALES. —PRACTICE of over £1,850 p.a. (£400—£500 from Consulting work—mainly Surgical) in beautifully situated town with Hospital. Small select panel. Suitable house for sale or rent. Very good opening for Surgeon.

13 SURREY. — Partnership in Practice in desirable residential town Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

14 CHESHIRE. — Partnership (after preliminary Assistantship) in Practice over £2,500 p.a. in manufacturing town. Panel 2,100. Plenty of sport. One-third share to suitable man at 2 years' purchase.

15 SOUTH OF ENGLAND. — Small easily worked PRACTICE about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

16 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

17 DEATH VACANCY. — London, S.W. — PRACTICE over £650, close to Victoria. Panel 796. Shop-fronted house, with garage and garden, to rent on lease. Ample scope.

18 HOME COUNTIES. — Partnership in steadily increasing Country Town Practice of about £5,000 p.a. Panel over 3,000. Incoming Partner must be well qualified, aged about 30, with Hospital experience. Good Hospital and scope for surgery. Premium one-fifth share 1½ years' purchase.

19 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope. Premium £1,200.

20 BEDS.—Increasing Country Practice doing about £600 p.a. Panel 650. Centrally situated house to rent. Scope for increase. Premium £500 for quick sale.

21 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

22 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a. in attractive country town on coast. Panel about 500. Suitable house to rent. Hospital. Share to suitable man after preliminary Assistantship.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880.)

12, Stratford Place,

Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair (1782 1783

Practices and Partnerships for Disposal (continued).

23 LONDON, N.W. — Nucleus of Practice in residential district. Income last year £300. Panel 150, rapidly increasing. Detached corner residence, in good position, for sale. Scope. Premium £300.

24 FAVOURITE HOME COUNTY.—Practice over £2,000 p.a. in pleasant residential country town within 50 miles of London. Panel 1,080. Well-situated detached house (6 bed and dressing rooms), garage, and large garden, for sale or rent. Scope for increase. Premium 2 years' purchase.

25 EAST ANGLIA.—Partnership in Practice over £5,000 p.a. in beautiful country district near the coast. Panel 2,080. Good house (8 bed and dressing rooms), garage, and half acre garden, to rent. Two-fifths or one-half share at 2 years' purchase. Oxford, Cambridge, or London Graduate preferred.

26 EAST COAST.—Practice of £1,050 p.a. in small attractive seaside resort. Panel 225. Modern detached house (5 bedrooms), garage, and garden, for sale. Excellent sport and educational facilities. Premium 1½ years' purchase.

27 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good-class Practice in charming little residential seaside resort. Suitable house to rent. Share of £800—£900 after preliminary Assistantship. Applicant should be aged 28—35, and preferably a Graduate of Cambridge or Oxford. Cottage Hospital and scope for Surgery if desired.

28 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, to rent. Scope for increase. Premium £2,250.

29 MIDDLESEX. — Partnership in Practice nearly £2,800 p.a. in rapidly growing Industrial Town. Panel over 2,500. Suitable house could be obtained. Cottage Hospital. Great scope. Premium one-third share 2 years' purchase.

30 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 2 years' purchase.

31 N. WALES.—Country Practice of £1,230 p.a. in Welsh speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

32 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

33 MIDDLESEX.—Steadily increasing Practice about £800 p.a. in growing district. Panel 600. Very good house (4 bed and dressing rooms), with garage and excellent garden, for sale. Ample scope. Premium £900.

34 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

35 CHESHIRE. — Partnership in increasing better class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

36 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

37 HOME COUNTIES. — Partnership in middle and working class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

38 S. COAST. — Partnership in Practice between £1,600/£2,000 p.a. in fashionable watering-place. Panel over 900. Partner should be young, with knowledge of minor Surgery. Premium one half share 2 years' purchase.

39 LONDON, W. — Middle-class Practice of over £800 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,100.

40 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

41 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

42 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). Premium £550.

43 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., for sale. Golf. Premium £1,000.

44 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,540 p.a., in manufacturing town. Panel over 1,500. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

45 S.W. OF ENGLAND. — Third Partner required in Practice, over £5,600 p.a., in small Industrial Town. Panel 4,100. Suitable house to purchase. Excellent scope for Surgery. One-sixth share at first at 2 years' purchase. Preliminary Assistantship.

46 LONDON, S.W.—Good middle-class Practice of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house [illegible] garden, for sale. Plenty of scope.

47 BERKS. — Small [illegible] Practice averaging £275 p.a. [illegible] 500. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

48 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £530 p.a. Small panel. No midwifery. Six-roomed house to rent. Premium £800, to include drugs, etc.

49 S. OF ENGLAND. — Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one fourth share [illegible] Assistantship.

[illegible] ENGLAND AND WALES.

[illegible] spensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

51 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

52 ESSEX. — Practice in thickly populated outlying suburban district. Receipts last year nearly £1,400. Panel over 1,950. Shop-fronted house on main road, to rent. Premium £2,600 cash.

53 LONDON, E.—Cash and Panel Practice of £540 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

54 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

55 KENSINGTON. — Small good-class non-dispensing PRACTICE of about £450 p.a. Small select panel. No midwifery or night work. Very good residence for sale. Great scope. Premium £500.

56 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

57 OXON.—Partnership in Country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BAGNARD & STOCKER). Post free 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. DEATH VACANCY.—SOUTH-EAST COAST.—In a favourite Watering-place, very old-established upper and middle-class non-panel and non-dispensing PRACTICE. Receipts last year £2,450. Very good house. Rent on lease £140 p.a. Moderate premium accepted. Purchaser should be a Surgeon as part of the income is derived from this source, and late Incumbent was on staff of Hospital.
2. LONDON, S.W.—PARTNERSHIP.—A one-third share is offered in a very sound chiefly middle-class Practice, producing last year about £5,500. Panel of 1,600 and increasing rapidly. Fees from 2/6. Suitable house can be rented on lease. Premium 2 years' purchase.
3. EASTERN COUNTIES.—Within 60 miles of London and near County Town. — Very old-established mixed-class PRACTICE in delightful district (pop 6,000 to 7,000), worth last year nearly £800, including appts. £170 and panel over 150. Capable of considerable increase for reasons which can be explained. Excellent house, with beautiful garden and several acres of ground. Price, freehold, £1,800. Premium only £800. Sport of all kinds.
4. GLOUCS.—PARTNERSHIP, with preliminary Assistantship of 2 to 3 months.—A one-third share is offered in a well-established Practice, producing about £2,250 p.a., with substantial panel and good appointments. Situated in beautiful district round country town affording excellent sporting facilities. Suitable house (or rooms to commence) can be obtained. Premium 2 years' purchase.
5. PARTNERSHIP.—MIDLANDS.—Prosperous Town within 80 miles of London.—A one-third or five-twelfths share is for disposal owing to the retirement of the second of three partners in an exceptionally sound mixed-class Practice. Average gross cash receipts £3,300 p.a., including panel of 1,000. Fees 2/6 to 25/-, medicine extra. Premium only 1½ years' purchase for quick sale, owing ill health.
6. ESSEX.—PARTNERSHIP.—Practice is situated in developing neighbourhood, within easy reach of town. A one-half share is offered in steadily increasing Practice bringing in nearly £2,700 p.a., including panel of 1,000. Very nice house, with three reception, six bedrooms, etc., and good garden. Price £1,400, part on mortgage. Premium 2 years' purchase. Good scope for Surgery.
7. SOUTH WEST OF ENGLAND.—County Town.—PARTNERSHIP, after preliminary Assistantship.—A share representing about £600 p.a., with increase later and ultimate succession, is offered in a very well-established Practice, having substantial panel. Premium 2 years' purchase. Ingoing partner should be experienced and pref. English or Scotch Graduate.
8. PARTNERSHIP.—NORTH-WEST COAST.—Popular Seaside Resort.—The third share, with option up to half in 3 years, of very old-established non-dispensing good middle-class Practice, averaging over £4,200 p.a. (last year £4,567), including panel £300. Held many years by Vendor. Visits 3/6 to 21/-. Good house available on lease. Premium 2 years' purchase, part by instalments. Ingoing partner should be about 30 years of age and able to do minor surgery. Hospital in town.
9. DEATH VACANCY.—NORTH WALES.—Pleasant Coastal Town amidst beautiful surroundings. — Old-established Practice, averaging over £1,800 p.a., including appt. worth £90 and panel of 400. Visits 3/6 to 10/6, occasionally 21/-. Large house in 1/2 acre of garden. Price, freehold, £3,500, or might be rented. Can be easily divided, leaving professional accommodation, 2 sitting, 6 bedrooms, bathroom, etc., at rental of £80. Premium £2,000. Excellent scope for surgery. Good Hospital.
10. LONDON, WEST . . . . and increasingly mixed-class PRACTICE, . . past 12 months £1,790, including panel of . . No midwifery. House in excellent repair, contains 2 reception, 4 bedrooms, bathroom, etc. Price for freehold £2,500. Premium 2 years' purchase.
11. CORNISH RIVIERA.—Old-established PRACTICE, in very favourite resort, having exceptionally mild climate. Income about £1,150, including panel of 436, and appts. worth about £40 a year. Fees 3/6 to 21/-. No opposition within 4 miles. Well-situated house, with 2 reception, 6 bedrooms, etc., and professional rooms. Good garden. Rent on lease, £52 p.a. Premium £1,650.
12. HANTS.—Easily worked Country PRACTICE within about 60 miles of London. Receipts for the last 12 months over £1,000, with panel of 450. Visits from 7/-. Nice house, with 3 reception, 6 to 7 bedrooms, etc. Good professional accommodation. Large garden. Freehold for sale. Premium 1½ years' purchase.
13. LONDON, E.C. (near Holborn Circus).—Old-established mainly working-class PRACTICE, averaging over £700 p.a. (last year £760), including recently started panel of 360. Fees from 2/-. No midwifery. Six-roomed house, with good professional accommodation. Rent on lease £95 p.a. Premium £1,000.
14. LONDON, EAST.—Well-established mixed-class PRACTICE, averaging about £1,150 p.a., including panel of 1,400. Small house, with 1 reception, 2 bedrooms, etc., and 3 professional rooms. Rent on lease £13 per quarter. Premium £2,000.
15. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.
16. NORTH . . . —A one third share is offered in a good . . . . . ieing over £1,700 p.a., including panel of : . . . £100 p.a. Fees 3/6 to 21/-. Purchaser, l . . . h Vendor. Good sport and schools. Premium 2 years' purchase.
17. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium 1½ years' purchase. Ill-health reason of sale.
18. WEST MIDLANDS.—Easily worked PRACTICE in residential village within easy reach of two good towns, and having very pretty surrounding country. Receipts average over £1,000 p.a., including panel of 500 and an appt. worth £150. Nice house with good garden and land of about 2 acres. Price for freehold £1,600. Fishing, hunting, etc. Premium 1½ years' purchase.
19. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.
20. YORKS.—LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,300 p.a., including panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and dressing room, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase, chiefly by instalments.
21. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.
22. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.
23. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase, payable by arrangement. Ill-health reason for sale.
24. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £3,563 p.a., including panel of 850. Fees 3/6 to 21/-. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.
25. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
26. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
27. WITHIN 20 MILES OF LONDON.—Old-established mixed-class PRACTICE, in small town amidst beautiful surroundings. Cash receipts average about £1,700 p.a., including appt. £70 and panel of over 1,000. Good house, with ample accommodation. Small garden. Price, freehold, £2,500. Premium 1½ years' purchase. Good educational facilities and sport of all kinds.
28. NORTH MIDLANDS.—Within 10 miles of County Town.—Very old-established good mixed-class PRACTICE, in pleasant village. Steady average income of £1,157, including panel of 759. Fees from 3/-. Not much midwifery at from 2 gns. Suitable house, with 2 reception, 6 bedrooms, consulting and waiting rooms. Electric light. Small garden. Rent on lease £51 p.a. Sport of all kinds. Premium 1½ years' purchase.
29. HOME COUNTY.—Unopposed Country PRACTICE, producing about £500 to £600 p.a., including panel of 650. Small house on main road, with 2 reception, 3 bedrooms, etc., and professional rooms. Rent on lease £52 p.a. Good sport and schools within reach. Low premium for quick sale.
30. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SCIENTIFIC ENZYME DIGESTION

RICH SELECTED ENGLISH MILK
Pancreatised

SELECTED ENGLISH WHEAT
Dextrinised and Pancreatised

PREDIGESTED MILK
(25% Protein Conversion)

PREDIGESTED WHEAT
(25% Starch Conversion)

Powdered by the
COW & GATE
Improved
Roller Process

Peptalac REGD.

THE NEW INSTANT PREDIGESTED FOOD

SIX OUTSTANDING ADVANTAGES

1 PEPTALAC is "made in a minute" by the simple addition of hot water giving in an instant a digested milk food of high digestibility.

2 PEPTALAC is fool-proof and requires neither technique, skill nor addition of milk. It renders obsolete the method of peptonisation wherein milk had to be held at a temperature 117°F. for 20-30 minutes under carefully controlled conditions.

3 PEPTALAC is guaranteed to have been pancreatised and the essential components of starch and milk proteins broken down to sugars, peptones, and amino-acids. With other methods of peptonisation this cleavage is uncertain and unreliable and the milk which is added is not predigested.

4 PEPTALAC is a safe and practically sterile powder. In the old methods of peptonisation, the milk was predigested at a temperature which is also favourable to the growth of organisms, thus resulting in a final product teeming with bacteria. Reconstituted PEPTALAC is free from pathogenic organisms and practically sterile.

5 PEPTALAC is therefore invaluable for infants, young children, the aged, convalescents, and the weak in health, who are prone to contract milk-borne diseases from ordinary milk or preparations made with it.

6 PEPTALAC is pleasing to the most fastidious palates—salt or chocolate may be added for further flavouring if desired.

SEND THE COUPON FOR FREE CLINICAL SAMPLE

Cow & Gate Milkfood

Name_____

Address_____

B.M.J., April 18/31

COW & GATE LTD. GUILDFORD, SURREY

Valentine's Meat-Juice

In the **Gastric Form of Influenza** and its **Debility**, in **Typhoid** and **Acute Pneumonia**, in the **Exhaustion** of **Phthisis** and **Pulmonary Diseases, Valentine's Meat-Juice Sustains** and **Strengthens**

When Other Food Fails

THE quickness and power with which VALENTINE'S MEAT-JUICE acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

Physicians are invited to send for brochures containing clinical reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

Richmond, Virginia, U. S. A.

WB 301

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3668 SATURDAY, APRIL 25, 1931 Price 1/3

PERCAINE "CIBA"

Trade Mark Registered.

The New Local Anæsthetic for Regional, Infiltration, Surface and Spinal Anæsthesia

Acts in extreme dilution (0·5—2 : 1000).
Produces anæsthesia of unattained intensity and duration.
Not a narcotic. Economical in use.
Belongs chemically to a class entirely different from cocaine and its derivatives.

Vide *British Medical Journal*, March 15, 1930, pp. 488-9, and 495-6, and April 5, 1930, pp. 669-70. *The Lancet*, March 15, 1930, pp. 573-4 and 587. *British Journal of Anæsthesia*, April & July, 1930. *Proceedings of the Royal Society of Medicine*, May, 1930, pp. 919-928. *British Journal of Urology*, June, 1930, pp. 129, 130 and 179.

Packages available :

Percaine Crystals. 1 grm. and 5 grm.

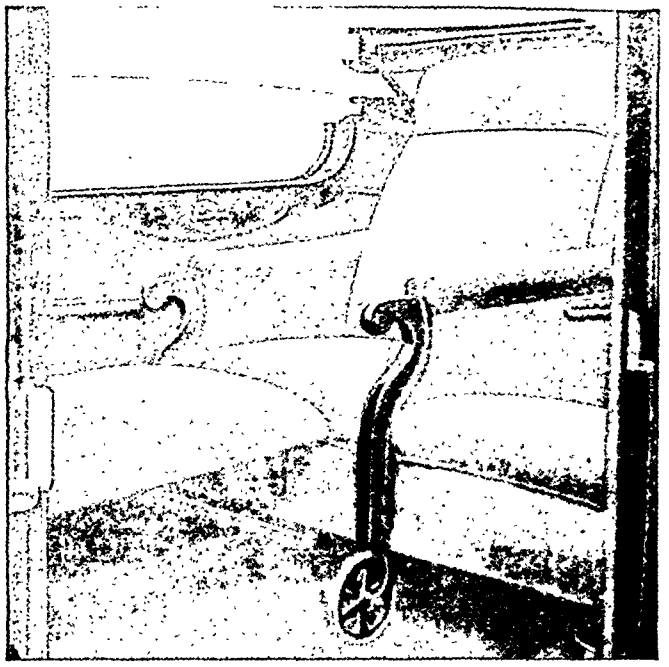
Percaine Tablets (for the preparation of solutions). Tubes of 20 × 0·05 grm. Tubes of 10 × 0·1 grm.

Percaine Ampoules.

Boxes of 5 × 5 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 1 : 1000 (with Adrenalin).
Boxes of 10 × 2·3 c.c. Solution 2 : 1000 (with Adrenalin).
Boxes of 12 × 2·0 c.c. Solution 1 : 1500, for Spinal Anæsthesia.

THE CLAYTON ANILINE Co. Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1
Telephones: Hop 6954, 6955. Pharmaceutical Department. Telegrams: Cibadyes Boroh London

THE CAR FOR INVALIDS...



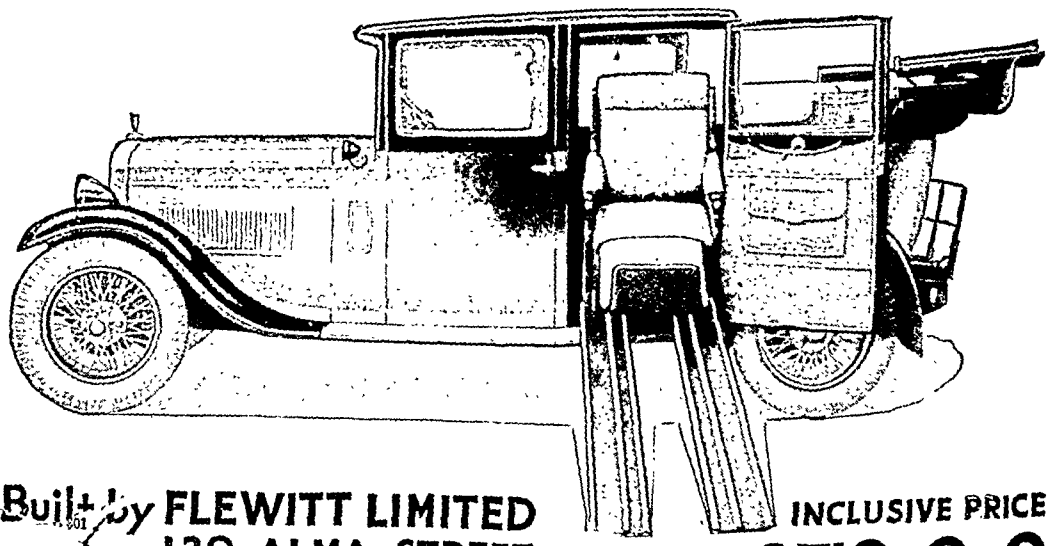
AUSTIN 20 FLEWITT LANDAULETTE or LIMOUSINE fitted with ... ... INVALID CHAIR

The rear compartment of this car is specially adapted to accommodate the invalid chair provided.

The patient, without being disturbed, can be pushed in and out of the car on the special runways provided.

The runways when not in use are carried on the running boards. There is also a comfortable passenger seat by the side of the invalid chair—one occasional seat is also provided.

Write us for particulars.



Built by **FLEWITT LIMITED**
120, ALMA STREET
BIRMINGHAM.

INCLUSIVE PRICE
£710.0.0

British Medical Journal

CONTENTS

APRIL 25, 1931

ORIGINAL ARTICLES

Ulcerative Colitis. By ARTHUR F. HURST, M.D., F.R.C.P. 693

Pulmonary Tuberculosis in Childhood. By G. B. DIXON, M.R.C.S., L.R.C.P. (With Plate)..... 694

Pulmonary Arterio-sclerosis. By C. G. PAINE, M.B., B.S., and ROBERT PLATT, M.D., M.R.C.P. (With Plate) 698

Lines of Arrested Growth in the Long Bones of Diabetic Children. By H. A. HARRIS, D.Sc., M.B., B.S. (With Plate) 700

Concentrated Antipneumococcal Serum in the Treatment of Lobar Pneumonia. By R. R. ARMSTRONG, M.D., F.R.C.P., and R. S. JOHNSON, M.D., M.R.C.P. (With Plate) 701

The Modern Conception of Early Phthisis. By H. V. MORLOCK, M.D., M.R.C.P. (With Plate)..... 702

Case of Multiple Osteochondromata with Obstructed Labour. By E. J. BLACKABY, M.R.C.S. (With Plate)... 704

Health of the Worker in Chromium Plating. By H. B. TRUMPER, B.Ch. 705

MEMORANDA

Prolonged Obstruction of Large Bowel. By O. COLVILLE, M.D. 707

A Case of Double Gall-bladder. By W. H. HUGH CROUDACE, M.B., B.S.... 707

Persistence of the Complete Wolffian Duct. By JAMES TROUP, M.B., F.R.C.S.Ed..... 707

REPORTS OF SOCIETIES

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY:
Acute Intestinal Obstruction..... 708

ROYAL ACADEMY OF MEDICINE IN IRELAND: Popliteal Aneurysm 708

ROYAL SOCIETY OF ARTS:
Industrial Lighting 709

UNIVERSITIES AND COLLEGES

University of Cambridge 723
University of London 723
University of Birmingham 723

LEADING ARTICLES

THE STRUGGLE FOR HEALTH 713
POST-ENCEPHALITIS AND ITS PROBLEMS 714
THE HOSPITAL ALMONER 715

THE WEEK

716
717
717
718
718

GENERAL ARTICLES AND NEWS

Nova et Vetera: John Abernethy, 1764-1831. (With Portrait)..... 719

London Voluntary Hospitals Committee 720

WEST LONDON POST-GRADUATE COLLEGE
Sir Henry Simson on Post-graduate Opportunities..... 721

PREPARATIONS AND APPLIANCES. (Illustrated) 712

MEDICAL NOTES IN PARLIAMENT:
Ministry of Health Vote 727
Sweepstakes for Hospitals 727
Cerebro-spinal Fever 727

MEDICAL NEWS 732

REVIEWS

Diseases of the Tongue 709
Treatment of Schizophrenia 710
Surgical Emergencies..... 710
Monographs on Obstetrics and Gynaecology..... 711
Respiratory Disease in Childhood..... 711
Notes on Books 712

LOCAL NEWS

ENGLAND AND WALES—
722
722
723
Leicester Public Medical Service 723
King Edward VII Sanatorium 723
The Late Lord Stamfordham 723

SCOTLAND—
724
724
724
724

MEDICO-LEGAL

Pack Left in Abdomen after Operation 730

CORRESPONDENCE

The Post-Influenzal Cough. By Eric Pritchard, M.D., F.R.C.P. 725

Poison Gas and Pulmonary Cancer. By W. Brockbank, M.D. 725

"Cancer and Scientific Research." By J. A. Shaw-Mackenzie, M.D.; and J. Jackson Clarke, M.B., F.R.C.S..... .. 725

Blood Pressure and Life Assurance. By G. McRobert, M.D., Major I.M.S. 726

Vaccine Dosage. By Harold Balme, M.D., F.R.C.S. 726

The Canfield Operation. By Sir James Dundas-Grant, M.D., F.R.C.S. 727

Biography of Margaret McMillan. By Albert Mansbridge, M.A., LL.D. 727

THE SERVICES

Medical Director-General R.N. 728
Honorary Surgeon and Physician to the King 723
Indian Medical Service Dinner 723
Deaths in the Services 728
(For Naval, Military, and Air Force Appointments see SUPPLEMENT)

OBITUARY

T. Dyke Acland, M.D., F.R.C.P. (With Portrait) 729
Henry Percy Dean, M.S., F.R.C.S. 730
William Gray, M.D..... 730

LETTERS AND ANSWERS

Wagstaff's Forceps 733
Chronic Rhinitis 733
Income Tax 733
Incubation Period of Measles..... 734
Amidopyrin in Measles 734
Haematocolpos in a Woman of 43..... 734
Cornu Cutaneum 734
A "Service Week" for Motor Cars 734

VACANCIES 734
(See also page 159 of SUPPLEMENT)

The SUPPLEMENT contains:

ANNUAL REPORT of COUNCIL, 1930-31.

CURRENT NOTES:
Officer at Burnt-

Association Notices; Correspondence; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, Bart., K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-.

Those who join within one year of Registration are exempt from Entrance Fee.

Telephone: GERRARD 4814.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Allen & Unwin, Ltd.
Newman, Sir G.—
Health & Social Evolution 4

Churchill, J. & A.
Arvedson's Technique of Medical Gymnastics & Massage 6
Burrell, L. S. T.—
Pulmonary Tuberculosis 6
Culpin, M.—Psychoneuroses 6
East & Bain—Cardiology 6
Kerley, P.—Radiology 6
Lawrence, R. D.—Diabetic Life 6
Mennell, J.—Backache 6
Pryde, J.—Biochemistry 6
Small, J.—
Pocket Lens Plant Lore 6
Smith & Glaister—Forensic Med. .. 6
Tottenham, R. E.—Midwifery 6

Lewis, H. K. & Co. Ltd.
... 3
... 3
... 3
... 3
... 3
... 3
Lindsay, J. A.—
Among the Thinkers 3
Medical Axioms, etc 3
Love's Shorter Surgery 3
Macleod's Diseases of the Skin. 3
Masters, W. E.—The Alcohol Habit 3

Livingstone, E. & S.
Anderson, J.—The Nervous System 5
A Textbook of Medicine 5
Bourne, G.—Medical History, etc . 5
Campbell, D.—Therapeutics 5
Cochrane, W. A.—Orthopæd. Surg. 5
Combeare, J. J.—Medicine 5
Core, D. E.—Central Nerv. System 5
Currie, J. R.—Hygiene 5
Glaister, J.—Medical Jurisprudence 5
Guy & Linklater—
... 5
... 5
... 5
... 5
... 5
X-Ray Atlas 5
Morley, J.—Abdominal Pain 5
... 5
... 5
... 5
... 5
... 5
Rose, S.—Phrases for Med. Students 5
Russell, E. H. & W. K.—
... 5
... 5
... 5
... 5
... 5
... 5
Watson, A. McL.—Histology 5
Wheeler's Handbook of Medicine . 5
... 5
... 5
... 5

Simpkin Marshall Ltd.
Taplin, A. B.—
Hypnotic Suggestion, etc. 4
Hypnotism, etc. 4

Wright & Sons, Ltd.
Groves, E. W. H.—Surgery 4
Medical Annual, 1931 4
Tidy, H. L.—Medicine 4

ASSURANCE COMPANIES—
London Med. Protection Society .. 1
Medical Insurance Agency ... 2, 61

BRASS NAME PLATES, &c.—
Herd, S. J. & A.—Name Plates 6
Lewis & Co. Ltd.—Name Plates ... 43
Osborne, F. & Co.—Name Plates .. 4

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee .. 40
Battle Creek Food Co.—
Lacto-Dextrin & Psylla .. 22
Brand's Essences 15
Cow & Gate Ltd.—Milk Food .. 29
Harden Bros. & Lindsay, Ltd.—
Doctor's China Tea 13
Heckman, J. O.—Irradiated Milk 11
Horlick's Malted Milk 20
Nestlé & Anglo-Swiss Con. Milk Co.
Lactogen 27
Ryvita Co. Ltd.—Crispbread .. 32
Trufood Ltd.—Humanised Trufood 14
Valentine's Meat-Juice .. 24

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
Castor Oil 40
Cremor Alkalinus 31
Insulin 'A.B.' 18
Vaso-Crescentine 41
Alliance Drug & Chemical Co.—
Price List 42
Bio-Chemical Laboratories—
Dimiphamin 23
Boots Products 20, 23
British Drug Houses Ltd.—
Caprokol 21
Gastor Stearate B.D.H. 15
Insulin 'A.B.' 18
Liver Extract B.D.H. 15
Burroughs Wellcome & Co.—
Preparations 35
Clayton Aniline Co. Ltd.—
Percaine 'Ciba' ..... Cover i
Cuxson, Gerrard & Co., Ltd.—
Regulol 12
Dimol Laboratories—Dimol 14
Dinneford & Co. Ltd.—Magnesia 24
Eno's Fruit Salt ..... Cover iv
Evans Sons Lescher & Webb Ltd.—
Purgoids 23
Fellows' Compound Syrup of Hypophosphites—'Fellows' 19
Hewlett & Son, Ltd.—
Preparations ..... Cover iii
Hoffmann-La Roche Chem. Works—
'Sedormid' 16
Kaylene Ltd.—Kaylene-oil 25
Kerol Ltd.—Capsules 13
Laboratoires Lobles—Lactobyl ... 19
Martindale, W.—'Sterniles' 41
May & Baker, Ltd.—'Gardenal' 18
Newbery & Sons, Ltd.—
Agarol 25
... 20
... 0
... 27
... 41
... 12
... 34
... 21
... 44
... 25
... 17
... 23
... 43
Wright, Layman & Umney, Ltd.—
Coal Tar Preparations 17

SURGICAL APPLIANCES—
Arnold & Sons—Operation Tables .. 36
Dent's 'Ardente' Stethoscope 32
Fleming & Co.—Microscopes 45
Hawkeley Sons, Ltd.—
New Kompak Baumanometer ... 17
... 38
... 38
... 6
Medical Supply Association, Ltd.—
Portable Traction Apparatus .. 30
... 40
... 37
... 4
Collender's Splints 38

DEBT COLLECTION—
Brit. Med. Protection Society 43

HOUSE AGENTS—
Bedford & Co. 60
Elliott, Son & Boyton 59

MOTOR CARS, TYRES, &c.—
Flewitt Ltd.—Invalid Cars ..... Cover ii
Second-hand Motors for Sale 60
Singer Motor Cars 7

PRINTING & STATIONERY—
... 4
... 4
... 43
... 4

TAILORING & UNDERCLOTHING—
Entcknapp & Grimes—Tailors 43
Hall, H.—Medical Service Dress ... 60
Keith Bradbury Ltd.—Tailors 6
Regent Dress Co.—Tailors 4
The Irish Linen Mesh Co. Ltd.—
Empire Linen Mesh Underwear. 6

TOBACCO & CIGARETTES—
Coen, L. Ltd.—Cigarettes 38
Player's Navy Cut 40

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 58

VACCINES & CULTURE MEDIA—
Duncan, Flockhart & Co.—
Hay Fever Vaccines 17
Laboratories of Path. & Pub. Hlth 43
Roberts & Co.—Vaccine Lymph . 43

X-RAY & ELECTRO-MEDICAL APPARATUS—
Gen. Radio. & Surg. Appar. Co—
Sunlight Generator 10

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 57

HOSPITAL, &c., VACANCIES—
Bangor, Carnarvonshire Infirm. ... 57
... 58
... 59
... 55
... 52
... 54
... 60
Bradford Royal Infirmary 54
Bridge of Weir Sanatorium 60
Brighton, Royal Alexandra Hosp. .. 57
Bristol, Cossham Mem. Hosp. 55
Burnley Victoria Hospital 56
Burton-on-Trent County Borough. 53
Burton-on-Trent General Infirm. .. 56
Cardiff Royal Infirmary 57
Cen. Lond. Throat & Ear Hospital 55
Charing Cross Hospital 60
Chelsea Hospital for Women S.W.3 58
Cheshire County Mental Hospital 56
Chesterfield & N. Derbys. Roy. Hos. 60
Children's Hosp. for Children, S.W.3 60
Derby City Hospital 55
Derbyshire Royal Infirmary 54
Dumfries & Galloway Royal Infirm. 56
Dumfries & Galloway Sanat. Board 52
E. Sussex County Council 53
Gt. Yarmouth General Hospital .. 54
Hampstead General Hosp., N.W.3 54
Hosp. for Epilepsy & Paralysis, W.9 55
Hounslow Hospital, Middlesex. .. 54
Hove Borough 53
Hull Royal Infirmary 57
Ilford, King George Hospital 54
Inverness-shire County Council .. 60
Kidderminster Amal. Friendly Soc. 58
Leeds Heral Mount Hospital 58
Lewisham, St. John's Hospital 60
Lincoln County Hospital 57
Liverpool City 55
Liverpool Eye & Ear Infirmary 55
Liverpool Hahnemann Hospital 53
... 1
... 1
... 1

LEWIS'S PUBLICATIONS

JUST PUBLISHED. SECOND EDITION. Pp. viii + 296. With 151 Illustrations, including 40 Plates. Demy 8vo. 16s. net; postage 9d.

THE PHYSICAL AND RADIOLOGICAL EXAMINATION OF THE LUNGS

With SPECIAL REFERENCE to Tuberculosis and Silicosis, including a Chapter on Laryngeal Tuberculosis.

By JAMES CROCKET, M.D., D.P.H., M.R.C.P.E.,

Lecturer on Tuberculosis, Glasgow University; Visiting Physician, Consumption Sanatoria of Scotland, Bridge of Weir, etc.

JUST PUBLISHED. Pp. viii + 172. Demy 8vo. 7s. 6d. net; postage 5d.

THE CONDUCT OF LIFE ASSURANCE EXAMINATIONS

By E. M. BROCKBANK, M.D.Vict., F.R.C.P.,

Honorary Consulting Physician, Royal Infirmary, Manchester. [*General Practice Series.*

Author of "The Diagnosis and Treatment of Heart Disease" and "Incapacity and Disablement in its Medical Aspects."

Love's SHORTER SURGERY: A Practical Manual for Senior Students.
By R. J. McNEILL LOVE, M.S.Lond., F.R.C.S.Eng. Second Edition. With 74 Illustrations. Demy 8vo. 16s. net, postage 9d.
"A short yet reliable work."—BIRMINGHAM MEDICAL REVIEW.

Christie's TECHNIQUE AND RESULTS OF GRAFTING SKIN.
By H. KENRICK CHRISTIE, M.S.(N.Z.), F.R.C.S.Eng. With 34 Illustrations. Demy 8vo. 7s. 6d. net; postage 5d.
"... encourages efficiency in this direction."
—BRITISH MEDICAL JOURNAL.

MacLeod's DISEASES OF THE SKIN. A Textbook for Students and Practitioners. By J. M. H. MACLEOD, M.A., M.D., F.R.C.P.
14 Coloured Plates and 435 Illustrations. Royal 8vo. £2 10s. net.
"... singularly complete ... a credit to British Dermatology."
—BRITISH MEDICAL JOURNAL.

Fitzwilliams' RADIUM AND CANCER (Curietherapy).
By D. C. L. FITZWILLIAMS, M.D., F.R.C.S. With 4 Coloured Plates and 68 other Illustrations. Demy 8vo. 12s 6d. net; postage 6d.
"... the book is of distinct value."—GLASGOW MEDICAL JOURNAL.

JUST PUBLISHED. Pp. xiv + 160. Crown 8vo. With 31 Illustrations. 7s. 6d. net; postage 5d.

THE HISTORY OF MEDICINE: A Short Synopsis

By BERNARD DAWSON, M.D., F.R.C.S.Eng.

With a Foreword by H. WOOLLARD, M.D., D.Sc., Elder Professor of Anatomy and Histology, University of Adelaide.

READY THIS WEEK. Pp. xvi + 191. Crown 8vo. 6s. net; postage 5d.

THE ALCOHOL HABIT AND ITS TREATMENT

By WALTER E. MASTERS, M.D., M.R.C.S., D.P.H.,

of the Middle Temple, Barrister-at-law, Medical Superintendent of the Hare Nursing Home.

With an Introduction by Sir WILLIAM WILLCOX, K.C.I.E., C.B., C.M.G., M.D., F.R.C.P.

Lindsay's AMONG THE THINKERS: Leaves from my Note-Books.
By JAMES A. LINDSAY, M.A., M.D., F.R.C.P., Emeritus Professor of Medicine in the Queen's University of Belfast, &c.
Pp. x + 198. Crown 8vo. 5s.; postage 4d. *Just Published.*
"... a generous well of worldly wisdom into which one may dip anywhere and bring up a well turned phrase, an acute observation or a profound reflection."—THE LANCET.

BY THE SAME AUTHOR.

MEDICAL AXIOMS, APHORISMS, AND CLINICAL MEMORANDA.
SECOND IMPRESSION. Crown 8vo. 6s. net; postage 4d.
"This excellent little book ... the clinical memoranda are admirable ... we can imagine no more useful book for practitioners of all ages."
—THE LANCET.

Forsdike's STERILITY IN WOMEN: Diagnosis and Treatment.
By S. FORSDIKE, M.D., B.S.Lond., F.R.C.S.Eng. and Edin. With 25 Illustrations, including 17 Plates. 9s. net; postage 5d.
"... will well repay the most careful study."—THE LANCET.

Boyd's DIET AND CARE OF THE SURGICAL CASE.
By REYNOLD H. BOYD, M.B., Ch.B.(N.Z.), F.R.C.S.Edin. With an Introduction by C. C. CHOYCE, F.R.C.S. Crown 8vo. 5s. net; postage 4d.
"... a very practical little book."—QUEEN'S MEDICAL MAGAZINE.

*** Complete CATALOGUE of publications post free on application.*

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1
Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

JUST PUBLISHED. 49th YEAR.

With many Text Illustrations and 70 Plain and Coloured Plates. 20/- net. Postage 9d.

MEDICAL ANNUAL, 1931

A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX. A Review of the Year's Progress in Medicine and Surgery, arranged in Alphabetical order.

EDITORS: CAREY P. COOMBS, M.D., F.R.C.P., and A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.

CONTRIBUTORS:

ABDOMINAL SURGERY: A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.
ANÆSTHESIA: JOSEPH BLOMFIELD, O.B.E., B.A., M.D.Camb.
CHEST SURGERY: A. TUDOR EDWARDS, M.A., M.D., M.Ch., F.R.C.S.
CHILDREN, MEDICAL DISEASES OF: REGINALD MILLER, M.D., F.R.C.P.
CHILDREN, SURGICAL DISEASES OF: JOHN FRASER, M.C., M.D., F.R.C.S.E.
DENTAL SURGERY: L. E. CLAREMONT, M.D.S., L.D.S., R.C.S., M.R.C.S., L.R.C.P.
DIABETES: WALTER R. CAMPBELL, M.A., M.D. Toronto, F.R.C.P. Canada.
EAR, NOSE AND THROAT DISEASES: A. J. M. WRIGHT, M.B., F.R.C.S.
ENDOCRINOLOGY: W. LANGDON BROWN, M.A., M.D., F.R.C.P.
EYE DISEASES: W. S. DUKE-ELDER, M.A., D.Sc., Ph.D., M.D., F.R.C.S.
GASTRO-INTESTINAL DISORDERS: ROBERT HUTCHISON, M.D., F.R.C.P.
GENITO-URINARY SURGERY: Sir JOHN THOMSON-WALKER, O.B.E., M.B., F.R.C.S.
GYNÆCOLOGY AND OBSTETRICS: BECKWITH WHITEHOUSE, M.S., Ch.M., F.R.C.S.
HEART AND BLOOD-VESSELS, DISEASES OF THE: C.P. OLLES-
M.D., F.R.C.P.
MENTAL DISEASES AND PSYCHOLOGICAL MEDICINE: HENRY DEVINE, O.B.E., M.D., F.R.C.P.
NERVOUS SYSTEM, DISEASES OF: MACDONALD CRITCHLEY, M.D., F.R.C.P.
NERVOUS SYSTEM, SURGERY OF: GEOFFREY JEFFERSON, M.S., F.R.C.S.
ORTHOPÆDIC SURGERY: ERNEST W. HEY GROVES, M.S., M.D., F.R.C.S.
PUBLIC HEALTH AND FORENSIC MEDICINE: GEOFFREY E. OATES, M.D., M.R.C.P., D.P.H.
RADIOTHE STANT
RADIUM CADE, F.R.C.S.
RESPIRATORY TRACT, DISEASES OF: WILLIAM H. WYNN, M.D., M.Sc., F.R.C.P.
SKIN DISEASES: A. M. H. GRAY, C.B.E., M.D., F.R.C.P.
SURGERY, GENERAL WHEELER, M.I
SURGERY, RECTAL: M.A., M.B., B.Ch., F.R.C.S.
TROPICAL DISEASES: Sir LEONARD ROGERS, C.I.E., M.D., F.R.C.P., F.R.F.P. & S. Glas., F.R.C.S., F.R.S., Maj.-Gen. I.M.S. (retd.).
VENEREAL DISEASES: L. W. HARRISON, D.S.O., M.B., Ch.B., F.R.C.P.E., Brevet-Col. R.A.M.C. and King's Hon. Physician (retd.).

BRITISH MEDICAL JOURNAL.—"*There can be few medical publications in the English language that are so widely read as the 'Medical Annual.'*"
THE LANCET.—"*A reference book used and valued by medical men in every part of the Empire.*"

Bristol: JOHN WRIGHT & SONS LTD. London: SIMPKIN MARSHALL LTD.

RECENTLY PUBLISHED. FIFTH EDITION. Fully Revised and Enlarged. Crown 8vo 1,048 pp. 21s. net; postage 9d.

SYNOPSIS OF
MEDICINE
By H. LETHEBY TIDY, M.A., M.D.,
B.Ch.Oxon., F.R.C.P.Lond.,
Physician, St. Thomas's Hospital; Consulting Physician, Royal Northern Hospital.

"An admirable *index medicus*. . . . The scope is far wider than in the majority of books. Throughout, 'treatment' meets with ample consideration . . . this fact alone will enhance its value enormously for the busy practitioner."—BRIT. MED. JOURN.
"We can say without hesitation that the book is far ahead of any medical synopsis it has been our lot to encounter."—LANCET.
"We have nothing but admiration for this book, and cannot commend it too highly."—MEDICAL PRESS AND CIRCULAR.

NINTH EDITION. Fully Revised. Crown 8vo. 684 pp. With 165 Illustrations, some of which are coloured. 17s. 6d. net; postage 9d.

SYNOPSIS OF
SURGERY
By ERNEST W. HEY GROVES, M.S., M.D.,
B.Sc.Lond., F.R.C.S.Eng.,
Professor of Surgery, Univ. of Bristol; Surgeon, Bristol General Hospital; Member of the Court of Examiners, Royal College of Surgeons, England; Examiner in Surgery, Universities of London, Liverpool, Leeds, Manchester and Sheffield, and Nat. Univ. of Ireland.

"Complete in its range of subjects . . . among the best of its kind; the author is to be congratulated on its readableness, its lucidity and its fullness—notable qualities."—BRIT. MED. JOURN.
"This synopsis of surgery has had a wide sale, which has necessitated the issue of frequent editions, and it deserves thoroughly all the success it has attained."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

HEALTH AND SOCIAL EVOLUTION
By Sir GEORGE NEWMAN, K.C.B., M.D., F.R.C.P. *Halley Stewart Lecture, 1930* 4s. 6d.

Sir George Newman traces the progress which has been made in combating disease in England, and outlines the work to be done in future and the principles and methods to be followed.
"Most interesting and informative."—*Daily Mail.*
GEORGE ALLEN & UNWIN LTD

Second Edition. Cloth. 10/6 net; postage 6d.
HYPNOTIC SUGGESTION AND PSYCHO-THERAPEUTICS
By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin., Member of Council and late President of the Psycho-Medical Society of Great Britain, and late President of the Liverpool Psychological Society (Liverpool University).
ALSO
HYPNOTISM
AND TREATMENT BY SUGGESTION,
By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin. Fourth Edition. 2/6 net; postage 3d.
Publishers:
LITTLEBURY BROS., LTD., Crosshall St., Liverpool.
SIMPKIN MARSHALL, LTD., LONDON

A Gentleman Always Looks Well Dressed in Savile Row Clothes.
NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.:—DAVIES & SON, LESLEY & ROBERTS, SCHOLTE, &c. LIGHT OVERCOATS, LOUNGE, DRESS, SPORTS SUITS, &c., 4 to 9 Gns.
Alterations on Premises.
REGENT DRESS CO., Piccadilly Mansions, 17, Shaftesbury Avenue, Piccadilly Circus, W.1. (Next door to Cafe Monico.) Gerrard 7611
Ladies' Department on First Floor.

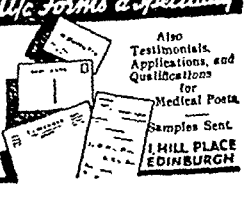
Duplicate Prescription Books
INVALUABLE TO ALL DOCTORS
Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.
Send for Sample Book, together with Prices and Styles of Printing,
To G. CARLYLE,
116, DUKE STREET, LIVERPOOL.

Tycos MANUFACTURED by SHORT & MASON LTD WALTHAMSTOW LONDON, E.17
SPHYGMOMANOMETERS

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book 18.*
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 52.*
Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.
74, CHANCERY LANE (Holborn End), W.C.2
Desks, Tables & Chairs
Est. 1884.

THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.

Doctors' Office Forms a Speciality

Printed in Best Style
Account Forms Letterheads. Cards, etc.,
Samples Sent.
R. ANDERSON & SON
Also Testimonials, Applications, and Questionnaires for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH

E. & S. LIVINGSTONE,

MEDICAL PUBLISHERS

16 & 17, TEVIOT PLACE, EDINBURGH

NEW BOOKS AND NEW EDITIONS JUST PUBLISHED

New Books Just Published

ABDOMINAL PAIN *(Just Published this month.)*
By JOHN MORLEY, Ch.M., F.R.C.S., Hon. Consulting Surgeon, Ancoats Hospital, Manchester; Hon. Assistant Surgeon, Manchester Royal Infirmary, etc.
Demy 8vo, 208 pp. 22 Illustrations. Price 10/6 net. Post. 6d.

CHRONIC ARTHRITIS AND RHEUMATOID AFFECTIONS
By B. L. WYATT, M.D., F.A.C.P., Director, The Wyatt Clinic, Tucson, Arizona, etc.
Demy 8vo, 176 pp. Price 15/- net. Postage 6d.

AN INTRODUCTION TO MEDICAL HISTORY AND CASE-TAKING
By GEOFFREY BOURNE, M.D.(Lond.), F.R.C.P., Demonstrator of Practical Medicine and Assistant Physician, St. Bartholomew's Hospital, etc.
Crown 8vo, 200 pp. Illustrated. 6s. net. Postage 5d.

A HANDBOOK OF DISEASES OF CHILDREN
By BRUCE WILLIAMSON, M.D.(Edin.), M.R.C.P.(Lond.), Physician, Royal Northern Hospital; Assistant Physician, Prince of Wales' General Hospital, London.
Crown 8vo, 300 pp. 50 Illus. and Frontispiece. 10s. 6d. net. Postage 6d.

A HANDBOOK OF THERAPEUTICS
By DAVID CAMPBELL, M.A., M.D.(Glas.), Professor of Materia Medica and Therapeutics, University of Aberdeen, etc.
Crown 8vo, 432 pp. 72 *Illustrations.* 12s. 6d. net. Postage 6d.

HYGIENE FOR NURSES
By JOHN GUY, M.D., D.P.H.(Camb.), Medical Officer of Health and Tuberculosis Officer, City of Edinburgh; and G. J. I. LINKLATER, M.D., D.P.H., Assistant Medical Officer and Tuberculosis Officer, City of Edinburgh.
Crown 8vo, 212 pp. 18 Illustrations. Price 5s. net. Postage 5d.

A MANUAL OF TUBERCULOSIS FOR NURSES
By E. ASHWORTH UNDERWOOD, M.A., B.Sc., M.B., D.P.H.(Glas.), Dep. M.O.H. and Tuberculosis Officer, County Borough of Rotherham, etc.
Crown 8vo 272 pp. 70 Illus. [illegible] t. Post. 5d.

CLINICAL [illegible]
By C. [illegible] Senior Biochemist, Royal Infirmary, Edinburgh, etc.; and D. M. DUNLOP, [illegible], M.R.C.P.E., Physiological Assistant, [illegible]tics, University, Edinburgh.
[illegible] Illustrations. 7s. 6d. net. Postage 5d.

[illegible]
By J. R. CURRIE, M.A.(Oxon.), M.D.(Glas.), M.A., M.R.C.P.(Edin.), Professor of Public Health, University of Glasgow.
Demy 8vo, 900 pp. 111 *Illustrations.* Price 27s. net. Post. 9d.

THE IMPROVED PROPHYLACTIC METHOD IN THE TREATMENT OF ECLAMPSIA
By Professor W. STROGANOFF, Hon. Fellow of the Obstetrical and Gynaecological Societies of Edinburgh, Belgium, Leningrad and Moscow. *First English Edition.*
Demy 8vo, 168 pp. Price 10s. 6d. net. Inland postage 6d.

New Editions Just Published

A TEXTBOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY
Adopted as a Textbook by H.M. Government
By JOHN GLAISTER, M.D., D.P.H.(Camb.), F.R.S.E., Professor of Forensic Medicine, University of Glasgow; in collaboration with JOHN GLAISTER, Jun., D.Sc., M.D.(Glas.), Professor of Forensic Medicine, University of Egypt, Cairo, etc. *Fifth Edition.*
Demy 8vo, cloth, 970 pp. With 132 Illustrations and 7 Plates. Price 30s. net. Postage 9d.

ANTE-NATAL CARE
Including Abnormalities in Pregnancy, with a Section on Post-Natal Care
By W. F. T. HAULTAIN, M.B.(Camb.), F.R.C.S.E., *Physician to* Ante-Natal Department, Edinburgh Royal Maternity and Simpson Memorial Hospital; and E. CHALMERS FAHMY, M.B.(Edin.), F.R.C.S.E., Physician and Special Assistant to the same Department and Hospital. *Second Edition.*
Crown 8vo, 140 pp. Illustrated. Price 5s. net. Postage 4d.

AN INTRODUCTION TO PRACTICAL BACTERIOLOGY
By T. J. MACKIE, M.D.(Glas.), D.P.H. [illegible] Bacteriology, University of Edinburgh; [illegible], D.Sc. (Edin.), Director of Research [illegible], M.A.B. *Third Edition.*
Crown 8vo, 440 pp. Illustrated with Diagrams. Price 10s. 6d. net. Postage 6d.

PRACTICAL METHODS IN THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES
By DAVID LEES, M.A., M.B., F.R.C.S., *Surgeon in Charge of* Venereal Diseases, the Royal Infirmary, Edinburgh, Lecturer and Examiner in Venereal Diseases, *the University of Edinburgh, and the Royal College of Surgeons, Edinburgh. Second Edition.*
Crown 8vo, 650 pp., with 87 Illustrations and 8 pp. of Coloured Plates. Price 15s. net. Postage 9d.

Recent Publications

A TEXTBOOK OF MEDICINE
Edited by J. J. CONYBEARE, M.D.(Oxon.), F.R.C.P., Assistant *Physician* to Guy's Hospital. Assisted by nine Contributors.
Demy 8vo., 992 pp Illustrated. With an Index of over 5,000 references. 22s. 6d. net. Inland postage 9d.

A HANDBOOK OF SURGICAL *DIAGNOSIS*
By CLEMENT E. SHATTOCK, M.D., M.S.(Lond.), F.R.C.S.
Crown 8vo. 700 pp. Illustrated with 78 X-ray Half-tones. 15s. net. Inland postage 9d.

HOW TO STAIN THE NERVOUS SYSTEM
By J. ANDERSON, Head Laboratory Assistant, National Hospital for Diseases of the Nervous System, Queen's Square, London.
Crown 8vo. 144 pp. 5s. net. Inland postage 4d.

ULTRA-VIOLET RADIATION AND ACTINOTHERAPY
By ELEANOR H. RUSSELL, M.D., etc.; and W. KERR RUSSELL, M.D., *etc. Third Edition.*
Demy 8vo, 648 pp. 259 Illustrations. Price 21s. net. *Inland* postage 9d.

A HANDBOOK OF HISTOLOGY
By A. McL. WATSON, M.A., Ph.D.
Crown 8vo, 218 pp. 53 Illustrations and Coloured *Frontispiece.* Price 8s 6d net. Postage 6d.

MENTAL DISORDERS. A Handbook for Students and Practitioners
By HUBERT J. NORMAN, M.B., D.P.H.
Crown 8vo, 450 pp. With 57 Illustrations and 3 Coloured Plates. Price 14s. net. *Postage 6d.*

THE EXAMINATION OF THE CENTRAL NERVOUS SYSTEM
By DONALD E. CORE, M.D., F.R.C.P.
Crown 8vo, 250 pp. Illustrated. Price 8s. 6d. net. Postage 6d.

BACTERIOLOGICAL ATLAS
Arranged by RICHARD METR.
Crown 8vo. With 60 Coloured Plates, faced with Descriptive Text. Price 15s. net. Postage 6d.

ORTHOPAEDIC SURGERY
By W. A. COCHRANE, M.B., F.R.C.S (Edin.).
Demy 8vo, 552 pp. 504 *Illustrations.* Price 21s. net. Post. 9d.

THE CATECHISM SERIES
61 Parts at 1s. 6d. net per Part. Postage per part 2d. 15,000 Questions asked and answered. *Full particulars of this series can be obtained post free on application.*

A HANDBOOK OF ANAESTHETICS
By J. STUART ROSS, M.B., F.R.C.S.(Edin.), and H. P. FAIRLIE, M.D. *Third Edition.*
Crown 8vo, 360 pp. 63 Illustrations 8s. 6d. net. Postage 6d.

PHYSICS FOR MEDICAL STUDENTS
By SIDNEY RUSS, DSc.(Lond.), F.Inst.P., Joel Professor of Physics, the Middlesex Hospital Medical School.
Demy 8vo, 240 pp. 130 Illus. 10s. 6d. net. Inland postage 6d.

A HANDBOOK *OF DISEASES* OF THE NOSE, THROAT, AND EAR
By W. S. SYME, M.D., F.R.P.S.(Glas.). *Second Edition.*
Crown 8vo, 416 pp. With 26 Text Illustrations, and 16 pp. of Col. Plates and X-ray Photographs. Price 12s. 6d. net. Post. 6d.

AN X-RAY ATLAS OF THE NORMAL AND *ABNORMAL* STRUCTURES OF THE BODY
By ARCHIBALD MCKENDRICK, F.R.C.S., D.P.H., and CHARLES R. WHITTAKER, F.R.C.S., F.R.S.E. *Second Edition.*
Demy 4to, 256 pp. *With 450 half-tone Illustrations of X-ray Subjects* and additional Line Drawings, faced by Descriptive Text. Price 30s. net. Postage 9d.

WHEELER'S HANDBOOK OF *MEDICINE*
By W. R. JACK, M.D., F.R.F.P & S., Glasgow. *Eighth Edition.*
Crown 8vo, 630 pp. 34 Illus. *Price* 12s. 6d. net. Postage 6d.

A COMBINED *TEXTBOOK OF OBSTETRICS* AND GYNAECOLOGY
By Professor KEER, Drs. FERGUSON and YOUNG, and Professor HENDRY. *Re-issue.*
Demy 8vo, 1,026 pp. 474 Illustrations. Price 35s. net. Post. 1s.

A HANDBOOK OF MEDICAL ELECTRICITY AND RADIOLOGY
By J. R. RIDDELL, L.R.C.P. & S., etc.
Crown 8vo, 250 pp. 110 Illus. Price 8s. 6d. net. Postage 6d.

MANUAL OF SURGICAL ANATOMY
By CHARLES R. WHITTAKER, F.R.C.S., F.R.S.E. *Fourth Edition.*
Crown 8vo, 492 pp. With [illegible] of which are in Colour. Price 15s. [illegible]

OUTLINES OF DENTAL [illegible]. A NEW Dental Series
11 Volumes at 7s. 6d. net per vol. 2 Volumes at 8s. 6d. net per vol. All the volumes are fully illustrated. *Full particulars will be sent free on application.*

Our complete 48-page Catalogue will be sent post free on application.

E. & S. LIVINGSTONE, 16-17, Teviot Place, Edinburgh.

NEW BOOKS
J. & A. CHURCHILL

2nd Ed. 131 Illus. 12s. 6d. Post. 6d.

ARVEDSON'S TECHNIQUE OF MEDICAL GYMNASTICS & MASSAGE

Translated and Edited by MINA L. DOBBIE, M.D., B.Ch.

6th Ed. 14 Illus. 8s. 6d. Post. 5d.

THE DIABETIC LIFE

By R. D. LAWRENCE, M.D., Chem. Pathologist, King's College Hospital.

700 Illus. 5s. Post. 4d.

POCKET LENS PLANT LORE

By JAMES SMALL, D.Sc., F.L.S.

102 Illus. 10s. 6d. Post. 6d.

A HANDBOOK OF MIDWIFERY

By R. E. TOTTENHAM, M.D., F.C.O.G., F.R.C.P.I.

48 Illus. 10s. 6d. Post. 6d.

BACKACHE

By JAMES MENNELL, M.D., B.C.Cantab.

SIX NEW "RECENT ADVANCES"

4 Illus. 12s. 6d. Post. 6d.

PSYCHONEUROSES

By MILLAIS CULPIN, M.D., F.R.C.S. Contributions by JAMES YOUNG, M.C., M.D.; A. R. REDFERN, M.B., Ch.B.; E. MILLER, M.R.C.S., D.P.M.; and J. R. REES, M.D.

120 Illus. 12s. 6d. Post. 9d.

RADIOLOGY

By PETER KERLEY, M.B., D.M.R.E., Assistant Radiologist, Westminster Hospital.

2nd Ed. 72 Illus. 12s. 6d. Post. 6d.

CARDIOLOGY

By C. F. TERENCE EAST, M.D., and C. W. CURTIS BAIN, M.C., M.B.

2nd Ed. 49 Illus. 12s. 6d. Post. 6d.

PULMONARY TUBERCULOSIS

By L. S. T. BURRELL, M.D., F.R.C.P., Senior Phys., Royal Free Hospital.

66 Illus. 12s. 6d. Post. 6d.

FORENSIC MEDICINE

By SYDNEY SMITH, M.D., Regius Prof. Forensic Medicine, Univ. Edin., and JOHN GLAISTER, Jnr., M.D., Prof. Forensic Med., Univ. Egypt.

3rd Ed. 42 Illus. 12s. 6d. Post. 6d.

BIOCHEMISTRY

By JOHN PRYDE, M.Sc., Lect. in Physiol. Chem., Welsh Nat. School of Medicine.

LONDON: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1

SPORTS WEAR

TERMS FROM £1 MONTHLY

● West End clothing invariably creates a feeling of confidence which tends to improve one's game. Unfortunately many people fail to appreciate this fact, judging by the way old clothes seem to survive relegation. . . . This is not easy to understand, especially as Keith Bradbury makes a point of supplying, for all occasions, clothing cut to give you the neatness of a new suit with the comfort of the old—AND £1 PER MONTH IS ALL YOU NEED PAY. . . . Then there is the Free Valeting Service for sponging, pressing and repairing, as often as you wish, to keep your clothes always clean and neat. . . . References or enquiries, of course, are entirely unnecessary and we have a little book explaining our methods. . . . May we send you a copy with patterns?

Sports wear and lounge suits from 5 gns. Flannel trousers from 21/-. Flannel blazers from 45/-. Dinner and evening wear from 6 gns.

KEITH BRADBURY LTD - TAILORS OF CREDIT
137/141 REGENT STREET, LONDON, W.1 - TELEPHONE
REGENT 5288 - HOURS OF BUSINESS 9-7 - SATURDAYS 9-1.

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 125, Douglas Street, Glasgow, C.2.

NAME PLATES

in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet.

S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

LINEN MESH protects the body and keeps it warm, but it also throws off heat and stimulates the body to engender more, as required to meet prevailing conditions of temperature. Therefore it is the essential underwear for any climate.

THERE'S HEALTH and COMFORT IN

EMPIRE
LINEN MESH UNDERWEAR

Sold by all good Outfitters. Patterns and particulars post free.

THE IRISH LINEN MESH CO. LTD. BELFAST, NORTHERN IRELAND

Singer
SIX
THE LOW PRICE LUXURY CAR

The performance of this 16 h.p. six cylinder is as striking as its appearance. It looks what it is, a low slung, powerful and roomy car.

It is complet- with every refinement —many of which are only found on cars at twice the price.

Will you take a trial run from your nearest dealer, or send for illustrated coloured catalogue of this and other models from £130.

Price Complete

£280

WRITE FOR TESTIMONIAL FOLDER

SINGER & COMPANY, LTD., COVENTRY.

London Showrooms: Stratton House, Piccadilly, W.1, & 202, Great Portland St., W.1.

THE

MEDICAL INSURANCE AGENCY

has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the **Insurance of Cars.**

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

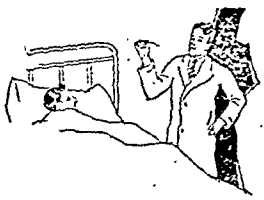
Household, Fire, Accident, Sickness (Permanent Contracts), &c., Insurances under comprehensive policies, giving full protection.

What the Agency has done for the Profession:

Saved by way of Rebates on Premiums - - over £42,500
Contributed to the Medical Charities - - - over £25,500

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1, &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.



You're always taking temperatures . . .

but do you ever take the temperature of your own Larder?

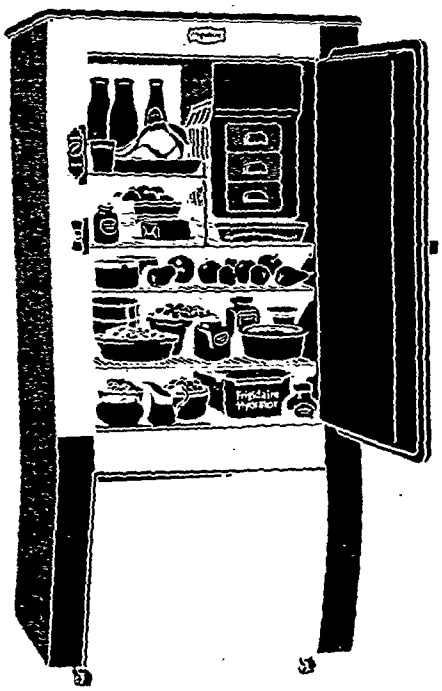
JUST try the experiment. Remember that over 50° for your food is *just* as bad as over 100° for your patient. Over 50°, bacteria multiply in food 400 times faster than at temperatures below. And, apart from the health reasons, wouldn't it be comforting to know that your food was kept cold and appetising and fresh, in a snow-white all-porcelain Frigidaire, shut away from the dirt and flies, *automatically* prevented from "going off"? Perhaps you've been promising yourself a Frigidaire—then send in the coupon to-night and see how little it costs!

Frigidaire incorporates all the conveniences and refinements that you would wish to have in your electric Refrigerator. Here are just a few of them.

The Quickube Ice Tray, enabling single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the tap. Your cocktail ice is ready at a moment's *notice*. This is an exclusive Frigidaire feature.

The Cold Control, by which the freezing of ice cubes or any frozen delicacy can be accelerated at will.

The automatic feature of Frigidaire is invaluable. It cuts out the human element with its forgetfulness and consequent waste. Frigidaire maintains a dry cold that is *always* under 50°—the only safe temperature for food.



Practical flat top, makes a useful shelf.

The Hydrator—a *moist* cold compartment, for fresh vegetables, sandwiches, *etc.* Even wilted vegetables will regain their crispness here in a few hours.

Ease of installation. A Frigidaire only needs connection with your electric supply. *No plumbing is necessary.*

The new Frigidaire is quiet—you can't hear it start, stop or run.

Showrooms at 141, New Bond Street, London, W.1, and in all principal towns.

COUPON

FRIGIDAIRE LIMITED (*Incorporated in Canada*), Dept. BG-254, Edgware Road, The Hyde, Hendon, N.W.9

Please give me by return, without any obligation on my part,

(*a*) Price of Frigidaire cabinet suitable to my particular needs; or

(*b*) Particulars of your system of convenient deferred payments.

Name .....

Address .....

.....

No. in Family .....

Since Aneroid Gauges depend for their action on the stretching, under pressure, of metal diaphragms, they are subject to the usual errors arising from the elastic properties of metals.

The Lifetime Baumanometer, on the other hand, operates on the immutable law of gravitation—and does not depend for its action on the material used in construction.

Portability, the only excuse in the past for using aneroid instruments, of doubtful accuracy, is now equally obtainable in the Lifetime Baumanometer.

Moreover, all Lifetime Baumanometers are individually calibrated, scientifically accurate, and guaranteed to remain so. Everyone is a MASTER instrument and carries our exclusive guarantee against glass breakage.

The Lifetime Baumanometer's distinguishing specifications, have won for it the approval of more than one hundred thousand doctors the world over.

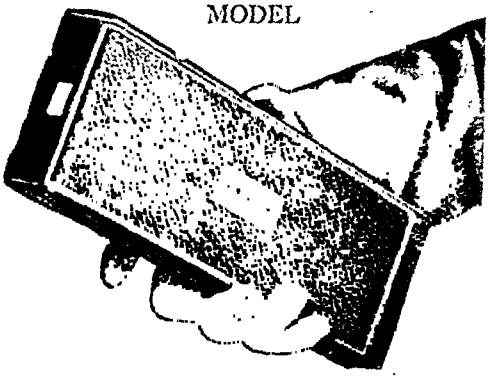
Among the many models to choose from, is the New Kompak Model—the smallest, lightest, handiest, mercurial instrument.

Your surgical instrument dealer will gladly demonstrate it or send one to you.

Lifetime Baumanometer
STANDARD FOR BLOODPRESSURE

Obtainable from leading Surgical Equipment Houses, or
HAWKSLEY & SONS, Ltd., 83 Wigmore St. London, W. 1.

THE NEW
KOMPAK
MODEL



SMALLEST - LIGHTEST - HANDIEST

Calibration: 260 mm.
Size: 15/16" x 3 7/8" x 11 5/16".
Weight: 30 oz.
Inflation System Self-Contained.
Duralumin case with baked enamel edges.
Genuine Morocco grain leather.
Entire manometer unit chromium plated.
Individual nameplate cast in cover.
Table of clinical averages embossed in case.
Lifetime Guarantee against glass breakage.
Perpetual Guarantee for accuracy.

GRSA

NERON VITALUX

The Sunlight Generator

HEAT, LIGHT, ULTRA-VIOLET

An indication as to some of its uses:

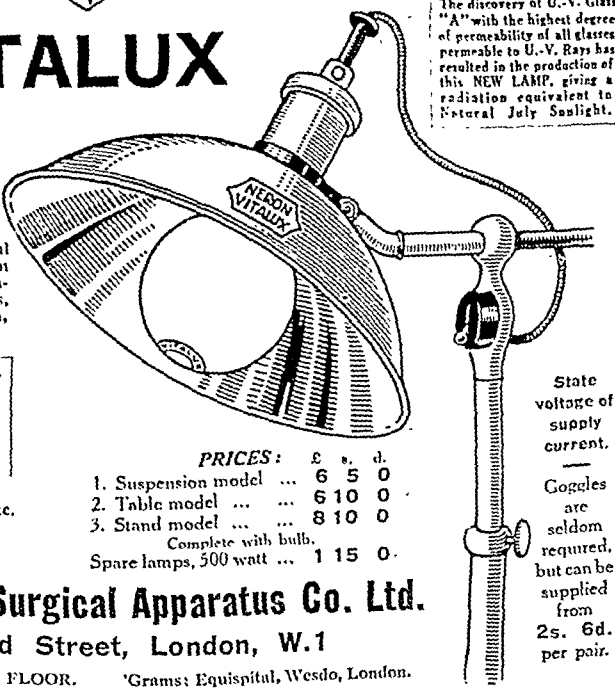
Rachitis prophylaxis, tubercular cervical glands, surgical and cutaneous tuberculosis, neuralgia, rheumatism (neuritis, myalgia), catarrhal diseases (colds), inflammation of the lungs (pleurisy), treatment of wounds, abscesses, furuncles, fungoid diseases of the skin, barber's rash, frontal sinus catarrh.

Extract from letter recently received from a doctor:
"The lamp is giving me thorough satisfaction, being a great improvement on the carbon arc lamp I was using, owing to the absence of fumes and greater ease of working, as well as giving a more satisfactory spectrum."

Neron Vitalux Lamps are being installed in various hospitals, etc.

Plans prepared free of cost for Hospital Sun Rooms.

The discovery of U.-V. Glass "A" with the highest degree of permeability of all glasses permeable to U.-V. Rays has resulted in the production of this NEW LAMP, giving a radiation equivalent to Natural July Sunlight.



State voltage of supply current.

Goggles are seldom required, but can be supplied from 2s. 6d. per pair.

PRICES:	£	s.	d.
1. Suspension model ...	6	5	0
2. Table model	6	10	0
3. Stand model	8	10	0
Complete with bulb.			
Spare lamps, 500 watt ...	1	15	0

The General Radiological & Surgical Apparatus Co. Ltd.

204-206, Great Portland Street, London, W.1

'Phone: Museum 1719 and 8326. Showrooms: FIRST FLOOR. 'Grams: Equispital, Wesdo, London.

PRINCIPAL AGENTS: Scotland: The Medical Supply Association, Ltd., 12 & 13, Teviot Place, Edinburgh.
Ireland: The Irish Radiological & Surgical Supply Co., Ltd., 7, Lower Pembroke Street, Dublin.

MICKLEFIELD IRRADIATED MILK

TREATING THE COW

By this Process—

(1) VITAMIN A AND NATURAL FLAVOUR ARE PRESERVED.
(2) VITAMIN D CONTENT IS INCREASED 1,800 PER CENT., OR TEN TIMES THAT OF ANY OTHER IRRADIATED MILK.

One pint equivalent in Vitamin D to 600 drops or 12 grammes of average Cod-Liver Oil.

A ten weeks' test recently conducted at the Infants' School, Rickmansworth, under the supervision of the Medical Officer of Health, gave the following results:—

(1) 18 children (controls) had their usual ordinary milk.
(2) 29 " 1/3-pint of Grade A (T.T.) milk five days a week.
(3) 30 " " Micklefield " " "

(1) Average increase in height '605-in. (2) Average increase in weight 9·72 ozs. more than (1).
(2) " " " '610-in. (3) " " " 10·9 ozs. more than (1).
(3) " " " '744-in.

Full particulars appeared in an article in the LANCET, January 18, 1930, p. 127, et seq., a reprint of which will be sent post free on request.

The milk is delivered every week-day in London; elsewhere by arrangement.

Write to J. O. HICKMAN, MICKLEFIELD GREEN, RICKMANSWORTH.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

...TAL.
... HOSPITAL.
KENT COU... , MAIDSTONE.
NEWPORT,
NEWCASTL... INFIRMARY.
OXFORD EYE HOSPITAL.
ST. PAUL'S EYE HOSPITAL, LIVERPOOL.
SWANSEA GENERAL HOSPITAL.
WESTERN OPHTHALMIC HOSPITAL.
WOLVERHAMPTON EYE INFIRMARY.
SIR C. J. OPHTHALMIC HOSPITAL, BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8095.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

The Ideal Laxative

REGULOL

REGD.

"REGULOL" IS AVAILABLE IN TWO FORMS: "PLAIN" or "COMPOUND." The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient.

CUXSON, GERRARD & Co., Ltd.
Oldbury, *Birmingham.*

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

SAMPLE 1-lb. JAR FREE ON REQUEST.

Please indicate whether Plain or Compound is required.

(This offer is limited to the British Isles.)

ALIMENTARY TOXÆMIAS

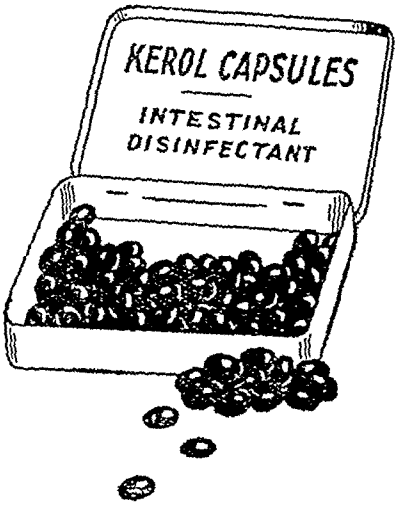
IN our last advertisement, the subject of Alimentary Toxæmia was briefly discussed, and intestinal disinfection by means of Kerol Capsules was held to be the first line of treatment.

The reason for this may be stated as follows:—None of the ordinary so-called intestinal antiseptics, such as Salol and Beta Naphthol, are found experimentally to exert any disinfection of the contents of the bowel.

On the other hand, the high boiling hydroxyl compounds of the coal tar series are potent germicides, and, being unabsorbed, are non-toxic. They can therefore be administered freely without harm, and are found to prevent the multiplication of the toxæmic intestinal bacteria and to reduce them considerably.

The active principle of Kerol is a complex mixture of these compounds. The administration of two 3-minim capsules thrice daily after meals has been repeatedly shown to reduce the coli content of the stools of individuals taking them by 99 per cent.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.



Kerol Capsules

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD., Ravens Lane, Berkhamsted, Eng.

Priced at 3/- and 3/8 per lb.
A super quality at 4/2 per lb.

DOCTOR'S CHINA TEA

FOR ALL CASES OF GASTRIC TROUBLE.

It is definitely not safe to allow any tea but China tea to be used when there is the slightest tendency to gastric trouble. The Doctor's China Tea has no excess of Tannin whatever—it is a really good blend of China tea—it is therefore ideal as a delicious and healthful drink for all who enjoy a good cup of tea and especially for those of your patients who suffer from any form of indigestion.

HARDEN BROS. & LINDSAY, LTD.
(Dept. 153), 39/34, Mincing Lane, London, E.C.3.

IT IS THE DIFFICULT CASES OF INFANT FEEDING WHICH PROVE THE WORTH OF HUMANISED TRUFOOD

Humanised Trufood so closely resembles breast milk that independent investigators claim that there is hardly any difference between the two. This close proximity to Nature's provision is the reason why the most backward infants make progress on it—from the first feed!

Samples and literature on request.

TRUFOOD LTD., THE CREAMERIES, WRENBURY, CHESHIRE

TF.44—221.

The safest and most reliable non-toxic bactericide for all pathogenic conditions associated with an intestinal focus.

Dimol

Recommended by the Medical Profession for over ten years.

Supplied by the Admiralty for use in His Majesty's ships and Royal Naval Hospitals.

Dimol Laboratories Ltd., 40, Ludgate Hill, London, E.C.4.

THESE ESSENCES POSSESS THE THREE THINGS WANTED IN AN INVALID FOOD

they stimulate . . .

they rouse appetite . . .

they make no strain on the digestive system

BY APPOINTMENT

AT the critical time when patients are unable to digest solid food, Brand's Essences of Beef or Chicken stimulate and supply energy without strain to the digestive system.

Recent scientific tests have shown that Brand's Essences are assimilated by the digestive organs forty minutes quicker than ordinary food and without the formation of residue.

Suave and non-irritating, they are particularly suitable in all cases of intestinal disturbances, in disorders associated with pyrexia, and before and after operations.

Brand's Essences of Beef or Chicken, hygienically prepared by an exclusive process from the finest freshly killed English meats, consist of the pure essence of meat expressed in its natural form—a clear, appetizing jelly, delicious and easy to swallow.

Write in for samples to-day. They will be gladly sent on receipt of a professional card, Dept. F32, Brand & Co. Ltd., Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S ESSENCES OF BEEF OR CHICKEN

The Treatment of

Pernicious Anaemia

The physician prescribes liver as a matter of routine in pernicious anaemia and in other anaemias which resemble the pernicious type in that they appear to be associated with megaloblastic hyperplasia of the bone marrow.

Cases occur, however, which do not appear to derive continued benefit from liver, but which respond more satisfactorily to treatment with desiccated stomach.

The needs of all cases of the pernicious type are met, therefore, by the employment of the two British products described below.

LIVER EXTRACT B.D.H.

Liver Extract B.D.H. is a freely-running powder; it is made by a process tested and found efficient by The Medical Research Council, each tube containing the haematopoietic principles of half-a-pound of fresh raw liver.

GASTER SICCATA B.D.H.

Gaster Siccata B.D.H. is a fine light powder, odourless, practically fat-free and resembling in taste an ordinary milk food diet; it is made from fresh stomachs obtained in Great Britain from certified healthy animals.

Sample and descriptive literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

LE/GS/22

ATIVE AND HARMLESS HYPNOTIC.

'Roche' 'Sedormid'

Allyl-isopropyl-acetyl-carbamide.

More active than Valerian or Bromides.
Less powerful & less toxic than Barbiturates.

Issued in boxes of 20, and dispensing packages of 200 oral Tablets.

Literature and trial specimens from

THE HOFFMANN-LA ROCHE CHEMICAL WORKS LTD.
The 'ROCHE' Laboratories,
51, BOWES ROAD LONDON, N.13.

COD-LIVER OIL in its most palatable and easily assimilated form is the CREAM prepared by Thomson of Elgin.

It is readily acceptable to children and adults.
Free from the difficulties of taking, usually associated with Cod-Liver Oil preparations.
Contains 50% recently refined Cod-Liver Oil of high vitamin content.
Maximum vitamin efficiency ensured by freshness of preparation every week.
Fresh eggs used in the making enhance nutrient value.
The Lancet, January 4th, 1930, says: "We can recommend this preparation."
Bottles 4/-, 7/-, and 10/-, post free by return.

Full particulars on application.

R. THOMSON, Chemists, 21, Abbey Street, ELGIN.

London Agents:
Messrs. SQUIRE & SONS, Chemists to H.M. the King, 413, OXFORD STREET.

HAY FEVER VACCINES

PROPHYLACTIC and CURATIVE

Immunisation should be commenced in susceptible patients now. In treatment the initial dose is determined by the

OPHTHALMIC TEST OUTFIT

Prepared for DUNCAN, FLOCKHART & CO. by the RESEARCH LABORATORY of the ROYAL COLLEGE OF PHYSICIANS, : : EDINBURGH : :

Literature on application to—

DUNCAN, FLOCKHART & CO.

EDINBURGH and LONDON

104, Holyrood Road 155, Farringdon Road, E.C.1

The Medical Profession when prescribing "Liquor Carbonis Detergens" SHOULD ADD THE WORD

Wright's

On receipt of your professional card, a package will be sent containing a sample of each of the following—

Wright's Coal Tar Soap.
Wright's Coal Tar Ointment.
Wright's Lysol.
Wright's Liquor Carbonis Detergens.

Although there is no secrecy as to the composition of Liquor Carbonis Detergens (it is described as "an alcoholic solution of coal tar"), the method of manufacture is unique. Imitations will be found to be produced by simple digestion, usually accompanied by some primitive, perfunctory, and inadequate stirring; whereas, in the case of the genuine product, the intimate contact required, for the complete extraction of all the soluble antiseptic constituents, is attained by a series of complicated processes, involving the use of highly specialized machinery.

WRIGHT, LAYMAN & UMNEY LTD., 66, Park Street, Southwark, S.E.1

Trade Mark

"GARDENAL" BRAND

PHENOBARBITAL

For the Routine Treatment of

EPILEPSY

"Gardenal" is a completely reliable, non-narcotic hypnotic of unvarying therapeutic efficiency. It is a highly efficient sedative in epilepsy, and is widely employed in other nervous disorders such as chorea, migraine, eclampsia, neurasthenia, pertussis, etc.

Write for a copy of descriptive leaflet and clinical trial sample

Supplied in powder and tablet form

Prepared in the Laboratories of

MAY & BAKER LTD. BATTERSEA, LONDON, S.W. 11

Telegrams: Bismuth, London. Telephone: Battersea 1813 (6 lines)

Purity, Activity and Stability

INSULIN "A.B."

TRADE A B MARK Brand

The world-wide supremacy of Insulin 'A.B.' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions.

20 units per c.c. Packed in bottles containing:

5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 " 20 ") 4/- "
25 c.c. (500 " 50 ") 10/- "

40 units per c.c. Packed in bottles containing:

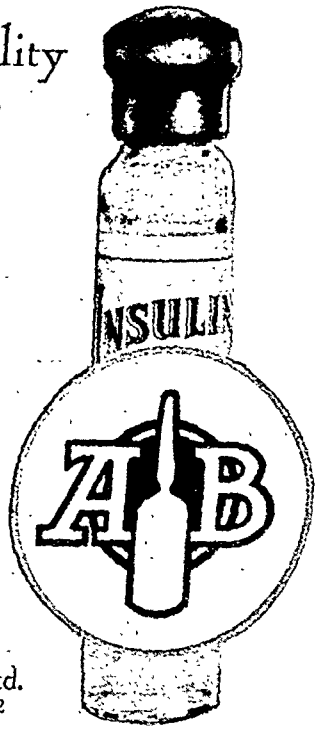
5 c.c. (200 units or 20 doses) 4/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession.

Joint Licencees and Manufacturers:

The British Drug Houses Ltd. Graham Street, London, N.1

Allen & Hanburys Ltd. Bethnal Green, London, E.2



COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark

ITS FORMULA
Combines Mineral Foods and Synergistic Agents.

ITS POSOLOGY
One to two teaspoonfuls after meals.

ITS EFFICACY
Is such that under its influence one observes a rapid increase of appetite and a marked elevation of tone.

ATONY

DEBILITY

CONVALESCENCE

DEMINERALIZATION

FELLOWS MEDICAL MFG. CO., INC.
26 Christopher St.
New York City, U. S. A.

Samples on Request

A RATIONAL TREATMENT FOR COUNTERACTING ALL THE USUAL CAUSES OF CONSTIPATION

TABLETS

LACTOBYL

REGULATES THE FLOW OF BILE, STIMULATES PERISTALSIS, AND NEUTRALIZES INTESTINAL PUTREFACTION

LACTOBYL IS DIGESTED & DISINTERGRATED IN THE ALKALINE SMALL INTESTINE

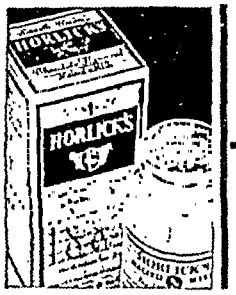
Prepared by:

LABORATOIRES LOBICA

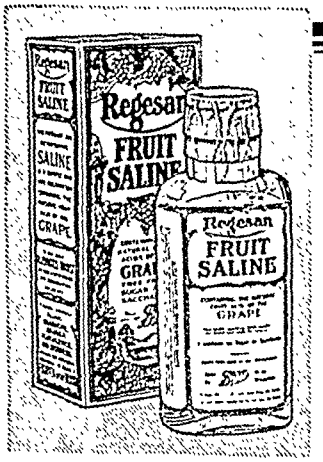
46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd.,
30 Marsham St., London, S.W.1.



HORLICK'S MALTED MILK has for many years been advocated as an excellent addition to the diet of the nursing mother, for whom correct dieting should be a matter of the greatest importance. It has been well said that the mother's milk is the baby's birthright. In the early months of life the foundation of baby's future health is laid, and among the many factors which go to the building of this foundation the quality and quantity of the mother's milk are of vital importance. Should the mother's dietary be deficient in any of the important food constituents, her own health and the quality of her milk will be adversely affected and baby will ultimately suffer in consequence. HORLICK'S MALTED MILK, made from full-cream cow's milk and the nutritive extracts of malted barley and wheat, contains all the food elements that the nursing mother needs. It is a well-balanced food, which invigorates and energizes. It stimulates mammary secretion, and ensures that baby's food requirements are adequately fulfilled; it makes the nursing period a joy, and not a time of worry and anxiety.



Full size trial sample free to any medical practitioner in British Isles, on application by postcard to BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM

WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG COMPANY LIMITED,
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

Regesan

FRUIT SALINE

AN agreeable effervescent preparation containing the fruit acid of the grape and antacids which correct minor disturbances of the stomach, liver and bowels.

Regesan Fruit Saline has been found to be of considerable value when the promotion of increased peristalsis has been desirable. Free from sugar, it may be prescribed for Diabetics and others who cannot tolerate sugar in any form

OBTAINABLE FROM

The Boots Chemists

OVER 900 BRANCHES IN GREAT BRITAIN

CAPROKOL

Brand of Hexyl-Resorcinol

The remarkable value of Caprokol in the treatment of urinary tract infections is consequent, to a considerable extent, on its power to reduce the surface tension of the urine, thus rendering it highly penetrative.

Low Surface Tension

Caprokol administration therefore results not only in the transformation of the urine into a highly bactericidal solution, but it also ensures that this disinfecting and purifying stream permeates into all the interstices of the urinary tract, rendering it eventually completely sterile.

High Penetrative Power

Furthermore, Caprokol possesses a gentle analgesic action that brings immediate ease and comfort—which condition, together with the fact that Caprokol does not stain, is appreciated by the patient.

Literature on request

Sole Selling Agents:

THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Cap/38

IMPROVED DAY AND NIGHT SERVICE TO THE MEDICAL PROFESSION FOR OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPOT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1
(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, CLAPHAM ROAD, S.W.9

You will like to prescribe them.

Because the relief of pain is naturally your first desire, you will like to prescribe

Anusol BRAND Haemorrhoidal Suppositories

They relieve pain without the use of narcotic drugs; they control haemorrhage and allay inflammation. Safe to use in all rectal diseases.

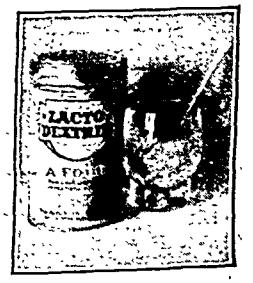
A trial of Anusol Brand Suppositories will prove a satisfying experience. May we send you a liberal trial package?

British Distributors:
FRANCIS NEWBERY & SONS, Ltd., 31-33, Banner Street, London, E.C.1
Manufactured by GOEDECKE & CO., LEIPZIG (Germany)

FAVOURABLE REPORTS *in clinical use of this combination of Lactose and Dextrin*

FURTHER reports have recently been received giving testimony to the value of Lacto-Dextrin as a food for changing the intestinal flora. Lacto-Dextrin is highly efficient in promoting the growth and development of both B. acidophilus and B. bifidus in the colon.

Another important laxative agent for use in conjunction with Lacto-Dextrin is Battle Creek Psylla (psyllium seed). This emollient evacuant supplies both bulk and lubrication and is of special service in fissure and haemorrhoids.



Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, 41, Great Tower Street, London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA *(Psyllium Seed)*

LACTO-DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

TRADE MARK
BRAND

STABILARSAN (BOOTS)

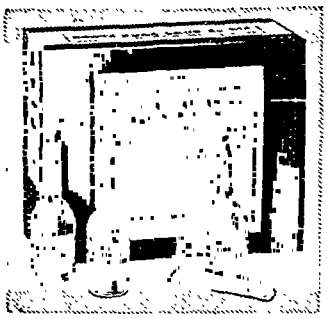
THE Standard Drug for the treatment of Syphilis and other Spirochætal Diseases. Stabilarsan is manufactured under Licence No. 19, from the Ministry of Health, tested in accordance with the regulations made under the Therapeutic Substances Act, 1925, and is APPROVED BY THE MINISTRY OF HEALTH FOR USE IN PUBLIC INSTITUTIONS.

DOSES:

0.10 gm. 0.15 gm. 0.20 gm. 0.30 gm. 0.45 gm. 0.60 gm.

Supplied in Sterile Solution, in Ampoules ready for use.

BOOTS PRODUCTS
ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS

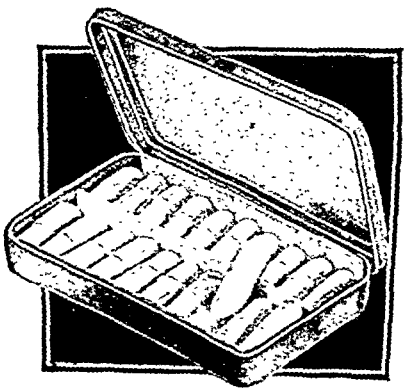


WHOLESALE AND EXPORT DEPARTMENT

BOOTS PURE DRUG CO. LTD.
NOTTINGHAM, ENGLAND

TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

A *New* chemo-therapeutical preparation
for the treatment of influenza, septic diseases and toxemias



Used in America for treating Influenza for the past two or three years with great success. The physician's sample illustrated here will be sent to you free on request.

Indications.
Influenza Colds, Pyelitis, Puerperal Sepsis, Surgical Sepsis, Bronchial Asthma, Obstetric Morbidity, Cystitis, etc.

DISULPHAMIN is a mixture of Sulpho-salicyl formol sodium nucleinate and Dimethylamino-antipyrin combined with camphor. The antitoxic action is based on the assumption that Disulphamin transforms the toxic colloid to a crystalloid, thereby facilitating its dialysis through the walls of the blood vessels, and accelerating its elimination by the kidneys.

While phenol is bactericidal in a 1/100 dilution, Disulphamin is bactericidal in a dilution of 1/10,000 to 1/50,000.

In a series of tests made in the treatment of Influenza with Disulphamin, it was found that the course of the disease was materially shortened, and very seldom did Broncho-pneumonia or other complications supervene. Although the etiology of influenza has not yet been clearly determined, it appears that Disulphamin exerts a polyvalent action.

The clinical results thus far obtained are so encouraging that physicians have ample justification for employing Disulphamin in Febrile Toxemias arising from Sepsis.

Samples and literature, including charts of actual tests and important hospital findings, will be sent free on request to Messrs. COATES & COOPER, 41, Great Tower Street, London, E.C.3.

DISULPHAMIN

Product of
THE BIO-CHEMICAL LABORATORIES
LOCARNO, SWITZERLAND

A safe and simple antacid which is also a gentle laxative must necessarily be of great value to medical practitioners when administering to ladies and children and all who are constitutionally delicate.
May we, therefore, venture to remind you of

DINNEFORD'S PURE FLUID MAGNESIA

which has been extensively prescribed and used by the Medical Profession for a Century, and is still the best and safest means of administering Magnesia.

When prescribed for the nursery, too, Dinneford's Magnesia has always proved immensely useful as a corrective, and when mixed with infant's food it prevents many of the troubles which are due to acidity, flatulence, etc.

We are confident that you will find in Dinneford's Fluid Magnesia a reliable and safe solution which may be freely used for many ailments, and we would request your kind consideration of its use as occasion offers.

Dinneford's Pure Fluid Magnesia possesses antacid and laxative qualities which are incomparably better than those of any of the various preparations of Magnesia, in powder, now being introduced.
It cannot harm the most delicate constitution and is at all times a safe and effective laxative.
Manufactured in London for the past 100 years.

DINNEFORD & Co. LTD.

Valentine's Meat-Juice

In **Vomiting** of **Pregnancy**, in the **Exhaustion** following **Hemorrhage** or **Prolonged Labor**, and before and after **Abdominal Operations** the **Ease** of **Assimilation** and **Power** of **Valentine's Meat-Juice** to **Restore** and **Strengthen** has been **Demonstrated** in

Hospitals for Women.

The quickness and power with which **Valentine's Meat-Juice** acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 96

Post-Influenzal Depression

is partly a direct effect of influenzal toxins, but is largely due to toxaemia arising from the debilitated digestive tract.

Kaylene-ol

prevents intestinal toxaemia and thus shortens convalescence and enables the patient to resist secondary infection.

Literature and supply for clinical trial obtainable from the Manufacturers:

KAYLENE LIMITED,

Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone—	*Telegrams*—	*Cables*—	*Code*—
GLADSTONE 1071 (2 lines).	KAYLOIDOL, CRICKLE, LONDON.	KAYLOIDOL, LONDON.	BENTLEY'S.

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is contra-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A anacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"*I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar.*"

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Klinick (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

ALOCOL

Colloidal Hydroxide of Aluminium

THE increasing prevalence of gastric ulcer and hyperchlorhydria has produced an advance in the treatment of these diseases.

"Alocol" (Colloidal Hydroxide of Aluminium) provides an antacid medicament far superior to subnitrate of bismuth, bicarbonate of soda and other alkalis. These merely afford a certain degree of ease, without bringing about a permanent relief of the condition.

"Alocol" absorbs the excess of hydrochloric acid without interfering with the normal antiputrefactive function of the gastric juice or harmfully affecting the processes of nutrition.

"Alocol" has been subject to extensive clinical trial, and literature giving full particulars of the results will be gladly sent to medical men on request.

For Acute or Chronic Cases of Hyperacidity

For Gastric Duodenal or Pyloric Ulcers

A. WANDER, Ltd., Manufacturing Chemists
184, Queen's Gate, London, S.W.7.

Works: KING'S LANGLEY. HERTFORDSHIRE.

M.232.

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative, "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

M.235

BETTER MILK FOR BABIES

FACTS ABOUT
LACTOGEN

Carbohydrates

Compared with maternal milk the carbohydrate content of cows' milk is considerably deficient, but in Lactogen—by suitable modification—this deficiency has been rectified.

Unlike ordinary dried milks, in which the carbohydrate is in the same proportion as in the raw milk, LACTOGEN CONTAINS PRACTICALLY THE SAME AMOUNT OF CARBOHYDRATE AS WOULD BE FURNISHED BY HUMAN MILK.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

"LACTOGEN"
REG. TRADE MARK

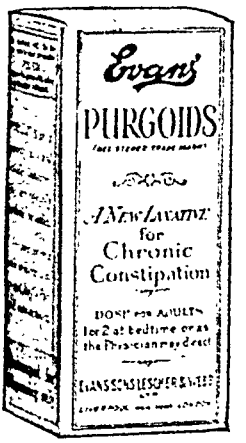
BETTER MILK FOR BABIES

FREE SAMPLES with detailed descriptive literature will be sent to any Member of the Medical Profession, upon request. Lactogen Bureau (Dept Z6), Nestlé and Anglo-Swiss Condensed Milk Co., 6 & 8, Eastcheap, London, E.C.3.

(Aesculapius)

PURGOIDS

Purgoids present a most effective combination of Phenolphthalein, Aloin, Ipecac, Belladonna, etc., in sugar-coated tablet form. They are of great value in cases of constipation, acting without depression action. Peristalsis is promoted without griping and intestinal secretion is increased.



In long-standing cases of chronic constipation it has been noted that patients have fully recovered, and have not found any further laxative necessary. Purgoids have been found to be of special value to nursing mothers, as they do not affect the baby.

Issued in bottles of
25, 100, 500, and 1,000.

A Physician's sample will be sent with pleasure, on request.

EVANS SONS LESCHER & WEBB, LTD

Manufacturers of Fine Chemicals, Pharmaceutical & Biological Products.

LIVERPOOL
56, Hanover Street.

LONDON
50, Bartholomew Close, E.C.1

MILK POWDER for SAFETY!

Extract from the Annual Report for 1928 of the Medical Officer of Health for———

INFANTILE DIARRHŒA

"Until the methods of farmers and others concerned in the milk industry have been revolutionised, and consumers have been provided with facilities for storage and education in the handling of milk, *I am definitely of the opinion that liquid milk should be banished from the dietary of infants.*"

Many such extracts show that the opinion of the Medical profession is rapidly turning to the use of specially prepared Milk Foods in infant feeding as the only safe and suitable substitute for breast milk.

Cow & Gate Milk Food

The best milk for babies, when natural feeding fails.

The following extracts from *The Lancet*, and the Presidential Address at the Royal Sanitary Institute Congress at Margate, show the risk run in feeding raw milk to infants:

'There can therefore be no doubt that a fair proportion of cases of ordinary adult phthisis in Scotland are due to the bovine bacillus .....'—*The Lancet*

....'But when to this is added the fact that in England 31.5 per cent. of tuberculosis in children up to 15 years of age is of bovine origin, and deaths from tuberculosis in children up to 5 years is 29.5 per cent. of bovine origin, that 57 per cent. of cervical adenitis in the same ages is of bovine origin, that 33 per cent. of bone and joint tuberculosis in children under 5 years and 24 per cent. in children from 5 to 10 years is of bovine origin, that in Scotland it is recorded that in certain hospitals in Edinburgh as much as 90.3 per cent. of cervical adenitis and 61.2 per cent. of bone and joint tuberculosis in children up to 12 years is of bovine origin, it is high time that this grave condition and this very serious menace to public health should be mended and ended.'

Extract from Presidential Address, Royal Sanitary Institute Congress, Margate.

COW & GATE MILK FOOD

is prepared by our Special Improved Roller Process employing a short heat treatment which destroys all disease organisms but leaves the natural vitamins and minerals unimpaired. *It is a basic milk food which can be modified by the professions as they desire to suit all and every case.*

WRITE FOR PARTICULARS OF OUR SPECIAL MILK FOODS FOR DIFFICULT INFANT CASES

©

Dept. 20, COW & GATE LTD., GUILDFORD, SURREY.

Fabritius, Oslo.

The Superiority of Cod Liver Oil as a Cure for Rickets

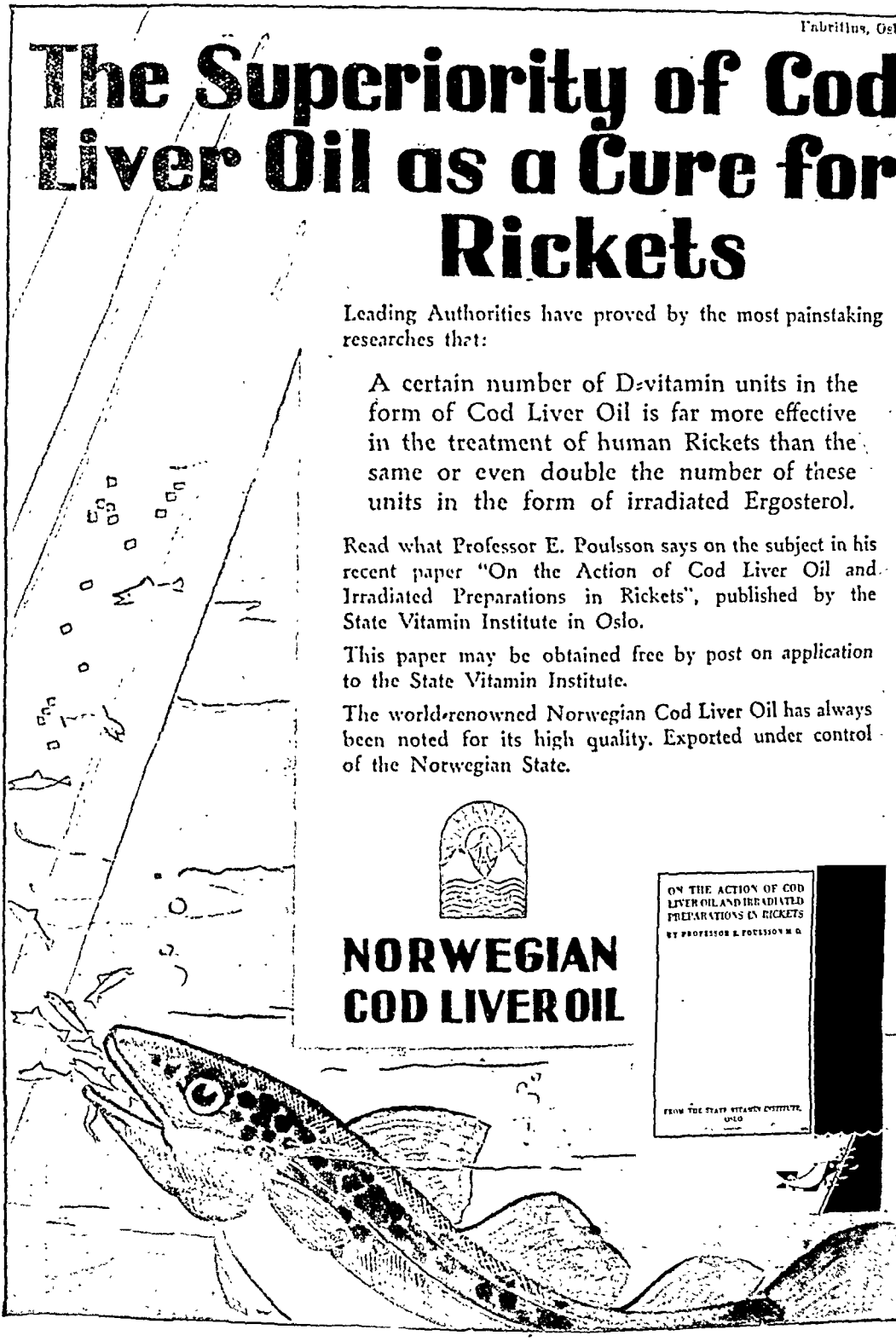
Leading Authorities have proved by the most painstaking researches that:

A certain number of D-vitamin units in the form of Cod Liver Oil is far more effective in the treatment of human Rickets than the same or even double the number of these units in the form of irradiated Ergosterol.

Read what Professor E. Poulsson says on the subject in his recent paper "On the Action of Cod Liver Oil and Irradiated Preparations in Rickets", published by the State Vitamin Institute in Oslo.

This paper may be obtained free by post on application to the State Vitamin Institute.

The world-renowned Norwegian Cod Liver Oil has always been noted for its high quality. Exported under control of the Norwegian State.



NORWEGIAN COD LIVER OIL

CREMOR ALKALINUS 'A.&H.'

For the Intensive Alkaline Treatment of Gastric and Duodenal Ulcers

Formula A

Sod. Bicarb.	2 parts
Mag. Carb.	4 parts
Calcium Carb.	4 parts
Bismuth Carb.	1 part

This is the standard preparation.

Formula B

Sod. Bicarb.	2 parts
Mag. Carb.	3 parts
Calcium Carb.	4 parts
Bismuth Carb.	2 parts

This is employed in cases where Formula A proves too laxative.

Formula C

Sod. Bicarb.	3 parts
Mag. Carb.	6 parts
Calcium Carb.	12 parts

Specially suitable for cases in which a bismuth-free preparation is desired.

For the convenience of practitioners the approved formulæ are prepared in the form of simple creams which are exceptionally free from grittiness.

In 8 oz. bottles for prescribing.

In 80 oz. bottles for dispensing.

Descriptive booklet and clinical trial sample sent post free on application.

Formula D

Mag. Carb.	4 parts
Calcium Carb.	6 parts
Bismuth Carb.	1 part

For cases where the use of Sodium Bicarbonate is regarded as disadvantageous.

Formula K

Sod. Bicarb.	2 parts
Mag. Carb.	3 parts
Calcium Carb.	4 parts
'Osmo' Kaolin	2 parts

The bismuth is replaced by colloidal kaolin which possesses marked toxin-adsorbing properties.

Cremor Alkalinus "A. & H." Lozenges

Prepared from Formula C. Convenient for carrying in the pocket. Each lozenge contains 15 grains.

ALLEN & HANBURYS LTD.

LONDON, E.2

Telegrams; "Greenburys Edo London"
Telephone: Bishopsgate 3201 (10 lines)

THE RATIONALE OF THE ACTION OF RYVITA CRISPBREAD IN CERTAIN SPECIAL CONDITIONS

CONSTIPATION

The use of Ryvita Crispbread as a corrective where constipation exists is advocated by an increasing number of the Medical Profession.

The special laxative properties of rye grain are well known. Ryvita is made of pure, whole-grain rye, crushed, which is rich in vitamin B, and the salts of lime and iron and phytates.

The ready digestibility of Ryvita, and the low percentage in it of unconverted starch, ensures against starch fermentation, thus keeping the whole alimentary tract in wholesome condition. The roughage and mineral salts of the bran ensure daily natural evacuation of the bowels.

An Eminent Authority declares:

"Washed wheat bran fed to cows was found to be constipating, indicating that the laxative property of ordinary bran and whole-grain products is dependent not simply upon mechanical irritation, but largely, if not mainly, upon the phytates."

It is not improbable that the vitamin B content of Ryvita has also a stimulative effect upon intestinal movements. Reports of recent dietetic research tend to confirm this view.

Many Doctors testify that Ryvita Crispbread gives excellent results in combating habitual constipation. Ryvita is definitely indicated as an item of the dietary in the treatment of disorders arising from indigestion, constipation, or malnutrition. It is usual to suggest that the patient begin by eating two or three slices of Ryvita with at least one meal each day.

RYVITA

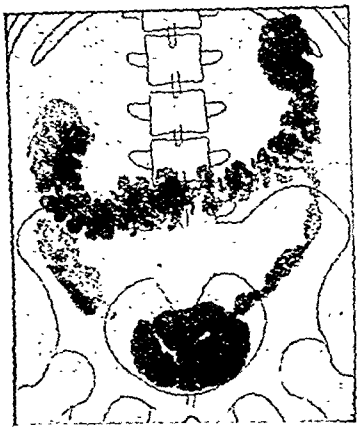
CRISPBREAD

We shall be very pleased to send Free Samples and full particulars to any interested Member of the Profession.

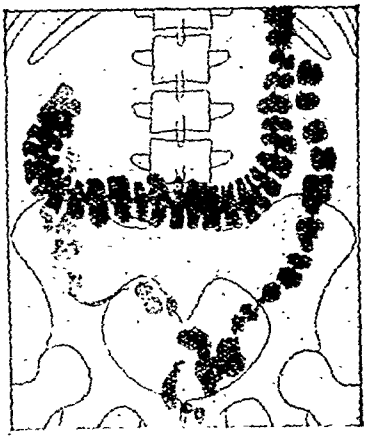
THE RYVITA COMPANY LTD.

859, RYVITA HOUSE, 96, SOUTHWARK STREET, S.E.1

For Radiographic Examination



ATONIC CONSTIPATION. Appearance sixty hours after barium meal



SPASTIC CONSTIPATION. Appearance fifty hours after barium meal

TRADE MARK **'BAROLAC'** BRAND

BARIUM SULPHATE SUSPENSION

A thirty per cent. suspension of 'Wellcome' Brand Barium Sulphate specially adapted to X-ray purposes. So finely divided that no suspending agent is necessary; entirely free from soluble barium salts; tasteless, odourless and neutral.

Price in London to the Medical Profession: Winchester Quarts at 10/- each

TRADE MARK **'TABLOID'** BRAND
(CAPSULE)
SODIUM TETRAIODOPHENOLPHTHALEIN

For radiographic examination of the gall bladder. Hard gelatin capsules without coating, each containing 0·5 gramme

Price in London to the Medical Profession: Boxes of 10, at 4/6 per box

TRADE MARK **'WELLCOME'** BRAND
BARIUM SULPHATE

A pure, neutral product of suitable bulkiness for radiographic work. Tasteless; odourless; free from soluble barium salts

Cartons of 3 oz., 1 lb. and 7 lb.; 100 gm., 500 gm., 1 kilo and 3 kilo. Prices on application

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

H 2350

COPYRIGHT

Among the first physiologically standardised water-soluble preparations of the oestrus-producing hormone

Trade Mark "Progynon" Brand

Female Sexual Hormone.

A product of high concentration and activity, each dragée and ampoule containing a definite amount of biologically active hormone.

Recent publications on cases favourable for the administration of oestrus-producing hormone.

"Cases of naturally occurring menopause were treated, and all showed definite abatement in vaso-motor and nervous symptoms."

THE LANCET, 1930, i., 1390.

"In secondary amenorrhoea positive results were obtained in 20 out of 37 cases. In 12 of the successfully treated cases the subsequent rhythm of menstruation was normal without any further treatment."

THE LANCET, 1931, i., 464.

New original packings—

Bottles of 30 and 60 dragées (150 M.U.).

Boxes of 6 × 1 c.c. ampoules (100 M.U.).

A new illustrated brochure gladly sent on request; this reviews concisely and dispassionately the present position of the female sexual hormone.

SCHERING LIMITED, 3, Lloyd's Avenue, London, E.C.3.

Or from the following overseas depôts:

CANADA— Schering (Canada) Ltd., Unity Building, P.O.B. 358, Montreal.

CEYLON— Paul Winn & Co. Ltd., Colombo.

BRITISH INDIA— Schering-Kahlbaum (India) Ltd., P.O.B. 2006, Calcutta.

AUSTRALIA— Schering-Kahlbaum (Australia) Ltd. P.O.B. 5576S, Sydney.

NEW ZEALAND— F. & N. Suckling, Auckland

SOUTH AFRICA— [illegible] ca

EAST AFRICA— The Old East African Trading Co. Ltd., Mombasa.

STRAITS SETTLEMENTS & SIAM— N.V. [illegible] mer Ex[illegible]

DUTCH INDIES— [illegible] & Co., Batavia, Barmer Export lan.

A Paper ON ULCERATIVE COLITIS*

BY

ARTHUR F. HURST, M.D., F.R.C.P.

SENIOR PHYSICIAN TO GUY'S HOSPITAL

Sir Samuel Wilks, who in 1875 was the first to describe ulcerative colitis, pointed out that the condition was anatomically indistinguishable from dysentery. During the war I had frequent opportunities, at Lemnos and at Salonica, of sigmoidoscoping patients with dysentery. I recognized at once that amoebic dysentery presented a characteristic picture which bore no resemblance to that of bacillary dysentery, and that it was impossible to distinguish the latter from the ulcerative colitis with which I was already familiar.

NATURE OF THE DISEASE

That infection with *B. dysenteriae* occurred in England was already well known from Eyre's investigations in 1894 on asylum dysentery. In 1912 Nabarro isolated the dysentery bacillus from a child who had been attending the Great Ormond Street Hospital for many years as a case of recurrent colitis. Since then he has found that not only many cases of summer diarrhoea, but many in small children diagnosed as chronic colitis, are caused by the dysentery bacillus. It is easy to understand how adults occasionally become infected with ulcerative colitis, due to *B. dysenteriae*, from children with these conditions, and yet do not themselves start a house epidemic, just as all the cases of amoebic dysentery arising in England which I have seen have been isolated ones. In 1923 Dudgeon isolated Flexner's bacillus in two cases of ulcerative colitis from material obtained from the surface of an ulcer examined through a sigmoidoscope. In 1927 Hadfield obtained it from the swab from an ulcer in a case I sigmoidoscoped forty-eight hours after the onset of haemorrhagic diarrhoea. The bacillus was isolated by Thorlakson and Cadman of Winnipeg in 1928, in six out of nine cases, from material obtained by scraping the base of an ulcer with a sharp curette, though they had never before discovered it in stools or in ordinary swabs from the ulcer surface. Last year Knott isolated Flexner's bacillus, which was agglutinated by the patient's serum, from a swab obtained from the raw surface left after I had snared a polypus in the rectum of a woman, aged 36, who had had very severe ulcerative colitis since 1925 and had developed two long strictures and multiple polyposis, although numerous examinations of stools and swabs taken from ulcers during the five years of her illness had only shown the usual organisms found in such cases.

It is well known that it is difficult to isolate the *B. dysenteriae* from the stools of patients in the Tropics suffering from typical dysentery after the acute stage has passed. The majority of cases of ulcerative colitis which come under skilled observation in England are already chronic, so that it can be easily understood how rarely the organism is found. In my only early case it was isolated without difficulty, and both Thorlakson's cases and the case I have just described show that it may be present in the depth of the lesion, when it cannot be demonstrated in stools or in swabs taken from the ulcers. These positive findings seem to me to be of more importance than many negative observations. The identical morbid anatomy and the response of many cases, especially early ones, to specific treatment with antidysenteric serum confirm the view which was first expressed by Saundby in 1906, and by Hawkins in 1909, and which I have consistently held since the war, that the disease is a form of bacillary dysentery.

Achlorhydria, which was generally secondary to gastritis, was present in about 25 per cent. of my cases. This is an important predisposing cause, as the absence of the normal acid antiseptic barrier of the stomach allows organisms swallowed in infected water or food to reach the intestines.

COMPLICATIONS

I have realized only in recent years the frequency of certain serious complications of ulcerative colitis, which were never recognized before the war. This is probably due to the fact that numerous severely affected persons who would formerly have died now survive as a result of better treatment; many recover completely, but in others the disease runs a very chronic course, which gives time for these complications to develop.

Among 693 cases at the Mayo Clinic between 1923 and 1928 there were 69 patients with adenomatous polyposis, 59 with stricture, 26 with perirectal abscess, 18 with perforation, and 15 with malignant disease, in addition to 30 with arthritis (Bargen). This agrees closely with my own experience of the relative frequency of these complications, except that I have never seen a case of perforation. Though the ragged polypoid tags of mucous membrane mentioned by Dr. Cuthbert Dukes are often mistaken for true polypi, there is no doubt that true polypi also occur; some of those I have removed have been found on microscopical examination to be typical adenomata, and their *x*-ray appearance is identical with that of primary polyposis. In a few such cases the polypi have completely disappeared with deep *x*-ray treatment; but this should never be used until the primary ulceration has healed. It is most important to remember that strictures may develop without any change in the symptoms; in chronic cases a barium enema should therefore be given from time to time. I have had three cases in which complete recovery followed a short-circuiting operation, without which death would certainly have occurred. One patient has now been well for six years. There was stasis in the enormously dilated caecum and terminal ileum for seven days, although she was still having the usual severe haemorrhagic diarrhoea. In another case with an eleven years' history the strictures were associated with polyposis. I have seen two cases in which carcinoma apparently developed from polypi of the rectum following ulcerative colitis, and in another, carcinoma, polyposis, and active ulceration were all present together. Anal infections are of great importance, as they may persist after the colitis has healed, and may lead to reinfection of the colon.

DIAGNOSIS

Direct examination of the mucous membrane of the rectum, which is almost always the part first affected and last to heal, is essential for diagnosis and for guidance in treatment. For those with limited experience a long proctoscope is easier to manipulate than a sigmoidoscope; it has the advantage of bringing the mucous membrane nearer to the eye, and the condition of the anal canal—a matter of considerable importance—can be more easily investigated. I have seen several cases of polypi and of carcinoma of the rectum and pelvic colon which had been treated as ulcerative colitis until I sigmoidoscoped them. I have recognized with the sigmoidoscope about half a dozen cases of amoebic dysentery in patients who had never been out of England and who, having hitherto failed to respond to treatment, recovered completely after twelve injections of emetine. I recently proctoscoped a patient who had been regarded as suffering from

*Read in the Proctological Section of the Royal Society of Medicine on March 11th.

long-standing ulcerative colitis. The mucous membrane of the rectum was normal, the blood having come from haemorrhoids, and the lumen was filled with effervescing fluid faeces, which indicated that the diarrhoea was due to carbohydrate intestinal dyspepsia. Rapid recovery followed abstention from starch-containing vegetables.

X-RAY INVESTIGATION

The *x* rays are very useful in investigating cases of ulcerative colitis. As the normal haustration of the bowel disappears in the affected part, it is possible, by means of a barium enema, to determine the extent of the disease. It is not uncommon for more or less of the proximal part to be spared in cases in which the pelvic colon and rectum are severely involved. When recovery takes place the haustration returns, except in very chronic cases. The proximal part of the colon is the last to be involved and the first to recover; the disease almost always begins and ends in the rectum and pelvic colon, so that sigmoidoscopy detects the earliest stage of the disease, and when the mucous membrane of the rectum and pelvic colon are found to be no longer inflamed it may be assumed that the same is true of the whole colon. A barium enema also reveals the presence of strictures, but it is possible to distinguish between those caused by prolonged spasm and those caused by organic disease only by means of an opaque meal. Narrowing due to spasm does not cause any stasis, the colon being evacuated with great rapidity, whereas that due to a fibrous stricture leads to severe stasis in the dilated proximal segment. Lastly, the presence and extent of multiple polypi can often be recognized after an opaque enema or meal.

TREATMENT

Rest in bed, warmth, and a generous mixed diet, from which the skins and pips of fruit and fibres of vegetables are alone excluded, are essential parts of treatment. When anaemia is present transfusion not only improves the general condition, but often greatly hastens the healing of the ulcers.

By absorbing gas, charcoal often makes the patient much more comfortable. Of the various drugs used locally I have found tannic acid (1 to 2 grains to 1 ounce) the most useful. If given after preliminary lavage with normal saline solution under low pressure through a soft catheter introduced just beyond the anus, it reaches the caecum, and is generally just as effective as if given through an appendix or caecal stoma. Quite recently I have been using dilute hydrogen peroxide (1 drachm to 1 pint) without preliminary lavage, and I am inclined to think this may prove even more satisfactory than tannic acid.

In the first case in which I used polyvalent anti-dysenteric serum in 1921, the result was little short of miraculous. A young man who was almost moribund after being very ill for over a year, and in whom no improvement had followed an appendicostomy, recovered completely in a fortnight; five days after the first injection the sigmoidoscope showed that the innumerable ulcers seen a few days before had vanished, and nine days later the appearance of the mucous membrane was absolutely normal. Since then I have had a number of cases in which a dramatic recovery has taken place, and my colleagues Dr. Fawcett and Dr. Ryle, and Jerwood, Bindon Brew, and many others, have had similar experiences. Rapid recovery is most likely to occur in early cases, but it is occasionally observed in those which are very chronic. Thus, complete recovery occurred within a week in the very early case I have already mentioned in which Flexner's bacillus was isolated. More frequently the serum produces a certain amount of improvement, with the result that other treatment leads to recovery more rapidly than it would otherwise have done. In a small number of cases, especially very chronic ones, the serum appears to have no effect.

I have never seen the slightest benefit follow any form of vaccination, and in some cases the local condition has been definitely aggravated. Several American physicians have told me that they have been quite unable to confirm Bargen's enthusiastic reports about vaccination with his organism, which has not been accepted by any other American workers as the cause of ulcerative colitis.

In my experience the mortality of ulcerative colitis is extremely low. Complete recovery may occur after very long periods of treatment, and in cases which do not respond to serotherapy as much as a year or two of continuous treatment may be required. There is also an unfortunate tendency to relapse. The danger of this is much reduced if treatment is continued until the sigmoidoscope shows no trace of inflammation, even if symptoms have already disappeared for some weeks. Associated conditions, such as oral and pharyngeal infections and anal complications, must be treated, as a relapse may follow an acute sore throat or the development of a perianal abscess or a fistula in ano. The patient should always take sufficient paraffin to keep his stools soft; if achlorhydria is present, the associated gastritis should be treated, and, if the secretion of acid does not return, the patient should take hydrochloric acid for the rest of his life.

BIBLIOGRAPHY

Bargen, J. A.: *Ann. Int. Med.*, 1929, iii, 335.
Brew, R. Bindon: *British Medical Journal*, 1930, i, 478.
Dudgeon, L. S.: *Lancet*, 1923, i, 1007.
Eyre, J. W. H.: *British Medical Journal*, 1904, i, 1002.
Hawkins, H. P.: Ibid., 1909, i, 767.
Hurst, A. F.: *Guy's Hospital Reports*, 1921, lxxi, 26, and *Medical Essays and Addresses*, 1924, 150.
Jerwood, B. E.: *Guy's Hospital Gazette*, 1921, xxxv, 292.
Nabarro, D.: Personal communication, 1931.
Saundby, R.: *British Medical Journal*, 1906, i, 1325.
Thorbakson, P. H. T.: *Canadian Med. Assoc. Journ.*, 1928, xix, 656; and *Trans. Amer. Proctological Soc.*, 1930, xxx, 100.
Wills, S., and Moxon, W.: *Lectures on Pathological Anatomy*, second edition, 1875, p. 408.

PULMONARY TUBERCULOSIS IN CHILDHOOD*

BY

G. B. DIXON, M.R.C.S., L.R.C.P.

CHIEF TUBERCULOSIS OFFICER, CITY OF BIRMINGHAM; MEDICAL SUPERINTENDENT OF THE CITY SANATORIUM

(With Special Plate)

I think it is fair comment to say that in the past too little attention has been paid to the diagnosis and treatment of pulmonary tuberculosis in young children. The non-pulmonary forms of this disease have received more attention and they have given more satisfactory results. The provision of beds in special institutions for pulmonary tuberculosis occurring in children has not been, in relation to the number of cases, so generous as for the non-pulmonary types; this, and the better response to treatment of the non-pulmonary forms, have been contributory factors to the present position. In making use of the term "childhood type" of tuberculosis, I refer to lesions in the lungs and intrathoracic glands which are the result of a first infection with the tubercle bacillus.

INCIDENCE AND COURSE

Figures for the year 1923, published by the National Association for the Prevention of Tuberculosis, show that in England and Wales between 2,700 and 2,800 children

* Summary of an address read to the infant welfare subgroup of the Midland branch of the Society of Medical Officers of Health.

of from 1 to 4 years of age died from tuberculosis. Between 1,300 and 1,400 of these died from tuberculosis of the nervous system (meningitis), about 500 from tuberculosis of the intestines and peritoneum, 400 from disseminated tuberculosis, between 300 and 400 from tuberculosis of the respiratory system, and less than 100 from disease in the bones and joints. In Birmingham, during the years 1915-17, 193 cases of pulmonary tuberculosis were notified among children up to 5 years of age, and during the years 1923-25, 88 cases were notified in children of the same age; for these periods respectively, 73 and 66 deaths occurred. Some figures dealing with the mortality rates for tuberculosis among young children in the Birmingham Children's Hospital were recently published by Smellie,[1] who states that in the period 1922-29, 1,514 deaths occurred in the hospital, and that there were 1,190 necropsies, in 192 of which the cause of death was tuberculosis. He found that the highest mortality occurred among children in the second year of life, and the greatest number of deaths took place in the first four months of the year, the smallest number being recorded during August. The focus of this disease among these children was cerebral in 51 per cent. of the total number dying, abdominal in 33 per cent., and pulmonary in only 14 per cent.; Smellie assumed that the infection was due to the human type of bacillus in no less than 64 per cent. of the series. It may be inferred from these figures either that pulmonary tuberculosis in young children is not a very common disease or that it is not always readily diagnosed.

I think it is generally accepted that pulmonary tuberculosis occurring during the first year of a child's life tends to progress rapidly, and to cause death from acute general tuberculosis or tuberculous meningitis. In the second year the disease may follow a less acute and less rapid course, but there is still little or no tendency to healing, and death usually takes place. After this period, and until the age of about 10 years, acutely progressive and rapidly fatal tuberculosis of the lungs becomes less common. Between the ages of 3 and 10 children may be found with well-marked pulmonary tuberculous lesions, which in some instances do not cause much inconvenience or give rise to any very marked or typical symptomatology. Krause[2] writes:

> "The more I see of tuberculosis in infants and the more I confirm the diagnosis by the aid of new methods, the more infants I find who run along with comparatively little illness."

My own experience bears out this view.

Differences Between Childhood and Adult Tuberculosis

Pulmonary tuberculosis in the child has certain definite characteristics which distinguish it from the same disease in adult life; the infantile type is the result of a primary infection, that occurring in the adult is the result of a reinfection. According to Myers,[3] an area of inflammation develops where the bacilli settle in the lung, which may be small, or large enough to affect an entire lobe; from it the regional hilar and broncho-tracheal glands are quickly involved, and become enlarged. The parenchymatous lesion may heal and almost entirely disappear, a small area of calcification—that is, Ghon's body—being left (Fig. 1, Special Plate). In a comparatively short time the lymphatic glands may show calcium deposits, or they may remain caseous, without calcium deposition. In the infantile type the parenchymatous lesion may be localized in any part of the lung, least frequently in the upper lobes, and after the subsidence of the initial inflammatory changes which occur in connexion with it, may be difficult to demonstrate radiographically. In the adult type the lesion is apical, and the tracheo-bronchial glands are not included in the process of reinfection. Some authorities[4] state that when a tuberculous process exists in any part of the body, even if remote from the lung, tubercle bacilli may be carried to the hilum of the lung, where they cause enlargement of the lymphatic glands, apart from any pulmonary parenchymatous lesion.

In the childhood type, caseous lesions tend to become calcified, and cavitation is rarer than in the adult type; in the adult type, caseous lesions are usually associated with cavitation and fibrosis. It is well to remember in this connexion that the adult type of disease, associated with cavitation, may be found at the age of 7 or 8 years, and occasionally earlier. The distribution of the disease in young children conforms most usually to one of three types—namely, a diffuse miliary form, a localized form in which the lesion may be large or small and represented by a caseous mass with a fibrous periphery or by a massive lobar infiltration, or a broncho-pneumonic distribution. Massive distributions involving the major portions of one or both lungs are occasionally seen as terminal conditions. (See Figs. 2, 3, and 4, Special Plate.)

Diagnosis

The diagnosis of pulmonary tuberculosis in early childhood is seldom an easy matter; the physical examination of infants, who protest both vocally and physically, is not always satisfactory as far as pulmonary conditions are concerned. The information derived from percussion is never so reliable as in the case of adults, and as infants do not expectorate we are cut off from one of our more dependable sources of information. In addition, infants are usually difficult subjects for radiography; this is unfortunate, as we have to rely more upon radiographic investigation in infants suspected of pulmonary tuberculosis than we do in the case of adults. Certain special signs have been described in relation to the diagnosis of intrathoracic glandular tuberculosis in children, the better known of which are D'Espine's sign and Eustace Smith's sign; I place slight reliance upon the evidence that their presence is supposed to furnish.

In many cases physical examination alone gives insufficient evidence upon which to base a diagnosis. The history of the case is important. Exposure to tuberculosis within the family is significant, and a history of attacks of phlyctenular conjunctivitis, of erythema nodosum, or of pleurisy is suggestive of tuberculous infection. Symptoms, as a rule, do not help us much; they may be absent, or if present are for various reasons not always elicited. When they exist they may vary in intensity from those associated with a so-called cold to those accompanying a pneumonia. Cough, loss of weight or failure to increase weight, increased respirations, pyrexia, peevishness, and vomiting may all be present, and in the absence of discovery of other ascertainable cause should be regarded with suspicion.

Radiographic Methods

Radiography is one of the most useful and valuable methods of diagnosis at our disposal, but a negative radiographic examination should not in every instance refute a diagnosis of tuberculosis otherwise arrived at. The lesions in parenchyma or hilum may cast no shadow on the film. The hilum alone may show evidence of disease, the initial lesion being in some remote part of the body; if in the lung, it may be obscured by the diaphragm, ribs, or heart, and for this reason be difficult to detect, though it is usually demonstrable microscopically or macroscopically after death. The tracheo-bronchial glands,

when enlarged, cannot always be demonstrated radiographically, because of their position within the mediastinum, where they are masked by the heart and large blood vessels; but any abnormal deviation of the trachea occurring in childhood should always suggest the presence of enlarged tracheo-bronchial glands.

McPhedran[4] says he

"has not seen in radiographs of the excised or living lung, non-tuberculous enlargement of the intra-pulmonary glands sufficient to allow them to be radiographically recorded."

In this statement he refers particularly to bronchitis, broncho-pneumonia, and the chronic non-tuberculous pulmonary lesions. He also finds that

"The differentiation between the shadows cast by tuberculous hilar glands and normal anatomical structures, such as blood vessels, is at times difficult. Homogeneous rounded or oval densities suggest vessels running parallel to the axial ray, particularly if somewhat symmetrical bilaterally. Although calcification in the glands of both hila is not uncommon, it is rarely that one or more do not show characteristic irregularity of contour and inequalities of density. When densities of uncertain origin appear, decision as to their character may be facilitated by radiographing the patient again, after rotation, when, if due to the blood vessels, they will disappear."

The presence of calcium deposits in the tracheo-bronchial glands, or in the hilar glands, is nearly always associated with a tuberculous infection. Pleurisy probably occurs more frequently among children than is generally realized, and in many cases results from a tuberculous infection; the fibrinous type is more frequent than the serous, and it should be realized that a well-marked pleural rub may exist without any definite *x*-ray evidence of its presence. Tuberculous intrathoracic disease can often be demonstrated radiographically when it exists, if satisfactory antero-posterior and oblique films are made. It is injudicious to express a dogmatic opinion in any case if the *x*-ray examination has consisted of screening alone.

Laboratory Methods of Examination

These may provide conclusive evidence for a positive diagnosis. Smears of faeces should be examined for the presence of acid-fast bacilli, and, if these are found, an animal experiment should be carried out to ascertain if they are tubercle bacilli. Such examinations, undertaken in some hundreds of children under 8 years of age admitted to the sanatorium for observation, showed the presence of acid-fast bacilli in about 1 per cent. of the specimens examined, and in practically every instance animal experiment proved them to be tubercle bacilli. A more recent, and possibly more exact, method of finding tubercle bacilli in the digestive tract is to examine the centrifuged deposit from a gastric lavage, undertaken after the child has been fasting for six or eight hours. From 130 c.cm. to 300 c.cm. of sterile water are required for the purpose. The tube and glass funnel or syringe body used must be previously sterilized, as must the bottle used for collection. The fluid is centrifuged and the sediment is stained for acid-fast bacilli; some of the sediment should be plated on a suitable medium and some injected into a guinea-pig, either or both of which methods may give a positive result when suitably stained specimens of the sediment are negative.

Tuberculin Tests

For infants the two most reliable tuberculin tests are the quanti-Pirquet test of Morland and the intradermal test (Mantoux). Dilutions of old tuberculin, human or bovine, or both, may be used. For the former, dilutions of 1, 4, 16, and 64 per cent. are used, the skin on the inner side of the forearm being a suitable site for application. After cleansing the skin, five abrasions are made, and small amounts of the progressive dilutions are applied from the wrist upwards, the fifth abrasion acting as a control. After twenty-four, and again after forty-eight, hours the arm is examined, and the diameter of any resulting papule is measured with calliper and rule. The amount of traumatic reaction is indicated by the measurement of the fifth abrasion, and this is subtracted from that of the other papules; the results are recorded after each examination and measurement. From these two readings the average papule size and the average papule difference are estimated, and are compared with Morland's modification of Erlandsen's table,[5] when a unit of sensitivity can be arrived at which is useful for purposes of comparison and for records.

For the intradermal test a suitably graduated tuberculin syringe, fitted with a No. 24 gauge half-inch needle, and old tuberculin are used. In the first place, a solution of tuberculin—0.01 mg. in 0.1 c.cm.—is injected parallel to the surface, into the superficial layers of the skin. If no reaction results in twenty-four to ninety-six hours, the procedure is repeated with a solution of which 0.1 c.cm. contains 0.1 mg. of tuberculin; in the absence of reaction within five days, the test is repeated with a solution of which 0.1 c.cm. contains 1 mg. of tuberculin. If no reaction occurs after any of these, it may be assumed that the child has not been infected. When a positive reaction occurs, it is usually evident within twenty-four to forty-eight hours, appearing as a deep red nodule surrounded by a pink halo. A tuberculin reaction when positive cannot be accepted alone as evidence for the necessity of treatment; it merely indicates that the person has been infected, and to be infected has not the same significance as to be affected, although infants giving a strong positive reaction without evidence of active or latent tuberculosis should always be kept under supervision and examined from time to time. If reaction occurs and is associated with latent tuberculosis, it is advisable to keep the child under constant supervision, and to advise such prophylactic measures as extra nourishment and admission to an open-air school. By latent tuberculosis[6] I mean a lesion which is unaccompanied by symptoms evident to patient or friends, or by physical signs recognizable by the physician, and which is detected only by tuberculin reactions and by characteristic changes shown on *x*-ray films. In relation to the various tuberculin tests, it should be recalled that in grave tuberculosis the test may be negative, and sensitivity may be reduced or absent after pneumonia, enteric fever, influenza, pertussis, or measles, and in other conditions affecting adults, among which is pregnancy.

Reviewing the various points upon which we may depend for a diagnosis, I would rely upon the following factors:

1. The presence of physical signs and symptoms.
2. Definite involvement of the parenchyma, lung hilum, or both, as revealed by *x*-ray examination.
3. A positive reaction to a tuberculin test.
4. The demonstration of tubercle bacilli.
5. A history of exposure within the family.

The first and fifth may be very difficult to establish, and their absence should never be regarded as conclusive evidence in ruling out a diagnosis of tuberculosis. The fourth, too, is not always positive, and although conclusive when present, is no more a *sine qua non* than the presence of a positive sputum in adults. A positive tuberculin test and a positive *x*-ray examination, when other causes for the condition in the lung have been ruled out, may be accepted as sufficient for a positive diagnosis in many cases.[7]

PROPHYLAXIS

The incidence and death rates for tuberculosis among adolescents are high in this country, and are said to be so because the "infantile period," as far as tubercle is con-

cerned, is the "neglected period" from the point of view of diagnosis and treatment. In the past we have given much attention to the isolation and palliative treatment of large numbers of chronic infectious cases of tuberculosis in Birmingham, removing the patients from their homes to hospital pavilions in sanatoriums, in an endeavour to prevent spread of infection among other members of the family. This procedure has possibly influenced the accelerated decrease in the tuberculosis mortality rate which has occurred during recent years in Birmingham. The percentage decrease[12] between the five years 1883 to 1887, and a similar period 1898 to 1902, was 4.15, while the percentage decrease between the five years 1903 to 1907, and a similar period 1918 to 1922, was 24.24.

In my opinion, rigorous and compulsory segregation of all infective cases would in many instances be a harsh procedure, and might defeat the end in view; voluntary segregation, however, practised benevolently and secured by tactful and sympathetic persuasion, should be aimed at. If this is to succeed, the patients with advanced disease should not be exposed to the open air to the same extent as ambulant patients, and, so far as visitors and recreations are concerned, they may with advantage be granted concessions which would not be given to more robust patients with early disease. The object is to get them into the sanatorium for long periods as often as possible when they are infective, unable to work, and ineffectively isolated at home. The larger the percentage of deaths from pulmonary tuberculosis occurring in these hospital pavilions the better for the community. This alone is insufficient to break the vicious circle of tuberculosis infection within the family, unless at the same time vigorous measures are adopted to diagnose and treat tuberculosis in infancy and early childhood, which would be facilitated if the departments dealing with infant welfare and tuberculosis co-operated more closely. The infant welfare departments would help greatly by passing on to the tuberculosis department definite and suspected cases of tuberculosis, or any infants who gave a positive tuberculin reaction, in order that both the infant and the family of which it was a member might be investigated. A positive tuberculin reaction in an infant is frequently the first indication of the presence of tuberculosis in the family circle,[13] and the suspected child is often the first link in a chain of events leading to the diagnosis of tuberculosis in a parent. Measures designed to prevent the spread of tuberculosis can only be regarded as efficient if the family is treated as the unit for investigation.

The number of contacts which can be examined in any clinic depends entirely upon the size of the medical staff, but a majority of the cases dealt with should be children, and they should be kept under supervision for long periods, with re-examination at intervals, and the investigation should always include an *x*-ray examination and a tuberculin test. Arrangements should be made to prevent, as far as possible, continuous exposure of the contact child to infection. Co-operation between the two departments might also be extended to provide residential accommodation for the ante-natal and maternity care of pregnant women suffering from pulmonary tuberculosis. After the puerperium, these patients should be admitted to sanatoriums for prolonged periods, and their infants might be placed with advantage in a pavilion attached to a babies' hospital, which would fulfil the requirements of a "preventorium." Such arrangements would mean additional expenditure, but if they helped to lessen an appreciable amount of infantile infection and subsequent adult disease they would be justified.

The use of pasteurized milk[8] has been shown to diminish the mortality rate from non-pulmonary tuberculosis between the ages of 1 and 4 years, but has little effect upon the mortality rates during the first year of life. The first infection of a young child with tuberculosis is said by some authorities to confer a certain amount of immunity, but this is not always sufficient to withstand massive doses and continuous exposure. If the primary tuberculous infection of a child is not overwhelming and lethal in its effect, a condition of latent tuberculosis may result. Opie[10] suggests that latent tuberculosis increases resistance and occasionally affords complete protection from subsequent disease; it is nevertheless a source of danger, because it may be transformed into active progressive disease, and any immunity it confers should be regarded as limited and transient only. In adults[11] who show no scars of an infantile infection, and who subsequently develop tuberculosis, the disease assumes the characteristics of childhood infection, and may pursue a rapidly fatal course. This has been observed particularly among the negro races, and suggests that infantile infection confers some immunity.

Production of Immunity

In recent years attempts have been made to produce immunity in infants by the inoculation of tubercle bacilli that have been attenuated in virulence. Calmette and his fellow worker Guérin have practised this extensively. The method adopted is to give by the mouth 1 cg. on the third, fifth, and seventh days of life. If a positive tuberculin reaction does not result, they suggest giving one-fortieth to one-twentieth of a centigram of the vaccine subcutaneously. Where this is done a positive tuberculin reaction is obtained within six to eight weeks. About 200,000 infants are reported to have been treated in this way. Calmette's views as to the freedom from danger of this method of treatment have not been universally accepted. Fears have been expressed that an avirulent strain of bacilli, when injected into the human body, might regain its virulence.

CONCLUSIONS

In our attempts to prevent tuberculosis we cannot emphasize too strongly or too frequently that it is a communicable disease, and that it is therefore a family disease; when an adult in the family suffers from the disease and no precautionary measures are taken, it has been shown that he may infect 50 per cent. or more of the younger members of the family. It follows, therefore, that the family as a whole, and not the patient alone, should be the unit for investigation and continued supervision. Children with active disease should be given prolonged periods of treatment in a sanatorium in which provision is made for the schooling of those whose condition allows of it. Children with latent tuberculosis, and those who give a positive reaction to the tuberculin test, should be kept under supervision for prolonged periods. Everything possible should be done to provide them with adequate food and clothing, and to remove them from continuous exposure to infection in the home.

The radiographs illustrating this article were taken by Mr. W. H. Smith.

REFERENCES

1. Smellie: *Birmingham Med. Rev.*, v, 1.
2. Krause: Decline of Mortality from Tuberculosis Among Infants and Children, *Boston Med. and Surg. Journ.*, 1926, June.
3. Myers: *Tuberculosis Among Children.*
4. Krause: *Amer. Rev. of Tuberculosis*, 1925, xi, 303.
5. Riviere: *Early Diagnosis of Tubercle.*
6. Opie: Infection with Tuberculosis in Children and Adults, *Journ. of Outdoor Life*, 1927, xxiv, 274.
7. Myers: *Tuberculosis Among Children.*
8. McPhedran: Henry Phipps Institute, 21st Report.
9. Myers: *Tuberculosis Among Children.*
10. Opie: Infection with Tuberculosis in Children and Adults, *Journ. of Outdoor Life*, 1927, xxiv, 274.
11. Idem: Spread of Tuberculosis within Families, *Journ. Amer. Med. Assoc.*, 1926, lxxxvii.
12. Philip, Sir R.: *British Medical Journal*, 1931, i, 43.
13. Myers: *Tuberculosis Among Children.*

PULMONARY ARTERIO-SCLEROSIS

BY

C. G. PAINE, M.B., B.S.

CLINICAL PATHOLOGIST, ROYAL INFIRMARY, SHEFFIELD

AND

ROBERT PLATT, M.D., M.R.C.P.

MEDICAL REGISTRAR, ROYAL INFIRMARY, SHEFFIELD

(*With Special Plate*)

The term pulmonary arterio-sclerosis implies a disease or syndrome the outstanding features of which are referable to arterio-sclerosis of the lesser circulation, this lesion being the predominant pathological finding. Whether or not the involvement of the pulmonary arteries is secondary to pre-existing disease—syphilitic or non-syphilitic—of the lungs themselves, if the results of such involvement alter the entire course of the disease and produce a recognizable clinical picture of their own, the term will still have its significance in diagnosis. The word "arterio-sclerosis" we retain as being clinical rather than pathological, and implying any change leading to thickening of the vessel wall. The syndrome of pulmonary arterio-sclerosis has also been described under the name of Ayerza's disease, or Ayerza-Arrillaga's disease, but as some writers have restricted the use of these terms to cases of syphilitic origin, and as neither Ayerza nor Arrillaga has an undisputed claim to being the first to recognize the syndrome, it appears preferable to adhere to a more descriptive terminology.

Vieussens in 1706 was probably the first to describe the pathological condition of pulmonary arterio-sclerosis. Ayerza in 1901 described in clinical lectures the syndrome of right ventricular hypertrophy, cyanosis, and polycythaemia (cardiacos negros) in patients with certain chronic pulmonary disorders, which his pupil Arrillaga, in a thesis published in 1913, correlated with the anatomical finding of sclerosis of the pulmonary artery. Posselt[1] (1908) had, however, already published his paper describing the clinical and pathological features. Cheney[2] in 1927 described two cases, and gives in his paper a complete bibliography (forty cases in all) up to that date. About twenty-five more have since been described. In the majority of the reports the diagnosis has been made only after the patient's death, and it therefore seems to be of sufficient interest to record here three cases, in which a clinical diagnosis of pulmonary arterio-sclerosis was made, together with details of the post-mortem findings.

CASE I

Female, aged 52, married. First seen by one of us on February 5th, 1928. She had suffered from bronchitis, especially in the winter, for many years, and had noticed gradually increasing dyspnoea on exertion. About four months previously there had been a rather rapid change for the worse; since then she had been confined to bed, the chief symptoms of this latter period being swelling of the legs, abdomen, and arms, more severe dyspnoea, and cyanosis of the face, mucous membranes, and extremities. The patient was propped up in bed, but lying over towards her right side, in which position breathing was not obviously distressed so long as she remained still. Cyanosis was extreme, and of a deep blue-purple shade. There was pronounced oedema of the legs, back, and arms (especially the right arm), and extreme ascites, so that the abdominal organs could not be examined. There was considerable emphysema, bronchitis, and congestion of the bases of the lungs. The apex beat of the heart could not be made out, but the right border appeared to be at least one and a half inches to the right of the sternum. The heart sounds were normal. There was no pronounced arterio-sclerosis of the brachial, radial, or retinal arteries; the blood pressure was 130/70. A provisional diagnosis of pulmonary arterio-sclerosis was made, and she was admitted to the Royal Infirmary under Professor Mellanby on February 6th, remaining in about the same condition until midnight of March 23rd, when she vomited a large quantity of blood, and died. During the time she was in hospital the urine was scanty, of fairly high concentration (specific gravity 1020 to 1026), and contained a trace of albumin. The blood count on February 8th showed 6,480,000 red cells per c.mm., haemoglobin 100 per cent., white cells 8,400 per c.mm. A paracentesis of the abdomen was performed, 13½ pints of clear fluid being removed. Owing to the oedema, four attempts to remove blood from a vein (for Wassermann test) were unsuccessful.

At the post-mortem examination a generalized oedema, most marked in hands and feet, was found. There was marked oedema of all tissues internally. The pericardium showed increase of clear, straw-coloured fluid, "milk-spots" on right ventricular wall. There was a marked dilatation and hypertrophy of right ventricle; right auricle dilated; valves normal. Very little atheroma of the aorta present. Trachea normal; extensive oedema of lungs, resistant on section; marked atheroma of pulmonary artery, especially in the smaller branches; emphysema of anterior borders of the lung. Excess of clear fluid in pleurae. Apical adhesions on both sides. Other organs showed changes of passive congestion, and do not warrant special description. Histological examination demonstrated atheroma of pulmonary artery and its branches. There was an apparent increase in fibrous tissue round the smaller vessels, but there was no sign of any change in the muscle or intimal coats. Elastic tissue of vessels normal. Oedema, slight anthracosis, catarrhal bronchiolitis, and emphysema were also present.

CASE II

Female, aged 63, married. She was admitted to the Royal Infirmary under Dr. Yates on the evening of November 11th, 1929. She had always had good health until two years before, when she first noticed shortness of breath on exertion. Some months later she noticed swelling of the ankles, which was more pronounced towards evening. In the previous seven weeks she had become very much worse, the swelling having spread to the abdomen. According to her husband, she had some "winter bronchitis" for a few years, and had been cyanosed for some weeks. On examination extreme plum-coloured cyanosis was present, but the patient at rest in bed, with the head and shoulders supported, was not markedly dyspnoeic. There was considerable oedema of the legs, and a large ascites. The left border of the heart was 4 inches, the right 2½ inches, from the mid-line. The heart sounds were normal. The liver dullness extended 4 inches below the right costal margin. The blood pressure was 130/62. There was no pronounced general arterio-sclerosis. The lungs showed no great degree of emphysema, but adventitious sounds were present throughout. The patient was too ill for a very thorough examination to be made, and died three days after admission. The diagnosis of pulmonary arterio-sclerosis was made by exclusion of other conditions which could account for such a degree of cyanosis and failure of the right ventricle. Unfortunately a blood count and Wassermann test were not performed before the death of the patient.

Post-mortem Examination.—Pericardium: excess of clear fluid. Heart: dilatation and hypertrophy of right side; myocardium dark and firm; fibrosis in tips of papillary muscles on the right side; atheromatous plaques at bases of mitral and tricuspid valves; no stenosis. Aorta: atheroma at efflux of great vessels; atheromatous ulceration and calcification in abdominal aorta. Pulmonary artery and branches: marked atheroma. Trachea normal. Lungs: marked congestion at both bases; emphysema of both anterior borders; vessels showed numerous atheromatous plaques, most marked in areas midway between hilum and pleura; in places the lumen of the vessels was almost occluded. Pleurae: excess of clear fluid. The remainder of the organs showed no abnormality except passive congestion. Material from lung near hilum on histological examination showed atheroma, with slight medial hypertrophy; material from half-way between hilum and pleura showed most pronounced changes. There was a slight degree of emphysema, with oedema, congestion, and areas of haemorrhage. The smaller vessels of the pulmonary circulation were greatly thickened owing to medial hypertrophy. No intimal changes were noted. The bronchial vessels were in all areas quite normal. (See Figs. 1 and 2, Special Plate.) Some anthracosis and catarrhal bronchiolitis were present.

CASE III

Female, aged 46, married. Admitted to the Royal Infirmary under Dr. Yates, January 27th, 1931. For thirty years she had suffered from bronchitis and shortness of breath. In October, 1930, she had a severe headache and "turned dizzy," after which she was unconscious for two days. Since then she had been confined to bed, the legs having become swollen; she had been very short of breath on moving about in bed. On examination there was orthopnoea and extreme plum-coloured cyanosis. There was marked clubbing of the fingers. The legs and back were oedematous, and there was moderate ascites. The movements of the chest were symmetrical, but very restricted. Air entry poor. The percussion note was resonant throughout, breath sounds vesicular, with generalized rales and rhonchi. The apex beat of the heart was in the sixth interspace, and somewhat diffuse; the left border was 5½ inches, the right 1½ inches, from the midline. A systolic murmur was heard in the mitral area, conducted towards the axilla. The liver was enlarged to a level 3 inches below the costal margin. The sputum was mucopurulent, and contained no tubercle bacilli. The red blood count was 5,200,000 per c.mm., haemoglobin 85 per cent. Albumin was present in the urine, which was scanty and of normal concentration (specific gravity 1012 to 1020). The non-protein nitrogen of the blood was 43 mg. per 100 c.cm. The Wassermann reaction was negative. The combination of right-heart failure, with extreme cyanosis and the history of chronic bronchitis, suggested the possibility of pulmonary arterio-sclerosis, especially as there was no pronounced emphysema. There was no marked change in the patient's condition during her stay in hospital, and she died on February 19th, apparently from heart failure.

At the post-mortem examination the pericardium was found to contain excess of clear fluid. Gross dilatation of heart and hypertrophy of right side; left side normal. Muscle pale, but firm; no fibrosis or fatty degeneration. Valves: slight atheromatous change at base of mitral and aortic cusps; marked atheroma at base of tricuspid flaps. Aorta: very little atheroma. Pulmonary arteries showed marked atheromatous change. Pleurae: excess of clear fluid. Lungs: dark in colour; bronchi very firm and stood out above the cut surface, filled with thick tenacious muco-pus; marked oedema at both bases; very small vessels just beneath pleura remained patent, and stood out above the cut surface; slight anterior border emphysema, of compensatory type. Mediastinal glands: marked carbon pigmentation. Other organs showed evidence of passive congestion only. On histological examination the lungs showed marked passive congestion. Bronchi and bronchioles gave evidence of long-standing inflammation; there was pronounced muscular hypertrophy, submucous fibrosis, and formation of granulation tissue. The contents of the lumen demonstrated a catarrhal bronchitis, and in places there was a squamous metaplasia. The bronchial arteries were normal throughout. The pulmonary artery and its main branches showed marked atheroma. Some of the smaller pulmonary arteries were normal; others showed extreme degrees of arterio-sclerotic change. There was a well-marked muscular hypertrophy; whereas the bronchial arteries in cross-section were flattened, these remained circular. This was accompanied by hypertrophy and reduplication of the internal elastic lamina. Internal to this was a very exuberant proliferation of the subintimal connective tissue. (See Figs. 3 and 4, Special Plate.) Within this subintimal fibrous hyperplasia were found small vascular channels, giving the appearance of recanalization after thrombosis, but the muscular hypertrophy and elastic reduplication denoted that the change was an arterio-sclerotic and not a thrombotic one.

DISCUSSION

The cases described have occurred in a series of 700 post-mortem examinations, and are therefore of some rarity. The three examples have one feature of their morbid anatomy in common—namely, extensive atheroma of the pulmonary artery and of its branches. Pulmonary atheroma is a concomitant of pulmonary arterial hypertension. Hypertension may be due to theoretical pressor substances, or to mechanical obstruction, which may act in the venous, capillary, or arterial parts of the circulation. Mitral stenosis is the commonest cause of pulmonary atheroma, and is an example of venous obstruction. Capillary obstruction is exemplified by emphysema, wherein there is a marked reduction in the total capillary bed. Pulmonary arterio-sclerosis is the example of obstruction to the arterial portion of the lesser circulation, and the arterial changes bear a striking resemblance to those found in chronic interstitial nephritis.

At post-mortem examination none of the three cases showed any valvular lesion. All three showed varying degrees of emphysema, together with signs of passive congestive heart failure. Microscopically, two of the cases disclosed hypertrophy of the muscular coat of the pulmonary arteries, and one of these had a secondary subintimal hyperplasia in the small vessels of the lung tissue adjacent to the pleural surface. A striking feature was that the bronchial arteries, being members of the systemic circulation, showed no change in the muscle coats, the sclerosis being confined entirely to the pulmonary vessels. Other features worthy of mention were an absence of microscopical evidence of syphilis and the presence of chronic bronchitis and bronchiolitis. Thus, right-heart failure, the cause of death in all three cases, was due in the first case to emphysema, and in the others to pulmonary arterio-sclerosis, all three being complicated by inflammatory disease of the bronchi and bronchioles.

The clinical features of the three cases were very similar, and fit in well with the descriptions in the literature, yet in the first case histological examination failed to reveal evidence of pulmonary arterio-sclerosis (other than atheroma) sufficient to warrant the case being recorded as an example of this syndrome. It appears, therefore, that with the clinical methods at present available only a provisional diagnosis can be made, microscopical examination of the lung being necessary before final proof is established. Pulmonary arterio-sclerosis is not the only syndrome, however, in which clinical diagnosis is somewhat uncertain, and a summary of the outstanding features which suggest the diagnosis is therefore not without importance.

The disease, whether syphilitic or otherwise, is preceded by a bronchitic stage, which may last for many years, and takes the form of chronic bronchitis with mucoid or muco-purulent sputum, and occasionally haemoptysis. The cardiac stage, which succeeds this, is divided by Nathan[3] into a period of compensation, in which the colour is reddish-purple, the right heart enlarged, the pulmonary second sound loud, and polycythaemia present, and a final stage of right-heart failure (cardiopathie noire, cardiacos negros) in which the patient develops the typical extremely deep blue-violet, or almost black, cyanosis, with generalized oedema, congestion of the lungs, haemorrhages, somnolence, and sometimes anginal pain. Clubbing of the fingers has been noted, but is not a constant finding. It was present in only one of our cases. According to Yater and Constam,[4] radiograms reveal a widening of the pulmonary artery with enlargement of the right auricle and ventricle, but no increase of the pulmonary veins or left auricle. Points which seem to us most suggestive of the diagnosis are: (1) a history of chronic pulmonary disease (bronchitis); (2) the presence of extreme cyanosis out of all proportion to the degree of dyspnoea, accompanied by polycythaemia, and enlargement of the right heart without valvular disease; (3) rapid development of oedema, which often affects the arms as well as the legs and abdomen. The diagnosis is more certain in the absence of pronounced emphysema.

REFERENCES

[1] Posselt, A.: *Münch. med. Woch.*, 1908, lv, 1625
[2] Cheney, G.: *Amer. Journ. Med. Sci.*, 1927, clxxiv, 34.
[3] Nathan, M.: *Presse Méd.*, 1927, June 18th, 773
[4] Yater, W. M., and Constam, G. R.: *Med. Clin. N. Amer.*, 1929, xii, 1689.

LINES OF ARRESTED GROWTH IN THE LONG BONES OF DIABETIC CHILDREN

BY

H. A. HARRIS, D.Sc., M.B., B.S.

ASSISTANT PROFESSOR, INSTITUTE OF ANATOMY, UNIVERSITY COLLEGE, LONDON; ASSISTANT TO THE MEDICAL UNIT, UNIVERSITY COLLEGE HOSPITAL

(*With Special Plate*)

During the last seven years the rate of growth of the long bones in health and disease has been studied radiographically with a view to ascertaining the susceptibility of bone to nociceptive influences.[1 2 3] As the acute exanthemata in children consistently produced an arrest of growth which was accurately registered in the radiograms of the long bones, the problem arose whether the metabolic disturbance of growth was due to pyrexia, anhydraemia, or deficiency or unsuitable intake of food. Accordingly opportunity was taken to examine cases of disease presenting no pyrexia. Diabetic children were therefore examined radiographically, with the result that multiple lines of cessation of growth were found to be a constant feature whenever the disease was of long standing. Three cases have been selected as illustrative of the simultaneous control by insulin of the disease and of growth.

CASE I

A girl, aged 13, was brought to the Mayo Clinic in March, 1924, with a history of an acute onset of diabetes three weeks previously. The condition was controlled by the administration of 10 units of insulin night and morning. Owing to the occurrence of abnormal variations in the general condition, the parents permitted the child to go to hospital for subsequent periods of about ten days in October and November, 1924, in May and June, 1925, and in June, 1926. A radiogram of the knee joint of this patient, for which I am indebted to Dr. Russell M. Wilder, displays multiple lines of arrested growth (Fig. 1, Special Plate). In May, 1925, a note was made by Dr. Wilder that the patient was "following the regime reasonably conscientiously, and has been sugar-free at all times except twice after dietary indiscretions." Menstruation began in November, 1925, and was regular until March, 1926, then influenza was followed by dysmenorrhoea and amenorrhoea. A radiogram of the chest showed healed tuberculosis of the upper left lobe.

The radiogram shows more than ten transverse lines in the diaphysis of the femur and of the tibia. Obviously, the clinical history is not sufficiently detailed or accurate to determine those lines of cessation of growth due to influenza, those to uncontrolled diabetes, those to dietary excess whilst taking insulin, and those to negligence in regularity of the insulin treatment. The multiplicity of the lines indicates the variations in the rate of growth in the patient, negatives the view that the lines are seasonal, and illustrates the difficulties involved in ascribing to a given line the exact cause of the arrest of growth.

CASE II

A girl, aged 12, was under the care of Professor T. R. Elliott for a period after August, 1923, when she was admitted to hospital with glycosuria. Insulin was administered and the glycosuria was controlled. The patient was readmitted in October, 1923, in May and July, 1924, in March, August, and October, 1927. Throughout the period the glycosuria was fairly well controlled. Any failure brought the child to hospital for further alteration in the diet or in the insulin dosage. The only acute infection suffered by this child was chicken-pox in March, 1927.

The radiogram (Fig. 2, Special Plate) taken in November, 1927, shows a series of distinct transverse lines of arrested growth. Eight transverse lines can be clearly identified on the radiogram, and these correspond closely with the seven admissions to hospital and the one attack of chicken-pox.

CASE III

A boy, aged 6½, was admitted to hospital in January, 1928. He had an excessive appetite, much thirst, and was losing flesh. Sugar had been detected in the urine one week previously, when he developed an attack of diabetic coma. This child, formerly very bright and active, had no experience of illness until he was four years old, when he had chicken-pox, with attacks of "asthma," which appeared frequently as an expression of any slight "cold." The boy had mumps in May, 1925, and severe measles in April, 1926. He responded well to insulin treatment, and now, at 7 years of age, weighs 55 lb.

A radiogram of the knee-joint, taken in January, 1928, shows a well-marked line of arrested growth in the diaphysis of the femur and of the tibia at a distance of about 1.5 cm. from the epiphyseal cartilage. This distance corresponds to the average amount of growth in the shaft at this age for a period of fourteen to twenty months, and one is justified in suggesting that this line is attributable to the attack of measles in April, 1926. Between the epiphyseal cartilage and the diaphysis is a band of dense calcareous deposit due to the arrest of growth resulting from the acute attack of diabetes. It will be of interest to watch this child further.

COMMENTARY

Lines of arrested growth in cases of diabetes were shown before the Anatomical Association in 1926,[1] and again by Professor Elliot Smith[4] in the same year. In September, 1927, Morrison and Bogan,[5] in the routine examination of sixty-eight diabetic children, discovered thirty-six cases with multiple transverse striae. They state that the transverse striae of the long bones are found in a larger percentage of diabetic than of normal children, but failed to associate the transverse lines with the onset of the disease. It is obvious that for the explanation of cases presenting multiple lines a complete clinical history of all infectious diseases, both severe and mild, is essential, since it has already been shown that the bone registers the arrest of growth to an extent which is more delicate in many cases than the subjective symptoms of the patient.

Radiographic examination of the long bones at stated intervals is a valuable means of recording the repeated arrests of growth in children suffering from metabolic diseases such as diabetes. The lines of arrested growth tend to persist in the bones adjoining joints with a movement essentially monaxial—for example, ankle or knee. The bony lines of arrested growth are absorbed rapidly at the wrist and elbow in accordance with the rapid remodelling in an area subjected to bending strains and torts. Moreover, the rate of absorption is determined largely by the degree of function, so that the bed-ridden child tends to preserve these lines in the bones of the lower limb, whereas in the upper limb the movements involved in eating, playing, and fidgeting lead to rapid absorption of the lines of dense bone in conformity with the continuous process of change which characterizes the functional use of the part.

REFERENCES

[1] Harris, H. A.: *Arch. Int. Med.*, 1926, xxxviii, 785.
[2] Idem: *Lancet*, September 8th, 1928, 489.
[3] Idem: *Quart. Journ. Med.*, 1928, xxi, 499.
[4] Smith, Elliot: *Lancet*, November 6th, 1926, 943.
[5] Morrison and Bogan: *Amer. Journ. Med. Sci.*, 1927, lxxiv, 313.

CONCENTRATED ANTIPNEUMOCOCCAL SERUM IN THE TREATMENT OF LOBAR PNEUMONIA

BY

R. R. ARMSTRONG, M.D., F.R.C.P. AND R. S. JOHNSON, M.D., M.R.C.P.

(Research Laboratory, St. Bartholomew's Hospital)

(*With Special Plate*)

The following case appears to be of exceptional interest, as it illustrates unusual features in the onset, treatment, and termination of primary lobar pneumonia.

Clinical History

A robust young man, aged 19, was admitted to hospital at midday with a clinical history of the onset, at 8 o'clock in the morning, of sudden severe abdominal pain, chiefly in the left upper quadrant. He had nausea, but no vomiting; the bowels had acted that morning. There was no history of dyspepsia or of any abdominal symptom, no rigor, and no cough.

The pain continued, and was of such an agonizing character that the patient was immobilized and almost speechless. His face was drawn and livid, pulse 110, respirations 24, temperature 97° F. The abdomen was as rigid as a board, and extremely tender. The liver dullness was normal; no urine was available; rectal examination was negative; there were no physical signs in the lungs.

Under general anaesthesia (gas, oxygen, and ether) the abdomen was opened from the costal margin to the umbilicus by a right paramedian incision. A careful examination was made, of the stomach in particular, but nothing abnormal was found. The abdomen was closed without drainage.

The possibility of acute lobar pneumonia remained to be considered, and events soon confirmed a tentative diagnosis of this disease, for the temperature began to rise, and by evening a pleural friction was detected in the right axilla.

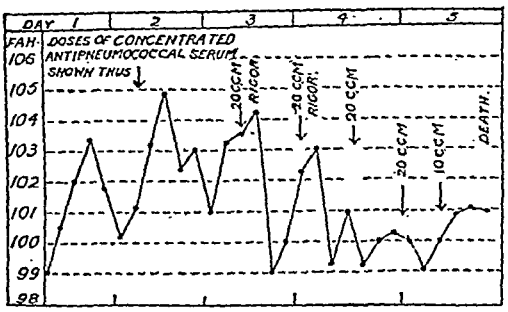
The picture of lobar pneumonia had become clear by the following day, there being widespread pleural friction and impairment of percussion note on the left side, and that evening, thirty-two hours from the onset of his illness, the patient expectorated a fleck of dark, heavily blood-stained sputum. The second day passed with every symptom of a lobar pneumonia of increasing severity, the pulse rate at night reaching 180 per minute. Forty-eight hours from the onset of the illness a radiograph of the chest was taken (Fig. 1, Special Plate), and the report was as follows:

Heart and trachea: not displaced. Right lung field: the upper zone is clear. There is an opacity in the mid zone, and in the lower zone an extension downwards towards the diaphragm of the hilar shadows. Left lung field shows a uniform opacity from apex to base, which is slightly clearer in the upper zone than towards the base. The appearances are consistent with a pneumonia of the left base, with either consolidation or thickened pleura above this. There is also an inflammatory lesion of the right mid and lower zones, which is either resolving or has not yet reached the stage of complete consolidation.

Examination of the sputum, which was now copious, fluid, and deeply blood-stained, showed large numbers of pneumococci. Type was determined in four hours by the rapid method described in the *Journal* of February 7th (p. 214),[1] and 20 c.cm. of the corresponding Type I concentrated antipneumococcal serum (Wellcome) was immediately administered intravenously, sixty hours from the onset of symptoms.

The patient was now desperately ill, and all the classical signs of consolidation of the left lung were present. The patch of pleurisy in the right axilla persisted, with accompanying bronchitis. The heart was normal in size and position. There was a well-marked albuminuria. No immediate shock accompanied the serum injection, but a rigor followed within an hour, as depicted on the Chart.

Twelve hours later, in the morning, cyanosis and distress were less evident, the mental state was clearer, and the toxaemia obviously reduced. There was undoubted improvement. A further intravenous dose of 20 c.cm. of concentrated serum was administered, and this dose was repeated twelve hours later. Whereas a vigorous rigor without sweating had followed the morning dose, the evening administration caused little disturbance, but was followed by profuse perspiration. Progressive improvement was noted throughout this, the third day, in the mental state, in cyanosis, and in the character and frequency of the respiration. The tongue became moist and cleaner. The only adverse feature was a persistent tachycardia, rate 160, uninfluenced by full doses of digitaline during three days. In other respects the pulse was of good quality. The fourth dose of 20 c.cm. of serum was given ninety-six hours after the onset. The patient had so far improved as to demand solid food; the tongue was clean.



Careful examination of the chest left no doubt in our minds that the left lung was consolidated; typical impairment on percussion and loud bronchial breathing were present, as before, on the left; the physical signs on the right were likewise unchanged. The heart was normal in position and size, but tachycardia still persisted; it seemed permissible to attribute this frequency in part to apprehension, for the patient was much concerned about his illness. The urine was now free from albumin. At 6 p.m. the pneumonia appeared to have abated further, and the patient was drowsy and comfortable. A final dose of 10 c.cm. of serum was given, making a total of 90 c.cm. Later in the same evening, however, he became restless, and the house-surgeon, on examining the chest, found an entire absence of breath sounds over the left lung, with gastric resonance rising in front to the level of the fourth rib. The patient vomited a black fluid, and his restlessness increased. He collapsed, and suddenly died, apparently of heart failure, at 4 a.m., 114 hours from the onset of the illness.

Post-mortem Findings

A partial necropsy was performed through the abdominal wound. Except for some plastic fibrin covering the peritoneal surface of the incision—clearly reparative—the wound and peritoneal cavity were healthy. The stomach was enormously dilated, and was filled with a thin, brown-black fluid; it was thrusting up the left cupola of the diaphragm so as to encroach on the left pleural cavity. When the diaphragm was opened the left lung was found almost entirely covered by a layer of soft yellow fibrin, a quarter of an inch in thickness, by which the parietal and visceral pleurae were loosely connected, the pleural surface of the left cupola of the diaphragm being especially involved in this process. The lung was completely collapsed, flabby, and airless. On section, the cut surface was dry; there was no evidence of consolidation or of bronchitis. The fibrin envelope was loosely adherent, and easily peeled off the surface of the lung. The condition is shown in Fig. 2 (Special Plate); the fibrin shell has been stripped to show the wrinkled surface of the collapsed lung. The right lung, by comparison, was voluminous and appeared larger than a normal lung, the upper part being emphysematous. Small slate-grey areas of collapse were present only at the base. On section some congestion but no consolidation, was found; the patch of pleurisy identified during life was confirmed. The heart appeared normal in every respect, chambers not dilated, muscle firm, no pericarditis.

Microscopical Appearances

Sections of the lung, studied under the microscope, confirmed the gross appearances. There was general congestion of the vascular system, and here and there red cells had

extravasated from congested or ruptured capillaries into the alveolar lumina. At the periphery of the lung the alveoli were collapsed, and contained a few desquamated epithelial cells. At the hilum the alveoli, although not distended, contained serum, alveolar epithelial cells, and a few polymorphocytes; pneumococci were clearly seen in some of these alveoli and in places in the perivascular lymphatics. Some alveoli were crowded with polymorphs; fibrin was absent. The epithelium of most of the bronchioles was completely desquamated, but the bronchi contained little secretion, thus confirming the macroscopical appearance of the dry cut surface of the lung and differing in this respect from the picture of a lobar pneumonia as commonly observed at necropsy on the fifth day of the disease. The microscopical appearances were practically those found when resolution of a pneumonic exudate is approaching completion, except that reparative changes in the bronchiolar epithelium were not yet apparent.[2]

The Blood Picture

A blood count on the morning of the third day of the illness showed 3,900 leucocytes per c.mm. and, later in the same day, before administration of serum, 6,000 per c.mm. On the morning of the fourth day the count was 9,000 per c.mm., and of the fifth 11,400 cells per c.mm., in each case before serum was given. The low cell count indicates a severe type of disease and failure of response on the part of the patient. The observed rise in the leucocyte count may be taken to indicate improvement. A sample of blood was collected post mortem, the serum separated, and the protective power estimated by mouse test. The patient's own pneumococcus was used; this was of maximum virulence, one ten-millionth of a cubic centimetre of a sixteen hours' blood-broth culture proving fatal to mice in forty hours. It is significant that the Type I antibody content of this serum was considerable, one-fifth of a cubic centimetre actually protecting mice against one thousand minimal lethal doses. The presence of so large a surplus of free antibody at this stage of pneumonia is, in our experience, clear evidence that the primary infective process has been overcome.

DISCUSSION

Gastric atony is a recognized complication both of lobar pneumonia and of acute abdominal disease and operation. Paresis, or even paralysis of the diaphragm, is apt to follow diaphragmatic pleurisy. Any or all of these factors may have contributed to the collapse of the lung. That the abdominal section had caused a severe disturbance of the autonomic nervous system was evident from the persistently rapid pulse uninfluenced by digitaline. The subsequent events are therefore easily understood.

The absence of consolidation of the left lung, which made complete collapse possible on the fifth day of the illness, is explicable on one hypothesis only—namely, that the antipneumococcal serum had entirely changed the normal sequence of intrapulmonary events. A state of fluid serous exudate into the pulmonary alveoli, characteristic of the second or third day of lobar pneumonia, must largely have persisted, instead of the comparatively static condition of solid hepatization proper to the fifth day. It seems probable that absorption of this fluid exudate must have been in rapid progress, and that the collapse of the lung, occurring over the period of about eight hours which preceded death, accelerated the expulsion of the inflammatory products.

Meanwhile, this remarkable case appears to us to afford unassailable evidence in favour of the use of concentrated antipneumococcal serum early in pneumonia. Had it not been for the unfortunate and purely accidental collapse of the lung, we are confident that our patient would have made a good recovery.

SUMMARY

The salient features of this case are as follows:

1. The onset exactly simulated an acute abdominal emergency.

2. The course of the case (excluding the unavoidable accident which caused death) illustrates the type of response to be anticipated from serum treatment of primary lobar pneumonia, due to the pneumococcal Types I and II, when exhibited early in the disease.

3. The pathological changes which successively follow in lobar pneumonia appear to have been profoundly modified by serum treatment, so that the normal process of inflammation has been curtailed and the disease process aborted.

4. The radiographic evidence and the careful study of physical signs prove beyond doubt that the lung was at one stage the seat of what is described as pneumonic consolidation. The findings post mortem show that the resolution of this process was almost complete by the fifth day of disease.

The observations recorded form part of an inquiry into the serum treatment of pneumonia undertaken by us for the Medical Research Council.

REFERENCES

[1] Armstrong, R. R.: *British Medical Journal*, 1931, i, 214.
[2] Armstrong and Gaskell: *Journ. Path. and Bact.*, 1921, xxiv, 369.

THE MODERN CONCEPTION OF EARLY PHTHISIS*

BY

H. V. MORLOCK, *M.C.*, M.D., M.R.C.P.

PHYSICIAN TO OUT-PATIENTS, VICTORIA PARK HOSPITAL; ASSISTANT PHYSICIAN TO THE MILLER AND THE HAMPSTEAD GENERAL HOSPITALS

(*With Special Plate*)

In order that I may make clear the new teaching, I shall first give a short summary of the old doctrine on this subject, which was that phthisis developed from a small discrete lesion situated just below the apex of the lung. The ulcer might heal to form an apical scar, or, on the other hand, might slowly progress to involve the surrounding lung tissue, and thus gradually spread the disease from apex to base. This orthodox view had its foundation among the pathologists, who, in thousands of necropsies on cases of pulmonary tuberculosis, found the oldest lesion in the apical region, with less intense involvement of the lower parts of the lung; further, they discovered an apical scar in 95 per cent. of patients who had not died from pulmonary tuberculosis. They therefore argued that in those cases in which pulmonary tuberculosis developed it most probably had its origin in the apical region, from which it spread downwards. The clinical interpretation placed on this teaching was that the first signs of pulmonary tuberculosis were usually found in the apical region, that the disease was of slow, insidious onset, and that it spread from apex to base. Further constitutional symptoms (pyrexia, anorexia, loss of weight, and lassitude) were often shown some considerable time before the disease process gave rise to physical signs in the chest. Therefore, in the diagnosis of the early case of phthisis, great stress was laid on the history of constitutional symptoms, and physical examination was concentrated on the apical regions. Doubts were first cast on this old teaching by statistical evidence when it was established in Germany that, in 1,438 cases[1] in which this apical lesion was diagnosed, only 7 per cent. developed phthisis; yet the death rate from this disease among the general population was 10 per cent. In other words, patients who were regarded as early cases of the disease did not develop the disease with any greater

* An address delivered to the general practitioners of Bermondsey.

frequency than the average population. This suggests that the apical scar is unlikely to be the starting point of phthisis.

A New Doctrine

The new teaching owes its conception to the work of Assmann,[2] Lydtin,[3] and, above all, to Redecher,[4] who examined series of skiagrams of tuberculous patients, and, by this means, was able to follow the course of the disease in some of his patients from the earliest manifestation. Beginning at the stage of initial or early infiltration, he was able to see in various patients the development of this condition into all the various forms of phthisis, previously described by the pathologists as originating in the discrete apical lesion. The new doctrine has thus been founded on radiological findings, while the old conclusions were deduced from the post-mortem room. As a broad principle, we may take it that we are less likely to fall into error by observing the course of a disease than by making deductions from the end-result seen at necropsy.

Redecher says that phthisis first develops as an acute infiltration of the lungs. This is shown on the skiagram as a definite soft shadow, the margins of which are not sharply defined. The lesion may develop in any part of the lung field, and it may vary in size from that of a cherry to that of an apple. The commonest site is the infraclavicular region, but frequently it occurs in the middle field, the basal field, and, now and then, at the apex. This initial infiltration (which is represented by a small area of broncho-pneumonia, surrounded by a perifocal inflammation) may occasionally heal with or without treatment, leaving only a scar; generally, if left without treatment, it spreads by one or more of the ways described below.

Method of Spread

The changes may occur in a very short time; it is not a matter of months, but a question of weeks at the most, possibly only days; once a spread has taken place, the disease becomes much more difficult to control.

1. The initial infiltration spreads by small aspiration broncho-pneumonic areas forming around the initial lesion.

2. Coincident with the aspiration spread, or occasionally before an aspiration spread has formed, the initial infiltration may undergo caseation, and cavity formation takes place. This latter process may occur in the short space of four or five weeks, or less.

3. While the initial infiltration still appears to be intact, there may appear in another part of the lung, or the other lung, a second infiltration—the so-called "daughter infiltration," which is probably an aspiration spread. The daughter infiltration may follow a course similar to that of the initial infiltration. If the aspiration process goes on increasing and unchecked, the condition becomes one of acute phthisis. If, however, the disease process is slowed down, a certain amount of fibrosis takes place; cavities already developed become thick-walled, the aspiration spreads show tendency to fibrotic changes, and the picture develops into one of chronic phthisis.

Clinical Features

If we accept the initial infiltration as the earliest manifestation of phthisis amenable to diagnosis (most clinicians in Germany have accepted it, and an increasing number in America and in this country are now doing so) we require to know how to recognize it clinically. In a typical case, the patient, usually a young previously healthy adolescent or adult, has a short, acute, febrile attack with indefinite symptoms. Perhaps a cough is present (often the patient will not consult a doctor at this stage). The acute pyrexial attack passes off in a few days; the patient feels himself again, and returns to work, but the cough continues. Sputum may be present, but as often as not is absent at this stage. If the patient is examined during the acute febrile attack, or shortly afterwards, the physical signs in the chest may be completely absent, or, if present, will be found over the infiltration. The latter is usually in the infraclavicular region, but may be in the axillary region or base, and consists of nothing more than a slight change in the percussion note, slight alteration in breath sounds, and the presence of post-tussic crepitation. If the lesion is near the surface, friction may be heard, and the patient will complain of pain.

It will be seen that these clinical manifestations, particularly in those cases without physical signs in the chest, are extremely likely to be regarded wrongly as "influenza," and it is a fact that many are at first diagnosed as such; the febrile period having ended, the patient is allowed to return to work, the cough persists, and constitutional signs make their appearance. By the time the disease is diagnosed, the initial infiltration has broken down to form a cavity, with or without an accompanying aspiration spread. The constitutional changes—loss of weight, lassitude, anorexia, night sweats—which have long been regarded as the earliest manifestations of this disease are in reality quite late symptoms.

Diagnosis

The important point which emerges is that if we are going to discover these cases at the earliest opportunity we must suspect every acute febrile illness without physical signs in a young adult as being due to pulmonary tuberculosis, except during the time of an influenza epidemic. Then only should we rest content with the diagnosis of such a clinical syndrome as influenza. The diagnosis of influenza, except during an epidemic, is usually a false one.

A matter which should always be inquired into is whether or not the patient has recently been in contact with a tuberculous person, not necessarily at home, but in the office or factory. My experience is the same as that of Redecher and others—namely, that a large percentage of patients with initial infiltration have been in contact with an open case. The absence of history of contact with a known source of infection does not negative the possibility of the disease.

In a number of cases the first symptom is a haemoptysis. In such the physical signs are often absent, but a skiagram shows the initial infiltration. In a few the acute febrile attack continues, the patient remains ill, and physical signs develop in a very short period. These cases are less likely to be overlooked. A few have given no history of illness, and have been discovered only when examined as a routine because they have been in contact with a known case. In many instances it is the *x* ray alone which gives the first evidence of active disease.

From what I have already said it must be clear that, in order to diagnose a case in the stage of the initial infiltration, we must never wait for constitutional symptoms to appear, but, in the young adult, we must regard with grave suspicion an occurrence of the symptoms described above, paying particular attention to the examination of the chest, not only in the apical region, but in the infraclavicular regions, in the axillae, and also the bases, and never omitting to search for post-tussic crepitations. Even if the examination of the chest is negative we should not be content, but if sputum is present we should have it examined repeatedly. If no sputum is present (as is often the case at first) a skiagram must be taken. Only when these examinations have been carried out and are negative should our suspicions be allayed. If we procrastinate, we may be losing the most valuable time for instituting therapy, because, in the course of a week or two, the infiltration may break down and cavitation may occur, or an aspiration spread may take

place into the other lung, or the lesion may reach the surface, causing a pleurisy and adhesion, which will seriously interfere with a subsequent artificial pneumothorax.

In the diagnosis of early phthisis, it is far better to have a negative sputum and a negative skiagram than a missed case. Radiology plays an important part in the diagnosis of the initial infiltration, but it is not the deciding factor, for the skiagram of this lesion may bear a close resemblance to a small pneumonic area, a lung abscess, a new growth, or a gumma. It is only by taking into account the clinical history, the physical signs or the absence of physical signs, the pathological examination of the sputum, and, sometimes, of the blood for leucocytosis or Wassermann reaction, that the *x*-ray picture can be correctly interpreted. The pathologist, the radiologist, and the physician, when united, are becoming more and more powerful in the field of diagnosis of pulmonary disease. It is to be remembered that this new teaching was established by a physician, working hand-in-hand with his radiological and pathological departments.

TREATMENT

There is no doubt that a certain number of these initial infiltrations will heal and become fibrotic if the patient is given general sanatorium treatment only; on the other hand, the majority of them tend to spread if so treated, and the difficulty is that in a given case it is not possible to say whether the patient will do well on general treatment only. I have seen these cases treated by rest alone; in the majority this line of treatment has been followed by a spread of the disease, and I have wished that artificial pneumothorax had been induced at the start. This is the best form of therapy, and the longer it is delayed the greater is the possibility of a spread taking place which may jeopardize the future artificial pneumothorax. At the same time it must be admitted that artificial pneumothorax does not arrest every case, particularly if cavitation has already occurred, but the sooner it is induced the greater is the chance of success. Because of the success of early artificial pneumothorax it is imperative to diagnose intact initial infiltration before cavitation or spread has taken place.

In my previous publication on this subject I translated Redecher's "Frühinfiltrate" as "early infiltration." Zimmerli and Simmonds,[5] in a recent paper, suggest that "initial infiltration" is a better term, because the infiltration is the initial lesion of phthisis rather than the earliest manifestation of pulmonary tuberculosis in its broadest sense, which must include such lesions as Ghon's primary focus and complex. In this paper I have adopted the term "initial infiltration."

The two skiagrams reproduced (Figs. 1 and 2, Special Plate) show the typical radiological appearance of the initial infiltration. My thanks are due to Dr. V. Sparkes for the skiagrams.

REFERENCES

1 Kayer-Petersen, T. E.: *Beitr. z. Klin. d. Tuberk.*, 1928, lxx, 132.
2 Assmann, H.: Ibid., 1924, lx, 527.
3 Lydtin, K.: *Zeit. f. Tuberk.*, 1926, xlv, 273.
4 Redecher, F., and Walter, O.: *Entstehung und Entwicklung der Lungenschwindsucht des Erwachsenen*, Leipzig, 1929.
5 Zimmerli, E., and Simmonds, F. A. H.: *Tubercle*, 1930, March–May.

A CASE OF MULTIPLE OSTEOCHONDROMATA WITH OBSTRUCTED LABOUR

BY

E. J. BLACKABY, M.R.C.S., D.T.M. AND H.

DISTRICT MEDICAL OFFICER, NICOSIA, CYPRUS

(*With Special Plate*)

Bony tumours of the pelvis obstructing labour are rare, and it is uncommon to find multiple affections of this structure in the condition known as "multiple osteochondromata." The case described below is a combination of these two circumstances.

The patient was a woman of 28, well developed though of short stature (5 feet). She was married in 1928, and in the following year had a five months' miscarriage. On August 23rd, 1930, she was admitted to hospital in labour, which had been in progress for over twenty-four hours. She said that there had been slight loss of blood since the pains began, and that the membranes had ruptured. On admission her pains were frequent and strong.

On abdominal examination the lie was longitudinal, with the head above the pelvic brim. There was a definite overlap of the foetal occiput above the symphysis pubis, and the head was very freely movable between the pains. It was quite impossible to press the head down into the pelvis and to make it engage. The pubic bones seemed abnormal, but no definite opinion could be arrived at owing to the overlapping of the head. The foetal heart sounds could not be heard.

When the vagina was examined the os was fully dilated, and the presenting part was high and difficult to feel. No abnormality could be made out in the pelvic cavity. The pelvic measurements were: interspinous 9½ inches, intercristal 11 inches, and external conjugate 7¾ inches. After the vaginal examination was completed, a large bony tumour of irregular outline was noticed on the inner side of the right femur at its lower end. It felt like a large exostosis, and, according to the history, had been present since early childhood. A further examination of the bones showed similar, but smaller, masses on the opposite femur, the head and lower end of the right tibia, and the head of the left fibula. It seemed probable, therefore, that the abnormality felt on the pubic bones, preventing descent of the head, was a bony growth of similar nature. In spite of strong pains there was no advance of the foetal head, and a Caesarean section was considered the best method of delivery. This was accordingly performed, and the woman was delivered of a living and healthy male child, which weighed nine pounds. There followed an uncomplicated puerperium, and the patient was discharged from hospital on September 6th.

DESCRIPTION OF RADIOGRAMS

Radiograms taken afterwards are shown on the Special Plate. The pelvis (Fig. 1), besides showing growths of bone on its outer surface, exhibits a tumour of the superior ramus of each pubic bone on either side of the symphysis, narrowing the pelvic inlet and rendering it somewhat asymmetrical. This photograph also shows involvement of the upper ends of both femora by the disease. The right knee region (Fig. 2) shows multiple masses on the lower end of the femur and on the upper ends of the tibia and fibula. The left knee region presented similar but less extensive changes. These leg conditions caused no disability in walking. Screening of the upper limbs revealed osteochondromatous growths in the following situations: (1) upper end of the humerus on both sides; (2) upper end of the left radius; (3) distal end of the fifth metacarpal on the left hand.

TREATMENT

Treatment for so widespread a condition seemed impracticable, especially as it is said that these tumours do not grow after adult life is reached, but the patient was advised that a future pregnancy would necessitate another Caesarean delivery. The fact that she lives within easy distance of hospital influenced one against any attempt at sterilization by ligaturing and dividing the tubes at the time of operation.

COMMENTARY

This type of bone tumour starts as an enchondroma,[1] which ossifies later, near the extremities of the long bones of the limbs. According to Thompson and Miles,[2] it occurs neither in membrane bones nor in bones entirely formed from cartilage; this is borne out in this case. These authors mention involvement of the iliac crest, and Chaumet[3] also refers to a case in which a mass had formed on the anterior superior iliac spine, but no mention is made by them of the os pubis as a site. Roughly, as has been observed in other cases, there was a tendency to symmetry of the outgrowths in this particular patient. Heredity[4] is stated to play a part in the production of the condition. This patient's parents died "many years ago," and no cause of death is known. She has two brothers and a married sister, who is childless, but it was impossible to get them to come for examination; however, as far as can be ascertained, they have no deformity. The child was examined in November, 1930, and showed no signs of juxta-articular tumours.

My thanks are due to Dr. Coureas of Nicosia for taking the radiograms which are published as illustrations of this case.

REFERENCES

[1] Tubby: *Deformities, including Diseases of Bones and Joints*, Section IX, Chapter 2.
[2] Thompson and Miles: *Manual of Surgery*, p. 488.
[3] Chaumet: *Traité de Radiodiagnostic*, p. 40.
[4] Choyce: *System of Surgery*, vol. iii, p. 777.

THE HEALTH OF THE WORKER IN CHROMIUM PLATING

BY

HUBERT B. TRUMPER, B.A., B.CHIR.CANTAB.
MEDICAL OFFICER TO THE ASSOCIATION OF BRITISH CHROMIUM DEPOSITORS

Workers in this industry suffer disablement, usually temporary, from one or more of the following effects of exposure to chromic acid or its salts: (1) dermatitis; (2) ulceration of the hands, arms, or feet; (3) ulceration of the cartilaginous part of the septum of the nose; (4) vomiting after food.

The process of chromium plating consists in wiring the articles on to a frame ready for the plating vat, the actual plating, which lasts anything up to fifteen minutes, the unwiring, swilling, and polishing of the plated articles. A relatively large current is used in the plating tank, from 500 to 1,000 amperes and 4 to 10 volts. The solution contains 50 per cent. of chromic acid, and during the working of the tank reddish-brown *fumes rise* up into the air, to be sucked off by exhaust fans. Analysis reveals that these fumes contain upwards of 60 per cent. chromic acid, forced up in the form of a spray by the evolution of hydrogen at the cathode. The polishing of the work is done on a calico mop impregnated with either white or green "compo." The abrasive in the white compo is fused alumina; in the green it is a green chrome oxide (Cr_2O_3). Both these are held as a bond by high-class stearine. Here also the dust from the polishing is sucked off by exhaust fans. Employees actually working on the plating tanks are, as might be supposed, most liable to trouble, but any or all of the conditions mentioned above may occur at any stage of the plating process, or even in persons working in the same shop.

There are at least four main factors in the production of these conditions: first, a septic process in the body of the worker; secondly, inefficient exhaust apparatus; thirdly, a moisture-laden atmosphere, a sweat-laden skin, or both; and, finally, carelessness on the part of the operator.

PREVENTION OF DISABLEMENT

Persons to be employed in this industry should be medically examined before commencing on this process to prevent those with such obvious septic foci as foul teeth or tonsils from undertaking work which will inevitably lead to disablement. Sepsis of the nose, mouth, and pharynx is the commonest predisposing factor. The exhaust system of the tank should be sufficiently powerful to draw the smoke from the cigarette at the lips of a man standing by the tank. Scrupulous cleanliness on the part of the operator is, happily, as unnecessary as it is difficult to obtain. It is important, however, that wash basins, with a good supply of really dry towels, should be provided. In addition, the skin must be protected with some form of grease. This is of great assistance in preserving the health of the horn cells. The most satisfactory is a modified Lassar's paste with a preponderant base of pure vaseline. This should be smeared on the hands and arms before work is commenced, and a small piece inserted into each nostril, which quickly spreads over the exposed mucosa. In one large plant the operators use a specially prepared soap free of alkali and containing a proportion of free lanoline. This extra lanoline is left as a thin deposit on the skin after the hands and arms have been washed. Rubber gauntlets are compulsory, and are worn where contamination with the solution is inevitable. If they are worn continuously the additional perspiration produced more than counteracts the beneficial effect of the protection. Respirators are not of proved value. In a large plant the floor quickly becomes awash with drippings from the tanks and swills. This is a potent factor in the causation of trouble, and can be obviated by covering the floor with fresh sawdust each morning and sweeping clear at the conclusion of the day's work. Carelessness on the part of the operator can be avoided only by intelligent supervision.

TREATMENT

Dermatitis.—The usual positions for this form of dermatitis are the hands, arms, face, and occasionally the chest. The onset is sudden, but it is very unusual for an attack to occur until the operator has been in contact with the plating plant for at least six months. A severe case presents a horrifying appearance. The face is intensely red, and swollen out of all recognition. I have seen four cases in which oedema was so severe as to cause temporary blindness. Where the arms are affected they, too, are red and swollen, and the affected parts itch intensely, or may even be excruciatingly painful. The conjunctivae are injected, but the mucosa of the mouth seems to be unaffected, save that some patients complain of intense tingling of the tongue. At this stage the patient should be put to bed and the affected parts covered with lint soaked in double strength calamine lotion. The dressing should be changed frequently. Morphine is sometimes necessary to allay the irritation. Twenty-four hours later the oedema has subsided; and the affected skin is dusky in colour, with clusters of brick-red spots separated by crusted effusion from the contracting corium. The skin should now be scrubbed with gauze soaked in spirit, carefully dried, and swathed in lint plentifully spread with Lassar's paste. This procedure should be carried out twice daily. As soon as all irritation has ceased, usually in two days, the patient should resume work in the plating shop, being dressed by the first-aid official night and morning. The majority are clear of the dermatitis in a week. If patients remain

away from work until the cure is complete, they render themselves very liable to a recurrence on resuming work. When efficient treatment is lacking at the commencement of the attack the skin suffers permanent damage, and often becomes thin and papery after prolonged absence from work. In such cases recurrence is almost inevitable. The ultra-violet ray is of no use in the treatment of this condition.

Chromium Ulcers.—These ulcers may occur anywhere on the body, but are most common on the knuckles of the hands or the dorsum of the foot. They are always produced by an abrasion of the skin contaminated by chromic acid. They are circular in shape, with heaped-up edges, and a central clean-cut hole leading down to a base covered with exudate. These ulcers have a strong tendency to heal, but may penetrate very deeply, even to the bone. They vary in size from a match-head to a threepenny piece, but I have seen one the central hole of which would just take a half-crown. They are sterile, and the ulceration is due to a ferment, trypsin (Prosser-White). Although painless, they itch intolerably at night. The first essential in treatment is to splint the part. The splint must be maintained until the ulcer is completely healed. The ulcer should be cleaned out with gauze and dressed with equal parts of zinc oxide and vaseline. It takes about a week to heal if treated early.

Chromium Ulceration of the Nose.—This may be either anterior or posterior; where ulceration has once commenced, perforation is inevitable. First the area of the mucosa becomes pale and atrophic; later a greyish slough appears in the centre of the affected area. Usually such ulcers cause no inconvenience and are discovered accidentally, but the patient may complain of "whistling at night." Occasionally the ulceration completely destroys the cartilaginous part, and attacks the bony septum. The patient may have periodic moderate epistaxis, and a continued profuse discharge of pus from the nostrils. In these cases he should be put to bed, and the nostrils packed alternately daily with gauze soaked in flavine 1 in 1,000. The treatment may be necessary for several weeks.

Vomiting.—This is a rare manifestation of chromium trouble, and is always associated with dermatitis, though it does not occur in the acute stage of the inflammation. I have seen only four cases of vomiting in over a hundred patients suffering from the effects of chromic acid. Three of them were girls in a polishing shop, and one a man employed on a plating tank. The three girls were all very mild cases, and cleared up after being away from work for a week. The man was profoundly ill. In all four cases the signs and symptoms were identical. The vomiting was almost effortless, and happened immediately after taking food. It was preceded by profuse salivation. It occurred most violently after exertion, and increased in severity during the day. No signs could be elicited, and the abdomen was normal in every case. There was mild constipation. All the usual gastric sedatives were useless, and were, as a rule, returned within a few moments of swallowing.

THE PHARMACOLOGY OF CHROMIUM

It is probable that chromic acid is converted into chromous oxide when taken by the mouth, a part being deposited as such in various organs, and the balance being excreted in the urine. Ammonium sulphide precipitates from a solution of chromium compounds green chromic hydroxide; lead acetate solution precipitates solutions of chromium compounds in the form of a yellow lead chromate. I have never been able to demonstrate the presence of chromium compounds in the urine of any of my patients.

With a view to demonstrating the systemic effects from the exposure of the operator to chronic acid, four men were selected for examination. These men were all between 30 and 40 years of age, and all had worked continuously over a chromium plating tank for more than two years. A general clinical examination revealed a mild chronic catarrhal condition of the nose and throat in all the patients. One had a perforation of the septum of the nose of which he was ignorant. A complete blood examination showed a relative small lymphocytosis in all the patients, otherwise there was nothing abnormal. The day and night urine of each patient was tested, but failed to disclose the presence of chromium compounds. There was no albuminuria.

In spite of the fact that no evidence of absorption of chromium can be produced, it seems that a certain sensitization point is reached in the majority of patients, beyond which trouble ensues. Though a well-marked case of dermatitis or ulceration can definitely be recognized as due to chromium, I have been loath to use the term chromium poisoning, as all the conditions described above appear in a variety of other trades.

In a recent series of fifty cases, fifteen were women. This is a high proportion, as very few firms employ women on the most hazardous part of the process—namely, the plating tanks. Women are undoubtedly more susceptible to trouble.

The following table shows the number disabled from each condition, where the condition mentioned is the predominant factor.

Dermatitis	33
Ulceration of the nasal septum	4
Vomiting	4
Ulceration of the hands or feet	9
Total	50

None of these patients had received suitable first-aid treatment, with the result that their condition took a considerable period to clear up, the average time lost being nine weeks. Where adequate treatment and supervision are immediately available the average time lost is under a week.

The preventive measures outlined above are now being carried out by several large firms locally, and are proving successful. Prior to these methods being used there were always at least 10 per cent. of the personnel of the chromium plant suffering from one or other of these conditions. For the last three months there have been no cases in these works.

SUMMARY

1. Disablement among the operators on a chromium plating plant can be prevented.

2. The essentials of prevention are the elimination of septic foci and the protection of the skin by a film of ointment. The floors of the plating shop must be dry, and the exhaust apparatus efficient.

3. Persons suffering from any trouble due to chromic acid should have efficient first-aid treatment, and should cease work only in exceptional circumstances.

4. Women should not be employed except in the polishing shops.

5. There is no evidence of absorption of chromium by the workers in this industry.

I am indebted to Major A. J. Round, of B. J. Round and Sons, Birmingham, for his help in the prevention of disablement in this industry.

The soap and ointments mentioned above can be obtained in a satisfactory form from Philip Harris and Co. of Edmund Street, Birmingham.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

PROLONGED OBSTRUCTION OF LARGE BOWEL

In the following case of obstruction of the large bowel the noteworthy feature is the duration of the symptom, which continued on and off for fifteen months, and was at one time absolute for a period of fourteen weeks.

I first saw the patient, Mrs. L., aged 81, in April, 1929, when she presented symptoms of obstruction of the large bowel, due apparently to a faecal impaction. This readily yielded to enemata and a dose of castor oil. Gradually increasing difficulty in getting the bowels to move followed, and in July another attack of obstruction occurred. Nothing could be felt on palpation of the abdomen or on rectal examination.

The patient was seen by Mr. L. Fuller in consultation, and a gurgling noise constantly recurring in the splenic area suggested to us that it was a case of carcinoma of that portion of the colon. An operation was proposed if the obstruction remained absolute. However, a daily dose of calomel, enemata, and a diet leaving as little indigestible residue as possible, kept the patient up and about till April 11th, 1930, when again an attack of obstruction set in. Injections of pituitary with eserine and enemata this time failed to produce an action of the bowel. The patient seemed to realize she had a growth, and, with the concurrence of her family, refused operation.

From this date till her death on July 17th, fourteen weeks later, no action of the bowels occurred. During this time there was no faecal vomiting whatever, though on several occasions the contents of the stomach were rejected, on three occasions with haematemesis. There was very little pain, though constant rumblings continued over the abdomen. Distension was not marked till the last fortnight. The patient was fed now only on meat extracts, fruit juices, champagne, and water, ad lib. An albuminuria of some years' standing remained unaltered, and no trouble with the kidneys was experienced. The mind remained quite clear till the last two days, when she became comatose and died. No post-mortem examination was permitted.

Bath. O. COLVILLE, M.D.

A CASE OF DOUBLE GALL-BLADDER

The following case of two gall-bladders occurring in one person seems worthy of record, in view of the rarity of such a condition.

C. B., European female, aged 52, was admitted to Grey's Hospital, Pietermaritzburg, on July 24th, 1930, with a history of what seemed to have been an attack of biliary colic a few days previously; she said she had been subject for some years to flatulent dyspepsia. On examination, she presented marked tenderness in the gall-bladder region. Cholecystography showed a very poor filling of the gall-bladder, and the *x*-ray report suggested cholecystitis.

An operation was performed on August 1st, through a right paramedian incision. The stomach and duodenum were found to be normal. The gall-bladder was then examined, and appeared to be fairly normal, only a few small adhesions being present between it and the adjacent parts. However, in cases where symptoms and cholecystographic examination have pointed to the gall-bladder as the probable cause of trouble, it has been my experience that removal of that viscus is usually successful in relieving symptoms, even though its macroscopic appearance might be normal when seen at operation. I decided, therefore, to remove the gall-bladder in this case. The cystic artery ran along the median aspect of the cystic duct, and was ligatured. After ligature of the cystic duct, and during separation of the proximal part of the gall-bladder, I found that instead of the gall-bladder separating from the fissure of the liver in which it should lie, it was peeling off from what was at first taken for a diverticulum of itself, situated between it and the liver. I was able, however, to separate the gall-bladder completely from this other structure, which was then revealed as another gall-bladder lying above the first. The cystic duct of this second gall-bladder penetrated deeply into liver substance, and it was therefore not possible to trace the duct to its conclusion. I ligatured the duct, and removed the second gall-bladder, being fortunate enough to get both gall-bladders away intact. The appendix was then removed, and the incision closed, with drainage down to the stumps of the two cystic ducts.

The first gall-bladder was of about the average size; it contained normal bile and no gall-stones. The second gall-bladder was half the size of the other, the bile being much paler; it contained twenty-nine small gall-stones.

Recovery was satisfactory, and the patient left the hospital on September 6th.

W. H. HUGH CROUDACE, M.B.,
B.S.Durh.,
Honorary Surgeon, Grey's Hospital,
Pietermaritzburg, Natal.

PERSISTENCE OF THE COMPLETE WOLFFIAN DUCT

I had the good fortune on March 30th, 1930, to see and operate upon a case of such rarity as to be worthy of placing on record.

The patient, a female aged 6 months, was sent to the Royal Hampshire County Hospital at 10.30 p.m. The mother had called in her doctor on account of a round swelling, the size of a walnut, which she had noticed protruding from the vagina. The child had been fretful during the preceding twelve hours, and appeared to have severe abdominal pain, spasmodic in character. The bowels had been open during the day, and micturition had been normal. There was no previous history of any vaginal discharge. The temperature on admission was 101°, and the pulse rate 160. An examination under a general anaesthetic was carried out. An oval swelling, the size of a walnut, was found protruding from the vulva, in the centre of which was a necrotic patch. A probe was passed through this for a distance of about 2½ inches. In the right iliac fossa was a swelling which appeared to run backwards into the loin.

Operation

Under open ether anaesthesia, the abdomen was opened by a right paramedian incision, which ultimately extended from the pelvis to the costal margin. A fluctuating tumour was found lying behind the peritoneum, extending from the right lateral vaginal fornix, passing outwards in the base of the broad ligament to the lateral wall of the pelvis, and lying ventral to the right ureter, whose course it followed, to be lost in the cellular tissue at the upper pole of the right kidney. The peritoneum at the outer side of the caecum was incised, and the caecum and ascending colon retracted mesially. The tumour was separated with considerable difficulty from the right ureter, and detached first from the upper pole of the right kidney. The lower end was divided between clamps at the side of the bladder, and the tumour removed. Both ovaries showed multiple cysts, otherwise the pelvic organs were normal. The retroperitoneal tissue was drained through the lower end of the abdominal wound, and the abdomen rapidly closed as the child's condition gave cause for alarm. Forty-eight hours after the operation the child developed acute bronchitis; apart from this the convalescence was uninterrupted, and the patient is now well.

The tumour was a hollow viscus 5½ inches in length, the diameter varying from 1/2 to 1/4 inch, and was similar in appearance to a varicose vein. The microscopical report was as follows: "The walls are formed of fibrous tissue with round-celled infiltration; no epithelial cells were seen. The contents are pus, no organisms are to be recognized, and cultures are sterile after forty-eight hours' incubation."

Having referred to Grieg and Hertzfelt's exhaustive report on their two similar cases, I find little to add of interest. Their cases were of older children (aged 3 and

6 years), both of whom had had vaginal discharge of some considerable standing. Neither showed any vaginal swelling. However, both children were females, and in each case the tumour was on the right side. I think there is no doubt that the case now reported is an example of persistence of the complete Wolffian duct, with a superimposed infection of the contents.

Winchester. JAMES TROUP, M.B., F.R.C.S.Ed.

Reports of Societies

ACUTE INTESTINAL OBSTRUCTION

At a meeting of the Brighton and Sussex Medico-Chirurgical Society, held on April 4th, the president, Mr. H. NETHERSOLE FLETCHER, in the chair, Mr. J. R. H. TURTON read a paper on acute intestinal obstruction.

Mr. Turton began by giving statistics of 300 cases of acute obstruction admitted to the Royal Sussex County Hospital during the past ten years. Of these cases, 96 were due to obstruction from intra-abdominal causes, and 204 to strangulated internal hernia. The total mortality was 30.33 per cent. (52.1 per cent. for the intra-abdominal cases, and 20.1 per cent. for the hernias). The average age of the former group was 48.9, and of the latter 59.1 years. The duration of acute symptoms prior to hospital admission was 2 days 20.4 hours and 1 day 21.9 hours respectively. Highest mortality rates occurred in the cases of internal hernias, carcinoma of the colon, and multiple adhesions, while the lowest rates were found in the cases of obstruction caused by a single band or by impacted gall-stones. The average duration of acute symptoms before admission varied widely in the several classes of obstruction. The different mortality rates in the several classes could not be attributed to the different periods of delay in the diagnosis. Among the cases of strangulated hernia the mortality was 22 per cent. for the inguinal (91 cases), 12.2 per cent. for the femoral (90 cases), 43.75 per cent. for the umbilical (16 cases), and 42.85 per cent. for the ventral (7 cases). Attention was drawn to the low mortality among the femoral cases in the female (64 cases, with 4 deaths). Of these four cases, two were late ones, the hernia in each having been strangulated six days, necessitating resection of the bowel for gangrene; one was a case of toxic goitre, the patient dying suddenly three days after operation; the fourth was a case of chronic nephritis, death being caused by suppression of urine. Faeculent vomiting was present in 24 per cent. of the intra-abdominal cases, with a mortality of 56.5 per cent., and in 15.7 per cent. of the hernia cases, with a mortality of 50 per cent.

Mr. Turton briefly discussed experimental work bearing on the causation of death in intestinal obstruction, with special reference to the work of Williams on *B. welchii* toxaemia, and to the subject of chloride depletion. He dealt at greater length with early diagnosis, laying stress on the character of the pain, the presence of local tenderness, the value of auscultation, and the rectal examination. He made reference to Case's work on radiological examination, and to the more recent work of Rabwin and Carter in this field. In regard to the previous history, as elicited in the County Hospital cases, the speaker noted that, of the forty cases due to adhesions, twenty-one had undergone previous abdominal operation, and in all of these cases the obstructing agent was a clear result of the previous operation. He briefly discussed the question of treatment, urging the necessity for pre-operative preparation, especially in the matter of gastric lavage and saline infusions. In conclusion, he entered a plea for earlier diagnosis, and said that, in proof of the desperate nature of many cases on admission, 50 per cent. of the deaths in small intestine obstruction occurred within twenty-four hours of operation.

POPLITEAL ANEURYSM

At a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland, held on April 10th, with the president, Mr. R. ATKINSON STONEY, in the chair, Mr. SETON PRINGLE read notes on two cases of popliteal aneurysm, and exhibited one of the patients. Both cases occurred in elderly men with marked hardening of the arteries. In one the Wassermann reaction was positive, and in the other negative. In each case there was marked circulatory disturbance of the leg—oedema, engorgement of veins, and duskiness of the skin. One patient had gangrene of the tips of three toes. Severe pain was a marked feature in both. In the first case, by operation the femoral artery in Hunter's canal, enclosed in its sheath, was divided between two ligatures. In the second case, the lumen of the vessels was occluded by multiple ligatures and the sheath injected with alcohol. In both, the femoral vein was divided between ligatures. After the first few hours the condition of the circulation in the foot on the affected side did not give rise to any anxiety. Both aneurysms ceased pulsating immediately the ligatures were tied, rapidly hardening up, and gradually decreasing in size. The patients, fifteen and four months respectively after operation, were in good general health and able to get about.

The PRESIDENT commented on the fact that the veins had been tied as well as the arteries; it had been formerly taught that if the main artery and main vein were tied up together, gangrene was almost certain. This idea, however, later changed, as the result of experience with gunshot wounds during the war. Mr. W. PEARSON said he thought it was more difficult to get good results in cases of pathological aneurysm, such as described by Mr. Pringle, than in traumatic cases. He had a large experience of aneurysms during the war, and mentioned a case of subclavian aneurysm in which he obtained an excellent result by distal ligation. In this case the Wassermann reaction was strongly positive.

SPONTANEOUS RUPTURE OF SPLEEN

Mr. SETON PRINGLE also read notes on a case of spontaneous rupture of the spleen. He first called attention to the fact that spontaneous rupture of the pathological spleen was not a very rare occurrence, but that only eight cases of spontaneous rupture of the spleen, normal both macroscopically and microscopically, had been reported. He doubted whether spontaneous rupture ever took place in a perfectly normal spleen, quoting Susman as to the possibility of rupture occurring in a localized pathological area which became so disorganized with haemorrhage that it escaped detection afterwards. In the case reported, the rupture happened in a healthy man while he was riding around his farm; careful questioning could not elicit any history of even slight trauma. The patient was suddenly seized with very acute abdominal pain, slipped off his pony, and lay down in the field. He was found shortly afterwards in a collapsed condition, and was carried home. The clinical picture for the subsequent five days, during which he was treated at his own house by his medical attendant, was very confused. The degree of abdominal pain varied considerably, but at times was very severe, and was located variously in the right iliac fossa, left iliac fossa, right hypochondrium, and left loin. Vomiting occurred

once only, but considerable distension, somewhat relieved by enemata, was a constant feature. The temperature remained normal, and the pulse never rose above 90. On admission to hospital on the sixth day the pulse was still only 80. The abdomen was markedly distended, but not rigid. General abdominal tenderness was present, most marked in the right hypochondrium and right iliac fossa. Movable dullness was present in both flanks. It was thought that the patient had a minute duodenal perforation, leading to a gradually extending extravasation. At operation the abdomen was found to be full of blood, originating in a rupture of the spleen. The spleen was removed without difficulty, but the patient developed pneumonia, and died on the fourth day after operation.

INDUSTRIAL LIGHTING

Sir JOHN H. PARSONS, who presided at a lecture on industrial lighting, given at the Royal Society of Arts on April 15th, remarked on the fact that distribution of illumination appeared to be as important as intensity, and more difficult to manage. Completely indirect lighting, which cast no shadow, was admirable for some purposes and out of the question for others. Thus it found fitting employment in an engineer's drawing office and in an operating theatre, but for such a task as sewing black threads on black satin, as revealed in a test at the National Physical Laboratory, it was useless. The subject of illumination, Sir John Parsons continued, could not be considered by itself; it was linked up with the problem of vision, and the visual organ was one with which the physicist was apt to feel most impatient, because it was a photometric apparatus which was never stable in any circumstance. It had two receptive mechanisms which acted at different intensities of light, and interfered with each other at intermediate intensities. He pointed out the necessity for a liaison between those engaged in the physical, and those in the physiological, aspects of the problem—on the one hand, the illumination committee of the Department of Scientific and Industrial Research, and, on the other, the committee of the Medical Research Council which concerned itself with vision.

The lecturer, Mr. D. R. WILSON, Deputy Chief Inspector of Factories, addressed himself for the most part to the good effects which satisfactory lighting had been found to produce. It was an important factor in safety. Industrial accidents due to falling or stumbling showed a clearly marked seasonal variation, the rate being highest in winter and lowest in summer; it was difficult to ascribe this to any other cause than inferior artificial lighting conditions as compared with daylight. Good lighting was also an important aid to production, as regards both quality and quantity. In printing, the output in the composing room had been found to increase, and errors to decrease, almost in proportion to the illumination provided. Finally, good lighting had a definite psychological effect on the worker, in that it made his environment more cheerful, cleanly, and orderly.

Mr. J H FISHER, in the ensuing discussion, said that under unfavourable conditions of illumination workers became unduly tired and depressed, and their output was materially reduced, but how far this was due to eyestrain and how far to other conditions affecting health was very difficult to determine. A general point made in the discussion was that while the conditions of illumination in factories might approach the ideal, the result was apt to be frustrated by the way in which the workers used their eyes in their off-time, reading close print under poor illumination, or, at the "pictures," watching movement in bright light surrounded by gloom. On the other hand, it was felt that the scientific study now given to factory illumination might result in conditions so obviously adequate and comfortable that workers themselves would insist on some approximation of their domestic and recreational conditions to the same standard.

Reviews

DISEASES OF THE TONGUE

It speaks clearly for the essential soundness of a surgical textbook that after the lapse of an entire generation it should be capable of such successful rejuvenation as to bid once more for first place among its kind. There comes a time, it is true, when the reader of the latest version of Butlin's *Diseases of the Tongue*,[1] is inevitably reminded of Captain Brassbound, who, at a critical stage in his career, was described as "churchwarden from the waist down, and the rest pirate." Nevertheless, the grafting of Mr. STANFORD CADE'S enthusiasm and very exceptional experience of radium on to the virile stock of Mr. W. G. SPENCER'S erudition and encyclopaedic knowledge of diseases of the tongue, has resulted in a healthy and fertile production that should be of great value to all into whose hands it falls.

Those familiar with the second edition (1900) will remember that its pages were devoted not only to the tongue, but also to the mouth and salivary glands, and to-day we find all the sections expanded, with new information, better set out and illustrated, and with bibliographies after each article or section. Of course, even now the last word cannot yet be said—for example, though many pages are devoted to leucoplakia, the account remains vague and uncertain. It must be admitted, with regret, that the senior author's style is not calculated to clarify the obscure. What does this sentence mean? "The influence of syphilis although latent, in the lesions just mentioned, when irritated may at a later period become cancerous ulcers." There are many like it. For instance, "Failure in use of the tongue is out of proportion to any simultaneous cause of paralysis." The paragraph on evolutionary wounds, with which the book opens, is very difficult to understand. The same may be said of paragraph M, page 304, on sarcoma. Does the sentence "Excoriations, traumatic ulcers, benign growths develop into different types of carcinoma" (page 359) mean quite what it says, or is the intention of the author merely frustrated by his use of words? Is the clinical sign of induration produced by "increased vascularity"? Does syphilitic leucoplakia "generally persist until cancer develops"? What constitutes the "translucent line of the basement membrane"? In passing—for we cannot refer to all the items in this comprehensive survey of disorders of the mouth and tongue—we note that in respect of the radium treatment of actinomycosis, the authors hint that beta therapy is perhaps more valuable than pure gamma.

The new, as distinct from the revivified, section of the book is that devoted to the radium treatment of cancer, and it must prove of the highest value to all surgeons. Operation by the knife has passed away: the triumphs celebrated in 1900 are now virtually relegated to the historical chapter. If radium cannot cure the early primary lesion more certainly than the knife, at least it does so without mutilation; and, in addition, "inoperability" is a term without meaning so far as radium is concerned. Not that every case proves susceptible even when treated—far from it; not that the technique of application is as yet perfected—nobody claims that; but even where radium still calls for help it appeals not to the scalpel but to the diathermy needle and loop, which here receive due attention. The presentment of this part of the subject is admirable. The directions for detailed treatment are lucid and sufficiently dogmatic; the difficulties,

[1] *Diseases of the Tongue*. By Walter G. Spencer, M.S., F.R.C.S., and Stanford Cade, F.R.C.S. Being the third edition of Butlin's "Diseases of the Tongue." London: H. K. Lewis and Co., Ltd. 1931. (Pp. xvi + 561; 123 figures, 20 plates. 35s. net.)

dangers, and disappointments are adequately emphasized; and the very difficult question of treatment of the glandular areas is judicially dealt with, as will be admitted even by those who do not agree on all points. Perhaps, in view of the rapid progress made in the last five years, not quite enough is allowed to the possibilities of radon, which may make up for its inconstant intensity by greater exactitude of distribution, greater facility of introduction, and therefore homogeneity of field. Moreover, some schools do not agree that surface or cavity application, in the treatment of cancer of parts of the tongue and floor of the mouth, "has no place." Some at least feel that the injury, however slight, done by implantation should be avoided, since even perfect cure of the primary lesion is so often followed by death from dissemination; and at least nothing should be done to promote it. Unfortunately, teletherapy has so far not proved its efficacy.

It is right that at this stage of a new method a monograph should be documented, and the 217 case reports at the end of the volume therefore amply earn inclusion. A treatise of this sort is not the place for any summary of modern research into the nature of the cancerous process or its causes, but the reaction of cancer to radium has concentrated attention on the histology of various forms of squamous-celled carcinoma, and that is fully reflected here, both in the text and in the excellent photomicrographs. It is a matter for speculation whether the wish, engendered by difficulties in the treatment of established cancer, is not sometimes father to the thought of a good many conditions as "precancerous."

An admirable book that must be read by all who treat cancer of the tongue; and there can be few, if any, among them who will not find instruction also in the pages devoted to non-cancerous disorders.

TREATMENT OF SCHIZOPHRENIA

Dr. LELAND E. HINSIE, Professor of Clinical Psychiatry, Columbia University, has written a monograph on the *Treatment of Schizophrenia*,[2] in which he suggests that a modified form of psychoanalytic technique may be used with advantage in certain cases showing early but definite schizophrenic symptoms. It is not claimed that psychotherapy is capable of converting the patient into a completely adjusted personality, and most psychiatrists will probably accept the view of the author, that in schizophrenia we have a constitutional emotional inferiority —"a deficiency of the original stock of libidinous capacities"—which imposes a limit to therapeutic efforts. Both clinical impressions and biological studies suggest that there is, in this disorder, not merely a deviation of the instinctive urges, but rather an inherent inadequacy which limits the patient's capacity for meeting the demands of life. It has, indeed, been the policy of the author to attempt the rehabilitation of his schizophrenic cases on the assumption that there exists this inferior affective capacity, as he has found this to be a helpful attitude from the practical standpoint. It will, for instance, prevent the physician from suggesting marriage to a schizophrenic patient who has been cured of his symptoms; he will realize that attempts at adult sexual life in marriage in such an individual would be very likely to precipitate a breakdown, even though the treatment may have been instrumental in detaching the libido from symptoms, and be thus free to stimulate sublimated forms of social activity.

From the foregoing it will be seen that Dr. Hinsie's views on the nature of the type of reactions which he discusses do not differ from those held by the majority of psychiatrists. The essential interest of the monograph resides in the fact that he believes prolonged psychotherapy to be capable of dissipating the symptoms manifested in a certain proportion of cases. Such views merit attention, especially at a time when efforts are being made to organize treatment for the incipient psychoses before institutional care becomes necessary. It is interesting to note that the patients selected for treatment were nearly all dealt with in the out-patient department of a general hospital. In the development of this theme the author discusses the diagnosis of incipient schizophrenia, and also describes in detail the type of case he considers suitable for intensive psychological treatment. The treatment of more advanced cases, psychiatric social service, and occupational therapy are made the subject of discussion, and the concluding chapters give a summary of the literature on the treatment of schizophrenia. The book is written with sincerity and restraint, and the psychiatrist will find it helpful, informative, and encouraging.

[2] *The Treatment of Schizophrenia.* By Leland E. Hinsie, M.D. London: Baillière, Tindall and Cox. 1930. (Pp. xvii + 266. 13s. 6d. net.)

SURGICAL EMERGENCIES

Surgical Emergencies in Practice,[3] by Messrs. W. H. C. ROMANIS and P. H. MITCHINER, was written, we are told in the preface, at the suggestion of several general practitioners who have not the time to wade through the pathology and alternative methods presented in a textbook. There must have been also a keen desire on the part of the authors to write such a book, as is shown in the crisp style and excellent presentation of surgical procedure.

The first chapter deals in a helpful way with some general conditions, such as shock and collapse, and with improvisations in a private house. We regret to note, however, that intravenous saline is damned with faint praise, because this is a procedure easily undertaken by the general practitioner, and often helps in an emergency until a blood transfusion can be performed. In the case of blood transfusion the use of Kimpton's tube might well be omitted, and we think the authors advocate too high a percentage of citrate in the commoner method. The section on fractures, dislocations, and sprains is very full, and here the practitioner will find clearly expressed views on the treatment of those conditions which in general practice are the commonest emergencies, and which cause the greatest anxiety. In the case of fractures of the phalanx, metacarpus, and carpus, the average duration of the disability at St. Thomas's fracture clinic is given, and this might be done in the other groups as well. The very clear account of emergency surgery of the brain, skull, and spinal cord, correlates the pathological with the clinical signs, and gives sound advice on treatment. It is doubtful, however, if the peripheral nerve injuries as described come under the heading of emergency surgery, and most of the illustrations are those of a long-standing lesion. The section on the respiratory system and lungs gives detailed descriptions of the emergencies encountered in this region, and we are glad to see that the authors advocate a tracheotomy after dividing the isthmus of the thyroid, instead of pressing the classical high and low method. The section on acute abdominal diseases is the best part of the book; it is written in a most readable way, and the reasons for the various procedures are put forward in such a manner as almost to convert one holding contrary views. For strangulated femoral hernia the authors presumably perform the old operation below Poupart's ligament; this, we feel, is not worthy of them. In the last chapter, on the genito-urinary system, the standard of the rest of the book is well maintained.

[3] *Surgical Emergencies in Practice.* By W. H. C. Romanis, M.B., M.Ch., F.R.C.S., F.R.S.Ed., and Philip H. Mitchiner, M.D., M.S., F.R.C.S. Churchill's Empire Series. London: J. and A. Churchill. 1931. (Pp. vii + 608; 158 figures. 18s. net.)

There are numerous illustrations, which are well done. Although repetition in the text is unavoidable here and there, it is surely not necessary to duplicate drawings showing a dropped wrist (pages 36 and 343), and the treatment of a mallet finger (pages 42 and 225). Some of the illustrations seem to be far removed from emergency practice, such as those on pages 232 and 233. But this is a small matter, and the book is a good one.

MONOGRAPHS ON OBSTETRICS AND GYNAECOLOGY

We have received from the publishers, Messrs. D. Appleton and Company, a complete set of the new edition of their series of *Gynecological and Obstetrical Monographs*.[4] These volumes, sixteen in number (including a composite index volume) are uniform in size and typography, and most of them are freely illustrated. All have been revised in the light of experience gained in the past ten years.

The first of the series presents a discussion on sterility and conception, by Dr. Charles Gardner Child, jun., of New York. The second, by Dr. Emil Novak of Baltimore, deals clearly and fully with menstruation and its disorders. The third is a treatise on symptoms in gynaecology, their etiology and interpretation, with notes on diagnosis, by Dr. Isidor Clinton Rubin of New York. The fourth is a clinical study of the complications of pregnancy, by Dr. Edward P. Davis of Philadelphia. In the fifth volume Dr. George William Kosmak of New York describes and discusses the toxaemias of pregnancy. The sixth, comprising an admirable account of birth injuries of the child, by Dr. Hugo Ehrenfest of St. Louis, has also been issued separately in a different binding by the same publishers at the price of 25s.; the first edition was noticed in a leading article in our issue of November 24th, 1923. The subject of the seventh volume is extrauterine pregnancy, and its author is Dr. Edward Armin Schumann of Philadelphia. The eighth, by Professor Franklin S. Newell of Boston, deals with Caesarean section, its indications, contra-indications, and technique. The ninth is a comprehensive essay on the subject of pelvic inflammations in women, their pathology, symptomatology, and treatment, by Professor John Osborn Polak of Brooklyn. The tenth gives a critical survey of pelvic neoplasms, by Professor Frank Worthington Lynch and Dr. Alice F. Maxwell of the University of California. In the eleventh volume Professor Charles C. Norris of Philadelphia studies those forms of tuberculosis which especially concern the gynaecologist and obstetrician. The twelfth is devoted to gynaecological and obstetrical pathology, with chapters on the normal histology and the physiology of the female genital tract and the peritoneum; the author is Dr. Robert Tilden Frank of New York. The thirteenth, on diseases of the vulva (a subject on the borderland between dermatology and gynaecology), is from the pen of Professor Frederick Joseph Taussig of St. Louis. The fourteenth, by Professor George Gellhorn of St. Louis, covers a wide field of non-operative treatment in gynaecology, and includes a chapter on radiation treatment by Dr. Henry Schmitz of Chicago. The fifteenth volume, on the surgery of the female pelvis, is by Dr. Carey Culbertson of Chicago, whose purpose is to present the technique of operative gynaecology, and to elaborate the indications for the procedures described.

As will be seen from our brief enumeration of subjects and authors, these fifteen practical treatises, by teachers of recognized standing in the United States, embrace a large part, but not the whole, of obstetrics and gynaecology. Each author has his own method of approach, and writes independently, from his personal experience and study of the literature. There is no general editorial introduction, and each number of the series must be regarded as standing by itself without relation to the others. It is thus a collection of monographs, not a system. As such it deserves the attention of all workers in this branch of medical practice.

[4] *Gynecological and Obstetrical Monographs*. Second edition. New York and London: D. Appleton and Co. 1931. (£13 13s. the set.)

RESPIRATORY DISEASE IN CHILDHOOD

The two volumes entitled Diseases of the Respiratory System[5] form part of a series of clinical studies in children by Professor P. NOBÉCOURT of Paris, which have appeared from time to time during the last five years. In a preface to the first of these volumes the author explains the object of these clinical studies, which is to supplement the systematic exposition of the subject as contained in the ordinary medical textbook. Professor Nobécourt has already written his own textbook, *Précis de Médecine des Enfants*, now in its fifth edition, and he has also completed six volumes of clinical studies, so that he has achieved an unusually complete presentation of the subject on which he is a recognized authority, both as writer and as teacher.

Respiratory disease plays an important part in medical practice among children, and these two volumes contain forty clinical lectures. The basis of each lecture is the presentation of one or more cases of respiratory disease which illustrate some particular aspect of the subject—pathological, clinical, or therapeutic. In addition to the clinical records, there is in each chapter an introduction, which brings into focus the special problem which the cases illustrate, and a commentary which adjusts this problem to the whole subject. Clinical charts, photographs, and radiographs, are also added. The two volumes thus form a clinical library and commentary of cases of respiratory disease in children. The kind of case selected for discussion is usually atypical or uncommon, or presenting difficulty in diagnosis or calling for modification in treatment. Another valuable feature is the inclusion of the respiratory complications of the infectious diseases. For example, cases are described of rhinitis in scarlet fever, of the forms of laryngitis complicating measles, of broncho-pneumonia in whooping-cough, and of the pulmonary complications of typhoid fever. It is an obvious advantage to have these conditions described alongside the non-infectious respiratory diseases, and, from the point of view of teaching, it enlarges the experience of the physician who has medical charge of all these conditions in one hospital. Tracheo-bronchial glandular enlargement is a clinical condition which has been particularly studied in France, and in these volumes there are several chapters dealing with this, not only with tuberculous mediastinal glands, but with what may be called idiopathic cases and those complicating any form of tracheitis and bronchitis, and with the rare examples of syphilitic adenitis. Types of sero-fibrinous and purulent pleural effusion are presented in no fewer than nine chapters, including streptococcal empyema, pyo-pneumothorax, and localized empyema of the apex and anterior thorax. There are several chapters on bronchiectasis, both in the early stage in cases of chronic broncho-pneumonia and in the fibroid lung of old standing. Tuberculous disease of the lung in children is dealt with in some of its important aspects—its early diagnosis, the evolution of the disease in the lungs, its association with whooping-cough, and the clinical features of miliary tuberculosis.

[5] *Clinique Médicale des Enfants: Affections de l'Appareil Respiratoire*. Par P. Nobécourt. Deuxième édition. Paris: Masson et Cie. 1930. (Première Série, pp. xvi + 362; 52 figures. 50 fr.; Deuxième Série, pp. viii + 479; 227 figures. 60 fr.)

This list of subjects dealt with is not a complete catalogue of the contents of the volumes, but it indicates the variety and the extent of the ground covered. Such clinical studies are a valuable contribution to medical literature; they are supplementary to the textbook, correcting and amplifying it; they form the foundation of clinical experience from which textbooks are written and revised. They also show British practitioners and teachers of the subject the methods of clinical examination and of clinical teaching in the medical schools of Paris. In clinical examination these lectures have the great tradition of Laennec, and in exposition they have that Latin brevity and clearness which distinguishes the medical literature of France. Professor Nobécourt's reputation as a teacher has attracted many British and American graduates to his wards at the Hôpital des Enfants Malades in Paris. He has done a great service to the medical profession in France, and beyond it, by putting on record his admirable lectures at the bedside, and thus placing at the disposal of many more his great clinical experience as a physician and his admirable gifts as a teacher.

NOTES ON BOOKS

A third edition of MACKIE and MCCARTNEY'S *Introduction to Practical Bacteriology*[6] follows only a few years after its predecessor, and is certain to maintain its popularity. It has been thoroughly revised and brought up to date, both by the introduction of new matter and by the omission of some less important passages. The attitude throughout is a practical one, and the book has the merits of brevity and sufficiency. Such subjects as the handling of the microscope, the preparation of media, serological tests, and the bacteriological examination of milk and water are shortly, yet adequately, described. A thoughtful feature is the relegation of some of the more advanced details to small print, so that the volume keeps its handy size. Indeed, the skill with which the essentials of bacteriology are presented within the compass of some four hundred small pages is remarkable. Illustrations depicting micro-organisms are not included, no doubt advisedly, since some practical acquaintance with them by experience or demonstration is to be assumed on the part of the reader. The student of bacteriology will find this small book most useful as an introduction and also for purposes of reference.

In *Petites Cliniques*[7] Dr. LOUIS RAMOND, physician to the Laennec Hospital in Paris, republishes from *La Presse Médicale* thirty-six clinical demonstrations given in the course of his hospital teaching. They cover a wide field, the largest number being on the digestive system, but are all attractive. The plan of representation is first a sketch of the patient's history, then a discussion of the diagnosis, followed by the prognosis and the appropriate treatment. The success of this method is well seen in these clinics—for example, that on a case of facial paralysis due to zona, on encysted hydropneumothorax, and on jaundice in secondary syphilis.

Studies of the mosquito, the house-fly, and the tapeworm have been incorporated in the second edition of Dr. L. A. BORRADAILE'S *Elementary Zoology*.[8] This well-illustrated textbook, which was reviewed in our issue of July 5th, 1924, can be recommended to medical students for its clear and concise exposition.

An ingenious infant feeding table,[9] with cardboard holder, has been devised by Dr. J. v. LUKÁCS and Dr. ALB. MEYERSTEIN as a sort of ready reckoner for workers who have frequently to struggle with the mental arithmetic necessary in this branch of medicine. By means of this, four chief questions can be answered at a glance—namely: How many calories does the infant require? How many grams of selected food must be given? How many calories are contained in a definite quantity of the selected food? and What will be the energy quotient for the child with a determined quantity of the selected food? For the increasing number of paediatricians in this country who use the metric system this table will be found most useful, and it might perhaps serve as a basis for the preparation of a similar table for English weights and measures.

[6] *An Introduction to Practical Bacteriology*. By T. J. Mackie, M.D., D.P.H., and J. E. McCartney, M.D., D.Sc. Third edition. Edinburgh: E. and S. Livingstone. 1931. (Pp. xv + 421; illustrated. 10s. 6d. net.)

[7] *Petites Cliniques* (Première Série). Par Louis Ramond. Paris: Masson et Cie. 1930. (Pp. vi + 298; 3 figures. 32 fr.)

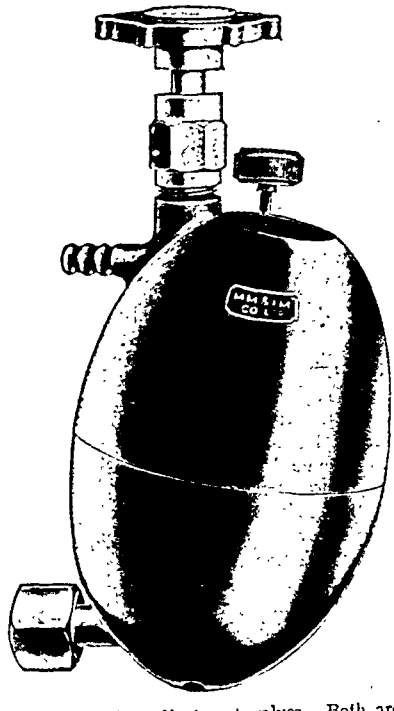
[8] *Elementary Zoology*. By L. A. Borradaile, Sc.D. Second edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1930. (Pp. viii + 397; 251 figures. 10s. 6d. net.)

[9] *Säuglings-Ernährungs-Tafel*. Von Dr. J. v. Lukács und Dr. Alb. Meyerstein. Berlin: P. Altmann. 1930. (R.M.5.)

PREPARATIONS AND APPLIANCES

ADJUSTMENT VALVES FOR N_2O CYLINDERS

Dr. K. B. PINSON (anaesthetist, Manchester Royal Infirmary) writes: Finding, as doubtless many others do, the need for a valve which would enable a steady flow to be obtained from cylinders of condensed nitrous oxide gas, I



have designed two fine-adjustment valves. Both are simple, as distinct from pressure-reducing valves, and give a positive shut-off, which can be relied upon to prevent leaks, which I feel are responsible, in complicated apparatus, for much useless consumption of gas. One adjustment valve has fins cast on

the body, and the other has a large hopper for hot water, in one piece with the valve, and is, I have found, invaluable for intratracheal work. The illustrations are from blocks belonging to the makers, The Manchester Machine and Instrument Manufacturing Co., Ltd., 2, Booth Street, Manchester.

British Medical Journal

SATURDAY, APRIL 25th, 1931

THE STRUGGLE FOR HEALTH

In his latest book, *The Inborn Factors in Disease*,[1] Sir Archibald Garrod discusses the mysteries of human predisposition to disease. He recalls that health is a state only maintained by a continuous struggle against unhealthy influences. Man may be regarded as a complex organism striving to survive in the midst of a complex set of external agents. All through life we are assailed by bacteria and protozoa: we are the playthings of climate and the thralls of our food supplies. If our tissues are not first class and assembled with precision they show premature signs of wear and tear. Garrod's thesis is that in every malady there are two sets of factors at work—namely, internal or constitutional factors inherent in the sufferer, and external ones that fire the train. But disease is not a separate entity by which the body is possessed and damaged; it consists, as Thomas Watson observed, "in some derangement, suspension, or perversion of the continuous, normal, nutritive mutation and renewal of the bodily tissues."

The modern trend of medicine seems almost to have ignored the constitutional or inborn factors in the production of disease, because, perhaps, the great advances made during the last half-century have been chiefly in the fields of preventive medicine and aseptic surgery. In these branches of medicine attention is focused on sheltering the individual from external attack, so that his powers of resistance are not called upon. Garrod reminds us that there are constitutional tendencies, either inherited or acquired, which are powerful allies on one side or the other in the struggle for health. Shelter from attack will not free us from all the ills that man's body is heir to. Even in infective diseases the soil plays its part as well as the seed, and it is with the soil that this essay deals. "I know the families that have a way of living through everything, and I know the other set that have the trick of dying without any kind of reason for it," said the old doctor in Oliver Wendell Holmes's story. "Wittingly or unwittingly," says Garrod, "the practitioner of medicine is constantly engaged in the study of constitutions and predispositions." Patients have appreciated this better, perhaps, than the medical profession; they trust the family doctor because, as they say, he knows their constitutions. With the coming of bacteriology attention became concentrated upon the seed rather than on the soil; bedside observations seemed to be of less account than laboratory investigations. But the inborn factors, the diathesis, constitution, or predisposition—call them what we will—must be studied at the bedside. Internal factors determine the existence of natural liability to, as well as natural immunity against, infective diseases. Our power to resist bacterial invaders depends on protective mechanisms that have been evolved, some to destroy the invaders, and others to render their toxins innocuous. Sometimes the protective antibodies have been formed as the result of a previous invasion, in other instances the immunity is natural, inborn, and possibly inherited. Just as there are natural immunities, so there are natural liabilities, and these, like our individuality, have probably a chemical basis. Some day the antitoxins and their congeners will, Garrod expects, be isolated as pure substances, just as adrenaline and thyroxine have been isolated and synthesized. Not all maladies have their origin outside the body, or are due to invasion by bacterium, protozoon, or virus. Each of us is exposed every day to other unhealthy influences, against which we may or may not possess some inborn capacity of resistance. Many of us possess latent defects of structure or function, inborn, and for the most part inherited, which render us vulnerable by influences innocuous to the average man. Garrod quotes as examples the possibility of abnormal mesenteries of the caecum or colon leading to intussusception or volvulus, and the case of a woman dying in a uraemic convulsion, due to pressure of an enlarging uterus upon a single small kidney. Even in deficiency diseases there are personal variations indicating that some individuals possess tissues which can withstand vitamin shortage better than others. In haemophilia the inborn factor appears all-important, probably the absence of some enzyme concerned with blood coagulation, yet the subject of this anomaly may go through life unaware of it unless some external influences provoke its manifestation.

The symptoms attributable to disturbances of endocrine gland function provide striking illustrations of the inborn or constitutional factors in disease. It is easy to multiply examples of chemical or physico-chemical defects which contribute to a state of disease. There are also the strange tissue defects which Gowers named "abiotrophies," affecting chiefly the neuro-muscular system and causing the tissues to wear out prematurely. When we read Garrod's chapters on "Errors in metabolism" we begin to realize how vast a claim he is pegging out for inborn factors in the field of etiology. He considers the subject under three headings: (1) errors of metabolism which can be detected and studied by methods employed in the chemical laboratory; (2) inborn predispositions to, and defences against, particular infective maladies; (3) allergies, or the so-called idiosyncrasies. Of the first group gout is one of the commonest examples. The inborn error which predisposes to gout must be widely spread, but changes in diet and mode of life have rendered the exciting causes of the manifestations of gout less prevalent. Although we see less gout there has probably been no decrease in the number of potentially gouty persons in the community. But, so far, the inborn factor which

[1] *The Inborn Factors in Disease*. By Archibald E. Garrod, K.C.M.G., D.M., LL.D., F.R.C.P., F.R.S. Oxford: The Clarendon Press; London: Milford, Oxford University Press. 1931. (7s. 6d. net.)

predisposes a person to gout is unknown. Albinism almost certainly results from a lack of a melanin-producing enzyme. Congenital porphyrinuria is associated with a peculiar sensitivity to light. If the more pronounced departures from the average chemical type have such conspicuous effects, minor departures may play important if less conspicuous parts as inborn factors in disease. The protective substances known as antitoxins, agglutinins, opsonins, and the like, of which as yet we know nothing save the properties from which they derive their names, are undoubtedly chemical compounds which will presently be identified. Allergies and idiosyncrasies may appear to be the most elusive of all causes of disease, and in them the inborn factors are overwhelmingly important. But the researches of Lewis and Dale point to a chemical or physical interplay between antigen and antibody in the cells of the subject which results in liberation of histamine from the cells, causing the wheal, flare, or flush.

The author sums the matter up by saying that "to our chemical individualities are due our chemical merits as well as our shortcomings, and it is very nearly true to say that the factors which confer upon us our predispositions to, and immunities from, the various mishaps which are spoken of as diseases, are inherent in our very chemical structure, and even in the molecular groupings which confer upon us our individualities, and which went to the making of the chromosomes from which we sprang." He feels that it is in the ward rather than in the laboratory that the importance of inborn factors is to be appreciated. But unquestionably the laboratory must come to the ward if we are to solve the secrets of the inborn factors and explain aright the chemical basis of our infinitely variable individualities. The art of medicine has from earliest times made each of the other arts and sciences her handmaid by turns. It is to chemistry and physics that she looks at present. Sir Archibald Garrod was one of the first physicians in England to realize and teach this important truth.

POST-ENCEPHALITIS AND ITS PROBLEMS

There are still many difficulties about epidemic encephalitis which beset those specially interested in its etiology, and those who are clinically concerned with the diagnosis and treatment of the disease in its acute stage. Moreover, the fact that in many patients the disease pursues a chronic course, involving considerable disablement or demoralization, has created administrative difficulties also for those responsible for the care and after-treatment of these unfortunates. To a limited extent epidemic encephalitis has become a social problem. The prominence which was given to the troublesome, freakish, and even dangerous behaviour displayed by certain types of post-encephalitis subjects tended at first to focus attention rather on the interests of the community than on those of the individual patient. The troublesome juvenile who had become an intolerable nuisance in his own domestic circle proved to be equally undesirable in various schools and institutions for the backward or the wayward, as the case might be; his, or her, presence was found to have a demoralizing effect, both on the discipline of the institution and on the behaviour of the other inmates. And, until the passing of the Mental Deficiency Act of 1927, with its amended definition of "moral defectives," the resources of certified institutions were hardly applicable. At one time, indeed, a greater number of troublesome patients, by reason of their misdemeanours, were committed to penal establishments than were admitted to mental defective institutions. Attention then became re-directed towards the patient rather than towards the public. Among the praiseworthy pioneers in the movement that followed for providing special facilities for the accommodation and study of post-encephalitis patients were certain boards of guardians and the London County Council. From the first, a considerable proportion of poor patients of all ages suffering from chronic encephalitis have found ultimate refuge and relief in Poor Law institutions, but in 1925 certain Poor Law authorities undertook further responsibilities. Thus, early in 1925 the guardians of the poor of the city and county of Bristol set aside six beds in their institution at Southmead for the treatment and care of children suffering from the after-effects of encephalitis lethargica. In the same year the Metropolitan Asylums Board opened, at the Northern Hospital, at Winchmore Hill, an experimental unit, consisting of 100 beds, for the observation and treatment of children between 3 and 16 years of age suffering from post-encephalitis. Later, the Mental Hospitals Committee of the L.C.C. adopted the policy of concentrating in two closely adjoining institutions at Epsom—West Park and the Manor—the London post-encephalitis cases dealt with under the Lunacy Act or the Mental Deficiency Acts.

Concerning the work undertaken and the results achieved at Winchmore Hill and at Epsom, reports by Dr. G. A. Borthwick and Dr. F. L. Golla respectively, together with a foreword by Dr. F. N. Kay Menzies, have been published lately by the London County Council.[1] Two previous reports on the encephalitis unit were made by Dr. Borthwick, the medical superintendent of the Northern Hospital, in 1926 and 1927, and he reviews here the work of the last three years. The Winchmore Hill unit now consists of five blocks, each containing twenty-five beds, and with a share of the hospital grounds as its own recreation space; two of these are reserved for boys under 16 (the applications for boys exceed those for girls), one for girls of the same class; and, since May, 1929, two blocks have been reserved for adults, male and female. With a progressive decline in the number of male applicants under 16, it is considered that one of the boys' wards will in time automatically become a male adult ward.

[1] Encephalitis Lethargica. Reports by Dr. G. A. Borthwick and Dr. F. L. Golla. With foreword by Dr. F. N. Kay Menzies. London: P. S. King and Son, Ltd. 1931. (6d.)

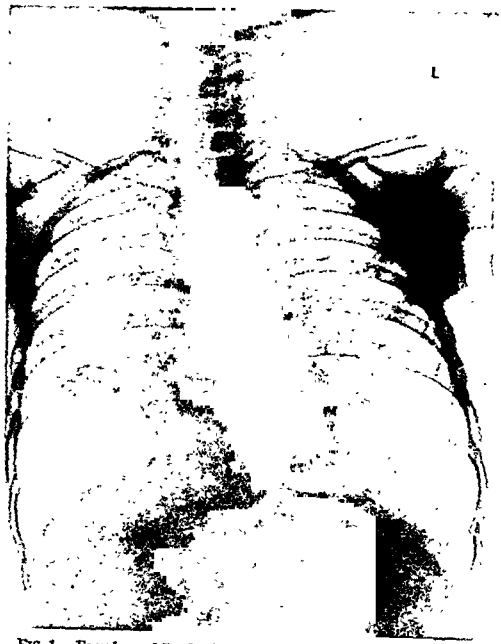


Fig. 1.—Female aged 7. Father died pulmonary tuberculosis, sputum positive. Pirquet test positive. Large Ghon's tubercle right base. Hilar disease both sides.

Fig. 2.—Female aged 3½. No known family history of tuberculosis. *Film shows* flocculent mottling in both lungs, confluent in right cardio-phrenic area. *Thickening* of right lower interlobar septum. Miliary distribution.

Fig. 3.—Female aged 4. Mother *suffering* from pulmonary tuberculosis with positive sputum. Opacity over base of right lung extending upwards along mediastinal margin. Miliary mottling throughout large part of both lungs, conglomerate in right mid area.

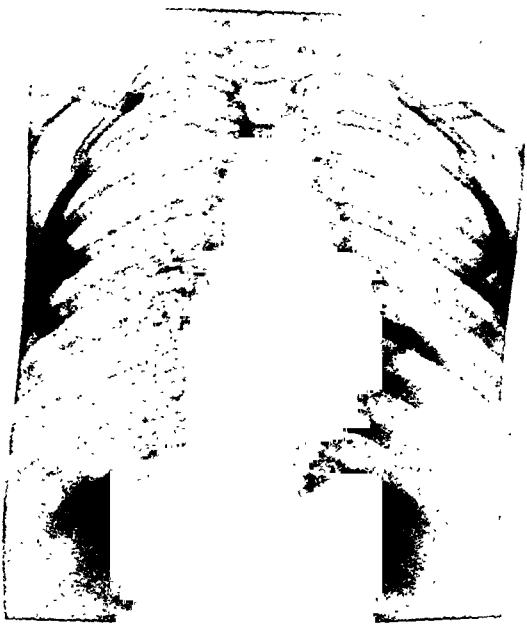


Fig. 4.—Female aged 5. Father suffering from pulmonary tuberculosis, sputum positive. Irregular glandular mass at right *hilum*. Infiltration of both perihilar zones.

FIG. 1.—Section of lung midway between hilum and pleura showing medial hypertrophy of pulmonary artery without intimal change. Haemorrhage adjacent.

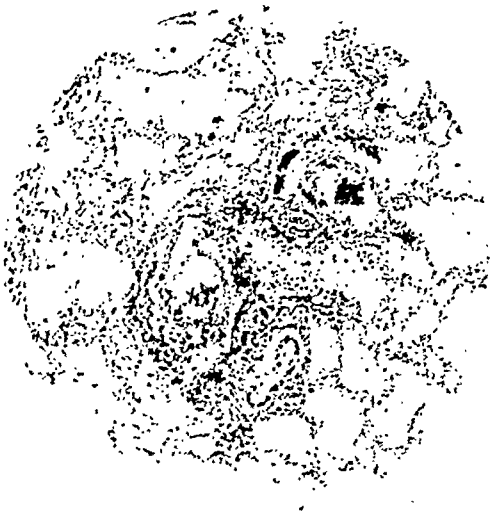


FIG. 2.—Section of lung adjacent to portion illustrated in Fig. 1, showing bronchiole and accompanying vessels. Peribronchiolar lymphocytic and polymorphonuclear infiltration. Vessels show no hypertrophic change in intima or media.

FIG. 3.—Vessel midway between hilum and pleura showing medial hypertrophy and subintimal fibrous hyperplasia.

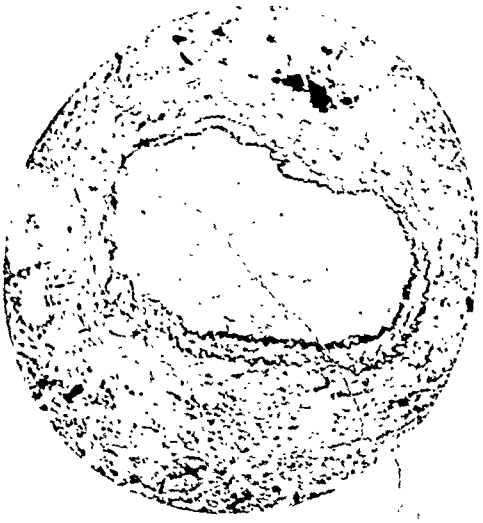


FIG. 4.—Vessel similar to that in Fig. 3 stained to show hypertrophic elastic tissue.

H. A. HARRIS: LINES OF ARRESTED GROWTH IN THE LONG BONES OF DIABETIC CHILDREN

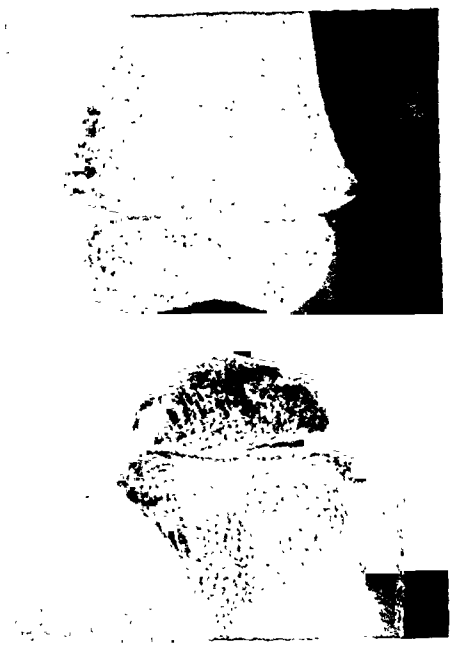


Fig. 1.—Radiogram of the knee of a diabetic girl of 13, showing multiple lines of arrested growth in the metaphysis of the femur and tibia.

Fig. 2.—Radiogram of the tibia of a diabetic girl of 12, showing lines of arrested growth in the bone.

R. S. JOHNSON AND R. R. ARMSTRONG: PNEUMONIA TREATED BY CONCENTRATED ANTIPNEUMOCOCCAL SERUM

Fig. 1.—Radiogram of chest showing pneumonia of left base and also an inflammatory lesion of the right mid and lower zones.

Fig. 2.—Specimen of left lung, collapsed and empty on the fifth day of disease. The fibrin envelope has been partly stripped to show the wrinkled surface of the lung.

H. V. MORLOCK: THE DIAGNOSIS OF EARLY PHTHISIS

FIG. 1.—Female aged 25; the only symptom was cough of seven weeks' duration. Sputum T.B. positive. The skiagram shows a typical initial infiltration in the right mid field.

FIG. 2.—Female aged 23. Skiagram taken two months after onset of cough following a short febrile attack; shows a typical initial infiltration in the right infraclavicular region.

E. J. BLACKABY: MULTIPLE OSTEOCHONDROMATA WITH OBSTRUCTED LABOUR

FIG. 1.—Radiogram of the pelvis showing growths of bone on its outer surface and a tumour of the superior ramus on either side of the symphysis.

FIG. 2.—Right knee. Multiple bony masses on the lower end of femur and on the upper ends of the tibia and fibula.

The unit is under the immediate charge of an assistant medical officer, Dr. T. R. Hill, and a consulting neurologist, Dr. Worster-Drought, visits weekly. Nursing and supervision is carried out by nurses and ward orderlies, and two fully qualified masseuses attend daily to give treatment by physical training, massage, and remedial electricity. All the children, except one or two hopeless patients, have routine lessons five days a week, and for this purpose three teachers are employed; the adults also have appropriate instructors in various crafts, and all who can are encouraged to take part in games and contests which foster the team spirit. The medicinal treatment has, rightly enough in a unit of this sort, been the subject of considerable adventure, and, though no specific remedy for the disease has been discovered, the lot of those suffering from certain phases of the disease, as well as the labours of those in nursing charge, have been considerably lightened by the use of various drugs. Thus, bulbocapnine in doses of 0.1 to 0.2 gram thrice daily by mouth or hypodermically, and liquid extract of lobelia in doses of 2 to 5 minims, were found to have beneficial effect in cases of behaviour disorders; the former drug, however, proved unpopular with some patients, owing to the depression it produces. A few cases of this class were also improved by Crofton's influenza antigen. Incidentally, it was observed that patients with conduct changes who subsequently developed Parkinsonism ceased to become troublesome in the old way; as far as the end-result is concerned, however, the onset of Parkinsonism is generally a change for the worse. For this phase (Parkinsonism) various drugs of the belladonna class have been tried, but none has proved so useful and so practicable as stramonium given in the form of pills compounded of the dried extract of the *United States Pharmacopoeia*. Cases are cited where, so long as the drug was taken regularly, the improvement in both the physical and the mental condition was very marked. Stramonium in this form appears to be well tolerated, but the mydriatic consequences of this drug and others of a kindred nature proved troublesome by depriving the patient of the power of reading. Intravenous injections of sodium salicylate were used successfully in a few cases of secondary exacerbations of the disease. The great majority of the patients, it would appear, derived more or less benefit from the ordered life of the unit, with its discipline, physiotherapy, and facilities for education and entertainment. The improvement was most marked in the milder cases of behaviour disorder, in patients with nocturnal insomnia, and in certain cases of respiratory disorders. During the five years November 13th, 1925, to November 12th, 1930, 328 cases were admitted to the unit, and of this number 49 were re-admissions, largely in respect of children who relapsed after being reclaimed by their parents against the advice of the medical authorities.

The two groups of patients at the Epsom institutions are also under the charge of a specially appointed medical officer, and at West Park section associated 84 encephalitic patients. This form is of course not a new [illegible] extended bacteriological investigation into mental patients. Many of the mental defectives in the Manor are intractable cases which have been transferred from Winchmore Hill. These three institutions, now belonging to one administrative authority, are therefore well co-ordinated, and have undoubtedly played a very desirable part in the study and expert care of post-encephalitis patients received mainly from the metropolitan area. From the social point of view it is all to the good that a considerable proportion of London's chronic cases of encephalitis have at least found safe asylum in one or other of these institutions to their own relief and that of their harassed families; and while no cure for the disease has been found, the experience gained in these hospitals, where continuous observation is possible, has proved the value of certain medicinal palliatives and other lines of treatment suitable for such types of post-encephalitis as are in any way amenable to treatment.

THE HOSPITAL ALMONER

The office of hospital almoner is growing in importance with developments in social legislation. It entails much more than the duty of assessing the means of patients who receive hospital treatment, and collecting their contributions. The hospital almoner is now a member of a highly trained profession. She is expected to be familiar with economics and social sciences and to possess certain special gifts and sympathies. She represents the social service activities of the hospital, and not only acts as a check on the abuse of hospital charity by those who can afford to pay or who are provided for in other ways, but also prevents, as far as possible, the value of hospital treatment and nursing from being frustrated by an unfavourable home environment. It is part of her task to ascertain, for the use of the hospital staff, the patients' home conditions, to co-operate with other agencies in the provision of any requisite ordered, to assist the patients to carry out the prescribed treatment, and to organize after-care on discharge. Not the least of the demands upon her resources is to have an instant knowledge of what organization—State, municipal, or voluntary—might be invoked to meet the needs of a particular case.

The social service activities of hospitals may be said to have started in 1895, first of all at the Royal Free Hospital, with the recognition that hospital treatment was often rendered largely futile if a patient's condition was due to, or aggravated by, the evils of an environment to which he was compelled to return. During the last thirty-five years, by the development of social service departments, with the almoner in charge, hospitals have greatly increased their value to the individual patient, and, through [illegible] co-operation with [illegible] to occasion better [illegible] of the Geneva Conference of 1924-25, that in order to deal effectively with the traffic in dangerous drugs regard must be had to their production *from the source*, no less than to the alkaloids and preparations derived from them, has been justified by experience, and should not be ignored.

founded in 1901, and incorporated in 1922, to select and train suitable candidates for these positions, to keep a register of trained almoners, and generally to extend and develop this side of hospital activity. Last year twenty-three certificates were granted to students who had completed their training, and thirty-nine appointments of certificated almoners to hospital posts were made. Altogether, over 130 head and assistant almoners now serving have been trained under the Institute's auspices. The report of the Institute for 1930 gives an account of the training necessary for the certificate. Students who hold a university degree in history, economics, or psychology are accepted for the practical training, which consists of a period of four months with the Charity Organization Society, and of eleven months with a certificated almoner at a hospital. Students without academic qualifications must qualify for the social study diploma or certificate of a university school of social study, which necessitates two academic sessions of nine months each, and must also, of course, take the practical training of four months and eleven months respectively. The university fees vary from 30 to 50 guineas for the two-year course, and the fee paid to the Institute for the practical training is 20 guineas. No certificate is granted to a candidate under the age of 22. Selection and advisory committees, including representatives of the university, the hospitals, and other social organizations, have been appointed in Leeds, Liverpool, Birmingham, and Newcastle, and students may take the whole of their academic work and part of their practical training in those cities, the other part being taken in London. It is hoped that, as facilities for training increase locally, a greater part of it may be undertaken outside the metropolis.

Already there is a tendency towards specialization, and five certificated almoners have taken training in mental welfare, and are now doing psychiatric social work in clinics and hospitals. The training of hospital almoners offers a very sound foundation for work of this kind, and in future, with the increasing number of such posts, and with greater facilities for training, more almoners are expected to be available. The Institute, the presidency of which has lately been accepted by Lord Moynihan, in succession to Lady Bradford, now occupies premises in a wing of the British Medical Association House, Tavistock Square.

RATIONALIZATION AND PSYCHOLOGY

Applied psychology has found a most useful field in industry, as was to be expected with the development of the idea of rationalization since the passing of the Factory and Workshop Act, 1901. This is brought out in three recent publications: *Industrial Welfare and Personnel Management*,[1] issued by the Industrial Welfare Society; the National Institute of Industrial Psychology's annual report for 1930[2]; and *How to Organize Accident Prevention*,[3] by Eric Farmer. The first pamphlet, embodying the opinions of forty-seven well-known firms, exemplifies the benefits conferred on employer and employee by the application of the principles of industrial welfare. These are, in the main, common responsibility of the employer and employed in the work of the firm, development of social activities in the direction of health, education and recreation, works committees, etc. With rationalization schemes at work the best employers have found that the promotion in the worker of a feeling of security of tenure in his position is of paramount importance. Funds are therefore raised, in some cases by deduction from all wages and salaries, for the relief of those who happen to be temporarily unemployed. There are, however, 140,000 factories in the United Kingdom and some 130,000 workshops, in the bulk of which nothing whatever is done, least of all in the direction of security of tenure. Mr. Seebohm Rowntree has established four new industries in the neighbourhood of his firm's works to absorb surplus labour. How necessary this is appears from his statement that the percentage of misfits has been reduced from 25 per cent. to 5 per cent. through the use of vocational selection. The National Institute of Industrial Psychology came into existence in 1921, partly in order to apply the principles set forth by the Industrial Fatigue (now Industrial Health) Research Board. In the annual report for 1930 instances are given of the excellent work of the institute, such as a saving of £5,000 a year in a potted meat factory, and increased output of 60 per cent. in a rubber goods factory. Although the word rationalization is rarely, if ever, used, the successes obtained are obviously due to the study of details by the institute's able investigators, leading to new lay-out, improved routine, reduction of unproductive time, standardization of methods of work, and the selection of personnel. In one department "four girls maintain the output for which eleven had previously been required." Nothing is said about what happened to the surplus seven. The institute regards the subject of vocational guidance as an important part of its work, and brief particulars are given of what has been done in Birmingham and elsewhere in testing children from schools, and in Borstal institutions. Reading between the lines, however, it is evident that much has yet to be learned, although the institute seems to set no bounds to the extent to which this aspect of its work can be carried. Thus, in his paragraph on tests for perseveration, Dr. Pinard has "prepared a list of eighty-four rateable characteristics which have been associated by various psychologists with perseveration. The subjects to whom he gave his tests of perseveration were assessed on these characteristics, and the results are opposed to Jung's theory that perseveration affords a basis for the division of people into two types—introvert and extrovert. Dr. Pinard found that his tests supplied a basis for division into three types. The moderate perseverators and the moderate non-perseverators form a stable, reliable group which, in particular, have most of the qualities needed in 'leadership.' Both extreme perseverators and 'difficult' non-perseverators prove to be unstable while the former are rebellious,

[1] *Industrial Welfare and Personnel Management*. January, 1931. (1s.)

[2] National Institute of Industrial Psychology, Annual Report, 1930. Aldwych House, W.C.2.

[3] *How to Organize Accident Prevention*. By Eric Farmer. Reprinted from *Industrial Welfare and Personnel Management*. (6d.)

'nervous,' sensitive, and effeminate, the latter are irritable, suspicious, critical, and inconsiderate." With its limited funds the institute is obviously doing important work. A high compliment was paid to its value in the "National Plan" recently published in the *Week-End Review*, where it was said: "The utter failure to apply in industrial production as a whole the knowledge gained in psychology is a primary reason for the friction, inefficiency, and low output which are crippling British economic strength."

BACTERIAL COMPLICATIONS OF FILARIASIS

In 1926 the Royal Society, with the co-operation of the London School of Hygiene and Tropical Medicine, originated an investigation into the bacterial complications of filariasis in British Guiana, and into the so-called "endemic nephritis" of that region. Dr. A. W. Grace, the bacteriologist at Jamaica, was placed in charge of these investigations, and his report has now been issued as No. 3 of the Memoir Series of the London School of Hygiene and Tropical Medicine (published at 8s. in paper cover, 10s. 6d. in cloth, at the school). Dr. Grace is of the opinion that what is generally termed a "filarial attack" is really a lymphangitis, the exciting cause of which, in almost all cases, is the β-haemolytic streptococcus; and that the lymphangitis of elephantoid differs only quantitatively from that of non-elephantoid structures. The available evidence suggests that lymphangitis and elephantiasis, however, do not occur in a race, age group, or country to any extent in the absence of *Filaria bancrofti*. Moreover, subcutaneous and intramuscular abscesses unassociated with lymphangitis are generally due to staphylococci, and there is no evidence to connect them with the filaria. There is no relation between the presence of microfilaria in the blood and the nature of the skin reaction to streptococcal toxin. An examination of 68 various strains of β-haemolytic streptococci collected in British Guiana showed that 60 belonged to the *pyogenes* group, while 8 belonged to the *subacidus* group—these 8 belonging to the same serological type by agglutinin absorption. They do not bear any serological resemblance to streptococcal *subacidus* strains from scarlet fever or erysipelas cases in England or the United States. The commission's investigation into the endemic "nephritis" showed that many of the cases diagnosed as nephritis were really cases of cardiac failure, the error being due to the oedema and slight albuminuria which these patients had on admission. The disease was found to occur almost entirely in East Indians whose diet was mainly parboiled rice. It is associated with oedema of the lower limbs and ascites, sometimes with gastro-intestinal disturbances, fever, and tenderness of the leg muscles. The blood pressure is low, and there is a diminution in the blood content of cholesterol, calcium, and serum proteins, with disturbance in the albumin-globulin ratio. While it is evident that the disease is neither a nephritis nor a nephrosis, the investigation was not extensive enough to state definitely its nature; it seems highly probable, however, that it is either beri-beri or some condition like it. The report is extremely interesting. The view that clinical filariasis is really a streptococcal infection associated with the presence of the worm is of course not a new one, but the extended bacteriological investigation into the streptococci may prove of very considerable importance in the treatment of the disease. Hitherto, search has been made for an active antifilarial remedy for the treatment of filariasis; Dr. Grace's work suggests that more effective results may be expected from antistreptococcal serum. Before this can be effectively introduced in filarial countries an extended series of investigations will be necessary. Particularly it is suggested that strains of streptococci should be collected and classified in countries where lymphangitis and elephantiasis are endemic; and that a fresh filarial, streptococcal, and lymphangitis census should be made in countries where there is considerable filarial infection with little lymphangitis and elephantiasis.

THE TRAFFIC IN DANGEROUS DRUGS

The report recently presented to the Council of the League of Nations by the Central Opium Board continues to deplore the lack of information vouchsafed from some of the most important opium-producing countries, and from such States as Peru and Bolivia, whence coca leaves are largely derived. The tables furnished to the Board show no sort of agreement between the imports and exports of raw opium, while some twelve tons of morphine, at least, were known to have been manufactured in excess of what was apparently required for legitimate purposes throughout the world. Grave discrepancies have been revealed in regard to the average consumption of cocaine and heroin among populations which would appear to have been comparable in such respect. The Board is accordingly led to conclude that the information supplied to it under the terms of the Geneva Convention is insufficient to enable it to act with promptitude in dealing with the enormous amount of illicit traffic which is going on. The largest seizure of opium for some time past has just been made at Alexandria, where ten tons were confiscated on a steamer from Turkey. Only the other day more than a ton of pure opium shipped from Mediterranean ports was seized by the Federal agents in New York. It is not very reassuring to learn, in view of the need to deal with the raw materials from which dangerous drugs are derived, that the question of the production and distribution of raw opium is held to be outside the scope of the International Conference on the Limitation of Dangerous Drugs, which is to assemble at Geneva next month. Presumably, also, the export from India of opium for smoking, which annually amounts to about one million pounds in weight and yields a revenue of nearly £2,000,000, will also be excluded from consideration. It is good to know that the acreage under the poppy in India has now been reduced to 42,186, or less than a third of what it was a few years ago. On the other hand, the fact that in British Crown Colonies like the Straits Settlements, the Malay States, and North Borneo some 15 to 25 per cent. of the total revenue is derived from opium is apt, as at previous international conferences, to occasion hostile criticism. The contention of the American delegation, at the Geneva Conference of 1924-25, that in order to deal effectively with the traffic in dangerous drugs regard must be had to their production *from the source*, no less than to the alkaloids and preparations derived from them, has been justified by experience, and should not be ignored.

JOHN ABERNETHY

John Abernethy was born in the City of London on April 3rd, 1764 ; he died at Enfield on April 20th, 1831, and was buried on April 28th. "The greatest result of his life," wrote Sir Norman Moore, "has been the impetus which he gave to medical teaching at St. Bartholomew's and throughout England." The centenary of his death was commemorated on Monday last by the Abernethian Society of St. Bartholomew's Hospital, at whose invitation Sir Arthur Keith gave a most interesting address entitled, "Fresh light on John Abernethy." This was based in large part on the diaries of William Clift, one of Sir Arthur's predecessors in the office of Conservator of the Museum of the Royal College of Surgeons. The thirty-one volumes of Clift's diaries, beginning in 1811 and ending in 1842, are preserved in the Library of the College. "It was while rummaging in Clift's diaries, and being made to see Abernethy through Clift's eyes, that the great surgeon of St. Bartholomew's—the founder of your Society and School—became also a hero of mine." Sir Arthur Keith recalled how Abernethy used his influence to have Clift elected a Fellow of the Royal Society, and how the two men became fast friends.

"Then, in 1824, comes one of the most dramatic episodes in medical history—one in which Abernethy and Clift had each to play a part. Abernethy was then Chairman of the Board of Curators—the name given at that time to the Museum Committee. Clift had learned from the great and omnipotent Sir Everard Home—almost by accident—that the Hunterian documents and manuscripts had been deliberately burned.[1] The little Conservator turned in wrath from his patron, Sir Everard Home, and sought his chairman, John Abernethy, who by this time had refused a baronetcy. Of the men who had sat at the feet of Hunter, Abernethy best understood the greatness of the master, and struggled more successfully than any of his contemporaries to keep alive the example and teaching of one of the greatest medical philosophers the world has ever known. Hunter was the common hero of Abernethy and Clift. They put their heads together ; they brought Everard Home to book."

In phrases such as these the lecturer set before his hearers the personality and the career of Abernethy, and we are glad to know that his address will be published in full in the *St. Bartholomew's Hospital Journal*. At page 719 of our present issue appears a character sketch of Abernethy, signed with initials which need no interpretation to students of medical history or to students of St. Bartholomew's.

CULTIVATION OF PYRETHRUM IN ENGLAND

The issue of *Nature* for April 11th contains an interesting article by J. C. F. Fryer and C. T. Gimingham of the Plant Pathological Laboratory, Ministry of Agriculture, on the cultivation of pyrethrum in England. It has long been known that the flowers of certain species of pyrethrum (*Chrysanthemum*) possess insecticidal properties harmless to man and warm-blooded animals, but it is only within the last ten years that a detailed knowledge of these plants has become available. At present about 70 per cent. of the world's supply of pyrethrum is provided by Japan, although the plant is grown commercially for home consumption in Switzerland, France, and North Africa. Experiments in cultivation were started in England in 1925 by the Plant Pathological Laboratory of the Ministry of Agriculture, small plots being laid down on different types of soil at some sixteen centres. These experiments, which were carried out in co-operation with the insecticides and fungicides department of Rothamsted Experimental Station, demonstrated that pyrethrum could be grown and harvested successfully under English conditions, and that the insecticidal efficiency of the product was not less than that of imported samples. During the last two years evidence has accumulated that many samples of pyrethrum grown in England contain an exceptionally high percentage of pyrethrins, and the possibility of evolving improved strains is under consideration. Whether the cultivation of pyrethrum in this country is economically feasible has still, however, to be determined, and another series of experiments on a larger scale has been undertaken to ascertain the necessary data. The authors suggest that the labour costs entailed in having the flowers cut by hand would be considerably reduced if a mechanical means of harvesting could be devised. In recent years preparations of pyrethrum for use as horticultural spray fluids have been placed on the market in America, and kerosene extracts of the flowers have been widely sold as fly sprays. Although the resistance to the effects of pyrethrum has been found to vary somewhat in different kinds of insects, there seems to be no doubt that the pyrethrins, which appear to act as nerve poisons, are among the most potent insecticides known. It is not improbable that further investigation will reveal how the remarkable properties of this plant may be applied in other directions.

[1] For an account of this disaster see Sir Arthur Keith's Vicary Lecture on Clift, *British Medical Journal*, 1923, ii, 1130.

We have to announce with much regret the death, on April 19th, of Dr. James Lorrain Smith, F.R.S., professor of pathology and dean of the Faculty of Medicine in the University of Edinburgh. An obituary notice will appear in our next issue.

Sir Thomas Lewis, M.D., F.R.S., will deliver the St. Cyres Lecture for 1931 at the National Hospital for Diseases of the Heart, Westmoreland Street, W.1, on Thursday, May 14th, at 5 p.m. His subject is "Ischæmia of muscle as a cause of anginal pain."

The seventh annual Conference on Social Work will be held at Bedford College, Regent's Park, during this week-end (April 25th to 27th). The main theme of the discussion will concern the development in social work since the beginning of the present century. The principal meeting, on Saturday afternoon, will be addressed by Mr. A. M. Carr-Saunders, Charles Booth professor of social science in the University of Liverpool, when Sir Harold Morris, K.C., president of the Industrial Court, will be in the chair. Dr. Cyril Burt, psychologist to the Education Department of the London County Council, will address a meeting on Sunday afternoon on the new methods of treating the "difficult child." The conference this year is organized by the Association of Hospital Almoners.

Nova et Vetera

JOHN ABERNETHY, 1764–1831

The centenary of the death of John Abernethy on April 20th recalls that for the first quarter of last century the surgical practice in London was almost equally shared by two men who differed from each other as much physically as they did mentally. Astley Cooper, tall, handsome, genial, speaking with a broad Norfolk accent, a great operating surgeon, was the idol of students at the United Borough Hospitals; John Abernethy, "podgy," of somewhat ordinary appearance, whimsical, caustic, and no lover of operative surgery, was rather respected than loved by his pupils at St. Bartholomew's Hospital. Both alike were perfectly honest, and both were ethically correct at a time when charlatanism was rampant and professional jealousy ran so high that duels were not infrequent. Both were great teachers—Cooper the more practical, Abernethy the more philosophical. Both derived from John Hunter, and the very fact that they were so opposite serves to show the greatness of the master teacher, for no other single mind could combine all his qualities.

JOHN ABERNETHY, F.R.S.
Engraved in 1827 by William Bromley, A.R.A., from the portrait by Sir Thomas Lawrence, P.R.A., now in St. Bartholomew's Hospital.

The success of Abernethy must be attributed in great measure to his personality. With an early bias towards the Bar, he seems to have drifted into surgery almost by accident, and in 1779 was apprenticed to Sir Charles Blicke, an assistant surgeon to St Bartholomew's Hospital. Elected assistant surgeon himself at the age of 23, he had to wait twenty-eight years before he came on to the full staff as surgeon. During all those years he had few opportunities to operate, for as assistant surgeon he only had charge of beds when his senior was away on holiday, and there were no special hospitals to which he could attach himself. Astley Cooper was more fortunately placed, for, by nepotism in its best sense, he came on to the full staff at Guy's Hospital at the age of 32, and quickly developed into a great operating surgeon.

Abernethy, like all his contemporaries, based his work on human anatomy, but, unlike many, he used anatomy as a guide to physiology, as it was then understood, and was among the first of those who may be called surgeons with the mind of a physician. He taught in later years that many surgical problems might be solved by looking for constitutional defects or weaknesses; in other words, that the body worked as a whole, and that the old fable of "The Belly and its Members" was literally true. He ran his hobby too hard, but it had a kernel of truth, and was useful to the overfed and sedentary Londoners who formed the greater number of his patients.

By sheer good fortune, and early in his career, Abernethy was brought in contact with Dr. David Pitcairn, who recognized that there was a general desire in the profession for better and more scientific medical teaching. Dr. William Hunter had gathered round him in Windmill Street a brilliant collection of teachers—John Hunter, William Hewson, William Cumberland Cruikshank, John Sheldon, and Matthew Baillie—who taught both by example and by precept, and were laying the foundations of scientific surgery in a manner which had never previously been attempted in any country. The success of Percivall Pott as a lecturer probably suggested to Pitcairn and Abernethy that it might be advantageous to the hospital if regular courses of lectures were given by members of the staff. Pitcairn taught medicine, and was the first to make known that valvular disease of the heart was a frequent sequel of rheumatism; Abernethy undertook to teach anatomy, physiology, and surgery, and presently Thomas Wheeler proved himself an able apothecary and a first-rate teacher of field botany. The governors of the hospital entered heartily into the scheme, built a lecture theatre and a dissecting room in 1791, and regularized the old-standing custom of clinical teaching in the wards for all who chose to pay the required fee. The school was an immediate success, and its reputation was enhanced by a succession of brilliant physicians, surgeons, and teachers, amongst whom were Drs. John and Peter Mere Latham, Dr. Samuel Gee, Sir Lauder Brunton, Sir William Lawrence, Sir James Paget, Sir Richard Owen, and Sir William Odling.

The successful launching of the new school was due chiefly to Abernethy's lectures, which were so dramatic that he soon drew crowds to listen. Pettigrew says that his method of entering the lecture theatre was often irresistibly droll—his hands buried deep in his breeches pockets, his body bent slouchingly forward, blowing or whistling, his eyes twinkling beneath their arches, and his lower jaw thrown considerably beneath the upper. Then he would cast himself into a chair, swing one leg over an arm of it, and commence his lecture in a most

outré manner. Many of the lectures dealt with the constitutional origin and treatment of local diseases, a subject of which he never tired, and (says Dr. Peter Mere Latham, one of his pupils) he taught it with all his enthusiasm. "He so reasoned it, so acted it, so dramatized it, and then in his own droll way he so disparaged the more laborious researchers after truth, calling them 'the doctors,' and so disported himself with ridicule of every system but his own, that we accepted the doctrine in all its fullness. We should have been ashamed to do otherwise. We accepted it with acclamation, and voted ourselves by acclamation the profoundest of medical philosophers at the easy rate of one half-hour's instruction. The great Lord Chatham, it is said, had such a power of inspiring self-complacency into the minds of other people that no man was ever a quarter of an hour in his company without believing that Lord Chatham was the first man in the world and himself the second, and so it was with us poor pupils and Mr. Abernethy. We never left his lecture room without thinking him the prince of physiologists and ourselves only just one degree below him." This facility in lecturing appears only to have developed slowly, for Abernethy was essentially a shy man, and in the early part of his career as a lecturer he often had to leave the theatre to collect his thoughts.

Many of the stories of his brusqueness were undoubtedly due to this shyness, but towards the end of his life he became more whimsical and was less tolerant of patients whose illnesses were due, in his opinion, to their own loss of self-control. He was, too, a good economizer of time, so that he was always punctual, and had little patience with those who were prolix or overlong in describing their symptoms. Realizing that "time is money," he never kept his hospital patients waiting, and would refuse a consultation or cut short a garrulous person that he might be in his out-patient room as the clock struck the hour. He was no respecter of persons, and on occasion could be downright rude, as when he was consulted by H.R.H. Frederick, Duke of York. Abernethy stood before his august patient whistling, and with hands in his pockets. The Duke, in astonishment, said, "I suppose you know who I am?" "Suppose I do," said Abernethy, "what of that? Cut off the supplies, as the Duke of Wellington did in his campaigns, and the enemy will leave the citadel." In like manner Lord Tennyson used to tell of a Lincolnshire farmer who came complaining of discomfort—weight and pain—in his head. The doctor said, "How much ale do you take?" "Oh, I taakes my yale pretty well." Abernethy (with great patience and gentleness): "Now then, to begin the day, breakfast; what time?" "Oh, at haafe past seven." "Ale then, how much?" "I taakes my quart." "Luncheon?" "At eleven o'clock I gets another snack." "Ale then?" "Oh, yees, my pint and a haafe." "Dinner?" "At haafe past one." "Any ale then?" "Yees, yees, another quart then." "Tea?" "My tea is at haafe past five." "Ale then?" "Noa, noa." "Supper?" "Noine o'clock." "Ale then?" "Yees, yees; I taakes my fill then, I goes to sleep arterwards." Like a lion aroused, Abernethy was up, opened the street door, shoved the farmer out, and shouted after him, "Go home, sir, and let me never see your face again. Go home, drink your ale, and be damned." The farmer rushed out aghast, Abernethy pursuing him down the whole length of Bedford Row with shouts of "Go home, sir, go home and be damned." Yet if Abernethy was merciless to patients of this class, he was unsparing in his attentions to those who were deserving of his pity, and he died a comparatively poor man.

D'A. P.

LONDON VOLUNTARY HOSPITALS COMMITTEE

We have received from the honorary secretary of the London Voluntary Hospitals Committee a copy of the report (printed substantially in full below), containing an account of several matters of interest to hospitals which have recently been under discussion between that committee and the Central Public Health Committee of the London County Council.

CONFERENCES WITH THE CENTRAL PUBLIC HEALTH COMMITTEE

The London Voluntary Hospitals Committee has now been in existence for a year. It was specially set up for the purpose of consultations with the London County Council under Section 13 of the Local Government Act, 1929, the elections taking place in accordance with a scheme drawn up by a Joint Committee of King Edward's Hospital Fund, the Conference of Teaching Hospitals, and the London Regional Committee of the British Hospitals Association. A broad interpretation has been placed upon Section 13, both by the committee and by the Central Public Health Committee of the London County Council. To quote a recently published report of the latter body to the Council:

> "The voluntary hospitals representatives, for their part, have disclaimed any wish to press for a strict reading of the section where small matters are concerned, and we on our part have readily acceded to their wish to be consulted at an early stage on all matters of moment. Mutual desire was expressed, and agreement come to, that the machinery of Section 13 of the Act of 1929 should be used for exchange of information to the advantage of both the public and the voluntary hospitals services."

The meetings which have taken place between representatives of the two bodies are referred to by the Central Public Health Committee as "interesting and helpful." The committee has been assured by the chairman of the Central Public Health Committee that the committee receives the earliest information it is possible to give concerning the schemes projected by the Council.

The committee has kept in touch with its constituent hospitals by means of a series of reports, which have also been sent to the members of the area committees and Non-localized Special Hospitals Committee, by whom the central committee is elected. No occasion has yet arisen to call together the area or other committees for consultations, as the London County Council decided at an early date to postpone the area organization of their own services that had been foreshadowed.

Grants to Voluntary Hospitals

Among matters which have been discussed by the committee with the London County Council are questions relating to the financial policy of the Council in regard to voluntary hospitals. The committee has ascertained that there is no present likelihood of the Council departing from their existing practice of not making capital grants to voluntary hospitals. As regards maintenance, while the Council are not disposed to make grants for general maintenance, they are willing that payments for specific services required by the Council and rendered by voluntary hospitals to the sick poor should be continued, and that the application of this principle should be, if possible, extended. It will be remembered that this distinction was also drawn by Lord Cave's Committee. The Council have agreed to the committee's request that as an interim arrangement contributions to voluntary hospitals of similar amounts to those contributed by the late guardians in 1929 should be paid for the year to March 31st, 1931, by the Council, on the understanding that the payments are without prejudice to whatever financial arrangements the Council may decide to make after that date.

The committee's representatives at their last conference with the Central Public Health Committee strongly urged that the Council should not rigidly insist upon themselves treating all patients chargeable to them, if there were a choice of voluntary or Council accommodation. The Council took the view that it is their first duty to keep their own beds occupied, and that, while they cannot pay voluntary hospitals for services they can themselves supply, they adhere to the principle as to grants for specific services rendered at their request.

The Council have submitted to the committee for its observations their proposals for scales of salary and conditions of service for medical staff, nurses, stewards, and clerical staff.

Pathological Service for Council Hospitals

The provision of pathological laboratories at the Council's hospitals has been discussed with the committee. The Council have in mind as an ultimate ideal a well-equipped and adequately staffed laboratory in every general hospital, and one or more central laboratories for the specialized pathological work requiring expert knowledge and elaborate equipment. Their immediate proposals provide for the establishment of five "group" laboratories, suitably located, capable of dealing with the more specialized pathological work. The first of these "group" laboratories will be ready to function this month. Two others will be completed in three or four months' time. The last two will be ready for use towards the end of this year. The late Metropolitan Asylums Board had already provided adequate laboratory services at the northern and southern "group" laboratories for the special hospitals, and also for the production of therapeutic serums at Belmont Laboratories. The committee cordially agreed with the view that it was most desirable to provide an adequate pathological service for every general hospital dealing with acute cases, and recommended that in the formation of "group" laboratories advantage should be taken of existing pathological departments of the voluntary hospitals, though the Council did not eventually see their way to adopt this suggestion.

The committee was, at an early stage, given an opportunity to consider the rates of pay proposed by the Council for pathologists and technicians, and was able to arrive at an understanding concerning the very few cases in which its views differed from those of the Council. The Council have recently published details of their decisions in this matter.

Medical Education in Council Hospitals

A memorandum was prepared by the committee, at the invitation of the Council, upon the use of municipal hospitals for medical education, and upon the methods of staffing that the committee would recommend. It was submitted that the appointment at the municipal hospitals of resident house-physicians and house-surgeons would prove of the greatest value in the post-graduate education of recently qualified men and women. The Council concurred in this suggestion, and provision has already been made for such appointments. The committee also recommended that the present consultant services at municipal hospitals be extended, and that an advisory board or boards be constituted by the Council for the purpose of recommending consultants for appointment by them. The Council, however, decided that the existing arrangements shall be continued and reconsidered in a year's time, when further experience has been obtained. Opportunities for students to visit municipal hospitals for the purpose of studying diseases more often seen in those institutions than in voluntary hospitals have been much appreciated. Therefore the committee suggested that such opportunities should be extended by encouraging closer co-operation between teaching and municipal hospitals wherever possible. This suggestion was accepted by the Council.

Maternity Beds for Teaching Purposes

The committee discussed with the Council the shortage of obstetric beds at teaching hospitals for instructing medical students. The suggestion had been put forward by responsible committees inquiring into kindred matters that some arrangement should be made whereby cases in rate-supported hospitals might be made available for medical students. A subcommittee was appointed, and several eminent obstetricians, not themselves members of the committee, were co-opted to serve on it. The medical schools were also consulted. The recommendations of the subcommittee subsequently formed the basis of a discussion with the County Council. The Council, while stating that the existing maternity units in their general hospitals were not of sufficient size to be suitable for teaching purposes, and were fully used for the training of nurses, acquiesced in the principle of allowing the teaching of students in connexion with their maternity beds as and when satisfactory arrangements could be made and suitable units were available.

Inquiries have been made regarding responsibility for providing in-patient accommodation for maternity cases as between the County Council and the metropolitan borough councils, grants for this purpose having been made in the past by the Ministry of Health. It has been suggested by the Council that voluntary hospitals seeking maintenance grants towards additional maternity beds should make their applications to the borough councils, as being the maternity and child welfare authorities in London.

Mental Treatment

The committee arranged two conferences, which took place at the Board of Control in connexion with the Mental Treatment Act, 1930. Representatives of the Board outlined the facilities provided by the Act for treating mental patients in voluntary hospitals, and drew attention to the power of the county authorities to contribute to the cost. The Board has been requested to keep in touch with the hospitals, and to forward details of their requirements regarding the accommodation to be provided when available.

Through Lord Riddell's illness the committee has for some months been deprived of its chairman, who has, however, now returned to active affairs. Sir Henry Jackson has been elected deputy chairman, and has acted as chairman in Lord Riddell's absence. Mr. E. Vernor Miles is the honorary treasurer, and Dr. Geoffrey Evans the honorary secretary.

WEST LONDON POST-GRADUATE COLLEGE

SIR HENRY SIMSON ON POST-GRADUATE OPPORTUNITIES

The opening session of the West London Post-Graduate Medical College was held at the West London Hospital, Hammersmith, on April 15th, when Sir HENRY SIMSON, the dean, delivered an address on the importance of post-graduate study, and explained the system of education pursued at the College. He began with a reference to the impending reconstruction of West London Hospital, whereby extended accommodation will be available for patients, with provision for paying patients, for whom there will be a sliding scale of fees. He mentioned that the medical staff of the hospital had given a donation of 500 guineas towards the building fund.

Several methods were available, Sir Henry Simson continued, for the man in practice who desired to take up some form of continuing education. One of the oldest systems was for the young doctor to become assistant to, or partner of, an older practitioner; another was for him to obtain a post as house-physician or house-surgeon in a hospital. But the value of the first of these methods depended, obviously, on the experience of the senior and his ability or willingness to impart it; while as to the second, only a limited number of appointments were available. There were other ways open, of much more importance to the generality of medical men. A method which had been for many years well recognized on the Continent, particularly at Vienna, was the setting up of

a great post-graduate school. The school at Vienna had a high reputation, and attracted doctors from all parts of the world; a large hospital of over 1,000 beds was attached, with all the leading medical men of Vienna on its staff, and there were excellent laboratories and every facility for research. A great imperial post-graduate college on these lines, situated in London, and staffed by the leading men in the profession, was certainly the ideal, and he hoped that for the credit of the profession such an organization would come into existence. But the financial undertaking would be very large, and in London especially there would be difficulty in securing staff, because the undergraduate schools attached to the great hospitals absorbed the available teachers. A second method was through such a development as the Fellowship of Medicine, housed at present in the premises of the Royal Society of Medicine. The Fellowship was undoubtedly doing a very valuable work, and its secretaries were in touch with all the London hospitals, where intensive courses were arranged throughout the year. It suffered, however, from the fact that it could not supply all the facilities for instruction under one roof. The third method was the one made available by the West London Post-Graduate College, started many years ago by the late Mr. Leonard Bidwell. It offered, what the great majority of practitioners most wanted, a place where they could go and examine a large number of cases of many different kinds of disease.

Certain difficulties stood in the way of the practitioner desiring to undertake post-graduate training. The general public, to begin with, had not been educated to recognize the value of post-graduate education. A certain number of people were inclined to say that a man could not be a really good doctor because he found it necessary to go back to the hospital for instruction. In America, where the public were fully alive to the importance of post-graduate study, the contrary was the case. Several post-graduate societies were established in the States, and practically every year 200 or 300 members of those societies came over to Europe together and made a tour of the important medical centres. The idea of the American patient was that unless his doctor took advantage of one of these tours every now and then, he could not be a progressive man, alive to modern developments in medicine. A further difficulty of the general practitioner was to secure time for post-graduate study. He was uncertain of his hours, and could not always get away for a scheduled course. All sorts of emergencies might hold him up. Moreover, to take a short intensive course was expensive, not on account of fees, but owing to the arrangements he had to make for his practice to be carried on in his absence. His annual holiday seemed too precious for a fortnight of it to be earmarked for post-graduate work. Altogether the special circumstances of the general practitioner were best met by a large general hospital, easily accessible, and with large out-patient and casualty departments. Any of the under-graduate teaching hospitals in London would meet this need were it not for the impossibility of effectively combining undergraduate and post-graduate teaching. The undergraduate wanted lectures and elementary instruction in diagnosis. The graduate did not so much want lectures; discussions on prognosis and treatment were likely to be of far more value to him than the comparatively simple matter of diagnosis.

It was with this idea in mind that Bidwell conceived the plan of the West London Post-Graduate College. Only graduates were allowed to attend hospital practice there, and every day, from 10 to 5, the departments were available for continuous instruction by different members of the staff. Special facilities were given to practitioners in the neighbourhood of the hospital, who, on taking a yearly ticket for a small sum, were enabled to spend an hour or two in the hospital at any time they happened to be free. Sir Henry Simson pointed out the large area served by the hospital—the whole of London west of Hyde Park Corner—and said that the present handicap, lack of accommodation, would, he hoped, soon be remedied under the energetic lead given by the chairman of the hospital, Sir William Wells.

England and Wales

Centenary of Leeds School of Medicine

The centenary of the Leeds School of Medicine will be celebrated by the University on June 30th and July 1st. The ceremonies include a civic reception by the Lord Mayor of Leeds (Dr. Arthur Hawkyard), an honorary degree congregation, a visit to the Leeds General Infirmary, a dinner, and a ball. The celebration marks the centenary of an institution known successively as the Leeds School of Medicine (1831-84), the Medical Department of the Yorkshire College (1884-1904), and the School of Medicine of the University of Leeds (since 1904). Among the founders were T. Pridgin Teale, sen., still quoted in *surgery*; sons of the famous William Hey; and C. Turner Thackrah and Sam Smith, whose researches on the relations of industry and disease had a substantial influence on the passing of the first Factory Acts. There has not been any period in which a distinguished name has been wanting, and within living memory T. Pridgin Teale, jun., Clifford Allbutt, Wheelhouse, Jessop, McGill, Mayo Robson, and Moynihan (the last two being still members of the School) have all contributed largely to the progress of medicine and surgery. The century has witnessed a very great consolidation of academic and clinical interests and a substantial increase of accommodation and equipment for teaching and research in all branches.

Home Ambulance Service

It is apt to be forgotten that the extensive organization of an efficient ambulance service is largely a post-war development. This fact is strikingly brought out in the twelfth annual report of the Home Service Ambulance Committee of the Order of St. John and British Red Cross Society for 1930, which contains a brief historical survey of recent progress. In 1906 a Government committee was set up to inquire into the provisions that existed for dealing with accident and sudden illness in the streets of London, and reported that 60 per cent. of the street casualties outside the area of the city were transported to hospital by some mode of conveyance other than by litter or ambulance. It found that improvised vehicles such as carts and cabs had been utilized for conveying patients with fractures of the spine, skull, and pelvis, and concluded that more than a third of the seriously injured or incapacitated were transported by means likely to aggravate their condition. In the large provincial towns arrangements for invalid transport were, as a rule, equally unsatisfactory. Plymouth, for example, had no motor ambulance for civilian needs in 1914, a few hand-propelled litters being used by the police in cases of accident. In that district to-day there is a large three-storied central ambulance station and substations at Devonport and Stonehouse. In 1921 the number of cases dealt with was 3,020; in 1929–30 the number was 24,826. Before the war conditions in country districts were even worse than in the towns, since patients confined to bed had little hope of treatment outside their own homes. Strenuous efforts have been made by the Home Service Ambulance Committee to organize efficient services in rural areas, not only by providing vehicles at selected stations, but in linking up invalid transport with first aid. The meritorious work of the auxiliary branches—the first-aid road service and the mobile *x*-ray service—have been frequently referred to in these columns. According to the report a new mobile *x*-ray outfit has been designed by the committee's radiographer, which is considered to be as efficient as the stationary installations in the *x*-ray departments of the

large hospitals. In a general review of the year's work, the committee states that 325 ambulance stations have been established, including 95 ambulances affiliated to the service. During 1930, 111,335 patients were transported, bringing the total number carried since the service was instituted up to 958,400. About a dozen stations have been equipped since the last annual report was issued.

Royal Sussex County Hospital: New Operating Block

A new operating block at the Royal Sussex County Hospital, Brighton, was opened by Lord Moynihan, President of the Royal College of Surgeons, on April 16th. An extension of the operating theatres at this institution has been proposed for some time, and when in 1929 the number of operations performed at the hospital during the year reached 2,600, having been only 1,700 in 1925, the board felt that it was not in the best interests of the patients to delay further the erection of larger and more up-to-date theatres. The building of the new block was therefore started, the construction being based on an experience gained regarding the theatres of some twenty other hospitals. The Royal Sussex County Hospital had made a centenary appeal for £100,000 in 1926, but the sum realized was only £45,000, insufficient for progress to be made with regard to the theatre services. Therefore a special theatre fund was opened in 1929, and received some generous donations, amounting to close upon £9,500, leaving about £6,000 still to be collected. The total expenditure on the new operating block has been £15,500, this including the cost of constructing a necessary corridor bridge between the block and the main building. The block comprises two theatres, with a central sterilizing room, two anaesthetic rooms, a room for the surgeons, an *x*-ray room (not to be equipped until funds are available), and rooms for auxiliary purposes. In addition to furniture transferred from the existing theatre, new antiseptic equipment has been purchased, costing not far short of £1,000.

Lord Moynihan, addressing a gathering presided over by Major Lawrence Thornton, president of the hospital, and including the Mayor and Mayoress of Brighton and other prominent Sussex people, said that he liked always to give his best support to the principle of the voluntary hospitals. One heard on all hands, especially since the advent of the present Government, that the voluntary principle was moribund, out of tune with the times, and incapable of enabling hospitals to fulfil their obligations to the community. But under the voluntary system the hospitals of this country, outside London, showed an excess of £1,250,000 of income over expenditure, and added not fewer than 1,000 beds to their accommodation every year. The voluntary principle was not dead; it was still in its infancy, but it required much better organization than it had yet received. Incidentally, in describing hospitals as the training ground for doctors and nurses, Lord Moynihan paid a warm tribute to nurses, and said that as one who had had a measure of success in his profession he bore his honours guiltily, because so much of what he was supposed to have done had really been done by the nurse. He believed that no hospital in the country dealt with nurses as they deserved to be dealt with, and there ought to be much more adequate remuneration for them and better provision for their future. Incidentally, Lord Moynihan received, on behalf of the nursing staff at the Royal Sussex, a presentation of £55 10s. as a contribution of the nurses towards the theatre fund. With regard to the new operating theatre —except as regards one matter which with him was a personal whim rather than a professional criticism—he had never seen anything better in any institution he had visited. The spirit of the hospital was quite admirable, and he considered it a signal honour to be allowed to associate himself with the work that was being done.

Leicester Public Medical Service

The report of the board of management of the Leicester Public Medical Service for 1930 shows that the activities of this service are being well maintained. There were sixty-seven fewer subscribers to the various sections of the service than in 1929, mainly due to a falling off of subscribers to the people's dispensary and the Star benefit. Arrangements are being made whereby the fee for medical attendance on members residing in the county shall be higher than that paid by city members. The board points out that, as a result of industrial depression, money has been difficult to collect, and urges acting members to advise suitable people to become subscribers to the Public Medical Service. The number of prescriptions during 1930 was 216,169, as compared with 228,776 in 1929. There has been an increased attendance during the past year in the ophthalmic, aural, radiological, and dental departments. The benevolent fund, established and maintained by donations from the trustees of the late Miss Sarah Barlow and the medical profession in Leicester, has greatly assisted those uninsured patients unable to buy insulin at the ordinary price. It is proposed to revise the Leicester pharmacopoeia by adopting the national formulary. The report of the committee of the Union of Medical Practitioners (Leicester Subdivision) for 1930 confirms the excellence of the scheme for collective locum-tenencies. Donations to medical and allied charities amounted to £128 15s.

King Edward VII Sanatorium, Midhurst

In the twelve months ending July, 1930, there passed through King Edward Sanatorium 207 patients, as compared with 187 in the previous year. Since October, 1924, artificial pneumothorax has been performed on 98 patients; 72 of these have continued this treatment since leaving the sanatorium, and of these 63 are still alive, 44 having no sputum now, or no tubercle bacilli in it. Refills have ceased in 32 of these 63, and 26 of them have now no expectoration, or it is tubercle-free. All the cases were positive before pneumothorax was first induced. In the pathological department the investigation of the filterable stage of the tubercle bacillus has been continued, and no evidence has been found that such filtrates can produce a true tuberculous inflammation, nor have bacilli been detected in the lesions produced by filtrates. The statistical department publishes as hitherto an account of its study of the ultimate results in the case of patients of differing degrees of infection. Copies of the report may be obtained (price 1s., post free) from the medical superintendent, the Sanatorium, Midhurst, Sussex.

The Late Lord Stamfordham

The Management Committee of King Edward's Hospital Fund for London has adopted a resolution placing on record its sorrow at the death of Lord Stamfordham, whose connexion with the work of the Fund began in 1901, and who, from the time of the passing of the Act of Incorporation in 1907, had been a member of the council.

"As the result of the direct personal supervision exercised over the Fund by its Royal President, Lord Stamfordham, as his private secretary, was, during the years 1901 to 1910, brought into close and almost daily touch with the details of its work; and from 1910, when the King, on his accession, became its Patron and declared his unabated interest in all that concerned its welfare, Lord Stamfordham continued his association with the Fund in his double capacity as a member of the council and as the channel of official communication with His Majesty. Throughout the whole of this period of thirty years the Fund had the benefit of his vast experience and his unfailing wisdom, tact, and charm in dealing with men and affairs, and his presence and assistance will be very greatly missed."

Scotland

Paying Patients in Hospitals

The Right Hon. William Adamson, M.P., Secretary of State for Scotland, opened on April 2nd, at the Royal Victoria Infirmary, Glasgow, a new building which is intended to provide treatment for patients who occupy a position between those for whom free attendance is admissible and those whose finances permit of expensive treatment at private nursing homes. Mr. William Gray presided, and stated that this extension of the general hospital services was in the nature of an experiment. As a result of the report of the Departmental Commission appointed in 1925 to inquire into hospital services in Scotland, the governors of the Royal Victoria Infirmary had decided to provide accommodation for a section of the community for which little provision at the present time existed. They had been able to offer a moderate scale of fees, amounting to six guineas per week for the first three weeks, and three guineas per week thereafter. The patient therefore would know exactly what his financial responsibilities were before he entered the hospital. In declaring the annexe open Mr. Adamson recalled that since the first building of this hospital was opened in 1890 with eighty-four beds, many advances had been made. The accommodation in the main hospital was now 380 beds, and various facilities had been added with the progress of knowledge, including a large outdoor dispensary, a convalescent home, and an auxiliary hospital. The present experiment, he thought, would be successful. In his opinion this extension of the hospital services was bound to come. It would be self-supporting, and it would in no way interfere with funds for the treatment of patients who could not afford to pay anything, so that the charitable work of the Infirmary would be continued as before. It was ideal that a paying annexe should form an integral part of an infirmary, for this ensured to the patients all the advantages which only a large, modern, and fully equipped medical institution could provide. This experiment in a new field of public service would be watched with the closest interest, and he congratulated the governors on their enterprise. The annexe forms a wing of five stories, the ground floor being devoted to accommodation for nurses, and the first and second floors containing two wards, each with twelve beds, and, in addition, eight single rooms for special surgical cases. Each floor has a small kitchen for special cooking, and a day room for the use of patients who are able to move about. Admission to this department will be restricted to persons whose income does not exceed £500 per annum, and the treatment will be the same in all respects as that provided in the other wards of the hospital.

Edinburgh Maternity Hospital

At the annual meeting of the Edinburgh Royal Maternity and Simpson Memorial Hospital, held in the City Chambers, Edinburgh, on April 10th, Lord Provost Whitson, who presided, mentioned that the number of patients treated in the wards of the hospital in the past year—namely, 2,469—was the highest since the foundation of the hospital, being an increase of 118 over the figure for the preceding year. The total number of cases, including outdoor cases and those dealt with by the Leith branch of the hospital, was 3,506—an increase of 225. Women, he said, were availing themselves more and more of the ante-natal clinics; during the past year the total number of attendances at these clinics was 10,000, while at a post-natal clinic the attendances numbered 1,315, and at a baby clinic, 534. These figures all showed a considerable increase over those for the previous year. The revenue for the past year amounted to £12,902, and the expenditure to £14,978. To balance this deficiency the directors had been compelled to draw on the reserve fund; this was a matter for regret, because legacies could be regarded only as fortuitous gifts. With regard to the amalgamation of the hospital with the Royal Infirmary, the erection of a new and up-to-date maternity hospital on the site of the present George Watson's College at the Meadows would form part of the building scheme, but it would be at least five years before this maternity pavilion was ready. He therefore emphasized the necessity of obtaining a larger annual income from subscriptions, because the increasing work of the hospital was demanding a constantly increasing expenditure.

Kilmarnock Drainage Scheme

An inquiry was opened on April 15th by the Scottish Department of Health in Kilmarnock into a proposal of the corporation to introduce a new drainage scheme by which the burgh sewage would be carried directly to the sea in pipes instead of being passed into the open river as at present. It is proposed to carry the outlet of the sewer three hundred yards below the low water mark of the ordinary spring tides. Objections were lodged on various grounds by neighbouring burghs, the railway company, by golf clubs, and by some private individuals. It was pointed out that the disposal of the burgh sewage, which had been a problem for about thirty years, could be solved by either subjecting the sewage to some system of inland purification, or by having it carried direct to the sea. The first suggestion, however, involved certain difficulties—namely, the disposal of residual sludge, the elimination of unpleasant odours, the formation of a breeding-ground for flies, and the occupation of land which might be useful and valuable for other purposes. At present the sewage is discharged into Kilmarnock Water by nineteen main outfalls and by some hundreds of private pipes, with consequent pollution of the river. Dr. J. R. Currie, professor of public health in the University of Glasgow, described the proposed scheme as one of outstanding merit. It would enable the sewage to be discharged into the sea at a point where it would be immediately absorbed in a very large volume of water, and pollution of the beach would be infinitesimal.

Glasgow Hospital for Sick Children

At the forty-eighth annual meeting of the Glasgow Royal Hospital for Sick Children, the Earl of Home, who presided, spoke of the proposed addition of a completely equipped orthopaedic department. It was intended that this should form the centre for orthopaedic work in Glasgow and the central and south-western districts of Scotland. He referred to the Orthopaedic Hospital in course of construction near Edinburgh, which would be completed within a year, to serve a similar purpose for the south-eastern area of Scotland, and to the country branch of the hospital, opened last autumn, which would be able to treat 1,000 children every year at an annual cost of about £6,000. In seconding the report the Rt. Hon. William Adamson, M.P., said that 5,247 children had been treated in the wards of the hospital, and that out-patient attendances numbered 89,103. It was satisfactory that, despite trade depression, the year's income had enabled all this good work to be done. Moreover, the hospital had kept in close touch with the outside world by the teaching, training, and research that had been carried out in it. This was an important consideration. Referring to the proposed orthopaedic department, he said that this would fit in with the public child welfare service, with the school health service, and with the children's department of every hospital through the area, and would therefore provide a magnificent example of co-operation in a vital public service.

Correspondence

THE POST-INFLUENZAL COUGH

SIR,—I am able to confirm, from a large number of cases during the past winter, the accuracy of Dr. G. Richardson's observation in to-day's issue of the *Journal* (p. 655) that, in the majority of cases of post-influenzal cough, the cause is tracheitis. Further, I would like to suggest that tracheitis is by far the commonest cause of all varieties of chronic or semi-chronic cough in infants and children, although the cause is usually ascribed to bronchitis. In babies at least, bronchitis is a very severe condition, whereas the tracheitis which follows the common cold or influenza, though a troublesome condition, is not really a very serious matter, or one giving rise to severe constitutional symptoms. The tracheal origin of the troublesome cough which so often succeeds influenza or the common cold can easily be proved by pressing with the finger on the trachea just below the larynx. This operation immediately elicits a cough. I have found that ammonium iodide, in combination with compound tincture of benzoin, together with counter-irritation, with some stimulating liniment applied to the front of the neck, is the most useful form of treatment.—

I am, etc.,

ERIC PRITCHARD.

London, W.1, April 18th.

POISON GAS AND PULMONARY CANCER

SIR,—In to-day's issue of the *Journal* (p. 667), Dr. H. E. Collier inquires whether there have been "numerous cases of pulmonary neoplasm, following gassing, etc., on war service." It has been suggested by Kraus[1] that the increase of lung cancer since the war may possibly be due to poisoning by war gases, as the disease preponderantly affects the males. Huguenin,[2] Probst,[3] and others have discussed this question, and have stated that there is no evidence that war gas is a causative factor in the disease. Apart from these I know of no other references on this subject in the literature.

In a series of sixty-two cases of primary cancer of the lungs and bronchi which I have been studying, four of the patients were gassed in the war.

1. A man who died in 1927, aged 44, was badly gassed and wounded in the chest in 1917.

2. A man who died in 1925, aged 47, was badly gassed in 1918.

3. A man who died in 1928, aged 49, was badly gassed in 1917.

All three were left with chronic coughs, which persisted until death.

4. A man who died in 1929, aged 42, was a gas instructor during the war. He was never badly gassed, but used to go into gas-filled rooms without a mask.

I am inclined to think that the subject warrants rather more attention than has hitherto been given to it.—

I am, etc.,

WILLIAM BROCKBANK.

Manchester, April 18th.

"CANCER AND SCIENTIFIC RESEARCH"

SIR,—The book with the above title, by Barbara Holmes, Ph.D., noticed in the *Journal* of February 28th, deals with biochemical factors which have been the object of my researches for some twenty-five years; therefore I beg the courtesy of your columns for a few comments.

To the lay public the section of the book dealing with immunity appeals most directly. We are told that serums, analogous to antidiphtheritic serum, "can *now* be prepared" (italics mine), and that "the most successful serum from the point of view of its selective action, so far described, is made by injecting human breast cancer into a sheep"; also, that it "introduces a distinct element of hopefulness." I must point out that this is not a new discovery. In a paper on "Some reactions of the blood after cancer inoculation," read at the International Congress of Medicine, London, 1913, I described the method of the late G. C. Purvis (Grahamstown). He had inoculated a sheep several times with some "fungoid growths" cultured from cancer tissues with a little of the cancer material (epithelioma and scirrhus) in which these vegetable growths were developing, and with some of the culture solution (sodium salicylate and saline). He obtained definite necrosis of a large cancerous mass (epithelioma) of the face by injecting 2 or 3 c.cm. of the inoculated sheep serum subcutaneously in the arm. He attributed his result to the action of a true immune serum. In 1912 he was in London, and I examined some of his sheep serum in the physiological laboratory, King's College. The reactions I obtained corresponded with those of antidiphtheritic serum as previously published by me.

Having found (1910) that single inoculations of animals with normal and cancerous tissue, or with normal and cancerous serum, increased tissue lipolysis, I decided to try cancer tissue obtained fresh after operation, instead of Purvis's culture material. So, with Professor Hewlett, I inoculated fresh human breast cancer several times into a sheep, a goat, and a rabbit; also mouse cancer tissue into rats. In no case did the grafts grow. The serum reactions corresponded to those of Purvis's sheep serum, showing a slightly diminished lipolytic activation and lessened antitryptic power. It may be a small point, but no reference is made by the author of this book to the work of Purvis or to my own. I also inoculated a sheep several times with serum of a patient suffering from generalized cancer in the abdomen, and I used the resulting sheep serum by subcutaneous injection in small doses, with apparent benefit to the patient. Employing a patient's own serum to prepare sheep serum would seem to obviate the difficulty mentioned by the author of being sure of the particular type of cancer tissue to use, or the removal of a piece of growth first for inoculation of the sheep, often an impracticable procedure in cases of deep-seated disease. The great expense and time involved, with the total lack of support, precluded me from further investigation of this promising line of research.

In 1924 I repeated the inoculations with cancer serum in a sheep and a rabbit with confirmatory results. I found that injection of antitoxin in diphtheria increases lipolysis, which is decreased before treatment. Presumably a similar increase occurs in cancer after injection of the inoculated sheep serum. I showed at the same time that in progressive cancer the lipase-activating power of the serum is decreased, and that it returns to normal, or is increased, after successful treatment. This (then new) biochemical fact of defective serum action on lipase, though not specific, has since been amply confirmed. I found definitely (1911) that the serum of mice which had recovered spontaneously from large cancer growths had an increased lipase-activating power.

It is clear that the body can immunize itself, or attempts to do so. In this, assistance can be given; for instance, since 1905 I have advocated sodium oleate—orally, subcutaneously, or intravenously. Sodium oleate was introduced by Webb of Melbourne in 1901, and proof has been forthcoming of the value of the fatty acids in certain forms of cancer. Nakahara used sodium oleate with good effect in mouse cancer. Further, in 1919 I made saponified extracts of human breast cancer tissue, hoping that they might be more effective. The

[1] Kraus: *Verhandl. der deuts. path. Gesellschr.*, Jena, 1923, xix, 191.

[2] Huguenin, R.: *Le Cancer Primtif du Poumon*. Paris: Masson et Cie. 1928.

[3] Probst, R.: *Zeit. Krebsforsch.*, Berlin, 1927, xxv, 431.

only opportunity I had of testing it—and the result was very good—was after surgical removal of a rapid recurrence of an extremely malignant type of growth. I made and suggested also saponified extracts of other pathological tissues. If parasite or virus be present, saponified extracts will contain derivatives from them; indeed, Carl C. Warden described specific fats and fatty acids of cells "bacterial and somatic" (similarly saponified) as "specific antigens" in immune processes.

As to failure to reinoculate spontaneously recovered mice, and as to rats made non-susceptible by inoculation of normal tissues, the author notes that "outgrowing of the tissue cells and blood vessels is absent," and there is no sign of any positive agent at work which might have a lethal effect on the graft. . . . It fails to elicit any sort of response." Why is no reference made to my explanation of these phenomena, that "lipoclastic acceleration [used then in the sense of an increase of lipolysis] is one factor in the natural defence or protective processes of the body and in the induced resistance or immunization to inoculated tumour in mice"? (*Journ. Phys.*, 1911, xlii, 11.)

The same query applies to Dr. Murray's statement in the eighth Scientific Report, Imperial Cancer Research Fund, 1923, of "a hitherto unsuspected result, that the induction of a fresh primary growth after a first has been definitely established meets with a very intense resistance. . . . The nature of the refractoriness is obscure. . . . Its greatest interest and importance lies in the indication it gives of a systemic constitutional change in the organism in which cancer has developed." As I showed in 1913: (1) Primary cancer inoculation is followed by an increased action of the serum on lipase, which is estimated by neutralizing the fatty acids set free. (2) In established cancer this action of the serum is decreased, and the antitryptic power increased. (3) Injections of patients' own serum in two cases of inoperable cancer (method of autoserum treatment) were followed by increase of the action of their serum respectively on lipase, as compared with the decrease found before treatment; the antitryptic power of the serum was reduced to normal or subnormal, compared with a high increase found before treatment, and was followed by lasting recovery in both cases. In addition to lipase with its fatty acids, the influence of trypsin is illustrated. This induced ferment production explains in part the "intense resistance" and natural and acquired immunization. More than one ferment, with its activators or coenzymes, with removal of inhibiting factors, is thus concerned in the defence—for instance (as I suggested in 1905), the glycolytic. The fatty acids themselves are protective; but, whatever the reason, it is a fact that considerable alteration in the metabolism of fats and lipoids occurs in cancer. The part played by macrophages (E. Goldmann, 1912) involved not only suppression of a second growth, but also ferment action on fats and glycogen, as seen in the first stages of tissue-cell formation—for example, repair of wounds.

I have already trespassed too much on your space, and I will now conclude. The results of my researches bring cancer into a wider group of diseases. They provide additional causal considerations, and indicate methods of prevention and treatment.—I am, etc.,

London, April 6th J. A. SHAW-MACKENZIE, M.D.Lond.

SIR,—Having read in your issue of February 28th a notice of Dr. Barbara Holmes's book, *Cancer and Scientific Research*, and, later, the book itself, I wish to discuss briefly two of its teachings. One of these is implied or expressed in various passages—for example, on page 66. It amounts to a premise to the effect that the term "epithelioma" applies only to certain malignant lesions. It is completely opposed to the histology of molluscum contagiosum, which is a pure epithelioma and a benign one. When I taught pathology I used to demonstrate the structure of simple or benign tumours before that of the more complex malignant tumours. In this connexion yet again would I state with assurance that more help towards recognition of the immediate causal agents of common human cancers is to be gained by personal practical work on molluscum than is to be found in any "scientific" volumes.

The other doctrinal point I would refer to occurs on page 112. It runs: "This tumour (granuloma, not a cancer) establishes itself by an infective process—that is, by transformation of normal connective tissue cells—and not by proliferation of the cells introduced." Here I read "sarcoma" for "cancer," making the meaning more definite. The lesion in question is the infective genital tumour of dogs.

Although the point is of the greatest importance, it need not be discussed at length here because the author supplies its refutation by referring (p. 113) to the fact that a transplanted mouse carcinoma sometimes changes into a sarcoma by "causing the surrounding connective tissue to become malignant." This means that ordinary connective tissue cells, mother cells of granulation tissue or granuloma, are so "influenced" that they multiply rapidly, thereby producing a granuloma, which, in these mice, is a sarcoma. Exactly the same is true of the infective genital sarcoma of dogs, of which I published a detailed account in 1908 (*Protozoa and Disease*, Part II, Chapter XV).—I am, etc.,

London, W., April 18th. J. JACKSON CLARKE.

BLOOD PRESSURE AND LIFE ASSURANCE

SIR,—I have before me a medical examination form issued by an important life assurance office, with a special memorandum to medical examiners with regard to blood pressure estimation. The company is "trying to get as accurate blood pressure records as possible in order to compile statistics which will undoubtedly be valuable." The records obtained, however, will be of very doubtful value, because the examiner is instructed to take the diastolic pressure as that point on the descending scale, by the auditory method, at which all sounds disappear. It is nearly twenty years since MacWilliam and his co-workers showed that that point does not indicate the diastolic pressure, but that the reading should be taken when the clear sounds suddenly become muffled. This work was incorporated into standard teaching of physiology and clinical medicine many years ago. In the majority of cases the correct point is quite well defined, and there is no difficulty in demonstrating it.

At post-graduate medical courses one has found, both as a student and as a teacher, that practitioners are not so familiar with the technique of this important clinical estimation as one would have expected, but it is distinctly surprising to find such an error in a memorandum issued by an insurance company. A very good description of the correct method is to be found in *Recent Advances in Medicine*, by Beaumont and Dodds, though it is hardly a "recent" advance.—I am, etc.,

Maymyo, Burma, March 17th. GEORGE R. MCROBERT.

VACCINE DOSAGE

SIR,—In my letter pleading for greater uniformity in the dosage of autogenous vaccines, I took it for granted that it would be understood that I was, of course, referring to cases of a strictly analogous character. Otherwise my complaint would have been completely pointless, for the very obvious reasons which Dr. Shera is at pains to suggest. The cases to which I referred were entirely comparable. Each was an adult; each was suffering from

a chronic infection due to a similar streptococcal strain; each was ordered a first course of autogenous vaccine, prepared from non-detoxicated organisms. But here the analogy comes to an abrupt close, for whereas the commencing dose in each case was fixed, as usual, at 0.1 c.cm., the strength of streptococci ordered by the four experts varied in the proportions of 1, 100, 2,000, and 4,000, each pathologist justifying his dosage by results derived from numbers of similar patients so treated.

It seems strange that at a time when considerable uniformity has been reached in the dosage of prophylactic vaccines, so wide a diversity should still be possible in the therapeutic use of this valuable form of treatment; and though Dr. Shera may consider that my case is a weak one, I would again urge the claim for a more accurate study of reactions, and for greater co-operation, not only between pathologist and clinician (a point on which I am in hearty agreement), but also between pathologists themselves.—I am, etc.,

HAROLD BALME, M.D., F.R.C.S.

Lingfield, April 19th.

THE CANFIELD OPERATION

SIR,—Mr. Aldington Gibb does not state whether he has tried the Canfield operation and found it wanting. I have tried it, and have found it followed by an extraordinarily rapid cessation of the discharge in cases in which the ordinary intranasal operation had failed. The fact is unquestionable. My explanation is only hypothetical.—I am, etc.,

JAMES DUNDAS-GRANT.

London, April 20th.

BIOGRAPHY OF MARGARET McMILLAN

SIR,—I have been entrusted with the task of writing a record of the life and work of the late Margaret McMillan. It will assist materially if any of your readers will send to me any important letters, papers, or pamphlets they may possess. Personal memories would be most helpful. All documents will be returned in due course.—I am, etc.,

ALBERT MANSBRIDGE.

38, High Oaks Road, Welwyn Garden City, Hertfordshire, April 21st.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

This week the House of Commons read the Sunday Performances (Regulation) Bill and the Housing (Rural Workers) Amendment Bill a second time. Other business included the Widows', Orphans', and Old Age Contributory Pensions Bill, making a slight extension of the existing Act; also the Mining Industry (Welfare Fund) Bill and the committee stage of the Representation of the People Bill. The Budget is due to be introduced on Monday, April 27th.

In the House of Lords, on April 21st, consideration of the report of amendments on the Pharmacy and Poisons Bill was postponed until April 28th.

Ministry of Health Vote

The debate on the Ministry of Health vote, on April 14th (reported last week), was concluded by Miss LAWRENCE. She said that, though the figures were not yet to hand, every indication which they had pointed to the fact that 1930 was an exceptionally healthy year. Infant mortality had sunk to the lowest figure ever known, and was now at the figure of 60. The claims of the approved societies showed a considerable rise for the first quarter of 1929, which was marked by the influenza epidemic. The claims were, in round figures, 15½ in 1928, and 17¾ in 1929—due mainly to the influenza epidemic—and they were down now to rather over 15½. Cancer, unfortunately, was an exception to the general rule that 1930 had been an extremely good year. They had been told that the doctors objected to changes in the regulation which extended the period during which a patient might not change his doctor. But here there was ignorance. A doctor, if he chose, could let his patient go at any minute he liked.

Dr. FREMANTLE, interposing, said that his point was that the doctors objected to the change of regulation that had been made, whether it affected them personally or not. Doctors did not always look at things from their personal point of view, but from that of the public.

Miss LAWRENCE said that if a practitioner desired to let his patient go he could do so at once. Members of the medical profession had discretion in the matter. As to the report on bovine tuberculosis, she hoped that that useful piece of work would be published in the course of a few days. Referring to what had been said with regard to the sorting of casuals, Miss Lawrence said that the Ministry found that no less than 15 per cent. of the samples taken were mental deficients. Among these, she was horrified to say, were 800 men and women who were insane—poor, crazy old people, running about without anyone to care for them. The Ministry had given instructions that there should be a periodical medical examination, and had asked the local authorities, whenever it was possible, to conduct their examinations on the same day, to avoid examining the same people over again, and they hoped to get off the roads these poor, unfortunate, crazy and semi-crazy people, who ought to be in lunatic asylums.

Sweepstakes for Hospitals

Mr. Clynes was asked by Sir WILLIAM DAVISON, on April 20th, a question concerning the alleged falling-off of subscriptions to British hospitals since the recent Irish Free State sweepstakes. Sir William asked if the Home Secretary would set up a committee to investigate the conditions necessary before permitting lotteries for approved public purposes. Mr. CLYNES replied that he had delayed coming to a decision on this question in the hope that he might receive some definite indication of the attitude of those responsible for the more important charities. Such indication as he had received seemed on the whole adverse. It would be wise to defer a decision for some time longer. There could be no question of legislation this session.

Cerebro-spinal Fever

On April 21st Mr. SHAW informed Mr. D. Somerville that, during the present month, there had been two fresh admissions to hospital at Aldershot for cerebro-spinal fever. At Catterick there had been four admissions this year. At no military centre other than Aldershot and Catterick had there been more than three cases this year, and there had been no epidemic at any military centre, sporadic cases only having occurred. The disease had occurred also among the civil population.

Tuberculin

Miss LAWRENCE, replying on April 20th to Brigadier-General Brown, said that the Minister of Health was advised that the intradermal test was the best form of the tuberculin test under ordinary farm conditions, but that the results obtained could not be relied on unless tuberculin of sufficient potency was used. The Minister was considering the question of the standardization of tuberculin in consultation with the Minister of Agriculture.

Yarmouth Naval Hospital Bill

On April 20th Mr. AMMON, replying to Mr. Scott, said that the Government took full responsibility for the Yarmouth Naval Hospital Bill, which had been passed by the House. Before its introduction full consideration was given to criticisms and suggestions from departments affected, and the Scottish Office, after the fullest discussion, accepted the Bill. Mr. SCOTT then asked Mr. Ammon whether the Board of Control for Scotland was consulted about this matter, and what advice it gave. Mr. AMMON replied that that was a question to be put to the Secretary for Scotland. Mr. E. BROWN asked if, in the debate on the Bill, Mr. Ammon had not stated that the Board of Control had been consulted

and had given advice. If that was not so, ought not the House to know, and the report be published for members' information? Mr. AMMON replied that in that debate he should have said "the Scottish Office." Mr. SCOTT asked if Mr. Ammon was aware that the Board of Control was a separate organization for Scotland, responsible to the Secretary for Scotland. Mr. AMMON replied that the Board of Control was responsible to the House through the Scottish Office.

Housing

Mr. GREENWOOD told Mr. West, on April 16th, that under the five-year programme the London County Council would build 32,570 houses, the metropolitan borough councils 10,860, and Kensington Metropolitan Borough Council 82.

Replying to Mr. Shakespeare on April 16th, Mr. GREENWOOD stated it was estimated that between 450,000 and 500,000 houses would be provided with State assistance in the coming five years, and it was hoped that approximately one-fifth of them might be completed in the first year.

Change of Doctor.—Mr. GREENWOOD told Mr. Albery, on April 16th, that he could not consider amending the new Regulation which restricted the right of insured persons to change their medical adviser.

Optical Appliances for Insured Persons.—Mr. GREENWOOD told Mr. White, on April 16th, that he had no information as to the number of opticians who undertook the supply of optical appliances to insured persons entitled to ophthalmic benefit under the national health insurance scheme. The Regulations governing the administration of this benefit did not provide for the approval of opticians.

Food Standardization.—Mr. GREENWOOD told Major Church, on April 16th, that he was not yet in a position to make any announcement as to the membership of the committee to consider the law on the composition and description, including the fixing of standards and definitions, of articles of food. No "representative scientific bodies" had been consulted about the constitution of the committee, but these bodies would be able to give evidence before the committee.

Institutional Provision for Tuberculosis.—In reply to Mr. Ede, on April 16th, Mr. GREENWOOD said that the officer who recently investigated the prevalence of tuberculosis in South Shields had not made any report on the incidence of this disease in those parts of the borough where the partition of houses into tenements had taken place. Mr. Greenwood added that, at the request of the town council, he had invited a number of local authorities in the north-east of England to send representatives to a conference for the purpose of considering institutional accommodation for the treatment of tuberculosis in that area. It was hoped to arrange for the conference at an early date.

Registration of Blind Persons.—The total number of registered blind persons in England and Wales was 52,727 on March 31st, 1929, the latest date for which official figures are available. According to unofficial figures there were 56,853 registered blind persons on March 31st last.

Vaccination.—On April 21st Mr. FREEMAN asked the Minister of Health what steps his department was taking to give effect to the recommendation of the Rolleston Vaccination Committee, in its recent report, that every public vaccinator should be prepared to carry out a second operative procedure to mitigate the risk of nervous complications after vaccination. Mr. GREENWOOD replied: I cannot find any such recommendation in the report.

Commutation of Pensions.—Sir HERBERT CAYZER asked Mr. F. O. Roberts, on April 20th, whether he would place before the Pensions Commutation Board any cases where the application of retired regular officers for pension had been refused on medical grounds. Mr. ROBERTS replied that, in deciding whether such applications should be recommended to the Board, regard was had to the officer's state of health and expectation of life. Where the Minister's medical advisers considered the case unsuitable on these grounds it was not possible for him to recommend it.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

The following candidates have been approved at the examination indicated:

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.—*Part I:* G. Maclean, W. S. C. Yuen. *Part II:* P. C. Basu, S. Bradbury, Isabella M. G. Butler, T. V. L. Crichlow, J. Grieve, K. H. Hallam, Elfrida L. G. Hilton, C. C. Kapila, Ethel E. A. Pepper, H. W. A. Post, R. Rekhi, F. P. Schofield, I. C. C. Tchaperoff.

UNIVERSITY OF LONDON

A University studentship in physiology, value £100, is offered to a student qualified to undertake research in physiology. Particulars can be obtained from the Academic Registrar, to whom applications must be sent by May 31st.

A course of six advanced lectures on special sense physiology will be given at University College, Gower Street, W.C.1, by Dr. R. J. Lythgoe, on May 7th, 14th, and 28th, and June 4th and 11th, at 5 p.m. Admission is free, without ticket, to the lectures, which are addressed to students of the University and others interested in the subject.

UNIVERSITY OF BIRMINGHAM

A course of five lectures on some correlations between general and psychological medicine will be given by Sir Hubert Bond of the Board of Control in the Medical Faculty Buildings on May 13th and 27th, and June 10th, 17th, and 24th, at 4 p.m.

Professor W. Blair Bell of Liverpool will deliver the Ingleby Lectures on May 21st and June 4th; his subject will be maternal disablement.

The Clinical Board of the University has arranged a course of post-graduate demonstrations from April 28th to July 24th. Admission cards are issued on payment of £2 2s.

The Services

MEDICAL DIRECTOR-GENERAL R.N.

Surgeon Rear-Admiral Reginald St. G. S. Bond, C.B., M.B., C.M., F.R.C.P., F.R.C.S.Ed., has been appointed to succeed Surgeon Vice-Admiral Sir Arthur Gaskell, K.C.B., F.R.C.S., as Medical Director-General of the Navy, on July 1st.

HONORARY SURGEON AND PHYSICIAN TO THE KING

Major-General H. Boulton, C.B., C.B.E., I.M.S., has been appointed Honorary Surgeon to the King, vice Major-General F. H. G. Hutchinson, C.I.E., I.M.S.(ret.); and Colonel C. W. F. Melville, Honorary Physician to His Majesty, in succession to Brevet Colonel S. R. Christophers, C.I.E., O.B.E., I.M.S.(ret.).

INDIAN MEDICAL SERVICE DINNER

The annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Wednesday, June 17th. Colonel R. A. Needham, C.I.E., D.S.O., has been invited to take the chair. Tickets and all particulars may be obtained from the joint honorary secretary, Major Sir Thomas Carey Evans, *M.C.*, I.M.S. (ret.), 31, Wimpole Street, W.1.

DEATHS IN THE SERVICES

Major Jehangir Hormusji Oonvala, Indian Medical Service, died of heart failure at Razmak, Waziristan, on February 1st, aged 43. A member of the Parsi community he was born on September 13th, 1887, and was educated at Bombay University, where he graduated as L.M.S. in 1910. Soon after the war began he took a temporary commission as lieutenant in the I.M.S., on October 18th, 1914, became temporary captain a year later, and on March 15th, 1920, received a permanent commission, being ranked as captain from July 17th, 1916, and was promoted to major on April 18th, 1926. In 1927 he took the diploma in tropical medicine and hygiene, with distinction, of the London School of Tropical Medicine, and in 1928 obtained the same diploma from the London Colleges. He served in the war of 1914-18, and for the last two years held the appointment of deputy assistant director of pathology of the Waziristan district, on the north-west frontier of India.

Obituary

T. DYKE ACLAND, M.D., F.R.C.P.

Consulting Physician to St. Thomas's Hospital and the Brompton Hospital for Diseases of the Chest

We regret to announce the death, at his home in Bryanston Square, W., on April 16th, of Dr. T. Dyke Acland, for many years a prominent and greatly respected member of the medical profession in London.

Theodore Dyke Acland was the third son of Sir Henry Acland, Bt., F.R.S., regius professor of medicine at Oxford from 1858 to 1894. The Aclands are a well-known Devonshire family, members of which, from generation to generation, have taken an active part in public affairs. He was born on November 14th, 1851, and from Winchester went up to Christ Church, Oxford. He gained a first class in the honour school of natural science in 1874, and entered as a medical student at St. Thomas's Hospital. Later he studied at Leipzig and Berlin when holding the Radcliffe Travelling Fellowship. He graduated M.A. in 1876, M.B. in 1880, and proceeded M.D. in 1883. After holding the posts of house-physician, house-surgeon, and resident accoucheur at St. Thomas's Hospital, he went to the City of London Hospital for Diseases of the Chest as resident clinical assistant.

Acland was one of the medical officers sent by the Foreign Office from England to Egypt during the serious cholera epidemic in July, 1883, and he was then attached as physician to the Military Cholera Hospital. After this he served as principal medical officer to the Egyptian Army. He received Egyptian decorations for his services at this time, and was thanked by the Khedive His experience in Egypt in the 'eighties led to his appointment as a member of the Egypt and Sudan Medical Board in London; and in 1906 he was the first assessor of examinations at the Cairo Medical School

Soon after returning to England from Egypt, Acland became pathologist and assistant physician to the Hospital for Consumption, Brompton, and he was also for some years on the honorary staff of the West London Hospital At St. Thomas's Hospital he served for many years as assistant physician and full physician, and on his retirement from the active staff was elected consulting physician and a member of the governing body. He was also consulting physician to King Edward VII Sanatorium, Midhurst, and a visiting member of the committee of King Edward's Hospital Fund. He was in great demand as an examiner in medicine, and acted in this capacity for the Universities of Oxford, Cambridge, Manchester, and Leeds, as well as for the English Conjoint Board and for the Indian Medical Service. For some years he had a seat on the Board of the Faculty of Medicine at Oxford. He became a member of the Royal College of Physicians of London in 1884, and was elected to its Fellowship in 1889. He held many executive offices in the College, including that of Censor in 1913–15.

His principal publications were the articles on actinomycosis, vaccines, and subphrenic and other forms of peritoneal abscess in Allbutt's *System of Medicine*. He contributed several papers to the *St. Thomas's Hospital Reports*, of which he was at one time editor. He also edited in 1894 the published writings of his father-in-law, Sir William Gull, which had been prepared but not completed by his father, Sir Henry Acland. The book is in the New Sydenham Society's publications; it is an interesting account of a great physician, which can be read with profit by any medical man. At the Annual Meeting of the British Medical Association held in Dublin in 1887 he was honorary secretary of the Section of Pathology and Bacteriology; at Leeds in 1889 he was honorary secretary of the Section of Medicine; and at Oxford in 1904 vice-president of the Section of Medicine; he represented the Marylebone Division in the Representative Body, 1912–13, was a member of the Metropolitan Counties Branch Council in 1913, and vice-president of the Branch in 1915.

During the war he held a commission as lieutenant-colonel, R.A.M.C.T., and acted as consulting physician to the London district, and to the special surgical hospital at Shepherd's Bush, which was afterwards taken over by the Ministry of Pensions.

We are indebted to Dr. H. G. Turney, consulting physician to St. Thomas's Hospital, for the following appreciation:

The death of Theodore Dyke Acland leaves a gap in a wide circle of friends who come, not only from the medical profession, but from every walk in life, and his loss will be deeply felt by them, though their opportunities of meeting him have been sadly restricted during recent years, first by the prolonged illness of his wife, and of late by his own failing health. To those who have missed him these vagrant reminiscences may make some appeal.

The picture of Acland that comes to the mind's eye is that of exuberant vitality and joy of living, of a man who radiated geniality and kindliness wherever he went. And yet, even in his youth Acland had something of the ancestor about him which fitted in well with a growing tendency towards stoutness and a ready laugh of Pickwickian jollity. His appreciation of humour was of the keenest, and this no doubt helped to make him a delightful raconteur and after-dinner speaker. His hospitality was overwhelming, and as a host he came very near perfection. But if certain traits made one think of Pickwick, there was one which brought to mind another lovable hero of romance. He had a burning passion for taking up the cudgels on behalf of anybody who seemed to him to be the underdog, and many were the cases of hardship or injustice which he saw righted. But unfortunately there were times when the underdog was quite deservedly in that position, or when he was not

really an underdog at all, but only pretending to be, and then there was a danger that he might enlist Acland's generous impulses of protection. This did happen sometimes, and resulted in strained relations between some very good friends. There are possibly even Government officials who might tell grievous tales of what they suffered at Acland's hands in his defence of dissatisfied pensioners or ex-soldiers, and it is doubtful if even Government officials were guilty of all the obstinacy with which Acland was inclined to credit them in his narration of his victory. But no picture of Acland would be honest, much less complete, if no mention were made of this element of contentiousness in his nature. There was nothing dour about it, and he certainly never bore malice. It was just an aspect of his quixotism.

Acland's professional life was spent chiefly at St. Thomas's and Brompton. His interests, of course, were mainly centred about pulmonary tubercular disease, and in this domain he became a recognized authority. He was immensely popular with his students at St. Thomas's, and formed a lifelong friendship with many of them. But as a teacher he fell short of complete success, in spite of the infinite pains he took; this was due, probably, to a certain lack of concentration and perspective which he was never able to overcome.

In these remarks Acland has been described as if he belonged solely to St. Thomas's among the teaching hospitals. And so in the strict sense he did. But he might also be quoted as an example of the old tie that binds together St. Thomas's and Guy's. He had an intense admiration for, and friendship with, Sir William Gull, the great Guy's physician. He edited his works, and Gull's only daughter became his wife. The union was an ideal one, and when it was sundered by death two years ago the light went out of his life for ever. No words can express the beautiful devotion with which he unflaggingly tended her through the many weary years of her illness.

Acland was a profoundly religious man, not only in the sense that he maintained religious observances in his house, but as describing the warp and woof of his thought. He accepted the doctrines of religion with a childlike simplicity, which never faltered and never called for the buttress of an argument.

He changed very little with the process of time. Even after his wife's death, when he was a sad man waiting for the end, he still kept on a mask of jollity, though tears were never far from the laugh that rang out as an echo of the past.

Mr. HENRY PERCY DEAN, consulting surgeon to the London Hospital and the Queen's Hospital for Children, died at his home in Bedford Park, London, on April 14th, at the age of 66. A son of the late Henry Dean of Rosary Gardens, S.W., he was born on September 19th, 1864, and studied medicine at University College, London, where he had a brilliant student career, winning a scholarship and gold medal in physiology and surgery, and an exhibition and gold medal in anatomy. He graduated B.Sc.Lond. in 1884, M.B. and B.S. with honours in 1888, and obtained the M.S. degree and the Fellowship of the Royal College of Surgeons of England in the following year. Soon afterwards he was elected to the surgical staff of the Great Northern Hospital in Holloway Road (now the Royal Northern Hospital), and he served for many years as assistant surgeon and surgeon to the Queen's Hospital for Children, Hackney Road. He was elected assistant surgeon to the London Hospital and teacher of operative surgery in 1892, becoming full surgeon in 1909; he retired from the active staff of the hospital in 1913, when he was appointed consulting surgeon. Mr. Dean was elected a Fellow of University College, London, in 1890.

Dr. WILLIAM GRAY of West Hartlepool died on April 15th at the age of 60, after several years of indifferent health. He was educated at Blairlodge and the University of Edinburgh, graduating M.B., C.M. in 1892, and M.D. with honours in 1896. Almost the whole of his working life was spent in general practice at West Hartlepool. During the war he acted as civilian medical officer to the 3rd Yorks and other regiments, and was afterwards recruiting medical officer and chairman of the local pensions medical board. When the Cameron Hospital was opened at West Hartlepool in 1905, Dr. Gray was appointed honorary surgeon, and the establishment of an orthopaedic department was largely due to his efforts. For more than thirty years he gave first-aid lectures to railwaymen and others, and often acted as judge in ambulance competitions. In recognition of his work in this field he was made an officer of the Order of St. John of Jerusalem in England.

Medico-Legal

PACK LEFT IN ABDOMEN AFTER OPERATION

APPEAL AGAINST VERDICT OF "NEGLIGENCE"

In the Court of Appeal, before Lords Justices Scrutton, Greer, and Slesser, on April 15th and following days, the appeal was heard of Dr. John Dunlop of Abercarn, Newport, Mon., from a verdict and judgement against him in an action tried by Mr. Justice Branson and a special jury at the last Shropshire Assizes. The action, which was brought under Lord Campbell's Act, was by Mrs. James, widow of an assistant bank manager, who alleged negligence against Dr. Dunlop during an operation on her husband, as the result of which a surgical pack was left in his body, necessitating a further operation three months later, his death following within a few days. The jury found negligence proved, and awarded the widow £1,500, with £500 for her child, and £100 special damages. Against this verdict Dr. Dunlop now appealed, pleading that it was against the weight of evidence, and asked for a new trial.

The appellant, Dr. Dunlop, was represented by Mr. Stuart Bevan, K.C., the Hon. Sir R. W. Coventry, K.C., and Mr. H. E. Dickens, instructed by Messrs. Hempson, acting on behalf of the Medical Defence Union. Mrs. James was represented by Mr. J. W. Morris and Mr. Gilbert Griffiths, instructed by Mr. Malwyn Jenkins.

Mr. Stuart Bevan said that the operation, which was intended for removal of the gall-bladder (though in the event only a number of gall-stones were removed), took place on December 11th, 1928, at a voluntary hospital. The patient remained ill, and on March 20th, 1929, he having returned home in the meantime, a second operation was performed by a Dr. Burrell, when the pack was discovered; it had set up a fistula, from which the patient died on March 27th. It was admitted that the pack was left in the body, but negligence was denied. The negligence alleged was twofold. The first ground was that the defendant had left this pack of towelling in the body. The answer made by Dr. Dunlop was that it was the duty of a skilled nurse to check the packs and swabs as they were removed. A good deal of medical and surgical evidence was tendered at the assizes to the effect that it was no part of the duty of the surgeon to count the swabs, either those inserted or those taken out. In practice, and in the interests of the patient, this task should be left to the special nurse detailed for the purpose. Only if the nurse reported that a swab was short did the surgeon make a detailed and perhaps a prolonged search, but this might endanger the life of the patient. The second ground on which negligence was alleged was that as the patient lived for three months after the operation, and was seen by Dr. Dunlop, the doctor was negligent in not discovering from the patient's condition that the pack was embedded among the intestines. On that allegation, however, the verdict was in Dr. Dunlop's favour. It could scarcely have been otherwise, because other doctors were attending the patient after the operation, and failed to suspect the presence of any foreign body. But on the first ground a verdict of negligence was returned, although it was the common and necessary

practice of all operating surgeons to leave the counting of packs and swabs to a nurse.

Questions were asked by their lordships as to the size and number of the packs. Mr. Bevan said that the pack which had been buried (exhibited in court) was 8 inches by 10 inches. Neither Dr. Dunlop nor a Dr. Sullivan, who had assisted him, could remember at this distance of time how many packs were used, but the general evidence was that the number of packs in an operation of this kind varied from three to five, and Professor Gamgee, who had given evidence for the defendant, put it as high as occasionally seven or eight. The evidence showed that Dr. Dunlop, at the operation, asked the question, "Are all the swabs out?" and he heard a female voice answer "Yes," but he could not swear that it was the voice of the sister appointed to count the swabs. There were also in the theatre the matron, who was keeping count of the instruments, and two probationers, but their evidence was not definite, and the swab sister was not called. She was a certificated nurse, and had worked for Dr. Dunlop for eighteen months. To the question, "Did defendant receive an assurance from the swab sister?" the jury replied, "Evidence not satisfactory."

Lord Justice Greer: Is the surgeon not bound, when he extracts swabs or packs, before he receives any information from the nurse, to exercise reasonable care in such extraction?

Mr. Bevan: To take reasonable care, but not to probe under the intestines to find any swab that might be there.

Lord Justice Greer: It does not follow from the fact that there is somebody to check that he cannot be guilty of negligence in not getting them out.

Mr. Bevan: If there were no system of counting, a search would have to be made which might endanger the life of the patient.

Lord Justice Greer: If only three swabs were used the surgeon would know quite easily without asking the nurse whether all were out. These are packs of very large size.

Mr. Bevan went on to say that some criticism had been made of the operating doctors that they were negligent in using packs without tabs to which forceps were attached, but it appeared that there was in the medical profession a great difference of opinion as to the desirability of this procedure, and Dr. Burrell, who gave evidence for the plaintiff, admitted that tabs were not an absolute safeguard.

Lord Justice Greer: If the surgeon knew that he had put four swabs in and had reason to think he had only taken three out, he would have to do something to find the fourth.

Mr Bevan: He may start the operation with four, but in the course of the operation some are taken out and others put in The assistant surgeon may be also putting in packs. The number of packs could no more be remembered by the doctor than the number of pages of a brief by a barrister.

After further argument as to the possibility of the pack concealing itself under the intestine, Lord Justice Scrutton said that what had evidently puzzled the jury was that this particular swab, "after a little trip, returned to its original home," for it was found by Dr. Burrell at approximately the place where it had been inserted.

Sir Reginald Coventry also addressed the court on behalf of Dr. Dunlop He said that the system of checking the swabs and packs was a matter which had been debated at medical meetings for years. If it was such an easy thing to keep count, why had there been so much discussion upon it? It was admitted by the experts that "the undiscovered swab is the bugbear of abdominal surgery."

Lord Justice Scrutton: I do not wish to say anything about the profession of medicine that I would not say of the Bar, but is every surgeon on every occasion careful? I am sure that every counsel on every occasion is not, nor every judge. You are setting up a standard for the medical profession that it can never make a mistake.

Sir R Coventry: They make every endeavour to be careful.

Lord Justice Slesser: In many dangerous operations the surgeon has to tie arteries. It is his business, I suppose, to remember the number of arteries he has tied.

Sir R Coventry: He is able to see the arteries. It is because of his duty to watch the arteries, stop bleeding points, and make the most careful incisions, that he is relieved of the other task of counting swabs, which is entrusted to the nurse. Supposing we did not carry out that system, would not the patient have a complaint against us? Supposing Dr. Dunlop had refused to accept the word of the nurse, and the patient had died under the protracted operation, would not the widow have said, "You have a recognized practice in medicine which you did not follow"?

The evidence with regard to the assurance given by the nurse was read. Sir R. Coventry said that only one of the three doctors present at the operation was prepared to swear that the nurse answered in the affirmative. Dr. Dunlop himself having said that he heard an affirmative answer in a female voice, though he could not swear that it was that of the nurse, but all four witnesses—the two surgeons, the anaesthetist, and the matron attending to the instruments—agreed that the question was put, and the inference was that an answer was given.

Mr. Morris made briefly some submissions on behalf of the plaintiff. He said that a body of evidence had been given in the court below as to the practice of surgeons in operations generally, but the only witness who confined his evidence to what was done in operations on the gall-bladder was Dr. Burrell, who gave evidence for the plaintiff. He also commented on the absence of evidence as to any definite assurance from the nurse that the swabs were out. Evidently nobody —neither doctors nor nurses—had a clear recollection of what took place at this particular operation, and they spoke of things as having occurred because in cases of a similar kind it was usual for them to occur.

Judgement: Appeal Dismissed

Lord Justice Scrutton, in giving judgement, said that this was undoubtedly an important case for the parties and to some extent for the medical profession. The substantial question was the contention that the verdict, though there was some evidence, was so far against the weight of the whole evidence that the findings of the jury ought to be set aside and a new trial ordered. The test the court had to apply in such a case had now been well established. Where there had been a jury the Court of Appeal was not exercising the same function as when hearing an appeal from a judge. In the case of an appeal from a judge the court re-heard, and had to make up its mind what it would have done. But with a jury the question was quite different. The jury was the tribunal which had to come to a conclusion if there was evidence on which it could reasonably do so. It was no ground for setting aside the verdict of a jury that the Court of Appeal thought that it might have come to a different conclusion. It could only interfere if, on the whole evidence, the verdict was such that a reasonable jury ought not to have arrived at it. It must be very nearly a perverse verdict, in the language of Lord Selborne, before the Court of Appeal interfered. No fault could be found with the way in which the learned judge (Mr. Justice Branson) had summed up the case to the jury. He had explained to them that doctors did not guarantee success in operations, and he had explained the measure of care and skill which a doctor owed to his patient, not such skill as the most eminent man in the profession would show, but the ordinary average skill of a practitioner trained in the profession he undertook. Lord Justice Scrutton continued:

"A well-recognized operation was carried out. It was an essential part of the operation to wall off the gall-bladder by the insertion of certain crumpled-up pieces of towelling, or sometimes of gauze. Usually the wall would be made of three bundles of such material. It is quite clear that the only person who puts those things in and selects the place where they shall be is the doctor. He puts in not a large number, but generally three. Any jury would be impressed by the substantial character of a crumpled-up piece of towelling. It is a set part of the operation for the doctor, and the doctor only, to take out the three or more big pads of towelling he has put in. He must know where he has put them, and it is his business to take them out. The jury answered 'No' to the question 'Did the defendant make such search in the wound as was reasonable and necessary?' Is that an answer which the jury might not arrive at reasonably? My impression is that any jury who had felt that towelling and seen the size of it would come to the conclusion that it was careless not to have taken it out. Dr. Dunlop's case was that the pack might be put in at the commencement of the operation and it might move away. I cannot say that the jury were wrong if they entirely rejected this theory of the perambulating swab ultimately coming home to rest. There is the evidence given by Dr. Burrell as to where he

found the swab, and the permanent and thick wall by which it was surrounded, showing that it had been there for some time.

"Then comes the more important question: if, in the operation, you put ten swabs into the body, and remove such swabs as you think you have put in, and they are then counted by a competent person, it is said for the defendant that the doctor is quite entitled to rely on the count of a competent person, although competent persons do make mistakes. Before there is any count there is a duty on the doctor. His duty is to put in the necessary swabs according to the set course of the operation, and it is his duty to use reasonable care to put them in the proper place; it is his duty to take them out, and that is independent of any check or count. He is the person who knows where he put them in, and knows also the amount of movement that might be reasonably expected. I cannot help thinking it is fairly slight. The doctor's plea is, 'If I get an assurance from a competent nurse that all swabs put in have been checked out I need not myself do any further search.' The jury were asked, 'Did the defendant receive an assurance from the nurse that all the swabs were removed?' and to that the answer was, 'Evidence not satisfactory.' I read that answer to mean that they were not satisfied on the evidence that the defendant did receive such an assurance. If that answer stands there is an end of the case. There were two highly qualified nurses assisting in the operation, one in charge of the sterilized instruments and the other in charge of the swabs and packs. The two nurses were standing together. The nurse who is supposed to have given the assurance was not called, either at the inquest or at the trial of this action. The jury are entitled, in my view, reasonably to attach considerable importance to the fact that the lady who was said to have given the assurance was not called. The other nurse said, 'I heard the question asked, but I cannot remember that I heard any answer.' Can one possibly say that the jury might not reasonably find themselves not satisfied that the assurance was given to the doctor? . . . The language in which Dr. Dunlop gave evidence at the trial is such that the jury might have thought, 'The doctor does not really remember, but because it is the regular thing in operations for such an assurance, he assumed that such a thing as ought to have happened did happen.'"

The jury had assessed damages in a way distinctly favourable to the doctor; they might easily have given a larger amount. Taking all these things together, he could not possibly say that the verdict was such that the present Court ought to interfere. The appeal must be dismissed.

Lord Justice Greer said that he had come to the same conclusion. It was quite clearly part of the operation to insert the packs, and equally part of the operation to remove them. This involved a search after the operation was over. The fact that counting might be exercised by some other people did not absolve the doctor from the necessity of making some reasonable search before he put any question to the nurse with regard to the count. The duty of the nurse to count could not absolve the surgeon from his duty to exercise reasonable care. It was possible that the moving proclivities of packs had caused this pack to make a circuit of the intestines and come back approximately to the place of its insertion, but judges and juries had to judge by the rules of probability, and the jury might have reasonably felt that it was highly improbable that the swab took the course suggested by the defendant's witnesses as an explanation. He agreed that there was nothing which justified the Court in setting aside the verdict as against the weight of evidence.

Lord Justice Slesser also concurred. All the doctors were agreed that it was proper that in such an operation there should be a nurse appointed to count the swabs before and after, and Dr. Dunlop did appoint a competent nurse. But Dr. Burrell had said, "This is no more than a precaution to corroborate the surgeon's knowledge," whereas the doctors for the defendant rather indicated that the nurse's assurance was the essential matter. In so far as the defendant relied on the assurance of the nurse, the jury are entitled to take into account that this nurse, who could definitely have said she had or had not counted the swabs, was not called, and that the other nurse could make no reply. In these circumstances it became immaterial to consider whether there was or was not a general practice of doctors to rely upon the assurance of the nurse, as the defendant had failed to satisfy the jury that he did rely on such assurance, and the case rested entirely on its own peculiar circumstances. The appeal must be dismissed.

Medical News

The annual London dinner of the University of London Medical Graduates Society will be held on Tuesday, May 12th, at the Langham Hotel, Portland Place, W.1, at 7 for 7.30 p.m., under the chairmanship of the president, Sir John Rose Bradford, Bt. Lord Dawson, P.R.C.P., Lord Moynihan, P.R.C.S., and the Vice-Chancellor will be the guests of the society. Medical graduates of the University who are not members can obtain dinner tickets on application to the secretaries of the society, 11, Chandos Street, Cavendish Square, W.1, not later than May 8th.

The president and council of the Medical Women's Federation will hold a reception in the Great Hall of the British Medical Association House, Tavistock Square, on the evening of Thursday, May 7th.

The annual general meeting of the Section of Surgery of the Royal Society of Medicine will be held on Wednesday, May 6th, at 8.30 p.m. A discussion on the surgical treatment of simple ulcers of the body of the stomach will be opened by Mr. A. J. Walton and Mr. G. Gordon-Taylor. The annual provincial meeting of the Section will be held in Manchester on Wednesday, June 10th.

The reconstruction of the Royal Institution, in Albemarle Street, will be celebrated on the evening of Wednesday, May 6th, by a house warming, when guests will be received by the president, Lord Eustace Percy, and Managers.

At a meeting of the Paddington Medical Society, held on April 14th, an address entitled "The work of the tuberculosis dispensary" was delivered by Dr. R. S. Walker (tuberculosis officer, Paddington). The dispensary was open to inspection, and *x*-ray films, pictures, and models were shown.

At a meeting of the Eugenics Society on Tuesday, April 28th, at 5.30 p.m., in the Rooms of the Linnean Society, Burlington House, W.1, Dr. Aubrey J. Lewis (Maudsley Hospital) will read a paper on genetic problems in psychiatry. All interested in this subject are invited to attend. Tea, 5 o'clock.

The annual general meeting of the London and Counties Medical Protection Society will be held at Victory House, Leicester Square, W.C.2, on Wednesday, April 29th, at 4 p.m.

The annual meeting of the Medical Mission Auxiliary of the Church Missionary Society will be held in the Central Hall, Westminster, on Wednesday, May 6th, at 7 p.m. Tickets of admission may be obtained from the superintendent, Loan Department, Church Missionary Society, Salisbury Square, E.C.4. There will be a small number of reserved seats at 1s. each.

To mark the twenty-fifth anniversary of the opening of the Infant Welfare Clinic of St. Marylebone General Dispensary, a meeting will be held at 30, Marylebone Lane, Cavendish Square, W., on April 29th, at 5 p.m., with the Mayor of St. Marylebone in the chair. Addresses will be given by Miss Susan Lawrence, M.P., by Dr. Charles Porter, and by Dr. Eric Pritchard, who has been associated with the clinic since its inception.

An intensive course in radiotherapy, especially in its relation to malignant disease, arranged by the National Post-Graduate School of Radiotherapy, will be held at the Radium Institute, Riding House Street, W.1, commencing Monday, June 1st.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-Graduate Courses, published in the *Supplement* at page 160. The following special courses begin on April 27th: in diseases of children, at the Hospital for Sick Children; in diseases of infants, at the Infants Hospital; in psychological medicine, at the Maudsley Hospital; and in diseases of the ear, nose, and throat, at the Central London Throat, Nose and Ear

Hospital. Syllabuses and tickets of admission may be obtained from the Fellowship of Medicine, 1, Wimpole Street, W. Courses beginning in May include dermatology at the St. John's Hospital, diseases of the chest at the Victoria Park Hospital, ophthalmology at the Royal Eye Hospital, and special evening lectures in preparation for the M.R.C.P. examination at the Medical Society, 11, Chandos Street, W.

A course on the surgery of children will be held at Bordeaux from June 1st to 9th, and on orthopaedics from the 15th to 20th, under the direction of Professor Rocher. The fee is 200 francs. Further information can be obtained from the secretary of the Bordeaux Faculty of Medicine.

A post-graduate course on the diagnosis and treatment of allergic diseases will be held in German at the pharmacotherapeutic institute of Leyden University from May 26th to 28th. The lecturers will be Professor Storm van Leeuwen of Leyden, Professor Rost of Freiburg, and Dr. Dekker of Wald. .

The seventeenth annual conference of the National Association for Prevention of Tuberculosis will be held at Margate from June 25th to 27th. The subject of the conference will be the protection of the child from tuberculosis, and the opening speakers include Sir Robert Philip, Dr. Eugene L. Opie of the United States, who will consider the varying manifestations of tuberculosis at successive periods in childhood, and Dr. Letitia Fairfield, who will deal with the administrative outlook. A discussion will be held on the protection of the child from tuberculosis at birth and during its earliest years of life, and there will also be discussions on its protection during pre-school and school years. The conference is open to all interested in tuberculosis, on payment of the fee of £1 1s. Further information may be obtained from the secretary, N.A.P.T., Tavistock House North, Tavistock Square, W.C.1.

Applications for grants from the Asthma Research Council should be made before May 16th. They should be addressed to the secretary, Asthma Research Council, c/o. King's College, Strand, W.C.2, and accompanied by a detailed statement of the proposed research and the qualifications of the worker.

The second International Hospital Congress will be held in Vienna from June 8th to 18th, when the following subjects will be discussed: the cost of hospital construction, by Distel of Hamburg; the role of the hospital nurse, by Reimann of Geneva; hospital terminology, by Wirth of Frankfurt; hospital legislation, by Harper of Wolverhampton; out-patient departments, by Corwin of New York; patients' diets, by von Noorden of Vienna; and neurology and psychiatry in general hospitals, by Alter of Dusseldorf. Further information can be obtained from the general secretary, Professor Tandler, 9, Rathausstrasse, Vienna, I.

A third tour for medical men to the spas and climatic resorts in the North of Spain, to last ten days, is being arranged. The party will leave Santander about the middle of July for Covadonga, Pics de l'Europe, Côte Asturias, Coruña, Santiago de Compostela, Vigo, and other places. It is hoped that certain Portuguese stations may also be visited. The cost from Santander will be 1,200 French francs. For further information and inscription, application should be made to Docteur Mariano Muñoru, Ronda del Condo Duque No. 4, Madrid. The list will close on or before May 15th.

The issue of *La Medicina Ibera* for April 4th contains an account of the first Spanish Congress of Digestive Pathology, held at Valencia from March 16th to 18th, with portraits of the principal speakers.

In future the *British Journal of Actinotherapy and Physiotherapy* will be published under the title, "*The British Journal of Physical Medicine* (incorporating the British Journal of Actinotherapy and Physiotherapy)." This alteration takes effect from the current month's issue, which forms No. 1 of volume 6.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Medical Hypnosis

"E. J. B." (Bristol) wishes to know of a practical course in medical hypnosis, either at any home medical school or a holiday course in Germany.

Wagstaff's Forceps

Dr. A. T. BRAND (Driffield) writes in reply to the query by "Croydonian" (April 18th, p. 692): On pages 215 and 216 of *Clinical Memoranda for General Practitioners*, by Brand and Keith (Baillière, Tindall and Cox, London), will be found a full description of Wagstaff's forceps. The experience of the authors with this admirable obstetric instrument is given, and directions are supplied to distinguish between the upper and lower blades of forceps; also, which should be first applied, and why. The instrument being axis-traction forceps, simple traction is alone necessary. Information is also given as to where the forceps may be obtained.

Chronic Rhinitis

Dr. F. G. GARDNER (Oxford) writes: From time to time I see letters in the *Journal* asking for advice in the treatment of this condition. I am not going to suggest any form of medical treatment, but I do suggest strongly that many of these cases are due to forcible and frequent nose-blowing, which injures the delicate lining of the nose, making it liable to fresh infection. At the same time the trachea, tonsils, the Eustachian tubes, and the accessory sinuses are "sprayed" with infected material from the nose, and so other troubles of the upper respiratory tract are started. "G.P.'s" case seems to corroborate my view. I offer my suggestion to him. Nose-blowing is quite unnecessary, but if it *must* be performed, it should be done gently, and one side cleared and then the other. There is no doubt the nasal secretion has antiseptic properties which, if not interfered with, act as a protection against many forms of infection.

Income Tax

Motor Car Expenses of Assistant

"J. O." acted as an assistant from April 1st, 1930, to February 22nd, 1931. In May, 1930, he bought a car and used it for his work, his principal supplying petrol, all other expenses being met by himself. He asks whether he can deduct certain specified outlay, etc.

*** (1) Nothing can be deducted in respect of the capital outlay incurred in buying the car. (2) Current expenses, including tax and insurance premiums, repairs, cleaning, etc., can be deducted, except as regards any proportion fairly attributable to personal use. (3) He can claim 20 per cent. per annum of the value of the car as at the beginning of the year, less any personal proportion as above

Post-Graduate Course

"G. J. L." was doing a post-graduate course during the months of April, May, and June of 1930, and then took up professional work. Can he deduct, in computing his assessable income, the expenses, fees, books, travelling, etc., during the post-graduate course?

⁂ No. Those expenses were incurred in acquiring additional professional knowledge, and represent essentially an outlay of capital, and consequently cannot be treated as expenses for income tax purposes.

Discount on Prepayment of Income Tax

"I. B. M." inquires whether, in the event of income tax being paid before the due date any discount is allowed.

⁂ The point is covered by Section 159 of the Income Tax Act of 1918, which provides that, as regards tax payable under Schedule D, an allowance can be claimed at the time of payment at the rate of 2½ per cent. *per annum* for the period from the date of payment to the due date. Thus, if £50 is due on January 1st, 1931, and is paid on December 1st, 1930, discount can then be claimed to the extent of 2s. 1d.

Appointment: Travelling Expenses

"O. C. D." holds a public appointment which necessitates a good deal of travelling, and he is allowed 5d. per mile by the local authority "for certain journeys." He regards this as covering the running cost, but not the depreciation of the car. Can he claim an allowance for income tax purposes?

⁂ Yes, provided that he can show that the use of a car of the horse-power and grade employed is necessary for the carrying out of the duties, and also that the 5d. per mile does not cover depreciation. (In computing the depreciation regard would have to be had to the extent to which the car is used for private purposes.) In view of other cases which have come to our notice, however, we fear that the local authority in awarding an allowance of 5d. per mile may have reckoned that that would cover reasonable depreciation by wear and tear; if so, it will perhaps be difficult to persuade another authority—that is, the District Commissioners of Taxes—that that allowance was inadequate.

LETTERS, NOTES, ETC.

Incubation Period of Measles

Dr. J. W. SPRINGTHORPE (late senior physician to the Melbourne Hospital) writes: Those interested in the incubation period of measles (as referred to in the *Journal* of January 3rd and 10th) may be glad to note my experience when in charge of an emigrant ship to Australia in 1884. On leaving Plymouth we had some ninety children on board, many of whom had "colds in the head." Ten days out, a child was found to be developing the characteristic rash. Of course, immediate isolation and fumigation did not prevent a spread. Fourteen days later, however, we had ten cases, apparently from this one source. A fortnight later we had some twenty more, and all the rest of the voyage (eighty-three days) cases everywhere, in all sections of the boat. Thus the natural incubation period of measles would seem to be fourteen days at least. As regards German measles, the incubation period is given in Osler as "usually fourteen to twenty-one days, but varying from one to twenty-eight," and in Anders as "from ten to twenty-one." In an epidemic in which I was able to obtain fairly similar precision I found undoubted cases in which the incubation period seemed to have been not less than twenty-one days.

Amidopyrin in Measles

Dr. T. PIRES (Angers, France) writes: Having followed the correspondence in your columns with regard to the treatment of measles with pyramidon (amidopyrin), I took the opportunity of trying this preparation in a school epidemic. In the three cases where 50 cg. of the crystals were given, the temperatures, ranging between 101.5° and 105° F., were brought down to normal. In two cases the dose was repeated on account of a further rise of the temperature towards the evening, with the same favourable result the next morning. There would seem to be some specific action of the drug in measles, as in cases in which quinine and aspirin were given the temperature remained unaffected. The other symptoms in the whole epidemic called for no comment and seemed unaffected, though the constitutional disturbance was by no means great. This, however, may be because the cases were mild, though in all of them the temperature was considerably raised. An unlucky coincidence in the same school during the measles epidemic was the following case:

A girl complained of malaise, with a temperature of 102.2°. As measles could not be definitely diagnosed she was isolated, and next developed a painful throat. The tonsils were very much enlarged and congested, presenting a deep violet discoloration. Antiseptic gargles were used frequently, and the congested presenting parts began to slough, when Vincent's angina was diagnosed and confirmed by microscopical examination on the fourth day of the illness. The consultant, however, in view of the fact that diphtheria was present in the locality, took a swab the next morning, by which time the whole aspect of the throat had changed, and the uvula was deeply involved in the sloughing process. The swab proved intensely positive for the Klebs-Loeffler bacillus, and antidiphtheritic serum was at once given. There had been no glandular involvement up to this, and the patient is doing well.

The rapid development of the disease in this case may have been due to a sudden decrease in the general resistance of the patient.

Haematocolpos in a Woman of 43

Dr. H. P. DAWSON (Grantham, Lincs) writes: Lately several cases of diseases occurring at unusual ages have been reported in the *British Medical Journal*. Possibly the following may be of interest, both on account of the age of the patient and of the somewhat unusual symptoms. Miss A., aged 43, came up to St. Thomas's Hospital in 1914 at the time when I was house-physician to Dr. Walter Tate. She was suffering from acute retention of urine and much pain. There had been slight difficulty with micturition for about two years. On abdominal examination I found a cystic tumour rising out of the pelvis and extending upwards to one inch above the umbilicus, and at the summit of this, but just to the left side, a small, harder mass could be felt (the uterus). On vaginal examination a bulging membrane was present, pink in colour, except at the centre, where it had a bluish tinge. At operation 3½ pints of dark reddish blood flowed out, together with a few clots. The last part of the fluid was a dirty yellowish-brown, as if mixed with pus. On vaginal examination after operation the cervix could be felt, and admitted a finger-tip. The uterus was slightly enlarged, probably showing a very early haematometra. At no time had there been a period, and the patient also stated that one of her sisters had only a small period about every two years.

Cornu Cutaneum

Dr. T. H. CROZIER (Belfast) writes: Dr. F. H. Unwin's letter in the *Journal* of April 4th (p. 610) interested me very much, as I came across a fine specimen of cornu cutaneum in the wards of the Belfast Infirmary a few weeks ago. The patient was a woman of 60 years, and she first noticed the growth about twenty years ago. There was no history of previous injury. She had a tough, inelastic, keratinous tumour growing from the skin covering the tibial crest. Its over-all length was about 7 inches, and its surface was grooved and pitted like a ram's horn. The base showed signs of partial fracture, and was roughly elliptical in cross-section, with a long axis of about two inches. Unfortunately the patient was very proud of her "horn," and rejected all overtures for its removal. Probably the growth commenced as a wart in this case.

A "Service Week" for Motor Cars

Messrs. Mann Egerton and Co., Ltd., the officially appointed engineers to the Medical Insurance Agency, are arranging a series of "service weeks," from April 27th, when experts will be at the service of medical men, and will, on request, inspect, test, and give assistance or advice in connexion with any make of car, free of charge. The first service week is for Austin cars, and lasts from April 27th to May 2nd inclusive; other well-known makes will follow. Appointments can be made by telephone (Paddington *9011*), or by letter addressed to the manager of Mann Egerton's Service Depot, Church Street, Edgware Road, N.W.8. A further service offered by the firm is the loan of a good saloon, at a nominal charge, while a doctor's car is being repaired.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 51, 52, 53, 54, 55, 56, 57, 60, and 61 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 58 and 59.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 159.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

388 Myopathia Infraspinata

G. WILTRUP (*Ugeskrift for Laeger*, February 12th, 1931, p. 157) has in the course of several years examined about 600 patients suffering from a condition he calls "myopathia infraspinata." Most of his patients were males between the ages of 30 and 50, who, while at work, felt pain in the shoulder, most frequently the right shoulder. This pain began quite suddenly, was often intense, and sometimes radiated out to the fingers. Rest and bandaging had, as a rule, little effect, and the pain was often worse at night. The pain kept the joint immobilized, often at a higher level than the other shoulder. The upper arm was held to the side, active movements about the joint could not be carried out, and passive movements were at first hindered by the muscular spasm, which yielded somewhat to a few minutes' massage. The range of movement about the joint was then so wide that disease of the joint itself could be eliminated. Normal sensation and reflexes were retained. On palpation, tenderness was demonstrable in the infraspinatus muscle, most frequently in its upper median portion. The pain evoked by this pressure resembled the spontaneous pain of which the patient had complained, and often radiated to the fingers. This condition, which nearly always clears up with massage, is in the author's opinion due to muscular hyperfunction. The diagnosis is easily made, and the examination is best conducted while the patient lies on his abdomen with his hands under his forehead or hanging down by his sides.

389 Estimation of the Pirquet Reaction

J. LEIKVAM (*Norsk Mag. f. Laegevid.*, March, 1931, p. 251) made comparative observations on 2,500 Pirquet reactions at the end of twenty-four, forty-eight, and seventy-two hours, with the following results. A positive reaction showed a marked tendency to remain the same or to increase up to the third day, whereas the non-specific reaction disappeared in the course of the second or third day. Of 160 papules with a diameter of 1 to 5 mm. and more, twenty-four hours after injection of the tuberculin, 122 had already disappeared by the third day. As only about 4 per cent. of the reactions which are negative seventy-two hours after the first Pirquet test become positive after the test has been repeated, Leikvam concludes that these transient reactions, which contribute 72 per cent. of the papules appearing on the first day, are false, non-specific reactions. He considers that Frölich's estimate of 84 per cent. positive Pirquet reactions among school children in the lowest classes should be reduced to 24 per cent., since Frölich probably regarded the non-specific reactions as positive. Late reactions first appearing on the second or third day, or cases which require repetition of the test before they become positive, are frequent at all ages.

390 Control of Diphtheria in Institutions

C. JENSEN (*Deut. med. Woch.*, February 20th, 1931, p. 324) records the results of immunization against diphtheria with Ramon's anatoxin in a large children's home, and in an institution for the mentally deficient, during a period of two years. The results were regarded as favourable, on the following grounds. (1) In the children's home, where all the Schick-positive inmates had been previously immunized, four carriers were allowed to mix freely with the others for a whole month without any case of diphtheria arising. (2) In an isolated department of the home two cases of diphtheria occurred nine months after the immunization had been carried out. The department at that time contained 58 immunized and 6 non-immunized children. The source of infection was found to be two immunized children with suppurative otitis media who had diphtheria bacilli in the discharge. (3) Both of these chronic carriers were allowed to mix freely with the 60 children in another department who had been immunized, but no more cases of diphtheria occurred. As the result of clinical experience and control Schick tests, the author concludes that the duration of immunity is more than two years, and probably considerably more. In children below the age of 7 the injections of anatoxin caused little or no reaction.

391 Measles Meningitis

M. LIORET (*Thèse de Paris*, 1930, No. 484) records 10 cases, two of which are original, in patients aged from 3 to 40, in whom measles was complicated by meningitis. His conclusions are as follows. Apart from local causes, especially otitis, meningitis is a rare complication of measles. It is most likely to occur when the eruption is beginning to fade, and is accompanied by rise of temperature and constitutional disturbance, but without signs of severe involvement of the nervous system. The cerebro-spinal fluid shows a mononuclear reaction; the lymphocytes often predominate, suggesting the presence of tuberculous meningitis, although all the laboratory investigations are negative. This form of measles meningitis disappears rapidly and has no sequels. It resembles the meningitis found in numerous infectious diseases, such as scarlet fever, mumps, and herpes, in its mode of onset, and clinical and laboratory signs. The etiology is uncertain, but it is reasonable to attribute the condition to the measles virus.

Surgery

392 Cholecystectomy without Drainage

G. COTTE and H. ROLAND (*Rev. de Chir.*, January, 1931, p. 1) discuss the advantages of cholecystectomy without drainage in certain cases. It is only advisable when there are no adhesions between the gall-bladder and colon or duodenum, when haemorrhage is slight, and when perivesicular suppuration is not present. In relatively simple cases, and those in which it has been possible to preserve sufficient peritoneal covering to peritonize the bed of the gall-bladder and to bury the stump of the cystic duct, ideal cholecystectomy is the operation of choice. This obviates the employment of any form of drain, the removal of which may be very painful and may break down adhesions, thus causing peritoneal or general infection. A case is mentioned in which secondary haemorrhage of the cystic artery occurred when the gauze drain was removed, and caused the death of the patient. Convalescence after an ideal cholecystectomy is also shortened, and post-operative adhesions and hernia are less likely to occur. Twenty-two cases of cholecystectomy were so treated in the two years under review, and in every case a good and speedy recovery was made. In eleven cases the operation was for gall-stones, in the remaining eleven for pain in the gall-bladder region and chronic cholecystitis with no stone formation. Operation was in most cases carried out under spinal anaesthesia through a Sprengel's transverse incision.

393 Early Signs of Cancer of the Tongue

W. F. MACFEE (*Annals of Surgery*, February, 1931, p. 481) finds that cancer of the tongue is in 20 per cent. of the cases anatomically situated so as to escape early detection. Moreover, it is frequently symptomless, or associated with indirect and consequently misleading symptoms; thus abdominal pain may result from the referring of the pain to other areas of the vagal distribution. One of the first and most consistent symptoms of lingual cancer is, he thinks, pain in or about the ear, when the growth is situated in the posterior half of the tongue. There may also be

some difficulty in swallowing and in dislodging particles of food from the teeth; this is probably due to the replacement of muscle by tumour tissue, and to the involvement of the motor nerves. A queer tickling sensation in the tongue has been reported, probably indicating sensory nerve disturbance. Later symptoms include salivation, pain in the tongue itself, and fetor, but when these appear the condition has usually passed the stage when an operation can be of any use. Other possibly early symptoms noted by MacFee are: deviation of the tongue to the side of the lesion; a slight dimpling, furrowing, flattening, or other evidence of the surface mucous membrane; a defect in speech; a minute ulcer at the most superficial part of an infiltrating cancer; an area of induration; and enlarged lymphatic glands in the neck—a later sign, but even then too often attributed to causes other than lingual cancer. The author adds that as soon as an ulcerated or indurated area is discovered in the tongue a correct diagnosis must be made rapidly, or the condition may become hopeless.

394 Surgical Treatment of Graves's Disease

A. TROELL (*Nord. Med. Tidskrift*, February, 1931, p. 129) traces the marked decline in the operation mortality of Graves's disease in the past decade to careful preparatory treatment modified according to individual needs. The duration of such preparatory treatment must depend on the degree of toxicity in each case; in 9 of his cases it lasted from six weeks to five months. Of 458 thyrotoxicosis patients operated on between 1919 and 1930, 22, or 4.8 per cent., died in connexion with the operation. In the earlier part of this period—from 1919 to 1924—there were 104 patients, 10 of whom (9.6 per cent.) died in connexion with the operation. In the latter part of this period—from 1925 to 1930—there were 354 patients, 12 of whom (only 3.3 per cent.) died in connexion with the operation. The best operative results were obtained in 1929 with a series of 160 cases and only three deaths. As for the late results, the fate of 10 of the 246 patients operated on between 1919 and the end of 1929 could not be ascertained. Complete recovery and fitness for work (with persistent exophthalmos in some cases) was achieved in 51 per cent., and complete fitness for work, without removal of all the symptoms, in 39 per cent. In 3 per cent. the patients were better, but not fully fit for work; in 1 per cent. they were no better or worse; and in 6 per cent. they had relapsed. In view of the danger of hypothyroidism and parathyroid disturbances following extensive bilateral resection, the author has of late been less radical in his operations, preferring to leave a piece of the gland, about as large as a walnut, on each side of the neck.

395 Ankle Fractures with Backward Dislocation

M. LANGE (*Münch. med. Woch.*, February 27th, 1931, p. 365) states that the treatment of fracture of the ankle is made difficult by the fact that the gastrocnemius, pulling at an advantage over its antagonists, tends to increase the backward displacement of the foot and to prevent the maintenance of the correct position after reduction. By flexion of the knee the gastrocnemius is shortened and its power is decreased. Fractures of this nature should be reduced and put into plaster with the patient in the prone position, and the knee and foot both flexed to a right angle. In order to maintain the position the plaster should extend up to the middle of the thigh. This technique has been recommended by several writers on orthopaedics, but is, in the author's opinion, still insufficiently practised.

396 Traumatic Separation of the Symphysis Pubis

J. W. SEVER (*New England Journ. of Med.*, February 19th, 1931, p. 355) cites several cases of traumatic separation of the symphysis pubis; in many of these suturing or wiring of the symphysis was performed. With Wishner and Mayer, and with Timm, the author believes that conservative measures should be generally followed, and that an operation is indicated only in unusual cases where other methods fail. Wishner and Mayer consider that functional cure is possible by gradual lateral compression of the pelvic bones, which restores them to the approximately normal positions. Three cases, in which severe injuries were present without intrapelvic soft part complications, are recorded by Sever; these show that functional recovery may occur despite considerable separation at the symphysis, even if perfect anatomical reposition is not obtained. A heavy swathe, kept tight, is usually sufficient support to the pelvis; this procedure of Wishner and Mayer to ensure constant pressure is thought by Sever to be useful, and could be employed.

Therapeutics

397 Treatment of Malaria

J. A. SINTON (*Indian Journ. of Med. Research*, January, 1931, p. 831) discusses the effects of various quinine dosages and the duration of treatment in malaria. By prolonging treatment the permanent cure rate can be increased, but the increase is not directly proportional to the duration of treatment or to the total amount of quinine given. Moreover, better effects and more permanent cure follow the administration of the larger doses of quinine; the continued use of large doses over long periods may, however, have harmful effects, and may even prolong the disease. The optimum daily dose has been found to be 30 grains. Such a dosage for a short period (one week) should cure at least 70 per cent. of fresh malarial infections, if care is taken that the dose is retained and absorbed. In further papers (ibid., pp. 845 and 855) on the influence on the duration of the disease exerted by special parasite species, and the relationship of season to the cure rate, Sinton considers that there is no certain proof of the existence of variations in the strain or virulence of malarial parasites other than *P. vivax*. It seems highly probable that the relapse rates may be correlated to atmospheric temperature, and especially to the association of a high relative humidity with a high atmospheric temperature.

398 Renal Complications of Bismuth Therapy

L. BORY (*Paris Méd.*, March 7th, 1931, p. 221) says that apart from experimental or accidental intoxications nephritis is not actually caused by bismuth, and prefers to speak of "renal complications during bismuth treatment." The functional renal troubles thus described are polyuria, albuminuria, and sedimentary nephrosis. Polyuria is a natural consequence of bismuth treatment, and has no serious significance; oliguria occasionally follows, however, and must be regarded as a sign of kidney trouble. Albuminuria is the first sign of cell fatigue; epithelial desquamation ensues later, and this calls for interruption of treatment. The author adds the practical hint that in successive periods of treatment the basal drug should be varied; the prolonged employment of bismuth fatigues the kidneys, and a temporary change to a course of arsenic is suggested in order to give them a rest.

399 Treatment of Diphtheria Carriers

R. WAHL (*Deut. med. Woch.*, February 13th, 1931, p. 276) records the results of *x*-ray treatment of a number of diphtheria carriers, many of whom were old and resistant cases. Three positive swabs had been obtained from all the cases before treatment, and, according to the localization of the bacteria, the nose or throat was *x*-rayed, the initial dose being 30 per cent. of a skin erythema dose, followed later by applications of 10 per cent. The tonsil was treated by directing the rays through the skin of the neck, in the region of the angle of the jaw. In all, 136 cases were treated (1 streptococcal, 2 meningococcal, and the rest diphtheria); 105 were negative after the first treatment, 28 after the second, and 2 after the third. Thus all patients except one were cured by three applications or less. The interval between the applications was about a week, swabs being taken about five or six days after each, since it was found that swabs taken directly

after treatment are still positive. This fact, and the observation of others that cultures of diphtheria bacilli cannot be sterilized by the direct application of *x* rays, suggests that the results of treatment are due to an effect on the tissues, and not on the organisms themselves.

400 Local Treatment of Leprosy with Chaulmoogra Oil

T. J. DIMITRY (*Amer. Journ. Trop. Med.*, January, 1931, p. 65) has been successfully treating the eyes and nasal cavities in leprosy with instillations of chaulmoogra oil, either pure or diluted with olive oil. The greatest improvement followed the use of the oil, either pure or diluted, by means of atomization into the nasal cavities. The author is now trying the pure ethyl ester "chaulmestrol," and finds it less painful than the pure oil, though its administration is followed by a burning sensation—never very great—which lasts about half an hour. Dimitry emphasizes the importance of carefully investigating the nasal passages and sinuses in leprosy on the ground that these cavities harbour the cause of the repeated attacks of inflammation in the eyes, and of the persistent nature of the disease generally in the body. Atomization of chaulmoogra oil or of its derivatives can well be combined with the oral or hypodermic method of administration now in general use.

Dermatology

401 Parakeratoses of the Ends of the Fingers

R. SABOURAUD (*Ann. de Derm. et de Syph.*, February, 1931, p. 206) describes a parakeratosis of the ends of the fingers; of slow and recurring evolution, it is streptococcal in origin, and supervenes after a whitlow. This lesion, formerly confused with the eczemas, is often mistaken for a mycosis, which it much resembles. The two conditions may be differentiated by the following points. A parakeratosis has an antecedent history of whitlow, and is much more frequent on the fingers than on the toes. The centre of it is the end of the finger and edge of the nail, and it usually starts in the groove under the free border of the nail. Mycoses, common on the toes, may be recognized by a subungual yellow streak which, commencing at the free border of the nail, runs vertically towards the matrix. Parakeratoses may become secondarily infected with staphylococci, and hence give mixed cultural growths. The primary treatment of both conditions is a daily brisk friction with 1 per cent. iodized alcohol; an ointment should then be applied. Mycoses yield readily to a benzoic, salicylic, or chrysophanic acid ointment. Parakeratoses heal much better with an ointment of 1 in 30 to 1 in 10 (or even stronger) coal tar. To facilitate removal of the black discoloration caused by the latter, the fingers should be cleansed with a greasy substance before soap and water is used.

402 Cutaneous Calcinosis

E. R. MALONEY and D. BLOOM (*Arch. Derm. and Syph.*, February, 1931, p. 245) report a case of cutaneous calcinosis, a disease characterized by the presence of calcareous tumours and plaques in the skin and subcutaneous tissue. Local and general forms exist, the first including calcification in tumours, and being a purely local disease not dependent on any general disturbances. The second form, known as metastatic calcinosis, may be due to the presence in the blood of excessive amounts of calcium, resulting from bone destruction through osteomyelitis, caries, or lymphatic leukaemia. The cutaneous tumours or plaques vary in size and consistency; they eventually perforate the skin, and discharge a creamy mass containing calcium phosphate with some calcium carbonate. In most cases the blood contains only the normal amount of calcium, but in the metastatic cases an excess is usual. The authors' patient was a boy, aged 14, in whom there was a history of preceding throat infection, severe nephritis, and signs of endocrine disturbance. Multiple tumours were present in the skin and subcutaneous tissue of the hands, elbows, knees, right buttock, and behind the right ear. The patient had a prominent jaw and nose, a senile facial expression, a funnel-shaped chest, the female type of pubic hair growth, small testes, thin arm muscles, and a large lipoma beneath the left scapula. His intelligence was normal. *X*-ray examination of the chest revealed hilar shadows in both lungs, with a number of calcified glands and areas of infiltration in the lower lobes. This case belonged to the group of metabolic general calcinosis, and the authors think that the preceding nephritis with confinement to bed for many weeks may have so disturbed the physicochemical balance and solubility of the calcium in the blood as to have produced the condition.

403 An Endocrine Factor in Acne

B. BLOCH (*Brit. Journ. of Derm. and Syph.*, February, 1931, p. 61) holds the view that acne in its first phase is a consequence of the physiological functioning of the sexual glands, analogous to that which is generally assumed for the development of the normal secondary sexual features, such as the formation of terminal hair. Acne, and particularly its basis the comedo, appears at a determined age, and is so widespread as to be regarded inevitably as a hormonal disease of the organism at the time of puberty. Statistical evidence is given in support of these views, based on the examination of 4,191 children in Zurich. Acne was found to attain its maximum incidence at the age of 17 in girls and at 18 in boys, the gravest cases beginning at about the age of 10 or 11, and being more serious in boys than in girls. Other supplementary evidence of a similar purport is cited.

404 Gold Pigmentation of the Skin

L. NOVÉ-JOSSERAND, GATÉ, CHARPY, JOSSERAND, and P. CUILLERET (*Bull. Soc. Française de Derm. et de Syph.*, January, 1931, p. 117) report the cases of three children suffering from pulmonary tuberculosis, treated continuously for two years or more with intravenous doses of gold salts. In each case the skin of the face after about eighteen months began to show a violet-blue pigmentation recalling the tint seen in argyrosis or in mild aniline poisoning. Only those parts of the skin constantly exposed to the light were affected—namely, the face and neck in a girl, and in two young boys parts of the legs as well; otherwise there were no signs of intolerance or intoxication. The authors recall the great rarity of this condition, and suggest for it the name "chrysocyanose" as being more descriptive and more etymologically exact than "chryose," the term given to it by Zimmerli and Lutz in a comparable case.

Obstetrics and Gynaecology

405 Endometrial Haemorrhage

Believing that the accepted methods of treatment of irregular uterine haemorrhage are empirical and somewhat limited, M. G. SUTTON (*Med. Journ. of Australia*, January 10th, 1931, p. 34) has endeavoured to correlate the clinical histories of patients suffering from this condition with the pathological findings. A short review of the function of menstruation and of its comparative and intrinsic physiology is given, together with the histology of the cyclic changes in the ovary and endometrium. Certain pathological entities of the uterus and endometrium which have been considered to underlie uterine haemorrhages are discussed; such are subinvolution, metritis and endometritis, glandular hyperplasia, and menstrual irregularities. The treatment of these conditions is briefly outlined. Sutton states that, except in bleeding due to retained products, fibroid polypi, and cancer of the uterine body, irregular uterine haemorrhage is extrauterine in origin and often extrapelvic; to the latter class belong the metropathies. Chronic metritis is an infrequent condition, associated with chronic interstitial endometritis, the late result of which is true fibrosis uteri. Paraclimacteric fibrosis is only a relative condition,

and not inflammatory in origin. So-called chronic subinvolution is a misconception; it should be termed "the parous uterus." None of these conditions usually causes uterine bleeding, though they may aggravate and prolong it. Before the menopause the uterus should be conservatively treated, not only because of its gestational function, but also because, due to its complex structure, it possesses an endocrine function and one relating to calcium economy. When haemorrhage is not due to malignancy or large fibroids, partial hysterectomy or myomectomy with ovarian conservation, and *x*-radiation of the thyroid gland, pituitary body, and spleen should be considered. If these fail it may be necessary to procure the destruction of the endometrium by radium or surgical diathermy.

406 Eclampsia

A. C. BECK (*New York State Journ. Med.*, March 1st, 1931, p. 274) reviews the sequels of eclamptic attacks in a series of 97 consecutive cases during the past sixteen years. In the first four years of that period the treatment adopted was the prompt removal of the products of conception, followed by drastic eliminative measures designed to combat the toxaemia; the mortality was 25 per cent. During the next four years neither interruption of pregnancy nor hastening of labour was attempted unless there was some indication other than eclampsia, morphine in large doses and mild eliminative measures being relied upon; the results were much better. In the last eight years of the period it was clearly recognized that eclamptic patients were so hypersensitive to external stimuli that convulsions might be provoked by very slight irritation, such as the passage of a stomach tube, the insertion of a rectal tube, catheter, or hypodermic needle, or by blood pressure determinations. By avoiding all external stimuli as far as possible, placing the patient in a darkened room, and the routine early withdrawal of blood up to 1,000 c.cm. (unless contraindicated by fall in blood pressure or rapid rise in pulse rate), and by the administration of ½-grain doses of morphine hourly until the convulsions ceased or the respirations fell below 12, the mortality was reduced to 6.3 per cent. Beck adds that since no further convulsions occurred after early phlebotomy in 30 out of 40 cases, it seems probable that the lower mortality was largely due to this procedure. The foetal deaths were high throughout the period under review.

407 Labour in the Elderly Primipara

J. P. MAXWELL and A. I. H. WONG (*China Med. Journ.*, February, 1931, p. 113) believe that there is no class of case in which the obstetrician needs to exercise so much thought and care in planning labour as in primiparae over the age of 35. They record a series of 46 such patients seen in the course of nine years in a consecutive total of 2,226 labour cases at the Peking Union Medical College Hospital, and report that the length of labour was far greater than the time taken in the average primipara. There were an abnormal number of occipito-posterior presentations—roughly, one in three of the head presentations—and the numbers of episiotomies and perineal repairs were much above the normal figure. Whereas the Caesarean section rate for the total of these patients was 4.9 per cent., in the elderly primiparae it was as high as 17.3 per cent. Premature rupture of the membranes was frequent; in 13 out of the 46 cases this had occurred, and in most cases long before birth. Three Caesarean sections were performed owing to failure of the cervix to dilate, and on each occasion great difficulty was experienced in detaching the membranes. No forceps delivery was attempted on [illegible] in which the cervix was not fully dilated, and the [illegible] labour in these cases indicated primary uterine [illegible] one cause of the difficulties encountered. From [illegible]s nine living children were obtained after the [illegible]s had been known to have been ruptured for a [illegible] before birth, similarly indicating primary inertia. [illegible]here is the likelihood of no further children being [illegible] consequent[illegible]s h[illegible] greater need for special care [illegible] that th[illegible]s fail. W[illegible] be born alive and healthy.

Pathology

408 Excretion of Water and Salts from the Kidney

I. SCIMONE (*Biochim. e Terap. Speriment.*, December 31st, 1930, p. 469) has studied the elimination of water and salts from the kidney after intravenous injections of isotonic solutions of sodium chloride. A series of eighteen rabbits received into the right jugular vein, at the rate of 3 c.cm. per minute, amounts of isotonic salt solution (9.74 grams per litre) ranging from 200 to 600 c.cm. per kilo of body weight. The bladder was ligatured above the urethral orifice, and a glass cannula introduced near the upper end was connected by rubber tubing to a graduated cylinder in which the urine secreted was collected. Measurements were taken of the urine secreted during the injection, and again after three hours' interval. The total excretion increased proportionally to the amount of saline solution injected; the quantity excreted during the injection was several times greater when large amounts were injected than when only small amounts were injected. The total percentage volume of water and the total percentage amount of chloride secreted showed a parallel relation, both increasing as the amount of solution injected was increased, a result to be expected from the necessity of maintaining a constant osmotic pressure of the blood and tissues.

409 Etiology of Gastric Ulcer

Gastric ulcer occurs chiefly along the lesser curvature and in the pyloric region of the stomach, where the mucous membrane secretes no acid but is exposed to the acid secretion formed by the body and greater curvature. It may therefore be due to an excessively concentrated acid secretion, or to a failure of the mechanism which protects the cells. The parts of the stomach actually concerned in the secretion of acid are presumed to be better able to withstand its action. In order to demonstrate the truth of this theory P. SIEBERT (*Deut. med. Woch.*, March 6th, 1931, p. 399) has performed a series of carefully controlled experiments on rats, and has consistently produced multiple gastric erosions by injecting histamine while the animals were fasting, thus producing a powerful and undiluted secretion of acid. The number of ulcers produced corresponded roughly with the number of histamine injections, and some animals developed erosions by starvation alone. The ulceration invariably occurred in that portion of the rat's stomach which does not secrete the acid juice but is exposed to its action.

410 Insulinaemia in the Fat and Thin

D. COLUMBA (*Il Policlinico*, Sez. Prat., February 16th, 1931, p. 219) investigated the amount of insulin in the blood of 12 constitutionally fat and 10 thin persons by the method of Dodds. He found that in every case the hypoglycaemic power of the blood was lower in fat than in thin persons. He therefore came to the conclusion that fat persons present a condition of hypo-insulinaemia which may be regarded as the expression of a latent state of functional insufficiency of the pancreas.

411 Latent and Occult Tuberculous Infection of Bronchial Glands

W. M. CUMMING, S. J. HARTFALL, and J. G. THOMSON (*Journ. Path. and Bact.*, March, 1931, p. 157) examined histologically and by guinea-pig inoculation the tracheobronchial glands of 108 cadavers for the presence of tubercle bacilli. These organisms were found in seven cases, of which four showed no histological evidence of tuberculous lesions. All the seven strains isolated were of the human type, indicating that infection had probably occurred by the respiratory route. Since in the selection of suitable cadavers all cases showing evidence of active tuberculosis were excluded, it follows that these seven cases were all examples of latent tuberculosis, though there is no definite proof that the bacilli were not actively multiplying in the glands.

What about taste?

MANY patients still believe innocently that the medicine must be bitter to be efficacious.

Agarol Brand Compound the original mineral oil and agar-agar emulsion with phenolphthalein, is for that up to date generation that wants its medicines in the proverbial "sugar coating."

No excuses are needed for its taste any more than for its effectiveness. Agarol Brand Compound is exceptionally palatable without artificial flavouring. It *flows freely* from the bottle, and can be mixed with any liquid or soft food.

Just enough mineral oil to carry unabsorbable moisture to the intestinal contents, keep them soft, and so make evacuation easy and painless. By *gentle stimulation* of peristalsis, Agarol Brand Compound makes the result certain, and aids in re-establishing regular habits.

One tablespoonful at bedtime —is the adult dose

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

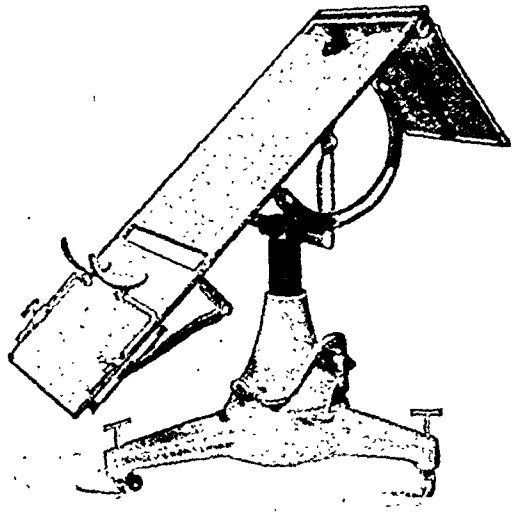
AGAROL BRAND COMPOUND *for Constipation*

FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC., *Manufacturing Pharmacists Since 1856*

The "ARNOLD" Pedestal Operation Table

The "ARNOLD" OPERATION TABLE is *BRITISH MADE* with *BRITISH LABOUR*



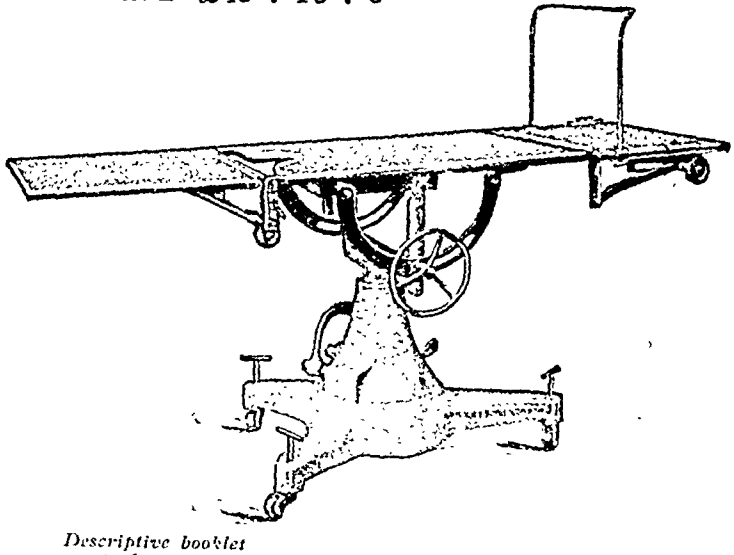
IMPORTANT NOTICE.

The "Arnold" Pedestal Operation Table, which contains many exclusive and very practical features, is only obtainable from the Makers. There is no table "just as good."

ARNOLD & SONS.

The "ARNOLD" TABLE, with lithotomy supports, shoulder rests, and douching funnel.
COMPLETE **£49 . 10 . 0**

Anaesthetic Screen **£1 . 1 . 0**



Descriptive booklet sent free on application

A MAYTON writes:

"The Table which you supplied for my Nursing Home is giving great satisfaction, and the Surgeons who work here find it convenient for all operations. It is just as convenient for ear, nose, and throat, as for gynaecological ones. The advantage of your Table over others we have had is the rapidity with which the position of the patient can be changed without any strenuous work on the part of the Nursing Staff."

A LONDON SURGEON writes:

"Your Operating Table I already know well as we have one at the —— Hospital. It is *far and away* the best, simple, cheap operating table that I have met, and I should like to recommend it very highly."

Signed ——, F.R.C.S., etc.

Makers of SUPERIOR HOSPITAL FURNITURE and EQUIPMENT

Telephone: WELBECK 5555 (12 lines)

Arnold & Sons (JOHN BELL & CROYDEN)

Telegrams: INSTRUMENTS, WESDO, LONDON

50-52, WIGMORE STREET, LONDON, W.1

SALTAIR SURGICAL SERVICE

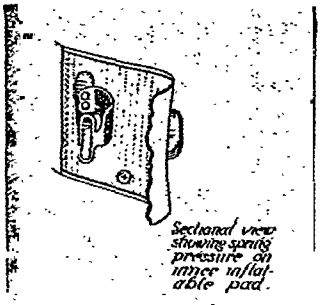
SALTAIR SURGICAL SERVICE

Guarantee

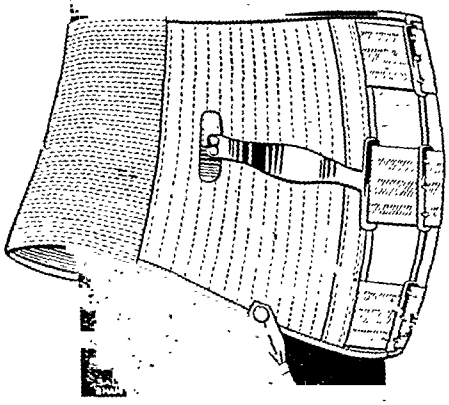
"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

SALT'S Patent Kidney Belt.



Sectional view showing spring pressure on inner inflatable pad.



This Belt is designed in conjunction with eminent Medical Men and thus is anatomically correct.

It affords general abdominal support, retaining the kidneys in their normal position—BUT this support is given without pressure ON the kidney.

SALT'S Patent Kidney Belt

can be made in materials and styles to suit the tastes of all patients.

Descriptive Surgical Reference Books (embodying simple order forms), sent free on request to all qualified practitioners.

Should the appliance supplied not be acceptable to the patient, the Medical Man is fully protected by our unique Guarantee.

London Consulting Rooms:
"OAKLEY HOUSE"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

'Phone Birmingham - Midland 5455.

'Phone London - Museum 3845.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

BLOOD PRESSURE

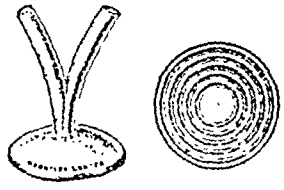
SPHYGMOMANOMETERS

Mercurial: Aneroid: Recording

NEW CATALOGUE

post free on application.

STETHOSCOPES



NEW

'METALLIQUE' CHEST END

(Pat. app for)

The specially constructed metal diaphragm is extremely sensitive and magnifies heart sounds without distortion.

Price, chest end only, 10s. 6d.

Obtainable from all Dealers, or from the Makers.

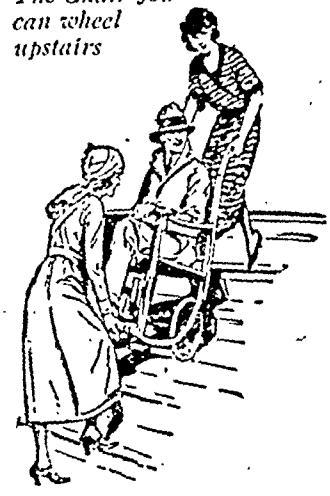
HAWKSLEY & SONS Ltd.

83, Wigmore Street, London, W.1

Telephone: Welbeck 3859.

'WARDWAY'

The Chair you can wheel upstairs



John Ward, Specialist in Invalid Chairs, respectfully invites members of the Medical Profession to write for the "Wardway Booklet No. 9."

JOHN WARD Ltd

242-7 Tottenham Ct. Rd. London

If you must smoke!

With pure Turkish tobacco and an absorbent linen filter hidden in the mouthpiece, Royal Beauties are one of the nicest and quite the most harmless cigarettes in the world. Free sample to doctors on request

In three sizes.

Turkish 9/6, 10/6, 12/6 a hundred

ROYAL BEAUTIES

CIGARETTES

From leading stores or direct from Louis Coen Ltd., 88 Piccadilly, W1

Tel. Grosvenor 1979.

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope especially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting.

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS

arranged for Doctors and Patients.

Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

MR R.H.DENT'S

ArdenE

FOR DEAF EARS

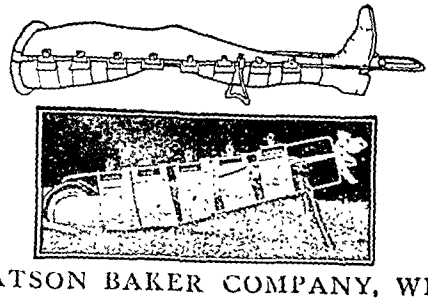
309, OXFORD ST., LONDON, W.1.

Tel: Mayfair 1350/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.

205, Sauchiehall Street, GLASGOW.
23, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.
30, Wellington Place, BELFAST.

The most modern method of accurate extension and safe transport is provided by COLLENDER'S SPLINTS



(Patented in the leading countries of the world.)

An evolution of the Thomas splint, preserving all its advantages with many improvements!

Invaluable for Hospital, Emergency, and District Surgeons' work. Indispensable for Mines, Ranches, Lumber Camps, Railways, Shipping Cos., and all places remote from surgical aid.

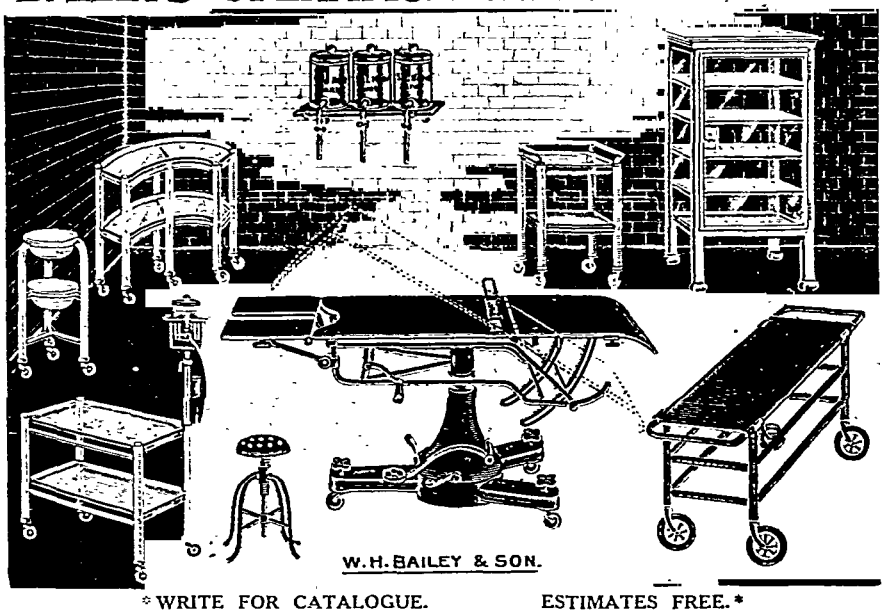
Made of Duralumin, untarnishable, light, and of great tensile strength. All parts interchangeable. Complete splints constructed in a few minutes for limbs of any dimensions. Sufficient members to accommodate ten fractures simultaneously. Supplied in strong fitted case.

Write for full descriptive booklet, post free.

WATSON BAKER COMPANY, WEST END LANE, BARNET, HERTS, ENGLAND

W. H. BAILEY & SON

BAILEY'S OPERATION THEATRE OUTFIT



OPERATION THEATRE FURNITURE.

BAILEY'S
OPERATION THEATRE OUTFIT
(as illustration) complete with N.H.5193 Operation Table, Oil Pump base, nickel-plated top, Adjustable Kidney Bridge, etc.
£120 7 6
Less 2½% £3 0 0
£117 7 6

N.H.5193 Operation Table only, complete, £65 10 0, less 2½%

Carriage paid England, or packed free for abroad.

WRITE FOR CATALOGUE. ESTIMATES FREE.

Surgical Instruments and Appliances
Hospital and Invalid Furniture Department
Tel. No.: Gerrard 2313 3185
45, OXFORD STREET, 2, RATHBONE PLACE, LONDON, W.1

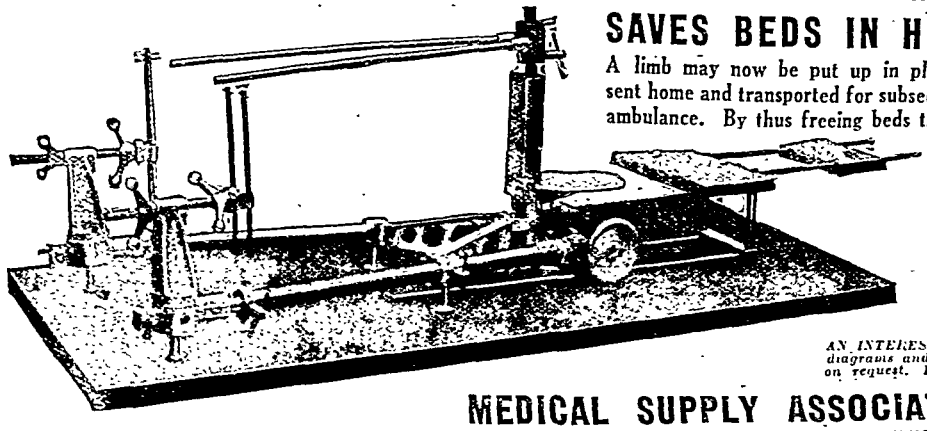
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

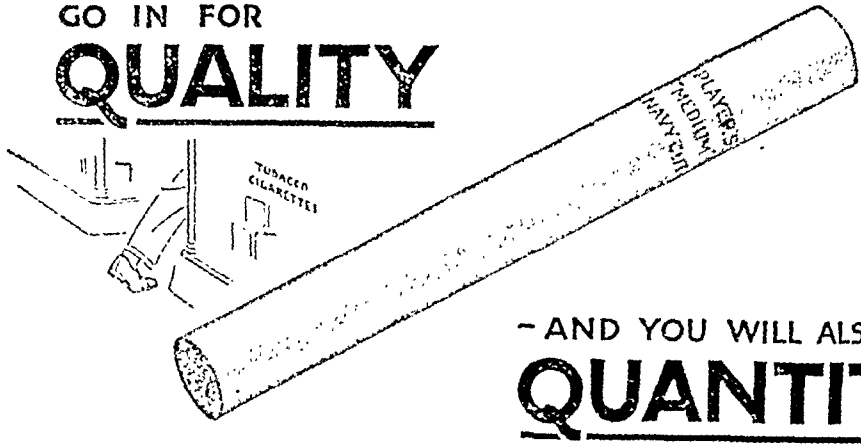
AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

167/185, Gray's Inn Road, LONDON, W.C.1. 12, Holly Street, SHEFFIELD. 10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines)

GO IN FOR
QUALITY



-AND YOU WILL ALSO GET
QUANTITY
in
PLAYER'S
"It's the Tobacco that Counts"
N.C.C. 44.a.

FOR INTERNAL TREATMENT OF
GONORRHOEA, URETHRITIS AND OTHER AFFECTIONS
OF THE GENITO-URINARY TRACT
SANTAL MIDY CAPSULES have been prescribed with uniform success for over thirty years.
Distilled from carefully selected Mysore Sandal-Wood, the oil is bland and remarkably
FREE FROM THE IRRITANT AND NAUSEATING EFFECTS
which are provoked by many preparations.
There is marked absence of gastric and other disturbances, diarrhœa and skin eruptions. Its mild chemotactic properties permits its administration in relatively large doses without fear of too violent reaction or intolerance.
SANTAL MIDY CAPSULES may be prescribed and relied upon in all stages of Gonorrhœa and in other forms of Urethritis and affections of the Genito Urinary tract.
The Capsules contain 5 drops, and usually 10 to 12 are given daily in divided doses.
Prepared in the Laboratoire de Pharmacologie Generale, 8, Rue Lavoisier, Paris, and sold by most Chemists and Wholesale Druggists throughout the World
U.K. Agents: WILCOX, JOZEAU & Co., 75, Gt. St. Andrew St., W.C.2.
A-K
SANTAL MIDY

THE 'ALLENBURYS' CASTOR OIL
Tasteless and is the Standard of Quality
Supplied in bottles at 8d., 1/3, 2/3 and 4/- each

BANTAM Coffee
Bantam Coffee is prepared from the finest selected Empire grown beans which are powdered and all the waste grounds extracted so that it dissolves instantly and completely when hot water or milk is added. A little Bantam Coffee dropped in a glass of warm milk makes a very palatable beverage. Bantam Coffee is absolutely free from adulterants and has been awarded the certificate of the Institute of Hygiene.
A 2/- tin yields 50 cups of delicious coffee.
Dept. 68. BANTAM PRODUCTS LTD., LEEDS.
Samples for testing will be sent on application.

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.
EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR; and does not blacken the bath enamel.

SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ½-doz. SOAP TABLETS.

Samples and Literature on Request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.

DISMENOL

for instantaneous relief of pain in DYSMENORRHOEA

In spasmodic Dysmenorrhoea the primary call is for the elimination of pain, and the physician has a valuable weapon in Dismenol Tablets, which are entirely *free from narcotics.* This product is a sure and safe sedative in all cases of Dysmenorrhoea, possessing anti-spasmodic properties of a remarkable kind. A feeling of general well-being is substituted for the state of lassitude in the patient.

Please write for samples and literature (also formula) to—

ROBERTS & Co., 76, NEW BOND STREET, LONDON, W.1.

Pharmaciens to H.M. the King.

"STERULES"

Regd.

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

Telegrams: "MARTINDALE, CHEMIST, LONDON." Telephone: LANGHAM 2440.

Vapo-Cresolene Est. 1879

Sold by Chemists

Write for descriptive Booklet No. 29.

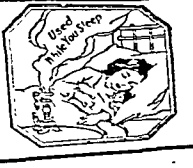
ALLEN & HANBURYS, LTD. :: :: Lombard Street, London, E.C.3.

WHOOPING COUGH

The best practice in the treatment of whooping cough recognizes the importance of keeping the patient out of doors as much as possible. The food should be easily digestible, nourishing, and given a little at frequent intervals.

There are no specifics for this disease. In very young children drugs are administered with difficulty and are of uncertain effect.

Vaporized Cresolene at night will be found a simple and effective means of preventing the paroxysms at that time, thus tending to preserve the strength of the patient, avoid complications, and hasten convalescence.



ALLIANCE DRUG & CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C.3.

Telephone: ROYAL 5885.

Tel. Address: "NALTROP," BILGATE, LONDON.

Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulae as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant Co @ 2/2 lb.
Columbæ @ 1 3 lb
Cinchon. Acid @ 2 6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.
Lassar's Paste, 14 lb @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Lin. Belladon Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb @ 2/5 lb.
*Liq. Ammon. Aest Conc. (1-7), 6 lb @ 1/- lb.
" " Aromat, 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb. 3 lb @ 8/8 lb.
Chloroform Pur, 4 lb. @ 3/2 lb.
Pot Bromid., 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb @ 2/9 lb.
" *Glycero Phosp Co.*, 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosp. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillæ, B.P., 7 lb. @ 8d. lb.
Sennæ, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Blaud's (Sugar coated), gr. 5...	... 3/10
Nitroglycerini, B.P., gr. 1-50th ...	... 5/-
Perchloride of Mercury (Coloured)...	...15/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000.	
Thyroid Gland, gr. 5	... 12/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.

	B.P. Aquos.		B.P. Aquos.
Belladon.	... 4/3 1/6	Hyoscyam.	... 4/3 2/4
Benzoin Co	... 4/7 —	Nucis. Vom.	3/10 1/4
Camph. Co.	... 3/- 1/6	Opii ...	... 5/3 4/3
Card. Co.	... 2/6 1/6	Quin. Ammon.	3/3 —
Gentianæ Co.	2/8 1/6	Rhei Co.	... 2/8 1/9
Ung. Acid Boric.	B.P., 28 lb. pail @ 11d. lb.		
" Hydrarg.,	B.P., 7 lb. @ 4/2 lb.		
" "	Ammon., 7 lb. @ 1/11 lb.		
" Ichtamolis,	B.P.C., 7 lb. @ 1/10 lb.		
" Zinci Ox.,	Benz., 28 lb. @ 1/- lb.		

*Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

ANTIQUE AND MODERN
HIGH-CLASS SECOND-HAND

FURNITURE
FOR IMMEDIATE DISPOSAL.

THE ENTIRE VALUABLE CONTENTS OF SEVERAL NOTABLE MANSIONS, Town and Country Residences, Flats, etc., removed for convenience of sale, including many important items from the following collections.

LANSDOWN HOUSE.
THE PRINCESS PALEY (Paley Palace).
SIR FREDERICK CHARLES HOLIDAY (Decd.).
MARY ANNA DUCHESS OF ABERCORN (Decd.).
THE THIRD EARL OF DURHAM (Decd.).

THE MAGNIFICENT BEDROOM APPOINTMENTS comprise: 500 Complete Suites in English Walnut, Finely Figured Mahogany, Cream, Green, and Black Lacquer, Painted and Figured Satinwood, Fine Oak, ranging in price from £4 10s. to 250 Guineas per suite, many of which originally cost over double, including a special offer of 35 only Club Bedroom Suites in Solid Oak, with Bedsteads complete, £4 10s. set.

GENUINE ANTIQUE FOUR-POST BEDSTEADS, Tallboy and shaped front Chests, Sofa Tables, Corner and other Washstands, Toilet Mirrors, and numerous Dressing Tables, Bow front Wardrobes, etc. Several Fitted Gentlemen's Wardrobes offered at £4 each.

5,000 CARPETS AND RUGS, including fine Persian, Turkey, Wilton, Axminster, Chinese, and Aubusson, including a large salvage stock now being offered at remarkable bargain prices. A quantity of fine Pile Carpet at 2s. 9d. per yard, together with a large number of Seamless Squares in various designs and colourings from 21s. each.

750 SETTEES AND LOUNGE EASY CHAIRS, some covered Morocco Leather, Tapestry, rich Silk, Hide, etc., removed from a large West End Club and Hotel. A large quantity covered Plain Art Repp, all being of excellent quality and in all cases equal to new. Small Lounge Easy Chairs offered at 21s. each, several in Real Hide, £3 3s. each. Large Club Lounge Chairs, £4 17s. 6d. to 12 gns. Well-made softly sprung Chesterfield Settees, 3 gns.; and a large quantity of Chesterfield Settees *with Loose Pillow Backs and Seats, ranging* from £7 15s. to 25 gns.

THE MAGNIFICENT DINING ROOMS, LOUNGES, LIBRARIES, and HALLS comprise a wonderful collection of all periods, Early Tudor, Queen Anne, Chippendale, Heppelwhite, Adams, and Sheraton, in Oak, Mahogany, and Walnut. Complete Dining Room Suites, comprising Sideboard, Set of Chairs, and Dining Tables, being offered for 10 Guineas set, whilst the more elaborate suites range from 25 Guineas to 300 Guineas, many of these exquisite sets having cost over treble the price now asked to clear. Special attention is called to a quantity of Cottage Wheelback Chairs offered at 6s. 9d. each.

A LARGE NUMBER OF PIANOFORTES by eminent makers, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, important collection of Statuary, Pictures, Silver and Sheffield Plate, quantity of fine old Cut Glass, Bed and Table Linen, a large quantity of Office Furniture, including Iron Safes, Roll-top Desks, Pedestal Desks, Bookcases, etc., etc.

PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F.) POST FREE.

ON SALE DAILY, 9 till 7. Any Item may be purchased separately, and can remain warehoused free for 12 months or delivered to any part.

SETTLEMENT ... IE
ARRANGE ...

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.

(By Royal Appointment to H.M. the King of Spain.)

PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1.
(Within Ten minutes of West End.)
'Phone: North 3580.

Safeguarding the Purchaser.

Although Advertising has become an integral part of modern business, its advantages to the consumer are not always clearly realised. A little thought will show, however, that any product marketed under a recognised name or trade mark must reach a high standard of quality, for were this not so "repeat sales" could not be secured; recognition of a discredited brand reacting to the disadvantage of the manufacturer in inverse proportion to the benefits that are derived when a large and satisfied clientele see, in the name of the product, a guarantee of quality and efficiency.

This argument leads one to expect that branded goods will represent better value than others, and that the standard will be maintained.

Advertising further benefits the purchaser by making possible reductions in the selling price consequent upon increased production resulting from the larger demand created by the advertising campaign. The manufacturer of advertised goods places his cards upon the table, supplying information concerning the product which enables the prospective purchaser to form a judgment upon its suitability to his own particular needs, whereas non-advertised goods rely entirely upon recommendations, often of a confused nature, and it is left to the purchaser to find at his own cost the real value of the product.

It is safe, therefore, to assume that in the majority of cases advertised goods only should be purchased. The advertisement pages of the *Journal* contain offers of a variety of goods and of service designed to meet the professional and personal needs of the medical man.

It should be remembered that while the acceptance of advertisements for publication in the *Journal* is not to be understood to imply a recommendation or guarantee, and while no responsibility can be accepted with regard to the accuracy of the statements contained in advertisements, a very strict censorship is maintained by the Journal Committee, and every effort is made to ensure that the claims set forth are well founded. In this way a degree of confidence has been established between readers and advertisers in the *British Medical Journal* which cannot be paralleled by any other similar publication in the British Empire.

The Collection of Overdue Accounts

To cure bad payers, i.e., to turn bad payers into good ones, is always a difficult problem. We not only succeed in carrying out this difficult task, but, in addition, we improve the relationship between Patient and Practitioner.

All Medical Institutions and Nursing Homes are included in our scope.

Your visiting card marked "B" placed in an envelope will produce all information.

WITHOUT OFFENCE

THE BRITISH MEDICAL PROTECTION SOCIETY (B.M.P.S. Ltd.) Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.

FOR SUCCESSFUL VACCINATION USE
CHAUMIER'S VACCINE LYMPH

Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens H.M. the King* 76, NEW BOND STREET, LONDON, W.1
Telephone: Mayfair 4173—4.

BRITISH ADMIRALTY MICROSCOPES

RECENTLY PURCHASED DIRECT FROM H.M. ADMIRALTY.

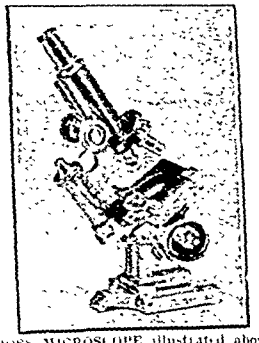
(Surplus to requirements of H.M. Naval Establishments.)

Every Instrument completely Overhauled and Guaranteed Optically and Mechanically Perfect. Each Microscope an Outstanding Bargain.

ORDER AT ONCE. STOCK LIMITED.

£35 Model by ROSS (as illustrated), complete in Polished Mahogany Lock-up Case.

OUR PRICE - - £20.



The ROSS MICROSCOPE illustrated above is a very fine model fitted with mechanical stage giving vertical movement of 30 mm. and diagonal travers of 60 mm. Drawtube carries eyepieces of 23·2 mm. gauge. Fitted coarse and fine adjustments. Abbe condenser, and iris diaphragm. Triple nosepiece. Eyepieces Nos. 2 and 4. Objectives 1 6in., 2 3in., and 1/12in. oil immersion. Perfect condition throughout.

PRICE EACH - - £20.

Packed and delivered free British Isles.

Conditions of Sale.—Sent immediately on approval against cash for 3 days' trial (5 days from date of despatch). Cash refunded immediately on return, if not approved.

SATISFACTION DEFINITELY GUARANTEED.

Complete list of other models available, on application.

Complete price list of Brand New Government Surplus Surgical Instruments, Apparatus and Equipment, despatched on receipt of post-card.

As to Furniture, Hospital Equipment, and Consulting Room Furniture at strictly competitive prices.

A. FLEMING & CO. (Dept. "A"),
39, VICTORIA STREET, LONDON, S.W.1.
Tel.: Victoria 4677. Telegr.: Estlontus, London.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

ive cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

SPECIAL OFFER!

N.H. OAK FILING CABINETS

(Also stocked in Belfast).

1 dr.	2 dr.	4 dr.
23/6	35/-	63/-

HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

NAME PLATES

In BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

AT SAVILE ROW

WE will build you a hand-made suit for 8 guineas. Pay us a visit. We are sure you will find it an economy to buy the VERY BEST CLOTHES from us at reasonable prices.

ENTICKNAPP & GRIMES
21a, SAVILE ROW,
Regent 2467. LONDON, W.1.

EPILEPSY.

Attendance at school is a necessary part of the satisfactory treatment of Epilepsy in Children.

COLTHURST HOUSE SCHOOL

meets all the requirements of children of middle-class parentage. Extensions made necessary by the success of the school have created several vacancies.

Only bright and intelligent boys and girls are eligible for admission.

Apply to the Medical Supt., Colthurst House School, Warford, Alderley Edge.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental or Nervous cases are received without certificates as Voluntary Boarders. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. Telephone: 10 P.O., Church Stretton.

REGISTERED NURSING HOME for PERMANENT PATIENTS.
3, Broadhurst Gdns., London, N.W.6.

ST. ANDREW'S HOSPITAL

FOR MENTAL DISORDERS,

NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

TYKEFORD ABBEY, NEWPORT PAGNELL,

BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr D E M DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

HAYDOCK LODGE,

NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P. *Telephone*: Teignmouth 289.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117 *For terms, etc., apply to the Medical Superintendent.*

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. *Within two miles of the G.W. Railway* and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

ST. ALBANS, HERTS.

(20 miles from London)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital.

Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

This Registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 2251 GATLEY.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: *Hindhead* 27.

BAILBROOK HOUSE,

BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2154).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician.
Telephone No: Batheaston 8189.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS, at a weekly fee of TWO GUINEAS and upwards.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.
Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the *Lord Wakefield Science and Treatment Unit*. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

OXHEY GROVE,

HATCH END, MIDDLESEX.

A NURSING HOME for BORDERLINE CASES of BOTH SEXES, twelve miles from Marble Arch.
Resident Medical Officer, male and female staff, visiting Pathologist. Fees 5 to 12 guineas.

Full particulars from the MEDICAL SUPERINTENDENT. Telephone: Hatch End 368.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the MEDICAL SUPERINTENDENT.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHEION, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

DARTMOOR CONVALESCENT HOME.

750 FEET ABOVE SEA-LEVEL

Established 1903 for Treatment of Pulmonary and other forms of Tuberculosis. Sheltered Situation on the slopes of the bracing moorland. Radiographic Installation, Electric Light, Central Heating, Separate Bedrooms, Efficient Treatment, combined with individual comfort and minimum restrictions. Illustrated Prospectus on request to the Resident Physician: C. H. BERRY, M.R.C.S., L.R.C.P., Torr House, Chagford, Devonshire. Telephone: 11 CHAGFORD. Telegrams: TORR, CHAGFORD.

WOODLANDS PARK

GREAT MISSENDEN BUCKS.

550 feet above sea-level on Southern Chilterns. 90 acres. Gardens, Woods, and Park.

FOR INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and REST AFTER OPERATION or ILLNESS.

FEES FROM 8 GUINEAS.

Telephone: 91 Gt. Missenden. Apply: C. W. J. BRASHER, M.D.

NORTHWOODS, Winterbourne, Bristol.

Telephone and Telegrams: Winterbourne 18.

This beautiful mansion in fifty acres of secluded grounds was built specially for the TREATMENT OF MENTAL ILLNESS. Certified patients of both sexes. Thorough clinical, bacteriological, and pathological examinations. *Separate bedrooms. Private suites. Indoor and outdoor amusements.* Wireless and other concerts. Occupational therapy. Physical drill. Private golf course. Garden and dairy produce from farm on the estate. Reasonable terms. A few voluntary boarders are received in the Medical Superintendent's house.

For further particulars and prospectus, apply to JOSEPH CATES, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.

The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. *Cases with insomnia, depression, etc., do especially well.*

Exceptionally good climate and ample and varied amusement. Moderate, Inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1885 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., *Resident Medical Supt.* *Telephone*: 16 RICKMANSWORTH.

SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA, Nr. LIVERPOOL.

Specially built and licensed for the care and treatment of a limited number of Ladies and Gentlemen suffering from Nervous and Mental breakdown. Voluntary and certified patients received. Ladies also admitted as "Temporary Patients" without certification. Terms moderate. Apply RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 241.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.

Resident Physician: CEDRIC W. BOWER.

Ordinary Terms: Five Guineas per week.

(Including *Separate Bedrooms* where suitable.)

Interviews in London by appointment.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen *mentally afflicted.* Voluntary Boarders received. Situated 1,200 ft above sea-level, facing S.: 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

The Stanboroughs,

WATFORD HERTS.

Specially equipped for treating cases of functional nervous disorders, alcoholism, and drug addiction. Fees moderate. Extensive park. Inspection invited.

S. MCCLEMENTS, M.R.C.S., L.R.C.P., Medical Superintendent.

Phone: WATFORD 1751.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

ALCOHOLISM AND DRUG HABITS.

ALBION HOUSE, BEVERLEY, EAST YORKS.

A Private Home for Ladies. Terms from three guineas a week. Apply, THE MATRON.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, *other Drug Habits, Insomnia, Neurasthenia,* Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent). *Phone*: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

THE LAWN, LINCOLN.

This Registered Hospital situated in large *grounds near the Cathedral* receives VOLUNTARY and PRIVATE PATIENTS of both sexes for treatment of Mental and Nervous Disorders, *including Post-Encephalitic conditions in adults.* Special facilities for Psychotherapy in co-operative cases.

All particulars may be obtained from the Resident Medical Superintendent, Dr. MARY R. BARNAS, M.D., D.P.M.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medic*

A. E.

Tele

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in *large secluded gardens.* Most modern treatment *and ultra-violet* —rest cures, electrical massage, and light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary *patients* received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from *Sheffield.* Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

BOREATTON PARK,

BASCHURCH, SALOP.

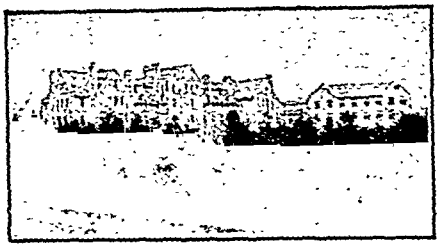
A first class Country Mansion adapted for *the* reception of a limited number of Ladies and Gentlemen *mentally afflicted.*

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

TOR-NA-DEE SANATORIUM

MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: **David Lawson, M.D., F.R.S.E.**

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

The MUNDESLEY SANATORIUM

The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless headphones. The new public rooms are spacious and comfortable.

Resident Physicians:

S. VERE PEARSON, M.D.(Cantab.), M.R.C.P.(Lond.).

L. WHITTAKER SHARP, M.B.(Cantab.).

ANDREW MORLAND, M.D., M.R.C.P.(Lond.).

For all information apply:

THE SANATORIUM, MUNDESLEY, NORFOLK.

(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level, on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." *Bracing* and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1901. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped *X-ray Plant. All* forms of treatment available, including Artificial Pneumothorax, *and* Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 7s. 6d. to £6 6s. per week inclusive. No extras.

MEDICAL SUPT.: FELIX SAVY, M.D. For particulars apply to the Secretary.

EAST ANGLIAN SANATORIUM

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and has an ideal situation facing S.S.E. in a very sunny district. Special treatment by artificial Pneumothorax (X-ray controlled). Ultra-violet Ray treatment is available for suitable cases. Matron and full nursing staff. Nurse on duty all night. Electric lighting throughout, radiators and wireless (headphones) in all rooms.

Dr. Jane Walker, C.H., J.P., Medical Superintendent. Dr. Eleanor Soltau, Assistant Medical Superintendent.

For all information apply: The Secretary, East Anglian Sanatorium, Nayland, near Colchester.

Telephone: NAYLAND 1.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, Medicated Inhalations by means of the Apneu Inhalation Installation, and Ultra-Violet Rays is available, when necessary, without extra charge X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S. Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. Telegrams: "HOFFMAN, BIRDLIP."

BAVARIAN SPAS ARE WORLD FAMOUS

BAD KISSINGEN

INDICATIONS: Disturbances of the digestion, intestines, liver, gall-bladder, heart as well as vascular troubles, diseases of metabolism, chronic respiratory diseases, women's diseases, rheumatic troubles, blood and tropical diseases.

THERAPEUTICS: Potable Springs: Rakoczy, Pandur, Maxbrunnen, Luitpoldsprudel, Stahlbrunnen. Natural rich carbonic acid and graded brine and hot-spring baths, mineral and mud baths, Fango, Hydrotherapy, light, air, sun, steam and hot air baths, inhalations, pneum. chambers, Zander Institute, X-ray treatment.

Prospectus from the "Kurverein." Summer and Winter Cures.

Mineral Waters despatched by the Management.

BAD REICHENHALL

Ideal Climatic Saline Spa in the Bavarian Alps, 1,600 ft. above sea-level.

INDICATIONS: Asthma, emphysema, bronchitis, diseases of the throat, nose, and larynx, heart trouble, diseases of metabolism. Largest installation in the world for pneumatic chambers and inhalation. Beautiful mountain scenery. Strongest saline springs on the Continent. Potable Springs. All modern comfort. All kinds of sports and entertainment. Open all the year round. Information regarding hotel and travel facilities will gladly be given by Thos. Cook & Son, and the "Kurverein Bad Reichenhall" direct.

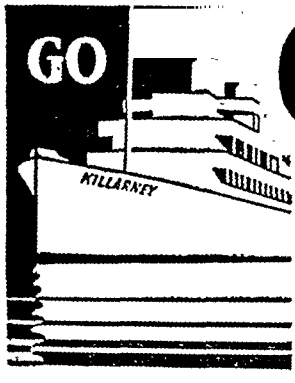
BAD BRUECKENAU

The Spa for Kidney Trouble—Wernarzer Curative Spring. Highly successful in cases of uric acid diathesis, for gout, kidney, stone, gravel and bladder troubles. Chalybeate spring proved successful for anaemia, women's diseases and diseases of the nerves. Steel and mud baths known to the medical profession for centuries. Hunting and fishing Spa opens May 1st. Twelve "Kur Halls." Railway Line Hamburg—Munich, local railway from Jossa, also via Bad Kissingen. Fulda and Schlüchtern can be reached by State Route Motor Cars. Information and Prospectus from the "Staatl. Bayerischen Mineralbades Brückenau in Unterfranken."

BAD STEBEN (Therapeutic)

The Chalybeate and Mud Bath in the Frankenwald, 1,906 ft. above sea-level. Proved in cases of anaemia, heart, nerve and women's diseases, gout, rheumatism, sciatica; bathing, drinking and air cures. Park, rest hall, forest environment. Information from the "Staatl. Badeverwaltung" and Travel Bureaux.

Exceptional curative successes. **Best installed Spas.**



GO CRUISING!

SCOTTISH FJORDS

SUMMER CRUISES by S.Y. "KILLARNEY" from LIVERPOOL

SPECIAL CRUISE TO BRITTANY & CHANNEL ISLANDS MAY 30TH

FARES from 9 gns.

For illustrated Folder apply—

COAST LINES LTD., Royal Liver Bldg., Liverpool. | TRAVELLERS LTD., 19 (Lr.) Regent St., London, S.W.

asthma

TREATED AT MONT-DORE

THE FAMOUS FRENCH SPA

40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE Tavistock House (North), Tavistock Square, LONDON, W.C.1. Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).

PEEBLES

Beautifully sheltered in the winter garden of Scotland, facing the sun, 600 feet up among the Scottish border hills. Tonic in the air and beauty in every landscape from many sheltered balconies. Billiards, dancing, winter garden, swimming bath, tennis, badminton, croquet, golf, fishing. Fully licensed. Complete modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.

Amongst the Pine-clad Border Hills.

PEEBLES HYDRO, PEEBLES, SCOTLAND

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSTON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone:* Brixton 0494. Apply, MISS THWAITES.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

HARROGATE

for the Treatment of
RHEUMATISM,
ARTHRITIS,
FIBROSITIS,
NEURITIS,
Diseases of the
LIVER and GALL BLADDER,
GASTRIC CATARRH
and COLITIS,
SKIN DISEASES,
ANAEMIA and
Convalescence from Acute Illness.

SULPHUR, Saline Iron and Pure Chalybeate waters, together with the presence of large deposits of Volcanic Mud, enable Harrogate to offer every facility for the cure of an unusually wide range of the diseases amenable to Spa Treatment.

The Harrogate Royal Baths, housed in one of the finest Spa buildings in Europe, are equipped with the most modern apparatus for all forms of Physiotherapy.

THE "CURE" is taken in a holiday environment: three golf courses, putting greens, hard tennis court, swimming baths, beautiful gardens and moorlands encourage sport and exercise.

First-class hotels, hydros, boarding houses and private apartments meet all requirements for accommodation.

Harrogate is an ideal holiday centre and is surrounded by some of the most beautiful scenery in England.

Members of the Medical Profession are asked to write for particulars of Complimentary Facilities to:—
F. J. C. BROOME,
General Manager, 3, The Royal Baths, Harrogate.

Pullman and Fast Restaurant Car Trains daily from King's Cross Station, London.

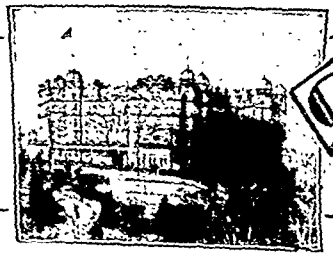
Telegrams—"Majestic, Harrogate."
Telephone—2261.

HOTEL MAJESTIC
HARROGATE
FINEST SPA HOTEL IN THE WORLD
Stands in its own Glorious Grounds of Ten Acres

Overlooking Royal Baths and Pump Room. En-Tout-Cas Tennis Courts. Putting Green. Garage. Beautiful Winter Garden and Ball Room. Saturday Night Dances. Comfortable self-contained Suites. Large number of Bedrooms with Private Bathrooms. Every room fitted with hot and cold running water, central heating and telephone.

Perfect Cuisine and Attentive Service. Write for Illustrated Tariff.

THE MOST MODERN IN THE SPA



GRAND HOTEL
HARROGATE

200 rooms fitted with hot and cold water. 50 suites with private baths and telephones. Hard Tennis Courts and Putting Green. Garage 100 cars.

FINEST CUISINE ABSOLUTE COMFORT

SPLENDID BALLROOM CONFETTI BLAND

DELIGHTFUL SITUATION OPPOSITE VALLEY GARDENS

DANCING EVERY SATURDAY

Telegrams: "Grand."

Telephone: Harrogate 4631.

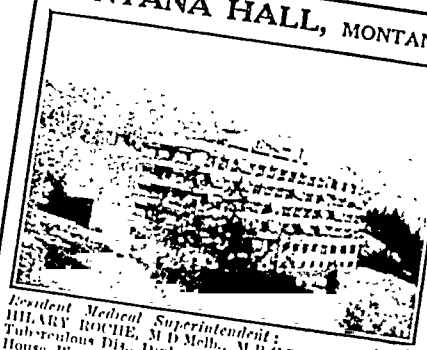
THE WORLD SPA **WIESBADEN** On the Romantic Rhine

Germany's greatest Medical Baths. Notable Performances in the Kurhaus and State Theatres. WORLD FAMOUS THERMAL SALT SPRINGS AT 150°. Cure: RHEUMATISM, GOUT, metabolic diseases, nervous disorders, diseases of the respiratory and digestive organs. Wiesbaden Cure diet. Station of Rhine Steamers at Wiesbaden-Biebrich.

SALTS AND PASTILLES FOR EXPORT

Good accommodation at moderate prices. Hotel lists (8,000 beds) from the Municipal Information Office and all Travel Bureaux.

MONTANA HALL, MONTANA, SWITZERLAND, *FOR BRITISH PATIENTS.*



For the treatment of TUBERCULOSIS, Diseases of the Chest, Asthma, for patients requiring rest in the Alps under strict medical supervision, and for medical conditions in which sun and air-bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (th adphones), and light signals throughout. Spacious public rooms.

THE ONLY SANATORIUM IN SWITZERLAND UNDER BRITISH OWNERSHIP AND CONTROL.

Full day and night staff of English trained Nursing Sisters. For further particulars kindly apply to the Medical Secretary.

Telegrams: "Montall," Montana, Vermala.

Resident Medical Superintendent: HILARY ROCHE, M.D Melb., M.R.C.P Lond., Tuberculous Dis., Diploma (Wales); formerly House Physician, Brompton Hosp., London; Medical Supt., Palace Sanatorium, Montana.

Resident Assistant Physician: R. R. WYNN WILLIAMS, M.B., B.S.(Lond.), formerly House-Physician to the Brompton Chest Hospital, London; and Medical Registrar to the Middlesex Hospital.

SMEDLEY'S GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Piombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.). R. MACLELLAND, M.D., C.M.(Edin.).

Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17.

MATLOCK

For Prospectus and full information please write MANAGER, M.J.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON, and FRIMLEY SANATORIUM.

PAYING PATIENTS RECEIVED.

BOTH MEDICAL and SURGICAL CASES.

4 to 8 guineas per week.

APPLY TO THE SECRETARY:—BROMPTON HOSPITAL, S.W.3.

Tel & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Miss PEELE *Telephone*: 2708.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE Course for Sept. and later Exams should begin now—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Grove House, All Stretton, Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing. Medical Superintendent: Dr. MCCLINTOCK.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BENIANS, F.R.C.S., Dean.

Medical and Dental Students.

Special Classes for Pre Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £8 8s. for 10 lessons—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

UNIVERSITY EXAMINATION POSTAL EXAMINATION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1931-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1931-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1905-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary* 1906-30	162
	Final	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1905-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.H. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women. Hints for writing theses. Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

DEFECTIVE SPEECH.

Remedial Tuition on modern lines for Stammer, Aphonia, Cleft Palate, Tracheotomy, and Disturbed Co-ordination, by ERIC MIALL, A.L.C.M., who is Speech Instructor at the Middlesex Hospital.

Short courses in elocution, accent, clarity, and public speaking.

39, WELBECK STREET, W.1.

Welbeck 3238.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE's house on the Chilterns.

"Pre-eminent success in the [illegible] of stam[illegible]" [illegible] effe[illegible] STA[illegible]

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

Fellowship of Medicine and Post-Graduate Medical Association

No. 1, WIMPOLE STREET, LONDON, W.1.

SPECIAL COURSES FOR APRIL/MAY: Diseases of Children, Infants, Ear, Nose and Throat, Psychological Medicine and V.D. May: Dermatology, Chest, and Ophthalmology. M.R.C.P. Evening Course May/June.

For full particulars apply to the Association. Telephone: Langham 4266.

INSTITUTE OF PATHOLOGY & THERAPEUTIC RESEARCH

ST. MARY'S HOSPITAL, LONDON, W.2

A Course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the SUMMER SESSION. These Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on TUESDAY AFTERNOONS at 5 p.m. from MAY 5th to JUNE 23rd.

OPENING LECTURE. MAY 5th.	SUBJECT.
Sir ALMROTH E. WRIGHT, M.D., F.R.S. (Principal of the Institute).	"The Organization and Methods of Medical Research."

The complete programme, which will include the following Lectures, will be given in next week's advertisement.

Prof. JOHN MELLANBY, M.D., F.R.S. (Prof. Physiology, University of London).	"Recent work on Blood Coagulation."
Colonel S. P. JAMES, M.D., F.R.S. (M.O. and Advs. Trop. Dis., Ministry of Health).	"The New Method of Studying Malaria and some of its results."
Dr. BERNARD HART (Phys. Psychol. Med., Univ. College Hospital).	"The Causation of Neurotic Disorders."
Dr. ANDRE GRATIA (from the University of Brussels).	"The Shwartzman Phenomenon."

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.

THE ST. CYRES LECTURE

For the year 1931 will be delivered at the above Hospital on

Thursday, May 14th, at 5 p.m.,

By Sir THOMAS LEWIS, C.B.E., M.D., F.R.S., F.R.C.P.

Subject: "Ischaemia of Muscle as a cause of anginal pain."

Members of the Medical Profession are cordially invited.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st and for the Diploma in Tropical Hygiene on January 15th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

TAUNTON SCHOOL, TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

CITY OF LONDON MATERNITY HOSPITAL, CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.G. *regulations*.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

Asthma Research Council.—

Applications for GRANTS from the above body should be made before May 16th, accompanied by a detailed statement of the proposed research and the qualifications of the worker. Preference will be given to investigations into the cause of the condition. Apply to the Secretary, Asthma Research Council, c/o King's College, Strand, W.C.2.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.

Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above school, commencing Monday, June 1st, 1931. Full particulars will be published later.

The Course will be repeated on subsequent dates.

Applications for copies of the syllabus, etc., may be made at once, and these will be forwarded as soon as available.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

Church Missionary Society.

The ANNUAL MEETING of the MEDICAL *MISSION AUXILIARY OF THE C.M.S.* will be held in the CENTRAL HALL, WESTMINSTER, at 7 p.m. on Wednesday, May 6th, 1931.

The Chair will be taken by:

HAROLD BALME, Esq., M.D., F.R.C.S., D.P.H. (Late President of the Shantung Christian University, Tsinanfu, North China);

and the speakers will be:

A. R. COOK, Esq., C.M.G., O.B.E., B.A., M.D., B.Sc. (Mengo, Uganda);

R. J. H. COX, Esq., M.B., B.S.Lond. (Peshawar, N.W. Frontier);

W. F. CHURCH, Esq., B.A., M.R.C.S., L.R.C.P., D.T.M.Brux. (Recruit, proceeding to Ruanda);

The Rev. STUART COX, B.A. (Organizing Secretary, M.M.A.).

Tickets of admission may be obtained from the *Superintendent*, Loan Department, Church Missionary Society, Salisbury Square, E.C.4.

There will be a small number of reserved seats at 1s. each.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Herzl Moser Hospital,

Leopold Street, LEEDS.

RESIDENT MEDICAL OFFICER required immediately. Salary £100 per annum. Ample time for post-graduate study. Apply Secretary as above.

ALL MEDICAL EXAMINATIONS

Are you preparing for any MEDICAL or SURGICAL EXAMINATION?

Do you wish to coach in any branch of Medicine or Surgery?

Send Coupon below for our valuable publication

"Guide to Medical Examinations."

Principal Contents:

The Examinations of the Conjoint Board.
The M.B. and M.D. Degrees of all British Universities.
How to pass the F.R.C.S. Exam.
The M.S.Lond. and other Higher Surgical Examinations.
The M.R.C.P.
The D.P.H. and how to obtain it.
The Diploma in Tropical Medicine.
The Diploma in Psychological Medicine.
The Diploma in Ophthalmology.
The Diploma in Laryngology and Otology.
The Diploma in Radiology.
The L.D.S. and all Dental Exams.

¶ The activities of the Medical Correspondence College cover every department of Medical, Surgical, and Dental tuition.
¶ Desultory reading is wasteful for examination purposes.
¶ The secret of success at examinations is to concentrate on essentials.
¶ First attempt success at examinations is the sole aim of our courses.
¶ Concentration on the exact requirements is assured by our intensive Revision Courses.
¶ The intensive postal, oral, clinical, and practical courses of the College in every subject are always in progress and meet every requirement.

Post-graduate coaching for all the higher examinations, and hospital attendance arranged in any special department of medicine or surgery.

We can satisfy every requirement. Send for your copy now!

The Secretary,
MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck St., Cavendish Sq., London, W.1. Tel.: WELBECK 8901.

Sir,—Please send me your "Guide to Medical Examinations" by return.

Name .....
Address .....
Examination in which interested .....

University of Birmingham.

FACULTY OF MEDICINE.

PROFESSORSHIP OF ANATOMY.

The Council of the University invites applications for the *Chair of Anatomy*, vacant by the resignation of Professor J. C. BRASH.

The stipend offered is £1,100 a year. The duties will commence on October 1st, 1931.

Applications and testimonials (25 copies) may be accompanied by references or other credentials, and should be received by the undersigned on or before May 30th, 1931.

Further particulars may be obtained from—

The University, Birmingham. C. G. BURTON, Secretary.

University of London.

A Course of Six Lectures on "*Medical Aspects of Nutrition*" will be given by Professor S. J. COWELL, M.B.(Cantab.), M.R.C.P. (University Professor of Dietetics at St. Thomas's Hospital Medical School), at ST. THOMAS'S HOSPITAL, Albert Embankment, S.E.1, on Thursdays, May 7th, 14th, 21st, 28th, June 4th and 11th, 1931, at 5 p.m.

A Course of Two Lectures on "*The Treatment of Malignant Tumours by Radium Placed at a Distance*" will be given in English by Dr. MAX CHEVAL (of the Société Belge de Gynécologie et d'Obstétrique, Brussels; Corresponding Member of the *Royal Academy of Belgium*), at the WESTMINSTER HOSPITAL MEDICAL SCHOOL, 12, Caxton Street, Westminster, S.W.1, on Monday and Tuesday, May 4th and 5th, 1931, at 5.30 p.m. At the first Lecture the Chair will be taken by Mr. E. ROCK CARLING, M.B., B.S., F.R.C.S. (Surgeon to the Westminster Hospital); and at the second Lecture by Dr. H. T. FLINT, Ph.D., D.Sc. (Reader in Physics in the University). Lantern Illustrations.

A Course of Six Lectures on "*Special Sense Physiology*" will be given by Dr. R. J. LYTHGOE, at UNIVERSITY COLLEGE, LONDON, Gower Street, W.C.1, on Thursdays, May 7th, 14th, 21st, 28th, and JUNE 4th and 11th, 1931, at 5 p.m.

A Course of Three Lectures on "*The Pharmacology and Therapeutics of Lead Colloids*" will be given by Professor W. J. DILLING, M.B., Ch.B. (Professor of Pharmacology in the University of Liverpool), at KING'S COLLEGE, LONDON, Strand, W.C.2, on *May 7th, 8th, and 11th, 1931, at 5.30 p.m. At the first Lecture the Chair will be taken by* Sir WILLIAM H. WILLCOX, K.C.I.E., C.B., C.M.G., F.R.C.P. Lantern Illustrations.

Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

University of London.

A Course of Three Lectures, illustrated with films and lantern slides, on "*Neurology*" will be given by Professor OTFRID FÖRSTER (Neurologist to [illegible] and Professor [illegible] of Breslau), [illegible] at MEDICA[illegible] wer Street, [illegible] and MAY 1[illegible] first Lecture [illegible] RED TROTTER, M.D., M.S., F.R.C.S., Surgeon to University College Hospital. The Lectures will be delivered in English.

Admission free, without ticket.

S. J. WORSLEY, Academic Registrar.

University of London.

The UNIVERSITY STUDENTSHIP IN PHYSIOLOGY of the value of £100 is offered to a Student qualified to undertake Research in Physiology. Applications must reach the Academic Registrar, University of London, South Kensington, S.W.7 (from whom further particulars may be obtained) not later than May 31st, 1931.

City and County of Newcastle-upon-Tyne.

EDUCATION COMMITTEE.

Applications are invited for an appointment as Full-time ASSISTANT SCHOOL MEDICAL OFFICER (man or woman). Salary £500 per annum, rising by £25 per annum to a maximum of £700 per annum, in accordance with the National Scale. Applicants should have had at least three years' experience in the practice of their profession subsequent to obtaining their qualifications.

Special experience in the administration of Anaesthetics is essential.

Form of application and particulars of the appointment may be obtained by sending a stamped addressed foolscap envelope to the Director of Education, Education Office, Northumberland Road, Newcastle-upon-Tyne.

Applications will be received up to and including May 9th.

County Council of Middlesex.

DISTRICT MEDICAL OFFICER AND PUBLIC VACCINATOR.

The County Council invites applications from duly qualified Medical Practitioners for the *undermentioned* appointments:

DISTRICT MEDICAL OFFICER, PARISH OF HAREFIELD.

Salary £45 per annum. The officer appointed will be required to carry out his duties in accordance with the Public Assistance Order, 1930, of the Minister of Health, to reside in the district, and to name to the Council some *duly qualified* Medical Practitioner who will, in the case of his absence or other hindrance to his personal attendance, act in his place.

PUBLIC VACCINATOR, PARISH OF HAREFIELD.

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination, unless such certificate was *required* as a condition of obtaining any diploma, licence, or degree which he possesses.

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order, 1930, of the Minister of Health. The contract will provide for the payment of the minimum fees laid down in the Order.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than May 9th.

No special application *forms* are provided. Envelopes must be endorsed "District Medical Officer" or "Public Vaccinator" as the case may be.

Canvassing, directly or indirectly, will be a disqualification.

Guildhall, Westminster, S.W.1. ERNEST S. W. HART, Clerk of the County Council.
April 14th, 1931.

City of Birmingham.

DUDLEY ROAD HOSPITAL.

JUNIOR ASSISTANT MEDICAL OFFICERS (Male).

Applications are invited from fully qualified Medical Practitioners for appointments as Junior Assistant Medical Officers (male) at the Dudley Road Hospital, Birmingham.

The Hospital accommodation is fixed at 926 beds, divided into Medical, Surgical, Children's Infectious, [illegible] Gynæcology and Obstetric [illegible] completely equipped P[illegible] Laboratories, Deep [illegible] Massage, Sunlight and Dental Departments. Approximately 5,000 operations are performed annually.

The appointments will be for a period of six months in the first instance, but may be extended at the end of that time for a further period not exceeding six months.

The persons appointed will be required to assist at operations, to administer anæsthetics, and undertake casualty work and such other duties as may be assigned to them by the Medical Superintendent.

The salaries attached to the appointments will be at the rate of £200 per annum, together with full residential emoluments (rations, apartments, laundry, and attendance).

The officers appointed will be required to pay to the Council all fees, allowances, and emoluments (other than the foregoing) received by them.

Further particulars of the appointments may be obtained from the Medical Superintendent, F. W. ELLIS, Esq., M.D., F.R.C.S., Dudley Road Hospital, Birmingham, to whom applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Thursday, May 7th.

F. W. ELLIS, Esq.

Dudley Road Hospital, Birmingham.

Dumfries and Galloway Joint Sanatorium Board.

ASSISTANT MEDICAL SUPERINTENDENT.

Applications are invited for the appointment of Assistant Medical Superintendent of (1) the Board's Sanatorium at Lochnaben, Dumfriesshire, and (2) an *adjoining* Infectious Diseases Hospital. The officer will be required to devote his whole time to the duties and not to engage in private practice. Salary £300, rising by annual increments of £25 to £400 per annum, with board, lodging, and laundry. Candidates must be regularly qualified in Medicine and Surgery.

Full particulars and forms of application may be obtained from the undersigned, with whom applications (on the prescribed form) must be lodged prior to noon of Monday, May 4th.

County Buildings, Dumfries. JOHN ROBSON, Clerk of the Board.
April 18th, 1931.

City of Liverpool.

APPOINTMENT OF MEDICAL OFFICER OF HEALTH.

The Corporation *invite applications* for the position of Medical Officer of Health for the City and Port of Liverpool and Medical Officer to the Education Authority at a salary of £1,600 per annum. The duties will be those *prescribed* by statute, subject to such variations in administration as the City Council may from time to time direct, and will include the general supervision of the Municipal Hospitals.

The officer appointed will be required to devote his whole time to the duties of the office, and will not be allowed to engage in private practice, and all emoluments out of public moneys which may be payable to or received by him will have to be paid to the Corporation.

The officer appointed will hold office subject to the Standing Orders of the Council, and the appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922. He will also be required to reside within the City.

Canvassing of members of the Council will be regarded as a disqualification.

Particulars of duties may be obtained on application to the Town Clerk.

Applications, stating age and qualifications, with copies of testimonials (not exceeding three) endorsed "Medical Officer of Health," addressed to the Chairman of the Health Committee, under cover to the Town Clerk, Municipal Buildings, Liverpool, must be delivered at the Town Clerk's Office, Liverpool, *not later than* May 2nd.

Town Clerk's Office, Liverpool. April 10th, 1931. WALTER MOON, Town Clerk.

County Borough of Burton-upon-Trent.

DEPUTY MEDICAL OFFICER (Male).

The Council invite applications from candidates for the appointment of Deputy Medical Officer of Health, Assistant School Medical Officer, and Assistant Tuberculosis Officer.

Salary £600 per annum, rising to £700 by annual increments of £25, such salary to be inclusive of all duties. The candidate selected for the appointment will be required to pass a medical examination, and the appointment will be terminable by three calendar months' notice on either side.

The person appointed must have a Diploma in Public Health, and must have had not less than three years' post-graduate experience, and will be required to devote the whole of his time to the duties of the office, and to act under the direction of the Medical Officer of Health.

Applications, stating age, experience, and qualifications, and endorsed "Deputy Medical Officer," to be delivered to me, with copies of not more than three recent testimonials, not later than Tuesday, April 28th.

A list of the duties can be obtained on application.

Canvassing any member of the Council will disqualify.

Town Hall, Burton-upon-Trent. April 8th, 1931. H. BAILEY CHAPMAN, Town Clerk.

County Borough of Walsall.

MANOR HOSPITAL. (270 Beds.)

ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified gentlemen for the appointment of *Junior Resident* Assistant Medical Officer. The appointment will be for a period of twelve months, and the salary at the rate of £150 per annum, together with the usual residential emoluments.

The person appointed will be required to act under the *general* direction of the Medical Officer, from whom particulars of the appointment may be obtained.

Applications, stating age, professional qualifications and experience, accompanied by not more than three copies of recent testimonials, should be sent to the undersigned at once.

29, Lichfield St., Walsall. April 24th, 1931. C. S. FOTHERGILL, Public Assistance Officer.

Kidderminster Amalgamated

FRIENDLY SOCIETIES AND GENERAL MEDICAL AID ASSOCIATION.

The Committee are prepared to receive applications for the post of MEDICAL OFFICER of the above Institution. Salary £700 per annum, free of fees, car, and allowances.

Applications, with testimonials, should reach the Secretary not later than May 4th.

State age (married or single).

15a, Oxford Road, Kidderminster, Worcs. C. LINCOLN PORTER, J.P., Secretary.

Borough of Hove.

URBAN DISTRICT OF PORTSLADE-BY-SEA.

MEDICAL OFFICER OF HEALTH.

The Council of the Borough of Hove and the Council of the Urban District of Portslade-by-Sea jointly invite applications from qualified Medical Practitioners for the dual appointment of whole-time Medical Officer of Health, etc., for the Borough and the Urban District.

The successful candidate will also be appointed by the East Sussex County Council as Assistant County Tuberculosis Officer for the County District, comprising the Borough and Urban District. Candidates must hold the qualifications prescribed by the Sanitary Officers Order, 1926, and previous experience in Medical Officer's work and Tuberculosis is essential.

The total salary for the combined posts will be £1,000 *per annum*, allocated between the various services as set out in the Conditions of Appointment, copy of which, with form of application, may be obtained from the Town Clerk, Town Hall, Hove. An allowance of £50 per annum will also be made towards the expenses of a motor car, and a holiday deputy will be provided.

Applications, accompanied by not more than three testimonials, should be sent on or before May 4th next to the Town Clerk, Hove.

In respect of the *Borough and the County* there are Superannuation Schemes in force in which the successful candidate will participate subject to the conditions.

W. JERMYN HARRISON, *Town Clerk.*

Town Hall, Hove. April, 1931. ERNEST H. KEMPE, Clerk to the Council.

County Borough of Reading.

EDUCATION COMMITTEE.

Applications are invited from qualified Dental Surgeons (men or women) for the post of full-*time SCHOOL DENTIST. Salary scale*, £500 per annum, rising by one annual increment of £10, and then by two annual increments of £20 to a maximum of £550 per *annum. Previous* experience of School Dental work essential The candidate appointed will work under the administrative direction of the School Medical Officer, and will be required to devote his or her whole time to the duties of the office.

The appointment will be subject to the provisions of the *Local Government and Other Officers Superannuation Act*, 1922, and the successful candidate will be required to pass a medical examination.

Forms of application, with particulars of the duties and conditions of appointment, may be obtained from the Chief Education Officer, Education Office, Blagrave Street, Reading, to *whom applications must be sent on or before* May 9th.

West Suffolk County Council.

APPOINTMENT OF COUNTY MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER.

Applications are invited from duly registered *Medical Practitioners (male), holding a Degree* or Diploma in Public Health, for the above whole-time appointment. Salary £1,000 per annum, plus travelling allowance.

The appointment will be subject to the provisions of the Local Government and Other *Officers Superannuation Act*, 1922, and to the other statutory enactments relating to the office, and the successful candidate will be required to pass a medical examination.

Particulars of appointment and forms of *application may be obtained* from the undersigned, by whom applications, accompanied by copies of not more than three *recent testimonials*, must be received not later than May 9th.

Canvassing in any form, direct or indirect, will disqualify.

Shire Hall, *Bury St. Edmund's.* April 25th, 1931. L. G. H. MUNSEY, *Clerk of the County Council.*

The Radium Institute,

Riding House Street, London, W.1.

Applications are invited for the post of HOUSE SURGEON. Candidates must be fully qualified and unmarried. The appointment is for a term of six months, and the successful candidate will be required to take up his duties on May 1st next. The salary will be at the rate of £150 per annum, with board, lodging, and laundry.

Applications, stating age, qualifications, and experience, with copies of three recent testimonials, must be received at the Institute not later than April 28th.

Canvassing, either directly or indirectly, is not permitted.

THOS. A. GARNER, Secretary.

Administrative County of LONDON.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the undermentioned positions. The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendents and, should occasion arise, to assist at any of the other establishments or medical districts under *the control of the London County Council.* The successful candidates will be required to live in the respective Hospitals.

GROVE PARK HOSPITAL, Lee, S.E.12.—SENIOR ASSISTANT MEDICAL OFFICER Salary is £500 a year, rising by annual *increments of £25 to £600 a year*, together with board, lodging, and laundry. Experience in a *resident appointment in a General Hospital is desirable. Preference will be given to candidates* with special qualification and/or experience in the treatment of pulmonary tuberculosis. There *is no accommodation for a married man.*

NORTHERN HOSPITAL, Winchmore Hill, N.21 — ASSISTANT MEDICAL OFFICER. Salary is £350 a year, rising by annual *increments of £25 to £425 a year, together with* board, lodging, and laundry. Candidates must have held a resident appointment in a General *Hospital for at least six months; Experience* in the treatment of fever and post-encephalitis lethargica and or pulmonary tuberculosis is *desirable. There is no accommodation for a* married man

NORTH-WESTERN (FEVER) HOSPITAL Lawn Road, Hampstead, N.W.3.—Two HOUSE PHYSICIANS (men only) Salary £80 a year each, together with board, lodging, and laundry Accommodation only for the person appointed. Appointment is for six months only in the first instance, but may be extended for further periods of six months up to a maximum of two *years, provided that not more than 12 months* are spent at one hospital.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by May 8th. Candidates should specify the position or positions for which they desire to apply Canvassing disqualifies Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the respective Hospitals.

MONTAGU H. COX, Clerk of the London County Council.

Administrative County of LONDON.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners (men only) for appointment to the *undermentioned position. The person appointed* will be required to carry out such duties as may be assigned by the Medical Superintendent and, if required, to assist in the work of the Institution and the Medical Districts under the control of the Hospital, or in any of the other establishments or districts under the control of the London County Council. The successful candidate *will be required to live in the Hospital.*

ST. LEONARD'S HOSPITAL, Hoxton Street, N.1.—ASSISTANT MEDICAL OFFICER. Salary £350, rising by annual increments of £25 to £425 a year, together with board, lodging, and washing. The duties will be partly in the Hospital and partly outdoor in connection with district medical work. Candidates must have *held a resident appointment in a General Hospital.* There is no accommodation for a married *man.*

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by May 8th. *Canvassing disqualifies. Inquiries for further* details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the Hospital.

MONTAGU H. COX, Clerk of the London County Council.

Liverpool Hahnemann Hospital,

Hope Street. (52 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER to the above Hospital, which falls vacant on May 18th next. Only one R.M.O. kept.

Duties include *occasional* anæsthetics and assisting at operations, general, gynæcological, ophthalmic, and aural.

Appointment is for six months, renewable Salary at the rate of £100 per annum, but not essential.

Knowledge of Homœopathy desirable.

Apply, stating age, sex, nationality, and previous experience, and enclosing copies of testimonials, to the Registrar, before May 11th.

Derbyshire Royal Infirmary, DERBY.

APPOINTMENT OF HONORARY ASSISTANT PHYSICIAN.

The Board of Management of the Derbyshire Royal Infirmary invite applications for the office of Honorary Assistant Physician.

Every candidate must be a Graduate in Medicine of one of the Universities of the United Kingdom, or a Fellow or Member of one of the Royal Colleges of Physicians of the United Kingdom.

Candidates are prohibited from personal canvass, but may send copies (80) of their applications and testimonials to the Secretary of the Infirmary to be distributed to Members of the Elective Committee.

Applications must be forwarded not later than 10 a.m. on Thursday, May 14th.

By Order,
WALTER BANKS,
April 24th, 1931. Supt. & Secretary.

St. Bartholomew's Hospital, E.C.1.

OFFICE OF ASSISTANT PHYSICIAN-ACCOUCHEUR.

Notice is hereby given that a meeting of the Election Committee will be held on Tuesday, June 2nd, at 4 o'clock in the afternoon, to appoint an Assistant Physician-Accoucheur to this Hospital.

Candidates, who must be Members or Fellows of the Royal College of Physicians of London or Fellows of the Royal College of Surgeons of England, are required to lodge 50 copies of undersigned on or before Saturday, May 16th.

THOMAS HAYES,
April 23rd, 1931. Clerk to the Governors.

Royal Victoria and West Hants HOSPITAL, BOURNEMOUTH.

(Poole Road Branch—66 Beds.)

HOUSE SURGEON (male, British nationality) required to commence duty the second week in May. Salary £150 per annum, with board, lodging, and washing. The appointment is tenable for six months, and candidates must be registered according to the provisions of the Medical Act. Applications, stating place of birth, with copies of three testimonials, to be sent immediately to the undersigned. Women and married men are ineligible.

GORDON M. SAUL,
April 16th, 1931. Secretary.

Royal United Hospital, Bath.

Wanted at once, an ASSISTANT HOUSE SURGEON. Salary £120 per annum.

The appointment will be for not less than six months, and candidates must be male, unmarried, and of British nationality.

Applications, with three testimonials, to be addressed to the undersigned by the 30th instant.

J. LAWRENCE MEARS,
April 20th, 1931. Secretary-Supt.

London Hospital, E.1.

Applications are invited for the post of ASSISTANT PHYSICIAN to the Children's Department of this Hospital.

Candidates must be Members of the Royal College of Physicians in London.

Applications should arrive not later than on May 16th.

Further particulars may be obtained from the House Governor.

ARTHUR G. ELLIOTT,
April 20th, 1931. House Governor.

Great Yarmouth General HOSPITAL. (72 Beds.)

Applications are invited for the post of HOUSE SURGEON (one of two appointments). Applicants must be male and unmarried. Salary at the rate of £140 per annum, with board, residence, and laundry.

Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned.

FRANK JENNINGS, Secretary.

Hounslow Hospital, Staines Rd., HOUNSLOW, MIDDLESEX. (70 Beds.)

Wanted, May 1st, HOUSE SURGEON Salary £200 per annum, with board, residence, etc.

The appointment will be for six months.

Applications, stating age, qualifications, and experience, and enclosing copies of testimonials, should be sent by April 27th, marked "House Surgeon" top left-hand corner, to W. T. Ross, Secretary, Hounslow Hospital, Staines Road, Hounslow.

Royal Chest Hospital, City Road, E.C.1.

(Royal Northern Group of Hospitals.)

Applications are invited for the following posts, vacant on May 16th:

RESIDENT MEDICAL OFFICER. The appointment is for six months, when re-election is required. Salary at the rate of £150 per annum, with board, residence, and laundry.

HOUSE PHYSICIAN. The appointment is for six months. Salary at the rate of £100 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be sent on or before May 7th to the undersigned, from whom forms of application, rules, and further particulars can be obtained.

GILBERT G. PASTER,
Royal Northern Hospital, Secretary.
N.7.

Chelsea Hospital for Women, Arthur Street, S.W.3.

A vacancy has occurred for the post of SURGEON to the Hospital. Candidates must be Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland. They must be registered under the Medical Act and engaged in Consulting Practice only.

The Senior Surgeon to Out-patients is a candidate for the post. If he be elected there will be a vacancy for a SURGEON to OUT-PATIENTS. Candidates for this appointment must be qualified as above. Applications must be sent, accompanied by three testimonials, to the undersigned on or before Monday, May 4th.

HERBERT H. JENNINGS,
Secretary.

Oldham Royal Infirmary.

HOUSE PHYSICIAN and CASUALTY OFFICER required forthwith. Appointment tenable for a period of six months. Salary at the rate of £175 per annum, with board, residence, and laundry. Successful candidate will be required to assist the Honorary Pathologist, and will be eligible for re-appointment.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Samaritan Free Hospital for WOMEN, Marylebone Road, N.W.1.

Applications are invited for the post of HOUSE SURGEON, for a period of six months, commencing on May 10th next. Salary at the rate of £100 per annum, with board, lodging, and washing. Previous experience as House Surgeon essential.

Applications, stating age, accompanied by copies only of testimonials, must reach the Secretary at the Hospital on or before Thursday noon, April 30th.

G. H. HAWKINS, Secretary.

Scunthorpe and District War MEMORIAL HOSPITAL.

(82 Beds—Two Residents.)

Applications are invited for the post of SECOND RESIDENT SURGEON (male), with charge of Medical beds, to take duties as early as possible. Salary at the rate of £150 per annum, with board, residence, and laundry. Candidates, who must possess registered qualifications, should forward applications stating age, nationality, etc., together with copies of recent testimonials, to

ARTHUR E. MAW, Secretary.

Swansea General and Eye HOSPITAL. (316 Beds.)

CASUALTY OFFICER required, gentleman, single. Must have had previous Hospital experience. Appointed candidate also required to act as Deputy Senior R.M.O. Duties to commence immediately. Salary £200 per annum, with board, residence, and laundry.

Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary-Superintendent.

The Royal Infirmary, SUNDERLAND. (290 Beds.)

Wanted, beginning of June, HOUSE PHYSICIAN (male). Salary £140 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Hampstead General and North-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.

APPOINTMENT OF CASUALTY MEDICAL OFFICER.

Applications are invited from unmarried registered Medical Women for the position of Casualty Medical Officer at the Out-patient Department of the Hospital, Bayham Street, Camden Town. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Applications, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on May 9th next.

South Devon and East Cornwall HOSPITAL, PLYMOUTH. (240 Beds)

RESIDENT SURGICAL OFFICER (male); HOUSE SURGEON (male).

Salary £150 and £100 per annum respectively, with board, residence, and laundry. Appointments are tenable for six months, and subject to renewal. Candidates must be registered under the Medical Acts.

Applicants must state if, in the event of their being unsuccessful in one appointment, they are willing to offer themselves for the other.

Applications, stating age and qualifications, together with copies of recent testimonials, to reach the undersigned by May 8th.

ARTHUR R. CASH,
April 20th, 1931. Gen. Supt. & Sec.

Wrexham and East Denbigh-SHIRE WAR MEMORIAL HOSPITAL.

(109 Beds)

TWO RESIDENT HOUSE SURGEONS (male or female) required by the above Hospital to commence immediately. Appointment for a period of not less than six months. Salary £150 per annum, with board and laundry.

[illegible] nationality, experi- [illegible] companied by copies [illegible] to be sent to the

[illegible] SPENCER, Secretary.

Bradford Royal Infirmary.

One HOUSE PHYSICIAN and One HOUSE SURGEON (male) wanted for June 1st.

Candidates must be single and legally qualified. Salary £150 per annum each, with board, residence, and washing.

There are 215 beds and six resident Officers.

Applications, stating age, qualifications, and previous experience (if any), with copies of recent testimonials, to be received by the undersigned not later than Tuesday, April 28th.

J. J. BARRON,
April 11th, 1931. Secretary-Supt.

The Hospital for Sick Children, NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a HOUSE SURGEON (male or female) to commence duties forthwith until September 30th. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle.

Manchester Babies' Hospital, Burnage Lane, LEVENSHULME.

Applications [illegible] for the post of JUNIOR [illegible]. Appointment is [illegible] rate of £50 per annum, with laundry.

Applications, together with copies of testimonials, should be sent to the undersigned and marked "J.R.M.O."

ANGELA LOPEZ, Secretary.

King George Hospital, Ilford.

Applications are invited for re-appointment of Two HONORARY ANAESTHETISTS (honorarium £50 per annum). Further particulars may be obtained from the undersigned, to whom applications should be sent not later than May 11th.

G. AUSTIN HEPWORTH,
Secretary.

Queen's Hospital, Birmingham.

(MEDICAL SCHOOL.)

Required, May 1st, CASUALTY HOUSE SURGEON. Salary £70 p.a., together with board, apartments, and laundry.

Apply to the undersigned.

G. HURFORD,
House Governor.

Warrington Infirmary and Dispensary.

ANAESTHETIST.

The Board of Management invite applications for the above post.

Attendance at the Hospital is required on six days per week in the mornings up to noon. The Board are prepared to form a Rota of two or three Medical Practitioners if it is impossible for them to secure a candidate for the full six days.

An honorarium of £150 will be paid, or if the Rota is made this sum will be proportionately divided.

As this is a part-time post the position may appeal to those Practitioners who are holding other part-time posts or studying for higher degrees.

Applications should be sent in to the undersigned at once, stating qualifications, and also the number of days they wish to attend.

By Order,
HENRY L. BOOT,
April 14th, 1931. Supt. & Sec.

Central London Throat, Nose, and Ear Hospital,

Gray's Inn Road, W.C.1.

RESIDENT HOUSE SURGEON (Male).

There will be a vacancy for a Third Resident House Surgeon, to enter on duty on June 1st next.

The appointment will be for a period of nine months—three months as Third House Surgeon, three months as Second House Surgeon, and three months as First House Surgeon.

Remuneration at the rate of £75 per annum.

Applications, accompanied by copies of not more than three testimonials, should be sent to the undersigned on or before May 9th.

JOHN H. YOUNG,
Secretary-Superintendent.

Hospital for Epilepsy and Paralysis, Maida Vale, W.

HONORARY ASSISTANT PHYSICIAN required.

Applications are invited for the post of Honorary Assistant Physician.

Candidates must be Fellows or Members of the Royal College of Physicians and Graduates of a University.

Applications, giving age and full particulars and copies of three recent testimonials, must reach the undersigned by May 18th.

There is an honorarium attached to the appointment.

H. W. BURLEIGH,
Secretary & Gen. Supt.

The Royal Waterloo Hospital for Children and Women,

Waterloo Road, S.E.1.

Applications are invited from qualified male Practitioners for the following post vacant on May 1st: A CASUALTY OFFICER, to work in the Out-patient Department on week-days, at £150 per annum, lunch and tea provided.

Applications, with copies of testimonials, should be forwarded by Tuesday morning, April 28th, to the Secretary at the Hospital, from whom further particulars can be obtained.

Victoria Central Hospital, Wallasey.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry, with prospects of appointment to Senior House Surgeon in six months' time, at a salary of £150.

Candidates chosen will be appointed for six months.

Applications, with copies of testimonials, to be sent to the Secretary.

The St. Helens Hospital.

Applications are invited for the position of HOUSE SURGEON to this Hospital at a salary of £200 per annum, plus board, residence, and laundry. Applications, accompanied by three recent testimonials, to be sent to the Secretary, St Helens Hospital, Lancs, not later than April 28th.

The successful candidate will be required to commence his duties on May 7th.

Tiverton Hospital, Devon.

(35 Beds.)

Applications are invited for the post of HOUSE SURGEON. Salary £100 per annum, with board, residence, and laundry. Six months' appointment, commencing as early as possible.

Applications, with testimonials, to be sent to the undersigned.

C. H. DEEKS, Hon. Secretary.

Derby City Hospital.

THIRD RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Third Resident Medical Officer (male) at the above Hospital of 300 beds for the treatment of general cases.

Candidates must be registered in Medicine and in Surgery.

The appointment is for a period of twelve months; two months' notice of resignation to be given.

Salary at the rate of £200 per annum for the first six months, then rising to £250, with board and residence.

Applications, stating age, experience, and accompanied by three recent testimonials, should be sent not later than Wednesday, April 29th, to the undermentioned.

Public Health Department, Ford Street, Derby. GORDON LILICO, Medical Officer of Health.

April 11th, 1931.

Royal Manchester Children's Hospital,

PENDLEBURY, near MANCHESTER.
(190 Beds.)

Wanted, a RESIDENT SURGICAL OFFICER, salary £125 per annum, who will be appointed for six months.

Candidates must be unmarried, doubly qualified, and duly registered. Previous Hospital experience essential.

Applications, stating age, and accompanied by copies of not more than three testimonials, to be sent to the undersigned at once.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY,
April 14th, 1931. Secretary.

Royal Eye Hospital,

St. George's Circus, Southwark, S.E.1.

HOUSE SURGEON and ASSISTANT HOUSE SURGEON required at the above Hospital. The appointment is in the first instance for a period of six months, with board and residence as from June 1st.

Salaries: House Surgeon at the rate of £150 per annum; Assistant House Surgeon at £100 per annum.

Candidates must be registered Practitioners.

Applications, with copies of three recent testimonials, should be sent to the Secretary at the Hospital not later than Monday, May 4th.

F. E. D'ALTON, Secretary.

Royal Free Hospital,

Gray's Inn Road, W.C.1.

Applications are invited from duly qualified Medical Women for the post of SENIOR RESIDENT MEDICAL OFFICER, vacant June 1st, and tenable for one year. Salary £150 per annum, with board and residence. Intending candidates should submit applications, stating age and experience, and accompanied by copies of three recent testimonials, to the undersigned on or before May 9th.

REGINALD R. GARRATT,
Secretary.

Royal Free Hospital,

Gray's Inn Road, W.C.1.

Applications are invited for the appointment of ASSISTANT SURGEON to the Ear, Nose, and Throat Department. Intending candidates, who must be Fellows of the Royal College of Surgeons, England, should submit applications to the undersigned, stating age, and accompanied by three recent testimonials, on or before May 9th.

REGINALD R. GARRATT,
Secretary.

Royal Free Hospital,

Gray's Inn Road, W.C.1.

Applications are invited for the appointment of ASSISTANT SURGEON. Intending candidates (men or women), who must be Fellows of the Royal College of Surgeons, England, should submit applications, stating age, and accompanied by copies of three recent testimonials, to the undersigned on or before May 9th.

REGINALD R. GARRATT,
Secretary.

Birkenhead General Hospital.

(156 Beds.)

HOUSE PHYSICIAN (gentleman) wanted immediately. Salary £100, with board and residence.

Applications, stating qualifications, experience, and nationality, with three testimonials, to be sent to the undersigned as early as possible.

W. H. DANIELS, A.C.I.S.,
Secretary-Supt.

Manchester Royal Infirmary.

CENTRAL BRANCH, ROBY STREET, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite application for the above appointment.

Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for nine months, commencing forthwith, three months as Junior at £100 per annum, three months as Assistant at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m. on Thursday, April 30th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

Poplar Hospital for Accidents,

East India Dock Road, E.14.

Applications are invited for the post of SENIOR RESIDENT OFFICER.

Salary £200 per annum, with board, residence, and laundry, plus fees £75 per annum as Anaesthetist to Dental Clinic for L.C.C. School Children. Appointment for twelve months.

Applicants must be Fellows of the Royal College of Surgeons. Post offers considerable scope for Surgical practice.

Applications, stating age, qualifications, and enclosing copies of three recent testimonials, to be sent to the undersigned on or before April 30th.

D. H. LINDSAY,
House Governor & Secretary.

Whitehaven and West Cumberland Hospital, Whitehaven.

(90 Beds.)

Wanted, JUNIOR HOUSE SURGEON (male or female). Salary £100 per annum, including board, residence, and laundry. Twelve months' appointment. After six months as Junior an opportunity is given of becoming Senior for the second six months at the rate of £150 per annum.

Applications, stating age, nationality, etc., together with copies of three testimonials, to be sent to the Secretary, endorsed "House Surgeon," at once.

R. HIGGINS, Secretary.

The Liverpool Eye and Ear Infirmary,

MYRTLE STREET, LIVERPOOL.

Applications are invited for the post of HOUSE SURGEON to the Ophthalmic Department of the above Institution.

Salary £100 per annum, with board and lodging.

Applications, stating age and qualifications, together with copies of not more than three recent testimonials, should be sent in not later than midday, Tuesday, April 28th, to

CHAS. W. WRIGHT, Esq.
9, Harrington St., Liverpool.

Merthyr General Hospital,

MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry.

Applicants must have had experience in administration of Anaesthetics.

Applications, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

Burton-on-Trent General Infirmary.

(130 Beds.)

Applications are invited for the post of SENIOR HOUSE SURGEON (male). Salary at the rate of £200 per annum, with board, residence, and laundry.

Applications, giving age and qualifications, together with copies of testimonials, to be sent to—

E. W. THORNLEY, Secretary.

Cossham Memorial Hospital,

KINGSWOOD, BRISTOL

Applications are invited for the post of HOUSE SURGEON, to commence duties at the end of April. Applicants must be British subjects, fully qualified and registered.

Applications, stating age, qualifications, and previous experience, accompanied by three recent testimonials, should be sent to the Secretary.

Mildmay Mission Hospital,
Austin Street, Bethnal Green, E.2.

Applications are invited for the post of SENIOR RESIDENT MEDICAL OFFICER (male), which becomes vacant on July 1st. Salary £140 per annum, with board, residence, and laundry. The appointment is for six months.

Candidates must be registered under the Medical Acts, and the Mildmay Council is anxious that they should be fully in sympathy with the religious work of the Hospital.

Applications, with copies of recent testimonials, should be sent to the Medical Superintendent by June 6th.

Mildmay Mission Hospital,
Austin Street, Bethnal Green, E.2.

Applications are invited for the post of ASSISTANT CASUALTY OFFICER (female), which becomes vacant on August 1st. The appointment is non-resident and for six months. Salary £125 per annum.

Candidates must be registered under the Medical Acts, and the Mildmay Council is anxious that they should be fully in sympathy with the religious work of the Hospital.

Applications, with copies of recent testimonials, should be sent to the Medical Superintendent by June 6th.

Mildmay Mission Hospital,
Austin Street, Bethnal Green, E.2.

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male), which becomes vacant on July 1st. Salary £100 per annum, with board, residence, and laundry. The appointment is for six months.

Candidates must be registered under the Medical Acts, and the Mildmay Council is anxious that they should be fully in sympathy with the religious work of the Hospital.

Applications, with copies of recent testimonials, should be sent to the Medical Superintendent by June 6th.

Applications are invited for the
post of RESIDENT MEDICAL OFFICER at the DUMFRIES & GALLOWAY ROYAL INFIRMARY. The Institution, which contains over 100 beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession. Salary £100 to £150, according to qualifications and experience.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84, Irish Street, Dumfries, at once.

General Hospital, Nottingham.

A HOUSE SURGEON is required at the above Institution.

The appointment is for six months, with salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the undersigned.

Duties to commence Saturday, May 16th.

P. M. MACCOLL,
House Governor & Secretary.

Durham County and Sunderland
EYE INFIRMARY.

Two HOUSE SURGEONS required. Must have Ophthalmic experience. Commencing salary £350 (non-resident). Particulars may be obtained from the Secretary. Applications, together with copies of three recent testimonials, to be sent to JOHN BUTTERFIELD, Secretary, Eye Infirmary, Sunderland.

Rotherham Hospital.

Wanted, HOUSE PHYSICIAN (male), qualified. Salary £180 per annum, with board, residence, and laundry, to have charge of Out-patients, administer Anæsthetics, and assist Honorary Physician

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Rotherham Hospital.
(150 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £150, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Cheshire County Mental
HOSPITAL,
PARKSIDE, MACCLESFIELD.

Male ASSISTANT MEDICAL OFFICER required. Previous Mental Hospital experience not essential. Salary £350, rising annually by £25 to £450, with board, apartments, and laundry, valued at £100. Subject to deductions under the Asylums Officers Superannuation Act, 1909.

The successful candidate will be expected to obtain the D.P.M. (which carries with it an addition of £50 per annum to the salary stated) as soon as possible after appointment. There is every scope for original research, the Hospital having a modern laboratory and full equipment for the latest methods of treatment.

Time will be arranged for attendance of lectures at Manchester University.

Preference will be given to candidate with Bacteriological experience.

Applications, stating qualifications, with copies of three recent testimonials, to be sent to the Medical Superintendent, to be received as soon as possible.

North Riding Infirmary,
MIDDLESBROUGH.
(General Hospital—150 Beds.)

Applications are invited for the posts of:
Second HOUSE SURGEON (gentleman) to take up duties May 1st;
Third HOUSE SURGEON (lady eligible) to take up duties early as possible.

The appointments will be for a definite period of six months, with salary in the former case of £200 per annum, and in the latter case of £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, and previous experience, with copies of three recent testimonials, should be sent forthwith to the undersigned.

CHARLES POSTGATE,
Secretary Superintendent.

Southport General Infirmary.
(150 Beds)
Special Departments for Eye, Ear, Nose, and Throat, X-Rays, Massage, Pathology, Skin, and V.D.

Wanted immediately, a JUNIOR HOUSE SURGEON, fully qualified and registered, unmarried. Salary £100 per annum, with residence, board, and laundry, and additional salary of £50 per annum for services rendered in the V.D. Department.

Excellent opportunity for gaining experience in a fully equipped, up-to-date Hospital, situated in beautiful surroundings.

Applications, stating age, nationality, and experience, with copies of testimonials, to be sent in by April 30th to the Secretary, Infirmary Office, Southport.

Western Ophthalmic Hospital,
Marylebone Road, N.W.1.

[illegible] for the posts of JUNIOR NON-RESIDENT [illegible]. The salaries are at the rate of £150 and £100 per annum respectively, and the appointments are for six months. Ophthalmic experience is required. The selected candidates will be required to take up duty on May 1st. Applications, accompanied by copies of not less than three testimonials, should reach me by April 28th, and candidates should be prepared to attend before the Medical Committee that day at 5 p.m. Candidates should state in their application whether they are prepared to accept either post.

H. W. BURLEIGH, Esq.,
Honorary Secretary.

Victoria Hospital, Burnley.
(120 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN (male). The duties also include the giving of a certain number of anæsthetics. The appointment is for six months from May 1st, and carries a salary of £150 per annum, with board, etc. This Hospital is approved by the London University for the purpose of the M.B. and M.S. examinations.

Applications, with copy testimonials, should be addressed to the undersigned forthwith.

GEO. W. COOLING,
Secretary-Superintendent.

St. Mary's Hospitals, Manchester

HOUSE SURGEON for the WHITWORTH PARK HOSPITAL (Gynæcological Department), for a period of six months from May 11th next. Salary at the rate of £50 per annum, with board and residence. Application, with copies of three testimonials, to be sent to the undersigned on or before May 4th.

R. RATCLIFFE, Secretary.

East Sussex County Council.
DARVELL HALL SANATORIUM,
ROBERTSBRIDGE, SUSSEX. (93 Beds.)

The County Council invite applications for the post of Ear, Nose, and Throat SURGEON to the above Institution, to visit (approximately) once every six weeks. Remuneration, 3 guineas per visit (approximately 2½ hours), plus travelling expenses at Treasury rates. Further details on application to the County Medical Officer of Health, County Hall, Lewes.

Applications to be submitted to the County Medical Officer of Health not later than May 7th.

City of Salford.
ASSISTANT RESIDENT MEDICAL OFFICER,
HOPE HOSPITAL.

Applications are invited for the post of Assistant Resident Medical Officer (male), at Hope Hospital, Pendleton. The appointment will be for six months. Salary £250 per annum, plus board, residence, and laundry. Form of application may be obtained from the Medical Officer of Health, 145, Regent Road, Salford, to whom it must be returned not later than May 2nd.

H. H. TOMSON, Town Clerk.

Walsall General Hospital.

The Committee invite applications from men or women for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months. The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, must be received by the undersigned not later than first post Tuesday, April 28th

WALTER FRANCOMBE, Secretary.

The Stockport Infirmary.

HOUSE PHYSICIAN (male) required. Salary £175, with board, residence, and laundry. Duties to commence May 16th.

Applications, with copies of three recent testimonials, stating age, University, and experience, to be delivered to the undersigned not later than Friday, May 8th.

EDWIN J. PEARCE,
April 20th, 1931. Secretary-Supt.

Wigan Infirmary.
(180 Beds—4 Residents)

HOUSE SURGEON (male) required May 12th, for a period of six months. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.

A. STANLEY BRUNT,
April 14th, 1931. Gen. Supt. & Secretary.

York County Hospital.
(200 Beds.)

HOUSE SURGEON required on June 1st. Salary £150 per annum, with board, residence, and laundry. Applications, stating age, qualifications, and previous experience, together with copies of not more than three recent testimonials, to be sent to the undersigned on or before May 11th.

HENRY E. RYAN,
Manager.

Burton-on-Trent General
INFIRMARY.

Applications are invited for the post of JUNIOR HOUSE SURGEON (male). Salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, giving age and qualifications, together with copies of testimonials, to be sent to—

E. W. THORNLEY,
Secretary.

Manchester Ear Hospital,
Grosvenor Square, All Saints'.

The Board invite applications for the post of NON-RESIDENT HOUSE SURGEON, 24 beds. Appointment six months. Salary at the rate of £150 per annum, with partial board. Candidates must be fully qualified and registered.

Applications, with copies of four recent testimonials, to be forwarded to Mr. REGINALD S. MILFORD (Hon. Secretary), Manchester Ear Hospital, c/o Mr. W. J. ELLAM, 33, Brazennose Street, Manchester, not later than May 15th.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
GENERAL POST OFFICE. *(Assistant Medical Officer—Woman.)*	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH** *(contd.)*
CONTRACT PRACTICE.	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.) (Male Assistant Medical Officer, Colony for Mental Defectives, Shenley.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	**PUBLIC HEALTH.**	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	BELFAST COUNTY BOROUGH. *(Maternity and Child Welfare Medical Officer.)*	PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.) (Resident Medical Officer, Preston Institution, Fulwood.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	CAERNARVONSHIRE EDUCATION COMMITTEE. *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	RENFREW COUNTY COUNCIL. *(Assistant Medical Officer of Health.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*	STAFFS COUNTY MENTAL HOSPITAL, BURNTWOOD. *(Third Assistant Medical Officer.)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*	DEVON COUNTY COUNCIL. *(School Medical Inspector—Male.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	EAST HAM COUNTY BOROUGH. *(Assistant Medical Officer.)*	
NEATH AND DISTRICT. *(Medical Aid Association.)*	EAST SUFFOLK COUNTY COUNCIL. *(Male Assistant County Medical Officer of Health.)*	
OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Macquarie St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 206, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P O Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

April 22nd, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Hospital of St. Cross, Rugby.
(114 Beds.)

THREE RESIDENT MEDICAL OFFICERS (Males) REQUIRED.

Applications are invited for the posts of:
First Resident Medical Officer, qualified. Salary at the rate of £150 per annum, with full board, etc., to commence duties on May 1st.
Second Resident Medical Officer, qualified. Salary at the rate of £125 per annum, with full board, etc., to commence duties on May 1st.
Third Resident Medical Officer, qualified. Salary at the rate of £100 per annum, with full board, etc. Commence May 1st.
Six months' appointments, and eligible on completion of service for extension or other resident's posts.
Applications, stating age, nationality, and full details, with copies of three recent testimonials, to be sent to the undersigned.

W. COCKBURN,
Superintendent and Secretary.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H LIMB, Secretary.

Lincoln County Hospital.

Wanted, JUNIOR HOUSE SURGEON, male, unmarried. Salary at the rate of £150 per annum, rising to £200 per annum at the conclusion of six months' approved service. Board, residence, and washing will also be provided.

Every candidate for the appointment must be registered under the Medical Acts.

Applications, stating age and other particulars, with copies of testimonials (not more than three), are to be sent to the undersigned, from whom further particulars may be obtained.

ARTHUR MOORE,
Secretary-Superintendent.

Lincoln.
April 4th, 1931.

Caernarvonshire and Anglesey
INFIRMARY, BANGOR.

Applications are invited for the post of HONORARY SURGEON to above Infirmary. Preference will be given to candidates who *possess the Degree of Master of Surgery of a* University in the United Kingdom or Irish Free State, or who are Fellows of the Royal College of Surgeons of the United Kingdom or Irish Free State. Applications, with evidence of fitness, should reach the Secretary not later than May 9th.

Royal Alexandra Hospital for
SICK CHILDREN, BRIGHTON.
(100 Beds.)

HOUSE PHYSICIAN (male) required. Salary at the rate of £100 per annum, with board, lodging, and washing. No canvassing allowed. To commence duties on June 1st.

Applications, in writing, accompanied by testimonials, should be sent to A. F. GEAVES, Secretary, on or before Friday, May 1st.

April 11th, 1931.

Cardiff Royal Infirmary.
(Associated with Welsh National School of Medicine.)

Applications are invited for the post of HOUSE SURGEON to the Ophthalmic Department of the above Institution. The post is tenable for six months, but may be extended for a further six months. This post is open to ladies.

Salary is at the rate of £75 per annum, with board-residence. Candidates must have experience of Refractions.

Application forms may be obtained from the undersigned, and should be returned completed, with copies of recent testimonials, at the earliest possible date, as the appointment commences immediately.

R. ARMSTRONG,
Medical Supt.

April 13th, 1931.

Hull Royal Infirmary.
(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in *Ophthalmic* Medicine and Surgery and in Laryngology and Otology.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, with copies of testimonials, should be sent immediately to the undersigned.

R. F. CARLESS,
House Governor.

March 16th, 1931.

(Appointments continued on p. 60.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
Telegrams: ARTICULATE, WESTCENT, LONDON.
Telephone: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted, — Assistant, male, about 30, married, for mixed Practice in Essex (12 miles Charing Cross). Scotsman preferred. Keen, ex H.S., and experience of general practice. Definite early partnership if satisfactory. Salary £425 and commission (about £75). Modern house at nominal rent. Testimonials, photo.—Address, No. 2528, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, English or Scotch, age about 30, pref. with Hospital experience and some knowledge of G.P., *and motorist. Private practice only.* Dispenser and bookkeeper kept. Salary £500 p.a. and extras. Live out.—Address, No. 2510, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship with view, or early succession in good-class Practice, S. or S.W. Eng. Keen on Anæsthetics and Midwifery. Seven years' exper. in large General Practice, incl. Hospital. Excel. recent testimonials. Own car. Capital available.—No. 2518, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship by Indian Doctor, M.B., M.R.C.P.(Edin.), 4 years' exp., act. 30, married, abstainer, energetic; ready to accept indoor or outdoor work; returning to England in July or earlier if required.—Address, No. 2511, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant to manage Practice in East London. Small furnished house. Salary and commission. £100 (return-able) deposit required as security. Good prospects. — Address, No. 2507, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, Assistant, outdoor, male, for mixed Practice in the Midlands, near University Town. Salary £300—£350 p.a., with full board and lodgings. State full particulars in first letter — Address, No. 2515, B.M.A. House, Tavistock Square, W.C.1.

Wanted, an outdoor Assistant in a Mining Practice in Glamorgan. Salary to commence at £350 p.a., with rooms, light, and attendance. A Dispenser kept.—Address, stating age, references, etc., No. 2521, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, outdoor ASSISTANT, general Practice in industrial area. Rooms, attendance, light and coal. Salary £300, with *prospect of rise* to keen, reliable, energetic man, must be abstainer. Golf.—No 2589, B M A House, Tavistock Sq, W C 1.

Wanted, first week June, young, energetic, married ASSISTANT. Unfurnished house, nice locality. Motorist. Good salary to suitable man. Usual bond.—Address, stating full particulars, No. 2541, B.M.A. House, Tavistock Square, W.C.1.

Wanted, June 1st, Assistant, male, young, for general private and panel Practice in Belfast, Northern Ireland; live indoor. Please state age, qualifications, and other essential particulars.—Address, No. 2542, B.M.A. House Tavistock Square, W.C.1.

Wanted.—Male Assistant, July, panel and private, Bradford. (1) £300 indoor or (2) £400 outdoor (house available). Ex hospital. British Protestant preferred. Usual agreement. Parties, and copies of testis. —No. 2512, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, young, energetic, male Indoor ASSISTANT, panel and private Practice, Monmouthshire. Motorist essential. Recently qualified man not objected to. Usual bond.—Add., stating age and other essen. parties., No. 2540, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship with view to PARTNERSHIP, preferably in South or near London, by Conjoint man, aged 29, single. Own car. Free now. Interview.—Address, No. 2534, B.M.A. House Tavistock Square, W.C.1.

Wanted. — Assistantship or LOCUMS by Woman Doctor. Well experienced in private and panel practice. Able to drive car.—Address, No. 2525, B.M.A. House, Tavistock Square, W.C.1.

Wanted, early date, experienced outdoor ASSISTANT, married. Good house and salary. Usual bond. Interview. Full particulars and references.—Address, No. 2585, B.M.A. House, Tavistock Square, W.C.1.

Wanted.-Indoor Assistant (male) for general Practice (no panel or dispensing). Salary £300. Car provided.—Address, with full particulars, No. 2530, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant, single, in large Practice 10 miles from Manchester. Usual bond. Full particulars.—Address, No. 2532, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Junior Assistant. Salary £375 per annum, with rooms and attendance, light, coal, and 10/- extra Midwifery cases. Usual bond.—Apply, A. H. JAMES, M.D., etc., The Park, Blaenavon, Mon.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Newly qualified ASSISTANT, young, Protestant, and Scot preferred.—Address, No. 2519, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Lady Assistant. — Reply, stating essential particulars, to Dr. HENRY, Seaham Harbour.

Assistantship wanted.—Scotsman, aged 48, married, two children, L.R.C.P. & S. Edin., experienced Practitioner, well received, strictly ethical. Gave up own practice after ten years owing to illness, now recovered. Wishes Assistant-ship in good-class Practice, with little night work. S. of England pref.—No. 2521, B.M.A. House, Tavistock Sq., W.C.1.

Assistant wanted for General Practice. Motor cyclist or car owner preferred. Live in, £250—£300. Terms could be arranged for part-time services if desirous of doing Post Graduate work. Within easy reach of Teaching School.—Address, No. 2516, B.M.A. House, Tavistock Square, W.C.1.

Assistant required July 1st or earlier, 25 miles London. Commencing £350, with unfurnished flat. Prospects. Panel and private. Married; energetic; age 30 to 35. —Address, No. 2529, B.M.A. House, Tavistock Square, W.C.1.

Assistant wanted for Branch Surgery in London, East. Early Partnership on suitable terms offered if satisfactory.—Address, No. 2581, B.M.A. House, Tavistock Square, W.C.1.

Indoor Assistant urgently required for large industrial panel and private Practice. Single, experienced, Protestant. Scotsman preferred. £300 to £350 p.a. —Address, No. 2505, B.M.A. House, Tavistock Square, W.C.1.

M.B., Ch.B., 1922, desires ASSISTANTSHIP with view. Well experienced in general practice. Ex House Physician, Anæsthetics and Midwifery. Free May 1st.—Address, No. 2536, B.M.A. House, Tavistock Square, W.C.1.

Outdoor Assistant wanted for panel and private Practice, North-East Coast. Salary £400 per annum. Ex H.S. Catholic preferred.—Address, No. 2513, B.M.A. House, Tavistock Square, W.C.1.

Reliable Assistants wanted.— £330 indoor, £400 outdoor; (Town Practices) £375, rooms, light, and attendance; £300 indoor. Also LOCUMS at £8 8s. per week.—GRIFFITHS' MEDICAL AGENCY, Tredegar Chambers, Newport, Mon.

Woman Assistant required, indoor, recently qualified. Must have car. Salary £250 per annum, all found.—Address, No. 2523, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

Wanted.—Post as Lady Receptionist or SECRETARY. Shorthand, typing, bookkeeping, knowledge dispensing. Experience 4½ years. Age 24. Full enquiries invited from Doctor or Dentist. — Address, No. 2514, B.M.A. House, Tavistock Square, W.C.1.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the *LONDON* COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0669), Secretary, 7, Westbourne Park Road, W.2.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679. THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified Dispensers, Nurse Dispensers, Secretary-Dispensers or Chauffeuse Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Gentlewoman (widow), good personality, requires post SECRETARY-RECEPTIONIST. Could drive car; owns Austin seven; drives any and everywhere. 'Phone Fulham 2109 before 11 a.m., or write, HEATH, 23, Stanwick Road, W.14.

Middle-aged Medical Man, experienced General and Mental. Free. *Institution* or travel. Capital available. — Address, No. 2210, B.M.A. House, Tavistock Square, W.C.1.

Required in correspondence department of West End offices, a well educated young Lady as ASSISTANT SECRETARY. Knowledge of medical terms essential. Would suit lady who has undergone partial medical training. — Address, stating age and salary required, No. 2335, B.M.A. House, Tavistock Square, W.C.1.

The Royal Army Medical Corps . . . . . 'eston Square, S.W.; . . . . . supplies qualified . . . . . oratory Assistants, ... Nurses, *Mental* and . . . . . Dental Clerk Orderl . . . . . etc., without charge to prospective employers.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD, 341, Finchley Road, N.W.3. 'Phone: Hampstead 6450 (any hour).

LOCUMS.

FOR LOCUM TENENS APPLY TO PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. Tel. { TEMPLE BAR 1054. RIVERSIDE 1254. (Night Calls)
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

Locum Tenens and Assistants required, preferably those living within 100 miles of Liverpool.—Please apply to Messrs. R. SUMNER & CO., LTD., Manufacturing Chemists, 40, Hanover Street, Liverpool.

M.B., B.Ch. (woman) wants LOCUM or ASSISTANTSHIP. Five years' experience G.P. Keen, capable, well received. Used to sole charge. Now free.—Address, No. 2509, B.M.A. House, Tavistock Square, W.C.1.

Medical Woman requires Locum TENENS, 3 or 4 weeks, from June 19th. Light general Practice, Birmingham suburb.—Address, No. 2508, B.M.A. House, Tavistock Square, W.C.1.

Scot, aged 33, M.B.Edin., desires to book LOCUMS from middle of July onwards. Wide experience of private and panel practice. Well received, reliable. Accustomed to sole charge. — Address, No. 2517, B.M.A. House, Tavistock Square, W.C.1.

PARTNERSHIPS.

Wanted.—Partnership or Assistantship with view, by Englishman, aged 27, married. Conjoint. Er H.S. and R.M.O. Nearly two years general practice. Exp. Anaesthetics and Surg. Free now.—Add., No. 2533, B.M.A. House, Tavistock Sq., W.C.1.

Wanted for Branch Surgery, middle-aged PARTNER, or ASSISTANT (outdoor) with view to Partnership. Suit temp. ex R.A.M.C. pensioned for war wounds. Work very light.—Address, No. 2584, B.M.A. House, Tavistock Square, W.C.1.

Indian Doctor wishes meet another to WORK newly opened SURGERY. Crowded South-Western district. Great scope. Living accommodation available. Suit one working for higher qualifications.—Address, No. 2520, B.M.A. House, Tavistock Square, W.C.1.

Middlesex.—Half Share Partnership for sale in good-class Practice, averaging £3,500 per annum, increasing rapidly. Good opening for young, well-qualified man with capital and experience. Good house and garden. Premium 2 years' purchase.—Address, No. 2319, B.M.A. House, Tavistock Square, W.C.1

Partner (Junior) wanted in old-established mixed Practice in South-West. Favourable terms to suitable man. Give age, experience, with testimonials if possible.—Address, No. 2537, B.M.A. House, Tavistock Square, W.C.1.

Partnership in industrial Practice near Manchester. Large panel. Share for sale £2,000 p.a. (audited). In same hands many years. Good house on lease. 1½ years' purchase.—Address, No. 2224, B.M.A. House, Tavistock Square, W.C.1.

Partnership, within 1/2 hour of West End, 2/5 share of over £1,600. Panel 1,900. Choice of houses. Excellent opportunity and scope. Premium 2 years' purchase, cash. — Address, No. 2511, B.M.A. House, Tavistock Square, W.C.1.

Partner wanted, country district of Cornwall. Preliminary Assistantship at £350, outdoor.—Address, No. 2328, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted by experienced Practitioner, act. 37, good middle and working-class PRACTICE. Income £1,200 up. Capital available. Good family house preferably on lease and educational facilities essential. North-Eastern Counties or Scotland pref.—No. 2505, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Country Town or Country. Good house. Income £1,000—£1,500. Strict confid.—No. 2501, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Home Counties or South Midlands.—Well-established PRACTICE, middle-class, and panel 1,500 or more. Income £2,000. Good house, garden, and schools essential. Cash available.—Address, No. 2524, B.M.A. House, Tavistock Square, W.C.1.

Wanted by well-qualified Practitioner, good-class PRACTICE, East Anglia, South, or South Midlands. Convenient house and garden. Capital available.—Address, No. 2527, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, in Bristol or surrounding district, mixed middle-class PRACTICE, with panel. Capital available.—Address, No. 2582, B.M.A. House, Tavistock Sq., W.C.1.

Doctor, with own Practice at 65, Chiswick High Road, W.4, would like to PURCHASE a PANEL PRACTICE with easy reach. Partnership or other arrangement considered.—Particulars, in confidence, to above address

Established Country Practice within forty miles London, producing approx. £1,000 p.a. (£700 from permanent appointments), without local competition, for immediate sale, with intro. up to three months. Admirable oppor. capable energetic man.—Add., No. 2539, B.M.A. House, Tavistock Sq., W.C.1.

For Disposal, mixed Practice in London. Income £1,000 p.a. Panel over 1,400. House on lease. Premium 2 years' purchase, cash.—Address, No. 2531, B.M.A. House, Tavistock Square, W.C.1.

For Sale, owing to ill health, EAR, NOSE, AND THROAT PRACTICE in Hull. Hon. appointment with Practice. Easy terms can be arranged.—Apply, J. E. D. STICKNEY, Solicitor, 37, Scale Lane, Hull.

Good-class Practice, about £650 p.a., near London. Purely residential district. Close to new building estate. Exceptional prospects. Price £700. Fine corner house, freehold, price £2,600.—Address, No. 2526, B.M.A. House, Tavistock Square, W.C.1.

Lancs Town. — Old-established. Receipts £2,500. Panel 1,850. Excellent scope surgery. Appointment £120. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Medical Practice within easy access of Edinburgh. Receipts £800. Panel 745. Excellent house will be let on lease. Moderate premium.—Apply, Box 423, ROBERTSON & SCOTT, Edinburgh.

Manchester.—Old-established.—Nice house, gardens, £50. Receipts (including panel £135) over £600. Great scope. Price £1,000 or near offer (to include fittings, drugs, linoleum coverings, and good debts £600), part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

Practice for Sale. — Lancashire Coast.—Developing residential seaside district. Income £1,500 p.a. Splendid double-fronted house, large front gardens, garage. Lease or sale. Good school. Sports centre. One min. rail and sea. Estab. 30 years. 1½ yrs.' prem.—No. 2435, B.M.A. House, Tavistock Sq., W.C.1.

South Coast.—Large Residential Hospital Town.—Old-established good-class PRACTICE for Sale through illness of Vendor. About £1,200 a year. Small panel. Easily worked. Ten-roomed house. No midwifery. Great scope. Practice could be much increased. Must be sold at once. Price £1,500.—Address, No. 2387, B.M.A. House, Tavistock Square, W.C.1.

S. Coast, 70 miles. — Residential PRACTICE, non-dispensing, non-panel (but scope). Receipts £808. Premium quick sale £750. Convenient house available for sale.—Address, No. 2535, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50-yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

Woman Doctor who has built up good working-class PRACTICE in N. London, wishes to SELL it and enter PARTNERSHIP or buy Nucleus in good-class area in London. — Address, No. 2504, B.M.A. House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

ESTABLISHED 1845.
ELLIOTT, SON & BOYTON
(H. H. Holt, H. E. Allpress, H. C. Rowe),
6, VERE STREET, CAVENDISH SQUARE, W.1,
Estate Agents, Auctioneers, and Surveyors,
are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.
Telephone: 3204 MAYFAIR.

EMINENTLY SUITABLE FOR A MEMBER OF THE MEDICAL PROFESSION.
MAYFAIR.
With uninterrupted views over Hyde Park.
A Small House of Distinction AND CHARM.—Modernised and beautifully decorated. Hall, 3 reception rooms, 7 bedrooms, bath dressing room, bathroom, convenient domestic offices. Garage, with rooms over, if desired. LEASE FOR SALE AT A LOW PRICE.
Sole Agents: Messrs. KNIGHT, FRANK & RUTLEY, 20, Hanover Square, W.1. (11355)

Wanted.—Lady or Gentlemen to SHARE FLAT with Medical Man and wife. Close to Harley Street. — Address, No. 2588, B.M.A. House, Tavistock Square, W.C.1.

Board required with Doctor's family by Cambridge Student attending West End Hospital.—Address, No. 2506, B.M.A. House, Tavistock Square, W.C.1.

Consulting Rooms to Let.—Harley Street and District. Whole and part-time. Rents £80 to £300. Lists sent on application. Rooms wanted in Harley Street district.—ELGOOD & CO., 10, Henrietta Street, Cavendish Square, W.1. Langham 2601.

Consulting Room and Flat to Let in best part of consulting area. Well-appointed house, excellent attendance, use of waiting room and telephone. — Address, No. 2307, B.M.A. House, Tavistock Square, W.C.1.

Doctor can purchase attractive HOUSE, near Bristol; main road; every modern convenience for Practitioner, much needed. Easy terms arranged.—CHAS. T. DAVIS, 43, Broad Street, Bristol.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

East Barnet, Herts. — Freehold CORNER BUILDING SITE for Sale. Unique position on Main Road, at corner of important Cross Roads, eminently suitable for Medical Practitioner. Adjoining two large Estates now being rapidly developed. A high-class Residence would be erected on this site to suit purchaser's req'ments.—Partics., F. HORTON, Builder, 120, Bowes Rd., Palmers Green, N.13.

EXCELLENT OPPORTUNITY FOR RE-ESTABLISHING MEDICAL PRACTICE.
For Sale.-Property conspicuously situated in a populous district of Glasgow and lately occupied by a Medical Practitioner, deceased.—The substantial Corner HOUSE (with back and side entrances), No. 1, SETON TERRACE, DENNISTOUN, GLASGOW, of 3 public, 4 bedrooms, consulting room, bathroom, kitchen, pantry, maid's apartment, and cellars, and having an open outlook to an extensive pleasure garden in front. To the rear of the house, enclosed by high retaining walls, is a well-kept garden, with greenhouse and building adaptable for garage. PRICE MODERATE. Liberal mortgage can be arranged.—For further particulars apply to J. M. TAYLOR, NELSON, WALKER & CO., Solicitors, 180, St. Vincent Street, Glasgow.

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.),

Surveyors, Auctioneers, and Estate Agents,

10, WIGMORE STREET,

CAVENDISH SQUARE, W.1.

SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS

in Harley Street and leading Medical Positions.

F[illegible]

An expensively built Modern Private RESIDENCE on high ground, facing South, over English Channel. VENTNOR, ISLE OF WIGHT. Containing 12 bedrooms, 6 bathrooms, 4 reception rooms, excellent offices; 4 acres of beautiful grounds, with 4 cottages. An absolute bargain. Price £4,000.—Full particulars of ERNEST DUNNRIDGE & Co., Chartered Surveyors, 5, Thayer St., Manchester Sq., W.1.

Harley Street. — Part-time CONSULTING ROOM to Let. With or without plate. Handsome waiting room. Good receptionist. Letters and 'phone calls forwarded and appointments made.—Address, No. 2538, B.M.A. House, Tavistock Square, W.C.1.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 2114, B.M.A. House, Tavistock Square, W.C.1.

Splendid Opportunity! Excellent PREMISES in the heart of Mayfair. Situated above Doctor. Ideally suitable for Dentist. Living accommodation. Reasonable rental.—Address, No. 2586, B.M.A. House, Tavistock Square, W.C.1.

To Let for July, and from September 21st onwards. Comfortable HOUSE and garden in ISLE OF MULL. 2 recep. rooms, 6 bedrooms, bathroom, hot and cold. Garage. Fishing, fresh and seawater, boats, etc. Further *fishing and shooting may be arranged. Servants* available locally. Easy shopping. Golf, bathing, and magnificent scenery.—Address, No. 2583, B.M.A. House, Tavistock Square, W.C.1.

To Let or Sell. — Fairfield, CHESHAM BOIS, the residence of the late Dr. Charlton Bastian. Suitable for Doctor taking resident patients, or as small nursing or convalescent home. Contains 15 rooms and balcony. Elect. light, gas, telephone, Co.'s and rain water. Good shops, trains and 'bus services.—Apply OWNER

MISCELLANEOUS SALES, etc.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS.

49, Chancery Lane, London, W.C.2.

'Phone: Holborn 6659.

INCOME TAX.

Consult me regarding all Income Tax and Accountancy matters. I guarantee satisfaction and immunity from tax worries.—For appointment write Mr. C. G. C. KILNER (late H.M. Inspector of Taxes), 17, George St., Baker St., London, W.1. ('Phone Welbeck 2012).

Medical Surgical Sundries Ltd. Supply Instruments, etc. "Essell" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application) Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W 1. Museum 3931 & 7236.

Doctor, retired General Practice, will SELL OUTFIT, Dean's Diathermy, complete. Also Laboratory, Medical, and Surgical Instruments. Absolute bargain for beginner if applied for immediately. — Address, No 2580, B.M.A. House, Tavistock Sq., W.C.1.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.

SO.ID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

SUITS & OVERCOATS to measure from £6 6s

SOLID WORSTED SUITS ... £7 7s

DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s

PLUS FOUR SUITS ... ... from £6 6s

THE IDEAL Suit for ALL Sporting Purposes.

GOLD MEDAL RIDING BREECHES ... from £2 2s

RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists

181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:

Regent 3024-3025 & 7486. National 8695/7.

Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

Covers for Binding

Vols. I and II of the BRITISH MEDICAL JOURNAL for 1930 and previous years can be had, price 2s. 6d., by parcel post 2s. 10d. each.

Remittances must accompany all orders. Apply at the office, B.M.A. House, Tavistock Square, W.C.1.

APPOINTMENTS.—Contd.

Royal Berkshire Hospital. (243 Beds.)

Wanted immediately, CASUALTY OFFICER (with charge of beds) and RESIDENT ANAESTHETIST. Candidates (male) must be fully qualified and registered. Appointments are for six months. Salaries at the rate of £150 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be addressed to the undersigned.

F. A. LYON,
Secretary.

Reading
April 25th, 1931.

Charing Cross Hospital.

The Council invite applications for the post of CLINICAL ASSISTANT (male) to the Skin Department.

Candidates should send in their applications, together with three copies of testimonials, to the undersigned, not later than Tuesday, April 28th.

PHILIP INMAN, House Governor.

Charing Cross Hospital,
Strand, London, W.C.2.

Liverpool Royal Infirmary.

Applications are invited for the post of HOUSE SURGEON to the Orthopaedic Dept.

Duties include Fracture Service.

Salary at the rate of £60 per annum, board, lodging, etc.

Apply, with copies of testimonials, to the General Superintendent and Secretary.

April 21st, 1931.

St. John's Hospital, Lewisham, S.E.13.

Applications are invited for a resident HOUSE SURGEON for the six months beginning May 1st. Remuneration £100 per annum. Applications should reach the undermentioned not later than the 29th instant.

J. C. GILBERT,
Secretary-Superintendent.

County Council of Inverness-shire

ASSISTANT MEDICAL OFFICER OF HEALTH.

Assistant Medical Officer of Health wanted for the Skye District of Inverness-shire, to undertake all Public Health duties, including School Medical Inspection duties, in the Skye area.

Candidates must be registered Medical Practitioners and hold the Diploma in Public Health or equivalent qualification.

Sa[illegible] ... ...enses, will be [illegible]

Fo[illegible] ...liable from the ...ions should be lodged not later than Wednesday, May 6th.

County Buildings, J. W. McKILLOP,
Inverness. County Clerk.
April 24th, 1931.

Cheyne Hospital for Children, Cheyne Walk, Chelsea, S.W.3.

Applications are invited for the post of HONORARY SURGEON for Diseases of the Throat, Nose, and Ear.

The duties are chiefly of a consultative nature, there being no Otological beds in the Hospital. Further particulars can be obtained from the Secretary.

Candidates should have had special experience in this branch of surgery, and should be Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland.

Applications, in duplicate, accompanied by copies of three testimonials, must reach the undersigned not later than May 6th.

R. WILFRED A. ELLISTON,
Secretary.

Royal Cripples Hospital, BIRMINGHAM.

Applications are invited for the post of HOUSE SURGEON, vacant May 1st. Salary £200 per annum, with allowance of £150 per annum in lieu of residence.

The appointment, which is for a period of six months, is renewable on the discretion of the Medical Board, and is terminable by one month's notice on either side. Preference will be given to candidates with previous experience in General and Orthopaedic Hospitals.

Applications, with copies of three recent testimonials, to be sent not later than April 30th to the General Secretary, Royal Cripples Hospital, 80, Broad Street, Birmingham.

Chesterfield and North Derbyshire Royal Hospital. (190 Surgical and Medical Beds)

HOUSE SURGEON.

Applications are invited from fully qualified [illegible] for the above post. There are five Residents. The appointment is for six months.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned at once.

G. SUNNUCK,
Supt. & Sec.
April 20th, 1931.

Macclesfield General Infirmary. (100 Beds)

Wanted, SECOND HOUSE SURGEON. Salary £150 per annum, with board and residence.

Candidates must be legally qualified, and have had experience in the administration of Anaesthetics. Appointment for six months.

Applications, stating qualifications, and enclosing copies of three testimonials, should be sent to the undersigned.

A. E. HANRAHAN, Secretary.

North Ormesby Hospital, MIDDLESBROUGH. (140 Beds.)

HOUSE SURGEON, male and unmarried, required in the middle of May. Salary £135 per annum, with board, residence, and laundry. There are three Residents. Applications, stating age, qualifications, experience (if any), with copies of three recent testimonials, should be sent to the undersigned.

GEORGE WATTS,
Secretary-Superintendent.

Quarrier's Homes and Bridge of Weir SANATORIUM.

RESIDENT FEMALE MEDICAL OFFICER required, to commence duty on June 1st. Salary at rate of £200 p.a., with rooms, board, and laundry.

State qualifications and experience, and enclose testimonials.

Apply Medical Superintendent, Sanatorium, Bridge of Weir.

Queen's Hospital for Children,
Hackney Road, London, E.2.

CASUALTY OFFICER required June 1st. Some Throat and Ear work additional. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing. Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials, on or before April 30th.

CHARLES H. BESSELL,
April 15th, 1931. Secretary.

Queen's Hospital for Children,
Hackney Road, London, E.2.

HOUSE PHYSICIAN required on June 15th. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials on or before April 30th.

CHARLES H. BESSELL,
April 15th, 1931. Secretary.

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, *Oxford Rd.*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, *London*. *Surgical*, Glasgow.
Tactear, Manchester. Tactear, Dublin.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

Medical Practitioners' Union Agency Limited
56, Russell Square,
LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uffiberni, Westcent, London."
PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 6932 CITY.
TRANSFERS and PARTNERSHIPS arranged, and Investigations [illegible]
ASSISTANTS &
PRACTICES for Sa

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

West Lothian. — £860 p.a. increasing. Panel 650. Fees 2/6 to 10/-. Villa, 2 recep., 3 bed. etc. House and Practice £1,700 or offer.—No. 8837.

South Devon Town. — Average £1,564 p.a. Panel about 2,000. Fees 5/6 to 5/-. Large leasehold house. Practice and lease £2,700 cash.—No. 8816.

Midland Town. — Share worth £800 p.a. Fees 5/- to 21/-: Midwifery 5 to 6 gns. Grad. of Lond., Oxon., or Camb. required.—No. 8815.

London, N.W. — Nearly £400 p.a. and scope. Panel over 500, increasing. Fees, visits 3/6 up. Excellent surgery and living rooms, on lease.—No. 8835.

London, N.E. — £1,300—£1,400 p.a. Panel 1,200. No midy., but ample scope. Lock-up premises. Conv. flat near.—No. 8834.

S. Coast Resort. — £1,700 and scope. Panel 1,400. Half share for sale. Midy. refused, scope. Fees 5/6 to 7/6. Choice of houses.—No. 8832.

Riverside Town.—£300 p.a. and resident patient. £8 8s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8831.

Eastern County. — Unopposed £1,200 a year. Station near. Held over 30 years. Vendor retiring. Panel over 750. Good house and garden. Rent about £40. Premium 1½ years' purchase.—No. 8829.

Death Vacancy. — £500 a year. Liverpool district. Held 32 years. Easily worked. Good fees. Panel 250. Premium £500 or offer.—No. 8828.

Seaside Resort.—N.W. Coast.— Over £2,000 p.a., scope. Panel 600. Very good schools. Medium house, small garden. Scope for surgery. Cottage Hospital.—No. 8824.

Northern 'Varsity City. — Over £1,600 p.a. Panel 1,500. 12/15 midwifery cases. Fees 5/6 to 5/- and up. Good house and garden.—No. 8825.

London, West End. — Electrical PRACTICE. About £1,500. Fees usually 21/- upwards. Premium £2,000, including apparatus, furniture, etc.—No. 8822.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 586. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

S. Wales.—£850 with scope.— £730 from panel and contract work. Convenient house; surgery. Rent 17/6 p.w. Premium £700.—No. 8817.

S. W. Scotland.—Near Coast.— £1,200—£1,500 p.a., *increasing*. Panel over 500. Opposition slight. Visits 5/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,500. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. *Could live in to start. Scot* or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. *Panel nearly 1,100. House*, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 5/6 to 21/-. No dispensing. Small panel.—No. 8799.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants.
Full particulars on application to Mr. Percival Turner.

THE
WESTERN MEDICAL AGENCY
(DR. K. H. BENNETT, DR. W. J. PARAMORE.)
PHOENIX CHAMBERS,
22, CLARE STREET, BRISTOL.
Teleg.: "*Medgen, Bristol.*" *Tel.*: Bristol 4689.
NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.
PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. SANATORIUM.—Western County.—40 Beds. Receipts average £10,055 p.a. Full particulars on application.
2. SALARIED PARTNER.—Western County.—£500 p.a. net. Suitable house to buy or rent. Purchaser if suitable would have option of purchasing up to half share on basis of present receipts in one year's time. Price £1,000. Great scope.
3. COAST TOWN. — Mixed PRACTICE in pleasant town, South-West Wales. Panel 750. Receipts £1,000 p.a. Good house to buy or rent. Man considering purchase could do Locum. 1½ years' purchase.
4. MIDLANDS.—Cathedral Town.—Good PRACTICE. Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a. Premium 1½ years' purchase.
5. SOUTH WALES. — Large City. — Industrial PRACTICE averaging £600 p.a. Opposition not strong. Good house to buy or rent. Premium £600.
6. CHESHIRE BORDERS.—One-third share of PARTNERSHIP, averaging £2,000 p.a. Pleasant country district. Panel over 1,700. *Plenty of scope. Prem. £1,000. Suit young* doctor Purchaser could live with Vendor.
7. S. DEVON. — Old-established PRACTICE, averaging £2,400 p.a., for sale in favourite town. Panel 1,500, increasing. Large house in grounds, for sale or rent. Seaside. Ideal climate.
8. INDUSTRIAL PRACTICE. — Old-established Industrial and Contract Practice in South-West Wales. Panel 1,300. Opposition weak. Receipts over £1,300. Good house on lease. *Premium* £1,600.
9. NEAR CHESHIRE BORDERS.—One-third of PARTNERSHIP returning last year £830 net. Mostly panel and contract work. Car not essential. Good house to rent £78 p.a. Good schools, two Hospitals. Premium £950.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT
The
Medical Insurance Agency
(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054 & 1034, RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

ESSEX.—NUCLEUS non-panel PRACTICE, suitable to either sex, with excellent scope for panel if desired, and further increase. Medium-sized double-fronted house to be rented on lease. Receipts approx. £400 p.a. Premium 1½ years' purchase or near offer, cash.

LONDON, S.E.—Old-established G.P., situated in well-populated locality. Excellent scope for young and energetic man. Receipts approx. £1,200 p.a. Fees 2/6 up. Panel nearly 1,600. Premium £1,800 or near offer.

LONDON, E. — NUCLEUS non-panel PRACTICE in thickly populated locality, with excellent scope for panel and further increase. Suitable accommodation for bachelor. Receipts nearly £600 p.a. Fees 2/- up. Rent £55 p.a. Premium £750, or near offer.

S.W. COAST.—Well-established General PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

EASTERN COUNTIES. — Cathedral City. — PARTNERSHIP in good class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

SWANSEA (near).—Old-established mixed PRACTICE. Medium sized house (6 beds) to rent at £60 p.a. Garden, garage. Receipts £1,300. Panel 1,300. Fees 2/6 up. Midwifery 2 gns. Nearest Hospital 8 miles. Premium £1,600.

RICHMOND (near).—NUCLEUS non-dispensing and non-panel PRACTICE. Excellent freehold house (4 beds). Good garden, garage. Receipts £150 to £200. Premium for house and Practice £2,250 or near offer.

LONDON, E.1.—NUCLEUS working-class PRACTICE on borders of City. Excellent scope for full-time work. House to rent on lease at profit rental. Panel 270. Receipts approx. £351, plus profit rental. Fees 2/6 up. Premium for Practice and lease £550 or near offer.

MIDDLESEX, WEST.—NUCLEUS BRANCH PRACTICE, situated within 10 miles of London, in rapidly developing district. Suitable flat available over surgery. Receipts for 15 months, over £300. Panel 100. Fees 2/6 up. Premium £450 or near offer, to include fittings, fixtures, etc.

LINCOLNSHIRE (near sea).—NUCLEUS Country PRACTICE. Suitable house available (5 beds), garden, garage, etc. Receipts £260. Panel 120. Fees 2/6 up. Good schools. Sport of all kinds. Excellent opportunity for young and energetic man. Premium £950 for house and Practice, or 1 year's purchase for Practice and rent house at £60 p.a.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,040 or near offer. Partnership considered.

SURREY.—PARTNERSHIP in rapidly developing residential locality, with splendid scope. Receipts approximately £1,000 p.a. Panel nearly 300. Fees 2/6 up. Premium for 2 5ths share, 2 years' purchase. Excellent opportunity for young and energetic man.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approx. £300 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

LONDON, S.E.—Well established middle and working-class PRACTICE in residential locality. Receipts nearly £1,000. Growing panel of 924. Medium sized house. Fees 2/6 up. Excellent scope for energetic man. Premium 1½ years' purchase.

LONDON, S. — PARTNERSHIP in growing middle and working-class Practice. Suitable house available. Earnings approximately £6,600. Panel 4,800. Excellent scope. Suitable to young and energetic man having a specialty, preferably Gynaecology. Premium for one-sixth share, with view to one quarter share, 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London. *Telephone*: Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. SURREY.—Nice Town.—Half share of well-established PRACTICE. Receipts of whole Practice £1,500 p.a. Good house, rent £85. Premium for share 1½ years' purchase.
2. LONDON, S.W. — Death Vacancy. — Lady Doctor's small PRACTICE for immediate disposal. Receipts include a panel of 130. Locum in charge. Any reasonable offer accepted.
3. LONDON, S.E. (nice residential part).—Half share of PRACTICE doing £3,000 p.a. Good panel. House or flat available. Premium 2 years' purchase, payable about £1,000 down, rest spread over 3 or 4 years.
4. LONDON, S.W. (near Chelsea).—Old-established cash and panel PRACTICE. Receipts £1,500 a year. Nice corner house, rent £150, long lease. Situated in residential part. Premium 2 years' purchase.
5. LONDON, S.E.—Small well-established PRACTICE, capable of increase. Receipts £250 p.a., panel 185. Surgery rent 25/- per week, inclusive. Premium £350.
6. LONDON, S.E. — Old-established working-class PRACTICE, held 35 years by Vendor, now retiring. Receipts £1,200 p.a., panel 1,250. Rent £60 p.a., long lease. Premium £1,800.
7. LONDON, S.E.—Death Vacancy.—Old-established cash and panel PRACTICE for immediate disposal. Receipts average nearly £1,800 p.a., including panel 1,395. Surgery rent £69. Premium £2,500. Locum in charge.
8. LARGE SEAPORT TOWN, NORTH.—Death Vacancy.—Old-established PRACTICE, held 24 years by late Vendor. Receipts £1,600 p.a., non-panel. Rent of rooms, including lighting, £100. Premium only £800.
9. LONDON, S.E. (7 mins. Charing Cross).—Lady Doctor's PRACTICE for sale. Receipts average £550 p.a., panel 150. Nice flat available, rent £60. Premium £600.

No charge to purchasers or for enquiries.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency.

71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700 progressing. Good house, garage, and garden.
2. NORTHERN UNIVERSITY CITY.—Old-estab. middle-class PRACTICE. Receipts average £1,603 p.a. Panel 1,500, and increasing. Good fees. Nice house, garden, etc.
3. LINCOLNSHIRE. — Well-estab. Unopposed country, working, and middle-class PRACTICE. Receipts average £1,173. Panel 767. Good house to rent, 5 beds., garage, etc.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
7. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, garage, etc.
8. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.

(Temple Bar 3873.) —— (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. CATHEDRAL CITY.—Very old-estab. mixed PRACTICE of over £3,000, more than half derived from panel and appts. Price 1½ years' purchase. Excellent residence, etc., at valuation. Very suitable for two men as partners.
2. VICTORIA PARK, N.E. — LOCK-UP (with resident accom. if desired).—Very old-estab. and offering great scope. Income £625. Rent of lease £55. Price £750, half by instalments.
3. SEASIDE PRACTICE of over £2,000, including panel £700 and appts. Safe of transfer, opposition very limited. Good house and grounds. Price for goodwill and freehold £3,600 cash, with mortgage of £2,000 at 4½ per cent.
4. LONDON, N.—Old-estab. PRACTICE, average over £1,200. Panel 1,100. Ample scope for resident owner. Rent £70, lease. Price (6 months' introd.) £2,100.
5. MIDLANDS. — PARTNERSHIP.—Half share of Practice within 5 miles of county town. Income £2,000. Panel £1,000. Price 2 years' purchase.
6. LONDON SUBURB, W.—PARTNERSHIP in Practice of £2,000. Panel over £700. Nice house, garden, garage, at £100. Two-fifth share at first.
7. HANTS.—Country PRACTICE (unop.). £750. Panel and appts. Price £1,000. Capital family residence for sale.
8. LONDON, S.E. — Lucrative PRACTICE of £2,000. Panel 1,200 (growing). Rent £80. Accom. limited. Car. Price 1½ yrs.' pur.
9. OUTLYING N.E. SUBURB.—Very promising NUCLEUS. £350. Capital house, ideal situation, garden and garage, rent moderate. *Any* reasonable offer accepted.
10. REQUIRED in St. John's Wood, Hampstead, or Victoria, PRACTICE, good-class, non-panel, of £1,000—£3,000. Ample capital available.—Address, M.D.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

SOUTH YORKSHIRE.—Old-established PRACTICE. Cash receipts 1931, £1,275. Panel 1,430. Excellent house, 3 reception, 4 bedrooms. Garage and good garden. Premium 1½ years' purchase. —No. 253.

MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,561 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 63.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. Good house, 2 reception, 5 bedrooms. Garage. Rent £65 p.a. Premium 1½ years' purchase.—No. 251.

[illegible] DIS- [illegible] n old- [illegible] sh receipts £6,000 p.a. Panel 6,865. Premium—1/5 share—1½ years' purchase, part by arrangement. Further share later. Purchaser may make own arrangements as to residence.—No. 249.

NORTH-WEST COAST.—Within easy reach of. — PRACTICE with much scope. Cash receipts 1930, £626. Panel 250. Excellent double-fronted house, 2 reception, 4 bedrooms. Garden. Rent £70 p.a. Premium £800 or near offer.

[illegible]

4 bedrooms, garage, and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purchase. Vendor retiring.—No. 246.

LIVERPOOL (Near).—Cheshire Coast Town. Average cash receipts £1,187 p.a. Panel 785. Much scope. Good double-fronted house (freehold), 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100.—No. 248.

MANCHESTER (near).—PARTNERSHIP [illegible] l-estab. Practice. Average cash re [illegible] and panel about £500. House [illegible] omes. Premium—half share—1½

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. House to rent, 2 reception, 3 bedrooms. Premium 1½ years' purchase.—No. 194.

LANCS TOWN. — Old established PRACTICE. Cash receipts 1930, £1,186. Panel 900. Much scope. Excellent house, 2 reception, 4 bedrooms. Garage. Premium, best offer. —No. 178.

CHESHIRE TOWN, near MANCHESTER.—DEATH VACANCY.—Average cash receipts £1,178 p.a. Non-dispensing. Non-panel. Good scope. Excellent house in best situation to rent. Premium, best offer.—No. 252.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistantship. Purchaser could live with Vendor. Premium—one-third share—£1,000.—No. 245.

NORTH-WEST COAST.—SEASIDE RESORT.—Good-class PRACTICE. Cash receipts 1930, £2,135. Panel 550. Excellent freehold house in good position facing Sea, 2 reception, 5 bedrooms Scope as district is developing.—No. 256.

NEAR MANCHESTER. — PLEASANT TOWN, largely residential. — Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No. 234.

CHESHIRE.—COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

MANCHESTER. — INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—No. 173.

[illegible] UCT.—Old-established PRAC- [illegible] verage cash receipts £600. 4 bedrooms. Rent £50 p.a. 191.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

CHANNEL ISLANDS.—PRACTICE in beautiful district. Cash receipts last year £425. Excellent house, 2 reception, 3 bedrooms. Garage and large garden. Premium—Practice—£500.—No. 167.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium £800. —No. 226.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7656/7. 'Grams: "Vouch, Belfast.")

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,

Tele. Address: Triform, Wesdo—London. **Oxford Street, W.1.** Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The **Manchester Medical Agency**, lately under the control and management of the Manchester Medical Committee, has now been taken over by the **British Medical Bureau** as their **Northern Branch.**

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 N. MIDLANDS.—Partnership in Practice over £1,400 p.a. in first rate city. Panel 1,800. House, with 2 reception rooms and 4 bedrooms, to rent. Premium one half share £1,100. Preliminary Assistantship entertained.

2 S. COAST.—Partnership (after preliminary Assistantship) in old-established Practice about £3,500 p.a. in favourite seaside resort. Panel 2,000. One third share to suitable man at 2 years' purchase.

3 S.W. OF ENGLAND. — Partnership in Practice of £3,500 p.a. in small Industrial town. Panel 1,870. Very considerable scope for increase. Partner should be capable of doing Surgery. Premium one-third share 1½ years' purchase. Preliminary Assistantship if desired.

4 MIDLANDS.—Practice of over £2,100 p.a. in manufacturing town. Panel 820. House (4 bedrooms) to rent, on lease. Premium 1½ years' purchase.

5 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in own grounds, for sale or rent. Premium one-half share 1½ years' purchase. Suit one aged between 40/50.

6 LONDON, W. — Mixed Practice of over £3,000 p.a. in outlying suburban district. No panel. Semi-detached corner residence (5 bedrooms), garage, etc., to rent on lease Premium 1½ years' purchase.

7 NORTHUMBERLAND. — Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,425.

8 GLOUCESTERSHIRE.—Practice averaging nearly £1,450 p.a. in beautifully situated market town. Panel 930 House (6 bedrooms), garage, and good garden, for sale. Cottage Hospital and scope for Surgery. Premium 1½ years' purchase.

9 FAR EAST.—Assistant required in General Practice, with view to Partnership. Applicant should be aged about 30, and have held resident appointments. A mild degree of specialism in Eye, Ear, Nose, and Throat, or X-ray work would be advantageous. Share to suitable man.

10 S. OF ENGLAND.—Partnership in Practice of £3,000 p.a., in small country town within 35 miles of London Panel 3,000. Suitable house to rent. Incoming partner should be able to do Surgery. Cottage Hospital. Good scope. Premium two-sevenths share 2 years' purchase.

11 MIDDLESEX. — Compact non-dispensing PRACTICE of £800 p.a. in rapidly developing district. Panel about 260 Large old-fashioned house (7 bed and dressing rooms), garage, etc., for sale. Considerable scope. Premium 1½ years' purchase.

12 LONDON, E.C.—City Practice. Receipts 1930, over £1,300. Consultations mainly £1 1s., some £1 11s. 6d. and £3 3s. Excellent consulting rooms. Premium 1½ years' pur.

13 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

14 SURREY.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Premium £300.

15 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

16 SURREY. — Partnership in Practice in desirable residential town Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

17 CHESHIRE. — Partnership (after preliminary Assistantship) in Practice over £2,500 p.a. in manufacturing town. Panel 2,100. Plenty of sport. One-third share to suitable man at 2 years' purchase.

18 HANTS. — Small easily worked Practice about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

19 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

20 DEATH VACANCY. — London, S.W. — PRACTICE over £650, close to Victoria. Panel 795. Shop-fronted house, with garage and garden, to rent on lease. Ample scope.

21 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope. Premium £1,200.

22 BEDS.—Increasing Country Practice doing about £600 p.a. Panel 650. Centrally situated house to rent. Scope for increase. Premium £500 for quick sale.

23 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

24 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a. in attractive country town on coast. Panel about 500. Suitable house to rent. Hospital. Share to suitable man after preliminary Assistantship.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1780 1788

Practices and Partnerships for Disposal (continued).

25 LONDON, N.W. — Nucleus of Practice in residential district. Income last year £300. Panel 150, rapidly increasing. Detached corner residence, in good position, for sale. Scope. Premium £300.

26 FAVOURITE HOME COUNTY.—Practice over £2,000 p.a. in pleasant residential country town within *50 miles of London*. Panel 1,080. Well-situated detached house (6 bed and dressing rooms), garage, and large garden, for sale or rent. Scope for increase.

27 EAST COAST.—Practice about £1,200 p.a. in small attractive seaside resort. Panel 225. Modern detached house (5 bedrooms), garage, and garden, for sale. Excellent sport and educational facilities. Premium 1½ years' purchase.

28 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good-class Practice in charming little residential seaside resort. Suitable house to rent. Share of £800—£900 after preliminary Assistantship. Applicant should be aged 28—35, and preferably a Graduate of Cambridge or Oxford. Cottage Hospital and scope for Surgery if desired.

29 MIDLANDS.—Practice, nearly £1,750 p.a., in important city. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, to rent. Scope for increase. Premium £2,250.

30 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 2 years' purchase.

31 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

32 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

33 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

34 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

35 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

36 HOME COUNTIES. — Partnership in *middle and working-class Practice of £3,440 p.a. in industrial* town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

37 S. COAST. — Partnership in Practice between £1,600/£2,000 p.a. in fashionable watering-place. Panel over 900. Partner should be young, with knowledge of minor Surgery. Premium one half share 2 years' purchase.

38 LONDON, W. — Middle-class Practice of over £800 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,100.

39 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

40 S.E. ENGLAND. — Small Practice about £500 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

41 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). Premium £550.

42 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., for sale. Golf. Premium £1,000.

43 LONDON, S.W.—Good middle-class Practice of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

44 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

45 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwfy. Six-roomed house to rent. Prem. £750.

46 S. OF ENGLAND. — Partnership in good middle-class non-panel Practice over £5,700 p.a. in clean Industrial Town. Suitable house to purchase. Premium one fourth share, £1,750. Preliminary Assistantship.

47 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

48 WARWICKSHIRE.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

49 ESSEX. — Practice in thickly populated outlying suburban district. Receipts last year nearly £1,400. Panel over 1,950. Shop-fronted house on main road, to rent. Premium £2,600 cash.

50 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

51 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town. Panel over 2,000. House, with 5 *or more bedrooms, for sale. Premium £2,100.*

52 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a *University* degree. Share worth about £500 p.a. at 2 years' purchase.

53 OXON.—Partnership in Country Practice nearly £1,600 p.a. in delightful district. Panel 850. Suitable house could be obtained. Premium for one-third share 2 years' purchase.

54 KENT AND SURREY BORDERS. — PRACTICE about £800 p.a. in growing and pleasant residential district. Choice of residence for sale. Good scope. Prem. £1,200.

55 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town, near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years' purchase.

56 NOTTINGHAMSHIRE.—Country Practice of nearly £1,100 p.a. Panel 700. Good house (6 bedrooms), garage, and 1½ acres garden, to rent. Great scope. Premium 1½ years' purchase.

57 MIDLANDS. — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase with ultimate succession

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. SOUTH OF ENGLAND.—Pleasant Town near sea coast.—Very old-established PRACTICE (partly Surgical), averaging over £2,400 p.a. (last year £2,516), including panel of 500. Centrally situated house. Price for Practice and house £5,000. Successor should also have some knowledge of Eye, Ear, Nose, and Throat work.

2. HOME COUNTIES.—Within 40 minutes' run of London.—Old established mixed class and increasing PRACTICE, situated in small town with pleasant surroundings. Cash receipts average £1,725 p.a., including appt. £70 and panel 1,000. House with good accommodation and small garden Premium 1½ years' purchase. Educational facilities.

3. LONDON, SOUTH-WEST.—Very sound good middle class PRACTICE, old-established, and held by Vendor for 12 years. Average gross cash receipts nearly £1,600, including panel of over 1,700. Fees 2/6 to 10/6. Very little midwifery. Good sized house, with 2 reception, 6 bedrooms, etc. Price £1,000. Premium £2,350.

4. LONDON, SOUTH-WEST. — PARTNERSHIP. — A one-half share is offered in a very good middle and working-class Practice, averaging for past three years £2,478. Panel of over 4,000. Visits 2/6 up. No midwifery. Suitable residence can be obtained. Premium 2 years' purchase

5. LONDON, WEST CENTRAL.—Old-established and increasingly mixed-class PRACTICE, producing for immediate past 12 months £1,790, including panel of 1,390. Fees 2/6 to 10/6. No midwifery. House in excellent repair, contains 2 reception, 4 bedrooms, bathroom, etc. Price for freehold £2,500. Premium 2 years' purchase.

6. PARTNERSHIP —SOUTH-WEST LONDON.—A one-third share is for disposal in very well-established chiefly middle-class Practice, producing last year about £5,600, including panel (rapidly increasing) of 1,600. Fees from 2/6. Suitable house can be rented on lease. Premium 2 years' purchase.

7. EASTERN COUNTIES.—Within 60 miles of London and near County Town. — Very old-established mixed class PRACTICE in delightful district (pop 6,000 to 7,000), worth last year nearly £800, including appts. £170 and panel over 160. Capable of considerable increase for reasons which can be explained. Excellent house, with beautiful garden and several acres of ground. Price, freehold, £1,800. Premium only £800. Sport of all kinds.

8. ESSEX - PARTNERSHIP —Practice is situated in developing neighbourhood, within easy reach of town. A one half share is offered in steadily increasing Practice bringing in nearly £2,700 p.a., including panel of 1,000. Very nice house, with three reception, six bedrooms, etc., and good garden. Price £1,400, part on mortgage. Premium 2 years' purchase. Good scope for Surgery.

9. PARTNERSHIP.—MIDLANDS.—Prosperous Town within 80 miles of London.—A one-third or five-twelfths share is for disposal owing to the retirement of the second of three partners in an exceptionally sound mixed class Practice. Average gross cash receipts £3,300 p.a., including panel of 1,000. Fees 2/6 to 25/-, medicine extra. Premium only 1½ years' purchase for quick sale, owing ill health.

10 GLOUCS —PARTNERSHIP, with preliminary Assistantship of 2 to 3 months —A one third share is offered in a well-established Practice, producing about £2,250 p.a., with substantial panel and good appointments Situated in beautiful district round country town affording excellent sporting facilities Suitable house (or rooms to commence) can be obtained Premium 2 years' purchase.

11 PARTNERSHIP —NORTH WEST COAST.—Popular Seaside Resort.— The third share, with option up to half in 3 years, of very old-established non-dispensing good middle class Practice, averaging over £4,200 p.a (last year £4,567), including panel £300. Held many years by Vendor Visits 3/6 to 21/ Good house available on lease. Premium 2 years' purchase, part by instalments. Ingoing partner should be about 30 years of age and able to do minor surgery Hospital in town

12 SOUTH WEST OF ENGLAND —County Town - PARTNERSHIP, after preliminary Assistantship —A share representing about £600 p.a., with increase later and ultimate succession, is offered in a very well-established Practice, having substantial panel. Premium 2 years' purchase. Ingoing partner should be experienced and pref English or Scotch Graduate

13 LINCS —Within easy reach of good Town —Very old-established mixed-class PRACTICE, in pleasant village Average gross cash receipts over £1,100, including panel of 759. Fees from 3 - Very little midwifery. House contains 2 reception, 5 bedrooms, etc., and professional rooms. Electric light Small garden Rent on lease £31 p.a. Station in place. Sport of all kinds Premium only 1 year's purchase for prompt sale.

14 CORNISH RIVIERA —Old established PRACTICE, in very favourite resort, having exceptionally mild climate. Income about £1,150, including panel of 436, and appts worth about £40 a year Fees 3 6 to 21/- No opposition within 4 miles Well-situated house, with 2 reception, 6 bedrooms, etc., and professional rooms. Good garden. Rent on lease, £52 p.a. Premium £1,650

15. LONDON, E.C. (nr. Holborn Circus).—Old-established mainly working-class PRACTICE, averaging over £700 p.a. (last year £750), including recently started panel of 360. Fees from 2/-. No midwifery. Six-roomed house, with good professional accommodation. Rent on lease £95 p.a. Premium £1,000.

16. LONDON, EAST.—Well-established mixed-class PRACTICE, averaging about £1,150 p.a., including panel of 1,400. Small house, with 1 reception, 2 bedrooms, etc., and 3 professional rooms. Rent on lease £13 per quarter. Premium £2,000.

17. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.

18. NORTH WALES.—PARTNERSHIP.—A one-third share is offered in a good mixed-class Practice producing over £1,700 p.a., including panel of 470 and appts. of about £100 p.a. Fees 3/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. Premium 2 years' purchase.

19. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.

20. SOUTH CORNWALL.—Near Sea —Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium 1½ years' purchase. Ill-health reason of sale.

21. WEST MIDLANDS.—Easily worked PRACTICE in residential village within easy reach of two good towns, and having very pretty surrounding country. Receipts average over £1,000 p.a., including panel of 500 and an appt. worth £150. Nice house with good garden and land of about 2 acres. Price for freehold £1,600. Fishing, hunting, etc. Premium 1½ years' purchase.

22. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.

23. YORKS.—LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,300 p.a., including panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and dressing room, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase, chiefly by instalments.

24. LONDON, SOUTH-EAST.—Woman Doctor's PRACTICE, producing £560 immediate past 12 months. Panel of 152. Fees 2/6 to 21/-. Suitable flat can be rented at £60 p.a. Premium £650, or near offer. Very good scope for increase.

25. LONDON, WEST.—Small good-class PRACTICE, at present bringing in about £450 p.a., but offering large scope. Panel of 300. Fees 5/- to 21/-. Good house for sale. Premium £300.

26. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase, payable by arrangement. Ill-health reason for sale.

27. NORTH LINCS.— PRACTICE, producing last year nearly £1,700. Fees 3/6 to 21/-. modern house, with special profession c. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase

28. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.

29. HOME COUNTY.—Unopposed Country PRACTICE, producing about £500 to £600 p.a., including panel of 650. Small house on main road, with 2 reception, 3 bedrooms, etc., and professional rooms. Rent on lease £52 p.a. Good sport and schools within reach. Low premium for quick sale.

30. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

MIST. PEPSINÆ CO. c. BISMUTHO
(HEWLETT'S)

Composition:—Pepsine, Bismuth, Sol. Opii Purif., Tr. Nuc. Vom., Acid. Hydrocyanic Dil.

Over 50 years' reputation as a useful remedy in Dyspepsia, especially when Pyrosis is a conspicuous symptom and in Diseases of the Stomach.

DOSE—One to two drachms, diluted.

PRICE IN ENGLAND, 12/6 PER LB
In 5, 10, 22, 40, and 90 oz. bottles.

LIQUOR ERGOTÆ PURIF.
(HEWLETT'S)
Physiologically Standardis

Superior to the ordinary Liquor Extracts, &c. Reliable and unalterable

"A very excellent preparation *Medical Times.*

"A reliable preparation of Er adapted for obstetric practice. *London Medical Record.*

PRICE IN ENGLAND, 20/- PER LB.
In 5, 10, 22, 40, and 90 oz. bottles.

VERONIGEN
formerly known as
IST. VERONAL CO.
(HEWLETT'S)

reparation of this prompt nd reliable hypnotic.

Dose for Adults.
achm diluted, about one hour before going to bed.
For Nervous Sleeplessness in Children.
10 to 20 minims diluted.

PRICE IN ENGLAND, 10/6 PER LB.
In 5, 10, 22, 40, and 90 oz. bottles.

The SEAL of QUALITY

HORMONIGEN
(HEWLETT'S)

Hormonigen Tablets (Hewlett's) contain the hormones of the thyroid, pituitary, ovary, and testes. Useful in Neurasthenia and all asthenic conditions, obesity, chronic cardiac cases, aplasias of the pluriglandular system, and in anæmia. If there is high blood pressure, Hormonigen sine Pituitary is indicated.

PRICE IN ENGLAND,
Hormonigen or Hormonigen sine Pituitary, 3/3 PER 100; 30/- PER 1,000.

LIQUOR SANTAL FLAV. c. BUCHU et CUBEBÂ
(HEWLETT'S)

The original preparation. Containing three remedies of proved utility and employed with extraordinary success in certain cases.

DOSE—One to two drachms in peppermint water or milk.

PRICE IN ENGLAND, 12/6 PER LB.
In 5, 10, 22, 40, and 90 oz. bottles

TABLETS SODIO-CALCII LACTAS cum PARATHYROID

Each tablet contains 2½ grains Sodio-Calcium Lactate with Parathyroid 1/20 grain.

These tablets have been found most valuable in the treatment of Hæmorrhage in cases so frequently found in Sanatoria, Tuberculosis Clinics, etc., and in the treatment of Strumous Children unable to extract nourishment from their food. They may be given every two or three hours.

PRICE 3/- PER 100; 28/6 PER 1,000.

Trade HEPATAGEN Mark
(Mist. Hepatica Conc. Hewlett)

An excellent compound of Cascara, Rhubarb, Jalap, Podophyllin, &c., with ½ gr. Cocaine in each drachm. (Not under the Dangerous Drugs Act.)

An elegant and palatable general Aperient and Cholagogue, specially recommended in cases of so-called "Biliousness," Hepatitis, and Chronic Gastritis.

DOSE—10 to 60 minims, diluted.

PRICE IN ENGLAND, 12/6 PER LB.
In 5, 10, 22, 40, and 90 oz. bottles.

SAMPLES & LITERATURE POST FREE ON REQUEST

SPECIALLY PREPARED BY

C·J·HEWLETT & SON·LTD

WHOLESALE DRUGGISTS & MANUFACTURING CHEMISTS.
35–42 CHARLOTTE STREET, LONDON.E.C.2
Telegraphic Address PEPSINE FINSQUARE LONDON · Telephone [illegible] 1172 & 1173

REGULARITY AND COMPLETENESS OF BOWEL EVACUATION

HOW TO ENSURE BOTH

Attention has recently been drawn to the incompleteness of evacuation common even among those who complacently boast of their regularity.

Completeness, as a distinguished physician said the other day, is "even more important than regularity" in the exercise of this physiological function. Incomplete evacuation doubtless explains why so many people, with regular once-a-day habits, continue to suffer from headache, lassitude, nausea, and all those other symptoms customarily attributed to alimentary toxaemia. The truth is that, in these individuals, the rectal neuro-muscular tension scarcely ever recovers normality.

These discomforts and disabilities can generally be made rapidly to disappear by a minimum effective dose of Eno's "Fruit Salt" taken each morning before the early cup of tea. Eno is a carefully prepared saline laxative of fine granular consistency, instantly soluble in water with effervescence. It is entirely free from the nauseous and irritating mineral salts. Its pleasant taste and refreshing character are due to its chemical purity and physical texture. Another of its advantages is that it contains no sugar or artificial flavouring agent.

"Urgent Abdominal Diagnostics"

The Proprietors of ENO'S "Fruit Salt" will deem it a privilege to send to any member of the Medical Profession a copy of the latest of their series of "Medical Reminders"—with or without a bottle of their preparation as desired. "Urgent Abdominal Diagnostics" summarises the salient facts which need to be ever at the front of the mind when faced with an abdominal emergency. The diseased conditions dealt with include those which most often call for immediate surgical attention. It is bound in black morocco limp to conform to the style of the previous publications in this series.

J. C. Eno, Ltd., 160, Piccadilly, London, W.1

ENO'S "FRUIT SALT"

B.I.12.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3669 SATURDAY, MAY 2, 1931 Price 1/3

VENTRICULIN

(Stomach - Tissue Extract, P., D. & Co.)

IN addition to being a specific for the treatment of pernicious anaemia, Ventriculin has a wide application in secondary anaemia. It has been employed with success in the anaemias associated with pregnancy and the puerperium, syphilis, hyperthyroidism, and tapeworm infestation. Ventriculin is also helpful in combating the anaemia which is such a marked feature in sprue, as well as in pulmonary tuberculosis.

Ventriculin is not only the *first* stomach extract shown to have a haematopoietic effect, but each batch is guaranteed to be clinically tested before issue.

Ventriculin is supplied in packages of 12 vials, each containing 10 gms. Further particulars will be sent on request.

PARKE, DAVIS & CO., 50 BEAK STREET, LONDON, W.1.

Laboratories: Hounslow, Middlesex. Inc. U.S.A., Liability Ltd.

ISSUED WEEKLY] [COPYRIGHT] [REGISTERED AS A NEWSPAPER

TRADE MARK BRAND

NEOTROPIN

BUTYLOXY-DIAMINO-AZO-PYRIDIN.

A urinary antiseptic of remarkable powers of penetration and tissue affinity; highly bactericidal

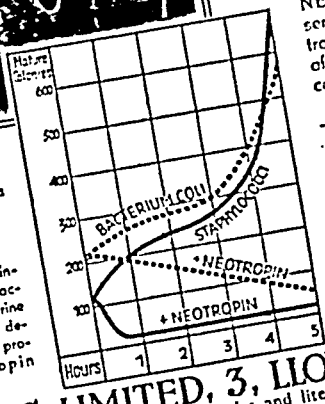
NEOTROPIN is a dye-stuff of the azo-pyridine series and possesses the marked powers of penetration and tissue affinity inherent to dyes. Shortly after its administration it imparts a yellowish red colour to the urine and later the prostatic, testicular and cervical secretions.

The bactericidal effects of Neotropin have been confirmed by a long series of experiments both in vitro and in vivo. Even in a dilution of 1/512,000 it still inhibits bacterial growth.

Its combined penetrative and antiseptic properties render it invaluable in the treatment of Bacteriuria, Cystitis, Pyelitis and Pyelonephritis.

Its freedom from any irritant effect explains its remarkable efficacy in acute gonorrhoea and cystitis.

Original Packing:
Bottles of 30 dragées of 1.5 grains.



The curves show the increase in growth of bacteria in ordinary urine compared with the decrease in growth produced by Neotropin

SCHERING LIMITED, 3, LLOYD'S AVENUE LONDON, EC.3

From whom samples and literature will be sent on request.

What shall I prescribe?

WHEN CONFRONTED WITH A DIFFICULT CASE OF OSTEO OR RHEUMATOID-ARTHRITIS IT IS INDEED COMFORTING TO KNOW THAT QUICK AND LASTING RELIEF CAN BE OBTAINED FROM THE ADMINISTRATION OF

ELIX. FORMASAL AND TAB. ARTHRITONE.

THE POPULARITY OF THESE PREPARATIONS IN RHEUMATIC CONDITIONS IS DUE SOLELY TO THE GOOD RESULTS OBTAINED.

PRACTITIONERS HAVE TAKEN THE TROUBLE TO WRITE AND TELL US OF THE WONDERFUL EFFECTS THAT THESE PREPARATIONS HAVE IN CASES WHERE ALL OTHER FORMS OF MEDICATION HAVE BEEN OF NO AVAIL.

ELIXIR FORMASAL
1 PINT 6/3
SMALLER AND LARGER SIZES ISSUED

TAB. ARTHRITONE
250, 8/2
SMALLER AND LARGER SIZES ISSUED

HOUGH, HOSEASON & CO. LTD.
PHARMACEUTICAL SPECIALISTS TO THE MEDICAL PROFESSION - MANCHESTER.

British Medical Journal

CONTENTS

MAY 2, 1931

ORIGINAL ARTICLES

Treatment of Recent Simple Fractures of the Long Bones. By C. H. FAGGE, M.S., F.R.C.S. (Illustrated) 735

Combined Use of Living Virus and Immune Serum for Immunization Against Virus Infections. By G. M. FINDLAY, M.D., D.Sc., and EDWARD HINDLE, Sc.D. 740

A Review of Sex Characters. By L. R. BROSTER, D.M., M.Ch., F.R.C.S. 713

Undulant Fever in Infancy. By B. WILLIAMSON, M.D., M.R.C.P., and A. J. GIBSON, M.B., B.S. (With Chart) 748

Infections and Insulin Action. By R. D. LAWRENCE, M.D., M.R.C.P., and R. A. MCCANCE, M.D., M.R.C.P. 749

MEMORANDA

Keratitis Punctata Superficialis. By E. R. CHAMBERS, F.R.C.S.Ed. 750

Acute Urethritis in Mumps. By ARTHUR SPENCE, M.B., Ch.B..... 751

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE:
Epidemiology of Venereal Diseases... 751

LIVERPOOL MEDICAL INSTITUTION:
Riedel's Disease 752

CHELSEA CLINICAL SOCIETY:
Treatment of Nervous Exhaustion ... 753

REVIEWS

Backache 754
Diseases of the Blood 755
Diabetic Surgery 755
B.C.G. Vaccination 756
Health in the Tropics..... 756
Advice to Parents 756
Notes on Books 757

OBITUARY

J. Lorrain Smith, M.D., F.R.S. (With Portrait) 773
J. Farquhar Christie, M.B., F.R.C.P.Ed. 776
The late Mr. H. P. Dean 776
Thomas Redmayne, M.B. 777
James Campbell Hall, M.B., B.Ch. 777

LEADING ARTICLES

COELIAC DISEASE 753
THE BUDGET 758

THE WEEK

Pathological Services..... 760
The Medical Examination of Drunken [illegible] 760
J 761
A 761
T 762
S 762
J 762

GENERAL ARTICLES AND NEWS

Nova et Vetera: A Link with Pasteur 763
ROYAL MEDICAL BENEVOLENT FUND ... 763
PREPARATIONS AND APPLIANCES..... 757
MEDICAL NOTES IN PARLIAMENT:
Voluntary Hospitals and Approved Societies 771
Pharmacy and Poisons Bill 772
MEDICAL NEWS 778

CORRESPONDENCE

Cholecyst-Gastrostomy. By L. R. Braithwaite, F.R.C.S..... 766

Blood Pressure and Life Assurance. By Maurice E. Shaw, M.D. 766

Multiple Exostoses Obstructing Parturition. By Percy Stocks, M.D. 766

Activated Fluorescein in the Treatment of Cancer. By C. Gouldesbrough, M.B. 767

Vaccine Dosage. By H. Warren Crowe, D.M. 767

Post-Encephalitis. By W. M. Crofton, M.D. 768

Coronary Thrombosis and Myocardial Infarction, with Glycosuria. By E. Tytler Burke, M.B. 763

The Post-Influenzal Cough. By Henry Semon, M.D.; and W. A. Marris, M.D. 769

The Modern Conception of Early Phthisis. By Alfred C. Jordan, M.D. 769

Diagnosis and Treatment of Subphrenic Abscess. By John R. Wylie, M.B. ... 770

Primary Treatment of Carbolic Acid Poisoning. By O. S. Gibbs, M.B..... 770

Hallux Valgus. By J. Stewart, M.Ch. 771

Thirty-eight Years with a Fractured Spine. By Douglas Green, F.R.C.S. 771

LOCAL NEWS

IRELAND—
Annual Meeting of the British Medical Association, Dublin, 1933 763
Gift from Northern Ireland Practitioners to the Medical Benevolent Fund 764
Medical Appointment in Roscommon 764

SCOTLAND—
University of Glasgow 764
Opening of Dunfermline Hospital ... 764
Nursing Conference... 765

ENGLAND AND WALES—
Cancer Research in Manchester 765
Functions Transferred to the Welsh Board of Health 765

UNIVERSITIES AND COLLEGES

University of Cambridge 777
University of London 777
University of Dublin 777
Royal College of Surgeons of England .. 777

LETTERS AND ANSWERS

Sour Milk..... 779
Income Tax..... 779
A Hospital Vacancy in Palestine 780
Dislocation of Tonsil 780
Pregnancy with Intact Hymen 780
Puerperal Inversion of the Uterus ... 780
Memorial to Joan of Arc 780
Routes for Motorists 780

VACANCIES 780

(*See also page* 187 *of* SUPPLEMENT)

The SUPPLEMENT contains:

BRITISH MEDICAL ASSOCIATION:
Annual Report of Council, 1930-31: Financial Statement.
Annual Meeting at Eastbourne, Provisional Programme.
CURRENT NOTES.
KING EDWARD AVENUE HOSPITAL, DARTFORD.
NATIONAL INSURANCE:
Pathological Facilities for Insured Persons.
BOOKS ADDED TO THE LIBRARY.
Association Notices; Correspondence; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. President: Sir HERBERT WATERHOUSE, F.R.C.S. Entrance Fee, 10/-.

No entrance fee to those joining within 12 months of registration. Assets exceed £55,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Cambridge University Press.
Myers & Bartlett—
Experimental Psychology 4

Churchill, J. & A.
Eden & Holland's Midwifery..... 4
Hale-White's Materia Medica 4

Lewis, H. K. & Co. Ltd.
... 3
...ogy 3
...scope 3
... 3
C ...of
... 3
Elliot, R. H.—
Couching for Cataract 4
Glaucoma 4
Fifield, L. R.—
Infections of the Hand 3
Minor Surgery 3
Forsdike's Sterility in Women ... 3
Kaufmann's Pathology... 3
Monrad-Krohn's Clin. Examination 3
Osler's Aequanimitas... ... 3
Parkes & Kenwood—
Hygiene & Public Health ... 3
Rawling, L. B.—
Landmarks & Surface Markings 3
Stepping Stones to Surgery 3
Smith's Forensic Medicine... ... 3
Spencer & Cade—
Diseases of the Tongue... ... 3
Stott, E. R.—
Practical Bacteriology 3
Treatment of Tropical Diseases 3

Livingstone, E. & S.
Bourne, G.—Medical History... ... 4
Lees, D. Venereal Diseases ... 4
Morley, J.—Abdominal Pain ... 4
Williamson, R.—Dis. of Children . 4
Wyatt, H. L.—Chronic Arthritis. 4
Underwood, E. A.—A Manual of Tuberculosis for Nurses... ... 4

Oxford Medical Publications
Elliot, R. H.—
A Treatise on Glaucoma 4
The Care of the Eyes... 4
Tropical Ophthalmology ... 4

ASSURANCE COMPANIES—
Century Insurance Company 57

BANKS—
Westminster Bank 36

BRASS NAME PLATES, &c.—
Ford's Name Plates 4
Herd, S. J. & A.—Name Plates ... 4
Lewis & Co. Ltd.—Name Plates ... 37
Osborne, F. & Co.—Name Plates ... 4

DEBT COLLECTION—
Brit. Med. Protection Society 6

FOOD PREPARATIONS—
Cow & Gate Ltd.—Milk Food Cover iii
Horlick's Malted Milk 21
Kia-Ora Ltd.—Junior. 5
Nestle & Anglo-Swiss Con. Milk Co.
Lactogen 24
Valentine's Meat-Juice... ... 18
Wander, Ltd.—Ovaltine ... 14

SURGICAL APPLIANCES—
Bailey & Son—Sphygmomanometer 35
Curtis & Son—Supports ... 7
Dent's 'Ardente' Stethoscope 10
Hilliard's New Absorbent Rags 4
Hoetteke, C. A.—Ambulatory Extension Treatment. ...2
Medical Supply Association, Ltd —
P... P... ... 13
... 11
... 11
... 57
... 10
... 13
... 9
... 36
... 11

HOSPITAL, &c., FURNITURE—
Lawson Tait—Bedsteads ... 34

MINERAL WATERS—
Rubinat Lloriach ...4

CHEMISTS, &c.—
Allen & Hanbury's Ltd.—
'Bynin' Haemoglobin 19
'Charkaolin' Granules 29
'Pituitalin' 29
American Apothecaries Co.—
'Salvitae' 15
Armour & Co.—Glandol Products ... 39
Boots Products 13,29
Bristol-Myers Co.—'Sal Hepatica' 11
British Drug Houses Ltd —
Acriflavine 17
Arolenni 21
British Industrial Gases Ltd —
Medicinal Oxygen 37
Burroughs Wellcome & Co.—
Preparations 31
Carnrick, G. W., Co.—
Incretone ... ... Cover iv
Cranbra Ltd.—Odol 35
Crookes Laboratories—
Change of Address ... 23
Evans Sons Lescher & Webb Ltd.—
Ephregol & Ephregol 23
Fox's Glacier Mints. 37
Gibbs Dentifrice 16
Hough, Howeson & Co., Ltd.—
Formocol & Arthritone. Cover ii
Hudson's Eumenthol Chem. Co.—
'Eumenthol Jujubes' 12
Kaylene Ltd.—Kaylene ol 14
Kerol Ltd.—Capsules 4
Laboratoires Lodiga—Tryol 27
Martindale, W.—'Sterules' ... 15,27
May & Baker, Ltd.—Hardenol. 17
Midgley, Ltd.—Medicamp Therapy 18
Mixol Staffordshire Remedies Co.—
Mixol 17
Newbery & Sons, Ltd.—Alkazole ... 30
Norwegian Cod Liver Oil. 35
Oppenheimer Products. 15
Parke, Davis & Co.—
Ventriculin ... ... Cover i
Peat Products Ltd.—Spherisol. ... 14
Sanitarin Corporation Ltd.—
Norocrin 11
Schering Ltd.—Neotropin. Cover ii
Wyleto Ltd —
Elixir Bromo-Valerian Co 15

MOTOR CARS, TYRES, &c.—
Cook's Non Scratch Motor Mop ... 31
Ledge Sparking Plugs 31
Second-hand Motors for Sale 37

PRINTING & STATIONERY—
Anderson & Son—Account Forms 4
Carlyle, G.—Duplicate Books... ... 4
Taylor's Typewriters 37

TAILORING & UNDERCLOTHING—
... ... 34
... ... 35
... ... 37
... ... 37
... ... 37
The Irish Linen Mesh Co. Ltd.—
Empire Linen Mesh Underwear. 4
Two Steeples Ltd.—Wool Socks ... 37

TOBACCO & CIGARETTES—
Player's No. 3 6

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. ... 55

WINES & SPIRITS—
Gaymer's Cyder 36

VACCINES & CULTURE MEDIA—
Genatosan Ltd. Vaccines, etc.. 26
Heinemann, W. Vaccine Lymph 12
Laboratories of Path. & Pub. Hlth. 12

X-RAY & ELECTRO-MEDICAL APPARATUS—
Kodak—Metal X-Ray Cassette ... 8
Medical Supply Association, Ltd.—
Electrical Apparatus ... 7

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 41
Peebles Hydro 41
Ruthin Castle, North Wales ... 39
Smedley's Hydro, Matlock 42

JHEDBJETY—
Bay Mount, Paignton 42
Caldecote Hall, Nuneaton ... 37,43
Dalrymple House, Rickmansworth 40
Old Hill House, Chislehurst 40
Rendlesham Hall, Woodbridge ... 41

BATHS, SPAS, &c.—
Bad-Nauheim 42
Bridge of Allan Spa 42
British Spas Federation 43
Evian-les-Bains 42
Mont-Dore 44
Pestyan Chalybeate Wells 44
Wildbad 43

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 53

HOSPITAL, &c., VACANCIES—
Aberdeen Royal Hospital. 51
... ... 53
... ... 51
... ... 52
... ... 52
... ... 53
... ... 52
... ... 44
Birmingham University. 47
Bradford Royal Infirmary 51
Brentwood, Essex Co. Mental Hos. 51
Bridge of Weir Sanatorium 52
Brighton, New Sussex Hospital ... 49
Burnley Victoria Hospital 44
Cancer Hospital (Free), S.W.3. ... 47
Cardiff Royal Infirmary. 44
Chesterfield & N. Derbys. Roy. Hos. 49
Chyne Hosp. for Children, S.W.3 ... 49
Chichester, Royal W. Sussex Hosp. 52
Colne Borough. 43
County Armagh Mental Hospital. 51
Croydon County Borough 51
Dover Borough. 51
Dumfries & Galloway Royal Infirm. 53
Durham County Hospital. 50
E. London Hospital for Children ... 51
E. Sussex County Mental Hospital 51
Gloucestershire Royal Infirmary. ... 51
Gt. Yarmouth General Hospital ... 50
Greenock Corporation 47
... ... 47
... ... 50
... ... 50
... ... 53
... ... 53
... ... 57
... ... 50
... ... 50
... ... 50
... ... 50
... ... 47
... ... 47
... ... 52
... ... 52
... ... 52
... ... 52
... ... 53
... ... 47
... ... 48
... ... 53
... ... 44
... ... 53
... ... 53
Nottinghamshire County Council ... 49
Nuneaton General Hospital 52
Oldham Royal Infirmary 49
Oxford Eye Hospital. 53
Oxford, Radcliffe Infirmary. 50
Paisley, Royal Alexandra Infirm. ... 52
Plymouth, S. Devon Hospital 52
Poplar Hospital for Accidents, E.14 49
Radium Institute, W.1. 48
Rochester, St. Bartholomew's Hos. 50
Rotherham Hospital 52
Royal Chest Hospital, E.C.1 51
Royal Free Hospital, W.C.1. 50
Royal Northern Hospital, N. 49
Raghr, Hospital of St. Cross 51
St. Bartholomew's Hospital 51
St. Mary's Hosp. for Women, E.13 50
Sheffield Royal Infirmary. 49
Southend Victoria Hospital 53
Stalybridge Borough 49
Stamford, Rutland, General Infirm 49
Sunderland Royal Infirmary. 50
Surrey County Council 52
Swansea Gen. and Eye Hospital ... 52
Tynemouth, Victoria Jub. Infirm. 51
Walsall County Borough 51
... ... 48
... ... 47
... ... 45
... ... 52
York County Hospital 52

SANATORIA—
... ... 41
... ... 41
... ... 43
... ... 41
... ... 41
... ... 41
... ... 42
... ... 41
... ... 42

SCHOOLS, &c.—
Paton—Schools for Boys & Girls.... 45
Taunton School, Taunton 45

HOMES & ASYLUMS—
Bailbrook House, Bath 22
... ... 1
... ... 13
... ... 13
... ... 43
... ... 37
... ... 39
... ... 43
... ... 37
... ... 43
Haydock Lodge, Lancashire... ... 38
Highfield Hall St. Albans 38
Kingsdown House, Box, near Bath 40
Lewis, Lincoln 42
... ... 42
... ... 42

LEWIS'S PUBLICATIONS

RECENTLY PUBLISHED. ENTIRELY RE-WRITTEN. Pp. xvi + 562.
With 49 Coloured Illustrations on 20 Plates and 123 Figures in the Text. Demy 8vo. 35s. net; postage 1s.

DISEASES OF THE TONGUE

Being the third edition of Butlin's "Diseases of the Tongue."

By W. G. SPENCER, M.S., F.R.C.S., Consulting Surgeon, Westminster Hospital; and STANFORD CADE, F.R.C.S., Assist. Surg., Westminster Hospital, Surgeon, Mount Vernon Hospital, etc.

"The directions for detailed treatment are lucid and sufficiently dogmatic . . . must prove of the highest value. . . . An admirable book."
—BRITISH MEDICAL JOURNAL.

Rawling's STEPPING STONES TO SURGERY: ANATOMY APPLIED TO SURGERY.

By L. BATHE RAWLING, M.B., B.C.Cantab., F.R.C.S.Eng., Surgeon to St. Bartholomew's Hospital, etc. With 97 Illustrations. Demy 8vo. 12s. 6d. net; postage 6d.

"... likely to prove of the greatest practical value."—B.M.J.

BY THE SAME AUTHOR.

LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY.

Seventh Edition. Thoroughly revised. With new Illustrations. Demy 8vo. 7s. 6d. net; postage 6d.

"... a household necessity among surgical students."—LANCET.

Barnard's ELEMENTARY PATHOLOGICAL HISTOLOGY.

By W. G. BARNARD, M.R.C.S. With 176 Illustrations on 52 Plates. Crown 4to. 7s. 6d.; postage 6d.

"... the illustrations are admirable... the book should help students."—BRITISH MEDICAL JOURNAL.

Smith's FORENSIC MEDICINE AND TOXICOLOGY.

By the late F. J. SMITH, M.A., M.D. Revised by G. JONES, M.B., M.R.C.S., D.P.H. Third Edition. Foolscap 8vo. 10s. net; post. 4d.

"... pre-eminently readable and enjoyable."—QUEEN'S MED. MAG.

EIGHTH EDITION. With 91 Illustrations in the Text and 2 Plates. Demy 8vo. 21s. net; postage 9d.

HYGIENE AND PUBLIC HEALTH (PARKES AND KENWOOD).

Revised by HENRY R. KENWOOD, C.M.G., M.B., F.R.S.Edin., D.P.H.Lond., Emeritus Professor of Hygiene and Public Health in the University of London, etc.; and HAROLD KERR, O.B.E., M.A.Dunelm., M.D.Edin., D.P.H.Camb., Professor of Hygiene and Public Health in the University of Durham, etc.

"... a quarry of concise information valuable to students and practical workers, a bargain at the price asked for it."—BRIT. MED. JOURN.

Monrad-Krohn's CLINICAL EXAMINATION OF THE NERVOUS SYSTEM.

By G. H. MONRAD-KROHN, M.D.Oslo, F.R.C.P.Lond., M.R.C.S.Eng. Fifth Edition, with 57 Illus. Crown 8vo. 7s. 6d. net, post. 6d.

"... a wealth of information."—THE PRACTITIONER.

Forsdike's STERILITY IN WOMEN: Diagnosis and Treatment.

By S. FORSDIKE, M.D., B.S.Lond., F.R.C.S.Eng. and Edin. With 25 Illustrations, including 17 Plates. 9s. net; postage 5d.

"Shows . . . evidence of rich personal experience; will well repay the most careful study."—LANCET.

Fifield's MINOR SURGERY.

By L. R. FIFIELD, F.R.C.S. With 273 Illustrations. Crown 8vo. 12s. 6d net; postage 6d.

"... the book contains much useful information."
—BRITISH MEDICAL JOURNAL.

BY THE SAME AUTHOR.

INFECTIONS OF THE HAND.

With numerous Illustrations in Plates and the Text (including 2 Coloured). Crown 8vo. 9s. net; postage 5d.

"... an important contribution . . . excels on the clinical side."
—BRITISH MEDICAL JOURNAL.

IN THREE VOLUMES. Medium 8vo. With 1,072 Illustrations. £6 6s. net.

KAUFMANN'S PATHOLOGY

Authorised Translation of the "Lehrbuch der Pathologischen Anatomie."

By Dr. EDUARD KAUFMANN, Professor of General Pathology and Pathological Anatomy and Director of the Pathological Department, University of Göttingen, etc. Translated by STANLEY P. REIMANN, M.D., Pathologist and Director of the Research Institute of the Lankenau Hospital, Philadelphia, etc.

"One of the best known and most widely valued works. . . . The book has obtained a world-wide reputation."—BRITISH MEDICAL JOURNAL.

Brockbank's DIAGNOSIS AND TREATMENT OF HEART DISEASE.

By E. M. BROCKBANK, M.D.Vict., F.R.C.P. Sixth Edition, revised and enlarged, 35 Illustrations, including 3 plates. Crown 8vo. 7s. 6d. net, postage 5d.

"... this useful little book."—THE PRACTITIONER.

Brockbank and Ramsbottom's CLINICAL EXAMINATION OF THE LUNGS.

By E. M. BROCKBANK, M.D.Vict., F.R.C.P., and A. RAMSBOTTOM, M.D.Vict., F.R.C.P. Second Edition, with Illustrations. Crown 8vo. 5s. net, postage 4d.

"... compact little handbook."—BRITISH MEDICAL JOURNAL.

Osler's AEQUANIMITAS. With other Addresses to Medical Students, Nurses, and Practitioners of Medicine.

By Sir WILLIAM OSLER, Bart., M.D., F.R.C.S. Second Edition. Ninth Impression. Post 8vo. 7s. 6d. net; postage 6d.

"Written with all the breadth of view and the beauty of style which make Professor Osler's writings so characteristic and so valuable."
—THE LANCET.

Collins' HISTORY AND TRADITIONS OF THE MOORFIELDS EYE HOSPITAL. One Hundred Years of Ophthalmic Discovery and Development.

By E. TREACHER COLLINS, F.R.C.S. With 27 Plates. Demy 8vo. 12s. 6d. net; postage 6d.

"... admirable account ... fascinatingly written."
—BRITISH JOURNAL OF OPHTHALMOLOGY.

In one volume. Demy 8vo. 18s. net; postage 9d.

A SYNOPSIS OF SPECIAL SUBJECTS FOR THE USE OF PRACTITIONERS:

DERMATOLOGY. By H. SEMON, M.A., M.D.

OBSTETRICS AND DISEASES OF WOMEN. By M. DONALDSON, M.B.

EAR, NOSE, AND THROAT. By A. RYLAND, F.R.C.S.Edin

EYE. By J. F. CUNNINGHAM, F.R.C.S.

"One of the best and most convenient treatises of its kind in the language."—BRITISH MEDICAL JOURNAL.

Stitt's DIAGNOSTICS AND TREATMENT OF TROPICAL DISEASES.

By E. R. STITT, A.B., Ph.G. Fifth Edition. Medium 8vo. 249 Illustrations. 31s. 6d. net; postage 9d.

"A very wide field is covered . . . very valuable."
—TROPICAL DISEASES BULLETIN.

BY THE SAME AUTHOR.

Stitt's PRACTICAL BACTERIOLOGY, BLOOD WORK AND ANIMAL PARASITOLOGY.

Including Bacteriological Keys, Zoological Tables and Explanatory Clinical Notes. Eighth Edition, revised and enlarged. With 1 Plate and 211 Illustrations. Post 8vo. 24s. net; postage 9d

"... essentially the practical pathologist's handbook."—LANCET.

. *Complete CATALOGUE of publications post free on application.*

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1

Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756 7-8

J. & A. CHURCHILL

NEW EDITIONS OF TWO GREAT FAVOURITES

EDEN & HOLLAND'S MANUAL OF MIDWIFERY

By T. W. EDEN, M.D., F.R.C.P., F.R.C.S., Consulting Obstetric Physician, Charing Cross Hospital, and EARDLEY HOLLAND, M.D., F.R.C.P., F.R.C.S., Obstetric and Gynaecological Surgeon, London Hospital.

SEVENTH EDITION. 9 Plates, 389 Illustrations.

21s. Postage 9d.

HALE-WHITE'S MATERIA MEDICA

PHARMACY, PHARMACOLOGY, and THERAPEUTICS

TWENTIETH EDITION.

Revised by A. H. DOUTHWAITE, M.D., F.R.C.P., Assistant Physician, Guy's Hospital.

10s. 6d. Postage 5d.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1

E. & S. LIVINGSTONE, MEDICAL PUBLISHERS

16 & 17, TEVIOT PLACE, EDINBURGH

FIVE NEW BOOKS JUST PUBLISHED—1931

ABDOMINAL PAIN

By JOHN MORLEY, Ch.M., F.R.C.S., Hon. Consulting Surgeon, Ancoats Hospital, Manchester; Hon. Assistant Surgeon, Manchester Royal Infirmary, etc.

Demy 8vo, 208 pp. 22 Illustrations. Price 10/6 net. Post. 6d.

CHRONIC ARTHRITIS AND RHEUMATOID AFFECTIONS

By B. L. WYATT, M.D., F.A.C.P., Director, The Wyatt Clinic, Tucson, Arizona, etc.

Demy 8vo, 176 pp. Price 15/- net. Postage 6d.

A HANDBOOK OF DISEASES OF CHILDREN

By BRUCE WILLIAMSON, M.D. (Edin.), M.R.C.P.(Lond.), Physician, Royal Northern Hospital; Assistant Physician, Prince of Wales' General Hospital, London.

Crown 8vo, 300 pp. 50 Illus. and Frontispiece. 10s. 6d. net. Postage 6d.

AN INTRODUCTION TO MEDICAL HISTORY AND CASE-TAKING

By GEOFFREY BOURNE, M.D.(Lond.), F.R.C.P., Demonstrator of Practical Medicine and Assistant Physician, St. Bartholomew's Hospital, etc.

Crown 8vo, 200 pp. [illegible]

A MANUAL OF [illegible]

By E. ASHWORTH [illegible]

Dep. M.O.H. and Tuberculosis Officer, County Borough of Rotherham, etc.

Crown 8vo, 272 pp. 30 Illustrations. Price 6s. 6d. net. Post. 5d.

NEW EDITION JUST PUBLISHED THIS WEEK

PRACTICAL METHODS IN THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES

By DAVID LEES, M.A., M.B., F.R.C.S., Surgeon in Charge of Venereal Diseases, the Royal Infirmary, [illegible] Examiner in Venereal Diseases, the [illegible] the Royal College of Surgeons, Edinb[illegible]

Crown 8vo, 650 pp., with 87 Illustrations and 8 pp. of Coloured Plates. Price 15s. net. Postage 9d.

Our complete 48-page Catalogue will be sent post free on application.

Third Edition.

A TEXTBOOK OF

EXPERIMENTAL PSYCHOLOGY

By CHARLES S. MYERS, M.A., M.D., Sc.D., F.R.S., and F. C. BARTLETT, M.A.

Demy 8vo. In 2 parts, complete. 16s. net.

The two parts are also sold separately Part I, Textbook, 10s. 6d. net; Part II, Laboratory Exercises, 7s. net.

"No worker in psychology can afford to dispense with this excellent textbook, while the physician opening it at random will find material to engross him on almost every page."—*Lancet*, on the Second Ed.

CAMBRIDGE UNIVERSITY PRESS, Fetter Lane, London, E.C.4.

LINEN MESH gives freedom, health and comfort to the body, promoting best results at work and play.

Wear

EMPIRE LINEN MESH UNDERWEAR

Sold by all good Outfitters.

Patterns and particulars post free.

THE IRISH LINEN MESH CO. LTD.

Belfast Northern Ireland

By Lt.-Col. ROBERT HENRY ELLIOT, M.D., B.S.Lond., F.R.C.S.Eng., I.M.S. (rtd.).

A TREATISE ON GLAUCOMA.

Second Edition. Revised and Enlarged, 1922. With 215 Illustrations, 30s. net.

TROPICAL OPHTHALMOLOGY

7 Plates and 117 Illus. 31s. 6d. net. Spanish and French Eds., 1922. Full German Abstract.

THE CARE OF EYE CASES

FOR N[illegible] W[illegible]

TH[illegible]

GLAUCOMA:

FOR THE GENERAL PRACTITIONER. With 23 Illustrations. 4s. net.

COUCHING FOR CATARACT.

With 45 Illustrations. 7s. 6d. net.

H. K. LEWIS & CO., LTD.

Duplicate Prescription Books

INVALUABLE TO ALL DOCTORS

Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.

Send for Sample Book, together with Prices and Styles of Printing,

To G. CARLYLE,

116, DUKE STREET, LIVERPOOL.

FREQUENT MICTURITION.

"YBWET"

NEW ABSORBENT BAGS.

Day pattern 35/-, for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 123, Douglas Street, Glasgow, C.2.

NAME PLATES

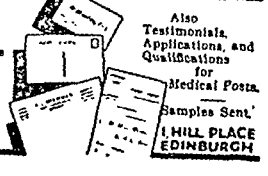
In BRONZE & ENAMEL—BRASS; also CHROMIUMPLATE. Send details for sketch or leaflet.

S. J. & A. HERD,

30, CLERKENWELL ROAD, E.C.1.

KEROL CAPSULES

Doctors' A/c Forms a Specialty



Printed in Best Style

Account Forms Letterheads, Cards, etc.

Samples Sent

Also Testimonials, Applications, and Qualifications for Medical Posts.

Samples Sent.

R. ANDERSON & SON

1 HILL PLACE EDINBURGH

BRASS and BRONZE

NAME PLATES

by the Actual Maker. Send for List.

FORD, 37, Palace Rd., Bromley, Kent.

BRONZE NAME PLATES

Cream enamelled lettering, no cleaning required

BRASS NAME PLATES

Museum 2264. *Send for Book* 18.

F. OSBORNE & CO., Ltd.

62 EASTCASTLE ST., LONDON, W.1

Contains all the valuable constituents

OF FRESH GRAPES

in a specially rich form.

JUVIGOR

Henri de Bahèzre
Proprietaire

Maison fondée
en 1808

Made in Nuits-Saint-Georges, in the heart of Burgundy, famous for its wonderful grapes.

Simple but convincing reasons why Juvigor can be recommended to patients.

A glass of Juvigor contains the vital elements of a large bunch of grapes.

Juvigor is absolutely free from preservative, colouring matter, flavouring, or chemicals of any kind.

In making Juvigor only fresh ripe Burgundy grapes are used. These are lightly crushed in order that only the free juice immediately under the skins is extracted. Only this free juice is used because it contains a very much higher percentage of the most valuable constituents of grape juice; it requires between 11 and 12 pounds of grapes to make one large bottle of Juvigor.

The grape juice is pasteurised without destruction of the vitamins and retains in full all its tonic and nourishing elements.

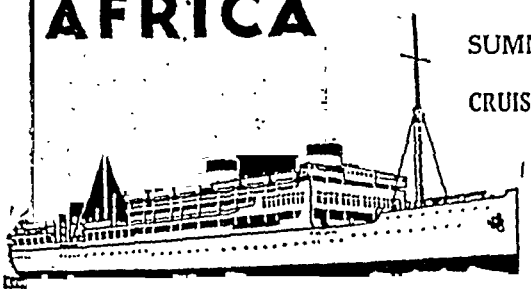
Juvigor is recommended when the vitality is low, in chronic and debilitating diseases such as tuberculosis, after acute diseases like pneumonia and influenza, especially where there is loss of appetite or the stomach is sensitive. In fact, wherever an increase of vitality is desired.

Note:—Generally speaking it is advisable for patients at first to take Juvigor with an equal quantity of water, or soda water, gradually decreasing the amount of water added.

Sold at 3/- and 1/9 per bottle.

Sole Agents: KIA-ORA LTD., BLACKFRIARS, LONDON, S.E.1

SOUTH AFRICA



SPECIAL TOUR TO SOUTH AFRICA
By R.M.S. "Kenilworth Castle." From Southampton 24th July, 1931.
Reduced Return Fares.

SUMMER TOURS TO MADEIRA or CANARY ISLES
at Reduced Return Fares.

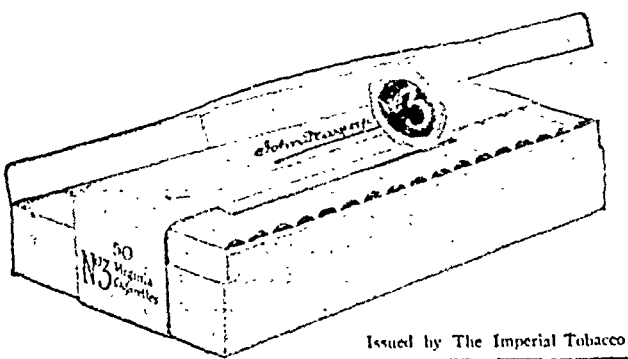
CRUISES TO ANTWERP, ROTTERDAM, HAMBURG and back.
Fortnightly from London. 13-14 days.

UNION-CASTLE LINE

Write for full particulars to:—
Head Office: 3, Fenchurch St., London, E.C.3.
West End Agency: 125, Pall Mall, S.W.1.

PLAYER'S No. 3

Made from a delightful blend of specially selected fine Old Virginia Tobacco



10 for 8D
20 for 1/4
50 for 3/3
100 for 6/4
WITH OR WITHOUT CORK TIPS

EXTRA QUALITY VIRGINIA

Issued by The Imperial Tobacco Company (of Great Britain and Ireland), Ltd. 3P.S.9

WITHOUT OFFENCE

The Collection of Overdue Accounts

MEMBER'S STATEMENT:

"I beg to acknowledge receipt of your cheque value £68 4s. I wish to thank you most heartily for obtaining the amount for me, which, in all probability, without your active interest would have been an entire loss."

DEBTOR'S STATEMENT:

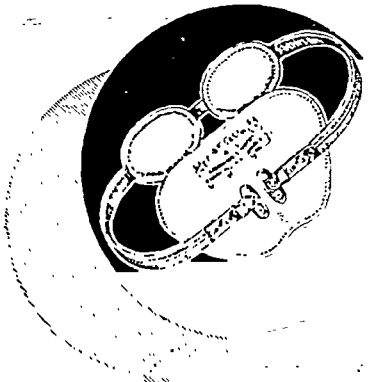
"Enclosed please find cheque for £15 15s. Many thanks for the lucidity of your explanation. I shall be obliged if you will tender my apology to your Member."

Your visiting card marked "B" placed in an envelope will produce all information

All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.) Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.



Comfortable, and Correct Support

Assured to all sufferers from abdominal ptosis who wear the Curtis Abdominal Support, Model No. 1. The principle of this support—that of anterior posterior support—has been proved by scientific research to be the most efficient. There is no circumferential pressure, hence the wearer's freedom of movement is in no way restricted. There is no cramping or binding of the hips. It is light in weight, and easy to apply. There are no complicated fastenings.

IN USE IN MOST OF THE LONDON HOSPITALS.

CURTIS
ABDOMINAL SUPPORT

Sole Manufacturers of the Curtis Appliances:—
H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.
Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

ULCERATIVE COLITIS

Treatment Apparatus for Electric Ionisation

£10 - 8 - 6
Complete (A & B)

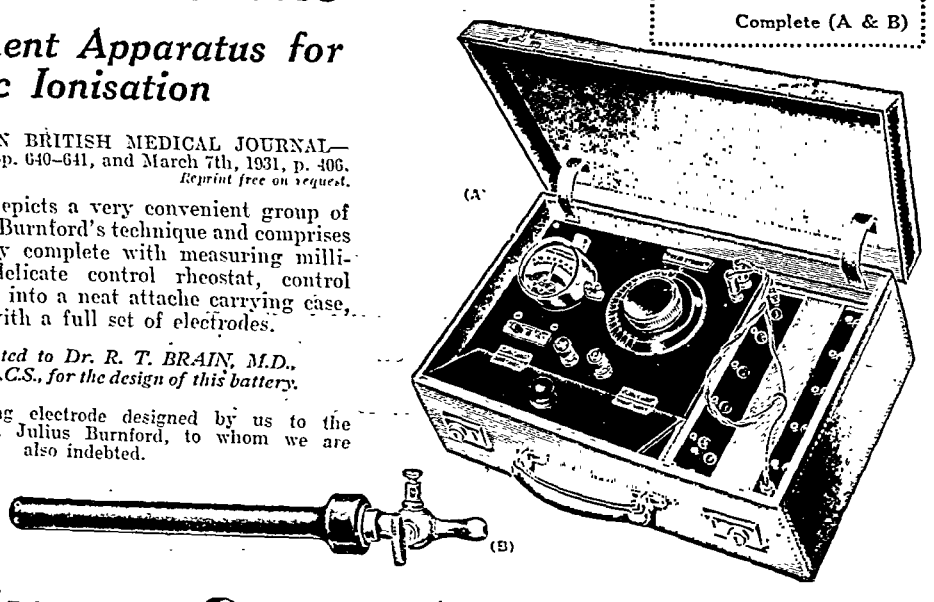
SEE ARTICLES IN BRITISH MEDICAL JOURNAL—October 18th, 1930, pp. 640–641, and March 7th, 1931, p. 406.
Reprint free on request.

The illustration depicts a very convenient group of apparatus for Dr. Burnford's technique and comprises a galvanic battery complete with measuring milli-ampere meter, delicate control rheostat, control switch, etc., built into a neat attache carrying case, and is complete with a full set of electrodes.

We are indebted to Dr. R. T. BRAIN, M.D., M.R.C.P., M.R.C.S., for the design of this battery.

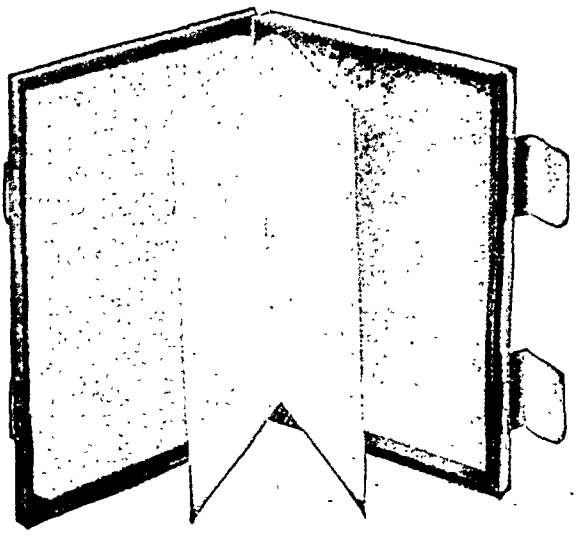
Also rectal flushing electrode designed by us to the instructions of Dr. Julius Burnford, to whom we are also indebted.

PRICE COMPLETE
£10 - 8 - 6



THE MEDICAL SUPPLY ASSOCIATION LTD.,
167-185, GRAY'S INN ROAD, LONDON, W.C.1.

"Kodak"
Metal X-Ray Cassette



Simple and efficient.

The convenient book-form and absence of heavy back spring makes loading and unloading exceedingly simple.

Effective contact is ensured.

Kodak Limited, (Medical Dept.)
Kodak House, Kingsway,
London, W.C.2.

SURGICAL SERVICE
SALTAIR

SALTAIR SURGICAL SERVICE

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

SALT'S COLOSTOMY BELT

with sterilizable Rubber Cup

(Registered Pat. No. 749046)

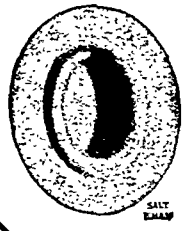
EMBODIES THESE VITAL POINTS

1. Detachable Cup sterilizable by boiling, repeatedly without deterioration.
2. No crevices or metal fittings to hold faeces.
3. *Smell reduced to a minimum.*
4. Minimum of bulk.
5. Cups easily and economically replaced.

This belt can also be provided with Bag instead of special cup.

This belt is specially designed for cases where faeces are of a solid nature or the amount is small.

The special feature is the Cup, which is made of moulded rubber in one piece, having no corners or crevices and therefore does not retain the odour.



View of Cup showing moulded rubber pad which fits snugly against the body.

Side view of Cup. The Cup flange and circular pad are made as one moulding.

London Consulting Rooms:
"OAKLEY HOUSE"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

'Phone London - Museum 3845.
'Phone Birmingham - Midland 5455.

Full particulars on request.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT

ESTABLISHED 1793

"VARIBAN"

Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove. Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc. Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the *continuance of light duties. Ensures rapid healing.*

SUPPLIED IN WIDTHS

2"	2½"	3"
1/7	1/9	2/-

— EACH —

When stretched measure six yards (approximately)

SAMPLE 3in. "VARIBAN" Elastic Plaster Bandage SENT POST FREE on receipt of P.O. for 2/3

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-*bandages strictly according to the formula mentioned* in the above article, under the descriptive name of

"CELLANBAND"

SAMPLE BANDAGE 1/- Post Free

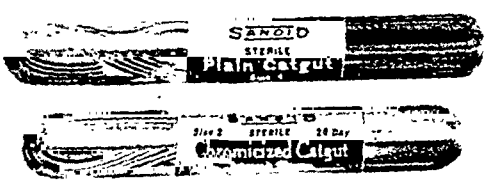
DESCRIPTIVE LITERATURE AVAILABLE ON REQUEST

"SANOID"

TUBES OF STERILE LIGATURES

Exceptional Flexibility

Tensile strength and smooth surface are prominent features of these Ligatures. They are prepared in accordance with the Therapeutic Substances (Catgut) Regulations, 1930.



PRICE 9/-
PER DOZ. TUBES

LICENCE No. 40.

Sole Manufacturers—
CUXSON, GERRARD & CO. LTD. MANUFACTURING CHEMISTS OLDBURY, BIRMINGHAM.

Distributors to the Medical Profession—
The MEDICAL SUPPLY ASSOCIATION LTD.
167-185, Gray's Inn Rd., LONDON, W.C.1 10-13, TEVIOT PLACE, EDINBURGH 6-12, Holly St., SHEFFIELD.

If you have a difficult case of Hernia send your patient to be properly fitted with a SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency. Perfect freedom of movement. *The most scientific truss ever devised.*

SALMON ODY

LTD.

Highly recommended by the Medical Profession

7, Ni W. (S[illegible]) [illegible].

[illegible]. W.C.1

Tele

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS

The best Medical authorities are agreed that rigid plates are injurious and are prescribing these supports for foot troubles—tired, aching feet, weak insteps, or [illegible]

Estab. 120 years.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE. Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

FOR DEAFNESS

Doctors use and recommend Ardente

because it fulfils its claims.

309, Oxford St., London, W.1.

Midway between Oxford Circus & Bond St.

Mayfair 1330/1718.

To Relieve Chronic Intestinal Stasis in Women

When you have a patient with chronic intestinal stasis due to diminished tonicity and stretching of abdominal muscles following a pregnancy, you will obtain excellent results from the mechanical support provided by a Spencer Belt.

Equally satisfactory results are obtained by the use of a Spencer Abdominal Belt for cases where atrophy and diminished tonicity are due to toxaemia and loss of fat following a severe illness or an abdominal operation, or in any case where enteroptosis exists.

The back of the Spencer Belt is made long enough for comfort, and to provide adequate back support.

SPENCER BELT.

The front of the garment curves in snugly to the pubic bone, and is so designed and adjusted that it uplifts the abdomen instead of compressing it.

Spencer Belts to relieve chronic intestinal stasis will be provided with ptosis pads if the physician desires it.

Each Spencer Belt is designed to meet the special needs of the individual who will wear it. You can therefore prescribe and obtain exactly what your patient needs.

The Spencer Corsetière will call at your surgery or at your patient's home to take measurements under your supervision.

We issue booklets on the use of Spencer Supports for the relief of enteroptosis, hernia, movable kidney, sacro-iliac strain, and for maternity wear. We will gladly send you any in which you are interested.

SPENCER

REJUVENO MARK PATENTED

FOUNDATION GARMENTS AND SURGICAL SUPPORTS

Booklets Listed below gladly sent on request.

SPENCER CORSETS, LTD., 94, 96, & 98, Regent St., Piccadilly Circus, LONDON, W.1.

SPECIAL LONDON SERVICE. Expert Fitters at your immediate Service.

Telephone: Gerrard 0876.

Manufactory: SPENCER HOUSE, Britannia Road, BANBURY, Oxon.

Please send me your booklet on the use of Spencer Supports for (check the subjects in which you are interested) Hernia, Sacro-iliac Strain, Enteroptosis and Intestinal Stasis, Movable Kidney, Pregnancy and Postpartum Support. We will gladly send you any or all of them.

Name ..... *Address* .....

Associate Houses Rock Island, Quebec, Canada; New Haven and New York, U.S.A.

RELIEVES RHEUMATISM

Samples for clinical trial will be forwarded on request to duly qualified members of the medical profession on application to Bristol-Myers Company.

The toxic amino-acids present in the system as the result of non-regular and imperfect evacuation give rise to rheumatism and other kindred complaints. Sal Hepatica swiftly and painlessly stimulates to peristaltic activity, ensuring complete and satisfactory elimination of all systemic poisons and waste products. Sal Hepatica induces a free biliary flow; hence its regular usage does not lead to a condition of tolerance. Sal Hepatica alkalizes the system and reduces blood pressure and as a result promptly relieves pain and distress in rheumatic conditions.

Sal Hepatica contains sodium sulphate, sodium phosphate, sodium chloride and lithia citrate in effervescent medium.

Sal Hepatica

the proved, medicinal, saline laxative and cholagogue.

BRISTOL-MYERS COMPANY, 112, CHEAPSIDE, LONDON, E.C.2.

ORAL SEPSIS.

"EUMENTHOL JUJUBES" (HUDSON)

Made in Australia.

HARMFUL THROAT TABLETS. Throat Tablets and Lozenges containing Formalin (Formaldehyde) are harmful. Wiley, of the United States, investigated the effects of small doses of Formalin (Formaldehyde) given with milk, on 12 men during 15 days. Burning in the throat, itching, rash, and loss of body weight were observed.—*Brit. Mortindale.* All countries which have made Legal enactments and Laws regarding the purity of its food supply have prohibited the addition of Formaldehyde (Formalin) as a preservative of food. HUDSON'S EUMENTHOL JUJUBES contain no Formalin, Cocaine, or other harmful or poisonous drug. Sold everywhere.

FREE SAMPLES forwarded to Physicians on receipt of professional card by F. NEWBERY & SONS, Ltd., 31-35, Bonner St., London, E.C.1. DUNCAN FLOCKHART & Co., Agents, Edinburgh, Scotland.

Manufactured by
G. INGLIS HUDSON, Chemist, for
HUDSON'S EUMENTHOL CHEMICAL CO., LTD.,
Manufacturing Chemists, 51, BAY STREET, SYDNEY, AUSTRALIA.
Distillers of Eucalyptus Oil Rectified by Steam Distillation.
Manufacturers of Pure Eucalyptol (Cineol).

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health: issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health: issued in eight varieties, for the treatment of Staphylococcal and Streptococcal *infections of skin* and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal *putrefaction*, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

VACCINE LYMPH

(REBMAN'S PURE ASEPTIC CALF LYMPH) for reliability and normal reaction.

Prepared under Swiss Government control in accordance with *the requirements* of the Therapeutic Substances Regulations, 1927. As Supplied to the Bacteriological Department, Guy's Hospital, London.

Price: 9d. per small tube (6 for 3/9).

Sole Agents:
WILLIAM HEINEMANN (Medical Books), Ltd.,
99, Gt. Russell St., London, W.C.1.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

MAXILLARY SINUSITIS.

Typical Case.

L. M., female, aged 24 years.

Diagnosis: Right maxillary sinusitis.

Operation: Denker's operation with drainage.

Anaesthesia: Maxillary nerve block with 22 c.c. 1 per cent. Novocain-Adrenaline.

Operation: The needle was introduced at a point 2 cm. posterior to the external canthus of the eye, just below the zygoma. Paraesthesia was felt in the right side of the face and 2 c.c. of a 2 per cent. Novocain-Adrenaline solution was injected. Within a minute towel-pins could be placed upon the lip. The lip was retracted and the sinus opened, curetted, and drained without the production of pain.

—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
601, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

WYLEYS LIMITED WHOLESALE DRUGGISTS COVENTRY *Established 1750.*

ELIXIR BROMO-VALERIAN CO.

Free from any disagreeable taste or odour.

Each fluid drachm (4 c.c.) contains:

Strontii Bromidi - -	5 gr.	Tinct. Adonis Vernalis - -	5 m.
Tinct. Valer. Deodorat. -	10 m.	Tinct. Visci Alb. - - -	5 m.

Useful for functional nervous affections, particularly in controlling epileptic seizures.

Price 5/- lb.

FULL LISTS ON APPLICATION.

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.
KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.
Telephone: GLADSTONE 1071 (2 lines). Telegrams: KAYLOIDOL, CRICKLE, LONDON.

OVALTINE

IN GALACTOSIS

Diet in lactation is a matter of no less importance than diet during pregnancy.

"Ovaltine" completely meets the requirements of the diet of the nursing mother by providing adequate and appropriate nourishment.

It is easily digested, wholly nourishing, and does not convey any noxious or unpalatable substances to the breast milk. For these reasons "Ovaltine" will be found a most dependable prescription for establishing galactosis.

"Ovaltine" is recommended to be given about the sixth month of gestation and should be continued throughout the nursing period. A rich milk secretion is thus encouraged and the health of the patient safeguarded against overstrain.

As an example of the nutritive power of "Ovaltine" it may be stated that one cupful yields more nourishment than 3 eggs or twelve cups of beef-tea.

A liberal supply for clinical trial sent free on request.

A. WANDER, LTD., 184, Queen's Gate, S.W.7. *Works:* King's Langley, Herts.

NEHEBKAU.—A Serpent Goddess who performed many offices for the dead.

M 244

PEAT HEALS!

"I have used the sample tin of Sphagnol 10% Ointment you kindly sent me for a case of old-standing and resistant Psoriasis with very excellent results. The Shaving Soap I myself found to be very good—and I shall recommend it to patients with Acne and Sycosis barbae."

Signed . . . . *Dr.*

Sphagnol

APPROVED PEAT OINTMENT

FOR FREE SAMPLE WRITE TO PEAT PRODUCTS (SPHAGNOL) LIMITED, (DEPT. B 50), 21, BUSH LANE, LONDON, E.C.4.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to

COATES & COOPER,

41, Gt. Tower St., LONDON, E.C.3.

Sole Agents in the United Kingdom.

Two sizes, 4/6 and 7/-.

Salvitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co., New York.

IMPROVED DAY AND NIGHT SERVICE TO THE MEDICAL PROFESSION FOR OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPOT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1

(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, **CLAPHAM ROAD, S.W.9**

PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic oedema, cyclic vomiting, periodic diarrhoea, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Also Peptone "Sterules" according to prescription in article, *Lancet*, April 11th, 1931, p. 805. *Leaflet on application.*

W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON." Telephone Nos.: LANGHAM 2440 and 2441.

Proverbs Up-to-date No. 5

CLEANLINESS IS NEXT TO GODLINESS

In cleanliness lies the key-note of success on the Preventive side of Dentistry. Many manifestations of Oral Disease and Dental Caries are due (either as a direct or contributary cause) to the effects of accumulations of extraneous matter and food debris around the teeth. If these are removed regularly, and the teeth themselves kept polished, such a state of constant cleanliness can be maintained in the mouth, that much dental trouble can be avoided.

These are the truths that are given such widespread publicity and force in all Gibbs National Advertising. Gibbs constantly remind the public that a little care and thoughtfulness in matters of dental hygiene is repaid a thousandfold in the preservation of the teeth, freedom from suffering and improvement in health.

Wherever the public is urged to use Gibbs Dentifrice twice-a-day, the phrase is complemented by the advice to visit the Dentist twice a year.

Always, in Gibbs propaganda, the Doctor and Dentist are represented as the highest authorities on all matters affecting the teeth; and as a result there is an increasing acceptance upon the part of the public of any advice or instruction given by Doctors and Dentists.

GIBBS DENTURE TABLET

Gibbs new Denture Tablet is for cleaning Dental Plates (both gold and vulcanite), Bridgework and artificial teeth. It gives a high polish, removes stains, makes plate or teeth sterile and antiseptic without in any way injuring the softest gold or the finest vulcanite or platinum. The formula has been submitted to and approved by important members of the Medical Profession.

Gibbs Dentifrice

BRITISH MADE

Literature, propaganda material, cinematograph films, leaflets, etc., as well as samples, are always freely at your disposal. Address: Dental Dept. 5WX, D. & W. Gibbs Ltd., London, E.1.

GD Dr/Sa

Price 1/3 and 2/3 per bottle

(Special discount to medical profession).

Regesan

CREAM OF MAGNESIA

A PURE, finely divided Magnesium Hydroxide ($Mg(OH)_2$) suspended in water. A simple antacid and valuable laxative. Digestive troubles and gastric conditions indicating the necessity of a corrective of this type quickly respond to treatment with Regesan Cream of Magnesia. It does not gripe nor cause discomfort, and is mild in action.

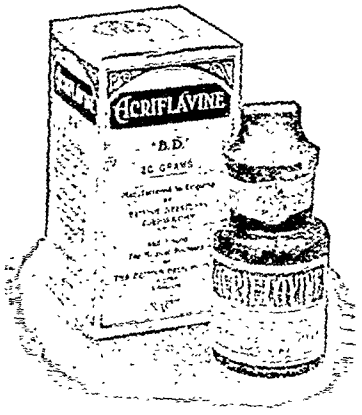
FULL-SIZE TRIAL PACKAGE FREE TO MEDICAL PRACTITIONERS IN THE BRITISH ISLES ON APPLICATION TO BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM.

OBTAINABLE FROM

The Boots Chemists

Over 900 Branches in Great Britain.

BOOTS PURE DRUG CO. LTD., NOTTINGHAM.



'Acriflavine . . . . . one of the safest and as near the ideal antiseptic as at present obtainable.'

Acriflavine approaches so nearly to *'the ideal antiseptic'* because in it are combined high antiseptic power and non-toxicity; in fact, in dilutions at which it is highly toxic to pathogenic bacteria, it is practically non-irritant to mucous tissues.

Acriflavine 'B.D.'—the original British brand of Acriflavine—possesses all the advantages of the ideal antiseptic on account of its purity and efficacy.

It is issued in powder form, also in tablets, in solution, in an ointment, in bougies and in suppositories.

To obtain the original British Acriflavine, 'B.D.' brand should be specified.

ACRIFLAVINE

Literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

FIII6

MONSOL BRAND

Monsol Liquid for dressings, douches, packs, and all sick-room purposes.

Monsol Capsules, keratin-coated, for intestinal disinfection.

Monsol Ointment and *Monsol Throat Pastilles.*

Monsol Dental Cream.

Monsol Medicated Soap.

Monsol Pessaries.

PESSARIES

In response to repeated requests from the Medical Profession, Monsol is now available in the form of Pessaries containing 2½% of Monsol in a glyco-gelatine base. Powerfully germicidal, non-irritant, and possessing all the essential characteristics of Monsol Liquid, they have proved of value in the treatment of both acute and chronic cervicitis and vaginal infections, particularly when of gonorrhoeal origin, and are specially indicated for a chronic infection in pregnancy when douching is undesirable.

Manufacturers:

THE MOND STAFFORDSHIRE REFINING CO., LTD., ABBEY HOUSE, LONDON, S.W.1

Medisoap

MIDGLEY'S MEDICATED SOAP

The word MEDISOAP is a registered trade-mark indicating the pure soap base made and scientifically medicated by CHARLES MIDGLEY, LTD., according to published formulae. This method of skin medication has been brought into favour by the ease with which applications can be made and the certainty of absorption through regularity of use by the patient.

A PRESCRIBER'S INDEX

relative to the comprehensive range of Medisoaps is available to members of the medical profession on application to EVANS' BIOLOGICAL INSTITUTE, RUNCORN.

Medisoap Depots all over the country.

Sole Makers:

CHARLES MIDGLEY, LTD. Medicated Soap Specialists MANCHESTER

Associated with EVANS SONS LESCHER & WEBB, LTD., Liverpool, London, and Dublin.

PSORIASIS

In the treatment of Psoriasis the use of a suitable Medisoap is generally very useful. The following are recommended:

MEDISOAP No. 74, containing Ichthamol 5% and Lanolin q.s.

MEDISOAP No. 15, containing Ichthamol 5% and Pix Liquida 5%.

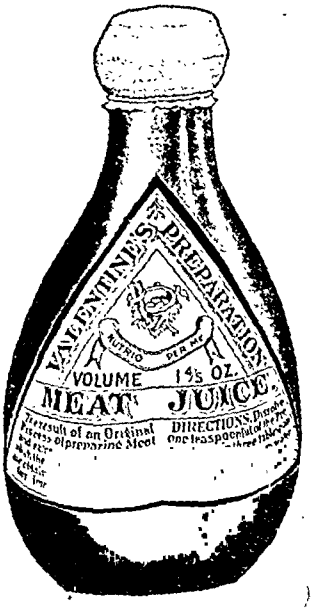
MEDISOAP No. 19, containing Sulphur Præcip. 5%, Camphora 5%, and Balsamum Peru 3%.

MEDISOAP No. 11, containing Ol. Betulae Alb. 5% and Sulphur Præcip. 10%, especially recommended in Psoriasis Pistoria.

For further particulars see *"Prescriber's Index."* *(free on request).*

Valentine's Meat-Juice

In **Debility, Nervous Exhaustion** and **Anaemia,** where **Digestion** is **Impaired** and it is **Essential** to **Conserve** the **Weakened Vital Forces, Valentine's Meat-Juice** demonstrates its **Ease** of **Assimilation** and **Power** to **Restore** and **Strengthen.**



Employed in many Hospitals and Sanitariums and recommended by many leading Physicians and Surgeons throughout the world.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

Richmond, Virginia, U. S. A.

JB 91

Trade Mark

'GARDENAL' BRAND

PHENOBARBITAL

For the Routine Treatment of

EPILEPSY

"Gardenal" is a completely reliable, non-narcotic hypnotic of unvarying therapeutic efficiency. It is a highly efficient sedative in epilepsy, and is widely employed in other nervous disorders such as chorea, migraine, eclampsia, neurasthenia, pertussis, etc.

Write for a copy of descriptive leaflet and clinical trial sample

Supplied in powder and tablet form

Prepared in the Laboratories of

MAY & BAKER LTD. BATTERSEA, LONDON, S.W. 11

Telegrams: Bismuth, London. Telephone: Battersea 1813 (6 lines)

"BYNO" HÆMOGLOBIN

A Powerful Hæmatinic and Tonic

Presents the hæmoglobin, proteins and salts of fresh blood in combination with "Bynin," Liquid Malt. The hæmoglobin is prepared by a special process which conserves its physical properties and prevents decomposition, an important point since decomposition is accompanied by loss of therapeutic properties.

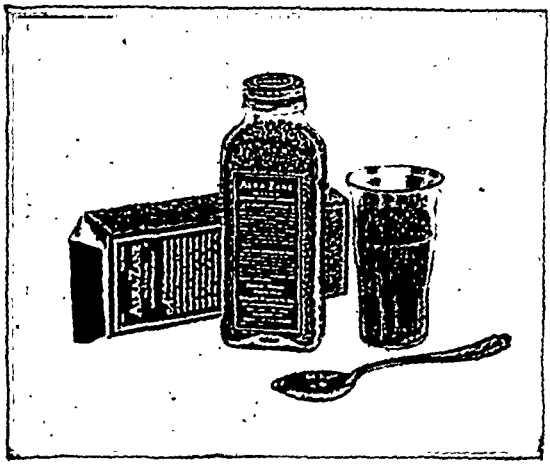
Advantages of "Byno" Hæmoglobin over inorganic iron preparations are its rapid absorption, greater hæmatopoietic effect, and its freedom from gastro-intestinal disturbances.

Indicated as a routine treatment in simple anæmias, in general debility and in convalescence. Clinical trial samples and literature will be gladly sent on request

Allen & Hanburys Ltd.

Telephone: 3201 Bishopsgate (10 lines) **London, E. 2** Telegrams: "Greenburys Edo London"

Decrease of the "Alkali Reserve"



A pleasant, effervescent granular preparation composed of carefully selected salts of Sodium, Potassium, Calcium and Magnesium.

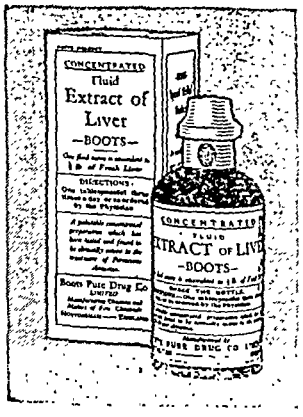
is directly responsible for a large proportion of those ills which are manifestations of hyperacidity. Effective alkaline treatment is imperative. Alka-Zane, antacid and diuretic, promptly neutralizes the excessive acid products and rapidly restores the normal alkalinity of the blood.

A brief trial will demonstrate the efficiency of

ALKA-ZANE

Literature and samples to physicians on request.

Francis Newbery & Sons, Ltd.,
31-33, Banner Street, London, E.C.1.
Prepared by WILLIAM R. WARNER & CO., INC.
Manufacturing Pharmacists Since 1856.



CONCENTRATED
FLUID
EXTRACT OF LIVER
(BOOTS)

A PALATABLE concentrated preparation which has been tested and found to be clinically active in the treatment of Pernicious Anæmia. One fluid ounce is equivalent to half-a-pound of Fresh Liver.

PRICES:—
4 oz. bottle, 7/-, 8 oz. bottle, 12/6
SPECIAL DISCOUNT TO THE MEDICAL PROFESSION.

WHOLESALE AND EXPORT DEPARTMENT
BOOTS PURE DRUG CO. LTD.
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

BOOTS PRODUCTS
Are obtainable through all branches of BOOTS THE CHEMISTS.

AVOLEUM

(Vitamin A Concentrate)

Avoleum is a solution of Vitamin A of high concentration. When tested by the antimony trichloride method it gives a colouration of the intensity known as 900 blue.

The issue of Avoleum makes it possible for physicians to prescribe large doses of the anti-infective Vitamin A (without the admixture of Vitamin D) in all conditions in which the administration of this vitamin is indicated.

Avoleum is supplied in capsules, each containing 3 minims of the physiologically standardised solution.

For reducing the incidence as well as for the treatment of many acute infections.

The New Vitamin A Concentrate

Literature and samples on request

THE BRITISH DRUG HOUSES LTD. **LONDON N-1**

Vit A/2

HORLICK'S MALTED MILK

has played a successful part in infant feeding for many years. From various causes it is not possible for every mother to breast-feed her child, and artificial feeding must be resorted to. Very many infants, however, cannot and do not thrive on the ordinary modifications of cow's milk, and for such HORLICK'S MALTED MILK may be confidently recommended. Made from full-cream cow's milk and the nutritive extracts of malted barley and wheat, it is entirely free from starch, which is replaced by the natural sugars, maltose and dextrin. These are easily assimilated, and are especially suitable in cases where high sugar feeding is necessary, or where there is any degree of fat intolerance. The casein is so modified that, on coming into contact with the acid gastric juice, only light flocculent curds are formed similar to those given by human milk. HORLICK'S is a modified milk food, which is especially suitable to meet the needs of premature, delicate, or under-nourished children.

PHYSIOLOGICAL TREATMENT OF CONSTIPATION

COMPOSED OF

EXTRACT OF THE INTESTINAL GLANDS

which strengthens the glandular secretions of the organs.

BILIARY EXTRACT

which regulates the secretion of the bile.

AGAR-AGAR

which rehydrates the contents of the intestines.

LACTIC FERMENTS

which reduce bacterial action in the intestines.

IN TABLET FORM.

ITS USE DOES NOT LEAD TO HABIT

LABORATOIRES LOBICA,

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd., 30, Marsham St., London, S.W.1

Taxolabs, Sowest, London. Victoria 2041.

CHANGE OF ADDRESS

OF

THE CROOKES LABORATORIES

Owing to the continuing expansion at home and abroad in the prescribing of

CROOKES COLLOSOLS

by the medical profession, it has been found necessary to erect and equip more extensive Laboratories and Model Works

On and after May 11th, 1931

All orders, enquiries and correspondence should be sent to

THE CROOKES LABORATORIES
[British Colloids, Ltd.]
GORST ROAD
PARK ROYAL
LONDON, N.W.10

Telephones: WILLESDEN 6313 (three lines)
Telegrams: COLLOSOLS, HARLES, LONDON

THE CROOKES LABORATORIES
British Colloids, Ltd. Registered Offices: 22 Chenies Street, W.C.1
Telephone: Museum 3663

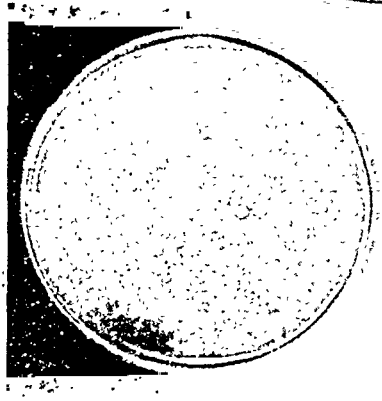
BOMBAY ALSO AND NEW YORK

BETTER MILK FOR BABIES

ORDINARY MILK

1/1,000 c.c. plated—over 200,000 bacteria per c.c.

FACTS ABOUT **LACTOGEN**



Purity

Lactogen is under hygienic and scientific control from the time the raw milk is collected until the despatch of the finished product.

The fresh milk used for its preparation is obtained from selected farms, the herds receiving close supervision from the Company's farm inspectors.

A stringent examination is also carried out in the factory laboratory, and with these precautions a constant high degree of purity is maintained.

The modern manufacturing process is carried out under the most strictly hygienic conditions, and the bacterial count of Lactogen, as reconstituted, is less than 100 organisms per c.c.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

LACTOGEN
Full strength mixture.

1/10 c.c. plated—less than 100 bacteria per c.c.

FREE SAMPLES with detailed descriptive literature will be sent to any Member of the Medical Profession upon request.

Lactogen Bureau (Dept Z7), Nestlé and Anglo-Swiss Condensed Milk Co., 6 & 8, Eastcheap, London, E.C.

LACTOGEN

REG. TRADE MARK

BETTER MILK FOR BABIES

FABRITIUS, OSLO

THE SUPERIORITY OF COD LIVER OIL AS A CURE FOR RICKETS

Leading Authorities have proved by the most painstaking researches that:

A certain number of D-vitamin units in the form of Cod Liver Oil is far more effective in the treatment of human Rickets than the same or even double the number of these units in the form of irradiated Ergosterol.

Read what Professor E. Poulsson says on the subject in his recent paper "On the Action of Cod Liver Oil and Irradiated Preparations in Rickets", published by the State Vitamin Institute in Oslo.

This paper may be obtained free by post on application to the State Vitamin Institute.

The world-renowned Norwegian Cod Liver Oil has always been noted for its high quality. Exported under control of the Norwegian State.

NORWEGIAN COD LIVER OIL

Alternative Methods in Prophylaxis and Treatment of

CORYZA

DETOXICATED ANTI-CORYZA VACCINE. This Vaccine has been used with great success for several years. Its outstanding feature is the absence of reaction, which makes it especially useful for hyper-sensitive patients.

ORDINARY ANTI-CORYZA VACCINE. Some Practitioners consider that a slight reaction has definite therapeutic value, and this type of Vaccine has been prepared to meet their requirements. It has the advantage of very low price.

ANTI-CORYZA VACCINE SPRAY (For local application to the nose and throat). For patients who object to Vaccine treatment by subcutaneous injection, and for children, this Local Immunity Product is particularly indicated. An additional convenience is that frequent attendances by the patient for injections are unnecessary.

Additional information regarding the above products will gladly be supplied to any Practitioner who writes to The Vaccine Department, Genatosan Ltd., Loughborough, Leicestershire.

"Sterules" Saline Gelatin Conc.

For Gelatinothorax

(See B.M.J., i/31, 683)

"Sterules" for producing 5 ounces 2% solution, 2/6 each
" " " 10 " " " 3/6 "

also

"Sterules" Euflavine (dry powder) 1 grain, boxes of 6, 3/6 "

"Viodar"

The New Oil

Containing Free Iodine

Suitable for abrasions, and should be tried in skin affections.

"We have here an iodine compound which should be valuable for both external and internal use."
—LANCET, i/31, 896.

Antiseptic power established by bacteriological experiments.

"VIODAR" DOES NOT BURN.

"VIODAR" IS ISSUED IN TWO STRENGTHS, 1 in 200 and 1 in 1,000.
Either strength, 4-oz. stoppered bottles, retail, 3/-.
" " 8-oz. special "Surgery" bottles, 5/-.

"Sterules" Sodium Morrhuate

For Varicose Vein Injections

"Sterules" 2 c.c. 5%, boxes of 10, 7/6.
" " 10%, " " 8/6.

"Sterules" Peptone

For asthma and allied affections

Such as hay fever, associated skin affections, angio-neurotic oedema, cyclic vomiting, periodic diarrhoea, and the migraine-epilepsy syndrome; in short, for such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Also Peptone "Sterules" according to prescription in article, LANCET, April 11th, 1931, p. 805.

W. MARTINDALE

12, NEW CAVENDISH STREET, W.1

Telegrams: Martindale, Chemist, London. 'Phone: Langham 2441.

(Aesculapius)

THE PROPHYLAXIS AND TREATMENT OF

HAY FEVER

The rapid onset of the adrenalin effect of EPHREGEL NASAL JELLY is usefully supplemented by the prolonged action of the ephedrine, and this is still further enhanced by the water-soluble base in which the ingredients are incorporated. It is eminently suitable for the reduction of congestion of the mucous membrane of the nose in Hay Fever, Rhinitis, etc.

Issued in Collapsible Tubes, fitted with nozzle.

Many practitioners prefer a Nasal Spray such as EPHRESOL, a solution incorporating with Ephedrine useful medicaments which accentuate its beneficial effects.

Issued in 1-oz. bottles.

BACTERIAL VACCINES are sometimes beneficial during an attack of Hay Fever. We have had reported to us numerous cases where the use of our "Common Cold" Vaccine, administered in small doses, has given satisfactory results, reducing the severity of the attacks, no doubt by dealing with the accompanying infections.

Literature may be had on application to—
Evans' Biological Institute,
Higher Runcorn, Cheshire.

EVANS SONS LESCHER & WEBB, LTD

Manufacturers of Fine Chemicals, Pharmaceutical & Biological Products.

LIVERPOOL
56, Hanover Street.

LONDON
50, Bartholomew Close, E.C.1

"Pitibulin" Trade Mark

Denotes Unvarying Pituitary Extract

Conforming to the requirements of the Therapeutic Substances Regulations, 1927, "Pitibulin" is prepared according to the official standards, its activity being expressed in terms of the accepted unit.

"Pitibulin" maintains the stringently high criteria of therapeutic efficiency, safety in use and stability, self-imposed by its manufacturers—qualities which have given it its high place in the esteem of physicians.

It has made a reputation among the Profession as the Pituitary Extract which can be relied on in emergency.

"Pitibulin" is supplied in boxes of 6 and 12 ampoules containing 2·5, 5 and 10 units per ampoule.

Literature giving fuller particulars of the therapeutic applications of "Pitibulin" will be sent on request.

Allen & Hanburys Ltd.,

Telephone: Bishopsgate 3201 (10 lines) **London, E.2.** *Telegrams:* "Greenburys Edo London"

The "Allenburys"

"CHARKAOLIN"

GRANULES

"Charkaolin" is a highly efficient agent for the treatment of intestinal infections characterized by abnormal fermentation and the formation of toxins. It combines the absorbent properties of highly activated vegetable charcoal with the well-known toxin adsorbing qualities of "Osmo" Kaolin.

It is in the form of fine, clean granules which disintegrate rapidly in water and diffuse their ingredients evenly throughout the liquid. "Charkaolin" is tasteless, forms a fine suspension in water and is, therefore, quite easy to take.

Descriptive literature and a clinical trial sample will be sent on application.

ALLEN & HANBURYS LTD.

Telephone— Bishopsgate 3201 (10 lines) LONDON, E.2. Telegrams— "Greenburys Edo London"

A List of

GLANOID MEDICINAL PRODUCTS ANIMAL ORIGIN

Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
Catgut
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Ligatures**
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
*Pituitary, W. G.**
*,, Ant. Lobe**
*,, Post. Lobe**
*,, Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
,, Co.
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

*Literature available on request.

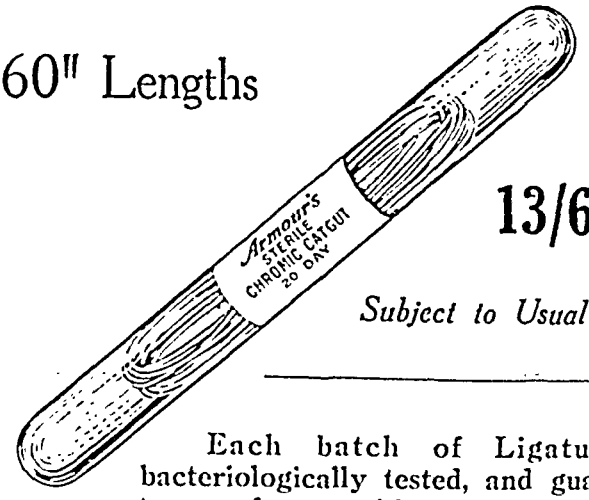
GLANOID BRAND

STERILE CATGUT

LIGATURES

PLAIN and CHROMIC 20-DAY

60" Lengths



13/6 per dozen Tubes.

Subject to Usual Discount.

Each batch of Ligatures is bacteriologically tested, and guaranteed to conform with the requirements of the Ministry of Health.

Sterilized under Licence No. 43.

Full Particulars will be sent to the Medical Profession on request.

Sizes, 000, 00, 0, 1, 2, 3, and 4

LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND,
LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

PIONEERS AND EMPIRE BUILDERS: No. 594
NINTH PERIOD—circa A.D. 300 to c. 1300

Treatment of Varicose Veins by Injection

TRADE MARK "HYPOLOID" BRAND

SODIUM MORRHUATE

Ready for immediate use

5 *per cent. and* 10 *per cent. solutions, in* 2 *c.c. phials,* 5 *in a box,* 3/-
" " " *in* 25 *c.c. bottles,* 4/2 *each*

Sodium Morrhuate is stated to be innocuous to the subcutaneous tissues, thus reducing the risk of "injection ulcer" to a minimum; its non-toxicity allows it to be administered in large doses.

Also issued:—

TRADE MARK "HYPOLOID" BRAND
QUININE AND URETHANE
Quinine Bihydrochloride, 0·26 gm., and Urethane, 0·13 gm., in 2 c.c.
2/- *per box of* 5 *phials* *Bottles of* 25 *c.c.,* 3/- *each*

TRADE MARK "HYPOLOID" BRAND
SODIUM SALICYLATE
20, 30 *and* 40 *per cent. solutions in* 5 *c.c. phials,* 5 *in a box,* 2/9

Prices in London to the Medical Profession *Special literature free on request*

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1
Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

MAP SHOWING THE DOMINIONS OF THE VISIGOTHS DURING THE FIFTH CENTURY A.D.—Pressed by the Huns, the Visigoths surged southwards into the Roman Empire where, during an uncertain period, they were sometimes the enemies and sometimes the confederates of the Romans. Under Alaric they sacked Rome, but after the death of this leader they turned north and passed into Gaul and Spain, where, under Athaulf and his successors, they formed a powerful kingdom. In Gaul they founded the kingdom of Toulouse in the region of which this city was the capital; it expanded at the expense of the Roman Empire until it reached the extent indicated on the accompanying map. In Spain the kingdom grew until it covered all but the north-western corner, which the Suevi succeeded in retaining. The nation, founded in the first decade of the fifth century, lasted in Gaul until 507, when it fell before the Franks under Clovis, and in Spain until it was succeeded by that of the Islamic Arabs in 711.

DATE: A.D. c. 400-507

COPYRIGHT

RHEUMATOID and OSTEO-ARTHRITIS

Amidst the recognised difficulties in treatment of advanced cases of Rheumatoid and Osteo-Arthritis it is not generally realized that many patients have been restored to active life after being bedridden, suffering great pain for years, by Hoefftcke's Ambulatory Extension Treatment.

Many cases have been described by eminent medical men, some results of which are shown below.

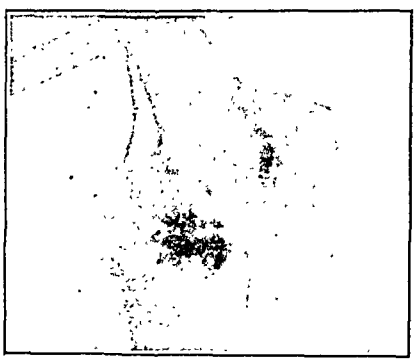


FIG. 1.—December, 1921.

Case of Mrs. H., aet. 35.

FIG. 1.—Shows the knee-joint fixed in a position of *partial flexion; patella ankylosed.*

FIG. 2. — Shows after an interval of 9 years the improvement which resulted from 3 years' extension treatment—the complete restoration of the tibio-femoral joint which permits of free and painless flexion and extension.

This case was one of exceptional severity. In the average case the Extension Walking Appliance can be discarded in one or two years from the time of its first application.

FIG. 2.—April, 1930.

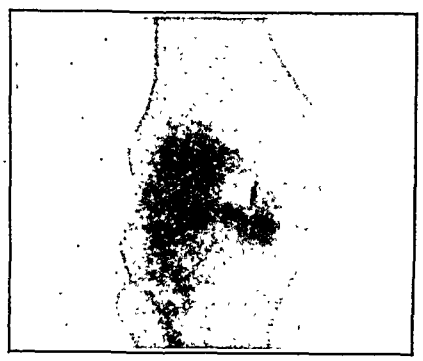


FIG. 3.—December, 1921.

FIG. 3.—Shows the irregularity of the outline of the articular surfaces as seen *from before backwards.* The interval between the bones is practically obliterated.

FIG. 4.—Shows the joint in an antero-posterior plane. Note the restoration of the outlines of the articular surfaces and the formation of a practically normal interval between the bones.

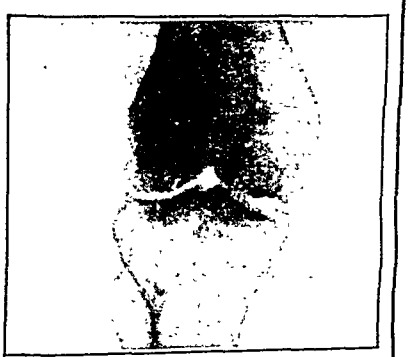


FIG. 4.—April, 1930.

FIG. 5.—July, 1929.

Case of Mr. S., aet. 68.

FIG. 5.—Shows the hip-joint practically ankylosed in the adducted position. Patient hardly able to walk with great pain.

FIG. 6. — Shows spike absorbed; cavity filled in; head of femur covered with new cartilage, resulting in free abduction with full painless movement in the joint.

FIG. 6.—February, 1931.

Particulars and illustrations of this treatment will be forwarded on application, and original radiograms of these and other cases can be shown

by

CAREL A. HOEFFTCKE, 7, Harley Street, London, W.1.

Remarks
ON
TREATMENT OF RECENT SIMPLE FRACTURES OF THE LONG BONES*.

BY
C. H. FAGGE, F.R.C.S.
SURGEON TO GUY'S HOSPITAL

I feel that I need make no apology for my choice of subject. I have been consulted several times by medical men in great distress owing to some alleged mishap in the treatment of a fracture for which legal action was threatened; such an occasion has never arisen in relation to any other disease or injury. Therefore it is, I hope, superfluous to advise everyone to join a protection society, or to suggest that in every case *x*-ray examination must be insisted upon before, during, and after treatment. Objection by the patient to the latter should be obtained in writing.

REDUCTION OF DEFORMITY

In fractures the aim of treatment is the restitution of the bone and the function of the limb to normality. It is true that a degree of function, indistinguishable from the normal, may be restored when anatomical alignment is imperfect, but the better the anatomical reposition the better the function, so that the surest way to re-establish function is to obtain perfect anatomical replacement. The necessity for this varies with different factors; it is less essential in the young than in the old, for in the former, in accordance with Wolff's law, if the body weight is transmitted along a new line, the bone outline is remodelled to accommodate itself to the direction of that force. Where a stress is exerted bone is laid down; where there is strain it is absorbed.

Deformity is of more consequence in its relation to function in certain bones than in others; thus angulation, which is easily compensated for after a fractured femur, will lead to serious depreciation of function if it results from a fracture of the tibia. As an enormous majority of the fractures of the long bones occur below the knee, realization of this depreciation is of great economic importance. Ashhurst[1] suggests that the explanation lies in the fact that the tibia is the only long bone which is limited at either end by joints moving in only one (and that a similar) plane, so that very little compensation is possible.

A degree of angulation which is of little harm near the middle of a bone produces a greater defect near the articular end, and in certain bones certain deformities —often in one direction only—are particularly depreciatory; thus adduction after a fracture of the shaft of the femur not only adds apparent shortening to the real shortening, but also produces secondary changes in the spine and other joints. Of the displacements to which a fracture is liable, shortening is relatively unimportant, compared with angulation or rotation. A particular angulation or rotation at any level may produce a more serious depreciation than its opposite; thus angulation inwards after a fracture of both bones of the leg will predispose to talipes valgus and knee strain, but a similar degree of angulation outwards will not be so serious. Again, rotation inwards of the femoral shaft below a fracture is a more serious, if rarer, handicap than rotation outwards.

As a routine, reduction of deformity is obtained under a general anaesthetic (gas is not sufficient). This setting of the fracture, which one hundred years ago was rightly regarded as all-important, had some years ago fallen from grace, and it was not until the British Medical Association's Fracture Report of 1912 entirely upheld Lane's contention that anatomical reposition was essential that surgeons really took it in hand as a routine.

What are the obstacles which have to be overcome in order to eliminate deformity?

1. The most important is the position and size of one fragment, which is so often small, and so placed that one cannot by any conceivable means, externally applied, bring influence to bear on it, particularly when there is an associated dislocation.

2. Intervention of soft parts—for example, (*a*) a mass of brachialis anticus in fractures of the lower humeral shaft; (*b*) a sharp fragment of tibia penetrating the deep fascia of the leg and caught so that it cannot be withdrawn. Less commonly a similar evil influence may be effected by penetration of periosteum.

3. When one of two parallel bones is fractured the other normal bone acts as a splint and opposes reduction.

It would take too much time to give even an outline of the various manipulations required to reduce deformities in the different fractures of the long bones; each conforms to certain general rules—namely:

(1) Exaggerate the deformity to release the broken ends; (2) carry out the movements reversed by which the fracture was produced. (It is only when one begins to consider what these movements should be that one realizes how difficult it is to conceive the mechanics of the production of any fracture.)

When alignment has been restored its maintenance may be rendered difficult by obliquity of the fracture, comminution, or the action of gravity. I doubt whether muscular pull is a factor of appreciable importance. When any one of the above tends to favour the recurrence of deformity, care must be taken that immobilization is complete, and for this purpose plaster-of-Paris has no rival. The endeavour to restore alignment is checked by a radiogram in two planes or, better still, by stereos. Meanwhile the fracture has been immobilized. If the *x* rays show that the deformity has been reduced—completely, or to a degree sufficient to meet the circumstances of that particular case—immobilization is continued for such time as is necessary to ensure firm osseous union.

In regard to the position in which any fracture should be immobilized, there is in my opinion only one general rule—namely, that the limb should be fixed in a position favourable to muscles which act against gravity. Thus all fractures of the bones of the forearm should be immobilized in a position of full supination, for the supinators act against gravity, and this is the movement most often impaired or lost after such fractures. The old dictum about the influence of the level of the fracture in relation to the insertion of muscles is ignored.

For fractures near the shoulder the abductors must be relaxed, and so the arm is fixed in abduction on an aeroplane splint, or in a plaster case. To this generalization, however, there must be a limitation, which is that there is no hard-and-fast rule for the position of immobilization for every fracture of any bone at any particular spot; this opinion can be verified by screening the patient at the time of setting the fracture, when it will be seen that each fracture has its optimum position. This, it is true, is usually only a slight variant of the routine position, and can, I suppose, be explained by a slight variation in the plane of action of the force causing the fracture. No "splint" can be relied upon to procure reduction of deformity, but some "splints" are capable of maintaining that reduction when it has been obtained by manipulation. Such "splints" are plaster cases, and some form of Thomas's splint, with or without axial traction. I cannot think of any fracture in any position in which the application of a wooden splint is the best line of treatment. In my practice, after the deformity has been reduced, the limb splinted, and the fracture *x*-rayed in two planes, it is decided whether the reduction

* A paper read at a meeting of the Kent Branch of the British Medical Association.

is satisfactory. If it is not, the procedure is usually repeated, but if those responsible for this part of the treatment are certain that no amount of manipulation will produce any better effect, then a Steinmann's needle or Kirschner's wire is inserted for the purpose of securing and maintaining reduction of deformity by axial traction.

TRACTION AND IMMOBILIZING APPARATUS

When, for the purpose of such a paper as this, one comes to ask oneself what one has done, and how long one has used a particular apparatus, it is difficult to be sure of dates; but I think I have used this kind of treatment with success since the war, when I began with Beasley's ice-tong callipers for the femur, but this apparatus was soon discarded. I have little to complain of in regard to Steinmann's needle, but it makes, perhaps, an unnecessarily large hole in the bone: it has been my habit, when traction is needed for the treatment of a fractured femur, unless the fracture extends into the knee-joint, to insert it through the femoral condyles. Some surgeons object to this and perforate the tibia, but as this tends to displace the upper end of the lower femoral fragment backwards, it does not please me. In one case of fractured femur treated with a pin a sinus persisted, and there was limitation of flexion to a right angle until the sinus was scraped out, when all went well. Otherwise I have not seen any limitation of movement from its use, which has this great advantage over its introduction into the tibia, that it allows of movements of the knee during treatment. For fractures of the lower third of the tibia, in which position its effects are almost miraculous, the needle is passed through the os calcis at such a spot as to be nearly in the axis of the ankle-joint when looked at from the side. The use of Kirschner's wire is now replacing a pin. Some 10 to 30 lb. weight is used over a pulley, and a word of caution is necessary, because the wire with a heavy weight may cut through soft cancellous bone as if it were cheese. This method of axial traction is a great advance in the treatment of just those fractures which are so difficult to treat by other means (Figs. 1 to 8). Traction is rarely necessary for more than three to four weeks, for by the time this period has passed the relation of the fragments to one another is fixed by callus still too soft for weight-bearing, but not likely to allow recurrence of deformity if traction is dispensed with.

When the traction apparatus has been applied the fracture is again radiographed in two planes with the portable apparatus. If reposition is not satisfactory, it may be possible to improve matters by altering weights or by a second manipulation under an anaesthetic. I wish to insist that whatever type of immobilizing apparatus it is decided to use, the position of the fragments must be checked after the apparatus has been applied. Nothing but a miracle can improve the position after the apparatus has been put on, and miracles do not occur. On the other hand, the position will often alter for the worse, particularly if we rely on such inefficient methods of immobilization as wooden splints and do not check our results with repeated *x*-ray examinations in two planes.

OPEN OPERATION

Sometimes even now the restoration of anatomical normality is not good enough. The degree of reposition necessary is a matter of opinion, and this will vary with different surgeons; but when it is clear that reposition is not satisfactory, an open operation must be considered at once. It is usual to arrive at this point at which manipulation and traction has failed within ten days of the accident. Whenever I have been in doubt about the necessity for an open operation and have decided against it, I have regretted it afterwards; I do not recall a disappointment of a converse nature. At any rate, even under the most unfavourable circumstances we should know within fourteen days of the accident whether a good anatomical result can be obtained by non-operative means.

If we persist without operation the result will be either (1) malunion, or (2) non-union. Both these conditions are preventable. The probability of non-union can be surmised from the fact that reposition of a fracture by manipulation is impossible; this suggests the intervention of soft parts between the fragments. It is usually confirmed by the *x* rays, which show at each stage an appreciable interval between the fractured ends of the bone (Figs. 9 to 14).

As has already been pointed out, malunion after fractures of certain bones is of greater economic importance than malunion after fracture of others, but in any case if its degree is going to be such that an operation would later be necessary it should not be allowed to occur. Early operation to prevent malunion is far easier and will obtain an infinitely better result than one undertaken after eight to twelve weeks; in fact, the longer the delay the less perfect will the result be. There is only one sound treatment for potential malunion, and this is prevention. Prevention is always possible. The doctor treating the fracture should know within fourteen days of the accident that treatment by means at his disposal must be followed by an imperfect result, and he has still a week and perhaps more—but I prefer to be dogmatic in my time limit—in which to call in a surgeon with experience of operations on fractures.

Open operation of one type or another, when really necessary, will, if undertaken within three weeks of the date of the accident, usually give a result which is serviceable; at any rate it will be vastly better than that obtainable by non-operative treatment. I want to say most emphatically, as a generalization, that, in my opinion, doctors looking after fractures are responsible for the bad results comprised under non-union and malunion, for they fail to realize until too late that non-operative treatment is futile. There is no comparison between the difficulty and labour—mental and bodily—of an operation on a fractured long bone undertaken in the first three weeks, and an operation on the same case undertaken for non-union when the bone ends have become rounded off and the medulla closed, or for malunion when there is firm side-to-side union, and the surrounding muscles have shortened.

I would urge again, at the risk of unnecessary repetition, that a decision must be arrived at in the supervision of any simple fracture of a long bone that non-operative treatment will give a satisfactory anatomical result, and therefore a good functional one. If the answer is doubtful or in the negative, operative treatment must be considered *at once*, for only at that time can it be of the optimum value to the patient. Now in quite a large percentage of fractures for which operation should, in my judgement, be undertaken, all that is necessary is the restoration of alignment under direct vision through an open incision. This is particularly true of transcondylar or supracondylar fractures of the lower end of the humerus, in all their different types (Figs. 15 and 16); also in fractures of one bone of the leg or forearm when the other bone is unbroken (Figs. 17 to 20) and in fractures involving articular surfaces (Figs. 21 to 31).

Fractures Involving Joints

I must emphasize my belief in a fact which has not been sufficiently stressed, that open operation must be undertaken for fractures involving joints. In these, as a rule, a small articular fragment is knocked off and lies free in the joint cavity. Because in a child it largely consists of cartilage, its size is greater than the *x* rays suggest, and it is impossible to guess in what direction its articular

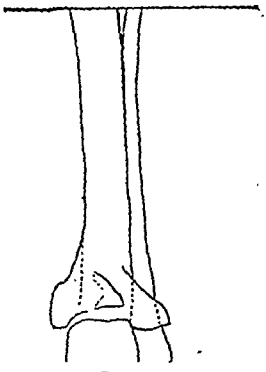


FIG. 1.

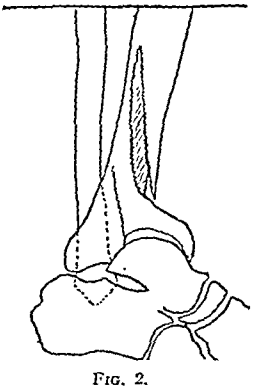


FIG. 2.

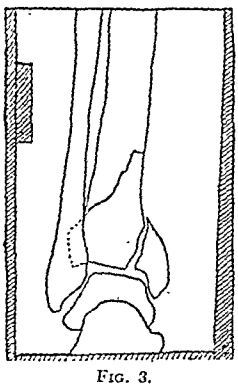


FIG. 3.

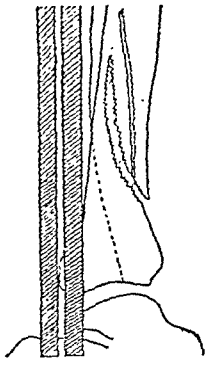


FIG. 4.

FIGS. 1, 2, 3, AND 4.—J. M., aged 59. Figs. 1 and 2. Comminuted fracture of tibia. Figs. 3 and 4. Same, treated by pin traction. The pin penetrating the os calcis is at the bottom of Fig. 3.

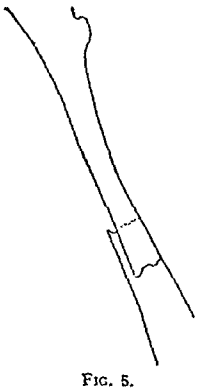


FIG. 5.

FIG. 6.

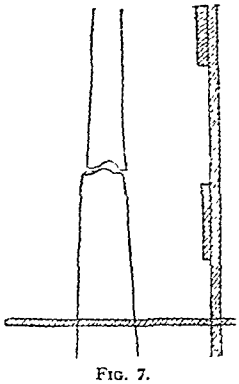


FIG. 7.

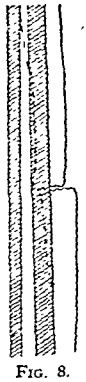


FIG. 8.

FIGS. 5, 6, 7, AND 8.—E. K., aged 17. Fracture of shaft of femur. Figs. 5 and 6. Ordinary strapping extension after attempted reduction under an anæsthetic. Figs. 7 and 8. After pin extension.

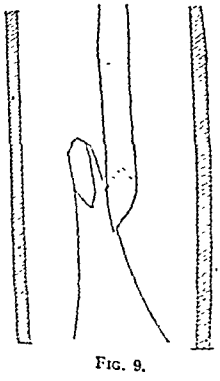


FIG. 9.

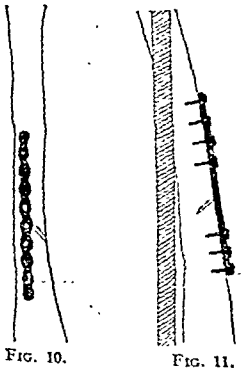


FIG. 10.

FIG. 11.

FIGS. 9, 10, AND 11.—S. G., aged 17. Fracture of shaft of femur. Reduction by manipulation failed even to get ends in contact; this suggested interposed muscle, which open operation confirmed. The separate diamond-shaped fragment (outlined by dotted lines) was broken off during manipulation and fell on to the towel. It was replaced and has become united.

FIG. 12.

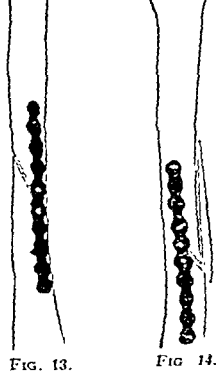
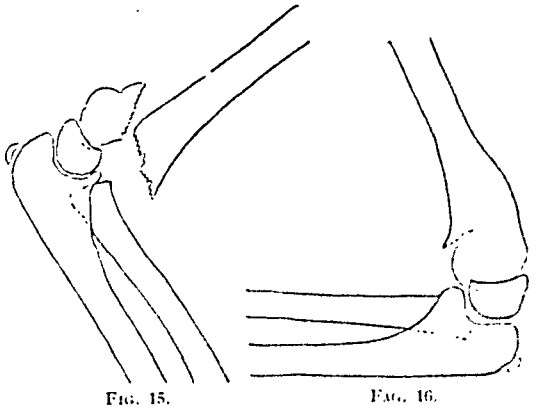


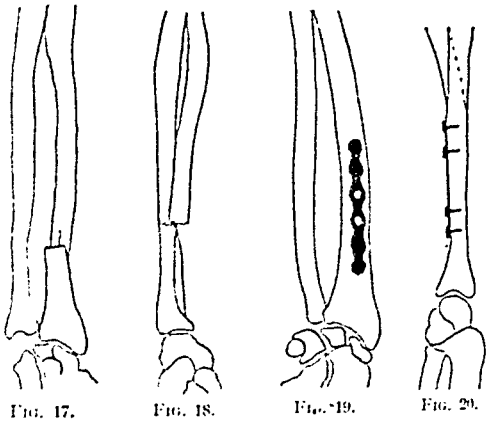
FIG. 13.

FIG. 14.

FIGS. 12, 13, AND 14.—J. H., aged 23. Comminuted fracture of humerus. Fig. 12. After two manipulations and strapping extension. The day before operation was to be undertaken because reposition could not be obtained, musculo-spiral paralysis came on. The nerve was found between the two main fragments



FIGS. 15 AND 16.—J. B., aged 12. Supracondylar fracture of humerus. Fig. 15. After manipulation on x-ray table under an anaesthetic (twice). Fig. 16. After reduction by open operation.

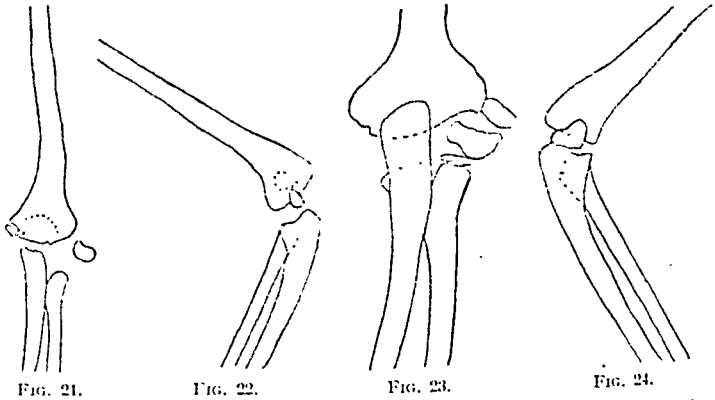


FIGS. 17, 18, 19, AND 20.—W. W., aged 43. "Adolescent" fracture of radius. Failure to reduce by manipulation. Figs. 19 and 20. After operation.

surface has been turned (Figs. 21 to 24; 25 to 27; 28 to 31). When one femoral condyle, or a considerable proportion of any articular surface, becomes detached, open operation is usually imperative for a different reason. In this case the extent of the displacement of the detached condyle may be estimated by the greater depth of the joint cavity on the affected side; wherever possible such a displacement must be corrected, for displacement of part of the articular surface means that the mechanics of the joint are altered and chronic traumatic arthritis is in time certain to supervene.

Open reposition is valuable when dealing with a separation of an epiphysis (Figs. 32 and 33). It is particularly needed when the small fragment includes a wedge of the diaphysis, for this seems to impede reduction.

In dealing with articular fractures, if the detached fragments will not, when reduced, remain in correct position, they can usually be secured by sutures through the soft parts (Figs. 21 to 24) or fixed with a pin or screw (Figs. 25 to 31); at the worst they must be removed. It is my present purpose to insist that open operation does not in a majority of cases necessitate the introduction of an internal unabsorbable splint.



FIGS. 21, 22, 23, AND 24.—S. F., aged 10. Fracture of capitellum and external condyle of humerus. Figs. 23 and 24. Replaced by open operation. Fragment replaced by catgut sutures.

Experience of setting fractures by open operation reveals several facts of interest. The first is that it is the rule rather than the exception to discover conditions which could not have been corrected by manipulation—for example, the sharp end of one fragment may be driven through the deep fascia, or one end may be buried in a mass of muscle from which, even when explored, it cannot be released without free incision.

My second observation is of greater importance, and, to me, of greater interest. It has been demonstrable in almost every case in which I have done an open reposition. The last time I demonstrated it to my Firm was when operating upon an articular fracture of the humerus, involving the capitellum and half the trochlea (Figs. 21 to 24). It is that if reduction is perfect the posture in which the arm is immobilized is immaterial; when anatomical reposition has been secured there is usually so close an apposition of the irregular fractured surfaces that a force applied to the hand does not cause these surfaces to move on one another, but acts upon the elbow-joint, where the resistance to movement is less than at the fracture. This observation confirms what I have written on several occasions and have taught for years—namely, that if one carries out the reduction of such fractures under an anaesthetic on an *x*-ray table, one can see that, after reduction, the rough surfaces of the fracture so intermesh as to resist the recurrence of deformity, and if one now flexes and extends the elbow the deformity will not recur within certain limits, which are wider the more transverse the line of the fracture. As a rule, reposition is maintained perfectly at a right angle, and what is known as the Jones's position is quite unnecessary. This is a matter for congratulation, for, in the experience of most surgeons, immobilization of the elbow in acute flexion incurs a grave risk of ischaemic palsy. Sir Robert Jones[2] writes that he has advocated treatment of "all these lesions by manipulation, followed by slinging the arm at about 30 degrees of flexion. . . . This should be carried out even in the presence of considerable swelling. . . . Flexion is the correct position in all injuries to the region of the elbow excepting fracture of the olecranon." No reasons are given for these *ex cathedra* statements. I assert without fear of contradiction that posture cannot be relied upon to reduce deformity (and I feel sure from the

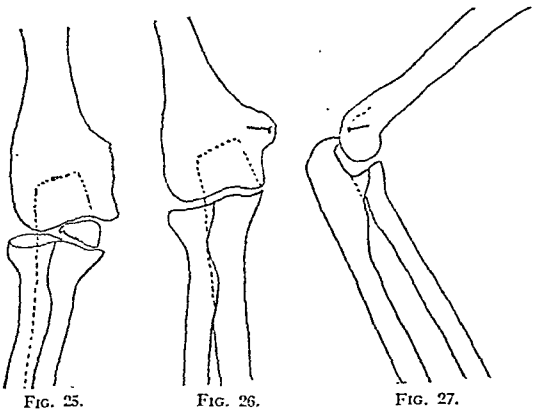


FIG. 25. FIG. 26. FIG. 27.

FIGS. 25, 26, AND 27.—R. M., aged 18.—Fracture of internal condyle of humerus; fragment in joint. Open operation; fragment fixed with screw.

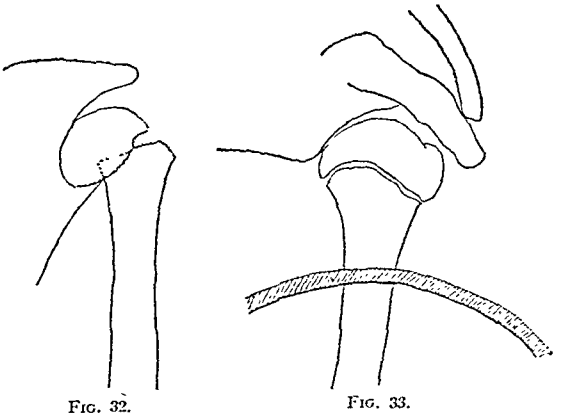


FIG. 32. FIG. 33.

FIGS. 32 AND 33.—S. S., aged 13. Separated upper epiphysis of humerus. Fig. 32. After failure to reduce by manipulation. Fig. 33. After reduction by open operation.

context that Sir Robert Jones has insisted on this for years); I also hold that if deformity is reduced there is no one position, and one only, in which reduction can be maintained.

I do not ask that one word of what I say should be taken for granted. I suggest to any surgeon, when next he has to treat a transcondylar fracture of the humerus in a child, that he should reduce it under an anaesthetic on the *x*-ray table, that he check his reduction by the screen, and then, if reduction is reasonable, see what effect flexion or extension has on the fracture. I am content to leave my point of view to be confirmed or refuted by such ocular demonstration. In my experience, founded on what I have seen on the operating table and on the *x*-ray table, the position advocated by Sir Robert Jones is both unnecessary and harmful.

A recent action against a surgeon concerned a transcondylar fracture of the humerus in a child who was taken to him immediately after an accident. He had the part radiographed, and proceeded to reduce the deformity, putting the elbow up in full flexion. The injury and manipulation, etc., were naturally followed by swelling, and, though the flexion was released, Volkmann's contracture followed from fibrosis of the flexor muscles of the forearm. The cause of this is generally believed to be obliteration of the vascular supply to these muscles from a degree of flexion which is too great for the particular case. The usual safeguard relied upon is the radial pulse, but this is not infallible. Local pain in the forearm at once demands release of flexion, but in my opinion manipulation and fixation in full flexion should *never* be undertaken until the maximum swelling resulting from the fracture has occurred, though as a fact my teaching has been, for the reasons given above, that full flexion is never or very rarely necessary.

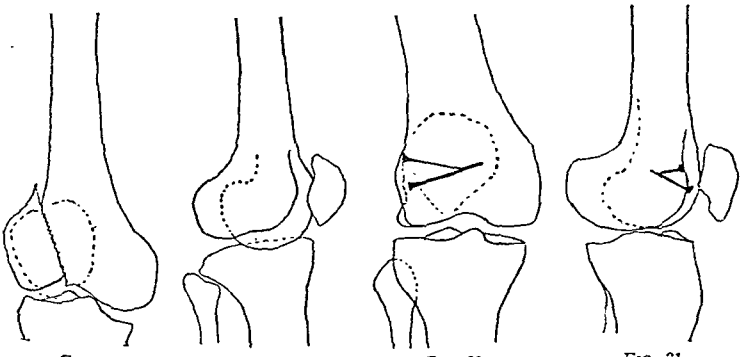


FIG. 28. FIG. 29. FIG. 30. FIG. 31.

FIGS. 28, 29, 30, AND 31.—A. S., aged 21. Fracture of external femoral condyle. Replaced by open operation and fixed with screws.

AFTER-TREATMENT

With regard to after-treatment it must be borne in mind that the surgeon has not carried out his task until complete function has been restored. The commonest minor complaint of a patient with a recently fractured leg is that of swelling; this is favourably influenced by massage, and exercises undoubtedly hasten the return of normal joint movements. At the same time it must be remarked that massage does nothing which nature will not do, but it does it more quickly; attendance at massage departments entails expenditure of time and money, which, in my judgement, is often ill repaid. I see no use in any ordinary case for passive movements.

When bony union is, after some four to six weeks, reasonably assured, active movements of joints without resistance or weight-bearing should be encouraged. In the practice of some, this is done at a much earlier stage, but I must admit that my practice tends to err on the side of ensuring union. This is the first essential, as in my view there is by a more prolonged immobilization no hazard to return of complete movement, though this may be delayed thereby.

I do not use passive movements in the treatment of a recent fracture. Those who employ them with success may pity me, but I have seen bad effects produced by ill-restrained passive movements oftener than anything else; the director of our massage department has forbidden them unless specially ordered.

As a routine for a fracture of the thigh six weeks in a splint is followed by six weeks in a calliper, and then weight-bearing is allowed; for a fracture of the leg eight weeks will suffice, but in neither case must weight-bearing be allowed until *x*-ray evidence confirms the clinical signs of union; this precaution is rather for legal protection

than for the information it conveys, for not infrequently union is firm to clinical tests some weeks before it is confirmed radiologically. This third *x*-ray depicts the anatomical result, but nothing less than a film will disclose the restoration of function, and even this does not record the various aches and pains which may impair a perfect result.

It is strange that public opinion on the treatment of fractures is that anything short of perfection indicates incompetence or negligence, and yet a much greater margin of error is given to us in the treatment of almost any disease. But most of the latter tend to get well, and in some fractures, particularly if occurring after middle life, we cannot anticipate more than a fair result.

REFERENCES

[1] Ashhurst, A. P. C.: *Surg., Gynecol. and Obstet.*, 1922, xxxv, 662.
[2] Fagge, C. H.: *Lancet*, January 21st, 1928.
[3] Jones, Sir Robert: *Practitioner*, 1930, cxxv, 188.

COMBINED USE OF LIVING VIRUS AND IMMUNE SERUM FOR IMMUNIZATION AGAINST VIRUS INFECTIONS

BY

G. M. FINDLAY, O.B.E., M.D., D.Sc.Ed.

AND

E. HINDLE, Sc.D.Camb.

BRIT. RESEARCH FELLOW IN TROPICAL MEDICINE

(From the Wellcome Bureau of Scientific Research, London)

None of the methods at present employed in immunization against virus infections is completely satisfactory. Since the time of Jenner it has been recognized that the use of a virus attenuated by passage through another animal species can confer a high degree of immunity. Nevertheless, the employment of such an attenuated virus may not be entirely free from danger, as is shown by the occasional occurrence of an encephalitis after inoculation with vaccinia virus. Whether due to the vaccinia itself or to some other associated virus, the encephalitis appears to be initiated by the lesions produced as a result of the local inoculation of the vaccinia virus, and in order to minimize these lesions a single inoculation, with a minimum of trauma in place of the customary four insertions, has been officially recommended (Ministry of Health, Committee on Vaccination, 1928).

Various other methods of immunization have been tested, in particular those involving the use of virus attenuated by chemical means. Although these vaccines have given good results in dog distemper (Laidlaw and Dunkin, 1926 and 1928), rinderpest (Curasson and Delpy, 1926; Kelser, 1927), fowl pest (Todd, 1928), and yellow fever (Hindle, 1929), there are certain technical difficulties in their preparation. One of the chief of these is the absence of any reliable method of standardization, so that vaccines of varying degrees of potency are obtained, and it is impossible to titrate them even approximately, except by making numerous animal experiments. Moreover, in dog distemper it has been found advisable to reinforce the immunity following vaccination by a subsequent injection of living virus, a procedure fraught with many technical difficulties, and only possible in the case of animals, since any failure in the potency of the vaccine must certainly result in a generalized infection.

The nature of these vaccines is still under discussion, but there is strong evidence in support of the view that many of them must contain living virus. Up to the present, all attempts to prove the existence of live virus in yellow fever vaccines have given negative results, nor does the blood of vaccinated monkeys become infective to mosquitos. However, the possibility of such an eventuality cannot be entirely ignored.

Immune or hyperimmune serum has been advocated in certain virus diseases, and in particular has been employed for protection against yellow fever. Although this method possesses the advantage of producing an immediate effect, in contrast with vaccines which require at least several days before conferring any protection on the subject, it has the great disadvantage of producing only a temporary immunity instead of the more durable protection conferred by vaccines. The results obtained by the use of immune serum in yellow fever are discussed below; they indicate that, as a general rule, this passive immunity rarely persists for more than a few weeks; similar results have been obtained in rinderpest and hog cholera. Yet another method of protection is obtained by a combination of immune or hyperimmune serum and virus, which has been used for immunization against both rinderpest (Kolle and Turner, 1898), and hog cholera (Dorset, Bolton, and McBryde, 1904). In the case of rinderpest the animals were inoculated on one side of the rump with immune serum, and on the other side with virus. Some individuals reacted with a fever, and their blood became infective, and about 1 per cent. died of the disease; the application, therefore, of this method in rinderpest is restricted to heavily infected localities. A further difficulty has been the risk of infecting with piroplasmosis or trypanosomiasis. In the case of hog cholera the use of immune serum produces a passive immunity of about three weeks' duration, but if combined with virus confers an active immunity which lasts for at least six months, and probably longer. The inoculated animals may show virus in the blood, and numerous deaths have been recorded, especially in the earlier experiments. Probably many of these earlier fatalities may be attributed to faulty technique, for later observers—for example, Hutyra and Köves, 1916—tested the method in Hungary and immunized 20,000 hogs, with very slight losses, or no losses at all.

Laidlaw and Dunkin (1931) have recently found that while mixtures of virus and immune serum injected together do not establish immunity, the injection of serum and virus simultaneously side by side does confer durable immunity. So far as we are aware this method has not hitherto been applied in any human infection. Unquestionably, very great care would have to be exercised before it could be generally employed in such a fatal disease as yellow fever, but by the use of immune or hyperimmune serum of proved value there would seem to be very little likelihood of any untoward results. In more benign infections, such as vaccinia, a combination of immune serum and virus, if equally efficacious in producing immunity, would have many advantages over ordinary vaccination, since, apart from suppressing any local reactions, the occurrence of undesirable after-effects would be greatly lessened.

Consequently, we have made experiments to determine whether a satisfactory degree of immunization might be obtained by the use of this method in two very dissimilar human infections—namely, vaccinia and yellow fever. In these experiments active virus was preferred to attenuated virus or vaccines, as, when combined with immune serum, no local or general reaction was observed, and it seemed likely that a fully active virus would produce a more lasting effect than an attenuated one. This method combines the advantages of giving an immediate protection, as a result of the immune serum, and a lasting effect, probably as a result of certain changes in the tissues of the host produced by the introduction of the living virus.

IMMUNIZATION AGAINST VACCINIA BY HYPERIMMUNE SERUM AND VACCINIA VIRUS

The object of these experiments was to determine whether it is possible, by a careful adjustment of the amount of living vaccinia virus and immune serum injected, to produce immunity in the rabbit in the absence of any general reaction, or of any local reaction at the site of inoculation. There is already considerable evidence to show that such a result is possible. Using a strain of neurovaccinia, Andrewes (1929) found that immune serum given intravenously to rabbits, at the same time as large doses of virus inoculated intradermally, prevented generalization of the vaccinial lesions, although development of the local lesions was practically unaffected. Serum given subcutaneously or intradermally could not be relied on to prevent generalization. Of the rabbits in which generalization was prevented by immune serum, 55 per cent. were subsequently found to be immune.

While the experiments recorded in this paper were in progress, Rhoads (1931) showed that vaccinia virus (neurovaccine) and specific immune serum, mixed in such proportions as to produce no lesions when inoculated intradermally, induced immunity when instilled into the nasal cavities of rabbits. The mixture was also effective when inoculated subcutaneously. Immunity was brought about with a minimum of systemic reaction and no local lesion, though when the mixtures were incompletely neutralized generalized vaccinia resulted. In the rabbits infected intranasally, from three to five instillations were given at intervals of from one to two days, while in the rabbits infected subcutaneously, three inoculations of 2 c.cm. of neutralized mixture were given at intervals of four days.

In the experiments here recorded it was desired to approximate as closely as possible to the conditions applying to routine vaccinations in man. In place of the more active neurovaccine, therefore, ordinary glycerinated calf lymph was used as a source of virus, while the immunizing mixture was inoculated intradermally, four injections being given at the same time, not at intervals of some days.

The hyperimmune serum was prepared in the rabbit by intravenous injections of vaccinia derived from rabbit testicle. Preliminary experiments were undertaken to determine the minimum dilution of the serum which was capable of neutralizing a suspension of vaccinia virus diluted 1 in 20 in saline. The suspension of the vaccinia virus was prepared by adding physiological saline to glycerinated calf lymph, centrifuging for ten minutes to throw down gross particles, and pipetting off the supernatant fluid. Virus suspension, 0.1 c.cm., was then mixed with an equal volume of the immune serum and inoculated intradermally. The highest dilution of the immune serum capable of preventing the development of any local lesion was, as a rule, 1 in 30; though in some rabbits dilutions of 1 in 40 protected, in others dilutions of 1 in 25 only were effective. For the development of immunity by means of a mixture of virus and immune serum, the final dilution of the immune serum selected was 1 in 20, as in six experiments this dilution prevented the development of any local lesions. On the other hand, with lower dilutions experiments showed that the final immunity obtained was much less, while when too high a dilution of serum was used the virus inoculated produced typical vaccinia reactions in the skin, although these lesions were generally less extensive than those produced by the same amount of vaccinia in normal rabbits.

The following is a typical protocol of a successful experiment, in which the quantities of vaccinia virus and immune serum were correctly adjusted.

January 5th, 1931.—Rabbit 117 received four intradermal inoculations of 0.1 c.cm. of a suspension of vaccinia virus diluted 1 in 15 in saline + 0.1 c.cm. of antivaccinia immune serum diluted 1 in 10 in saline. The virus suspension was mixed with the immune serum immediately before the injection.

Rabbit 118 received four intradermal inoculations of 0.1 c.cm. of antivaccinia immune serum diluted 1 in 10 in saline + 0.1 c.cm. of saline.

Rabbit 119 received four intradermal inoculations of 0.1 c.cm. of a suspension of vaccinia virus diluted 1 in 10 in saline + 0.1 c.cm. of saline.

Rabbits 117 and 118 showed no local reaction and no significant rise in temperature. Rabbit 119 developed four typical vaccinial papules.

Five weeks later the three rabbits and a normal control were inoculated intradermally on fresh areas of skin with suspensions of 0.1 c.cm. of glycerinated calf lymph in saline in dilutions of 1 in 10, 1 in 100, 1 in 1,000, and 1 in 10,000.

Rabbits 117 and 118 showed slight hyperaemia eighteen hours later, but no reaction after forty-eight hours; in Rabbit 119 there developed typical vaccinial lesions, except that in a dilution of 1 in 10,000 the reaction was less extensive than in the control.

Similar results were obtained when the period between immunization and the test inoculation was extended to eight weeks.

In a further series of experiments the effect of injecting the immune serum and the virus suspension into different skin areas about 2 inches apart was tested. In order to inhibit the local reaction, however, it was necessary to use a lower dilution of the immune serum, a dilution of 1 in 5 being found suitable. Here again it was possible, without causing any local reaction, to produce by the injection of immune serum and vaccinia virus a degree of immunity equal to that produced by the injection of the same amount of living unneutralized virus.

IMMUNIZATION AGAINST YELLOW FEVER BY IMMUNE SERUM AND YELLOW FEVER VIRUS

It is well known that an attack of yellow fever is followed by a high degree of immunity, and Stokes, Bauer, and Hudson (1928) showed that even 0.1 c.cm. of the serum of a patient who had suffered from a severe attack of the disease was sufficient to protect a rhesus monkey against fatal doses of infected blood and the bites of infected mosquitos; but this passive immunity, produced by the injection of convalescent serum, seems to disappear within a comparatively short time. For example, Marchoux and Simond (1906) found that this protection began to disappear about the twenty-sixth day, and Burke and Davis (1930) record three laboratory cases of yellow fever in which injection of convalescent serum had been given four months, forty days, and twenty-four days respectively before the onset of the disease.

Although all three patients recovered, yellow fever shows such wide variations in its virulence that it is impossible to be certain that recovery was due to the serum. The last patient, who had been injected with 16 c.cm. of human convalescent serum only twenty-four days previously, had the mildest attack, and it seems probable that in his case the serum had some effect, but it is obvious that this method of protection has very limited applications. Apart from the method of immunization, to which we again draw attention in the present publication, the most valuable use of convalescent serum is for the treatment of individuals who have been exposed to infection. In the course of our experiments one of the laboratory attendants, who had certainly been inoculated accidentally with a virulent strain of yellow fever, received an inoculation of 20 c.cm. of human immune serum the following day, and showed no signs of the disease. On the other hand, the inoculation of immune serum after the symptoms have developed seems to have little effect on the course of the disease, as evidenced by the records of various laboratory infections, and also in the treatment of infected monkeys (Hindle, 1929).

The duration of passive immunity in monkeys seems to be of similarly short duration to that in human beings, as shown by the following experiments:

May 8th, 1929.—Rhesus No. 205, inoculated subcutaneously with 0.5 c.cm. citrated blood of an immune monkey, VII 30. Thirty-six days later it was inoculated subcutaneously with 0.05 gram of infected liver and spleen of Monkey 210, and had a non-fatal attack of fever. It was subsequently immune, and showed no reaction when inoculated with virus three months later.

May 8th, 1929.—Rhesus No. 206, inoculated subcutaneously with 1 c.cm. citrated blood of three immune monkeys, VII 9, VII 12, and VII 16. Thirty-six days later it was also inoculated subcutaneously with 0.05 gram of infected liver and spleen of Monkey 210, and died of typical yellow fever after seven days.

In these experiments it will be noticed that in one case (No. 205) some degree of protection may have persisted for thirty-six days, but in the other (No. 206) the immunity had completely disappeared after the same interval. It is evident, therefore, that convalescent serum is of little value for general prophylactic use "unless followed by a dose of active virus" (Hindle, 1929, p. 420).

On the other hand, the inoculation of a mixture of virus and immune serum seems to produce a more lasting immunity, as shown in the following experiments:

January 12th, 1929.—Rhesus No. 155, inoculated subcutaneously with 3 c.cm. of a mixture of human immune blood with 0.1 gram of infected liver. The monkey showed no febrile reaction during the following ten days, while a control animal inoculated with 3 c.cm. of a mixture of normal human blood with 0.1 gram of the same infected liver died of yellow fever six days later. Rhesus No. 155 was inoculated with large doses of virus on April 29th, 1929, and again on September 13th, 1929, but showed no fever or any other signs of infection.

November 3rd, 1928.—Rhesus No. 117, inoculated subcutaneously with a mixture of 5 c.cm. of human immune serum and 0.1 gram of infected liver. The mixture was allowed to stand fifteen minutes at room temperature before being inoculated. The monkey showed no signs of fever—either after this inoculation, or after four subsequent inoculations of large doses of virus (on two occasions as much as 3 grams of infected liver or spleen)—on November 14th, November 25th, and December 30th, 1928, and January 7th, 1929, respectively.

January 21st, 1930.—Rhesus No. 306, inoculated subcutaneously with a mixture of 4 c.cm. citrated blood of a patient who had had an attack of yellow fever twenty-four years previously, together with 0.05 gram of infected liver and 0.5 c.cm. of infected blood. This monkey showed no signs of fever, either after this inoculation or after a subsequent intraperitoneal inoculation of 1 c.cm. infected blood on March 6th, 1930.

March 14th, 1930.—Rhesus No. 316, inoculated intraperitoneally with 5 c.cm. of a mixture of 10 c.cm. hyperimmune monkey serum with 1 gram of infected liver. The mixture was left at room temperature for eighteen hours, and then 5 c.cm. were inoculated into the monkey. The animal showed no reaction after this inoculation, and on April 23rd, 1930, was again inoculated with 1 c.cm. of virulent blood without showing any fever.

In this experiment the immune serum had had no action upon the virus *in vitro*, for 5 c.cm. of the mixture was centrifuged after it had been standing for eighteen hours, and the sediment was washed three times in a mixture of normal saline and ascitic fluid to remove the immune serum. The washed sediment was then inoculated into a monkey (No. 317), which died six days later of typical yellow fever.

It is unnecessary to multiply these examples, which are supported by the independent investigations of many observers. The evidence proves conclusively that the simultaneous injection of immune serum and virus in monkeys produces no obvious ill effects, and, moreover, is followed by a lasting immunity, in marked contrast to the comparatively short duration of the passive immunity produced by the inoculation of immune serum alone.

DISCUSSION

The use of virus and immune serum for immunization against virus diseases has many analogies with the use of a mixture of toxin and antitoxin in immunization against diphtheria. That such a toxin-antitoxin mixture is slowly dissociated was shown by Arrhenius and Madsen (1902), who found that free toxin was liberated from the mixture so gradually, and in such small amounts, that immune bodies were produced in the absence of disease symptoms. Glenny and Pope (1925) have also pointed out that diphtheria toxoid, when injected subcutaneously, will immunize rabbits, but may fail when given intravenously. If, however, the toxoid be partially neutralized by antitoxin, rabbits can be immunized by the intravenous route. This is apparently due to the fact that there is too rapid an elimination after intravenous injection, while the presence of antitoxin in the mixture may delay absorption or elimination. Glenny (1925) therefore concluded that the efficiency of toxin-antitoxin mixtures depends on the slow dissociation of the toxin from the antitoxin, so that the animal injected is constantly stimulated. Now Todd (1928), in the case of fowl pest, and Andrewes (1928), in the case of vaccinia, have shown that dilution of an inactive virus-immune-serum mixture renders the mixture active. The analogy with toxin-antitoxin mixture is obvious. It seems probable, therefore, that a virus-immune-serum mixture, when injected into an animal, gives off virus very slowly, with the result that the active virus is insufficient to give rise to symptoms of disease, but sufficient to produce active immunization.

In the case of vaccinia, the use of a mixture of immune serum and virus would seem to have advantages over the method of vaccination now generally employed, provided that the relationship between the titre of the immune serum and the virus is correctly adjusted.

The fact that a virus-immune-serum mixture has given satisfactory results in two virus diseases so dissimilar as vaccinia and yellow fever suggests that this method may have a very general application in other diseases due to ultra-microscopic viruses.

CONCLUSIONS

Experiments are recorded showing that immunization against vaccinia and yellow fever may be obtained by the injection of a mixture of immune serum and living virus, without giving rise to any general or local reaction.

BIBLIOGRAPHY

Andrewes, C. H.: *Journ. Path. and Bact.*, 1928, xxxi, 671.

Idem: Ibid., 1929, xxxii, 265.

Arrhenius, S., and Madsen, T.: *Festschrift Staatens Serum Institut*, Copenhagen, 1902, Paper 3.

Burke, A. W., and Davis, N. C.: *Amer. Journ. Trop. Med.*, 1930, x, 419.

Curasson, G., and Delpy, L.: *Rec. méd. vét.*, 1926, cii, 297.

Dorset, Bolton, and McBryde: *Amm. Ind.*, 1904, xxi, 188.

Glenny, A. T.: *Journ. of Hygiene*, 1925, xxiv, 301.

Glenny, A. T., and Pope, C. G.: *Journ. Path. and Bact.*, 1925, xxviii, 273.

Hindle, E.: *Trans. Roy. Soc. Trop. Med. and Hyg.*, 1929, xxii, 405.

Hutyra, F., and Köves, J.: *Centralbl. f. Bakt., Orig.*, 1916, lxxviii, 160.

Kelser, R. A.: *Milit. Surgeon*, 1927, lxi, 31.

Kolle, W., and Turner, G.: *Zeit. f. Hyg. u. Infektionskrank.*, 1898, xxix, 309.

Laidlaw, P. P., and Dunkin, G. W.: *Journ. Comp. Path. and Therap.*, 1926, xxxix (10) 201, 222; 1928, xli, 1, 209; 1931, xliv, 1.

Marchoux, E., and Simond, P. L.: *Ann. de l'Inst. Pasteur*, 1906, xx, 16, 101, 161.

Ministry of Health: Report of the Committee on Vaccination, 1928, H.M. Stationery Office.

Rhoads, C. P.: *Journ. Exper. Med.*, 1931, liii, 185.

Stokes, A., Bauer, J. H., and Hudson, N. P.: *Amer. Journ. Trop. Med.*, viii, 103.

Todd, C.: *Brit. Journ. Exper. Path.*, 1928, ix, 19, 101.

A REVIEW OF SEX CHARACTERS

WITH SPECIAL REFERENCE TO THE ADRENAL CORTEX

BY

L. R. BROSTER, O.B.E., D.M., M.Ch., F.R.C.S.

ASSISTANT SURGEON, CHARING CROSS HOSPITAL

Science, so far, has been unable to explain what determines sex in animals. Among mammals, with rare exceptions, the sex once acquired is definite and unchangeable, but this stability of the sexes steadily declines as we descend the evolutionary scale. In man we have come to regard the differentiation of the sexes so much an accepted and universal feature of nature that any deviation from this rule at once excites our curiosity. There are cases, however, in which characters common to both sexes have, from time to time, been observed, and it has fallen to my lot as a surgeon to study several cases of women in whom male secondary sexual characters have appeared. This has led me to consider the biological factors concerned, which are presented in this review. By the study of the abnormal we may hope to obtain a better understanding of the normal; and it is for this reason that these cases can make their contribution to our knowledge of sex physiology.

HISTORICAL

In Greek and Roman mythology we read of transformations, both fantastic and picturesque. Sir John Bland-Sutton, in his *Story of a Surgeon*, quotes the following:

"We learn from Ovid, the master of romance and vivid fancy, that Tiresias in his youth interfered with two engendering snakes, and was in consequence turned into a girl. Seven years later, he saw the same pair of snakes again copulating, and separated them with a stick. He was again turned into a man, and became the most celebrated philosopher in Thebes."

In Greek mythology we learn the story of Hermaphroditus, son of Hermes and Aphrodite, who was worshipped as a divinity He had inherited the beauty of both his parents, and thus excited the love of the nymph of the fountain of Salmacis. She tried in vain to win his affections, and as he was one day bathing in the fountain, embraced him, praying to the gods that she should ever be united to him. The gods granted her request, and the bodies of the youth and nymph became joined together, retaining, however, the characteristics of each sex. The figures of Hermaphroditus, half man and half woman, are common in ancient art. This double sex is also attributed to Dionysus and Priapus, embodying in one being the two principles of generation and conception. Dionysus, the young, beautiful, but effeminate god of wine, is described as having a manly form, but approaches the female in softness and roundness.

Sex abnormalities have not failed to attract attention in the sphere of art. M. Achard and M. Thiers record a picture by Ribera of Madeline Ventura, who, bearded at the age of 52, is suckling an infant. In the National Museum at Munich there is a statue in wood of the bearded St Madeline.

The primitive instinct is one of antipathy towards the abnormal Among animals their presence in a herd is not tolerated; it is not unusual to see them feeding at a distance, and they are often attacked and killed. This same antipathy has been shown by man. Crew quotes the case of a cock which, in 1474, was sentenced and burned at the stake in Basel for the heinous and unnatural crime of laying an egg. The executioner, a man with an inquiring type of mind, after fulfilling his office, discovered three more eggs inside. Apparently the same fate befell the sexually abnormal up to 1730. Our attitude has changed since then.

SEXUAL EVOLUTION

In the vertebrate kingdom there are present in each sex, rudiments of the accessory sexual parts of the opposite sex. There are, however, exceptions to this rule. Some individuals combine not only the bodily characters, but also the generative cells of both sexes, and are spoken of as true hermaphrodites. Others, again, with the generative cells of one sex combine the bodily characters of both. No hard-and-fast line can be drawn between the two groups. True hermaphroditism is rare in man, but more common in animals. In pigs, for example, the numbers have been estimated at 1 in every 80,000. Pseudo-hermaphroditism is common in man, and in Warsaw the ratio was 30 to every 800,000 of the population.

In the case of animals and plants with separate sexes, it is obvious that the two elements must always unite for each birth. In true hermaphrodites it is not obvious why they should unite; nevertheless, they either occasionally or habitually do so, for the reproduction of their kind. All vertebrate animals, all insects, and some other large groups of animals pair for each birth. Many hermaphrodite animals do not habitually pair. The vast majority of plants are hermaphrodite. In plants and aquatic hermaphrodites cross-fertilization can be explained by such agencies as winds and insects on the one hand, and of currents on the other. Apparently no land animal is capable of self-fertilization. It is a curious anomaly that in plants some species of the same family are hermaphrodite and others unisexual, yet the difference between them is very small. Hence it appears that, with plants and animals, intercrossing between distinct individuals is almost a universal law of nature. Hermaphroditism may occur in varying degrees in one organism. It may be demonstrable in early life (tadpole) and disappear in adult life as maleness or femaleness predominates, or it may be normal in the adult. Other animals are bisexual; they produce ova at one time and spermatozoa at another. Certain facts suggest that hermaphroditism is a primitive condition, and that the unisexual condition is a secondary differentiation. Yet other facts, where cross-fertilization may be difficult, suggest that the bisexual condition may have arisen as a secondary adaptation.

Another less understood variant in the modes of reproduction is that of parthenogenesis, in which ova produced by the female develop without being fertilized by the male element. This obtains among rotifers and small crustaceans, where the males in some cases have never been found, or are absent for a season. In bees the males may be absent for the summer, or be artificially segregated for years, without affecting the rapid succession of sterile female generations, and the production of drones in the beehive from eggs which have never been fertilized.

Reproduction in the elementary forms of life is by simple cell division. Thus the amoeba splits to form two complete individuals. For all its simplicity, we see its analogy in the highest forms of reproduction, the same division of the fertilized ovum into two cells, each of which may ultimately develop into separate individuals—the so-called uni-ovular twins In the metazoa the same primitive form of asexual reproduction obtains In sponges, groups or clumps of cells sequester off to form new individuals, and if a sponge is cut into pieces these may regenerate the whole. In the higher forms of life this attribute of regeneration remains the sole legacy of the reproductive cells. Volvox, on the borderline between the protozoa and metazoa, presents several peculiar biological phenomena. The adults are balls of cells. In such a ball reproductive units are sent adrift and divide to form new individuals At other times some of

the cells develop into ova and others into spermatozoa. The large cells are fertilized by the small. We may find volvox balls in which only ova are being made, and others with only spermatozoa. Here we have an organism illustrating the differentiation between somatic and reproductive cells, and occurring in asexual, hermaphrodite, and unisexual phases. The analogy between the higher and lower forms of life can be pushed even further. For, in the protozoa, processes corresponding to fertilization are of general occurrence. Periodically, conjugation takes place in which two individuals unite temporarily or permanently. This is an incipient sexual process—the fertilization of an ovum by a spermatozoön.

SEXUAL CHARACTERS

Only when one set of sexual glands (ovary or testis) predominates is it possible to determine the sex of the individual. These are called the primary sexual characters. Associated with this predominance is the development of the correlated sexual organs; and sexual maturity is declared by the acquisition of secondary sexual characters, which are liable to much variation. When the sex glands are completely absent or experimentally removed, as in castrates, the secondary sexual characters shift towards the neuter or intersexual type, and not to the opposite sex. The alternation of maleness and femaleness in the same individual occurs both naturally and experimentally. Sir John Bland-Sutton gives a most vivid description of this sex reversal in the Mexican sword tail:

"It is a pretty fish, almost transparent and about three inches long. In sword tails the sexes are distinct. In the male the anal fin is represented as a pair of claspers, and the lower part of the tail is elongated, and in shape like a sword. The female has a tail of the usual shape among carp—she produces viviparously. It happens not infrequently that after producing fry two or three times, she changes her sex completely. The anal fin becomes claspers, and the lower part of the tail elongates into a sword, as in the male. Indeed the female becomes male, not only in the assumption of male livery, but sheds milt. The change is correlated with the acquisition of functional testes."

Similar changes of sex have been described in fowls.

Another curious biological phenomenon is presented by the so-called freemartin, the female twins of cattle, who not uncommonly exhibit sexual abnormalities. They are sterile, resemble castrates, and have their internal genitalia undeveloped. In twins of different sexes the female is usually abnormal. It has been found that there exist connecting blood vessels between the foetuses and a fusion of the chorions. It has been suggested that the female undergoes masculinization under the influence of the male sexual hormone entering the blood of the female. Where no such fusion of blood vessels obtains, the females are normal.

Secondary Sexual Characters

The variety and intensity of secondary sexual characters has been one of the most conspicuous features in evolution. The male differs primarily in his increased power of locomotion, his special prehensile organs, his greater size, strength, endurance, and pugnacity, and in his special weapons of offence and defence; in birds, by his gorgeous plumage, decorative ornaments, his engaging antics, and his enchanting song. The females are naturally endowed with organs of nourishment and protection for the young. Darwin attributed the greater decorativeness of the males to the sexual selection exerted by the females. The handsomest and most vigorous males succeed in their courtship better than their rivals, and are more successful in begetting a large number of offspring.

The theory of sexual selection is dependent upon the laws of inheritance, the transmission and development of characters. The equal transmission of characters to both sexes is the commonest form of inheritance. But characters are commonly transferred to that sex in which they first appear. Now, secondary sexual characters are transmitted by both sexes, though developed in one. Occasionally characters proper to the male appear in the female, when she grows old or becomes diseased—for example, in the common hen. The first development of characters in the female and transference to the male is less commonly observed. Reversion of characters, which may have been transmitted through two or three generations or many generations, may appear under certain unknown favourable circumstances.

We do not know why certain characters should be inherited by both sexes, and other characters by one alone—namely, by that sex in which the character first appeared; but it seems in a general way that variations which originate late in life tend to be developed in the same sex alone, while variations which first appear early in life in either sex tend to develop in both sexes. In a few cases it must be assumed that there is an embryonic difference in the sexes to account for some characters which are seen only in one sex. For instance, haemophilia is transmitted from the parent male through the daughters, who remain unaffected, to their sons. The same obtains in some forms of colour-blindness. It is probable that the parent transmits characters of the asexual type which are capable of reacting to the male and female influence of a given species.

Hair, which may be considered a secondary sexual character, holds an anomalous position. It seems probable that man is descended from some hairy progenitor, yet its loss must have been an inconvenience to primitive man. The commencement of denudation is seen on the under surface of the female anthropoid ape. As women are less hairy than men, females apparently first had their bodies denuded of hair, possibly as a sexual attraction, and transmitted this character equally to both sexes. On the other hand, our male ape-like progenitors acquired beards as a sexual ornament, and transmitted them to their male offspring.

DEVELOPMENT OF SUPRARENAL GLAND

Suprarenal tissue, comparatively speaking, is of recent acquisition to the animal kingdom, and the history of its development is marked by definite and gradual progress. Appearing first in fish, it is present in all higher animals, increasing in importance so as to become essential to life. Bilateral adrenalectomy in man is followed by death. Associated with this increase in functional importance, we find a corresponding and interesting change in the development process. In its primitive form its origin is single and very intimately connected with the reproductive glands; later, this portion commences an association with the cells of the sympathetic system, of quite a different origin. The completed organ therefore is of dual origin. The suprarenal glands were first described by Eustache during the Renaissance. The term "suprarenal capsule" is really a misnomer, for it was originally thought that the glands were hollow, until Meckel in 1806 pointed out that they were solid, and named them adrenals. Pettit's researches first showed that in mammals and other vertebrates these glands lie not only along the upper poles of the kidneys, which is their common position, but also along the inferior vena cava, the renal veins, and along the large trunks of the abdomen; and that their structure and location varies in different animals.

In man the suprarenal glands lie across the upper poles of the kidneys, and consist of a central portion, or medulla, surrounded by the cortex. The medulla is composed of the chromaffin cells, which have a special affinity for, and stain yellow with, chromate salts. The

cells of the cortex are more compact in texture, being differentiated into three zones. They have an abundance of fatty granules, and readily stain with osmic acid. To differentiate these cell types, Balfour in 1878 chose the name of interrenal organ for the lipoid-containing cortex, as opposed to the suprarenal, comprising those cell groups which simulate the adrenal medulla.

Development of the Interrenal or Cortex

The interrenal or cortex is derived from the mesothelium of the Wolffian ridge from which the gonads arise, and extends from the pronephros to the cloaca. About the fourth week a series of buds, resembling a chain or rosary, can be distinguished from these coelomic cells at the root of the mesentery. These buds sequester off, and coalesce, forming a ridge, which projects into the colon between the mesonephros and root of mesentery. In the 6 mm. embryo it appears as cell groups just caudal to the pronephros, and in the 9 mm. embryo it is a dense cluster of cells medial to the Wolffian body; in the 12.5 to 14 mm. embryo there are signs of capsule formation, and the cells are well vascularized, becoming arranged in layers.

Development of Medulla

The cells of the medulla have the same origin as the nervous cells of the abdominal sympathetic ganglia. They proliferate and separate off to form an association with the cells of the cortex.

Fusion of Elements

The changes associated with the formation of the adrenal gland in man are peculiar in that the same process has not been observed even in the higher apes. In the third month the sympathetic formative cells (sympathogonia) commence to grow into the cortex to form the medulla. This invagination proceeds along the central fold which contains the main vein in such a way that the greatest surface of contact obtains between cortex and medulla, until the medulla is entirely closed by the cortex. Just before birth the maximum stage of development is reached, in which the adrenal is about one-third the size of the kidney, whereas in the adult the ratio is only 1:28. No other organ shows such marked changes in its subsequent history. In the newborn (till the end of the second month) the cortex gradually becomes reduced by a process of absorption. Fatty infiltration in the form of coarse fat drops appears in the hyperaemic cortical cells, for the most part in the middle and inner zones, and these cells are gradually destroyed. The external layer, whose cells contain only fine granules of fat, survives to regenerate the cortex, which is completed, with adult form, about the second year; and the organ then grows *pari passu* with the rest of the body. The onset of puberty heralds a new and active growth of the cortex. At this stage it is twice as heavy as the testis, whereas later it is one-half or one-third this weight. The three zones become more sharply defined. The outer, germinal or glomerular, zone forms the two inner zones, and the cells contain fine fat droplets, but are poor in lipoids. The fascicular zone is rich in lipoids, and the cells contain large fat droplets. The reticular zone cells contain small fat droplets, but are laden with pigment, which increases with age. In woman the glomerular layer is increased in comparison with man; it enlarges at each period and with pregnancy, and these differences are akin to those found in the pituitary. Between the fourth and fifth decades, the cortex is at the zenith of its development. From this time on there is a gradual senile involution, more marked in the glomerular layer; while the fascicular layer increases in volume. These changes are greater in males than in females.

During the course of this development two facts may be stressed. In the adrenal of the newborn, during the stage of fatty disintegration of the hyperaemic cells, haemorrhage may readily occur—a point which should be borne in mind in applying violent methods of resuscitation. In cases of foetal anencephaly it has been noticed that the adrenals are unusually small. Microscopically it has been found, not that the glands have failed to develop, but that the post-partum changes described have occurred during foetal life, and that the adult gland has already been established. Since the brain is so largely composed of those complex lipoid cells upon whose production the adrenal may have some influence, it is possible that the failure of cerebral development in these cases is due to a disturbance of lipoid metabolism induced by the premature maturity of the adrenal glands.

COMPARATIVE ANATOMY

The story of the adrenals would not be complete without some reference to their comparative anatomy. In fishes—the elasmobranchs, the teleosteans, and selachians, groups comprising the sharks and rays—the two cell systems are separate and distinct. Medullary tissue is found scattered along the parietal vessels and sympathetic chain, whereas the cortex exists as a separate structure, the so-called interrenal body. Coexisting with this interrenal body we find a marked development of the sexual system. The pelvic fins have their hinder ends modified in the male to form special copulatory organs, the myxipterygia or claspers. In the teleosteans specialized corpuscles are found on the dorsal and ventral surfaces, and even in the substance of the kidneys. These were first described by Stannius, who considered that they corresponded to the interrenals of the selachians. In amphibians the adrenals are placed loosely along the ventral surface of the kidneys, and stand out as yellow flecks against the dark brown kidney. In some classes of amphibians they appear as a large number of yellow nodules placed in series along the kidney. In this group the first advance of the two cell systems towards each other is observed, and islands of medulla cells are scattered about in the substance of the cortex. In reptiles the morphological characters of the adrenals present more intimate association with the genital glands than with the kidneys, with a large preponderance of cortical tissue. In some species we find an even closer association between the two cell systems, the medulla lying dorsally and the cortex ventrally. In other species there is a tendency for the medulla to be situated peripherally around the cortex. Chromaffin substance is also found in the sympathetic ganglia, and along the inferior vena cava and renal veins. In birds the adrenals, two yellow-coloured masses on either side of the vena cava, lie in the neighbourhood of the upper poles of the kidneys, the left just posterior to the ovary. Microscopically the two cell systems are mixed together in groups, with a preponderance of cortical tissue.

ACCESSORY ADRENALS

From the nature of the developmental process it is to be expected that accessory or misplaced adrenal tissue should be of common occurrence. Chromaffin cells are usually found in relation to the sympathetic ganglia, and may exist as accessory structures. These have been described from time to time in the region of the root of the superior mesenteric artery, and along the abdominal veins. Similarly, any failure on the part of the interrenal buds to coalesce would give rise to accessory interrenal bodies. Such bodies are usually referred to as accessory adrenals, but from their nature it would be wiser to differentiate them as accessory interrenal bodies. True accessory adrenals composed of cortex and medulla are rare, whereas accessory interrenals are very common, and are most often

found near the adrenals, about the gonads, in the broad ligament, along the spermatic veins and inguinal canal, and in the epididymis.

PATHOLOGY

In comparison with tumours of the medulla, those of the cortex are more homogeneous in type, yet their differentiation has been the source of fierce debate among pathologists. Nor has the matter yet reached finality. The contest has raged round the subject of the so-called hypernephroma. True adrenal hypernephromata arise from the cortex of the adrenal or accessory interadrenals. Their entity was challenged by the discovery, nearly forty years ago, by Grawitz, of tumours closely resembling the cortex in structure, but arising outside the sphere of the adrenals. These hypernephromata, or what should be termed renal hypernephromata, have been most commonly found in the kidneys, and have been recorded in places where accessory adrenals occur—namely, the retroperitoneal tissues, pancreas, broad ligament, and even in the ovary and testes. This led Grawitz to attribute their origin to adrenal rests. The position of the Grawitzian hypernephroma has been strongly attacked by Stoerk, Glynn, and others, and many have relegated them, more especially the papillary forms, to the category of renal adenocarcinomata. The classification of these tumours has been complicated by the fact that it has been found that many tumours of the ovary which have been described as ovarian hypernephromata are really not hypernephromata at all, but lutein tumours. Glynn, in an admirable paper, has done much to clear up the subject, and considers the acceptance of Grawitz tumours has been too complete.

In view of the difficulty and unsettled pathology, it appears reasonable to adopt for the present an arbitrary clinical classification of hypernephromata into those which are associated with virilism and those which are not:

A. *Tumours of the Adrenal Cortex*

1. Hyperplasia. Nodular and diffuse, or bilateral.
2. Hyperplasia. Unilateral.
3. Adenoma.
4. Hypernephroma of the adrenal cortex.
5. Carcinoma.

These are invariably associated with virilism.

B. *Tumours Resembling the Adrenal Cortex*

1. Renal hypernephroma.
2. Ovarian hypernephroma.
3. Large lutein tumours.

These are not associated with virilism.

The hyperplasias are rare, and we find gradations between these and the adenomata. They are commonly found in infancy and old age, and when bilateral they give rise to pseudo-hermaphroditism (feminine). Unilateral hyperplasia is found after puberty in the second and third decades, and is associated with marked virilism. This type receives scant reference in the literature, is probably the commonest and most important of all the groups, and will be more fully described later. The adenomata may be single or multiple. They are circumscribed, rarely encapsulated, may be large, with a tendency to haemorrhage and softening, and often become malignant. Carcinoma occurs frequently. The atypical cases are difficult to dissociate from sarcoma, and the ratio of carcinoma to sarcoma is 10:3. They form soft yellow tumours, which grow rapidly, and are prone to necrosis and cystic change. Bony metastases are infrequent, and their progress is rapid and fatal.

Hypernephroma

In view of the variability displayed by this tumour, it may be well to emphasize some of the characters observed in the different groups.

True Adrenal Hypernephroma.—Macroscopically, this tumour resembles the more common renal hypernephroma, with a tendency to haemorrhage and necrosis, but it is less yellow and has not the same tendency to form cysts. Microscopically, the resemblance to the normal adrenal cortex is slight; the cells and their nuclei are distinguished by the greater variation in their size and shape, by the absence of the characteristic clear and very vacuolated cytoplasm, and apparently by the complete absence of well-formed gland lumina. The histological appearances are a small index to malignancy, and there is no real difference whether the tumours are from the young or old, male or female, with or without sex changes. Virilism with amenorrhoea is invariably present.

Renal Hypernephroma or Grawitz Tumour.—Macroscopically, there are large, yellow, fatty, vascular, circumscribed tumours, prone to haemorrhage and cyst formation. There is usually a central fibrous area surrounded by a more cellular portion. They arise within the kidney capsule, displacing the renal substance, and may extend along the renal vein. Microscopically, there is a striking resemblance to one of the zones of the adrenal cortex. The cells are arranged either in small circular groups separated by strands of connective tissue (zona glomerulosa), or the elongated cords of zona fasciculata may predominate. The cytoplasm is slightly granular, numerous lipoid and glycogen granules yielding a foamy texture. Lumina are present. Virilism is absent. These tumours become highly malignant, are rapidly fatal, and very commonly disseminate in bone.

Ovarian Hypernephroma.—Macroscopically, these are solid yellow tumours with haemorrhagic and necrotic areas; sometimes there are a few degenerate cysts of yellow colour, containing fat. Microscopically, there is a general resemblance of groups of clear or very vacuolated cells lying in a capillary stroma very much like the zona fasciculata. The cytoplasm is clear and extensively vacuolated, and the presence of glycogen and lumina is well marked. There is a close resemblance to the structure of the adrenal cortex and to the renal hypernephroma, and consequently these tumours have been thought to be of adrenal origin.

Lutein Tumours

Macroscopically, these tumours apparently arise in the ovary. They are large, generally about the size of a foetal head, usually malignant, yellow, haemorrhagic, and with necrotic areas and cysts. Microscopically, there is a resemblance of clear or very vacuolated cells in a capillary stroma to the zona fasciculata. The cytoplasm is clear and vacuolated, glycogen and lumina are present, but to a lesser degree than in ovarian hypernephroma. The cellular hyperplasia of the lutein layer has been mistaken for ovarian hypernephroma, and, both macroscopically and microscopically, there is no essential difference between these tumours. Glynn, in an exhaustive examination of these tumours, comes to the conclusion that only in one case (*Bovin's*) of a hypernephroma in the broad ligament associated with virilism was there evidence to show that the tumour was a true adrenal hypernephroma of an accessory suprarenal. Considering that accessory suprarenals are common in the broad ligament, few *hypernephromas* have been recorded there; and there is no proved case of cortical rests either in the ovary or in the testis. This case is probably the only true adrenal hypernephroma which has been described as occurring in the female pelvis.

Virilism, either complete or partial, has been described in association with cystic or dermoid tumours or semi-solid tumours of the ovary, but there is no evidence that the adrenals in the cases were examined.

CLINICAL SYNDROME

It has long been known that the ductless glands exert a powerful influence on our health and physical development. The facts at our disposal show that they function as a whole in a concerted and orderly manner. We have been able to assign certain clinical syndromes to pathological processes in the majority of them, and we ascribe their influence to an internal secretion, which acts in virtue of its over-secretion, under-secretion, or disordered secretion, via the blood stream. Any dysfunction of one is apt to unsettle the balance between the others, and it is the interpretation and correlation of this intricate system of interaction to which so much study is now being devoted.

There is abundant evidence to show that certain of these glands are intimately concerned with general bodily growth, and of such organs as the sexual in particular; that the continued secretion of these glands is necessary for the maintenance of this growth at a normal level; and that growth will be inhibited when the flow ceases or diminishes. The most striking change associated with the adrenal group is the accentuation of the male secondary sexual characters, and these may be most aptly described under the heading of "Virilism," rather than the more cumbersome appellations in literature, such as the "Adreno-genital syndrome." As long ago as 1756 W. Cook established the association of hypertrichosis and adiposity with adrenal tumour. The association of secondary sexual changes with adrenal tumour was known to John Hunter, and, though cases were sporadically recorded, it was not till 1905 that the true correlation was confidently emphasized in a publication by Bulloch and Sequeira. Unfortunately, many of the earlier case reports are unsatisfactory in that the clinical manifestations were ascribed to various pathological processes, and the real causative factor was either overlooked or not examined.

The clinical changes which constitute virilism may be grouped as follows:

Changes Involving the Sexual Organs.—In women, atrophy of the uterus, changes in the ovary, under-development of the labia, and overgrowth of the clitoris. In males, precocious sexual and somatic development—for example, a boy aged 6 may possess the sexual and somatic development of a full-grown man.

Changes Affecting Bodily Contour.—In women, narrowing of the hips, broadening of the shoulders, atrophy of the mammae. Either marked muscular development or the deposition of fat.

Disturbances in the Sexual Function.—Irregular menstruation, amenorrhoea, miscarriages, and failure to bear children.

Alteration in the Secondary Sexual Characters.—Hirsutism of the male type, either a beard and moustache or mutton-chop whiskers. The hair on the body is of the male type, curly and crisp, and well marked on the limbs. On the body the pubic hair extends up to the umbilicus and may be well developed on the chest, shoulders, and small of the back. Development of the larynx in women is accompanied by cracking of the voice with a concomitant bass voice. Linea distensae or striae may be found on the flanks and thighs, and are probably a result of increased adiposity.

Perversion and Change.—This is difficult to ascertain, but Holmes quotes a case in which there was lack of modesty and loss of erotic feelings.

The type of virilism depends on the time of onset and the duration of the symptoms, and may be conveniently classified as follows:

1. *Congenital Type.*—Probably all cases of feminine pseudo-hermaphroditism belong to this group, in which the sexual glands are female and the secondary sexual characters are male. Serious misapprehension as to the sex of the individual may arise in later years. These cases are associated with bilateral hyperplasia or occasionally an enlarged accessory adrenal.

2. *Puberty Type.*—This is a common variety, and changes commence at puberty or soon after. It is entirely confined to young women, who develop either the obese or muscular type of virilism, in which hirsutism and menstrual disturbances predominate. Whether this type is a direct result of the increased activity of the adrenals which takes place at puberty, or at birth, we do not know; but we do know that it is associated with adenoma and unilateral hyperplasia; and it may even occur with adrenal tumour.

3. *Adult Type.*—In adult women, including multipara, the reversion to the male type is less marked; hirsutism followed by amenorrhoea, involution of the breasts, atrophy of the uterus and ovaries, obesity; miscarriages may supervene. The pathology is identical with Group 2.

4. *Obstetrical Type.*—After the menopause, hypertrichosis followed by obesity, psychical disturbances, and asthenia supervene. The loss of hair follows the masculine rule, and it is not uncommon to see the recession of the hair, and even temporal baldness in elderly women. This group, like the congenital, is accompanied by bilateral adrenal hyperplasia. There is now evidence to show that, after surgical removal of adrenal tumours in suitable cases, women have shown a most striking reversion to their own type, in regard both to psychical and to secondary sexual characters.

PATHOGENY

On the analogy of the behaviour of other endocrine glands it is probable that the adrenal cortex elaborates an internal secretion, which passes into the blood stream and, when present in excess, is capable of producing the changes already referred to. How this hormone acts is subject to much speculation. Swale and Vincent maintain that it acts directly on the reproductive system. It is also suggested that it is an adjuvant to the testicular hormone in the amplification of the secondary male sexual characters, and is not antagonized by the ovary; or that it acts reflexly on the sex characters via the pituitary, pineal, ovary, and testes. Blanchard contends that it is the interstitial cells of the gonads which are directly responsible for virilism. Krabbe offers an ingenious explanation by asserting that the ovary is originally bisexual, the cortex being male and the medulla female, and that cortical hypernephromata are tumours caused by riotous growth of misplaced sex elements in the adrenal. This view has been criticized by Gordon Holmes, Kemp, and others, who doubt such chance inclusions, and point out that these tumours, associated with sex changes, approach in microscopical appearance the normal structure of the adrenal cortex. Keith believes that it is through the adrenal cortex that the gonads produce the changes associated with puberty. Lipschutz maintains that the adrenals exercise a masculinizing effect on the sex glands. In support of this is our knowledge that pineal and pituitary tumours may be associated with the same changes. Crosbie and Smith assert that the sex characters are regulated by the interstitial cells of the gonads, and that this function may be assumed by the adrenal cortex.

So far there is no evidence that hyperplasia of the cortex can be produced experimentally.

It is difficult to come to any definite conclusion as to what type of hormone is elaborated, but it is probably a hypersecretion, upsetting the endocrine balance in which the gonads are concerned. It is essentially a masculinizing effect, heightened in the presence of the male sex gland, but apparently not much modified or altered in the presence of the ovary. Nor are we able to say precisely which cell type is concerned with the elaboration of this hormone. The available evidence points to the cells of the adrenal cortex and sustentacular cells of the testis. The latter are the more potent in producing the finer points of male characterization. In the adrenal cortex it is probable that the cells of the outer zone are most directly responsible. This is not surprising in view of their common ancestry.

PHYSIOLOGY

Since the discovery of the blood-pressure-raising effect of extracts of the adrenal medulla in 1894 by Sir E. Sharpey-Schafer, a great deal of attention has been devoted to its physiology, but no such far-reaching effects have been accorded to the cortex. Apart from the production of virilism, the cortex is credited with a close association with lipoid metabolism, being the storage organ for cholesterol fats.

It has been suggested that the cortex forms a precursor to epinephrin, but there is no valid reason to indicate that any mutual co-operation exists between cortex and medulla. There is, however, evidence that the cortex acts as a detoxifying agent. During the acute infections—streptococcal, diphtheria, and scarlet fever—the protoplasm of the cortical cells shows marked vacuolation and loss of lipoids, and it is thought that in this process the cholesterin or cholesterin esters saturate or inactivate poisons or toxins. Yet in starvation the lipoid content of the cells remains unchanged.

Modern Conception of Gonadal Internal Secretions

A vast amount of experimental work has been devoted to the influence of the sexual glands, in an endeavour to explain the problem of the sexes. The bulk of this work emanates from the Continent, and the inquiry has been pursued from two aspects: (1) the grafting of sex glands; (2) the injection of extracts from the sex glands.

It is now accepted that every organism in its earliest development passes through an asexual stage, and that the soma reacts to maleness or femaleness by the specific action of the sexual hormones. This theory is supported by castration experiments in which the animal more or less loses its sex characters and tends to assume an asexual or neuter form. If a gonad is transplanted into a castrated animal of the other sex, the animal reacts to the former—that is, the hormones act as a sex specific. The most successful grafting experiments have been of this nature, for it has been found that there exists a certain antagonism between ovarian and testicular grafts on uncastrated animals, although simultaneous ovarian and testicular graft can produce experimental hermaphroditism, with variations in psychosexual behaviour. In these experiments it has not been possible to discount the interaction of the other endocrine glands. Thus, it has been possible to establish certain facts: (1) Formation and persistence of sex characters depend on sexual glands. (2) The formative and causative influence of the sexual glands do not relate to all sex characters. (3) The formative and causative influence of the sexual glands concern not only the sex characters involved in sex function—that is, genitals, heat, psychosexual behaviour—but characters in special relation to sex function—plumage, etc.

Internal Secretion of the Testis and Ovary

The clinical evidence available with regard to the testis shows that the interstitial cells are a necessary part of the testicular hormone, and there is no proof of an independent hormone elaborated by the cells of Sertoli or the tubules. With regard to the ovary, the position is less clear, and the endocrine function is intimately connected with processes taking place in the follicle. Consequently, all experimental results based on the injection of gonadal extracts have been conflicting and disappointing. This is not surprising considering the compound structure of the sexual glands, and the fact that we cannot control the rhythm of their normal function. Moreover, it has been found that the sexual hormones are not specific for each species. It is not until we can establish the quantitative rate and rhythm of the secretory action of the gland that we can hope for more success from the injection of extracts.

BIBLIOGRAPHY

Achard, C., and Thiers, J.: *Bull. de l'Acad. de Méd.*, 1921, Third Series lxxxvi, 51.
Apert, E.: *Presse Médicale*, 1911, xix, 865; *Bull. de Soc. Péd.*, December, 1910, 501.
Bulloch, W., and Sequeira, J. A.: *Trans. Path. Soc.*, 1905, lvi, 189.
Crew, F. A. E.: Studies on the Relation of Gonadic Structure to Plumage Characterization in the Domestic Fowl. III. Laying Hen with Cock's Plumage. *Proc. Roy. Soc.*, January-July, 1927, Ser. B, ci, 514.
Crosbie, A. H., and Smith, L. W.: *Trans. Amer. Assoc. Genito-Urinary Surgeons*, 1927, xx, 179.
Ewing, J.: *Neoplastic Diseases*, 1928
Fordyce, A. D., and Evans, L. H.: *Quart. Journ. Med.*, July, 1929.
Frew, R. S.: *Quart. Journ. Med.*, 1911, iv, 123.
Glynn, E.: *Journ. Obstet. and Gynaecol. of the British Empire*, 1921, xxxii, 23; *British Medical Journal*, 1921, ii, 531.
Idem: *British Medical Journal*, 1921, ii, 533.
Goldzieher: *The Adrenals*.
Greenwood, A. W., and Crew, F. A. E.: Studies on the Relation of Gonadic Structure to Plumage Characterization in the Domestic Fowl. II. The Developmental Poulards. *Proc. Roy. Soc.*, January-July, 1927, Ser. B, ci, 450.
Greig, D. M.: Skull Metastases, Blastomas, *Edin. Med. Journ.*, 1929, xxxvi, 25.
Guthrie, L., and d'Este Emery: *Trans. Clin. Soc.*, 1907, xl, 175.
Halla, Z.: *Wien. med. Woch.*, 1928, lxxviii, 1295.
Holmes, G.: *Quart. Journ. Med.*, January, 1925, lxx, 143.
Hutchison, R.: *Ibid.*, 1908, i, 33.
Langeron, L., and Lebaac, P.: *Ann. de Méd.*, October, 1928, 249.
Lacroux, G.: *Arch. de Méd.*, 1928, xxiv, 635.
Lipschutz, A.: *The Internal Secretions of the Sex Glands*, 1924.
Lucien, M., Parisot, J., and Richard, G.: *Traité d'Endocrinologie*, 1920
Parkes, B. A. S.; and Rogers Bramwell, F. W.: The Anomalous Appearance of Male Sexual Characters in Female Fowls, *Journ. of Genetics*, xvii, 1926-27, 69.
Pevot, L., Martin, J. F., and Dechaume, J.: *Lyon Méd.*, 1924, cxxxiv, 255.
Salomon, R.: *Bull. Soc. Franç. de Derm. et Syph.*, 1929, xxxvi, 12.
Willems, C.: *British Medical Journal*, 1923, ii, 123.

UNDULANT FEVER IN INFANCY

BY

BRUCE WILLIAMSON, M.D.ED., M.R.C.P.LOND.

PHYSICIAN TO THE ROYAL NORTHERN HOSPITAL; ASSISTANT PHYSICIAN TO THE PRINCE OF WALES'S GENERAL HOSPITAL

AND

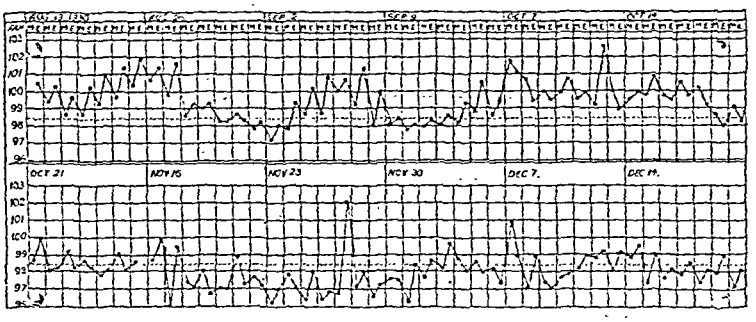
A. J. GIBSON, M.B., B.S.LOND.

HEYWOOD

During recent years sporadic cases of undulant fever have been recorded in these isles from time to time, and it would appear that they constitute only a small percentage of the cases which actually occur. There seems to be no question that the infection is spreading, and that what was formerly known as Mediterranean or Malta fever has been found in practically every country in Europe; it is also widespread throughout the United States. The causal organism, the *Brucella melitensis*, has been found in goats, cattle, horses, pigs, cats, and dogs, and the prevalence of animal infection in this country was shown by routine agglutination tests carried out at the Royal Veterinary College, London, in 1927–28, which returned positive results in 31.8 per cent. of 928 cows and heifers.

Sir W. Dalrymple-Champneys, in his report to the Ministry of Health on undulant fever, makes the statement that children under 5 years are almost exempt, and it is chiefly on this account, and because of our inability to find any previous record of a case in infancy in Britain, that we have made the following communication. As in the majority of cases described in this country, the causal organism was not isolated, but serologically and clinically there is no doubt that the following case was one of undulant fever.

R. H. B., male, aged 20 months, was in excellent health until July 30th, 1930, when a cold in the head developed. Following this there was vague ill-health, with loss of appetite, and the temperature became irregular, with recurrent attacks of pyrexia lasting about ten days, the highest figure being just over 102° F. With the fever there was diarrhœa, followed by constipation during the afebrile periods. Physical examination showed lymphoid hyperplasia in the posterior triangle of the neck, an easily palpable spleen, and definite enlargement of the liver. Despite the fever the patient looked quite fit throughout, and even during the pyrexial attacks was in no degree prostrated.



Three weeks after the onset the blood count was as follows: red cells 5,100,000 per c.mm., white cells 5,000 per c.mm. (small mononuclears 80 per cent., large mononuclears 4.7 per cent., polymorphonuclears 13.6 per cent., eosinophils 0.7 per cent., mast cells 1 per cent.); haemoglobin 60 per cent., and colour index 0.58. A second count, made on October 10th, during a febrile period, showed a rise in white cells to 14,125 per c.mm., 38 per cent. being large mononuclears, 20 per cent. small mononuclears, 11 per cent. hyalines, and 31 per cent. polymorphonuclears. The blood Wassermann reaction was negative, the urine was normal, while the Widal reaction for typhoid and paratyphoid A and B was also negative.

The nature of the infection was disclosed by a positive serum reaction to the *Brucella abortus* (Bang) up to a dilution of 1 in 250.

In investigating the source of infection we found that the father of the patient was a dairy farmer at Brentwood, and he admitted that a somewhat higher percentage of abortion than usual had occurred among his cows. There was no history of ingestion of goat's milk. None of the family had been abroad. Three other cases of unexplained pyrexia in children from the same district were investigated, but in none could a positive serum reaction be obtained. The most recent report records that the patient is now in excellent health.

We are indebted to Dr. T. H. C. Benians and Dr. E. I. Clark for the pathological investigations which led to the diagnosis of the case.

BIBLIOGRAPHY

Dalrymple-Champneys: Undulant Fever, Ministry of Health Report, No. 56.
Bamforth: *Lancet*, 1927, i, 818.
Wordley: Ibid., 1927, ii, 1220.
Manson-Bahr: Ibid., 1927, ii, 1414.
Thompson: Ibid., 1928, ii, 1335.
Harrison and Wilson: Ibid., 1928, ii, 1338.
Todd: Ibid., 1928, i, 388.
Nightingale and Wilson: Ibid., 1929, ii, 1143.
Charles and Warren: Ibid., 1930, i, 886.
Ward: Ibid., 1930, i, 1154.
McArthur and Wigmore: *British Medical Journal*, 1930, i, 858.
Williams and Sladen: Ibid., 1930, i, 858.
Wishart and Gibson: Ibid., 1930, i, 860.
Baxter: Ibid., 1930, i, 861.
Scott: Ibid., 1930, i, 861.
Cruickshank, J. N. and R.: Ibid., 1930, i, 195.

INFECTIONS AND INSULIN ACTION

OBSERVATIONS ON AN UNUSUAL CASE

BY

R. D. LAWRENCE, M.D., M.R.C.P.

AND

R. A. McCANCE, M.D., M.R.C.P.

(From the Diabetic Clinic, King's College Hospital, working for the Medical Research Council.)

Sepsis and febrile infections are well known to antagonize insulin action in diabetics, so that the usual dose of insulin may have to be doubled or trebled. No adequate explanation of this fact has been produced, although two theories have been advanced to account for it:

1. The products of infection themselves destroy or inactivate the insulin in circulation. Such products may be bacterial toxins or more likely enzymes, such as trypsin,[1] [2] produced by leucocytes and pus. It is known that the ferments of pus cells[3] destroy insulin *in vitro*, but this has not been proved to happen *in vivo*. This hypothesis may be called the theory of "chemical inactivation."

2. It has been suggested that the inhibition is due to the stimulation of the adrenal and thyroid glands[4] by infections, and that it is their increased activity which antagonizes insulin action. This suggestion has been supported by some animal experiments, but the evidence is certainly not conclusive. This may be called the theory of "hormonal antagonism."

The case described below is very unusual, and supports the second theory. Increasing sepsis was accompanied by diminished insulin requirements, the diminution coinciding with a failure of the patient's resistance and reaction to the infection.

DESCRIPTION OF THE CASE

A diabetic girl, aged 16, had been treated for two years with insufficient insulin. On admission to King's College Hospital in May, 1930, she was found to require 140 units a day on a diet of 80 grams carbohydrate, 67 grams protein, and 135 grams fat. She was therefore a very severe case, unusually "insulin resistant." She was a careless out-patient, and in August developed a large staphylococcal abscess in the thigh at the site of an insulin injection, a unique occurrence in our experience. This infection increased the insulin requirements for a week after the opening of the abscess. Healing was complete in three weeks, and she left hospital on a dosage of 140 units a day. In December, 1930, she developed a similar abscess in the upper arm, and her insulin requirements became 200 units a day. This was followed in ten days by another abscess near the shoulder-joint, and, in spite of free drainage, a succession of pyaemic abscesses appeared. Pure cultures of *Staphylococcus aureus* were obtained from them, and a positive blood culture in the fourth week. She died in the seventh week. At the post-mortem examination numerous abscesses were found throughout the body, and about 2 pints of pus in the pericardial sac. Until the end her appetite and digestion remained unimpaired, and the total quantity of the diet was kept unchanged. Frequent changes in insulin dosage were required, these being controlled by urine and blood sugar tests.

The pertinent features of her case, the insulin requirements, the average maximum temperature, and the white blood counts, are shown in the accompanying table. The two last are indications of her reaction to the infection. They show a gradual failure from the fourth week onwards; this was in keeping with the clinical appearance.

After the second week the degree of sepsis and the amount of retained pus became progressively greater. The table indicates that her insulin requirements rose from 140 to 200 units at the onset of the infection, and fell progressively to 80 to 90 units as her resistance failed, in spite of an increase of the severity of the sepsis.

	Insulin Units	Temperature	White Blood Count
Before infection	140	98·6°	
1st week	200	102·0°	
2nd week	200	103·0°	
3rd week	200	103.0°	23,000 per c.mm. Polymorphs 95%
4th week	170	102.0	31,000 per c.mm. Polymorphs 96%
5th week	140	101.0°	13,000 per c.mm. Polymorphs 89%
6th week	100	100·5	11,600 per c.mm. Polymorphs 93%
At 6½ weeks	90 80	99·0°	

DISCUSSION

As it is possible to exclude all the other factors which might have reduced her insulin requirements, we are forced to conclude that they depended on her progressive failure to react to her infection. Thus, while it is known that progressive emaciation may improve the diabetic condition, this was absent in her case. It was impossible to weigh her, but there was no visible reduction in her slight obesity, nor was there any failure to eat and absorb the usual total amount of food. Variations in her endogenous insulin production were very improbable, as she had been a very advanced diabetic showing no variation in her insulin requirements for the eight months during which she was under our observation. On the other hand, there was no change in the type of infection and no abatement of its severity as the insulin requirements grew less. The same bacteria, and presumably the same toxins and type of pus, were present in increasing quantities, and she should, if the theory of chemical inactivation be true, have required more insulin in the later weeks.

It seems fair to conclude, therefore, that it was not the sepsis or toxins *per se* which inhibited insulin action in the early stages of this case, but the reaction to them as manifested by a rise of temperature. When the latter failed, the insulin acted better. The febrile reaction seemed the determining factor, and it will be noted that the insulin diminished as soon as the average temperature began to fall, and before any change was seen in the blood count. Further evidence of the importance of a febrile reaction (as distinguished from a non-febrile infection) must have been noticed by insulin workers in comparing the effect of common colds in adults and in young children. The same degree of coryza (as far as we can judge) will cause pyrexia in a child, but not in an adult. The child requires more insulin; the adult does not, as a rule, unless he has a "feverish cold."

The above evidence associates the inhibition of insulin action directly with a febrile reaction, and only indirectly with the sepsis or infection producing the fever. Perhaps the explanation can be carried further, but not with any certainty, as too little is known of the mechanism producing fever. One hypothesis, however, explains the facts we have observed. Cramer[3] advocates the view that a febrile reaction is produced by the stimulation of the adrenals and thyroid by infective agents, and has developed his arguments in a recent book, to which readers are referred. This would afford an adequate explanation of the inhibition of insulin, as it has been proved experimentally that the hormones of these glands, adrenaline and thyroxine, are direct antagonists to insulin. Clinical evidence is also clear on the harmful effect of hyperthyroidism on diabetes, and also of conditions of nervous strain and excitement in which the suprarenal is stated, and may reasonably be presumed, to be overactive. If we grant in this case that the failing febrile reaction was due to an exhaustion of the adrenal-thyroid apparatus, it is easy to understand why the insulin requirements grew less in spite of increasing sepsis.

Unfortunately, even if the above hypothesis be true, it does not suggest any therapeutic measure in infections other than an increase of insulin. We have tried ergotamine,[4] a sympathetic depressant, which in theory should be ideal, and, indeed, in practice augments insulin action, but its toxic properties have shown it to be undesirable.

SUMMARY

An unusual case of septicaemia in a diabetic is reported in which the insulin requirements, after an initial increase, became progressively less as the sepsis grew worse. This reduction coincided with a falling temperature and failure of reactive powers. It is suggested that the inhibition of insulin action by sepsis is not directly due to the sepsis or toxins, but to the accompanying febrile reaction. It is further suggested that this reaction may be due to the increased activity of the adrenal and thyroid glands, recognized antagonists to insulin. If their reaction fails or diminishes, as in this case, then the antagonism to insulin is removed, and the dose required becomes less, in spite of increasing sepsis.

REFERENCES

1 Epstein and Rosenthal: *Amer. Journ. Physiol.*, 1924, lxx, 225.
2 Buckley, O. E.: *Brit. Journ. Exper. Path.*, 1931, xii, 13.
3 Rosenthal and Behrendt: *Zeit. f. d. ges. exper. Med.*, 1925, liii, 563.
4 Lawrence and Buckley: *Brit. Journ. Exper. Path.*, 1927, viii, 58.
5 Cramer, W.: *Fever, Heat Regulation, Climate, and the Thyroid-Adrenal Apparatus*, Longmans, 1928.
6 Lawrence, R. D.: *Brit. Journ. Exper. Path.*, 1930, xi, 145.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

KERATITIS PUNCTATA SUPERFICIALIS

From the number of cases of keratitis punctata superficialis that one formerly came across it could not, I think, have been termed a common ocular affection, yet the number of cases I saw during the past winter leads me to believe that it is now of much commoner occurrence than might be expected. It is a condition very easily missed, and one not likely to be found unless carefully looked for. Practically all the recent cases have been mistaken for, and treated as, a conjunctivitis. This is owing to the fact that the conjunctiva shows a mild hyperaemia of both its palpebral and conjunctival portions; there is no true discharge, as is present in conjunctivitis, but an excess of tears. The pain is of a gritty, burning nature, and more severe than would be encountered in a conjunctivitis of so mild a degree. There is also considerable photophobia, which is far more pronounced and distressing than in a case of conjunctivitis.

If the cornea is examined with an ordinary light nothing abnormal is seen, but with focal illumination and a magnifying glass, particularly if the pupil is dilated, the surface of the cornea will be seen to be cloudy and scattered over with several minute grey dots, the numbers of which vary considerably. They may be arranged in groups or rows, and are very much more abundant in the centre, the periphery of the cornea being often quite clear. If fluorescein is instilled into the conjunctival sac some of the spots are stained green, but others remain unaffected. An examination with the corneal microscope shows the spots to be of a superficial nature, involving

only the corneal epithelium; they vary in colour from a brilliant white to a dull grey, some being round, others stellate in shape. The remaining corneal epithelium is oedematous. The deeper structures of the eyes are not involved.

If correctly treated, the condition appears to take one of two courses. The ocular irritation and the corneal spots may disappear in a few days, or the irritative symptoms may rapidly pass off, but the corneal spots remain, gradually clearing up over a period of some weeks. In none of the cases that I have seen has there been any permanent impairment of vision.

The condition may attack one or both eyes, and, although it is said to occur most frequently in young people, recent cases would show that its occurrence in middle age is as frequent as at any other time. There is no doubt, I think, that catarrh of the air passages, and particularly the influenzal cold, has a definite bearing on the ocular condition, many patients complaining that they had had a succession of colds, and that during one of these the eyes had become red and irritable. The condition occurs more frequently in women than in men.

As regards treatment, the only real essential is not to employ any irritating drug—such as mercury or zinc—which will probably have been used if the case has been mistaken for conjunctivitis. I have obtained the quickest results with a lotion of normal salt solution, used warm three or four times a day, and in a mild case no other treatment is necessary. Protosil ointment of 5 per cent. strength may be put into the conjunctival sac just before bedtime every night. Heat is beneficial, the best method being to immerse in a bowl of hot water a piece of lint or flannel, wring it out, and apply it to the closed lids, continuing this for ten minutes every three hours. In the more severe cases coloured glasses are both restful and protective. Whether catarrh of the nasal passages is present or not, it is probably beneficial to give some nasal antiseptic. I have employed chloretone inhalant (P. D. and Co.), used with an atomizer.

In conclusion, therefore, in what looks like a case of mild conjunctivitis with marked irritative symptoms, a careful examination of the cornea should be made, and even if, without special instruments available, this appears normal, all irritative treatment should be stopped and a saline lotion substituted, and the progress of the case watched for a week or ten days.

E. R. CHAMBERS, F.R.C.S.ED., D.O.M.S.
Ophthalmic Surgeon, Bristol Royal Infirmary.

ACUTE URETHRITIS IN MUMPS

The following case has several unusual features:

The patient, a middle-aged man, had one son, aged 11, at home from school suffering from a mild attack of mumps. The boy had developed definite parotitis (but no testicular involvement) on March 9th. His case ran a normal mild course.

The family live in comfortable circumstances in the country; the father comes to town daily. He called to see me in London on March 26th, complaining that for a week he had had urethral irritation, some pain, and a free discharge of pus. The patient's circumstances were against a gonococcic infection, and the laboratory report confirmed my own findings, there was a muco-purulent discharge, but no gonococci. Next day I received a telephone message that my patient was feverish and in bed. On examination I found his temperature was 100.8°; slight pain in left parotid. Twenty-four hours later the parotid was swollen to an enormous size, and the urethral discharge still continued, but it appeared to be lessening and the inflammation and redness at the mouth of the urethra was not so marked. On April 1st the left testicle rapidly swelled, the patient's morning temperature being 103°, and at 11 p.m. 104.8°; there was slight delirium.

Progress Notes

April 2nd. Temperature, morning 103°, evening 103.2°; slightly easier, but vomited twice; some epigastric pain and distension (? acute pancreatitis).

April 3rd. Temperature, morning 101.4°; general condition much better, but testicle very large and tender.

April 4th. Temperature 98.6°; very much easier.

April 8th. Temperature normal; testicle down to half; no urethral discharge.

April 12th. Testicle very nearly normal; patient getting downstairs to-day.

All through the illness there was evidence of a very severe infection, with delirium and some collapse on the fifth and sixth days of the fever. The pancreas may have been involved.

It is of some interest that a lady friend, aged 25, who was living in the house, developed mumps on March 30th—a mild case, but with considerable pelvic pain.

London, E.C.1. ARTHUR SPENCE, M.B., Ch.B.

Reports of Societies

EPIDEMIOLOGY OF VENEREAL DISEASES

At the meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine on April 24th, with Professor MAJOR GREENWOOD in the chair, Colonel L. W. HARRISON read a paper on the epidemiology of venereal diseases.

Colonel Harrison, after remarking on the notorious fallacy concerning the statistics of venereal diseases, explained that he had constructed various tables and graphs mainly from a census carried out in Switzerland in 1920–21, in which an effort was made to obtain particulars from practitioners and institutions, from a German census in 1927, from a number of official Scandinavian figures, from various one-day censuses in the United States, and from such British figures emanating from the treatment centres as were available. He compared the incidence of venereal diseases in large towns and cities with their incidence in smaller places, and showed how great were the differences in this respect. In Norway, in 1924, for example, the rate per 10,000 was 30.7, but in Oslo it was 134; in Sweden, for the whole country, it was 18.7, but for Stockholm 99.2; in Germany, in 1927, the rate was 58, but in Berlin it was 136, and in Kiel 164. In the Swiss census the towns of more than 50,000 inhabitants showed three times the average for the whole country, and the villages only one-fourth of the average. Turning to age and sex incidence, Colonel Harrison said that it appeared from the various figures that the age of greatest incidence was 20 to 24, with the peak occurring earlier in females than in males. Recently, in connexion with a League of Nations inquiry, he had sent to Geneva approximately 3,000 records of early cases of syphilis, giving the date of infection, and analysis of these figures showed that on an average the males in this country acquired syphilis at a later age than in Germany or France. The rates for the men in the Services (except for gonorrhoea in the Navy) compared favourably with those for civilians of the same age group in Germany. Higher rates of syphilis in female children up to 10 years suggested that congenital syphilis was commoner in females than in males; which, if true, was a curious fact, seeing that in the periods of sexual activity females tended to react less to the virus than did males. An alternative possibility was that more female syphilitics survived after birth. Another fact to be noted was that there was a much lower ratio of females to males in respect of gonorrhoea than in respect of syphilis, suggesting that

there was a large amount of hidden gonorrhoea in women. For example, in Greater New York (1928) the ratio of males to females in early syphilis was 1.87 to 1, but in gonorrhoea it was 4.41 to 1. In Oslo (1926) the ratio for syphilis was 1.9 in males to 1 in females, but for gonorrhoea 3.5 to 1. In the treatment centres of England and Wales (1929) the corresponding figures were 1.8 to 1 for syphilis, and 4 to 1 for gonorrhoea. Figures for the German census (1927) showed that for the age group 20 to 29 the rate of primary syphilis in males and in females according to the stage when first treated was 15.8 and 3.8; but in the case of secondary syphilis the sex position was reversed, the rate for males being 9.8 and for females 13.9, indicating the tendency of males to seek early treatment and of females to delay. There was little or no evidence of the diminution in incidence of gonorrhoea. Syphilis increased in most countries during the war, then declined rapidly until 1924, after which it declined more slowly, remained stationary, or actually increased. Soft chancre had declined very greatly, and there was strong evidence that in Western Europe a large proportion of cases now came from abroad. He compared three English centres dealing practically only with seamen, at which the percentage of soft chancre was found to be 5.7, with four inland centres, at which the percentage was 0.3. Colonel Harrison discussed the influences affecting changes in the incidence of venereal diseases. The effect of salvarsan on syphilis might be neutralized by increased promiscuity and under-treatment. The view of Haustein was that the incidence of venereal diseases waxed and waned with economic prosperity, that of von During and others that it followed epidemic curves like other infectious diseases. Colonel Harrison was himself inclined to Haustein's view. He produced the figures for the incidence of syphilis in the British forces stationed at home per 1,000 of strength. In 1921 the respective figures for the Navy, Army, and Air Force were 8.1, 9.8, and 4.1. In the Army and Air Force there had been a progressive diminution, but in the Navy, after reaching 3.1 in 1925 and 1926, and 2.3 in 1927, the figure rose to 5.2 in 1928 and 7.9 in 1929. The corresponding figures for 1929 in the Army and Air Force were 2.1 and 0.8. He also made an attempt to estimate the incidence of fresh syphilis in this country about 1900 by taking the death rates for general paralysis of the insane from 1914 to 1918, but he admitted that this was of very doubtful value on account of the varying views as to the incidence of general paralysis in syphilis. He described a Swiss method of calculating the probable number of persons in a community who had been infected with syphilis; this resulted in a figure of 0.8 to 1 per cent. for that country. Haustein's calculations of percentages in some large European towns showed rates which were much higher than seemed to obtain in London and Glasgow.

Dr. J. D. ROLLESTON said that he had kept a record at a London fever hospital of the number of cases admitted as suffering from one of the acute notifiable infectious diseases and in which the final diagnosis was syphilis. The number was quite small, ranging from 0 in 1923 to 7 in 1928. Dr. DALY (London County Council) asked whether sufficient was known about the contagion of syphilis for anything to be laid down as to its constancy. In other infectious diseases infectivity waxed and waned, and it might be that the spirochaete at one period was more virulent than at another. There was a possible reason for the increase in the number of cases of syphilis in the past year or so. In the old days, when treatment was incomplete, he presumed that the syphilitic person acquired a certain immunity; but now, as the result of clearing up entirely the syphilitic virus in these patients, a larger number of people who had been syphilized five or ten years ago, having since been exposed again, were presenting themselves as fresh cases of infection.

Dr. E. F. HODSON said that the figures for general paralysis of the insane gave no indication of the prevalence of syphilitic infection in a community. Out of one hundred cases of syphilis, general paralysis might not be the late manifestation in any one of them. In the Tropics he had seen many cases of syphilis and never a case of general paralysis. This as a late manifestation occurred most frequently among intellectual persons, while locomotor ataxia was apt to develop among those who did hard manual labour, and syphilitic aneurysm among those whose occupation called for spasmodic effort. Sir GEORGE BUCHANAN said that more exact information might be expected as the result of the elaborate case-treatment papers which were being collected from the clinics in different parts of Europe and America. These would furnish, he hoped, some quite new sources of information of international significance about the results of different kinds of treatment with arsenical compounds. Dr. CARSWATH suggested that it would be interesting to work out the correlation between incidence of syphilis and unemployment, and Dr. H. S. STANNUS asked whether any figures were available as to the relative proportion of infections from professional prostitutes and from amateurs. Professor MAJOR GREENWOOD pointed out certain difficulties in any estimation of incidence based on deaths from general paralysis of the insane, and Colonel HARRISON, in reply, said that he had endeavoured to work out, but with very little success so far, the incidence of syphilis in various classes of the community. He thought there was general agreement that there was now far more sexual promiscuity than formerly, and that the amateur played a larger part in infection than the prostitute.

RIEDEL'S DISEASE

At a meeting of the Liverpool Medical Institution on April 9th, with the president, Professor W. BLAIR BELL, in the chair, Mr. C. O. DAVIES read a paper on Riedel's disease.

After a brief survey of the available literature on the subject, he gave the clinical history and pathological features of a case of Riedel's thyroiditis in a married woman, aged 26. Discussing the difficulties of differential diagnosis from malignant disease of the thyroid, he said that Riedel's goitre usually occurred in a previously healthy gland, did not form a bulky tumour, and had a smooth surface. The pressure symptoms were severe for the size of the goitre. Carcinoma most frequently appeared in a gland previously pathological, and formed a large tumour, which was uneven and nodular on the surface. Mr. Davies drew special attention to the fact that adhesions of the goitre to surrounding tissues made thyroidectomy a very difficult procedure. Lantern slides demonstrating the transition from an early stage, in which the gland was chiefly occupied by a round-celled infiltration, to the formation of fibrous tissue were shown.

In the discussion which followed, the PRESIDENT asked Mr. Davies how the toxic symptoms, such as tachycardia, were caused, when the lesion invariably destroyed the thyroid tissue; even though the disease were limited to a portion of the gland one would not expect hyperthyroidism. He also wondered what was the condition of the parathyroids in this form of thyroiditis. Had they been examined? He thought one or more must sometimes have been removed along with the capsule, to which the adherence of adjacent structures had been emphasized by Mr. Davies as being an important surgical difficulty. Dr. HOWEL EVANS said that the etiology of Riedel's struma was quite unknown. The condition was a rare one—the

other specimens described were certainly the only ones seen in the Thompson Yates Laboratory during the past twelve years.

DYSTOCIA AND ENLARGED BLADDER

Dr. M. A. DOBBIN CRAWFORD and Dr. T. N. JEFFCOATE reported a case of dilatation of the urinary tract in a foetus, causing dystocia. A woman, aged 35, having had six normal confinements, went into labour at the thirty-fourth week of her seventh pregnancy. She was sent to hospital as a case of obstructed labour, the child born as far as its chest, and dead. Dystocia in this case was due to an enlarged foetal bladder, which required puncture before delivery could be completed. The foetal bladder, dilated and hypertrophied, completely filled the abdomen; there was an associated condition of bilateral hydronephrosis. The interesting features of the case were that it occurred in a female foetus, there was no evidence of any urethral obstruction, while the genitalia and all other parts of the body were normally developed. A suggested cause was that it was due to an abnormality in the neuro-muscular mechanism. The question whether the foetus normally secreted urine whilst *in utero* was discussed. The view was put forward that it was pathological for the foetal kidneys to function before parturition.

The PRESIDENT said that he did not think it was necessary to lay much stress on non-obstruction of the urethra in some of these cases, for one so often saw post-operative paresis of the bladder wall with considerable distension and even hypertrophy, without urethral obstruction or damage. He thought the fact that the kidneys might have secreted earlier and more freely than normal was probably a factor of importance. They did not know when normal renal activity and urination first occurred; many children, without the stress of labour, passed urine immediately after delivery by Caesarean section.

TREATMENT OF NERVOUS EXHAUSTION

At a meeting of the Chelsea Clinical Society on April 21st, with Dr. F. J. MCCANN, the president, in the chair, Sir E. FARQUHAR BUZZARD opened a discussion on the treatment of nervous exhaustion.

Sir Farquhar Buzzard said that "nervous exhaustion" was a diagnosis which he practically never made, and a condition, therefore, which he hardly knew how to treat. When he said to himself that nervous exhaustion was another type of neurasthenia he was no better off, because "neurasthenia" was a term employed to cover a variety of morbid states clinically resembling each other, but therapeutically calling for different methods of attack. The patient who came up with a diagnosis of nervous exhaustion was generally found to be free from any signs of organic disease of the nervous system or of serious disease of any other organ which would account for his state of ill-health. His symptoms were that he was easily tired, mentally and physically, lacked concentration, was unable to make decisions, his memory was not what it used to be, he was not taking the same interest in his pursuits, he was depressed, perhaps agitated, irritable, over-reactive to noise, and sometimes restless, complaining of headache, indigestion, constipation, palpitation, with vague pains in various parts of the body. A statement that the patient was suffering from overwork would no doubt be acceptable to him and his family, but, fortunately or unfortunately, fatigue from excessive mental strain was a physiological rather than a pathological condition, and one from which recovery was rapidly made under the influence of rest. Experiment had shown that the fatigue produced by mental work was evanescent. Overwork must be dismissed as a frequent agent in the production of nervous exhaustion. More often the cause might be described as preoccupation of a personal or emotional character, amounting, in fact, to an anxiety neurosis. It was not unfashionable to lay the blame for nervous exhaustion on a chronic toxaemia, but he was not impressed by the results of treatment based on such a diagnosis, although, of course, it was important to deal with any such sources of ill-health if they existed, whether their share in bringing about nervous exhaustion was primary or not. But the large majority of patients who sought advice for symptoms characteristic of nervous exhaustion belonged to one of two categories: the anxiety-neurotic and the manic-depressive. It was only by discriminating between these two types that a correct method of treatment could be adopted. The chief obstacle to the recognition of a manic-depressive psychosis was its unfortunate name, with its asylum associations, so that the majority of such cases were labelled neurasthenia. He preferred the term "autonomous depression" when comparing this condition with the depression of the anxiety state. This disorder, as met with in everyday practice, presented every degree of severity, from the condition of a normal happy individual who was subject to occasional moodiness to that of the individual who was certified as suffering from mania or melancholia. Success in making the distinction between the anxiety state and autonomous depression could be achieved only by a careful exploration of the history and symptoms, including the history of suicide or alcoholism in the family. He was convinced that a large number of chronic alcoholics were essentially manic-depressive, and were alcoholic because they were manic-depressive. One distinction between the two states was that the anxiety-neurotic would come to the physician willingly and with hope, whereas the psychotic had to be brought against his will, and stated that he was not ill, but had come only to please his wife. The neurotic ascribed his illness to other things, to bad luck or to malign people, while the psychotic placed the blame upon himself. The neurotic was more apt to seek distraction and to benefit by it temporarily; but the psychotic avoided distraction and social intercourse. The depression in the case of the psychotic was always at its worst in the morning; sleep might not be disturbed, but waking was horrible. The typical anxiety-neurotic slept badly. Treatment must depend upon the cause. If the exhaustion were really caused by overwork and were in an uncomplicated form it would certainly yield to rest and change. The exhaustion due to toxaemia clearly called for the removal of the septic focus if it could be found. Nervous exhaustion due to anxiety needed active treatment, by which he meant some form of psychotherapy, requiring, in the first instance, a careful and sometimes prolonged mental investigation. If the anxiety could not be resolved, then some form of compensation, readjustment, or sublimation must be aimed at. He was not sure that psycho-analysis, using the term in its highly specialized sense as implying that it could be practised by only a few people, was either necessary or always beneficial, but some analysis of the mental contents should be made in order to determine what was important and what was merely secondary. The person suffering from autonomous depression needed assiduous care; mental investigation into his case, so necessary in the case of the neurotic, must be avoided lest it drive him to desperation. A willing ear, ready to hear the same old miserable story day after day, unremitting sympathy and encouragement, and a mild degree of exhortation—such must be the doctor's contribution to this patient's recovery. There was no condition in which a doctor's frequent visits were so necessary and so seemingly unproductive, and it was always wise to see that the work and responsibility were divided between two or more individuals.

In the discussion which followed, Dr. TRAVERS SMITH thought that the range of possible causes mentioned by Sir Farquhar Buzzard might be widened to include the possibility of latent tuberculosis, malignant disease, anaemia, myocardial insufficiency, low blood pressure, and arterio-sclerosis. In addition to anxiety and manic-depressive states there were others to be considered, one of them being obsessional neurosis, and, again, nervous exhaustion might be a matter of hysteria pure and simple, without anxiety. It might also arise as a result of self-accusation due to previous masturbation, perhaps dating back to a distant period. Dr. P. SEYMOUR-PRICE asked whether it was not possible for nervous exhaustion to be a pure and simple exhaustion of nerve energy, a case of a really tired-out nervous system, which with rest and treatment might get perfectly well. Was it any wonder that the business man of to-day, with things as they were on the Stock Exchange or in the City, or the woman of to-day, with things as they were in domestic service, became utterly exhaused? These people should not be labelled psychotic or anxiety-neurotic; they were just ordinary people very short of nerve energy. Dr. J. CAMPBELL MCCLURE recalled a remark by Pierre Janet that a man could exhaust himself as much by arguing with himself as by addressing a large public meeting. Overwork plus worry certainly did exhaust nervous energy. Dr. E. C. YOUNG referred to the association of many of these cases with gastric disorder. He thought that in nearly all it would be found that they were of the atonic type. He quite agreed that if one could gain the patient's confidence, attend to his digestion, put him to bed, and give him perhaps something to make him sleep for a time, great good could be done. Dr. C. E. SUNDELL drew attention to the many cases of children who suffered from nervous exhaustion. It was out of the question to regard these children as manic-depressive or anxiety-neurotics, and they were too young to be masturbators. Here was a simple example of a nervous system which for some reason or other had got tired. He took the view that there was a very definite entity in the shape of a nervous system which was unable to stand up to the strain of physical and mental life. A man's nervous energy depended upon "the type of copper wire used in his electrical system." Dr. E. P. FURBER, who declared himself a sceptic in regard to psycho-analysis, gave some account of cases with emotional difficulties.

The PRESIDENT said that a true type of nervous exhaustion was seen as a result of ordinary labour. There were women who were completely exhausted through reproduction, and in their case one could exclude every possible cause of local infection. Such cases used to be very difficult to treat, but undoubtedly glandular therapy had afforded great assistance. A second type of case showing nervous exhaustion was often seen in women who devoted themselves to looking after elderly mothers, who became increasingly difficult as the years went on. Some of these women suffered from a type of nervous exhaustion extremely difficult to treat.

Sir FARQUHAR BUZZARD, in reply, said that he believed any general practitioner in his ordinary practice might see fifty manic-depressive cases in the course of a year, although he might not recognize them as such or call them by that name. That was his apology for stressing that aspect in his remarks. Cases of suicide were mainly at one period of manic-depressive psychosis, but doctors failed to recognize the condition. The anxiety-neurotic patient was a possible suicide, and the psychotic patient was. He cases of syphilis had not laid much stress on pure exhaus- when treatment was tion, because such patients did not syphilitic person acquired with a little rest and bromide as the result of clearing up agreed with Dr. Sundell as to the these patients, a larger number of cases of nervous exhaustion in children.

Reviews

BACKACHE

More than two years ago, in a leading article under this title, reviewing the discussion held in the Orthopaedic Section of the British Medical Association at the Cardiff Meeting in July, 1928, we expressed a hope that the papers then read might "attract the attention of all British surgeons to the importance of the problem of the causation and cure of backache, and of the need for very careful and thorough investigation." In his book on *Backache*,[1] recently published, Dr. JAMES MENNELL shows us that for a number of years he has been working at this subject, and that, as a result of his investigations into the vast amount of clinical material which has come into his hands, he has arrived at certain very definite conclusions as to the causes and cure of backache. It appears that the teaching of Goldthwait of Boston first stimulated Dr. Mennell's interest and started him on a thorough inquiry into American work in the study and treatment of posture and back troubles, for the subject has aroused infinitely more attention in the United States than in this country.

The conclusions to which Dr. Mennell has come as to the causes of backache, the frequency of various phenomena, and their relief by manipulation and other non-incisive proceedings, may not be readily accepted by practitioners in Europe, but they urgently claim the attention of all surgeons and, we may add, of physicians, for Dr. Mennell describes himself as an orthopaedic physician and not a surgeon. Backache is not a rare symptom only interesting to the specialist and pathologist. It is probably one of the troubles most widely complained of in all ranks of life, and may be of all grades of severity, from a mere worry to a disabling and excruciating agony. Bonesetters, and of late years osteopaths and chiropractors, have had the credit of curing some of these cases; but, if Dr. Mennell's conclusions are accepted and his methods put in practice by others with such success as he himself has been able to secure, he may claim to have taken the wind out of the sails of the unqualified practitioner. In one respect at least Dr. Mennell differs from the majority of American writers on the subject. He attaches little or no importance to constipation or intestinal delay and stasis as a cause, whereas American orthopaedic surgeons of such distinction as R. B. Osgood attribute a very important role to these conditions in causing, for example, symptoms resembling those of lesion of the sacro-iliac joint.

Surgery in general, and orthopaedic surgery in particular, is an art based on science, and science, we are told, is measurement; but unfortunately in the study of backache much is not demonstrable to the eye or to the touch of the doubting Thomases of our profession. Sensitive deposits in the soft parts are not generally dissected out and laid in sections on the stages of microscopes, nor has the frequency of cases of locking of vertebrae or ribs been so clearly exposed to demonstration as congenital dislocation of the hip and other luxations. Torsion strain of the sacro-iliac joint is not so obvious as a sprained ankle. These are some of the difficulties which beset the way of an orthopaedic physician who sets out, as Dr. Mennell has done, to bring into the light of day the obscure conditions concerned in the cure of pains in the back. We here use the word "cure" advisedly in its older sense, not necessarily of *redintegratio ad integrum*, but in that of the sixteenth century, in which

[1] *Backache*. By James Mennell, M.D., B.C.Cantab. Illustrated by Margaret Morris. London: J. and A. Churchill. 1931. (Pp. viii + 199; 48 figures. 10s. 6d.)

it meant treatment as well. His book should find a large public, but we would warn the reader that it is not a statistical work. In it will not be found tables showing the sex or age incidence of backache or of the ratio between cases treated of each morbid condition and cases cured or relieved. But there will be found information frankly and clearly set out, with the help of which the reader may test for himself the validity of the author's claims. We hope that the medical profession will eagerly avail itself of the opportunity. Many conditions met with in medicine and surgery are relieved or cured under treatment which we can only characterize as empirical, and in which the question, "How does it work?" is unanswerable. In such cases simple pragmatism seems to be the only reasonable attitude to adopt, and the substitution of the question, "Does it work?" Dr. Mennell and many surgeons in America would answer this affirmatively, and his book should enable many more in this country to do likewise.

The illustrations by Miss Margaret Morris are remarkable. Their artistic merits deserve the praise bestowed on them by Dr. Mennell, but we question the propriety of the representation of the manipulator as a nude figure. It was no doubt advisable for clearness' sake to get rid of the patient's garments, but why strip the physician to the skin? It is true that the illustrations are mere outlines of nude figures, but Miss Morris's art is such that they convey to the reader impressions that are more realistic than many more finished drawings.

DISEASES OF THE BLOOD

This well-known work, Blood Diseases and Diagnosis,[1] by OTTO NAEGELI, has been out of print for some years, and the appearance of a new version is not unexpected. Though now expanded to over 600 pages a large portion of the text remains verbatim as in previous editions. Many chapters, however, notably that dealing with pernicious anaemia, have been rewritten and brought into line with modern research.

The earlier sections are concerned somewhat meagrely with methods, special stress being placed on the importance of physico-chemical tests, such as sedimentation rates, viscometry, estimations of albumin, globulin, fibrinogen, etc.; many of these tests are rarely employed in clinical laboratories, and in the present state of knowledge their significance is chiefly of academic value. In enumerating red cells it is advised to wait twenty minutes or longer after filling the counting chamber before making a count; this may be safe for normal blood, but for anaemias it has been shown to cause great error from the effect of contact haemolysis. In a long and interesting discussion on the vexed question of the origin of the different varieties of white cells, Professor Naegeli makes out a good case for "dualismus," the separation of myeloid and lymphatic cell systems, a scheme which is now widely accepted. His argument is supported by descriptions and illustrations of the mother cells of these two classes, myeloblast and lymphoblast; nevertheless, it must be admitted that, in practice, to recognize and distinguish these cells must always be difficult and often impossible. In the consideration of Arneth's nuclear lobulation it is allowed that a "shift to the left" is important for the clinical recognition of infections, but the interpretation of the shift as the appearance of young cells in response to a greater need for leucocytes is not accepted. Professor Naegeli believes that the estimation of the age of a neutrophil leucocyte should be guided by the staining reaction showing changes in the structure of the nucleus—the ratio of basi- and oxy-chromatin—rather than by the degree of nuclear segmentation, which is often difficult to determine and may be artefact and result from injury in preparation. There is no reason to suppose that a cell with a five-segmented nucleus is older than one with three segments. The polysegmented nuclei of the neutrophil leucocytes met with in pernicious anaemia are regarded as characteristic of the disease.

The presence of megalocytes in the blood is universally accepted as the chief histological evidence in the diagnosis of pernicious anaemia. To most haematologists a "megalocyte" is an abnormally large red cell, and the presence and degree of megalocytosis is estimated by some direct or indirect method of cell diameter measurement. Professor Naegeli recognizes two types of large red cells: the "megalocyte," derived from megaloblast and met with in the blood of pernicious anaemia, and the "macrocyte," which is found in other forms of anaemia and belongs philogenetically to the normoblast series. He does not regard the size of red cell diameters as necessary evidence for the presence of megalocytes. To distinguish true megalocytes from macrocytes is not easy, and the author admits that young forms of megalocytes and macrocytes cannot be distinguished. We consider the recognition of these two varieties of "big cells" of great importance, in view of the occurrence of "megalocytic" anaemias wrongly diagnosed as pernicious anaemia.

Space prevents further discussion of the many interesting questions suggested in this book. As an encyclopaedia of haematology it will be welcomed alike by haematologists and clinical workers. The enormous literature of this subject has undoubtedly overwhelmed the author; had he omitted from his text some of the older references, now only of historical interest, he could have given more serious consideration to many recent and valuable papers which unfortunately he has buried in bibliographical catalogues, where they cannot be recognized or used by readers. The habit of publishing catalogues of references without context-indicating letters or numbers is undesirable.

DIABETIC SURGERY

Nowadays diabetic patients are no longer considered unsuitable subjects for surgical operations. Insulin has changed all that, and surgeons will be well advised to read with attention MCKITTRICK and ROOT'S *Diabetic Surgery*.[2] Formerly coma was the chief cause of death among diabetics, but with insulin at hand a death from coma is an unnecessary death, and surgical complaints (infections for the most part) head the list of causes of death in diabetes. Acute infections and arterio-sclerosis rank high among these causes, and the authors warn surgeons that they must expect widespread arterio-sclerosis in the elderly diabetic. But the influence of arterio-sclerosis need not be regarded with despair; it appears to be on the increase at present, because diabetics are living long enough to develop it. In future insulin and diets containing less fat and more carbohydrate may check this tendency to arterio-sclerosis. Another valuable piece of advice is that the surgeon should always take pre-operative glycosuria as evidence of diabetes until the contrary is proved by blood sugar analysis. High blood sugars without glycosuria are mentioned as a source of danger and difficulty. Pre-operative diets are dealt with, and it is suggested that no deliberate operation should be

[1] *Blutkrankheiten und Blutdiagnostik.* Von Dr. med. Otto Naegeli, LL.D. H.C. Fünfte vollkommen neubearbeitete und erweiterte Auflage. Berlin: J. Springer. 1931. (Pp. xvii + 704; 104 figures. R.M. 86.)

[2] *Diabetic Surgery.* By Leland S. McKittrick, M.D., F.A.C.S., and Howard F. Root, M.D. London: Baillière, Tindall and Cox. (Pp. 259; 79 figures, 2 plates. 21s. net.)

undertaken until the patient is taking approximately one gram of protein and twenty to twenty-five calories per kilogram of body weight. In no circumstances at all should a diabetic starve in preparation for an operation, for with insulin any diabetic can take a large amount of carbohydrate before operation. A further useful hint is that there is great danger in giving large doses of insulin to render the urine sugar-free in a few hours before emergency operations. Similarly, rapid reduction of the dose of insulin may be required to avert severe hypoglycaemia during convalescence, because rapid gains in carbohydrate tolerance may occur. The effects of anaesthesia and the choice of anaesthetics are judiciously considered, while the surgical conditions to which diabetics are peculiarly liable are discussed most carefully, together with all the minutiae of surgical technique which the authors' experience has taught them to insist upon. One point emerges very clearly: the surgeon who operates on a diabetic subject will need in future to be a thoroughly sound physician. But there is nothing new in that—all the really great surgeons of the past were sound physicians too. The book is well printed and splendidly illustrated.

B.C.G. VACCINATION AGAINST TUBERCULOSIS

The literature on the B.C.G. strain has become so great and so diffuse that Dr. ROLAND CHAUSSINAND has rendered valuable service in bringing out his book on vaccination against tuberculosis by B.C.G.[4] In it he summarizes the most important observations, and discusses critically some of the results that have been obtained. The first part of the book is devoted to vaccination of animals, both in the laboratory and in the field, and to the innocuousness of the B.C.G. strain. In the second part the technique and the practice of vaccination in the human subject are considered, together with a summary of the results reported from the different countries. It is interesting to note that Dr. Chaussinand criticizes the oral route of administering the vaccine. Though undoubtedly the easiest method in general practice, it has the disadvantage of leading to only a very slow development of allergy, so that the infants have often to be restored to a tuberculous environment before the tuberculin reaction has become positive. This disadvantage, he maintains, is largely avoided by the use of the subcutaneous or intramuscular method of administration. The third part consists of a bibliography, of ample proportions but by no means complete, of the papers published on the subject of B.C.G. This will be found useful, particularly by those who have had neither the time nor the opportunity to follow the individual contributions to this much-debated subject.

HEALTH IN THE TROPICS

Since the days, not long past, when Manson instituted the teaching of tropical medicine and laid the foundation of preventive medicine in tropical countries, advances in knowledge have been so rapid and additions to that knowledge so numerous that it is a difficult matter for the medical officer carrying on his duties in our colonies and elsewhere to keep up to date. The appearance of Dr. BALFOUR KIRK'S *Public Health Practice in the Tropics*[5] will be welcomed by members of the medical and sanitary services abroad as a concise, accurate, and up-to-date account of the problems with which they are called upon to deal. The preface and quite a considerable part of the book might be read with advantage also by administrators and others whose work is less directly bound up with problems of preventive medicine. The first chapter deals with climate, dietaries, and clothing, and follows generally accepted ideas, though (as the author shows) it is far from certain that those ideas are always based on sound physiological principles. Consideration is then given to the application of the principles of maternity and child welfare, as we know them in this country, to tropical communities. There follow chapters dealing in turn with all the endemic and epidemic diseases commonly met with in tropical countries, including small-pox, tuberculosis, and venereal diseases, but excluding amoebic dysentery, the typhus group, dengue and phlebotomus fever, dermal leishmaniasis, and pellagra. Each disease is viewed from the standpoint of the hygienist, and methods of collecting local data are explained. In Part II, under the heading of sanitation, are considered: housing; town planning; schools; milk and water supplies; markets, etc.; latrines; collection and disposal of excreta and refuse; and disinfection. The whole forms a volume of convenient size, well printed and well indexed.

Hints on Equipment and Health for Intending Residents in the Tropics,[6] by the same author, has now reached a second edition, and is a well-known little handbook for the sportsman, prospector, missionary, and explorer, and the many others whose work takes them into tropical countries. Most of the advice offered is such as has been found by common experience to be good. On minor points there may always be difference of opinion. Dr. Kirk recommends "for afternoon functions of a more or less formal and festive nature . . . a grey morning suit. This with a grey top-hat is a much more comfortable attire than the conventional black, which, however, you will also require." How many of those who go to the Tropics require either? Puttees are advocated, but many who have tried it prefer a light, easy-fitting canvas legging with simple fastening. The advice in regard to body clothing would not appear to rest on a sound basis. There are reasons for believing that a single garment (a shirt) made of thin porous honeycomb cotton material may be the most satisfactory. The author advises a sweater to be put on after hard exercise: a change into dry clothing is preferable. Again, *pace* Dr. Kirk, a cold tub in the morning has an excellent tonic effect: the daily cold bath got a bad name because it is harmful to those suffering from chronic malaria or from bowel and liver affections. The value of this most useful book would be enhanced if some of these debatable questions were dealt with in more detail.

ADVICE TO PARENTS

In *The Modern Parent*[7] Dr. GARRY CLEVELAND MYERS sets out the many ways in which even the most conscientious of his readers may err in handling a child; but he is sympathetically aware of the difficulties, and does not regard parents who fail repeatedly in their task as either knaves or fools. He describes the discourtesy, nagging, and emotional stimulation to which children are often subjected, illustrating these offences by concrete examples, and suggesting the remedies. In the course of the book he covers a wide field, but is careful to warn parents against the mental indigestion which might prompt them to attempt a sudden revolution in their dealings with their children. More is to be gained, he believes, by concentrating on one difficulty at a time, and surmounting it before

[4] *La Vaccination contre la Tuberculose par le B.C.G.* Par Roland Chaussinand. Préface du Professeur A. Calmette. Paris: G. Doin et Cie. 1931. (Pp. 195. 38 fr.)

[5] *Public Health Practice in the Tropics.* By J. Balfour Kirk, M.B., Ch.B., D.P.H., D.T.M. and H. Churchill's Empire Series. London: J. and A. Churchill. 1931. (Pp. xiv + 498; 81 figures. 15s.)

[6] *Hints on Equipment and Health for Intending Residents in the Tropics.* By J. Balfour Kirk. Second edition. London: Baillière, Tindall and Cox. 1931. (Pp. xii + 128. 3s. 6d. net.)

[7] *The Modern Parent.* By Garry Cleveland Myers, Ph.D. With an introduction by M. V. O'Shea. London: Williams and Norgate, Ltd. 1930. (Pp. xii + 350. 8s. 6d. net.)

attacking the others. Moreover, his advice is extremely encouraging to those whose past failures may lead them into despondency. The book is decorated with flowers of colloquial American speech, of which "fresh and chipper" is among the more attractive.

NOTES ON BOOKS

Mr. REYNOLD H. BOYD has compiled a very useful little book entitled, *Diet and Care of the Surgical Case*.[1] It contains a number of practical hints in the preparation of patients for nearly every type of operation, and in the treatment to be followed subsequently, special points being indicated whereby the maximum degree of post-operative comfort may be ensured. Directions are given for the making of foods, enemata, applications, and so on. The volume is of a handy size, so that it will slip easily into the coat pocket. It should prove particularly useful to house-surgeons in the early days of their apprenticeship.

The twentieth edition of *Minor Surgery and Bandaging*[2] has been brought out under the aegis of Mr. GWYNNE WILLIAMS, the chapter on anaesthetics having been revised by Dr. Dudley Buxton and Dr. H. N. Webber. Since it first appeared in 1861 new editions of this book have been published with almost monotonous regularity at intervals of about three years. It would be idle to do more than call attention to another birthday in the case of a book which has met with such constant approval by so many generations of students. Changes, of course, have been made here and there in the text, but they are all concerned with methods which have been practically tested and have passed into the ordinary routine of house-surgeons—for instance, the injection treatment of varicose veins. We can see no reason why new editions of this handbook should not go on appearing *in saecula saeculorum*.

A French translation of Professor A. CASTIGLIONI'S admirable History of Medicine,[10] which was reviewed in the *Journal* of February 18th, 1928 (p. 266), has recently been made by Mlle J. BERTRAND and Professor F. GIDON of Caen University. Its appearance will be welcomed, not only in France, but also in this country and the United States, where French scholars far outnumber those able to read Italian. The work has been revised by the author, who has brought the text and bibliographies up to date.

A further account has been published of the work of the Institute of Anatomy of the Imperial University of Kyoto, edited by Professor SEIGO FUNAOKA. It takes the form of an investigation into the physiology of the circulation of lymph, and the first part, which has now been issued, deals with the radiography of the lymphatic ducts.[11]

A high standard of knowledge is required from those who aspire to enter the nursing profession, not only in the practical details of their duties in the wards or the sick-room, but in general anatomy, physiology, medicine, and surgery. The fourth edition of a book which was designed to cover the whole field of a nurse's theoretical training has recently appeared—a *Text-Book for Nurses*,[12] by Mr. HEY GROVES and the late Dr. J. M. FORTESCUE-BRICKDALE. The medical section in the new edition has been revised by Dr. J. A. Nixon. The names alone of the authors should be a sufficient guarantee of the excellence of the fare provided, and that it should reach a fourth edition proves with what acceptance it has been welcomed by those for whom it is intended. The authors have endeavoured to cover all the ground laid down by the General Nursing Council in its syllabus, and they have certainly compressed a vast amount of knowledge within a remarkably small compass.

Recent Advances in Analytical Chemistry[13] is a digest of newly announced principles and methods of analysis, which are discussed in greater detail than is usual in published abstracts. This volume, which deals only with the organic section, covers an extensive range of matter, and includes the subjects of pure science as well as those of technical importance. Many of the descriptions contain a sufficiency of detail to enable the reader to dispense with reference to the original publications, but in all cases complete bibliographical references are given. The book is well prepared and well indexed.

[1] *Diet and Care of the Surgical Case*. By Reynold H. Boyd, M.B., Ch.B., F.R.C.S.Ed., with an introduction by C. C. Choyce, C.M.G., C.B.E., F.R.C.S. London: H. K. Lewis and Co., Ltd. 1930. (Pp. x + 106. 5s. net.)

[2] *Minor Surgery and Bandaging*. By Gwynne Williams, M.S., F.R.C.S. Twentieth edition. London: J. and A. Churchill. 1930. (Pp. xii + 445; 262 figures. 10s. 6d. net.)

[10] *Histoire de la Médecine*. Par A. Castiglioni. Édition française établie par les soins de l'auteur. Traduction par J. Bertrand et F. Gidon. Paris: Payot. 1931. (Pp. 781; 279 figures. 120 fr.)

[11] Arbeiten aus der dritten Abteilung des Anatomischen Institutes der Kaiserlichen Universität Kyoto. Herausgegeben von Prof. Dr. Seigo Funaoka. Serie D: *Untersuchungen über die Physiologie der Lymphbewegung*. Heft i: *Die Röntgenographie des Lymphgefässes*. Kyoto. 1929. (Pp. 58; illustrated.)

[12] *Text-Book for Nurses*. By E. W. Hey Groves, B.Sc., M.S., F.R.C.S., and the late J. M. Fortescue-Brickdale, M.D., M.R.C.P. Fourth edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1930. (Pp. xxx + 641; 229 figures. 20s. net.)

[13] *Recent Advances in Analytical Chemistry*. By C. Ainsworth Mitchell, D.Sc., F.I.C., Vol. i: Organic Chemistry. London: J. and A. Churchill. 1930. (Pp. x + 421; 17 figures. 12s. 6d. net.)

PREPARATIONS AND APPLIANCES

VITAMIN A (B.D.H.)

Vitamin A (British Drug Houses Ltd.) is a preparation of this vitamin in highly concentrated form made from fresh mammalian liver. The preparation is standardized biologically upon rats, and chemically by the antimony trichloride test. The latter test gives a value of 900 blue units. (Good cod-liver oils give values of from 10 to 20 blue units.) The preparation is put up in capsules containing 3 minims, and the figures mentioned above indicate that each capsule has a vitamin A content at least equal to that of a dessertspoonful of cod-liver oil. This preparation contains no vitamin D, and provides a means for giving vitamin A alone in massive doses. Recent researches indicate the great importance of vitamin A in raising resistance to infection, and the appearance of this preparation will facilitate clinical examination of the therapeutic properties of vitamin A as distinct from vitamin D.

"WELLCOME" DIPHTHERIA PROPHYLACTIC

Diphtheria prophylactic (T.A.F., or toxoid-antitoxin flocculés) is a new preparation issued by Messrs. Burroughs Wellcome and Co. The immunization of young children against diphtheria is a prophylactic measure the value of which has been firmly established during the past decade. The standard methods have been the injection of either a toxoid-antitoxin mixture, or the toxoid alone after this has been converted into a harmless form by formalin and heat. The only objection to this procedure is that three injections, at intervals of a week, are needed, and that reactions are apt to follow. The advantage of the T.A.F. preparation is that it is less likely to cause reactions; moreover, it is believed to be of somewhat higher immunizing efficiency than the older preparations, and experience may show that two injections are enough.

LACTOGEN

Lactogen is a new infants' food manufactured by the Nestlé and Anglo-Swiss Condensed Milk Company. It is a dried cow's milk to which cream and lactose have been added. The proportions of fats and carbohydrates approximate to those occurring in breast milk, and the excess of proteins is less than that which occurs in untreated cow's milk. The makers claim that the dried milk contains a good supply of vitamins A, D, and B. The preparation has enjoyed a large sale in many oversea markets for several years, and is now being introduced to this country.

ANOTAL

Anotal is a combination of phenyl cinchoninic acid and ethyl urethane; it has the title of phenyl cinchonoyl urethane and the formula $C_6H_5C_9H_5N.CO.NH.COOC_2H_5$. It is sold by Messrs. Napp Ltd. Phenyl cinchoninic acid, or cincophen, is a drug whose popularity in the treatment of rheumatic pains has steadily increased in recent years. The advantage of the new combination is that it causes no gastric disturbance. The makers claim also that it has no adverse effect on the heart, and that, according to previous experience, there is no reason to believe that it causes yellow atrophy of the liver.

British Medical Journal

SATURDAY, MAY 2nd, 1931

COELIAC DISEASE

Coeliac disease, though not one of the commonest of the chronic digestive disorders of childhood, is perhaps at the present time the most interesting of them all. On its practical side it is capable of producing such a degree of ill-health and misery in the individual child that its recognition by the practitioner is of prime importance, and clinicians may justly claim that by their improved methods of diagnosis and treatment the hard lot of the coeliac patient has been considerably mitigated. On its theoretical side the difficulty in tracing the essential cause of the disorder presents a fascinating problem, which has attracted many investigators in recent years. In this matter workers in our own country have been much to the fore; and this is as it should be, for the disorder was first described here by Samuel Gee in 1888, and more closely defined by W. B. Cheadle in 1903. Although it has been "rediscovered" and often renamed in other countries, the work done on the disease here has earned the compliment recently paid by Continental and American authors of adopting the title originally proposed by Gee. For these reasons we cordially welcome an important article dealing with the causation of coeliac disease by Drs. Olive MacRae and Noah Morris, which appears in the current issue of the *Archives of Disease in Childhood*,[1] and is entitled "Metabolism studies in coeliac disease."

The problem of the causation of coeliac disease is easily stated. It is known that the disorder arises only in young children, and has never been observed to start in adult life; and that it persists for a varying number of years and then gradually peters out, leaving the patient free from digestive symptoms and presumably able to deal normally with the dietetic fat. It is also nearly certain that coeliac disease does not depend upon organic disease, but is a digestive fault or disorder. It is generally agreed that the essence of the disorder is a failure to absorb properly the fat of the food, and that although carbohydrate and even protein absorption may be interfered with, and vitamin deficiency may develop, these are secondary faults. It is, then, the cause of the mal-absorption of fat which is the problem, and here certain possibilities can be excluded. We know that the pancreas is not at fault, for the failure lies not in the splitting but in the absorption of the fat of the food. It is also certain that the failure in fat absorption is not due to gross disease of the wall of the intestine, as is probably the case in sprue. Another alternative is that of lacteal obstruction, and, although it would perhaps be premature to dismiss this possibility altogether, it is clear that at least there is no gross obstruction to the lacteals, as by enlarged abdominal glands, in this disorder. It has also been suggested that in coeliac disease the fat is really absorbed, and that the fault lies in its re-excretion into the intestine; but this hypothesis, never very attractive, seems to have been disproved.

If we can set aside these various alternatives we are practically forced to conceive that coeliac disease is due to some derangement of hepatic function particularly affecting the action of the salts of the bile. It is known that Cheadle took somewhat this view, for he invented the term "acholia" for the condition, and evidently visualized a suppression of liver function. Since his day it has become obvious that this explanation cannot be altogether correct, for it is known that the pallor of the typical fatty coeliac stool is not due to absence of bile pigment, but to masking of the bile pigment by the excess of fatty acids in the faeces. Actually the point of importance is not a matter of the flow of bile, still less the normality of the bile pigments: what we are concerned with is the activity of its constituent salts. Were we able to prove a deficiency in these, the mal-absorption of fat in coeliac disease would be explained; but it is difficult to imagine that any such deficiency would persist for years, as we should have to postulate; and it is known that the administration of bile salts, though it may improve fat absorption in coeliac disease, does not correct it entirely. O. MacRae and N. Morris, in the paper mentioned above, put forward a novel suggestion—namely, that the reaction of the medium in which the bile salts work is at fault, and that this leads to loss of activity on their part. Such an explanation might well be sufficient to account for the daily variations in fat absorption which can be shown to occur in coeliac disease, but again it is difficult to suppose that this is enough to account for the persistence of the mal-absorption over a period of years. The authors presumably feel this difficulty, for they also postulate a deficiency in bile salts. The results of their metabolic investigations are, they think, best explained by regarding the defect in absorption as due to change or changes in the physico-chemical constitution of the intestinal contents, which changes probably include a shift of reaction to the alkaline side and a deficiency in bile salts.

[1] *Archives of Disease in Childhood*. April, 1931. Issued by the British Medical Association. B.M.A. House, Tavistock Square, W.C.1 (Yearly subscription (six numbers) 25s.; single numbers 4s. 6d.)

THE BUDGET

In times of normal national finance the introduction of a Budget is always one of the major political events of the year, and in these days, when the taxpayer is staggering under his burden, hoping for relief, but apprehensive—and often with very good reason—of yet further additions to the load, the unfolding of the Chancellor's fiscal scheme for the coming year is a matter not merely of great political interest, but also one of real anxiety to taxpayers. Particularly is this the case with the upper and upper middle classes, by

whom, in these days of steeply graduated rates of tax, the burden is keenly felt. The lower middle class, as typified by the family with an income of £400 to £600 per annum, is in the main freed from substantial income tax liability by a generous scale of allowances for children, dependent relatives, etc. ; the extremely wealthy will always have a fairly adequate margin of income left after payment of the heavy taxes now in force ; but the intermediate class—of which the medical profession is well representative—probably feels the pinch of high direct taxation as much as any. It is felt by them not merely through the indirect effect on the ability of their clients to make reasonable payment for professional services, but also on account of the real difficulty of finding the cash required for payment without trenching on savings or making uneconomic sacrifices in personal consumption or in the education of their families.

During the past few years the general attitude towards Budget after Budget has been to regard it as " critical," as " dealing with abnormal circumstances," and generally as calling for, or justifying, special treatment. Few have deserved such descriptions so completely as the Budget of 1931. That the financial position is unhealthy and may become dangerous is obvious enough to all thinking persons. The long period of depression in industry is world-wide, and has an increasing effect on Government finances ; on the one hand, it has led to enormously increased expenditure—last year's supplementary estimates for " benefits arising from exceptional unemployment " amounted to £10,000,000—and on the other hand, it is drying up gradually but unmistakably the sources from which such expenditure can be met. It is perhaps unfortunate that, whereas the taxation proposals of a Government are brought to a focus on a single day and thus attract national attention, consideration of the expenditure which determines the extent though not the precise nature of the taxation is diffused throughout the parliamentary year, and the impact of public feeling and criticism on such proposals is thereby rendered of little effect. The device of appointing a Government Economy Committee to take a comprehensive view of them and apply an intensive criticism has been tried more than once, and is being tried again ; but it may be doubted whether the House of Commons can deal effectively with political or semi-political questions by such means. However that may be, the fact is that the Chancellor of the Exchequer on Budget Day, acting in his capacity of financial provider, has the national bill presented to him, and it is his business to devise ways and means of meeting it. This year he is faced by the initial difficulty that there is £23,000,000 still unpaid on last year's account. It is, however, some consolation to remember that that sum is not owing on account of current expenditure, but is the amount by which the nation has failed to pay off as much debt as was intended. Mr. Snowden rightly emphasized the fact that, after allowing for that failure to carry out our good intentions, we had nevertheless applied a sum of £52,500,000 to debt reduction in the past twelve months. In the circumstances that result can be regarded with some degree of complacency, especially in comparison with the corresponding position in some other countries. Mr. Snowden has in the past taken the strong line that any failure to fulfil a debt redemption programme should be made good in the following year, but in the exceptional conditions of to-day he proposes to depart from his own principle, and in that departure, at least, he will not lack for willing followers.

Turning to the coming year, the gap between prospective expenditure and the income which would be received if the present taxes were unaltered is the somewhat alarming amount of £37,366,000, and the problem of how to find that sum, without recourse to drastic increases in taxation, obviously supplies plenty of scope for ingenuity. Mr. Snowden's reputation is that of a strict and somewhat doctrinaire theorist in fiscal matters, and a good deal of speculation has revolved round the question whether and in what way he would solve his problem. He has on this occasion adopted a frankly opportunistic attitude. Over half the prospective deficiency—£20,000,000—is to be taken from the Dollar Reserve, which has been accumulated in the United States as an insurance against possible exchange difficulties in connexion with Great Britain's payments in respect of war debt. £10,000,000 is to be obtained by expediting payment of income tax during the present financial year, and the balance is to be derived from an increase in the petrol tax. In this way Mr. Snowden claims to solve his problem with a minimum of hardship and inconvenience to the nation. Given the hypothesis that the money must be spent and therefore must be found, he may be right—though there have recently been notable converts to the proposal to obtain revenue by a larger extension of customs duties—but if the hardship is the minimum it is nevertheless very real. We are inclined to think that medical practitioners will find this to be so to a greater extent than almost any other section of the community. In the first place, they will obviously suffer from the additional tax of 2d. per gallon of petrol. It is true that reduction in the price of petrol during the past year may mean that the present increase will merely restore a former price level, but it is a serious matter to have a fall in working costs intercepted and cancelled by taxation, and we are unable to see why a medical practitioner should in that way make a special contribution to taxation from which the members of other professions are exempt, because they do not—at least to a substantial degree—make professional use of the taxed commodity. The additional income tax which will become payable during 1931–32 will in many cases be definitely difficult to meet. When income tax was payable at pre-war rates it was in all cases payable in one sum early in the calendar year. The rise in rates that took place during the war led to the system—first applied to payments falling due in 1916—under which firms and individuals (not limited companies) paid income tax in respect of earned income in two equal instalments, the second of which did not become due until July. In future, three-quarters will be payable

in January and one-quarter in July. For example, a married man with two children having an earned income of £1,000 is liable to pay approximately £80 income tax. Whereas hitherto he has paid £40 in January and £40 in July he will now have to pay £60 and £20, thereby making a special contribution to this year's finances of £20. Undoubtedly it is preferable to pay sooner than to pay more, but neither alternative is free from unpleasantness. It is to be hoped that the Inland Revenue authorities will see to it that instructions are issued to ensure that reasonable latitude for payment is allowed, in spite of the pending legislative change, where special circumstances justify it.

The Chancellor has clearly framed his proposals on the assumption that we are passing through a temporary period of trade depression. The success or failure of his scheme must, to a large extent, turn on the duration of that depression. If in twelve months' time industry is definitely on the up grade and unemployment no longer makes such inroads on the public purse, he must have successfully carried the national finances over one of the most difficult periods in our history. If, on the other hand, conditions remain as adverse as they are to-day, he will have made little or no contribution to a solution of the problem which will face him—or his successor—next year, for the expedients by which he is balancing his 1931 Budget cannot, from their very nature, be repeated. With Mr. Snowden's political merits and career we have no concern, but as representing a body of loyal but suffering taxpayers we hope that his opportunism will not prove to have been mistimed.

PATHOLOGICAL SERVICES

The medical provisions of the National Health Insurance system are avowedly incomplete, and in spite of the evidence given by the British Medical Association to the Royal Commission of 1925, successive Governments have not legislated to give the insured person a complete medical service. At the present juncture the prospects of any such legislation appear to recede, and, not for the first time, initiative in providing for a national want must come from a non-official source. One of the most urgent needs is the provision of facilities for laboratory diagnostic help for insured persons. The British Medical Association has recently organized a scheme to this end, and the attention of our readers is directed to the details given in this week's *Supplement* (p. 183). A large number of laboratories, over one hundred, have consented to work to an agreed schedule of fees, which have been set at the lowest figure consistent with efficiency. The scheme provides a wide choice of laboratories, which will enable practitioners to maintain close personal touch with their laboratory colleagues, an essential feature of this work. However attractive to the administrative mind a centralized laboratory may be, its possible economic advantages are greatly outweighed by the lack of that personal contact assured by a less centralized scheme. "Pathology by post" needs at least to be supplemented by a short-range telephone service if it is to give proper value. The Association's scheme secures a considerable measure of this local contact, and, furthermore, it enlists the help of the laboratories of a large number of general hospitals in which the range of work and experience covers exactly the class of investigation likely to be required for insurance patients. More is needed for this purpose than routine bacteriology; an increasingly important part is played in diagnosis by haematology and biochemistry, and under this scheme all such methods are made available. Until the National Health Insurance system is reformed, any cost incurred for diagnostic service must be borne by the individual patient. This doubtless may militate against any extensive use of the service, but the basis of all good treatment is efficient diagnosis, and often some expense incurred in reaching an accurate diagnosis will, by leading to better treatment and shorter illness, repay the outlay many times. Thus, many thousands of anaemic patients are now being treated at much cost and for many months with liver or its extracts, on the assumption that their anaemia is of the pernicious type. In a not inconsiderable proportion of these, a blood examination would reveal the non-pernicious character of the anaemia, and the cost of treatment could sometimes be reduced. Examples might be multiplied. Few doctors will dispute the advantage of having facilities for laboratory assistance in their work among insured persons and their dependants; and it is the hope of the British Medical Association that these efforts to establish an economical and widespread service will become generally known.

THE MEDICAL EXAMINATION OF DRUNKEN MOTOR DRIVERS

When in 1921 legislation dealing with motor traffic was revised in Denmark, the proposal that drunken motor drivers should be subject to certain penalties raised the question of an expert medical examination. In the following year the Danish Medico-Legal Council laid down certain lines for such an examination, insisting that, with the help of the elaborate scheme proposed, any practitioner should be able to undertake it. In practice, however, this work has devolved on only a few doctors, partly because personal experience and a certain routine were found to be of importance in achieving uniform results, partly because the average practitioner had obviously no taste for this work. Dr. J. Fog, attached to the Medico-Legal Institute in Copenhagen, in an account[1] of 1,000 such medical examinations (spring of 1922 to the middle of 1930), carried out in every case at a police station, shows that the average duration of such an examination, not including the time taken to fill in the report, was about half an hour. A policeman, acting as a witness in the case, was always present. Among the 1,000 persons examined, there were only three women—a ratio much below that of the ratio of all female to all male drivers. The three women were young. Of the persons examined 746 were between the ages of 20 and 40, the extremes being 18 and 60 years. The professional drivers were approximately twice as numerous as the amateurs. There were as many as 685 cases between the hours of 8 p.m. and 8 a.m. Yet there were of course many more cars in use by day than by night. As many as 209 of the 685 night examinees were examined between midnight and 2 a.m. In other

[1] *Ugeskrift for Laeger*, March 12th and 19th, 1931, pp. 284 and 313.

words, about 21 per cent. of all the examinations were carried out in these two early hours of the morning, soon after the closing of restaurants. In 208 cases the person examined was found to be intoxicated. In 591 cases, or 59 per cent., he was found to be more or less under the influence of alcohol, and in 201 cases, or 20 per cent., he was found to be sober or not demonstrably influenced by alcohol. This last group was comparatively large, partly because several drivers themselves asked for a medical examination in order to clear themselves of suspicion, and partly because the police insisted on such an examination in certain serious cases in order to get the matter cleared up as thoroughly as possible, even when the person concerned was obviously sober. Yet another reason for the large size of the last group was the application of the principle of giving an accused person the benefit of the doubt.

JEAN BAPTISTE BOUILLAUD

At the last meeting of the Section of the History of Medicine of the Royal Society of Medicine, Dr. J. D. Rolleston delivered an address, entitled "Jean Baptiste Bouillaud (1796-1881): a pioneer in cardiology and neurology." While modestly disclaiming any proficiency in either of these two specialties, he stated that he had chosen this subject in the capacity of a liaison officer between the Société française d'Histoire de la Médecine, of which he was a member, and the Section of which he had been formerly president. Although Bouillaud's name was familiar to every French medical student owing to its association with acute rheumatism, a knowledge of his work, and even of his name, appeared to be exceptional in this country. At the commencement of his career Bouillaud (like Bretonneau and Velpeau) had a hard fight with poverty, during which he served as the original of Balzac's Horace Bianchon; but later he attained the highest professional honours, being appointed in turn professor of clinical medicine, dean of the Paris Faculty of Medicine, president of the Académie de Médecine, member of the Institut de France, and president of the First International Medical Congress, as well as Commander of the Legion of Honour. Bouillaud's contributions to cardiology were summarized by Dr. Rolleston as follows: (1) the first description of the endocardium and endocarditis, which appeared in his *Traité clinique des Maladies du Cœur*, published in 1835; (2) the establishment of the "law of coincidence," according to which acute endocarditis, pericarditis, or endopericarditis was the rule in acute generalized articular rheumatism; (3) his careful studies of the heart, whereby he created a new department of topographical anatomy; (4) the importance which he attached to auscultation in examination of the heart in contrast with Laennec, who underestimated its value in cardiac, as distinct from pulmonary, disease; (5) his description of new signs, such as "bruit de diable" in chlorosis, "bruit de rappel" in mitral stenosis, and gallop rhythm; and (6) his detailed account of congenital cardiac disease. As a pioneer in neurology Bouillaud identified the anterior lobes of the brain as the seat of speech thirty-six years before Broca, who, though more exact in his localization, acknowledged his indebtedness to Bouillaud. Bouillaud's other chief contributions to medicine consisted in marking out more clearly than any previous observer the domain of acute rheumatism and the importance which he attached to chemistry and physics in medicine, in contrast to Trousseau, who was inclined to depreciate these studies. In conclusion, Dr. Rolleston attributed the oblivion into which Bouillaud had fallen in this country—where, according to contemporary literature his doctrines did not meet with much approval—to his method of repeated and free venesection, with which he persisted throughout his long career. The address was illustrated by portraits of Bouillaud at different stages of his career.

A VISIT TO RHINELAND SPAS

At the invitation of the Rhineland spas (writes a correspondent) a party of medical men, to the number of nineteen, left London on April 1st for Aachen. After a brief stay there they journeyed by car to Neuenahr, Homburg, Nauheim, and Wiesbaden. At each and all of these spas the visitors were received with the greatest enthusiasm. At Aachen an address by Dr. Anton Lieven included some details of the history of the ancient town, as well as a most interesting account of the treatment there. The springs at Aachen are hot, and contain largely sodium bicarbonate, sodium chloride, and various sulphur compounds. They are found to be of great value in the treatment of rheumatic affections in various forms. The waters are used both internally and externally. There is a useful institution at Aachen, where 350 beds are arranged for insured patients, and are paid for at the rate of 7.50 marks daily. This is virtually a research hospital for arthritis, where the work is carried out by a full-time medical staff with all the usual ancillary services; 3,200 patients pass through the institution every year. One method there which invites success is the formation of an association, consisting of the doctors, the hotel directors, and the kurhaus directors, where the system of treatment, housing, and dietetics is co-ordinated. At Neuenahr the visitors were shown a complete unit contained in the hotel—consulting rooms, baths, *x*-ray apparatus, open-air playground, solarium, and swimming baths. The waters are hot and alkaline, and are useful in treating cases of gastric and intestinal dysfunction, as well as rheumatic affections. It is claimed that cases of diabetes mellitus are benefited by these waters. From Neuenahr the ancient university town of Bonn was visited, and Professor Jansen showed the Hospital St. Marie, where both free and paying wards are to be found. The party next were taken to Homburg, a town which has many English attributes, and is closely linked with the memory of King Edward when he was Prince of Wales. Here the dietetic treatment of disease is stressed in addition to the waters, and at one private sanatorium the visitors were invited to sample an elaborate display of uncooked dishes. They next visited the delightful town of Nauheim, celebrated for its carbon dioxide baths for the treatment of cardiac disease. There is here a cardiac research institute, under the direction of Professor Weber, which is fully equipped with modern apparatus, one of the many interesting features being a loud-speaking phonendoscope from which the heart sounds are broadcast. A second institute is about to be opened for cardiological research, which has been amply endowed by private enterprise. It struck most of those who

visited these two institutions that they afforded an unrivalled opportunity for cardiological study, and that Nauheim ought to become in the future even more widely known as a centre for investigation and treatment of heart disease. Lastly, they came to Wiesbaden, a large, agreeable, clean town, noted for its many warm alkaline springs, which are used chiefly in the treatment of rheumatic affections. A motor run to Mainz was followed by a whole day's journey by steamer to Cologne, and so home. It must be understood that after reaching the German frontier the party were the guests of the Rhineland spas above mentioned, whose lavish hospitality they enjoyed. The success of the trip was largely due to the efforts of the organizing secretary, Mr. R. O. Rohne.

THE "VETERINARY BULLETIN"

Students of comparative medicine will be interested to hear of the appearance of the first issue of the *Veterinary Bulletin*, a quarterly publication issued under the auspices of the Imperial Agricultural Bureaux. This bulletin replaces the *Tropical Veterinary Bulletin*, but its scope is extended to include abstracts of current papers on diseases of animals in all parts of the world. It will not review clinical papers from the point of view of the practitioner; otherwise it deals with all aspects of animal health in so far as they relate to original research and to administrative control. Some of the abstracts in the first issue scarcely seem to come within the purview of the *Bulletin*, but on the whole the papers are well chosen and of general interest. The *Bulletin* should fulfil a very useful function, and be of value alike to veterinarians and medical men. It is published at an annual subscription of £1, and is obtainable from the Imperial Bureau of Animal Health, Veterinary Laboratory, Weybridge, Surrey.

SOCIETY OF APOTHECARIES

The Society of Apothecaries of London entertained in its Hall at Blackfriars a large and distinguished company at a Livery Dinner on April 28th. The guests were received by the Master, Lieut.-Colonel C. T. Samman, and the senior and junior wardens, Colonel E. C. Freeman and Dr. Cecil Wall. After the loyal toasts had been honoured, Sir Stanley Hewett, K.C.B., K.C.V.O., K.B.E., Surgeon Apothecary to the King, was presented to the Master by Sir William Willcox to receive the diploma of the Society *honoris causa*. This honour, Sir William Willcox said, had only twice before been conferred: on H.R.H. the Prince of Wales, and on Sir John Lynn-Thomas as representing surgery. It gave him great pleasure to present Sir Stanley Hewett, whose devotion and skill during His Majesty's long illness two years ago had won the gratitude of the whole British Empire. The toast of "The Civil Service" was proposed by Mr. Arthur Greenwood, Minister of Health, who took this opportunity of paying a warm tribute to those who were so often and so unfairly attacked in public under such epithets as "a bloated bureaucracy." Nowhere in the world, he said, could there be found public servants more trustworthy, honourable, and devoted to the common good than those who made up the British Civil Service. It was manned by a body of English gentleman, whose one aim was to serve the State and be loyal to ever-changing political chiefs. Mr. Greenwood expressed, in conclusion, his personal debt to Sir Arthur Robinson, Secretary to the Ministry of Health, who responded to the toast in historical vein. In proposing the health of "The Guests" Sir George Makins welcomed by name many of those whom the Society delighted to honour that evening, and coupled with this toast the names of Lord Ebbisham, a former Lord Mayor of London, Sir John Bland-Sutton, Bt., and Mr. Cecil Whiteley, K.C., who each briefly made their acknowledgements.

JOURNÉES MÉDICALES DE BRUXELLES

Special interest attaches this year to the congress known as the Journées Médicales de Bruxelles, which will be held from June 20th to 24th, in that it will commemorate the work of Fernand Widal. As in previous years there will be an impressive programme of practical and theoretical lectures and demonstrations on various medical and surgical topics, and the late Professor Widal's colleagues and scientific friends will take a prominent part in these. At the opening meeting on June 20th Professor Vaquez will deliver an address. On the last day of the congress a visit will be paid to Spa, where the baths will be inspected, and the formal opening of Professor Henrijean's laboratory will be attended. The congress will include the usual social functions, and its success is already assured by the number of distinguished men of science who have promised to take part in the proceedings, and so to honour the name of Professor Widal. The fee for membership is 75 francs; it is payable to the general secretary of the congress, Dr. Beckers, 145, rue Belliard, Brussels, from whom further information may be obtained.

We much regret to announce the death, on April 27th, in his eighty-fourth year, of Sir Byrom Bramwell, M.D., consulting physician to the Edinburgh Royal Infirmary, and a corresponding member of many foreign neurological societies. We hope to publish a memoir in our next issue.

Professor Samson Wright will deliver the Oliver-Sharpey lectures before the Royal College of Physicians of London on May 5th and 7th at 5 p.m. His subject is "Certain aspects of the reflex control of the nervous system."

As already announced in these columns, a series of five lectures on "The rise of preventive medicine," under the terms of the Heath Clark Bequest to the University of London, will be given in the London School of Hygiene and Tropical Medicine, Gower Street, by Sir George Newman, K.C.B., M.D., Chief Medical Officer of the Ministry of Health and the Board of Education. The dates and subjects of the lectures are as follows: May 4th, Folk-lore, magic, and custom; May 5th, Egyptian medicine and the Mosaic Law; May 6th, The Greek science and the Greek spirit; May 7th, Their transmission and transmutation; May 8th, Famine pestilences, leprosy, and the Black Death as early practical problems. The chair at the first lecture, on May 4th, will be taken by the Minister of Health. All the lectures commence at 5 o'clock, and are open to the public without ticket.

Nova et Vetera

A LINK WITH PASTEUR

When Professor Jules Bordet was in London in December, 1930, giving his Croonian Lecture, he discovered that the Royal Society did not possess an autograph of Louis Pasteur. Accordingly he communicated with Dr. Roux, director of the Pasteur Institute, suggesting that he might be able to send a suitable document for presentation.

In due course the Royal Society received from Dr. Roux a letter which was addressed to him by Pasteur in 1886. A copy is reproduced below, through the courtesy of Dr. H. H. Dale, secretary of the Society. It is interesting to note the appropriateness of this autograph, because it is probable that the letter refers to the first English patients who received the Pasteur prophylactic treatment for hydrophobia—" la petite Tattersaal " and " le petit Walter Sykes."

This gift from two distinguished Foreign Members of the Royal Society will appeal to all in the medical profession, and their generosity and kindness will be fully appreciated.

Letter from Pasteur to Roux

Arbois, le 1er Sept. 1886.

Mon cher Roux,

N'abandonnez la petite Tattersaal que cinq semaines après sa morsure. C'est vous dire que vous demanderez à sa mère, de ma part, qu'elle veuille bien après le traitement actuel rester encore à Paris pendant quelques jours et terminer par un dernier traitement de trois à quatre jours. (Sa blessure est-elle guérie?) J'ai promis à sa mère de l'aider si elle n'a pas assez d'argent. Demandez-lui ce dont elle a besoin. Notez vos avances avec soin.

Je vous ai donné des instructions pour le petit mordu par le chat, dans ma lettre d'hier.

Traitez le petit anglais Walter Sykes à la manière de Tattersaal et de l'enfant mordu par le chat.

On me demande instamment des nouvelles de la santé des mordus suivants (tous du Pas de Calais) par le même chien enragé, le 16 Août:

1. Nathalie Courcelles, 51 ans.
2. Edouard Courcelles, 11 ans.
3. Virginie Courcelles, 9 ans.
4. Théophile Courcelles, 7 ans.
5. Jean-Baptiste Capron; mordu le 14 Août.
6. Siméon Capron, mordue le 11 id.
7. Maria Conte, 17 ans; mordué le 16 id.
8. Leon Dumont, 3 ans; mordu le 16 id.

N'hésitez pas à retenir ces personnes pour un second et un troisième traitement, si vous avez des blessures sérieuses.—Elles ont beaucoup tardé à venir, parait-il.

J'ai repondu à l'Ambassade Anglaise que le labre est fermé—vacances—Reprise du travail fin Oct.—Alors, à la disposition de l'officier vétérinaire—qu'en ce moment service seul de la rage en activité.

Mille bonnes amitiés

L. PASTEUR.

ROYAL MEDICAL BENEVOLENT FUND

During the first quarter of this year the sum of £3,650 has been voted in grants to applicants, as against £2,562 during the corresponding period of last year. Subscriptions received during the same period amounted in 1931 to £2,499, but in 1930 to £2,628. New subscriptions and donations are therefore very urgently needed, and should be addressed to the Honorary Treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, Cavendish Square, W 1.

At the April meeting the committee voted £795 to forty-five applicants.

One recipient was a widow, aged 43, with a daughter, aged 9, who called at the office of the Fund. Her story (which has since been verified in every detail) was as follows. Her husband qualified in 1914, and served throughout the war in the R.A.M.C. He was wounded in 1915, and was four times mentioned in dispatches. The latter part of his service was with the British Military Mission in Siberia; while there he married a Russian lady who was engaged in Red Cross work in Siberian hospitals. After demobilization he practised in the Far East from 1919 to 1930. He went into his little daughter's room to open a window, and stood on a child's chair. The shutter was stuck, but suddenly opened, the child's chair broke, and the father fell out of the window on to a roof two floors below. He died within twenty-four hours, at the age of 42. After the practice was sold, and by the time his widow and child had returned to England, it is expected that the estate will yield an income of £70 a year. The first dividend not being payable till June, the Fund immediately gave a grant of £26 to the widow, and arranged with another charity to give a similar sum to tide her over the present difficulty. The Royal Masonic Institution has undertaken the education of the child. Employment is very urgently needed for the widow; beyond the experience gained by Red Cross work in hospitals, she speaks English and French fluently as well as Russian. She is willing to take up any work, being practical and of gentle birth.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild also appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, Tavistock House (North), Tavistock Square, W.C.1.

Ireland

Annual Meeting of the British Medical Association, Dublin, 1933

A very successful meeting of representatives of the medical profession and of scientific and municipal bodies was held recently in the Board Room of the Royal College of Surgeons, Dublin, for the purpose of making preliminary arrangements in connexion with the Annual Meeting of the British Medical Association in 1933, which it is proposed to hold in Dublin. Dr. T. Gillman Moorhead, President of the Royal College of Physicians of Ireland, and of the Leinster Branch of the British Medical Association, occupied the chair, and explained that the reason for calling the meeting at that date was that the necessary organization would demand hard work during the intervening period. In addition to a general committee, with officers, about nine or ten other committees would have to be appointed. At present the membership of the British Medical Association was just short of 36,000; by 1933 he expected it would have increased to 40,000. He could safely say that the British Medical Association was the most important medical association in the world. In Ireland there were 1,000 members, but that did not exhaust the number of Irish members, because throughout the world, wherever there were Branches of the Association, they found Irishmen taking a very active part in the business of those Branches. Apart from their professional interest, these Annual Meetings of the Association had also a civic and national importance. In Winnipeg last year the visit of the Association was regarded as the culmination of three years' effort, and those who attended that meeting had been given what amounted to civic receptions in every town. They did not expect to do things on such a gigantic scale in Dublin, but they had to realize the necessity for making adequate preparation for a meeting which would be attended by about three thousand medical men with their families, and by many distinguished men of science from other countries. All these visitors must be given a favourable impression of Ireland. Their visit

would act not only as a stimulus to the medical profession and to their medical schools but to their trade generally, and he believed that great benefits would accrue to the tourist traffic in future years. They had had five visits from the Association since its foundation a hundred years ago. The last Annual Meeting held in Dublin took place in 1887, so that another Annual Meeting in that city was long overdue. That fact would encourage everyone to make the coming visit one of the greatest in the history of the Association.

The Lord Mayor of Dublin proposed that those present should be formed into a general committee, and said that they had not started one moment too soon in organizing a meeting of such magnitude. The medical profession, he was sure, would have the support of all sections of the community. He promised to give all his personal assistance, and placed at their disposal whatever accommodation the Mansion House afforded for meetings or other work. In seconding the resolution, Sir William Taylor said that they could look forward to the visit of about six thousand people, and he was certain that many of these, after the meeting had concluded, would spend some time in Ireland visiting the holiday resorts. Next to the Eucharistic Congress, he regarded the visit of the British Medical Association as the greatest asset to the Free State. In proposing that Dr. J. P. Shanley and Professor J. W. Bigger should be appointed joint honorary secretaries, Dr. D. J. Coffey, president of University College, said that they were bound to ensure the success of this visit of the British Medical Association. They were too much bound up with the medical profession in England and Scotland to afford to miss any opportunity of strengthening these ties. Dr. R. J. Rowlette, who seconded the resolution, said that this visit of the British Medical Association was a matter of even greater importance to the community in general than to the medical profession. It was not merely as a favour, but as a duty, that they asked the non-medical public to throw itself into the work of organization ; if they were to succeed as they hoped, it was necessary that there should be the heartiest co-operation. The resolution was passed unanimously. On the proposal of Mr. R. A. Stoney, President of the Royal College of Surgeons in Ireland, Dr. W. D. O'Kelly and Alderman Hubbard Clark were appointed honorary treasurers, and, on the motion of Professor Henry Moore of University College, seconded by Dr. Kathleen Lynn, the following were appointed the executive committee, with power to co-opt : Dr. T. G. Moorhead, Dr. J. P. Shanley, Dr. J. W. Bigger, Mr. Doolin, Sir William I. de Courcy Wheeler, Mr. H. F. MacAuley, Mr. C. J. MacAuley, Dr. R. J. Rowlette, Dr. R. C. Peacocke, Sir William Taylor, Dr. D. A. MacErlean, Dr. Bethel Solomons, Sir James Craig, Dr. M. J. Cuffe, Dr. P. MacCarvill, Dr. T. Hennessy, Dr. M. J. Russell, Dr. Lombard Murphy, Professor A. F. Dixon, Alderman Hubbard Clark, Dr. Kathleen Lynn, Mr. J. M. Devitt, and Mr. Denis Barrett.

Dr. R. C. Peacocke proposed a vote of thanks to those bodies which had sent delegates to the meeting. He pointed out that it was not a meeting of specialists, but of general practitioners as well. He had been assured by Dr. Cox, the Medical Secretary of the British Medical Association, that the members generally were looking forward to their visit to Dublin, and it was up to the people in Ireland to make that visit as pleasant and memorable as possible. A letter was received from General R. Mulcahy, Minister for Local Government and Public Health, expressing regret at his inability to be present, but he assured the meeting that the British Medical Association would receive a cordial welcome from the Executive Council of the Irish Free State Government.

Gift from Northern Ireland Medical Practitioners to the Royal Medical Benevolent Fund in Ireland

At a meeting of the managing committee of the Royal Medical Benevolent Fund Society of Ireland, held recently in the Royal College of Surgeons, Dublin, the secretary was directed to express the committee's grateful appreciation of the generous action of the practitioners of Northern Ireland in handing over the sum of £100 8s. 6d. as a contribution to the society, this sum representing the assessed proportion of the funds of the Irish Medical Committee due to Northern Ireland, with accrued interest. The committee also expressed thanks to Mr. R. J. Johnstone, F.R.C.S., for his letter of March 30th, enclosing a cheque for the above amount, and asked him to convey to those concerned its gratitude for the gift and its appreciation of the gracious sentiments which inspired it.

Medical Appointment in County Roscommon

The medical officers of the County Roscommon Board of Health have issued an appeal to medical candidates for the Rooskey Dispensary district to withdraw their applications in the interest of Dr. Annie B. Mullen, wife of Dr. John Mullen, who resigned lately from Rooskey district as the result of a serious illness. The appeal states that Dr. Annie B. Mullen before her marriage was medical officer of the Baltinglass district in County Wicklow, and that she discharged her duties to the entire satisfaction of the Department of Local Government and Public Health and the County Wicklow Board of Health. The appeal also states that she is responsible for the maintenance of her invalided husband, who has been in a medical institution since the commencement of his incurable illness.

Scotland

University of Glasgow

The report of the General Council of Glasgow University states that the total revenue of the University for 1930 amounted to £256,475, with an ordinary expenditure of £256,879. The total number of students in the year 1929-30 was 5,526 (thirty more than in the previous year), while the number of degrees granted was 1,191 (an increase of 210). Comment is made upon a draft ordinance containing regulations for a science degree in pharmacy. With some minor changes the report recommends that this proposal should be approved by the University Court. It also suggests the establishment of a Glasgow University Club to enable persons interested in the University to maintain closer contact. At least 500 members, it is estimated, must be enrolled in order to make the institution of such a club feasible.

Opening of Dunfermline Hospital

The opening of the new extension to the Dunfermline and West Fife Hospital was performed on April 22nd by Sir Ralph Anstruther, Bt., Lord-Lieutenant of the County of Fife. Mr. Brownlie, chairman of the Board of Management, who presided, said that Dunfermline now possessed an institution which for its size and class was second to none in the country. The design and execution of the buildings reflected great credit on Colonel D. J. Mackintosh, superintendent of Glasgow Western Infirmary, who had acted as consultant architect and consultant medical adviser. An appeal for £50,000 had been issued, and an equipment fund amounted to £20,000. Not only would the hospital be opened free of debt, but the greater

part of the latter sum would be available for endowment. The number of beds would be one hundred, and he was confident that the increased contributions required for their maintenance would be forthcoming. In declaring the extension open Sir Ralph Anstruther remarked that the appeal for the extension fund had met with an extraordinarily fine response. This fact seemed to indicate that the proposal to put hospitals on the rates would be a retrograde step. The voluntary system had not only provided the necessary hospital accommodation, but it had a fine effect upon all who took a share in carrying out the work. In urging the hospital authorities to consider the admission of paying patients, he said there were a great many people who would be glad to take advantage of the hospital services if they were allowed to defray some of the expenses. The main part of the extension consists of a new administrative block and two new wards, which were completed a year ago at a cost of £50,000. Since then the old part of the hospital has been completely reconditioned and equipped, and an extensive out-patient department has been added at a cost of about £10,000. One of the features of the new hospital is the operating theatre, which contains the latest surgical equipment. The *x*-ray apparatus cost £1,500, and the *x*-ray rooms are so arranged that plates are ready to view seven and a half minutes from the time the photograph is taken. A new nurses' home has also been provided by the extension and renovation of the neighbouring Priory House, a private residence which was presented as a gift to the hospital.

Nursing Conference

In connexion with the Scottish nursing, hospital, and health week, from May 24th to 30th, a comprehensive refresher course of lectures for nurses has been arranged. These will include lectures on the future training and organization of nurses, by Dr. J. Parlane Kinloch, chief medical officer of the Department of Health for Scotland; on the public health services, by Dr. John Guy, medical officer of health for Edinburgh; and on the maternity service, by Dr. A. S. M. Macgregor, medical officer of health for Glasgow. Lord Provost Whitson will open the conference in the Music Hall, Edinburgh, on the first day, and among the subjects to be discussed are: treatment of mental disease, orthopaedics, tuberculosis, surgical conditions in childhood, remedial exercises, and the legal position of nurses. The programme includes visits to the special departments of the Royal Infirmary, Edinburgh, and to other hospitals and institutions.

England and Wales

Cancer Research in Manchester

The annual report for 1930 of the Manchester Committee on Cancer includes a brief summary of the work done by the scientific staff and at the Christie Cancer Hospital and Home, the only hospital in England outside London which is entirely devoted to the investigation and treatment of cancer. Research work during 1930 was mainly devoted to the further study of mule-spinners' cancer and to the cancer-producing properties of mineral oils, to remove the harmful products of which, economically and without diminishing their lubricating qualities, special efforts have been made. The Anglo-Persian, Anglo-American, and Shell-Mex Oil Companies, in making a joint contribution of £1,000 for two years to the Research Committee, have recognized the commercial significance of the work being done at Manchester. These companies have also provided the laboratory with crude oils from all over the world, and are, in their own research laboratories, purifying samples of oils according to the suggestions of the scientific staff of the Manchester Committee. It has been found that the cancer-producing action of mineral and lubricating oils can be greatly increased by only relatively slight heating, and that the addition of oleic acid to a synthetic tar possessing high carcinogenic powers has a similar effect. It is thought that oleic acid itself may have carcinogenic properties, though it enters into the composition of the majority of non-carcinogenic animal and vegetable fats. Methods of detoxicating lubricating oils include treatment by sulphuric acid and by clay, the addition of animal to mineral oils, and exposure to ultra-violet light and radon. It has been found that a very large quantity of acid is required to detoxicate carcinogenic mineral oils, whereas only 5 to 10 per cent. by volume of sulphuric acid is necessary to lessen the potency of lubricating oils by as much as 75 per cent. Mineral oils obtained from petroleum wells show considerable variation in activity. The important factor is thought to be the chemical composition of the oil, and an attempt is being made to estimate the carcinogenic activity of oils by combined physical and chemical methods. In the opinion of the Manchester Research Committee there is definite evidence of the curative value of radium in the treatment of cancer, even in cases which have been beyond the sphere of purely surgical treatment. The report states that there is every prospect of cure in the earlier stages of the disease by the use of radium and of surgery, and more especially by a combination of the two. In response to an appeal made in Lancashire, Cheshire, and North Wales, £24,700 has been subscribed for cancer research in Manchester, £2,000 of which has been set aside for the investigation of the uses of radium.

Functions Transferred to the Welsh Board of Health

A matter of interest to Wales and Monmouthshire appears in a circular issued from the Ministry of Health under the date of April 20th, 1931, wherein it is stated that the Minister has arranged to transfer to the Welsh Board of Health his functions in relation to: (1) surveys of public health services in Wales for the purpose of Section 104 of the Local Government Act, 1929; (2) all proposals relating to Poor Law medical work and the provision of new hospital accommodation under the Public Health Acts, with the exception of those proposals relating to the superannuation and compensation of officers, and questions affecting the status, tenure of office, powers of the council in regard to remuneration or dismissal, and conditions of service generally, which may arise under Section 121 of the Local Government Act, 1929, in regard to the position of officers transferred to the service of councils under Section 119 of that Act. The transferred Poor Law medical work covers:

1. Administration of outdoor medical relief.

2. Appointment, dismissal, tenure of office, conduct and conditions of service (with the exceptions indicated above) of (*a*) medical officers, (*b*) nurses, (*c*) dispensers, (*d*) all other officers of institutions for the sick (excluding persons of unsound mind and mental defectives), and sick wards of other institutions.

3. Approval of Poor Law institutions for teaching probationer nurses.

4. Infectious diseases in Poor Law institutions.

5. Provision, extension, or alteration of all accommodation for the sick (excluding persons of unsound mind and mental defectives).

Correspondence

CHOLECYST-GASTROSTOMY

SIR,—The article headed "Four biliary anomalies: a plea for cholecyst-gastrostomy," appearing in the *Journal* of April 18th, gives an account of four very interesting cases, and finishes with a commentary wherein the authors stress the value of cholecyst-gastrostomy in certain circumstances.

Having been for about seventeen years a very confirmed advocate of the operation, I would like to say, first of all, that it is to America we owe its initiation and its chief practice as a method of biliary tract drainage (in the absence of jaundice) due to pancreatic obstruction of the common bile duct. In my view, the operation should be performed in all cases where the gall-bladder is in good condition, and when well-marked pancreatitis is present (*Journal*, 1930, i, 1009). After a large experience of cholecyst-gastrostomy performed for gastric and duodenal ulcer, I am in a position to say a word about its difficulty and its risk. In my hands Smith's clamps, with the small half-circle curve, have proved the best, though there are many cases where it is not easy to apply a gastric clamp at all. When the gall-bladder has no complete peritoneal covering towards the fundus it is easy and helpful to mobilize the organ by lifting it from the liver bed and hinging it on the cystic duct. The operation mortality in the hundred cases done for gastric and duodenal ulcer has been only 2 per cent.

I think it not quite right to infer that the physiologists as a whole (as judged by their textbooks) have the honour of being the first to show the normal regurgitation of bile which takes place in all of us between two and three hours after food. I suggest that the physicians and surgeons, chiefly by the Reyfus tube, have the prior claim.

In 1914 my colleague Mr. Collinson and I reported three cases in which the duodeno-jejunal junction had been divided, both ends closed, and a gastro-jejunostomy performed (*British Journal of Surgery*, vol. i, No. 1, p. 665). In none of these cases was there any vomiting, despite the fact that the *whole* of the bile and pancreatic juice passed through the stomach. The real difficulty, so long as there is no obstruction in the common duct, is to keep the anastomosis open. As the authors of the paper say, the anastomosis can easily be detached. In my experience the mucous tract separates itself in about eighteen months, and to this difficulty (in dealing with gastric and duodenal ulcer) I have been applying myself the last few years. It has been said—in experiments in dogs it has been proved—that there is a danger of liver infection via the gall-bladder. *X* rays have shown that permeation may occur, but I have never had a case, or read of one, where this has happened and given rise to symptoms.—I am, etc.,

Leeds, April 21st. L. R. BRAITHWAITE.

BLOOD PRESSURE AND LIFE ASSURANCE

SIR,—The life assurance company of which I am chief medical officer sends out instructions for the taking of blood pressures identical with those mentioned by Major G. R. McRobert in his letter published in the *Journal* of April 25th. May I therefore briefly explain why the medical examiners are asked to record the diastolic pressure at the point "at which all sounds disappear"?

The company in question is Canadian, and follows the practice universally adopted in America. When the American companies first asked their examiners to take blood pressures they found that the figures recorded, especially those of the diastolic pressures, were so inaccurate as to be of little use for statistical, or, indeed, for any other purposes. It was therefore decided to ask all examiners to record the diastolic pressure at the point of disappearance of all sound. The medical advisers of the companies were perfectly well aware that this point did not represent the true diastolic pressure, but they felt that it was a point that could be accurately recorded by even the most inexperienced examiner. The resulting records are probably about 10 mm. below the true diastolic pressure in the majority of cases; but, if an unduly high figure is returned, it is certain that a raised diastolic pressure is present. The statistics referred to in the memorandum quoted by Major McRobert are intended for the use of life assurance companies, and for their purpose accurate and consistent records are essential.

My experience in reviewing medical reports on applicants for life assurance convinces me that there is still a large number of medical men who do not understand the correct method of estimating the diastolic pressure. It is far more useful to know that all sound disappears at, say, 85 mm., than to receive a highly inaccurate estimate of the true diastolic by an examiner who has had little experience with the sphygmomanometer. I have quite frequently seen diastolic pressures of 120 mm. recorded in cases which are recommended by the examiner as "first class," and on several occasions I have been asked to believe that the diastolic is higher than the systolic.

No doubt the time will soon arrive when true diastolic readings of the blood pressure can be accepted with as much confidence as readings of the pulse rate. In the meantime many companies prefer to make use of an arbitrary point which is easy to record and which does, at any rate, give some indication of the true diastolic pressure. I hope that what I have said may be useful to others who, like Major McRobert, have been surprised to find an apparently elementary "error in a memorandum issued by an insurance company."—I am, etc.,

London, W.1, April 27th. MAURICE E. SHAW.

MULTIPLE EXOSTOSES OBSTRUCTING PARTURITION

SIR,—In his interesting account of a case of multiple osteochondromata with obstructed labour (*Journal*, April 25th, p. 704) treated by Caesarean section in Cyprus, Dr. Blackaby comments on the rarity of multiple bony tumours of the pelvis causing obstruction to parturition. A few years ago an exhaustive analysis of the medical literature dealing with osteochondromata, multiple and single, was made,[1] and it may be of interest to Dr. Blackaby and others of your readers to cite some of the results of this search in so far as they concern the pelvis.

Some 431 cases of multiple exostoses were reported up to 1924, and the pelvis was the site of one or more of the growths in 79 of these. The ilium was affected in 79 per cent. of cases, the pubis in 14 per cent., and ischium in 7 per cent. The pelvis was involved in males in 47 out of 274 cases, and in females in 29 out of 129 cases. In 26 of the cases having a pelvic growth, where there was a complete record of the location of the other exostoses, the mean number of other bones with exostoses was 7; these included the tibia in 25, femur in 23, fibula in 19, humerus in 19, small bones of the hand in 18, radius in 17, ulna in 16, scapula in 16, clavicle in 13, ribs in 11, small bones of the foot in 8, sternum in 4, vertebrae in 4, and cranial bones in 3. In 506 cases having an isolated osteochondroma on some bone other than the cranium, the pelvis was the site in 45. In 94 cases of multiple enchondromata the pelvis was the site of one or more growths in 6.

[1] Stocks, P., and Barrington, A.: Hereditary Disorders of Bone Development. *Treasury of Human Inheritance*, vol. iii, Part I. Cambridge University Press. 1925.

An examination of the detailed records of 100 pairs consisting of parent and child exhibiting multiple exostoses showed that the parent had an exostosis on the pelvis in 14 and the child in 14, and in 4 of these instances the pelvis was affected in both members of the pair,. the expected number of coincidences on the basis of a random distribution being 2. The records of some 300 cases of multiple exostoses with hereditary history show that a single exostosis was found on the pelvis in 29, and more than one exostosis on the pelvic bones in 25. Of the latter, 14 were males and 11 females. In most of the male cases the growths were noticed only on the ilia, usually on the crests or near the anterior superior iliac spines, but in 3 cases they were found in other parts of the pelvis also.

Besides the 11 female cases with multiple pelvic exostoses mentioned above, at least 3 more female cases have been described, not having any clear history of heredity. These 14 cases were recorded by Vix, 1856 (Giessen); Kormann, 1874 (Berlin); Heymann, 1886 (Berlin); Drescher, 1889 (Zur Casuistik der hereditären multiplen Exostosen, Inaugural Dissertation, Giessen); Barthélemy, 1890 (Paris); Hirst, 1894 (U.S.A.); Stérin, 1902 (Lille); Lippert, 1903 (Leipzig); Porak and Daniel, 1903 (*Comptes-rendus de la Soc. d'Obstétrique, de Gynécologie et de Pédiatrie de Paris*, v, 52); Gossage and Carling, 1910 (London); Delfino, 1913 (Hamburg); Marshall, 1916 (U.S.A.); Ehrenfried, 1917 (U.S.A.); Buchanan, reported by Ehrenfried, 1917 (U.S.A.).

Interference with normal parturition was occasioned by these exostoses in the case described by Porak and Daniel, a woman, aged 21, requiring symphysiotomy, and in Drescher's case, a woman, aged 30, who died after childbirth, and was found at necropsy to have several exostoses on the inner surfaces of the symphysis pubis and right iliac fossa, together with numerous exostoses and a few enchondromata on other bones. The references to these two cases are given above.

I know of no other case recorded prior to 1924 in which multiple bony growths on the pelvic bones were associated with obstruction to parturition, and Dr. Blackaby's case therefore presents a combination of circumstances which is decidedly rare. There are, however, at least 14 recorded cases of multiple exostoses in which there was a single pelvic growth causing obstruction, with a fatal result in 10. In addition, some 30 cases of an isolated osteochondroma of the pelvis causing obstruction to labour have been recorded, with fatal results in 13.—I am, etc.,

Department of Applied Statistics, University College, London, April 25th. PERCY STOCKS.

ACTIVATED FLUORESCEIN IN THE TREATMENT OF CANCER

SIR,—Since the publication of Dr. S. Monckton Copeman's latest article on the use of "activated" fluorescein in cases of cancer, which appeared in the *British Medical Journal* of April 18th (p. 658), he has received letters of inquiry from radiologists in various parts of the country as regards the details of the technique. Therefore we have decided that it would be advisable that I, as the radiologist responsible for the practical side of the work since the earliest case was first attempted at St. Mary's Infirmary, Islington, and subsequently for all the cases at the Royal Northern Hospital, should state as concisely as possible the full details at present employed at this hospital, and, incidentally, in my private practice as well.

In the past, unsuccessful cases have come to our notice in which the radiologist has adopted a technique which has varied more or less from the one I personally have found to produce the best results. I wish to make it perfectly clear that I am not necessarily using the ideal procedure—this will be the subject, we hope, of future scientific investigation—but surely it is unfair to blame this method for these unsuccessful results when employing a different technique from the one which I have found so far to be of the most practical value. For instance, apart from the use of a different filter, it has been found that too great a concentration of fluorescein, particularly on the skin, not only fails to produce the required result, but also gives rise to a slight *x*-ray erythema. Also the preparation used must be alkaline, and not neutral. Here follows the technique.

Dosage, 6H; filter, 4 mm. of aluminium; spark-gap (between points), 7 inches; kilovoltage, 110; milliamperage, 4. Time taken, from 10 to 15 minutes. Three weekly doses are given, followed by three weeks' rest. This cycle is then repeated for at least six months, and then occasional doses are given up to a year or longer. This dosage, except in a few cases in which the fluorescein solution was too concentrated (that is, more than doubled), has so far produced no signs of erythema. Details of application are as follows:

1. For painting on the skin.—Sodium fluorescein 2.5 per cent., sodium bicarbonate 3 per cent., glycerin 2 per cent., in distilled water.

2. For oral administration.—Capsules of sodium fluorescein 1 gram to 3. Administer half to one hour before treatment.

3. As a "swallow."—Sodium fluorescein 5 per cent., sodium bicarbonate 3 per cent., glycerin 2 per cent. This "swallow" is used for growths in the pharynx, etc., when impossible to spray.

4. *Intravenous injection for lung cases.*—Sodium fluorescein 5 per cent., sodium bicarbonate 3 per cent., in normal saline. Use 20 c.cm. and inject fairly slowly—say, three minutes. This has no toxic effects. Treat immediately after injection.

5. Injection of nodules.—Same as for painting.

6. Bladder injection.—Sodium fluorescein 2.5 per cent., potassium fluorescein 2.5 per cent., sodium bicarbonate 3 per cent., in normal saline. Leave for ten minutes and then remove, leaving about four ounces.

7. Enema.—Same as bladder injection. Decant as much as possible.

The rest of the technique is the same as for ordinary *x*-ray treatment—that is, either direct or cross-fire radiation may be used.—I am, etc.,

London, W.1, April 26th. CLAUDE GOULDESBROUGH, Medical Officer in Charge, X-ray Department, Royal Northern Hospital.

VACCINE DOSAGE

SIR,—The main reason for the extreme divergence may be that given by Dr. Shera—the divorce of the clinician from the pathologist. The latter has perhaps insufficient material on which to test out his products and also his theories of the immunity mechanism. But there must be other reasons if good results can be claimed from such markedly differing doses as Dr. Balme has been advised to use. If a vaccine is non-specific, then large doses are undoubtedly necessary, and one must suspect that where doses of from 200 to 400 million are advised any effect produced by the vaccines of that pathologist are due to protein content. The presumption is that either T.A.B., or even milk, would do as well. It is true that specific vaccine may be *tolerated* in large doses, but reaction will follow *small* doses, which is not the case with the non-specific. The size of the dose of a specific streptococcus vaccine recommended by the pathologist will depend largely on the effect he hopes to produce. Should he look for a solid blood immunity, he will suggest large and increasing doses—more or less regardless of slight reaction. On the other hand, he may believe, as I do, that reactions are harmful, and should be avoided; then small, and often diminishing, doses will be advised.

Taking the actual numbers quoted by Dr. Balme: bacteriologists will agree that roughly 1,000 million

streptococci dried weigh one milligram. The dose recommended is therefore from 0.2 to 0.4 mg. If, in a case of tuberculosis, a pathologist were to suggest 0.2 to 0.4 mg. of T.B.E. as an initial dose, he would probably be deemed to be a criminal lunatic.

It is agreed that in all vaccine treatment, *ceteris paribus*, the dose is inversely proportionate to the area or total volume of the disease. In a fairly generalized case of rheumatism it will be conceded that the extent of the disease is much larger than in a case of phthisis. Therefore the dose of streptococci in rheumatism should be relatively smaller than that in tuberculosis. At the present day nobody would recommend an initial dose of T.B.E. larger than one ten-thousandth part of a milligram. This is the equivalent of 100,000 streptococci. If, then, definitely specific streptococci are injected in a fairly severe case of rheumatism, on general principles one would expect the comparable initial dose to be somewhere below one-tenth of a million, depending on the extent of the disease.

There is, however, a point in the technique of preparation which may affect the potency of the vaccine. The longer certain streptococci are cultured in the laboratory, the less virulent do they become for rabbits. Even after two or three subcultures an arthritis easily induced by a fresh culture no longer appears. Probably we may assume some difference also in the antigenic properties of streptococci thus treated. It seems, then, that autogenous vaccines of streptococci should be made from freshly isolated microbes. Again, most pathologists make their primary culture on ordinary blood agar. This is a poor medium for the non-haemolytic streptococci. Non-pathogenic varieties are much more likely to grow than pathogenic. Here, possibly, is the explanation of the non-specific character of so many streptococcal vaccines. But supposing the streptococci to be actually of the correct type, the number of subcultures may well account for a difference between a dose of 100,000 and a million or 10 million.

Finally, those who have a considerable experience of vaccine treatment will bear me out in the statement that, because a given dose x provokes a reaction, it does not follow that $10x$, or even $100x$, will have a proportionately larger effect, or even any effect at all. It appears that over the whole scale of possible dosage there is a more or less narrow range where the vaccine produces a reaction. Those doses outside this range, either below it or above it, may produce no reaction and no effect whatever. A most striking instance occurred recently in my own experience when a patient, who had been having 500 million streptococci once a fortnight without effect of any kind, suffered a severe reaction after a dose of a tenth of a million of the same vaccine diluted down. In order to obtain a standardization of dosage it is necessary, first, to find some test for specificity (for example, the so-called blood pathogen-selective test might help here); then to standardize methods of culture; and, finally, to decide on the *method* of dosage which gives the best results.—I am, etc.,

London, W 1, April 27th. H. WARREN CROWE.

POST-ENCEPHALITIS

SIR,—In a leading article in the *Journal* of April 25th on post-encephalitis and its problems you refer to the use of my influenza antigen in the treatment of bad behaviour cases. The antigen I supplied to Dr. Hill was made from the sputum of a typical case of influenza, and since it produced focal reactions in the brains of his patients it has a special significance in connexion with the etiology of the disease. One really ought not to speak of post-encephalitic conditions, for in these cases the encephalitis has never ceased to exist, and is progressive. It is very significant that practically every encephalitic is a carrier of influenza bacilli, which can be isolated from the naso-pharynx. This enables the antigen to be made from the patient's own strain, which is very desirable. As soon as the case is diagnosed this ought to be done and immunization started. If it is, there is every reasonable prospect of permanent recovery. Even when Parkinsonism has supervened it is possible to obtain arrest and slow recovery in some cases, but if early specific immunization is used Parkinsonism does not occur.—I am, etc.,

University College, Dublin, April 27th. W. M. CROFTON.

CORONARY THROMBOSIS AND MYOCARDIAL INFARCTION, WITH GLYCOSURIA

SIR,—A case of the above is described in the *Journal* of April 11th (p. 618) by Dr. Norman Cruickshank. The author mentions that a combination of coronary thrombosis and glycosuria is now becoming recognized as a definite syndrome. It is important to appreciate, however, that while only an infinitesimal proportion of diabetics exhibit thrombosis of the coronary arteries, some 25 per cent. of patients with coronary thrombosis suffer, or have suffered, from hyperglycaemia. The distinction is necessary.

In summarizing his case, Dr. Cruickshank considers it more probable that the glycosuria and coronary thrombosis "result from a common cause (vascular degeneration) than that glycosuria is an etiological factor in the production of coronary thrombosis." The conclusion is perfectly sound; but it is more than surprising that, in spite of the blood Wassermann test upon this patient yielding a positive result, a syphilitic etiology to account for the coronary thrombosis, the infarction, and the glycosuria, was neither considered nor acted upon. The reason for this is apparently to be found in the fact that, even in this present day, so much clinical and pathological diagnosis is based upon the pre-treponemal, pre-serological, and gross naked-eye criteria of syphilis. It seems in this case that the modern pathology of syphilis—upon which both accurate diagnosis and adequate treatment must be based—was not taken into consideration. The failure to realize the syphilitic causal factor is due, of course, to an unfamiliarity with the histo-pathological work of Warthin and all that it implies. Where the clinical concept is determined by an obsolete pathological picture, then the causal part played by syphilis is, more often than not, unappreciated. It does not yet seem to be generally realized that syphilis is, first, last, and all the time—even before the appearance of the chancre—essentially a disease of the cardio-vascular system. Every sign and symptom, from the alpha of the initial sclerosis to the omega of general paresis, is but a manifestation, varying according to age, intensity, and site, of a perivascular infiltration of lymphocytes and plasma cells evoked in response to the presence of the *Treponema pallidum*. This is the "vascular degeneration" to which Dr. Cruickshank refers.

A coronary thrombosis, a myocarditis, a condition of heart-block, especially in the absence of the Stokes-Adams syndrome, or a glycosuria are individually signs for the performance of a Wassermann test. Any one of these conditions cries out for a careful historical, clinical, and serological investigation as to the presence of syphilis. When found in combination, these symptom-complexes change suspicion into virtual certainty, and in spite of a negative blood Wassermann examination. Where the serology is negative, if the full provocative procedure is carried out—a blood test every twenty-four hours for seven days after the injection of an arsenobenzene compound, and then again on the twelfth and fourteenth days—a positive result is often obtained. In those who

still remain negative under this, the proportion who show at necropsy histological evidence of syphilis is so high as to explain the value of the therapeutic test.

The post-mortem cardio-vascular findings in Dr. Cruickshank's case pointed definitely to syphilis, even though they were only naked-eye in character—advanced aortitis, infarction of anterior wall of left ventricle above the apex, and an atheroma of the coronary arteries. I remarked in the *Journal* of April 26th, 1930 (p. 798), with reference to a paper by Dr. Crichton Bramwell on coronary occlusion, that a myocarditis is the commonest visceral lesion in syphilis, and that its most usual site is on the anterior wall of the left ventricle just above the apex. This myocarditis resolves itself into a cellular infiltration—progressing to a fibrosis—of the terminal branches of, usually, the left coronary artery. A progressive and ascending gradual occlusion of this vessel takes place, and the end-result is an anaemic necrosis (white infarct). The condition is, in short, a consequence of syphilitic myocarditis. This was the condition found in Dr. Cruickshank's case.

It is true that Levine finds only 4.5 per cent. of his cases of coronary thrombosis to be syphilitic, but then his criteria—post mortem at any rate—for the presence of syphilis are not sufficiently searching. He also finds, however, that the relationship between this condition and glycosuria was present in 23.7 instances. He feels that "among the distinct disease entities that are etiologically related to coronary thrombosis, diabetes is second in importance only to a previously existing hypertension." It is upon this that Dr. Cruickshank rightly joins issue with him in these words: "It seems more probable that the two conditions result from atheromatous changes in the coronary and pancreatic vessels respectively. It is difficult to imagine how glycosuria *per se* could determine the onset of coronary thrombosis." What both writers overlook is the frequency with which syphilis is the cause of myocarditis, atheroma, hypertension, and glycosuria.

The relationship of diabetes to syphilis is much closer than is usually considered to be the case. Post mortem, it is found that a combined interlobular and interacinar pancreatitis with atrophy of the islands of Langerhans, is practically always present in cases of late syphilis. It is usually localized and patchy. It appears that the form of pancreatitis most frequently associated with diabetes is due to syphilis; but at the same time it must be said that severe degrees of this pancreatic involvement may exist without the occurrence of glycosuria. In this connexion is to be borne in mind how often glycosuria is associated with neurosyphilis—in some 10 per cent. of paretics. It is therefore probably true that the pancreatic changes are not the sole factors causing the development of glycosuria, but that there must be taken into account similar changes in the liver, suprarenals, and in the brain.

It is unfortunate that the necropsy on Dr. Cruickshank's case was not carried out in detail—that is, the staining of sections from the myocardium and pancreas for treponemata by the Warthin-Starry silver-starch-gelatin method. Without this, the pathological diagnosis is incomplete. It would be very valuable, but admittedly laborious, if pathologists in investigating cases for syphilis would section and stain tissues from heart, aorta, pancreas, suprarenals, and testes for the cellular perivascular specific picture and for the parasite itself. The post-mortem diagnosis of syphilis is microscopical.

An extensive bibliography of syphilis of the pancreas will be found in an article by Wile in the *Archives of Dermatology and Syphilology* (1921, iii, 122); and some additional recent references are given by Berghausen in the *American Journal of Syphilis* (1930, xiv, 71).—I am, etc.,

Municipal Clinic, Salford, April 13th. E. TYTLER BURKE.

THE POST-INFLUENZAL COUGH

SIR,—Dr. G. Richardson's useful contribution to our knowledge of this common and most distressing sequela (April 18th, p. 685) tempts me to join issue with him on one small point only. He maintains that "the whole extensive group of morphine-heroin remedies spoil the appetite and practically do no good at all." My rejoinder would be: "That depends on how they are administered." I would much like him to give a fair trial to the following prescription, which was designed, or at least modified, by the late Sir Felix Semon in the 'nineties, and always gave him satisfaction in the treatment of such cases. In any case, I think it would be a pity if it were entirely forgotten.

Morphine hydrochlor., 3/4 grain.
Apomorphine hydrochlor., 1/2 grain.
Acid hydrochlor. dil., 10 minims.
Syrupi fici., 4 drachms.
Syrupi pruni. virg., 2 drachms.
Aq. dest. to 6 oz.
One to two teaspoonfuls every hour until the cough abates.

Sir Felix Semon believed that the good results he obtained were due to the biologically antagonistic action of morphine and apomorphine. Whatever the mode of action, the mixture is most pleasant to take, quite harmless in view of the almost homoeopathic quantities of the contained drugs, and, as I have often proved to myself and others, of the greatest value in all cases of spasmodic cough.—I am, etc.,

London, April 21st. HENRY C. SEMON, M.D.

SIR,—We must all admire Dr. Richardson's clinical account of the post-influenzal cough; but I venture to disagree with him as to its causation, and consequently as to its treatment. I attribute the cough to a pharyngitis, and not to a tracheitis—a pharyngitis which is sometimes accompanied by a relaxed uvula. My treatment is therefore directed to the throat, and I find that painting the throat five times a day with glycerin of tannic acid promptly stops the cough. The last painting of the day should be done half an hour before bedtime. As an alternative, a sedative spray may be used, but it must be used frequently.—I am, etc.,

King's Heath, Birmingham, April 20th. W. A. MARRIS.

THE MODERN CONCEPTION OF EARLY PHTHISIS

SIR,—Dr. H. V. Morlock's valuable paper (*British Medical Journal*, April 25th) explains once more the fallacies of the pre-*x*-ray doctrine, according to which phthisis was supposed to begin at the apex of the lung. He thus confirms my results published nineteen years ago. Dr. Morlock, however, attributes the "new" teaching to papers published in 1924-28, and especially to a book published in Germany in 1929, whereas my own description was published in 1912 (Peribronchial Phthisis, *Practitioner*, February, and *British Medical Journal*, August 31st). These papers of mine were fully illustrated; they aroused lively discussion at the time, and I believed they had produced a permanent change in view regarding the onset and course of pulmonary tuberculosis. A recent short paper by me on the same subject appeared in the *Franco-British Medical Review* for June, 1930. If the work of Redecher and others (referred to by Dr. Morlock) was entirely independent of my earlier observations, that, of course, accentuates its value.—I am, etc.,

ALFRED C. JORDAN, M.D., M.R.C.S., D.M.R.E.

London, W.1, April 25th.

DIAGNOSIS AND TREATMENT OF SUBPHRENIC ABSCESS

SIR,—Within the last few months two instructive papers have been published in the *British Medical Journal* on the diagnosis and treatment of subphrenic abscess. Both authors comment on the fact that the *x*-ray examination has not proved of much help in the diagnosis. The *x*-ray evidence relied upon is simply that there is an elevation of the affected side of the diaphragm due to a localized bulging thereof, accompanied by restricted movement. Sometimes there is in addition a gas bubble within the abscess cavity.

When I approached the subject as clinical assistant in the *x*-ray department of the London Hospital, I quickly realized how inadequate was the *x*-ray evidence alluded to above. After careful thought I decided that the best method of approaching the subject was to rely upon screen technique, and not films.

Subphrenic abscess is an uncommon disease, and few radiologists see many cases. At the Miller General Hospital for South-East London, during the past six years only nine or ten patients have been admitted with this condition. Of these, two or three were not *x*-rayed, and all died. The diagnosis was made at operation or post-mortem examination. Of the six or seven cases I saw, I was able to make the correct diagnosis in every instance, for each one was operated upon. Of this group all but one were simple cases—that is, uncomplicated by an empyema. These simple cases all survived except one, where the physician found himself unable to reconcile the physical signs with the *x*-ray report. Having the spirit of conviction, he kept the case under observation for a fortnight. The patient was now gravely ill, and was sent back to me for re-examination. I could only report the subphrenic abscess still present and much larger. Surgical treatment was promptly applied, and a large subphrenic abscess opened, but the patient succumbed. The single complicated case was a right-sided subphrenic abscess with a right basal empyema; but even here I was able to recognize both abscesses.

Space does not permit a description of my technique, because diagrams are necessary. I rely entirely on the screen examination of the diaphragm, noting its position, shape, and especially the nature of its movements. It is essential to use hard rays when dealing with a combined subphrenic abscess and adjacent empyema. The localization of the abscess by screening is a comparatively simple matter. Examination of the case sheets during this period shows that no genuine case of subphrenic abscess has been overlooked by the *x*-ray department, though mistakes have been made in suspecting it where it was not present. It is important to note, however, that the physician always has the temperature chart and the blood count to help him.

These results justify me in my belief that the *x*-ray examination can be made a most reliable method for diagnosing and localizing this important condition.—I am, etc.,

London, W 1, April 27th JOHN R. WYLIE.

PRIMARY TREATMENT OF CARBOLIC ACID POISONING

SIR,—My short article on carbolic acid was primarily intended to draw attention to the immediate treatment of the poisoning from the simplest standpoint possible; for my own and admittedly limited experience—of other men's efforts—has shown that the subject is worthy of attention. Mr. Bowdler's letter (April 18th, p. 686) in this connexion may therefore be considered a good result of this effort, since his valuable experience might otherwise have been lost. One cannot help feeling that if Mr. Bowdler had given a summary of his cases, with special reference to the circumstances under which they occurred—one of the most important facts to be considered in the treatment of any poisoning—his letter would have gained still more in value; especially as it would appear that his results were obtained under works conditions in which prompt attention should be available, and very different from telephoned cases of accident or attempted suicide several miles away from the doctor. I find myself a little puzzled to understand why Mr. Bowdler, while strongly agreeing in principle with me in the external treatment, denies its possible value to soothe and limit absorption from other surfaces, especially when he again agrees with me in regarding the use of sulphates to limit absorption as an essential part of his treatment; unless, which is surely unlikely, he still assumes the old and erroneous theory that inorganic sulphates assist in the metabolism of the absorbed carbolic acid.

In this connexion I would draw attention to the interesting example of a treatment being introduced into medicine on an entirely wrong basis, subjected consequently to much adverse, hostile, and even bitter criticism, found valuable by the experience of obstinate clinicians, and eventually explained by more recent scientific work; for such is the history of the use of sulphates in carbolic acid poisoning. Potassium chlorate in throat affections is another example of this type, though as yet the explanation of its beneficial value is undiscovered. The lesson seems to be that neither the laboratory nor the clinic should waste too much time and effort in upholding a hypothesis, but that both should strenuously endeavour to substantiate the facts. Bearing this in mind, therefore, one may willingly accept Mr. Bowdler's choice of castor oil, since he has not only had experience of its use, but also because this oil has a higher partition coefficient for the acid. A study of various oils would probably show that even better ones exist, which might be made available in places where accidents are likely to occur. Fundamentally an inert oil with a high affinity for the acid is the ideal. The suggested use of paraffin was made in order to focus attention on the fact that other commonly available oils are decomposed into absorbable constituents in the intestine, and thus there is a theoretical objection on these grounds. Actually, however, provided that this point is realized and precautions are taken to prevent its occurrence (by the free use of sulphates), castor oil or olive oil would probably be better than paraffin. I cannot agree with Mr. Bowdler that the suggested dose falls into that strange, old-fashioned group called "heroic"; a stomach must be very damaged indeed to be unable to hold half a pint of an inert oil, and if so damaged it would certainly be heroic for both the patient and the doctor to attempt to wash it out. That the oil should "embarrass the absorbing glands," which Mr. Bowdler suggests as an objectionable possibility, seems a most unreasonable criticism.

The emphasis placed by Mr. Bowdler on the wash-out method thoroughly carried out with plain water, and his general objections to using the stomach as a sort of test tube in which to neutralize poisons, is standard teaching, though regrettably not eliminated from all the textbooks. In cases, however, of corrosive poisoning, this treatment has fallen into disrepute except in those cases in which it is applied immediately. May I point out that no wash-out affects the intestine, from which much of the absorption will take place; and may I repeat that oil does not invalidate the use of the wash-out? In certain cases in which very prompt remedies may be used, and especially in those in which the poison has been taken shortly after food, or is

in some relatively insoluble form (certain sheep dips, etc.), emesis and an immediate wash-out is certainly indicated. It may, however, be remembered that, following the administration of such powerful local anaesthetics as carbolic acid, vomiting is difficult or impossible to produce. Finally, may I say that I do not wish either Mr. Bowdler or anyone to imagine that I believe there is one certain, simple, and best way to treat every case of any condition whatever. In the practice of medicine the best results are always obtained by the use of that fine discrimination which is frequently, cynically, optimistically called common sense.—I am, etc.,

O. S. GIBBS.

London, W.8, April 21st.

HALLUX VALGUS

SIR,—At long last the general hospital surgeon is waking up to the fact that excision of the head of the first metatarsal is a bad operation for hallux valgus, and judging from the progress made by the orthopaedic surgeon he will probably be doing likewise in a few more years.

Twenty-five years ago a lady asked me if I could relieve her of a deformity which was wounding her vanity. She had hallux valgus. I excised the head of the first metatarsal. The aesthetic result was all that could be desired, but her power of walking was considerably impaired.

The next case I had was in a bricklayer. The same operation and the same result; only it was more unfortunate in the bricklayer's case, as he had to stand and walk about all day to earn his living. However, I had learnt my lesson.

My third case was not for hallux valgus, but for a much more crippling condition—namely, hallux rigidus. In this case I removed the base of the first phalanx and part of the shaft, also a ridge of osteophytes around the upper margin of the head of the first metatarsal. The result was so satisfactory, both to the patient and myself, that I have never varied the procedure since, either for hallux valgus or hallux rigidus.

Why teachers and authors of textbooks persist in recommending excision of the head of the metatarsal is only understandable for two reasons: either they are carrying on the traditions of former writers, or else they never see the after-results of their operations.—I am, etc.,

J. STEWART.

Leeds, April 21st.

THIRTY-EIGHT YEARS WITH A FRACTURED SPINE

SIR,—The unusual length of the period of survival after sustaining a fracture of the spine seems of sufficient interest to warrant forwarding the particulars to you for publication. Perhaps some of your readers can answer my contention that the case is unique. During my student days it was generally thought that the maximum expectation of life after such an injury was two years, while the average was much shorter. Only recently I treated another man who lived over twelve years, after being thrown from his horse and sustaining a fracture of the spine through the twelfth dorsal vertebra. The present case was somewhat similar.

On August 8th, 1892, a telephone linesman, aged 21, fell from a high telephone pole and fractured his spine between the eleventh and twelfth dorsal vertebrae. After a stay in hospital, he was sent home, and was attended by my predecessors in this practice. On my first making his acquaintance, just ten years ago, he was living in a spinal carriage, with complete paralysis of both legs and lower abdominal muscles. Contraction of the muscles had taken place, with the result that the legs were stiff, the hips being in normal relation to the body in the supine position, the knees extended, and the ankles and feet in extreme talipes equino-varus, with large corns over the external malleoli from friction of the bedclothes. Nursing was carried on by his sister, some eight or nine years older than himself; no bed sores appeared in the whole period he was under my observation. Naturally he had incontinence of urine and faeces, and suffered from cystitis. He washed out his bladder daily with a weak solution of Condy's fluid, using an ingenious siphon arrangement attached to an ordinary rubber catheter. Twelve months ago a perinephritic abscess appeared in the right loin. This was incised without the necessity of an anaesthetic, and later discharged urine and pus through a small sinus, urine also draining per urethram. Death finally ensued on March 9th, 1931, through renal insufficiency due to pyelonephritis secondary to cystitis, the man then having just passed his sixtieth birthday.

I shall be glad to hear from any of your readers who are interested in this class of case.—I am, etc.,

DOUGLAS GREEN.

Sheffield, April 21st.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Mr. Snowden introduced the Budget in the House of Commons on April 27th. He did not announce any general change in the rates of income tax, but proposed that on assessments under Schedules B, D, and E three-quarters of the tax due for 1931–32 should be payable on January 1st, 1932, and one-quarter on July 1st, 1932. This applies to the tax on salaries and professional earnings. Mr. Snowden proposed no new taxation, except an increase of 2d. a gallon on the petrol duty. No abatement was indicated for petrol used by *medical men*, nor any change in the taxation of motor cars. The proprietary medicine duty remains unaltered.

Discussion of the Budget proposals occupied the House of Commons on the following days.

On April 24th the House of Commons passed the Workmen's Compensation Bill through the report stage and third reading. The Solicitor-General, Sir Stafford Cripps, said the Bill would carry out the true intention of Parliament in the Act of 1923. The Bevan *v.* Nixon's Navigation Company judgement would no longer be applicable. Mr. Rowson explained that this was the case of a man certified to be suffering from miner's nystagmus. The Bill concerned the compensation of partially disabled men.

On April 27th the Parliamentary Medical Committee met. It was announced that the Minister of Health had intimated that he felt unable to appoint an advisory committee in rheumatic diseases. The committee was informed that the Proprietary Medicines Bill would be introduced very soon, probably by Mr. Somerville Hastings. The Pharmacy and Poisons Bill was then discussed, and an arrangement made for Mr. H. N. Linstead, secretary of the Pharmaceutical Society, to address the Medical Committee on the subject at the next meeting on May 12th. The committee may ask to meet the Minister in charge of the Bill. At a later meeting of the committee Sir Leonard Hill will speak on the ventilation of the House of Commons.

Voluntary Hospitals and Approved Societies

DR. FREMANTLE asked Mr. Greenwood, on April 23rd, what was the approximate estimated cost of services rendered by voluntary hospitals to members of approved societies. Mr. GREENWOOD said that no material was available for such estimate. Dr. FREMANTLE asked what contributions were made by approved societies to the funds of voluntary hospitals in return for services to their members. Mr. GREENWOOD said the total amount allocated by societies in England in payments to hospitals under schemes consequent upon the second valuation was about £300,000 per annum. Schemes based on the third valuation were in operation in societies covering about one-quarter of the total insured population. Under these latter schemes the annual amount allocated to hospital benefit had been increased about 14 per cent. above that previously allocated. Dr. FREMANTLE then drew the attention of Mr. Greenwood to the fact that last year University College Hospital treated over 2,000 members of approved

societies at a cost of £22,000, towards which the societies contributed little more than £3,000, and that of 124 such societies whose members were admitted to the hospital, 44 contributed part of the cost and 80 contributed nothing. Dr. Fremantle asked the Minister to bring the claims of voluntary hospitals to the notice of approved societies when allocating their disposable surpluses. He wished to know whether Mr. Greenwood could not draw the attention of the societies to the fact, which they probably did not realize, that they were getting much more from the voluntary hospitals than was covered by the small contributions which they made. Mr. GREENWOOD replied that the attention of all approved societies had been directed to provisions of the National Health Insurance Act, under which they were empowered to allocate part of any disposable surplus disclosed on valuation to the making of payments to hospitals in respect of the maintenance and treatment of their members therein. He was prepared to do what he could in the matter, but had no power to enforce contributions.

Pharmacy and Poisons Bill

REPORT STAGE IN THE LORDS

On April 27th the House of Lords considered the Pharmacy and Poisons Bill in the report stage.

On Clause 18 (prohibitions and regulations with respect to the sale of poisons) Lord PHILLIMORE moved an amendment providing that, subject to the provisions of Part II of the Bill, it should not be lawful for any person to keep open shop for the dispensing of prescribed medicines unless that person was an authorized seller of poisons.

Lord PONSONBY, who was in charge of the Bill, opposed the amendment, which, he said, would have the effect of preventing anyone except a registered pharmacist making up a prescription of a medical practitioner. It was a proposal of a very far-reaching character. The Government had consulted members of the medical profession, and had their wholehearted support in opposing the amendment. Those who supported the amendment were asking for pharmaceutical chemists an absolute monopoly. The amendment would rule out Army dispensers, those holding certificates of the Society of Apothecaries, and all unregistered dispensers. Whether that should be done or not he did not wish to argue on that occasion. It was quite obvious, however, that if such a drastic proposal were to be adopted and put into an Act of Parliament a widespread inquiry into the whole question must first be held. For these reasons he could not alter the attitude which he took up on the amendment when it was moved in the committee stage.

The amendment was negatived.

A number of other amendments, mostly of a drafting character, were agreed to, and the report stage was concluded.

National Insurance

Mr. GREENWOOD told Mr. Remer, on April 23rd, that at the close of 1930 £127,000,000 stood at the credit of National Health Insurance Funds in Great Britain. These funds were required in respect of future liabilities. He added that on March 31st, 1931, £46,000,000 was in hand in the funds under the Widows', Orphans', and Old Age Contributory Pensions Acts.

Sale of Milk

Mr. GREENWOOD, answering Mr. Butler on April 23rd, said that, in consultation with Dr. Addison, he was considering a proposal made by the standing committee of agriculture for England on the laws relating to the sale of milk.

Mr. OSWALD LEWIS asked Mr. Greenwood whether he would promote legislation to prohibit the importation or sale of milk preparations not containing a prescribed minimum of milk fat. Mr. GREENWOOD said he knew that such legislation existed in other countries, but he did not think it necessary in the interests of public health to introduce it in this country. He was not satisfied that there was a lower standard in this country than abroad.

Dental Benefit.—On April 20th Mr. GREENWOOD told Mr. R. J. Russell that the number of insured persons in England and Wales eligible in 1930 to receive dental benefit was approximately 10,500,000. Of these, the number who received the benefit was believed to be rather over 1,000,000. The cost of the benefit to approved societies in 1930 was roughly £2,100,000.

Darwin's House.—Replying to Mr. Freeman on April 22nd, Mr. SHORT said Down House, Downe, Kent, was not registered, and no licence for experiments to be performed on animals there had been granted under the Act. He could not say whether it was intended to use these buildings for the purposes of experiments on animals.

Dead Infants in Hong-Kong Streets.—Dr. DRUMMOND SHIELS told Mr. Graham White, on April 22nd, that of 1,851 dead bodies of children of 3 years of age and less picked up in the streets of Hong-Kong during 1928, in no case was there found to be any evidence of violence. In 521 cases of children of 3 years or under the cause of death was found to be small-pox.

Physical Condition of Recruits.—Mr. GREENWOOD, in reply to Mr. Tinker on April 23rd, said the Ministry of Health had obtained full information from the War Office regarding the physical disabilities which caused the rejection of 52 per cent. of men offering themselves for the Army from October, 1929, to September, 1930. This information would receive his careful consideration. Lord WINTERTON asked if Mr. Greenwood had seen a manifesto issued by a number of doctors who asserted that this low physical condition, and deficiencies in health and teeth, were due in part to the artificial foods eaten in this country. He asked if that report would be considered by appropriate experts in the Ministry of Health. Mr. GREENWOOD indicated assent.

The Factory Act: Medical Service.—In reply, on April 23rd, to Mr. Somerville Hastings, Mr. SHORT said the only whole-time official appointments of medical officers in the factory service were those of the medical inspectors of factories, who now numbered eight. Certifying and other surgeons appointed under the Factory Act for particular duties numbered about 1,800, and held part-time posts. In 1929, the last year for which figures were available, 5,531,322 persons were employed in factories, including 347,480 outside workers.

Animal Pathology Research.—Dr. ADDISON, answering Mr. Lees on April 23rd, said he was aware of the financial difficulties of the Animal Pathology Research Institute attached to the Royal Veterinary College at Camden Town. He trusted that a scheme upon a considerable scale for the development of research of animal diseases would be sanctioned and brought into operation at no distant date. This scheme was in an advanced state of preparation. Dr. FREMANTLE asked if an opportunity would be given to the House of Commons to discuss this scheme. Dr. ADDISON asked for notice of this question.

Vaccination.—On April 27th Mr. GREENWOOD gave Mr. Freeman a statement showing the number of public vaccinations and revaccinations, and the number of deaths from small-pox, in each of the ten years from 1920 to 1929. For the year ended September 30th, 1929, there were 258,996 successful primary vaccinations and 12,898 successful revaccinations, while the deaths from small-pox for the whole of 1929 were 30. In 1921 the figures were: successful primary vaccinations 245,154, revaccinations 26,775, and deaths from small-pox 5. In 1919-20 the total expenditure of local authorities on vaccination was £133,265, and the cost of the Government lymph establishment £11,973. In 1923-24 the total expenditure was £235,677, and the cost of the lymph establishment £16,553. In 1928-29 the total expenditure was £191,643, and the cost of the lymph establishment £15,377. Of the total cost of the Government lymph establishment, 15 to 20 per cent. each year was attributable to the cost of lymph supplied to the Service departments.

Rheumatism.—On April 23rd, in an answer to Mr. White, Mr. GREENWOOD said that after careful consideration he had decided that he would not be justified at present in setting up an advisory committee on rheumatism on the same lines as the advisory committee on cancer.

Radium.—In answer to Captain Peter Macdonald, Mr. GREENWOOD said, on April 23rd, that he understood the National Radium Trust would take into consideration the reported discovery of radium supplies in Canada as a source of supply for British hospitals.

Obituary

JAMES LORRAIN SMITH, M.A., M.D., LL.D., D.Sc.

F.R.C.P.Ed., F.R.S., F.R.S.Ed.

Professor of Pathology and Dean of the Faculty of Medicine, Edinburgh University

James Lorrain Smith, who died in Edinburgh on April 18th, was born on August 21st, 1862, the fourth son of the late Rev. Walter Smith, Half Morton, Dumfriesshire. He was educated at George Watson's College, Edinburgh, and at Edinburgh University. He graduated M.A. in 1884 with first-class honours in philosophy, winning the Vans Dunlop Scholarship in Philosophy and the Ferguson Scholarship in Philosophy. He then took up the study of medicine, but there is no doubt that his early philosophical studies exerted a profound and lasting influence throughout his life. He graduated M.B. C.M. in 1889 with first-class honours. After serving as resident under Dr. (later Sir James) Affleck in the Royal Infirmary of Edinburgh he proceeded to Oxford University, where he worked and taught under Professor Burdon-Sanderson. There he became closely associated with Dr. J. S. Haldane, and collaborated with him in an important series of physiological studies on the respiratory functions and the oxygen capacity of the blood. At that time he seemed destined for a career in physiology, but in 1892 he went to Cambridge as John Lucas Walker Scholar under Professor Roy, and while extending his physiological researches entered on his life's work as a pathologist. In 1893 he graduated M.D., and was awarded a gold medal for his thesis on "Thyroidectomy and respiratory exchange—a contribution to the pathology of myxoedema."

In 1895 Lorrain Smith was appointed lecturer on pathology in Queen's College, Belfast, and honorary pathologist to the Royal Victoria Hospital. He was remarkably successful in his academic work in Belfast, and there he first attained professorial rank. In 1904 he was appointed to the chair of pathology in Manchester University. After eight years of distinguished service in Manchester University he was appointed in 1912 to the chair of pathology in Edinburgh on the retirement of Professor Greenfield. He thus returned to his own school after a mature experience as a teacher and investigator. In 1909 he was elected a Fellow of the Royal Society of London in recognition of his scientific work. During the war Lorrain Smith devoted his attention to the problem of wound sepsis, and with his assistants devised the well-known hypochlorite solution ("eusol") which was so extensively used at that time in the treatment of septic wounds. In Edinburgh he developed his method of teaching morbid anatomy, which he had inaugurated in Manchester. This was based on a correlation of the clinical and pathological findings in individual cases of disease. Cases were chosen representing the fundamentals of pathology. The student was supplied with notes of the clinical history and with naked-eye and microscopical specimens, which were studied in detail under the tuition of demonstrators. A full report, describing, discussing, and correlating the clinical and pathological findings, was then submitted to the teaching staff for criticism. In this way the student was introduced to a real correlation of pathology and the clinical aspect of disease, which involved a study of pathology from the broadest point of view. This system proved highly successful, and became a notable feature of the undergraduate study in Edinburgh.

In 1919 Lorrain Smith was unanimously elected dean of the Medical Faculty, and continued to hold this office up to the time of his death. It is significant of the high appreciation in which he was held by his colleagues that when in 1930 he expressed a wish to resign this position, he was pressed to continue in office, and special arrangements were made to assist him in his administrative work. In January, 1931, he showed signs of a serious lesion, and an acute complication developed. After a palliative operation his general condition improved for a time, and he was able to devote the last two months of his life to reading and writing on a subject near to his heart—the history of his own native parish in the Borders. His death came almost unexpectedly from a recrudescence of the previous complication.

His more important scientific work included a series of studies on the physiology and pathology of the respiratory functions; the oxygen capacity of the blood; the determination of blood volume; carbon monoxide poisoning; the metabolism of fat in its physiological and pathological relationships; the microscopical identification of lipoids; the definition of lymph capillaries in the tissues; and the antiseptic properties of hypochlorous acid. On these and other subjects he published a considerable number of papers, mostly in the *Journal of Physiology* and the *Journal of Pathology*. During the last few years his interests were centred mainly in the study of the tissue lymph capillaries, and quite recently he introduced an original method for their demonstration. During the last two years he was absorbed in the writing of a monograph on "Growth," which embodied the work and thoughts of his whole scientific career. In 1922 he received from Belfast University the honorary degree of LL.D., and last year the University of Manchester showed its appreciation of his academic and scientific work by conferring on him the honorary degree of D.Sc.

He took part in various Government inquiries, and in 1901 was a member of the Royal Commission on Irish University Education. He was also a member of Home Office committees on humidity in cotton-weaving sheds and flax mills, and conducted for the Home Office inquiries into the pathological effects of factory conditions among workers in the spinning industries. As professor of

pathology in the University he held the office of honorary pathologist to the Edinburgh Royal Infirmary, and was consulting pathologist to other institutions in Edinburgh. He took a keen interest in comparative pathology, and was chairman of the research committee of the Animal Diseases Research Association of Scotland. He represented Manchester University in 1912-13 on the General Medical Council, and again joined the Council in 1927 as representative of Edinburgh University. Professor Lorrain Smith was vice-president of the Section of Pathology when the British Medical Association held its Annual Meeting at Oxford in 1904, and president of the Section of Pathology and Bacteriology at the Annual Meetings at Cambridge in 1920 and Edinburgh in 1928. In 1894 he married Isabella, daughter of Ebenezer Edmond, I.C.S. He is survived by his wife, a son, and four daughters.

Throughout his life Lorrain Smith retained a philosophic outlook and a breadth of vision which impressed all with whom he came into contact. To him pathology was no isolated subject, but was a phase of disordered physiology, and medicine as a whole, a branch of the wider science of biology.

In the three universities which he served Lorrain Smith was a leader of academic life, and showed great qualities of academic statesmanship. Though he was always reluctant to express himself in public, he nevertheless exercised a great influence in university affairs. A few years ago he was successful, with the co-operation of several professorial colleagues, in co-ordinating the whole teaching of the third year of medicine into practically a unified course—a notable achievement in medical education, which illustrates his capacities in leadership. His ideal, also, was to establish a similar co-ordination of the earlier biological studies of the medical students so as to link up closely their work in botany, zoology, physiology, and anatomy. He was one of the most lovable of men, considerate of others to the utmost degree, calm and unhurried in judgement, and a constant source of inspiration to his fellow men.

T. J. M. AND S. S.

Sir ROBERT PHILIP sends the following appreciation:

By the death of James Lorrain Smith an eminent authority has passed from the sphere of medicine and a vital force from the University of Edinburgh. His passing was peaceful, as was his life. One of his last requests was that there should be no garlands and no mourning. It is good that we respect his wish and let him rest quietly like a soldier at the edge of the battlefield, reverently recalling him in his strength—his intellectual vigour, his wide scholarship, his scientific ardour, his fine humanity, and his genius for friendship. *Justus et tenax propositi*: such is the epitaph which occurs to me as, with a sense of loneliness—*desideriis ictus fidelibus*—I sit and think of my dear friend of many years. Just balance in judgement and unflinching determination when his judgement was formed. Whether it was a scientific problem or an administrative question, the same principle governed his thought and action. He asked for facts and time to think all round the subject. Patient—curious even—in seeking evidence, he was open to approach from every side. Once his judgement was formed, he stuck to it with imperturbable firmness.

Lorrain Smith was fortunate in his upbringing and training. It is given to few to combine so admirably the scientific and the philosophic outlook. He was at home in the laboratory and in the academy alike. Medical problems were viewed by him from every angle. He revelled in the recent *rapprochement* between science and philosophy. He could not abide artificial division or limitation. His earlier work in the field of physiology led him naturally towards the interpretation of the abnormal. If formally he was labelled a pathologist, he remained a biologist in thought and work. Behind the simple microscopical field he visualized filaments linking the cellular process under review with the wider problems of life which floated unceasingly before his imagination. The living cell—physiological or pathological—was for him the key to many of the secrets of medicine. "Where others hear but a hum and see but a beam, the tongue and eye of the fountain of life he knew." He realized the harmony of life and disease, ever listening for the deeper chord. Incessantly he mused on the mysteries of growth. "If only there were more time," he would say; "if only there were more time!" As he thought, so he taught. While insisting on exactness in immediate observation by the unaided eye or under the microscope, he sought to lead the student's mind from the fixed product of disease back through the chain of events to the earliest departure from the normal. His students learned to link the end-result with the train of incidents which the clinical history and observation had revealed, or might have been made to reveal. Pathology was to be interpreted in terms of physiology.

His strong sense of the value of co-ordination led to one of the latest developments in the medical curriculum at Edinburgh. The professor's constructive mind realized the immense significance to the young student, who had completed the subjects of anatomy and physiology, of having his introduction to the phenomena of disease unified and at the same time made simple and comprehensive. In collaboration with his professorial colleagues, and with the authority of the Faculty, Lorrain Smith got the subjects of the third year—namely, pathology, pharmacology and therapeutics, junior medicine and junior surgery—intimately linked, so that, in place of an imperfect patchwork stitched together by the tyro himself, the varying occurrences in the course and progress of disease were unfolded to him in natural sequence. The results have been abundantly evident in the remarkable awakening of interest and in the higher quality of work in the clinical wards and at the final examinations. This reward was a great source of gratification to Lorrain Smith up to the last.

His qualities of head and heart were recognized by his professorial colleagues alike in medicine and in other departments. On the retirement of Professor Harvey Littlejohn, Lorrain Smith was invited to occupy the chair as dean of the Faculty of Medicine. His occupancy of the post was conspicuously happy. His intellectual gifts and sympathetic personality won for him readily the confidence and affection of his colleagues. His wide knowledge and administrative outlook ensured that the multifarious and responsible affairs of the medical side of the University were dealt with in statesmanlike fashion. In every matter he gave—and asked for—clear consideration of the issue, and a decision justified by the facts. On questions where there was doubt or reasonable difference of opinion he never failed in generosity. The place of honour accorded to him by the Faculty was amply realized and appreciated by the Senate.

Sympathetic towards all men, Lorrain Smith was an ideal friend. His family, and those who were privileged with his confidence, knew what a warm heart beat below the calm, apparently impassive, exterior. Naturally independent himself, he sought to foster independence in those he loved. Yet in times of difficulty, as when sickness or misfortune brought dependence, no one could be more wise or kind in extending the helpful arm. He helped many over the stile. The great gathering at the memorial service in the Senate Hall was a remarkable tribute to the respect and affection in which Lorrain Smith was held by his friends, his peers, and his pupils alike.

Professor MUIR (Glasgow) writes:

For me it is both a duty and a privilege to write something about Lorrain Smith, one of my oldest and most intimate friends. During a friendship of over forty years my regard for him and my admiration of his powers have steadily grown. He has given service of permanent value to the three universities in which he worked and taught, and has left a deep impress on his own science; above all, his personality made him a power in his several spheres of work. It is rare that one so gifted in philosophy should devote himself to medicine. We cannot say what was the determining factor in his so doing, but there is no doubt that the work of his choice was thoroughly congenial to him. The scientific problems of medicine specially appealed to him and the desire to investigate gradually grew. His philosophic training gave him the power to correlate the results of various sciences as few can do and to take a comprehensive view of scientific truth as a whole.

He learned physiology, notably that of metabolism, from Noël Paton, and pathology, especially in its morphological aspects, from Greenfield; and he early conceived the idea of linking the functional and structural changes in disease more closely together—of applying the methods of physiology to pathological problems. With a view to a fuller equipment in these methods he proceeded, shortly after graduation, to Oxford to study under Burdon-Sanderson, by whom he was greatly influenced. He was there fortunate in becoming associated also with John Haldane in his work on respiration and allied subjects. At Oxford and later at Cambridge he carried on his investigations in this particular field and he continued them when he went to Belfast. They deal with such subjects as the physiological effects of breathing vitiated air, the effects of oxygen at high tension, the mass and oxygen capacity of the blood, etc.; they all constitute advances in particular directions and their fine quality has been generally recognized. The work in this department which is best known to pathologists, however, is that in which he applied the carbonic oxide method to the determination of the blood volume in cases of disease and which led to the demonstration that in various forms of anaemia, especially that of chlorotic type, the volume of the blood is markedly increased.

During his tenure of the chair of pathology at Manchester two events were of special importance in connexion with his scientific work. In the first place, he took up the equipment of the pathological museum and the preparation of a catalogue, and this step led to his method of mounting together organs from the same case, this in its turn leading to his now well-known "case method" of teaching pathology, which has been a feature of the Edinburgh school during his occupancy of the chair. In the second place, it was in Manchester that he made his first observations on fatty degeneration. This subject became for him one of far-reaching importance; and, one question leading to another, the outcome was a series of papers continued during his tenure of the chair at Edinburgh, which taken as a whole constitute a contribution to pathology of outstanding importance. New and valuable methods were introduced by him and have taken a permanent place in pathological technique, but like Weigert he devised each not as a technical achievement but for the determination of some particular point at issue. His work in this domain was continued to the end and two recent examples of it may be mentioned. One is that in which he showed that the earliest changes in cloudy swelling and in fatty degeneration occurred in the mitochondria, and the other in which he demonstrated that the distribution of lymphatics in the liver could be defined as the result of autolytic changes. Both of these investigations, as well as several others, were carried out in association with his colleague Dr. Rettie. Whilst we have referred to his work in these two chief spheres, it must not be overlooked that at Belfast he published also papers on bacteriological subjects and on sewage; at Edinburgh during the war he carried out investigations on the pathology of trench foot and also on antiseptics for purposes of wound treatment, the outcome of which was the well-known "eusol."

It will be seen that Lorrain Smith's investigations were in diverse fields. In all of these he gave us something new, something suggestive and leading to further inquiry. I have already referred to the quality of his work; it has been characterized by breadth of view and by imagination, and it has stood the test of further inquiry. In fact, his papers have essentially advanced or modified our views; they have been real contributions to knowledge. It is somewhat remarkable that while his original work dealt mainly with general and experimental problems, no one recognized more fully or insisted more strongly on the importance of morbid anatomy in the teaching of pathology. He looked on it as the sure and firm basis to which all disturbances of function are to be related. The thorough working out of the pathology of individual cases had in his view more practical and educational value than much reading. And the general could always be illustrated from the particular. His endeavour was to give his students a true scientific interest in the problems which they were subsequently to face, and on this was based his method of teaching. His view of his science was a comprehensive one, and while the great and fundamental problems specially had his interest, the teaching of pathology had equally his care. It is a fact of interest, however, that his earlier researches were more of physiological type, or, rather, were carried out by the methods of physiology, whilst those of later date were largely histological and microchemical; but it was simply a case of using the methods necessary for a particular problem, while function and structure formed for him parts of one whole.

No one could come into contact with Lorrain Smith without being impressed by his personality. His intellectual powers were of unusual order and this was apparent in the discussion of any subject. His knowledge of physiology affected his manner of viewing the problems of biology, and one could not fail to learn and get new points of view from him on any subject discussed. His interest in philosophy never waned, and formed the basis of many friendships, but in literature also and especially in poetry he was widely read and had a fine critical perception. His mental powers had a counterpart in his largeness of heart. His was a character of unusual sincerity and simplicity. He could take enjoyment from the small as well as from the big things of life and he brought to his contemplation of them a full sense of humour. By both temperament and training he had the philosophic outlook and a rare power of estimating the real value of things. He was kindly, thoughtful of others and helpful, and his generous nature was shown in what he expected from others as much as in what he gave. He worked earnestly and resolutely for any cause which appealed to him and in such work his personal interests seemed to be forgotten. In fact I may say that I have known no one less self-centred than he or further detached from personal ambition. His qualities were seen in his dealings with his students and colleagues alike, while the feeling he inspired in his friends was nothing less than devotion.

Professor A. MURRAY DRENNAN (Queen's University, Belfast) writes:

In 1912 Professor Lorrain Smith succeeded Professor Greenfield in the chair of pathology at Edinburgh, and so I gained a new chief and commenced a friendship which

continued till his death. His first procedure on coming to the laboratory was characteristic of him ; he came among us smoking his pipe, seated himself on a laboratory stool, and chatted about what we were doing. He then outlined the general course of teaching work we would carry out, and finally suggested that he would like to demonstrate in my practical class. It was a new and disturbing thought that one's chief should be one's demonstrator, but after the first meeting it seemed the most natural thing in the world, for he was there to help and not to criticize. Soon after his advent to Edinburgh he began to introduce the case system of teaching pathology, and it was my privilege to work with him day after day preparing the illustrative cases which formed the basis of the system. It was a great pleasure and a great inspiration, for the labour was lightened by his genial good humour, and was made increasingly interesting by the problems that constantly cropped up in almost every case. We kept a list of these in the hope of having, in time, a worker for each problem, but it would have needed an army! When the war came he tackled what was one of the early problems—a cheap but efficient antiseptic first-aid dressing, especially one to combat gas-gangrene organisms. The result was a hypochlorite powder, which we called "eupad" for short (a contraction for *E*dinburgh *U*niversity *P*athological *D*epartment!). Later a solution of this was used and christened "eusol" (*E*dinburgh *U*niversity *SOL*ution). He was intensely interested in the practical effects of these, and he went to the out-patient departments of the hospitals and personally inspected the results of dressings from day to day. But one might repeat the same story under various titles ; whether it were war wounds, trench feet, or lipoid metabolism, he was always helpful, interested, and enthusiastic, and he had the great faculty of making all of us who worked with him equally enthusiastic. He was indeed our Chief, but a kindly, beneficent chief who cheered us on while working with us, who gave us sound advice, and who, when work was put aside, was ready to enjoy a round of golf with the same enthusiasm and good humour as he exhibited over a pathological problem. After I had gone to New Zealand we regularly corresponded, and I looked forward with the greatest pleasure to his long letters. They were full of new work in hand or new ideas that had occurred to him, garnished with amusing comments. He was always pleased to hear what one was doing, and was helpful in his criticisms. He will remain for me—as he must for all who had the privilege of working with him—the ideal chief, the true friend, a kindly elder brother.

[The photograph reproduced is by A. Swan Watson, Edinburgh.]

J. FARQUHAR CHRISTIE, M.B., F.R.C.P.ED.

Lecturer on Skin and Venereal Diseases, University of Aberdeen

The death of Dr. John Farquhar Christie, which occurred on April 14th, came as a shock to the medical community, as it was not generally realized how seriously ill he was. His passing leaves a blank in the profession in Aberdeen which will not be readily filled.

Dr. Christie was educated at Aberdeen Grammar School, from which he passed to the University. He graduated M.A. in 1891 and M.B., C.M. in 1895. He then became a resident in the Royal Infirmary, working in the wards of Dr. Blaikie Smith and Dr. R. J. Garden. The latter was at that time lecturer in skin diseases, and no doubt it was the stimulus of his teaching which early turned Dr. Christie's mind towards dermatology, as when he went to Germany later he occupied his time there mainly in the study of skin diseases in Bonn, Leipzig, and Berlin. After a period as assistant, he returned to Aberdeen and started in general practice. In 1898 he was appointed clinical registrar at the Royal Infirmary, in 1901 lecturer on diseases of the skin to the University, and in 1903 was put in charge of the department of skin diseases in the Royal Infirmary in the post of assistant physician ; in 1910 his status became full physician. His professional success was rapid, and in a comparatively short time he had possibly the best private practice in Aberdeen of the last quarter of a century.

During his school and university days he took a keen interest in cricket, and captained both the school and the university clubs ; later, when in practice, he continued his active participation in the game with such zest that during the seasons 1907–8–9 he captained the Aberdeenshire cricket club, which during this whole period were Scottish champions. Christie was regarded as an inspiring captain, and undoubtedly one of the most popular figures cricket has known in the North-East of Scotland.

He was a member of the British Medical Association, and for several years acted as honorary secretary of the Aberdeen, Banff, and Kincardine Branch, to which he gave valuable service. He was a member of the Central Council in 1918–19, an honorary secretary of the Section of Dermatology and Syphilology at the Annual Meeting at Aberdeen in 1914, and president of the Section of Dermatology at Newcastle-upon-Tyne in 1921.

For many years he took an active interest in the Volunteer movement, and at the outbreak of the war was a major in the R.A.M.C.(T.) attached to the 4th Battalion Gordon Highlanders, but was not mobilized owing to his being seriously ill with diphtheria. Later he acted as honorary consulting dermatologist to the Aberdeen military hospitals from June, 1915, to December, 1918. Soon after the war he gave up general practice and devoted himself entirely to his specialty, combining with it the direction of the venereal disease department at the Royal Infirmary. In the year 1926–27 he was president of the Aberdeen Medico-Chirurgical Society.

In accomplishing what he did, particularly in general practice, he owed much to his extraordinary energy and business method. He attached his patients to him as much by his devotion to duty and sympathetic handling as by his undoubted ability and skill. He was an acute clinical observer, of keen deductive faculty, and as a lecturer he was always lucid and interesting. These qualities, and his social gifts and hospitality, made him popular with his students, and still more so with his residents, in whom he always took a real and helpful interest. As a colleague he was loyal and genuine, with a great capacity for friendship, very frank and outspoken when he thought there was need, but always without bitterness or rancour. He leaves a widow and daughter, whose unexpected sorrow is deeply shared by all his colleagues and a host of patients and students.

THE LATE MR. H. P. DEAN

Sir ARTHUR KEITH writes:

In the *British Medical Journal* of April 25th (p. 730) there is an announcement of the death of Henry Percy Dean at the age of 66, with a brief record of his career. If he had fulfilled the promise which we who were associated with him at the London Hospital thirty-five years ago perceived, he would have died the leading surgeon of his time. At the period to which I refer the London Hospital had taken him to its heart. Bringing him from University College, the London Hospital made him surgical registrar and then assistant surgeon. When he linked his fortunes to that of the London Hospital Sir Frederick Treves was at the height of his fame and power ;

he swayed the affairs of the medical school at every crisis. Presently the influence of Dean's personality—one of exceptional power—became felt. He quickly and quietly began to take the place which Sir Frederick Treves had occupied in hospital and in school. It was then, too, that Lord Knutsford came to the rescue of the London Hospital; his quick eye soon recognized the altogether exceptional abilities of Percy Dean, both as surgeon and as master of men. Dean at once set about reorganization of the medical school. It was he mainly that bought into the school Sir Leonard Hill, Sir Peter Chalmers Mitchell, Sir Henry Head, Dr. Robert Hutchison, Professor William Bulloch, and several others beside myself. He became the dominant spirit of the school for an altogether too brief period. He could organize; he not only gave everyone the impression he had great gifts—he possessed them. He had a most efficiently arranged mind; he reached his conclusions after due and deliberate consideration; having formed his judgements, he at once proceeded to impose them on public policy, pursuing the objectives he had in view without fear or favour. He was a born teacher; his thoughts were clearly cut; he laid them before his students with a conviction which can be born only of personal experience. In these early days he had established himself as an authority on the surgical treatment of sequelae which result from middle-ear disease. His contributions to surgery attracted the attention and won the approbation of the medical world. He could operate, and he was a clinician. Students sought his help in their troubles, and practitioners his advice and skill with their patients. He seemed destined to reap the highest rewards his profession could confer on its most distinguished votaries. What happened? I cannot tell. All I know is that some tragedy in his life robbed modern surgery of a man who, if things had been otherwise, would have left on its progress an enduring memorial.

Dr. THOMAS REDMAYNE, who died on April 1st at St. Leonards-on-Sea, was the younger son of Robert Robey Redmayne; he was born on June 20th, 1863, and from Repton went to Trinity College, Cambridge, completing his medical education at the London Hospital. He obtained the diploma of M.R.C.S. in 1886, the M.B. degree in 1888, and the Fellowship of the Royal College of Surgeons in 1889. After acting as receiving officer, house-physician, and house-surgeon at the London Hospital, Dr. Redmayne began practice at St. Leonards in 1890, going into partnership with Mr. Claude Baker Gabb. In 1896 he was appointed junior surgeon to the Royal East Sussex Hospital, and after a time became ear, nose, and throat specialist. On the administrative side of the hospital he served as a member of the house committee and as chairman of the medical committee. He was ultimately senior surgeon, retiring at the end of 1930, after thirty-four years' unbroken service. Dr. Redmayne had been a member of the British Medical Association since 1893. During the war he served for a year at the Netley Military Hospital. He had an important practice, to which he devoted most of his time; his advice was always valuable, and his opinions carefully expressed. A somewhat gruff exterior covered a kindly personality, and he was loved by his patients. For several years Dr. Redmayne was consulting surgeon to the Catherine House Home for Invalid Ladies, St. Leonards, and chairman of the Hastings Medico-Chirurgical Committee. He is survived by a widow and two daughters.

Dr. JAMES CAMPBELL HALL, who died on April 8th at his residence, Rowantree House, Monaghan, was for many years an outstanding member of the profession in Ulster. He was born at Kilkeel, County Down, in 1851, being the eldest son of the Rev. Richard A. Hall. After graduating M.B., B.Ch. at Trinity College, Dublin, in 1878, he became physician to County Monaghan Fever Hospital in the following year, and in 1890 he was appointed surgeon to the Monaghan County Infirmary, a post from which he recently resigned. Dr. Hall's life-work was the development of the county hospital, which was opened in 1896 largely through his perseverance. His devotion and generosity to this institution, with which he was associated for forty years, were commemorated in 1929, when a mural tablet, recording his services, was unveiled at the hospital. From the inhabitants of the county, by whom he was much beloved, he received an address and a presentation. In addition to his hospital work, Dr. Hall had an extensive private practice, and took a great interest in public affairs. In 1886 he contested unsuccessfully the constituency of North Monaghan as a Conservative candidate. He was a past-president of the Ulster Medical Society and of the County Monaghan Medical Association.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

In congregation on April 24th, Sir Humphry Rolleston, Bt., Regius Professor of Physic, was appointed the delegate from the University to the centenary of the School of Medicine of the University of Leeds on June 30th and July 1st.

At a congregation held on April 24th the following medical degrees were conferred:

M.D.—*H. V. Coverdale, G. K. Kirwan-Taylor.
M.B., B.CHIR.—M. A. Robertson, W. V. Howells, J. J. Keevil, I. B. Morris, J. A. Pocock.
M.B.—G. Rocyn-Jones.
B.CHIR.—G. K. Kirwan-Taylor

* By proxy.

UNIVERSITY OF LONDON

UNIVERSITY COLLEGE

The Bayliss-Starling memorial scholarship, of the annual value of about £120 (with exemption from tuition fees), is open for award by the University College Committee. The scholar will be required to follow a course of study approved by the Jodrell professor of physiology, involving a training in the principles of, and methods of research in, physiology and biochemistry. Applications, giving full particulars of academic career and qualifications, together with the names of three referees, must be sent by May 15th to Mr. C. O G. Douie, secretary, University College, Gower Street, W.C.1, from whom copies of the regulations can be obtained.

LONDON HOSPITAL MEDICAL COLLEGE

An open entrance scholarship, value £100, offered by the London Hospital Medical College has been awarded to G. E. Godber of New College, Oxford.

UNIVERSITY OF DUBLIN

TRINITY COLLEGE

At the first summer commencements in Trinity Term, held on April 24th, the following degrees in the Faculty of Medicine were conferred:

M.D.—H. O'D. Burke-Gaffney, J. V. Carroll.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Six Hunterian Lectures on "Human monsters and malformations," illustrated by specimens, will be delivered in the theatre of the College by Sir Arthur Keith, M.D., F.R.S., on May 4th, 6th, 8th, 11th, 13th, and 15th. The first five lectures will be given at 5 p.m., and the last at 4 p.m.

Colonel Robert McCarrison, M.D., F.R.C.P., I.M.S., will give two lectures on "Experimental research at the Pasteur Institute, Coonoor, South India," on May 18th and 20th, at 5 p.m. The lectures will be illustrated by lantern slides and by specimens.

The subject selected for the Jacksonian prize for 1932 is "The pathology, diagnosis, and treatment of diverticula of the large and small intestine." Candidates must be Fellows or Members of the College, and essays must be received by December 31st, 1932. Full particulars can be obtained from the secretary.

Medical News

The Robert Jones Medal and Association Prize of the British Orthopaedic Association for 1930 has been awarded to Mr. Harold Clifford Edwards for his essay on "Injuries of the tendons and muscles."

The annual banquet of the Royal Medico-Psychological Association will be held in Dublin on Wednesday, July 8th, under the presidency of Dr. Richard Leeper.

A festival dinner in aid of the West London Hospital will be held at the Guildhall on May 12th, when H.R.H. Prince Arthur of Connaught will take the chair as president of the institution. On the afternoon of April 24th Prince Arthur visited the hospital and inspected the departments affected by the scheme of reconstruction and extension.

The annual general meeting of the Society for Relief of Widows and Orphans of Medical Men will be held at 11, Chandos Street, Cavendish Square, W., on Wednesday, May 13th.

A discussion on the relative value of induction of premature labour, test labour, and Caesarean section in the treatment of minor degrees of contracted pelvis will take place at the annual meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on Friday, May 15th, at 8 p.m.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-Graduate Courses, published in the *Supplement* at page 188. Several special courses have been arranged. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1.

At a meeting of the National Institute of Industrial Psychology on Tuesday, May 12th, at 5.30 p.m., in the committee room of the Royal Automobile Club, Pall Mall, S.W., Dr. G. H. Miles, the director of the institute, will lecture on practical tests for drivers. This lecture is being held in connexion with the National Safety Week. The chair will be taken by the Hon. Sir Arthur Stanley.

An intensive post-graduate course in neurology and psychiatry will be held in Professor Wagner von Jauregg's Clinic, Vienna, from June 30th to July 31st. The pathology and treatment of the various nerve diseases will be dealt with fully, and special attention will also be paid to psychotherapy in its different aspects. The fee is 150 dollars U.S.A. (about £30), and payment may be made to the American Medical Association of Vienna, Alserstrasse 9, Vienna VIII, whence full details of the course may be obtained.

The following Friday evening discourses will be given this month at 9 o'clock at the Royal Institution (21, Albemarle Street, W.): May 8th, Dr. G. W. C. Kaye, superintendent of the physics department, National Physical Laboratory, on the measurement of noise; May 15th, Professor J. C. Philip, on experimental aspects of hydrogen-ion concentration; May 22nd, Sir William Bragg, on *x*-ray investigations of the structure of liquids; May 29th, Dean Inge, on the future of the human race.

An international conference on child welfare in Africa will be held at Geneva from June 22nd to 25th. The subscription is 15 Swiss francs. Further information can be obtained from the British Committee of the International Conference on African Children, c.o. Save the Children Fund, 26, Gordon Street, W.C.1.

The second biennial conference of the National Council for Mental Hygiene will be held from May 27th to 29th at the Central Hall, Westminster, and the subject of discussion will be the human factor as it affects international problems, crime, industry, the social services, and education. There will be afternoon and evening sessions, at 3 p.m. and 8.15 p.m. respectively. Delegates from societies and associations throughout Great Britain and from the Colonies have been appointed to the conference, and representatives from foreign organizations for mental hygiene are also expected to attend. Further particulars may be had from the secretary, 78, Chandos House, Palmer Street, S.W.1.

The fifth Congress of the French Societies of Oto-neuro-ophthalmology will be held in Paris from June 18th to 21st, with Professors Barré of Strasbourg, H. Roger of Marseilles, Portmann of Bordeaux, and Coppez of Brussels as presidents of honour, and Dr. Velter of Paris as president. The subject for discussion will be the oto-neuro-ophthalmological sequels of epidemic encephalitis, introduced by Drs. Portmann of Bordeaux, Riser and Méniel of Toulouse, and Teulières and Beauvieux of Bordeaux. Further information can be obtained from the general secretary, Dr. A. Tournay, Rue St. Lazare, Paris 9e.

The eighth International Congress of Photography, which was to have been held in Dresden in the last week of July next, has been postponed until August 3rd to 8th owing to the third International Radiological Congress being held in Paris at the former date. Further information can be obtained from Dr. R. Luther, Paradiesstrasse 2, Dresden-A-20.

An International Milk Congress will assemble in Copenhagen from May 14th to 17th, when a discussion will be held on the preparation of milk in different countries, with special reference to public health. Further information can be obtained from the secretary, International Milk Congress, 1931, Copenhagen.

A congress on nephrolithiasis will be held on May 24th and 25th at Vittel, when addresses will be given by Drs. Loeper, Vallery Radot, Labbé, Legueu, Abrami, van Leersum, and others. The subscription is 25 francs. The congress will be followed by a motor car excursion to the Vosges. Further information can be obtained from the general secretary, Dr. Maurice Boigey, Vittel.

The anniversary of Florence Nightingale's birthday, May 12th, is to be celebrated this year as Red Cross Day throughout the Empire. The April number of the *British Red Cross Society's Quarterly Review* is largely devoted to a study of her life.

Messrs. W. Heffer and Sons, Ltd., of Cambridge, have published for the Association of British Chemical Manufacturers, at the price of 2s., an *Index to Acts of Parliament and Statutory Rules and Orders affecting the Chemical Industry*, revised to the end of last year. The next list will be published early in 1932.

The issue of the *Zentralblatt für Gynäkologie* (No. 11*a*) is dedicated to Professor Walter Stoeckel, director of the women's clinic of Berlin University, on the occasion of his 60th birthday.

Strasbourg médical is this year celebrating the ninetieth anniversary of its foundation in 1841, when it was known as *Gazette médical de Strasbourg*, a title which it retained until 1914.

The King has granted to Major John C. Collins, R.A.M.C., licence and authority to wear the Insignia of Commander of the Order of the Nile conferred upon him by the King of Egypt in recognition of valuable services rendered.

Dr. W. Norwood East, Medical Commissioner of Prisons, has been appointed by the Home Secretary a member of the committee to inquire into existing methods of dealing with persistent offenders, and report what changes, if any, are desirable in the present law and administration.

The Brighton Town Council has ordered the preparation of plans for a sea-water swimming bath, medical baths, and a clinic for the treatment of rheumatism.

In the course of last year twenty-seven new Italian medical journals appeared and nineteen suspended publication. The largest output was presented by phthisiology, the journals dealing with this subject representing at least a quarter of all the new periodicals published in the course of the year.

We are asked by the Cure Commission at Hofgastein, Austria, to announce that their thermal baths will in future be available to qualified doctors and dentists free of cost. Members of these professions are exempted from the cure and music taxes, as are also their immediate relations, for whom special terms have been arranged.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal) exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediscra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Dr. Christopher Woodhouse

"A. A. M." wishes to obtain particulars of the coat of arms of a certain Dr. Christopher Woodhouse, famous in his time for detecting witches, who lived in a house in Berkhamsted, and whose daughter was a great friend of William Penn.

Metal Water-taps and Fittings

"NEST" writes: I am considering a form of metal for use in a new clinic just erected by my authority, and it would be of great assistance to hear the experience of others with chromium-plated articles as to durability of plating. Is any other type preferred?

Psoriasis

"A. D." writes: I have a patient who is suffering from psoriasis, the situation being around the anus. So far, the usual forms of treatment have failed absolutely, or have given only temporary relief. I should be glad of any suggestions.

Foreign Ear, Nose, and Throat Clinics

"PERORAL" writes: I should be grateful for any information as to the opportunities for acquiring instruction and practice in laryngoscopy, bronchoscopy, and oesophagoscopy at one of the Continental centres, and advice as to the means of getting in touch with a teacher in these subjects.

Left-handedness in a Child

"M D." writes: A child of 4 is in the habit of feeding himself, though not very neatly, with his left hand. He can use his right hand equally well, but is not encouraged to do so by his mother, who has been told by a doctor that "his brain will not develop properly if he is encouraged to use his right hand." I should be obliged if someone with experience of bringing up left-handed children would advise me on this: Should the child not be allowed to use, and even be shown how to use, either hand for simple acts, such as feeding? What about games later? Must a child play ball games (cricket, golf, etc.) left-handedly if he is naturally left-handed? What literature is there on this subject?

Sour Milk

DR C. A. CORRAN (Kihikihi, New Zealand) writes in reply to the inquiry by "E. W. D.": My mother, who has had quite fifty years' experience in making this preparation for household use, gives me the following procedure (long in use by the people of Mount Lebanon). Heat fresh milk in a saucepan. Do not let it boil, but when on point of rising put aside for a few minutes to cool until lukewarm. To a portion of this add some "starter" (prepared by letting milk sour in the ordinary way, or reserved from a previous preparation). Add to the rest of the milk, stir well, and store in a stone jar or chinaware container. Cover well to keep warm, and set aside till next day. If made in the evening it should be ready for use about midday following. About three tablespoonfuls of "starter" are sufficient for a gallon of milk. Sometimes, depending on weather conditions, there will be a certain amount of water in it. If so, insert a spoon to side of jug and allow water to drain off. To make a white cheese from the above, fill a small muslin bag and hang up in a cool place for some hours until it no longer drips. Press out the remaining whey by leaving for a few hours beneath a suitable weight—for example, a domestic iron mortar. The cheese may be eaten sweet or salted. For three years past I have prepared excellent sour milk with a minimum of trouble by using an ice-chest. One simply takes fresh dairy milk, in pint glass containers, and stands these for some days in a cool box, kept at a low temperature (about 45° F.) by a small block of ice. It takes six or seven days to ripen; the curd is fine and flocculent, and the flavour rivals that prepared by the previous method. It is a more palatable addition to porridge than the conventional cream. In fact, the Lebanese have a very nourishing foodstuff called "khiskh," prepared by steeping finely ground whole wheat (previously boiled and sun dried) in soured milk, mixing the two intimately and drying in air and sun for two or three days until it is powdery, much resembling oatmeal in appearance. This preparation, stored away in jars or containers such as a tea caddy, remains fresh for months, and is a favourite and warming winter dish when cooked according to traditional custom.

Income Tax

Cash Basis : Change in Proprietorship

"BEWILDERED" was at one time in general and surgical practice on his own account. He then took another practitioner into partnership so far as the *general* practice was concerned, reserving the *surgical* practice to himself. Subsequent to the change the general practice and the surgical practice have been separately assessed on the basis of bookings, whereas, prior to that, the assessment (on the then combined practices) was based on cash takings. (*a*) Is the inspector of taxes correct in requiring "bookings" for the surgical practice, and (*b*) What is the position as regards cash received after the partnership in respect of work done during the sole proprietorship?

*** (*a*) Yes; the "bookings" basis is correct for both the present practices; (*b*) but on that understanding the cash receipts for work done prior to the partnership are not chargeable to income tax; they represent the collection of debts for work done in years for which "Bewildered" has accounted for income tax on adequate assessments of his earnings.

Obsolescence Allowance

"A. B. C." bought a new car in October, 1929, for £185, and for the financial year 1930-31 was allowed a sum of £37—that is, 20 per cent. of £185—for depreciation. In April, 1931, he sold the car for £115 and bought a new car of the same make for £190. What should he claim for 1932-33?

*** (*a*) Obsolescence allowance to be treated as an expense of the year 1931—that is, £185 − £37 − £115 = £33—and (*b*) depreciation allowance on the new car—that is, 20 per cent. on £190 = £38. It is possible that the Inspector of Taxes may object to the former allowance on the ground that the 1929 car was not "obsolete." If he does so, and if "A. B. C." does not think the point worth contesting, he might drop the obsolescence claim (though we do not advise it), and claim depreciation on £185 − £37 − £115 + £190—that is, £223 at 20 per cent. = £45; in the following year on £223 − £45 = £178, and so on, and in the long run the difference will not be substantial.

Professional Residence : Subletting

"DENSE" has a house which is assessed at £52 under Schedule A, and is used for resident patients as well as for general practice. A surgery is also sublet to a dentist for £120 per annum. Does the whole or any portion of this sum have to be returned for assessment, or can it be regarded as covered by the fact that the property is assessed under Schedule A?

*** The effect of a decision in a fairly recent case is that the subletting of a part of a property cannot be dealt with under Schedule D except as regards any special profit from providing furniture, services, etc. It would therefore seem that "Dense" is entitled to exclude the £120 from his professional receipts for purposes of assessment, but should make a separate return of that portion of it which represents any profit from providing cleaning or other services, etc.

Cost of Arranging New Partnership

"R. N. G." explains that a commission had to be paid by his firm for introducing a new partner in place of one who had died. Is this an admissible expense?

*** No. For one thing, it represents capital expenditure to cover a future period, and, for another, it is an expense incurred in connexion with the proprietorship of the practice rather than in carrying it on.

LETTERS, NOTES, ETC.

A Hospital Vacancy in Palestine

The Right Rev. RENNIE MACINNES, D.D., Bishop of Jerusalem, writes: Is there any medical man among your readers, or known to any of your readers, who would consider an invitation to take charge of St. Luke's Hospital, Hebron, in Palestine? This is a mission hospital, which is financed by the Jerusalem and the East Mission, and is the only hospital in this large Moslem town of 16,000 people. There is no other hospital within twenty miles, and there are many villages in the district which have no other place to turn to for treatment. The experience of the last eighteen months has shown that, in fact, village patients come in considerable numbers from a very wide area, sometimes walking two or three days to reach the hospital. Medical missionary work has been carried on in Hebron for thirty-eight years, before the war by the United Free Church of Scotland, and since the war by the Church of England. The hospital building is new, and has been brought up to date, with its own electric plant, etc., during the last few months, at an expenditure of some £3,500. There is an English sister as matron, and a competent native doctor and staff. The whole usefulness of the hospital is at present seriously limited by the lack of an English doctor. From the professional point of view the work would be most interesting, and it is essential that whoever offers should be a surgeon. There is no other missionary work at present possible in the town or neighbourhood, so that the opportunities before the hospital cannot be exaggerated. There is a chapel in the hospital building, and the grounds are large enough to permit of building a house for the doctor if suitable rented accommodation is not found. From the date that it was reopened, in September, 1929, just after the serious riots, the work of the hospital has received a great welcome from the people of the town, while relations with British Government officials have been most cordial. If any of your readers desire further particulars, would they communicate with my commissary, the Rev. E. M. Bickersteth, secretary of the Jerusalem and the East Mission, 12, Warwick Square, London, S.W.1?

Dislocation of Tonsil

Dr. H. J. MCCARTHY (Llandudno) writes: I was recently called to see a woman, aged 28, who was suffering from bronchitis. Later in the day I was sent for urgently, and was told that the patient had had a severe paroxysm of coughing, which had induced retching. At the end of this she had a lump in her throat, which made her feel as if she were choking. On examination I was astonished to find the right tonsil dislocated forwards from its bed. It was freely movable, and was attached only at its upper pole. It was swollen and oedematous when I first saw it, and twelve hours afterwards, when seen in hospital by some of my colleagues, it was plum-coloured. Under light anaesthesia it was a simple matter to remove it, and I found that the capsule had been torn, and that the major portion of enucleation had been performed by the patient's own efforts. Although I have made extensive inquiries, I have failed to find any record of a similar case, and should be interested to hear of any.

Pregnancy with Intact Hymen

Dr. J. SEFTON (Edgbaston, Birmingham) writes: The following case is of such medico-legal interest that it seems worthy of record. Mrs. X, aged 23, came to see me in April, 1930. She was married on December 26th, 1929. As far as I could ascertain from the dates, there had been three attempts at coitus: (*a*) between January 7th and 11th; (*b*) between February 16th and 23rd; (*c*) between March 16th and 23rd. The process was very painful to the patient, but at each attempt the husband emitted semen. On examination the hymen was found to be intact, having a small central perforation, which would barely admit the tip of the little finger. The membrane was thick and tough, and tender on pressure. The first day of the last period was March 8th, 1930, and as time went by, the diagnosis of pregnancy became certain. Save for proteinuria, between September 14th and November 1st, the pregnancy was uneventful. On January 19th, 1931, the patient was delivered of a normal male infant, weighing 6 lb. The hymen and perineum were torn (second degree tear). The puerperium was normal. The child was jaundiced for three days, but has since got on quite well. Since the sperm is said to die within a few hours of deposition in the vagina (unless it enters the cervix), this case illustrates the powerful forces which tend to direct the sperm on its path. Further, the child was scarcely up to the average size and weight, yet the minimum period from coitus to delivery was 302 days. I take it that either the size and weight of a child are no index to the length of its sojourn *in utero*, or else that the sperm existed in the genital tract for some weeks before fertilizing the ovum. The former seems unlikely, and the latter is the usually accepted view.

Puerperal Inversion of the Uterus

Dr. H. G. SWORN (Thorpe Bay, Essex) writes: Some years ago, when practising in Highbury, Islington, I was attending a patient in a private nursing home at Finsbury Park. The matron (a certified midwife) asked me to have a look at a lady in the home. She informed me that she had been confined about fourteen days previously; she was troubled because she could not feel the uterus, and the patient had a lot of haemorrhage. She had spoken to the doctor about it, and he did not think that there was anything to trouble about. I informed her that I could not see a patient of another doctor. The lady left the home at the end of the third week. The matron told her to call to see me, if the loss did not stop in a week. The patient came to my house after the week expired. On examination I found the inverted uterus in the vagina, so I sent her to the Soho Hospital. They were able to replace the uterus under chloroform. The interesting point about this case is that the patient was able to get about, and, apart from weakness from the haemorrhage, was in a fair condition.

Memorial to Joan of Arc

Miss BARBARA BARCLAY CARTER writes: May I beg the favour of your columns for an appeal to your readers to contribute to the English national memorial to St. Joan of Arc? Five hundred years ago this May she was burned alive in Rouen market-place, and now a small church is to be built to mark the spot, to which church it is hoped that England may provide the main doors, as *amende honorable* for her share in the death of the Maid. This memorial should have special interest for the medical profession. Two doctors were among the judges who condemned her, and it is to one of these, Master Tiphaine, who, when the case was reopened twenty years after, bore witness in her favour, that we owe precious details as to the conditions of her imprisonment. It is he who tells how, when she lay sick (yet still in chains) and he would have bled her, the Earl of Warwick intervened, crying that she might thus escape by death, which must not happen, "for she was a great prize for the King of England, who had paid dearly for her, and she must die by justice in the flames." Contributions should be sent to the honorary treasurer, Miss Sheila Kaye-Smith, c.o. St. Joan's Social and Political Alliance, 55, Berners Street, W.1. The names of all who contribute 5s. and upwards will be inscribed in a Golden Book, to be kept in perpetuity in St. Joan's Church.

Routes for Motorists

The information previously given by the Automobile Association in its itineraries is now augmented by the addition of detailed sketch maps, indicating not only the road to be followed, but also the adjacent country. These maps read in the direction of travel—from the bottom to the top of each page—and the itineraries are based upon a practical survey of the roads. The new map routes will be issued to members from all A.A. offices.

A blue-tinted petrol, containing a compound of lead and known as "B.P. Plus," is being put on the market by the British Petroleum Co., Ltd., at the ordinary price of petrol, and will shortly be obtainable from all "B.P." pumps.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 48, 49, 50, 51, 52, 53, 56, and 57 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 54 and 55.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 187.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

412 Pernicious Anaemia Resistant to Liver Treatment

M. LABBÉ, R. BOULIN, PETRESCO, and SOULIÉ (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 16th, 1931, p. 217) report a case of pernicious anaemia which, apart from a transient rise of 4 per cent. in reticulocytes, failed to respond to treatment with liver or liver extract, although this was well tolerated, and was administered in doses equivalent to 260 grams of liver each day. The red cell count fell to 1,340,000 per c.mm., and the colour index rose to 1.53; the mean diameter of the erythrocytes was increased; the megalocytes numbered 7 per cent. and the white cells 3,400 per c.mm., but the latter increased to 13,000 with 71 per cent. polymorphs two days before death, when myelocytes and promyelocytes made their appearance. The tongue was smooth and red; there was complete achlorhydria; the patellar and Achilles reflexes were intact but feeble, and the other reflexes were normal. The urine contained abundant urobilin. At the post-mortem examination the bone marrow was described as very red. The authors consider that the patient died from the anaemia, and not from complications developed in the nervous system or from secondary infection, in spite of the raised temperature and the presence of pleural effusion.

413 An Outbreak of Trichinosis

F. C. ALDRIDGE (*Amer. Journ. Med. Sci.*, March, 1931, p. 312), who reports an outbreak in Pennsylvania, states that up to 1914 there had been recorded in the United States 1,550 cases of trichinosis, with 240 deaths, a mortality of 16 per cent. He suggests that the disease is much more prevalent, since the mild cases escape recognition. According to Blumer, 6 per cent. of American hogs have the disease. The outbreak described by Aldridge affected 29 persons, who were almost entirely of foreign birth, during a period of twenty-seven days. All except two were infected by pork from a single farm, where there was undoubtedly a local epidemic of the disease during the winter. Two patients died, 5 were acutely ill, 17 had mild attacks, and 5 had practically no symptoms. Characteristic eosinophilia was found in all except the two fatal cases. The principal clinical symptoms were facial oedema, muscular pains, headache, and fever. Treatment, except for initial purgation followed by an enema, was entirely symptomatic.

414 Pericarditis with Effusion

M. CHAVIGNY (*Paris Méd.*, February 28th, 1931, p. 204) points out that, more often than not, a pericardial effusion is posterior, and its diagnosis is difficult or impossible. He describes a case of a gunshot wound to the right of the sternum in the fourth intercostal space. A right haemothorax and an empyema supervened after three weeks, the latter being drained by operation. Eight days later the temperature rose rapidly to 104°; the heart sounds were not muffled, the apex beat was easily palpable, and dry pericarditis was diagnosed. The patient died of sudden heart failure twenty-four hours later, and at the necropsy there was found a pericardial effusion of about 800 c.cm. Chavigny recalls an earlier case in which he discovered 2 litres of pericardial effusion at the necropsy, though no signs had been apparent during life. Pulsus paradoxus had been noted; its presence led the author to have an *x*-ray investigation made in a later case, when a pericarditis with effusion was seen, though again all the classic signs were absent. Chavigny is unable to explain the mechanism of this sign in these cases, but suggests that its presence should at least indicate the necessity for *x*-ray examination. The only treatment that offers a possibility of cure is a pericardotomy. All his three patients treated in this manner made complete recoveries.

415 Meningococcal Meningitis in Infants

V. CANTALAMESSA (*La Pediatria*, March 1st, 1931, p. 234) records 42 cases of meningococcal meningitis in the first twelve months of life. In 22 the first symptoms were indefinite, consisting merely in irregular fever, restlessness, and vomiting, with frequent loose stools; in some there was only a slight constitutional disturbance. In 20 cases, however, or nearly 50 per cent., the onset was sudden, with high fever and severe constitutional disturbance, as in older children and in adults. This sudden onset was almost exclusively found in cases which had a rapid and particularly severe course in spite of the early application of specific treatment. A distinctly intermittent fever was specially noted in cases which ran a favourable though prolonged course. A moderate degree of splenomegaly was fairly frequent, and its presence was of diagnostic value in some cases.

416 Amylaceous Dyspepsia

L. J. PICTON (*Liverpool Med.-Chir. Journ.*, January, 1931, Part I, p. 36) incriminates starch as a primary cause of many cases of dyspepsia, and insists that bread, rice, and farinaceous foods generally may provoke anginal attacks and delay convalescence, in addition to causing gastritis in some circumstances. He remarks that when a diabetic patient is first placed on a starch-reduced diet, he is often agreeably surprised by the loss of a long-established dyspepsia, whereas the incautious eating of a starchy meal by a patient suffering from amylaceous dyspepsia may give rise to symptoms almost at once. Picton suggests that a working hypothesis to explain this and other phenomena of the kind is that there exists a regulator of the pace of the food through the alimentary canal; this is situated in the stomach, and becomes sensitized to starch, with a consequent reduction in the speed of passage of food and the originating of gastric retention. He adds that the incipient dyspeptic should have a dietary in which more greens and grilled meat replace the farinaceous components to a considerable extent, starchy food being restricted to separate meals. Salads contain 30 times less starch than an equal amount of bread, and afford the necessary bulk to the diet; the addition of fruit is a further improvement.

Surgery

417 Surgical Treatment of Bronchiectasis

C. A. HEDBLOM (*Surg., Gynecol. and Obstet.*, February 15th, 1931, p. 406) discusses the pathogenesis, diagnosis, and treatment of bronchiectasis, which may be unilateral or bilateral, congenital or acquired. In the congenital type, symptoms develop only after secondary infection, while the acquired type results from mechanical dilatation of bronchi weakened by infection. Atmospheric pressure in the presence of a subnormal intrapleural pressure may be the dilating force, or it may be the extrabronchial traction of fibrous scar tissue or a combination of both. This force can be completely neutralized by pulmonary collapse. The morbid process can be arrested by early diagnosis and prompt collapse, which not only prevents the dilatation from increasing, but also produces partial collapse of the dilated bronchi. In an incipient case early diagnosis is made possible by contrast media bronchography; compression treatment gives the best results. A positive contrast media bronchogram affords proof of the site, size, and type of the condition. Partial pulmonary collapse may be brought about by phrenic neurectomy, partial pneumothorax, or circumscribed thoracoplasty; pneumothorax or thoracoplasty will produce complete collapse. Phrenic neurectomy is the method of choice in early cases, and the best results

may be expected from compression treatment. Lobectomy, secondary to thoracoplasty, is safer than primary lobectomy, and is of use when the relief from thoracoplasty is insufficient. For cases with advanced extensive lesions, cautery extirpation and eradication brought about by mobilizing and prolonged contraction of the diseased lobe are alternative methods of treatment.

418 Ambulant Therapy in Proctology

G. SACKS (*Journ. Med. Assoc. of South Africa*, February 14th, 1931, p. 77) emphasizes the value of ambulant treatment in anal diseases. The injection treatment of internal haemorrhoids is in his opinion most valuable, and, except in cases of gross infection and bad prolapse, terminates very satisfactorily. He injects into the rectal submucosa a 5 per cent. solution of phenol in sweet almond oil, one inch or so below the last valve of Houston. The patient is so placed that the anal canal and lower rectum are inclined almost vertically downward, thus allowing air to distend the rectum. Four quadrants are injected at each sitting, 2.5 c.cm. being introduced into each quadrant. At weekly intervals four lower quadrants are injected, until the last injection is just above the haemorrhoids. This treatment is painless. Six or seven sittings may be necessary, but the number varies. The method does not depend on thrombosis, but on perivascular inflammation ending in fibrosis. In treating pruritus, diabetes and threadworms must be excluded, the rectum and anus be carefully examined, the diet be regulated, and cleanliness ensured. Subcutaneous injections may be tried, and silver nitrate solution be applied after anaesthetizing painful cracks and fissures with 10 per cent. cocaine. The skin turns brown, then exfoliates; when this is completed, calamine lotion is sufficient for cure. An operation is never necessary.

419 Treatment of Purulent Arthritis of the Knee

C. Willems some years ago advocated early movement of the joint in the treatment of septic arthritis, on the grounds that drainage was improved, better functional results were obtained, and atrophy of muscles was prevented. M. KAPPIS (*Zentralbl. f. Chir.*, March 7th, 1931, p. 579) has compared the results in 22 cases of septic knee-joints so treated, with 16 cases treated by drainage with immobilization during the acute stages. He finds that the functional results in the former series were definitely better, though the proportions of fatal cases, and of cases which eventually came to amputation, were about the same. The movements are induced as soon as puncture and lavage, or if necessary drainage by trocar or by incision, have been performed. If conducted sufficiently thoroughly, and the drainage is satisfactory, the movements should not be painful.

420 Hirschsprung's Disease

M. CHATON (*Bull. et Mém. Soc. Nat. de Chir.*, February 14th, 1931, p. 178) describes a case of Hirschsprung's disease in a man aged 21. Since birth he had suffered from obstinate constipation, and at the age of 11 an ileo-sigmoidostomy had been performed. When admitted to hospital ten years later he was suffering from complete intestinal obstruction; the bowels had not been opened for eleven days, and there was persistent vomiting. The abdomen was greatly distended, the respiration embarrassed, and the pulse rate 100. Radiography showed an enormous gaseous dilatation of the colon, which pressed against the diaphragm and caused the respiratory distress. An opaque enema stopped at the junction of the sigmoid and of the descending colon, which was also greatly distended. Operation through a McBurney's incision disclosed the large intestine considerably dilated, and an artificial anus was immediately made which allowed much gas and faeces to escape. The patient was instantly relieved, and the abdomen regained its normal size and appearance. Two months later the patient was in good general condition, but still showed some abdominal distension. An *x*-ray examination revealed that there was a condition of congenital megacolon combined with a reflux of faeces through the ileo-sigmoidostomy made ten years before. This had produced the symptoms of obstruction by general compression of the intestinal tract. Laparotomy was carried out and a huge megacolon was found. A complete colectomy was done and the operation was well borne, convalescence being uneventful. The patient subsequently left hospital in good health.

421 Staphylococcal Septicaemia

P. S. LOWENSTEIN (*Amer. Journ. Med. Sci.*, February, 1931, p. 196) illustrates the gravity of this condition by the fact that of 57 recently reported cases death occurred in 35, a mortality of 61.4 per cent. The prognosis is grave owing to the severe constitutional symptoms and the formation of multiple metastatic abscesses. The outlook is all the more serious if the focus cannot be removed or sterilized. Lowenstein recommends that blood cultures in suspected cases should be made at the earliest possible moment by a competent bacteriologist, and in the event of a negative result should be repeated at frequent intervals until bacteriaemia is ruled out. Although the value of staphylococcal antitoxin is still doubtful, it should be used in large doses intravenously, intramuscularly, and, if indicated, intraspinally. In chronic cases also staphylococcal vaccine is sometimes of value.

Therapeutics

422 Copper and Blood Formation

E. SCHIFF (*Med. Welt*, March 7th, 1931, p. 334) discusses the therapeutic uses of iron and copper in the treatment of anaemia. He refers to the observations of Steenbock and others that the readily soluble salts of iron ($FeSO_4$) are therapeutically more active than the less soluble salts (Fe_2O_3), but adds that these compounds become increasingly potent if the animal is also fed on fresh green vegetables or iron-free alcoholic extracts. Anaemic rats fed with high-grade refined iron salts remained anaemic, owing possibly to the removal of copper from the iron salts in the refining process. Copper is not comprised in the haemoglobin molecule, but all animal and vegetable cells contain copper. In milk there is about 0.06 mg. per cent., human milk containing about the same amount as cow's milk or goat's milk. The foetal liver contains about 1.97 mg. per cent., but there is less in the liver of the newly born, and in growing animals it has been shown that there is an increase of copper in the blood during pregnancy. It is suggested that the administration of copper together with iron, owing possibly to some catalytic action on the part of the copper, enables the therapeutic properties of the iron to become active.

423 Specific Hormone Treatment of Heart Disease

O. J. NIELSEN (*Ugeskrift for Laeger*, March 5th, 1931, p. 240) reports investigations on 47 patients suffering from various diseases of the heart; he treated them with lacarnol, an extract of heart muscle prepared by Bayer-Meister Lucius, and said to contain a cardiac hormone. The first therapeutic tests of this preparation were made some three or four years ago, when it was given by the mouth. Among the author's 47 patients were 18 suffering from true angina pectoris. Twelve of these patients derived so much benefit from this treatment that, since its institution, they had been completely free from attacks, the observation period being in no case less than three months. Three other patients, who had been subject to frequent attacks, suffered from them only occasionally, and the remaining three patients derived only transient improvement from the treatment. Of the 2 patients suffering from nervous angina pectoris, one improved under this treatment, which did not affect the other patient. Of the 4 patients suffering from deterioration of the myocardium without angina, two achieved marked improvement and one some improvement. The 2 patients suffering from arrhythmia perpetua derived some improvement, and of the 4 suffering from mitral disease, one showed marked and two some improvement. Among the 7 patients suffering from some neurosis of the heart

were four benefiting from the treatment. This was the case with three of the 8 patients suffering from high arterial blood pressure. Good results were also obtained *in 2 cases of encephalitis* with heart disease. The author finds it too early to be dogmatic about dosage, but his preliminary observations, which he finds encouraging, suggest that for severe forms of angina pectoris the following procedure is suitable. On the first day 1 c.cm. is given by intramuscular injection once or twice, and 15 to 20 drops three times by the mouth. On the following days the drug is given orally, its dosage being gradually reduced till only 5 to 10 drops are given two or three times a day. In no case did the drug cause signs of poisoning.

424 Gastric Tissue in Pernicious Anaemia

H. M. CONNER (*Journ. Amer. Med. Assoc.*, February 14th, 1931, p. 500) records the results obtained in 60 patients suffering from pernicious anaemia following treatment with extract of the gastric tissue of swine or with tripe. Two patients were given gastric tissue after tripe had failed, but tripe constituted the sole treatment given to two others. Forty-six cases were studied in hospital. The results with tripe are not included in this report as they were inconsistent and unconvincing, and were much inferior to those in cases treated with raw or dried gastric tissue. When the entire gastric wall was used, 240 to 480 grams were given daily, and half this amount when the mucosa only was administered. Raw and dry preparations yielded approximately equivalent results. The mucosa, the remainder of the stomach after removal of the mucosa, and whole gastric wall, were used separately; each proved effective. The presence of muscle was not required to obtain results in two cases treated with mucosa without the muscle coat or other muscle meat. Fundus and pylorus tissues, each used separately, produced satisfactory, if not equivalent, results. The effects on the reticulated and mature erythrocytes, haemoglobin and leucocytes, and also on the general and neurological symptoms, were similar and apparently equivalent to those obtained by liver or liver extract.

Radiology

425 Examination of the Fifth Lumbar Vertebra

H. HARTTUNG (*Zentralbl. f. Chir.*, February 21st, 1931, p. 453) remarks that owing to the change of curve from lumbar lordosis to sacral kyphosis, the fifth lumbar vertebra is particularly difficult to demonstrate clearly on a skiagram by the usual technique. By powerful flexion and abduction of the hips and flexion of the knees, the adoption almost of a lithotomy position, the lumbar lordosis can be eliminated and satisfactory skiagrams obtained. The position can be easily maintained by a girdle running behind the patient's neck, from one knee to the other. In a series of photographs the author illustrates the fact that many cases diagnosed as sacralized or otherwise abnormal lower lumbar vertebrae prove to be completely normal when photographed by the technique described.

426 Diagnosis of Tumours of the Small Intestine

T. S RAIFORD (*Radiology*, February, 1931, p. 253) discusses the diagnosis of tumours of the small intestine, with special reference to their *x*-ray appearances. A flat plate view of the abdomen is essential for comparison with plates from other directions, as well as to reveal the presence of large dense intra-abdominal masses. The barium meal is administered after this plate has been obtained, and half an hour later the plate for the duodenum is exposed. Subsequent plates are taken at intervals of four or eight hours, followed by a final 24-hour plate on the next day. A barium enema should be given at the end, in order to rule out involvement of the large intestine, and to reveal tumours near the ileo-caecal junction which press upon the caecum, causing a filling defect. All plates are taken with the patient standing up; if slightly over-exposed, the filling defects are more clearly brought out. From the radiological standpoint three sections of the small intestine are definable—namely, the duodenum, the jejunum and proximal ileum, and the terminal ileum. Raiford reports a series of 82 tumours of the small intestine, of which 39 showed *no* symptoms, and suggests a basis for the diagnosis of such conditions: by associating a complete *x*-ray examination of the whole gastro-intestinal tract with other investigations in doubtful cases, the radiologist will be able sometimes to give the patient the benefit of an early operation, or, conversely, to save him from a useless and discomforting laparotomy. This is particularly the case when a lesion of the duodenum is suspected; and another important indication for radiography is the possibility of the presence of non-obstructive growths in the abdominal cavity.

427 Radiography of Discrete Pulmonary Lesions

Commenting on the great diversity of techniques employed in pulmonary radiography, A. ZIMMERN and G. ARVANITAKIS (*Journ. de Radiol. et d'Électrol.*, January, 1931, p. 1) propose a uniform, systematized method which is specially applicable to discrete lesions and slight changes in the pulmonary parenchyma. Essentials for accurate diagnosis are a perfect definition, richness of details, and clearly defined contrasts. While certain factors cannot be standardized, such as the different types of apparatus used, some can be easily systematized. Among these are the position of the patient, the incidence of the rays, the anticathode distance, and the length of exposure. The apparatus should be placed against the thorax of the patient, who should be upright with arms crossed in front and with a forward rotation of the shoulder. This position clears the apices from clavicular shadows, and separates the scapulae. The radiograph should be taken in apnoea at the moment of inspiration. Brevity of exposure and correctness of the focal distance are the essentials of definition. The authors have found that one-tenth of a second is the maximum duration compatible with correct definition, and they propose that in adults an irradiation of 5 5/6 of the Benoist dose should be employed; this corresponds to a maximum of 65 kV. In children, according to their age and development, a lower tension (as low as 55 kV. for nurslings) should be used, and the exposure be shortened, since in the case of infants plates are easily over-exposed. The intensity employed depends on the type of apparatus.

Obstetrics and Gynaecology

428 The Female Sex Hormone in Pregnancy

G. L. KELLY (*Surg., Gynecol. and Obstet.*, March, 1931, p. 713) concludes, as the result of a series of experiments on guinea-pigs, that an excess of oestrin in the blood over the corpus luteum hormone is incompatible with conception and with the continuation of normal pregnancy. He found that the injection of small doses of oestrin into female guinea-pigs immediately after copulation prevented conception in all cases when the dose was adequate, the minimum dosage being 10 to 15 rat units. Moreover, interruption of pregnancy in this animal, when about two weeks advanced, could be effected in almost all cases by a dose of 100 rat units. Higher doses were similarly effective in later stages, but the maternal mortality rose rapidly. The death of the foetus after the injections seemed to be related to marked atrophic changes in the chorionic villi, resulting from pressure due to excessive hyperaemia or some other cause. The reason for the death of the mother was not discovered. The administration of oestrin in doses as high as 600 rat units to male and non-pregnant female guinea-pigs did not interfere in any way with their health and life.

429 Neo-natal Asphyxiation

Y. HENDERSON (*Journ. Amer. Med. Assoc.*, February 14th, 1931, p. 495) believes that the natural stimulus which initiates breathing in the normal child at birth is the carbon dioxide produced in its own body. The asphyxiated centre of the newly born, or of a drowned person, requires a much higher pressure of carbon dioxide than does a normal centre to stimulate it to respiratory activity. For such an asphyxiated newly born child dilatation of the lungs by a mixture containing a sufficient amount of carbon dioxide in oxygen to stimulate natural breathing is the one effective method of resuscitation. Inhalation of such a mixture is also equally important for many children who breathe spontaneously, for incomplete pulmonary dilatation is relatively common, and this predisposes to pneumonia, causing nearly as high a mortality as stillbirth itself. Henderson recommends such inhalation for all children in the first days of life as a precautionary measure against continuing partial atelectasis, secondary asphyxia, and pneumonia; he advises that maternity hospitals should be equipped with a suitable apparatus for treating the mother also when an anaesthetic has been found necessary. For prematurely born infants a small chamber, heated from below, may conveniently be employed for the administration of a suitable mixture of carbon dioxide with oxygen. The use of high percentages of carbon dioxide—over 10 per cent.—is unwise, except in skilled hands, but it has saved a few lives which could not have been preserved otherwise, for the deeper the asphyxial depression, the higher is the percentage of carbon dioxide required to induce breathing. The optimum amount for general use is stated to be about 7 per cent.

430 Peritoneal Bleeding from Perforation by Uterine Chorion-epithelioma

According to J. CREYSSEL and C.-E. BOYER (*Gynécol. et Obstét.*, January, 1931, p. 1) intraperitoneal haemorrhage due to chorion-epithelioma perforating the uterus is not very rare; it has a fairly characteristic syndrome, detection of which, however, may be made difficult by an exaggerated defence of the abdominal muscles. The syndrome consists in (1) signs of profuse intraperitoneal bleeding, which are of intense acuteness and gravity; (2) enlargement of the uterus to the size of a three or four months' pregnancy; and (3) a history of menstrual trouble—menorrhagia and/or metrorrhagia (especially the latter) following the last pregnancy, which may have terminated in expulsion of a hydatidiform mole. Treatment consists in panhysterectomy. Although the operative mortality in the anaemic patients who are suffering from shock is 50 per cent., and lasting cure is rare, this operation is preferable to subtotal hysterectomy, for the reason that radical cure is by no means impossible. Metastases are rarely present at the time of perforation, and permanent recovery ensues in 30 per cent. or more of operations for imperforated uterine chorion-epithelioma after radical excision.

431 Curetting in Chronic Gonorrhoea

E. J. ORSÓS (*Zentralbl. f. Gynäk.*, February 21st, 1931, p. 476) describes the case of a 2-para who had been treated in hospital for fourteen months for gonorrhoea without improvement. In spite of the presence of moderate pyrexia he curetted the corpus and cervix uteri; the convalescence was uneventful, a cervical erosion healed speedily, and gonococci were not found after the eighth day. Encouraged by this result, Orsós has performed a similar operation in 63 cases of gonorrhoea, of which two-thirds had been at least 100 days under treatment. The patients are afterwards kept in bed for eight days, and no pelvic examination is undertaken until the ninth day. Forty-five patients were speedily cured, and in three only was the operation followed by pyrexia or parametrial pain. Many writers have expressed the opinion that surgical intervention such as cervical dilatation or curetting is strongly contraindicated in cases of chronic gonorrhoea, and of the advocates of active treatment many restrict it to the cervix.

Pathology

432 Etiology of Post-operative Pulmonary Collapse

A. DEI ROSSI (*Arch. Ital. di Chir.*, February, 1931, p. 193) carried out experiments on cats and dogs which consisted in immobilizing the thorax by phrenicotomy and paravertebral neurotomy, and occluding the large and small bronchi by various methods. His experiments confirmed those of previous workers to the effect that it was possible to obtain regularly and rapidly atelectasis of parts of the lungs by complete occlusion of the corresponding bronchi. The atelectasis always developed sooner when the small bronchi were occluded than when the occlusion involved the large and moderate-sized bronchi. The introduction of thick and viscid material such as a sponge or gum into the respiratory tract never produced massive collapse of the lung, but only small scattered foci of atelectasis. Dei Rossi's experiments thus confirm the view held by American writers as to the occlusive origin of pulmonary atelectasis.

433 Dual Innervation of Striated Muscle

C. BALLANCE (*Arch. Neurol. and Psychiatry*, January, 1931, p. 1) records experiments in which the central end of the divided cervical sympathetic nerve was anastomized to the peripheral end of the divided facial nerve and to the peripheral end of the divided hypoglossal nerve. The intention was to elucidate the apparently contradictory results obtained when the central end of the cervical sympathetic nerve was united with the peripheral end of the trunk of the facial nerve. Complete functional and anatomical recoveries of the striated muscles of the face and tongue, and of the depressor muscles of the hyoid and larynx, were observed. No muscle fibres of the face or tongue muscles, or of the sterno-hyoid or sterno-thyroid muscles, appeared to be atrophied, as they should have been if a dual innervation was necessary for the complete restoration of function. The sympathetic fibres seemed to join at the anastomoses with the larger cranial nerve fibres, and there was no microscopical evidence that they continued into the cranial nerve trunks. The author is uncertain whether these experiments give any support to the view that the anatomical and functional perfection of striated muscles depends on a dual innervation, but he is inclined to think that they do. For the complete health of a striated muscle fibre, impulses must come to it from the cerebral cortex, as well as from the cells of origin of the sympathetic.

434 Dissociation of the B.C.G. Strain

R. S. BEGBIE reported last year that he had been able, by plating on Petroff's medium, to obtain three different colonial variants of the B.C.G. strain: (1) a smooth variety, with a central dome and spreading margin; (2) a rough variety, composed of heaped-up coils, and relatively compact; and (3) an intermediate variety with an umbilicated centre and a slightly crenated margin. The rough variety was similar to that described by Petroff; the smooth variety differed from Petroff's smooth type; and the intermediate variety had not been described by Petroff. In a later paper (*Edin. Med. Journ.*, March, 1931, p. 173) the author now describes virulence experiments carried out on guinea-pigs with the three variants, as well as with two different strains of the undissociated culture. Intracardiac and subcutaneous inoculations were employed, the dose in each series being equivalent to 2 mg. of the dried organisms. Many of the animals injected intracardially died, with multiple tubercles in the viscera; since the dose was large, and as no control animals injected with killed organisms were used, it is difficult to interpret the results. None of the animals injected subcutaneously died, and when killed 69 to 102 days later some of them showed, besides a local lesion, small tubercles in the internal organs. No clear-cut distinction was established between the virulence of the different variants or whole cultures examined.

The Gargle and the Child

WHILST medicine, though unpleasant to take, can be forced on the unwilling child, it is not so simple a matter to compel a child to gargle. The act of gargling cannot be enforced, and, where the actual gargle is disagreeable, few children will submit. Therefore, a very necessary act is often scamped or entirely avoided.

ODOL Mouthwash very successfully solves this problem. Its very pleasant taste appeals to the child and its proven bactericide efficiency achieves the desired results. Moreover, Odol is absolutely harmless and cannot injure the delicate mucous membrane of the child's mouth.

CRANBUX LIMITED,
NORWICH, ENGLAND

Samples and literature will be gladly sent to members of the Medical Profession on request.

BRITISH MADE
BY BRITISH LABOUR. FINANCED BY BRITISH CAPITAL

Aldwych

IF your engine is not already fitted with Lodge plugs you are probably not getting the best out of it.

LODGE

SPARKING PLUGS

assist the engine to give—
Easy starting,
Perfect slow running,
Better acceleration,
and
Utmost power;
and will never let you down.

LODGE C3
the plug for most English and Continental engines.

5/-
everywhere
in sealed metal box (red).

LODGE PLUGS LTD., RUGBY.

Cook's Non-Scratch
MOTOR MOP
(Pat. No. 232386)

As good as Two Hands and a Long Arm.

Note the 36in. long handle and Rubber Guard Pad at back, preventing damage to varnish or paint.

Mop & Brush combined

Every Motorist will appreciate it

BECAUSE:
It is so light and easy to use;
It cleans so thoroughly and so quickly;
It prevents chapped hands, for with it you need not even get the hands wet.

ITS BRITISH—AND WILL LAST A GOOD TWO YEARS.

The only Mop that will get anywhere—even on the smallest car. Sent Carriage Free for 7/9

COOK'S, Brush Specialists,
DAVEY PLACE, NORWICH.
ESTAB. 1814.

NATURAL APERIENT MINERAL WATER
OF
RUBINAT LLORACH
(Hydragogue, Purgative, and Cholagogue.)

The official analysis shows in each litre about 1601.321 grains of Anhydrous Salts, of which are Sulp. Soda 1485.368 grains, and Sulp. Magnesia 50.301 grains.

Prescribed in cases of Gall-stones, Liver Disease, and threatened Appendicitis, Constipation associated with Gout, Hepatic Dyspepsia, Gastric Fever, and generally in Abdominal Obstruction.

DOSE.

Wineglassful fasting; can be increased according to temperament. Effect is more rapid if followed by a cup of hot tea.

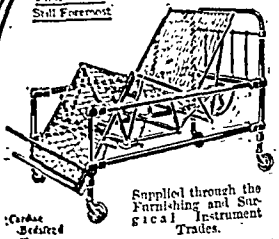
NO GASTRIC IRRITATION. NO ALTERATION IN DIET REQUIRED.

"A moderately powerful stimulant of the liver, and a powerful stimulant of the intestine.

A Bedstead for Every Purpose

LAWSON TAIT
HOSPITAL BEDSTEAD
Permanently Guaranteed.

First in 1891
Still Foremost



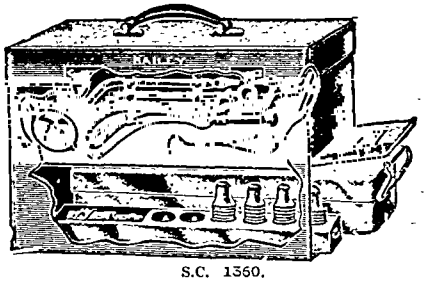
Supplied through the Furnishing and Surgical Instrument Trades.

AT
SAVILE
ROW

WE will build you a hand-made suit for 8 guineas. Pay us a visit. We are sure you will find it an economy to buy the VERY BEST CLOTHES from us at reasonable prices.

ENTICKNAPP & GRIMES
21a, SAVILE ROW,
LONDON, W.1.
Regent 2467.

W. H. BAILEY & SON LTD.



S.C. 1360.

S.C. 1360.—Bailey's large size Surgeon's Midwifery Case, made in best Cowhide, fitted with Slide Tray, to take six 1-oz bottles in metal cases, and Chloroform Drop Bottle, in separate compartment at side of Sterilizer.

Size 17 × 10 × 7 ... ... £3 15 0

Ditto, fitted with best nickel-plated stamped-out seamless 16-in. Sterilizer (with lamp and tray) ... £5 15 0

Cases fitted complete—Prices on application.

BAILEY'S "BELGRAVE" SPHYGMOMANOMETER

BRITISH MADE THROUGHOUT.

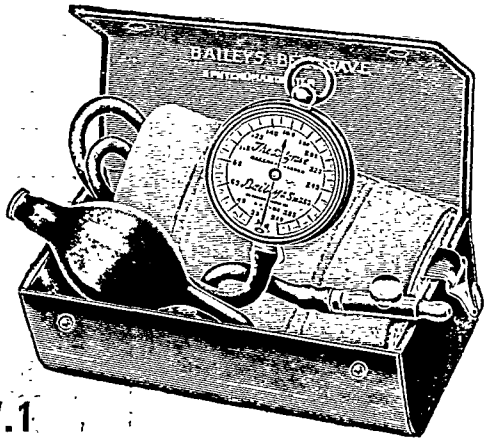
A thoroughly reliable Instrument, accuracy guaranteed. Extremely sensitive. Light and portable.

The Tubes may remain attached to the dial as the interior of the case allows sufficient room to prevent kinking.

An essential apparatus for the General Practitioner.

Price - £2 : 15 : 0

Post free United Kingdom; India and Colonies 2/6 extra.



Tel. No.: Gerrard {2315 / 3185} 45, OXFORD STREET / 2, RATHBONE PLACE **LONDON, W.1**

GAMAGES

HOLBORN

GREAT PRICE DEMONSTRATION SALE

Sir,—Whether it is clothes for the profession or clothes for your recreation—Gamages can always supply your every requirement in a quality you can trust. Here we show some special values from the Great Price Demonstration Sale now proceeding.

Real Handwoven Harris Tweed.

PLUS FOUR SUITS, LOUNGE SUITS, and OVERCOATS

Suit and Overcoat to match 61 gns.

This is a unique opportunity. Gamages usual high standard of workmanship will be rigidly adhered to in every garment. The linings and trimmings are of tested dependability. The designs are pleasing and typical of this superb cloth.

To measure only **75/-**

USUALLY 6 GNS.

Special Offer of LABORATORY COATS

These coats are strongly made in fine quality white drill. All buttons are detachable. Guaranteed to wash well, and give long service. Sizes 34in. to 44in. chest. SPECIAL SALE PRICE **5/11** Post 4d.

IMITATION SUEDE GOLF JACKETS

Made from a thoroughly proofed sturdy material, similar in appearance to Real Suede, and in a rich brown shade. Each Jacket has knitted collar and cuffs and skirt, and two large pockets. Cut on full easy lines. Sizes 34in. to 44in. chest. Usual Price 25/-. ANNIVERSARY PRICE **14/9** Post free.

KHAKI DRILL SHORTS

Cut on easy lines with two side and one hip pockets, belt loops and buttons inside. Sizes: 32in. to 44in. waist. Usual Price 5/11 pair. SALE PRICE **3/9** Post. 6d. 3 Pairs post free.

WASHABLE GOLF JACKETS (above)

Made from strong cotton fabric with three roomy pockets and cut on full easy lines, allowing the utmost freedom of movement. Buttons are detachable. Sizes 34in. to 46in. chest. In light biscuit shade. Ideal for Spring and Summer wear. Usual Price 12/6. SALE PRICE **8/11** Post 6d.

GAMAGES, HOLBORN, LONDON, E.C.1. *Telephone: Holborn 8484.*

BY APPOINTMENT To H.M. The KING

Gaymer's CYDER

GAYMER'S WAS FIRST SHOWN AT THE BRITISH MEDICAL ASSOCIATION EXHIBITION OF 1898.

FREE SAMPLES WILL BE SENT ON RECEIPT OF PROFESSIONAL CARD QUOTING B.M.J.

WM. GAYMER & SON, LTD., ATTLEBOROUGH, NORFOLK.

NEW SUITS FOR SPRING

TERMS £1 PER MONTH

BRIGHT sunshine shows up the shiny and shabby spots now that overcoat days are being left behind. Apart from being a necessity, a new Spring suit gives increased confidence and presence to the wearer especially when the worry of paying for it is banished . . . . At Keith Bradbury's good cloth is tailored into attractive garments by the deft hands of West End craftsmen—and all financial worry is avoided by the arrangement of systematic payments out of income FROM £1 PER MONTH to meet the individual requirements of customers. . . . A FREE VALETING SERVICE is provided for sponging, pressing and repairing all garments after purchase, as often as is desired, and the same care is given to every suit irrespective of the initial cost . . . . A trial is solicited on the understanding that if any garment is not to your satisfaction, you need not accept it—and you will have incurred no obligation.

Lounge or Plus-four suits from 5 gns. Flannel trousers from 21/-. Blazers from 45/-. Dinner and Evening Dress from 6 gns. Catalogue and patterns gladly sent free on request.

Coats for Spring. Ready to wear from 3 gns. To measure from 4 gns.

KEITH BRADBURY LTD

TAILORS OF CREDIT

137/141 REGENT ST., LONDON, W.1

TELEPHONE, REGENT 5288

HOURS OF BUSINESS 9-7 Saturdays 9-1

THE POSTAL ACCOUNT

It is often supposed that to live a long way from the nearest branch of a bank, or to be constantly unable to go to the bank in person, is a handicap to the enjoyment of the full advantages which, it is admitted, a banking account offers. Perhaps it is assumed that to conduct an account by post involves 'more letter writing', or is costly, or is not welcomed by the Bank. It is the aim of the Westminster Bank to dispel such misconceptions by a leaflet entitled *The Postal Account*, which explains the convenience of the method, and offers some clear suggestions.

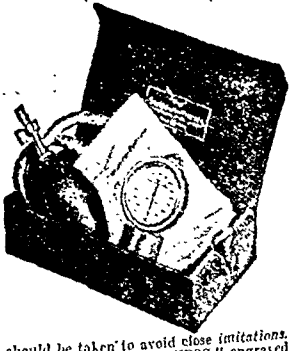
The Secretary of the Bank will be pleased to send a copy on application

WESTMINSTER BANK LIMITED

HEAD OFFICE: 41 LOTHBURY, LONDON, E.C.2

Accurate Arterial Pressure Readings

For visiting purposes the TYCOS Portable Sphygmomanometer amply fulfils the Physician's needs. Although one of the most delicate and accurate instruments of the medical man's equipment, the portable type as illustrated can be carried without fear of breakage. There is no glass tubing to break, no mercury to spill, and the readings can be verified at a glance by comparing the relation of the hand to the immovable zero.



Care should be taken to avoid close *imitations*. Look for the trade mark "TYCOS" engraved on the dial of every genuine instrument.

Obtainable from all reputable Instrument Dealers.

Tycos SHORT & MASON LTD.

ANEROID WORKS, WALTHAMSTOW, E.17.

Showrooms: 45/50, HOLBORN VIADUCT, E.C.1.

Publishers of *"Blood Pressure Simplified,"* 4s. 6d. net.

B. MILLER & CO LTD
17 CONDUIT STREET
BOND STREET, LONDON, W.1

TAILORS
Established 1896

LOUNGE SUITS and **OVERCOATS** *from* **£8 : 8 : 0**

DINNER SUITS Lined Silk *from* **£10 : 10 : 0**

A large selection of materials in the newest designs.—Patterns sent on request.

Convenient terms can be arranged.

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

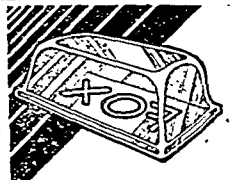
POCKET MONEY ADDING MACHINES 15/- post fre
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 32*
Desks, Tables & Chairs
Est. 1884.

THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.
Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.
74, CHANCERY LANE (Holborn End), W.C.2

BROOKE HOUSE,
CLAPTON, LONDON, E.5.
Telephone: Clissold 1648.
PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr ERNEST ROLLINS, Resident Physicians.

BOREATTON PARK,
BASCHURCH, SALOP.
A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.
Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.
Voluntary Boarders accepted.
Apply for particulars to Dr. SANKEY.

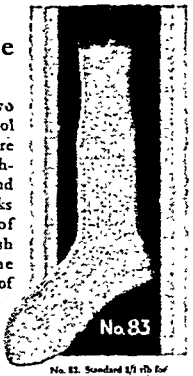
FINEST MEDICINAL
OXYGEN
Guaranteed 99.5% pure in Cylinder
¾d. per CUBIC FOOT
(THREE FARTHINGS)
IN CUSTOMERS OWN CYLINDERS EX OUR VARIOUS WORKS
BRITISH INDUSTRIAL GASES LTD.,
34, VICTORIA STREET,
LONDON, S.W.1
24 Hours Return Service.
We cover all England and Wales.


In many hospitals patients enjoy the delicious flavour and stimulating effect of
FOX'S GLACIER MINTS REG.
Samples gladly sent on request.
FOX'S GLACIER MINTS LTD., LEICESTER.

NORMANSFIELD
For Mental Defectives of all ages.
Under private management.
Apply to Dr. Langdon-Down,
Normansfield, Teddington.

FUNCTIONAL NERVOUS DISORDERS.
CALDECOTE HALL, NUNEATON.
RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

THE GRANGE,
near ROTHERHAM.
A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40050 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

Two Steeples St. Wolstan Wool Socks
Always the same quality
When you buy Two Steeples St. Wolstan Wool Socks you can be sure always of the same high-grade quality time and time again. These socks are the production of highly skilled English Stockingers and the St. Wolstan Wool is of one regular quality, the richest long staple pure botany obtainable.


Write for descriptive booklet containing actual patterns of the various styles of St. Wolstan Wool Socks and Underwear.
No. 83. Standard 1/1 rib for general wear. A good medium weight for walking. 36 handsome ingrain shades to blend with all fashionable saddings.
DEPT. 4, TWO STEEPLES LTD. WIGSTON, LEICESTERSHIRE
Reduced price 3/9 per pair.

CHISWICK HOUSE.
A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.
Now removed to:
CHISWICK HOUSE,
PINNER,
MIDDLESEX.
Telephone: PINNER 234.
A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.
Fees from 10 guineas per week.
Voluntary Patients received for treatment.
Special provision for "Temporary" patients under the new Mental Treatment Act.
DOUGLAS MACAULAY, M.D., D.P.M.

The Devon Mental Hospital,
Exminster, near Exeter.
The Committee of the above Hospital have accommodation for the reception of PRIVATE PATIENTS of both sexes, in special wards, which are healthily situated, with extensive views of the Exe Valley and surrounding scenery. The Hospital is fully equipped with Operating Theatre and X-ray departments, and has facilities for Ultra-violet Light treatment and modern Hydrotherapy.
Charges: £3 3s. per week, including all necessaries except clothing. Apply to the Medical Superintendent.
Tel.: Deepway, Exeter. 'Phone: 3580: Exeter.

"BANKSEA," Dovercourt Bay, ESSEX.
CONVALESCENT HOME FOR GIRLS.
This Home, conducted by the Dominican Sisters, is certified by the Essex County Council under the Ministry of Health.
Beautifully situated on the sea front. Bracing air. Bright and airy
ing. Pleasure Park
Individual attentior
Nurse. Infectious or
Terms moderate. Vouchers issued for reduced railway fares. — Apply, MOTHER PRIORESS, Dominican Convent, Dovercourt, Essex.

REGISTERED NURSING HOME for PERMANENT PATIENTS.
3, Broadhurst Gdns., London, N.W.6.

ST. ANDREW'S HOSPITAL

FOR MENTAL DISORDERS,

NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

TYKEFORD ABBEY, NEWPORT PAGNELL,

BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, *fifty miles from London. Both sexes are accommodated.* Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies *suffering from* Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P. *Telephone*: Teignmouth 289

HAYDOCK LODGE,

NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc, apply MEDICAL SUPERINTENDENT.

The MAUDSLEY HOSPITAL

DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: *(a)* 189 beds (both sexes) in wards or *separate rooms. (b) 13 private* rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS

(a) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(b) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 220 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the *MANOR HOUSE*, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

BAILBROOK HOUSE,

BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (*see Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No: Batheaston 8189.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

This *Registered* Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 2231 GATLEY.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts *County Mental Hospital*, Hill End. Convalescent and mild cases can be treated in a *delightful* country mansion, with extensive grounds, known as **"HIGHFIELD HALL,"** situate about a mile away from the Hospital.

Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

Upton Lodge Nursing Home,

BIRCHINGTON, THANET.

All types of cases taken; special care for aged; shelters in garden; charming comfortable home; nr. sea. Terms mod.—MISS ROBERTSON, Matron.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E. Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"

STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281. Matron: Mrs. Ellen Allfrey, S.E.N.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.

Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the Medical Superintendent.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

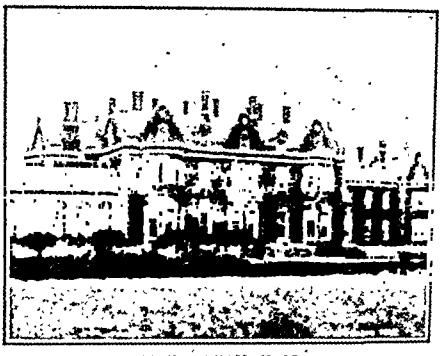
(Postal Address)—WOODBRIDGE, SUFFOLK.

Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16. *(Toll Call from London.)*



RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham,

as carried on for the last twenty years, is available. Booklets and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: The Norwood Sanatorium, Limited.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922 *'Phone:* PAIGNTON 5110.

A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANLEY PAGE, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls, golf (Moor Park, Sandy Lodge) close by. For particulars apply to—J. S. D. Hoe, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

EPILEPSY.

Owing to extensions there are at present a few Vacancies at the

DAVID LEWIS COLONY

for Ladies and Gentlemen who have Epilepsy, but are of good intelligence and sound mind.

Colony life gives to most people who have epilepsy the best chance of happiness and contentment

Apply to the Medical Superintendent,

The David Lewis Colony, Warford, Alderley Edge.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Resident Medical Superintendent, Dr. A. E. Carver, M.D., D.P.M. Fees moderate. Further particulars from the Secretary, Central Sec., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 241.

KINGSDOWN HOUSE

BOX, near BATH.

For the CARE and TREATMENT of NERVOUS and MENTAL DISORDERS in BOTH SEXES.

Separate accommodation for Voluntary Boarders of the Female Sex. Applications received at the above or at 17, Belmont, Bath, by—

Dr. H. C. MACBRYAN or Medical Superintendents.

FENSTANTON,

CHRISTCHURCH ROAD,

STREATHAM HILL, S.W.2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2254.) Apply J. H. EARLS, M.D., Resident Physician. Telephone: Streatham 8430.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.

Resident Physician CEDRIC W. BOWER.

Ordinary Terms: Five Guineas per week.

(Including Separate Bedrooms where suitable.)

Interviews in London by appointment.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER F. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law, Superintendent.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental and Nervous cases are received without certificates as Voluntary Patients under the provisions of the Mental Treatment Act, 1930. Bracing Hill country. See *Medical Directory*, p. 2158.—Apply to Medical Superintendent. 'Phone: 10 P.O., Church Stretton.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 5½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone:* Brixton 0494. Apply, Miss THWAITES.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1916. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

The MUNDESLEY SANATORIUM

The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless head-phones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON,
M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP,
M.B.(Cantab.).
ANDREW MORLAND,
M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.

Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

EAST ANGLIAN SANATORIUM

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and has an ideal situation facing S.S.E. in a very sunny district. Special treatment by artificial Pneumothorax (X-ray controlled). Ultra-violet Ray treatment is available for suitable cases. Matron and full nursing staff. Nurse on duty all night. Electric lighting throughout, radiators and wireless (headphones) in all rooms.

Dr. Jane Walker, C.H., J.P., Medical Superintendent. Dr. Eleanor Soltau, Assistant Medical Superintendent.
For all information apply: The Secretary, East Anglian Sanatorium, Nayland, near Colchester.
Telephone: NAYLAND 1.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, Medicated Inhalations by means of the Apneu Inhalation Installation, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP"

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. *Radiators and Electric Light throughout.* Hot and cold water and shower bath in nearly all rooms. *Powerful X-ray Plant. Ultra-violet Rays.* Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.
For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams*: Nordrach, Blagdon. *Telephone*: Blagdon 23.

BRIDGE of ALLAN SPA
Stirlingshire

INHALATION TREATMENT with vaporized Mineral Water is strongly recommended for asthma, bronchitis, and other catarrhal affections.

Bridge of Allan is an Ideal Spring Resort, being mild, sunny, and sheltered from North and East winds.

The Allan Water and Spa Hotel has covered communication with the Spa.

For further particulars apply SPA DIRECTOR.

BAD-NAUHEIM

near Frankfurt-on-Main, from Victoria about 21 hours.

A Charming and Restful Place.

Saline Thermal Springs

Rich in Carbonic Acid

Quite exceptional cures for cardiac affections, arterial sclerosis, muscular rheumatism, rheumatoid arthritis, gout, bronchial diseases, spinal diseases and diseases of the nervous system, shock and exhaustion, reconvalescence, injuries to the bones and joints, etc. All up-to-date treatments.

BALNEOLOGICAL UNIVERSITY-INSTITUTE.—KERCKHOFF-INSTITUTE FOR INVESTIGATION AND COMBATING HEART DISEASES.

Golf and other outdoor sports. A new large golf course will be opened SUMMER, 1931.

Reduced prices to Physicians and their families.

For all particulars apply to the Special Representative, R. O. ROHME, 90, Sheare-hill Avenue, Colindale, London, N.W.9.

Wildbad—
in the Black Forest

GERMANY, 1,400 to 2,500 feet above sea-level.

CURATIVE SPRINGS, 93—99° F., for hundreds of years have proved beneficial for gout, rheumatism, sciatica, nerve troubles, etc. Rejuvenation; all modern curative methods. Sport. Mountain Railway. Beautiful Woods. Anglican Divine Service. Information from the "Badeverwaltung" or the "Kurverein Wildbad" in the Black Forest, and all tourist agencies.

Excellent Trout Fishing

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), R. M. Bremner, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, *Aix and Vichy Douches, Massage and Plombieres* Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency; Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and *all bedrooms warmed in Winter.* A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants

'Grams: "SMEDLEY'S MATLOCK."
'Phone: No. 17.
For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, *M.B., B.Ch., B.A.O.* (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.)

MATLOCK

VICTORIA SANATORIUM : : DAVOS
SWITZERLAND
(BRITISH SANATORIUM), 5,200 feet above sea-level.

ALTERED AND MODERNISED IN SUMMER 1930.

Terms from £5 . 12 . 0 per week.

Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

BOURNEMOUTH.
West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,
MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment —rest cures, electrical massage, and ultra-violet light. Established 1922.
Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

THE LAWN, LINCOLN.

This Registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY and [illegible] PATIENTS of both sexes for treatment [illegible] orders, including [illegible] in adults. Special facilities for [illegible]y in co-operative cases.
All particulars may be obtained from the *Resident* Medical Superintendent,
Dr. MARY R. BARRAS, M.D., D.P.M.

Doctor has a vacancy for a Permanent or Convalescent PATIENT, in a fully equipped and staffed NURSING HOME, in a sheltered locality of the North Cornish Coast. Terms on application. — Address, No. 858, B.M.A. House, Tavistock Square, W.C.1.

MONTANA HALL

MONTANA, Switzerland

The only Sanatorium in Switzerland under British ownership and control, and with a full day and night staff of British Trained Nursing Sisters.

Built 1929-30. Opened Oct., 1930.

For the treatment of Tuberculosis, Diseases of the Chest, Asthma, and for patients requiring rest in the Alps under strict medical supervision.

Montana (5,000 feet above sea-level) is the sunniest mountain resort in Switzerland.

For prospectus and full particulars kindly apply to the Resident Medical Superintendent, HILARY ROCHE, M.D.(Melb.), M.R.C.S. (London), Tuberculous Dis. Dip. (Wales).

PEEBLES

In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air, beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.

Among the Pine-clad Border Hills.
PEEBLES HYDRO, PEEBLES, SCOTLAND

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.
Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSTON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

GRAMPIAN SANATORIUM,

KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 ft. above sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms £4 7s. 6d. to £6 6s. p.w. inclusive. No extras. Med. Supt.—FELIX SAVY, M.D.

For particulars apply to the Secretary.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S. 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS at a weekly fee of TWO GUINEAS and upwards.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

BRITISH SPAS
ARE BEST

and membership of the British Spas Federation is a guarantee of efficiency

AT British Spas, treatment is only given (except in a few minor cases) upon medical prescription.

At British Spas the staffs are educated and properly trained and, in some cases, medically trained and medically certificated.

Equipment and administration are thoroughly up to date and scientific. Every new treatment is tested and reported upon before being adopted.

British Spas are also remarkably fortunate as regards situation, scenic beauty and pure air. These factors, combined with the social amenities of a home town, aid the cure considerably.

BATH Hot Springs (120° F.) Radio-active. Royal Baths extensions now open.

BRIDGE OF ALLAN Saline Water. Rich Calcium Bromide and Iodine Content.

BUXTON Radio-active Mineral Water. New Natural Baths. 3 Guineas Course.

CHELTENHAM Five Natural Waters. Modern Baths.

DROITWICH The Brine Baths Spa in charming Worcestershire.

HARROGATE 88 Waters. 100 Treatments. Medically certificated staff.

LEAMINGTON Advanced Spa Treatment. Saline Springs.

LLANDRINDOD WELLS The Modern Welsh Spa.

TREFRIW WELLS Rich Sulphate Chalybeate Waters.

WOODHALL SPA Bromo-Iodine Waters. Pinewoods. Restful Air.

¶ A New Medical Handbook is being published, specially prepared for the use of the medical profession. A copy will gladly be sent you if you will write to the Hon. Secretary, Box 1, British Spas Federation, Pump Room, Leamington Spa, or to the Managers of any of the Spas here mentioned.

ANNOUNCEMENT BY BRITISH SPAS FEDERATION

EVIAN-LES-BAINS

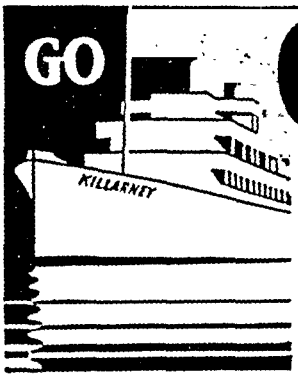
on the Lake of Geneva (Haute Savoie),
FRANCE.
1st MAY—5th OCTOBER.

Hydromineral & Climatic Treatment.
Cure by diuresis. Evian-Cachat Water.
Hydrotherapeutic Establishment.
First-class Hotels: Royal, Splendide, Ermitage.
All Sports: Golf, Tennis, etc.
Beach. Casino.

Full information from—
Federation of the Health Resorts of France, Tavistock House (North), Tavistock Square, London, W.C.1.

asthma
TREATED AT MONT-DORE
THE FAMOUS FRENCH SPA
40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE
Tavistock House (North), Tavistock Square, LONDON, W.C.1.
Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).



GO CRUISING!
SCOTTISH FJORDS
SUMMER CRUISES by S.Y. "KILLARNEY" from LIVERPOOL
FARES from 9 gns.
SPECIAL CRUISE TO BRITTANY & CHANNEL ISLANDS MAY 30TH
For illustrated Folder apply—
COAST LINES LTD., Royal Liver Bldgs., Liverpool.
TRAVELLERS LTD., 29 (Lr.) Regent St., London, S.W.

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS
Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anæmia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.

THE ST. CYRES LECTURE
For the year 1931 will be delivered at the above Hospital on
Thursday, May 14th, at 5 p.m.,
By Sir THOMAS LEWIS, C.B.E., M.D., F.R.S., F.R.C.P.
Subject: "Ischaemia of Muscle as a cause of anginal pain."
Members of the Medical Profession are cordially invited.

F.R.C.S.(Edin.).
CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams should begin now.—H. C. OBERN, F.R.C.S., Surgeons' Hall, Edinb'h.

Medical and Dental Students.
Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims in Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 527, Oxford Road, Manchester.

UNIVERSITY EXAMINATION POSTAL EXAMINATION
17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.), POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1931-30 (9 Gold Medallists during 1915-30)	336
M.S.(Lond.),	1931-30 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1905-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary* 1906-30	162
	Final	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.H., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.
M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)
CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women. Hints for writing theses.
Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., [illegible] (HOLBORN 6513.)

[illegible] ECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE's house on the Chilterns.
"Pre-eminent success in the education and treatment of [illegible] and other speech defects."—"Times." "[illegible] les."—"Lancet." "[illegible] act and perfectly [illegible]."
STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/8
of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

F.R.C.S.(Edin.).
CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Preliminary Examinations.
The COLLEGE OF PRECEPTORS holds Preliminary [illegible] for Medical and Dental Students [illegible] Centres in March, [illegible] er. For Regulation [illegible] llege of Preceptors, [illegible] W.C.1.

POST-GRADUATE STUDY AT THE

NORTH-EAST LONDON POST-GRADUATE COLLEGE

The Prince of Wales's General Hospital, Tottenham, N.15.

Morning and afternoon work in Medicine, Surgery, Bacteriology, Pathology and the Special Subjects. Study-leave, Panel, and individual Courses arranged. Practitioners' general Intensive Courses (limited to 25) held at frequent intervals. Practical instruction in Anaesthetics. Clinical Assistantships.

NEXT INTENSIVE FORTNIGHTLY COURSE, DEALING WITH SPECIAL AND GENERAL SUBJECTS, COMMENCES ON MAY 11th, 1931.

Prospectus and Syllabuses on application to the Dean.

INSTITUTE OF PATHOLOGY & THERAPEUTIC RESEARCH

ST. MARY'S HOSPITAL, LONDON, W.2

A Course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the SUMMER SESSION. These Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on TUESDAY AFTERNOONS at 5 p.m. as under:—

	SUBJECT.
MAY 5th. Sir ALMROTH E. WRIGHT, M.D., F.R.S. (Principal of the Institute).	"The Organization and Methods of Medical Research."
MAY 12th. Prof. C. A. ARIENS KAPPERS, M.D. (Amsterdam University).	"The Function of the Various Layers of the Cortex."
MAY 19th. Prof. JOHN MELLANBY, M.D., F.R.S. (Prof. of Physiology, University of London).	"Recent work on Blood Coagulation."
MAY 26th. Colonel S. P. JAMES, M.D., F.R.S. (M.O. and Advisor Tropical Diseases, Ministry of Health).	"The New Method of Studying Malaria and Some of its Results."
JUNE 2nd Dr. ANDRE GRATIA (University of Brussels).	"The Schwartzman Phenomenon."
JUNE 9th. Prof. J. S. HALDANE, M.D., F.R.S. (Director of the Mining Research Laboratory, University of Birmingham).	"The Problems of Silicosis."
JUNE 16th. Dr. BERNARD HART, M.D., F.R.C.P. (Phys. Psychol. Med., Univ. College Hospital).	"The Causation of Neurotic Disorders."
JUNE 23rd. Prof. HAMILTON HARTRIDGE, M.D., F.R.S. (Prof. of Physiology, St Bartholomew's Medical College).	"The Theory of Hearing."

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,500 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

EXTEMPORE SPEAKING

(Lecture Theatre, Platform, Pulpit, Banquet).

PRIVATE LESSONS

given by Mr. CHAS. SEYMOUR

Tuition includes Fluency, Vocabulary, Retention of Ideas, Voice-Production, AUDIBILITY, Modulation, CONFIDENCE, Breathing, ELOCUTION, Accent and Phonetics.

Pr[illegible] (kindly mention B.M.J.)

401 Strand (Opposite Cecil) W.C.2 Temple Bar 2697

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to

The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5

for practical fortnightly Courses in Midwifery. The scope includes delivery of normal cases, attendance at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

SOCIETY OF APOTHECARIES OF LONDON.

MASTERY OF MIDWIFERY.

Examinations will be held beginning Monday, May 18th, and Monday, November 16th, 1931.

For Regulations apply to the REGISTRAR, Water Lane, E.C.4.

LONDON SCHOOL OF DERMATOLOGY.

St. John's Hospital for Diseases of the Skin,

Leicester Square, W.C.2.

Conducted by the Honorary Staff of the Hospital, together with the Physicians in charge of the Dermatological Departments of the London Teaching Hospitals. Lectures and Demonstrations every Tuesday and Thursday, at 5 p.m., from October to March, and four times weekly during May. Clinics daily at 2 p.m. and 6 p.m., Saturdays, 2 p.m. only. Pathological Laboratory for Instruction or Research work.

For further particulars, fees, etc., apply to J. E. M. WIGLEY, M.B., Dean.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.G. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees should be given.

J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053

The Bayliss-Starling Memorial SCHOLARSHIP.

(Founded in 1929 to commemorate Professor Sir William Maddock Bayliss and Professor Ernest Henry Starling.)

This Scholarship, of the annual value of about £120 *(with exemption from tuition fees),* tenable at UNIVERSITY COLLEGE, LONDON, may be awarded by the University College Committee.

Candidates must be Graduates of the University of London or any other University approved by the College Committee for the purpose, or Undergraduates of the University *of London or any other University approved as aforesaid of suitable standing in Science or* in Medicine.

The Scholar will be required to follow a course of study approved by the Jodrell Professor of Physiology involving a training in the principle of, and methods of research in, Physiology and Biochemistry.

Each candidate should make application, giving full particulars of his or her *academic career and qualifications for entering on the prescribed course of study,* and the names and addresses of not more than *three referees,* so as to reach the undersigned (from whom copies of the Regulations may be obtained) not later than Friday, *May 15th.*

University College, London (Gower St., W.C.1). *C. O. G. DOUIE, Secretary.*

Church Missionary Society.

The ANNUAL MEETING of the MEDICAL MISSION AUXILIARY OF THE C.M.S. will be held in the CENTRAL HALL, WESTMINSTER, at 7 p.m. on Wednesday, May 6th, 1931.

The Chair will be taken by:

HAROLD BALME, Esq., M.D., F.R.C.S., D.P.H. (Late President of the Shantung Christian University, Tsinanfu, North China);

and the speakers will be:

A. R. COOK, Esq., C.M.G., O.B.E., B.A., M.D., B.Sc. (Mengo, Uganda);

R. J. H. COX, Esq., M.B., B.S.Lond. (Peshawar, N.W. Frontier);

W. F. CHURCH, Esq., B.A., M.R.C.S., L.R.C.P., D.T.M.Brux. (Recruit, proceeding to Rhanda);

The Rev. STEWART COX, B.A. (Organizing Secretary, M.M.A.).

Tickets of admission may be obtained from the Superintendent, Loan Department, Church Missionary Society, Salisbury Square, E.C.4. There will be a small number of reserved seats at 1s. each.

POST-GRADUATE COURSE IN GENITO-URINARY DISEASES

(Free to Registered Medical Practitioners and Students).

ST. PAUL'S HOSPITAL, ENDELL STREET (*off Shaftesbury Avenue*), W.C.2.

LECTURER.	SUBJECT.	On the following dates at 4.30 p.m., 1931.
Mr. H. P. Winsbury-White.	Modern Methods of Diagnosis in the Upper Urinary Tract (*Lantern Demonstration*).	May 13th (Wed.)
Mr. Stanford Cade.	Malignant Disease of the Penis and Scrotum.	May 20th (Wed.)
Mr. Kenneth Walker.	Testicular Swellings.	May 27th (Wed.)
Mr. Frank Kidd.	Movable Kidney.	June 17th (Wed.)
Dr. Jenner Hoskin.	Cardiac Arrhythmias: Their Effect on the Operative Risk.	June 24th (Wed.)
Dr. Nathan Mutch.	Oxaluria.	July 1st (Wed.)
	No Lecture.	July 8th (Wed.)
Mr. R. H. Jocelyn Swan.	The Treatment of Growths in the Bladder.	July 15th (Wed.)
Mr. C. H. Mills.	Some Interesting Urological Cases, with Demonstration of Pathological Specimens and Radiograms of same.	July 22nd (Wed.)

No fee will be charged for attendance at the lectures, etc. Registered Medical Practitioners and Students are invited to attend any branch of the work in which they are interested. Preceding the lectures, tea will be served at 4 p.m.

EDINBURGH POST-GRADUATE COURSES IN MEDICINE

IN CONNECTION WITH THE UNIVERSITY AND ROYAL COLLEGES, 1931.

The POST-GRADUATE COURSES to be held this year comprise:

(1) A GENERAL PRACTITIONERS' COURSE from August 10th to September 5th.

(2) A GENERAL SURGICAL COURSE from August 10th to September 5th.

The composite fee for each Course will be £10 10s. for the four weeks, or £6 6s. for either the first or second fortnight.

(3) A COURSE IN OBSTETRICS AND GYNAECOLOGY AND DISEASES OF CHILDREN, from July 13th to Aug. 8th. *Fee £10 10s.*

In addition to the above, the following *Special Courses* have been arranged:

SUMMER TERM.

SURGICAL PATHOLOGY.—Mr. Wade, F.R.C.S.Ed., and others. May 12th. Fee: £4 4s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. May 4th. 12 Meetings, thrice weekly. Fee: £5 5s. Minimum number 5.
CLINICAL MEDICINE.—Medical Staff of Royal Infirmary. During May. Fee: £3 3s.

SUMMER, AUTUMN, AND SPRING TERMS.

CLINICAL SURGERY (including Radiology).—Surgical Staff of Royal Infirmary. Fee: £4 4s.
DISEASES OF EAR, NOSE, AND THROAT.—Staff of Ear, Nose, and Throat Department, Royal Infirmary. Minimum number 5. Fee: £10 10s.
VENEREAL DISEASES.—*Mr. Lees, F.R.C.S.Ed., Ward 5a, Royal Infirmary. Minimum number 5.* Fee: £10 10s.
DISEASES OF EAR, NOSE, AND THROAT.—Dr. Douglas Guthrie. This Class will meet twice weekly at the Ear and Throat Dispensary, Cambridge [Street. Fee: £4 4s.

DURING THE PERIOD OF THE GENERAL COURSES (AUGUST-SEPTEMBER).

PATHOLOGY OF THE NERVOUS SYSTEM.—Drs. F. E. Reynolds and James K. Slater. Minimum number 6. Fee: £3 3s.
DISEASES OF THE BLOOD.—Dr. Alex. Goodall. Fee: £3 3s. VACCINE THERAPY.—Dr. A. Nimmo Smith. Fee: £3 3s.
MODERN DIAGNOSTIC METHODS.—Drs. D. M. Dunlop, A. R. Gilchrist, and C. P. Stewart. Fee: £4 4s. Minimum number 6.
X-RAY PHYSICS AND ELECTRO TECHNICS.—Mr. C. Norman Kemp, B.Sc., A.I.C. Fee: £3 3s.
ULTRA-VIOLET RADIATIONS AND THEIR USES.—Dr. Robert Aitken. Fee £3 3s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. Fee: £5 5s. Minimum number 5.

Further particulars may be had on application to the Hon. Secretary, Post Graduate Courses in Medicine, University New Buildings, Edinburgh.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

HIGHER MEDICAL QUALIFICATIONS

Why not add one of the following degrees or diplomas to your name?

Diploma in Psychological Medicine.
Diploma in Laryngology, etc.
Diploma in Ophthalmology.
Diploma in Radiology.
Diploma in Tropical Medicine.
Diploma in Bacteriology.
Diploma in Public Health.
Mastery of Midwifery.

You can qualify for any of the above by our Courses of Combined Postal, Clinical, and Practical Instruction.

We Specialise in Post-Graduate Coaching for all Examinations.

Special Preparation for all Surgical F.R.C.S.EDIN-
BURGH, F.R.C.S.IRELAND, M.S.LO THE HIGHER
SURGICAL DE
You can ensure Success by taking a ination at the

MEDICAL CORRESPONDENCE COLLEGE

19, WELBECK STREET, CAVENDISH SQUARE, LONDON, W.1.

Courses always in progress for all the above Examinations, and also the 1st, 2nd & Final M.B., B.S London, and all other Universities. 1st, 2nd & Final Conjoint, Edinburgh Triple & L.M.S.S.A., D.P.H.(Cantab., Lond., Vict., Dublin, &c.). M.D.London, M.R.C.P. London and Edinburgh, M.D.Thesis (all Universities, British and Colonial). All Dental Examinations.

WHY FAIL AT ANY MEDICAL OR SURGICAL EXAM?

VALUABLE BOOK FREE!

Write at once for our "Guide to Medical Examinations," stating in which Examination you are interested, and a copy will be sent post free by return.
Medical Correspondence College, 19, Welbeck St., W.1. Welbeck 8901.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.

Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above school, commencing Monday, June 1st, 1931. Full particulars will be published later.

The Course will be repeated on subsequent dates.

Applications for copies of the syllabus, etc., may be made at once, and these will be forwarded as soon as available.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE.

FACULTY OF MEDICAL SCIENCES.

An EXAMINATION for the following will be held in June next:

1. BUCKNILL SCHOLARSHIP, value 160 gns.
2. and 3. TWO EXHIBITIONS, value 55 gns. each.

Intending candidates should apply to the undersigned for particulars and entry forms as early as possible, and not later than June 4th, 1931.

C. O. G. DOUIE,
Secretary.

University College,
London (Gower St., W.C.1).

University of London.

A Course of Six Lectures on "*Medical Aspects of Nutrition*" will be given by Professor S. J. COWELL, M.B.(Cantab.), M.R.C.P. (University Professor of Dietetics at St. Thomas's Hospital Medical School), at ST. THOMAS'S HOSPITAL, Albert Embankment, S.E.1, on Thursdays, May 7th, 14th, 21st, 28th, June 4th and 11th, 1931, at 5 p.m.

A Course of Two Lectures on "*The Treatment of Malignant Tumours by Radium Placed at a Distance*" will be given in English by Dr. MAY CHEVAL (of the Société Belge de Gynecologie et d'Obstétrique, Brussels; Corresponding Member of the Royal Academy of *Belgium*), at the WESTMINSTER HOSPITAL MEDICAL SCHOOL, 12, Caxton Street, *Westminster*, S.W.1, on Monday and Tuesday, May 4th and 5th, 1931, at 5.30 p.m. At the first Lecture the Chair will be taken by Mr. E. ROCK CARLING, M.B., B.S., F.R.C.S. (Surgeon to the Westminster Hospital); and at the second Lecture by Dr. R. T. FLINT, Ph.D., D.Sc. (Reader in Physics in the University). Lantern illustrations.

A Course of Six Lectures on "*Special Sense Physiology*" will be given by Dr. R. J. LYTHGOE, at UNIVERSITY COLLEGE, LONDON, Gower Street, W.C.1, on Thursdays, May 7th, 14th, 21st, 28th, and JUNE 4th and 11th, 1931, at 5 p.m.

A Course of Three Lectures on "*The Pharmacology and Therapeutics of Lead Colloids*" will be given by Professor W. J. DILLING, M.B., Ch.B. (Professor of Pharmacology in the University of Liverpool), at KING'S COLLEGE, LONDON, Strand, W.C.2, on May 7th, 8th, and 11th, 1931, at 5.30 p.m. At the first Lecture the Chair will be taken by Sir WILLIAM H. WILLCOX, *K.C.I.E., C.B., C.M.G.*, F.R.C.P. Lantern illustrations.

Admission free, without ticket.

S. J. WORSLEY,
Academic Registrar.

University of London.

A Course of TWO LECTURES on "*Resection of the Rectum*" will be given by Professor *G. GREY* TURNER, M.S., F.R.C.S. (Professor of Surgery in the University of Durham), in the Governors' Hall, ST. THOMAS'S HOSPITAL (Albert Embankment, S.E.1), on WEDNESDAY and FRIDAY, MAY 13th and 15th, at 5.30 p.m. At the first Lecture the Chair will be taken by Sir PERCY SARGENT, C.M.G., D.S.O., F.R.C.S. (Surgeon to St Thomas's Hospital and to the National Hospital). Lantern illustrations.

Admission free, without ticket.

S. J. WORSLEY,
Academic Registrar.

The University of Manchester.

The following Fellowships are offered for competition:

PICKINGTON FELLOWSHIP IN CANCER RESEARCH, of the value of £300 for one year.

AMY HENRIETTA WORSWICK FELLOWSHIP for the investigation of the causes and treatment of Rheumatoid Arthritis, of the value of £150 per annum for one year, renewable for a second year.

KNIGHT FELLOWSHIP for the study of the factors concerned in the development of the symptoms of Mental Disturbance, of the value of £150 for one year.

Applications should be sent not later than June 1st 1931, to the Registrar, from whom further particulars may be obtained.

University of Leeds.

POST GRADUATE COURSES IN OBSTETRICS AND ANTE NATAL WORK AT THE LEEDS MATERNITY HOSPITAL.
(105 Beds.)

Registered Medical Practitioners are admitted to the Hospital Practice, comprising Ante-natal, Labour and Isolation Departments, for periods of four weeks.

For particulars as to vacancies at the University Obstetrics Students' Hostel, adjoining the Hospital, apply to the DEAN, School of Medicine, Leeds.

June 21st, 1930.

University of Birmingham.

FACULTY OF MEDICINE.

PROFESSORSHIP OF ANATOMY.

The Council of the University invites applications for the Chair of Anatomy, vacant by the resignation of Professor J. C. BRASH.

The stipend offered is £1,100 a year. The duties will commence on October 1st, 1931.

Applications and testimonials (25 copies) may be accompanied by references or other credentials, and should be received by the undersigned on or before May 30th, 1931.

Further particulars may be obtained from—

The University, C. G. BURTON,
Birmingham. Secretary.

University of Birmingham.

Faculty of Medicine.

WILLIAM WITHERING MEMORIAL LECTURESHIP.

A Course of FIVE LECTURES on "*Some Correlations between General and Psychological Medicine*" will be delivered by Sir HUBERT BOND, K.B.E., LL.B., D.Sc., M.D., F.R.C.P., H.M. Commissioner of the Board of Control; Emeritus Lecturer at Middlesex Hospital Medical School; Consultant in Neurology and Mental Disorders to the Royal Navy; in the Large Theatre of the Medical Faculty Buildings, Edmund Street, during the Summer Term, 1931, on the following dates at 4 p.m., viz.: WEDNESDAYS, May 13th, 27th, June 10th, 17th, 24th.

Members of the Medical Profession are invited to attend.

J. C. BRASH, M.A., M.D., Dean.

University of Birmingham.

FACULTY OF MEDICINE AND SCHOOL OF DENTISTRY.

WHOLE-TIME TUTOR IN DENTAL CLINICAL SUBJECTS.

The Council invites applications for this appointment at a stipend of £800 per annum.

Twelve copies of applications, accompanied by testimonials or such other credentials as the candidate may desire to offer, should be sent to the undersigned on or before May 30th.

Further particulars may be obtained from—

Edmund St., C. G. BURTON,
Birmingham. Secretary.

Prifysgol Cymru.

UNIVERSITY OF WALES.

The following Scholarships will be awarded by the University of Wales in the session 1931-1932, provided suitable candidates are forthcoming.

The Mrs. JOHN NIXON RESEARCH SCHOLARSHIP of the value of £150 for research in the Department of Medicine and Medical Pathology.

The LORD MERTHYR RESEARCH SCHOLARSHIP of the value of £200 for research in the Department of Surgery.

The EWEN MACLEAN RESEARCH SCHOLARSHIP of the value of £150 for research in the Department of Obstetrics and Gynæcology.

Candidates should send their applications to reach the Registrar, University Registry, Cathays Park, Cardiff, not later than Sept. 1st, 1931. Particulars of the conditions of the award of the Scholarships may be obtained from the Registrar at the foregoing address.

Royal College of Surgeons of ENGLAND.

JACKSONIAN PRIZE.

Notice is hereby given that the subject for the Jacksonian Prize for the year 1932 is "*The Pathology, Diagnosis, and Treatment of Diverticula of the Large and Small Intestine.*"

Candidates must be Fellows or Members of the College, and Essays must be delivered at the College not later than December 31st, 1932.

Further particulars may be obtained on application to the Secretary.

S. FORREST COWELL,
May 1st, 1931. Secretary.

Royal College of Physicians.

Professor SAMSON WRIGHT will deliver the OLIVER-SHARPEY LECTURES at 5 p.m. on May 5th and 7th at the College, Pall Mall East, S.W.1.

Subject: "*Certain Aspects of the Reflex Control of the Nervous System.*"

Any Member of the Medical Profession admitted on presentation of card.

By Order of the President,
H. M. BARLOW,
Bedell and Secretary.

UNIVERSITY OF HONG-KONG

FACULTY OF MEDICINE.

PROFESSOR OF PATHOLOGY.

Applications are invited for the CHAIR OF PATHOLOGY.

Salary £1,000 per annum, payable while in the Colony in dollars at the average monthly rate of exchange. Free unfurnished house; first-class passage for Professor and for wife and for children (if necessary). Candidates should be between 28 and 40 years of age. The Professor will be expected to arrive in Hong-Kong by the beginning of September.

Compulsory Superannuation Fund.

Applications for the post should be addressed to the Chief Medical Officer, Ministry of Health, Whitehall, S.W.1, not later than June 24th, 1931, from whom further information can be obtained.

Rockefeller Medical Fellowships.
1931-1932.

The Rockefeller Medical Fellowships for the academic year 1931-1932 will shortly be awarded by the Medical Research Council, and applications should be lodged with the Council not later than June 1st, 1931.

These Fellowships are provided from a fund with which the Medical Research Council have been entrusted by the Rockefeller Foundation. Fellowships are awarded by the Council, in accordance with the desire of the Foundation, to Graduates who have had some training in research work in the primary sciences of medicine or in clinical medicine or surgery, and are likely to profit by a period of work at a University or other chosen centre in the United States before taking up positions for higher teaching or research in the British Isles. In special circumstances the Fellowships may be tenable at centres of research not in America.

A Fellowship held in America will have the value of not less than £350 a year for a single Fellow, with extra allowance for a married Fellow, payable monthly in advance. Travelling expenses and some other allowances will be paid in addition. Full particulars and forms of application are obtainable from the Secretary, Medical Research Council, 38, Old Queen St., Westminster, S.W.1.

Society for Relief of Widows and ORPHANS OF MEDICAL MEN.
(Founded 1788. Incorporated 1864.)

The ANNUAL GENERAL MEETING of the MEMBERS of the Society will be held at 11, CHANDOS STREET, CAVENDISH SQUARE, W., on WEDNESDAY, MAY 13th, at 5 o'clock p.m. precisely, to transact the usual business of such meetings and to elect officers for 1931-1932.

11, Chandos Street, E. J. BLACKETT,
Cavendish Square, W. Secretary.
May 1st, 1931.

The Committee of the Cancer HOSPITAL (FREE), Fulham Road, S.W.3,

desire to appoint a DIRECTOR of the RESEARCH INSTITUTE in succession to the late Professor ARCHIBALD LEITCH. The acting Director is a candidate for the post.

Applications to be made to the undersigned not later than Monday, May 11th, 1931.

J. COURTNEY BUCHANAN, Secretary.

Liverpool Heart Hospital.

Special Two Weeks' Course in CARDIOLOGY, May 4th to May 15th, 1931, from 5.30 to 5.30 p.m. Fee One Guinea.

Apply to Miss LEWIS, 14, Cook St., Liverpool.

North Ormesby Hospital,
MIDDLESBROUGH. (140 Beds.)

HOUSE SURGEON, male and unmarried, required in the middle of May. Salary £135 per annum, with board, residence, and laundry. There are three Residents. Applications, stating age, qualifications, experience (if any), with copies of three recent testimonials, should be sent to the undersigned.

GEORGE WATTS,
Secretary-Superintendent.

Wigan Infirmary.
(180 Beds—4 Residents.)

HOUSE SURGEON (male) required May 15th, for a period of six months. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.

A. STANLEY BRUNT,
April 14th, 1931. Gen. Supt. & Secretary.

County Council of Middlesex.

DISTRICT MEDICAL OFFICER AND PUBLIC VACCINATOR.

The County Council invites applications from duly qualified Medical Practitioners for the undermentioned appointments:

DISTRICT MEDICAL OFFICER,
PARISH OF HAREFIELD.

Salary £45 per annum. The officer appointed will be required to carry out his duties in accordance with the Public Assistance Order, 1930, of the Minister of Health, to reside in the district, and to name to the Council some duly qualified Medical Practitioner who will, in the case of his absence or other hindrance to his personal attendance, act in his place.

PUBLIC VACCINATOR,
PARISH OF HAREFIELD.

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination, unless such certificate was required as a condition of obtaining any diploma, licence, or degree which he possesses.

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order, 1930, of the Minister of Health. The contract will provide for the payment of the minimum fees laid down in the Order.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than May 9th.

No special application forms are provided. Envelopes must be endorsed "District Medical Officer" or "Public Vaccinator" as the case may be.

Canvassing, directly or indirectly, will be a disqualification.

Guildhall, Westminster, S.W.1. April 14th, 1931. ERNEST S. W. HART, Clerk of the County Council.

Nottinghamshire County Council

ASSISTANT MEDICAL OFFICER FOR MATERNITY AND CHILD WELFARE (Woman).

Applications are invited for the above appointment from duly qualified and registered women Medical Practitioners.

Candidates must have had at least three years' experience since qualification, have held a resident Hospital post, and have had considerable and recent special clinical experience in Obstetrics, Ante-natal work, and Diseases of Women.

The officer appointed will be required to devote her whole time to the duties of the office. She will be a member of the staff of the County Medical Officer, will work under his control and direction, and will be required to reside in a part of the County to be approved by him, and to carry out such duties as may be prescribed.

The salary will be at the rate of £650 per annum, rising by annual increments of £25 to £700, together with travelling allowances in accordance with the County Council's scale.

The engagement will be terminable by three months' notice on either side.

The successful candidate will be required to pass a medical examination.

Applications on the prescribed form (which may be obtained on application to me), accompanied by copies of not more than three recent testimonials, should be forwarded to the County Medical Officer, Shire Hall, Nottingham, not later than May 16th.

Shire Hall, Nottingham. April, 1931. K. TWEEDALE MEABY, Clerk of the County Council.

County Borough of West Bromwich.

HALLAM HOSPITAL.

RESIDENT HOUSE SURGEON.

Applications are invited from fully qualified male registered Practitioners (single) for the above appointment.

The appointment is for twelve months, but either party may give six weeks' notice terminating the engagement. The Hospital has 474 beds and is equipped with up-to-date special departments. There is a visiting staff of eight Consultant Physicians and Surgeons.

Preference will be given to applicants with previous Hospital experience.

Salary £250 per annum

Canvassing, either directly or indirectly, is strictly prohibited and will be deemed a disqualification.

Applications, stating age, experience, and qualifications, together with copies of three recent testimonials, must be forwarded to the Medical Officer of Health, 2, Lodge Road, West Bromwich, so as to arrive not later than by first post on Wednesday, May 6th.

Town Hall, West Bromwich. April 21st, 1931. ALFRED WICKHAM, Town Clerk.

Administrative County of London.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment as TEMPORARY ASSISTANT MEDICAL OFFICERS. The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendent and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the Council. The successful candidates will be required to live in the Hospitals. Male and female candidates are eligible, but lack of suitable accommodation will debar women from appointment to the Hospitals marked thus.*

The salary in each case is £250 a year, together with board, lodging, and laundry. Candidates must have held a resident appointment in a General or Maternity Hospital. The appointment will be for six months in the first instance. The duties will include the administration of Anæsthesia in Maternity cases. Vacancies exist at each of the undernamed Hospitals:

(a) * HACKNEY HOSPITAL, High Street, Homerton, E.9.
(b) MILE END HOSPITAL, Bancroft Road, Mile End, E.1.
(c) * ST. ALFEGE'S HOSPITAL, 48, Vanbrugh Hill, Greenwich, S.E.10.
(d) ST. ANDREW'S HOSPITAL, Bow, E.3
(e) * ST. JAMES' HOSPITAL, Ousley Road, Balham, S.W.12.
(f) ST. GILES' HOSPITAL, Brunswick Sq., S.E.5.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by May 15th. Canvassing disqualifies. Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the Hospital.

Candidates need not complete a separate form in respect of each Hospital, but may indicate on their application forms a preference for a particular Hospital.

MONTAGU H. COX,
Clerk of the London County Council.

Administrative County of London.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications for appointment as male ASSISTANT MEDICAL OFFICER at the Hospital and Institution below. The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council. The successful candidates will be required to live in the Hospital or Institution.

Candidates must be qualified Medical Practitioners of at least one year's standing, and have held a resident appointment in a General Hospital for at least six months.

I. ST. MARY ABBOTTS HOSPITAL, Marloes Road, Kensington, W.8. Salary £350 a year, rising by annual increments of £25 to £425 a year, together with board, lodging, and laundry. There is no accommodation for a married man.

II. CONSTANCE ROAD INSTITUTION, East Dulwich, S.E.22, under the control of the Medical Superintendent of Dulwich Hospital. Salary £250 a year, together with board, lodging, and washing. The duties are mainly Medical. The appointment will be for one year only.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by May 15th. Canvassing disqualifies. Inquiries for further details as to the nature and scope of the duties should be addressed to the appropriate Medical Superintendent.

MONTAGU H. COX,
Clerk of the London County Council.

The Radium Institute,

Riding House Street, London, W.1.

Applications are invited for the post of HOUSE SURGEON. Candidates must be fully qualified and unmarried. The appointment is for a term of six months, and the successful candidate will be required to take up his duties at an early date. The salary will be at the rate of £150 per annum, with board, lodging, and laundry.

Applications, stating age, qualifications, and experience, with copies of three recent testimonials, must be received at the Institute as early as possible.

Canvassing, either directly or indirectly, is not permitted.

THOS. A. GARNER, Secretary.

City of Birmingham.

DUDLEY ROAD HOSPITAL.

JUNIOR ASSISTANT MEDICAL OFFICERS (Male).

Applications are invited from fully qualified Medical Practitioners for appointments as Junior Assistant Medical Officers (male) at the Dudley Road Hospital.

The Hospital has [illegible] beds, divided in Infectious, M. Obstetric Sections. There are completely equipped Pathological and Biochemical Laboratories, Deep Therapy, X-Ray, Electrical Massage, Sunlight and Dental Departments. Approximately 5,000 operations are performed annually.

The appointments will be for a period of six months in the first instance, but may be extended at the end of that time for a further period not exceeding six months.

The persons appointed will be required to assist at operations, to administer anæsthetics, and undertake casualty work and such other duties as may be assigned to them by the Medical Superintendent.

The salaries attached to the appointments will be at the rate of £200 per annum, together with full residential emoluments (rations, apartments, laundry, and attendance).

The officers appointed will be required to pay to the Council all fees, allowances, and emoluments (other than the foregoing) received by them.

Further particulars of the appointments may be obtained from the Medical Superintendent, F. W. ELLIS, Esq., M.D., F.R.C.S., Dudley Road Hospital, Birmingham, to whom applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Thursday, May 7th.

F. W. ELLIS, Esq.
Dudley Road Hospital, Birmingham.

City of Birmingham.

MATERNITY AND CHILD WELFARE DEPT. CITY BABIES HOSPITAL. (85 Beds.)

A JUNIOR RESIDENT MEDICAL OFFICER is required on July 1st for a period of six months. Previous experience as a Resident Medical Officer in a Children's Hospital or in a General Hospital is desirable. Salary at the rate of £100 per annum, with board and laundry.

Apply, giving all particulars of qualifications, age, and experience, to the Medical Officer of Health, Council House, Birmingham, on or before May 18th.

West Suffolk County Council.

APPOINTMENT OF COUNTY MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER.

Applications are invited from duly registered Medical Practitioners (male), holding a Degree or Diploma in Public Health, for the above whole-time appointment. Salary £1,000 per annum, plus travelling allowance.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and to the other statutory enactments relating to the office, and the successful candidate will be required to pass a medical examination.

Particulars of appointment and forms of application may be obtained from the undersigned, by whom applications, accompanied by copies of not more than three recent testimonials, must be received not later than May 9th.

Canvassing in any form, direct or indirect, will disqualify.

Shire Hall, Bury St. Edmund's. April 25th, 1931. L. G. H. MUNSEY, Clerk of the County Council.

Borough of Colne.

MEDICAL OFFICER OF HEALTH.

The Town Council invite applications for the appointment of Medical Officer of Health, School Medical Officer and Maternity and Child Welfare Medical Officer for the Borough.

The salary of the appointment will be £800 per annum, and a motor car is available for the use of the Health Department.

Candidates must be duly qualified Medical Practitioners, and possess a recognised Diploma in Public Health and the requisite qualifications required by the Sanitary Officers Order, 1926, and the Regulations of the Ministry of Health, to whose approval the appointment will be subject.

Canvassing will disqualify a candidate.

Applications, accompanied by not more than three references or recent testimonials, must be sent to the undersigned, endorsed "Medical Officer of Health," not later than Monday, May 18th.

Town Hall, Colne. April 24th, 1931. L. A. VENABLES, Town Clerk.

Royal Victoria Infirmary,
NEWCASTLE-UPON-TYNE.

The House Committee invite applications for the office of HONORARY SURGEON to the Orthopaedic Department.

Candidates must be registered Graduates in Surgery of a University recognised by the General Council of Medical Education and Registration of the United Kingdom, or registered Fellows, Members, or Licentiates of one of the Royal Colleges of Surgeons of the United Kingdom, provided that they are practising as Surgeons and not as General Practitioners. Preference will be given to candidates who are both University Graduates and Fellows of one of the Royal Colleges of Surgeons of the United Kingdom.

Candidates are required to produce evidence of training and experience in Orthopaedic work.

The elected candidate will take no part in the general surgical work of the Hospital.

Applications, stating age, experience, and accompanied by three recent testimonials, should be addressed to the House Governor and Secretary not later than May 22nd.

Personal canvassing will be considered a disqualification for office. Candidates may, if they so desire, forward to each member of the House Committee a copy of their application and testimonials.

S. DUNSTAN,
April 27th, 1931. House Governor & Sec.

New Sussex Hospital for Women
AND CHILDREN (INCORPORATED), BRIGHTON. (50 Beds.)

The Council of Management invites applications from qualified Medical Women for the following posts:

(1) HOUSE PHYSICIAN to take up duty on May 15th.
(2) HOUSE SURGEON to take up duty on June 15th;
(3) HONORARY ASSISTANT OPHTHALMIC SURGEON to attend each Friday afternoon.

Honorarium for (1) and (2) at the rate of £50 per annum, with board, residence, and allowance for laundry.

Applications, with copies of three recent testimonials, to reach the Secretary on or before May 11th

M. F. LOCKWOOD, Secretary.

Victoria Hospital, Worksop.

HOUSE SURGEON required to take up duties May 16th Candidates must be unmarried, fully qualified and registered, and good Anaesthetist

Salary at the rate of £170 per annum, with furnished rooms, board, and laundry. Beds 56.

There is a Dispensary attached to the Hospital, which is under the charge of the House Surgeon The appointment is for six months, renewable at the discretion of the Board.

Applications, stating age, experience, etc., with copies of three recent testimonials, to be sent to the undersigned not later than May 11th

JAMES BOOTHROYD, Secretary.

Liverpool Hahnemann Hospital,
Hope Street. (52 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER to the above Hospital, which falls vacant on May 18th next. Only one R M O kept.

Duties include occasional anaesthetics and assisting at operations, general, gynaecological, ophthalmic, and aural.

Appointment is for six months, renewable. Salary at the rate of £100 per annum.

Knowledge of Homoeopathy desirable, but not essential

Apply, stating age sex, nationality, and previous experience, and enclosing copies of testimonials to the Registrar, before May 11th.

Liverpool Hahnemann Hospital,
HOPE STREET, LIVERPOOL.

Applications are invited for the post of CLINICAL ASSISTANT to the Ophthalmological Department of the above Hospital. One half-day per week.

Apply stating age experience, sex, and enclosing copies of testimonials, to the Registrar.

Victoria Hospital, Burnley.
(120 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN (male). The duties also include the giving of a certain number of anaesthetics. The appointment is for six months from May 1st, and carries a salary of £150 per annum, with board, etc. This Hospital is approved by the London University for the purpose of the M.B. and M.S. examinations.

Applications, with copy testimonials, should be addressed to the undersigned forthwith.

GEO. W. COOLING,
Secretary-Superintendent.

Hospital of St. Cross, Rugby.
(114 Beds)

THREE RESIDENT MEDICAL OFFICERS (Males) REQUIRED.

Applications are invited for the posts of:

First Resident Medical Officer, qualified. Salary at the rate of £150 per annum, with full board, etc., to commence duties immediately.

Second Resident Medical Officer, qualified. Salary at the rate of £125 per annum, with full board, etc., to commence duties immediately.

Third Resident Medical Officer, qualified. Salary at the rate of £100 per annum, with full board, etc. Commence immediately.

Six months' appointments, and eligible on completion of service for extension or other resident's posts.

Applications, stating age, nationality, and full details, with copies of three recent testimonials, to be sent to the undersigned.

W. COCKBURN,
Superintendent and Secretary.

Poplar Hospital for Accidents,
East India Dock Road, E.14.

Applications are invited for the post of SENIOR RESIDENT OFFICER.

Salary £200 per annum, with board, residence, and laundry, plus fees £75 per annum as Anaesthetist to Dental Clinic for L.C.C. School Children. Appointment for twelve months.

Applicants must be Fellows of the Royal College of Surgeons. Post offers considerable scope for Surgical practice.

Applications, stating age, qualifications, and enclosing copies of three recent testimonials, to be sent to the undersigned on or before May 22nd.

D. H. LINDSAY,
House Governor & Secretary.

Cheyne Hospital for Children,
Cheyne Walk, Chelsea, S.W.3.

Applications are invited for the post of HONORARY SURGEON for Diseases of the Throat, Nose, and Ear.

The duties are chiefly of a consultative nature, there being no Otological beds in the Hospital. Further particulars can be obtained from the Secretary.

Candidates should have had special experience in this branch of surgery, and should be Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland.

Applications, in duplicate, accompanied by copies of three testimonials, must reach the undersigned not later than May 6th.

R. WILFRED A. ELLISTON,
Secretary.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited from Medical Women for the post of ASSISTANT MEDICAL OFFICER in the V.D. Department (female). Salary at the rate of £350 per annum, part-time. Intending candidates should submit applications, stating age and experience, with copies of three recent testimonials, to the undersigned on or before May 16th.

REGINALD R. GARRATT,
Secretary.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

[illegible]ly qualified CLINICAL [illegible]fare Department [illegible]ding candidate [illegible]the [illegible]mer-

[illegible] Gray's Inn Road, W.C.1.

REGINALD R. GARRATT,
Secretary.

Queen's Hospital, Birmingham.

Applications are invited for the post of HOUSE PHYSICIAN at the BIRMINGHAM AND MIDLAND NERVE HOSPITAL (associated with Queen's Hospital).

Salary at the rate of £70 per annum, together with board, apartments, and laundry.

Applications in the first instance to be made to the undersigned at once, from whom further information can be obtained.

G. HURFORD,
Birmingham. House Governor,
April 25th, 1931. Queen's Hospital.

Queen's Hospital, Birmingham.
(MEDICAL SCHOOL.)

Required, May 1st, CASUALTY HOUSE SURGEON. Salary £70 p.a., together with board, apartments, and laundry.

Apply to the undersigned.

G. HURFORD.
House Governor.

Hull Royal Infirmary.
(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in Laryngology and Otology.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications, with copies of testimonials, should be sent immediately to the undersigned.

R. J. CARLESS,
March 16th, 1931. House Governor.

Cardiff Royal Infirmary.
(Associated with Welsh National School of Medicine.)

Applications are invited for the post of HOUSE SURGEON to the Ophthalmic Department of the above Institution. The post is tenable for six months, but may be extended for a further six months. This post is open to ladies.

Salary is at the rate of £75 per annum, with board-residence. Candidates must have experience of Refractions.

Application forms may be obtained from the undersigned, and should be returned completed, with copies of recent testimonials, at the earliest possible date, as the appointment commences immediately.

R. ARMSTRONG,
April 15th, 1931. Medical Supt.

Chesterfield and North Derbyshire Royal Hospital.
(190 Surgical and Medical Beds.)

CASUALTY OFFICER (DEPUTY RESIDENT SURGICAL OFFICER).

Applications are invited from fully qualified men for the above post. The appointment is for six months. Candidates must have held previous Hospital appointments.

Duties include House Surgeon to the Ear, Nose, and Throat Department.

Salary at the rate of £200 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, to be sent to the undersigned on or before May 7th.

G. SUNNUCK,
April 28th, 1931. Supt. & Secretary.

The Royal Infirmary, Sheffield.

A vacancy having occurred in the Honorary Surgical Staff, notice is hereby given that, in accordance with Rule No. 32, the Election Committee with whom the appointment rests will proceed to fill up the vacancy at a special meeting to be held at the Royal Infirmary on Tuesday, May 5th, at 11.45 o'clock a.m. Candidates are requested to forward applications, with diplomas and testimonials, to the undersigned on or before Saturday, May 2nd.

JNO. W. BARNES, F.C., I.S.S.,
Board Room. Gen. Supt. & Sec.
April 22nd, 1931.

N.B.—The present Senior Assistant Surgeon will be an applicant for the post.

Oldham Royal Infirmary.

HOUSE PHYSICIAN and CASUALTY OFFICER required forthwith. Appointment tenable for a period of six months. Salary at the rate of £175 per annum, with board, residence, and laundry. Successful candidate will be required to assist the Honorary Pathologist, and will be eligible for re-appointment.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Oxford Eye Hospital.

Applications are invited for the post of HOUSE SURGEON (male or female), which will be vacant the middle of June.

The appointment is for one year. Salary at the rate of £150 per annum, with board, rooms, and laundry, and part fees for School Refraction work.

Applications, with copies of testimonials, stating age, nationality, and experience, should be sent to the Secretary, Oxford Eye Hospital, Walton Street, Oxford.

Stamford, Rutland, and General Infirmary.

HOUSE SURGEON (male), English or Scot, wanted immediately. Must be good Anaesthetist. Salary £200 a year all found. Appointment for six months. Apply, Dr HUTTON-ATTENBOROUGH, Stamford, Lincs.

County Armagh Mental Hospital,
NORTHERN IRELAND.

ASSISTANT MEDICAL OFFICER.

The Committee of Management of above Mental Hospital, at its meeting on May 18th, will consider applications for vacant post of Assistant Medical Officer. Commencing salary £350 per annum, and, on the candidate obtaining the Diploma of Psychological Medicine, will rise by annual increments of £25 to £450 per annum.

The post carries allowances consisting of furnished apartments, rations, fuel, light, attendance, and fruit and vegetables for one person, all valued for pensionable purposes at £100 per annum.

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Candidates must be duly qualified and registered, unmarried, and not over 30 years of age. Preference will be given to a candidate holding the D.P.M. or with previous experience in Mental work.

The appointment will be made in the first instance for a probationary period of six months.

Applications, stating qualifications, with copies of recent testimonials, to be furnished to the Resident Medical Superintendent not later than May 14th.

Radcliffe Infirmary and County
HOSPITAL, OXFORD.

Applications are invited for the post of RESIDENT MEDICAL OFFICER at the Osler Pavilion (Tuberculous Sanatorium), Headington, Oxford, as from June 1st next.

Appointment will be for six months in the first instance. Salary at the rate of £120 per annum.

Candidates must have a practical knowledge of X-Ray work, Artificial Pneumothorax, and Modern Methods of Treatment.

Applications, with copies of testimonials, must be forwarded to the undersigned, at the Radcliffe Infirmary, not later than May 16th.

A. G. F. SANCTUARY, Administrator.
April 27th, 1931.

The Liverpool Eye and Ear
INFIRMARY,
MYRTLE STREET, LIVERPOOL.

Applications are invited for the post of HOUSE SURGEON to the Ophthalmic Department of the above Institution.

Salary £120 per annum, with board and lodging.

Applications, stating age and qualifications, together with copies of not more than three recent testimonials, should be sent in immediately to CHAS. W. WRIGHT,
9, Harrington Street.

St. Mary's Hospital for Women
AND CHILDREN, Plaistow, E.13.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (now vacant), male or female. The appointment is for six months. Salary at the rate of £175 per annum and £5 allowance for laundry. Board and residence provided. The duties are mainly Surgical. Personal canvassing not desired.

Applications, with copies of three recent testimonials, to be sent to the undersigned immediately

A. ERNEST WILKES, Secretary.

The Royal Infirmary,
SUNDERLAND. (290 Beds.)

Wanted, beginning of June, HOUSE PHYSICIAN (male). Salary £140 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

The Kidderminster and District
GENERAL HOSPITAL. (120 Beds.)

HOUSE SURGEON required.

Salary £150 per annum, with residence, board, and laundry. Applications, with not more than three testimonials, to be sent to the Assistant Secretary, Miss SUSAN SMITH, South Cliff, Kidderminster

The Royal Alexandra Infirmary,
PAISLEY.

RESIDENT HOUSE SURGEON required for six months from May 1st. Honorarium at the rate of £100 per annum, with board, washing, etc. Apply to Senior Resident *House Physician*.

St. Bartholomew's Hospital,
ROCHESTER. (126 Beds.)
Rochester, Chatham, Gillingham, & District.

The House and Finance Committee invite applications for the post of RESIDENT SURGICAL OFFICER, which will become vacant on July 1st.

Candidates must be unmarried, qualified, and registered Medical Men. It is desirable that candidates shall have *previously held a House Surgeon's appointment*. The post is partly administrative. The appointment is for six months, renewable for a further six months at the discretion of the Committee. Salary is at the rate of £225 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, experience, etc., accompanied by copies of three recent testimonials, to reach the Secretary not later than May 14th.

The General Infirmary at Leeds.

HOUSE SURGEON IN THE RADIO SURGICAL DEPARTMENT.

Applications are invited for the above post. Applicants must be fully qualified Medical Men. Salary £100 per annum, with board, residence, and laundry.

Applications should be forwarded to the undersigned not later than May 22nd, *from* whom further particulars may be obtained.

The appointment is tenable for six months and subject to renewal.

H. KINGSLEY PEARCE,
April 27th, 1931. General Manager.

Hospital for Epilepsy and
PARALYSIS, Maida Vale, W.

HONORARY ASSISTANT PHYSICIAN required.

Applications are invited for the post of Honorary Assistant Physician.

Candidates must be *Fellows or Members* of the Royal College of Physicians and Graduates of a University.

Applications, giving age and full particulars and copies of three recent testimonials, must reach the undersigned by May 18th.

There is an honorarium attached to the appointment.

H. W. BURLEIGH,
Secretary & Gen. Supt.

The Hospital for Epilepsy and
PARALYSIS, Maida Vale, W.9.

TWO MEDICAL REGISTRARS required.

Applications are invited for two posts of Medical Registrar falling vacant in June.

The appointments are for one year, renewable for a further year. Honorarium £100.

Applications, which should be accompanied by copies of not more than three recent testimonials, should reach me by May 18th.

H. W. BURLEIGH,
Secretary & General Supt.

Durham County Hospital.
(75 Beds.)

HOUSE SURGEON required immediately (two kept). Salary £150 per annum, with board and lodging.

Applications, with copies only of testimonials, stating age and when at liberty, to be sent to WM. R. WILSON, Secretary, 79, Saddler Street, Durham.

East London Hospital for
CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.1.

Applications are invited for the post of RESIDENT CASUALTY OFFICER (male), vacant on June 1st. Salary at the rate of £125 per annum, with board, residence, and laundry provided. Applications, with testimonials, should reach the undersigned not later than May 16th.

W. M. WILCOX, Secretary.

Great Yarmouth General
HOSPITAL. (72 Beds.)

Applications are invited for the post of HOUSE SURGEON (one of two appointments). Applicants must be male and unmarried. Salary at the rate of £140 *per annum, with board,* residence, and laundry.

Applications, stating age and qualifications, together with copies of three recent testimonials, to be forwarded to the undersigned.

FRANK JENNINGS, Secretary.

Herzl Moser Hospital,
Leopold Street, LEEDS.

RESIDENT MEDICAL OFFICER required immediately. Salary £100 per annum. Ample time for post-graduate study. Apply Secretary as above.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

An OPHTHALMIC SURGEON is required on June 1st.

Gentlemen, who must be Fellows of the Royal College of *Surgeons* of England, are invited to send in their applications to the Secretary, with copies of not more than three testimonials written specially for the *purpose*, at or before 12 o'clock on Monday, May 18th.

All candidates will be required to attend before the Joint Committee on Wednesday, May 20th, at 5 p.m. precisely.

Forms of application and copies of the rules can be obtained from the *Secretary*.

By Order of the Committee of Management.
JAMES McKAY,
April, 1931. Secretary.

Norfolk and Norwich Hospital,
NORWICH.

Applications are invited for the post of CASUALTY OFFICER and HOUSE SURGEON (with charge of 25 beds).

Salary £120, with board, residence, and laundry. Candidates (male), who must possess registered qualifications, should forward applications, stating age, nationality, etc., together with copies of testimonials, to the undersigned not later than Tuesday, May 12th.

FRANK INCH,
House Governor & Secretary.
May 1st, 1931.

District Infirmary,
ASHTON-UNDER-LYNE.
(General Hospital, 200 Beds, mainly Surgical)

Wanted, a HOUSE SURGEON. Six months' appointment, renewable.

Salary at the rate of £150 per annum, with board, residence, and laundry.

The resident Staff comprises a Resident Surgical Officer and three House Surgeons.

Applications, with testimonials, to be sent at once to the undersigned.

FRANK OLIVER,
General Superintendent and Secretary.
April 27th, 1931.

Kidderminster Amalgamated
FRIENDLY SOCIETIES AND GENERAL MEDICAL AID ASSOCIATION.

The Committee are prepared to receive applications for the post of MEDICAL OFFICER of the above Institution. Salary £760 per annum, house (rates free), car, and allowances.

Applications, with testimonials, should reach the Secretary not later than May 4th.

State age (married or single).

C. LINCOLN PORTER, J.P.,
159, Offmore Road, Secretary.
Kidderminster, Worcs.

Royal Northern Hospital,
Holloway, N.

Applications are invited for the post of HOUSE SURGEON (male). The appointment is for nine months (six months as House Surgeon and three months as Casualty Officer) from June 15th. Salary at the rate of £70 per annum, with board, residence, and laundry.

Applications, with copies of *testimonials*, should be sent by May 9th to the undersigned, from whom forms of application and rules can be obtained.

GILBERT G. PANTER, Secretary.

Hospital of St. John and
ST. ELIZABETH,
60, Grove End Road, N.W.8.

Applications are invited for the post of RESIDENT HOUSE PHYSICIAN (male). The appointment will be for six months from June 1st. Salary at the rate of £100 per annum, with full board. *Applications*, together with three testimonials, should reach the undersigned not later than first post on Monday, May 4th.

F. DUDLEY HOBBS, B.A., Secretary.

Hospital for Women at Leeds.

HOUSE SURGEON, to commence duties immediately. Salary at the rate of £50 per annum, with board, quarters, and laundry. The appointment is for six months. Applications, with copies of testimonials, should be sent to the undersigned at once.

BRYAN JEAFFRESON,
Hon. Secretary to Faculty.

Ilford Isolation Hospital.

RESIDENT MEDICAL OFFICER
ts must have held
an Isolation Hos-
num, with residential
to be made to
al Officer of Health,
Public Health Offices, Ilford.

Borough of Stalybridge.

AMENDED ADVERTISEMENT.

MEDICAL OFFICER OF HEALTH.

Applications are invited for the position of Medical Officer of Health, School Medical Officer and Maternity and Child Welfare Medical Officer for the Borough.

The salary will be at the rate of £850 per annum, payable monthly.

Candidates must be duly qualified Medical Practitioners and possess a recognised Diploma in Public Health and the requisite qualifications required by the Sanitary Officers Order, 1926, and the regulations of the Ministry of Health, to whose approval the appointment will be subject.

The successful candidate will be required to undertake all the duties connected with the respective offices, including the Refraction work at the Clinic, and also act as Police Surgeon.

The officer appointed will be required to reside in the Borough and devote the whole of his time to the duties of the office and not engage in private practice.

Office accommodation will be provided.

The appointment will be subject to the provisions of the Local Government and Other Officers' Superannuation Act, 1922, and may be determined at any time by three months' notice in writing.

Applications must state age and experience, accompanied by copies of not more than three recent testimonials, and be sent to the undersigned not later than Saturday, May 9th.

Canvassing will disqualify a candidate.

FRANK H. WORSLEY,
Town Clerk.

County Borough of Walsall.

MANOR HOSPITAL. (270 Beds.)

ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified gentlemen for the appointment of Junior Resident Assistant Medical Officer. The appointment will be for a period of twelve months, and the salary at the rate of £150 per annum, together with the usual residential emoluments.

The person appointed will be required to act under the general direction of the Medical Officer, from whom particulars of the appointment may be obtained.

Application, stating age, professional qualifications, and experience, accompanied by not more than three copies of recent testimonials, should be sent to the undersigned at once.

C. S. FOTHERGILL,
29, Leicester St., Walsall. Public Assistance Officer.
April 24th, 1931.

County Borough of Croydon.

(PUBLIC ASSISTANCE DEPARTMENT.)

APPOINTMENT OF RESIDENT ASSISTANT MEDICAL OFFICER (Male).

The Council invite applications for the above appointment at their Mayday Road Hospital.

The Resident Medical Staff consists of the Medical Superintendent, Assistant Medical Superintendent and Surgical Officer, Obstetrical Officer, Medical Officer and Assistant Medical Officer. The Hospital has upwards of 500 beds and offers excellent opportunities for further experience containing a variety of good clinical material.

Candidates must have held a resident Hospital appointment, and be experienced in Anæsthetics. Further particulars may be obtained from the Medical Superintendent.

Salary £300 per annum, with full residential emoluments valued at £140.

Application forms may be obtained of the undersigned and should be returned completed, together with copies of three recent testimonials, not later than Friday, May 15th.

JOHN M. NEWNHAM,
Public Assistance Offices, Mayday Road, Thornton Heath. Town Clerk.
April 27th, 1931.

Essex County Mental Hospital, BRENTWOOD.

RESIDENT ASSISTANT MEDICAL OFFICER required (male). Under 35 years. Previous Medical hospital experience not essential. Commencing salary £310 per annum, rising to £360 by annual increments of £25, subject to deduction under the Asylums Officers Superannuation Act and a charge of £2 2s. per week for board, lodging, and washing. If a Diploma in Psychological Medicine is held or obtained an additional £50 per annum.

Applications, giving full particulars of qualifications, accompanied by copies of three recent testimonials, to be sent to the Medical Superintendent as soon as possible.

Surrey County Council.

MENTAL HOSPITALS COMMITTEE.

APPOINTMENT OF JUNIOR ASSISTANT MEDICAL OFFICER.

Applications are invited for the post of male Junior Assistant Medical Officer (unmarried) in the Surrey County Mental Hospital Service. Commencing salary, which will be subject to statutory deductions under the provisions of the Asylums Officers Superannuation Act, 1909, will be £350, rising by annual increments of £25 to a maximum of £450 per annum, together with apartments, board, laundry, and attendance, valued for superannuation purposes at £150 per annum. The person appointed will also be paid, in addition to his salary, the sum of £50 per annum if he holds the Diploma of Psychological Medicine. The appointment will be subject to termination by one calendar month's notice on either side.

Applications, stating age, accompanied by copies of three recent testimonials, and enclosed in an envelope endorsed "Mental Hospitals Junior Medical Officer," must reach me not later than 12 noon on Wednesday, May 13th.

DUDLEY AUKLAND,
County Hall, Kingston-upon-Thames. Clerk to the Committee.
April 28th, 1931.

Borough of Dover.

ASSISTANT MEDICAL OFFICER OF HEALTH.

The Corporation of Dover invite applications for the above appointment from Medical Practitioners between 30 and 40 years of age who hold a Diploma in Sanitary Science. Salary £700, rising to £750.

The applicant appointed will be required to commence his duties as soon as possible, and to devote his attention principally to work under the Ahens Order, 1920. Colloquial French and German will be a recommendation.

Further details of the duties and terms and conditions of the appointment may be obtained of the undersigned, to whom applications, accompanied by copies of testimonials, must be delivered by May 15th.

R. E. KNOCKER,
Town Clerk's Office, Brook House, Dover. Town Clerk.
April 27th, 1931.

East Sussex County Mental HOSPITAL, HELLINGLY.

JUNIOR ASSISTANT RESIDENT MEDICAL OFFICERS (Two).

Applications are invited from the above posts from duly qualified registered gentlemen (unmarried).

Salary £350 a year, rising by four annual increments of £25 to £450, together with board, lodging, washing, and attendance, valued for superannuation purposes at £90 a year. An additional £50 a year will be paid to any candidate appointed who holds the Diploma in Psychological Medicine, or a similar Diploma.

Preference will be given to those holding a University degree.

The appointments are subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, marked "A.M.O.," giving particulars of previous experience and copies, of not more than three testimonials (nd hoc), should be addressed to the Medical Superintendent not later than May 15th.

The Belgrave Hospital for CHILDREN (Incorporated), 1, Clapham Road, S.W.9.

The Committee of Management invite applications for the post of HOUSE SURGEON, which will become vacant on May 31st next.

Applicants (men) must be fully qualified and registered. The appointment is for six months, with board, residence, and washing provided. Salary at the rate of £100 per annum.

Applications, with copies of testimonials, stating age, should be forwarded on or before Thursday, May 14th, to the Secretary.

Bradford Royal Infirmary.

One HOUSE PHYSICIAN and One HOUSE SURGEON (male) wanted for June 1st.

Candidates must be single and legally qualified. Salary £150 per annum each, with board, residence, and washing.

There are 215 beds and six resident Officers.

Applications, stating age, qualifications, and previous experience (if any), with copies of recent testimonials, to be received by the undersigned not later than Tuesday, May 5th.

J. J. BARRON,
April 11th, 1931. Secretary-Supt.

County Borough of Barrow-in-FURNESS.

WOMAN ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners for the position of Woman Assistant Medical Officer. The duties will be in connection with the Maternity and Child Welfare work of the Borough and the Medical Inspection of School Children.

Previous experience of Ante-natal and Maternity and Child Welfare work is essential.

The salary will be at the rate of £500 per annum, rising by annual increments of £25 to £700 per annum.

The officer will be required to work under the direction and supervision of the Medical Officer of Health, and to devote whole-time service to the Corporation.

Copies of duties may be obtained on application to the Medical Officer of Health.

Applications, stating age, qualifications, and experience, accompanied by copies of three recent testimonials, and endorsed "Assistant Medical Officer," must be delivered at the office of the undersigned not later than Thursday, May 14th.

W. A. CHISLETT,
Town Hall, Barrow-in-Furness. Town Clerk.
April 27th, 1931.

Corporation of Greenock.

PUBLIC HEALTH DEPARTMENT.

Applications are invited from lady Medical Practitioners for the position of LOCUM TENENS for periods of two weeks during June, and six weeks during July and August.

Duties include Clinical work under the maternity and child welfare and venereal diseases schemes of the Corporation.

Remuneration will be at the rate of Seven Guineas per week, with board and residence during August.

Applications, stating experience, should be lodged with the Medical Officer of Health, Terrace Road, Greenock, on or before Saturday, May 16th.

London Jewish Hospital, Stepney Green, E.1.

(General Hospital. 108 Beds.)

Applications are invited for the following posts:

MEDICAL REGISTRAR. Honorarium at the rate of £100 per annum.

SURGICAL REGISTRAR. Honorarium at the rate of 60 guineas per annum.

EAR, NOSE, AND THROAT REGISTRAR. Honorarium at the rate of 60 guineas per annum.

Particulars of the above appointments can be obtained from the Secretary, to whom candidates must send six copies of their application, with copies of three recent testimonials, not later than Tuesday, May 19th.

RESIDENT MEDICAL OFFICER. Salary at the rate of £150 per annum, with board and residence. Appointment for six months.

JUNIOR RESIDENT MEDICAL OFFICER. Salary at the rate of £100 per annum, with board and residence. Appointment for six months.

CASUALTY OFFICER (non-resident). Salary at the rate of £150 per annum, with luncheon and tea. Appointment for six months. The holder will be required to attend the Out-patient Department daily from Monday to Friday at 9 a.m.

Applications, with copies of three recent testimonials, to be sent to the Secretary on or before Tuesday, May 19th. The successful candidates will be required to take up their offices on June 1st.

The Gloucestershire Royal INFIRMARY AND EYE INSTITUTION, GLOUCESTER.

(155 Beds—4 Residents.)

Applications are invited for the post of SECOND HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned. The elected candidate will be required to enter upon his duties at once.

F. J. SYMONS, Secretary.
April 28th, 1931.

The Royal Aberdeen Hospital for SICK CHILDREN.

A CLINICAL ASSISTANT is required in the Department of Anæsthetics. Honorarium £50. The post will be tenable for one year. Applications from qualified men to be addressed to Mr. A. S. R. Bates, Hon. Secretary, 12, Dee Street, Aberdeen.

City and County of Kingston-upon-Hull.

HULL MUNICIPAL MATERNITY HOME AND INFANTS' HOSPITAL.

JUNIOR RESIDENT MEDICAL OFFICER (Woman).

The Corporation invite applications from unmarried or widowed Women Medical Practitioners for the appointment of Junior Resident Medical Officer at the Maternity Home and Infants' Hospital, Hedon Road, Hull.

Salary is at the rate of £100 per annum, together with board, washing, and residence at the Maternity Home.

The appointment is limited to a period of one year.

The Medical Officer appointed will be given every opportunity of obtaining post-graduate experience in abnormal cases of midwifery, in the treatment of dietetic errors in children, and in the treatment of venereal diseases in pregnant women.

She will be required to devote the whole of her time to the duties of the appointment, which will also include opportunities for occasional attendance, for the sake of experience, at Ante-natal, Post-natal, and other clinics. She will also act as Anaesthetist at the Maternity Home.

Conditions of appointment and forms of application may be obtained from the undersigned

Completed applications (in an envelope endorsed "Junior Resident Medical Officer, Maternity Home"), together with copies of three recent testimonials, must be received not later than mid-day on Wednesday, May 13th.

Health Department, Guildhall, Hull. W. M. FRAZER, Medical Officer of Health.

Borough of Ilford.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Corporation invites applications from legally qualified Medical persons of both sexes for the office of Assistant Medical Officer of Health, for duties in connection with Maternity and Child Welfare work, School Medical Inspection, and General Public Health work. Candidates for the appointment must have had special experience in Midwifery and Ante-natal work since qualification, and subject to this, preference will be given to candidates who possess the Diploma of Public Health or similar qualification, and have had definite experience in Children's Diseases.

The commencing salary of the officer will be £600 per annum (no bonus), rising by one annual increment of £50, and two annual increments of £25, to £700 per annum.

The person appointed will be required to devote whole time to the duties of the office, to reside within easy distance of the Corporation's Maternity Home, and to enter into an agreement for the due performance and fulfilment of all the duties and conditions governing the appointment. The appointment will be subject to a satisfactory medical examination, and to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications, which must be made on forms obtainable (with list of duties) from the undersigned, accompanied by copies of three recent testimonials (which will not be returned), endorsed "Assistant Medical Officer of Health," must be received at my office, at the Town Hall, Ilford, not later than Thursday, May 14th.

Canvassing members of the Council, directly or indirectly, is prohibited and will disqualify.

By Order,
ADAM PARTINGTON,
Town Clerk.
Town Hall, Ilford.
April 20th, 1931.

Macclesfield General Infirmary.
(100 Beds)

Wanted, SECOND HOUSE SURGEON.
Salary £150 per annum, with board and residence.

Candidates must be legally qualified, and have had experience in the administration of Anaesthetics. Appointment for six months.

Applications, stating qualifications, and enclosing copies of three testimonials, should be sent to the undersigned

A. E. HANRAHAN, Secretary.

Rotherham Hospital.
(130 Beds)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £150, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Royal Chest Hospital,
City Road, E.C.1.
(Royal Northern Group of Hospitals.)

Applications are invited for the following posts, vacant on May 16th:

RESIDENT MEDICAL OFFICER. The appointment is for six months, when re-election is required. Salary at the rate of £150 per annum, with board, residence, and laundry.

HOUSE PHYSICIAN. The appointment is for six months. Salary at the rate of £100 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be sent on or before May 7th to the undersigned, from whom forms of application, rules, and further particulars can be obtained.

GILBERT G. PANTER,
Secretary.
Royal Northern Hospital, N.7.

St. Bartholomew's Hospital,
E.C.1.

OFFICE OF ASSISTANT PHYSICIAN-ACCOUCHEUR.

Notice is hereby given that a meeting of the Election Committee will be held on Tuesday, June 2nd, at 4 o'clock in the afternoon, to appoint an Assistant Physician-Accoucheur to this Hospital.

Candidates, who must be Members or Fellows of the Royal College of Physicians of London or Fellows of the Royal College of Surgeons of England, are required to lodge 50 copies of undersigned on or before Saturday, May 16th.

THOMAS HAYES,
April 23rd, 1931. Clerk to the Governors.

South Devon and East Cornwall Hospital, Plymouth. (240 Beds.)

RESIDENT SURGICAL OFFICER (male); HOUSE SURGEON (male).

Salary £150 and £100 per annum respectively, with board, residence, and laundry. Appointments are tenable for six months, and subject to renewal. Candidates must be registered under the Medical Acts.

Applicants must state if, in the event of their being unsuccessful in one appointment, they are willing to offer themselves for the other.

Applications, stating age and qualifications, together with copies of recent testimonials, to reach the undersigned by May 8th.

ARTHUR R. CASH,
April 20th, 1931. Gen. Supt. & Sec.

Quarrier's Homes and Bridge of Weir Sanatorium.

RESIDENT FEMALE MEDICAL OFFICER required, to commence duty on June 1st. Salary at rate of £200 p.a., with rooms, board, and laundry.

State qualifications and experience, and enclose testimonials.

Apply Medical Superintendent, Sanatorium, Bridge of Weir.

Rotherham Hospital.

Wanted, HOUSE PHYSICIAN (male), qualified. Salary £180 per annum, with board, residence, and laundry, to have charge of Out-patients, administer Anaesthetics, and assist Honorary Physician.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Swansea General and Eye Hospital. (316 Beds.)

CASUALTY OFFICER required. Gentleman, single. Salary £200 per annum, with board, residence, and laundry. Duties to commence immediately.

Applications, stating [illegible] qualifications, and experience, with copies of recent testimonials, to be sent to the undersigned.

O. C. HOWELLS,
Secretary-Superintendent.

London Hospital, E.1.

Applications are invited for the post of ASSISTANT PHYSICIAN to the Children's Department of this Hospital.

Candidates must be Members of the Royal College of Physicians in London.

Applications should arrive not later than on May 16th.

Further particulars may be obtained from the House Governor.

ARTHUR G. ELLIOTT,
April 20th, 1931. House Governor.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIME, Secretary.

The General Hospital, Birmingham.

OPEN APPOINTMENTS.

Applications are invited for the following resident appointments, vacant immediately:

ANAESTHETISTS (Two). Salary £120 p.a.
HOUSE SURGEONS (Two). Salary £70 p.a.

Applications, giving full details of qualifications, and accompanied by testimonials (if desired), should be sent to the undersigned as soon as possible.

A. H. LEANEY, House Governor.

Wrexham and East Denbighshire War Memorial Hospital.
(109 Beds.)

TWO RESIDENT HOUSE SURGEONS (male or female) required by the above Hospital to commence immediately. Appointment for a period of not less than six months. Salary £150 per annum, with board and laundry.

Applications, stating age, nationality, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned immediately.

LESLIE SPENCER, Secretary.

Nuneaton General Hospital.
(80 Beds.)

HOUSE SURGEON (male or female) required on June 1st next. Salary £120 per annum for first six months, £150 per annum for any subsequent period, plus board and lodging and certain emoluments.

Apply before May 11th to Secretary to Medical Staff at the Hospital.

Royal West Sussex Hospital, Chichester.

Applications are invited for the appointment of HONORARY EAR, NOSE, AND THROAT SURGEON (the present Honorary Assistant to the Department is an applicant for the post).

Applications should be sent to me not later than Monday, May 11th.

HERBERT S. AYLMORE, Secretary.

Manchester Ear Hospital,
Grosvenor Square, All Saints'.

The Board invite applications for the post of NON-RESIDENT HOUSE SURGEON. 24 beds. Appointment six months. Salary at the rate of £150 per annum, with partial board. Candidates must be fully qualified and registered.

Applications, with copies of four recent testimonials, to be forwarded to Mr. REGINALD S. MILLIGAN (Hon. Secretary, Manchester Ear Hospital), c/o Mr. W. J. ELLAM, 33, Brazennose Street, Manchester, not later than May 15th.

York County Hospital.
(200 Beds.)

HOUSE SURGEON required on June 1st. Salary £150 per annum, with board, residence, and laundry. Applications, stating age, qualifications, and previous experience, together with copies of not more than three recent testimonials, to be sent to the undersigned on or before May 11th.

HENRY E. RYAN,
Manager.

Birkenhead General Hospital.
(156 Beds.)

HOUSE PHYSICIAN (gentleman) wanted immediately. Salary £100, with board and residence.

Applications, stating qualifications, experience, and nationality, with three testimonials, to be sent to the undersigned as early as possible.

W. H. DANIELS, A.C.I.S.,
Secretary-Supt.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
GENERAL POST OFFICE. *(Assistant Medical Officer—Woman.)*	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH** *(contd.)*
CONTRACT PRACTICE.	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)* *(Male Assistant Medical Officer, Colony for Mental Defectives, Shenley.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	**PUBLIC HEALTH.**	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	BELFAST COUNTY BOROUGH. *(Maternity and Child Welfare Medical Officer.)*	PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.)* *(Resident Medical Officer, Preston Institution, Fulwood.)*
LOWESTOFT [illegible] *(Medical Officer.)*	CAERNARVONSHIRE EDUCATION COMMITTEE. *(Assistant Medical Officer of Health and Assistant School Medical Officer.)*	STAFFS COUNTY MENTAL HOSPITAL, BURNTWOOD. *(Third Assistant Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	DEVON COUNTY COUNCIL. *(School Medical Inspector—Male.)*	
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL [illegible] *(Workmen's Medical Scheme.)*	EAST SUFFOLK COUNTY COUNCIL. *(Male Assistant County Medical Officer of Health.)*	
NEA [illegible] *(Medical Officer.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Macquarie St., Sydney, N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 206, North Terrace, Adelaide.	WELLINGTON, NEW ZEALAND. *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

April 29th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Merthyr General Hospital,
MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms, and laundry.

Applicants must have had experience in administration of Anæsthetics.

Applications, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

The Hospital for Sick Children,
NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a HOUSE SURGEON (male or female) to commence duties forthwith until September 30th. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BROWN, 18 City Road, Newcastle.

Southend Victoria Hospital,
SOUTHEND-ON-SEA. (96 Beds and Cots.)

JUNIOR HOUSE SURGEON (*male*) required. Six months' appointment. Salary £150 per annum board, residence, and laundry. Applications, stating age, qualifications, previous experience, with copies of three recent testimonials, to the Secretary on or before May 4th.

C. G. PEARSON, Secretary.

Leicestershire and Rutland
MENTAL HOSPITAL, NARBOROUGH, NEAR LEICESTER.

MALE ASSISTANT MEDICAL OFFICER Required.

Candidates must be registered and not more than 35 years of age, unmarried. Salary £350 per annum, rising £25 per annum to £450. In addition, £50 per annum will be given if the candidate holds the Diploma of Psychological Medicine. Full board and attendance in addition to the above, valued for superannuation purposes at £150 per annum. The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Application, with copies of not more than three recent testimonials, to be sent to the Medical Superintendent forthwith.

Dumfries and Galloway Royal
INFIRMARY.

Applications are invited for the post of RESIDENT MEDICAL OFFICER at this Infirmary. The Institution, which contains over 100 beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession. Salary £100 to £150, according to qualifications and experience.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries and Galloway Royal Infirmary, 84, Irish Street, Dumfries, at once.

Tynemouth Victoria Jubilee
INFIRMARY.

One HOUSE SURGEON (male) required about May 11th. Applicants must be doubly qualified and registered. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age and other essential particulars, and accompanied by copies of recent testimonials, to be addressed to the undersigned, from whom all particulars may be obtained.

The Hospital has two resident House Surgeons, and contains 80 beds and cots, an X-Ray Department, and an Out-patient Department where accident cases are received.

CHARLES ROWELL.
Assistant Secretary.

1, Northumberland Place,
North Shields, April 28th, 1931.

The Royal Gwent Hospital,
NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to act as House Surgeon to Out-patients and as House Physician.

Salary £135, with board, lodgings and laundry. Resident Medical staff 5. Eligible for promotion.

Large Out-patients' Department.

Applications, stating age and qualifications, with copies of three recent testimonials to be sent to the undersigned.

Applications from ladies not entertained.

J. H. MILLWARD,
Secretary and Supt.

April 28th, 1931

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: AGRICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted. — Assistantship with view in 6—9 months, in good Country Practice, or S. England country town. M.B., B.Ch., ex H.S., aet. 25. Unmarried. Good experience Surgery and Gynaecology. Short experience general practice.—Address, No. 2609, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant, English or Scotch, with early view, in large mixed Practice in Midland Town. Senior partner retiring. Good prospects to capable, energetic man. House available.—Address, with essential particulars, No. 2620, B.M.A. House, Tavistock Square W.C.1.

Wanted. — Outdoor Assistant, in the middle of June, in good class Practice in the Midlands. Would suit young Graduate reading for higher degree, and wishing to get experience in private practice.—Address, giving full particulars, No. 2625, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant to look after Branch Surgery private and panel Practice, London. Ex H.S. or H.P. preferred. Must be keen. Good house. Usual bond. Interview. — Address, No. 2794, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Indoor Assistant (male), panel and private Practice. Dispenser kept. Car. Usual bond.—Address, stating age and other essential particulars, H. F. HIRE, M.B., F.R.C.S., Newark, Notts.

Wanted, an Assistant, English or Scotch, outdoor. Panel and private Practice. Sole charge occasionally. References essential. Good prospects. House available shortly. Usual bond.—Address, No. 2781, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship, pref. with view, by L.R.C.P. & S.I., L.M., aet. 30, married, 6 yrs.' exper. panel and private, anaesth., midwifery. Own car. Home Counties pref. Available interview London.—Address, No. 2723, B.M.A. House, Tavistock Square, W.C.1.

Wanted.-Indoor Assistant (male) single, industrial Practice near Birmingham. £300, all found, plus £35 per annum for own car. Comfortable bed-sitting room. State age, nationality, experience, refs. Photo.—No. 2736, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Male Assistant, July, panel and private, Bradford. (1) £300 Indoor or (2) £400 outdoor (house available). Ex hospital. British Protestant preferred. Usual agreement. Parties. and copies of tests. —No. 2512, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Married Assistant, ex H.S. preferred and previous experience of practice £500 p.a., and good modern house Testimonials, references, and photo.—Address, No 2629, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Young male Assistant, indoor, in Colliery Practice in Glamorgan. Salary £350 p.a. Dispenser kept. Motor cycle provided. Good opportunity for Anaesthetics, etc., at local Hospital.—Address, No. 2737, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, young energetic Assistant, with early view, in mixed general Practice in pleasant locality in York. Unfurnished house. Motorist. Good salary to suitable man. Usual bond.—Address full particulars, No. 2162, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Junior Assistant. Salary £375 per annum, with rooms and attendance, light, coal, and 10/- extra Midwifery cases. Usual bond.—Apply, A. H. JAMES, M.D., etc., The Park, Blaenavon, Mon.

Wanted at once, in Newport, Mon., qualified ASSISTANT (male). General Practice. Salary £250, indoors.—Address, No. 2528, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted in East End Practice, male ASSISTANT, British, some experience, live at surgery, with view to Partnership. —Address, with references, No. 2532, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Newly qualified ASSISTANT, young, Protestant, and Scot preferred.—Address, No. 2605, B.M.A. House, Tavistock Square, W.C.1.

Assistant wanted for General Practice. Motor cyclist or car owner preferred. Live in. £250—£300. Terms could be arranged for part time services if desirous of doing Post Graduate work. Within easy reach of Teaching School.—Address, No. 2516, B.M.A. House, Tavistock Square, W.C.1.

Assistant (man or woman), in door, wanted. Country Town. State age, height, religion, and full particulars.—Address, No. 2732, B.M.A. House, Tavistock Sq., W.C.1.

LOCUMS.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Wanted. — Locums by Medical Woman, L.R.C.P.S., L.M., D.P.H. Accus. sole charge and disp.; 5 years' exper. Free end of May. London or S. of England pref., but will go anywhere. Now booking for summer. —No. 2720, B.M.A. House, Tavistock Sq., W.C.1.

General Medical Practitioner (retired, life abstainer), large experience, undertakes LOCUM TENENS WORK. If duties light, 6 guineas charged.—Address, No. 2785, B.M.A. House, Tavistock Square, W.C.1.

Locum Tenens. — Medical Man (Edinburgh and Continent) offers PROFESSIONAL SERVICES (General, Surgical, Institution, or Travel). Immediately available from London.—Address, No. 2627, B.M.A. House, Tavistock Square, W.C.1.

Locums wanted throughout summer by L.R.C.P. & S.I., aged 26. 3 years' G.P., ex H.S. and H.P. Keen and reliable. London or South Coast preferred, but not essential.—Address, No. 2722, B.M.A. House, Tavistock Square, W.C.1.

Locum wanted for second half of July, beautiful country, South. Hospitality entertained. Work easy. State essential particulars.—Address, No. 2780, B.M.A. House, Tavistock Square, W.C.1.

Reliable Locum required four weeks in summer (not August). Hampshire village. Bring own car. Offered small house, garden, hospitality to two Some remuneration. Daily maid.—Address, No. 2634, B.M.A. House, Tavistock Square, W.C.1.

Locum wanted (male) July 18th — August 1st inclusive, rural Practice, South Cornwall Coast. Own car.—Address, No. 2613, B.M.A. House, Tavistock Square, W.C.1.

Woman Doctor, Scotch, M.B., Ch.B., aged 28, five years' experience G.P., wishes LOCUMS. Free June, July, Sept. Own car. £6 6s. per week.—Address, No. 2723, B.M.A. House, Tavistock Square, W.C.1.

Woman M.B., M.R.C.S., free to do LOCUM, June or July. Experienced. Excellent testimonials. Drive car. Nearest 10 guineas.—Address, No. 2617, B.M.A. House, Tavistock Square, W.C.1.

Woman Doctor requires Locum for June, North Country Health Resort. Work very light, no midwifery. Hospitality and small fee. Could bring friend for holiday.—Address, No. 2783, B.M.A. House, Tavistock Square, W.C.1.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Cambridge Medical Graduate (Bachelor), large experience Chest and General Medicine, seeks WHOLE OR PART-TIME WORK, London or South of England preferred. — Address, No. 2564, B.M.A. House, Tavistock Square, W.C.1.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and [illegible] wire, or 'phone [illegible] ICE BUREAU FOR [illegible]aduct, E.C.1.

Dispenser - Bookkeeper, experi- enced, aged 25, requires POST with Doctor. Country preferred. — BETTY GILL, Collaton, Malborough, Kingsbridge, S. Devon.

Dispenser-Bookkeeper, married, required immediately by firm of Two Doctors.—Apply, stating age, experience, salary, and references, to GROSE & GIBSON, Woodah, Bideford, N. Devon.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Doctor's Daughter, age 25, expe- rienced in foreign travel, bookkeeping, accounts, and domestic economy, seeks SITUATION in London. Social and business references if required.—Miss D. ALLEN, 82, Kensington Park Road, W.11. 'Phone: Park 8304.

Gentlewoman (31), qualified Secretary, intelligent and tactful, desires post with Specialist as SECRETARY-RECEPTIONIST.—Address, No. 2734, B.M.A. House, Tavistock Square, W.C.1.

Highly qualified "Barts" Man, free now, desires WORK or LOCUMS immediately or near future. Much hospital and private experience. Aged 38. Thoroughly competent all departments. — Address, No. 2631, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser seeks Post in or near London. Hall certif. Experienced all kinds practice. Drives car. Educated. Highest refs. — Write "ADVERTISER," 163, Milton Road, Cambridge.

Medical Man or Woman interested in Medicinal Plants and wishing for PART TIME OCCUPATION in London.—Address, No. 3619, B.M.A. House, Tavistock Square, W.C.1.

Organiser and designer of handicrafts requires APPOINTMENT in a SANATORIUM in England or abroad. Teaches thirty different subjects. Several years' experience. Good press notices.—Address, No. 2602, B.M.A. House, Tavistock Square, W.C.1.

Radiographer, M.S.R. (Lady), desires POST, Hospital or with Radiologist. Experienced. Excellent testimonials. Also massage and electrical. Devon or Cornwall preferred. — Apply, Alban Lodge, Paignton, Devon.

Required, position as Doctor to a Hydro or Institution. Very latest knowledge of all [illegible] for the treatment o sider taking a fina 2739, B.M.A. House

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 [illegible] supplies qualified [illegible] oratory Assistants, [illegible] Curses, Mental and [illegible] Dental Clerk Orde[illegible] etc., without charge to prospective employers.

Typewriting and Duplicating undertaken by Expert. Testimonials, Theses, Legal Documents. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD (B), 341, Finchley Road, N.W.3. 'Phone Hampstead 6430 (any hour).

Well-qualified Englishman, with own Practice, wants CHANGE middle of May, with hospitality for wife. Any nice part. Own car. One or two weeks. Light work essential. — Address, No. 2735, B.M.A. House, Tavistock Square, W.C.1.

Young Man (23), educated, refined, part-time Student for B.Sc Lond. and aspirant for Medical degree, offers SERVICES. Laboratory and general assistance; tutor in school subjects; drive any car; menial duties no objection.—Address, No. 2733, B.M.A. House, Tavistock Square, W.C.1.

PARTNERSHIPS.

Wanted immediately by M.B., D.P.H., PARTNERSHIP after short preliminary Assistantship. Good panel. London area or South. One half premium down.—Address, No. 2786, B.M.A. House, Tavistock Square, W.C.1.

Wanted in about six months' time, by University Graduate, aged 50 years, returned India, PARTNERSHIP, with view SUCCESSION, good-class Practice. Would consider immediate succession. — Address, No. 2635, B.M.A. House, Tavistock Square, W.C.1.

Lancashire Town.—Partnership, 1/2 share £5,000. Panel 5,000. Up-to-date Hospital, with possible staff appointment. Premium £2,250, part by instalments. House on rent.—Address, No. 2515, B.M.A. House, Tavistock Square, W.C.1.

London, S.E. (nice residential part). — HALF SHARE of PRACTICE doing £3,000 p.a. Good panel. House or flat available. Premium 2 years' purchase, payable about £1,000 down, rest spread over 3 or 4 years.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

One-fifth Share, unopposed PRACTICE, small town, West Country. £6,000 p.a. 1/5 share 5 years. Good house available. Should have exper. of Surgery and general practice. Cottage Hosp. Prem. 2 yrs. —No. 2605, B.M.A. House, Tavistock Sq., W.C.1.

Partnership in industrial Practice near Manchester. Large panel. Share for sale £2,000 p.a. (audited). In same hands many years. Good house on lease, 1½ years' purchase.—Address, No. 2224, B.M.A. House, Tavistock Square, W.C.1.

Partner wanted.—1/4 share of Practice doing over £2,200 and rapidly growing, with unlimited scope for a good man. Practice is situated in South-West in a good centre. Applicants must be English or Scotch Graduates, with capital and good references. No agents.—Address, No. 2624, B.M.A. House, Tavistock Square, W.C.1.

Required, Partner or Assistant with view, to help development of rapidly growing Practice, within easy reach of London. Some capital an advantage.—Address, No. 2729, B.M.A. House, Tavistock Square, W.C.1.

Salaried Partner required by Doctor who has to live abroad from Nov. 1st—May 1st annually. Married man, with own car preferred, who will live rent free in Doctor's own house while away. Salary offered £600 per annum. South Coast.—Add., No. 2614, B.M.A. House, Tavistock Sq., W.C.1.

South Coast, large town.—Partner leaving shortly. HALF SHARE of over £2,500, audited. Good-class district. Panel 2,600. Appointments £350. Modern house to rent. Hospital experience desirable. Two years' purchase. Attractive opening.—Address, No. 2697, B.M.A. House, Tavistock Square, W.C.1.

Urgent Sale.—Share worth over £600 p.a. net. Industrial Practice. Panel 2,600. Less than one year's purchase for an immediate sale.—Address, No. 2724, B.M.A. House, Tavistock Square, W.C.1.

York. — Partnership in old-established PRACTICE. Receipts over £3,000. Good house, garden, garage, £50 yearly. Panel 2,050. Price 1/4 share (to commence) 2 years' purchase. Guaranteed first 2 years. — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

PRACTICES.

Wanted.—A good-class Practice of about £2,000 a year in a good part of London, or in a residential district within about an hour of London, by experienced highly qualified Practitioner ready to pay down the necessary purchase money.—Details in confidence to PERCIVAL TURNER, LTD., No. 1451, 4 and 5 Adam Street, W.C.2.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Country Town or Country. Good house. Income £1,000—£1,500. Strict confid. —No. 2503, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by experienced Practitioner, mixed-class PRACTICE, with some panel, in non-industrial district, preferably residential. Income £1,000 upwards. Cash available. Strict confidence.—Address, No. 2525, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Practice or Partnership Succession in London. Income about £2,000 or more p.a., including substantial panel. Ample capital (cash) available.—Address, No. 2605, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Large Practice in London, Manchester, Liverpool, or Birmingham, about £2,000. Must be large panel. —Address, in confidence, No. 2727, B.M.A. House, Tavistock Square, W.C.1.

Wanted, in Bristol or surrounding district, mixed middle-class PRACTICE, with panel. Capital available.—Address, No. 2582, B.M.A. House, Tavistock Sq., W.C.1.

Bath.—Spa Consultant Practice for Sale. Death vacancy. Particularly attractive house in best situation, may be purchased or leased furnished.—Address, No. 2750, B.M.A. House, Tavistock Square, W.C.1.

Cheshire. — Wanted, Sale or PARTNER, immediately. Suburban Practice, old-established, good scope. Net cash £1,600 per annum. House for sale or let, garage, garden. Excellent schools.—Address, No. 2789, B.M.A. House, Tavistock Sq., W.C.1.

Cornwall.—Country Town, South (near sea). — Sound PRACTICE, about £1,200. Panel £300. Cottage Hospital. Almost no night work. Reasonable premium.—Add., No. 2618, B.M.A. House, Tavistock Sq., W.C.1.

Death Vacancy, W. Hartlepool. —Old-established [illegible] Can be sold with or [illegible] consulting rooms, [illegible] instruments. Suit [illegible] For further partic[illegible] Westfield, W. Hartlepool.

For Sale.—Very good-class Practice in Lancs Seaside Resort. Cash receipts over £2,000 p.a. and increasing; panel 600. Good freehold house. Scope for Surgery. Premium 1½ years' purchase. — Address, No. 2611, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Old-established Practice, Country Town, N.W. England, near Lake District. Owner resigning through ill health. Receipts last two years about £1,100 only (£210—£215 panel and appointment), owing to refusal midwifery, night work, and not keeping car, and negligence in rendering accounts; scope, therefore, for good increase by younger, energetic man. Points concerning above explained at personal interview arrangeable near Liverpool. Would accept £1,250 from applicant, preferably Englishman, with some general experience. — Address, No. 2785, B.M.A. House, Tavistock Square, W.C.1.

ABERDEENSHIRE.
MEDICAL PRACTICE FOR SALE.

For Sale.—Country Practice in Aberdeenshire, with suitable house.—For full particulars, address, No. 2622, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Old-established Practice in middle and good working-class district of Leeds. Receipts for last three years average over £1,000 p.a. Recently neglected owing to illness. Panel about 500. Premium £400. Surgery to rent.—Address, No. 2633, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Mixed Practice near London. Cash receipts approximately £1,150. Panel 900. Good house for sale. Premium 2 years' purchase, cash. Rapidly growing district. Several small appointments.—Address, No. 2721, B.M.A. House, Tavistock Sq., W.C.1.

Large Seaport Town, North.—Death Vacancy.—Old-established PRACTICE, held 24 years by late Vendor. Receipts £1,600 p.a., non-panel. Rent of rooms, including lighting, £100. Premium only £800. —Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

London, S.E. — Five minutes from Charing Cross.—Owing to illness, old-established working-class panel and private PRACTICE for Sale. Panel over 1,600, private £350 p.a. approx. Large house, with 15½ yrs. to run. Net rental £52. Premium for Practice, lease, furniture, etc., £2,200. Cash transaction only. — Address, No. 2731, B.M.A. House, Tavistock Square, W.C.1.

London, S.E. — Death Vacancy. Old-established cash and panel PRACTICE for immediate disposal. Receipts average nearly £1,800 p.a., including panel 1,395. Surgery, rent £69. Premium £1,500. Locum in charge.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

London, W.—Growing Practice, developing residential district. Income £750. Panel 500. Great scope. Modern house, specially built. Prominent position, main road, near shops. Sale or rent.—Address, No. 2793, B.M.A. House, Tavistock Square, W.C.1.

London, E. — Long established compact PRACTICE. Income £2,300, increasing. Panel over 2,800. Scope. Moderate expenses. Suitable house.—Address, No. 2792, B.M.A. House, Tavistock Square, W.C.1.

Nucleus, rapidly growing suburb, London, E.—Vendor bought freehold house £725. Compelled to sell owing unforeseen domestic circumstances. Small panel. Accept £40, balance as rent. Outside lamp. —No. 2758, B.M.A. House, Tavistock Sq., W.C.1.

Old-established Practice, Liverpool's best suburb. About £2,000 p.a. Panel 900. Two years' purchase, cash. Capable, energetic, and tactful man required. Corner house, £2,000 or £100 p.a. rent.—No. 2621, B.M.A. House, Tavistock Sq., W.C.1.

Old-established Country Practice for Sale, South Midlands. Receipts over £500. Panel 400. [illegible] years' purchase.—Address, No. 2626, B.M.A. House, Tavistock Square, W.C.1.

Owing to exceptional circumstances, there is a GOOD OPENING for a Doctor in popular South Coast Town. No capital required, but may rent a flat in the main road.—Address, No. 2784, B.M.A. House, Tavistock Square, W.C.1.

Practice for Sale. — Lancashire Coast.—Developing residential seaside district. Income £1,300 p.a. Splendid double-fronted house, large front garden, garage. Lease or sale. Good school. Sports centre. One min. tram and sea. Estab. 30 years. 1½ yrs.' prem.—No. 2433, B.M.A. House, Tavistock Sq., W.C.1.

Spa Nursing Home. — For Sale, Inland.—High-class registered NURSING HOME. Exceptionally well furnished and equipped throughout. Excellent bright sunny detached house, with well-stocked garden. Accommodation for 14 patients 10 staff bedrooms, Matron's and Nurses' sitting rooms, Patients' rest room. Up-to-date Theatre Modern sluice room Excellent kitchen, larder, and maid's quarters. Lift for trays. Wireless to all rooms. The house has recently been redecorated throughout. Present rent £150 p.a., with 12 years to run. Rack rent £300. Audited gross takings £2,100 p.a. Good scope for Medical, Maternity, and Surgical work, also for recently started Nurses Co-op. No opposition. Has been inspected and can be thoroughly recommended. Price £7,500, to include everything.—PERCIVAL TURNER, LTD., 4/5, Adam St., Adelphi, W.C.2.

S. Wales. — Old-established. Nice house, good garden, garage, £60. Receipts over £1,300. Panel 1,700. Works contract £500, transferable. Price £1,400, good part deferred. Pleasant district. Welsh not necessary. — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

£300—£200 Equity in Doctor's RESIDENCE and SUCCESS, with small panel, in rapidly growing middle and good working class district, adjoining new shopping centre. — Address, No. 2610, B.M.A. House, Tavistock Square, W.C.1.

HOUSES CONSULTING ROOMS.

Wanted for young lady (nervous case), RESIDENCE in Doctor's household, preferably where there is young company.—Address, No. 2630, B.M.A. House, Tavistock Square, W.C.1.

AN IDEAL RESIDENCE FOR AN INVALID or one suffering from Heart Disease.
"BROADHURST,"
81, Lordswood Road, Harborne, Birmingham.

An unique Detached Semi-BUNGALOW RESIDENCE in an imposing corner position, near to Tawes and shops, with an exceedingly attractive elevation, and exceptionally well built. Contains lounge hall and cloak room, magnif. lounge and dining room, complete and well-equipped domes. offices, Beaut. fitted grd. floor bathroom and w.c. adj. spacious bedroom. 3 excell. beds. 1st floor. Heated linen cupboard. Usual outbuildings. Large det. garage. Beaut. garden. Central heating, elec., gas, and teleph Lease 92 years. Ground rent £12 10s. Price £1,900.—Sole Agents: LEONARD CARVER & Co., 31, Waterloo Street, Birmingham.

EMINENTLY SUITABLE FOR A MEMBER OF THE MEDICAL PROFESSION.
MAYFAIR.
With uninterrupted views over Hyde Park.

A Small House of Distinction AND CHARM.—Modernised and beautifully decorated. Hall, 3 reception rooms, 7 bedrooms, bath dressing room, bathroom, convenient domestic offices Garage, with rooms over, if desired. LEASE FOR SALE AT A LOW PRICE. Sole Agents; Messrs. KNIGHT, FRANK & RUTLEY, 20, Hanover Square, W.1. (11355)

JUST IN THE MARKET.

Bournemouth, highest part of. Detached CORNER RESIDENCE, holding excellent position, facing South and East. Two mins sea. Eminently suited to a Medical Practitioner. Three reception rooms, 8 bedrooms, bathroom Double garage. Price £3,500 freehold. Recommended by the Agents, Messrs. LAWRENCES, 192, Seabourne Rd, Bournemouth.

86, BROOK STREET, GROSVENOR SQ., W.1.
Mayfair 6001 (6 lines.)
CONSULTING ROOM TO LET.

Building specially constructed for Consulting Rooms; exceptional facilities; night and day telephone operators; mess room; no restriction of hours.
Apply, the Secretary, 86, Brook Street, W.1, or Brook Estates, Ltd., 40 and 41, Old Broad Street, E.C.2.

UNFURNISHED HOUSES TO BE LET.

Broadgreen, Liverpool. — Substantial detached CORNER HOUSE in rapidly developing neighbourhood. Splendid position for General Practitioner. Three entertaining rooms, 6 bedrooms, garden, garage. Rent £85 per annum and rates. — Apply, JOSEPH BELL & SONS, 36, South John Street, Liverpool.

Chiswick, main road, ideally situated for Doctor, non-basement semi-detached HOUSE, 9 bedrooms, 2 reception rooms, bathroom, kitchen, etc., gardens back and front. Lease 68 yrs. Price £2,200.—PUBLIC ANALYST, Tenison Road, Cambridge.

Consulting Rooms to Let.—Hanley Street and District. Whole and part-time. Rents £80 to £300. Lists sent on application. Rooms wanted in Hanley Street district.—ELLIOTT & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2691.

Doctor's Surgery and Rooms to Let, best part of Brixton Road. Own entrance in Brixton Road. Electric light. Telephone on. Newly decorated. Rent 2 gns. per week inclusive.—Apply, ROGERSON, 20, Peckford Place, Brixton Road, S.W.9. Brixton 0492.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Doctor's Opportunity. — Ideal HOUSE, thickly populated district, Midlands. No Doctor near. £1,750 freehold. —Address, No 2782, B.M.A. House, Tavistock Square, W.C.1.

Eminently suitable for a Doctor or Dentist.—For Sale, on main approach to Liverpool's favourite residential suburb, well built modern CORNER HOUSE. Good garden back and front. Two entertaining and seven bedrooms, bath, bath-dressing room, two lavatories, and all usual domestic offices. Excellent garage to accommodate 3 cars, or could be sublet at £45 per annum. House is lease hold for 999 years. Has been occupied by Doctor for 21 years. Immediate possession.—Dr. HARVEY, 5, Allerton Road, Liverpool.

EXCELLENT OPPORTUNITY FOR RE-ESTABLISHING MEDICAL PRACTICE.

For Sale.-Property conspicuously situated in a populous district of Glasgow and lately occupied by a Medical Practitioner, deceased.—The substantial Corner HOUSE (with back an[illegible] 1, SETON TERRAC[illegible]GOW, of 3 public, 4 [illegible]m, bathroom, kitchen, [illegible] and cellars, and having an open outlook to an extensive pleasure garden in front. To the rear of the house, enclosed by high retaining walls, is a well-kept garden, with greenhouse and building adaptable for garage. PRICE MODERATE. Liberal mortgage can be arranged.—For further particulars apply to J. M. TAYLOR, NELSON, WALKER & Co., Solicitors, 180, St. Vincent Street, Glasgow.

For Sale.—Small Open-air Sanatorium in South of England.—For particulars, address, No. 2787, B.M.A. House, Tavistock Square, W.C.1.

Hendon (The Quadrant). — Spacious OFFICES, with living accommodation, to be LET, in prominent advertising position. Especially suitable for Doctor. Low rent. Long lease. No premium.—Apply, JOHNSTON EVANS, F.A.I., 194, Brent Street, Hendon. 'Phone: Hendon 8131.

Malvern, best part. — Highly suitable for a Nursing Home. — Fine HOUSE, with 15 large airy rooms and basement, gas, electric light, copper roof, company's water, standing in beautiful garden with well. Fine views of surrounding hill. Part of purchase price might remain on mortgage.—Add., No. 2608, B.M.A. House, Tavistock Sq., W.C.1.

Medical Practitioner of long and good standing in London suburb is selling his HOUSE. Splendid chance for Dentist. House is large and commodious; extensive garden; and in good class area. About 41 years' lease. Price £1,200.—Address, No. 2523, B.M.A. House, Tavistock Square, W.C.1.

Nordrach-on-Dee Sanatorium, LIMITED.
(IN LIQUIDATION.)

Britain's Premier Sanatorium, near Banchory, Deeside, is for sale by Private Bargain. Specially erected for clinical purposes on selected site of 25 acres beautifully laid out amongst pine woods, with every modern convenience and technical equipment. Wonderful garden; Hostel for Nurses; Gardener's Cottage and revolving Open-air Shelters, etc. Salubrious climate and sheltered surroundings. Croquet and putting lawns with maskie course. Buildings in excellent order and readily adaptable for any institutional work. For further particulars apply to the Subscribers.
By Order of the Liquidators,
JAS A. JEFFREY & CO., C.A.,
9, Golden Square, Aberdeen.

Queen Anne Street, W.1.—Only £40 a year secures PART-TIME USE of fine ground floor CONSULTING ROOM, attendance, and every convenience. — Address, No. 2114, B.M.A. House, Tavistock Square, W.C.1.

Part-time use of Consulting ROOM, also Bedroom to let if desired, in Doctor's house, recently redecorated, near Harley Street. Suitable for young Consultant or Anaesthetist. Can be let separately.—Add., No. 2616, B.M.A. House, Tavistock Sq., W.C.1.

Portland Place.—A particularly attractive Entrance Floor FLAT to be Let, admirably suitable for a Doctor. Plate allowed. Accommodation comprises 3 reception rooms, handsome gallery, 6 bed and dressing rooms, 2 beautifully fitted bathrooms (shower, etc.), garage with chauffeur's room, servants' hall and usual domestic offices. Fitted every modern convenience and luxury. Rent £1,250 p.a. inclusive. No premium.—Address, No. 2501, B.M.A. House, Tavistock Square, W.C.1.

Retired Doctor and wife, with large modern house and grounds; central heating, electric light, etc.; in country, within 5 minutes' of 'buses and trams; 2 miles good shopping town, near Peak district; can take One Lady or Married Couple as sole PAYING GUEST. Not nerve or mental case. References given and required.—Address, No. 2726, B.M.A. House, Tavistock Square, W.C.1.

"OAKDALE," COLLEGIATE CRESCENT.

Sheffield. — Magnificent stone-built RESIDENCE, own grounds, 15 mins. City. Make excellent Nursing Home. Spacious recep. rooms, 6/7 [illegible] central heating and elec. every bedroom. B Usual domestic off

Surrey.—Corner House, freehold, £1,750. Mortgage if required. Golf near. New neighbourhood. Likely new Practice. Four bedrooms, 2 reception rooms, kitchen, central heating, lavatory basins all bedrooms. Garage. Picturesque garden.—Apply, OWNER, Avenir, Downsway, Sanderstead. (Purley 3042.)

Two very large ground floor ROOMS, use of waiting room; also first floor suite of THREE ROOMS; to let unfurnished. One min. Marble Arch.—Apply, Mrs. BLACK, 50, Seymour St., W.1. Paddington 7592.

MISCELLANEOUS SALES, etc.

INCOME TAX.

C[illegible]ll Income I guarantee satis[illegible] tax worries.— For [illegible] 7, George St., (late [illegible]welbeck 2012). Baker St., London, W.1.

Carpet. — An exceptionally fine 27 guinea real SULTAN CARPET; size 12 ft. by 9 ft. Exquisite Oriental colouring (Royal Shiraz design). Perfectly new condition. Sacrifice £8 15s. Splendid bargain. Approval pleasure. — Address, No. 2792, B.M.A. House, Tavistock Square, W.C.1.

For Sale in London, W.1.—Full EQUIPMENT for BERGONIE TREATMENT, absolutely new and unused; owner just accepted full-time appointment. Also, Consulting Couch and Weighing Machine. Any reasonable offer considered.—Address, No. 2795, B.M.A. House, Tavistock Square, W.C.1.

IMPORTANT NOTICE
to MEMBERS of the
MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

SUITS & OVERCOATS to measure from £6 6s
SOLID WORSTED SUITS ... £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s

[illegible]

"I [illegible] to have [illegible] as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.
Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.
Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

Medical Surgical Sundries Ltd.
Supply Instruments, etc. "Essell" Inhaling Apparatus, price £12 10s (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles.
Showroom: 97, Swinderby Road, Wembley.

INCOME TAX
As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY
TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

Messrs. R. SUMNER & Co., Ltd.,
Manufacturing Chemists,
40, HANOVER ST., LIVERPOOL,

DEATH VACANCY PRACTICE in North Wales. Receipts £800 to £1,000 per annum. Number on panel 750.
PRACTICE in Town in Isle of Man. Receipts £850. Old established.
For further particulars apply to the above.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 3873.) (Estab. 1860.)
This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.
No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

West Lothian. — £860 p.a. increasing. Panel 650. Fees 2/6 to 10/-. Villa, 2 recep., 3 bed. etc. House and Practice £1,700 or offer.—No. 8837.

South Devon Town. — Average £1,564 p.a. Panel about 2,000. Fees 3/6 to 5/-. Large leasehold house. Practice and lease £2,700 cash.—No. 8816.

Midland Town. — Share worth £800 p.a. Fees 5/- to 21/-. Midwifery 5 to 6 gns. Grad. of Lond., Oxon., or Camb. required.—No. 8815.

London, N.E. — £1,300—£1,400 p.a. Panel 1,200. No midy., but ample scope. Lock-up premises. Conv. flat near.—No. 8834.

Riverside Town.—£300 p.a. and resident patient. £8 8s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8831.

Death Vacancy. — £500 a year. Liverpool district. Held 32 years. Easily worked. Good fees. Panel 250. Premium £500 or offer.—No. 8828.

Seaside Resort.—N.W. Coast.— Over £2,000 p.a., scope. Panel 600. Very good schools. Medium house, small garden. Scope for surgery. Cottage Hospital.—No. 8824.

Northern 'Varsity City. — Over £1,600 p.a. Panel 1,500. 12/15 midwifery cases. Fees 5/6 to 5/- and up. Good house and garden.—No. 8823.

London, West End. — Electrical PRACTICE. About £1,500. Fees usually 21/- upwards. Premium £2,000, including apparatus, furniture, etc.—No. 8822.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 386. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

S. Wales.—£850 with scope.— £750 from panel and contract work. Convenient house; surgery. Rent 17/6 p.w. Premium £700.—No. 8817.

S.W. Scotland.—Near Coast.— £1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception, Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

Northern Health Resort.—Assy. with view to Partnership. Share worth £6/700 p.a., increasing to £2,000 in few years. Fees 5/6 to 21/-. No dispensing. Small panel.—No. 8799.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants.
Full particulars on application to Mr. Percival Turner.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.
Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER*: 176, *Oxford Rd.*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

THE
NEW MENTAL NURSES CO-OPERATION,
139, Edgware Road, Marble Arch, W.
Specially trained Nurses for Mental and Nerve cases. (All Nurses are insured under the Employers Liability Act, 1906.) Apply the Supt.
Telegrams: "Psyconurse, Padd., Lond." *Telephone*: No. 6165 Padd.

THE CENTURY
INSURANCE COMPANY LTD.,
7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS
TO PURCHASE
A PRACTICE
OR
PARTNERSHIP

NO GUARANTORS REQUIRED.
REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054 & 1034. RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

LONDON, E.C.1.—Old-established mixed PRACTICE. Receipts (last year) £750. Panel (recently started) 550. No midwifery. Six-roomed house to rent on lease. Good professional quarters. Excellent scope, especially for a young experienced R.C. Practitioner. Premium £1,000.

LONDON, N.W.—Mixed General PRACTICE, situated in well-populated locality. Medium-sized house to rent on lease. Receipts nearly £1,100. Small panel 300. Fees 2/6 up. Premium £1,500.

SUSSEX.—Middle-class Rural PRACTICE, situated in charming locality. Medium-sized house, with large garden, to rent or purchase (freehold. Electric light, etc. Receipts approx. £520. Panel 240. Fees 2/6 up. Three appointments. Premium 1½ years' purchase, cash.

LONDON, E.—SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £30 p.a. Fees 2/- up. Average receipts £516. Panel 350. Excellent scope for young man. Premium for Practice and lease £1,050 cash, or near offer.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,500 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220 growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £250 or near offer.

ESSEX.—NUCLEUS non-panel PRACTICE, suitable to either sex, with excellent scope for panel if desired, and further increase. Medium-sized double-fronted house to be rented on lease. Receipts approx. £400 p.a. Premium 1½ years' purchase or near offer, cash.

LONDON, S.E.—Old-established G.P., situated in well-populated locality. Excellent scope for young and energetic man. Receipts approx. £1,200 p.a. Fees 2/6 up. Panel nearly 1,600. Premium £1,800 or near offer.

LONDON, E. — NUCLEUS non-panel PRACTICE in thickly-populated locality, with excellent scope for panel and further increase. Suitable accommodation for bachelor. Receipts nearly £600 p.a. Fees 2/- up. Rent £55 p.a. Premium £750, or near offer.

S.W. COAST.—Well-established General PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

EASTERN COUNTIES. — Cathedral City. — PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

MIDDLESEX, WEST.—NUCLEUS BRANCH PRACTICE, situated within 10 miles of London, in rapidly developing district. Suitable flat available over surgery. Receipts for 15 months, over £300. Panel 100. Fees 2/6 up. Premium £450 or near offer, to include fittings, fixtures, etc.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640 or near offer. Partnership considered.

SURREY.—PARTNERSHIP in rapidly developing residential locality, with splendid scope. Receipts approximately £1,000 p.a. Panel nearly 300. Fees 2/6 up. Premium for 2.5ths share, 2 years' purchase. Excellent opportunity for young and energetic man.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house, containing 4 bedrooms, etc. Garage. Small panel. Receipts approx. £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

WE HAVE NUMEROUS SMALL PRACTICES, both Town and Country, with incomes from £100 upwards. Full details sent on receipt of inquiry.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

THE

WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)

PHOENIX CHAMBERS,

22, CLARE STREET, BRISTOL.

Teleg : "Medgen, Bristol." *Tel.* : Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. BEDFORDSHIRE.—Country PRACTICE, last year £483. Good house to rent £68. Price £300.
2. CARDIFF.—£360 p.a. Panel 210. Growing district. Good house. £450.
3. SANATORIUM.—Western County.—40 beds. Receipts average £10,055 p.a.
4. INDUSTRIAL PRACTICE. — South-West Wales.—Panel 1,300. Opposition weak. Receipts over £1,300. Good house on lease. Premium £1,600.
5. HEREFORDSHIRE. — Country PRACTICE. Panel 550. Receipts over £1,000. Several
6. [illegible] 'athedral Town.— [illegible] ½ years. NUCLEUS £400 [illegible] hospital appointments. Accounts audited. Excellent prospects. Prem. £500.
7. SALARIED PARTNER.—Western City, with option to buy half share. £500 p.a. net. Suitable house. Great scope. £1,000. Total receipts £1,700.
8. CARDIFF.—Industrial PRACTICE, averaging £600 p.a. Panel 600. Good house. Premium £600.
9. SOUTH DEVON. — Averaging £2,400, in favourite town. Panel 1,500. Large house for sale or rent. Seaside.
10. MIDLANDS.—Cathedral Town.—Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a.
11. CHESHIRE BORDERS.—One-third share of PARTNERSHIP averaging £2,000 p.a. Pleasant country district. Panel over 1,700. Plenty of scope. Premium £1,000.
12. [illegible] PARTNER- [illegible] panel and [illegible] nt £78 p.a. Premium £950.
13. COAST TOWN.—South-West Wales.—Panel 750. Receipts £1,000 p.a. Good house to buy or rent. Man considering purchase could do Locum.

Medical Practitioners' Union Agency Limited

56, Russell Square, LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone : Museum 5197 & 6161.
Telegrams : "Ubabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams : Herbaria, Westrand, London.
Telephone : Central 2680.

This old established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on [illegible] fected. [illegible] supplied

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,

The oldest Medical Agency in Manchester,

6, BROWN STREET.

Telegraphic Address : "STUDENT, MANCHESTER." *Telephone* : 6932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations [illegible] ASSISTANTS & PRACTICES for Sa [illegible]

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency.

71, TEMPLE ROW, BIRMINGHAM.

Telegrams : "Locum, Birmingham." *Telephone* : 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700 progressing. Good house, garage, and garden.
2. NORTHERN UNIVERSITY CITY.—Old-estab. middle-class PRACTICE. Receipts average £1,603 p.a. Panel 1,500, and increasing. Good fees. Nice house, garden, etc.
3. NORTH OF ENGLAND.—Panel, Private, Colliery, and Club PRACTICE. Receipts av. £800 p.a. Panel 550. Appts. £350. Good house to rent. Considerable scope for energetic man.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., worth about £70. House to rent. Garage, etc.
7. MIDLANDS, COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts av. over £2,700 p.a. Panel recently started and rapidly increasing. Good fees, house, etc.
8. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. {MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

NORTH STAFFS.—INDUSTRIAL TOWN PRACTICE. Cash receipts last year £1,200. Panel nearly 2,000. Good house, 2 reception, 7 bedrooms. Rent approx. £55 p.a. on long lease. Premium £2,000 (to include book debts and drugs).—No. 255.

SOUTH YORKSHIRE.—Old-established PRACTICE. Cash receipts 1931, £1,275. Panel 1,430. Excellent house, 3 reception, 4 bedrooms. Garage and good garden. Premium 1½ years' purchase. —No. 253.

MANCHESTER. — PLEASANT RESIDENTIAL SUBURB. — Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage, and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purchase. Vendor retiring. —No. 246.

DEATH VACANCY — NORTH-WEST COAST, near LIVERPOOL. Cash receipts £500 p.a. Panel 250. Great scope, district growing. Good Surgery and living accommodation. Premium £500 or near offer.—No. 257.

MANCHESTER. — Old-established PRACTICE. Average cash receipts £2,361 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 63.

LANCS TOWN, near MANCHESTER. —Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. Good house 2 reception, 5 bedrooms. Garage. Rent £55 p.a. Premium 1½ years' purchase.—No. 251

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

NEAR MANCHESTER — TOWN, largely residential.— age cash receipts £995 p.a. ...included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ yrs.' purchase.—No. 234.

CHESHIRE. — COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium £800.—No. 226.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer. —No. 173.

MANCHESTER. — INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—No. 190.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280 Panel 1,350. Local Hospital. House to rent, 2 reception, 3 bedrooms. Premium 1½ years' purchase.—No. 194.

NORTH-WEST COAST.—Within easy reach of.—PRACTICE with much scope. Cash receipts 1930, £626. Panel 250. Excellent double-fronted house, 2 reception, 4 bedrooms. Garden. Rent £70 p.a. Premium £800 or near offer.

LIVERPOOL (near).—Cheshire Coast Town PRACTICE. Average cash receipts £1,187 p.a. Panel 783. Much scope. Good double-fronted house (freehold), 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100.—No. 248.

MANCHESTER (near).—PARTNERSHIP in old-estab. Practice. Average cash receipts £1,766 p.a. Appointments and panel about £500. House available, 2 reception, 6 bedrooms. Premium—half share—1½ years' purchase.—No. 224.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium 1½ years' purchase.—No. 195.

MANCHESTER.—RESIDENTIAL DISTRICT.—Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium £1,000 (or near offer).—No. 191.

LANCS TOWN. — Old-established PRACTICE. Cash receipts 1930, £1,186. Panel 900. Much scope. Excellent house, 2 reception, 4 bedrooms. Garage. Premium, best offer. — No. 178.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistantship. Purchaser could live with Vendor. Premium—one-third share—£1,000.—No. 245.

CHANNEL ISLANDS.—PRACTICE in beautiful district. Cash receipts last year £425. Excellent house, 2 reception, 3 bedrooms. Garage and large garden. Premium—Practice—£500.—No. 167.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,

Tele. Address: Triform, Wesdo—London. **Oxford Street, W.1.** Telephone: Mayfair {1782 / 1783}

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Mana , in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 N. OF ENGLAND.—Partnership in lucrative Practice in large city. Panel over 5,000. Small house (3 bedrooms and attics) for sale. Partner must be young and energetic. A share of £1,650 or £2,500 would be sold at 1½ years' purchase.

2 LONDON, E.—Practice in thickly populated outlying suburban district. Receipts last year nearly £1,400. Panel over 1,950. Shop-fronted house on main road, to rent. Premium £2,600 cash.

3 S. MIDLANDS.—Partnership in Practice of £5,000 p.a. in first-rate country town. Panel 3,000. Detached house (8 bedrooms, etc.) for sale. Good Hospital. Premium one-fourth share 2 years' purchase. Short preliminary Assistantship.

4 S.W. OF ENGLAND. — Partnership in Practice averaging £3,000 p.a. in small town. Very good house (7 bedrooms), good garden, etc., for sale. Hunting, shooting, fishing, etc. Premium two-thirds share 2 years' purchase. Hospital.

5 MIDLANDS. — Practice averaging £4,750 p.a. in clean manufacturing town. Panel 3,570. Two houses for sale. Practice carried on by two Medical Men, both retiring. Premium 1½ years' purchase.

6 LONDON, N. — Practice averaging £950 p.a. Panel about 1,400. Shop-fronted house (4 bedrooms), rent £100 p.a. Scope for increase. Premium £1,650.

7 WITHIN 12 MILES OF LONDON.—Partnership in rapidly increasing Cash Practice about £1,600 p.a. Panel developing industrial district. Panel 1,870. Small house available. Large Cottage Hospital. Premium two-fifth share 2 years' purchase.

8 W. MIDLANDS.—Partnership in Practice about £2,800 p.a. in attractive market town. Panel about 800. A one-third to one-half share, after preliminary Assistantship, 2 years' purchase. Applicant must be experienced in general practice.

9 S. MIDLANDS.—Practice of nearly £400 p.a. in delightful country district, easy distance of London. Panel 300. Attractive house (7 bed and dressing rooms) in grounds of 2 acres, with garage, to be sold or let. Very suitable for Resident Patients. Good scope. Premium 1 year's purchase.

10 S. MIDLANDS.—Practice averaging over £700 p.a. in pleasant county town. Panel about 700. House (5 bedrooms), garage, and garden, for sale or rent. Good Hospital and schools. Moderate premium.

11 N. MIDLANDS.—Partnership in Practice over £1,400 p.a. in first-rate city. Panel 1,800. House, with 2 reception rooms and 4 bedrooms, to rent. Premium one half share £1,100. Preliminary Assistantship entertained.

12 S. COAST.—Partnership (after preliminary Assistantship) in old-established Practice about £3,500 p.a. in favourite seaside resort. Panel 2,000. One third share to suitable man at 2 years' purchase.

13 S.W. OF ENGLAND. — Partnership in Practice of £3,500 p.a. in small industrial town. Panel 1,870. Very considerable scope for increase. Partner should be capable of doing Surgery. Premium one-third share 1½ years' purchase. Preliminary Assistantship if desired.

14 MIDLANDS.—Practice of over £2,100 p.a. in manufacturing town. Panel 820. House (4 bedrooms) to rent, on lease. Premium 1½ years' purchase.

15 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in own grounds, for sale or rent. Premium one-half share 1½ years' purchase. Suit one aged between 40/50.

16 LONDON, W. — Mixed Practice of over £3,000 p.a. in outlying suburban district. No panel. Semi-detached corner residence (5 bedrooms), garage, etc., to rent on lease. Premium 1½ years' purchase.

17 NORTHUMBERLAND. — Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,425.

18 S. OF ENGLAND.—Partnership in Practice of £3,000 p.a., in small country town within 35 miles of London. Panel 3,000. Suitable house to rent. Incoming partner should be able to do Surgery. Cottage Hospital. Good scope. Premium two-sevenths share 2 years' purchase.

19 MIDDLESEX. — Compact non-dispensing PRACTICE of £800 p.a. in rapidly developing district. Panel about 260. Large old-fashioned house (7 bed and dressing rooms), garage, etc., for sale. Considerable scope. Premium 1½ years' purchase.

20 LONDON, E.C.—City Practice. Receipts 1930, over £1,500. Consultations mainly £1 1s., some £1 11s. 6d. and £3 3s. Excellent consulting rooms. Premium 1½ years' purchase.

21 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

22 SURREY.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Premium £300.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triferm, Wesdo—London.
Telephone: Mayfair {1783 1788

Practices and Partnerships for Disposal (continued).

23 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Premium £1,200, or offer.

24 SURREY. — Partnership in Practice in desirable residential town Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

25 CHESHIRE. — Partnership (after preliminary Assistantship) in Practice over £2,500 p.a. in manufacturing town. Panel 2,100. Plenty of sport. One-third share to suitable man at 2 years' purchase.

26 HANTS. — Small easily worked Practice about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

27 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

28 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope. Premium £1,200.

29 BEDS.—Increasing Country Practice doing about £600 p.a. Panel 650. Centrally situated house to rent. Scope for increase. Premium £500 for quick sale.

30 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

31 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a in attractive country town on coast. Panel about 500. Suitable house to rent. Hospital. Share to suitable man after preliminary Assistantship.

32 LONDON, N.W. — Nucleus of Practice in residential district. Income last year £300. Panel 150, rapidly increasing. Detached corner residence, in good position, for sale. Scope. Premium £500

33 FAVOURITE HOME COUNTY.—Practice over £2,000 p.a. in pleasant residential country town within 50 miles of London. Panel 1,080. Well-situated detached house (6 bed and dressing rooms), garage, and large garden, for sale or rent. Scope for increase.

34 EAST COAST.—Practice about £1,200 p.a. in small attractive seaside resort. Panel 225. Modern detached house (5 bedrooms), garage, and garden, for sale. Excellent sport and educational facilities. Premium 1½ years' purchase.

35 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good-class Practice in charming little residential seaside resort. Suitable house to rent. Share of £800—£900 after preliminary Assistantship. Applicant should be aged 28—35, and preferably a Graduate of Cambridge or Oxford. Cottage Hospital and scope for Surgery if desired.

36 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 2 years' purchase.

37 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. *Convenient* and well situated house, with electric light, etc., for sale. All kinds of sport *Premium for a quick sale 1 year's purchase, or* even slightly less.

38 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

39 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

40 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

41 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

42 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,850. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

43 LONDON, W. — Middle-class Practice of over £800 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,100.

44 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

45 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

46 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). Premium £550.

47 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., for sale. *Golf. Premium £1,000.*

48 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

49 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

50 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwfy. Six-roomed house *to rent. Prem. £750.*

51 S. OF ENGLAND. — Partnership in [illegible] nel Town Practice over £5,300 p.a.. se. Premium one-fourth share £2,000.

52 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

53 WARWICKSHIRE.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage, and half acre of garden, for sale. Scope. Premium 1½ years' purchase.

54 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman). Panel 320. Small house, rent £50. Scope for large increase. Premium £400.

55 S.W. OF ENGLAND.—Practice averaging £1,550 p.a. in Seaport Town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,100.

56 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district. Suitable house to rent. Incoming Partner should be aged about 30, and hold a University degree. Share worth about £500 p.a. at 2 years' purchase.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BAILLIÈRE & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES
who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. SURREY.—COUNTRY PRACTICE.—Very old-established, and situated in delightful district. Gross cash receipts for past 12 months £2,060, including panel of about 700. Fees from 2/6 to 21/-. Midwifery 3 to 20 gns. Exceptionally nice house, with 2 reception, 6 bedrooms, and professional rooms. Nearly 2 acres of garden. Price, freehold, £3,000, £1,800 on mortgage. Premium £3,000.

2. CHESHIRE.—NEAR COAST.—Old-established good mixed-class PRACTICE, averaging for the past 3 years nearly £1,600, including panel of 1,283. Very good house in 3 acres of ground, with 2 reception, 4 bedrooms, etc. Rent on lease £85 p.a. Premium £2,300.

3. PARTNERSHIP.—HOME COUNTY.—Within 40 miles.—In a small country town, in very pleasant district, the third share, with increase later, of an old-established mixed-class Practice offering good scope. Cash receipts average over £3,000 p.a., including panel nearly 1,700 and appts. Good house, with 3/4 of an acre of garden, tennis court, etc. Rent on lease £65 p.a. Premium 2 years' purchase. Ingoing partner should be about 30, English or Scotch, and pref. married.

4. WITHIN 30 MILES OF LONDON.—In a delightful residential district (well populated and growing rapidly), a small PRACTICE, producing last year £400, including panel of 300, and capable of considerable development. Very good residence (suitable for resident patients) in about 2 acres of ground. Price, freehold, £4,000. Mortgage arranged. Premium £400. Excellent schools, good society, and sport.

5. FAVOURITE COAST TOWN.—Old-established good middle and better-class PRACTICE, producing over £1,800 p.a. Selected panel of under 400. Fees 5/- to 10/6. Very little midwifery. Commodious house, with 2 reception, 6 bedrooms, etc. Large garden. Freehold for sale. Premium £3,000.

6. SOUTH OF ENGLAND.—Pleasant Town near sea coast.—Very old-established PRACTICE (partly Surgical), averaging over £2,400 p.a. (last year £2,516), including panel of 500. Centrally situated house. Price for Practice and house £5,000. Successor should also have some knowledge of Eye, Ear, Nose, and Throat work.

7. DEATH VACANCY.—LANCS.—LARGE TOWN.—Old-established PRACTICE, averaging about £500 p.a., but capable of much increase as district is growing. Panel of 250. Fees 3/6 to 10/6. Suitable accommodation can be secured. Premium £500 or near offer.

8. HOME COUNTIES.—Within 40 minutes' run of London.—Old-established mixed-class and increasing PRACTICE, situated in small town with pleasant surroundings. Cash receipts average £1,725 p.a., including appt. £70 and panel 1,000. House with good accommodation and small garden. Price for freehold £2,500. Premium 1½ years' purchase. Educational facilities.

9. PARTNERSHIP.—SOUTH-WEST LONDON.—A one-third share is for disposal in very well-established chiefly middle-class Practice, producing last year about £5,500, including panel (rapidly increasing) of 1,500. Fees from 2/6. Suitable house can be rented on lease. Premium 2 years' purchase.

10. PARTNERSHIP.—MIDLANDS.—Prosperous Town within 80 miles of London.—A one-third or five-twelfths share is for disposal owing to the retirement of the second of three partners in an exceptionally sound mixed-class Practice. Average gross cash receipts £3,300 p.a., including panel of 1,000. Fees 2/6 to 25/-, medicine extra. Premium only 1½ years' purchase for quick sale, owing ill health.

11. ESSEX.—PARTNERSHIP.—Practice is situated in developing neighbourhood, within easy reach of town. A one-half share is offered in steadily increasing Practice bringing in nearly £2,700 p.a., including panel of 1,000. Very nice house, with three reception, six bedrooms, etc., and good garden. Price £1,400, part on mortgage. Premium 2 years' purchase. Good scope for Surgery.

12. LONDON, WEST. and increasingly mixed-class PRACTICE, past 12 months £1,790, including panel of No midwifery. House in excellent repair, contains 2 reception, 4 bedrooms, bathroom, etc. Price for freehold £2,500. Premium 2 years' purchase.

13. LONDON, E.C. (nr. Holborn Circus).—Old-established mainly working-class PRACTICE, averaging over £700 p.a. (last year £750), including recently started panel of 360. Fees from 2/-. No midwifery. Six-roomed house, with good professional accommodation. Rent on lease £95 p.a. Premium £1,000.

14. LONDON, EAST.—Well-established mixed-class PRACTICE, averaging about £1,150 p.a., including panel of 1,400. Small house, with 1 reception, 2 bedrooms, etc., and 3 professional rooms. Rent on lease £13 per quarter. Premium £2,000.

15. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,525 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.

16. NORTH WALES.—PARTNERSHIP.—A one-third share is offered in a good mixed-class Practice producing over £1,700 p.a., including panel of 470 and appts. of about £100 p.a. Fees 3/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. Premium 2 years' purchase.

17. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £5,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.

18. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium 1½ years' purchase. Ill-health reason of sale.

19. WEST MIDLANDS.—Easily worked PRACTICE in residential village within easy reach of two good towns, and having very pretty surrounding country. Receipts average over £1,000 p.a., including panel of 500 and an appt. worth £150. Nice house with good garden and land of about 2 acres. Price for freehold £1,600. Fishing, hunting, etc. Premium 1½ years' purchase.

20. SOUTH WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on and electric light available shortly. Price freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.

21. YORKS.—LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,300 p.a., including panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and dressing room, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase, chiefly by instalments.

22. LONDON, SOUTH-EAST.—Woman Doctor's PRACTICE, producing £560 immediate past 12 months. Panel of 152. Fees 2/6 to 21/-. Suitable flat can be rented at £60 p.a. Premium £650, or near offer. Very good scope for increase.

23. LONDON, WEST.—Small good class PRACTICE, at present bringing in about £450 p.a., but offering large scope. Panel of 300. Fees 5/- to 21/-. Good house for sale. Premium £500.

24. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 5/6. Small house with one reception, 3 bedrooms, bowroom, etc. Premium 1 to 1½ yrs.' purchase, payable by arrangement. Ill health reason for sale.

25. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1¼ years' purchase.

26. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.

27. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.

28. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE, averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.

29. CORNWALL.—VILLAGE PRACTICE, within easy reach of Plymouth.—PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/-. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. Sport of all kinds. Premium 1½ years' purchase.

30. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed class PRACTICE, averaging £859 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SAVED BABY'S LIFE!

PORTE'S CAESAREAN OPERATION

In 'The Scottish Nurse' for January 1931 appeared an article by a Scottish State Registered Nurse describing an exceedingly severe operation—*Porte's Caesarean Section*—which she underwent in Malta at the hands of a well-known surgeon.

Twenty-four hours after the second stage of labour had begun it was discovered that delivery was impossible. The womb had become septic and the Porte Caesarean was performed, the baby being safely extracted.

The condition of the mother was then highly critical, and the baby had to be revived by artificial respiration. For a week after birth she weighed only five pounds. The mother, despite intense pain and weakness, endeavoured to nurse her, but as progress appeared stationary she was put on alternate feeds of Cow & Gate Full Cream Milk Food and Breast.

From then onwards she made rapid progress and at four months the mother weaned her altogether.

Now eight months old, the child is the picture of contentment and happiness and weighs over 17 pounds.

COW & GATE MILK FOOD

has saved more baby lives than any other preparation in the world

The best milk for babies, when natural feeding fails.

Cow & Gate Milk Food

COW & GATE LTD, GUILDFORD SURREY

B.M.J., May 2nd, 1931

FATIGUE

is not a

DISEASE

An exhausted man is not a sick man and general low vitality can not be classified as a pathologic condition.

Patients with low vitality and lack of strength, however, need some treatment to restore their physical and mental depression just as much as a tired athlete needs rest.

The "tonic effect" to the organism and the increased energy-liberating metabolism may be accomplished by the administration of

INCRETONE

BRAND

THE LIQUID ENDOCRINE TONIC

Bottles of 6 ounces

G. W. CARNRICK CO.

20, Mt. Pleasant Avenue,
NEWARK, NEW JERSEY, U.S.A.

Dependable Gland Products.

London Agents:
BROOKS & WARBURTON Ltd., 240, Vauxhall Bridge Road, S.W.1

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3670 SATURDAY, MAY 9, 1931 Price 1/3

The "Allenburys"

"CHARKAOLIN"

GRANULES

"Charkaolin" is a highly efficient agent for the treatment of intestinal infections characterized by abnormal fermentation and the formation of toxins. It combines the absorbent properties of highly activated vegetable charcoal with the well-known toxin adsorbing qualities of "Osmo" Kaolin.

It is in the form of fine, clean granules which disintegrate rapidly in water and diffuse their ingredients evenly throughout the liquid. "Charkaolin" is tasteless, forms a fine suspension in water and is, therefore, quite easy to take.

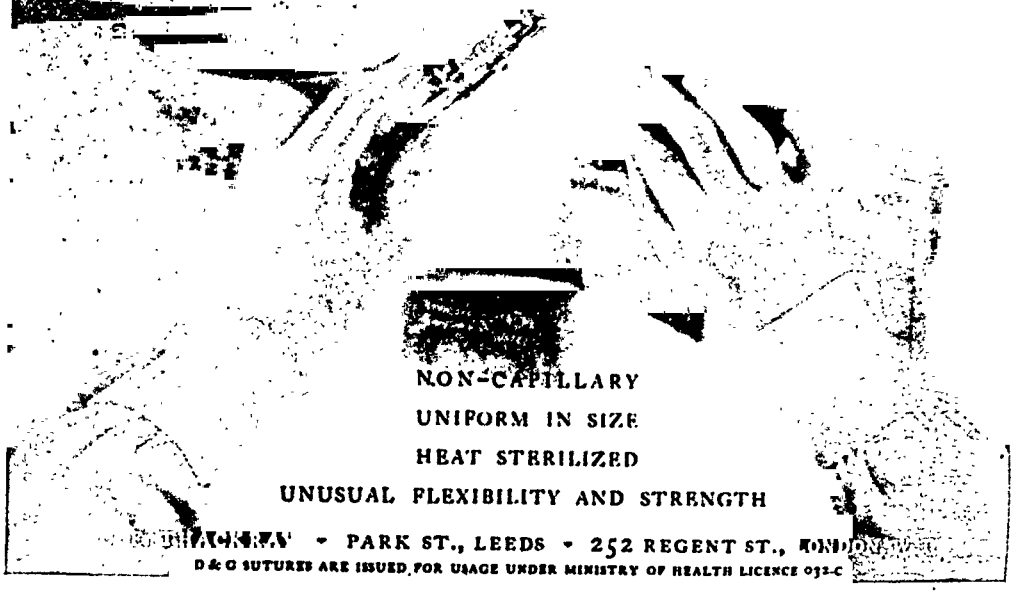
Descriptive literature and a clinical trial sample will be sent on application.

ALLEN & HANBURYS LTD.

Telephone—Bishopsgate 3201 (10 lines) LONDON, E.2. Telegrams—"Greenburys Edo London"

D&G KAL-DERMIC

The Ideal Suture for Skin and Tension Work



NON-CAPILLARY
UNIFORM IN SIZE
HEAT STERILIZED
UNUSUAL FLEXIBILITY AND STRENGTH

[illegible] • PARK ST., LEEDS • 252 REGENT ST., LONDON

D & G SUTURES ARE ISSUED FOR USAGE UNDER MINISTRY OF HEALTH LICENCE 032-C

The Therapeutic value of BRANDY—

its lifting and sustaining powers—as compared with other spirits depends on the presence or absence of the higher Alcohols or Ethers. These in turn depend on Grape, Soil, Stills employed, Climate, Storage, Selection and Experience.

It is quite easy to make a spirit from grape wine—It is neither easy nor cheap to make a Brandy containing the qualities you want.

Cognac Brandy alone provides them.

Take no risks; ensure the results you expect

Prescribe Brandy distilled in Pot-Stills from Wines grown in the best Cognac districts; Matured in warehouses which have been filled with Cognac Brandy for centuries; Made by Men with the inherited Experience of Seven Generations.

In short—Prescribe MARTELL'S BRANDY

and know that you are doing the best possible for your patients.

British Medical Journal

CONTENTS

MAY 9, 1931

ORIGINAL ARTICLES

Fractures of the Neck of the Femur. By Sir ROBERT JONES, Bt., Ch.M. F.R.C.S. (Illustrated) 781

Spinal Anaesthesia. By A. WILFRID ADAMS, M.S., F.R.C.S. (Illustrated) 785

Treatment of Disseminated Sclerosis by Liver. By ALEXANDER GOODALL, M.D., F.R.C.P.Ed., and JAMES K. SLATER, M.D., F.R.C.P.Ed. 789

Wood's Glass in the Diagnosis of Ringworm. By JOHN KINNEAR, M.D., M.R.C.P.Ed. 791

Appendiceo-Caecal Intussusception. By E. N. MACDERMOTT, B.Sc., M.D., F.R.C.S.I. (Illustrated)..... 793

Infarction of Heart with Pericardial Effusion in a Young Phthisical Subject. By T. A. HUGHES, M.D., M.R.C.P., and MOHAMMAD YUSUF, M.D. 794

MEMORANDA

Non-Filarial Elephantiasis. By J. Ewart Sutton, M.B., F.R.C.S. ... 795

Meckel Diverticulum: Acute Intussusception. By W. D. Jenkins, M.B., B.S., F.R.C.P. 795

Volvulus of a Large Appendix Epiploica. By C. E. TAYLOR, M.R.C.S., L.R.C.P. 795

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE: Eruptions of the External Auditory Meatus 796

LIVERPOOL MEDICAL INSTITUTION: Care of the Child 797

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY: Lower Segment Caesarean Section ... 798

LONDON JEWISH HOSPITAL MEDICAL SOCIETY: Intracranial Tumours 798

REVIEWS

Cancer and Race 800
A Textbook of Pathology 800
Treatment of Skin Diseases..... 800
Chronic Rheumatism 801
Physical and Organic Chemistry 801
Notes on Books 801
Roger Casement: a Problem in Psychology 802

THE SERVICES

Deaths in the Services 827

LEADING ARTICLES

TRACKING THE SOURCE OF PUERPERAL SEPSIS 805

THE JOHN B. MURPHY ORATION..... 805

THE WEEK

Undulant Fever in the United States... 807
The First Infant Welfare Centre 807
Enteric Fever in 1929-30..... 808
A Eugenic Experiment 808
Chinese Quarantine Service..... 809
The L.C.C. and Ante-Natal Care 809
The Society of Apothecaries' Roll of Bio-Physical Assistants..... 810
British Association Centenary 810
Research Fellowships in Tuberculosis... 810

GENERAL ARTICLES AND NEWS

Cancer of Lip, Tongue, and Skin: Ministry of Health Memorandum..... 804

Nova et Vetera: A BARBER-SURGEON'S INSTRUMENT CASE OF THE TUDOR PERIOD. (Illustrated)..... 811

INCOME TAX: Reassessment of Properties 812

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY 812

MEDICAL NOTES IN PARLIAMENT: Smoke Abatement 821

MEDICAL NEWS 827

LOCAL NEWS

SCOTLAND—
Dr. William Smellie 813
New Dairy 813
Honour for Glasgow Hospital 814

ENGLAND AND WALES—
Radium Treatment at University College Hospital 814
Midwifery Centre for Deptford 815
Venereal Disease in London 815
Coroners' Inquests in London..... 815

UNIVERSITIES AND COLLEGES

University of Oxford 820
University of London 820
University of Glasgow 820
Royal College of Physicians of London 820
British College of Obstetricians and Gynaecologists 821
London Inter-Collegiate Scholarships Board..... 821
Society of Apothecaries of London ... 821

CORRESPONDENCE

Fractures of the Long Bones. By T. P. [illegible] 816

B [illegible] and G. Arbour Stephens, M.D. 816

Acute Urethritis in Mumps. By Frank Kidd, M.Ch., F.R.C.S. 816

Schistosome Worms and Schistosome Monsters. By R. T. Leiper, M.D., F.R.S. 817

Non-L[illegible] By E[illegible] 817

Concer[illegible] in T[illegible] By [illegible] McCl[illegible] M.B. 817

The Post-Influenzal Cough. By F. Douglas Marsh, F.R.C.S. 818

The Modern Conception of Early Phthisis. By W. Camac Wilkinson, M.D., F.R.C.P. 818

Pulmonary Arterio-sclerosis and Ayerza's Disease. By M. Tree, M.B. 819

Treatment of Malignant Growths with Extracts of Parathyroid Glands. By J. H. Thompson, B.Sc. 819

The Canfield Operation. By J. A. Gibb, M.D., C.M. 820

Epidemiology of Venereal Diseases. By J. D. Rolleston, M.D., F.R.C.P. 820

OBITUARY

Sir Byrom Bramwell, M.D., F.R.C.P. (With Portrait) 823
Walter Tyrrell, M.R.C.S. 826
G. D. M. Beaton, M.B. 826

LETTERS AND ANSWERS

Wagstaff's Forceps 829
Chromium Plating 829
Income Tax 829
Sodium Nucleinate [illegible] 830
[illegible] 830
[illegible] 830
Pregnancy Records 830
First-aid Outfits for Motorists 830

VACANCIES AND APPOINTMENTS 830, 831
DIARY OF SOCIETIES AND LECTURES..... 831
ASSOCIATION INTELLIGENCE AND DIARY 832
BIRTHS, MARRIAGES, AND DEATHS..... 832

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

A SPECIAL SUPPLEMENT contains the complete list of names on the *Register of Bio-Physical Assistants*, kept by the Society of Apothecaries.

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, Bart., K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

Telephone: GERRARD 4814.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-.

Those who join within one year of Registration are exempt from Entrance Fee.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Churchill, J. & A.
Beaumont & Dodds— Recent Advances in Medicine .. 3
Books on Children .. 3
Books for Nurses 3
Burns, D.—An Intro to Biophysics 3
Cade, S.— Radium Treatment of Cancer 3
Culpin, M.—Psychoneuroses 3
Eden & Holland's Midwifery .. 3
Fahr's Endocrine Diseases .. 3
Fraser's Anatomy, etc 3
Hale White's Materia Medica 3
O'Donovan, W. J.—The Hair .. 3
Ogilvie, W. H.— Recent Advances in Surgery .. 3

Lewis, H. K. & Co. Ltd.
Douthwaite, A. H.— Rheumatoid Arthritis .. 5
Varicose Veins 4
Martindale, W. H.—Pharmacopœia 4

Simpkin Marshall Ltd.
Taylin, A. B.— Hypnotic Suggestion, etc .. 5
Hypnotism, etc.. 5

Wright & Sons, Ltd.
Hutchison R. Medical Treatment 4
Medical Annual, 1931 4

ASSURANCE COMPANIES—
London Med. Protection Society.. 1
Medical Insurance Agency .. 39,40
Med. Sickness, Annuity, &c. .. 41

BRASS NAME PLATES, &c.—
Herd, S. J. & A.—Name Plates .. 44
Lewis & Co. Ltd.—Name Plates .. 4
Osborne, F. & Co.—Name Plates .. 43

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee .. 4
Battle Creek Food Co.— Lacto-Dextrin & Psylla.. .. 15
Benger's Food .. 26
Cow & Gate Ltd.—Milk Food .. 23
12
28
43
10
13
Lactogen .. 32
Sumner's Typhoo Tea 34
Trufood Ltd.—Humanized Trufood 16
Valentine's Meat-Juice.. .. 24

SURGICAL APPLIANCES—
Arnold & Sons—Surg. Appliances .. 8
Bayer Products Ltd.— 'Behring Vemulo' .. .. Cover iii
Davis & Geck—Sutures .. Cover ii
Dent's 'Ardente' Stethoscope .. 35
Hilliard's New Absorbent Rags .. 44
Leitz, E.—Haemacytometers .. 8
26
58
40
37
Tycos Sphygmomanometer .. 40

HOSPITAL, &c., FURNITURE—
Furniture, &c., Depositories, Ltd.— Second-hand Furniture .. 42
Ward, Ltd.—Invalid Chairs .. 40

HOUSE AGENTS—
Bedford & Co. .. 58
Elliott, Son & Boyton .. 57

MOTOR CARS, TYRES, &c.—
5
39
58
7

PRINTING & STATIONERY—
Anderson & Son—Account Forms 6
Carlyle, G.—Duplicate Books .. 4
Hamiltons—N.H. Filing Cabinets .. 42
Taylor's Typewriters .. 4

CHEMISTS, &c.—
Allen & Hanburys Ltd.— 'Clarkaolin' Granules .. Cover i
Insulin 'A.B.' .. 14
Alliance Drug & Chemical Co.— Price List .. 42
Anglo-French Drug Co., Ltd.— Bivatol .. 34
Bencard, Ltd.—Leo Insulin .. 17
Boots Products .. 14,21
British Drug Houses Ltd.— Cargokol 21
Insulin 'A.B.' .. 14
Radiostol .. 13
British Industrial Gases Ltd.— Medicinal Oxygen .. 44
Burroughs Wellcome & Co.— Preparations .. 33
Clayton Aniline Co. Ltd.— Preparations .. Cover iii
Coates & Cooper—Ichthamol .. 16
Cranbar Ltd.—Odol .. 35
Curson, Gerrard & Co., Ltd.— Regulol .. 13
Dimol Laboratories—Dimol .. 19
Duncan, Flockhart & Co.— Haemamol .. 22
Eno's Fruit Salt Cover iv
Evans Sons Lescher & Webb Ltd.— Preparations .. 30
Feen a mint Products Ltd.— Feen a mint Chewing Laxative .. 12
Fellows' Comp. and Syrup of Hypophosphites—'Fellows' .. 24
Genatosan Ltd.—Sanatogen .. 18
Hewlett & Son, Ltd.— .. 43
.. Co.— .. 43
.. 17
.. 25
Laboratoires Loldes—Urabasol .. 19
Marshall's Lysol .. 18
Martindale, W.—'Sterules' .. 37,40
May & Baker, Ltd.—'Arthritin' .. 15
Newbery & Sons, Ltd.— Agatol .. 46
Norwegian Cod Liver Oil .. 31
Opsonifermer Products .. 22
.. 20
.. 23
.. 21
.. 45
.. 33

TAILORING & UNDERCLOTHING—
Gloves, Ltd.—Tailors, etc. .. 41
Hall, H.—Medical Service Dress .. 28
Keith Bradburn Ltd.—Tailors .. 5
Regent Dress Co.—Tailors .. 5
The Irish Linen Mesh Co. Ltd.— Empire Linen Mesh Underwear. 40

TOBACCO & CIGARETTES—
Coen, L. Ltd.—Cigarettes .. 42
Player's No. 3 .. 38

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. .. 57

WINES & SPIRITS—
Anderson Dobson & Co., Ltd.— Ackerman-Laurance .. 25
Martell's Brandy .. Cover ii

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub. Hlth. 42
Roberts & Co.—Vaccine Lymph .. 4
Willows, Francis, Butler & Thompson, Ltd.—Poliant'n .. 23

X-RAY & ELECTRO-MEDICAL APPARATUS—
.. 11
.. 9
X-Ray Equipment. .. 9

BATHS, SPAS, &c.—
Harrogate Royal Baths .. 48
Mont-Dore .. 49

HOTELS & HEALTH RESORTS—
Grand Hotel Harrogate .. 48
Hotel Majestic, Harrogate .. 48

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro .. 49
Peebles Hydro .. 49
Ruthin Castle, North Wales .. 45
Smedley's Hydro, Matlock .. 49

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS .. 55

HOSPITAL, &c., VACANCIES—
Aberdeen Royal Infirmary .. 54
Barrow-in-Furness County Borough 52
Bath Royal United Hospital .. 57
Belgrave Hosp. for Children, S.W.9 54
Berkshire Royal Hospital .. 59
Birmingham City .. 51
Birmingham Hospital for Women 59
.. 55
.. 51
.. 57
.. 53
.. 60
Brighton, Hove & Preston Disp. .. 53
Brighton, New Sussex Hospital .. 55
Bristol, Cossham Memorial Hosp. .. 59
Cancer Hospital (Free), S.W.3 .. 51
Cheadle Royal Mental Hospital .. 52
Chesterfield & N. Derbys. Roy. Hos. 53
Colne Borough .. 53
Connaught Hospital, E.17 .. 54
Derby, Derbyshire Royal Infirmary 53
Doncaster Royal Infirmary .. 51
Dover Borough .. 52
Dumfries & Galloway Royal Infirm. 54
E. London Hospital for Children .. 54
E. Sussex County Mental Hospital 55
Elizabeth Garrett Anderson Hosp. 53
Greenock Corporation .. 52
Greenock Royal Infirmary .. 59
Hastings, Royal E. Sussex Hosp. .. 59
.. 61

DEBT COLLECTION—
Brit. Med. Protection Society .. 41

INEBRIETY—
.. 44

HOMES & ASYLUMS—
Bailbrook House, Bath .. 45
Barnwood House, Gloucester .. 46
Bell Lane Hospital for Epileptics .. 45
.. 44
.. 44
.. 43
.. 45
.. 45
.. 44
.. 44
.. 45
.. 45
.. 49
.. 44
.. 45
.. 44
.. 45
.. 44
.. 45

J. & A. CHURCHILL

NOW READY. SEVENTH EDITION. 9 Plates. 389 Illustrations.
21s. Postage 9d.

EDEN & HOLLAND'S MANUAL OF MIDWIFERY

BY

T. W. EDEN, M.D., F.R.C.P., F.R.C.S.Edin., Consulting Obstetric Physician, Charing Cross Hospital, AND EARDLEY HOLLAND, M.D., F.R.C.P., F.R.C.S., Obstetric and Gynaecological Surgeon, The London Hospital.

NOW READY. 4 Illustrations. 12s. 6d. Postage 6d.

RECENT ADVANCES IN THE STUDY OF THE PSYCHONEUROSES

By MILLAIS CULPIN, M.D., M.S., F.R.C.S., Lecturer in Psychoneuroses, London Hospital Medical College. With contributions by JAMES YOUNG, M.C., M.D.; A. R. BEDFERN, M.B., Ch.B.; E. MILLER, M.R.C.S., D.P.M.; and J. R. REES, M.D.

FIFTH EDITION. 43 Illustrations. 12s. 6d. Postage 6d.
FIVE EDITIONS IN FIVE YEARS.

BEAUMONT & DODDS' RECENT ADVANCES IN MEDICINE

By G. E. BEAUMONT, D.M., F.R.C.P., Physician, Middlesex Hospital; and E. C. DODDS, M.V.O., M.D., M.R.C.P., Professor of Biochemistry in the University of London.

TWENTIETH EDITION. 10s. 6d. Postage 5d.

HALE-WHITE'S MATERIA MEDICA

Revised by A. H. DOUTHWAITE, M.D., F.R.C.P., Assistant Physician, Guy's Hospital.

SECOND EDITION. 115 Illustrations. 15s. Postage 9d.

RECENT ADVANCES IN SURGERY

By W. HENEAGE OGILVIE, M.D., F.R.C.S., Assistant Surgeon, Guy's Hospital.

13 Coloured Plates, 49 Text-figures. 15s. Postage 9d.

RADIUM TREATMENT OF CANCER

By STANFORD CADE, F.R.C.S.(Eng.), Assistant Surgeon, Joint Lecturer on Surgery and Teacher of Practical Surgery, Westminster Hospital.

BOOKS ON CHILDREN

PEARSON & WYLLIE'S RECENT ADVANCES IN DISEASES OF CHILDREN 2nd Edition. 53 Illus. 15s.

GOODHART & STILL'S DISEASES OF CHILDREN. 12th Edition. 68 Illus. 28s.

HESS' PREMATURE AND CONGENITALLY DISEASED INFANTS. 189 Illus. 18s.

JACKSON'S EFFECTS OF INANITION AND MALNUTRITION UPON GROWTH AND STRUCTURE. 127 Illus. 30s.

LIDDIARD'S MOTHERCRAFT MANUAL. 7th Ed. 36 Illus. 3s 6d.

LUCAS'S MODERN PRACTICE OF PEDIATRICS. 126 Illus. 30s.

BOOKS FOR NURSES

DOUBLEDAY'S PRACTICAL TALKS TO MIDWIVES. 27 Illus. 3s. 6d.

LODGE'S ELEM. ANATOMY & PHYSIOLOGY. 3s. 6d.

WHITING'S OPHTHALMIC NURSING. 51 Illus. 5s.

LLOYD'S SCIENCE FOR NURSES. 5 Illus. 3s. 6d.

BUNDY'S ANATOMY & PHYSIOLOGY. 6th Ed. 10s. 6d.

CUFF'S LECTURES ON MEDICINE TO NURSES. 7th Ed. 29 Illus. 7s. 6d.

JELLETT'S SHORT PRACTICE OF MIDWIFERY FOR NURSES. 8th Ed. 182 Illus. 8s. 6d.

DARLING'S SURGICAL NURSING. 3rd Ed. 149 Illus. 8s. 6d.

DARLING'S HYGIENE FOR NURSES. 4th Ed. 54 Illus. 5s.

SECOND EDITION. 219 Illustrations, many in Colour. 28s. Postage 9d.

FRAZER'S ANATOMY OF THE HUMAN SKELETON

"The underlying principle of the book is sound and commendable . . . the author has succeeded admirably in his aim."
—BRITISH MEDICAL JOURNAL.

THIRD REVISED EDITION. 104 Illustrations. 36s. Postage 9d.

FALTA'S ENDOCRINE DISEASES: their Diagnosis and Treatment

Translated and Edited by M. K. MEYERS, M.D. Foreword by Sir A. E. GARROD, K.C.M.G., M.D.Oxon.

SECOND EDITION. 116 Illustrations. 25s. Postage 9d.

AN INTRODUCTION TO BIOPHYSICS

By DAVID BURNS, D.Sc., Professor of Physiology, University of Durham.

40 Illustrations. 12s. 6d. Postage 6d.

THE HAIR: Its Care, Diseases and Treatment

By W. J. O'DONOVAN, O.B.E., M.D., M.R.C.P., Physician, Skin Dept., London Hospital.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1

THE
EXTRA PHARMACOPOEIA
By W. HARRISON MARTINDALE, Ph.D.

Nineteenth Edition.

Vol. I, 27/6 net: postage 6d.
Vol. II, 22/6 net: postage 4d.
Complete Work (2 Volumes) 50/- net, post free.

In Two Volumes.

Vol. I (1928) deals chiefly with Treatment, giving the important issues as to CLINICAL USE of all modern CHEMICALS and DRUGS, characters, dosage, methods of prescribing, etc.
Vol. II (1929) COMPLETES THE SET. It is concerned with INVESTIGATIONS, EXPERIMENTAL RESEARCH, DIAGNOSIS, and a large amount of new matter in medicine and allied sciences.

BRIT. MED. JOURN., Nov. 2nd, 1929, says: "*Has a well-established reputation as a most useful and convenient work of reference.*" LANCET, Nov. 2nd, 1929, says: "*A clear and authoritative publication of the highest value.*"

An up-to-date Book for everything on the Therapeutic Use of Drugs. It embodies the Latest and Most Varied Information on Chemistry, Pharmacy, Therapy, and numerous other subjects.

LONDON: H. K. LEWIS & CO. LTD., 136, Gower Street, W.C.1

NOW READY. 49th YEAR. With 70 Plain and Coloured Plates and many Text Illustrations. 20s. *net. Postage* 9d

MEDICAL ANNUAL, 1931
A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX.
A Review of the Year's Progress in Medicine and Surgery, arranged in Alphabetical order.
EDITORS: CAREY F. COOMBS, M.D., F.R.C.P., and A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.
IN CONJUNCTION WITH 29 WELL-KNOWN CONTRIBUTORS.

"*There can be few medical publications in the English language that are so widely read as the "Medical Annual."*"—BRIT. MED. JOURN.

Third Large Impression. Crown 8vo. 168 pp. 7s. 6d. net. Postage 4d.

THE ELEMENTS OF MEDICAL TREATMENT
By ROBERT HUTCHISON, M.D., F.R.C.P., *Physician to the London Hospital and the Hospital for Sick Children, Great Ormond Street.*
"*The advice it contains is sound, free from fads, and not overburdened with useless details.*"—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

FIFTH EDITION. Crown 8vo. 4s. net; postage 2d.

THE INJECTION TREATMENT OF VARICOSE VEINS
By A. H. DOUTHWAITE, M.D., F.R.C.P.Lond., Assistant Physician to Guy's Hospital.

"... The book is a simple introduction to the treatment of varicose veins and can be recommended."—British Journal of Surgery.
"... one of the best of the many books which deal with this subject."—Edinburgh Medical Journal.

London: H. K. LEWIS & CO. LTD., 136, Gower Street, and 24, Gower Place, W.C.1
Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756 (3 lines).

FOR SUCCESSFUL VACCINATION USE
CHAUMIER'S VACCINE LYMPH
Single Vaccination Tubes 8d. each, postage and packing 2d. extra.

ROBERTS & CO. *Pharmaciens to H.M. the King* 76, NEW BOND STREET, LONDON, W.1
Telephone: Mayfair 1173—4.

BANTAM Coffee

Bantam Coffee is prepared from the finest selected Empire grown beans which are powdered and all the waste grounds extracted so that it dissolves instantly and completely when hot water or milk is added. A little Bantam Coffee dropped in a glass of warm milk makes a very palatable beverage. Bantam Coffee is absolutely free from adulterants and has been awarded the certificate of the Institute of Hygiene.
A 2/- tin yields 50 cups of delicious coffee.
Dept. 68. BANTAM PRODUCTS LTD., LEEDS.
Samples for testing will be sent on application.

Duplicate Prescription Books
INVALUABLE TO ALL DOCTORS
Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.
Send for Sample Book, together with Prices and Styles of Printing,
To G. CARLYLE,
116, DUKE STREET, LIVERPOOL

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines.
Write for Bargain List 52.
Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.
74, CHANCERY LANE (Holborn End), W.C.2
Desks, Tables & Chairs
Est. 1884.

THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.

Pp. x + 80. Crown 8vo. 6s. net; postage 3d.

THE TREATMENT OF RHEUMATOID ARTHRITIS

By A. H. DOUTHWAITE, M.D., F.R.C.P., Assistant Physician to Guy's Hospital.

"... an interesting and useful book ... essentially practical."—Lancet.

"... well-written book ... remarkable for its up-to-date summary of knowledge. ..."—The Practitioner.

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1

Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

Second Edition. Cloth. 10/6 net; postage 6d.

HYPNOTIC SUGGESTION AND PSYCHO-THERAPEUTICS

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin., Member of Council and late President of the Psycho-Medical Society of Great Britain, and late President of the Liverpool Psychological Society (Liverpool University).

ALSO

HYPNOTISM AND TREATMENT BY SUGGESTION,

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin. Fourth Edition. 2/6 net; postage 3d.

Publishers:

LITTLEBURY BROS. LTD., Crosshall St., Liverpool.
SIMPKIN MARSHALL LTD., LONDON.

SPORTS WEAR

TERMS £1 MONTHLY

●West End clothing invariably creates a feeling of confidence which tends to improve one's game. Unfortunately many people fail to appreciate this fact, judging by the way old clothes seem to survive relegation. . . . This is not easy to understand, especially as Keith Bradbury makes a point of supplying, for all occasions, clothing cut to give you the neatness of a new suit with the comfort of the old—AND £1 PER MONTH IS ALL YOU NEED PAY. . . . Then there is the Free Valeting Service for sponging, pressing and repairing, as often as ... work ...

...es, of course, ...e have a little book ev... ... May we send you a copy). LTD., COVENT... Sports wear and lounge suits ... trousers from 21/- Flan... Dinner and evening wear ...

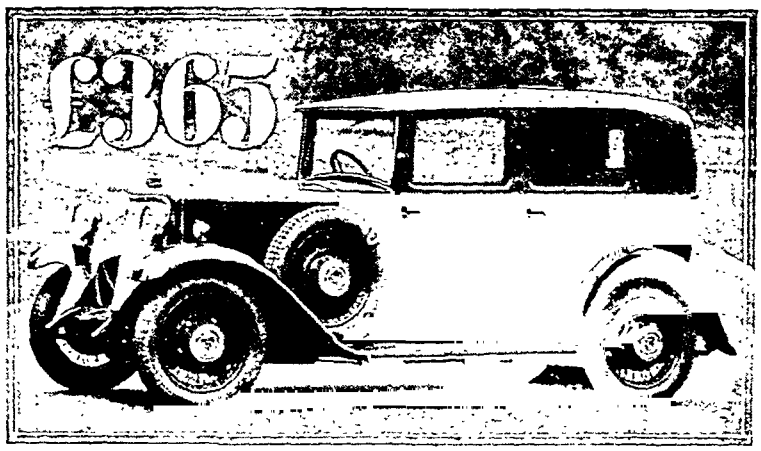
KEITH P... ...RY LTD.

TA... ...ILORS OF CREDIT

137/141 REGENT ST., LONDON, W.1

TELEPHONE: REGENT 5288

Hours 9—7 Saturdays 9—1



"... to the busy practitioner who needs to conserve the last ounce of energy, the absence of all effort in gear changing must count a great deal in a busy day's work ..." A.J., M.D.

"Your Self-Changing Gear has been a perfect revelation. I now come in from a busy round with no sort of feeling of fatigue as the result of stopping, starting, and changing gear so many times as I needs must do. The relief from this work as compared with the old form of gear change is really rather remarkable."

M.B., Ch.B.

Arrange a Trial Run—Have an Armstrong Siddeley for a round of visits and no... ...nt a difference the self-changing gear makes. It is something you have ... for for years.

Prices from £275—All Six Cylinders

ARMSTRONG SIDDELEY

Write for Catalogue BW142

...RMSTRONG SIDDELEY MOTORS LIMITED, COVENTRY

LONDON. 10 OLD BOND STREET, W.1

Manchester: 35 King St. West. Agents everywhere

Doctors' A/c Forms a Speciality

Printed in Best Style.

Account Forms. Letterheads. Cards, etc.

Samples Sent.

R. ANDERSON & SON

Also Testimonials, Applications, and Qualifications for Medical Posts.

Samples Sent.

1 HILL PLACE EDINBURGH

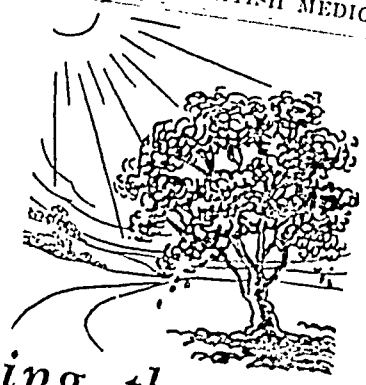
A Gentleman Always Looks Well Dressed In Savile Row Clothes.

NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.—DAVIES & SON, LESLEY & ROBERTS, SCHOLTE, &c. LIGHT OVERCOATS, LOUNGE, DRESS, SPORTS SUITS, &c., 4 to 9 Gns.

Alterations on Premises.

REGENT DRESS CO., Piccadilly Mansions, 17, Shaftesbury Avenue, Piccadilly Circus, W.1. (Next door to Cafe Monico.) Gerrard 7611

Ladies' Department on First Floor.



Well, here's May... are you going through another Summer without your Frigidaire?

Remember how you wished you had one, that hot spell last August? And then came a rush of work and you forgot about it . . . there's a coupon on this page to prevent that happening again. You'll want your Frigidaire badly during the coming hot weather, apart from health reasons.

There's the cool clink of ice in a glass when you're hot and tired—cold, sweet draughts of milk for the children—and all your food tasting better and more appetising because it is kept really fresh. Don't delay any longer—send the coupon to-day.

Frigidaire incorporates all the conveniences and refinements that you would wish to have in your electric Refrigerator. Here are just a few of them.

The Quickube Ice Tray, enables single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the tap. Your cocktail ice is ready at a moment's notice. This is an exclusive Frigidaire feature.

The Cold Control, by which the freezing of ice cubes or any other frozen delicacy can be accelerated at will.

The automatic feature of Frigidaire is invaluable. The safety of your food does not depend on a maid's vigilance. Frigidaire maintains a dry cold that is always under 50° —the only safe temperature for food.

Practical, flat top makes a useful shelf.

The Hydrator ... cold compartm... fresh vegeta... wiches, etc. ... wilted veget... gain their ... a few ... Place, W.C.1 ... 7756 (3 lines).

Ease... Frigi... necti... suppl... nece...

...STRE... Frig... LONDON, W.1

...ON USE

...PH

...little Bantam ... very palatable ... adulterants and ... titute of Hygiene. ... yields 50 cups of delicious ... TAM PRODUCTS LTD., LEEDS. ...ing will be sent on application.

Showrooms at 141, New Bond Street, London, W.1, and in...

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, Calculating Machines. ...rgain List 52. ...793.
Desks, Tables & Chairs
Est. 1894.
THE BIJOU
The best portable Writer Complete In Travelling ... from £9 9s.
...d), W.C.2

FRIGIDAIRE LIMITED (Incorporated in Canada)
Dept. BG-95, Edgware Road, The Hyde, Hendon, N.W.9

COUPON

Please give me by return, without any obligation on my part,

(a) Price of Frigidaire cabinet suitable to my particular needs; or

(b) Particulars of your system of convenient deferred payments.

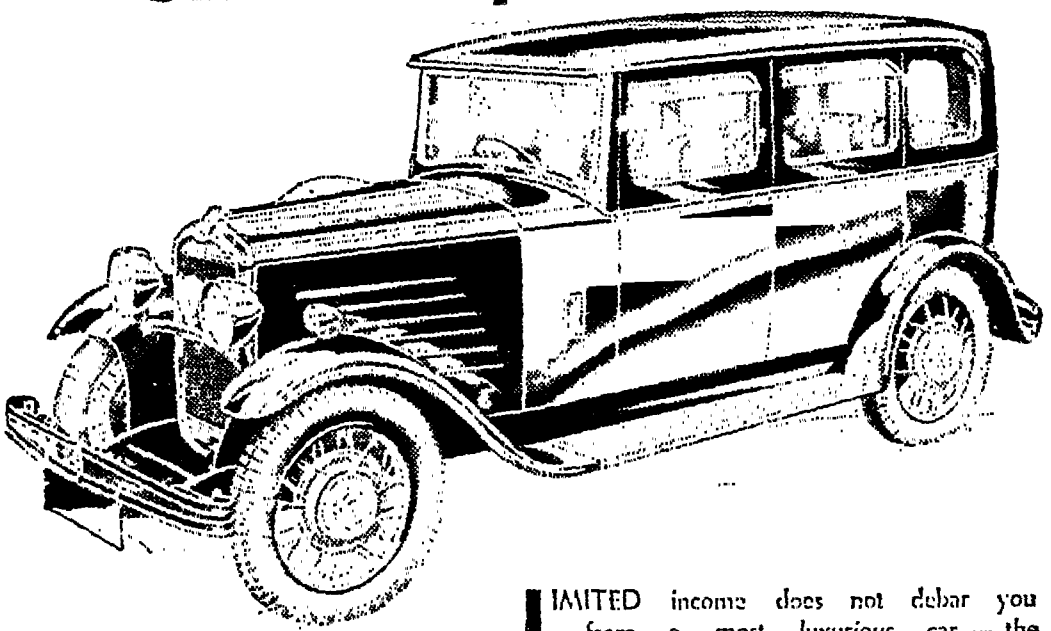
Name .....

Address .....

.....

Type of Business.....

Own a Luxury Car this time



LIMITED income does not debar you from a most luxurious car — the Singer "Six."

Deep, leather upholstered seats, ample leg, elbow and head room, FOUR SPEED GEAR BOX—vacuum SERVO BRAKES, SAFETY TANK at rear (outside the coachwork) centralised finger tip controls, thermo controlled radiator—these are a few of the luxury car features which are yours at £280.

You can loll back in drawing room comfort, and hum down the roads at a silent "60" if you wish —yet you cannot find a car more docile in traffic, or easier to drive.

Don't condemn yourself to an ordinary car. See this Singer "Six" and be enraptured.

SEND FOR COLOURED ART CATALOGUE

INGER SIX SALOON £280

VE IT AWAY £70 DOWN

ODELS FROM £130

●West End clothing Invariably creates a feeling of confidence which tends to improve one's game. Unfortunately many people fail to appreciate this fact, judging by the way old clothes seem to survive relegation. . . . This is not easy to understand, especially as Keith Bradbury makes a point of supplying, for all occasions, clothing cut to give you the neatness of a new suit with the comfort of the old—AND £1 PER MONTH IS ALL YOU NEED PAY. . . . Then there the Free Service f... pre... you your ...rs clean ...et. . . . Refer... ...es or enquiries, of course, ... sary and we have a little book ... . . . May we send you a copy Sports wear and lounge suits trousers from 21/-. Flan... Dinner and evening wear f...

KEITH P... TA...

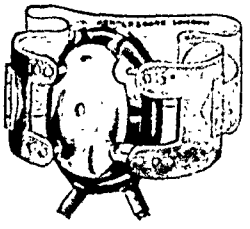
137/141

Singer SIX

...D. LTD., COVENTRY.

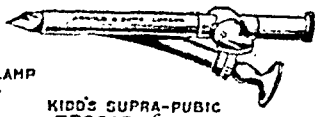
London Showrooms: STRATTON HOUSE, PICCADILLY, W.1. and 202, GT. PORTLAND ST., W.1.

Genito-Urinary Instruments

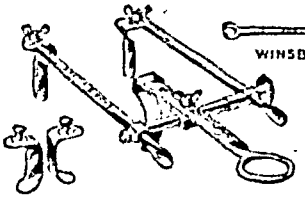


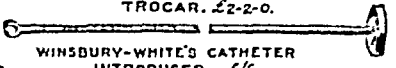
HAMILTON IRVING'S BOX, WITH HARVEY'S PAD. £2-2-0

THOMSON WALKER'S PENILE CLAMP STAINLESS STEEL, 8/6.

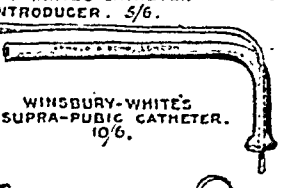


KIDD'S SUPRA-PUBIC TROCAR. £2-2-0.

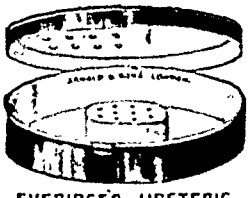




WINSBURY-WHITE'S CATHETER INTRODUCER. 5/6.

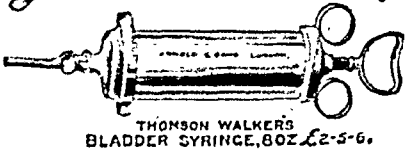


WINSBURY-WHITE'S SUPRA-PUBIC CATHETER. 10/6.



EVERIDGE'S URETERIC CATHETER BOX. 12/6

THOMSON WALKER'S BLADDER RETRACTOR £4-7-6.



THOMSON WALKER'S BLADDER SYRINGE, 8oz £2-5-6.

Enquiries Invited

Arnold & Sons (JOHN BELL & CROYDEN)

For all Surgical Instruments

Telephone: Welbeck 5555.

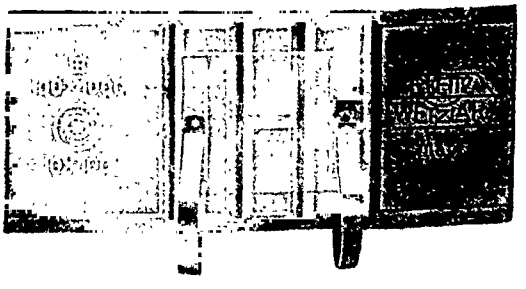
50-52, WIGMORE STREET, LONDON, W.1

Telegrams: Instruments, Wesdo, London.

Leitz

BLOOD COUNTING CHAMBERS AND HAEMACYTOMETERS

Solid Glass Slides, uncemented. Single or Double Rulings.



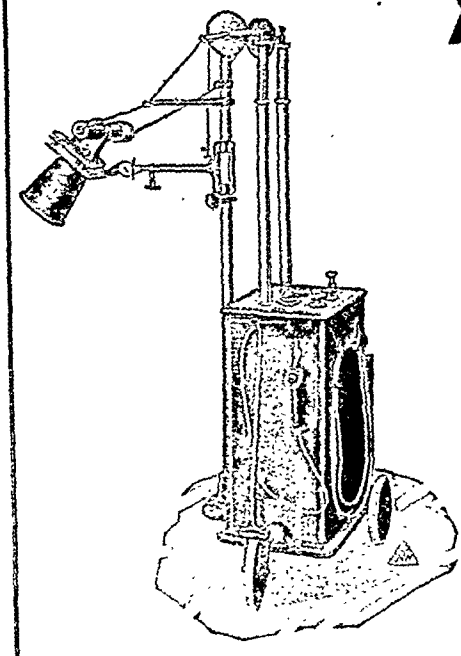
Thoma, Burker, Turk, Neubauer, Fuchs-Rosenthal, and all Standard Rulings.

METZ HAEMACYTOMETER with distinctive scale in eyepiece, dispensing with ruling on slide, obviates calculations.

Catalogue No. 0.6 post free.

E. LEITZ (London), 20, Mortimer Street, LONDON, W.1

Microscopes and Accessory Apparatus—Microtomes—Colorimeters—Photomicrographic Apparatus—Optical Projection Apparatus, etc.



X-RAY EQUIPMENT

NEW CATALOGUE

JUST PUBLISHED

Post free on request

VALVE OUTFITS, SNOOK MACHINES,
BEDSIDE UNITS, Etc.

Newton & Wright Ltd.

HEAD OFFICE AND WORKS:

471-3, HORNSEY ROAD, LONDON, N.19

Telephone: Archway 2621 (3 lines)

GRSA

NEW DIATHERMY APPARATUS

ALL PRICES REDUCED

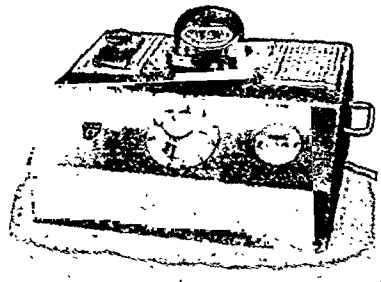
Machines for purely medical purposes, surgical purposes, and combined models for either purpose.

THERMOFLUX CK

(as illustrated)

This is an inexpensive universal model for the private doctor, and has been designed to meet the demand for a reasonably portable apparatus. It has an output of 200 watts and weighs only 60 lbs.

Reduced price for A.C.
£40



OTHER MODELS

THERMOFLUX A, for Small Surgical Operations...	£25
THERMOFLUX M, for Major Surgical Operations...	£80
THERMOFLUX G, for Medical Diathermy	£80
THERMOFLUX C ...	£35
THERMOFLUX D2 ...	£45
THERMOFLUX K ...	£55
THERMOFLUX D4	£47.10

RECENT INSTALLATIONS INCLUDE—
ST. THOMAS'S HOSPITAL, ST. GEORGE'S HOSPITAL, MIDDLESEX HOSPITAL, BRITISH RED CROSS CLINICS, Etc.

Write for particulars of our ELECTRO-ATMOS for use with surgical machines.

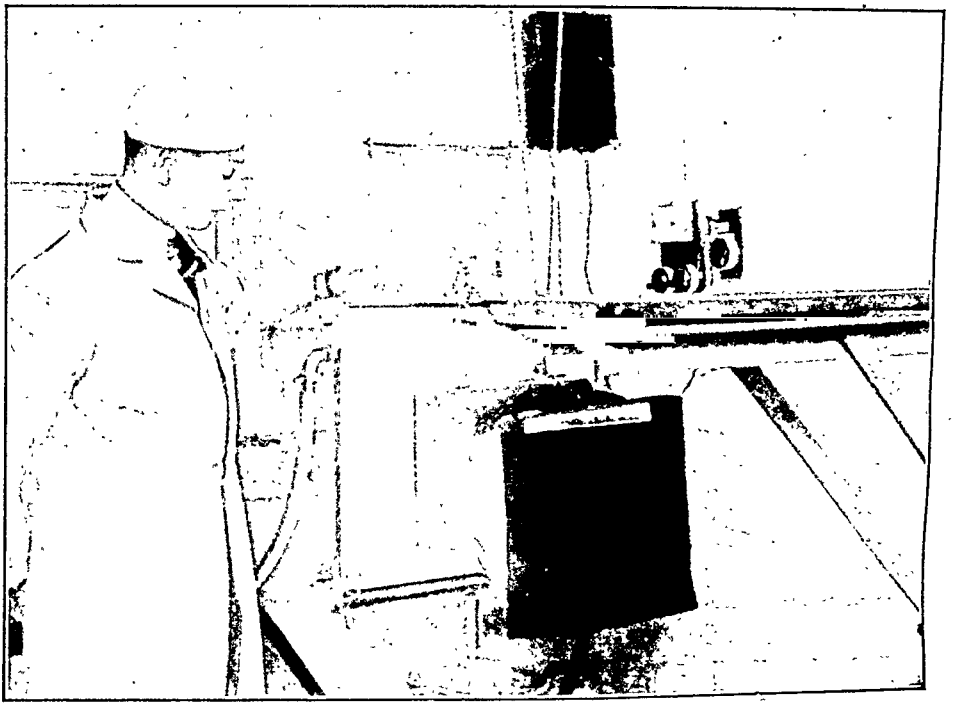
The General Radiological & Surgical Apparatus Co. Ltd.

204-206, Great Portland Street, London, W.1

Phone: Museum 1719 and 8326. Showrooms: FIRST FLOOR. 'Grams: Equispital, Wesdo, London.

PRINCIPAL AGENTS: Scotland: The Medical Supply Association, Ltd., 12 & 13, Teviot Place, Edinburgh.
Ireland: The Irish Radiological & Surgical Supply Co., Ltd., 7, Lower Pembroke Street, Dublin.

MICKLEFIELD IRRADIATED MILK



TREATING THE MILK

By this Process—

(1) VITAMIN A AND NATURAL FLAVOUR ARE PRESERVED.
(2) VITAMIN D CONTENT IS INCREASED 1,800 PER CENT., OR TEN TIMES THAT OF ANY OTHER IRRADIATED MILK.

One pint equivalent in Vitamin D to 600 drops or 12 grammes of average Cod-Liver Oil.

A further ten weeks' test recently conducted at the Infants' School, Rickmansworth, under the supervision of the Medical Officer of Health, gave the following increases in growth:—

(1) 18 children (controls) had their usual ordinary milk.
(2) 29 " 1/3-pint of Grade A (T.T.) milk five days a week.
(3) 30 " " Micklefield " " "

(1) Averaged .547-in. | (2) Averaged .526-in.
(3) Averaged .777-in., or nearly 50% more than the other two.

These tests have now come to an end because all the children wanted Micklefield Irradiated Milk.

Full particulars appeared in an article in the LANCET, January 18, 1930, p. 127, et seq., a reprint of which will be sent post free on request.

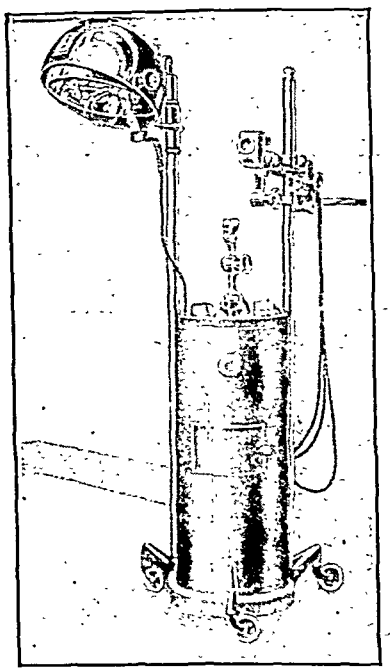
The milk is delivered every week-day in London; elsewhere by arrangement.

Write to J. O. HICKMAN, MICKLEFIELD GREEN, RICKMANSWORTH.

ACTINOTHERAPY

Two Famous Lamps in Combination —

for general, orificial or localised conditions



THE COMBINATION UNIT
Alpine Sun Lamp and Kromayer Lamp

THE combination unit illustrated here provides two ultra-violet lamps in one.

It is specially designed to meet every requirement of the practitioner or specialist in administering actinotherapy. It provides, in one outfit, for general, local or orificial treatment. This new Hanovia unit is the most up-to-date model of its kind in existence to-day. Mobile and self-contained, it has outstanding advantages for use in clinic or hospital.

Hanovia specialise in actinotherapy equipment and in nothing else—they are both leaders and pioneers in this field.

Return the coupon below for details of this unit and other Hanovia models, a full list of free reprints, or any other information you may require. Mark your enquiry Dept. 9.

Latest Prospectus sent FREE on request.

Hanovia Lamps for Actinotherapy

London Office: 3, Victoria St., London, S.W.1.

Equipment and service also through all electro-medical dealers.

Trade Mark

THE BRITISH HANOVIA QUARTZ LAMP CO. LTD., Slough, Bucks. (Dept. 9)

Please send me a free copy of your prospectus on "Hanovia Equipment for Light Therapy," and list of over 100 free reprints.

Name .....

Address .....

328

Feen-a-mint

REG. TRADE MARK

The Chewing Laxative

Peristaltic Promotion

Feen-a-mint definitely promotes peristalsis without griping, and without irritation to the intestinal or reno-vesical mucosa. Its marked activity is due to the minute state of sub-division of its active principle (phenolphthalein) which is incorporated into a resinous gum base. Mastication assists further its division—thus a maximum therapeutic effect is exhibited.

Definite Defaecation

Feen-a-mint is valuable at all ages. It is a beneficial aid in 'difficult' and intractable cases—especially those due to habit-forming drugs, pregnancy, neglect and post-operative stasis. It has no secondary effects, and is not incompatible with any concurrent treatment. Pleasant to take, bland, yet certain in result, and non-habit-forming, Feen-a-mint is free from all objection to the patient.

Feen-a-mint is of marked assistance in
CONSTIPATION OF ALL TYPES

✠ FREE *of all charge or obligation, a clinical sample will be sent on request.*

FEEN-A-MINT PRODUCTS LTD., 1, BUSH HOUSE,
LONDON, W.C.2

Then and Now

1903

"It is unlikely that starch will form a suitable food for young infants."*

1930

"Young infants even as early as the third month will digest appreciable quantities of starch perfectly."†

The paramount importance of starch in infant feeding at a very early stage is generally admitted to-day. Leading practitioners are occupied with the question of the best and most digestible form in which it can be administered.

There is a consensus of opinion in favour of wheat as opposed to oats as a first solid diet, both because its carbohydrate is known to be better tolerated and less rachitogenic than that of oats, and because it has greater digestibility and energy value.

During 1930, a leading biochemical society proved by careful experiment that "Cream of Wheat" was superior to oatmeal. After 4 hours the digestion of oatmeal was almost at a standstill, while that of "Cream of Wheat" continued at a scarcely diminished level *for another 4 hours*. When digestion was complete, the sugar yield from "Cream of Wheat" was 50% greater, and productive therefore of 1½ times as much energy.

As a first solid diet, as a food for children suffering from indigestion or intolerance of fat, and as a post-operative diet for adults, "Cream of Wheat" can be confidently given.

On receipt of your professional card, *Dept.* W.4, Fassett & Johnson, Ltd., 86, Clerkenwell Road, London, E.C.1, will be glad to send you a sample of "Cream of Wheat" and fuller details of the above-mentioned tests.

* Written statement by a leading authority on Infant Feeding.
† "*Infant Feeding*," by Clifford G. Grulee, A.M., M.D., LL.D. (J. & A. Churchill)

MAKE COW'S MILK DIGESTIBLE

The chief drawback to cow's milk in infant feeding is that it forms a clot on reaching the stomach—hence indigestion. It is the special function of Robinson's "Patent" Barley to prevent the formation of this indigestible clot, and the accompanying photographs taken in our own Research Laboratory prove that this can be done. They are "in vitro" reproductions of the "in vivo" conditions prevailing in the infant's stomach.

Fig. 3.

Fig. 2.

Fig. 1.

Fig. 1—The indigestible clot.
Fig. 2—Milk modified by Robinson's "Patent" Barley.
Fig. 3—The further effect of more Robinson's "Patent" Barley.

ROBINSON'S "patent" BARLEY

Makes cow's milk into the perfect baby food

KEEN ROBINSON & CO. LTD., Carrow Works, Norwich.

CTS—12

RADIOSTOL

(Irradiated Ergosterol)

That Vitamin D in ample quantities is an essential part of the diet of early childhood is now generally recognised, the architecture of the teeth and the correct development of the skeletal frame being dependent upon the ingestion of a sufficiency of this vitamin.

In the early months of life

This sufficiency is assured when Radiostol—*the original British irradiated ergosterol*—is administered:—

(1) to the mother during pregnancy and lactation
(2) to the child as soon as it is fed independently of the mother.

Radiostol therapy ensures the ingestion of Vitamin D in accurately-standardised amounts. Radiostol, being non-toxic, possesses the further advantage of producing no ill-effects even when administered in doses greatly exceeding the normal daily requirement of Vitamin D.

Vitamin D in standardised amounts

Literature and sample on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Rs/114

The Ideal Laxative

REGULOL REGD.

"REGULOL" IS AVAILABLE IN TWO FORMS: "PLAIN" *or* "COMPOUND." *The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient.*

CUXSON, GERRARD & Co., Ltd.
Oldbury, *Birmingham.*

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

SAMPLE 1-lb. JAR FREE ON REQUEST.

Please indicate whether Plain or Compound is required.

(This offer is limited to the British Isles.)

Purity, Activity and Stability

INSULIN 'A.B.'

TRADE A.B. MARK **Brand**

The world-wide supremacy of Insulin 'A.B.' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions.

Supplied in three strengths:

20 units per c.c. Packed in bottles containing:
5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing:
5 c.c. (200 units or 20 doses) 4/- each

80 units per c.c. Packed in bottles containing:
5 c.c. (400 units) - - 8/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession.

Joint Licencees and Manufacturers:

The British Drug Houses Ltd.
Graham Street, London, N.1

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

Full size trial sample free to any medical practitioner in British Isles, on application by postcard to BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM

WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG COMPANY LIMITED,
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

CHLOR-SAN

A STABLE SOLUTION of Sodium Hypochlorite in Salt Solution, containing approximately 1% of available Chlorine.

A household antiseptic for personal and domestic use, which, when used in accordance with the directions, is non-caustic and non-poisonous.

Purifies, disinfects, deodorises, is economical in use, keeps indefinitely. An excellent prophylactic against throat and mouth infections.

IDEAL FOR ARTIFICIAL TEETH.

OBTAINABLE FROM

The Boots Chemists

OVER 900 BRANCHES IN GREAT BRITAIN

For the Treatment of Arthritis and Neuritis

"ARTHRYTIN" Trade Mark

BRAND

Ammonium ortho-iodoxy benzoate

"ARTHRYTIN" possesses an action resembling that of the salicylates, but is much more potent in its effects. It is indicated in all forms of acute arthritis, and has given strikingly successful results in many cases of chronic arthropathy.

Supplied in capsules for oral administration, and powder for intravenous and rectal injection.

Clinical trial sample and literature on request.

Prepared in the Laboratories of

MAY & BAKER, LTD.

BATTERSEA LONDON, S.W.11

Telegrams: Bismuth, London.

Telephone: Battersea 1813 (6 lines)

TWO NEW PREPARATIONS

Vide THE LANCET, Jan. 10th, 1931.

"PSYLLA (psyllium seed); LACTO-DEXTRIN (Battle Creek Food Company, Mich., U.S.A., Distributing Agents, Coates & Cooper, 41, Great Tower Street, London).—This company have sent us specimens of their laxative agent, Psylla, and their preparation, Lacto-Dextrin, for use in intestinal toxaemia. Psyllium seeds when immersed in water yield a mucilaginous substance which is able to take up relatively large quantities of water to form a gelatinous mass. They become in this way a useful lubricant, while the emollient character of the mass renders it of special service in Fissure or Haemorrhoids. The same firm has received favourable reports from the clinical use of their combination of lactose and dextrin."—*Lancet*, Jan. 10th, 1931.

Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, 41, Great Tower Street, London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA *(Psyllium Seed)*

LACTO-DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

BABIES THRIVE BEST ON HUMANISED TRUFOOD BECAUSE IT IS ACTUALLY NEAREST TO MOTHER'S MILK

Samples and literature on request

TRUFOOD LTD., THE CREAMERIES, WRENBURY, NR. NANTWICH, CHESHIRE

TF 40-221

IDOZAN HAS BEEN REGULARLY PRESCRIBED BY DOCTORS IN FIFTEEN DIFFERENT COUNTRIES

As a restorative in convalescence and in cases of anaemia

Colloidal Iron Concentrate	83%
Pure Alcohol	6%
Sugar	10%
Flavouring	1%

That is the formula of this tonic preparation, which contains a larger percentage of assimilable iron than has hitherto been provided in either a general or colloidal form. A more rapid response may therefore be anticipated from the administration of this preparation, which is very pleasant to take and well tolerated by all patients. Idozan has no constipating effect, it does not derange the stomach or discolour the teeth. Though incompatible with alkaline salts, it may be combined with Liq. Arsenicalis and vegetable tinctures. It is therefore very suitable for therapeutic administration, where it is desired to give large doses of iron; both as a restorative after illness and in cases of anæmia it can be prescribed either with or without additional drugs with confidence and freedom.

IDOZAN

Samples and literature sent post free on request to Sole Distributing Agents: MESSRS. COATES & COOPER 41, Great Tower St., London, E.C.3.

LEO INSULIN

Marketed under Licence from the Ministry of Health No. 038.

CONTAINS

NO PRESERVATIVE

100 Units per 5 c.c. (each c.c. represents 20 units) - - 1/6
200 Units per 5 c.c. (each c.c. represents 40 units) - - 2/10

Usual discounts allowed to the Medical Profession.
Special Quotations to Hospitals.

Sole Concessionaires for British Empire—
C. L. BENCARD, LTD., 184, Wardour Street, London, W.1.
Telephone: GERRARD 1828. Telegrams: SCANOFIL, WESTCENT, LONDON.

Sole Agents for the Midlands, Northern England, Wales and Ireland—
JAMES WOOLLEY SONS & CO., LTD., Victoria Bridge, Manchester.
Telephone: CENTRAL 8580. Telegrams: PHARMACY, MANCHESTER.

South African Distributors—
LENNON LIMITED, CAPE TOWN and BRANCHES.

Kaylene

for the treatment of acute intestinal infections, ptomaine and other forms of food poisoning, and all diarrhoeal conditions. It acts by adsorption and is the true antidote to bacterial toxins and toxalbumins in contaminated food.

The action is speedy and certain.

Kaylene-ol

An emulsoid of the toxin adsorbent Kaylene combined with Colonol Liquid Paraffin. The latter counteracts the consolidating effect of the Kaylene. This preparation may be prescribed with confidence for those conditions in which toxaemia is associated with constipation. **It actively prevents the absorption of toxins** and completely puts an end to the fouling of the lymphatics and the blood.

Samples and "adsorption" literature obtainable on request to the Manufacturers:

KAYLENE LIMITED, Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone— GLADSTONE 1071 (2 lines). *Telegrams*— KAYLOIDOL, CRICKLE, LONDON. *Cables*— KAYLOIDAL, LONDON. *Code*— BENTLEY'S.

FEEDING IN CACHECTIC DISEASES

Owing to its chemical combination of casein and sodium glycerophosphates Sanatogen is of the utmost value in cachectic diseases. Sanatogen introduces casein into the organism, in a form in which it can be assimilated even by patients with greatly decreased powers of absorption. At the same time the glycerophosphates regenerate and strengthen the whole system.

IN TUBERCULOSIS:

Sanatogen increases the weight, has a strengthening influence on the nerves, enriches the blood and overcomes the "run-down" feeling of the patients ["British Journal of Tuberculosis."]

IN SYPHILITIC CACHEXIA:

Sanatogen overcomes the nerve-weakening influence of the specific treatment [Col. Lambkin in "The Lancet," Vol. CLXXI, No. 4340.]

Samples and literature on request to
Genatosan Ltd.
Loughborough,
Leicestershire.

SANATOGEN

Easily digested and assimilated.

. . . . made to the original formula

MARSHALL'S LYSOL

The surgeon whose instruments are sterilised in a dilution of MARSHALL'S Lysol uses them with absolute confidence. The physician who knows his nurses use it in dressings and antiseptic work has an easy mind, where the dread of "infection" need never intrude.

MARSHALL'S Lysol is made to the original Lysol formula and specification. Every bottle is tested for purity and strength.

Sample will be sent upon request to members of the medical and nursing professions.

Lysol Ltd., Dept. K, 15, Raynes Park, London, S.W.20

SAFE

The safest and most reliable non-toxic bactericide for all pathogenic conditions associated with an intestinal focus.

Dimol

Recommended by the Medical Profession for over ten years.

Supplied by the Admiralty for use in His Majesty's ships and Royal Naval Hospitals.

Dimol Laboratories Ltd., 40, Ludgate Hill, London, E.C.4.

TREATMENT
OF THE
RHEUMATIC DIATHESIS
WITH
URALYSOL
TABLETS
GRANULES
Thyminic Acid — Hexamethylene-Tetramine — Lysidin
Prepared by:
LABORATOIRES LOBICA
46, Avenue des Ternes, PARIS (17e)
Distributors in British Isles:
CONTINENTAL LABORATORIES Ltd.
30 MARSHAM St., LONDON, S.W.1.

The Endocrine Glands
NOW a complete range of single gland products

Here is a new full list of the entire range of Reed & Carnrick's single gland products, supplied in tablets (uncoated or enteric coated) and powder form :—

Corpus Luteum
Mammary
Pancreas (Coated only)
Parathyroid
Pineal
Pituitary Anterior
Pituitary Posterior
Pituitary Whole
Suprarenal Cortex
Suprarenal Medulla
Suprarenal Whole
Thymus
Thyroid ("Thyracoids")

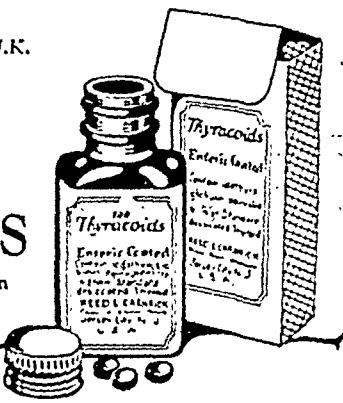
Packings: Tablets 100. Standardised Strength.
Powder 1 oz. bottles.

Descriptive literature from Sole Distributing Agents for U.K. and Irish Free State:—

COATES & COOPER,
41, Great Tower Street, London, E.C.3.

SINGLE GLAND PRODUCTS

Manufactured by REED & CARNRICK, Pioneers in Endocrine Therapy, Jersey City, NEW JERSEY.



A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

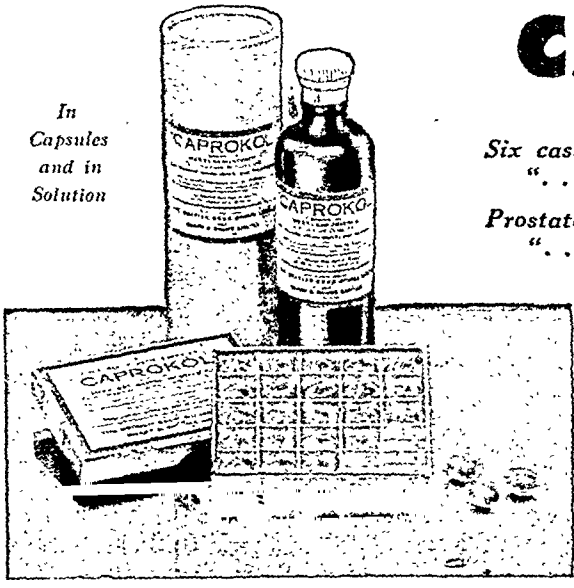
"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative. "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

M 295



In Capsules and in Solution

CAPROKOL

Brand of Hexyl-Resorcinol

Six cases of cystitis
". . . yielded quite successfully to Caprokol."
——, M.B., Ch.B., The General Hospital.

Prostate case
". . . comfortable on it."
——, M.B., Ch.B.

In the hospitals and private practices of the English-speaking world, the value of Caprokol therapy in the treatment of urinary tract infections is recognised and appreciated.

Caprokol is at once a soothing analgesic and a highly active germicide; its administration produces immediately a condition of ease and comfort; persistent treatment results in complete disinfection of the urinary tract.

Literature on request

Sole Selling Agents:
THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Capf36

GONOCOCCUS VACCINES (BOOTS)

SPECIALLY prepared in the Venereal Department of St. Thomas's Hospital, London, and issued under Licence from the Ministry of Health and tested in accordance with the regulations made under the Therapeutic Substances Act, 1925, Licence No. 19.

Supplied in three types and several different strengths for the treatment of Gonococcal Infections.

VACCINE A	VACCINE B	VACCINE C
A simple emulsion of gonococci.	An emulsion of gonococci from which the toxins have been largely removed.	A simple emulsion of gonococci mixed with staphylococci, diphtheroids, coliform bacilli and strepto-pneumococci.

In rubber-capped vials containing 5c.c. and 25c.c. and in 1c.c. ampoules.

BOOTS PRODUCTS
BISMOSTAB
SULPHOSTAB
STABILARSAN
ORARSAN
ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS

WHOLESALE AND EXPORT DEPARTMENT
BOOTS PURE DRUG CO. LTD.
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

IMPROVED
DAY AND NIGHT SERVICE
TO
THE MEDICAL PROFESSION
FOR
OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPÔT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1
(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, **CLAPHAM ROAD, S.W.9**

RELIABLE PREPARATIONS

HAEMAMOL
(DUNCAN)

ANTISEPTIC. EMOLLIENT.
ASTRINGENT. SEDATIVE.

Duncan

Sample and Prices on Application.

An efficacious Ointment for the speedy relief of all cases of Haemorrhoids and for abrasions and irritations of the skin.

Supplied in bulk or in 1-oz. and 2-oz. tubes.

DUNCAN, FLOCKHART & CO.
EDINBURGH and LONDON
104. Holyrood Road. 155. Farringdon Road, E.C.1.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ITAL.	KENT	ITAL, MAIDSTONE.
HOSPITAL.	NEWJ	AL.
	NEWC	ORIA INFIRMARY.
	OXFD	
	ST. P	OOL.
	SWAN	
	WEST	
	WOLV	
	SIR C	BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

HAY FEVER

CAN BE VERY SUCCESSFULLY COMBATED WITH **POLLANTIN**

(A Serum discovered by Prof. Dunbar in 1903)

For literature and prices apply to the distributing Agents

Willows, Francis, Butler & Thompson, Ltd.

73, 75 and 89a, SHACKLEWELL LANE, LONDON, E.8

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"

Trade Mark

The first line of Body Defense assured through

"CHEMICAL TISSUE FOODS"

combined with the dynamic action of strychnine and quinine

Samples on request

Fellows Medical Mfg. Co., Inc.
26 Christopher Street
New York City

DEMINERALIZATION
CONVALESCENCE
MUSCULAR ATONY
NEURASTHENIA
PREGNANCY
DEBILITY

The "FOOD" TONIC

POTASSIUM
MANGANESE
PHOSPHORUS
CALCIUM
SODIUM
IRON

Valentine's Meat-Juice

In cases of **Extreme Exhaustion**, at **Critical Times**, in **Wasting Diseases**, **Low Forms of Fever**, **Cholera Infantum**, **Diarrhoea**, **Dysentery**, **Influenza**, **Pneumonia** and **Phthisis**, when other Food fails, **Valentine's Meat-Juice** demonstrates it Power to **Sustain** and **Strengthen**.

Physicians are invited to send for Clinical Reports from Hospitals and General Practitioners in all parts of the world.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 93

PREVENTION OF CANCER

ONE of the most noted authorities on Alimentary Toxæmia is firmly convinced of the importance of this condition in the production of Cancer.

The irritant effects of the stagnating contents of the bowel on the intestinal mucous membrane, accompanied as it often is with ulceration, is obviously a cause of Cancer in the bowel itself. According to this writer, the toxins absorbed produce atrophic changes in the breast and other organs which are specially prone to be followed by Cancer.

There are grounds, therefore, for hoping that the use of the most efficient of all intestinal disinfectants—Kerol—for prevention and cure of alimentary toxæmia, will do much to prevent the occurrence of Cancer.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

Kerol Capsules

KEROL LTD.
Ravens Lane
Berkhamsted
England

B1671

ACKERMAN-LAURANCE

"Brut-Royal"
and
"Dry-Royal"

"may be recommended with every confidence. By reason of the very low "content of sugar these wines are "specially suitable for persons with a "rheumatic or gouty tendency."

(Vide Report: Institute of Hygiene, Feb. 1927)

Obtainable everywhere

Per bottle - -	9/-
Per half-bottle - -	4/9
Per quarter-bottle -	2/6

General Agents (Wholesale only) for U.K. and Colonies

ANDERSON DOBSON & CO., LTD.
13, COOPER'S ROW, LONDON, E.C.3

A useful attachment for U.K. Telephone, holding Memo Block, sent post free on application.

The confidence of the MEDICAL PROFESSION.

Benger's Food has gained its unique position not by extravagant or sensational claims but by the constant recommendation of Medical Practitioners.

Benger's Food is scientifically prepared to adjust fresh cows' milk, diluted or undiluted, to suit the individual requirement of the patient. In this respect it is distinct from any other food obtainable.

Benger's Food is largely used as a routine treatment in all cases of impaired digestion. The following comments, recently made by Doctors, indicate some specific conditions in which the Medical Profession prescribes Benger's Food.

DYSPEPSIA.

"routine food in all cases of dyspepsia and disordered digestion."

"used for invalids and all gastric cases."

INFLUENZA.

"very largely used for Influenza in all its forms."

CANCER.

"invaluable for cancer of the throat."

"cancer of the stomach—doing well on Benger's Food."

THE AGED.

"very beneficial for man of greatly advanced years."

"invariably used for invalids and aged persons."

A Physician's Sample will be sent post free to any member of the Medical Profession making application to the Proprietors—

BENGER'S FOOD, LTD., Otter Works, MANCHESTER.
NEW YORK (U.S.A.): 41, Maiden Lane. SYDNEY (N.S.W.): 350, George St. CAPE TOWN (S.A.): P.O. Box 573

Benger's Food, in sealed tins, is on sale throughout the world by Chemists, etc.

M.142

BENGER'S Food
TRADE MARK

"Viodar"

The New Oil

Containing Free Iodine—hence the **Violet** colour.

A penetrating and occlusive Dressing for abrasions and skin affections.

"An Iodine compound which should be valuable for both external and internal use."
—LANCET, April 18/31, 896.

Antiseptic power established by bacteriological experiments.

"VIODAR" DOES NOT IRRITATE OR STAIN THE SKIN, or evolve acrid fumes in use.

"VIODAR" IS ISSUED IN TWO STRENGTHS, 1 in 200 and 1 in 1,000.

Either strength, 4-oz. stoppered bottles, 3/- each.
" " 8-oz. special "Surgery" bottles, 5/- "

Sodium Fluorescein "Sterules"

For use in conjunction with irradiation in malignant disease
(See B.M.J., April 18/31, 658; May 2/31, 767)

"Sterules" Sodium Fluorescein 20 c.c. 5%, 3/- each.

Saline Gelatin "Sterules"

For Gelatinothorax

(See B.M.J., April 18/31, 683)

"Sterules" for producing 5 ounces 2% solution, 2/6; 10 ounces, 3/6 each.

ALSO

"Sterules" Euflavine (powder) 1 grain, used with same, boxes of 6, 3/6 "

Sodium Morrhuate "Sterules"

For Varicose Vein Injections

"Sterules" 2 c.c. 5%, boxes of 10, 7/6.
" " 10%, " " 8/6.

Peptone "Sterules"

For Asthma, Hay Fever

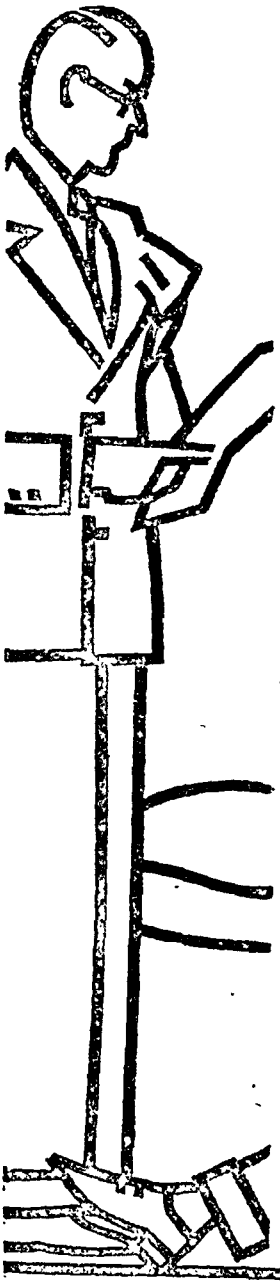
and allied affections.

Graded Series of 10 "Sterules," professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use, professional price, 6/6. Please state which is desired.

W. MARTINDALE

12, NEW CAVENDISH STREET, W.1

Telegrams: Martindale, Chemist, London. 'Phone: Langham 2441.



when you forbid a patient caffein please hasten to add—

When a patient's face falls at your order to avoid caffein, please hasten to add a word of cheer.

Console the patient with the fact that, in forbidding caffein, you are not forbidding the satisfying flavour of coffee. Remind the patient that he can still drink H.A.G. Coffee—genuine, delicious coffee with the effects of caffein minimized.

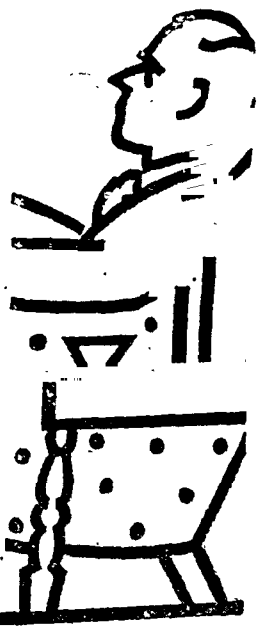
There is, however, another reason besides your own benevolence for recommending H.A.G. Coffee. By letting your patient enjoy the rich and satisfying flavour of H.A.G. Coffee, you remove all temptation to drink caffein-containing coffee on the sly.

Rich in flavour—tempting in aroma

H.A.G. Coffee is real coffee—a superior blend of the choicest Central and South American coffees. The decaffeination process takes place *before* the coffee beans are roasted. This leaves intact all the mellow flavour and fragrance that make coffee "the beloved beverage." Coffee experts recognise that no other blend is finer.

H.A.G. Coffee is under the Independent Control of The Institute of Hygiene and British Analytical Control.

Your grocer stocks H.A.G. Coffee—ground or in the bean and in vacuum tins that preserve its freshness and its fragrance. Or send the coupon below for a liberal sample tin of H.A.G. Coffee. With it we shall be pleased to send a copy of "Some Observations of the Action of Caffein," a more complete discussion of H.A.G. Coffee. Send the coupon now.



H.A.G.

GENUINE · DELICIOUS

COFFEE

WITH THE EFFECTS OF CAFFEIN MINIMIZED

H.A.G. COFFEE COMPANY,
40 Theobald's Road, W.C.1

Please send me free of charge a liberal sample of H.A.G. Coffee—also the booklet "Some Observations of the Action of Caffein."

Name _____

Address _____

_____

B.M.J.4.

THE TUBERCULOSIS DANGER!

It has been stated in Parliament that *over two thousand children die every year through tuberculous milk.* How many children who survive grow up weaklings through the taint of bovine tuberculosis? This hardly bears thinking about. Cow & Gate Milk Food is guaranteed absolutely free from tuberculosis and other pathogenic organisms.

Read the following extract from the Presidential Address at the Royal Sanitary Institute Congress at Margate, it is of vital significance to the medical and nursing professions:

'The loss on the agricultural and veterinary side of 52,222 bovines during the three years 1926, 1927, 1928, slaughtered under the Tuberculosis Order of 1925, and at least twice that number not reported but otherwise disposed of, the estimate that 40 per cent. of the cows of our dairy herds producing milk for human consumption are tuberculous, are circumstances in themselves that demand immediate attention. But when to this is added the fact that in England 31.5 per cent. of tuberculosis in children up to 15 years is of bovine origin, and deaths from tuberculosis in children up to 5 years is 29.5 per cent. of bovine origin, that 57 per cent. of cervical adenitis in the same ages is of bovine origin, that 33 per cent. of bone and joint tuberculosis in children under 5 years and 24 per cent. in children from 5 to 10 years is of bovine origin, that in Scotland it is recorded that in certain hospitals in Edinburgh as much as 90.3 per cent. of cervical adenitis and 61.2 per cent. of bone and joint tuberculosis in children up to 12 years is of bovine origin, it is high time that this grave condition and this very serious menace to public health should be mended and ended. It is no credit to us as scientists and protectors of public health that such a state of affairs should be permitted to continue, or even to exist.'

-IS SAFE!

Another remark made at the meeting was as follows:

'It would be better to have no milk supplied at all than to feed children on diseased milk as is being done at present.'

Cow & Gate Milk Food

"The best milk for babies, when natural feeding fails."

COW & GATE MILK FOOD

is prepared by our Special Improved Roller Process employing a short heat treatment which destroys all disease organisms but leaves the natural vitamins unimpaired. It is a basic milk food which can be modified by the profession as they desire to suit each and every case.

WRITE FOR PARTICULARS OF OUR SPECIAL MILK FOODS FOR DIFFICULT INFANT CASES

Dept. 20 COW & GATE LTD., GUILDFORD, SURREY B.M.J., May 9/31.

(Aesculapius)

EVANS'
COLLOIDAL SPECIALTIES

Being suitably protected, Evans' Colloidal preparations are stable to an unusual degree. Their effectiveness is therefore not impaired by factors which often destroy the Colloidal state.

COLLUMINA

A COLLOIDAL ALUMINIUM HYDROXIDE FOR HYPERACIDITY, GASTRIC INEFFICIENCY AND INTESTINAL STASIS.

A neutral and salt-free preparation which absorbs excess acid in the stomach without giving rise to the evolution of gas which follows the older forms of treatment. It does not depress the acid index of the gastric juice sufficiently to interfere with normal digestive function.

COLLOZIN

A COLLOIDAL ZINC HYDROXIDE FOR ECZEMA, URTICARIA AND PRURITUS.

Collozin spreads better than other zinc preparations, and hence there is a greater percentage of the skin in actual contact with the active constituent. It is valuable as a lotion in various skin diseases, such as acne, eczema, pruritus, psoriasis, urticaria, and similar conditions, and is especially recommended as a sunburn lotion.

Issued in 4-oz., 8-oz., 16-oz., and 80-oz. bottles.

Full particulars may be had on application to—

Evans' Biological Institute,
Higher Runcorn, Cheshire.

EVANS SONS LESCHER & WEBB, LTD

Manufacturers of Fine Chemicals, Pharmaceutical & Biological Products.

LIVERPOOL
56, Hanover Street.

LONDON
50, Bartholomew Close, E.C.1

FABRITIUS, OSLO

THE SUPERIORITY OF COD LIVER OIL AS A CURE FOR RICKETS

Leading Authorities have proved by the most painstaking researches that:

A certain number of D-vitamin units in the form of Cod Liver Oil is far more effective in the treatment of human Rickets than the same or even double the number of these units in the form of irradiated Ergosterol.

Read what Professor E. Poulsson says on the subject in his recent paper "On the Action of Cod Liver Oil and Irradiated Preparations in Rickets", published by the State Vitamin Institute in Oslo.

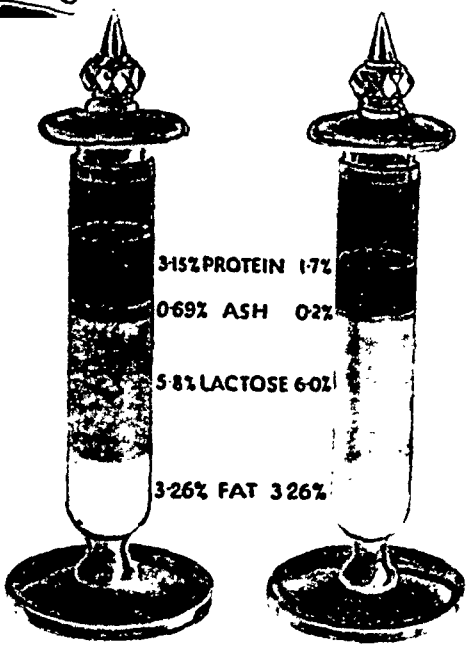
This paper may be obtained free by post on application to the State Vitamin Institute.

The world-renowned Norwegian Cod Liver Oil has always been noted for its high quality. Exported under control of the Norwegian State.

NORWEGIAN COD LIVER OIL

BETTER MILK FOR BABIES

FACTS ABOUT
LACTOGEN



LACTOGEN—diluted by weight with 6½ parts of water.

LACTOGEN MATERNAL MILK

BREAST MILK—Average composition taken from "Principles of Human Physiology"—Starling.

Correct Balance

Lactogen is not merely a dried milk powder, but milk, scientifically modified to provide the physiological balance required by the human infant. The addition of carbohydrate to the cream-enriched fresh milk corrects the natural deficiency and reduces the excess of protein.

The normal constituents of maternal milk are thus furnished in correct proportion. Lactogen is prepared to this unvarying composition:—

Fat	24.5 per cent.
Protein	23.7 " "
Carbohydrate	43.6 " "
Mineral Salts	5.2 " "
Moisture	3.0 " "
Caloric Value	143 calories per oz.

A Medicinal tablespoonful of Lactogen weighs 0.2 ozs. and furnishes 28.6 calories. To ensure correct and uniform feeds, a hygienic aluminium measure of this equivalent is provided with each tin of the food.

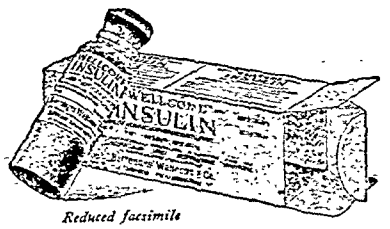
Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

66 LACTOGEN 99
REG. TRADE MARK

BETTER MILK FOR BABIES

FREE SAMPLES with detailed descriptive literature will be sent to any Member of the Medical Profession upon request.

Lactogen Bureau (Dept. Z2)
Nestlé and Anglo-Swiss Condensed Milk Co.,
6 & 8, Eastcheap, E.C.3.



Reduced facsimile

PIONEERS AND EMPIRE BUILDERS: No. 595
NINTH PERIOD—circa A.D. 300 to c. 1300

Pure, Accurate and Reliable

TRADE MARK 'WELLCOME' BRAND INSULIN

20 Units per c.c.	5 *c.c. phials* 2/- *each*
	10 *c.c.* „ 4/- „
40 Units per c.c.	5 *c.c. phials* 4/- *each*
80 Units per c.c.	5 *c.c. phials* 8/- *each*

The Insulin Hydrochloride used in the preparation of 'Wellcome' Brand Insulin reaches a standard of purity approaching that of the purest Insulin ever obtained, even by research workers

TRADE MARK 'TABLOID' BRAND INSULIN HYDROCHLORIDE

Hypodermic Sterile 10 UNITS

No. 150—2/- *per carton containing* 10 *products in ONE tube*

No. 152—2/8 *per carton of* 10 *tubes each containing ONE product*

The only British Insulin issued as a compressed product

Accurate in dosage. Solutions of any strength prepared instantly

Prices in London to the Medical Profession

BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

VOTIVE CROWN OF THE VISIGOTHS WHO WERE DOMINANT IN SPAIN FOR NEARLY THREE CENTURIES.—The Teutonic occupation has left its mark upon modern Spain—upon its people by intermarriage and in its laws by the incorporation of some elements from Visigothic codes. Euric (died 484), the first Visigothic King of Spain, made their first written code. Codification was continued by some among his successors, the body of law known as the *Leges Wisigothorum* being the result. In the middle of the seventh century Romans, Spaniards and Goths were brought under one system of law. Of Visigothic art little survives except very beautiful jewellery and goldsmith's work. The Teutons built many palaces, churches and monasteries, but it is not easy to trace the Visigothic characteristics. The splendid votive crown here reproduced is one of a number still in existence. They were royal offerings and were suspended in churches, before the altar. The crowns are of gold and are set with sapphires, pearls and small garnets or discs of ruby glass. The one here figured bears the name of King Reccesvinth (649—672).

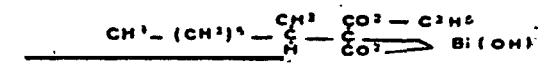
DATE: Visigothic Kingdom in Spain A.D. 410—711

COPYRIGHT

A distinct advance in the Bismuthic Treatment of Syphilis
can be effected by the use of

THE LIPO-SOLUBLE BISMUTH

BIVATOL



Basic α Carboxethyl β Methyl-Nonoate of Bismuth.

PAINLESS INJECTION : PERFECT TOLERATION

Practically equal in effect to the Arsenobenzene Compounds.

References:—Communications to the Societe de Dermatologie et de Syphiliographie (July, 1928).

Etude experimentale du Bismuth lipo-soluble, par M. C. Levaditi en collaboration avec M. V. Sanchis-Bayarri et Mlle. R. Schoen (pour la partie experimentale et histologique), Mlle. Y. Manum (pour la partie chimico-analytique).

Traitement de la Syphilis par le Bismuth lipo-soluble, par MM. L. Fournier, L. Guenot, Schwartz and Yovanovitch.

"Les Bismuths Lipo-solubles," par Rene Mignot, *La Presse Medicale*, No. 95 (27th Nov. 1929).

"Therapeutic Evaluation in the Treatment of Syphilis," *British Medical Journal* (21st Feb., 1931).

Ampoules of 2 c.c., Boxes of 12. Manufactured by Le Laboratoire Francais de Chimiotherapie, Paris.

Literature and samples on request from—

THE ANGLO-FRENCH DRUG CO., LTD., 238a, Gray's Inn Road, LONDON, W.C.1.

Over 12,000 Doctors now obtain their own supplies of Ty.phoo tea from us.

a Physician writes re....

DYSPEPSIA AFTER TEA

Copy of M.1190.

"For several months this year I was troubled with dyspepsia, and I found that my habit of drinking about six cups of ordinary tea per diem was responsible for the trouble.

I decided to drink "Ty.phoo" tea, and since using it I have had absolutely no dyspepsia in spite of the fact that I drink as much, if not more, than I used to."

C——, Esq., M.B., D.P.H.

WE print here one of the many Medical testimonials we are constantly receiving as to the undoubted value to dyspeptics of the pure natural "leaf-edge" tea in which we specialise.

Ask Sumner's Ty.phoo Tea Ltd., Dept. B/MD, Birmingham,

for a free sample of "Ty.phoo" natural leaf-edge tea and full particulars.

TRY Ty.phoo TEA in Indigestion.

Observations
ON
FRACTURES OF THE NECK OF THE FEMUR*
BY
SIR ROBERT JONES, BT., K.B.E., C.B., F.R.C.S.

Fracture of the neck of the femur is a grave condition; and gives rise to considerable anxiety both to practitioner and to surgeon. No one can accurately foretell the final result as to either bony union or good function. Further, there is no fracture which has been more neglected. There are thousands of students and practitioners who have never had an opportunity of following a case through its various phases from beginning to end, but we have all seen several instances of the inefficiently treated and neglected case. Such fractures are very rarely treated in teaching hospitals; as a rule, they are sent off to Poor Law institutions because of scarcity of beds and the inevitably prolonged course to recovery. This has given rise to quite an unnecessary spirit of pessimism. We are apt, in the case of the aged, to conclude that the end-result is almost inevitably bad, and that if they escape death from chest complications they are fortunate and should be grateful, no matter how crippled they remain. But this is not all, for adequate treatment is withheld on the plea that it adds to the risk of death. I hope to show how wrong it is to take this view, and that we have every right, with modern knowledge, to expect a good functional result in a large majority of cases in spite of old age and feebleness. Even in the neglected case surgical procedures are at our command whereby pain and severe crippling can be overcome.

EPIPHYSEAL STRAINS IN THE ADOLESCENT

There are three types of cases with which I will deal, and each has its own special clinical importance. The first includes injury to the epiphysis in early adolescence, and is sometimes known as slipped epiphysis or traumatic coxa vara, first described by Royal Whitman. It is associated especially with school age, and is due to strain. It is not uncommon, and should not be overlooked in its early stage. The condition consists of a partial or complete separation of the epiphysis, a fracture through the neck, or a fracture involving both neck and epiphysis. Partial separation of the epiphysis is the more usual variety.

For diagnostic purposes I will describe a typical case of partial and of complete separation of the epiphysis. A boy while playing football attempts to turn suddenly, and feels a sharp pain and suffers disability at the hip. He hobbles off the field, and after resting a short time walks back to school and rests. If the surgeon is sent for he will find the movements fairly free in the direction of flexion, extension, and adduction; the rotations are distinctly painful and so is abduction, which is limited. The measurements of the limb are normal. For ten or twelve days he rests and later begins his games, when another strain reproduces his symptoms, and games are prohibited for the rest of the term. During exercise something again "gives" in the hip, and he has to be carried off to bed. The limb is now shortened about half an inch, and a partial, or complete, separation of the epiphysis will be found. The *x*-ray examination shows the femoral head in position and the femoral neck displaced upwards.

In another type the injury is much more severe, and the disability more pronounced and lasting. Here we find we are dealing with a fracture of the neck, with a complete separation of the head, or with a combination of both.

There is a third type, which completes the clinical group. A youth strains his hip and is slightly disabled for a day or two. As the weeks pass he complains of an increasing lameness and stiffness of the hip. His symptoms closely resemble a starting arthritis. There is a limitation of movement in all directions, shortening of the limb, and elevation of the trochanter above Nelaton's line. A skiagram shows a coxa vara of the epiphyseal type in which the neck participates. The slight injury has partly separated the epiphysis, and under the strain of body weight coxa vara occurs, associated with traumatic arthritis.

We may assume, therefore:

(*a*) That a single strain, or a succession of strains, of the hip-joint in adolescence, if followed by disability, limited rotations, and limited abduction, denotes a partial epiphyseal separation.

(*b*) If a strain completely disables the patient and is accompained by elevation of the trochanter complete separation of the epiphysis, or fracture of the neck, is suggested.

(*c*) If a slight injury be followed by a limp, rigidity, and shortening of the limb, developing slowly, we are probably dealing with a traumatic coxa vara following a partial separation of the head, and exhibiting signs of a traumatic arthritis.

The importance of an early diagnosis cannot be too strongly stressed; whichever type the case may be it will readily respond to treatment. A neglected coxa vara may leave a deformed and disabled hip. It should always be remembered that coxa vara may follow twist or strain, especially if the strain is repeated, even if the radiograph is at first negative.

Treatment

If the *x*-ray examination is negative the limb should be fixed for a few weeks in a splint or plaster. Abduction is not necessary. If the epiphysis has slipped, plaster should be applied in an abducted position for at least three months, and when walking is allowed body weight should be transmitted to a calliper splint. If arthritis is added to coxa vara, plaster and abduction should be continued for at least six months. The abduction should not be too forcible and extreme, as distortion may occur to the softened head of the femur.

FRACTURES OF THE NECK OF THE FEMUR IN THE AGED

A point that distinguishes fractures in the aged is that they occur usually with but little trauma, and often by a cross breaking or indirect force—for example, when a fracture occurs in bed or in getting out of bed. This is readily explained by the facts that in the aged the bone is atrophied and brittle, and the muscular control lessened, while the angle formed by the neck and shaft is more acute, sometimes approaching a right angle. I shall refer only to two sites of fracture: one occurring near the head (subcapital), often referred to as "intracapsular," and the other near the trochanter, formerly called "extracapsular." The subcapital is the fracture which has always been, and still is, anathema to our profession.

In the aged, even under the best treatment, non-union is often observed, and it is found in practically all neglected cases. Although bony union is essential to a perfect result we may meet with a fair degree of function in a case with fibrous union, and with poor function in a bony mal-union. The explanation of this will be apparent later. The main reason for non-union is due here, as in other fractures, primarily to imperfect apposition, and also to the fact that the neck of the bone throws out a callus never exuberant. To this we may also add its

* Lecture-demonstration before the Nottingham Medical Society, February 25th, 1931.

sparse blood supply. The chief sources of supply are: (1) a vessel entering the upper part of the neck just above the great trochanter; (2) a vessel on the under side of the neck; (3) a small vessel at the internal side of the epiphysis of the head; (4) a vessel entering through the ligamentum teres, which is usually obliterated in early childhood. There is a network of small vessels surrounding the epiphyseal line which practically disappears in the aged.

In deciding upon treatment it is well to study the deformities found in the old neglected case. In this way we are taught what to avoid. This method of observation will also help us in dealing with fractures of other bones.

A neglected case will enter the out-patient room usually with a crutch and a stick. He is very lame, and walks with pain. He saves the injured limb from heavy pressure, his foot being turned out. Examination reveals a real shortening, from an inch and a half upwards; the practical or apparent shortening is more, due to elevation of the pelvis. The limb is adducted, and abduction is very limited, while rotation inwards cannot be performed. There is usually about 40 or 50 degrees of flexion deformity; therefore all movements of the hip are limited. Very often the tendo Achillis is shortened.

This description covers most cases displaying very gross and very unnecessary deformity, which should never be allowed to occur even in cases of non-union. To prevent these deformities, therefore, the recent fracture should be treated with the limb extended, abducted, and rotated inwards, and the foot should be kept at right angles. If the limb be placed and kept in this position for a sufficiently long period, such deformity as I have described need never occur. This is the first and most important fact I wish to emphasize.

The Recent Case

Diagnosis.—An aged person falls or strains his hip and is quite disabled. The limb is adducted, shortened, and externally rotated, and cannot voluntarily be lifted. There is pain on pressure over the femoral head below Poupart's ligament, and the ilio-tibial band is relaxed. A radiograph confirms the diagnosis of fracture of the neck of the femur.

Anatomy of the Deformity.—The femur is displaced upwards by the glutei, rectus femoris, adductors, and hamstrings; inwards by the adductors and quadratus femoris, and is rotated outwards by the weight of the limb in the recumbent position.

Position of Fractured Ends.—The face of the fracture of the outward fragment looks forwards. The radiograph will show the position of the fracture, whether subcapital or at the base of the neck. Non-union is much more apt to follow the subcapital than the basal fracture. The treatment of both varieties is identical. The fracture may be impacted. If left alone and not fixed it usually becomes disimpacted in a few days. When the impaction has been very firm it sometimes happens that the patient has walked upon the limb immediately after the accident, and has been able to lift the limb from the bed. I have seen several such cases.

Mechanical Treatment of the Recent Case.—If there is impaction we have to decide whether the fragments shall be disengaged. This depends entirely upon the alignment. Impaction seldom connotes good apposition, and therefore it should not be allowed to hold, except in rare cases. If the impacted limb is shortened we may be sure the fractured ends are not in alignment; if there is fixed external rotation or adduction it is obvious that reduction must be undertaken. An impaction should not be interfered with when apposition is good and the limb is not rotated outwards, adducted, or shortened. Such an impaction is rare indeed. The aim of treatment is to secure good alignment, complete abduction, and internal rotation. If we fail by these means to obtain union we shall certainly have averted the possibility of ultimate gross deformity, and achieved a fair functional success. The abduction treatment may be carried out by means of a splint or by plaster. The splint I have advocated in the past is a double abduction frame reaching only to the umbilicus, with a groin strap to allow of fixed extension. In exceptionally fat people I think this is still the best method, but for the routine case I am convinced that the plaster method described by Royal Whitman is the safest and most efficient procedure. When we speak of the abduction treatment we refer to the method originated and first described by Royal Whitman, who has placed this technique on a scientific basis. Many of us have abducted the femur, but Whitman has shown us precisely what to do and the reasons for doing it. A femur may be abducted without the fractured ends being brought into apposition, and the results will be disappointing. Whitman states that if under anaesthesia the upward displacement of the shaft be reduced by manual traction on the limb, combined with slight inward rotation, the fragments would lie in the same plane, and abduction to the normal limit would secure the fragments in close apposition, while the tension on the capsule incidental to abduction would prevent displacement and force the fragments into direct contact, which in fractures of the cervical type is essential to repair. The security assured by bony contact and capsular tension will be further augmented by the contact of the trochanter with the side of the pelvis, while in the subcapital variety the fracture line will be included within the acetabulum. This secures the relaxation of the muscles which cannot be controlled by any other non-operative method. Whitman's contribution, therefore, consists of the correct apposition of fragments (which, in this fracture more than in any other, is positively essential) followed by fixation in position by abduction. Any splint which succeeds in holding these fragments in position would suffice, but none will compare with plaster-of-Paris, which can be relied upon to be effective, provided it is properly applied. It is necessary to emphasize this, for the correct technique is too often ignored. There is no time to enter into elaborate detail of the method of applying the plaster spica, although it must be mastered if it is to be both comfortable and efficient. Properly applied there need be no fear of pressure sores.

Reduction and Fixation.—The length of the two limbs should be measured, and the broken limb should be restored to its normal length by manual traction, and then rotated inwards. The limb should next be abducted. The abduction should be complete, and, as the angle varies in different people, information is gained by noting the amount of normal abduction on the sound side. The angle is usually about 40 degrees. If the hip sags it should be lifted, and I find it useful before abducting the limb to make traction outwards. This disengages the overlapping which is sometimes present. The patient is now placed on a pelvic support and manual traction is maintained on the limb, which should be rotated inwards. If the rotation is adequate the lesser trochanter should be barely seen in the radiograph. The thigh should be fully extended, or even slightly over-extended, and the knee kept slightly bent. Subsequent stiffness is more rapidly recovered from if the knee is not kept in full extension. The plaster should be continued sufficiently high and well rubbed in to grip the pelvis and secure adequate leverage, and should extend to, and include, the foot. While the

plaster is being applied both legs should be abducted in order to control the pelvis, otherwise the abduction may be complicated by pelvic obliquity. The foot should be kept at right angles. In transcervical and subcapital fractures the plaster support around the hip of the aged should be maintained for six months, but in three months the knee may be freed and put through its range of movements. Pillows may be placed below the head and shoulders, and the head of the bed may be raised eight or twelve inches. This will obviate any danger there may be in cases threatened by chest complications. The dorsal position of the patient can occasionally be changed to ventral or semilateral without in any way jeopardizing the correct alignment of the fractured ends. It is a relief to the patient sometimes to be placed on his face.

After-care treatment should be attentively conducted. The bowels should be carefully regulated, and for the first few days a fluid diet should be prescribed. Beef tea, broths, arrowroot made with water, should form the principal food. Large quantities of milk, which as we know becomes solid in the stomach, should not be given. In this way the abdominal disturbances, so awkward when they arise, will be avoided. *X*-ray examination should decide whether union has occurred or not, and if necessary the plaster should be continued beyond the six months. When the plaster is removed the patient should lie in bed for a few days, keeping his limb abducted, while massage and gentle passive movements may be given. No weight-bearing on the fractured limb should be allowed ; a calliper should be carefully fitted so that weight-bearing is taken from the ischial tuberosity and not from the neck of the femur. Whether bony union has taken place or not freedom of abduction should be the aim. If fixed adduction is allowed to occur the functional result will be very imperfect. If these principles of reduction and fixation are observed, whether bony union occurs or not, we may expect a fair functional result. In other words, much of the disability which we encounter in old cases will be considerably lessened if we prevent a fixed adduction.

BASAL FRACTURE IN THE YOUNGER ADULT

The so-called extracapsular or basal fracture, commonly met with in the younger adult, should be treated as that of a fracture in the aged. Here, however, bony union is to be expected as a routine, and the plaster fixation need never exceed three months. In six weeks the knee can be freed, and when walking is begun it is rarely necessary to wear a calliper splint. It is essential that the power of abduction should be preserved. Non-union is likely to result even in " extracapsular " cases if treatment is carelessly conducted.

DISCUSSION OF ABDUCTION METHOD

It is useful to know what percentage of bony union may be expected in the aged treated by the abduction method. Perhaps the most complete recent statistics are those of Lofberg, published in 1927.[1] The number of cases treated was 264—88 males, 176 females ; 78 per cent. of the patients were over 55 years of age ; the youngest was 17, the oldest 95. Of the cases, 172 were intracapsular ; in these bony union and good function were obtained in 76 per cent. In the 92 extracapsular, bony union and good function resulted.

A full abduction is difficult to obtain without anaesthesia ; yet in the figures supplied by Lofberg the majority of the fractures were reduced without general anaesthesia. Further, the period of fixation was limited to eight weeks. Willis Campbell's figures are even more favourable. Scudder says: " The overwhelming accumulation of evidence that the abduction treatment is highly efficient in securing bony union has raised the most neglected of all fractures to the first place in the therapeutic scale." One may offer a favourable prognosis both as to life and function in about 75 per cent. of all cases treated by the abduction method if it is effectively applied.

ARTIFICIAL IMPACTION

Cotton advocates artificial impaction of the femur in good position. Having reduced the fracture by traction and internal rotation he places a pad of felt over the great trochanter and strikes one or more blows with a wooden mallet weighing about 8 lb. Counter-pressure is put on the sound side of the pelvis. The hammering is considered to be successful when the neck appears to be firm and the limb does not fall back into eversion. The limb is then placed in abduction. I have had no personal experience of artificial impaction, and cannot, therefore, criticize it, but it is obviously very necessary to reduce the fracture completely before using the mallet, or only mischief will result. If alignment and apposition are good, is there much or anything to be gained by artificial impaction? Willis Campbell, however, whose experience is extensive, regards it as a distinct addition to the Whitman technique, and claims 89 per cent. of bony union. The method may be of definite service in cases which have been unreduced for some weeks. Reduction should, of course, be first effected and the limb placed in abduction.

OPEN OPERATIONS ON THE RECENT CASE

In view of what has been said as to the results of the abduction method, which is accompanied by only a 5 per cent. mortality, a very strong case should be presented before resorting to the risks of an open operation in the aged. It should never be needed in the so-called extracapsular fracture, which almost invariably unites. In my experience an open operation on a recent case of subcapital fracture of the neck should be a very rare event. It adds considerably to the mortality, and should never be undertaken except by very expert surgeons who have a sound practical knowledge of the mechanical methods at their disposal. Although I have never operated upon a recent case, I have seen many unhappy after-results.

THE OLD UN-UNITED CASE

The deformities here, as stated elsewhere, are flexion of the thigh, adduction, rotation outwards with marked functional disability, and generally pain. What should we do in such cases? In the old and feeble we should resist the temptation to practise any procedure accompanied by great shock. We should aim at relief of pain by posture and mechanism, and avoid prolonged recumbency. The adduction—always the evil factor—should be corrected as far as possible, and the hip should be fixed by a plaster spica. The spica should be light, and need not extend below the knee. Two or three weeks is generally sufficient to bring about ease and comparative comfort. Graduated walking exercise should then be practised. Any stiffness of the knee or ankle should be overcome by gentle passive movements assisted where possible by physiotherapy. When a few weeks have passed a weight-bearing ambulatory splint, such as a calliper, should be worn for an indefinite period. By abducting the limb we minimize the cross-breaking strain and release the hip from adhesions which, even more than chronic arthritis, give rise to constant pain on movement. We have often met with patients who, refusing to rest, have obtained considerable relief from gentle manipulation.

There is another type of " intracapsular " fracture in old and infirm people who have but little pain when they

limit their activities, but feel weakness and pain when they have walked a little distance. These cases are best treated by a weight-bearing splint, and the patients should be taught exercises for muscle development in the recumbent position, so that their condition is not complicated by the incidence of body weight. Many very old people will sometimes consult us because they have a short leg and limp badly, and cannot walk long distances, but have no pain. It is obvious in such cases that, apart from regulating the unequal length of the limbs, nothing should be done of a drastic character. A firm flannel spica bandage round the hip gives a sense of stability and strength. Even a calliper may not be needed, as there is no pain to be relieved, and further shortening is unlikely.

A certain number of patients, however, are sufficiently strong and disabled to warrant more drastic measures. The operative procedures which can be adopted may be divided into four main classes.

(*a*) Freshening and fixing the bones in good position. This entails exposing the fractured ends, removing all fibrous material, and opposing the freshened ends. They may be kept in apposition by the abduction method with or without pegs.

(*b*) Reconstruction of joint, as practised by Brackett or Royal Whitman.

(*c*) Transference of weight-bearing, such as modification of the bifurcation operation, devised originally by Lorenz for the treatment of unreducible congenital dislocation of the hip.

(*d*) Removal of the head of the femur.

The Pegging Operation.—If bone is employed it should be about half an inch in thickness. An incision is made over the front of the joint, the fibrous tissue dissected away, and the ends of bone freshened. The freshened ends are placed in apposition. The base of the trochanter is then exposed and a hole drilled along the neck into the head. With the fragments in position the bone peg is hammered into the tunnel. The correct alignment of the peg can be verified by an examination through the anterior wound.

Whitman's Operation.—This operation aims at removing the femoral head and adding to the length of the neck by removing the portion of the trochanter with muscle attached and by fixing it on the shaft as low as possible. The reconstructed neck is placed in the acetabulum and the limb fixed in abduction.

Brackett's Operation.—In this operation the head is retained in its socket. The tip of the trochanter is detached and the fractured surfaces are freshened, the trochanteric end made convex to fit into a concavity chiselled into the head. The portion removed from the trochanter with tendinous attachments is fixed below.

The Bifurcation Operation (*see Fig.*).—This operation can be employed for un-united fracture in the old. Osteotomy of the femur is performed usually just below the lesser trochanter, and the limb is abducted, the lower end being driven inwards so that it rests on the pelvis just below the rim of the acetabulum.

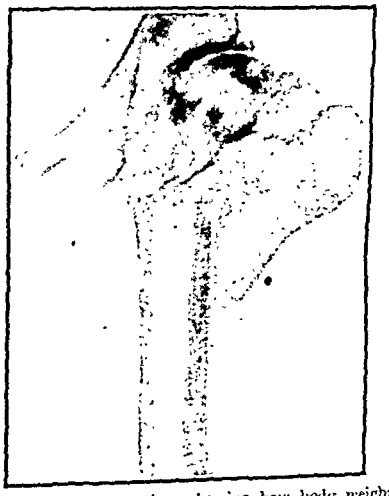
Removal of the Head of the Femur.—This can be performed through an anterior or a posterior incision. It is not always as easy an operation as it sounds. After the removal of the head the hip should be kept abducted for three or four weeks.

The Choice of an Open Operation

Let us remember that any reconstructive operation in the old and feeble, if it involves the exposure of the hip-joint, is a serious undertaking, and is accompanied by considerable shock. Stability and freedom from pain should be the primary objects, and if these be attained the patient is more than satisfied. A stiff joint even, which will enable the patient to walk without discomfort, and with but little risk, is preferable to any reconstructive effort which aims at movement but endangers life. I do not think there is much to choose between the reconstructive operations devised by Brackett and Royal Whitman. Neither of them is inviting in old people with subcapital fractures. Brackett preserves the head; Whitman removes it. Brackett endeavours to bring about union, and there is necessarily the risk of failure; Whitman places the neck into the empty acetabulum. In both operations abduction is necessary, and I should have feared a liability to displacement on adduction. Both of these distinguished authors, and others, have reported successful cases, but I have had no personal experience of either method, nor of the reconstructive operation practised by Albee. On several occasions I have removed the head of the femur with moderate success. Pain is nearly always relieved, and, provided the limb is kept abducted, there is improvement of function.

The Bifurcation Operation

I feel satisfied that for an open attack in the aged the bifurcation operation has many advantages. The joint is not interfered with, shock is negligible, and the procedure occupies only a few minutes. Body weight is deflected directly on to the femur without the intervention of the joint. A four-inch incision is started at the base of the trochanter and carried downwards. The femur is divided almost transversely just below the lesser trochanter. The upper end of the lower fragment is pushed inwards and then directly upwards until it impinges against the pelvis at the lower border of the acetabulum. The limb is kept in moderate abduction in plaster. It is an incredibly simple procedure, and the result completely changes the patient's outlook, for stability is combined with movement. The same operation will relieve the distressing symptoms of advanced osteo-arthritis in old people. Fixation in very slight abduction should last three months.



The bifurcation operation, showing how body weight is deflected from the un-united fracture of the neck on to the shaft.

Reconstructive operations can be performed with comparative safety in young and middle-aged adults, and the arguments I have used in dealing with the aged do not apply here. The type of reconstruction must depend largely upon the character of the fracture, but where it is possible a bone peg, as practised by Albee, offers the best functional success. A surgeon who has allowed deformity to occur should not operate unless he has learned the technique and principles of the abduction method.

COMMENTARY

Operations in old patients, therefore, take a very secondary place compared with primary mechanical treatment. The cases left for operation are usually neglected ones. Un-united and mal-united fractures occurring in the virile—for which reconstructive operations are needed—*should* very rarely occur if subjected to the abduction method. But we cannot be astonished at the unsatisfactory results in fractures of the neck generally when a spirit of pessimism and *laissez-faire* governs our treatment of the aged. In a modern textbook, speaking of "extracapsular" fractures, the author says: "They will get well anyhow *under good or bad treatment.*" This is an excuse for carelessness which may result in tragedy. We should further realize that the aged, subjected to appropriate mechanical fixation, are less in danger of death than when their fractures are untreated.

We need only refer to the report of the British Medical Association's committee of inquiry into the treatment of fractures, published twenty years ago, to realize how startling were the failures in fractures of the neck of the femur. Of twenty cases occurring in patients between the ages of 26 and 45, only six good functional results are reported; in thirty patients between 45 and 60, only eight good results, and in thirty-six over 60, only five. These were the days of Liston's splint and sand-bags, before it was realized that it was essential and possible to reduce the displacement. But even so late as 1928 Katzensteen reported to the Surgical Society of Berlin the results of 169 cases of transcervical fractures treated by conventional methods, with only 11.5 per cent. of good results. This is an interesting commentary on conventional methods, which have not improved in fifty years. The profession owes a deep debt of gratitude to Royal Whitman for his persistent insistence in standardizing the abduction method.

In conclusion, may I again venture to urge that no student should leave hospital without being taught the modern method of treating fractures of the neck of the femur.

REFERENCE

[1] *Zeit. f. Chir.*, August 27th, 1927.

SPINAL ANAESTHESIA

A STUDY OF 250 CONSECUTIVE CASES*

BY

A. WILFRID ADAMS, M.S., F.R.C.S.

SENIOR ASSISTANT SURGEON, BRISTOL ROYAL INFIRMARY; SURGEON, BRISTOL CHILDREN'S HOSPITAL

Without ether and chloroform the amazing expansion of possible surgical procedures in the last half-century would not have occurred. Recently, efforts have been made to restrict the action of paralysing agents to the nerves which alone are responsible for giving offence, and to avoid a generalized toxaemia. The congregation of the spinal nerves in the lower part of the thecal tube renders them susceptible to a suitable drug injected into the cerebro-spinal fluid. Rapid and complete anaesthesia ensues, lasting for more than an hour. Further, it is obtained without the tedium of local infiltration methods and the sodden state of the tissues associated with them.

Formerly, using the spinal route, I was alarmed to find patients pale and sweating, with dilated pupils, and complaining of excessive weakness. Although none died, the anxiety was intolerable. However, reports on thousands of successful cases from various sources[1 2] filled me with admiration and a great curiosity to find what were the technical requirements in order to obtain a satisfactory result. Great praise is due to Pitkin[3] for revealing the underlying anatomical basis and physiology of spinal anaesthesia. He has evolved a safe injection called spinocain; novocain is the essential constituent, but its influence is controlled by other ingredients.

ACTION OF SPINOCAIN

The profound lowering of vitality in my former cases was due to extensive palsy of the sympathetic fibres, which leave the cord with the issuing dorsilumbar nerves (Fig. 1). This Pitkin combats by a preliminary subcutaneous injection of ephedrine. Further, to control the spread of spinocain, he mixes it with gliadin, a mucilage from wheat starch, which is viscous and which arrests ordinary diffusion; the addition of alcohol lightens it. Pitkin likens its behaviour, on entering the thecal tube, to "a bubble floating in a spirit level." Thus, with the spine horizontal, it will tend to produce a paraplegia up to the segment of the cord opposite the level of injection. By tilting the tube tail end upwards only the parts supplied by the lumbo-sacral nerves are paralysed; by tilting the spine head upwards the paraplegia extends to the chest, and if the head is raised sufficiently, will implicate the phrenic nerves. The physics of spinocain needs to dominate the anaesthetist completely if disaster is to be avoided.

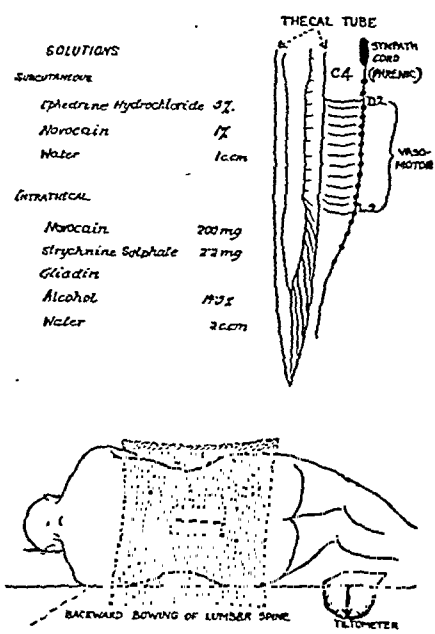


FIG. 1.—Pitkin's solutions. Diagram of spinal and sympathetic nerves and posture of patient.

If, while inducing anaesthesia, anxiety arises as to undue ascent of the paralysis or excessive lowering of vitality, or both, there appears one of the outstanding advantages of spinocain, for when such dangers threaten the method of combating both is identical. The Trendelenburg posture sends blood to the vital centres, and, thanks to the lightness of the solution, any remaining unfixed spinocain travels back to the harmless lumbo-sacral levels. Posture determines the distribution of the

* Abstract of a lecture given to the Bristol Medico-Chirurgical Society, January, 1931.

limit their activities, but feel weakness and pain when they have walked a little distance. These cases are best treated by a weight-bearing splint, and the patients should be taught exercises for muscle development in the recumbent position, so that their condition is not complicated by the incidence of body weight. Many very old people will sometimes consult us because they have a short leg and limp badly, and cannot walk long distances, but have no pain. It is obvious in such cases that, apart from regulating the unequal length of the limbs, nothing should be done of a drastic character. A firm flannel spica bandage round the hip gives a sense of stability and strength. Even a calliper may not be needed, as there is no pain to be relieved, and further shortening is unlikely.

A certain number of patients, however, are sufficiently strong and disabled to warrant more drastic measures. The operative procedures which can be adopted may be divided into four main classes.

(*a*) Freshening and fixing the bones in good position. This entails exposing the fractured ends, removing all fibrous material, and opposing the freshened ends. They may be kept in apposition by the abduction method with or without pegs.

(*b*) Reconstruction of joint, as practised by Brackett or Royal Whitman.

(*c*) Transference of weight-bearing, such as modification of the bifurcation operation, devised originally by Lorenz for the treatment of unreducible congenital dislocation of the hip.

(*d*) Removal of the head of the femur.

The Pegging Operation.—If bone is employed it should be about half an inch in thickness. An incision is made over the front of the joint, the fibrous tissue dissected away, and the ends of bone freshened. The freshened ends are placed in apposition. The base of the trochanter is then exposed and a hole drilled along the neck into the head. With the fragments in position the bone peg is hammered into the tunnel. The correct alignment of the peg can be verified by an examination through the anterior wound.

Whitman's Operation.—This operation aims at removing the femoral head and adding to the length of the neck by removing the portion of the trochanter with muscle attached and by fixing it on the shaft as low as possible. The reconstructed neck is placed in the acetabulum and the limb fixed in abduction.

Brackett's Operation.—In this operation the head is retained in its socket. The tip of the trochanter is detached and the fractured surfaces are freshened, the trochanteric end made convex to fit into a concavity chiselled into the head. The portion removed from the trochanter with tendinous attachments is fixed below.

The Bifurcation Operation (see Fig.).—This operation can be employed for un-united fracture in the old. Osteotomy of the femur is performed usually just below the lesser trochanter, and the limb is abducted, the lower end being driven inwards so that it rests on the pelvis just below the rim of the acetabulum.

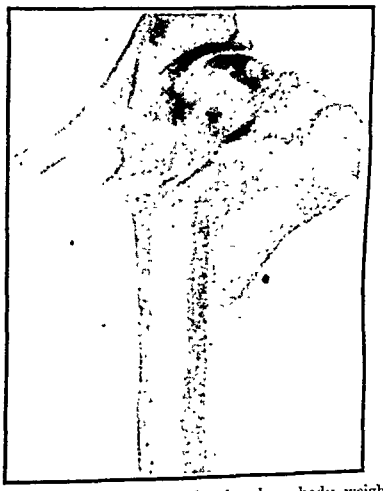
Removal of the Head of the Femur.—This can be performed through an anterior or a posterior incision. It is not always as easy an operation as it sounds. After the removal of the head the hip should be kept abducted for three or four weeks.

The Choice of an Open Operation

Let us remember that any reconstructive operation in the old and feeble, if it involves the exposure of the hip-joint, is a serious undertaking, and is accompanied by considerable shock. Stability and freedom from pain should be the primary objects, and if these be attained the patient is more than satisfied. A stiff joint even, which will enable the patient to walk without discomfort, and with but little risk, is preferable to any reconstructive effort which aims at movement but endangers life. I do not think there is much to choose between the reconstructive operations devised by Brackett and Royal Whitman. Neither of them is inviting in old people with subcapital fractures. Brackett preserves the head; Whitman removes it. Brackett endeavours to bring about union, and there is necessarily the risk of failure; Whitman places the neck into the empty acetabulum. In both operations abduction is necessary, and I should have feared a liability to displacement on adduction. Both of these distinguished authors, and others, have reported successful cases, but I have had no personal experience of either method, nor of the reconstructive operation practised by Albee. On several occasions I have removed the head of the femur with moderate success. Pain is nearly always relieved, and, provided the limb is kept abducted, there is improvement of function.

The Bifurcation Operation

I feel satisfied that for an open attack in the aged the bifurcation operation has many advantages. The joint is



The bifurcation operation, showing how body weight is deflected from the un-united fracture of the neck on to the shaft.

not interfered with, shock is negligible, and the procedure occupies only a few minutes. Body weight is deflected directly on to the femur without the intervention of the joint. A four-inch incision is started at the base of the trochanter and carried downwards. The femur is divided almost transversely just below the lesser trochanter. The upper end of the lower fragment is pushed inwards and then directly upwards until it impinges against the pelvis at the lower border of the acetabulum. The limb is kept in moderate abduction in plaster. It is an incredibly simple procedure, and the result completely changes the patient's outlook, for stability is combined with movement. The same operation will relieve the distressing symptoms of advanced osteo-arthritis in old people. Fixation in very slight abduction should last three months.

Reconstructive operations can be performed with comparative safety in young and middle-aged adults, and the arguments I have used in dealing with the aged do not apply here. The type of reconstruction must depend largely upon the character of the fracture, but where it is possible a bone peg, as practised by Albee, offers the best functional success. A surgeon who has allowed deformity to occur should not operate unless he has learned the technique and principles of the abduction method.

COMMENTARY

Operations in old patients, therefore, take a very secondary place compared with primary mechanical treatment. The cases left for operation are usually neglected ones. Un-united and mal-united fractures occurring in the virile—for which reconstructive operations are needed—should very rarely occur if subjected to the abduction method. But we cannot be astonished at the unsatisfactory results in fractures of the neck generally when a spirit of pessimism and *laissez-faire* governs our treatment of the aged. In a modern textbook, speaking of "extracapsular" fractures, the author says: "They will get well anyhow under good or bad treatment." This is an excuse for carelessness which may result in tragedy. We should further realize that the aged, subjected to appropriate mechanical fixation, are less in danger of death than when their fractures are untreated.

We need only refer to the report of the British Medical Association's committee of inquiry into the treatment of fractures, published twenty years ago, to realize how startling were the failures in fractures of the neck of the femur. Of twenty cases occurring in patients between the ages of 26 and 45, only six good functional results are reported; in thirty patients between 45 and 60, only eight good results, and in thirty-six over 60, only five. These were the days of Liston's splint and sand-bags, before it was realized that it was essential and possible to reduce the displacement. But even so late as 1928 Katzensteen reported to the Surgical Society of Berlin the results of 169 cases of transcervical fractures treated by conventional methods, with only 11.5 per cent. of good results. This is an interesting commentary on conventional methods, which have not improved in fifty years. The profession owes a deep debt of gratitude to Royal Whitman for his persistent insistence in standardizing the abduction method.

In conclusion, may I again venture to urge that no student should leave hospital without being taught the modern method of treating fractures of the neck of the femur.

REFERENCE

[1] *Zeit. f. Chir.*, August 27th, 1927.

SPINAL ANAESTHESIA

A STUDY OF 250 CONSECUTIVE CASES*

BY

A. WILFRID ADAMS, M.S., F.R.C.S.

SENIOR ASSISTANT SURGEON, BRISTOL ROYAL INFIRMARY; SURGEON, BRISTOL CHILDREN'S HOSPITAL

Without ether and chloroform the amazing expansion of possible surgical procedures in the last half-century would not have occurred. Recently, efforts have been made to restrict the action of paralysing agents to the nerves which alone are responsible for giving offence, and to avoid a generalized toxaemia. The congregation of the spinal nerves in the lower part of the thecal tube renders them susceptible to a suitable drug injected into the cerebro-spinal fluid. Rapid and complete anaesthesia ensues, lasting for more than an hour. Further, it is obtained without the tedium of local infiltration methods and the sodden state of the tissues associated with them.

Formerly, using the spinal route, I was alarmed to find patients pale and sweating, with dilated pupils, and complaining of excessive weakness. Although none died, the anxiety was intolerable. However, reports on thousands of successful cases from various sources[1,2] filled me with admiration and a great curiosity to find what were the technical requirements in order to obtain a satisfactory result. Great praise is due to Pitkin[3] for revealing the underlying anatomical basis and physiology of spinal anaesthesia. He has evolved a safe injection called spinocain; novocain is the essential constituent, but its influence is controlled by other ingredients.

ACTION OF SPINOCAIN

The profound lowering of vitality in my former cases was due to extensive palsy of the sympathetic fibres, which leave the cord with the issuing dorsilumbar nerves (Fig 1). This Pitkin combats by a preliminary subcutaneous injection of ephedrine. Further, to control the spread of spinocain, he mixes it with gliadin, a mucilage from wheat starch, which is viscous and which arrests ordinary diffusion; the addition of alcohol lightens it. Pitkin likens its behaviour, on entering the thecal tube, to "a bubble floating in a spirit level." Thus, with the spine horizontal, it will tend to produce a paraplegia up to the segment of the cord opposite the level of injection. By tilting the tube tail end upwards only the parts supplied by the lumbo-sacral nerves are paralysed; by tilting the spine head upwards the paraplegia extends to the chest, and if the head is raised sufficiently, will implicate the phrenic nerves. The physics of spinocain needs to dominate the anaesthetist completely if disaster is to be avoided.

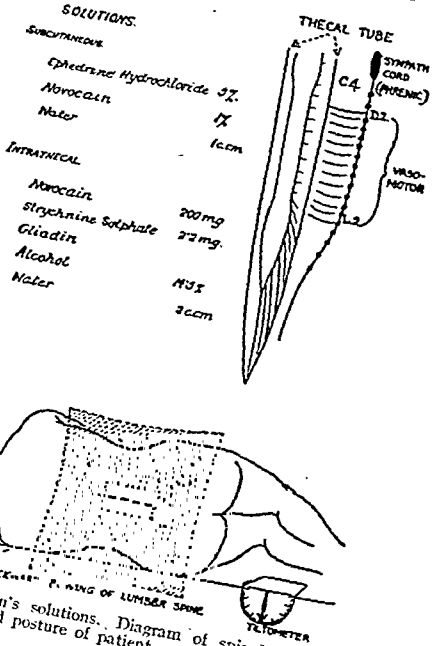


FIG. 1.—Pitkin's solutions. Diagram of spinal and sympathetic nerves and posture of patient.

If, while inducing anaesthesia, anxiety arises as to undue ascent of the paralysis or excessive lowering of vitality, or both, there appears one of the outstanding advantages of spinocain, for when such dangers threaten the method of combating both is identical. The Trendelenburg posture sends blood to the vital centres, and, thanks to the lightness of the solution, any remaining unfixed spinocain travels back to the harmless lumbo-sacral levels. Posture determines the distribution of the

* Abstract of a lecture given to the Bristol Medico-Chirurgical Society, January, 1931.

spinocain, and with the patient on his side, the exposed spine, in a case with a relatively broad pelvis, is seen to slope down somewhat towards the table top. This nullifies the first few degrees of upward tilt, and must be allowed for in reading the tiltometer (Fig. 3).

In all but a few cases, less than ten of my series of 250, I have administered Pitkin's light spinocain solution.

STATISTICS OF THIS SERIES

It must be noted with the following numbers, first, that they relate to ordinary surgical practice and are given without selection of favourable surgical subjects. Secondly, they include cases of the "beginner."

Number of cases, 250.
Successful anaesthesia, 221.
Failures, partial or complete, 29.
Ages varied from 3 to 81, with 44 years as the average.
Dose varied from 1/2 to 3 c.cm.
Time consumed in tapping the cerebro-spinal fluid was recorded in 43 cases, and averaged less than a minute (usually half a minute).
Time taken for the development of the requisite anaesthesia was recorded in 180 cases, and averaged eight minutes. This was partly proportional to the height required.

TECHNIQUE

After the application of iodine a perforated, sterile cloth is placed on the back (Fig. 1). The space selected for injection is the third or fourth lumbar, and gapes helpfully if the spine is bowed backwards. The spine should be on a level with the eye of the anaesthetist, who is seated. The preliminary dose of ephedrine is given, combined with the novocain used as a local anaesthetic (Fig. 2), then the skin is pierced with a No. 11 Bard-Parker blade exactly in the mid-line. Through this, the

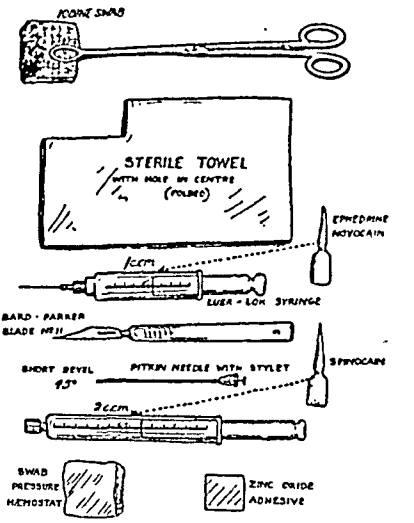


FIG. 2.—Requisite articles in their order of use.

special needle, little larger than that used for ordinary intravenous injection, punctures the theca without the risk of carrying in skin infection. The needle, held with shaft between the index finger and thumb, meets with moderate resistance and penetrates the ligamentum subflavum and then the theca with a snick that is often audible. Being fine and sharp, it makes a neat hole that closes and prevents leakage of cerebro-spinal fluid after withdrawal. This technique is claimed by Pitkin to prevent subsequent headaches. In the exact mid-line (this is apt to be elusive) Pitkin escapes the vertebral veins. I found, among adults, the minimum and maximum distances from skin to dura were 1.75 inches and 3.25 inches respectively. If the surgeon be skilled in this manœuvre with the delicate Pitkin needle, the anaesthetist may be glad to delegate the task to him. Rotation of the needle may be needed to induce the flow of cerebro-spinal fluid when no drops are forthcoming at the first entry of the theca; 2 c.cm. of spinocain are injected slowly after a confirmatory suck-out gives certainty that the needle orifice is still in the cerebro-spinal fluid. The exact time is noted, and in a few minutes the patient is paralytic. A few patients have needed a second injection. Once the required area of the body is anaesthetic, the table is immediately tilted to some degree of Trendelenburg position. Should the operation be a short one, taking about half an hour, the patient must be guarded against further ascent of the spinocain by being maintained in a Trendelenburg position on the way back to bed. The foot of the bed is always kept raised on six-inch blocks for two hours.

DETAILS OF DOSAGE AND CONTROL OF ASCENT

The dosage and tilts required to obtain the different levels of anaesthesia are shown on Fig. 3. When abdominal anaesthesia is sought, the head-piece of the table should be dropped so that the cervical spine droops markedly. This makes the highest point of the spine correspond to the third or fourth dorsal nerve. Since the injection is lighter than the cerebro-spinal fluid, it will not travel beyond this level. After this safeguard the required ascent dorsally is obtained by inclining the table 5 degrees upward on giving the injection. After three minutes a guide as to the speed and level of ascent is obtained by asking the patient to straighten the uppermost leg and by pinching. Further adjustment of the table depends on the response. If paralysis is rising slowly, the table is raised to an angle of 10 degrees. Immediately the level of anaesthesia is adequate, the table is lowered into the Trendelenburg position. Only then the patient is carefully turned on to his back and a small nick made at the upper end of the proposed incision. No other test for surgical anaesthesia is absolutely reliable.

Where the maximum duration of anaesthesia is desired 3 c.cm. are used. For children the scale of doses according to Pitkin has been followed with good results. Table management, as stressed by Featherstone,[4] has an important influence on results. Smooth movements are essential, and sudden jerks and jars must be avoided, for they may induce dangerous vomiting or worse disasters. Owing to the continuity of peritoneal tissues, sensation may be carried from lower to higher regions by pulling on this membrane. Hence, if there is to be manipulation of peritoneum, a higher level of anaesthesia is aimed at than would be sought for an operation on the parietes alone.

COURSE OF OPERATION

A minority complain of some distress in breathing, palpitation, nausea, or even vomiting as the anaesthetic ascends, and, at twenty minutes, the pulse quickens. Thereafter the patient soon becomes quiet and sleepy. Terminal well-being is most cheering to see, and is in marked contrast to the subdued vitality during operation. Recovery occurs in an hour or two; in one case of partial colectomy return of sensibility occurred within fifty-five minutes of injection. At the opposite extreme is a case of double ureteric transplantation where the spinal anaesthetic was still effective at one and three-quarter hours from the start. After-effects have been notably slight,

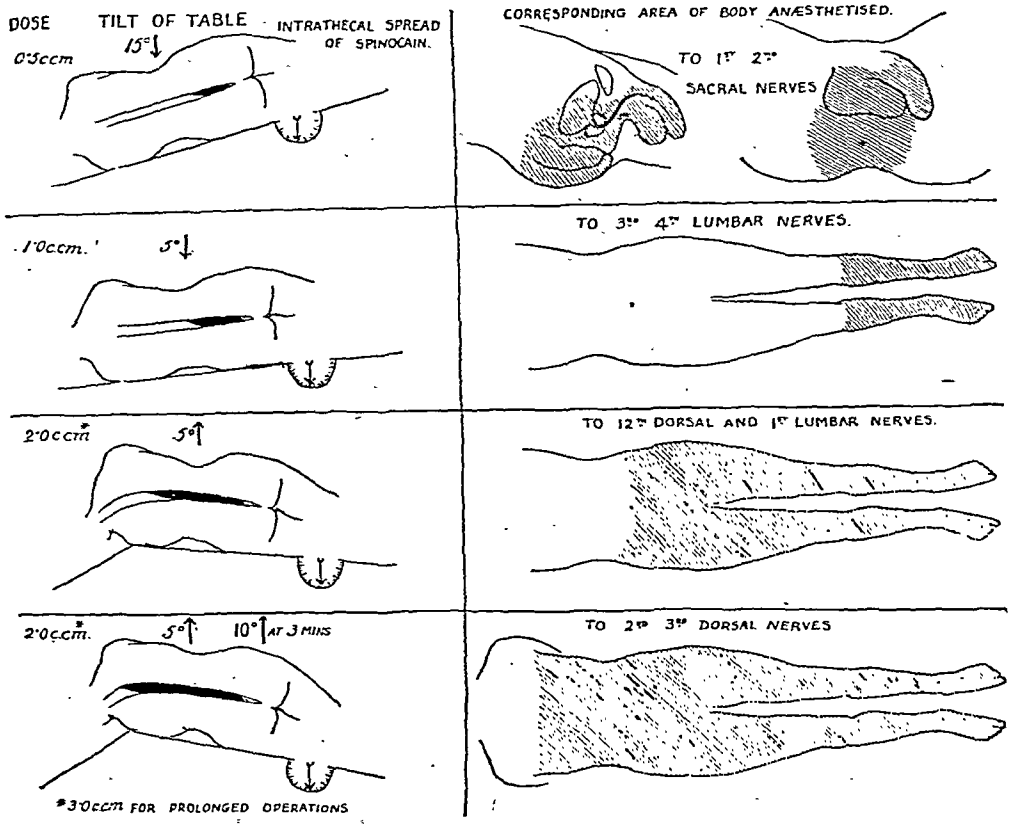


FIG. 3.—Dosage, table-tilting, and distribution of spinocain; corresponding area of body anaesthesia.

apart from vomiting, which is not infrequent, and occasional headaches. The patient may soon take a moderate meal, and next day looks strikingly "normal."

THE IMPORTANCE OF PSYCHANAESTHESIA

A spinal anaesthetic that is locally effective and safe is not necessarily satisfactory. Sometimes the patient's mind is not at ease, and to avoid psychic shock requires the most thoughtful care. Morphine, up to a third of a grain, is given an hour before operation. Basil Hughes[3] recommends avertin as an adjuvant. I find that very light gas and oxygen inhalation is surprisingly effective. Cotton-wool in the ears, and a cloth over the eyes, help the onset of drowsiness. Damping down noise and the clatter of instruments demands unusual degrees of self-restraint from the whole theatre staff.

DETAILED ANALYSIS

The wide scope of the method is shown by the following analysis of the 250 cases dealt with:

Arms—Upper abdomen, 23; lower abdomen, 158; spine, 1; remainder, 68.

Upper Abdominals.—Stomach, duodenum, jejunum, pancreas, kidney, 15; gall-bladder, 8.

Lower Abdominals.—Colectomy, 15; acute intestinal obstruction, 19; prostatectomy, 16; appendicitis, hernia, etc., 108.

Under the heading "Remainder" are included many cases of haemorrhoids, cystoscopies, pyelographies, two major operations on the hip-joint, diaphysectomy of the femur, fractures of thigh and leg, and arthrotomies of the knee and foot. In these cases success is uniform.

Details of the whole series are tedious, so they are given for one category only—namely, colectomy, of which there are fifteen cases with twenty anaesthetics:

Sex	Age	Condition	Operation
F.	53	Gangrenous colitis	Immediate end-to-end union
M.	74	Diverticulitis with abscess	Ditto
M.	65	Colonic stasis	Right hemi-colectomy with immediate side-to-side union
M.	66	Carcinoma of right colon	Hemi-colectomy with immediate side-to side union
F.	64	Ditto	Ditto
M.	50	Ditto	*Ditto*
F.	50	Carcinoma of left colon	Partial colectomy with immediate end-to-end union
F.	49	Ditto	Ditto
F.	67	Carcinoma of left colon with obstruction	Preliminary caecostomy and subsequent resection. Three spinal anaesthetics
F.	54	Ditto	*Ditto*
M.	65	Ditto	Preliminary caecostomy and subsequent resection. Two spinal anaesthetics
M.	57	Carcinoma of rectum	Abdomino-perineal resection
M.	56	Ditto	Ditto
F.	52	Ditto	Ditto
F.	69	Carcinoma coli with vesico-colic fistula	Immediate end-to-end union and suture of the bladder

COMPLICATIONS AT OPERATION

1. *Bony Obstruction to the Needle.*—This proved an absolute bar only in one case, with gross arthritis.

2. *Pain.*—A twinge occurs occasionally, presumably from contact of the needle with one of the filaments of the cauda

equina, and, at the outset of the operation, paraesthesia in the legs and knees may cause the patient to complain.

3. *Pruritus.*—This vexed three patients for variable spells during the operation.

4. *Thirst.*—This often troubles, and is best relieved by a few sips of water.

5. *Nausea and Vomiting.*—Their incidence was noted in 166 patients, of whom 15 per cent. had nausea alone, and 24 per cent. had nausea and vomiting. It is not likely to be over 15 per cent. in operations below the umbilicus if the table is managed cautiously.

6. *Circulatory Anxiety and Shock.*—As a rule, at twenty minutes from the start and proportional to the height of anaesthesia, a marked fall of blood pressure occurs, with pallor and tachycardia. One patient (when accompanying nitrous oxide was being given) ceased breathing and appeared to be dead; artificial respiration was used. The operation was concluded ten minutes later, and, when the skin was tested, spinal anaesthesia was up to the sixth thoracic nerve area. The patient was frail and the subject of acute intestinal obstruction. In the whole series this was the only case that required artificial respiration.

POST-OPERATIVE COMPLICATIONS

1. *Vomiting.*—This was noted in 31 per cent. of cases, but other influential factors, inevitable concomitants of abdominal surgical conditions and operations, must share the blame.

2. *Headache.*—This was investigated in 122 cases; 11.5 per cent. complained, but in only 2 to 3 per cent. was it serious for a few days.

3. *Backache.*—Complaints were few, and were proportional to the amount of needling required to puncture the theca.

4. *Nervous Phenomena.*—Motor and sensory palsy recovered in all instances, starting after sixty to ninety minutes. Ocular palsy involving the sixth nerve supervened in one case only. A man, aged 44, had 2 c.cm. of spinocain for an operation on the os calcis. Internal strabismus appeared seven days later, and lasted three months. Cushing's view on the etiology[6] of this is interesting, and he attributes it to nerve compression by arteries under a swollen pons varolii. One man became stuporous, but, while this followed the use of spinocain for a compound fracture of the tibia, the symptoms are not reported as necessarily attributable to this drug. He was forcibly fed, but was "normal" again on the ninth day.

FAILURES

Although the number (29) of these appears ominous, their incidence was chiefly among the early trial cases. Latterly, failures have been so infrequent as to offer little drawback to the method. They were attributable to a variety of factors:

1. *Inadequate Ascent of the Anaesthesia.*—This occurred in thirteen cases, chiefly from omission of the appropriate slight upward tilt of the spine. One case illustrates the danger of taking, as a guide to the level of ascending palsy, the patient's statements. A man appeared unable to flex his hips when asked to do so two to three minutes after the injection. When the operation was about to begin the abdominal skin was found to be sensitive, so general anaesthesia was employed, and in the struggles that ensued during induction the legs moved freely.

2. *Delayed Ascent of the Anaesthesia.*—If, after a lapse of ten minutes, the lower abdomen is still partly sensitive, experience shows that no appreciable subsequent rise is likely, so additional measures should be used. However, in a few cases, local anaesthesia was added for the line of incision, and, a few minutes later, the spinal anaesthesia was found to have crept up to the required level. This proves the need for lowering the table somewhat into the Trendelenburg position immediately the requisite anaesthesia has been obtained.

3 *Haemorrhage.*—In a boy, where the fourth interspace was used, and in a woman weighing 17 stone, although the needle seemed certainly intrathecal, only blood flowed from it.

4. *Table Mismanagement.*—To the lack of careful and smooth adjustment of the slope of the table seems due the swift death from pneumonia that ensued forty-eight hours after one prostatectomy. Additional general anaesthesia was required. Stomach contents came up into the patient's mouth when he was tilted into the full Trendelenburg position with a sudden jerk.

MORTALITY

When considering this aspect of the subject, it is important to refer to the analysis of statistics, which shows that the cases were not especially selected, and included many major abdominal operations. Fatalities have been grouped in three classes:

(*a*) Attributable to spinal anaesthesia, *nil.*
(*b*) Died during anaesthesia, one.
(*c*) Died subsequently to operation while still in hospital or nursing home, eighteen.

The death under the second heading occurred in a woman, aged 67, suffering from late, acute intestinal obstruction, who was choked by her own vomit. A post-mortem examination revealed colonic cancer and chronic nephritis. Death was obviously due to her disease. The spinocain (2 c.cm.) rose no higher than the sixth dorsal nerve. Of the third group, seventeen deaths followed abdominal operations, and only one after a leg operation. Most of the abdominal operations were for critical conditions, and the death rate did not seem influenced by the spinal anaesthesia.

REVIEW

Reviewing this series, in the light of the experience it affords, the following indications suggest themselves:

1. Where operation is complicated by the presence of cardio-respiratory trouble.
2. In diabetes, jaundice, nephritis.
3. For prolonged operations such as colectomy.
4. In acute intestinal obstruction.
5. For prostatectomy and other bladder troubles. Notable are the associated diminished haemorrhage, good relaxation, and absence of post-operative shock.
6. Operations about the anal sphincter and external genitalia; urethral stricture and male cystoscopy.
7. Major operations on the hip, knee, and ankle; reductions of fractures and dislocations of the lower extremity.
8. In cases where the patient dreads or refuses a general anaesthetic.
9. Especially applicable in a large proportion of cases in infancy and childhood. A child often resents the prick of a needle less than the loss of touch with the world and the suffocative sensations associated with general anaesthesia.
10. Especially applicable in the second half of life. Their experience of life helps older patients. They are less apprehensive than young adults, and more rapidly resign themselves with confidence to the operation.

CONCLUSIONS

At the outset I found it necessary to use the spinocain without drugs which would mask its action. It was a time of inevitable anxiety, owing to my disquieting experiences with spinal injections of simple novocain. Anaesthesia was easily obtained in the early cases, and as several of them were poor surgical risks with advanced cancer I felt hopeful. Then, for a time, I found it less easy to puncture the theca, and other drawbacks connected with the method assumed importance. One became unpleasantly aware that the patient was "alive" to his surroundings, and that spinal anaesthesia might be marred by cerebral hyperaesthesia. Success depends on eliminating harmful environmental factors. Every patient needs some adjuvant according to his, or her, mental make-up. It seems that mere *coaxing* for the puncture, and diverting chatter during the operation, will be enough for some.

Granted, however, good psychanaesthesia, obtained by appropriate means, I am sure that the anaesthetist who is familiar with the spinal route to surgical anaesthesia in suitable cases will earn the thanks of both patient and surgeon. The following are my reasons for this opinion;

they are based on the 250 consecutive cases of the last eighteen months:

1. A perfect and safe surgical anaesthesia is obtainable in about 88 to 98 per cent. of operations in the abdomen and legs. The lower figure occurs with the higher levels of anaesthesia.

2. Anaesthesia is not derived from the introduction of narcotics into, and the altered chemistry of, the blood, but merely by the transitory interruption of conductivity in the nerves of the lower part of the body.

3. The apparatus is simple and can be carried in the pocket.

4. The dose, except in childhood, is standardized, and varies only with the level of anaesthesia desired. This makes for ease and safety, and is an advantage over other anaesthetics.

5. The metabolic processes of the body are reduced during the operation for one to one and a half hours, thus conserving energy. With recovery from paralysis, the rested heart, vessels, muscles, and glandular organs are found working with notable buoyancy and renewed strength.

6. The patient's muscles relax completely, as if aiding, rather than resisting, the surgeon's manœuvres. Undisturbed tranquillity reigns in the field of operation, and smooth, easy working results, which saves the strength of both patient and surgeon, and minimizes the trauma to tissues.

7. The paralysis of inhibitory sympathetic nerves to the intestine assists by encouraging peristalsis and bowel clearance in cases of intestinal obstruction; indeed, spinal anaesthesia is used as a treatment for paralytic ileus.

8. The patient is returned to the ward conscious and quiet. No recovery restlessness ensues. So are spared his stitched and wounded tissues, his recuperative powers, and the time and energy of the nursing staff. Food is taken early, and the body tissues are ready to digest and to use it.

9. Infants, children, and adults, in many cases, prefer it.

This paper would not be complete without grateful acknowledgement to all the kind and patient colleagues who have helped me through the difficulties of the early stages of this research.

REFERENCES

[1] Coleman: *British Medical Journal*, 1925, i, 548.
[2] Desplas: *Lancet*, 1923, ii, 1233.
[3] Pitkin: *British Medical Journal*, 1929, ii, 183.
[4] Featherstone: Ibid, 1923, ii, 878.
[5] Basil Hughes: Ibid, 1929, i, 898.
[6] Moore: *Medical Ophthalmology*, 51.

TREATMENT OF DISSEMINATED SCLEROSIS BY LIVER

BY

ALEXANDER GOODALL, M.D., F.R.C.P.ED.
PHYSICIAN IN ORDINARY, ROYAL INFIRMARY, EDINBURGH

AND

JAMES K. SLATER, M.B., F.R.C.P.ED.
ASSISTANT PHYSICIAN, ROYAL INFIRMARY, EDINBURGH

It has been shown by Ungley and Suzman[1] and others that treatment by liver is followed by a remarkable improvement in the combined degeneration of the spinal cord associated with pernicious anaemia. It occurred to us that other affections of the nervous system might be benefited by similar means.

In pernicious anaemia there is no relationship between the degree of blood defect and the severity of the nerve affection, and either may appear before or without the other. The nerve symptoms are not a consequence of the anaemia, but may be the result of the same or a concomitant deficiency in a hormone or vitamin. The latter view is suggested by Mellanby,[2] who considers that the anaemia is benefited by a water-soluble factor, while experimental nerve lesions have been cured by a fat-soluble factor. On these grounds we began the treatment of cases of disseminated sclerosis with liver. So far only whole liver, lightly cooked, has been employed, and patients have been advised to consume half a pound daily. There is not the difficulty in connexion with digestive disturbance which so often occurs in pernicious anaemia. We have not yet employed liver extract or preparations of stomach. Our observations extend over a period of seven months only, but the results already obtained seem to us to justify the publication of abridged notes of our first five cases. These cases are consecutive. We hope to extend the list with several later cases now under treatment.

CASE I.

F., farm worker, recommended by Dr. McWhir, Norham, was admitted on July 15th, 1930. She complained of numbness of the feet, thighs, and abdomen, with weakness and nervousness.

History.—Family history and home surroundings were satisfactory. No previous illness of importance. Present illness began in June, 1930, with numbness in the toes, which gradually spread to the legs, thighs, and abdomen as far as the umbilicus. About the same time patient noticed weakness and unsteadiness in walking, which became so severe that she had to give up work on June 26th.

Examination.—There was intention tremor, and patient could not be trusted to handle glass or chinaware. There was lateral nystagmus, and the temporal side of the right disc was pathologically pale. There was slight Rombergism. Both plantar reflexes were extensor. The knee-jerks were increased. The abdominal reflexes were absent. There was no anaemia, and the Wassermann reaction in blood and cerebro-spinal fluid was negative.

Progress.—On July 26th the administration of half a pound of liver daily was begun. On August 11th patient said that she was feeling better, and went home promising to continue the treatment. In November Dr. McWhir had occasion to telephone us, and mentioned incidentally that the girl was better, and had returned to work. On April 9th, 1931, patient reported that she had been taking half a pound of liver daily for the first three months, and thereafter she had gradually reduced the amount, until for the past two weeks she had been taking only half a pound a week. Nystagmus was difficult to elicit. Intention tremor was absent. Abdominal reflexes present on right side, but absent on left. There was no numbness in the legs, and the gait was normal. Plantar responses were now flexor. The girl appeared to be in robust health, and said that she was feeling perfectly fit.

CASE II

M., aged 25, hosiery mechanic, was admitted on the recommendation of Dr. Norman Smith on September 15th, 1930. He complained of numbness of the fingers, diplopia, weakness, and stiffness of the legs.

History.—There had been numbness for over two years. Diplopia had occurred from time to time. The legs had become weaker, and sometimes dragged. Patient had been unable to work for eighteen months.

Examination.—The patient was a tall, well-nourished man. There was no interference with sensation. There was lateral nystagmus. Pupil reactions and both fundi were normal. There was diplopia on looking to the right. There was no wasting of muscles. The gait was remarkable. The right leg tended to drag, so that the toes often scraped along the ground. At other times the legs showed great spasticity. There was a tremor on holding out the hands, which greatly increased when fine movements were attempted. There was some difficulty in starting micturition. The knee-jerks were increased. The plantar reflexes were extensor. The abdominal reflexes could not be elicited. The Wassermann reaction was negative in blood and cerebro-spinal fluid. Other systems presented nothing of note.

Progress.—Patient was discharged *in statu quo*, and for some time thereafter received weekly doses of tryparsamide without benefit. On January 9th, 1931, he was definitely worse, and, aided by two sticks, walked with great difficulty. On that date liver treatment was begun. Patient reported on March 25th. He stated that he was immensely better, and that he had been working four hours a day for over a month.

On examination it was found that the patient could walk briskly, but that there was still some muscular weakness and a tendency of the right foot to drag. The sensation of numbness had disappeared. Nystagmus was less. There was no diplopia. The plantar reflexes were flexor. The abdominal reflexes were absent.

CASE III

F., aged 23, was referred to one of us on January 9th, 1931, by Dr. Ramsay of Fauldhouse, who wrote: "A week before Christmas she had an attack of mild influenza and complained of stiffness in her legs and a gripping sensation round her waist. Her legs have improved, but this sensation in the waist persists. I noticed that her legs rather dragged. Her appearance, gait, and reflexes suggested an early disseminated sclerosis." We elicited the further information that there was a sensation of pricking in the fingers, aggravated by washing or any friction. The patient had been a keen hockey player, but had felt unable to play for over two years, and she found that refereeing a match—part of her duty as a school teacher—was almost beyond her powers.

Examination.—No anaemia or circulatory disturbance was found. There was no tremor. There was slight nystagmus. Pupil reactions were normal. No change was seen in either fundus. The knee-jerks were increased, with slight clonus. No ankle-clonus. Plantar response was flexor, and difficult to elicit. The abdominal reflexes were absent. Patient was advised to eat half a pound of lightly cooked liver daily.

Progress.—She was seen again on February 14th. Improvement was obvious, and the patient was delighted with her ability to resume games. There was still a sensation of pins and needles. Nystagmus was just noticeable, and only on looking to the left. Knee-jerks were still increased. Abdominal reflexes absent. Patient again reported on April 5th. She stated that she was now in a position to tire her pupils at games, and that she was gaining weight. Her only complaints were that she disliked washing, as it caused pins and needles, and that there was sometimes a feeling of weakness round the waist. Nystagmus could not be elicited. The knee-jerks were no longer increased. Abdominal reflexes were absent.

CASE IV

Mrs. K., aged 34, recommended by Dr. Norman Smith.

History.—Following the birth of a child six years ago, patient noticed that her legs became easily tired after walking. About the same time she experienced a sensation of numbness in the right arm, particularly in the hand and fingers. Difficulty in walking gradually increased until she could walk only with the aid of a stick, and two years ago both legs became numb from the knees downwards. The numbness in the legs varied considerably, but was always present to a greater or less extent. A relation drew attention to a stuttering in patient's speech eighteen months ago, and this difficulty slowly became more marked: Except for short intervals there has been urgency in micturition. Since the beginning of the illness patient has become increasingly nervous and tremulous. There have been no eye symptoms.

Examination.—On September 28th, 1930, both optic discs were healthy. There was a fine lateral nystagmus in both eyes. Intention tremor was present on the right side, but absent on the left. The muscular power was good in both arms, but the tendon reflexes were definitely brisk. On the right side the abdominal reflex was just present, but on the left it was absent. Both legs were spastic, the right more so than the left. Knee- and ankle-clonus were present on both sides, and there was a double extensor response. Superficial sensation was everywhere unimpaired, and joint sense was normal. Vibration sense was absent in the right leg, and definitely diminished in the left. Co-ordination in the legs was normal. The blood Wassermann reaction was negative. Patient had courses of Fowler's solution without improvement, and was then given a pill containing zinc oxide and iodoform, to be taken three times daily; a course of graduated exercises was suggested.

Progress.—By November 1st, 1930, the condition had become worse, and during the past few weeks patient had only managed to walk about her room with great difficulty. Intention tremor was present on both sides, and the arms were now spastic. Abdominal reflexes not elicited. Legs very spastic, and vibration sense absent in both legs. Urgency of micturition continuous, with occasional incontinence. Patient was instructed to take half a pound daily of lightly cooked liver. Medicinal treatment otherwise was discontinued. After six weeks of liver therapy patient's condition began to improve noticeably, and she was able to get about more easily. The urgency of micturition disappeared. In three months' time the legs were less spastic and vibration sense had returned, although the plantar responses were still extensor and the abdominal reflexes absent. Nystagmus was now more difficult to elicit, and the intention tremor less marked.

CASE V

T.; male, aged 47. Admitted to Royal Infirmary on March 9th, 1931.

History.—Since the age of 20 the patient has had numbness in his left arm and leg, with a varying degree of weakness. During the last three years the power in the left arm has been poor, and for a similar period his left hand has been very shaky. During the past year he has been unsteady in walking, and for some weeks before admission was unable to stand. The legs were stiff, and frequently went into spasm. Urgency of micturition has varied in intensity. There have been no eye symptoms. At one period, when he was in bed for fourteen days with a bursitis, both legs became much stiffer.

Examination.—On March 9th, 1931, there was marked lateral nystagmus in both eyes. Discs healthy. Extreme intention tremor on left side, slight on right. Complete astereognosis in left hand. Left arm and leg weaker and more spastic than right. Abdominal reflexes absent. Both plantar responses extensor. Generalized delayed sensation in left arm and left leg. Cerebro-spinal fluid entirely negative to the Wassermann, colloidal gold, and globulin tests.

Progress.—Patient commenced liver diet on admission, and his condition began to improve almost immediately. On April 8th, 1931, he was able to walk easily without a stick, and helped with the ward work. The tremors were much less marked, the nystagmus was less marked, but extensor responses were still present and the abdominal reflexes still absent.

Disseminated sclerosis is notoriously a difficult disease in which to assess progress. It would, however, be remarkable if all of five consecutive cases should show spontaneous remissions to an extent which is beyond our previous experience of the disease. Moreover, it is unusual to find natural remissions in disseminated sclerosis in the colder months of the year. Our experience of later patients appears to confirm the favourable results obtained in the five cases now reported, but the time they have been under treatment is not sufficient to permit of maximum improvement.

We submit that we have at least presented a case for inquiry and trial, and it seems probable that, as in pernicious anaemia, it may be no longer necessary to search for an unknown organism to explain a disease of unknown etiology. It is further possible that the etiology may be explained in terms of a food factor deficiency.

SUMMARY

1. We record five consecutive cases of disseminated sclerosis of varying duration and severity, treated with whole liver with remarkable improvement.

2. Two of these patients, previously totally unfit, have returned to work, as a mechanic and a farm hand. One man unable to stand is now walking briskly. One woman who could walk only with assistance can now walk well. One young woman who had given up games for two years can now play hockey.

3. Promising results have been obtained in later cases of too short duration to justify record.

4. It is suggested that disseminated sclerosis may form an addition to the list of deficiency diseases.

REFERENCES

[1] Ungley and Suzman: *Brain*, 1929, 271.
[2] Mellanby: *Journ. Amer. Med. Assoc.*, 1931, 325.

WOOD'S GLASS IN THE DIAGNOSIS OF RINGWORM

BY

JOHN KINNEAR, M.D., M.R.C.P.ED.

ASSISTANT PHYSICIAN FOR DISEASES OF THE SKIN, DUNDEE ROYAL INFIRMARY

It is now nearly six years since Margarot and Deveze[1] drew attention to the fluorescence of hairs infected by ringworm in light filtered through glass containing nickel oxide, known as Wood's glass. They differentiated between the fluorescence of microsporon and trichophyton infections, and laid the foundation of a diagnostic method of very great value to those who have to deal with this disease. I have used Wood's glass in hospital, school clinic, and private practice since the autumn of 1927, and, though I believe it is indispensable for such work, I have found that it has very definite limitations, which do not seem to have been stated with sufficient clearness in the literature.

PHYSICAL PROPERTIES OF WOOD'S GLASS

This glass was first described by Professor R. W. Wood of Johns Hopkins University, but a similar glass was discovered independently in this country. If, by means of an ordinary glass prism, the beam of light from a carbon arc be split up after passing through Wood's glass and the resulting spectrum thrown on a white screen, it will show a narrow band of red and a broader band of violet light. If this screen is replaced by a sheet of paper coated with vaseline, a bright band of bluish fluorescence will be seen just outside the violet end of the spectrum, a narrow band of comparative darkness separating this fluorescing portion from the band of violet light. Hairs infected by *Microsporon audouini* show the same phenomenon ; they fluoresce only when held opposite this part of the spectrum. During various experiments, microscopical and macroscopical, it was obvious that ordinary soda glass was transparent to the rays causing this fluorescence, and on application to the makers I was not surprised to learn that it was soda glass containing nickel oxide. Thus, in choosing the source of light for use with this glass, attention need be paid only to intensity of light (an important factor, as the glass is very dense and allows only a small amount of light through) and to convenience, as any ordinary source of white light produces the long ultra-violet rays necessary to give the fluorescence. I have demonstrated the fluorescence of ringworm hairs, although dimly, using an ordinary gas-filled electric bulb, but I prefer a small carbon arc lamp, such as is used in a "magic lantern." This apparatus, without its lenses, has been found very useful, both in the examination of heads and in microscopical work with Wood's glass, the glass being placed in the slide carrier, and hairs examined with great ease in this light or in ordinary light by moving the slide carrier, interposing the Wood's glass at will. It should be noted that this glass is very brittle when exposed to heat, and cracks easily, especially if irregularly heated. Margarot and Deveze[2] have implied that a mercury vapour lamp is necessary for this method, but Roxburgh[3] states that a small carbon arc is also a suitable source of light. I agree with other observers that total darkness is not necessary or even desirable, especially if several children have to be examined. A little light is not a hindrance to the recognition of the fluorescence, and allows of easy movement of the patients and also of their parents, whom I encourage to be present. The demonstration of this fluorescence is a salutary object lesson to parents who are reluctant to realize that there is much wrong and that epilation is necessary.

RINGWORM OF THE SCALP

The results obtained with the different types of fungus responsible for ringworm of the scalp vary so greatly that they must be considered separately. It must be noted that attention should be given only to the presence or absence of fluorescence in the hairs themselves. Any scaly condition of the scalp may give a fluorescence indistinguishable from that due to ringworm infection of the skin, and, conversely, infected hairs may be seen fluorescing in a non-scaly, non-fluorescing scalp. It is only necessary for the scales to be removed, say, by washing, for this to occur. The fact that any scales may fluoresce is due to the fluorescent properties of keratin itself. Clinically this is best seen in the nails, which are almost pure keratin ; they show a white fluorescence, but the fluorescence of a scaly skin is much less than that of hairs infected by ringworm.

Microsporon Infections

With regard to infection by *M. audouini* I agree entirely with other investigators. The brilliant green fluorescence of the affected hairs is characteristic and unmistakable. I have never found an infected head on which the hairs did not fluoresce, nor have I seen a hair fluoresce in this way which on microscopical examination proved to be uninfected.

One fact which this method has brought to light is that slight infections of the scalp can easily be overlooked on naked-eye examination. There may be, especially in long-standing cases where the infection is attenuated, no scaliness of the scalp, and the hairs may be unbroken ; the infection of the hair is not sufficiently intense to render it brittle, yet, as soon as the light from Wood's glass is thrown on such a head, individual hairs, often several inches long, are seen to stand out like lighthouses, and if these hairs are epilated and examined in liquor potassae under the microscope, the infection is invariably confirmed. This has been brought to my notice especially after epilation by thallium acetate. Thallium epilation is not so complete as that following the application of *x* rays, and several times it has been found that a case which clinically showed no evidence of infection after thallium treatment still showed several fluorescing hairs scattered through the scalp. I now accept no case of ringworm of the scalp due to *M. audouini* as cured until examination with Wood's glass shows no fluorescing hairs. On the other hand, it is very easy by means of Wood's glass to prove that a child is free from this infection—a proof which is practically impossible to obtain by any other method. This is a point of great practical importance, and one on which the user need have no dubiety.

The striking results obtained with *M. audouini* led me to conclude that if the hair did not fluoresce, microsporon infection could definitely be excluded. I was surprised, therefore, when a child's hair obviously with a microsporon infection failed to show any fluorescence with Wood's glass. Microscopical examination of the hairs in liquor potassae, however, confirmed the diagnosis of microsporon infection, and on examining epilated hairs under the light from Wood's glass the lower ends—that is, the intrafollicular portions—were seen to fluoresce, though less than in the case of hairs infected by *M. audouini*. Microscopically the whole length of the hair was infected, and under Wood's glass the fluorescence was seen gradually to disappear, whereas in *M. audouini* infection the fluorescence remains indefinitely in liquor potassae, and is coextensive with the infection. I have in my possession hairs infected by *M. audouini* cleared in liquor potassae and mounted in glycerin over a year ago which are still fluorescent. On culture on Sabouraud's medium this

fungus was found to differ distinctly from *M. audouini*; it has not so far been identified, and no other case of infection by this microsporon has come to my notice. I mention this case merely to point out that infection of the scalp by microspora other than *M. audouini* may not show the same fluorescence, and thus lead to error. The occurrence of such infection is, of course, very rare in this country.

Trichophyton endothrix

It has been stated that hairs infected by trichophyton exhibit less fluorescence than those infected by microsporon, but still show a characteristic reaction. This view is upheld by Margarot and Deveze[1 2] and by N. Gray Hill[1 3]. I have seen many cases of infection by *T. endothrix*. On culture, *T. crateriforme*, *T. acuminatum*, *T. sulphureum*, and a fourth variety showing polygonal craters (? *T. polygonum*) were found to be responsible. In no case was there any demonstrable fluorescence due to infection of the hairs. In one or two cases a pale white fluorescence of a few hairs has been observed, which seems to correspond to the fluorescence described by other authors. On microscopical examination of these hairs they were seen to be surrounded by a sheath of epithelial cells, evidently an exfoliation of the lining of the hair follicle; if this sheath was removed all fluorescence ceased though the hair was badly infected. A similar phenomenon (described later) was also observed in heads free of ringworm. The scalp in a trichophyton infection is scaly, especially round the orifices of the hair follicles, and little points of fluorescence corresponding to these orifices may be seen. This condition also occurs in diseases other than ringworm. In several cases I have seen heads obviously infected by trichophyton in which there has not been any sign of fluorescence, even of scales. Even if hairs infected by trichophyton did fluoresce, they are frequently found twisted up under the scales, and such fluorescence would not be visible.

Fluorescence in heads infected by *T. endothrix* is therefore inconstant; it is not due directly to the infection of the hairs, as in infection by *M. audouini*, and cannot be relied upon either for diagnosis or for estimation of cure.

Trichophyton ectothrix

I have examined about a dozen cases of kerion of the scalp and beard, and in each case *T. asteroides* was the parasite responsible. In no case were fluorescing hairs found; but the clinical diagnosis of kerion is easy, its extent obvious, its duration self-limited, and a cure clinically simple to ascertain. The necessity for a means of diagnosis, such as Wood's glass, is not nearly so great as in the other varieties of ringworm.

Favus

Infection of the scalp by *Achorion schönleini* is usually easy to recognize, since the typical scutula are unmistakable. Sometimes, however, where a head has been well kept and is free from scutula, and thus the typical alopecia not allowed to develop, the diagnosis may be very difficult, the favus closely simulating a chronic dermatitis of the scalp. Wood's glass is of definite value in such cases.

If a scalp infected by favus is examined with Wood's glass it will be noticed that tufts of hair to a greater or less extent, according to the degree of the infection, show a pale white fluorescence, much weaker than in microsporon infection. These tufts of hair will be seen to correspond to the areas of dull lustreless hair typical of this condition. If such hairs are examined under the microscope in liquor potassae the first thing one notices is that they are full of bubbles of air; mycelium is absent, or scanty, being most profuse towards the base of the hair. The explanation seems to be that the fungus gradually dies out as the hair grows, and leaves the hair a more or less empty cylinder, with loss of its colouring matter; thus the natural fluorescence of the keratin becomes visible. Very fair or white hair also fluoresces for the same reason, but this phenomenon is easily distinguished from that found in favus, in which the tuft-like arrangement cannot be mistaken. I have on one or two occasions diagnosed favus where scutula were absent from the result of examination by Wood's glass alone, and had the diagnosis confirmed afterwards by microscope and culture tube.

WOOD'S GLASS IN OTHER DERMATOSES

I have not found Wood's glass of value in other dermatoses. In ringworm of the body it is not nearly so effective as naked-eye examination; the scales may certainly fluoresce, but in the same manner as in any other scaly affection. Margarot and Deveze,[2] and Goodman[4] give a detailed description of the skin viewed with this glass in a variety of conditions, but the only case in which I have found it of use has been in mild pityriasis simplex of the scalp, where a demonstration of the tiny fluorescent scales to the parent has shown the need of treatment when "dandruff" was not suspected before. I have seen one case of pityriasis simplex of the scalp where not only did the scales on the scalp fluoresce, but a large area of hair on the vertex showed distinct evidence of fluorescence for about half an inch from the base of each hair. There were no broken hairs, and no parasite was found on microscopical examination of the hairs; it seemed as if the pityriasis had affected the lining of the hair follicles, which had been shed as a sheath to the hair. No real difficulty was experienced in excluding ringworm as there was no clinical evidence of its presence beyond scales, and the fluorescence was the pale white of keratin, not the brilliant green of microsporon infection; it is an easy matter to epilate a single fluorescing hair and examine it microscopically. In a case of ichthyosis, besides the usual body lesions, there was a hyperkeratosis of the mouths of the hair follicles, and the scalp was dotted with fluorescent points corresponding to these orifices; again no difficulty was experienced in excluding ringworm.

The presence of vaseline on the scalp is sometimes a difficulty, as its intense blue fluorescence may hide that due to ringworm. Thorough washing with soap and water is all that is necessary to obviate any chance of missing a positive case.

There is great difficulty in arresting the fluorescence of microsporon-infected hairs. I have tried various methods, but have never succeeded in doing more than cause the fluorescence to disappear for an hour or so. The hair soon seems to lose any substance with which it has been coated. This is important from the point of view of the constancy of the results.

EXPLANATION OF THE FLUORESCENCE

Little is known about the production of fluorescence. It appears to be due to the absorption of light of one particular wave-length and its re-emission on another wave-length. Microscopical examination of fluorescing hairs with light filtered through Wood's glass shows that it is the fungus itself which fluoresces. The dissociation of the hair in liquor potassae may be watched, and it can be seen that while the hair with its contained mycelium still glows, so also does the detached sheath of spores. The illumination is too faint to show up a single spore, but where there is a group of even half a dozen a distinct fluorescence will be observed.

I have not been able to confirm the observation of Margarot and Deveze that "cultures on Sabouraud's medium are equally as fluorescent" as microsporon ring-

worm and favus. I have had the opportunity of observing over forty different varieties of ringworm fungi on Sabouraud's medium under the light from Wood's glass, and have been struck by the entire absence of fluorescence from any of them, no matter to which group they belonged. They certainly varied in colour under this light, sometimes yellow or red, usually a dull brown, but it was only when the cultures were quite dried up that any fluorescence was seen.

SUMMARY

Hairs infected by *M. audouini* are brilliantly fluorescent in light filtered through Wood's glass. This fluorescence is characteristic and constant, and is coextensive with the infection. The diagnosis and estimation of cure of this form of ringworm is easy and certain by this means. Hairs infected by other forms of ringworm are, in my opinion, incapable of detection by this method with any certainty.

Hairs affected by favus give a faint fluorescence. Wood's glass is of value in aiding the diagnosis of this condition.

Almost any scaly condition of the skin will give a fluorescence; attention should therefore be paid only to the presence or absence of fluorescing hairs in the detection of ringworm of the scalp. I have not been able to arrive at any useful conclusion in the differentiation of other dermatoses by this method.

The fluorescence is due to the presence of *M. audouini* in the hair in the case of microsporon ringworm; in other cases to the fluorescent properties of keratin. Any ordinary white light may serve as a source of illumination, provided it is of sufficient intensity, and ordinary glass does not impede the necessary rays; condensers, etc., may therefore be used without interfering with the phenomenon.

REFERENCES

1. Margarot and Deveze: *Bull. Soc. Méd. de Montpellier*, 1925, vi, 375.
2. Idem: *Ann. de Derm. et de Syph.*, 1929, x, No. 6, 581 (with very full bibliography).
3. Roxburgh: *Brit. Journ. of Dermatol. and Syph.*, 1927, xxxix, Nos. 8 and 9, 351.
4. Hill, N. Gray: *Brit. Journ. of Actinotherapy*, 1928, iii, No. 5, 84.
5. Idem: *Clin. Journ.*, 1929, lvii, 558.
6. Goodman, Herman: *Brit. Journ. of Dermatol. and Syph.*, 1928, xl, Nos. 8 and 9, 105.

APPENDICEO-CAECAL INTUSSUSCEPTION

BY

E. N. MACDERMOTT, B.Sc., M.D., F.R.C.S.I.

PROFESSOR OF THERAPEUTICS, UNIVERSITY COLLEGE, GALWAY; JUNIOR SURGEON, CENTRAL HOSPITAL, GALWAY

While the apparent rarity of this condition (it is not mentioned in the usual textbooks or in Clubbe's monograph)[1] is alone sufficient to justify a report, there is also a possibility that its occurrence is in reality more frequent than the literature suggests.

CASE HISTORY

A boy aged 8 was admitted late at night to the Central Hospital. No historical data were sent. He appeared comfortable and fell asleep before I saw him; the temperature was 98·3° F., pulse 88. Next morning he complained of pain in the right iliac fossa. His bowels had acted. Temperature 98·6°, pulse 92. The abdomen moved freely with respiration and there was no definite rigidity or tenderness; accurate palpation was impossible, as the child cried. Four hours later the temperature was 99° and the pulse 88. There was marked hypertonus in the right iliac fossa; deep palpation now demonstrated just above McBurney's point a mass about the size of a walnut, freely movable, slightly tender and dull on percussion. A diagnosis of appendicular abscess or early intussusception was made. The abdomen was opened immediately by Kuttner's incision, and the caecum delivered. It was observed that two-thirds of the appendix was invaginated into the caecum, and the remaining portion, which protruded, was reddened and obviously inflamed. An attempt to reduce the intussusception succeeded in delivering a further third. The effort was then abandoned, as the adhesions between the two viscera were too dense to be broken down safely. A clamp was applied above the apex of the intussusception, the meso-appendix was ligatured and divided, an incision was made at the junction of ensheathing and entering layers, and the appendix, with the head of the caecum, was removed. The caecum was closed with two layers of sutures, and the abdomen was stitched up without drainage. Convalescence was uneventful.

The doctor who had first seen the case stated that the child was ill for fourteen days with "bloody diarrhoea," but the parents refused to allow his removal to hospital; he also said he suspected intussusception. The appearance of the part removed is shown in the accompanying photograph.

Appendix and cuff of caecum, which has been stitched in place by two sutures.

DISCUSSION

Szenes,[2] quoted by Huddy,[3] gives a total of fifty-eight cases of intussusception in the ileo-caecal region, of which nineteen, as well as Huddy's own case, were of this variety; unfortunately, he omitted ten case reports. The division into appendiceal and appendiceo-caecal varieties is, however, not of great moment, as the symptoms are the same, and intussusception of the appendix proper may be secondarily inverted into the caecum. The fairly frequent occurrence of such cases was suggested to me in a personal communication from Sir Thomas Myles, who mentioned that he had operated in two such cases; Mr. O'Connor of Croom had told him of another. The typical clinical course, as described in the literature, is:

1. Pain first around umbilicus, later in right iliac fossa, sometimes also in back; colicky in nature, intermittent; may extend over several months.
2. Vomiting may occur early in attack or may be a late symptom.
3. Reflex constipation, or when intussusception has become congested, diarrhoea with mucus and blood in stools.
4. No rise in temperature or increase of pulse rate until appendix is inflamed.
5. No rigidity unless appendix is inflamed.
6. A palpable tumour usually just above McBurney's point, slightly tender, dull on percussion, and freely movable unless fixed by adhesions.

On considering the musculature around the ileo-caecal junction (the commonest starting-point for intussusception) and comparing it with the arrangement at the base of the appendix, we are struck by the similarity presented—namely, a sphincteric ring, capable of becoming, through spasm, a hard, relatively fixed mass held at the apex of a tube which exhibits peristalsis; we are surprised at the relative infrequency of the condition described above, and are inclined to wonder if recurrent intussusception, spontaneously reduced, may not frequently be the real lesion in many cases which, though presenting

no obvious lesions at laparotomy, are relieved of symptoms by appendectomy. That intussusception occurs and reduces itself, even in the normal abdomen, was strikingly demonstrated in Alvarez's film of intestinal movements, exhibited in Ireland by the Kodak Company two years ago. Additional support is given to this opinion by Myles's unpublished observation of such an invagination of the appendix into the caecum occurring spontaneously and reducing itself with regular rhythm in a patient on whom he was operating for caecal hernia.

Liek[4] and others, on account of the frequent absence of microscopical changes, state that many cases diagnosed as "chronic appendicitis" owe their symptoms to local spasm of neurotic origin, and treat these cases, often successfully, with large doses of atropine. The view expressed above is capable of explaining their results: laparotomy causes the invagination to become reduced, unless it is held in place by adhesions, and so no lesion is found at operation; the atropine relaxes the spasm of the appendix sphincter, thus preventing recurrence of the intussusception, and thereby relieving the patient's symptoms. It has frequently been shown experimentally that simple laparotomy as a rule abolishes all intestinal movements, and therefore it is not surprising that the actual occurrence of such an intussusception has not been oftener observed: if appendectomy were performed under local and splanchnic anaesthesia (which does not inhibit peristalsis) it might be possible to get additional evidence as to the truth of the above explanation.

SUMMARY

1. A case of appendicco-caecal intussusception is described.

2. The clinical history, as found in the literature, is summarized.

3. Evidence is adduced suggesting that the condition is not as rare as would appear from the literature, and that it may be the real lesion in many cases of "chronic appendicitis."

REFERENCES

[2] Symes: *Arch. f. klin. Chir.*, 1922, xix, 88.
[3] Huddy: *Brit. Journ. of Surg.*, 1927, xiv, 580.
(These two papers contain a complete survey of the earlier case reports.)
[4] Clubbe: *Diagnosis and Treatment of Intussusception.*
[4] Liek: *Irrwege der Chirurgie*, 1929.

INFARCTION OF THE HEART WITH PERICARDIAL EFFUSION IN A YOUNG PHTHISICAL SUBJECT

BY

T. A. HUGHES, M.D., M.R.C.P.
LIEUTENANT-COLONEL I.M.S.
PROFESSOR OF CLINICAL MEDICINE

AND

MOHAMMAD YUSUF, M.D.
CLINICAL ASSISTANT, MEDICAL COLLEGE, LAHORE

The following report deals with the occurrence, in a young tuberculous subject, of the symptoms and signs of cardiac infarction, with the subsequent development of a pericardial effusion.

A Moslem male, aged 28, was admitted to hospital on August 8th, 1930, with chronic tuberculous disease of both lungs. Constitutional symptoms were severe; there was considerable wasting, and the sputum contained numerous tubercle bacilli. No signs of extrapulmonary tuberculosis were detected, nor was there any evidence of cardiac disease. The patient made good progress until October 6th, by which time the temperature had settled down to normal, and the weight had increased by a stone. Tubercle bacilli were, however, still present in the sputum. On the latter date, about 7 a.m., while resting quietly in bed, the patient suddenly experienced pain of an extremely severe nature all over the cardiac area and under the lower part of the sternum, the position of maximal intensity being just inside the apex. The pain radiated widely—down the inner side of the left arm into the hand, down the right arm as far as the elbow, and down the left side of the body and left leg as far as the knee. It yielded only to large doses of morphine, nitrites having no effect. The patient was very restless, and complained of difficulty in breathing. The possibility of pneumothorax was considered, but there was no sign of this condition. The pulse became very weak and rapid, but was quite regular. The heart sounds were almost inaudible. The temperature, which was subnormal when the pain started, soon became elevated. The patient was very bad for three days, in spite of cardiac stimulants, and he became unconscious for about three hours on October 8th. After this date there was gradual improvement, and by the 12th the pain had gone, but the temperature continued to swing to over 101° F.

On October 14th, however, at 4 p.m., the pain returned in its original agonizing form, the position of maximal intensity being now in the epigastrium. It radiated to the back and down the inner side of the left arm. Severe collapse again accompanied the pain, and the patient was in a critical condition until October 23rd. By this time there was a slight icteric tinge in the conjunctivae, and the blood serum gave an indirect positive van den Bergh reaction. The liver was four fingers below the costal margin, and somewhat tender. The circulating leucocytes were found to number 18,000 per cubic millimetre, the differential count being: polymorphs 84 per cent., lymphocytes 13 per cent., monocytes 3 per cent. The blood pressure ranged about 90/70. On October 17th a pericardial rub was detected inside the apex, and remained audible until November 2nd.

Towards the end of October the cardiac dullness began to increase rapidly, and by November 5th there were signs of extensive pericardial effusion. On November 15th 6 ounces of fairly clear straw-coloured fluid were removed and examined. Red blood cells were present in fair numbers, and the lymphocyte was the predominating white cell. Guinea-pig inoculation was negative. The patient remained in hospital till November 16th, when he left at his own request. His condition was then fair. He had been almost free from pain during the last fortnight, and the temperature had begun to come down.

Apart from the fact that there were two distinct and typical attacks of severe pain, with collapse, there are some features of the case that deserve special mention. The age was much less than that at which infarction of the heart is usually seen. The great majority of cases occur between the ages of 50 and 70, although attacks are fairly common after 40. In a series of 145 cases analysed by Levine and Brown[1] only three were under 40, and Parkinson and Bedford[2] report 7 under 40 in a total of 183. These include two patients under 30, in both of whom coronary embolism was the cause of the infarction.

An acute pericarditis, as evidenced by a friction rub in the vicinity of the nipple and near the sternum, is not an uncommon feature of myocardial infarction. The development of pericardial effusion, however, seems to be rare. Levine and Brown found it in only one patient in their series. This was a man, aged 78, who had had cough and increasing dyspnoea for years. Parkinson and Bedford found it once among 100 cases seen clinically. X-ray evidence of effusion was present in their case ten days after infarction. In our case a friction rub was first heard three days after the onset of the second attack of pain, and enlargement of the cardiac area was detected about two weeks later.

We have not found any previous mention of pulmonary tuberculosis being associated with infarction of the heart. The latter occurs most frequently in patients with evidence of atheroma, hyperpiesis, or arterio-sclerosis, and in many cases there is a history of angina pectoris. Syphilis and rheumatic fever and gout are occasional causative factors. Levine and Brown point out that it is frequently associated with diabetes. In the case here

reported there were no clinical manifestations of any of these conditions. In spite of the fact that guinea-pig inoculation was negative, it is probable that the fluid was of tuberculous origin. Its characters and cytology suggested this, as did the prolonged irregular fever that accompanied its presence, although the latter may have been due to some extent to a reawakening of the pulmonary disease.

Electrocardiograms taken at frequent intervals after the first attack showed a normal P-wave and QRS complex in all leads. The so-called " coronary T-wave " was not present, but the portions of the curves normally occupied by the iso-electric R–T segment and the T-wave were made up of small undulations, each occupying about 0.1 second or less. This feature was most marked in Lead III.

Our thanks are due to Dr. D. L. Shrivastava, who took the electrocardiograms, and to Drs. K. K. Jaswal and Shujat Ali, house-physicians, for detailed notes of the case.

REFERENCES
[1] Levine and Brown: *Medicine*, 1929, viii, 245.
[2] Parkinson and Bedford: *Lancet*, 1928, i, 4.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

NON-FILARIAL ELEPHANTIASIS

I was interested to read the account by Mr. D. J. Harries in the *British Medical Journal* (December 27th, 1930, p. 1079) of a case of non-filarial elephantiasis treated by a modified Kondoléon operation. Since these cases are rare I venture to record a case of my own treated in the same manner.

A female, aged 9, was admitted to the Hackney Hospital under my care in May, 1929, complaining of swelling of the left foot. The dorsum of the foot pitted on pressure, and in a few weeks the oedema had gradually spread upwards until the whole of the left limb was involved. The swelling was definitely painless; the skin was unaltered in colour, and apart from the inconvenience of fitting on a shoe the child had no difficulty in walking. A curious feature was that the oedema terminated abruptly at the level of Poupart's ligament in front and the posterior superior spine behind. The Wassermann reaction was negative, and the general health of the child was good.

For several weeks the patient was kept in bed, with the foot supported on pillows. Despite treatment by massage, electricity, and drugs, the limb continued to increase in size, but never did the oedema spread above Poupart's ligament. In March, 1930, it seemed justifiable to perform a modified Kondoléon operation. An incision was made on the outer side of the leg from the anterior superior spine to the external malleolus, and a strip of skin, 1½ inches wide, was removed together with a wider strip of oedematous subcutaneous tissue and deep fascia, the wound being closed with interrupted sutures. A similar operation was performed on the inner side of the leg, the incision extending from the saphenous opening to the internal malleolus. At intervals the muscle sheaths of the extensors were incised longitudinally. The subcutaneous tissue was markedly oedematous, and the deep fascia was not easily defined.

There was no alteration in the size of the limb for a week. A decrease was then evident in the region of the knee, and the whole of the area was definitely softer. For several weeks the child was kept in bed, and later the leg was rested on a chair, massage and electricity being administered regularly. Very little improvement, however, can be recorded as regards the dimensions of the limb, and the measurements taken in January of this year do not differ materially from those taken immediately before the operation. The general condition of the child at present is excellent. She walks without a limp, and the leg is growing normally. She is still, however, faced with the distressing prospect of an oedematous limb with almost the whole of her life in front of her.

It is interesting to compare this result with the more successful one obtained by Mr. Harries. He claims quite rightly that his result shows the value of a Kondoléon operation in the treatment of non-filarial elephantiasis. In the case I have described the effect was less striking. In fact, these divergent experiences bear out the accepted opinion that the results of the Kondoléon operation are not invariably completely satisfactory. Some writers have recorded cases which have responded to the operation with remarkable suddenness. In *Surgical Pathology* Boyd describes a case of a girl, aged 17, whose arm returned to its normal size four weeks after the operation. Six months later the left leg and foot became swollen, yet within four days of the operations on these limbs the swelling had subsided. Many other writers, however, have met with little or no success. One is forced to the conclusion that the operation is not to be entered upon optimistically, but since occasionally successful results have been obtained, such as in the case of Mr. Harries, there is no doubt that this treatment is worth a trial as a last resource. I agree with him that the operation is easy to perform, and there is little shock. Both cases support the statement that this disease is more common in females.

J. EWART SCHOFIELD, M.B., F.R.C.S.,
Assistant Surgeon, Great Western Railway Hospital, Swindon.

MECKEL'S DIVERTICULUM CAUSING ACUTE INTESTINAL OBSTRUCTION

In view of the following unusual termination of an attack of diarrhoea and vomiting in a boy aged 10 years, I think the facts may be of some interest.

The boy was first seen on account of diarrhoea and vomiting, which had followed a surfeit of fruit tart. The temperature was normal, pulse rate 80, and any gross abdominal lesion was excluded by examination. As a result of a diet restricted to albumin water and the administration of bismuth carbonate and tincture of belladonna, the vomiting ceased on the next day and the diarrhoea on the third day. On the fourth day the patient began to vomit again, and despite treatment vomiting became more frequent. The pulse rate remained about 80, there was no rise of temperature, and nothing abnormal could be found on abdominal examination.

On the fifth day the vomiting still persisted, and the patient complained of pain in the abdomen. He described the pain as " coming and going." The pulse rate was 100, and the temperature was normal. The boy had an anxious expression. Beyond a suggestion of tumidity, nothing could be made out on abdominal examination. The administration of two enemata at intervals of ten minutes resulted in failure to pass faeces or flatus, and he was removed to the Merthyr General Hospital as a case of acute intestinal obstruction.

The abdomen was opened by a right paramedian incision below the umbilicus, and an intussusception of the ileo-colic variety found. There was only slight difficulty in reducing this; the apex of the intussusception proved to be a Meckel's diverticulum about one inch in length with a flattened tip, the tip having an umbilicated appearance. This was removed, the gut sutured, and the abdomen closed.

The patient made an uninterrupted recovery.

Plasnewydd, Bedlinog, Glam. W. D. JENKINS.

VOLVULUS OF A LARGE APPENDIX EPIPLOICA

The following case, which presented rather misleading symptoms and signs, seems sufficiently obscure to be worthy of record.

A housewife, aged 50, was admitted to hospital on December 16th, 1930, complaining of abdominal pain and " anaemia." She had had a similar attack of pain five years before. On inquiry it appeared that for the previous three weeks she had suffered from acute intermittent epigastric pain, increasing in severity and worse after meals. She had vomited several times immediately after a meal; no haematemesis. Bowels usually regular, but diarrhoea present; no melaena; no blood per rectum.

On admission the patient was anaemic, the skin having a lemon-yellow colour. The tongue was dry and glazed. The abdomen was slightly distended, especially on the left side, and tender in the right epigastrium, where an indefinite mass could be felt. Per rectum a small polyp could be felt on the posterior wall; no faeces. Per vaginam nothing abnormal was discovered. A barium meal showed slight spasm of the pylorus and dilatation of the coils of small intestine.

On December 30th, under general anaesthesia, laparotomy was performed through a right paramedian incision. The stomach, pylorus, duodenum, gall-bladder, liver, appendix, uterus, tubes, and ovaries were each explored and found to be normal. There was slight collapse of the transverse colon, but otherwise the intestine showed no disease. On the sigmoid colon an appendix epiploica the size of a large broad bean was found. It was twisted about a very narrow stalk, and was of a dusky purple colour. There was no inflammation of the surrounding peritoneum. The mass was ligatured and removed and the abdominal wall closed in layers.

The tumour was ovoid in shape, its axes measuring 26 by 20 by 6 mm. Dilated veins covered its surface. Microscopical section showed fatty and connective tissue, the vessels in which were all congested, one containing definite clot. There was no inflammatory reaction.

The patient was discharged nineteen days after operation, her pain being cured. Convalescence was complicated by facial erysipelas.

C. E. TAYLOR, M.R.C.S., L.R.C.P.,
House-Surgeon, Kent and Canterbury Hospital, Canterbury.

Reports of Societies

ERUPTIONS OF THE EXTERNAL AUDITORY MEATUS

At a meeting of the Section of Otology of the Royal Society of Medicine on May 1st, with Mr. A. R. TWEEDIE in the chair, Dr. H. W. BARBER opened a discussion on non-malignant diseases of the external ear, with a paper on eruptions involving the external auditory meatus.

Dr. Barber said that he would confine his remarks to conditions of primary importance or of special interest; he classified these eruptions into five groups—namely, those due to external infections, those due to infective organisms reaching the skin through the blood stream, those allergic in nature, those due to involvement of cutaneous nerves or nerve ganglia, and those which could not be included in any of the foregoing groups. Before discussing the classification in detail he wished to refer to the question of eczema. To diagnose eczema without adding a rider as to its cause was to make no diagnosis; like urticaria, eczema was a defensive reaction of the skin to injury. It began with oedema of the Malpighian layer, leading to separation of the prickle cells and spongiosis; this might go on to the formation of intradermal vesicles or bullae. Eczema was always an indication of epidermal sensitization, and was really an allergic reaction of the Malpighian cells. Erythema and urticaria affected the dermis, and erythema and eczema might occur at the same time, and as a result of the same toxin—for instance, in the case of rashes due to an injection of serum. Adrenaline controlled erythema, but had no effect on eczema. The first step in the diagnosis of eczema was to decide whether it was internal or external in origin; thus a person who was sensitive to iodine might develop eczema after taking iodine by mouth or after external application. The most important organisms in the group of eruptions due to external infections were pityrosporon, the pyogenic organisms, the tubercle bacillus, and fungi such as monilia, saccharomyces, and aspergillus. The skin might become sensitized to these organisms; by intradermal injection of an emulsion of the causative organism it was then possible to confirm the diagnosis. The injection gave rise to a local exacerbation, and on the third or fourth day the area became eczematous; a focal reaction also developed in the original site. Pityrosporon was one of the commonest causes of infective meatitis. Inoculation with cultures of the fungus produced seborrhoeic dermatitis; a pure fungus infection of the meatus by pityrosporon attacked the stratum corneum, giving rise at first to seborrhoeic dermatitis; this was soon followed by eczematization and secondary infection, either with *Staphylococcus aureus*, resulting in the development of boils, or with *Streptococcus longus*, resulting in the development of fissures. Thorough treatment of the infected scalp was indicated. A campaign against the uncleanliness of hairdressers might also be conducted. The acne bacillus attacked the infundibulum of the pilosebaceous follicle, giving rise to comedos, which represented the defensive reaction of the horny cells, and to an inflammatory reaction, with the development of pustules. The important infections due to staphylococci were boils and eczema, usually produced by *Staph. aureus*, or, more rarely, by *Staph. citreus*. Furunculosis was a frequent complication of a meatitis due to pityrosporon, and required treatment of the scalp and of the seborrhoeic state. The skin was constantly exposed to the dangers of infection with *Strep. longus*, either by contact with the infected skin of others, or from nasopharyngitis and gingivitis. Once acquired, the infection was extremely persistent; the organism invaded the folds of the skin, causing intertrigo and fissure formation; it might also give rise to impetigo contagiosa, eczematoid dermatitis, and even erysipelas. Fissure formation at the angle of the retroauricular fold was common with *Strep. longus* infections, and infection of the meatus was common in acute impetigo contagiosa.

All the organisms so far discussed might be harboured by the normal skin as saprophytes. It was desirable to discuss the factors predisposing to the adoption by them of a parasitic mode of life. With the staphylococci and pityrosporon, seborrhoea was the condition which most strongly predisposed to infection. The patulous sebaceous follicles swarmed with acne bacilli, and boils and sycosis were likely to develop. The growth of monilia was favoured by moisture; it was common in washerwomen and barmen, who had their hands constantly in water. The resistance of the epidermis was the first line of defence against these organisms. With streptococcal infections the antibody production of the skin and mucous membrane could be stimulated by the intradermal injection in graded doses of a vaccine made from the causative organism. There was reason to think that the same treatment might be effective with staphylococci and monilia. Infection of the ear with the tubercle bacillus was not very uncommon; lupus vulgaris usually began on the lobe and spread to the auricle, sometimes leading to occlusion of the meatus. Eruptions due to organisms reaching the skin through the blood stream were syphilides, such as condylomata and gummata, lupus vulgaris in certain cases, leprosy, and the exanthemata. Eruptions of internal origin and allergic in nature included erythema multiforme, erythema scarlatiniforme, lupus erythematosus, eczema, and probably psoriasis. Lupus erythematosus usually affected the helix and concha as well as the meatus; it gave rise to persistent erythema with telangiectases, and to scales due to hyperkeratosis; there was a tendency to superficial atrophy, and the scale, unlike that of psoriasis, was dry and adherent; its removal gave rise to pain and bleeding. The prognosis in this condition was better since the introduction of gold and bismuth therapy. In psoriasis of the meatus the skin of the scalp was nearly always involved. Eczema was commonly associated with other allergic conditions, such as asthma, urticaria, and migraine. The so-called "gouty" eczema, occurring in fat and plethoric patients, called for spa treatment. Eruptions due to

involvement of the cutaneous nerves or nerve ganglia included herpes *simplex*, prurigo, and herpes zoster. Herpes simplex was occasionally found on the auricle, and was presumably due to a filterable virus; herpes zoster might be part of a geniculate ganglion syndrome. Conditions which did not fall into any other group were: congenital malformations such as naevi, new growths such as epitheliomata, verruca vulgaris, and acanthosis nigricans, which was usually secondary to malignant disease in the abdomen.

Mr. T. B. LAYTON said that infections of the meatus due to suppurative otitis media were common, and were often due to the treatment applied to the middle ear. The seborrhoeic triad needed a moist skin for its growth. He had now abandoned the use of drops, and had his applications made up either with spirit or glycerin. The condition became chronic when secondary infection took place, and the first week of treatment was therefore most important. In older children and in adults the treatment was more effective when the patient did it himself, because its success depended on the time given to it.

Mr. E. WATSON-WILLIAMS agreed that treatment with watery applications should be avoided, but Mr. L. GRAHAM BROWN thought that syringing to remove debris was valuable before the introduction of applications with a spirit or glycerin base, or of yellow oxide of mercury ointment. Many cases of eczematoid dermatitis of the meatus were due, he considered, to irritation by the patient's finger; a man would notice a dullness in his ear, and attempt to clear it with his finger or a match. For this reason he always examined the nasopharynx of these patients to discover whether the cause of the dulled hearing lay there. Sir JAMES DUNDAS-GRANT asked whether Dr. Barber advised the routine bacteriological investigation of the discharge in eruptions of the ear.

In replying, Dr. BARBER said that he agreed that irritation of the meatus by the patient often caused a breech through which the *Strep. longus* might enter. In dealing with a pure infection the majority of ointments would do good, but if the skin became sensitized they were apt to cause aggravation. In such cases he used only weak ichthyol or tar ointments, but not resorcin, mercurials, or sulphur. It should be possible to say clinically what organism was responsible for a given eruption; in doubtful cases a bacteriological examination should be made.

CARE OF THE CHILD

At a meeting of the Liverpool Medical Institution, held on April 16th, with the president, Professor W. BLAIR BELL in the chair, Dr. LEONARD FINDLAY opened a discussion on the care of the child from birth to school age.

He said that the most appropriate introduction to the discussion was a consideration of the question of infant mortality, which still remained a most serious problem. Comparing the infantile death rates in England and Wales, and Scotland, he pointed out that until 1913 the death rate was higher in England than in Scotland, but since then the reverse had been the case. One of the chief reasons for this was the relative disappearance of epidemic enteritis, always more severe in England owing to climatic conditions. However, the simultaneous fall in deaths from this cause in various towns in Britain, Europe, and America suggested that the disappearance was in response to natural laws rather than the result of any human effort. Measles and whooping-cough were also responsible for a goodly proportion of infantile deaths, and one method of combating these diseases would be the provision of housing accommodation in order to lessen the opportunity for the spread of infection. He agreed that the relatively more rapid fall in the infantile death rate in England might be partly due to the intensive child welfare movement in that country. In England, since 1911, the deaths from convulsions and debility had fallen to a much greater extent than in Scotland. He emphasized, however, that there must not be too much supervision, or ill-directed interference with nature (as suggested by the rise in deaths from injury at birth). During the period of life under consideration environment exerted its greatest effect. Comparisons made between the urban and the rural child of the same social class showed a delay in growth of the former between the age of six and eighteen months. Tuberculous infection, and deaths from tuberculosis, were more numerous during the first year of life than during any single year thereafter. It was difficult to estimate the amount of tuberculosis contracted during early life, as much of it did not declare itself until later; but it was known that a great deal was due to the bovine tubercle bacillus transmitted by milk, and consequently preventable. Dr. Findlay urged that no efforts be spared to secure a pure milk supply and so eradicate this variety of tuberculosis. Tubercle-free milk must be supplied to rural districts as well as to the large cities, for there was good reason to believe that bovine tuberculosis was relatively more prevalent in rural districts and small towns.

Dr. NORMAN CAPON dealt mainly with the neo-natal period, and gave figures to show that, in spite of the gratifying reduction in the infantile death rate during the present century, there had been only a slight fall of mortality rate during the first four weeks of life. Every newborn baby still passed through a period of great danger to life, and, when he survived, he might have suffered damage which would jeopardize his future. It was an appalling fact that in 1929 47,868 infants died in England and Wales during the first year of life, and that 21,136 of these babies did not survive the neo-natal period. During the same year the total maternal deaths numbered 2,787. Dr. Capon emphasized the need for the closest co-operation between obstetricians and paediatricians. The former were in a position to employ prophylaxis when it might reasonably be expected to be most fruitful; it could be divided—to quote Eardley Holland's happy phrase—into the strategy of obstetrics (ante-natal supervision) and the tactics of obstetrics (conduct of labour).

Dr. H. R. HURTER spoke of the very high mortality at the close of the seventeenth century, even among children of royal birth. James II had succeeded in rearing only three of his twelve children, and his daughter Queen Anne had, when 37 years old, lost every one of her numerous progeny. The healthy child of 4 or 5 needed better exercise than the long monotonous walks alongside the perambulator of his younger brother; outdoor games and the garden sand-heap were better.

Dr. A. DINGWALL FORDYCE said that educationists and psychologists had extended knowledge on the mental side, and at the same time recognized the importance of physical factors and pathological states. The object in early years must be to preserve normality, and rational care should be under medical supervision. A unified medical service was necessary, and in order that such service be capable and reliable, undergraduate instruction in paediatrics must be developed.

The PRESIDENT said that he had long been of the opinion that obstetricians should surrender to the paediatrician the care of the child from the hour of birth. In the days gone by the obstetrician took charge of the baby; to-day it was rightly considered that the surgeon's responsibility in regard to this matter ended with the safe delivery of the child. During the last twenty years he had himself seen a great change in obstetrical interest in the life and freedom from injury of the child. Formerly the baby received scant consideration. Now, while the

interests of the mother still had, and always would have, a prior claim, the life of the child was an important factor in deciding the best method of delivery. He was therefore somewhat surprised to hear Dr. Findlay state that the percentage of birth injuries had been doubled. He thought that this statement was not strictly true, and was probably due to the fact that the frequency of fatal intracranial haemorrhages was not realized until a few years ago. There was another point in regard to child welfare which must not be overlooked by paediatricians—namely, that they were responsible for the production of the healthy mothers of the next generation. Many women came already crippled to ante-natal clinics to-day, and the reduction of the maternal mortality depended largely on the prevention of contracted pelves, not only those due to rickets, but also those, such as round pelves and justo-minor pelves, which were due to post-natal developmental errors. So, too, the disappearance of infections, including rheumatism in juvenile life, would diminish the number of cardiac, renal, and arthritic maternal cripples. He felt that the growth of paediatric science should confer obstetrical blessings on women.

LOWER SEGMENT CAESAREAN SECTION

At a meeting of the North of England Obstetrical and Gynaecological Society, held in Liverpool, Mr. ST. GEORGE WILSON read a paper on lower uterine segment Caesarean section, and showed a cinematograph film of the operation as performed by himself. After a concise historical survey Mr. Wilson reported the result in fifty of the fifty-four cases of which full details were available, and in which he had used this incision. Twenty-three were primiparae, twenty-seven multiparae, and fifteen had had previous Caesarean sections. In twenty-two of his cases there was general contraction of the pelvis, and in fourteen flat pelvis. There was one case of oblique contraction, and one of disproportion, which Mr. Wilson agreed with Mr. Leyland Robinson in ascribing mainly to deflection of the head due to or associated with imperfect functioning of the uterus. Pelvic tumours were present in four cases. In two, operation was done on account of cardiac disease. The remaining five comprised three patients with bad obstetrical histories, one with prolapse of the cord, and one elderly primipara with a breech presentation and rupture of the membranes of four days' duration. He thought that this incision extended the indications for operation, and that it also tended to diminish the number of operations performed. He considered that the textbook measurements of the pelvis were well above normal, and that a large number of cases labelled "generally contracted" would deliver themselves if given the chance of a trial labour. His operation rate at Walton Hospital was 1 in 14.3 deliveries. The average duration of labour in his fifty cases was 15.3 hours. The period of labour allowed was regulated by the condition of the foetus alone: the longer the labour the simpler the operation.

Various authorities were then cited by Mr. Wilson to show the greater morbidity rate in classical than in lower segment Caesarean section. He agreed with Munro Kerr that the uterine wound was infected from the interior by an ascent of bacteria from the vagina. In his series, excluding six cases of pulmonary disease and one of pyelitis, five were notifiable—a morbidity rate of 10 per cent. The average stay in hospital was 19.4 days. In addition to its immediate importance, he considered sepsis had a bearing on future pregnancies and labours. He thought, however, that the situation of the placenta over the previous scar was the important etiological factor in five of the six cases of rupture he had reported to the society. It was stated that the placenta was attached to the anterior wall in 40 per cent. of pregnancies. As well as the absence of placental attachment, the lower segment had the advantage that it bore no stress during pregnancy, or early in labour when rupture was most likely to occur in the classical scar. In regard to the children, there was one stillbirth—a hydrocephalic with spina bifida—and two neo-natal deaths (one soon after delivery, the other at ten days from gastro-enteritis).

A film of the operation was then shown and described. A catheter was kept in the bladder till the patient was put on the table. The position used was a moderate Trendelenburg. The abdomen was opened by a midline subumbilical incision, and a large Doyen retractor introduced. After careful packing off, a curved transverse incision was made as low down as possible in the utero-vesical pouch. The bladder was not pushed down, and a similar curved transverse incision was then made through the lower segment, the lateral extensions of the incisions being made with scissors. Pressure on the fundus forced the head down, and delivery was assisted by means of one blade of Simpson's forceps used as a vectis. Traction on the head then completed delivery. The placenta, as a rule, separated at once, and was delivered by traction on the cord. At this stage an injection of ergotamine phosphate and histamine was given intramuscularly. The incision was then closed by continuous catgut sutures in two layers, the decidua being avoided and the cut edges inverted. A third continuous suture closed the peritoneum. Graf's No. 3 catgut was used throughout. Mr. Wilson had never left the placenta to be delivered *per vias naturales*. He referred, in closing, to the easy convalescence of these cases, to the absence of intestinal complications, and to the advantage of confining any infection to the pelvis and behind a loosely attached peritoneum rather than allowing it to spread through the adherent upper segment peritoneum to the higher parts of the abdominal cavity.

Professor W. BLAIR BELL showed a uterus with attached portion of colon removed at operation for a utero-colic fistula due to carcinoma. He also described a case of intrauterine pregnancy occurring subsequently to conservative operations for different lesions, first on one tube and later on the other. Professor Blair Bell and Mr. LEYLAND ROBINSON each described cases of fibromyomatous uteri simulating pregnancy. A specimen of torsion of a hydrosalpinx was demonstrated by Mr. N. L. EDWARDS; and Mr. ST. GEORGE WILSON showed a uterus which had spontaneously ruptured during unassisted delivery of the child.

INTRACRANIAL TUMOURS

At a meeting of the London Jewish Hospital Medical Society on April 16th, with the president, Dr. LEOPOLD MANDEL in the chair, Dr. GORDON M. HOLMES read a short paper on modern advances in the diagnosis of intracranial tumours.

Dr. Gordon Holmes said that as tumours might occupy any region of the brain, all possible signs of neurological disorder might be produced. Localizing the position of a tumour was always interesting work, as it was a sporting task, which could be checked by the surgeon. Treatment had not advanced in the same way as diagnosis and localization, as 60 to 70 per cent. were gliomata, which were spreading tumours and therefore difficult to extirpate surgically; here lay a possible advance in treatment by *x* rays or radium. The diagnosis of tumour was made by the presence of increased intracranial pressure, evidence of local disease, and symptoms of irritation. Increase of intracranial pressure was brought about either by the size of the tumour itself in the closed cranial cavity, by reactionary changes around the tumour

(especially malignant metastases), or by interference with the circulation either of blood or of cerebro-spinal fluid. Headache, vomiting, and optic neuritis were the classical signs, but any two of these were sufficient to make one strongly suspect its presence. The diagnosis became certain, when, in addition to increase of pressure, there was disturbance of function (depending on the site of the tumour) pointing to local disease; this was generally of gradual development. Irritative phenomena might take the form of local epileptiform seizures, of which tumour was the commonest cause. These sudden disturbances might be brought about either by reaction around the tumour, haemorrhage into the tumour, extension involving new structures, or by obstruction of the flow of cerebro-spinal fluid. The signs of cerebral tumour must be differentiated from those of: (1) primary degenerative changes, in which there was no rise of pressure and the lesion was diffuse and bilateral; (2) chronic uraemia, which could be diagnosed from an examination of the urine, blood vessels, and blood pressure; and (3) cerebral arterio-sclerosis. The mathematical accuracy of localization was interfered with by disturbances of other parts of the brain by such factors as displacement and the increase of pressure; but, in spite of this, by clinical methods alone, 80 to 90 per cent. could be localized. Dr. Gordon Holmes wished particularly to draw attention to disturbances of sensation and of vision which occurred with tumours of the forebrain. There was no marked disturbance of cutaneous sensation, but discrimination was affected in the sense of position of the limbs, stereognosis, and the recognition of simultaneous contact of two points in the compass test. There might be gross disturbance of the visual fields, such as homonymous hemianopia. Visual inattention on the simultaneous exhibition of two objects occurred with superficial lesions of the parietal and occipital lobes; and visual disorientation was especially found with lesions of the left side of the brain. Recent advances in aids to localization had proved of little true value. *X* rays were occasionally useful, but the interpretation of the skiagram was difficult. Pneumoencephalography was attended by an 8 per cent. mortality; and the more careful the clinician the less use there was for this method. Injection of the carotid artery with sodium iodide solution was dangerous. Auscultation of the skull might reveal a vascular tumour or aneurysm; and percussion of the skull might reveal a tender area over the tumour. The important point to be remembered was that time and repeated examinations might be necessary before the tumour could be definitely localized.

Mr. JULIAN TAYLOR then read a short paper on results in surgery of intracranial tumours at the present time. He said that he did not intend to enter into details of technique, but would limit his remarks to the question of prognosis. Compared with many other branches of surgery, the results of intracranial operations presented a high mortality. In contrast there was a small proportion where complete success was attained and a larger where disease was arrested and patients had returned to nearly normal health. The variability of the results and the undoubtedly high proportion of failures were to be accounted for by the large number of conditions for which cranial operations were undertaken, and by the complexity of their effects on the brain. Percentages were useless in estimating the prospects of a particular case, and to make a prognosis the following factors had to be considered. (1) The nature of the tumour. The majority of intracranial tumours were malignant infiltrating neoplasms that were not associated with secondary growths. Some 60 per cent. were gliomas which infiltrated the brain but not its coverings. Their malignancy varied and their growth might sometimes be completely arrested. Only a very small proportion could be treated by irradiation. Some 12 per cent. were endotheliomas (meningiomas), which displaced the brain but infiltrated its coverings. Their malignancy was practically constant, and their infiltration was so slight that in practice it might almost be neglected. The remainder were for the most part benign, pituitary, acoustic, congenital, and angiomatous tumours. (2) Accurate localization of the tumour. In spite of the accuracy of modern neurologists, certain knowledge of position or size was not always available. (3) The accessibility of the tumour. Examples of partly accessible tumours were subcortical tumours growing deeply towards the corpus callosum or basal ganglia. (4) Permanent loss of cerebral function. In the majority of intracranial tumours that were operated on, the neurological signs and symptoms were due more to temporary vascular effects of the growing tumour than to actual destruction; so that removal of a tumour or decompression might result in recovery from symptoms. The visual paths and cortex were exceptions, and rarely showed signs of recovery. (5) The degree of increased intracranial tension. In a large number of cases high intracranial tension made surgical relief of the greatest difficulty. Methods were available for mitigating this danger. When papilloedema resulted in atrophy, return of vision was not to be expected. (6) The situation of the tumour. There were difficulties special to most tumours—for example, tumours in the neighbourhood of the left Sylvian fissure or of the left motor cortex could rarely be removed on account of aphasia and right hemiplegia. Tumours in the posterior fossa were dangerous on account of haemorrhage from cerebellar vessels and of the proximity of the medulla, which prevented any but the slightest manipulation. (7) Palliative decompression. For decompression to produce relief, it must be over the tumour. Where there was hydrocephalus decompression might give little relief, especially in the posterior fossa. The site of obstruction to the cerebro-spinal fluid, whether on its outward or return flow, was an important factor in the posterior fossa. Decompression either above or below the tentorium was rarely productive of benefit in tumours obstructing the incisura tentorii. Mr. Taylor concluded by giving a short summary of results in cerebral tumours. In gliomata the results were variable. In endothelioma the progress depended on the size of the tumour and the duration of the increased intracranial pressure; recurrence in the coverings was unfortunately too frequent. Pituitary tumours in some cases could be operated on successfully, but deep *x*-ray therapy seemed to hold some hope. Diathermy in the removal of some growths had met with success.

Mr. H. S. SOUTTAR said that, like Mr. Julian Taylor, he was not one of the optimistic surgeons referred to by Dr. Gordon Holmes, but he did think there was still much scope for them in the field of cerebral surgery. He pointed out that the symptoms displayed by the patient were often quite out of proportion to what was found at operation. In one case, a very small tumour gave rise to an immense hydrocephalus; in another, a huge tumour of the parieto-frontal region was found at operation, and the only symptom displayed by the patient had been extreme cheerfulness. Mr. S. I. LEVY recorded a case of cerebral sarcoma, treated by radium after decompression. the patient had lost his symptoms and was now carrying on a normal life.

In reply, Dr. GORDON HOLMES thought there was a future for *x*-ray therapy in certain types of tumours. With regard to radium, the results at Queen Square had so far been disappointing. He stated that he had not laid much stress on the mental symptoms associated with cerebral tumours, as he found that when he entered into the field of psychology he never felt too happy.

Reviews

CANCER AND RACE

The experienced statistical reviewer opens a book bearing this or a similar title with misgiving, for cancer and race taken separately are potent stimulants of crotcheteers and in combination are formidable. Dr. MAURICE SORSBY's little book[1] is an agreeable surprise; it may be that in some passages he has allowed more weight to imperfect data than they can properly bear, but, on the whole, he has maintained a judicial attitude which is very refreshing, and the conclusions he reaches are of real interest and importance. Dr. Sorsby has made a point-to-point comparison of the incidence of cancer upon Jews and non-Jews wherever statistical data were obtainable, and these are the results he has reached. Cancer *as a whole* falls with equal incidence upon Jews and non-Jews. The wide geographical variations (in part, perhaps, due to real differences of incidence, in still greater part due to varying exactitude of recording) are as closely reflected by one section of the population as the other. When, however, one scrutinizes the site rates there is quite clear evidence that Jewish women suffer less from fatal cancer of the uterus than non-Jewish women, and fairly clear evidence that cancer of the intestinal tract is rather more prevalent among Jews than among non-Jews. Hence we must conclude that not race, but habits of life, are responsible. What may be the factor of intestinal cancer is a matter of vague speculation, but quite plausible reasons for the advantage enjoyed in respect of cancer of the uterus can be furnished. A good deal of evidence has been supplied by gynaecologists, especially Peller, that septic traumata at the cervix uteri may be of etiological importance. But the ritual observances of the Jews impose upon strict members of the faith a much higher standard of cleanliness of the female sexual organs than is observed by non-Jews of the same social class. Hence it is reasonable to believe that the lower rate of mortality from cancer of the uterus is to be explained in this way. Collateral support is afforded by the evidence that cancer of the penis is very much rarer in circumcised than in uncircumcised peoples. The case is also strengthened by evidence that with a tendency to depart from the ancient ways has gone some tendency to equalization of rates as between Jews and Gentiles. Dr. Sorsby's book is well worth reading, and fully deserves Dr. F. E. Fremantle's commendatory preface.

A TEXTBOOK OF PATHOLOGY

With the publication of Professor E. T. BELL's *Text-Book of Pathology*[2] another addition is made to the long list of books on that subject from which the student has to make his choice. He may well ask in what these numerous works differ, and in what respect one is to be preferred to another where all may claim to be of equal authority. There is no doubt that it is desirable, for its proper appreciation, to bear in mind the point of view from which a book is written, and with regard to works on pathology a certain evolution in this respect can be discerned. The earlier works were, in the main, textbooks of pathological anatomy; then gradually the notion of function was introduced, and finally the functional standpoint became predominant and anatomical considerations took a secondary place, as in Krehl's textbook. A later development consisted in completely discarding the anatomical standpoint and adopting that of causation as the basis of classification, of which MacCallum's *Pathology* is a good example. Works on clinical medicine and surgery have always included pathology in their scope, but as the latter subject has increased its bounds, it is found convenient to deal with it separately, and thus have arisen works on pathology written from the clinical standpoint. Professor Bell's textbook belongs to this class. He has aimed at bringing the descriptions of structural changes in disease into relation with the problems of clinical teaching, and the classification adopted corresponds to clinical entities as far as possible and to the etiology of disease, although in the present state of knowledge purely anatomical considerations are unavoidable in certain directions.

The general plan of the book can be inferred from the above. It is well written, and kept within moderate bounds without any loss of comprehensiveness. Professor Bell has taken several colleagues into collaboration, a course which some may consider a disadvantage as in some degree marring the unity of a work, but which the progress of knowledge seems to have rendered inevitable. The illustrations must be specially mentioned. Many are drawings which for truth and artistic merit deserve great praise. The majority are photographs, and these, again, are of quite exceptional excellence; they show the changes intended to be shown, and they prove that photography used in illustration of pathological lesions, although very often an entire failure, is capable of giving results which compare favourably with those obtained by any other process. In this and other respects Professor Bell's *Pathology* is an attractive book, and is certain to take a place among the best textbooks on the subject.

A matter of no small importance is briefly referred to by the author—namely, the burden of nomenclature; he suggests that this would be materially lessened if some standard could be agreed upon. Certain it is that medical science is suffering severely at the present time from what may not inaptly be called "hypernomenclaturosis."

TREATMENT OF SKIN DISEASES

The Treatment of Skin Diseases in Detail,[3] by Dr. NOXON TOOMEY, is a volume of a rather unusual type. Very few books are written on the treatment of skin diseases, and most of these are very sketchy. Dr. Toomey, on the other hand, has produced a treatise which really fulfils the promise of its title, and gives sufficient particulars and explanation to enable a practitioner to carry out the measures recommended. Every cutaneous condition is considered separately under its own name, and after a short disquisition on the nature of the problem in each instance full directions are given for its solution. As must inevitably happen, there is a good deal of repetition, and this makes the book rather tiresome for continuous study, but it is one which may with advantage be consulted at any time in the hope of finding something useful for a special case. It will not, of course, dispense with the necessity of laying the only true foundation to successful therapy, which is to make the correct diagnosis. Most of the avoidable failures in the treatment of skin disease are due to the fact that this has not been done.

This is the third volume of Dr. Toomey's treatise on the principles and practice of dermatology. No doubt the second one, on diagnosis (which we have not seen), will have adequately prepared the way for his readers to take full advantage of the work before us. Dr. Toomey is quite up to date in his methods in general, but we should have expected to find more about the treatment of varicose ulcers and the influence on them of injection of the

[1] *Cancer and Race*. By Maurice Sorsby, M.D., F.R.C.S.Ed. With a preface by Lieut.-Colonel F. E. Fremantle, M.D., M.Ch., D.P.H., M.P. London: J. Bale, Sons and Danielsson, Ltd. 1931. (Pp. 120. 7s. 6d. net.)

[2] *A Text-Book of Pathology*. Edited by E. T. Bell, M.D., F.R.C.P., F.R.C.S. London: H. Kimpton. 1930. (Pp. xxxviii + 627; 316 figures, 2 plates. 36s. net.)

[3] *The Treatment of Skin Diseases in Detail*. By Noxon Toomey, M.D., F.A.C.P. Principles and Practice of Dermatology, vol. iii. St. Louis, U.S.A.: The Lister Medical Press. 1930. (Pp. 512.)

varicose veins. In psoriasis he is of opinion that the most effective internal treatment is colloidal gold, which he ranks superior to arsenic, still considered among ourselves the most useful drug in this lesion. The chapter on the treatment of lupus vulgaris is full, and for the most part quite sound, but we do not think that he is sufficiently emphatic on the dangers of *x*-ray therapy in this disease. In lupus erythematosus he has great faith in the employment of gold-sodium-thiosulphate, better known in this country as sanocrysin. He also recommends colloidal gold by the mouth. This is a modification of the treatment as yet not much in vogue among ourselves. Like most other dermatologists, he has come to the conclusion that the local applications most useful in this disease are those which are of a mild and soothing character.

Dr. Toomey's publishers have produced the book well, on good paper, and excellently printed. There are no illustrations, but these are not really called for in a work dealing with treatment only; no doubt his volume on diagnosis is amply illustrated. We have no hesitation in saying that this book will be found useful by practitioners who already possess some knowledge of dermatology and desire to enlarge their therapeutic resources.

CHRONIC RHEUMATISM

It is well that public attention should be directed to the problems of chronic rheumatism, a field so wide as to justify considerable latitude of treatment. Dr. B. L. WYATT's popular account of *Chronic Arthritis and Rheumatoid Affections*[4] is designed to supply information which will be acceptable to the patient as well as to the practitioner. In a prefatory note Dr. van Breemen claims that the treatment of rheumatic diseases has become more hopeful since an endeavour has been made to study and treat them in their early stages. A useful chapter on the incidence of these diseases in the United States is contributed by Mr. L. I. DUBLIN of the Metropolitan Life Assurance Company of New York. He quotes returns showing that on the eastern sea-board rheumatism constitutes about 9 per cent. of all illnesses, with a prevalence twice as heavy as that of tuberculosis and second only to accidents. The negroes of West Virginia and North Carolina appear to be much more liable to rheumatic affections than the white races. Dr. Wyatt believes that the majority of such cases in the States receive treatment outside the medical profession, although they are generally suitable for out-patient clinics. He seems well aware of the dangers of vague diagnosis and obscure terminology, and yet he increases rather than dispels the fog by identifying the term "rheumatoid" with "fibrositis," and mixes pathological anatomy with etiology by indifferently calling the same form of arthritis "proliferative" or "infectious." More to the point are his references, from personal knowledge, to the influence of chill and of climate. He finds in Southern Arizona (where the climate is dry and very sunny) very little infective arthritis, though there is much dental trouble. It is suggestive that of the men drafted from Arizona to the war less than one in a thousand suffered from arthritis—the lowest incidence in the United States. Dr. Wyatt advocates the routine provision of a warm atmosphere at all places where patients are under treatment for rheumatic disease, whether hospitals, sanatoriums, spas, or hotels, as in this way favourable results are much enhanced. Heliotherapy, however, is his favourite prescription, under which he claims improvement in 94 per cent. of cases.

[4] *Chronic Arthritis and Rheumatoid Affections.* By Bernard Langton Wyatt, M.D., F.A.C.P., with the collaboration of Louis I. Dublin, Ph.D., and foreword by Dr. J. van Breemen. Edinburgh: E. and S. Livingstone. 1931. (Pp. ix + 166. 15s. net.)

PHYSICAL AND ORGANIC CHEMISTRY

The sixth edition of *Recent Advances in Physical and Inorganic Chemistry*,[5] by Dr. A. W. STEWART, gives a full review of the developments of research in the sphere indicated by the title. Much of the subject-matter, as might be expected, is concerned with research in the various lines of approach to knowledge of the structure of the atom. Special chapters deal with radio-activity and the disintegration of the elementary atoms, followed by others which treat of the consequences of such disintegration—namely, the generation of different elements having the same atomic weight and of elements of the same identity having different atomic weights. Other chapters deal with the atomic nucleus and the outer sphere of the atom.

A claim for the existence of a new element is not in these days entitled to consideration unless the element has properties qualifying it for one of the vacant numbered places in the ordered arrangement of the elements. Special interest is therefore attached to a chapter entitled "The roll call of the elements." This gives an account of the more recent claims to discovery in regard to new elements, acceptable evidence in favour of the existence of sundry new elements, and a consideration of the characters of those whose places are numbered but not yet filled with certainty. Abnormal forms of hydrogen and some new hydrides present another subject of interest in which tin hydride and lead hydride are shown definitely to exist. The effects resulting from the properties of the Donnan equilibrium are explained and their important relation to biological phenomena is demonstrated. In this edition there is a notable quantity of new material, particularly chapters dealing with line spectra, emission bank spectra, and continuous emission spectra. The book contains a valuable summary of the new work and of its more important bearings on kindred science.

NOTES ON BOOKS

The fourth volume of the fortieth series in *International Clinics*[6] is divided into seven sections, devoted respectively to: translations of French clinical papers; post-graduate lectures; paediatric contributions from the Fifth Avenue Hospital of New York City; further clinical contributions from the same hospital; medicine; medical questionaries; and the Meeting of the British Medical Association held at Winnipeg last year. The papers calling for special notice are those on the treatment of boils and carbuncles, by de Keyser of Paris; treatment of cardiac diseases, by James E. Tolley, professor of cardiology in the University of Pennsylvania; the care of patients in the terminal stages of cancer, by Norman Treves of New York City; toxin-antitoxin immunization in adults, by Joseph Lintz of New York City; post-partum fever, by John E. Tritsch and Frances E. Shields; hereditary epistaxis, by Hyman I. Goldstein; and the differential diagnosis of peptic ulcer, by I. W. Held and A. Allen Goldbloom.

Colonel R. J. BLACKHAM had a distinguished career in the Army Medical Services, and was a recognized authority on the Ambulance Department of the Order of St. John. His book, entitled *Scalpel, Sword and Stretcher*,[7] is an autobiography. Colonel Blackham began his professional life as a doctor's apprentice in Ireland. He worked hard under financial difficulties, but matricu-

[5] *Recent Advances in Physical and Inorganic Chemistry.* By Alfred W. Stewart, D.Sc. Sixth Edition. London and New York: Longmans, Green and Co. 1930. (Pp. xi + 387; 32 figures, 5 plates. 18s. net.)

[6] *International Clinics.* Edited by Henry W. Cattell, M.D. Philadelphia. Vol. iv, fortieth series. London: J. B. Lippincott Company. 1930. (Pp. viii + 309; illustrated. 12s. 6d. net.)

[7] *Scalpel, Sword and Stretcher.* By Colonel Robert J. Blackham, C.B., C.M.G., C.I.E., D.S.O., M.D. London: Simpson Low, Marston and Co., Ltd. 1931. (Pp. xi + 340; illustrated. 12s. 6d. net.)

lated and qualified in medicine, and then turned to seek fame and fortune beyond his native country. Before joining the Army he sailed to India and to Montreal as ship's doctor, and also experienced the joys and troubles of general practice. Then follow chapters dealing with life at Netley in the time of Sir Almroth Wright; the author's early military training at Aldershot; a tour of duty in India; a period of home service; a second tour of duty in India; the great war and after. He saw hard fighting at the battle of the Somme and at the third battle of Ypres. He served in Italy, and, returning to France in May, 1918, took part in the final advance to victory. He was sent to North Russia, but was invalided home before taking any active part in the fighting there. On his return he was appointed an administrative medical officer until his retirement on pension. Close contact with a fighting formation, followed by retirement and leisure to dwell on the past, sometimes gives one an exaggerated idea of one's own work, which history does not always support. In Colonel Blackham's autobiography several administrative measures which he instituted on his arrival in France were already in common practice in other divisions and corps. Interesting anecdotes of races, countries, and famous people he has come across in the course of his duty are interspersed throughout, and, like the majority of Irishmen, he delights to bring stories into his narrative. Some are racy, others amusing, but a few at this late date have been worn thin by repetition. On the whole, his experiences at home and abroad were common to all serving officers, and for that reason the book is rather colourless. It is written in a stilted style of short paragraphs and great detail, which may be necessary in staff work, but detract from the interest of the general reader. Outstanding, however, is the historical narrative of Colonel Blackham's work in organizing the Order of St. John in India, when he toured six thousand miles over British India and Ceylon with the minimum of expense and the maximum of hospitality from Mussulman, Rajput, Mahratta, Sikh, and Hindu princes. He was largely responsible for making the Order efficient and fit to play a worthy part in the Empire's titanic struggle during the great war.

The Proceedings of the third meeting of the German Society for the Study of the Circulation[2] comprise an account of discussions, which reached a far higher standard than those of the earlier meetings, and English workers will find much of interest in them. The reader is at first impressed by the continuity of the various papers, but a little reflection shows that there is but one main subject, the transport of oxygen, underlying all the problems of the circulation, so that a thorough treatment of any aspect of it must necessarily lay bare the underlying framework. The difficulties in measuring the cardiac output are clearly described in various papers. Bürker has contributed a very interesting account of certain constants of the red blood cell. There is a breadth of view in these discussions that augurs well for an early resumption by German pathologists of their prominent pre-war position.

The Proceedings of the Nineteenth International Congress against Alcoholism,[3] held at Antwerp in August, 1928 (see *Journal*, 1928, ii, 513), have recently been published and distributed to the members of the congress. The volume includes papers on alcohol and social hygiene, the medico-legal diagnosis of drunkenness, the economic aspects of alcohol, the question of personal liberty in the campaign against alcoholism, control of the sale of spirits in Sweden, alcohol and heredity, the economical results of prohibition in America, the campaign against alcoholism in Austria, legislation to protect children from alcohol, the Belgian law of 1919 on alcohol, alcohol and sport, welfare centres for alcoholic subjects, and the production and sale of non-alcoholic fruit juices.

[2] *Verhandlungen der Deutschen Gesellschaft für Kreislaufforschung*, iii Tagung. Herausgegeben von Prof. Dr. Bruno Kisch. Dresden und Leipzig. T. Steinkopff. 1930. (Pp. xvi + 150; 39 figures, 2 plates. R.M 15.)

[3] *Compte-Rendu du XIXe Congrès international contre l'Alcoolisme, Anvers, 20–25 Août, 1928.* 1930. Brussels: Imprimerie médicale et scientifique. (Pp. 429.)

ROGER CASEMENT

A PROBLEM IN PSYCHOLOGY

It is well-nigh impossible to read the moving story of *The Life and Death of Roger Casement*,[1] so excellently told by Mr. Denis Gwynn, without feeling that this man was not of the stuff of which traitors are made. Courage, high endeavour, vision, and the will to override all obstacles at whatever personal risk—by common consent he possessed all these in notable degree, blended with the gift of friendship, a profound compassion for the oppressed, and a faithfulness, even unto death, to a cause which he believed to be a just one. And yet, thus splendidly endowed for the heroic tasks he accomplished in the tropical forests and swamps of Africa and Brazil in the cause of suffering humanity, and after a score of years spent as a trusted servant of the Crown, he was found guilty on incontestable evidence of attempting to seduce the allegiance of British soldiers, prisoners of war in Germany, and of assisting the King's enemies while Britain was fighting for her existence.

An antinomy so amazing, a discrepancy between character and conduct so striking, could not but raise doubts as to his sanity, and as to whether the same flaming zeal which had burnt the bonds and swept away the tortures, and torturers, of thousands of natives in Belgian Congoland and the Putumayo, had not at the end consumed, or at least warped, his own reason. Certainly he had suffered enough, in both body and mind, to warrant such an assumption. When he returned from the Putumayo for the first time, his powerful frame wasted and his health undermined, Mr. Gwynn says he was a tragic figure to his friends, and it was painfully evident that, though still under 50, he had not long to live. Yet a year later, impatient of official delays in ending once and for all an iniquitous system by which in twelve years 4,000 tons of rubber had been carried to the London market at a cost in human life of 30,000 Indians, by starvation, or by deliberate murder, by bullet, fire, beheading, or flogging to death, accompanied by atrocious tortures, he was once more back at Iquitos. The storm of indignation which burst in England and America on the publication of Casement's report and the entire official correspondence after his renewed effort; the compulsory winding-up of the Brazilian Company, and the establishment of a new regime, will still be remembered; but Casement's health was now completely broken down, his official career at an end, and "an invalid, disillusioned and haunted by vile memories that could never be effaced," he retired, a ghost of his former self, to seek refuge in the quiet valleys of his own people in Ireland. And so returning—this was the spring of 1912—hoping for peace of mind at last, he found his country divided into two hostile camps, in a fever of political excitement, and, like The O'Neill who went home to Tyrone from the court of Elizabeth, even if he did not seek it, "rebellion lay in his way, and he found it." From this point onwards Mr. Gwynn describes, in language worthy of his subject, though more with the skill of a brilliant advocate than that of an impartial historian, the march of contemporary events which hurried Sir Roger Casement, a willing victim, to his doom.

So tragic an ending to such a career would invest almost any life with psychological interest, but Roger Casement's, as revealed in Mr. Gwynn's narrative, discloses features —some obvious and mentioned in detail, and others less striking—of perhaps considerable significance in this respect. A marked change in behaviour and habits and

[1] *The Life and Death of Roger Casement.* By Denis Gwynn. London: J. Cape. 1930. (Pp. 444; 8 illustrations. 12s. 6d. net.)

of sentiments and loyalties is so characteristic of many forms of mental disorder that the very influential signatories, including Sir Clifford Allbutt and Sir Thomas Barlow, who appealed to the Prime Minister that the extreme sentence of the law should not be inflicted, called attention in the forefront of their petition to "the violent change which appears to have taken place in Casement's previous sentiments to Great Britain," as well as to "the severe strains to which he had been exposed during his honourable service and to the tropical fevers he had endured." But there was no such violent change. Extracts from his own diary, referring to the years 1905 and 1906, when he was at home on leave, show conclusively that his hostility to British rule in Ireland was of long and slow development, even if it was not until February, 1914, that his hatred of English rule, as Mr. Gwynn says, became an obsession that henceforward dominated all his mind. At what stage of his career this dominance of the emotions over the reasoning faculties began can be merely conjectured. So far as it is revealed in these papers, the whole background of his life seems to have been a battle-ground of conflicting loyalties. No doubt for good and sufficient reason Mr. Gwynn barely touches on his childhood and adolescence, but at the end of his story he relates one fact of significance to the psychologist. In his last days, when awaiting execution, his hopes, ambitions, achievements, anxieties, and disillusions all behind him, Roger Casement, brought up as a Protestant, remembered that as a child he had been taken to a Roman Catholic chapel by his mother, who was a non-practising Catholic, and that there a priest "had splashed water on him." Seeking to resolve his last remaining doubts, and to be admitted to the Catholic faith—for he had long been a free-thinking rationalist—it was discovered that he was already a Catholic, though, Mr. Gwynn says, "he had never known it." In one way this may be true, but it is an elementary fact, almost a commonplace, that childish impressions, with a powerful emotional complement such as this, even though they may fall below the reach of voluntary recall, never die, but live and grow underground, beneath the threshold of consciousness, and some day send up shoots into the open. It may well be that this was the first of a long series of internal conflicts. Later, though determined to avoid the trammels of officialdom in the Civil Service, his desire for adventure and escape carried him by a side wind into the Consular Service. In Congoland his love of freedom and of open spaces, his hatred of oppression, and his sympathy with the oppressed, all chimed with the call of duty, and, difficult and arduous as his tasks were, these were probably his best and happiest years. Nevertheless it is difficult to avoid the conclusion that it was there also, daily witnessing and collecting the evidences of appalling atrocities, revolting merely to read about, inflicted on a harmless people, that he began to range himself definitely on the side of the governed and against the Government. It would seem, therefore, that when he returned to Ireland from the Congo, and certainly when he came back from the Putumayo, his mind was already prepared to espouse such a cause as Irish independence and revolt, and to see in Ireland the oppressed and in England the oppressor. In the conflict of loyalties which ensued the result could be foreseen.

There are no water-tight compartments in the mind. However convenient it may be to treat *separately* of affective and of intellectual states, they are so intimately tied, and so great is the dynamic influence of the affections upon the association of ideas, that disorder of one is seldom, if ever, to be found unaccompanied. Although Mr. Gwynn does not suggest that Sir Roger Casement was ever insane, and although the official statement issued on August 14th, 1916, the day after his execution, says that

> "another suggestion that Casement was out of his mind is equally without foundation. Materials bearing on his mental condition were placed at the disposal of his counsel, who did not raise the plea of insanity. Casement's demeanour since his arrest, and throughout and since his trial, gave no ground for any such defence, and, indeed, was sufficient to disprove it,"

evidences of a progressive intellectual perversion are not lacking. The narrative of his doings in Germany, for a man of his calibre, his absorption with petty affairs, his naïve trust in untrustworthy persons, and his groundless suspicions of others, makes pathetic reading, not to speak of his extraordinary belief that the Irish Brigade he tried to raise in Germany could attack England at war without serving any German end. In this connexion a letter from the Irish-American John Devoy is of interest. He describes Roger Casement in 1914 as a visionary, honest but utterly impracticable, "obsessed with the idea that he was a wonderful leader," that he alone, by his personal influence, could bring about the liberation of his country, "and seems, in fact, to credit himself with supernatural powers." Probably this description of Casement, written in some bitterness of spirit—for the writer blamed him for having wrecked the Irish rising—would not be accepted by his friends who had known and almost worshipped him in happier days; but it is at least curious that it adds to Mr. Gwynn's portrayal certain features which, if truly drawn, and if taken in conjunction with Casement's later activities, cannot but bring to mind the peculiar orientation, egocentric attitude, and tendency to persecutory ideas, combined with a remarkable retention of logical processes, which are in general characteristic of a form of mental malady fitly named "near to wisdom." Deeply rooted in the nucleus of the emotions, so gradual of development that those nearest mark no change from month to month and regard the early stages but as the unfolding of an unusual or visionary character, its victims are seldom recognizable as disordered of mind until the insistent promptings of unbalanced emotion have been rationalized into intense conviction and translated into action, and not always even then.

That Sir Roger Casement was "out of his mind" in the usual acceptation of the phrase cannot be maintained. He was well aware of the hazard he played and of the forfeit that would be claimed. He had even envisaged and feared the possibility of an attempt to find him "guilty but insane." On the other hand, a survey of the facts recorded here strongly suggests that there existed for long, though developed and fostered by years of intolerable strain, an abnormal emotive state—*interfering with and finally subjugating the normal synthesis of thought, transforming his whole outlook, long before he became involved in the political excitements of his country preceding the war—which subverted his judgement, deflected his high aims, overthrew his allegiance to the Crown, and brought a career of notable accomplishment to an inglorious end.*

C. B.

A special general meeting of the Fellows of the Royal Society of Medicine will be held at 1, Wimpole Street, W., on Tuesday, May 19th, at 4.30 p.m., to consider a request by the members of the Sections of Balneology and Climatology, and of Electro-Therapeutics, for the abolition of these Sections. The council proposes, in replacement of them, the creation of two new Sections: (1) of Physical Medicine, to provide for the study of balneology, climatology, and electrology; and (2) of Radiology, for the study of radiodiagnostics and radiotherapy. A majority of two-thirds of the Fellows voting will be required in order to make the proposal effective.

CANCER OF THE LIP, TONGUE, AND SKIN

MINISTRY OF HEALTH MEMORANDUM

The eighth memorandum of the Ministry of Health for the guidance of local authorities in the prevention and treatment of cancer has just been published.[1] In the *British Medical Journal* of August 16th, 1930 (p. 253), there was an article dealing fully with Dr. Janet Lane-Claypon's valuable report on cancer of the lip, tongue, and skin. The present memorandum also treats of cancer of the lip, tongue, and skin, including a statistical analysis of published writings on cancer of these parts of the body, which, with the breast and the uterus, have one important characteristic in common—namely, accessibility; important because early recognition by the public of cancer of accessible organs is the basis upon which the Ministry of Health wishes to found health instruction in this disease. Facility of access means, for the doctor as well as for the patient, easier and earlier diagnosis, not only of cancer itself, but also of the simple precancerous states which have been proved to be causally related to and to precede the development of malignant tumours and ulcers. The memorandum lays great emphasis on these precancerous conditions, which include cracks, fissures, chronic ulcers, warts, moles, pimples, scars, and leucoplakia—in other words, any source of chronic irritation—the avoidance and early detection of which will rest, in the main, with a properly educated public. Mortality rates show that cancer of these three organs is about three and a half times more common in men than in women, accounting, in men, for about 9 per cent. of the total deaths from cancer.

Cancer of the Lip

In 1928 in England and Wales 304 men and 25 women died from cancer of the lip, the mean age at death being about 70 years. The frequency with which cancer is preceded by some innocent condition has already been mentioned, the commonest of which in cancer of the lip are blebs and ulcers and, in order of frequency, small lumps, thickenings, cracks, warts, scabs, and, lastly, leucoplakia. It is thought that minor repeated injuries to the mucous membrane by the adhesion of cigarette papers, by clay pipes, or by a hot pipe stem, may lead to a precancerous chronic ulcer. The method of smoking, then, and not smoking itself, is incriminated. The commonest site of the growth is the lower lip, where it appears as an ulcer or a hard warty nodule on the red margin to one side of the mid-line, in the middle of the lip, or, most rarely, at the angle of the mouth. A striking fact emerges from a separate consideration of cancer of the lip in the two sexes. Whereas the ratio of lower lip to upper lip cancer is 27 to 1 in males, it is about 3 to 1 in females; that is to say, cancer of the upper lip, though a very rare disease in both sexes, is relatively more common in women. As a consequence of its slower rate of growth the results of treatment of cancer of the lip are better than those, for example, of cancer of the tongue. By modern operative methods there is a 60 per cent. survival rate of all cases, and an 80 per cent. survival rate of early cases, five years after treatment. In 90 per cent. of the cases in which recurrence takes place, this happens within three years of treatment. Therefore the patient who survives five years has a reasonable prospect of being entirely free from the disease. Although experience of treatment by radiation is less extensive, and sufficient time has not elapsed since its inception, it is justifiably assumed that the results are equal to, and possibly even better than, the results of surgical operation.

[1] Memorandum on Cancer of the Lip, Tongue, and Skin. Circular 1186. London: H.M. Stationery Office. 1931. (3d. net.)

Cancer of the Tongue

This disease is about ten times commoner in men than in women. Of a higher grade of malignancy, it is responsible for four times as many deaths as cancer of the lip, the mean age at death being about 61 years. During the decade 1911–20 the standardized death rate in males was higher than in the previous decade; by 1926 the rate had fallen, but since then there has been a tendency to rise. The site of election is at some point on the free border of the tongue, and, as in cancer of the lip, there is in a high proportion of cases some antecedent innocent condition. No experimental evidence has been brought forward in support of the contention that tobacco smoking causes cancer of the tongue, although two possible sources of chronic irritation, heat and the products of combustion, are inseparable from its practice. There is, however, a closer connexion with syphilis, for cancer of the tongue appears to be commoner in persons who have had a previous syphilitic lesion of the tongue. Leucoplakia, though one of the precancerous states of the tongue, may persist for many years without undergoing malignant change. Sharp or carious teeth, or badly fitting dentures, are obvious and avoidable causes of chronic simple ulcers which may become cancerous. The rapid spread of the disease to neighbouring lymph glands militates against successful operative treatment, only 20 per cent. of all cases surviving after three years. One of the chief factors in this low survival rate appears to be the length of time patients are willing to suffer from this disease before seeking treatment. Radiation, experience of which is limited, is being attended by favourable results.

Cancer of the Skin

The commonest variety of cancer of the skin is the rodent ulcer, of low malignancy and the most amenable to treatment of all cancers; the rarest is the highly malignant pigmented tumour arising usually in a pigmented mole or birthmark. In addition to these two, and resembling cancer of the lip in its mode of origin and course, is the ordinary cancer of the skin, or squamous epithelioma. Another important group is the one known to be associated with exposure to the products of combustion or distillation of coal, having a special predilection for the skin of the external genitalia of the male. The mean age at death is 66 for males and 68 for females. Precancerous conditions of the skin fall into two groups. On the one hand there are such chronic minor lesions as warts, pimples, scars, birthmarks, etc.; and, on the other, exposure to a variety of agents fully considered in the present memorandum. Mineral and shale oils are definite causes of occupational cancer, as, for example, mule-spinner's cancer and the paraffin cancers of the shale-oil workers in West Lothian. Tar residues and derivatives such as pitch, anthracene, asphalt, and creosote; together with lignite tar, gas-works tar, producer-gas tar, coke oven tar, and blast furnace tar, have all been shown to have carcinogenic properties. Another group of occupations in which skin cancer occurs in an unduly high proportion is that involving exposure to weather; and it appears that excessive exposure to sunshine, particularly in persons of fair complexion, is an etiological factor which cannot be ignored.

The Ministry of Health recommends that the group of cancers considered in this memorandum should be dealt with in each of its principal aspects—namely: (1) prevention or removal of environmental and other conditions known or suspected to be associated with causation; (2) curative treatment of abnormal conditions likely to develop the cancerous changes; and (3) surgical removal, by operation, radiation, etc., of the actual cancer.

British Medical Journal

SATURDAY, MAY 9th, 1931

TRACKING THE SOURCE OF INFECTION IN PUERPERAL SEPSIS

One of the most anxious and difficult problems connected with maternal mortality is to find the source of the infection in puerperal fever. Until substantial progress has been made in the elucidation of this question, it is impossible to attack, with any hope of success, the all-important subject of prevention. The work recently published by Dr. John Smith of the City Hospital, Aberdeen,[1] and noticed briefly in our columns on January 31st (p. 191), constitutes a step in progress which may have far-reaching consequences. Dr. Smith's report is based upon the study of 246 cases of puerperal infection which occurred in Aberdeen over a period of eight years. He agrees with the conclusion now reached, with practical unanimity, by all workers in the subject—namely, that in severe cases of puerperal fever the causative organism is nearly always the haemolytic streptococcus. If it could be established whence the organism comes, and how it obtains access to the genital canal of the parturient woman, the practical task of the obstetrician to exclude it would obviously be greatly simplified. The recent work of Leonard Colebrook and others suggests that anaerobic forms of streptococci are also capable of setting up acute puerperal infection, but the Aberdeen inquiry has, perhaps unwisely, ignored the anaerobic bacteria altogether. Further work will be required to show the relative importance of the latter organisms, and the sources from which they arise.

The haemolytic streptococcus, an aerobic form, is at the moment in the foreground of bacteriological work on puerperal fever, and the contribution made by Dr. Smith's latest research is that he has endeavoured to trace the source of the infection in twenty-one cases by careful and elaborate bacteriological investigation. In three cases the search failed entirely, and no explanation of the occurrence of the infection could be found. In the remaining eighteen cases it is claimed that the source from which the infecting organism sprang has been discovered. Briefly, the line of proof followed was to establish the morphological and serological identity of the organisms obtained from the uterus or the blood of the patient, with organisms obtained from those in attendance upon her during her confinement, or from an extragenital source of infection in the patient herself. The agglutination-absorption method of establishing serological identity, which was largely employed in this inquiry, is somewhat new, and perhaps it needs to be further tried out; but, with this reservation, the results obtained appear to be conclusive. In five cases the infecting organism was traced to the patient herself; in one of these the haemolytic streptococcus was traced to the patient's nose, in another to a septic focus on the finger; in three cases the *B. coli*, which was the sole infecting organism, was traced to the urinary tract or to the intestine of the patient. In the remaining thirteen cases the infecting organism was traced to one of the attendants—nurse, doctor, or student. In one of the thirteen a septic focus on the doctor's thumb was found; in the remaining twelve *Streptococcus haemolyticus* was traced to the nose or throat of one of the attendants. In all of these cases it would appear that the attendant was a "carrier," and had, at the time, no clinical manifestations of throat or nose infection. No information is given as to the clinical features of the twenty-one cases thus examined; which of these patients succumbed to the infection, and how many were clinically severe cases, is not stated. Evidently it is still necessary to urge that there should be the closest possible alliance between the laboratory worker and the clinician, and that bacteriological data cannot be fully comprehended, or applied in practice, unless accompanied by the relative clinical records.

The case thus presented from Aberdeen is by far the most conclusive we have yet obtained in favour of the view that droplet infection from the throats of carriers of the haemolytic streptococcus is a frequent cause of severe puerperal infection; that it is indeed by far the most frequent of all known causes. Without subscribing to the dictum that the throat is the "normal habitat" of this organism, its presence in the throat of large numbers of apparently healthy people is, by general consent, a frequent occurrence. Dissemination of the organism in coughing or sneezing, or perhaps even in normal talking, through droplet infection, will continually reinfect hands, instruments, and dressings which have been prepared by sterilization, and this would appear to constitute a grave and ever-present risk, not only to midwifery, but to surgical work of all kinds. The cases in which an extragenital source was found in the patient herself include three of pure *B. coli* infection in which the organism was traced to the intestines (two cases), and the urinary tract (one case). In one of them, a case of septic abortion, it is stated that no vaginal examination had been made "throughout the illness." These cases offer a striking proof of the importance of careful and thorough disinfection of the external genitalia, and they suggest that the methods in common use for this purpose are inadequate. In another case in this group the patient had a septic focus on her hand, and the report states: "there is every reason to suppose that the organism was conveyed from the hand to the genital canal." In only one case was the patient herself found to be a throat carrier of the *Strep. haemolyticus*.

The assumption that the results obtained in Aberdeen might be matched in most of our other large centres of population is not unreasonable. The grave warning conveyed is that in obstetrical work precautions must be taken to exclude droplet infection, at least as thorough as those adopted in surgical procedures; and

[1] Department of Health for Scotland. Report on Causation and Source of Infection in Puerperal Fever. Edinburgh: H. M. Stationery Office. 1931. (1s. net.)

that no reliance can be placed in midwifery practice on a single act of sterilization, such as the boiling of gloves or instruments, but that continual re-disinfection must be conscientiously carried out all through. In this connexion attention should be paid to the recent observations of Colebrook[1] and of L. P. Garrod.[2] The latter found that in laboratory tests " brilliant green " exerted the most powerful bactericidal action on *Strep. haemolyticus* grown in blood broth ; the former carried out an elaborate investigation of the best methods for sterilizing the bare hands, and also the hands gloved in rubber. The difficulty of freeing the skin of the hands from bacteria by any practicable method has been repeatedly demonstrated both in the laboratory and by clinical workers. On the other hand, Colebrook and others have now shown that the gloved hands can be cleansed and re-sterilized during attendance on a case with rapidity and certainty by very simple methods ; this observation forms an additional argument, if one be needed, for the routine use of rubber gloves in midwifery.

THE JOHN B. MURPHY ORATION

That distinguished American surgeon the late Professor J. B. Murphy of Chicago died in 1916, and, following a laudable custom, the American College of Surgeons established and endowed an annual Oration, to be delivered, in honour of his memory, for the advancement of surgical science. Last year the oration was given by Professor G. Grey Turner of Newcastle-upon-Tyne, on the occasion of the meeting of the clinical congress of the College at Philadelphia in October.[3] The authorities responsible for the choice of the orator showed great discrimination, for Professor Grey Turner has sat at the feet of his eponymous hero both in England and in America. Thus, unlike some of his predecessors, he has had the advantage of close personal knowledge of the manner of man Murphy was. Moreover, the orator is himself a kindred spirit, a surgeon of wide outlook and high ideals, his view of the surgical forest unobscured by the trees immediately surrounding him.

Murphy's name is a household word among surgeons, not only in English-speaking countries, but throughout the world, and although his famous button has been superseded by other means of intestinal union, its introduction marked a definite step in the progress of abdominal surgery, and as Professor Grey Turner says: " Its use introduced a new and successful era in gastro-intestinal operations, and did more than anything else to place this branch of surgery on a secure footing." Not only in the advance of abdominal surgery did Murphy play a great part ; he illuminated and improved the practice of surgery in many directions, notably in the treatment of bone and joint diseases. His bold procedures for the relief of ankylosis of large joints, such as the knee, were ahead of his time, and it is only since the war that other surgeons have reached, in this respect, the position to which he had attained. Like many other American surgeons, Murphy had studied the methods of German teachers and adopted the type of clinical teaching which has long been in vogue in Germany generally, and in its highest perfection in Vienna under von Billroth. Professor Grey Turner, however, is fully impressed with the superiority of the British system, of which the merits were recognized in the Flexner Report of 1912. The value of early and free contact between the student and the actual manifestations of disease cannot be overestimated.

The orator chose for the title of his address " Ideals and the art of surgery," illustrating his theme by discussing some present-day problems and their possible solutions. Referring to the old question of when to operate for appendicitis, he declared that there was no medical treatment of the condition, but that Murphy's dictum " Get in quick and get out quicker " still held good. This must not, however, be taken to mean that the abdomen should be recklessly opened for diagnostic ends or that operative procedures should be scamped for the sake of saving time. Professor Grey Turner, in considering the ideals for which he would strive, surveyed some of the principal fields of major surgical practice. We welcome his protest against undue despondency in regard to malignant disease. He says that so pessimistic is the attitude of some surgeons and physicians, that many members of the profession are deterred from advising intervention. In his belief, attention has been too much diverted to methods of irradiation, which have not yet been sufficiently elaborated to take the place of the knife. Until we have a much greater experience of the capabilities of radiation as a cure of malignant disease, thorough surgical treatment still holds the field as the only hope of cure in many cases of grave malignant disease. Professor Grey Turner showed from the records of his own cases that " when the efforts of the surgeon have been well planned and *have been sufficiently thorough*, the results have often been commensurate with the sacrifice which the patient has been led to make." Cases such as some of those he describes, in which dissemination had not already occurred and the tumour and the affected glands were adequately removed, and which have survived gastrectomy for varying terms of years, give good grounds for trust in adequate surgery. Still more hopeful are cases of rectal and colonic cancer when the sphincter can be preserved and the patient spared the horrors of a colostomy.

So strongly does Professor Turner feel on the question of the treatment of tuberculous glands that in order to drive home his argument to his readers' and hearers' convictions, he has reproduced a sketch of a tombstone, with the inscription " J. Tubercle, Not Dead, But Sleepeth." He holds that indiscriminate removal of tuberculous glands is objectionable, seeing that there are, in his opinion, two main sources of infection: one which is entirely local and arises in connexion with the tonsils or

[1] Ministry of Health. Interim Report of the Departmental Committee on Maternal Mortality. London: H.M. Stationery Office. 1930. (2s. net)
[2] *British Medical Journal*, 1931, i, 572.
[3] *Surgery, Gynecology and Obstetrics*, February 15th, 1931.

nasopharynx, and another, a primary infection of the mesenteric or mediastinal glands. Excisions in the first group allow good hope of permanent cure; in the other, the remaining "not dead, but sleeping" tubercle bacilli reassert themselves and awake in new and often fatal manifestations. He ended his address with a suggestion that his selection for the honourable post of Murphy Orator might be taken as a compliment to the provincial school of surgery to which he belongs, for he does not forget that Murphy once said that the best surgery is not all done in the biggest cities. We are within a year of the celebration of the centenary of the Association, which was founded by provincial physicians and surgeons when our art was still flourishing in places other than the metropolitan cities. If subsequently centripetal forces prevailed for a time, surgery is nowadays enriched in abundant measure by the contributions of the provincial schools.

UNDULANT FEVER IN THE UNITED STATES.

Probably no other disease has attracted such attention during the past few years from the clinician, the public health official, the veterinarian, and the bacteriologist, as undulant fever. The disease appears to be world-wide in its prevalence, and is showing an increase—whether apparent or real it is difficult to say—that is formidable. In the whole of the United States 24 cases were recognized in 1925; four years later 1,305 cases were detected. A report by Hardy and his colleagues[1] now deals with 375 cases occurring in the single State of Iowa. Besides drawing attention to the frequency of undulant fever, this report is of particular interest for the light it throws on the epidemiology of the disease. Iowa is a State in which cattle-raising and hog-raising are the two main industries. Contagious abortion is rife in both these animals. There are very few goats, and herds of sheep are scattered. Under these conditions it is not unreasonable to expect that most of the undulant fever in man is of bovine or porcine origin. The bacteriological evidence confirms the truth of this surmise. The causative organism was isolated from the blood stream of 48 patients; one patient had a double infection, so that 49 strains were recovered; of these, 35 proved to be of the porcine, and 14 of the bovine, type of *abortus*. The greater proportion of porcine strains isolated cannot, it is pointed out, be taken to mean that infection of porcine origin is commoner than of bovine origin, because, in practice, positive blood cultures are very much more frequent in patients infected with the porcine than with the bovine strains. From a general review of all the information available it is considered that the two organisms are about equally responsible for the undulant fever morbidity in Iowa. Studying the probable modes of infection, the authors classified their cases into three groups: (1) Those without direct contact with live stock or carcasses. Of the 125 patients in this group, 51 per cent. were males and 49 per cent. females, the majority living in small towns or cities; and since all the eight strains of Brucella recovered were of the bovine type, it is probable that infection occurred through the consumption of raw dairy produce. (2) Rural cases having direct contact with live stock. Of the 169 patients in this group, 96 per cent. were males and only 4 per cent. females. Practically all patients had contact with both cattle and hogs. The age distribution was from 15 to 55 years. Twenty-nine strains of Brucella were isolated; of these 24 were of the porcine and 5 of the bovine type. Infection was probably derived about equally from cattle and hogs. Most of the infections derived from cattle could be explained by ingestion of raw dairy products; those derived from hogs appeared to result from direct or indirect contact with infected animals, the portal of entry presumably being the skin. (3) Urban cases having direct contact with live stock or carcasses. This group comprised 40 patients, all males, 37 of whom were packing-house employees working in the hog division. Of the ten strains of Brucella isolated, all were of the porcine type. Infection apparently occurred by direct contact with fresh tissues of diseased hogs. Clinically the cases of porcine infection tended to be more severe than those of bovine infection. Most of the patients had an intermittent fever, associated with lassitude, weakness, sweating, anorexia, chilliness, and loss of weight. The average duration of the disease was about three months, but the ensuing debility often lasted much longer. The case mortality was 3 per cent. It is interesting to note that pyrexia of the classical, undulant type was only occasionally seen; this circumstance probably accounted for the frequent failure of the attending physician to suspect the true nature of the illness. Erroneous diagnoses were frequent; the commonest were typhoid fever, influenza, and tuberculosis, but suspicion was often cast on the cardio-vascular or genito-urinary system. Abdominal symptoms were often misleading, and in this connexion the authors state that Simpson had a record of twelve appendicectomies and two cholecystectomies performed on cases of undulant fever. It is clear that the real frequency of this disease will not be ascertained till the practice is universally adopted of examining the blood serum of all patients who are suffering from an undiagnosed pyrexia.

[1] Undulant Fever, with Special Reference to a Study of Brucella Infection in Iowa. National Institute of Health, Bulletin No. 158, U.S. Treasury Department, Public Health Service, Washington, 1931.

THE FIRST INFANT WELFARE CENTRE

The first "infant consultation" in this country was held at St. Marylebone Dispensary, in Marylebone Lane, on March 14th, 1906, and the pride of priority was evident in the enthusiastic gathering held, on April 29th, at the dispensary, under the chairmanship of the Mayor of St. Marylebone, to celebrate a quarter of a century of achievement. Miss Susan Lawrence, M.P., Parliamentary Secretary to the Ministry of Health, came to give the occasion official blessing. She referred in particular to the rheumatism clinic, the ante-natal clinic, and the clinic for the pre-school child, as examples of the pioneer work done at St. Marylebone, which the Ministry desired to see extended to every part of the country. The marked improvement in the figures relating to infantile mortality, she said, had come about as the result of intensive propaganda, and, given the same determination, this outstanding success might be repeated with the child of between 2 and 5, and also in the elucidation of the problem of rheumatism and its treatment. Dr. Eric Pritchard, who was responsible

for the first "infant consultation" twenty-five years ago, and held the office of director of the clinic from 1906 to 1922, gave some reminiscences of the early days, and mentioned the names of a number of workers, some of them no longer living, who courageously faced the problems attending a new venture. In the early days the two principal matters of concern were infant mortality and tuberculosis. It was the strong belief of those who started the clinic that infant mortality was in very large measure due to lack of knowledge, and therefore the "infant consultations" were started, the idea being that the voluntary health visitors should encourage mothers to bring their babies to the dispensary, where they could be medically examined, and where good advice could be given as to care and feeding. It was, in effect, instruction in mothercraft, although that word had not then been coined. The clinic instructed the mothers to arrange for longer intervals between feeding, to give up the stiff binder and the iniquitous "comforter"; it introduced dried milk, and exact methods of measuring food, and it also arranged competitions for mothers, and encouraged them in various ways. What St. Marylebone did was quickly followed by other London boroughs and provincial towns, not always, Dr. Pritchard said, with proper acknowledgements to St. Marylebone, though the indebtedness to Continental institutions, particularly the French ones, was freely admitted. The great thing was, however, that the work was done, and that a ball was set rolling, which was rolling still, and still gathering momentum. Dr. Charles Porter, medical officer of health for St. Marylebone, referred to the world-wide extension of the movement which had its origin in Marylebone Lane. To-day, in the Far East and the Far West, infant welfare centres were in operation, and were doing unconscious homage to Eric Pritchard. To-day, the infant mortality rate was only half of that of 1906. Mr. W. McAdam Eccles, senior honorary consulting surgeon to the charity, in proposing a vote of thanks to Miss Lawrence, referred to the education of mothers which had taken place during the quarter of a century, especially in regard to the proper feeding of children and the provision of fresh air.

ENTERIC FEVER IN 1929-30

The recently published January issue of the Epidemiological Report of the Health Section of the League of Nations is devoted to a consideration of the morbidity and mortality of typhoid and paratyphoid fevers throughout the world during the past two years. A graph of the trend of enteric fever from 1922 to 1930 shows that no pronounced change in the incidence of the disease has occurred during this period in Germany, England, and Poland, apart from a slight decline in March and April, which are the months of lowest typhoid morbidity. In the United States there has been a steady decrease in the incidence of typhoid, the disease being most prevalent in the southern States. In France there has been a distinct drop in the frequency of enteric, from 1928 to 1930, the figures being 9,762, 7,280, and 6,408. In Italy the number of cases has remained stationary. In the Soviet Union, on the other hand, there was a great increase in typhoid morbidity in 1929, especially in the Ukraine and Siberia. In 1930 a considerable epidemic due to defective sewerage occurred in Leningrad. As regards typhoid mortality there has been a universal and very striking decline during the last ten years, except in Spain and Hungary, where the reduction has been least marked. The cause of this decline is mainly to be found in the general improvement of the water supply, and to a certain extent in the antityphoid inoculation of a large proportion of the male population during the war, and to the continuance of this practice in countries with military conscription. It is noteworthy that since the war, as is illustrated by experience in Pforzheim, Lyons, Paris, and Hamburg, both the incidence and the case mortality of enteric fever in women, among whom inoculation had not been carried out, have been higher than in men. A table of the case mortality of enteric fever in various countries during the period 1923 to 1930 shows such wide variations as 2.8 per cent. in Lithuania and 25.4 per cent. in Switzerland. So marked a difference is obviously not due to variations in the pathogenicity of the typhoid bacillus, and can be explained only by the more careful system of registration of deaths carried out in Switzerland. International comparison of the case mortality of enteric fever is further vitiated by the fact that in many countries no differentiation is made in the statistics between typhoid and paratyphoid fever. That the higher death rate among young persons is a very general phenomenon is shown by statistics from England and Wales, Massachusetts, the Philippines, and Siberia.

A EUGENIC EXPERIMENT

Experiments in eugenics with the human species are exceedingly difficult to make or to control, and cannot be conclusive until after a very long period of time. Hence, some degree of importance attaches to any suggested practical method for bringing about selective breeding on a considerable scale, and observing its results. In this respect an article in the April number of the *Eugenics Review*, entitled "Positive eugenics in practice," may be read with interest. It is by M. Alfred Dachert, and professes to give "an account of the first positive eugenic experiment." This may be held to be too high a claim; but M. Dachert is the originator and director of a garden city enterprise at Strasbourg of a novel character (*Les Jardins Ungemach*); and what he has there been able to accomplish is certainly worthy of notice and suggestive for further activities of an analogous kind. The essential feature of the experiment is not, of course, the planning and building of an estate on certain lines, but the selection of the people who are to inhabit the houses. Incidentally, it is interesting to note that the author found his two chief model garden cities in the East—the Manchu town of Peking, "the model for all the rest," and New Batavia, in Java, "probably the most remarkable of our time"—and that he concluded that in Europe such cities did not assist, as they should, the progress of the human species, because "dwelling there I saw old maiden ladies, widows, and sundry others who had been chosen by the merest chance." It was determined that in *Les Jardins Ungemach* the laying-out and regulation of the estate and its houses should be such as to promote the well-being of large families, each house being so planned as to avoid all unnecessary work for a young housewife who is expected to have children, but cannot

afford the help of a servant ; and that the inhabitants should be chosen, not from the point of view of their being good paying tenants, but for their human qualities. The tenants desired were " young couples in the best of health, comely and vigorous, and who really wanted children." Careful means were taken to find such couples, and success has been achieved. The Foundation has been in existence for seven years, and there are now 140 houses, with sixty others in building. In nine cases the tenants have had to be removed because the families were not forthcoming. Some other families have removed to better-class dwellings, or built their own houses elsewhere. There are no public-houses on the estate, and drunkenness is unknown. The police have never had to be called in during the seven years. There is a system of visitation of all the houses annually, and some sort of competition for cleanliness and good management. Only once has a rent been unpaid, and there are many signs of increased well-being and social and economic progress. M. Dachert gives statistics of the comparative birth rate and death rate in *Les Jardins Ungemach* and in the town of Strasbourg. The contrast in the figures is certainly striking, but they are not really comparable. Nevertheless, though the number of persons is small, and though comparisons may be made and conclusions drawn which are not wholly warrantable, this experiment is well worthy of attention.

CHINESE QUARANTINE SERVICE

After years of patient plodding by a small band of Chinese and foreign medical men the National Quarantine Service of China was established in July, 1930, and the work of giving practical effect to its regulations was begun at the various ports of the country. These quarantine regulations were promulgated by the Chinese Ministry of Health with the help of the League of Nations Health Service. The headquarters of the quarantine service are at Shanghai, and cognate health services have been inaugurated and administered under the directorship of Dr. Wu Lien-Teh, whose report is now before us.[1] The first part deals with cholera investigations in Shanghai during the summer of 1930. The account given is notable for the additional observations it brings to bear on the difficulties of diagnosis between true cholera and paracholera. This has greatly troubled all public health authorities from the Hedjaz eastward (vide *British Medical Journal*, 1930, December 20th, p. 1052), for while it is now a well-established fact that even true and agglutinable cholera growths may be met with where vibrio forms are not conspicuous, or are absent, on the other hand other organisms, chiefly the *B. faecalis alcaligines*, may appear quite vibrio-like in stained preparations, and this bacillus is as avidly aerobic as the *V. cholerae*. In Shanghai, vibrios were found which closely resembled the true *V. cholerae* in all respects except agglutinability. This report, therefore, in stating that these paracholeraic organisms differ only serologically from *V. cholerae*, confirms the Medical Research Council's findings that absolutely reliable diagnoses can be obtained only by cultural methods. The investigations made by Dr. Wu and his staff are a good contribution to the data that are being collected in dealing with a subject which is of great importance in the management of choleraic and diarrhoeic outbreaks in the densely crowded areas of Oriental cities. In Shanghai for years past the problem of cholera has been an acute one, and has grown more so with the development in size and population of this, the greatest city of the East. That the Chinese community of Shanghai is thoroughly alive to the menace of cholera is shown by the unusually large number of clinics and hospitals for the care of patients suffering from summer diseases. A fortunate feature is the amenability of the Chinese people to the requirements of modern epidemic management. Thus, no resistance was offered to an active anticholera vaccination campaign being carried out universally, and no fewer than 537,034 inoculations were done. This no doubt was an important factor in limiting the spread of the 1930 epidemic to 128 cholera cases (including one carrier) which were recorded. The activity of the Central Cholera Bureau medical officers is shown by the fact that they collected samples of faeces from public latrines, and took notes of the persons examined, so that in case of positive findings further investigations could be made ; 1,200 specimens were submitted to laboratory examination from this source, in addition to 400 from hospitals. The report includes a historical sketch of the cholera epidemics which have visited Shanghai from 1820 to the present time, and a series of tables summarizing the details and results of all investigations is added. There is also a paper by Dr. C. L. Park, chief of the Epidemiological Division, League of Nations Health Section, on the quarantine needs of the port of Shanghai. The Chinese Ministry of Health is supporting all these projects.

[1] *Publications of the National Quarantine Service, Republic of China*, Series I. Edited by Dr. Wu Lien-Teh, M.D., LL.D., D.Sc. February 10th, 1931. N.Q.S. Office, 2a, Kiukiang Road, Shanghai.

THE L.C.C. AND ANTE-NATAL CARE

In discussing the report of the Departmental Committee on Maternal Mortality and Morbidity, the Central Public Health Committee for London draws attention to two recommendations which are of great importance to the County Council: (1) that a satisfactory scheme of ante-natal care must be based upon the principle that the persons responsible for ante-natal supervision should be the persons responsible for attending labour ; and (2) that the type of organization which best meets the need for systematic ante-natal care is probably the hospital ante-natal clinic, with its specialist officers, pathological laboratory, and facilities for special treatment, both in-patient and out-patient. Each metropolitan borough now has its ante-natal clinic, either municipally provided or voluntary, but the medical superintendents of the transferred hospitals have made increasing efforts in the past few years to obtain control of the ante-natal care of the patients who were booked for delivery in their wards. At the present date fifteen general hospitals in London take entire responsibility for such women as can be induced to attend (in many of the hospitals, practically all the women). At four hospitals the medical staff see mainly abnormal cases referred to them from the borough ante-natal clinics, but are increasing their supervision of normal routine cases ; and at other hospitals and institutions which contain maternity wards, but at which little

or no ante-natal work is done, the patients, or some of them, attend the borough ante-natal clinics. It is added that the standard at the hospital ante-natal clinics appears in almost every case to equal or exceed that recommended in the Departmental Committee's report. The attendances in most instances reach forty to sixty a session, and are putting a great strain on the available accommodation, which may have to be increased.

THE SOCIETY OF APOTHECARIES' ROLL OF BIO-PHYSICAL ASSISTANTS

We publish this week as a Special Supplement the complete list of names on the *Register of Bio-Physical Assistants*, revised to March 31st, 1931. It may be well to recall here once again that in 1928 the Representative Body of the British Medical Association drew attention to the need for the registration of competent and suitable lay persons to whom medical practitioners could with confidence send their patients for electrical treatment and actinotherapy. A small committee of experts was formed to draw up a practical scheme, which, after presentation by the Science Committee, was approved by the Council of the Association. In January, 1929, the Court of the Society of Apothecaries of London decided to adopt and to further this scheme for granting diplomas, after examination, to bio-physical assistants, and for the establishment of a register. Regulations were drawn up, and the first *Register of Bio-Physical Assistants* was issued in book form a year ago under the Society's direction. Our purpose in publishing the revised edition of this register is to make it widely known to members of the medical profession in a form convenient for ready reference. The entries in Part I are arranged in alphabetical order, with postal addresses; in Part II the names are re-grouped geographically. Subject to the reservation in respect of blind masseurs and blind masseuses, those whose names appear in the general and local lists printed in this week's Special Supplement have been approved by the Society of Apothecaries as persons "competent to dispense the direct current, ionization, faradic currents, sinusoidal currents, diathermy, high-frequency currents, light and heat, and ultra-violet light." Since the British Medical Association was primarily responsible for the setting up of the register, we hope that members will preserve this Supplement and send their patients who require treatment by light and electricity to technicians holding the Society's diploma.

BRITISH ASSOCIATION CENTENARY

The British Association for the Advancement of Science has now issued a preliminary programme for the centenary meeting to be held in London from September 23rd to 30th, under the presidency of the Right Hon. J. C. Smuts. The clause in the statutes of the Association stating that there should be "no invasion of the ground occupied by other institutions" probably accounts for the fact that this is the first time in the history of the Association that London has been chosen for the annual meeting. General Smuts will succeed Professor F. O. Bower as president, at the inauguration ceremony on September 23rd, in the Albert Hall, where the Faraday centenary exhibition will be held concurrently. In the evening of the same day General Smuts will deliver his presidential address in the Central Hall, Westminster; for admission a special ticket will be required. Evening discourses to members will be given by Professor W. A. Bone and Sir Peter Chalmers Mitchell on September 24th; by Sir Arthur Keith and Sir Oliver Lodge on September 26th; and by Sir William Hardy and Sir James Jeans on September 29th. Dr. G. Thilenius will give the Huxley Memorial Lecture before the Royal Anthropological Institute on September 29th; members of the British Association are invited to attend. Certain subjects in the programmes of the Sectional meetings will be of special interest to the medical profession. These include a discussion on the chemistry of vitamins, on development and embryology, on the physiology and psychology of work, on the biological nature of filterable viruses, on the physiological basis of sensation, on the psychology of mental defect, and on child guidance and school clinics. Visits will be paid to York, where the Association was founded, and to Down House, Darwin's home from 1842 to 1882, which has been under the care of the Association since 1929. During the week before the meeting there will be a geological excursion to East Anglia. Special arrangements have been made with the railway companies, hotels, and boarding-houses, for the transport and accommodation of members visiting London.

RESEARCH FELLOWSHIPS IN TUBERCULOSIS

The Dorothy Temple Cross Research Fellowships in Tuberculosis for the academic year 1931–32 will shortly be awarded by the Medical Research Council, and applications should be lodged with the Council not later than June 6th. The object of these Fellowships, as defined in the trust deed, is to give special opportunities for study and research to persons "intending to devote themselves to the advancement by teaching or research of curative or preventive treatment of tuberculosis in all or any of its forms." Candidates must be British subjects, and must possess suitable medical, veterinary, or scientific qualifications. They must also be able to produce satisfactory evidence of their ability to make good use of the opportunities offered by the Fellowships. The Fellowships will preferably be awarded to candidates who wish to conduct their studies or inquiries outside the confines of Great Britain. They will, as a rule, be awarded for one year, but in special cases may be renewed. The value of the Fellowships will depend in each case upon the standing and qualifications of the candidate, but will not be less than £300 per annum, with travelling expenses in addition. It may also be possible to award a Senior Fellowship of considerably greater value to a specially well-qualified candidate wishing to undertake an intensive study of some particular problem of tuberculosis, at a chosen centre of work in another country. Further particulars and forms of application are obtainable from the secretary, Medical Research Council, 38, Old Queen Street, Westminster, S.W.1.

On May 5th the King conferred the honour of knighthood on Mr. Henry L. Martyn, C.V.O., F.R.C.S., Surgeon Apothecary to His Majesty's Household at Windsor, and invested him with the insignia of a Knight Commander of the Royal Victorian Order.

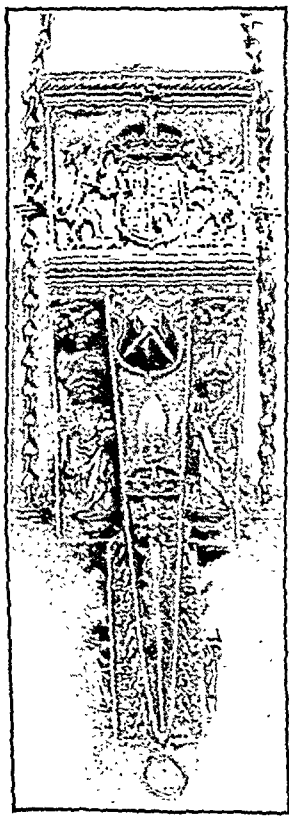
Nova et Vetera

A BARBER-SURGEON'S INSTRUMENT CASE OF THE TUDOR PERIOD

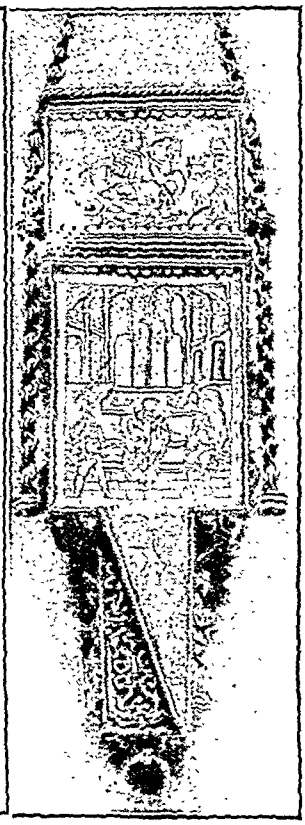
A surgical instrument case finely wrought in silver, dating from the early part of the sixteenth century and bearing evidence of its association with a Tudor king and the Barbers' Company of the City of London, is a relic of more than ordinary interest. The early history of this case, which was exhibited at the Vicary Lecture delivered by Professor G. E. Gask in November last, is unknown, but apart from its historical associations its beauty as a specimen of the goldsmith's craft merits some detailed description.

It is made throughout of silver, which is gilded in some parts, and measures seven and a quarter inches in length, two and a quarter inches by two inches in section at the top, and slightly tapering at the base, from which projects a narrower part of a similar section. The cover or lid is retained in position by the lining of wood and leather which finishes above the lip of the body, thus forming a bezel over which it fits. Two chains, secured at the ends by a ring held in the mouth of a lion's mask fixed on each side of the lower section, again pass through other rings attached to the cover, and so hold this in position, while allowing it to be raised to remove the instruments when required.

The whole case is richly decorated in high relief, and on the front of the cover bears the royal arms of Henry VIII enamelled in colour. The supporters—a greyhound and a dragon—were those used by Henry VII and his successor until 1525, the whole being surmounted by a royal crown.



FRONT.



BACK.

The front of the case bears a shield enamelled in colour with the arms of the Barbers' Company, a chevron between three fleams argent, that were granted to the Company by Edward IV in 1462. On either side are the figures of St. Cosmas and St. Damian, the patron saints of the Company, the former holding a urine flask and the latter a drug pot. In the centre, below the shield, is a spatula surmounted by a rose, crowned—a cognizance that was granted to the Surgeons' Guild by Henry VII in 1492. When Henry VIII incorporated the Fraternity or Guild of Surgeons with the Barbers' Company, the arms of the two bodies were united, but when the Companies again separated in the time of George II, the Barbers retained the charges which originally belonged to the Fraternity or Guild of Surgeons.

The back of the case is also richly ornamented, the lower part being engraved with a representation of the martyrdom of Thomas à Becket, and the cover with a spirited rendering of St. George slaying the dragon, each panel having a corded frame. The lower narrow section is divided diagonally with a corded relief, and engraved with arabesques on one side and a scroll relief on the other. The sides of the case are also elaborately decorated with engraved scrolls and grotesques, and in the lower part stand two niched figures in high relief, one representing St. Catherine holding a sword with a wheel at her feet, and the other St. John carrying a chalice. The inclusion of these saints in the scheme of decoration may have been due to their association in some way with the owner, or it may have a purely symbolical significance. There is little known to connect St. Catherine with surgery or the art of healing, but, according to tradition, she was regarded as the patroness of centres of learning, and consequently of universities. There are, however, several legends associating St. John with medicine, and in the time of St. Augustine it was customary to place written words from his gospel on the heads of the sick to aid their cure, or to write certain texts on parchment and wear them round the neck. In the early part of the seventeenth century Pope Paul V ordered the clergy, when visiting the sick, to place their hand on the head while reading the gospel of St. John. There is also an ancient legend that he was once given a chalice containing poisoned wine, and that when he blessed it the poison came forth in the form of a serpent.

The top of the cover is surmounted with the Tudor rose in red enamel on silver and gilt, supported by the greyhound and dragon, and the royal crown is repeated. The bottom of the case is decorated with a lion's mask holding a corded ring. The interior is lined with wood and leather, with receptacles for six instruments, which, judging from their shapes, probably consisted of a large scalpel, forceps, scissors, and lancets. The silver chains meet at the top in a ring for attaching the case to the girdle, and the whole fits into a larger leather case incised with a decorative design.

That this case was made not later than 1525 is evidenced by the fact that the greyhound as a supporter of the royal arms was only used by Henry VIII until that year, when it was superseded by the lion. To whom it originally belonged can only be a matter of conjecture, but there is little doubt that it was a royal gift, probably made by Henry VIII to one of his surgeons. He may have presented it to Marcellus de la More, whom he first appointed as surgeon to his person in 1510, and who was later made Sergeant of the King's surgeons in 1513. In a contemporary record he is described as "the King's surgeon and granted 40 marks a year during his pleasure." On the other hand, it may have belonged to Thomas Vicary, who was the direct successor of Marcellus de la More, and who was appointed chief surgeon to the King and Sergeant to the King's surgeons in 1528. When Henry VIII presented the Company of Barber-Surgeons with their charter in 1540, Thomas Vicary was the Master of the Guild, and in the picture painted by Holbein to perpetuate the occasion he is represented as kneeling before the King and receiving the charter from his hand. Subsequently Vicary held the appointment of surgeon to King Edward VI, Queen Mary, and Queen Elizabeth, and died in 1561.

The case may have been intended for use on ceremonial occasions only, as when the Masters of the City livery companies took part in processions on State celebrations it was customary for each to carry an emblem of his craft, and certainly nothing fitter could have been devised to symbolize the art of surgery. But, whatever its story, it is to be hoped that this beautiful and interesting historical object will find a permanent home in one of our museums.

Royal College of Surgeons of England. C. J. S. THOMPSON, M.B.E.

INCOME TAX

REASSESSMENT OF PROPERTIES, 1931-32

Income from property is comparatively steady, and therefore the Income Tax Acts provide, as a rule, that assessments made for any particular year shall, so far as the fixing of the annual value of the property is concerned, be continued for the next year. The Finance Act of 1930, however, provided that all properties in Great Britain should be revalued for income tax purposes, so that revised assessments under Schedule A could be made for 1931-32. The usual forms calling for particulars of rents, terms of tenancy, etc., were accordingly issued, and it is understood that the authorities have now prepared fresh assessments and are issuing, or shortly will issue, notices of assessment. These notices will set out particulars of the new valuation of the gross income from the properties and the allowances made therefrom to meet the cost of repairs and other maintenance charges. It is understood that objections must be lodged within twenty-one days from the issue of the notice, but, judging from past experience, a rigid insistence on that time limit is not likely to be pressed if there are any circumstances rendering compliance more than ordinarily difficult. The giving of a notice of objection does not indicate a necessity for any formal appeal; if the objection is accompanied by a reasoned statement of the grounds on which the assessment is considered to be excessive, the inspector of taxes, or some member of his staff, will no doubt be quite willing to discuss the merits of the objection, either by correspondence, or, perhaps with greater convenience to both parties, at a prearranged interview. The importance of avoiding any over-assessment is increased by the fact that the new valuation will last for five years, and a few notes on the matter may be welcome at this stage.

Where the premises are rented, the amount of the rent naturally determines the annual value for taxation of the income—unless a premium was paid for the lease or the property has been improved by the tenant—and the tax is ultimately borne by the landlord and not by the tenant. We therefore propose to refer to such properties only to the extent necessary to make clear an important consideration that arises on the valuation of property occupied by the owner—a class which includes many, if not most, of the premises occupied by medical practitioners. At the present time many rents are still affected by the Rent Restriction Acts. As our readers will remember, that series of enactments was passed to protect tenants from the exorbitant rents which the post-war famine in domestic accommodation might have enabled some landlords to demand and obtain. The effect may briefly be stated as preventing the raising of rents of premises to which the Acts apply, by more than 40 per cent. over the pre-war rental. (The Acts do not apply where the pre-war rent was £78 and above in the provinces, or £105 and above in the metropolis.)

In process of time premises originally within the Acts have, by compliance with one or other of the conditions exempting them from the scope of these Acts, ceased to be let under "rent restriction" conditions, and the additional rent which the owner has been able to obtain has been more than the 40 per cent. previously payable. Consequently, when the value of premises occupied by the owner is in question, and the obvious course is followed of comparing the property with similar premises which are let at rentals, the difficulty met is that the similar properties may show widely divergent rentals. For instance, suppose the value to be ascertained is that of a practitioner's professional premises, which on a pre-war basis would have let for £60, it may be found that they are reasonably comparable with one house now let under rent restriction conditions at £60 + 40 per cent. = £84, with a pre-war house not under such conditions and let at £95, and also with a house built at post-war prices and let at £120. In such circumstances, and they are by no means uncommon, it is obviously important to the practitioner to know which of the three classes of property supplies the correct test of value. Fortunately, the income tax authorities are apparently willing to follow the example of the rating authorities and accept the "pre-war rent plus 40 per cent." as the appropriate standard of comparison. Where, therefore, the gross value shown in the notice of assessment materially exceeds a valuation calculated on that basis the owner should give notice of objection and state his reasons for assigning to the property the pre-war rental on which his own, smaller, gross value is based. It may be the case that the property in question was built after the war, so that there was no direct pre-war valuation of that particular house. In such circumstances the owner will be well advised to ascertain, if possible, the pre-war rents paid for somewhat similar properties, and claim that his own premises should be valued at a 40 per cent. increase on these rents. Many post-war properties were built at a time when building costs were abnormally high, and any computation of rental value by reference to, say, 5 per cent. on the capital cost is likely to yield a result considerably greater than that obtained by the method indicated above. There is a certain plausibility in the argument that if, say, £2,500 has been invested in acquiring a property then the gross income might reasonably be assumed to be 5 per cent. on £2,500 = £125, but any such argument should be countered by pointing out that in the first place the capital cost was inflated, and in the second that the 40 per cent. addition to pre-war value is a basis which is universally accepted in such cases.

It may occur to some practitioners that as, say, one-half of the Schedule A assessment is normally treated as a payment of rent for the professional part of the premises when calculating the profits of the practice, the final result of an alteration in a Schedule A assessment is not substantial. In certain cases this is correct, but one or two points must be considered: one is that the relief to earned income does not apply to assessments under Schedule A; another, that Schedule D liability is based on the previous year's profits, so that if an increase in the Schedule A assessment is made for this year the whole increase is a net addition for 1931-32, because the deduction for Schedule A would be one-half, or some other fraction of the old assessment for 1930-31.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY

ANNUAL GENERAL MEETING

The annual general meeting of the London and Counties Medical Protection Society was held at Victory House, Leicester Square, on April 29th, under the chairmanship of the president, Sir JOHN ROSE BRADFORD, Bt. The report of the council, which was presented, stated that the society had done another year of useful work, with a substantial increase in membership. The number of new members elected was 796, and the membership now stood at 12,275. The number of applications for advice and assistance from members had been 1,171, as compared with 1,079 the year before. In the majority of cases satisfactory results had been obtained without litigation, and the issue in most cases in which litigation had occurred was satisfactory to the members. A larger number of actions than usual had been brought by and against members, but the greater part of them were settled

without reaching a hearing in court. The solicitors' report stated:

"*X* rays should be a word ever present in the minds of all members of the profession when dealing with injuries. . . . The society is still seeking the opportunity of a test case which may decide to what extent the report of a radiologist (medically qualified) will protect a surgeon or a general practitioner. Whilst on this subject, whatever the decision of the courts may be, we feel we should again repeat our warning of last year, that members of the profession must not rely upon the report of a radiographer (without medical qualification)."

The financial statement of the society showed its income last year to be £12,280, its expenditure £10,268, and its accumulated funds, at the market value of the investments, £47,829.

Sir JOHN ROSE BRADFORD said that a gain of 800 members in the year, while gratifying in some respects, was not very satisfactory when it was remembered how large a number of practitioners still remained outside any defence organization. A member of the council of the society, listening week by week to the cases which came before it, might be excused if he ran away with the idea that the one thing which happened to medical men in their relation to the public was to have charges brought against them. That would be a gross exaggeration, but the number of cases in which charges were brought, often with very little substance, showed clearly to anyone connected with work of this kind the absolute necessity for every member of the profession, no matter how secure he might imagine himself to be, to belong to a defence society. The president referred also to the trouble which constantly arose through members, when involved in prospective litigation, taking action first of all on their own account before communicating with the society. Finally, he spoke of the severe losses which the society had sustained during the year in the deaths of Dr. J. H. Stowers, who had served the council indefatigably, Mr. H. W. Carson, a new member of council from whom much had been expected, and Mr. A. G. R. Foulerton, for many years financial secretary.

Dr. C. M. FEGEN proposed the re-election of Sir John Rose Bradford as president, remarking that Sir John was much more than a distinguished figurehead; he interested himself in every detail of the society's work.

Sir John Rose Bradford was re-elected unanimously and with acclamation, and the re-elections also took place, with similar compliments, of the vice-presidents, the retiring members of council, the treasurer (Dr. Fegen), and the general secretary (Dr. Hugh Woods). It was announced that it was not intended for the moment to fill the position of financial secretary vacant by the death of Mr. Foulerton, but that a committee of the council was being set up with a view to going into the whole question of the organization of the society in this respect.

Scotland

Dr. William Smellie's Tombstone

Under the presidency of Dr. James Hendry a ceremony took place at St. Kentigern's Old Churchyard, Lanark, on April 25th, when the renovated memorial stone on the grave of Dr. William Smellie was unveiled by Professor Munro Kerr of Glasgow University. In the course of an address Dr. J. Haig Ferguson, President of the Royal College of Surgeons of Edinburgh, said that Smellie, who had been described as the greatest of British accoucheurs, died in 1763 at the age of 66, and the Edinburgh and Glasgow Obstetrical Societies had combined to renovate and restore his tombstone, which was falling into disrepair. It was well, in the rush of modern life, to pause occasionally and consider how their professional fathers dealt with the problems of their time. William Smellie had been the most prominent and best-equipped teacher of obstetrics in his day, and, according to a contemporary, was everywhere beloved for his benevolent disposition, as well as for his judgement and understanding. It was impossible to exaggerate the far-reaching influence of a teacher like Smellie, whose principles had resulted in benefits which were apparent even to this day. It was remarkable that this young Scottish doctor in homely country practice had evolved ideas which enabled him to introduce into London better methods of teaching midwifery than any that were then known. Smellie's methods and results were comparable with those of Jenner. Professor Munro Kerr pointed out that Smellie, who was born in Lanark in 1697, probably served his apprenticeship with either Gordon of Glasgow or Inglis of Lanark. He had been admitted a member of the Faculty of Physicians and Surgeons of Glasgow in 1733, and had received the M.D. degree from the University of Glasgow in 1745. He died four years after his return from London, but in these few years at Lanark he had written up the second volume of his cases and completed the third volume of his historical treatise. Tobias Smollett had edited the manuscript, but Smellie had passed away in 1763 before the work appeared in print. William Smellie and William Hunter stood out as the two most distinguished obstetricians this country had produced, but while Hunter had been a great scientist, Smellie's achievements had been those of the great obstetric surgeon. All through his writings one was impressed with his practical genius. Thanks to the aid of his friend Smollett, his writings were marked by a lucidity and terseness which was most impressive, cases being presented as clear-cut clinical pictures, which even now could be read with interest and profit. William Smellie's name would ever be held in honour.

New Dairy Research Institute

The Hannah Dairy Research Institute at Auchincruive, Ayr, was opened on April 25th by the Right Hon. William Adamson, Secretary of State for Scotland. At a luncheon which preceded the opening ceremony Dr. Walter Elliot, M.P., said that the institute was a new link in the chain of Scottish scientific institutions, and a new bond between the theoretical science of the universities and the practical science of farming. Thanks to the far-sighted spirit of Mr. J. M. Hannah, this Ayrshire institute would enable them to co-operate with the medical school of Glasgow, and to get into touch with the huge industrial population of the Clyde Valley, to whom problems of nutrition were becoming every day of more vital importance. The health of industrial communities depended upon the quality of the produce from agricultural areas, particularly milk. While fresh raw milk had valuable properties, certain things had to be excluded from it—for example, tubercle bacilli—whether the milk was boiled or unboiled. This institute formed part of a great administrative scheme, which also included the Rowett Institute at Aberdeen, and the Institute for Animal Genetics and the Plant Breeding Research Station at Edinburgh. He thought that this school of animal husbandry in Scotland was without a rival in the world. Sir Donald MacAlister, who presided at the luncheon, hoped that the co-operation referred to with the University of Glasgow, the Agricultural College, and other institutions of similar scope, would be maintained. In paying a tribute to those who had been responsible for the foundation of this institute, especially to Mr. Hannah, Sir Robert Greig mentioned that since the war donations by private persons and firms to research institutes in Scotland had amounted to £339,590. Mr. William Adamson, in declaring the institute open, said that, according to the last census of production taken in 1925, the milk and dairy produce of Scotland had risen from a total value of £4,500,000 in 1908 to £8,900,000. In 1925 the total number of cows in Scotland was 398,000, and the milk produced was estimated at 171,000,000 gallons. Of this, 137,000,000 gallons were used as liquid food, while

the remainder produced 52,200 cwt. of butter, 145,500 cwt. of cheese, and 102,000 gallons of cream. Of this total supply of milk, 59 per cent. came from the south-western counties of Scotland. The results of the recent large-scale experiment of supplying a ration of milk daily to school children had provided a striking illustration of the improvement in health, physique, and mental alertness resulting from the inclusion of a regular supply of pure milk in the diet of the growing child. Clean milk was an ideal human food, but it was important to remember that problems relating to the dairy cow had a direct bearing on the quality and hygiene of the milk supply. Mr. Adamson referred also to an experimental scheme devised to test the possibility of eradicating tuberculosis from dairy herds which was being put into operation by the institute. He considered that the value of research in this direction could not be overestimated.

Honour for Fifeshire Doctor

On April 29th Dr. A. L. S. Tuke was made an honorary freeman of the city of Dunfermline. Provost Gorrie, who presided at the ceremony, said that Dr. Tuke had practised among them for forty-four years, and during that period had taken a notable part in the life of the city of his adoption. Dr. Tuke possessed the qualities of devotion to duty, real understanding of human nature, unfailing patience, cheerfulness, and good temper, in addition to the technical skill which went to the making of a successful physician and surgeon. During the war it was said that no medical officer had displayed more energy and fought more successfully against bad sanitation and disease. Dr. Tuke had served as regimental medical officer of the Fife and Forfar Yeomanry, and of the Camel Corps, and as a divisional surgeon and D.A.D.M.S. From 1915 to 1919 he had served in the Egyptian and Palestine campaigns, and was awarded the Military Cross in 1916. In Dunfermline he had done pioneer work in organizing physical training among the youth of the city, and he had rendered signal services to the Dunfermline and West Fife Hospital in connexion with the recent successful appeal for £50,000 for extension purposes. In reply, Dr. Tuke referred to the changes in the conditions of medical practice that had taken place since he came as an assistant to Dunfermline in 1887. In those days, he said, the housing of the working classes consisted largely of but-and-ben and single-end houses, mostly overcrowded, in which the doctor had to face all kinds of illness, medical and surgical. Since then many improvements had been brought about, especially in dealing with cases of accidents in the mines. Thanks to the benefaction of his fellow burgess the late Mr. Andrew Carnegie, Dunfermline had been able to bring to a high standard many of the schemes required by legislation. He reminded his audience that Dunfermline had been the first town in Great Britain to introduce a complete system of school medical inspection, and to organize systematic physical training.

Glasgow Ear, Nose, and Throat Hospital

At the fifty-first annual general meeting of the Glasgow Ear, Nose, and Throat Hospital, held on April 22nd, Lord Provost Kelly, who presided, remarked that while Glasgow had a great variety of philanthropic institutions, none was more deserving of public support than the hospitals. The attendances at this hospital had risen in every department, and he was glad to observe that the subscriptions had also increased. Although the new building had been opened only some four years ago, it was already taxed to its utmost capacity, and the directors were considering plans for immediate extension. They proposed to proceed with the erection of a new block which would enable about 500 additional indoor patients to be treated annually. The necessary ground adjoining the hospital had been presented by an anonymous donor, and he supported the appeal of the directors for donations to meet the cost of the new building required. In reviewing the year's work he drew attention to the fact that 4,602 children under the age of 15 had been treated in the hospital during the year. Dr. R. Barclay Ness, consulting physician to the hospital, mentioned that the directors of the Glasgow and West of Scotland Radium Institute had granted a loan of radium to the hospital, which would enable its surgeons to deal much more effectively with malignant disease of the throat than had hitherto been possible.

England and Wales

Radium Treatment at University College Hospital

Dr. R. S. Pilcher, the Harker-Smith registrar of University College Hospital, London, has, in his annual report for 1930, made a valuable contribution to the treatment by radium of malignant and non-malignant conditions. A brief record of each case treated during the year is given, and a more complete analysis made of the results of treatment of menorrhagia and carcinoma of the cervix, the case lists of which have been discontinued. A few notes on the organization of the radium service show how thoroughly this has been carried out, ensuring that the exposure to radium is distributed over as many persons as possible. A whole-time physicist has been appointed by the hospital to work in conjunction with the radium registrar and radiologists. By a photographic examination he has shown that there is a marked difference between the specified and actual strength of the needles used. Periodic testing of the needles for leakage has shown many of them to be faulty. Dr. Pilcher states that a more efficient follow-up scheme has been instituted, which has secured the help of the Boy Scouts' Association in tracing living cases, those dead being traced by the courtesy of the Registrar-General through the General Register Office. Carcinoma of the lip, tongue, and mouth has been treated by interstitial irradiation with needles of low intensity combined with dissection of glands. In a case of carcinoma of the oesophagus at the level of the seventh dorsal vertebra the growth was exposed by a right side thoracotomy, and radium needles were stitched to the outer surface of the oesophagus and left there for nine days. Eight months after the operation the patient was very well, and was swallowing fluids and solids without difficulty. Inoperable cases of carcinoma of the rectum have not responded well to treatment, and in carcinoma of the breast radium is used only in inoperable cases, or in cases in which operation is contraindicated by age or by other disease. Two cases of carcinoma of the parotid complicated by facial palsy were treated by interstitial irradiation, with regression of the tumour and recovery from the facial palsy. The Stockholm technique has been adopted in the treatment of carcinoma of the cervix, and all cases are now exposed to a combination of radium and *x* rays. In the radium treatment of menorrhagia it has been found that better results have been obtained in essential menorrhagia than in menorrhagia due to fibroids, or to inflammatory and degenerative conditions. Other non-malignant conditions include dysmenorrhoea, benign skin lesions, ganglion of wrist, and otosclerosis. The following blood changes after radium treatment have been observed: in the red cells there is usually a fall in the total count, and occasionally a rise; in a few cases a high colour index has been found; in the absence of sepsis there is a fall in the total white count, the differential count showing a drop in the total small lymphocytes and

a rise in the mononuclears. Dr. Pilcher states that in past reports undue stress has been laid on vaginal changes following irradiation of the uterus, no case of vaginal stenosis having occurred in 1929 and 1930. It has, however, been a common sequel of cavitary irradiation of the vagina for carcinoma of the cervix. Two cases of blindness followed irradiation of sarcoma and carcinoma of the ethmoid region, in one of which blurring of the outline of the disc was found. Necrosis of bone has also complicated radium treatment. Deaths occurring during treatment were mainly due to secondary haemorrhage or broncho-pneumonia.

Midwifery Centre for Deptford

A midwifery centre organized by the Nursing Sisters of St. John the Divine was opened at St. John's Home, Deptford, on April 29th. The Nursing Sisters of St. John, a band of gentlewomen, were established in the middle of last century, as a "training institution for nurses, for hospitals, families, and the poor." In course of time district work was taken up in certain parts of London, including Deptford. Here, following upon the recent retirement of the sister-in-charge, Sister Constance, it has been decided to make certain changes whereby the Deptford home will be used entirely as a midwifery centre from which trained midwives will go out to attend and nurse patients in their own homes; in other cases they will act as maternity nurses for patients under the care of doctors. The reconstructed premises, which include provision for ante-natal and post-natal clinics, were opened by Dame Janet Campbell in the presence of a large company, including the mayors of Deptford and adjacent boroughs. The Bishop of Woolwich, who presided, said that the work done by the Nursing Sisters of St. John over many years would never be forgotten in Deptford; but conditions had changed, other societies of nurses had sprung up, and the special demand for maternity nursing had become more evident; the institution, therefore, had wholly adapted itself to that need, and eight midwives were already doing valuable work. Dame Janet Campbell said that several schemes had lately been put forward for a complete maternity service. Two fundamental points common to these schemes were, first, that every woman should have available for her confinement the services of a trained midwife and a doctor when necessary, and, secondly, that there should be supervision of the health of the mother from a date as early as possible in the pregnancy. At St. John's they were concerned chiefly with the part to be played by the midwives. Of late years the status of the maternity nurse had greatly improved, and it never stood so high in this country as at present. The fact that the midwife was recognized as an essential member of a team for maternity welfare indicated that she had won her place in lay opinion and in the opinion of her medical colleagues. The supervision of pregnancy was a relatively new conception. When the rules were first laid down by the Central Midwives Board, ante-natal care was not included, but now it was recognized that many risks could be avoided if the expectant mother were under skilled care before confinement. It was not fair to ask the midwife to accept medical responsibilities, and even when she was undertaking the confinement herself it was recommended that she should have associated with her a doctor, and that the patient should be examined once, twice, or three times during pregnancy. This recommendation had given rise to some misunderstanding as to the status and duties of the midwife, but there was no desire to interfere with her responsibility at the time of confinement in a normal case; the position was that she now had the advantage of calling in, if necessary, a doctor who was already familiar with the case and who knew what to expect. Dame Janet Campbell also spoke of the important social functions of the midwife in looking after the patient in her own home, in estimating her home conditions from the point of view of suitability for confinement, and in encouraging her to go regularly to the ante-natal clinic. In the matter of clinics, she said, this country was far in advance of France and Germany; the progress which had been made was amply illustrated by this well-equipped centre at Deptford, where a group of competent midwives worked under a head with a great amount of experience. She commended the centre, which also acted as a teaching school, to the local authorities and practitioners.

Incidence of Venereal Disease in London

The new cases of venereal disease seen at the clinics in London in 1930 numbered 16,707, an increase of 722 on the previous year. In addition, 10,162 persons presented themselves for examination, but were found not to have venereal disease. The total attendances of patients were 836,219, compared with 768,872 in 1929, and smaller numbers in each of the three preceding years. Of the total number of new cases in 1930, those of syphilis reached 5,225, those of gonorrhoea 11,123, and those of soft chancres 359. Provision is made at the various hospitals for in-patient treatment, and the number of days of treatment of in-patients in 1930 was 21,033 in the case of males, and 30,183 in the case of females; the corresponding figures for 1929 were 23,123 and 28,399 respectively. At the request of medical practitioners, 33,309 bacteriological specimens were examined free of charge at the hospitals. The expenditure of the London County Council on arrangements for diagnosis and treatment for 1931–32 is estimated at £95,995; adjacent authorities share in this to the extent of 17 per cent. In the hospitals transferred to the Council from the boards of guardians it is proposed to concentrate venereal disease cases in six units, provided with modern equipment, where treatment can be supervised by specialists and the work linked up as far as possible with the clinics. The general hospitals chosen for the establishment of the centres are Bethnal Green, Fulham, Lambeth, St. Charles', St. Peter's, and St. Stephen's, at which total accommodation can be provided for 122 male patients, 89 female patients, and 8 children.

Coroners' Inquests in London

The number of deaths reported to London coroners in 1930 was 8,037, of which 2,591 took place in mental hospitals and other institutions. Inquests were held in 3,877 cases, a decrease of 464 on the number for the previous year. Of the inquests, 213 were held on infants under 1 year of age. The coroners directed, or requested, post-mortem examinations in 3,005 of the inquest cases, and in 2,237 of the remaining cases, in which no public inquiry was necessary. A verdict of murder was returned in 11 cases, and of manslaughter in 5. The total number of suicides was 594, a decrease of 42 on the year. Deaths from want of attention at birth decreased from 36 to 34, and deaths from accident from 2,196 to 2,073. There were 60 deaths by drowning. A verdict of "death from natural causes" was returned in 854 cases, and of "cause of death unknown" in 9. Inquests on newly born children decreased from 74 to 54, and verdicts of murder of newly born children were returned in 6 cases. In 27 cases it was decided that the child was stillborn. Excessive drinking accounted for 66 deaths, an increase of 1. The total cost to the London County Council of inquiries made by coroners and of inquests, including standing charges for coroners' salaries and the rent of coroners courts, was £37,552. Of the inquests, 1,221 were held with juries.

Correspondence

FRACTURES OF THE LONG BONES

SIR,—In your issue of May 2nd there appears an extremely interesting article by Mr. C. H. Fagge on the treatment of simple fractures of the long bones. So many points of discussion are set forth that I think a few remarks may profitably be made on the problems he has brought forward, or at least on some of the methods he advocates to overcome these difficulties.

In the discussion on supracondylar, or transcondylar, fracture of the humerus, Mr. Fagge has, I feel sure, quite unwittingly fallen into a very grave error—namely, that of misrepresenting the writings and teaching of another surgeon. He is describing the method adopted and taught by Sir Robert Jones, and, after quoting small isolated portions of one of Sir Robert's most recent articles, he then continues: "I assert without fear of contradiction that posture cannot be relied upon to reduce deformity (and I feel sure from the context that Sir Robert Jones has insisted on this for years)." I have also read this article, and every other article on this subject which Sir Robert Jones has published, and I can find not one atom of evidence to support the contention that he has ever suggested that position can reduce the deformity of a supracondylar fracture. In every one of these articles the instructions in regard to the reduction of the fracture, both in the script and by a series of diagrams, is so explicit that I cannot find the slightest reason for any medical man being unable to carry them out efficiently and easily.

The next point brought up by Mr. Fagge is in connexion with the occurrence of what is known as Volkmann's ischaemic paralysis, and the implication here is that the position of flexion is at least one great factor in the causation of this condition. In my experience the occurrence of the ischaemic paralysis is by no means so frequent as it was twenty years ago, when the treatment of these fractures was almost universally carried out with the elbow at right angles. The reason for this decided and desirable improvement seems to me to be due to the better teaching which doctors and students have had in the handling of these fractures during the past two decades. The usual teaching that Volkmann's ischaemia is always the doctor's mistake, and is due to too tight splinting or bandaging, is certainly incorrect, for I have seen two cases here of sailors who had sustained a supracondylar fracture of the humerus whilst at sea, and who have never had a splint or bandage applied. Yet, by the time they arrived in port the ischaemic contracture was advanced in both cases, and required treatment.

Mr. Fagge surely does not give us his views very clearly as regards retention of a supracondylar fracture when he insists so definitely that retention after reduction is unnecessary. This desirable state of affairs might be possible if all these fractures were like the displaced epiphysis which Mr. Fagge demonstrated during operation to his Firm, but unfortunately in the great majority of cases the line of fracture is not transverse, but passes obliquely from in front upwards and backwards. Therefore the tendency is, and must be, for a redisplacement of the fracture, especially when we take into consideration the muscular pull, which is by no means negligible, and the leverage of the forearm in whatever splint the right-angled fixation is maintained.

Finally, I may say that, having treated many hundreds of these fractures myself, and in my hospital clinics, in the position of flexion after reduction as advocated by Sir Robert Jones, I am able to state that ischaemic contracture has not occurred in any of them.—I am, etc.,

Liverpool, May 4th. T. P. MCMURRAY.

BLOOD PRESSURE AND LIFE ASSURANCE

SIR,—The question raised by your correspondent last week can be answered by reference to records of blood pressure readings such as I have regularly kept for the last twelve years.

These records show, among other points: (1) the range of oscillation of the needle of the tycos aneroid for each 10 mm. of Hg pressure from its start to its cessation; (2) with regard to auscultation they show (*a*) the lowest point at which any sound is audible, (*b*) the point when the first loud sound is audible, (*c*) the range through which the maximal sound is audible.

A study of such records shows that if the term "diastolic pressure" refers to the blood pressure during diastole the level of that pressure is more accurately indicated by the lowest point at which any sound is heard than it would be by the point where a better defined sound was audible. There is a close correspondence between the point at which definite oscillation of the tycos needle commences and the lowest point at which a sound is audible.—I am, etc.,

Birmingham, April 28th. T. STACEY WILSON.

SIR,—I think that Dr. Maurice Shaw is to be congratulated on his courage in pointing out in to-day's issue of the *Journal* that there are a large number of medical men who do not understand the correct method of estimating the diastolic pressure. Whether it is a wise thing to ask them to measure something that has no existence is, however, quite another matter. Personally, I do not think the majority of medical men and students can be blamed for their incapacity, because they have been so badly taught. Is there a teacher in a good medical school who is able to demonstrate the connexion between any of the sounds heard over the brachial artery with that which is known as the diastolic blood pressure?

In my article which appeared in the *Journal* of February 8th, 1930 (p. 242), I described a way of estimating the basic pressure in the brachial artery by means of two sphygomanometers, one above the other on the same arm. The method is purely objective, and is not dependent upon hearing any sounds, while it offers no technical difficulties to any medical man. It has the additional advantage of emphasizing the fact that the basic pressure varies for all the arteries, a point of some importance if we wish to form a fairly good conception of the disorder from which a patient may be suffering.

I think it is time for the members of the profession to have a satisfactory explanation of the causation of the sounds heard over the brachial artery as well as of those heard over the heart, because, if we do not know the causation of the normal sounds, how can we draw any reasonable conclusions from the modifications of those sounds which occur during disease? You have given me opportunities on many occasions to draw attention to this impossible state of our ignorance, but I trust now that Dr. Shaw has made reference to the incapacity of so many medical men, some steps will be taken to solve the problem.—I am, etc.,

Swansea, May 2nd. G. ARBOUR STEPHENS.

ACUTE URETHRITIS IN MUMPS

SIR,—I was interested in the letter of Dr. Arthur Spence on this subject. On page 91 of my book *Common Diseases of the Male Urethra*, published in 1917, I described a case of profuse urethritis during mumps. On several occasions since I have been called into consultation over similar cases. The practitioners have usually

expressed surprise when I have pointed out that profuse urethritis can occur during mumps when complicated by swelling of the testicles. It seems to me important that this combination of events should be more fully recognized, otherwise a patient can easily be accused unjustly of venereal infection when all the time he is merely suffering from mumps.

I should like to take this opportunity of pointing out that swellings of the testicles may occur as long as eight to ten weeks after the primary attack of mumps, and it is sometimes hard to persuade practitioners that such swellings are not due to tuberculosis, but are late complications which will subside naturally in the course of a few weeks. The swelling of the testicles met with in mumps can be readily recognized by those accustomed to see such cases, but is difficult to describe in words. There is a curious diffuseness about the swelling, accompanied by a feeling as of fluid effused into the surrounding tissues, resembling very closely the feeling of the enlarged parotids or enlarged salivary glands met with in this disease.

Another observed fact not widely known is that at the onset of subacute tuberculous epididymitis a mild urethral discharge may appear and persist for some weeks. This discharge contains pus cells, but is sterile, and as yet I have not been able to demonstrate tubercle bacilli in it.—I am, etc.,

London, W 1, May 4th. FRANK KIDD.

SCHISTOSOME WORMS AND SCHISTOSOME MONSTERS

SIR,—Probably few medical zoologists are aware that the term "schistosome," so commonly used nowadays as a synonym of the bilharzia worm, has also been used for nearly a century by teratologists for a fairly common type of monstrosity in domesticated animals.

In 1832 Gurlt devoted the second volume of his *Lehrbuch der pathologischen Anatomie der Haus-Säugethiere* to an account of the various types of monsters, and classified them ingeniously in genera and species, following the methods of zoological nomenclature. His third Order, containing forms "Fissio corporis abnormis," comprised four genera, including the "genus" *Schistosomus*, with the three species *Schistosomus reflexus*, *Schistosomus contortus*, and *Schistosomus microchirus*.

In 1908 Eisenbarth described "Ein Fall von *Schistosoma reflexum*" (*Wochenschrift für Tierh. Viehzucht*), and in 1927 Notter recorded a series of nearly 200 cases in sheep, cattle, goats, horses, dogs, and cats in a paper entitled "Schistosomen beim Schwein" in *Virchow's Arch. f path. Anat.*

It is somewhat amusing to find that these two papers are listed by Dr. M. Khalil in the *Bibliography of Schistosomiasis* recently published by the Faculty of Medicine of the Egyptian University. In the citation of Notter's paper the original title is replaced by the translation "Schistosomiasis in pigs"!

These references have not appeared heretofore in helminthological bibliographies, but, as they may now make their way into medical and veterinary textbooks, owing to the obvious importance which attaches to an apparently overlooked species, and to a disease in an important domesticated animal, I think that I should draw attention at once to these curiosities of medical bibliography instead of awaiting their correction in the future edition which the compiler promises.

Perhaps I should take this opportunity also of warning medical bibliographers to avoid listing a paper entitled "Variation des parasites atmosphériques pendant l'eclipse de lune du 2 avril, 1931," which has just appeared in *Comptes Rendus de l'Académie des Sciences*.—I am, etc.,

London School of Hygiene and Tropical Medicine, May 5th. R. T. LEIPER.

NON-LUETIC ARGYLL ROBERTSON PUPILS

SIR,—In the *Transactions of the Ophthalmological Society*, 1924 (p. 38), I reported seven cases of abnormal pupil reaction under the above title. At the congress which is just completed I added eight to this number.

The features of the pupils are that they are quite inactive to light stimulus, with convergence they contract in a characteristically slow manner and relax as slowly, are more common in women than in men, are most often unilateral, and, above all, are not related to syphilis.

I have to-day seen a medical man, aged 70, in perfect health in every way, who has this type of pupil. To his knowledge he has had it for thirty-five years, and the point of especial interest is that he states that his sister and a granddaughter each have a similar condition.

I have not previously come across a case showing a hereditary tendency.—I am, etc.,

London, W.1, May 1st. R. FOSTER MOORE.

CONCENTRATED ANTIPNEUMOCOCCAL SERUM IN THE TREATMENT OF LOBAR PNEUMONIA

SIR,—In the *British Medical Journal* of April 25th (p. 701) there appeared under this title an article on which we should like to offer some comments.

The conclusions as to the beneficial effect of the serum in this particular case seem to be based on: (1) the fact that a considerable degree of consolidation of the left lung, as diagnosed by clinical and radiological examination, became almost completely resolved during the last eighteen hours of life; (2) the improvement in the patient's general condition subsequent to the commencement of serum therapy; and (3) the determination of free antipneumococcal antibodies in the blood serum, post mortem, ten hours after the last administration of antipneumococcal serum.

Argument in a complicated and unusual case such as this is very difficult; and on this ground alone we consider it unsuitable for illustrating—as the authors claim—"the response which is to be anticipated from serum treatment of lobar pneumonia." In addition, grave doubt can be cast on the justification of their claim.

In the first place, the fact that there was such very extensive fibrinous pleurisy (diagnosed clinically and confirmed at post-mortem) must have made the recognition of the extent of consolidation in the subjacent lung very difficult, and therefore the rate and degree of resolution hard to estimate. Secondly, in regard to the clinical improvement, significance cannot be entirely denied the fact that the patient died ten hours after the time when an injection of serum was last considered necessary. To regard death as due to an unavoidable accident, and not contributed to in any way by the pneumococcal infection, seems to us to be making a large assumption, and to deduce "severe disturbance of the autonomic nervous system" from the existence, in the course of a febrile illness, of a tachycardia uncontrolled by digitaline, equally unjustifiable. Lastly, the demonstration of free antibodies in the blood serum at death loses its force unless the writers can prove that, although the primary infective process had been overcome (to accept their own opinion without further examination), death was not contributed to by processes, set in train by the pneumococcal infection, which the serum was unable to influence.

We contend that this case is of such a complicated and unusual nature that it is impossible to correlate the clinical course with the effects of therapy in any decisive way. We suggest that it is, in any event, unjustifiable from a single case to draw conclusions as to the general question of the effect of concentrated antipneumococcal serum in a disease so notoriously uncertain in its course as lobar pneumonia. There need be no hesitation in saying that it is only the results of large series of cases treated with serum, and contrasted with equal numbers of controls, that can reveal what the value of these preparations is. Until such investigations have been made with regard to the particular serum here employed, the reporting of single cases is apt to be misleading.—We are, etc.,

J. M. ALSTON, M.B., M.R.C.P.Ed.
J. G. MCCRIE, M.B., M.R.C.P.Ed.

Edinburgh, April 27th.

SIR,—Having read with the greatest interest the amazing case published under the above title (*Journal*, April 25th, p. 701), and the no less amazing conclusion drawn by the authors, that it affords "unassailable evidence in favour of the use of concentrated antipneumococcal serum early in pneumonia," I should like, in the interests of scientific investigation, to voice some very obvious criticisms of the diagnosis, treatment, and conclusions. Had the case been published merely as an interesting example of the possibilities of being misled by physical signs and symptoms no criticism would be justified, but since it is used as a special plea for the general employment of a very doubtful and possibly a dangerous form of treatment in pneumonia it cannot be allowed to pass unchallenged.

The case presented none of the features of pneumonia on admission, but it did present all the signs and symptoms of a subdiaphragmatic retroperitoneal inflammatory effusion, with, later, extension of infection to the left pleura via the left cupola of the diaphragm, producing the serofibrinous pleurisy found post mortem, which was mistaken during life for a massive consolidation of the lung. The left lung (in which there was no pneumonia) would collapse as soon as the pleural cavity was opened via the diaphragm at the necropsy, and the so-called products of rapid resolution found in it (and attributed to the efficacy of the serum) were the result of aspiration of sputum derived during life from the undoubtedly early pneumonic process in the right lung. A patient with a pneumonia in the right lung during the week following an upper abdominal operation would be certain to aspirate some of the pneumonic sputum into the left lung. Indeed, this mode of extension, owing to the extreme difficulty of expectoration, is one of the anxieties of the physician in attendance. The danger is increased when the left pleural cavity is infected to the extent shown at the necropsy in this case. The right lung pneumonia did not start until twenty-four hours after admission, and showed, at the post-mortem examination, congestive features not inconsistent with a third- or fourth-day pneumonia in such a patient. This pneumonia was only an incident in the grave disease for which the patient was admitted, and which was due to some other insidious general infection, possibly one of the expressions of the prevalent "gastric influenza."

The signs of an inflammatory retroperitoneal effusion are: the Hippocratic state of the patient on admission with grave collapse, the temperature of 97° F., the signs of an upper abdominal catastrophe very suggestive of acute haemorrhagic pancreatitis, the persistent tachycardia, pulse 160 for three days uninfluenced by digitaline (after the patient had recovered from the initial peritoneal shock); this tachycardia was due to pressure of the effusion on the coeliac ganglia. The sympathetic irritation conduced, no doubt, to the gastric dilatation from which the patient died.

This is admittedly a stormy case, in which the patient could not be frequently disturbed for examination; but it gives the impression that too much reliance was placed on the *x*-ray examination and too little on the natural phenomena of the disease as expressed in the patient, since a very massive fibrinous pleurisy was diagnosed during life as consolidated lung. Whether or not the serum benefited or prejudiced the patient it is impossible to say, but there are no grounds, on the evidence submitted, for claiming that this remarkable case affords "unassailable evidence in favour of the use of concentrated antipneumococcal serum." The authors' use of the word "unassailable" permits me to request you to publish this letter in the interests of scientific justice.—I am, etc.,

Bradford, April 27th. A. HAYES SMITH.

POST-INFLUENZAL COUGH

SIR,—Observations and contributions on the etiology and treatment of persistent cough following influenza are important. It is my experience that in some cases the irritation of the pharynx or lower respiratory tract is secondary to a persistent nasal infection. It may often be sufficient to treat the tracheitis or pharyngitis and to allow the nasal infection to clear up spontaneously. In cases where the cough persists in spite of this treatment, attention should be directed towards the nose, and the possibility of an antral or other nasal sinus infection should not be overlooked.—I am, etc.,

Birmingham, May 4th. F. DOUGLAS MARSH.

THE MODERN CONCEPTION OF EARLY PHTHISIS

SIR,—Although I admit the enterprise and courage of Dr. H. V. Morlock in his eager attempt to present to the general practitioners of Bermondsey an outline of the work of Redeker (not Redecher) upon the early stages of phthisis, both in children and in adults, I doubt his wisdom. This subject teems with difficulties, and it is not wise at one swoop to discredit the observations and conclusions of Fachmänner, who have devoted their lives to the careful macroscopical and microscopical examinations, not only of "the end-results seen at necropsy," but also of all the stages of phthisis from the beginning to the end. Even to-day the anatomists Hübschmann, Beitzke, Löschcke, Baden, Hart, and the pioneer radiologists Gräaf and Küpferle, who controlled their observations with post-mortem comparisons, do not agree with Redeker's views upon the early origin of all forms of phthisis.

We dare not trust implicitly to *x*-ray shadows in laying the foundation of a new theory. X rays in a sense work objectively, but the objects are shadows, and the interpretation of shadows has a large subjective bias. Certainly *x*-ray shadows should never displace pathological anatomy or a thorough physical examination. As an aid in diagnosis *x*-ray pictures are invaluable. One may even criticize Dr. Morlock's somewhat aggressive statements out of Redeker's own mouth. Redeker writes in 1930:

"We believe that what is called 'early infiltrate' represents no patho-morpho-logical-genetic entity. We know merely that it consists of 'Neuherd-bildungen' that appear with the signs of perifocal inflammatory infiltration, show a great tendency to central caseation and softening, often spread more or less rapidly, and thus lead very often to the development of an acute or chronic phthisis. Whence the bacillus, that causes the lesion, comes is still undecided."

This perifocal inflammation is akin to Koch's phenomenon, and therefore familiar to those who have constantly studied the effects of tuberculin *in vivo*. It is

the allergic manifestation of the central focus, which owes its origin to what Redeker calls "superinfection" by the air passages, because 65 to 70 per cent. of these cases occur in homes where open phthisis exists. Therefore early infiltrates occur in families in which open phthisis exists. But there are many cases of phthisis that cannot be traced directly to this exogenous origin: Birch-Hirschfeld's beautiful demonstration in 1899 at the Tuberculosis Congress in Berlin helps us to realize another form of early phthisis. The work of Anders and Schmoe of Freiburg upon the relation of infection of the subpleural glands to phthisis is another "tree in the wood." Clinical histories tell us that phthisis may occur without superinfection, and clinical examination will sometimes prove that phthisis may begin in the upper part of the lungs, even in the axillary area, as we have long known. Before Redeker appeared as a new prophet, I had learned to disregard the tip of the lung, and concentrated, according to the teaching of Birch-Hirschfeld, on the suprascapular fossa and surrounding area exposed by making the patient fold his arms. The general practitioner should follow this practice.

Curiously, Dr. Morlock does not once mention tuberculin, which is more useful than *x* rays, in early diagnosis, although Redeker's work shows that he gives pride of place to tuberculin in the diagnosis of early cases of phthisis. If Dr. Morlock would come to my clinic at 11, Nottingham Place, I would arrange to put before him the charts of several cases of early infiltrate, some with cavitation and softening, in which large doses of tuberculin have yielded highly satisfactory results without any resort to artificial pneumothorax. The tubercle bacilli, if present, have disappeared, the physical signs are those of a healing or healed lesion, and the patients are able to work. Three of the patients were under the care of three physicians at Brompton Hospital, and one of them escaped artificial pneumothorax without any detriment. So far I have not resorted to artificial pneumothorax because tuberculin yields very satisfactory results.

Accordingly, I would warn general practitioners not to accept the teaching that *x*-ray examinations are the "be-all and end-all" either in diagnosis or in treatment. In every case of phthisis, actual or threatening, the order of examination should be, as even Redeker teaches: (1) examination of patient and of his personal and family history, including a thorough physical examination, which I fear is not always easy to make; (2) examination of the phlegm, and, if no tubercle bacilli can be found, testing with tuberculin; and (3) examination by *x* rays. —I am, etc.,

W. CAMAC WILKINSON, M.D.; F.R.C.P.

London, W., April 30th.

PULMONARY ARTERIO-SCLEROSIS AND AYERZA'S DISEASE

SIR,—I have been interested to read the paper on pulmonary arterio-sclerosis, by Drs. C. G. Paine and Robert Platt, in the *Journal* of April 25th (p. 698). I cannot but feel that the effect of their statements may serve to add still further to the confusion that already exists on the subject of Ayerza's disease and pulmonary arterio-sclerosis.

Arrillaga in 1913, referring to the syndrome of "cardiacos negros," as manifested by dyspnoea, polycythaemia, cyanosis, clubbing of the fingers, recurrent haemoptysis, cough, vertigo, and somnolence, pointed to the etiological factors as all disturbances leading to pulmonary emphysema. Dr. F. Parkes Weber, in the *Journal* of October 30th, 1920 (p. 658), drew attention to the fact that the subjects most commonly presenting the features of this syndrome were patients suffering from long-standing asthma.

The paper by Drs. Paine and Platt assumes at the beginning that, whether there is a pre-existing disease of the lungs or not, the onset of arterio-sclerosis of the pulmonary arteries will alter the course of the disease, and produce a recognizable clinical picture of its own. I submit that this assumption involves confusion of cause and effect. Professor H. M. Turnbull, in an admirable paper on alterations in arterial structure and their relation to syphilis (*Quarterly Journal of Medicine*, 1915), has drawn attention to the fact that obstruction in the lesser circulation will lead to local hypertension, and this will cause right heart hypertrophy, with varying intimal hypertrophy and degeneration of the pulmonary arteries.

Omitting the rare cases of syphilitic arteritis of the pulmonary artery, congenital abnormalities, and the more acute cases of pulmonary embolism and thrombosis, the rest of the cases showing obstruction in the lesser circulation will fall into that well-known group of chronic cardio-pulmonary diseases especially illustrated by mitral stenosis, fibrosis of lung from various causes, and emphysema. These patients gradually develop the features of Ayerza's syndrome, and if they avoid dying of intercurrent infections the effects of congestive heart failure may be superadded. The whole of the signs and symptoms are adequately explained as the results of venous and capillary obstruction in the lesser circulation. Arterio-sclerosis of the pulmonary arteries is merely secondary, and not likely to add much to the obstruction already existing. Hypothetically, any effect that might be produced by arterio-sclerosis of the pulmonary artery would be merely mechanical—that is, an addition to the hypertension in the lesser circulation. It would be ridiculous to suggest that in chronic cardio-pulmonary diseases, where hypertension already exists, the results of such an addition would "alter the entire course of the disease and produce a recognizable clinical picture of their own."

The three cases described by Drs. Paine and Platt illustrate the ordinary features of venous and capillary obstruction in the lesser circulation, with added congestive heart failure.

Patient, aged 52 years, had bronchitis for many years with emphysema. She showed dyspnoea and cyanosis, and died with ascites and generalized oedema. No blood Wassermann test was performed, either ante or post mortem.

Patient, aged 63, had "winter bronchitis" for a few years, and died with cyanosis, oedema, ascites, and enlarged liver. Post-mortem examination showed severe generalized atheroma, but no mention is made of the condition of the coronary arteries. No blood Wassermann test was performed, either ante or post mortem.

Patient, aged 46, had bronchitis for thirty years. She showed dyspnoea and cyanosis, and died with oedema, ascites, and enlarged liver. Clinical examination showed that movements of the chest were symmetrical, but very restricted. Air entry was poor, and percussion note resonant throughout. In spite of this it is stated that there was no pronounced emphysema. The Wassermann reaction was negative.

It is difficult to agree with Drs. Paine and Platt that the cases described were "of some rarity."—I am, etc.,

London, E.1, April 26th. M. TREE.

TREATMENT OF MALIGNANT GROWTHS WITH EXTRACTS OF PARATHYROID GLANDS

SIR,—Extracts of parathyroid glands, freed from the blood-calcium-raising factor (Collip) by precipitation, have been found to inhibit growth in young animals and in Jensen rat sarcomata.[1] A growth-inhibiting factor has been demonstrated, but has not yet been isolated.

Extracts of parathyroid glands thus prepared have been injected intramuscularly into human subjects suffering

[1] *Proc. Physiol. Soc.*, October, 1930, lxx.

from various types of carcinomata and sarcomata, including spheroidal-celled carcinoma, columnar-celled carcinoma, endothelioma, sarcoma, and glioma. The cases have been treated at the Soho Hospital for Women, the Westminster Hospital, and St. Bartholomew's Hospital. Some improvement has been noted, and the results are sufficiently encouraging to warrant a continuation of the investigation. It is as yet too early, and the cases are too few, to make a detailed statement.

In carrying out this investigation I have been, and am, greatly indebted to the generosity of the firm of Messrs. Allen and Hanburys Ltd. for supplying the extracts used. —I am, etc.,

J. H. THOMPSON, B.Sc.,
Melchett Research Scholar, Royal College of Surgeons; Lecturer in Physiology, University of London, King's College.

Royal College of Surgeons of England, April 24th.

THE CANFIELD OPERATION

SIR,—I quite expected Sir James Dundas-Grant to ask whether I had ever performed the Canfield operation. I am conversant with the technique of the operation, but I have never done it, because I consider it wrong in principle. During the last fourteen years I have performed over 2,000 operations on the nasal sinuses, and in nearly every case the antrum was opened. The Canfield is an intranasal operation; the Denker is done through the mouth. In both the objective is similar—namely, to attack the "fo'c's'le" as Sir James terms the anterior angle of the antrum. I have given the Denker a good trial, but prefer the Caldwell-Luc, without interfering with the inferior turbinal. Last year, apart from tonsil and adenoid operations, I performed some 450 operations. Of these 80 were on the nasal sinuses. Among the whole number, private and hospital, over 2,000, I have had three deaths, two following operations on the ethmoid, and one following operation on the frontal sinus. I am sure Sir James Dundas-Grant will admit that my experience warrants an opinion on this subject.—I am, etc.,

Maidstone, April 27th. J. ALDINGTON GIBB.

EPIDEMIOLOGY OF VENEREAL DISEASES

SIR,—In my remarks in the discussion on Colonel L. W. Harrison's paper on this subject (*Journal*, May 2nd, p. 752), the number of cases admitted as suffering from acute notifiable infectious diseases, and in which the final diagnosis was syphilis, ranging from 2 in 1914 to 15 in 1912 during the period 1909–14, and from 0 in 1923 to 7 in 1928 during the period 1923–29, applies to the admissions to all the fever hospitals of the Metropolitan Asylums Board, and not to a single hospital as stated in your report.—I am, etc.,

London, S.W.6, May 2nd. J. D. ROLLESTON.

Universities and Colleges

UNIVERSITY OF OXFORD

At a congregation held on April 30th the following medical degrees were conferred:

D.M.—R. M. J. Harper, W. H. Bradley.

UNIVERSITY OF LONDON

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The following candidates have been approved at the examination indicated.

ACADEMIC DIPLOMA IN PUBLIC HEALTH.—R. J. Muzumdar. *Part I:* R. E. Barrett, E. Cochrane, May P. Cowell, H. A. Crouch, N. J. England, D. W. G. Faris, Marguerite M. Fenn, H. S. Gear, J. E. Howard, I. J. Jones, G. C. Kelly, H. Machado, Hilta I. C. Pfister, J. Portelly, L. E. J. Poulier, Dorothy M. Rees, Florence M. Rhodes, J. T. N. Roe, A. P. Ross, B. M. Roy, A. T. Till, W. J. Webster, H. B. Wilson.

UNIVERSITY OF GLASGOW

The following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—W. F. Bagot, J. S. Carslaw, L. F. Chan, J. A. Cook, A. Dalinsky, D. C. Dobson, M. Donnelly, R. M. Dunstone, W. B. C. Gibson, K. J. Grant, J. Guyer, A. Hair, T. C. Houston, J. H. Jeffrey, A. S. M'Farlane, D. M. Mackenzie, I. M. MacLennan, J. E. Redmond, A. H. B. Rhodes, J. Rosen, K. Sagoe, C. J. Scott, J. T. Simpson, J. I. Snodgrass, T. D. Thorne, J. A. Tierney, J. E. Walcott, G. A. Weir, T. M. Wilson, W. H. M. Wilson, W. Wolfson.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

A quarterly meeting of the Royal College of Physicians was held on Thursday, April 30th, when the President, Lord Dawson of Penn, was in the chair.

Fellowship

The following were elected Fellows of the College:

Hablitstein David Haldin-Davis, M.D.Oxf., Gustave Jean Philippe Monod, M.D.Paris, John Rupert Collins, M.D.Dublin, Alexander Greig Anderson, M.D.Aberd., Gilbert Innes Strachan, M.D.Glas., Hugh James Orr-Ewing, M.C., M.D.Lond., George Robinson Pirie, M.B.Toronto, Thomas Forrest Cotton, M.D.McGill, Hugh Stannus Stannus, M.D.Lond., Thomas Herbert Oliver, M.D.Manch., Frederick John Nattrass, M.D.Durh., Alfred Alexander Webster Petrie, M.D.Lond., Norman Brandon Capon, M.D.Liverp., Reginald Hilton, M.D.Camb., Adam Patrick, M.D.Glas., Sir Bernard Spilsbury, M.D.Oxf., Walter Russell Brain, M.D.Oxf., Davis Evan Bedford, M.D.Lond., John Forest Smith, John Davy Rolleston, M.D.Oxf., Edgar Hartley Kettle, M.D.Lond., Leslie John Witts, M.D.Manch., James Andrew Gunn, M.D.Ed.

Membership

The following candidates, having satisfied the Censors' Board, were elected Members of the College:

Melville Huia Aiken, M.B. New Zealand, Mohammed Ali Arafa, M.B.Cairo, Eric Tom Bates, *M.B.Liverp.*, Frank Howard Beare, M.D.Adelaide, Wilfred Venn Bowman, L.R.C.P., Edward Francis Brooks, *M.D.Toronto*, Thomas Benjamin Davie, M.D.Liverp., Thomas Amwyl Davies, M.D.Lond., Claude Ernest Dolman, M.B.Lond., Archibald Gilpin, M.B.Lond., John Mahse Graham, M.B.Camb., Cecil John Hackett, M.B.Adelaide, Donald Frederick Kanaar, M.B.Lond., Walter Montague Levitt, M.B.N.U.I., Chisholm McDowell, M.B. New Zealand, Eric Gordon Oastler, M.B.Glas., Catherine Jane Ormerod, L.R.C.P., David Preisked, M.B.Lond., Seenivappah Ramanathan, L.R.C.P., William Gordon Sears, M.D.Lond., Athelstan da Costa Stoute, L.R.C.P., Oliver Frank Thomas, L.R.C.P., Alexander Clive Rees Walton, M.B.Birm., Theodore Henry Whittington, M.D.Lond., Ernest Alan Wood, M.B.Lond., Dorothy Evelyn Wright, M.D.Lond.

Appointment of Representative

The President (Lord Dawson of Penn) was appointed representative of the College on the Governing Body of the British Post-Graduate Hospital and Medical School; also representative of the College to the forthcoming centenary celebrations of the Harveian Society of London.

Licences

Diplomas of L.R.C.P. were conferred upon the following 106 candidates (including 11 women) who have passed the requisite examinations and have complied with the by-laws:

R. C. Abel, H. Allan, P. R. Allison, *Inez E. Banner, S. Barigrasser, J. S. Barker, A. J. W. Beard, N. J. Bee, D. R. Bharucha, N. Bissada, *H. Bloom*, A. D. Bourne, S. A. Bower, G. D. S. Briggs, W. A. C. K. N. Bruce, H. G. H. Butcher, G. N. Carrell, *P. H. Charlton*, C. N. Chitnis, H. L. Chave, I. G. I. Culank, H. L. N. Davies, J. O. F. Davies, E. C. Dayus, Yolande M. de la Pasture, J. Dobson, *W. Dodd, G. A. Emmerson, D. Erskine, L. P. J. Evans, S. H. Ferguson, B. Fine, J. Finer, Lena Finkelstein, A. C. Fraser, J. W. O. Freeth, L. T. Furnivall, K. H. Gaskell, S. E. Godwin, I. Gold, I. T. Griffiths, Constance A. Grove, E. A. Gudgeon, K. Harris, K. Hazell, C. B. Hinkley, G. Hyman, F. J. V. Jaensch, S. S. Jaikaran, I. O. Jones, A. Kahan, G. D. Kersley, *D. H. Klugman*, L. E. D. Knights, J. S. Knox, Nancy Laughton, C. H. Levick, D. L. Lewis, A. Liberis, J. W. S. H. Lindahl, A. B. MacEwan, R. W. McNabb, J. M. Matthew, R. H. Moore, I. More, G. G. Mowat, *D. H. Murphy*, W. H. Mylechreest, W. McN. Niblock, J. E. A. O'Connell, Elizabeth S. G. Owen, R. Palmer, W. R. Parkes, R. McI. Paton, H. A. Phillips, D. R. Prem, W. M. Priest, R. V. C. Richards, H. J. Riley, S. Rosenbloom, A. G. Sanders, E. M. Sastry, Ida B. Saxby, J. Scholefield, P. G. Scott, A. Segil, J. H. Shakespeare, D. A. Smith, R. B. Fitz A. U. Somers, K. S. Southam, T. C. Stamp, H. W. G. Staunton, A. B. Stokes, N. S. Taggart, H. S. Tibbits, Marion E. Townsend, D. S. Valentine, E. D. Ward, *Evelyn A. M. White, Margaret M. White, G. A. W. Whitfield, R. G. Wilbond, J. L. Wild, I. G. Williams, Mary Wills, C. Wilson.

* M.R.C.S. previously granted.

BRITISH COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

A meeting of the council of the College was held in Glasgow on April 21st, with the president, Professor W. Blair Bell, in the chair. The following Members of the College were admitted to the Fellowship: Ernest Farquhar Murray, William Henry Francis Oxley, and Gilbert Innes Strachan. The following signed the Oath, and were admitted to the Membership of the College: Gerald Fitzmaurice Keatinge, Percy Malpas, Edward Lawton Moss, and Frank Neon Reynolds.

The second annual general meeting of the College was held in the Lister Memorial Hall, Glasgow, on April 22nd, with the president in the chair. There was a large attendance of Fellows and Members.

The honorary secretary reported that the vacancies on the council, created by the statutory retirement of one-third of the members thereof, had been filled as follows: Fellows—Henry Russell Andrews, Herbert Leith Murray, Bethel Solomons, and Harold Beckwith Whitehouse, all of whom had been renominated without opposition and re-elected. John Eric Stacey was elected by vote as a representative of the provincial members.

The adoption of the report of the council and of the financial report and balance sheet, all of which had been circulated, was proposed by the president, who reviewed the work of the College during the past year, and indicated the lines of development which the council hoped to pursue in the coming year. He emphasized the fact that, while the chief work of the College and of the council must be towards the betterment of the practice of obstetrics and gynaecology, it was believed by many that the outward and visible signs of the existence of the College were important. For this reason the council had obtained a patent for coat of arms and crest which, he understood, was cordially approved by all as being dignified and appropriate. Gowns had been designed for the use of Fellows and Members, and these had been worn for the first time at the admission ceremony of new Fellows and Members on the previous day. More important still, he believed, was the provision of a central home in London, a home which would be not only a centre for the business of the College, but where the Fellows and Members could meet each other, and where the commencement could be made of what he hoped would become the finest obstetrical and gynaecological library in the country, a home in which all could take pride and to which all could bring some offering, if only a book or a piece of antique furniture. The realization of this had been considerably advanced by the munificent gift which he was now able to announce from Lord Riddell. Fellows and Members would remember that Lord Riddell had very generously given the sum of £1,000 when the College received incorporation, and he had now made a further gift of £600 per annum for seven years.

In seconding the adoption of the reports, the honorary treasurer, Mr. Eardley Holland, called attention to the fact that a home in London worthy of the College would, in the future, require a considerably greater income than the College at present obtained, and it would be necessary to establish an endowment and a building fund. At the present time it did not seem propitious to launch a big appeal, but when the trade of the country improved, which he hoped would not be far distant, he proposed to open an appeal for both these funds.

A meeting of the new council was held immediately after the annual general meeting, when the following officers were unanimously elected. President, Professor W. Blair Bell (Liverpool); honorary treasurer, Mr. Eardley L. Holland (London); honorary secretary, Professor W. Fletcher Shaw (Manchester).

The following standing committees were also elected: Finance and Executive Committee—the president, honorary treasurer, and honorary secretary, Dr. T. Watts Eden, Sir Ewen J. Maclean, and Mr. L. C. Rivett; Examination Committee—Dr. H. Russell Andrews, Dr. J. S. Fairbairn, Professor R. W. Johnstone, Dr. R. A. Lennie, Dr. Bethel Solomons, Dr. J. E. Stacey, Professor Miles H. Phillips, and Professor Beckwith Whitehouse, with the president, the honorary treasurer, and the honorary secretary *ex officio*; Fellowship Selection Committee—the president, Professor A. Donald, Dr. T. Watts Eden, and Professor J. M. Munro Kerr.

LONDON INTER-COLLEGIATE SCHOLARSHIPS BOARD

Medical Scholarships

The London Inter-Collegiate Scholarships Board announces that an examination for six medical scholarships and exhibitions, and one dental scholarship, of an aggregate total value of £538, will commence on June 16th. They are tenable at University College and University College Hospital Medical School, the London (Royal Free Hospital) School of Medicine for Women, and the London Hospital Medical College. Full particulars and entry form may be obtained from the secretary of the Board, Mr. S. C. Ranner, M.A., the Medical School, King's College Hospital, Denmark Hill, S.E.5.

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated:

SURGERY.—H. T. Giblin, H. A. T. Wells.

MEDICINE.—L. Banszky, G. C. Brown, H. R. Fosbery, W. G. Kingston, A. E. Mathews, L. Sachs, G. Smith, L. C. H. Sykes, H. W. Toussaint, C. D. Trimble, P. Wade.

FORENSIC MEDICINE.—H. M. El Magidi, W. Hertzog, J. S. Lane, F. G. Leekam, C. D. Trimble, C. F. Vieyra.

MIDWIFERY.—G. Handelsman, S. Lokecz, C. Morgan, R. Pakenham-Walsh, S. Ramarao.

The diploma of the Society has been granted to Messrs. G. C. Brown, H. R. Fosbery, W. G. Kingston, J. S. Lane, L. Sachs, L. C. H. Sykes, C. D. Trimble, and P. Wade.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

On April 30th the House of Lords read the Pharmacy and Poisons Bill a third time without debate. Formal amendments were made in the measure. The Bill has been received by the House of Commons and printed as it left the Lords. Notices for its rejection have been given by Mr. Graham White and Mr. Bennett. It was set down for second reading on May 11th, but may not be taken till later. An invitation was issued for interested M.P.'s to hear members of the Pharmaceutical Society explain their objections to the Bill in a room at the House of Commons on May 7th.

The House of Commons, on May 1st, gave a third reading to the Local Authorities (Publicity) Bill and to the Marriage (Prohibited Degrees of Relationship) Bill.

Moving, on May 4th, a resolution to authorize the levying in 1934, and subsequent, of a land value tax, Mr. Snowden said the sites of hospitals and of almshouses would be exempt from this tax.

Smoke Abatement

On April 28th, in the House of Lords, Viscount MERSEY asked the Government what measures were being taken to deal with smoke abatement. Lord PARMOOR said that the difficulties in the way of a solution of the pollution of the atmosphere arose largely from the use of the domestic coal fire. Anxious as the Government was that this atmosphere pollution should be dealt with, there seemed little prospect at present of obtaining powers over the domestic hearth which would really be of use in bringing about a reform in what was an ever-increasing danger. Many experiments were being carried out on the technical side. On the administrative side, attempts had been made by one or two authorities to frame by-laws under the Act of 1926, but they had had to be rejected because of the difficulty of obtaining convenient and reliable measures of the density of smoke. They must have a scientific power of discernment before they could make by-laws of this kind really effective, and experiments on this point were being conducted at the Fuel Research Station at Woolwich. Although he would like to think that there would be no further delay in dealing with smoke abatement, at present the Government could not undertake further work in that direction. The two departments concerned were doing all they could.

Lord NEWTON said that, while fogs were not as bad as formerly, they were just as prevalent. The damage which a really bad fog could do was illustrated by what happened recently in Belgium. It was conceivable that some day the same thing might occur here. The truth was that we could not enjoy the amenities of burning raw coal in an open fireplace without contributing to the dirt, discomfort, and smoke with which we were periodically afflicted. If the Government were in earnest they should insist on the provisions of the Act of 1926 being enforced.

The Earl of ONSLOW urged the Minister of Health to exercise the greatest vigilance over local authorities. Where possible, they should insist on the Act being carried out.

Lord COZENS-HARDY said that the Government and local authorities might discourage the fixing of open fireplaces in subsidy-built houses.

Animal Experiments

Mr. FREEMAN, on April 28th, asked Mr. Shaw the number of experiments, and of the animals involved in them, in each of the chemical research laboratories in 1930. Mr. SHAW replied that he understood that Mr. Freeman used the term "experiment" to cover a single investigation in which one or more animals might be used, and the figures which he now gave were on that basis. The number of experiments carried out at the Chemical Defence Experimental Station, Porton, during 1930, and the number of animals involved, were 131 and 719 respectively; the number of animals involved in experiments at the Physiological Laboratory, Cambridge, during the same period, was 85. Exact figures as to the number of experiments at Cambridge were not available at the War Office. The largest number of animals involved in any one experiment since the opening of the Chemical Defence Experimental Station, Porton, after the war, was 92. The experiment was carried out in August, 1924, with the object of ascertaining the effect, if any, produced by exposure to low concentrations of gas.

Small-pox

On April 30th Mr. GREENWOOD said that, during the year 1930, 280,075 certificates of successful primary vaccination of children under 14 years of age and 293,176 statutory declarations of conscientious objection were received by vaccination officers in England and Wales. These figures were exclusive of a few returns not yet received. During the same period, among children under 14 years of age, thirteen deaths occurred which were classified to small-pox, and three deaths in which the words "vaccination," "vaccinia," or "post-vaccinal encephalitis" appeared on the medical or coroner's certificate. One other death associated with vaccination had been brought to the notice of his department. Mr. Greenwood added that he was still considering the whole question of the administration of the Vaccination Acts.

Replying to Mr. Freeman, on April 29th, Dr. SHILLS said there were in Northern Rhodesia, in 1928, 4,042 cases of small-pox and 267 deaths, and in 1929 3,856 cases and 302 deaths. Figures for 1930 had not been received. For Southern Rhodesia the figures were: in 1926 1 case, no death; in 1927 10 cases and 1 death; in 1928 255 cases and 5 deaths; in 1929 431 cases, the number of deaths being unknown. Figures for 1930 had not been received.

Royal Commissions and Health

A list of Royal Commissions, other Commissions, and committees appointed by the present Government was circulated with the parliamentary report for April 30th. Among the committees enumerated are the Local Government and Public Health Law Consolidation, appointed on December 8th, 1930, to consider under what heads the enactments applying to England and Wales, exclusive of London and dealing with matters relating to the public health, should be grouped in consolidating legislation; Advisory Nutrition, appointed on January 6th, 1931, to advise the Minister of Health on the practical application of modern advances in the knowledge of nutrition; Industrial Assurance, appointed on April 13th, 1931, to examine and report on the law and practice relating to industrial assurance and to assurance on the lives of children under 10 years of age.

These three committees have not reported.

Bills.—In the House of Lords, on April 28th, the Workmen's Compensation Bill was introduced by Lord MARLEY, and read the first time. The House of Lords, on April 28th, agreed to the Commons amendments to the Yarmouth Naval Hospital Bill.

Royal Veterinary College.—Dr. ADDISON, replying to Sir William Jenkins on May 4th, said that his Department made annual maintenance grants of £3,300 to the Royal Veterinary College, Camden Town, and £2,850 to the School of Veterinary Science at Liverpool. These grants were fixed block grants for a period of five years, and the amount in each case was now under reconsideration. There were 200 students at the Royal Veterinary College and 61 at the Liverpool School.

State Scholarships.—Correcting a reply which he had given in the previous week, Mr. LEES-SMITH told Mr. Somerville Hastings, on April 20th, that though State scholarships from secondary schools enabled their holders to take up courses for degrees in medicine or dentistry, the maximum period for which such a scholarship could be held—namely, four years—was not sufficient to cover the whole course required for professional qualification in these subjects.

Change of Doctor.—Replying to Mr. Albery, on April 30th, Mr. GREENWOOD said an insured person who, at the commencement of a quarter, felt he could no longer accept medical attendance from his insurance practitioner and had been refused by that practitioner consent to transfer, would normally be expected to apply for any necessary treatment to the insurance doctor on whose list he remained during the remainder of the quarter until the transfer was effected by giving one month's notice to the Insurance Committee. If such a person applied for treatment to another doctor, any charges for such treatment would not be payable out of insurance funds. In accident or other sudden emergency, application could be made by the insured person to another insurance doctor for treatment at the cost of insurance funds, if the doctor on whose list he remained, or his deputy, were not available. Mr. Greenwood said he realized that persons desirous of changing their medical adviser were involved in expenses during the period of notice, but the approved societies had themselves agreed to the new arrangement with regard to the choice of doctors.

Appeals by Insured Persons.—Mr. GREENWOOD told Mr. Albery, on April 30th, that the procedure to be followed by panel patients who wished to appeal against a decision by a regional medical officer was laid down in the rules of each society. He had no reason to think that such procedure ordinarily caused undue difficulty to the insured person, or that any general revision was called for. He would look into any case where an insured person had had difficulty.

Funds of Approved Societies.—Replying to Mr. Remer, on April 30th, Mr. GREENWOOD said the sum of £127,000,000 which stood to the credit of the National Health Insurance Fund was represented in the main by the funds of approved societies. It was required to supplement contributions as the insured grew older and the claims for sickness and disablement benefits increased, to meet the cost of additional benefits provided wholly out of surplus capital as ascertained on valuation, and to cover the cost of medical benefit after the age of 65, when contributions ceased. Replying to Sir Kingsley Wood on the same date, Mr. Greenwood said a general report by the Government Actuary on the results of the third valuation of approved societies would be presented to Parliament as soon as possible after the completion of that valuation. He could not fix a date for this.

Insurance Pharmacists.—On May 4th Lieut.-Colonel HOWARD-BURY asked the Minister of Health if the Government had come to a decision to introduce legislation to repeal the clause which prohibits insurance chemists from giving an insured person an inducement, by gift or otherwise, in consideration of his presenting an order for drugs or appliances on a national health insurance form. Miss LAWRENCE replied in the negative, and added that legal proceedings on the matter were still impending.

Pensions Hospitals.—Mr. F. O. ROBERTS informed Sir A. Pownall, on May 4th, that there were seven hospitals in the occupation of the Ministry of Pensions which were the property of the State, apart from hospitals held on lease for short or long periods.

Free Milk for Children.—Mr. LEES-SMITH told Mr. Freeman, on April 30th, that approximately 50,000 children were being supplied daily with free milk, at a cost estimated at £2,000 to £3,000 per week. He did not contemplate any increase in the percentage of this expenditure to be borne by the Exchequer, and he encouraged local authorities to make provision of free milk by regarding this as medical benefit and paying the special grant for medical purposes

Obituary

SIR BYROM BRAMWELL, M.D., LL.D., D.C.L.

F.R.C.P.ED. AND LOND., F.R.S.ED.
Consulting Physician, Edinburgh Royal Infirmary

A great physician of a former generation has passed away with the death of Sir Byrom Bramwell, on April 27th, at his residence in Edinburgh. Sir Byrom was in his eighty-fourth year, and had been in failing health for some time. He was born in 1847 at North Shields, where his father and grandfather had conducted a medical practice before him. His father having studied medicine at Edinburgh, Byrom Bramwell went to the University filled with the medical traditions of the place, and, after a distinguished undergraduate career in which he gained seven class medals, he graduated M.B. with honours in 1869. As a student he took a great part in athletics, and for one year captained the University cricket eleven. Following a period spent as house-surgeon to the late Professor Spence, he was invited by Professor Laycock to become his assistant in the chair of medicine, but, having determined to take over a practice and assist his father in North Shields, he was compelled reluctantly to decline this post. Immediately on settling in North Shields he obtained a number of local appointments, and for four and a half years was busily engaged in conducting a large private practice.

He had always cherished the ambition to become a teacher of medicine, and in 1871, being appointed lecturer on medical jurisprudence and on pathology in the University of Durham, he moved to Newcastle. Here he had ample time to devote himself to research and writing, and in 1874 was appointed physician and pathologist to the Royal Infirmary of Newcastle. In 1877 he presented a thesis for the M.D. degree of Edinburgh entitled "Reports on Clinical Cases," and was awarded a gold medal. Two years later, in pursuit of his early ambition, he resigned his appointments and practice in Newcastle and moved to Edinburgh, with the intention of lecturing on medicine and practising as a consulting physician. Here he immediately introduced a new idea in starting a class upon medical diagnosis in the extra-academical school. This class, which was purely voluntary, attracted students in such large numbers that other teachers followed his example by instituting similar courses. In 1880 he became a Fellow of the Royal College of Physicians of Edinburgh, and began a regular course on medicine qualifying for graduation, which he continued with marked success during the greater part of his active life.

After acting for three years as pathologist to the Royal Infirmary of Edinburgh, he became an assistant physician in 1885, and in 1897 was promoted to the post of physician to the institution. From 1892 to 1897 he lectured on clinical medicine to the women students, who were at that time taught separately from the men, and during this period he began to give weekly out-patient clinics to the male students, which became celebrated as his Saturday clinics. The novelty and attractiveness of these clinics drew the students in large numbers, and for several years they were published fortnightly as a brochure called *Studies in Clinical Medicine*. When he became a physician in charge of wards, he revived these clinics on Wednesdays, and published an account of them as a quarterly journal called *Clinical Studies*, that appeared for eight years, from 1903 to 1910, and had a very wide circulation among students and practitioners. These Wednesday clinics were conducted in a small classroom under Ward 28, known colloquially as the "Duck-pond," where every available inch of room was filled by an audience of students, usually numbering some two hundred, and they formed one of the most popular features of the Edinburgh Medical School.

In addition to strenuous work as a physician to the Royal Infirmary and constant labour in research, recording, and writing, Byrom Bramwell was for many years one of the busiest consulting physicians in Scotland. On the death of Sir Thomas Grainger Stewart in 1900, Bramwell became a candidate for the chair of medicine at Edinburgh University, and it was a great disappointment to students and to his many friends in the profession that he failed to secure this coveted position. He continued his work of teaching and writing, however, with unabated zeal.

During thirty years, from the time when he started practice in Newcastle to the end of the century, more than 160 communications to medical literature had issued from his pen, many of them of the first importance. In the period while as a young man he was waiting for practice at Newcastle, the *Transactions* of the Northumberland and Durham Medical Society were almost filled with his observations on clinical and pathological subjects. His book on *Diseases of the Spinal Cord*, published in 1881, had appeared in lecture form in that periodical, and it is richly illustrated by sections and drawings, chiefly made by his own hand. It attained a great success, and was translated into German, French, and Russian, while several editions were reproduced in America. His *Diseases of the Heart and Thoracic Aorta*, published in 1884, was largely a record of personal experience, both clinical and pathological, and again its numerous illustrations were mainly derived from his own work. This book attained a great success in its time, but, being produced immediately before what may be called the instrumental epoch of cardiology, it is not now consulted as much as its usefulness deserves. *An Introduction to Practical Medicine and Medical Diagnosis*, published in 1887, formed the record of his successful innovation of a class on this subject at Edinburgh. *Intracranial Tumours*, published in 1888, has become one

of the classics of medicine, and regarding this work Dr. Harvey Cushing of Boston, in his 1930 Lister Memorial Lecture, remarked: "It has been said that if some unusual clinical condition turns up concerning which one seeks information, an account of it is likely to be found in Jonathan Hutchinson's *Archives*. To this I would like to add, particularly for the benefit of neurologists, that if Hutchinson fails them, try Byrom Bramwell." In this book, too, Bramwell was the first to draw attention to the connexion of tumours of the pituitary body with an excessive development of fat and the presence of diabetes. The *Atlas of Clinical Medicine*, in three large volumes illustrated by many coloured plates which were prepared under Bramwell's personal supervision, was issued between 1892 and 1896. In the first volume occurs an interesting statement with regard to myxoedema, that in 1869 (that is, four years before Sir William Gull first described this disease) Bramwell's father had pointed out to him a case showing all the essential features of this disease, and had remarked that this was a new disease—a disease which had never been described. He regrets, however, that no written description of the malady was then published by his father or himself. The *Lectures on Aphasia*, published in 1897, and based upon cases which had occurred in Bramwell's own experience, did much to elucidate the nature of this condition and explain its varieties at a time when the subject was still being handled to a great extent by the "diagram makers." His work *Anaemia and Diseases of the Blood-forming Organs*, published in 1899, was a comprehensive account of what was then known on this department of medicine, and it may be recalled in this connexion that he was the first, in 1875, to introduce the arsenical treatment of pernicious anaemia.

Other contributions to medical knowledge and practice are to be found in his shorter writings. Thus he was the first, in a paper read to the Northumberland and Durham Medical Society in 1872, to describe the transmission of scarlet fever by milk supply. For a long time before its introduction he was a strong advocate of the compulsory notification of phthisis, and in 1893 he first introduced the thyroid treatment of psoriasis and other skin diseases, a practice which has been extensively followed by dermatologists. In 1902 he first described a condition of infantilism due to pancreatic defect. For some thirty years, as a teacher of medicine and clinical medicine, as a clinician, and as an investigator of pathological problems, he was one of the strongest and most outstanding figures in the Edinburgh extra-academical school, and he attained a reputation which was world-wide.

Honours naturally came to him. The Universities of Edinburgh, St. Andrews, and Birmingham conferred on him their honorary LL.D. degrees, and from the University of Durham he received the degree of D.C.L. In 1886 he became a Fellow of the Royal Society of Edinburgh, and was for several years a member of its council. He was chosen to deliver the Morison Lectures in the Royal College of Physicians of Edinburgh in 1899, and in 1910 he was elected president of that College. He took much interest in the work of the British Medical Association, was a member of the Edinburgh Branch Council in 1888, and president of the Branch in 1908. He held the office of secretary of the Section of Medicine at the Annual Meeting of the Association at Liverpool in 1883, and presided over the same Section at Cardiff in 1885, and was president of the Section of Neurology at Edinburgh in 1898. He became president of the Medico-Chirurgical Society of Edinburgh in 1909, and president of the Association of Physicians of Great Britain and Ireland in 1923. In the same year he was elected, under By-law XXXVIII (*b*), a Fellow of the Royal College of Physicians of London, and at this time his friends and former pupils took occasion to present him with his portrait, painted by Mr. David Alison. In presenting this portrait, Sir David Drummond referred to "the warmth and generosity of the references made by medical men all over the world to the debt of gratitude they owe him as their clinical teacher, and for acts of kindness and encouragement received at his hands when they were students"; and Sir Humphry Rolleston, in presenting a replica of the portrait to the College of Physicians, remarked that "to recite what he has done for medicine would be a task like reading an address on the modern advances of the last forty years." In the following year Byrom Bramwell received the honour of knighthood for his services to medicine. Foreign societies, especially those connected with the branch of medicine in which he had taken a special interest, united in conferring on him their honorary membership. Thus he was a corresponding member of the Neurological Societies of Paris and Philadelphia, and of the German Neurological Society, and an honorary member of the Société des Médecins Russes de St. Petersburg, of the American Neurological Association, and of the Manchester Medical Society.

Sir Byrom Bramwell was an outstanding clinician among a group of great physicians, an eminently successful teacher in a medical school whose special tradition has been the imparting of knowledge to students, and a friend, true, sympathetic, and ever ready with help, to those who had the privilege of knowing him.

In 1872 he married Martha Crighton, daughter of Edwin Crighton of North Shields, who predeceased him. He is survived by three sons, of whom two are well-known physicians, and by a daughter. A memorial service was held in St. Mary's Episcopal Cathedral, Edinburgh, on April 30th, at which were present representatives from the University of Edinburgh, the Royal College of Physicians of Edinburgh, the Board of Managers of the Royal Infirmary, and the Scottish Union and National Insurance Company (to which Sir Byrom Bramwell had been for many years medical consultant), as well as many members of the medical profession in Edinburgh. The funeral was private.

Sir DAVID DRUMMOND writes:

It has been my great privilege to enjoy the friendship of Byrom Bramwell for a period of fifty-five years, dating back to the Newcastle days, when we worked together in the wards of the old Royal Infirmary, and it is a duty one owes to his memory to acknowledge the very great service his method and enthusiasm as a clinical teacher was to the Newcastle School of Medicine. To me personally his earnestness and industry, and his keen appreciation of the wealth of clinical material to be found in the wards, were a revelation, and one could not help being inspired by his enthusiasm. It was, of course, a great loss to Newcastle when he went to Edinburgh, but he had left his stamp, which is to be recognized to-day in the wards of the Royal Victoria Infirmary. He is long to be remembered as one of the greatest clinicians of our time, but to me his reputation as a physician is overborne by the memory of a loyal and warm friend, whom to know intimately was to love and to admire.

Dr. ROBERT HUTCHISON writes:

To many Edinburgh men scattered all over the world the death of Byrom Bramwell must have seemed like the breaking of a link with the past. He was one of the few survivors of a brilliant band of teachers in the extra-mural school of the university towards the end of last century, and it was to him more than anyone that many students owed their best teaching in clinical medicine. The Edinburgh school has always been fortunate in its lecturers, but it was not in the lecture room that

Bramwell's great gifts showed to most advantage. He was pre-eminently a clinical teacher, and was always happiest in the out-patient room or at the bedside. Many of his old students must have a vivid recollection of his Saturday morning out-patient clinics. He was seen in these at his very best, and the keen and accurate observation which he showed, and his brilliant and sometimes dramatic demonstration of cases, were a lasting inspiration to his audience. But although such an outstanding teacher, there was nothing dogmatic or pontifical about Bramwell, for he was eminently approachable, and would discuss a case with the most junior student as with an equal, and he has been known, when at a complete loss for a diagnosis—which did not happen often—to appeal to any member of the class for a suggestion. It was this real simplicity as much as his great intellectual gifts which gave him his influence as a teacher.

Byrom Bramwell was a type of physician now becoming rare, for although his special leanings were towards neurology, yet he touched medicine at all points, and wherever he touched he adorned. This catholicity of interest is shown in his well-known *Atlas*, and also in his *Clinical Studies*, although it will probably be for his work in neurology that he will be best remembered. He lived to an advanced age, but his keenness never failed, and to the end of his long life he was still intensely interested in the latest advances of our science and in any suggested improvements in the teaching of students. Full recognition came to him late, but it came at last in unstinted measure, and he was the recipient of many honours. What probably gave him most pleasure, however, was the presentation to him a few years ago of his portrait, subscribed for by former house-physicians and old students. It was a spontaneous testimony of esteem by which he was much gratified. He was happy in his long life of active work and in the leisure of the long evening of his days; he was happy in the affection of his family and in the veneration of his pupils; but perhaps he must be accounted happiest of all in the example he has left behind him.

Dr. S. A. KINNIER WILSON writes:

No one who in other years was associated closely with Dr. Byrom Bramwell, as he then was, as senior student, house-physician, or assistant, is ever likely to forget the immensely stimulating influence of contact with him. At a time when the Edinburgh school was adorned with a number of distinguished men on the medical side, when its reputation was supreme and its classes thronged, Bramwell easily took his place in the front rank of students' favourites. To come under the spell of his clinical teaching was a liberal education. Big, kindly, critical, unruffled, he handled large clinics with masterly control and sure insight. From a rich store of experience came illustrations to throw light on cases before his audience, who followed closely his descriptive expositions, and whose attention was held by little touches of personal reminiscence or by allusions to the pioneers of neurology in England, among whom, indeed, his own place is. For he was old enough to be able to remember a time when the nervous system was nought else than a *terra incognita*, and when clinical knowledge of nervous disease had neither sound neuro-pathology nor adequate experimental physiology to support it—a time not far removed from the era of "lucky guesses" of which the late Sir David Ferrier used to speak with pity and scorn. Bramwell's enthusiasm for his own subject, and the untiring energy and zeal with which he pursued it, were such as deeply to impress any young and receptive mind whose bent, consciously or not, lay in the same direction. Memory recalls the fascination cast over these first days of exploration in neurology, when each case was a novelty and each provided a problem in clinical study. The acuteness of observation and shrewd assessment of the patient's personality exhibited by Bramwell are still cherished by those of us who worked with him as incentives for ourselves, to emulate, copy, and evince, if possible, to others of a younger generation. From the past there comes vividly into the mind a picture of a Sunday morning hospital round, when he was told a new case had been admitted, and as we reached the bedside he looked and said, "Ah, I see it's one of general paralysis." What need to detail the immediate summation of clinical appearances enabling the diagnosis to be made as by a single glance? The certainty becomes none the less remarkable because we have learned how it was attained. The affectionate interest with which he followed the careers of those who had belonged to the select group of residents and assistants remained with him to the end. Dinners at his town or country house, games of bridge, talks far into the night, bound us to him in a way one does not need to elaborate. If his house-physician was speciously dubbed by fellow residents "Keeper of the Freaks," it mattered not at all, for who in those days *did take particular notice of neurological flotsam and* jetsam? In the streets of the city we were wont to see sufferers whose distressing features were exposed to the passer-by in a fashion long since put an end to; and the fact that Bramwell was of the few who saw the scientific significance of their cases as he felt their personal degradation is what then endeared him, as still in memory it does, to those who had eyes to see. Retired for a considerable time from active participation in hospital work, his charm of person and wealth of mind were bound to become less known save to his intimates, so that ere long only the tradition of his renown lingered with those that loved him. To convey even an imperfect idea of all that Bramwell meant in the lives of his junior associates is no easy task, but he is enshrined in their hearts as a beloved "chief."

> What practice howsoe'er expert
> In fitting aptest words to things,
> Or voice the richest-toned that sings,
> Hath power to give thee as thou wert?

Professor W. T. RITCHIE writes:

By the death of Sir Byrom Bramwell medicine loses a most distinguished exponent and the Edinburgh Medical School one of her greatest sons. Universally honoured as a physician and teacher, he was regarded with the veneration that is justly accorded to an eminent man in the evening of life. A disciple of the father of clinical medicine in England, Sir Byrom was a great physician in the true sense of the term, for he was the very beau-ideal of "the physician as naturalist." His chief work lay, it is true, in the domain of neurology, on which he was a foremost authority; yet his interests extended throughout the whole realm of internal medicine, and the numerous publications in which he widened the frontiers of knowledge regarding the diseases of the blood and heart, the thyroid, pituitary, and other endocrine organs received world-wide recognition, and, like his monographs on disease of the nervous system, are classic.

As a consulting physician Sir Byrom stood in the very forefront, not only because of his intellectual attainments and scientific eminence, but also inasmuch as his professional colleagues knew that in him implicit trust and confidence could be reposed. A clinician of vast experience, most impressive manner, and extraordinarily sound judgement, he had the true clinical instinct of recognizing and interpreting the essential while disregarding the immaterial. In an incredibly short time he would solve

the problem of a difficult case; his opinion regarding diagnosis, prognosis, and treatment was authoritative; he was the final court of appeal. As a clinical teacher he excelled. In that sphere he had few equals; none surpassed him. All who were studying medicine in Edinburgh a generation ago will have vivid recollections of his profound clinical acumen and masterly skill as a teacher. Every Saturday morning one of the clinical medicine theatres was crowded by an audience of some two hundred final-year students, who were attracted by Sir Byrom's demonstration and exposition of medical cases. He would present five or six patients illustrating diseases of the nervous, cardio-vascular, haemopoietic and other systems, and held his hearers' attention so closely, and interested them so keenly, that they were astonished to find the hour's demonstration drawing to an end. His teaching was strictly scientific, yet dogmatic and intensely practical. Students never forgot what he had taught them; each disease as he had presented it was remembered as a well-defined clinical picture. He had the rare gift, too, of arousing his students' enthusiasm in those subjects in which he himself was so deeply interested. In the Royal Medical Society they read all the available literature upon the subjects that he had been demonstrating, and so convincing was his teaching that the written word was unhesitatingly rejected if it did not agree with that spoken by Sir Byrom.

My earliest recollection of Bramwell is of a young, burly, handsome man and fond parent, joining in the gaiety and fun of children's parties to which I, as a friend of his eldest son, was invited. Ten years pass, and I recall the brilliant clinical teacher, at whose feet we Edinburgh students sat, and whose words of wisdom we treasured. For a brief period thereafter he was my chief, and then I first realized his orderly methods and untiring capacity for work. He invested his house-physicians with full responsibility during the hours when he was not in the hospital, and never worried them with petty detail. His country home was then that picturesque old mansion, Braehead, of historic interest for its romantic association with Jock Howison and King James V. A few years later, when residing at Baberton House, he spent many a happy evening on Threipmuir, one of the beautiful little lochs nestling at the foot of the Pentlands, in the heart of the Stevenson country. Though fond of a game of bridge on a winter's night, his favourite recreation was a day with his rod on river or loch. For many a year one of the noteworthy events was the annual competition on Loch Leven between the staff of his wards and those of Dr. George Gibson, each side captained by the chief.

At no time did Sir Byrom devote his thoughts and energies to medical politics. With the passing years he presided with quiet dignity over the deliberations of the Royal College of Physicians of Edinburgh. The memorable events at the meeting of the Association of Physicians in Edinburgh some years later, when Sir Byrom was president, were his remarkably able summing-up of each discussion and the fishing stories that he told at the dinner. As a Nestor of the medical profession he was on that occasion presented in the hall of the College with his portrait, a symbol of the esteem and affection of his friends, among whom was Sir David Drummond, his life-long friend. Until the close of his life Sir Byrom continued to take the keenest interest in every fresh advance of medical science and education. Full of years and honours he has passed within the veil. We think of him, "our master, famous, calm, and dead," in the assurance that his name will ever be linked indissolubly with those of his illustrious intellectual forebears in the medical school he so richly adorned.

[The photograph reproduced is by A. Swan Watson, Edinburgh.]

WALTER TYRRELL, M.R.C.S.

Consulting Anaesthetist to St. Thomas's Hospital

A familiar figure in South Kensington, in the person of Walter Tyrrell, passed away on April 21st. The son of a county court judge at Exeter, Tyrrell came from the West Country and entered St. Thomas's in 1872, with the idea of adopting dental surgery as a profession. He soon abandoned his original intention in favour of general medicine, and after qualifying and serving as house-physician at St. Thomas's in 1879 started practice on his own behalf in the Cromwell Road, where he remained until he retired some fifteen years ago. He retained a direct connexion with St. Thomas's as an anaesthetist for many years. He, together with Mr. S. Osborn, was the first special officer appointed to the staff as anaesthetist. Tyrrell commenced under the influence of Sir Victor Horsley with a decided preference for the use of chloroform, but later devised an ingenious double-bottle apparatus for the administration of chloroform and ether in combination. He was a most efficient anaesthetist, greatly relied upon by his colleagues, never giving them a trace of anxiety even in the most troublesome cases. His services were much sought after, and he acquired a very extensive connexion, which he succeeded in maintaining while developing at the same time a wide and successful general practice.

Sir GEORGE MAKINS writes:

As a medical attendant Tyrrell was greatly esteemed. Fully competent to deal with any case, his quiet and confident bearing inspired absolute trust, while his kindly and sympathetic nature often converted those who came to him as patients into lifelong friends. The transparent honesty of purpose and genial nature which gained for him success in practice accounts also for the excellence of the relations which existed between him and his fellow practitioners, whom he did much to bring together in friendly contact. With his friend and contemporary Dr. Kingston Barton, and Dr. Culver James, Colonel I.A.C., he took part in founding the Kensington Medical Reading Society, of which he became the secretary, and he was one of the original members of the West London Medico-Chirurgical Society. It is difficult to imagine Tyrrell having an unfriendly difference with anybody. Until 1904 he worked singlehanded in association with Dr. Kingston Barton, but in that year, beginning to feel the labour and responsibilities of a large practice a little too much for him, he took Mr. (now Sir Robert) Fox-Symons into partnership, and in 1912 he relinquished his work.

Although a man of cultured tastes Tyrrell in his busy life had cultivated no special hobbies, and he retired into the country at Shottermill with the idea of resuming some of his youthful interests. Ultimately he returned to London, and his health had improved so much that many of his friends regretted his somewhat premature retirement. For the last four years, however, he had been in very bad health, and his death on nearly exactly his eightieth birthday came to him as a happy release. Soon after he settled in practice he married Miss Sara Bevan, who proved herself a delightful and most sympathetic wife to him, of very great service in every detail of their lives. Mrs. Tyrrell and their two daughters survive him.

Dr. GEORGE DUNCAN MORRISON BEATON, one of the best-known surgeons in North-East Lancashire, died at Accrington on April 14th at the age of 49. He was a native of Stornoway, and was educated at the Nicolson Institute and Glasgow High School. He took the Scottish triple qualification in 1905,

and graduated M.B., Ch.B.Glas. in 1906. After a period as house-surgeon in Glasgow Royal Infirmary he went to Accrington in 1908, and built up a large medical and surgical practice. He was surgeon to the Accrington Victoria Hospital for twenty-one years, and on his retirement from the post of senior surgeon to that institution in 1930 he was appointed consulting surgeon. During the war Dr. Beaton served in the R.A.M.C., and later with the R.A.F.M.S. He was wounded in the advance of October, 1918. On his return from active service, in addition to resuming his hospital work and large practice, he did valuable work under the Ministry of Pensions, being chairman of the pensions medical board and senior surgical specialist for the Blackburn area. He was an active member of the British Medical Association, and in 1925 was elected chairman of the Blackburn Division. Notwithstanding the heavy demands of his professional work, Dr. Beaton found time to take an interest in local affairs. He was a member of the Accrington Town Council from 1922 to 1928, and rendered useful service on the educational and maternity and child welfare committees. Dr. Beaton was a man of many friends, both in his profession and outside it. His extensive practice testified to the esteem in which his services and advice were held. There is no doubt that his devotion to his work undermined a constitution once robust, and his death at an early age is an irreparable loss to Accrington and district. He was laid to rest in Carlisle Cemetery on April 17th. He leaves a widow and one daughter.

The following well-known foreign medical men have recently died: Professor FRANZ ENGEL-BEY, an eminent leprologist and director of the medico-statistical department of the Egyptian Health Office, aged 81, at Berlin; Professor MENDELSOHN, formerly of the chair of physiology at St. Petersburg, and later physician to the Russian Imperial Court, corresponding member of the Académie de Médecine; Dr. CONRAD HEMMETER, emeritus professor of the Maryland School of Medicine, Baltimore, and formerly president of the American Gastro-Enterological Association, aged 67; and Dr. C. YOKOTE, professor of Hygiene in the Tokyo Imperial University.

The Services

DEATHS IN THE SERVICES

Major-General George Francis Angelo Harris, C.S.I., Bengal Medical Service (ret.), died in London on April 16th, aged 75. He was born on February 29th, 1856, the son of Major-General George Shooter Harris, Bengal Staff Corps, was educated at Bedford School and at St. George's, and took the M.R.C.S. and L.R.C.P.Lond. in 1878. Subsequently he took the M.R.C.P. in 1893, was elected F.R.C.P. in 1903, and graduated M.D. of Durham in 1902. Entering the I.M.S. as surgeon on September 30th, 1878, he became lieutenant-colonel after twenty years' service, colonel on February 28th, 1910, and surgeon general on April 1st, 1912; the last title being changed to major-general in 1918. He served in the Afghan war in 1880, on the Khaibar Line, and received the medal. After a few years' military duty he entered civil employ in Bengal. While serving as second resident surgeon of the Presidency European General Hospital in Calcutta, in 1885, he was appointed joint civil surgeon of Simla, and after holding that post for five years, civil surgeon of Nagpur, the capital of the Central Provinces. In 1899 he was appointed to act as principal of the Medical College, Calcutta, first physician, and professor of medicine, and on the return from leave of the permanent principal, the late Sir Gerald Banford, K.C.I.E., was appointed professor of materia medica and second physician. In 1908 he was posted to act as inspector-general of civil hospitals in the Punjab, in 1909 to act in the same post in the United Provinces, and in 1910 was appointed inspector-general in Bengal. He retired on April 1st, 1915, and served from 1915 to 1917, as a retired officer, on military duty in England. He received the C.S.I. on December 11th, 1911, and a good service pension on May 25th, 1914. He was the author of a small book on the Bengal Medical Service, published in 1885. In 1883 he married Alice, daughter of General Archibald Edwards Campbell, B.S.C., and leaves a widow, two sons, and four daughters.

Colonel Charles Albert Maunsell, late R.A.M.C., died at Vence, Alpes Maritimes, France, on March 27th, aged 90. He was born on September 24th, 1840, and was educated at Queen's College, Galway, and at Trinity College, Dublin, taking the L.R.C.S.I. in 1861, and graduating M.D. of the Queen's University, Ireland, in 1862. Entering the Army as assistant surgeon on October 1st, 1862, he attained the rank of surgeon colonel on December 15th, 1892, and retired on September 24th, 1900. In the old regimental days he served in the Royal Horse Artillery. He was on the North-East Frontier of India in the Bhutan campaign of 1864-65, taking part in the capture of Fort Baksar (Buxa), the taking of the Bala Pass, the Tuzgaon stockade, and Fort Chamurchi, gaining the frontier medal with a clasp; in the Egyptian war of 1882 (medal and Khedive's bronze star), and in the Bechuanaland expedition under Sir Charles Warren in 1885. He took a large part in the struggle for improvement in the conditions of service of the private soldier in the 'eighties. He leaves three children, Colonel E. R. Maunsell, late Commandant of the 14th Prince of Wales Sind Horse, Captain I. O'G. Maunsell, late 91st Punjabis, and Mrs. Margaret Stella Prentice, whose son is now serving in the Sind Horse.

Lieut.-Colonel Hastings Norman Victor Harington, Madras Medical Service (ret.), died on December 12th, 1930. He was born on January 12th, 1855, the son of the Rev. Hastings Hawes Harington of Hourah, Bengal, was educated at Edinburgh and Aberdeen Universities, and took the L.R.C.P. and S.Ed. in 1879. Entering the I.M.S. as surgeon on October 2nd, 1880, he became lieutenant-colonel after twenty years' service, and retired on November 28th, 1910. After the usual two years of duty in the Army, he was appointed to the Political Department as an agency surgeon, and spent the rest of his service as agency surgeon in various Indian States, chiefly in Rajputana.

Medical News

Sir Charters Symonds and Dr. Robert Hutchison give notice, in pursuance of Section 115, Sub-section 1 (*c*), of the Companies Act, 1929, that an extraordinary general meeting of the members of the Royal Medical Benevolent Fund will be held at 11, Chandos Street, Cavendish Square, W.1, on Monday, May 11th, at 4.15 p.m.

Lord Lloyd of Dolobran will preside at the annual court of governors of the Seamen's Hospital Society at the May Fair Hotel, W.1, on Tuesday, May 12th, at 3 p.m.

Two lectures on resection of the rectum will be given by Mr. G. Grey Turner, professor of surgery in the University of Durham, at St. Thomas's Hospital, on May 13th and 15th, at 5.30 p.m. Sir Percy Sargent will preside at the first lecture.

The Cavendish Lecture before the West London Medico-Chirurgical Society will be delivered at the Kensington Town Hall on Friday, June 5th, at 8.15 p.m., by Professor Julian Huxley; the subject of the lecture is "Development in relation to heredity and evolution." The annual dinner of the society will be held at the Trocadero Restaurant on Wednesday, July 1st.

The annual general meeting of members of the Optical Society will be held at the Imperial College of Science and Technology, South Kensington, S.W., on Thursday, May 14th, at 7.30 p.m. On June 11th Sir John H. Parsons, F.R.S., F.R.C.S., will deliver the Thomas Young Oration, taking as his subject the trichromatic theory of colour vision.

The annual general meeting of the British Institute of Radiology (incorporated with the Röntgen Society) will be held in the Reid-Knox Memorial Hall, at 32, Welbeck Street, W.1, on Thursday, May 14th, at 8.30 p.m. After the business part of the meeting is completed, a paper will be read by Mr. H. S. Souttar, on the ideal distribution of radon seeds.

The eighty-fifth half-yearly dinner of the Aberdeen University Club, London, will be held at the Trocadero Restaurant on Thursday, May 21st, under the chairmanship of Sir John Marnoch, and with Sir G. Lenthal Cheatle as chief guest. The honorary secretary's address is 9, Addison Gardens, W.14.

The Swindon Corporation's new maternity home in Kingshill Road will be opened by Mr. Arthur Greenwood, Minister of Health, on Wednesday, May 13th, at 3.15 p.m.

The annual medical missionary breakfast of the Medical Prayer Union will be held on Wednesday, May 20th, at the Refectory, University College, Gower Street, W.C.1, at 8 a.m. An address will be given by Dr. Edward A. Hunter of Ilesha, Nigeria, West Africa. An intimation of intention to be present will be welcomed by the honorary secretary, Dr. Tom Jays, Livingstone College, Leyton, E.10.

The foundation stone of the new hospital for women at Papworth Village Settlement will be laid by the Right Hon. Arthur Greenwood, M.P., Minister of Health, on Tuesday, May 19th, at 2.30 p.m.

The second International Congress of the History of Science and Technology, to be held at the Science Museum, South Kensington, from June 29th to July 3rd, of which a preliminary announcement appeared in the *Journal* of March 31st, has now published a programme, illustrated by portraits of Isaac Newton, Charles Darwin, and Isaac Watt, and containing the names of the council and the aims of the congress. The following three subjects are chosen for discussion: (1) the sciences as an integral part of general historical study; (2) historical and contemporary interrelationship of the physical and biological sciences; (3) interdependence of pure and applied science. Furtner information can be obtained from the honorary secretary, Mr. H. W. Dickinson, Science Museum, South Kensington, S.W.7.

A Nursing, Hospital, and Health Week will be held in Edinburgh from May 25th to 30th inclusive in the Music Hall and Assembly Rooms, George Street. A comprehensive programme of lectures and discussions has been arranged. All medical men and women will be welcome on production of their visiting cards. On Sunday, May 24th, a special service will be held in St. Giles's Cathedral at 6.30 p.m. Further information may be had on application to the *Scottish Nurse*, 29, Cadogan Street, Glasgow, C.2, or to Mrs. Bowie, 10, Walker Street, Edinburgh.

Professor S. J. Cowell is giving a course of six lectures on medical aspects of dietetics in the lecture room attached to the dietetic kitchen of St. Thomas's Hospital. The first lecture was given on May 7th; the remainder will be given on succeeding Thursdays at 5 p.m.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found at page 832. The M.R.C.P. special evening lectures during the week will be as follows: May 12th, "Bone growth and metabolism: medical aspects of diseases of bones"; and May 15th, "Achlorhydria and anaemia." The lectures will take place at 8.30 p.m., at the Medical Society of London, 11, Chandos Street, Cavendish Square, and tickets may be taken at the door (10s. 6d. a lecture). Courses in June will include: gynaecology, at the Chelsea Hospital for Women; dermatology, at the Blackfriars Skin Hospital; diseases of children, at the Children's Clinic, and also at the St. John's Hospital, Lewisham; ante-natal care, at the Royal Free Hospital; cardiology, at the National Heart Hospital; and general medicine and surgery, at the Prince of Wales's Hospital. Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1.

The forty-second Congress of the Royal Sanitary Institute will take place in Glasgow from July 4th to 11th, under the presidency of Sir Henry Mechan. Among the many subjects to be discussed are: The role of the hospital relative to the development of preventive medicine; the proposals of the British Medical Association for a general medical service, from the standpoint of preventive medicine, and in relation to national health insurance; development of the national health insurance scheme; administration of the Local Government Act, 1929; eugenic sterilization; health certificates before marriage; pregnancy and tuberculosis; and maternity and child welfare work. On July 10th Dr. Walter Elliot, M.P., will deliver a lecture on "A continuous health policy." A health exhibition has been arranged in connexion with the congress. The Lord Provost of Glasgow is the chairman of the local general committee, and the town clerk and the medical officer of health are acting as the honorary local secretaries.

Applications for the Rockefeller Medical Fellowships for 1931–32 must be sent to the Medical Research Council, 38, Old Queen Street, Westminster, S.W.1, not later than June 1st. The fellowships are awarded to graduates who have been training in research work in the primary sciences of medicine, or in clinical medicine or surgery, and who are likely to profit by study at a university or some centre in the United States before taking up positions for higher teaching or research in the British Isles. In special circumstances the fellowships may be tenable at centres of research not in America. A fellowship held in America will have the value of not less than £300 a year for an unmarried Fellow, as well as travelling expenses and other allowances; there will be an extra allowance for a married Fellow.

A course on malariology, organized by the Health Committee of the League of Nations, will be held at the Hamburg Institute of Tropical Diseases from June 1st to July 4th, when lectures will be given by Drs. Fülleborn, Giemsa, Martini, Mayer, Mühlens, Nauck, Regendanz, Reichenow, and Weise. Further information can be obtained from Institut fur Schiffs- und Tropenkrankheiten, Berhard-Nochtstrasse 74, Hamburg 4.

A theoretical and practical course on urology will be held at the Hôpital Cochin, Paris, from July 20th to August 8th, under the direction of Dr. Chevassu. The fee is 500 francs. Further information can be obtained from the Amphithéatre d'Anatomie des Hôpitaux, Rue du Fer-à-Moulin 17, Paris.

"Medicine and science" is the title of an interesting editorial article in *Nature* for May 2nd, dealing with the problem of the evolution of medicine from a practical art to an applied science.

The *Daily Telegraph*, on May 6th, reproduced a photograph showing Dr. William Collier on his seventy-fifth birthday climbing, with three companions, the Pillar Rock in Lakeland. Dr. Collier is the senior Vice-President of the British Medical Association, and presided over the Annual Meeting at Oxford in 1905.

We have received the first issue of *Nutrition: Annales Cliniques, Biologiques, Thérapeutiques*, a bi-monthly review published under the scientific direction of Professors Carnot, Loeper, and Villaret, with Drs. R. Glénard and Mathieu de Fossey of Vichy as editorial secretaries. This first number contains seven articles, all of which deal with diabetes. The whole amounts to a compact and well-balanced treatise, for different aspects of the disease are considered in detail by each of the several authors. One deals with the pathology (from a chemical point of view), another reviews the evidence in favour of hepatic derangement as an important factor in the condition; other articles are devoted to a consideration of therapeutic measures, in which spa treatment and remedial exercises receive some attention. One of the most interesting is concerned with the types of what we should call "non-pancreatic glycosuria," and with the interrelationship of the different ductless glands, considered from the point of view of carbohydrate metabolism. There appears, as an appendix, a statement about the laboratories at Vichy, and some analyses of Vichy waters, and it would appear that the publication is issued in some way under the auspices of the authorities of that spa.

The French National Antituberculosis Society has published a statistical report for the year 1929, recording the general results of treatment in the registered dispensaries, and comparing the mortality figures for tuberculosis in all its forms in France and England. The booklet can be obtained from the offices of the Comité National de Défense contre la Tuberculose, 66, Boulevard Saint-Michel, Paris 6e.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Piercing the Lobule

"BARBARIAN" writes: I am occasionally asked to pierce the lobes of the ears for earrings. So far I have been unsuccessful in my attempts to maintain patency of the boring. Sepsis or other complications have resulted in complete healing of the areas. I have carefully read previous contributions in the *Journal* (1927, ii) on the subject of the operation of boring the lobule, but they do not help me much, as there is no reference to after-treatment, or guidance as to the best way of keeping the holes open. Would any reader enlighten me as to the most successful technique? I believe the operation is often performed by jewellers without ill effects.

Food Combinations

Mr. J. MENZIES CAMPBELL, D.D.S., L.D.S. (Glasgow) writes: Periodically one reads that "acid fruits and cereals should never be eaten at the same meal." The latest upholder of this view is Mrs. Lilian Lindsay, L.D.S., who expressed it definitely in a recent address to a conference of health visitors. I have tried, but failed, to obtain a satisfactory explanation of this statement, and I should therefore be glad if those in a position to do so would issue an authoritative pronouncement on the matter. If the above-mentioned food combination is bad, then the sooner this fact is made widely known the better; if, on the other hand, it belongs to the not proven category, then the sooner this, too, is made known the better. The advice which so many of us are giving to our patients is to eat fruit at meal times, and especially at the end of a meal.

Wagstaff's Forceps

Dr MICHAEL STARK (Wanstead Park, Essex) writes: In the *Journal* of April 18th "Croydonian" asks about Wagstaff's obstetrical forceps which my father recommended in his *Index to General Practice*. I have myself used them some hundreds of times, and found them all that could be desired. If your correspondent cared to ring me up (Wanstead 3017) and come here I should be pleased to show him mine.

Chromium Plating

Messrs MANN EGERTON AND CO., LTD., send the following note in reply to the inquiry about chromium-plated water-taps and metal fittings (May 2nd, p. 779): Chromium plating, which was introduced comparatively recently, has been extremely satisfactory in connexion with motor cars, and has, in fact, been adopted by practically every motor manufacturer. It is considerably more expensive than nickel plating; but, subject to the plating being done really well, it is far more durable, and very advantageous from the point of view of labour-saving. There is no necessity to use any patent polish; and, in fact, if such polish is used, it destroys the chromium. It is also found that the plating is more durable on metals other than steel. The use of chromium plating for articles other than motor cars is becoming wider every day; and, in fact, at present there is nothing which can compare with it for durability and efficiency, except stainless steel, which, though more expensive, is everlasting. Stainless steel is not, however, at present obtainable for many articles and purposes.

Income Tax

Accident Insurance Benefit

"C. C. M." has been receiving disablement benefit for some weeks in respect of a fractured ankle, and during that time has had to incur special expenses—locumtenent, chauffeur, masseuse, etc. What is the position as regards the benefit received and the expenses?

*** The benefit is not income assessable to income tax, and should not be included in his gross professional receipts. The expenses are deductible in so far as they are incurred in carrying on his practice, but not otherwise—for example, the cost of the locumtenent and chauffeur would be deductible, but not the expense of any treatment of himself, such as the cost of the services of a masseuse.

Cash Basis

A and B were in partnership for twenty years, during which time they were assessed on the basis of their gross receipts. B died, and C entered into partnership with A. The inspector now claims that the total earnings of B and C, including outstanding book debts, should be brought into the computation.

*** Unless A and C and B's executors join in requiring the assessments to be treated on the footing that the old practice ceased at B's death and was restarted anew when C joined, the liability, so far as gross receipts are concerned, falls to be calculated on the usual basis of the previous year, in which case we see no reason why the cash basis should not be continued, provided that the receipts brought into the calculation include amounts paid over to B's executors. On the other hand, if the practice is being treated as having been stopped and restarted, the cash receipt basis is not applicable, because the first year's receipts would not fully represent the gross earnings of the practice, and the value (not necessarily the nominal amount) of the outstanding debts should be brought into the figures.

Remuneration of Daughter as Locumtenent

"R. W." inquires whether he can charge as an expense the rent of a house which is occupied by his daughter, who acts as an occasional locumtenent for him; and, if so, whether she would have to return this £70 (rental value) as part of her income.

*** It is to be assumed that the revenue authorities may look somewhat carefully at such financial arrangements between parent and daughter, as they may be personal rather than, or at any rate as well as, on a professional footing. If, however, as we gather is the case, "R. W." can show that the total amount charged in respect of his daughter's professional services, including the £70, bears a reasonable relation to what would be paid to a stranger on a *quantum meruit* basis, we think he can enforce his claim by appeal, if necessary. As regards the daughter's liability, if she, or her husband, has the usual rights of a tenant, including power to sublet, we consider she is bound to bring the £70 in as part of their joint incomes, though probably not as remuneration assessable under Schedule E or Schedule D, but, as a free occupier, under Schedule A.

Holidays: Domestic Expenses

"HOLIDAYS" points out that if he were not in practice he would shut up his house during holidays "and send the maids home, only paying their wages." Instead, he has to employ a housekeeper, and keep the house running as usual for the accommodation of a locumtenent. Can such expenses be deducted for income tax purposes?

*** The question is not easy to answer definitely. The statutory rules provide that "expenses, not being money wholly and exclusively laid out for the purpose of the profession" shall not be deducted, and the expense of keeping a house aired, cleaned, and in running order has a semi-personal side to it, which makes the insertion of the word "exclusively" in the rule difficult to deal with. At the same time any special expenses incurred in connexion with the locumtenent, such as the employment of the housekeeper and the expenses relevant to his accommodation,

the provision of his board and domestic service, can properly be taken into account when estimating what is the appropriate fraction of the total domestic expenses to be taken into account for the year in question as the professional rather than the domestic cost of the whole.

Motor Car Allowance

"M. J. C." bought an "X" car in 1929 for £135 and was allowed £27 depreciation thereon as for 1930-31. In November, 1930, he sold the car for £45 and bought a "Y" car for £110. What should he claim in the accounts which he is sending in for the 1931-32 assessment?

*** (1) Obsolescence allowance—that is, £135 - £27 - £45 = £63—as a professional expense of the year 1930, and (2) depreciation allowance for 1931-32 at 20 per cent. of £110 = £22.

LETTERS, NOTES, ETC.

Sodium Nucleinate in Pneumonia

Dr. H. J. CLUTTERBUCK (Llanelly) writes: Some years ago a medical man, in the course of a discussion in the *Journal* on the treatment of acute lobar pneumonia, said that he had been "crying in the wilderness" for some time the value of sodium nucleinate injections (0.1 gram in 2 c.c.m.). I thereupon decided to try the method, and have been astonished at the results, if given early. The following case has just occurred in our practice. Dr. Gordon Bennett saw a road-worker, aged 40, on March 27th, at about 6 p.m. He had then been working until tea-time, when he had a rigor. His temperature was 104° F., and his respirations 60, with pulse 120, and severe pain in the right chest, especially the subclavicular region. He was put on antiphlogistine and glucose, with an expectorant mixture. I saw him in the afternoon of the 28th, when there was definitely pneumonic sputum. I gave him one injection of sodium nucleinate subcutaneously in his forearm. This produced violent perspiration, and he was bathed with tepid water. Next morning his temperature was normal, pulse rate 75, and respiration normal. He said that he felt much better; no pain, and the cough much easier, although his sputum continued to be blood-stained, but not so much as before. On the 30th, at 10 a.m., the temperature was still normal and the patient going on well. At 7.30 p.m., after calomel overnight and saline in the morning, he had had a good result, and was demanding food. Both Dr. Gordon Bennett and myself were so astonished at the transformation in his condition, less than thirty-six hours after the infection, that we consider it our duty to notify the facts. This is not the first time by any means that I have got a good result with the sodium nucleinate, but such a marvellous change in this man's condition after its use has induced us to recommend its trial early in cases of acute lobar pneumonia.

Migration and Health

Dr. J. S. PURDY, Metropolitan M.O.H., Sydney, N.S.W., sends the following addendum to the letter published on January 3rd (p. 36), in which he substituted "sixth" for "fourth" in his earlier statement "There is no one living in Australia (other than the Aborigines) who is a descendant of the fourth generation of Australians": I quoted the grandchildren of Dr. Antill Pockley as of the fifth generation, and a great-grandson of Mrs. Brennan of Darlington, Sydney, whose grandmother was born in Liverpool, New South Wales. Dr. J. R. Nimmo of Brisbane now writes to me: "My maternal grandmother was born at Government House during her father's governorship (P. G. King). He left for England in 1805, having come out with the First Fleet in 1788. My grandfather was born at Penrith, my mother at Rosedale, Victoria, my eldest sister at sea in Cooktown Harbour, and her eldest child, now 15 years old, at Atherton, North Queensland. This makes five generations Australian born, and there are at least thirty-two of this generation who are descendants of my grandfather alone. Governor King spent seventeen years in Norfolk Island and Sydney, but of course cannot be claimed as a native (if he is included it brings the figure to six). Three of his four children married and settled in Australia; of the three, two were English born (Admiral P. P. King and Mrs. Hannibal MacArthur), the other and youngest, Mary, became the wife of R. C. Lethbridge, and is the first generation of our maternal stock in this country." These details are interesting, as they concern descendants of one of the first white men to step ashore at Port Jackson on January 26th. As it is only 143 years since the arrival of the First Fleet and the founding of the Settlement by Governor Phillip, although there is no one living in Australia (other than Aborigines) who is a descendant of the sixth generation of Australians, it is of interest to know of cases of the fifth generation, especially of descendants of our third governor, P. G. King.

Clinical Thermometers

Dr. A. STEWART ROBERTSON (Weston-super-Mare) writes: I think practitioners should be warned to be careful in the use of the cheap thermometers which are now on the market. We bought a number of these in March at 1s. 4d. each. Having reason to suspect the accuracy of one I was using, I tested fourteen of them simultaneously in warm water at two different temperatures, and for two different periods of time—two minutes and one minute respectively. The thermometers themselves are all marked "1/2 minute," and each carries the following certificate of guarantee:

> "This is to certify that the clinical thermometer enclosed herewith has been compared with our standard (corrected by the Government National Physical Laboratory, Teddington, England), and found correct within 0.2° F. Also that the bulb is made of 'normal glass,' which makes the thermometer unalterable for all time."

The readings obtained were as follows:

2 minutes immersion.	1 minute immersion.
108·8	103·6
108·8	104·4
108·4	103
108·6	103·2
108·8	103·4
109	104·2
109·4	103·6
110	105
108·6	103·4
109·8	105·4
109	104
108	104·4
109	105·4
109·6	104·2

Pregnancy Records

Dr. F. H. WATSON (Bowral, N.S.W., Australia) writes: In the *British Medical Journal* of December 20th, 1930, "J. J. S." reports a "record pregnancy." The following case breaks his record by two days. On January 14th, 1929, at 11.30 p.m., Mrs. D., 5-para, gave birth to a female child, and on November 23rd, 1929, at 9 p.m., was delivered of a full-time male infant.

Corrigendum

WE are requested to state that in an announcement in our *last issue* the title of Professor Samson Wright's Oliver-Sharpey Lectures at the Royal College of Physicians should have read: "Certain aspects of the reflex control of the *circulation*."

First-aid Outfits for Motorists

IN anticipation of Safety Week (May 11th to 16th) the British Red Cross Society is putting *on the market* a number of first-aid outfits for motorists. These are to be available in three sizes (10s. 6d., 28s. 6d., and 42s.). The first is intended for *private cars*; the other two are designed to meet the road accident needs of motor coaches. In addition, the society has prepared a "field dressing" at 1s. These *Red Cross outfits* are made up in strong black tin boxes, decorated with the official emblem, and everything in them is of British manufacture.

The Automobile Association's map showing parking places in Central London has recently been revised and brought up to date. It shows the location of over fifty parking places, specifies the maximum period of continuous waiting, and also the particular *hours during* which cars may be parked. Additional information is given of ninety parking places in the outer London traffic area. Copies of the map may be obtained free by members from the A.A., Fanum House, New Coventry Street, W.1, or from any branch office.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 51, 52, 53, 54, 55, 58, 59, and 60 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 56 and 57.

A short summary of vacant posts notified in the advertisement columns appears at page 831.

VACANCIES

ABERDEEN ROYAL INFIRMARY.—Hon. M.O. in Charge of Department for Diseases of the Skin.

BARROW-IN-FURNESS COUNTY BOROUGH.—Assistant M.O. (woman).

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.9.—H.S.

BIRMINGHAM CITY.—Junior R.M.O., Maternity and Child Welfare Department.

BIRMINGHAM: GENERAL DISPENSARY.—Resident Locumtenent M.O. (male).

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—H.S.

BIRMINGHAM: QUEEN'S HOSPITAL.—Hon. Ophthalmic S.

BIRMINGHAM UNIVERSITY.—Professor of Anatomy.

BLACKBURN: ROYAL INFIRMARY.—Fourth H.S. (male).

BOOTLE GENERAL HOSPITAL.—Two H.S.

BRIGHTON, HOVE, AND PRESTON DISPENSARY AND HOVE HOSPITAL.—Hon. P. at Ditchling Road Dispensary.

BRIGHTON: NEW SUSSEX HOSPITAL FOR WOMEN.—(1) H.P. (2) H.S. (3) Hon. Assistant Ophthalmic S.

CANCER HOSPITAL, Fulham Road, S.W.3.—Director of Research Institute.

CHEADLE ROYAL MENTAL HOSPITAL.—Locumtenent.

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL.—(1) C.O. (2) H.S.

COLNE BOROUGH.—M.O.H.

CONNAUGHT HOSPITAL, Orford Road, E.17.—R.C.O. (male).

COSSHAM MEMORIAL HOSPITAL, Kingswood.—H.S.

DERBYSHIRE ROYAL INFIRMARY.—C.O.

DONCASTER ROYAL INFIRMARY.—H.S. (male).

DOVER CORPORATION.—Assistant M.O.H.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—R.M.O.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—R.C.O. (male).

EAST SUSSEX COUNTY MENTAL HOSPITAL, Hellingly.—Two J.A.R.M.O.'s (males, unmarried).

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—(1) H.P. (2) Obstetric Assistant. (3) Three H.S. Women.

GREENOCK CORPORATION.—Locumtenent for Public Health Department.

GREENOCK ROYAL INFIRMARY.—H.S. (lady).

HONG-KONG UNIVERSITY.—Professor of Pathology.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—Two Medical Registrars.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Ophthalmic S. (male).

HOVE, LADY CHICHESTER HOSPITAL.—(1) H.P. (woman). (2) Junior.

HUDDERSFIELD ROYAL INFIRMARY.—H.S. (male).

HULL: CITY AND COUNTY OF KINGSTON-UPON-HULL.—J.R.M.O. (woman) at Maternity Home and Infants Hospital.

HULL ROYAL INFIRMARY.—H.S. (male) to Ophthalmic and Ear, Nose, and Throat Departments.

HULL: VICTORIA HOSPITAL FOR SICK CHILDREN.—(1) R.H.S. (2) R.H.P. Ladies.

ILFORD BOROUGH.—Assistant M.O.H.

ILFORD ISOLATION HOSPITAL.—Temporary R.M.O. (lady).

ILFORD: KING GEORGE HOSPITAL.—Two H.S. (males).

LEEDS HEBDEN MOSLEY HOSPITAL.—R.M.O.

LEICESTERSHIRE AND RUTLAND MENTAL HOSPITAL.—A.M.O. (male, unmarried).

LIVERPOOL HAHNEMANN HOSPITAL.—Clinical Assistant to Ophthalmological Department.

LIVERPOOL MATERNITY HOSPITAL.—H.S.

LONDON HOSPITAL, E.—A.P. to Children's Department.

LONDON JEWISH HOSPITAL, Stepney Green.—(1) Registrars, (*a*) Medical, (*b*) Surgical, (*c*) Ear, Nose, and Throat. (2) R.M.O. (3) J.R.M.O. (4) C.O.

MACCLESFIELD GENERAL INFIRMARY.—Second H.S.

MANCHESTER ANCOATS HOSPITAL.—H.S. (Orthopaedic).

MANCHESTER BABIES' HOSPITAL.—Hon. Anaesthetist.

MANCHESTER EAR HOSPITAL.—Non-resident H.S.

MANCHESTER ROYAL INFIRMARY.—H.S. (lady) at Central Branch.

MANSFIELD AND DISTRICT HOSPITAL.—H.S. and C.O. (male).

MIDDLESBROUGH NORTH ORMESBY HOSPITAL.—H.S. (male, unmarried).

MUSGRAVE HOSPITAL, W.1.—Assistant in the Department of Radium Therapy and Research.

MUKDEN MEDICAL COLLEGE, Manchuria.—Pathologist.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—H.S.

NEWPORT, MON.: ROYAL GWENT HOSPITAL.—J.R.M.O.

NORFOLK AND NORWICH HOSPITAL.—C.O. and H.S. (male).

NORTHUMBERLAND MENTAL HOSPITAL, Morpeth.—Locumtenent.

NOTTINGHAMSHIRE COUNTY COUNCIL.—Assistant M.O. for Maternity and Child Welfare (woman).

OLDHAM ROYAL INFIRMARY.—H.P. and C.O.

OXFORD EYE HOSPITAL.—H.S.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—R.M.O. at Osler Pavilion.

PLYMOUTH: CENTRAL HOSPITAL.—H.S.

PONTEFRACT GENERAL INFIRMARY.—R.M.O.

POPLAR HOSPITAL FOR ACCIDENTS, E.14.—Senior Resident Officer.

QUARRIER'S HOMES AND BRIDGE OF WEIR SANATORIUM.—Resident Female M.O.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) H.S. (male). (2) C.O. (3) H.P.

READING: ROYAL BERKSHIRE HOSPITAL.—(1) C.O. (2) Resident Anaesthetist. Males.

ROTHERHAM HOSPITAL.—(1) C.H.S. (2) H.P. Males.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—(1) Examiner. (2) Hunterian Professor. (3) Arris and Gale Lecturer. (4) Erasmus Wilson Lecturer.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—(1) A.M.O. in V.D. Department (female). (2) Senior Clinical Assistant in the Children's Department.

RUGBY: HOSPITAL OF ST. CROSS.—Three R.M.O. (males).

ST. ALBANS AND MID-HERTS HOSPITAL.—R.H.S. (female).

ST. MARY'S HOSPITAL, Paddington, W.2.—(1) Second Obstetric S. in Charge of Out-patients. (2) Resident Anaesthetist.

ST. THOMAS'S HOSPITAL, S.E.1.—Visiting Anaesthetist.

SALVATION ARMY.—Assistant R.M.O. (woman) for the Mothers' Hospital.

SOUTHEND VICTORIA HOSPITAL.—J.H.S. (male).

STOKE-ON-TRENT: NORTH STAFFORDSHIRE ROYAL INFIRMARY.—H.S.

SUNDERLAND: ROYAL INFIRMARY.—H.P. (male).

TRURO: ROYAL CORNWALL INFIRMARY.—H.S. (male).

WALSALL GENERAL HOSPITAL.—H.S.

WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, N.W.1.—Junior Non-resident H.S.

WORCESTER GENERAL INFIRMARY.—J.H.S.

CERTIFYING FACTORY SURGEONS.—The appointments at Tooting (London) and Cromarty (Ross and Cromarty) are vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT for the Bedford, Hitchin, Luton, Biggleswade, Huntingdon, Peterborough, Thrapston, and Oundle County Courts. Applications to the Private Secretary, Home Office, Whitehall, S.W.1, by May 27th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS

McCAY, F. H., M.B., B.Chir.Cantab., Resident Medical Officer at the Presidency General Hospital, Calcutta.

CERTIFYING FACTORY SURGEONS.—S. F. Fouracre, M.B., B.S.Lond., for the Withernsea District, York; J. Franks, M.R.C.S., L.R.C.P., for the Winchester District, Southampton; A. Macphail, M.B., Ch.B., for the Stornoway District, Ross and Cromarty; L. B. Maxwell, M.B., B.Ch.Camb., for the Sutton District, Surrey; L. E. Owen, M.R.C.S., L.R.C.P., for the Clynderwen District, Pembroke.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.1.—*Hunterian Lectures* by Sir Arthur Keith: Mon. and Wed., 5 p.m., and Fri., 4 p.m., Human Monsters and Malformations.

ROYAL SOCIETY OF MEDICINE

Section of Psychiatry.—Tues., 8.30 p.m., Annual General Meeting. Paper, Dr. Emanuel Miller: Eiditic Image as an Undertone of Psychosis.

Section of Surgery: Subsection of Proctology.—Wed., 5 p.m., Annual General Meeting. Discussion: The Injection Treatment of Piles. The annual dinner will be held at the Langham Hotel at 8.15 p.m.

Section of Neurology.—Thurs., 8.30 p.m., Annual General Meeting. Specimens.

Section of Obstetrics and Gynaecology.—Fri., 8 p.m., Annual General Meeting. Discussion: The Relative Value of the Induction of Premature Labour, Test Labour, and Caesarean Section in the Treatment of Minor Degrees of Contracted Pelvis. Openers, Mr. R. Alan Brews, Mr. G. F. Gibberd, Dr. J. W. A. Hunter (Manchester), Dr. A. Morris-Jones, Dr. Margaret Salmond, Dr. J. Gardener Wigley, and Dr. A. J. Wrigley.

CHADWICK PUBLIC LECTURE at Institute of Mechanical Engineers, Storey's Gate, Westminster, S.W., Fri., 8 p.m. Professor E. L. Collis: The Coal Miner, his Health and Occupational Diseases.

HARVEIAN SOCIETY, Town Hall, Paddington, W.—Thurs., 8.30 p.m., Discussion: Indication and Method of Treatment in Calcium Therapy. To be opened by Dr. Donald Hunter.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—*Mon.*, 8 p.m., Annual General Meeting. 9 p.m., Annual Oration on Medicine as a Science and an Art, by Sir John Rose Bradford, Bt., followed by a conversazione.

PADDINGTON MEDICAL SOCIETY, Great Western Royal Hotel, Paddington.—Tues., 9 p.m., Address by Dr. E. C. Morland (assistant editor of the *Lancet*): Medical Journalism.

BIRMINGHAM UNIVERSITY.—Wed., 4 p.m., Sir Hubert Bond: Some Correlations between General and Psychological Medicine.

POST-GRADUATE COURSES AND LECTURES

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—At *Medical Society of London*, 11, Chandos Street, W.1: M.R.C.P. Special Evening Lectures: Tues., 8.30 p.m., Dr. Donald Hunter, Bone Growth and Metabolism—Medical Aspects of Diseases of Bones; Fri., 8.30 p.m., Dr. L. J. Witts, Achlorhydria and Anaemia; tickets, 10s. 6d. each lecture, may be taken at the lecture hall. *British Red Cross Rheumatism Clinic*, Pete Place, Regent's Park: Mon., 2 p.m., Dr. B. S. Nisse, Demonstration in Women's Out-patient Department; no tickets necessary. *St Mark's Hospital*, City Road, E.C.: Tues., 5 p.m., Demonstration in Out-patient Department by Mr. W. B. Gabriel; no tickets required. *Prince of Wales's Hospital*, Tottenham, N.15: Special all-day Post-Graduate Course in General Medicine, Surgery, and the Special Departments; Demonstrations, Operations, Lectures; tickets from the Fellowship of Medicine. *City of London Hospital for Diseases of the Heart and Lungs*, Victoria Park, E.: All-day Post-Graduate Course in Diseases of the Chest; Lectures and Demonstrations; tickets from the Fellowship of Medicine. *Royal Eye Hospital*, Southwark, S.E.1: Afternoon Course in Ophthalmology, Demonstrations daily at 3 p.m.; tickets from the Fellowship of Medicine. *St. John's Hospital*, Leicester Square, W.C.: Afternoon and Evening Demonstrations in Skin Diseases; tickets from the Fellowship of Medicine. Copies of all Syllabuses from the Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—*Daily*, Intensive Course.

CITY OF LONDON MATERNITY HOSPITAL, City Road, E.C.1.—Thurs., 5 p.m., Dr. H. Burt-White, Diagnosis and Treatment of Uterine Infection.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital for Diseases of the Skin, Leicester Square, W.C.2.—Mon., 5 p.m., Dr. H. MacCormac, Treatment of Syphilis. Tues., 5 p.m., Dr. W. N. Goldsmith, The Nervous System in Relation to Skin Diseases. Thurs., 5 p.m., Dr. J. M. H. MacLeod, Infections of the Skin with Yeast-like Organisms. Fri., 5 p.m., Dr. W. Knowsley Sibley, Alopecia.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Keppel Street, W.C.1.—Mon., 5 p.m., Dr. C. F. White, Port Work. Wed., 5 p.m., Dr. Bernard Hart, Mental Hygiene. Fri., 5 p.m., Professor E. L. Collis, Industrial Hygiene—Respiratory Diseases.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon. to Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Dr. Greenfield, The Cerebro-spinal Fluid; 3.30 p.m., Mr. W. Noble, Defects in the Visual Fields. Tues., 3.30 p.m., Mr. Armour, Head Injuries. Thurs., 3.30 p.m., Dr. Critchley, Cerebral Vascular Disease. Fri., 3.30 p.m., Mr. Elmquist, Demonstration of Reeducative Exercises.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics, Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, and Throat . . . . 2.30 to 5 p.m., Medical, Skin, and Thurs., 11.30 a.m., Medical, Surgical, Throat, and Children's Clinics, Operations. Fri., 10.30 a.m., Throat Clinics; 2.30 to 5 p.m., Medical and Surgical Clinics, Operations.

ST. PAUL'S HOSPITAL FOR GENITO-URINARY DISEASES, Endell Street, W.C.2.—Wed., 4.30 p.m., Mr. H. P. Winsbury White, Modern Methods of Diagnosis in the Upper Urinary Tract (Lantern Demonstration).

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.—Wed., 4 p.m., Dr. H. Crichton-Miller, Functional Neurosis in General Practice.

BIRMINGHAM UNIVERSITY CLINICAL BOARD.—At General Hospital: Tues., 3.30 p.m., Mr. B. T. Rose, Common Disorders of the Rectum and Anus. At Queen's Hospital: Fri., 3.30 p.m., Dr. P. Cloake, Demonstration of Medical Cases.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Western Infirmary: Wed., 4.15 p.m., Dr. J. R. Riddell and Dr. S. D. Scott Park, Radiation Therapy.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon., Tues., Wed., Thurs., and Fri., 11.30 a.m.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Dr. T. H. Oliver, Rheumatoid Arthritis. Fri., 4.15 p.m., Mr. A. H. Burgess, Demonstration of Surgical Cases.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL.—Wed., 4.30 p.m., Dr. H. Morris, Demonstration of Cases in the X-ray Department.

British Medical Association

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE TAVISTOCK SQUARE, W.C.1

Departments

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).

EDITOR, BRITISH MEDICAL JOURNAL (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 7, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24361 *Edinburgh*).

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association

MAY

8 Fri. London: Public Health Committee, 2.30 p.m.

10 Sun. West Suffolk Division: West Suffolk Hospital, Bury St. Edmunds, 11 a.m. Sir Thomas Horder's Clinic.

12 Tues. Barnet Division: Cottage Hospital, Barnet, 4 p.m. Business Meeting.
St. Pancras Division: B.M.A. House, Tavistock Square, 9 p.m. Annual General Meeting.

13 Wed. Portsmouth Division: Queen's Hotel, Southsea, 7.45 p.m. Annual Dinner.
Southampton Division: Stoneham Golf Course. Bogey Competition for Divisional Stage of Treasurer's Cup Golf Competition.

14 Thurs. London: Journal Committee, 2.30 p.m.
Cleveland Division: Zetland Hotel, Saltburn, 3 p.m. *Annual Meeting.*
Hampstead Division: Hampstead General Hospital, 8.30 p.m.
West Suffolk Division: Worlington. Annual Golf Competition.

15 Fri. Bedfordshire Division: Bedford County Hospital, 3 p.m. General Meeting.
City Division: Metropolitan Hospital, Kingsland Road, E., 4.15 p.m. Clinical Meeting.

19 Tues. City Division: Metropolitan Hospital, Kingsland Road, E., 9.30 p.m. General Business Meeting.
Derby Division: Board Room, Derbyshire Royal Infirmary, 3.30 p.m. General Meeting.

20 Wed. London: Finance Committee, 2.30 p.m.
Willesden Division: Willesden General Hospital, 9 p.m. Annual Meeting.

21 Thurs. London: Charities Committee, 2.30 p.m.

28 Thurs. London: Insurance Acts Committee, Rural Practitioners' Subcommittee, 2.30 p.m.
West Norfolk Division: Globe Hotel, King's Lynn, 7.30 for 8 p.m. Annual Dinner. Address by Dr. T. H. Pear.

BIRTHS, MARRIAGES, AND DEATHS

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS

ELDER.—On April 30th, 1931, at 27, Welbeck Street, W.1, to Marjorie, wife of Howard H. A. Elder, M.B., Ch.B., 225, Portland Road, South Norwood, S.E.25, a son.

GALLAGHER.—On May 1st, 1931, at Talfourd House, Mount Pleasant Road, Hastings, to Dorothy (née Hammick), wife of Dr. Charles E. Gallagher, a son.

MARRIAGE

GRAHAM—MACLEOD.—On April 15th, 1931, at Lybster, by the Rev. R. Wilson, M.A., Frank Ogle Graham, M.B., Ch.B., son of Alderman and Mrs. J. T. Graham of Hartlepool, to Annie Campbell Mackay MacLeod, M.A., only daughter of Mr. and Mrs. J. R. MacLeod of Lybster, Caithness.

DEATHS

GODWIN.—On April 28th, 1931, at Hampstead, Dr. W. H. Fenn Godwin, Captain R.A.M.C. (ret.), only surviving son of the late Captain John Godwin, R.E., Military Knight of Windsor.

GRIFFITHS.—On May 1st, at his residence, Ynyslas, Picton Avenue, Porthcawl, Glam., Evan John Griffiths, M.B., Ch.B.Ed., *D.P.H.*, the dearly loved husband of Bet Griffiths, and late M.O.H. for Pontypridd.

KAY.—On April 22nd, 1931, suddenly, *in London*, Walter Smith Kay, M.D., of Harrogate, late Medical Superintendent of West Riding Mental Hospital, Wadsley, Sheffield.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

435 Cardiac Disease and Urinary Retention

S. G. STEWART (*Amer. Journ. Med. Sci.*, March, 1931, p. 362) discusses the relations between chronic bladder obstruction and disease of the heart, reviewing the results obtained from bladder drainage in a series of 40 prostatic patients with cardiac symptoms. Decompensation occurred in 12; all except 3 of these were greatly improved by prostatectomy, compensation being restored and maintained without the aid of digitalis. In 3 out of 5 cases of auricular fibrillation the rhythm became regular again after bladder drainage, and has remained so. Partial heart-block was present in two cases; the conduction time became normal in one after bladder drainage, and in the other after prostatectomy. Digitalis was not used in either instance. Extrasystoles were numerous in 15 cases, but disappeared completely with bladder drainage in all except one. Stewart remarks that, since in 22 out of the 40 cases in this series cardiac arrhythmias developed, and were corrected in all but 3 by the relief of the urinary obstruction, there must be a definite relation between bladder retention and the functioning of the heart. Arterio-sclerosis was an outstanding feature in this series, occurring in 28 cases, retinal arterio-sclerosis being prominent in 24. Advanced coronary sclerosis was found in 4 out of 5 necropsy cases, and moderate sclerosis in the fifth. The average age of these patients was 67, and the systolic blood pressure never rose above 160. The author insists on the need for adequate urological histories being obtained when dealing with male cardiac patients past middle life. He discusses the risk of catheter infection, maintaining that no serious complications need be expected necessarily from the use of the permanent catheter, although the coexistence of oedema and diabetes constitutes a real danger signal.

436 The Negative Phase in Immunity to Diphtheria

R. PRIGGE (*Med. Klinik*, March 20th, 1931, p. 419) records his experiments on guinea-pigs to determine the presence of a negative phase after active immunization against diphtheria, and comes to the following conclusions. (1) Guinea-pigs with formolized vaccines against diphtheria toxin or diphtheria bacilli do not show an increased susceptibility to diphtheria toxin, or increased liability to be infected by diphtheria bacilli, provided the dose of vaccine has not been too high. (2) An increased susceptibility is produced only by a considerable overdosage of vaccine. It is not yet decided whether this should be regarded as a negative phase in the ordinary sense of the term, or as damage due to excessive dosage. (3) In the active immunization of human beings the dose of vaccine is 100 to 200 times smaller than that used in experimental work on animals without causing any hypersensitiveness. It can therefore be concluded with a probability bordering on certainty that the occurrence of a negative phase can be excluded in the active immunization of human beings against diphtheria.

437 Essential or Familial Haemophilia

P. CHEVALLIER and R. GOLDBERG (*Rev. de Méd.*, February, 1931, p. 126) preface a study of essential haemophilia with descriptions of its anthropological characters, its various predispositions, and its pathology. In this disease, which is confined principally to males, the subject is apparently in perfect health; a haemophilic facies does not exist. There are two types of haemorrhage, external and internal, or the haematoma. Large haematomas tinge the skin yellow and are accompanied by urobilinuria; the haemorrhages heal as in normal persons. The haemophilic bleeds easily, often, and at any organ, though the bleeding is almost always localized to a single site; the haemorrhages are often provoked by the slightest cause. Retarded coagulation of the blood is a characteristic phenomenon; no other haemic changes occur, and all the signs of purpura haemorrhagica are absent. Vascular fragility, chiefly of the arterioles, is present. Haemophilia is always manifested in early life; in 75 per cent. of cases the first bleeding occurred before the age of 2 and never after 22. Though not progressive, the disease is incurable, and death is often an early sequel; consequently, the prognosis is always grave. Various local cutaneous and muscular manifestations are described by the authors, and the differential diagnosis is discussed. Treatment is unsatisfactory; it comprises eugenic precautions, cure of the diathesis, and treatment of the haemorrhages. Many methods have been employed to establish diathetic cure: hygienic and dietetic measures; vegetable and animal extracts; and various drugs, such as calcium chloride and peptone. Treatment of the haemorrhages is general and local. The former includes the injection of serum or of whole blood, of emetine, and of pituitary extract. Compresses soaked in serum and ice are good local measures. Haematomas should be incised and filled with some coagulant. Cauterization is contraindicated, since the subsequent separation of the scar might prove dangerous.

438 Hypochromic Anaemia with Achlorhydria

T. R. WAUGH (*Arch. Int. Med.*, January, 1931, p. 71) describes cases of anaemia which he regards as a special disease entity quite distinct from chlorosis or pernicious anaemia, and without association with the anaemia of haemorrhage. The chief feature is hypochromia; the red cells are moderately reduced in number to 3.5 or 4 millions per c.mm., but the haemoglobin is diminished by 30 to 60 per cent., and there is consequently a low colour index. These changes are associated with hypochlorhydria or even complete absence of free hydrochloric acid after a test meal. All the patients were women of 35 to 45 years of age, and no case occurred after the menopause. The clinical symptoms were not severe and were not relieved by liver diet; treatment with iron or arsenic gave doubtful results, and any benefit from transfusion was only temporary. The condition is very chronic, lasting over a period of years, but no fatal cases are reported.

439 Etiology of Chorea

ANDRÉ-THOMAS (*Presse Méd.*, March 4th, 1931, p. 337) reports a case in which spontaneous jerky actions supervened in the left half of the body, except in the muscles of the face, neck, and trunk, after a sharp attack of left hemiplegia, and after the power of movement had clearly been restored. These movements resembled in many respects the motor agitation manifested in young choreics. For various reasons the author classifies this case as one of post-hemiplegic chorea, and discusses the pathology of that disease. Lesions in many cerebral centres have been advanced as the origin of choreic movements; these are enumerated. Monakow has concluded, from the diversity in the sites of the lesions and their symptomatology, that hemichorea assumes very different aspects, corresponding to the various areas affected. André-Thomas believes that the cerebral cortex plays a part in the production of choreic movements. This lesion is not the sole factor to be considered in the pathology of the disease. Many other contingencies intervene, among which are psycho-emotive variations, and endocrine and humoral disturbances. Clinical and anatomical studies of chorea, and of the conditions which provoke the appearance of choreic movements, demonstrate an abnormal sensitivity of the cortical centres governing such acts. This enhanced sensitivity is not peculiar to chorea, but can develop in various affections of the centres, it varies in form and localization with the nature and site of the

initial lesion. The cortex need not be directly involved by the lesion; the symptoms can be the result of a lesion more or less removed from the centres apparently implicated.

440 Gastric Syphilis simulating Carcinoma

G. BELL and A. H. TEBBUTT (*Med. Journ. Australia*, January 17th, 1931, p. 81) report the case of a naval stoker, aged 37, who complained of dull aching pain over the epigastrium, and sickness soon after food. The duration of the illness was six months, and there was no history of venereal disease. He had lost 2 stone in weight, and his bowels were constipated and irregular. There was tenderness over the pyloric area but no palpable mass. An *x*-ray examination revealed a subtotal pyloric obstruction and a large filling defect of the pylorus, which suggested malignant disease. A fractional test meal showed a fasting residue consisting of 200 c.cm. of bile-stained fluid with much muco-pus and no acid. Occult blood was present. After a test breakfast there was neither hydrochloric nor lactic acid. The stomach did not empty in three hours. Malignant disease of the pyloric end of the stomach was diagnosed, but the Wassermann test gave a strongly positive reaction. The patient was given intensive antisyphilitic treatment for three weeks, and was then submitted to laparotomy. The pyloric end of the stomach was found to be infiltrated and thickened; it was resected and a gastro-enterostomy was performed. Recovery was uneventful. Naked-eye and microscopical examination showed erosion of the mucosa not involving the muscularis. There was marked infiltration of the submucosa by round cells, plasma cells, endothelial cells, and eosinophils. In the muscularis and the submucosa were found giant-cell systems typical of tuberculosis. Marked obliterative endarteritis was found in several vessels.

441 Deafness in Trichinosis

H. BOSCH (*Münch. med. Woch.*, March 13th, 1931, p. 431) records the case of a woman, aged 51, in whom an attack of trichinosis was complicated by deafness in both ears. Otitis media could be excluded, and Bosch comes to the conclusion that the condition is similar to that met with in other infectious diseases, such as typhoid fever, mumps, malaria, influenza, scarlet fever, and diphtheria, in which toxic neuritis occurs. The condition was not due to direct damage to the auditory apparatus by trichinellae, or to any therapeutic cause, since only indifferent drugs were used.

Surgery

442 Treatment of Varicose Veins

C. P. LOPEZ (*Bull. et Mém. Soc. Chir. de Paris*, February 6th, 1931, p. 57) enumerates the various solutions which may be injected for the treatment of varicose veins; he points out that the ideal injection must be sterile, and it must be performed with sufficient pressure to fill even the smallest varicose vessel. In addition, it must produce thrombosis and sclerosis of the veins, and must be antiseptic to obviate any risk of suppuration in the venous thrombus. Ether, it is stated, fulfils all these conditions. At a temperature of about 35° C. it becomes a gas, and exerts enough pressure to penetrate the varicose venous system completely. A tight tourniquet placed at the top of the limb undergoing treatment prevents the ether from entering the general circulation. Within an hour after the injection the ether is absorbed, and has so completely disappeared that it is possible to remove the tourniquet. After the injection the veins become turgid as if they were going to burst, and pressure with the finger gives the sensation of gas in the veins. After fifty or sixty minutes the swelling disappears, while the veins become hard. The patient must remain in bed for four to eight days following the injection. Sometimes at different points in the vein extravasations of blood appear; these are later detached as small scabs, which may leave a scar. At first the varicose vein will have the appearance of a cord, which is hard to the touch but not painful, but at the end of several months the vein shrinks, and gradually disappears. One hour before the ether is injected an injection of 1 cg. of morphine is given. As a general rule two injections of 1 to 1½ c.cm. of ether are found to be sufficient, although a third may be given if necessary. Twenty-two cases have been treated by this method, but no end-results or clinical observations are given.

443 As a radical cure for varices, H. JAUSION, E. CARROT, and A. GERVAIS (*Bull. Soc. Franç. de Derm. et de Syph.*, February, 1931, p. 171) recommend intravenous injections of glycerin diluted to one-third. While the excessive viscosity of too concentrated solutions should be avoided, yet a sufficient strength must be used. The authors recommend a mixture of 126 grams of 98 per cent. anhydrous glycerin (which must be free from arsenic) with 200 c.cm. of distilled water; one drop of Ziehl's carbolized fuchsine is added for each c.cm. to ensure sterility. If desired, the solution can be further sterilized by autoclaving at 100° C. for half an hour. Large doses (10 to 20 c.cm.) should be injected quickly in about half a minute to obtain the best results. The injections should be repeated every eight days, with an interval of about a week between each treatment, till cure results; as a rule two to four treatments suffice. In the doses prescribed the mixture is not toxic or escharotic. The tolerance for it is perfect, no shock follows the injection, and the phlebosclerosis is rapid and complete. In the last few months 57 patients of all ages and both sexes have been satisfactorily treated by this method; details of four of these are given.

444 Treatment of Parotid Epithelioma

Tumours of the parotid are usually malignant and of grave prognosis. Rapid recurrence as a rule follows surgical intervention, and the radio-resistance of the neoplasms often renders radiation useless. J. BELOT and G. MÉNÉGAUX (*Journ. de Radiol. et d'Electrol.*, February, 1931, p. 90) report a case of epithelioma of the parotid in which cure has persisted for twenty-six months after irradiation. A woman, aged 62, had a small tumour in the left parotid region in front of the tragus. This was excised, and proved to be a muciparous epithelioma of cylindrome type, a tumour of restricted malignancy. After the operation a paresis in the upper distribution of the facial nerve ensued. A month later there was recurrence under the cicatrix, and intensive irradiation was then given; for four weeks 5,000 R were applied directly to the left side, and 3,000 R to the right in order to reduce the dose absorbed by the skin on the left. After this treatment the patient showed considerable asthenia and complained of great dryness of the mouth. At the present date there is no trace of any recurrence, the general health is excellent, and the facial paralysis has disappeared. Only a slight lacrymation and dryness of the mouth persist.

445 Vesical Tumours

R. F. MATHEWS (*Amer. Journ. Surg.*, February, 1931, p. 343) defines three groups of bladder tumours: (1) growths, either papillomatous or pedunculated, which project well into the bladder; (2) sessile growths which spread laterally along the bladder mucosa and project less into the bladder; and (3) infiltrating growths, which invade every layer of the bladder and of the surrounding bladder tissue. Bladder tumours are either benign, the papilloma being the most common of this type, or malignant, such as malignant papilloma, papillary carcinoma, adenocarcinoma, and epithelioma. The benign papilloma is always intravesical and begins as a tiny excrescence on the surface of the epithelium. Later on this frequently becomes malignant, with thickening of the epithelial layers, multiplication of the layers, and fusion of the papillae. Bladder tumours are most common in the region of the trigone and ureteral orifices, and occur in males and females in the proportion of 4 to 1. Secondary effects of bladder tumours are bleeding, obstruction in the ureter or urethra, necrosis, ulceration, encrustation, stone formation, infiltration of the bladder wall, and infection. Painless haematuria is usually the first and only symptom;

it occurs in 90 per cent. of cases. It is generally intermittent, and cystoscopy should be undertaken at a time when the bleeding has stopped in order that the tumour may more easily be identified. Treatment depends on the nature and location of the tumour; excision or resection did not relieve the condition, and in some cases aggravated the symptoms, there being superadded implantations and metastasis. Radium in the form of radon seeds, used in conjunction with other methods of treatment, has proved satisfactory. High-frequency current through the cystoscope, or by suprapubic operation, has worked well in apparently hopeless cases, and for benign growths fulguration with the bipolar high-frequency current is the treatment of choice. Deep *x*-ray therapy can be used successfully as an adjuvant to other types of treatment, and relieves pain. The mortality rate for all types of carcinomatous tumours of the bladder was 75 per cent.; in cases of malignant papilloma it was 12 per cent., and in cases of benign papilloma there were no deaths.

446 Treatment of Cancer of the Prostate and Bladder

A. SANCHIZ and A. TORRA HUBERTI (*Zeit. f. Urol.*, Heft 3, 1931, p. 196), who record six illustrative cases, conclude that the question of complete recovery in carcinoma of the bladder and prostate is not yet settled. Treatment by the insertion of radium tubes directly into the tumour masses appears to be correct, judging from the objective results and what is found on palpation. The chief indication for this procedure is to be found in early cases. In advanced cases, in which the technique is more dangerous, the treatment is not so clearly indicated. The hypogastric route appears to be the most suitable for the insertion of the radium tubes. At the present time a combined method of treatment seems to offer the best prospect—namely, the association of radium with the application of other physical agents or with a suitable surgical operation.

447 Chondromas of the Hand

F. J. VIDAL (*Rev. med. de Barcelona*, January, 1931, p. 34), who records two illustrative cases in girls aged 14 and 15, states that chondromas are comparatively rare tumours which are most frequently localized in the hand, and then in decreasing order of frequency in the scapula, femur, long bones, spine, ribs, cranium, bones of face, and hyoid. They are sometimes single, but are usually multiple, and form spherical, lobulated, or diffuse masses of homogeneous, semitransparent opaline tissue. The tumour may undergo a calcareous, cystic, or malignant change. Operation is indicated in the case of large chondromas, or for aesthetic reasons, as well as in cases in which malignant degeneration has occurred; it consists in removing the tumour and scraping the bone. The insertion of bone grafts, as recommended by Michon, is unnecessary.

448 Congenital Diaphragmatic Hernia

J. QUÉNU (*Bull. et Mém. Soc. Nat. de Chir.*, March 7th, 1931, p. 307) reports a case of congenital diaphragmatic hernia in a woman, aged 47, which was discovered after a fall. The first symptoms of pain and sickness occurred during the meal immediately following the fall, but they subsided and did not recur until a year later, when the patient was treated for cholecystitis and then for colitis. Further attacks of pain followed at intervals of a few months, and in each case the symptoms appeared at the end of a meal. There was acute pain in the epigastrium which was referred to the back and the left shoulder, and was accompanied by nausea and vomiting. The patient had lost weight, and radiography showed a bilocular stomach of which the upper pouch was above the diaphragm; a diagnosis of left diaphragmatic hernia was made. Laparotomy confirmed the *x*-ray and clinical findings that there was an incomplete herniation of the stomach through the diaphragm. At the operation it was found that the hernial opening was postero-internal at a little distance from the oesophageal orifice, that the opening would only admit two fingers, and that the hernia did not contain the large intestine. The thoracic portion of the stomach was drawn down into the abdomen, the hernial sac was resected, and the opening in the diaphragm was closed by interrupted sutures. Convalescence was comparatively uneventful, and the patient made a good recovery. Radiography six months later showed that the movement of the diaphragm had greatly improved.

449 Osteomyelitis Variolosa

C. F. EIKENBARY and J. F. LECOCQ (*Journ. Amer. Med. Assoc.*, February 21st, 1931, p. 585), who record three illustrative cases in children aged 7, 11, and 14, state that in addition to ordinary acute osteomyelitis the virus of small-pox may undoubtedly cause a non-suppurative osteomyelitis. The virus is situated apparently in the epiphyseal lines of the long bones; it produces an aseptic necrosis which chiefly affects the growing cartilage cells of the epiphyseal lines and causes premature closures. The diagnosis of osteomyelitis is often not made during the acute stage, and it is only after the acute attack that the deformities caused by inequality of the growth of the long bones show themselves. The deformities do not occur in adults because bone growth has ceased, and the small-pox virus apparently affects only the epiphyseal lines of bone. In obscure deformities of bone, therefore, a careful inquiry should be made as to an attack of small-pox in childhood.

Therapeutics

450 Nascent Iodine in Pulmonary Tuberculosis

J. G. MACKERETH (*New Zealand Med. Journ.*, February, 1931, p. 23) strongly commends the treatment of pulmonary tuberculosis with nascent iodine. In the first week he gives 10 grains of potassium iodide in 1 oz. of water at 7 a.m., following this two hours later with 1 oz. of liquor chlorini in half a pint of lemonade or water. In the second week the amount of potassium iodide is doubled; the chlorine dose is given at 9 a.m. and repeated at 11 a.m. In the third week the potassium iodide is increased to 30 grains, and three doses of the chlorine solution are administered at two-hourly intervals; this programme is then maintained so long as is found desirable, no further increases being necessary. The only untoward symptom noted was dyspepsia, generally in the form of the aggravation of pre-existing dyspeptic symptoms. In no case was dyspepsia originated by the treatment. In the first and second weeks there was some rise in temperature occasionally, and some increase in cough, but these symptoms were never alarming, and soon settled down. Beneficial results appeared within the first week in many cases, but improvement was usually not definite until the end of the third week, the toxic symptoms subsiding, and the bacilli beginning to disappear from the sputum. The author considers this form of treatment antiseptic rather than specific, but he denies that it is any less effective in primary tuberculous cases before the secondary organisms have appeared, provided that they are open cases. He believes that it is particularly indicated for the more advanced type of case, and should enable such patients to be restored more quickly from the hospital to ambulant treatment.

451 Combined Treatment of General Paralysis

A. JORDAN (*Rev. Méd. de la Suisse Romande*, February 25th, 1931, p. 99) describes the results obtained from stovarsol and malarial treatment in general paralysis of the insane. Between 1924 and 1928, 22 cases of general paralysis were treated with stovarsol; of these, 7 patients were mentally excited or megalomaniac, 9 were feeble-minded, and 6 had dementia. In the first group, three patients were able to resume social life, two were improved, and two remained stationary. In the second group, one patient became very much better, three were improved, three remained stationary, and two died. In the third group, one patient was much improved, four remained stationary, and one died. Jordan regards cachexia, heart disease, and active tuberculosis as contra-indications to stovarsol treatment; he employs various methods in selected cases—simple malarial infection, or a

subsequent course of arsenobenzol treatment, with or without malarial reinfection. Of fourteen patients who were first treated with malaria, next with prolonged stovarsal, and then again with malaria, five resumed social life (two relapsed but were cured subsequently), two recovered sufficiently to be discharged, another patient improved but died of intercurrent disease, and six patients remain stationary and are still under treatment. The author remarks that if these results are not considered so brilliant as others recorded elsewhere, the relative failure is due to the advanced stage of the disease in these patients on admission, and also to the fact that all patients whose physical health justified treatment (regardless of their mental condition) were inoculated. In spite of some inevitable failures, there have been interesting results and a notable amelioration in several cases, compared with the results obtained previously with tryparsamide. He considers that the combined method—stovarsol and malarial therapy—constitutes a real advance in the treatment of general paralysis of the insane.

452 Vaccine Treatment of Rheumatic Fever

R. SCHNABELE (*Acta Rheumatologica*, February, 1931, p. 35) records his observations on 94 cases of acute articular rheumatism in patients aged from 20 to 23 who have been under his care during the last three years. Of these, 69 had been treated by salicylates and 25 by Bertrand's vaccine. The results were as follows. Of the 69 patients treated by salicylates, 49 who had slight or moderate attacks made an uncomplicated recovery; 13 showed a protracted course, accompanied by persistent fever and pain, but ultimately recovered after a long convalescence and a state of pronounced anaemia, and with a heart that required watching; and 7 developed cardiac complications, or with intolerant of salicylates. Of the 25 patients treated by vaccine, all but one made an excellent recovery; six of them had previously been treated by salicylates without any result. A cure was usually obtained on the seventh to the ninth day without any cardiac complications or reaction.

453 Sodium Iodide in Herpes Zoster

E. W. REGGLES (*Arch. Derm. and Syph.*, March, 1931, p. 472) records fifteen cases of herpes zoster in which the intravenous administration of sodium iodide appeared to act as a specific, since they all cleared up in from ten to seventeen days with rapid relief of the pain. The contents of a 20 c.cm. ampoule containing 2 grams of sodium iodide were injected intravenously on the first, second, fourth, and seventh days, though two cases required only two injections and four only three. With the exception of one case in which the condition affected the left malar prominence, all were given quartz light and a dusting powder consisting of zinc oxide (½ oz.), camphor powder (1½ drachms), corn starch (1 oz.), and morphine sulphate (3 grains), which had been the author's method of treatment for several years previously, without any apparent effect beyond some amelioration of the pain. Richmond of Texas reported some years ago a case of ophthalmic zoster which cleared up in six days following two intravenous injections of 2 grams of sodium iodide.

454 Plasmoquine in Malaria

C. R. AMIES (*Bull. Inst. Med. Research Fed. Malay States*, 1930, No. 5) reports an investigation into the use of plasmoquine in subtertian malaria, with special reference to its effect on the viability of the gametocytes of *Plasmodium falciparum*, and on the development of the crescents. To 84 patients suffering from acute malaria were given 20-grain doses of quinine hydrochloride and two-thirds of a grain of plasmoquine daily for ten days. A small control series of 20 patients received the quinine doses without plasmoquine. While it seemed clear that plasmoquine could not prevent almost fully matured crescents from appearing in the peripheral blood, it was evident that gametocytes in the early stages of development were destroyed. No support was obtained for the view that this drug intensified the action of quinine on the asexual forms of *P. falciparum*, but Amies recommends that it should be administered as a preventive as soon as the patient comes under observation, since two doses, each of one-third grain, will render non-viable all the crescents in the blood of a carrier. Furthermore, the blood remains non-infective to mosquitos for at least three days, and therefore economy can be secured with safety by administering plasmoquine on every third day. The author thinks that the dosage of quinine could simultaneously be cut down to 20 grains daily, except in the more pernicious types. No toxaemia was caused by the treatment.

Neurology and Psychology

455 Bilateral Facial Paraspasm

L. STIENON (*Bruxelles-Médical*, March 22nd, 1931, p. 604) reports the case of a man, 72 years old, who was first attacked in 1916 by crises of contraction of both orbicularis palpebrarum muscles. These lasted for some months and then stopped, but shortly afterwards facial spasm developed. Both sterno-cleido-mastoid muscles became tense and contracted; the buccinators and all the facial muscles are affected by clonic, disordered movements. The patient carries his head inclined downwards and with a slight deviation to the right, and is unable to distinguish objects without forcibly opening the eyes. The face is fixed in a permanent grimace, and the labial commissures are spasmodically drawn outwards. These spasms cannot be controlled; efforts to do so increase them, and relief is only obtained by lying down. The patient is otherwise healthy. For some years he has suffered from a ranula, and when 20 years old contracted syphilis, of which he now shows no signs. This rare condition was first described by Sicard and Hagenau in 1925, and named by them bilateral facial paraspasm. Its etiology and pathology are quite unknown; syphilis is probably not a factor. It is apparently due to a dysfunction of the central nuclei of the facial nerves, and secondarily of other motor nuclei of the mesencephalon; in the present case the spinal medullary nucleus was also involved. Stienon points out the similarity of this disease to Parkinsonism in many respects. Both maladies are incurable and do not respond to any treatment. In bilateral facial paraspasm suggestion therapy alone appears to give some transitory relief.

456 Trauma of the Brachial Plexus and its Roots

Lesions in any part of the brachial plexus tend to produce a complex clinical picture owing to its complex origin, formation, and various other factors. Each case must be considered individually. L. M. TOCANTINS (*Journ. Nerv. and Ment. Dis.*, March, 1931, p. 258) describes a case in which the plexus was injured by violent traction, and external (or backward) rotation of the arm. Undoubtedly some laceration of the fascia and epineurium of the first thoracic root, and possibly of the eighth cervical, occurred with blood extravasation and stretching of the roots between the ganglia and the lower cord of the plexus. Another case is briefly cited in which depression of the pectoral girdle due to malunion of a fractured clavicle caused strangulation of the lower trunk on the first rib, and neuralgia and motor disabilities in the region supplied by the fifth cervical roots. Tocantins remarks that defective posture, caused by the original injury, as in the present cases, may be the chief factor in perpetuating the symptoms. It may give rise to the cervical rib syndrome, even though such rib is absent. From actual experience and a study of the literature, he concludes that in all cases where the syndrome of compression, traction, and irritation of the brachial plexus or its roots exists, with or without the presence of a cervical rib, vigorous corrective treatment should be applied by braces, exercises, and electrical stimulation. If a rib resection or a decompressive operation is thought necessary, this should be supplemented as far as practicable, unless the loss of muscle tone is due to discontinuity or degeneration of the nerve supply.

457 **Paralysis of the Cranial Nerves**

From a study of 213 cases, LL. H. ZIEGLER (*Minnesota Med.*, December, 1930, p. 880) demonstrates the significance of cranial nerve palsy, and discusses the signs of, and the conditions that may cause; paralysis of each nerve. Complete paralysis of an isolated nerve (except the fourth) is easily recognized; diagnosis is more difficult when more than one is affected. Much pain may exist in the distribution of a nerve such as the fifth or ninth, without demonstrable sensory or motor defects. Partial paralysis, especially of the third, fourth, and sixth nerves, has not been uncommon after influenza. Often the first symptom of nasopharyngeal tumour is pain over the distribution of the fifth nerve, which is usually involved early, the paralysis being generally confined to the side of the tumour. Retroparotid tumours commonly involve the ninth, tenth, eleventh, and sometimes the twelfth nerves, and produce the Jackson or jugular foramen syndrome. Tumours of the acoustic portion of the eighth nerve invariably involve the fifth on the side of the lesion. Syphilis and tuberculosis select especially the nerves to the optic muscles; fractures through the base the seventh and eighth nerves, though others also may be affected. In involvement of a motor nerve, a decision whether the muscle, nerve nucleus, or upper motor neurone is involved may be difficult, though the site of the lesion can often be determined. If the muscle is involved, consideration of its texture may be of value. Widely separated muscles may also exhibit signs of disease. If the nucleus is affected, atrophy and fibrillary twitchings are usually seen in the muscles supplied by the nerve. In lesions of the upper motor neurone, other signs (Hoffman's or Babinski's) are present. The patient's subjective sensations and reactions must be relied on in lesions of sensory nerves. Daily observation is most essential.

Obstetrics and Gynaecology

458 **Radium Treatment of Cancer of the Cervix**

O. CHIEVITZ (*Ugeskrift for Laeger*, February 26th, 1931, p. 208) reviews the results achieved at the radium station in Copenhagen in the 532 cases of cancer of the cervix admitted in the period 1921-27 inclusive. Ten of these cases were excluded from the analysis for various reasons, and two of the patients could not be traced. The condition was operable on the patient's admission (normal mobility of the uterus and no infiltration in the parametrium) in only 27 cases. There were 29 borderline cases. The 466 inoperable cases were classified in three groups, according to the degree of their severity, and as many as 336 were in the third or most inoperable group. It will thus be seen that the material consisted mostly of very advanced cases. About 60 per cent. of the operable and borderline patients came for treatment within three months of the first appearance of symptoms; this was the case in only about 30 per cent. of the inoperable cases. In about 60 per cent. of all the cases the doctor consulted had taken some effective step at once; in the remaining 40 per cent. he had temporized. Of the 27 operable patients kept under observation for at least three years, 19, or 70 per cent., were alive and symptom-free. Of the 29 borderline patients, 16, or 55 per cent., were alive and well after three years. As for the 466 patients in one or other of the three inoperable groups, it was found that 111, or 24 per cent., were alive and well three or more years later. Of the 263 patients with an observation period of at least five years, 51, or 19 per cent., were still alive; these were patients who before radiotherapy was introduced would have been irrevocably lost. When the operable, borderline, and inoperable cases were grouped in one class, it was found that 28 per cent. survived after three years, and 22 per cent. after five years. The author points out that in a comparison of his material with that of other radium institutions the preponderance of advanced cases in his institute should be borne in mind. While he had only 5 per cent. operable cases, Heyman of the Radium Institute in Stockholm had about 22 per cent. of such cases, and in Paris 40 per cent. of Regaud's material was operable when radium treatment was instituted. It would seem that in Denmark patients suffering from cancer of the cervix do not, as a rule, come for treatment, whatever be its character, before the disease has become inoperable.

459 G. G. WARD and LILIAN K. P. FARRAR (*Surg., Gynecol. and Obstet.*, February 15th, 1931, p. 356), reporting a series of 251 cases of cervical carcinoma treated with radium, remark that the leucopenia induced by this therapeutic method necessitates steps being taken to fortify the patient's resistance against septic infection, and so against the unpleasant sequels that may otherwise be associated with the absorption of the post-radiation slough. Each case is carefully examined at monthly intervals after radiation, in order to detect signs of early recurrence in the form of small nodules or erosions, and also to deal with the possible complication of pyometra in its first stages. The authors conclude, as the result of their eleven years' experience, that in carcinoma of the cervix the best results can be obtained by employing the smaller dosages of radium (2,400 to 4,200 mg.-hours), provided that the cases are re-examined at frequent intervals during the subsequent five years, and that recurrences are dealt with at once by renewed radiation. Any cachexia or anaemia should always be treated in advance by blood transfusion if the red corpuscles have fallen below 3,500,000 per c.mm. and the haemoglobin percentage below 50. They hope that high-voltage *x*-ray therapy will prove efficacious in dealing with the 40 per cent. incidence of gland involvement in the advanced cases. In all patients whose disease has progressed beyond the cervix, surgery is prohibited, they add; the authors' own results with radium have been fully equal to the surgical figures of successes, but without the high primary mortality and morbidity. They doubt whether the method of following radium treatment by vaginal hysterectomy and *x*-radiation gives results good enough to compensate for the high primary mortality of this procedure.

460 **Hormone Treatment of Morbid Menstrual Conditions**

According to R. KÖHLER (*Zentralbl. f. Gynäk.*, February 14th, 1931, p. 415) the ovarian preparations which were available before the methods of standardization introduced by Allen and Doisy and Zondek and Aschheim contained ovarian hormone in insignificant amounts, and owed any therapeutic potency which they possessed to their content of foreign proteins, amines, and choline-like substances. As an illustration, the paradoxical findings are reported that uterine bleedings were successfully stopped, in 103 of 142 patients, by a hormone preparation prepared and recommended for the treatment of amenorrhoea; amenorrhoea ceased in 16 out of 24 young women treated by a hormone preparation found effective in the cure of metrostaxis. Using with the recommended therapeutic purpose small doses of the newer and standardized ovarian hormone preparations, Köhler has had favourable results in cases of amenorrhoea, but he has not found the new ovarian or anterior pituitary preparations to be of use in the treatment of dysmenorrhoea. In eight out of ten hypoplastic patients with excessive uterine bleeding, cure followed treatment by the injection of insulin.

461 **Preventability of Eclampsia**

J. P. S. JAMESON (*New Zealand Med. Journ.*, February, 1931, p. 18), commenting on the reports of eclampsia cases for the year 1929, points out that the previous absence of albuminuria affords no certainty that eclampsia may not ensue. In six cases recently examined albumin did not appear in the urine until the day of the eclamptic attack; in one it did not appear until after the attack, and in four cases there was no albuminuria at any time. Out of a total of 84 cases during the year there was a history of previous kidney disease in 7 cases, two of these patients died, a mortality rate of 28·6, as compared with 17 per cent. among those who had not had renal trouble before the eclampsia. The author found cases

of eclamptic attacks coming on entirely unexpectedly in apparently healthy women, instances where approved treatment had failed to arrest the condition in the pre-eclamptic stage, and cases where, after an apparent yielding to treatment at first, there had been a subsequent active flare-up. He concludes, therefore, that this condition is not always preventable in the present state of knowledge.

Pathology

462 Blood Changes during Pregnancy and Parturition

R. REDING and A. SLOSSE (*Bruxelles-Médical*, March 1st, 1931, p. 503) report a series of observations on the changes in the blood reaction, calcium content, and the alkaline reserve during pregnancy and parturition. They suggest that the physiological alkalosis which occurs at the end of gestation and parturition favours the division of malignant cells. The *p*H was estimated by Cullen's colorimetric procedure, and also by Kerridge's method. The total carbonic acid and alkaline reserve were measured by the volumetric apparatus of van Slyke, and the calcium figure was calculated by the formula of Rona and Takahashi. Examinations were made of 72 normal women at monthly intervals during gestation, at the time of parturition, and during the following weeks. The readings showed that the reaction of the blood remained normal until the seventh month, when it began to move slightly towards an alkalosis at the time of parturition, falling during the following weeks and becoming normal again after six months. The alkaline reserve was lowered halfway through pregnancy, and remained so until the first week after the confinement. The calcium content was lowered progressively during the second half of pregnancy, and did not return to the normal until after parturition. Other modifications, such as the colloidal instability of the blood and changes in the surface tension and the permeability of the cellular membrane, appeared at the same period of gestation. The authors suggest that these humoral modifications may throw light on the nature of predisposition to microbial infections at the time of parturition.

463 Glutathione in Ether Narcosis

E. RUGGIERI (*Arch. Ital. di Chir.*, January 31st, 1931, p. 69) describes certain experiments he carried out with regard to the behaviour of glutathione (a dipeptide made up of cystin and glutamic acid) in relation to ether narcosis. He examined the glutathione content in 21 cases before and after operation, and found definite diminution invariably. The length of the operation had apparently little bearing on the result. He examined a few cases of operation under spinal or local anaesthesia so as to eliminate the ether factor; these also showed some diminution of glutathione, but to a far less marked extent, 0.84 as compared with 5.17 mg. after ether. It seems probable that the ether acts directly on the red corpuscles and therefore interferes with organic oxidation. This action very likely plays an important part in post-operative pulmonary affections and in acidosis; it may also partly account for post-anaesthetic hyperglycaemia.

464 The Velocity of the Blood Flow

H. L. BLUMGART (*Medicine*, February, 1931, p. 1) discusses the work of many investigators of the speed of the blood flow in health and disease, and describes the method he has personally employed to determine this velocity. The principle of the method is the injection of radium C, the active deposit of radium, into the antecubital vein, the time of arrival in the other arm being determined by a suitable detecting device. The detection of beta and gamma radiations depends on the fact that these radiations cause ionization of any gas they traverse, and the onset of ionization in a gas is an indication of the presence of the radiation of a member of the radio-active series. By means of a cloud chamber and a modification of the Geiger counting chamber it is possible to estimate the circulating time from the antecubital vein of one arm to the antecubital artery of the other arm, and also to make an automatic registration of the time of arrival of the active deposit in the right heart—"the arm-to-heart time"; the interval between the arrival of active deposit in the right heart and the arteries about the elbow is called the "crude pulmonary circulation time." The advantages and disadvantages of the histamine method are also discussed.

465 Plasma Volume and Acute Infections

E. BUCCIANTI (*Il Policlinico*, Sez. Med., March 1st, 1931, p. 138) has observed variations in the plasma volume of the circulating blood in cases of acute infectious diseases. His examinations included 16 cases of pneumonia, 9 of malaria, and 5 of acute general tuberculosis. The Congo-red method for estimating the blood volume was used. It was assumed that the total blood volume was 7 to 7.5 per cent. of the body weight, the plasma volume was 4 to 4.5 per cent., the blood cells 3 per cent., and the ratio of plasma to cells was 54 to 46 per cent. Buccianti found the greatest variations in the plasma in pneumonia; there was a marked increase during the acute phase which fell to normal or below after the crisis, demonstrating clearly a plasmatic plethora during the febrile period. A similar hyperplasmia was shown in the experimental fever produced by malaria in neurosyphilis, and also in the cases of general tuberculosis. These variations in the plasma volume are linked up with the hydrophilic capacity, and with the protein concentration. The corpuscular content of the blood was unrelated to variations of the plasma volume, but maintained in all cases a level slightly below the normal; a definite fall in the corpuscle content was noted in some cases. Hyperplasmia and a corpuscular diminution during the course of an infection represent, according to Buccianti, an adaptation of the circulating blood to the disease.

466 The Effect of Anaesthesia on Paroxysmal Conditions

D. DANIELOPOLU (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, March 9th, 1931, p. 324), alluding to the work of Troisier and Bouquien on the amelioration of bronchial asthma after general anaesthesia, suggests that spontaneous epilepsy, angina pectoris, and the gastric crises of tabes (all being conditions associated with hyperexcitation of the sympathetic system) may similarly be influenced. Surgical measures for the relief of the last three conditions have been attended by some degree of success, permanent relief being obtained in some cases; this occurs in spite of the fact that the main object of the operations—namely, complete destruction of the part of the sympathetic system involved in the pathological reaction—is seldom achieved. Danielopolu believes that anaesthesia (whether general or spinal) associated with operative shock has a great influence in lowering the sympathetic tone; he ascribes to this the cessation of symptoms so often observed for seven to fifteen days after an operation, whether or not permanent relief ensues. He considers that the stage following this quiescent one, when attacks may recur for a while, is due to traumatic excitation of the sympathetic, and is comparable with post-amputation neuralgias. The lowering of the tonus is well shown by a measurable fall in the blood pressure. He is inclined to ascribe any permanently good results not to complete destruction of part of the reflex arc, but to a temporary break in the vicious circle by the lowering of the tonus by the anaesthesia and shock. As an example of the beneficial results obtained by such a break in a vicious circle, he describes the great reduction in the frequency of attacks of angina obtained after local anaesthesia of the intercostal nerves; if only one expected attack can be averted, the hyperexcitable state of the sympathetic system is reduced. Referring to the cessation of asthmatic and epileptic attacks during febrile states, he concludes that the sympathetic tonus is lowered for the time being, the failure of the subject to react to subcutaneous doses of adrenaline being an index of the fall.

What three doctors say about Odol

1. STOMATITIS

"I have often recommended Odol to patients suffering from Stomatitis and have found it very efficacious."

....., M.R.C.S.Eng., L.R.C.P.Lond.

2. NOSE WORK

"I use a solution of Odol for all nose work, washing out the antrum and sinuses, etc. It is excellent and a soothing antiseptic."

....., M.D.

3. ZYMOTIC DISEASES

"It is most excellent in septic conditions of the mouth such as one finds in the zymotic diseases."

....., M.C., L.R.C.P., M.D.H.

Not only is Odol definitely antiseptic—not only does it destroy disease germs of the mouth and throat—not only does it check the growth of bacteria for hours after use—but it is perfectly safe. Non-toxic, non-caustic, and non-acid, Odol does not injure the teeth or the mucous membrane of the mouth.

Samples and literature will gladly be sent to any member of the Medical Profession on application to:

CRANBUX LIMITED OF NORWICH

Aldwych

DEAF DOCTORS
AND DEAF PATIENTS

have proved "ARDENTE" a boon—a Heart Specialist whose work is so dependent on his hearing writes: *"'Ardente' is a godsend to me"*; without "ARDENTE" he is, to all intents and purposes, "stone" deaf; with "ARDENTE" he carries on his work—what better testimony to "ARDENTE" merit?

Mr. Dent makes a Stethoscope specially for deaf Doctors—the only one of its kind, which is widely used and praised. Doctors whose work lies amongst the deaf prefer to prescribe "ARDENTE" because they know that "ARDENTE" is the only individual method in the whole deaf world (no mass production way can ever succeed with human disabilities) and they know what "ARDENTE" service stands for to the deaf. Many doctors who are deaf use "ARDENTE."

"ARDENTE" is entirely different and uncopyable and succeeds in widely differing cases. A full range covers the needs of those suffering from varying forms and degrees of deafness and tinnitus. Minutely adjusted to the requirements of the case for young, middle-aged, or old, and so sensitive as to have the desired effect even in middle-ear and nerve cases, bringing into action and stimulating the auditory system, enabling it to function naturally and saving atrophy. "ARDENTE" can be used or not at will, and is sold under guarantee.

"ARDENTE" is the choice of Doctor and patient—only after test and hearing, or from prescription or particulars, is "ARDENTE" fitted, toned, tried, adjusted, supplied, and serviced.

Tests and demonstrations given at Doctors', patients' or our addresses, without fee or obligation.

MR. R. H. DENT'S
Ardente
FOR DEAF EARS

309, OXFORD STREET, LONDON, W.1
(Midway between Oxford Circus & Bond Street). *Telephone:* MAYFAIR 1380/1718.

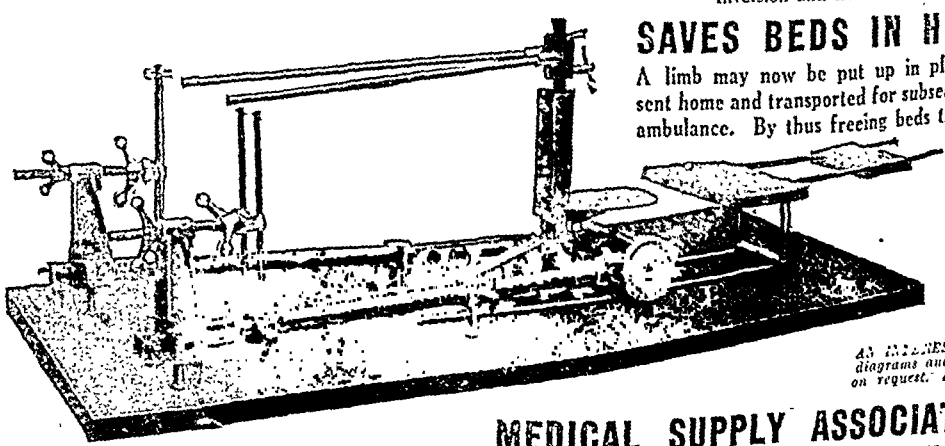
9, Duke Street, CARDIFF.
118, New Street, BIRMINGHAM.
27, King Street, MANCHESTER.
37, Jameson Street, HULL.
271, High Street, EXETER.
64, Park Street, BRISTOL.
23, Blackett Street, NEWCASTLE.
206, Sauchiehall Street, GLASGOW.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
30, Wellington Place, BELFAST.

An IMPROVED and MODIFIED
Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

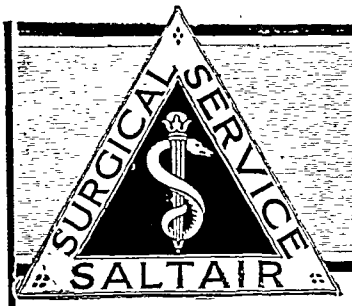
A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,
167/185, Gray's Inn Road, LONDON, W.C.1. — 12, Rolly Street, SHEFFIELD. — 10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines).

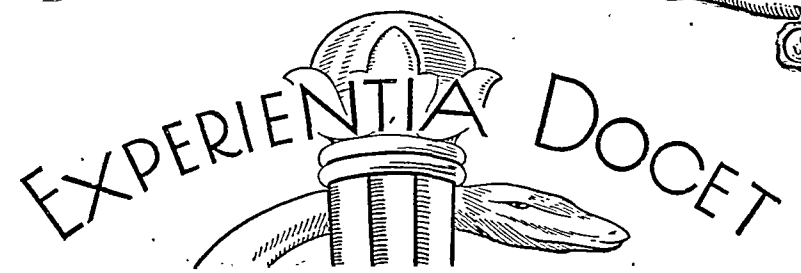


SALTAIR SURGICAL SERVICE

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.



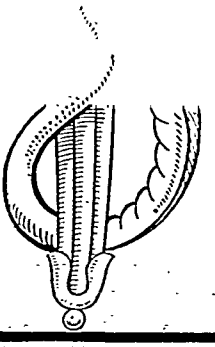
In an age when so called enterprise is so frequently mistaken for real progress, it is well to remember that experience is the best impulse to sound progressive action.

Despite the "wonderful Cure-all Appliances" so widely advertised to the public, the old established

"House of Salt"

prefers to link up its 138 years' surgical experience with the practical knowledge of the thousands of practitioners it serves—always improving its designs according to current surgical practice and making its special productions to the prescriptions of

qualified Medical Men



London Consulting Rooms:

"OAKLEY HOUSE,"
14-18, Bloomsbury Street, W.C.1.

Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.

By Appointment.

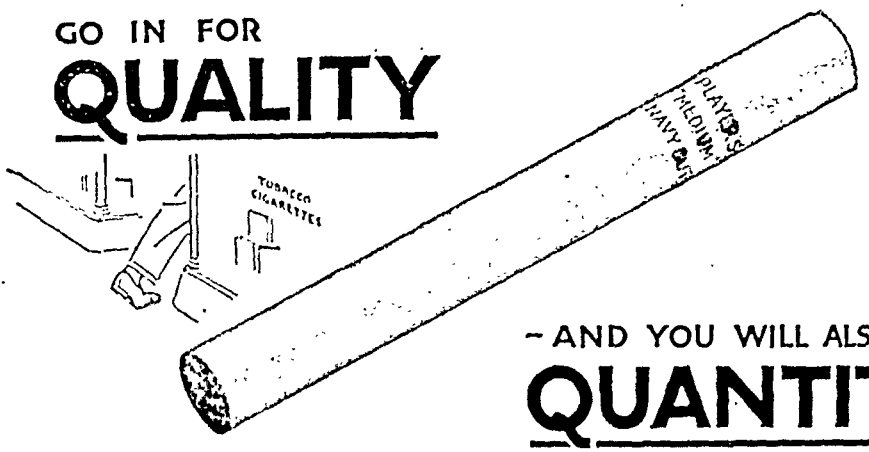
'Phone London - Museum 3845.
'Phone Birmingham - Midland 5455.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

ESTABLISHED 1793

COPYRIGHT

GO IN FOR
QUALITY



– AND YOU WILL ALSO GET
QUANTITY
in
PLAYER'S
"It's the Tobacco that Counts"
N.C.C.44.a.

GAMAGES
HOLBORN
HIGH-CLASS
LIVERIES
AT LONDON'S KEENEST PRICES

CHAUFFEURS' WATERPROOF COATS
These coats are cut specially for driving. Made from double texture Parramatta in black and blue. Double-breasted as illustrated. PRICES 42/-
Also in blue only, 31/6. 55/- and 75/-

CHAUFFEURS' DUST COATS
Made from Alpaca specially selected for its hard-wearing qualities. These are very smart in appearance yet exceptionally light in weight. Stocked in all usual sizes in blue or grey. PRICES 25/6 and 35/-

POST ORDERS.—State height and chest measurement taken loosely over waistcoat.

CHAUFFEURS' BLUE SERGE SUITS
This outstanding example of Gamages Livery Tailoring comprises Double-breasted Jacket, Vest and Trousers made from a good weight Navy Blue Ribbed Serge. This suit combines neatness with style, and can be purchased Ready for Service. PRICES 70/- 90/- and 110/-

Made to measure if required at same price.
Send for Gamages Livery Booklet and Patterns.

GAMAGES, HOLBORN, LONDON, E.C.1
Telephone: HOLBORN 8484.

THE

MEDICAL INSURANCE AGENCY

has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the Insurance of Cars.

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, Sickness (Permanent Contracts), &c., Insurances under comprehensive policies, giving full protection.

What the Agency has done for the Profession:

Saved by way of Rebates on Premiums - - over *£42,500*
Contributed to the Medical Charities - - - over *£25,500*

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1, &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

"STERULES" Regd.

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

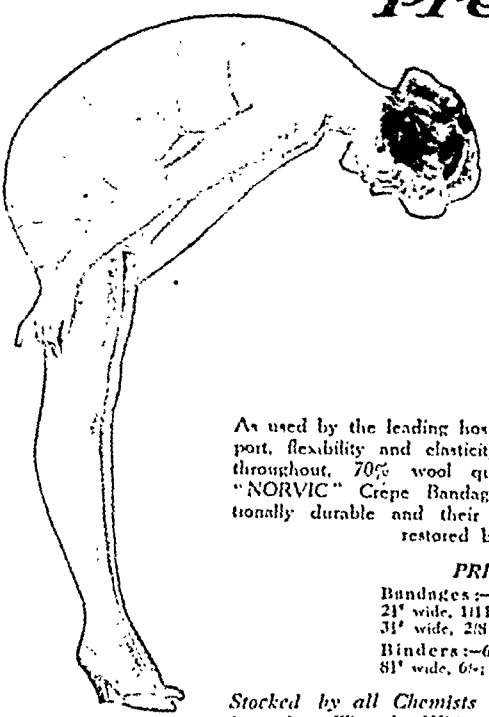
Telegrams: "MARTINDALE, CHEMIST, LONDON."

Telephone: LANGHAM 2440.

Prescribe

NORVIC Regd

CRÊPE BANDAGES *and* BINDERS



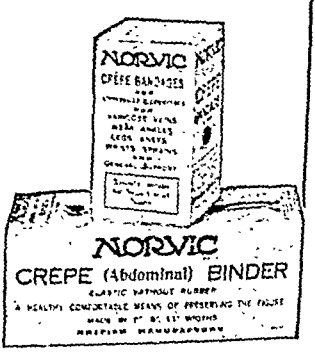
As used by the leading hospitals in all cases where support, flexibility and elasticity are needed. British made throughout. 70% wool quality and fully guaranteed. "NORVIC" Crepe Bandages and Binders are exceptionally durable and their elastic properties are easily restored by washing.

PRICES.

Bandages:—2" wide, 1/6; 2½" wide, 1/11; 3" wide, 2/3; 3½" wide, 2/8; 4" wide, 3/-.

Binders:—6" wide, 4/6; 8½" wide, 6/-; 11" wide, 8/3.

Stocked by all Chemists and Druggists, Boots 904 branches; Timothy White, Ltd.; Taylors Drug Stores; and Parkes Chemists, Ltd.



Keep fit

Wear EMPIRE LINEN MESH NEXT THE SKIN and have your body always at a normal temperature—it's the way to health in any climate. There's comfort, too, in its glorious touch.

ORDER IT NOW and incidentally support an ULSTER INDUSTRY.

EMPIRE LINEN MESH UNDERWEAR

Sold by all good Outfitters. Patterns and particulars post free.

THE IRISH LINEN MESH CO. LTD. Belfast, Northern Ireland.

JOHN WARD LTD

TOTTENHAM COURT ROAD, LONDON.

MANUFACTURED by SHORT & MASON LTD WALTHAMSTOW LONDON, E.17

Tycos SPHYGMOMANOMETERS

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book 18.*
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

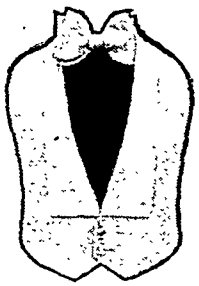
Covers for Binding

Vols. I and II of the BRITISH MEDICAL JOURNAL for 1930 and previous years can be had, price 2s. 6d., by parcel post 2s. 10d. each. Remittances must accompany all orders. Apply at the office, B.M.A. House, Tavistock Square, W.C.1.

TAILORS HATTERS HOSIERS By Appointment

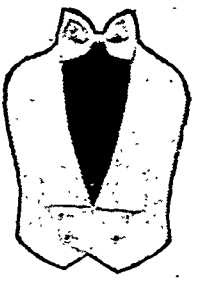
Gieves LIMITED
21 OLD BOND STREET
31 BURLINGTON ARCADE
LONDON W.1.

OUTFITTERS Established 1785 By Appointment



Members of the Medical Profession are cordially invited to pay an early visit to "Gieves" and inspect their latest collection of Spring suitings, shirtings, etc.

"Gieves" have catered for men since 1785, and closely studied the necessity of making shopping easy and speedy for them. With all their needs collected under one roof, they can shop in comfort and obtain every attention from highly experienced Salesmen in each department.



BRANCHES.
PORTSMOUTH SOUTHAMPTON LIVERPOOL EDINBURGH MALTA PLYMOUTH WEYMOUTH SOUTHSEA CHATHAM GIBRALTAR

PERMANENT ALL SICKNESS AND ACCIDENT INSURANCE
FOR MEDICAL MEN
AT THE LOWEST RATES

The following specimen rates show the cost of each guinea per week payable during total incapacity arising from any form of Sickness or Accident, except those due to the wilful misconduct of the insured.

The full sum insured is payable for the first 26 weeks, and thereafter half that amount so long as the total incapacity lasts, up to the age of 65.

Age 25, £1 : 12 : 8
„ 30, £1 : 16 : 5
Age 35, £2 : 1 : 0
„ 40, £2 : 6 : 7

A Reversionary Bonus of 15/- per guinea per annum was declared on these Policies at the last valuation.

SICKNESS FUND exceeds £370,000

Write for full particulars and Booklet "B.17" to the Manager and Secretary,

The MEDICAL SICKNESS, ANNUITY, & LIFE ASSURANCE SOCIETY, Ltd.
300, HIGH HOLBORN, LONDON, W.C.1.

WITHOUT OFFENCE
The Collection of Overdue Accounts

MEMBER'S STATEMENT:

"I consider you are the most progressive, insistent, courteous and successful Collecting Agency I have come across. I frequently recommend you to my friends."

DEBTOR'S STATEMENT:

"Please find £8 18s. 6d. enclosed as promised. I must thank you very much for your extreme kindness and courtesy."

Your visiting card marked "B" placed in an envelope will produce all information

All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.)
Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.

ALLIANCE DRUG & CHEMICAL CO.

10, Boor Lane, Gt. Tower St., E.C.3.

Telephone: ROYAL 5885.

Tel. Address: "NALTROP," BILGATE, LONDON.

Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulæ as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.
Lassar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Liq. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/3 lb.
Chloroform Pur., 8 lb. @ 5/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 6 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" *Glycero-Phosp. Co., 6 lb. @ 1/9 lb.*

SYRUPS.

Aurant...B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosp. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillae, B.P., 7 lb. @ 8d. lb.
Sennae, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Bland's (Sugar-coated), gr. 5	... 3/10
Nitroglycerini, B.P., gr. 1-60th ...	... 6/-
Perchloride of Mercury (Coloured) ...	...15/-

One Tablet in 1 pint of water is equivalent to 1 in 1,000.

Thyroid Gland, gr. 5 ... ... 12/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.

In 5-lb. Bottles.

	B.P. Aquos.		B.P. Aquos.
Belladon.	... 4/3	1/6 Hyoscyam.	... 4/3 2/4
Benzoin Co.	... 4/7	— Nucis. Vom.	3/10 1/4
Camph. Co.	... 3/-	1/6 Opii ...	... 5/3 4/3
Card. Co.	... 2/6	1/6 Quin. Ammon.	3/3 —
Gentianæ Co.	2/8	1/6 Rhei Co.	... 2/8 1/9

Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichtamolis, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

*Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

When Patients will smoke!

Make them try Royal Beauties Turkish Cigarettes that contain no dope, and only half as much nicotine as Virginias, plus absorbent linen filters concealed in the mouthpiece. Over 40 years of success amongst smokers' throat patients make them worth a trial. Free sample to doctors on application. Turkish (in three sizes) 9/6, 10/6, 12/6 a hundred

ROYAL BEAUTIES

CIGARETTES

From leading stores or direct from Louis Coen Ltd., 88 Piccadilly, W1 Telephone: Grosvenor 1979

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

SPECIAL OFFER!

N.H. OAK FILING CABINETS

(Also stocked in Belfast).

1 dr.	2 dr.	4 dr.
23/6	35/-	63/-

Send for our samples of the very best Medical Stationery.

HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

Important Sale

THE FURNITURE & FINE ART DEPOSITORIES, LTD.

HAVE RECEIVED INSTRUCTIONS TO DISPOSE OF IMMEDIATELY the entire contents of several Town and County Residences, Flats, etc., removed to their Galleries for convenience of sale, and are offering many important items from the following collections.

SIR FREDERICK CHARLES HOLIDAY (Decd.);
MARY ANNA DUCHESS OF ABERCORN (Decd.);
THE THIRD EARL OF DURHAM (Decd.);
and others.

ON SALE EVERY DAY, 9 till 7.

MAGNIFICENT BEDROOM APPOINTMENTS, comprise Complete Bedroom Suites in Walnut, Mahogany, Silver Ash, Choicely Figured Satinwood, also Lacquer in the Chinese Style, and Figured Oak, ranging from 6 Guineas to 250 Guineas. Bedsteads to match. Bachelor Bedroom Suites in Solid Oak, with Bedsteads to match, offered at the extremely low figure of £4 15s. complete.

GENUINE ANTIQUES, including Four-post Bedsteads, Tallboy and shaped front Chests, Bow-front Wardrobes, Sofa Tables, Corner Washstands, and Toilet Mirrors. Gents' Wardrobes with interior fitments from 4 Guineas each.

SETTEES AND LOUNGE EASY CHAIRS, quantity removed from St. James's Street Club, covered Real Leather, Art Tapestry, Brocade Silk, etc. Several exquisitely spring upholstered, covered in Art Linen, all equal to new. Small Lounge Chairs offered at 21/-. Larger Lounge Chairs £2 17s. 6d. to 12 Guineas. Exceptionally well made and softly sprung Chesterfield Settees 3 Guineas to 25 Guineas.

[illegible] LOUNGES

Complete Dining Room [illegible] Oak, with Sideboard, Set of Chairs, and Dining Tables, offered for 10 Guineas the set. More elaborate complete sets ranging from 25 Guineas to 300 Guineas. Most of these exquisite Suites cost over treble the price now asked. Quantity of Cottage Wheelback Chairs 6s. 9d. each, with Cottage Oak Dressers, two-flap Tables, in good condition, at 35s.

CARPETS AND RUGS, including fine Persian, Turkey, Chinese, Aubusson, and Axminster, a large salvage stock being offered at 50% below cost. Quantity of fine Pile Carpet at 2s. 9d. per yard. Several Seamless Squares in various designs and colourings, undamaged and unsoiled, from 21s. each.

PIANOFORTES BY EMINENT MAKERS, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, collection of Marble and Bronze Statuary, Pictures, Silver and Sheffield Plate, old Cut Glass, Linen, and a quantity of Office Furniture, *including* Roll top Desks, Pedestal Desks, Bookcases, Iron Safes, etc.

16 h.p. Austin Motor Car, River Punt, and Two Dinghys.

TO AVOID DISAPPOINTMENT EARLY INSPECTION IS INVITED, AS A SPEEDY CLEARANCE IS ANTICIPATED. On Sale every day 9 till 7. Any item may be purchased separately; can remain warehoused free for 12 months, or DELIVERED TO ANY PART OF THE COUNTRY BY OUR OWN LORRIES FREE. Send for PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F) *Post Free.*

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.

PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1

Few minutes from Highbury Station, North London Railway. Train fares refunded to all purchasers.

(Within 10 minutes of West End)

Telephone: North 3580 & 3581.

"HOMMEL'S HAEMATOGEN"

A natural organic TONIC associated with nourishing albuminous proteids.

AN EFFICACIOUS REMEDY IN ALL FORMS OF ANAEMIA associated with constitutional diseases.

Obtainable in Syrup *and* Tablets.

"SEDIN"

Nervinum-Sedativum

Consisting of

Pot. Brom.	0.4 gramme	(grains 6½ approx.)
Sod. „	0.4 „	(grains 6½ approx.)
Ammon.„	0.2 „	(grains 3 approx.)
Salt „	0.1 „	

combined with Vegetable Extract in form of soup tablets. (A disguised dietetic form.)

Samples free and carriage paid on application to—

HOMMEL'S HAEMATOGEN & DRUG CO., 121, Norwood Road, Herne Hill, London, S.E.2

This preparation is now obtainable in 5-oz. bottles.

MIST. DAMIANÆ CO. (HEWLETT'S).

MIST. DAMIANÆ CO. (Hewlett's) will be found to possess all the properties of Damiana, viz.:—Its alternative effects on the alimentary canal and tonic action upon the brain and nervous system generally.

In all the various forms of loss of nerve power Mist. Damianæ Co. (Hewlett's) is a powerful remedy, relieving the exhaustion and conferring renewed capacity for mental and physical endurance.

As a nerve tonic and brain stimulant it is unequalled, and its invigorating properties will be found invaluable in many diseases where there is great depression and exhaustion. In paraplegia, hemiplegia, and partial paralysis it is particularly indicated, and may be suitably and satisfactorily employed wherever a powerful nerve stimulant and restorative are required.

Dose: One or Two Drachms in Water.

Packed in 5-oz., 10-oz., 22-oz., 40-oz., and 90-oz. Bottles. Price in England 12/6 per pound.

Introduced and Prepared only by

C. J. HEWLETT & SON, Ltd., 35 to 42, Charlotte St., London, E.C.2.

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is counter-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A anacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Klinick (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

Priced at 3/- and 3/8 per lb.
A super quality at 4/2 per lb.

THE
DOCTOR'S CHINA TEA

WHY IT IS PRESCRIBED FOR GASTRIC PATIENTS.

When ordinary tea is out of the question it is essential that only really good China should be drunk. The Doctor's China Tea has won the enthusiastic approval of practitioners simply because it is a perfect blend of a good China leaf with all excess tannin eliminated. It can therefore be prescribed for invalids and dyspeptics with safety—it has no ill after-effects.

HARDEN BROS. & LINDSAY, LTD.
(Dept. 153), 30/34, Mincing Lane, London, E.C.3.

CTS-5

FINEST MEDICINAL
OXYGEN
Guaranteed 99.5% pure in Cylinder
¾d. per CUBIC FOOT
(THREE FARTHINGS)
IN CUSTOMERS OWN CYLINDERS EX OUR VARIOUS WORKS
BRITISH INDUSTRIAL GASES LTD.,
34, VICTORIA STREET,
LONDON, S.W.1
24 Hours Return Service.
We cover all England and Wales.

FREQUENT MICTURITION.
"YBWET"
NEW ABSORBENT BAGS.
Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our
"NEW SANITUBE"
keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. *Diagrams, etc., on request:* HILLIARD, 123, Douglas Street, Glasgow, C.2.

NAME PLATES
in BRONZE & ENAMEL—BRASS: also CHROMIUM PLATE. Send details for sketch or leaflet
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

ALCOHOLISM
DRUG ADDICTION & NEURASTHENIA
CALDECOTE HALL, NUNEATON.
At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the *most modern scientific* principles both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. CARVER, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 241.

BOREATTON PARK,
BASCHURCH, SALOP.
A first class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.
Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.
Voluntary Boarders accepted.
Apply for particulars to Dr SANKEY.

SOUTHBOURNE HOUSE NURSING HOME,
Southbourne-on-Sea, Bournemouth.
Medical, Surgical and Convalescent Patients.
Quiet house on cliff.
Matron: Miss MACMILLAN (London Hospital). Tel.: Southbourne 1186.

CLARENCE LODGE,
CLAPHAM PARK, LONDON.
Situated in 3½ acres of secluded gardens
HOME FOR TWELVE MENTAL PATIENTS (LADIES)
Well appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.
Matron. Telephone: Brixton 0494
Clapham Common Tube. Apply, Miss EDWARDES.

HOME FOR FEEBLE-MINDED,
BRUNTON HOUSE, LANCASTER.
This well-appointed private establishment overlooks Morecambe Bay, and possesses extensive gardens and grounds, with tennis and croquet lawns. Varied scholastic and manual instruction. Individual attention given by experienced staff under Lady Matron. For terms apply, Dr. W. H. COUPLAND, Med. Supt.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.
BAY MOUNT, PAIGNTON.
ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.
A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.
The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.
FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.
Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STAFFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY
ECCLESFIELD, ASHFORD, MIDDLESEX.
(Also private address to secure secrecy.) *Telephone*: 158.
Beautiful large Residential Home, with 50 acres of park land, attached to R.C. Convent, and under the care of the Sisters. Established 1899. Most successful MEDICAL and PSYCHOLOGICAL TREATMENT for LADIES. Every home comfort, and bright, happy social amusements. Splendid results proved by the numbers of former patients who return to the Home for holiday visits. *Medical Superintendent*: J. YOUNG SCOTT, M.B., Ch.B., and J. KENNEDY.

INEBRIETY
DALRYMPLE HOUSE,
RICKMANSWORTH, HERTS.
For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—
F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

SHAFTESBURY HOUSE, FORMBY-BY-THE-SEA, Nr. LIVERPOOL.
Specially built and licensed for the care and treatment of a limited number of Ladies and Gentlemen suffering from Nervous and Mental breakdown. Voluntary and certified patients received. Lady also admitted as "Temporary Patients" without certification. Terms moderate. Apply RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

ALCOHOLISM & OTHER DRUG HABITS.
THE HARE NURSING HOME.
As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.
"THE OLD HILL HOUSE,"
CHISLEHURST, KENT.
Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.
Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).
Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

BOURNEMOUTH.
West Haven, Chine Crescent Road.
FUNCTIONAL NERVOUS DISORDERS,
MEDICAL AND CONVALESCENT CASES.
The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.
Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

THE LAWN, LINCOLN.
This Registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY and P[illegible] sexes for treatment [illegible] rders, including P[illegible] in adults. Special facilities for Psychotherapy in co-operative cases.
All particulars may be obtained from the Resident Medical Superintendent,
Dr. MARY R. BARKAS, M.D., D.P.M.

FUNCTIONAL NERVOUS DISORDERS.
CALDECOTE HALL, NUNEATON.
RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

Bishopstone House, Bedford.
PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs PEELE. *Telephone*: 2708.

STRETTON HOUSE,
Church Stretton, Shropshire.
A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the *allied* disorders of Alcoholism and the Drug Habit. All types of early Mental and Nervous cases are received without certificates as Voluntary Patients under the provisions of the Mental Treatment Act, 1930. Bracing Hill country. See *Medical Directory*, p. 2133.—Apply to Medical Superintendent. 'Phone: 10 P.O., Church Stretton.

THE GRANGE,
near ROTHERHAM.
A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40050 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

BROOKE HOUSE,
CLAPTON, LONDON, E.5.
Telephone: Clissold 1648.
PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

THE MOAT HOUSE,
TAMWORTH, STAFFS.
Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 3417.)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. *Situated* 1,200 ft. above sea-level, facing S. 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

REGISTERED NURSING HOME
for
PERMANENT PATIENTS.
3, Brondhurst Gdns., London, N.W.6.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark. 1180—1181.

Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. **Apply: The Secretary,**

Telegrams: Castle Ruthin. **Telephone: 66, Ruthin.** **Ruthin Castle, North Wales.**

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty ac[illegible] nd Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusement[illegible] l other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: **Dr. Hubert James Norman,** assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the Medical Superintendent.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." **Telephone: Rodney 4741—4742.**

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for *hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion* bath, Vichy Douche, Scotch Douche, Electrical bath, Plombieres treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

Phone: 11 Ashton in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Clifden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance [illegible] and from its singularly healthy position and comfortable every facility for the relief and cure of *those mentally* and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. *Fees from five guineas per week.*

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE,
PINNER,
MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

ST. ALBANS, HERTS.
(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital.

Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This Registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.

Telephone: 2231 GATLEY.

HINDHEAD.
850 feet above sea-level.
STONYCREST NURSING HOME
(Registered)
For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

BAILBROOK HOUSE,
BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with *mental* and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No: Batheaston 8189.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS, at a weekly fee of TWO GUINEAS and upwards.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.

Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

The MUNDESLEY SANATORIUM

The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless head-phones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON, M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP, M.B.(Cantab.).
ANDREW MORLAND, M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), A. C. Armstrong, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

THE COTSWOLD SANATORIUM

Specially built in 1893 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, Medicated Inhalations by means of the Apneu Inhalation Installation, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone:* 41 WITCOMBE. *Telegrams:* "HOFFMAN, BIRDLIP."

EAST ANGLIAN SANATORIUM

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and has an ideal situation facing S.S.E. in a very sunny district. Special treatment by artificial Pneumothorax (X-ray controlled). Ultra-violet Ray treatment is available for suitable cases. Matron and full nursing staff. Nurse on duty all night. Electric lighting throughout, radiators and wireless (headphones) in all rooms.

Dr. Jane Walker, C.H., J.P., Medical Superintendent. Dr. Eleanor Soltau, Assistant Medical Superintendent.

For all information apply: The Secretary, East Anglian Sanatorium, Nayland, near Colchester.

Telephone: NAYLAND 1.

HARROGATE

for the Treatment of RHEUMATISM, ARTHRITIS, FIBROSITIS, NEURITIS, Diseases of the LIVER and GALL BLADDER, GASTRIC CATARRH and COLITIS, SKIN DISEASES, ANAEMIA and Convalescence from Acute Illness.

SULPHUR, Saline Iron and Pure Chalybeate waters, together with the presence of large deposits of Volcanic Mud, enable Harrogate to offer every facility for the cure of an unusually wide range of the diseases amenable to Spa Treatment.

The Harrogate Royal Baths, housed in one of the finest Spa buildings in Europe, are equipped with the most modern apparatus for all forms of Physiotherapy.

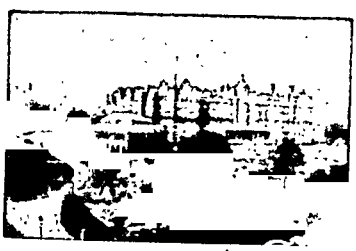
THE "CURE" is taken in a holiday environment: three golf courses, putting greens, hard tennis court, swimming baths, beautiful gardens and moorlands encourage sport and exercise.

First-class hotels, hydros, boarding houses and private apartments meet all requirements for accommodation.

Harrogate is an ideal holiday centre and is surrounded by some of the most beautiful scenery in England.

Members of the Medical Profession are asked to write for particulars of Complimentary Facilities to:—
F. J. C. BROOME,
General Manager, 3, The Royal Baths, Harrogate.

Pullman and Fast Restaurant Car Trains daily from King's Cross Station, London.



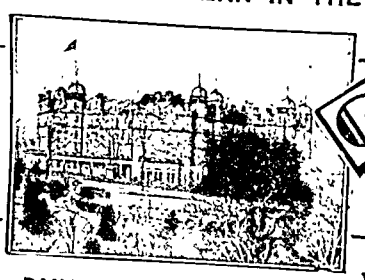
Telegrams—"Majestic, Harrogate."
Telephone—2261.

HOTEL MAJESTIC
HARROGATE
FINEST SPA HOTEL IN THE WORLD
Stands in its own Glorious Grounds of Ten Acres

Overlooking Royal Baths and Pump Room. En-Tout-Cas Tennis Courts. Putting Green. Garage. Beautiful Winter Garden and Ball Room. Saturday Night Dances. Comfortable self-contained Suites. Large number of Bedrooms with Private Bathrooms. Every room fitted with hot and cold running water, central heating and telephone.

Perfect Cuisine and Attentive Service. Write for Illustrated Tariff.

THE MOST MODERN IN THE SPA



GRAND HOTEL
HARROGATE

200 rooms fitted with hot and cold water. 50 suites with private baths and telephones. Hard Tennis Courts and Putting Green. Garage 100 cars.

DANCING EVERY SATURDAY

FINEST CUISINE ABSOLUTE COMFORT

Telegrams: "Grand."

SPLENDID BALLROOM COMPI TATTI BAND

Telephone: Harrogate 4631.

DELIGHTFUL SITUATION OPPOSITE VALLEY GARDENS

KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well-sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1901. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray Plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 7s. 6d. to £6 6s. per week inclusive. No extras.

MEDICAL SUPT.: FELIX SAVY, M.D. For particulars apply to the Secretary.

DARTMOOR CONVALESCENT HOME.

750 FEET ABOVE SEA-LEVEL

Established 1903 for Treatment of Pulmonary and other forms of Tuberculosis. Sheltered Situation on the slopes of the bracing moorland. Radi[illegible] Light. Central Heating. Separate Bedrooms, Efficient Treatment, combined with individual comfort and mini[illegible] Physician: C. H. BERRY, M.R.C.S, L.R.C.P., Torr House, Chagford, Devo[illegible]

asthma

TREATED AT MONT-DORE

THE FAMOUS FRENCH SPA

40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE Tavistock House (North), Tavistock Square, LONDON, W.C.1. Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).

MONTANA HALL

MONTANA, Switzerland

The only Sanatorium in Switzerland under British ownership and control, and with a full day and night staff of British Trained Nursing Sisters.

Built 1929-30. Opened Oct., 1930.

For the treatment of Tuberculosis, Diseases of the Chest, Asthma, and for patients requiring rest in the Alps under strict medical supervision.

Montana (5,000 feet above sea-level) is the sunniest mountain resort in Switzerland.

For prospectus and full particulars kindly apply to the Resident Medical Superintendent, HILARY ROCHE, M.D.(Melb.), M.R.C.S. (London), Tuberculous Dis. Dip. (Wales).

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

'Grams: "SMEDLEY'S MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

MATLOCK

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.

Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above school, commencing Monday, June 1st, 1931. Full particulars will be published later.

The Course will be repeated on subsequent dates.

Applications for copies of the syllabus, etc., may be made at once, and these will be forwarded as soon as available.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

PEEBLES

In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air, beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.

Among the Pine-clad Border Hills.

PEEBLES HYDRO, PEEBLES, SCOTLAND

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times." "Thoroughly physiological principles."—"Lancet." "The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/8 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

BOURNEMOUTH HYDRO,

with Vita glass Sun lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSTON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (*lasting about three months*) for the Diploma in Tropical Medicine [illegible] 1st, and [illegible] on Janua[illegible] for the D[illegible] University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology. New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

Tel & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile Liverp'l St. 26 min.—Applv. Dr. HAYNES.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.

Medical Superintendent: Dr. MCCLINTOCK.

Convalescent (Nerve or other) and Nurse offered TEMPORARY HOME with Doctor's widow. All modern conveniences, excellent cooking, nice garden. Sunny position Suffolk coast. Doctor next door. Reasonable terms long stay. What offers?—Address, No 2819, B.M.A. House, Tavistock Square, W.C.1.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims Labs. Chemistry, Physics, Botany, and Biology. COLLEGE TUTORIAL 327, Oxford Road, Manchester.

POST-GRADUATE STUDY AT THE

NORTH-EAST LONDON POST-GRADUATE COLLEGE

The Prince of Wales's General Hospital, Tottenham, N.15.

Morning and afternoon work in Medicine, Surgery, Bacteriology, Pathology and the Special Subjects. Study-leave, Panel, and individual Courses arranged. Practitioners' general Intensive Courses (limited to 25) held at frequent intervals. Practical instruction in Anaesthetics. Clinical Assistantships.

NEXT INTENSIVE FORTNIGHTLY COURSE, DEALING WITH SPECIAL AND GENERAL SUBJECTS, COMMENCES ON MAY 11th, 1931.

Prospectus and Syllabuses on application to the Dean.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

INSTITUTE OF PATHOLOGY & THERAPEUTIC RESEARCH

ST. MARY'S HOSPITAL, LONDON, W.2

A Course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the SUMMER SESSION. These Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on TUESDAY AFTERNOONS at 5 p.m. as under:—

	SUBJECT.
MAY 12th. Prof. C. A. ARIËNS KAPPERS, M.D. (Amsterdam University).	"The Function of the Various Layers of the Cortex."
MAY 19th. Prof. JOHN MCLEAN, M.D., F.R.S. (Prof. of Physiology, University of London).	"Recent work on Blood Coagulation."
MAY 26th. Colonel S. P. JAMES, M.D., F.R.S. (M.O. and Advisor Tropical Diseases, Ministry of Health)	"The New Method of Studying Malaria and Some of its Results."
JUNE 2nd. Dr. ANDRÉ GRATIA (University of Brussels)	"The Schwartzman Phenomenon."
JUNE 9th. Prof. J. S. HALDANE, M.D., F.R.S. (Director of the Mining Research Laboratory, University of Birmingham)	"The Problems of Silicosis."
JUNE 16th. Dr. BERNARD HART, M.D., F.R.C.P. (Phys. Psychol. Med., Univ. College Hospital).	"The Causation of Neurotic Disorders."
JUNE 23rd. Prof. HAMILTON HARTRIDGE, M.D., F.R.S. (Prof. of Physiology, St Bartholomew's Medical College).	"The Theory of Hearing."

These Lectures are open to all *Members of the Medical Profession* and to all *Students* in Medical Schools without fee.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.

THE ST. CYRES LECTURE

For the year 1931 will be delivered at the above Hospital on

Thursday, May 14th, at 5 p.m.,

By Sir THOMAS LEWIS, C.B.E., M.D., F.R.S., F.R.C.P.

Subject: **"Ischaemia of Muscle as a cause of anginal pain."**

Members of the Medical Profession are cordially invited.

CHELTENHAM COLLEGE.

Twelve Scholarships and Exhibitions (not open to members of College or Junior School). These include five of £80 (increased to £100 for special merit); "*James* of Hereford" Scholarship of £35 for boys born or brought up in Herefordshire. Also R.A.M.C. Scholarship of £50 (preference to sons of Fallen Officers) Awards made for all-round excellence, or special proficiency in any main subject, including Music. Preliminary Examination (at Candidates' own Schools), Monday and Tuesday, June 1st and 2nd, 1931. Final Examination (at Cheltenham), Wednesday and Thursday, June 10th and 11th, 1931.

Apply BURSAR, Cheltenham College

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £8 8s for 10 lessons.—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

MARLBOROUGH COLLEGE,

Near MACCLESFIELD, CHESHIRE,

Specialises in CAREERS FOR GIRLS, General Education to Matric., etc. Staff of University Graduates. Terms to Medical Men.

Apply—LADY WARDEN.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.).

POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	22
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary*	162
	1906-30 *Final*	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES. M.D., Final F.R.C.S., F.R.C.S. M.R.C.P., (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Examinations. Other Courses. Open-book examinations. Essay writing. Theses. Fees. Terms, along with list of Tutors. Cheques, etc., to be made payable to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.G. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

VALUABLE BOOK FREE!

Are you preparing for any Medical or Surgical Examination?

Do you wish to specialize in any branch of Medicine or Surgery?

Send Coupon below for our valuable publication.

"GUIDE TO MEDICAL EXAMINATIONS"

Principal Contents.

The Examinations of the Conjoint Board.
The M.D. Degrees of all British and Colonial Universities.
How to pass the F.R.C.S. Examination.
The M.R.C.P. London and Edinburgh.
The D.P.H. and how to obtain it.
The Diploma in Tropical Medicine.
Diploma in Ophthalmology.
Diploma in Psychological Medicine.
Diploma in Radiology.

You can prepare for any of these qualifications by postal study at home. We specialize in Post-graduate tuition. Clinical and practical courses in any subject. Attendance at Hospital practice arranged.

THE SECRETARY,
MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, Cavendish Square, London, W.1. Telephone: WELBECK 8901.

Sir,—Please send me a copy of your "Guide to Medical Examinations" by return.

Name.....

Address.....

Examination in which interested.....

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL.

(University of London.)

ADVANCED MEDICINE.

A Course in Clinical Medicine, Pathology, Morbid Histology, and Biochemistry, suitable for M.D. and M.R.C.P. Examinations, will be given for six weeks commencing May 27th.

Further particulars can be obtained on application to the Dean, H. WILLOUGHBY LYLE, M.D., F.R.C.S., King's College Hospital Medical School, Denmark Hill, S.E.5.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. *Correspondence work at any time.* Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

University of London.

A Course of TWO LECTURES on *"Resection of the Rectum"* will be given by Professor G. GREY TURNER, M.S., F.R.C.S. (Professor of Surgery in the University of Durham), in the Governors' Hall, ST. THOMAS'S HOSPITAL (Albert Embankment, S.E.1), on WEDNESDAY and FRIDAY, MAY 13th and 15th, at 5.30 p.m. At the first Lecture the Chair will be taken by SIR PERCY SARGENT, C.M.G., D.S.O., F.R.C.S. (Surgeon to St. Thomas's Hospital and to the National Hospital). Lantern illustrations.

Admission free, without ticket.

S. J. WORSLEY,
Academic Registrar.

£100 Grant for Post-Graduate

STUDY OF HOMOEOPATHY.—The BRITISH HOMOEOPATHIC ASSOCIATION (Inc.), 45, Russell Sq., London, W.C.1, invite applications from Graduates of Medicine of a British University, or the University of Calcutta, for a GRANT of £100 for a Post-Graduate Course of Study of the Principles and Practice of Homoeopathy, for six months, at the London Homoeopathic Hospital. Applicants must be under 30 years of age on March 1st, 1931. Closing date for applications July 1st, 1931. For further particulars apply to the Secretary at 43, Russell Square, W.C.1.

UNIVERSITY OF HONG-KONG

FACULTY OF MEDICINE.

PROFESSOR OF PATHOLOGY.

Applications are invited for the CHAIR OF PATHOLOGY.

Salary £1,000 per annum, payable while in the Colony in dollars at the average monthly rate of exchange. Free unfurnished house; first-class passage for Professor and for wife and for children (if necessary). Candidates should be between 28 and 40 years of age. The Professor will be expected to arrive in Hong-Kong by the beginning of September.

Compulsory Superannuation Fund.

Applications for the post should be addressed to the Chief Medical Officer, Ministry of Health, Whitehall, S.W.1, not later than June 24th, 1931, from whom further information can be obtained.

University of Birmingham.

FACULTY OF MEDICINE.

PROFESSORSHIP OF ANATOMY.

The Council of the University invites applications for the Chair of Anatomy, vacant by the resignation of Professor J. C. BRASH.

The stipend offered is £1,100 a year. The duties will commence on October 1st, 1931.

Applications and testimonials (25 copies) may be accompanied by references or other credentials, and should be received by the undersigned on or before May 30th, 1931.

Further particulars may be obtained from—

The University, Birmingham. C. G. BURTON, Secretary.

City of Birmingham.

MATERNITY AND CHILD WELFARE DEPT. CITY BABIES HOSPITAL. (85 Beds.)

A JUNIOR RESIDENT MEDICAL OFFICER is required on July 1st for a period of six months. Previous experience as a Resident Medical Officer in a Children's Hospital or in a General Hospital is desirable. Salary at the rate of £100 per annum, with board and laundry.

Apply, giving all particulars of qualifications, age, and experience, to the Medical Officer of Health, Council House, Birmingham, on or before May 16th.

Examining Board in England

BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

PRE-MEDICAL EXAMINATION.

This Examination will commence on Tuesday, June 30th, 1931.

SECOND EXAMINATION (OLD REGULATIONS).

This Examination will commence on Thursday, July 2nd, 1931.

FIRST EXAMINATION (NEW REGULATIONS).

This Examination will commence on Thursday, July 2nd, 1931.

THIRD OR FINAL EXAMINATION.

This Examination will commence on Monday, July 6th, 1931.

DIPLOMA IN LARYNGOLOGY AND OTOLOGY.

Part I of this Examination will commence on Friday, June 19th, and Part II on Friday, June 26th, 1931.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.

Part I of this Examination will commence on Friday, June 5th, and Part II on Friday, June 12th, 1931.

DIPLOMA IN PUBLIC HEALTH.

Part I of this Examination will commence on Friday, June 19th, and Part II on Friday, June 26th, 1931.

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.

This Examination will commence on Thursday, July 16th, 1931.

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY.

Part I of this Examination will commence on Friday, July 3rd, and Part II on Friday, July 10th, 1931.

Particulars of these examinations, dates of entry, etc., may be obtained from the Secretary, Examination Hall, 8-11, Queen Square, London, W.C.1.

HORACE H. REW,
April 28th, 1931. Secretary.

Royal College of Surgeons of ENGLAND.

ELECTION OF PROFESSORS AND LECTURERS.

Notice is hereby given that the Council is prepared to receive applications for election to the office of HUNTERIAN PROFESSOR, ARRIS AND GALE LECTURER, and ERASMUS WILSON LECTURER for the ensuing year.

Candidates for the Hunterian Professorship must be Fellows or Members of the College.

Under the Erasmus Wilson Trust six demonstrations will be allotted to two or more demonstrators.

Applications, in writing, must be made to the Secretary on or before Wednesday, June 3rd, and candidates are requested to furnish a synopsis of the one or more Lectures or Demonstrations which they propose to give.

S. FORREST COWELL,
May 9th, 1931. Secretary.

Royal College of Surgeons of ENGLAND.

ELECTION TO COURT OF EXAMINERS.

Notice is hereby given that the Council, on June 11th next, will proceed to the election of a Member of the Court of Examiners in the vacancy occasioned by the retirement of Mr. L. Bathe Rawling, who is not eligible for re-election.

Fellows of the College desirous of becoming candidates for the office must make application in writing to the Secretary, on or before Wednesday, June 3rd.

S. FORREST COWELL,
May 9th, 1931. Secretary.

Moukden Medical College, MANCHURIA, CHINA.

CHURCH OF SCOTLAND.

PATHOLOGIST with some years' experience wanted urgently for staff of Moukden Medical College for period of three years. For fuller particulars apply to Dr. H. S. D. GARVIN, Foreign Mission Department, 121, George St., Edinburgh.

The Committee of the Cancer

HOSPITAL (FREE), Fulham Road, S.W.3, desire to appoint a DIRECTOR of the RESEARCH INSTITUTE in succession to the late Professor ARCHIBALD LEITCH. The acting Director is a candidate for the post.

Applications to be made to the undersigned not later than Monday, May 11th, 1931.

J. COURTNEY BUCHANAN, Secretary.

Borough of Ilford.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Corporation invites applications from legally qualified Medical persons of both sexes *for the office of Assistant Medical Officer of* Health, for duties in connection with Maternity and Child Welfare work, School Medical Inspection, and General Public Health work. Candidates for the appointment must have had special experience in Midwifery and Ante-natal work since qualification, and subject to this, preference will be given to candidates who possess the Diploma of Public Health or similar qualification, and have had definite experience in Children's Diseases.

The commencing salary of the officer will be £600 per annum (no bonus), rising by one annual increment of £50, and two annual increments of £25, to £700 per annum.

The person appointed will be required to devote whole time to the duties of the office, to reside within easy distance of the Corporation's Maternity Home, and to enter into an agreement for the due performance and fulfilment of all the duties and conditions governing the appointment. The appointment will be subject to a *satisfactory medical examination*, and to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications, which must be made on forms obtainable (with list of duties) from the undersigned, accompanied by copies of three recent testimonials (which will not be returned), endorsed "Assistant Medical Officer of Health," must be received at my office, at the Town Hall, Ilford, not later than Thursday, May 14th.

Canvassing members of the Council, directly or indirectly, is prohibited and will disqualify.

By Order,

Town Hall, ADAM PARTINGTON,
Ilford. *Town Clerk.*
April 24th, 1931.

County Borough of Barrow-in-Furness.

WOMAN ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners for the position of Woman Assistant Medical Officer. The duties will be in connection with the Maternity and Child Welfare work of the Borough and the Medical Inspection of School Children.

Previous experience of Ante-natal and Maternity and Child Welfare work is essential.

The salary will be at the rate of £500 per annum, rising by annual increments of £25 to £700 per annum.

The officer will be required to work under the direction and supervision of the Medical *Officer of Health, and to devote whole time* service to the Corporation.

Copies of duties may be obtained on application to the Medical Officer of Health

Applications, stating age, qualifications, and experience, accompanied by copies of three recent testimonials, and endorsed "Assistant Medical Officer," must be delivered at the office of the undersigned not later than Thursday, May 14th.

Town Hall, W. A. CHISLETT,
Barrow-in-Furness. Town Clerk.
April 27th, 1931.

Corporation of Greenock.

PUBLIC HEALTH DEPARTMENT.

Applications are invited from lady Medical Practitioners for the position of LOCUM TENENS for periods of two weeks during June, and six weeks during July and August.

Duties include Clinical work under the maternity and child welfare and venereal diseases schemes of the Corporation.

Remuneration will be at the rate of Seven *Guineas* per week, with board and residence during August.

Applications, stating experience, should be lodged with the Medical Officer of Health, Terrace Road, Greenock, on or before Saturday, May 16th

Central Hospital, Plymouth.
(50 Beds.)

HOUSE SURGEON wanted (male or female). Salary £130 per annum, with board, residence, etc.

Applications, *stating age, together with not more than three recent* testimonials, to be sent to the undersigned not later than May 20th.

WM. W. PRELL.

Cheadle Royal Mental Hospital,
CHEADLE, CHESHIRE.

LOCUM TENENS *required immediately for* a period of some months at the above Registered Mental Hospital. Salary £7 7s. per week, with board, residence, and laundry.

Apply by letter to the Medical Superin*tendent, stating* qualifications and experience.

City and County of Kingston-upon-Hull.

HULL MUNICIPAL MATERNITY HOME AND INFANTS' HOSPITAL.

JUNIOR RESIDENT MEDICAL OFFICER (*Woman*).

The Corporation invite applications from unmarried or widowed Women Medical Practitioners for the appointment of Junior Resident Medical Officer at the Maternity Home and Infants' Hospital, Hedon Road, Hull.

Salary is at the rate of £100 per annum, together with board, washing, and residence at the Maternity Home.

The appointment is limited to a period of one year.

The Medical Officer appointed will be given every opportunity of obtaining post-graduate experience in abnormal cases of midwifery, *in the treatment of dietetic errors in children*, and in the treatment of venereal diseases in pregnant women.

She will be required to devote the whole of her time to the duties of the appointment, which will also include opportunities for occasional attendance, for the sake of experience, at Ante-natal, Post-natal, and other clinics. She will also act as Anæsthetist at the Maternity Home.

Conditions of appointment and forms of application may be obtained from the undersigned.

Completed applications (in an envelope endorsed "Junior Resident Medical Officer, Maternity Home"), together with copies of three recent testimonials, must be received not later than [illegible] May 13th.

H. [illegible] C. FRAZER,
[illegible] Officer of
Hull. Health.

Borough of Dover.

ASSISTANT MEDICAL OFFICER OF HEALTH.

The Corporation of Dover invite applications for the above appointment from Medical Practitioners between 30 and 40 years of age who hold a Diploma in Sanitary Science. Salary £700, rising to £750.

The applicant appointed will be required to commence his duties as soon as possible, and to devote his attention principally to work under the Alkali Order, 1920. Colloquial French and German will be a recommendation.

Further details of the duties and terms and *conditions of the appointment may be obtained* of the undersigned, to whom applications, accompanied by copies of testimonials, must be delivered by May 15th.

Town Clerk's Office, R. E. KNOCKER,
Brook House, Dover. Town Clerk.
April 27th, 1931.

St. Mary's Hospital, London, W.C.2.

Applications are invited from duly qualified Medical Practitioners for the post of RESIDENT ANÆSTHETIST which falls vacant on June 1st. Salary for first month of office at rate of £104 per annum, non-resident; for the remaining six months £150 per annum, with board and residence.

The successful candidate will be *eligible for* re-appointment. Copy of the regulations may be obtained on application to the undersigned.

Last date for receipt of applications, which *should be accompanied by testimonials not* exceeding three in number, is May 21st.

W. PARKES, Secretary.

St. Mary's Hospital, London, W.2.

HONORARY MEDICAL AND SURGICAL STAFF.

Applications are invited for the post of SECOND OBSTETRIC SURGEON in charge of Out-patients. Candidates for the appointment are requested to forward their applications, with copies (not originals) of *testimonials*, not exceeding six in number, addressed to the Secretary at the Hospital, on or before May 27th.

Candidates must be Fellows of the Royal College of Surgeons of England.

The appointment is for five years, at the expiration of which term the holder will be eligible for re-election.

(Signed) W. PARKES, Secretary.

North Ormesby Hospital,
MIDDLESBROUGH. (140 Beds.)

HOUSE SURGEON, male and unmarried, required in the middle of May. Salary £135 per annum, [illegible] residence, and laundry. There [illegible] *stating* age, [illegible]), with copies [illegible] ould be sent to the undersigned.

GEORGE WATTS,
Secretary-Superintendent.

Nottinghamshire County Council

ASSISTANT MEDICAL OFFICER FOR MATERNITY AND CHILD WELFARE (Woman).

*Applications are invited for the above appoint*ment from duly qualified and registered *women Medical Practitioners.*

Candidates must have had at least three years' experience since qualification, *have held* a resident Hospital post, and have had considerable and recent special clinical experience in Obstetrics, Ante-natal work, and Diseases of Women.

The officer appointed will be required to devote her whole time to the duties of the office. She will be a member of the staff of the County Medical Officer, will work under his control and *direction*, and will be required to reside in a part of the County to be approved by him, and to carry out such duties as may be prescribed.

The salary will be at the rate of £650 per *annum, rising by annual increments of £25* to £700, together with travelling allowances in accordance with the County Council's scale.

The engagement will be terminable by three months' notice on either side.

The successful candidate will be required to pass a medical examination.

Applications on the prescribed form (which may be obtained on application to me), accompanied by copies *of not more than three recent* testimonials, should be forwarded to the County Medical Officer, Shire Hall, Nottingham, not later than May 16th.

Shire Hall, E. TWEEDALE MEARY,
Nottingham. Clerk of the County
April, 1931. Council.

Borough of Colne.

MEDICAL OFFICER OF HEALTH.

The Town Council invite applications for the appointment of Medical Officer of *Health*, School Medical Officer and Maternity and Child Welfare Medical Officer for the Borough.

The salary of the *appointment* will be £800 per annum, and a motor car is available for the use of the Health Department.

Candidates must be duly qualified Medical Practitioners, *and* possess a recognised Diploma in Public Health and the requisite qualifications required by the Sanitary Officers Order, 1926, and the Regulations of the Ministry of Health, to whose approval the appointment will be subject.

Canvassing will disqualify a candidate.

Applications, accompanied by not more than three references or recent *testimonials, must* be sent to the undersigned, endorsed "Medical Officer of Health," not later than Monday, May 18th.

Town Hall, Colne, L. A. VENABLES.
April 24th, 1931. Town Clerk.

St. Albans and Mid Herts
HOSPITAL AND DISPENSARY, CHURCH CRESCENT, ST. ALBANS.

Applications are invited for the post of FEMALE RESIDENT HOUSE SURGEON. Salary £150 per annum, with board, residence, and laundry.

Applications to be sent to the Secretary, St. Albans and Mid Herts Hospital, No. 38, St. Peter's Street, St. Albans.

May 4th, 1931.

The Hospital for Sick Children,
NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a HOUSE SURGEON (male or female) to commence duties forthwith until September 30th. Salary at the rate of £100 per annum, *together* with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the *Secretary*, Mr. NEIL BRODIE, 18, City Road, Newcastle.

The Royal Infirmary,
SUNDERLAND. (290 Beds.)

*Wanted, beginning of June, HOUSE PHYSI*CIAN (male). Salary £140 per *annum*, with board, residence, and laundry.

Applications, *stating age*, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Victoria Hospital for Sick
CHILDREN, HULL.

RESIDENT HOUSE SURGEON and RESIDENT HOUSE PHYSICIAN required (ladies). Salary of former £100 and latter £80 per annum. Experience *in laboratory* work desirable. 105 beds. Applications, with copies of *recent testi*monials, stating age, qualifications, and other particulars, to be sent to the Secretary not later than Thursday, May 14th.

London Jewish Hospital,
Stepney Green, E.1.

(General Hospital. 108 Beds.)

Applications are invited for the following posts:

MEDICAL REGISTRAR. Honorarium at the rate of £100 per annum.

SURGICAL REGISTRAR. Honorarium at the rate of 60 guineas per annum.

EAR, NOSE, AND THROAT REGISTRAR. Honorarium at the rate of 60 guineas per annum.

Particulars of the above appointments can be obtained from the Secretary, to whom candidates must send six copies of their application, with copies of three recent testimonials, not later than Tuesday, May 19th.

RESIDENT MEDICAL OFFICER. Salary at the rate of £150 per annum, with board and residence. Appointment for six months.

JUNIOR RESIDENT MEDICAL OFFICER. Salary at the rate of £100 per annum, with board and residence. Appointment for six months.

CASUALTY OFFICER (non-resident). Salary at the rate of £150 per annum, with luncheon and tea. Appointment for six months. The holder will be required to attend the Out-patient Department daily from Monday to Friday at 9 a.m.

Applications, with copies of three recent testimonials, to be sent to the Secretary on or before Tuesday, May 19th. The successful candidates will be required to take up their offices on June 1st.

Queen's Hospital, Birmingham.

Applications are invited for the post of HONORARY OPHTHALMIC SURGEON to the Queen's Hospital.

Candidates must be Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland, or shall hold a degree in Medicine and Surgery of a British University, together with a degree or diploma in Ophthalmology.

Applications, stating date of birth and full particulars of qualifications, accompanied by testimonials, evidence of registration and diplomas, should be forwarded to the undersigned by June 15th.

The Assistant Ophthalmic Surgeon is a candidate for the post.

G. HURFORD,
Birmingham. *House Governor.*
April 28th, 1931.

The Lady Chichester Hospital,
HOVE.

(For Early Nervous Breakdowns.) (50 Beds.)

Medical Woman required as HOUSE PHYSICIAN for six months. Salary at the rate of £100 per annum, with board, lodging, and laundry.

Also JUNIOR required, with board, lodging, and laundry, and honorarium at the rate of £50 per annum.

The successful candidates will be required to enter on their duties on July 1st.

Applications must be made in writing, and be accompanied by testimonials, and sent to the Secretary, Mr. A. F. GRAVES, 117, North Street, Brighton, not later than Monday, June 1st.

May 2nd, 1931.

Ancoats Hospital, Manchester.

HOUSE SURGEON (Orthopaedic) required to commence duty on June 1st next. Appointment for six months. Salary at the rate of £100 per annum, with board, apartments, etc.

Applications, stating age, qualifications, previous experience (if any), together with copies of three recent testimonials, to be forwarded to the undersigned on or before May 20th.

By Order of the Board,
HERBERT J. DAFFORNE,
Gen. Supt. & Secretary.

Bootle General Hospital,
BOOTLE, LANCS. (100 Beds.)

Applications are invited for the two posts of HOUSE SURGEON for the period ending September 30th. Salaries at the rate of £150 per annum, with board, etc. *Duties* to commence as soon as possible.

Applications, stating age and qualifications, with copies of testimonials, to be sent to the undersigned immediately.

J. A. BEARDSALL,
Secretary-Superintendent.

Southend Victoria Hospital,
SOUTHEND-ON-SEA. (96 Beds and Cots.)

JUNIOR HOUSE SURGEON (male) required at once. Six months' appointment. Salary £150 per annum, board, residence, and laundry. Apply, stating age, qualifications, previous experience, with copies of three recent testimonials, to the Secretary on or before May 11th.

C. G. PEARSON, Secretary.

Chesterfield and North Derbyshire Royal Hospital.
(190 Surgical and Medical Beds.)

CASUALTY OFFICER (DEPUTY RESIDENT SURGICAL OFFICER).

Applications are invited from fully qualified men for the above post. The appointment is for six months. Candidates must have held previous Hospital appointments.

Duties include House Surgeon to the Ear, Nose, and Throat Department.

Salary at the rate of £200 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, to be sent to the undersigned.

HOUSE SURGEON.

Applications are also invited from duly qualified men for the above post.

The appointment is for six months.

Salary at the rate of £150 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned.

G. SUNNUCK,
May 5th, 1931. Secretary and Supt.

Poplar Hospital for Accidents,
East India Dock Road, E.14.

Applications are invited for the post of SENIOR RESIDENT OFFICER.

Salary £200 per annum, with board, residence, and laundry, plus fees £75 per annum as Anaesthetist to Dental Clinic for L.C.C. School Children. Appointment for twelve months.

Applicants must be Fellows of the Royal College of Surgeons. Post offers considerable scope for Surgical practice.

Applications, stating age, qualifications, and enclosing copies of three recent testimonials, to be sent to the undersigned on or before May 22nd.

D. H. LINDSAY,
House Governor & Secretary.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

An OPHTHALMIC SURGEON is required on June 1st.

Gentlemen, who must be Fellows of the Royal College of Surgeons of England, are invited to send in their applications to the Secretary, with copies of not more than three testimonials written specially for the purpose, at or before 12 o'clock on Monday, May 18th.

All candidates will be required to attend before the Joint Committee on Wednesday, *May 20th, at 5 p.m. precisely.*

Forms of application and copies of the rules can be obtained from the Secretary.

By Order of the Committee of Management.
JAMES MCKAY,
April, 1931. Secretary.

Derbyshire Royal Infirmary,
DERBY.

(General Hospital—346 Beds.)

Applications are invited for the post of CASUALTY OFFICER.

Candidates must be qualified and registered under the Medical Acts.

The appointment is tenable for 12 months.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with copies of testimonials (not more than three), to be sent to the undersigned.

WALTER BANKS,
May 5th, 1931. Supt. & Secretary.

Worcester General Infirmary.
(Voluntary Hospital—132 Beds.)

JUNIOR HOUSE SURGEON required July 1st. Salary at the rate of £120 per annum, with board, residence, and laundry. *Candidates must* be fully qualified, and preferably with previous *Hospital experience.*

The successful candidate will be eligible for the post of Senior House Surgeon (salary at the rate of £180 per annum), which becomes vacant on August 31st.

Applications, stating age, experience, and qualifications, together with copies of three *recent testimonials*, to be sent to the undersigned forthwith.

PERCY N. GLASS, General Secretary.

Oxford Eye Hospital.

Applications are invited for the post of HOUSE SURGEON (male or female), which will be vacant the middle of June.

The appointment is for one year. Salary at the rate of £150 per annum, with board, rooms, and laundry, and part fees for School Refraction work.

Applications, with copies of testimonials, stating age, nationality, and experience, should be sent to the Secretary, Oxford Eye Hospital, Walton Street, Oxford.

Manchester Royal Infirmary.
CENTRAL BRANCH, Roby Street, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment. Applicants must be registered and hold a Medical and Surgical qualification.

... ble for nine months, ... ee months as Junior ... *months as Assistant* at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m. on Thursday, May 21st.

By Order,
FRANK G. HAZELL.
Gen. Supt. & Secretary.

Hull Royal Infirmary.
(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose, and Throat Departments.

Salary £150 per annum, plus board, residence, and laundry.

The post is recognised by the Conjoint Board of the Royal Colleges for the clinical work required in the Regulations for the Diplomas in Ophthalmic Medicine and Surgery and in

... for six months in ... ll be terminable by ... her side.

... es of testimonials, ... to the undersigned.

R. J. CARLESS,
March 16th, 1931. House Governor.

North Staffordshire Royal Infirmary, Stoke-on-Trent.
(350 Beds.)

HOUSE SURGEON.

The Committee invite applications for the post of House Surgeon.

Salary at the rate of £150 per annum, with board, residence, and laundry.

Previous Hospital experience necessary.

Applications, with copies of two recent testimonials, to be sent to the undersigned immediately.

By Order,
W. STEVENSON,
May 4th, 1931. Secretary & House Gov.

The Middlesex Hospital, W.1.

DEPARTMENT OF RADIUM THERAPY AND RESEARCH.

Applications are invited from fully qualified Medical Men for the post of *whole-time* ASSISTANT in the Department of Radium Therapy and Research. The appointment, which is annual, with salary at the rate of £300 per annum, will be tenable in the first instance from appointment until December 31st, 1931.

Applications, accompanied by copies of testimonials, should be submitted to the undersigned, from whom further ... not later than ...

Elizabeth ... HOSPITAL, Euston Road.

Wanted, *fully qualified Medical Women for* the following posts:

HOUSE PHYSICIAN:

... from July 1st ... *per annum,* ... with board, residence, and laundry. Applications, with copies of three testimonials, should be sent to the Secretary by Wednesday, May 27th.

JEAN R. MURRAY, Secretary.

Northumberland Mental Hospital
MORPETH.

LOCUM TENENS wanted for above Mental Hospital for period May 21st to June 16th inclusive. Salary £7 7s. per week, with board, ... Appli-

...

RESIDENT MEDICAL OFFICER required immediately. Salary £100 per annum. Ample time for post-graduate study. Apply Secretary as above.

Walsall General Hospital.

The Committee invite applications from men or women for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months. The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, must be received by the undersigned not later than first post Tuesday, May 12th.

WALTER FRANCOMBE, Secretary.

Western Ophthalmic Hospital,

Marylebone Road, N.W.1.

Applications are invited for the post of JUNIOR NON-RESIDENT HOUSE SURGEON. The salary is at the rate of £100 per annum, and the appointment is for six months. Ophthalmic experience is required. The selected candidate will be required to take up duty at an early date.

Applications, accompanied by copies of not less than three testimonials, should be sent to the undersigned at once.

H. W. BURLEIGH,
Honorary Secretary.

The Salvation Army,

THE MOTHERS' HOSPITAL,
Lower Clapton Road, Clapton, E.5.

Applications are invited from Medical Women for the post of ASSISTANT RESIDENT MEDICAL OFFICER, vacant June 1st. Salary £80 per annum, with board, residence, and laundry. Candidates should have some experience in Anæsthetics. Applications, with testimonials, must be sent to the Secretary-Superintendent on or before May 21st.

EDGAR DIBDEN,
Secretary-Superintendent.

Royal Free Hospital,

Gray's Inn Road, W.C.1.

Applications are invited from Medical Women for the post of ASSISTANT MEDICAL OFFICER in the V.D. Department (female). Salary at the rate of £350 per annum, part time. Intending candidates should submit applications, stating age and experience, with copies of three recent testimonials, to the undersigned on or before May 16th.

REGINALD R. GARRATT,
Secretary.

Royal Free Hospital,

Gray's Inn Road, W.C.1.

Applications are invited from fully qualified Medical Women for SENIOR CLINICAL ASSISTANTSHIP in the Children's Dept. on Friday afternoons. Intending candidates should submit applications to the undersigned on or before May 16th next.

REGINALD R. GARRATT,
Secretary.

Liverpool Maternity Hospital,

Oxford Street.

HOUSE SURGEON required for six months commencing July 1st next. Salary at the rate of £90 per annum, with board, residence, and laundry. Previous experience as House Surgeon essential. Membership of a Medical Defence Society is a condition of appointment.

Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the Hon. Secretary of the Medical Board on or before May 30th.

London Hospital, E.1.

Applications are invited for the post of ASSISTANT PHYSICIAN to the Children's Department of this Hospital.

Candidates must be Members of the Royal College of Physicians in London.

Applications should arrive not later than on May 16th.

Further particulars may be obtained from the House Governor.

ARTHUR G. ELLIOTT,
April 20th, 1931. House Governor.

Norfolk and Norwich Hospital,

NORWICH.

Applications are invited for the post of CASUALTY OFFICER and HOUSE SURGEON (with charge of 25 beds).

Salary £120, with board, residence, and laundry. Candidates (male), who must possess registered qualifications, should forward applications, stating age, nationality, etc., together with copies of testimonials, to the undersigned not later than Tuesday, May 12th.

FRANK INCH,
House Governor & Secretary.
May 1st, 1931.

The Royal Gwent Hospital,

NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to act as House Surgeon to Out-patients and as House Physician.

Salary £135, with board, lodgings, and laundry. Resident Medical staff 5. Eligible for promotion.

Large Out-patients' Department.

Applications, stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.

Applications from ladies not entertained.

J. K. MILLWARD,
April 28th, 1931. Secretary-Supt.

Manchester Ear Hospital,

Grosvenor Square, All Saints'.

The Board invite applications for the post of NON-RESIDENT HOUSE SURGEON, 24 beds. Appointment six months. Salary at the rate of £150 per annum, with partial board. Candidates must be fully qualified and registered.

Applications, with copies of four recent testimonials, to be forwarded to Mr. REGINALD S. MILFORD (Hon. Secretary, Manchester Ear Hospital), c/o Mr. W. J. ELLAM, 33, Brazennose Street, Manchester, not later than May 15th.

The Belgrave Hospital for

CHILDREN (Incorporated),
1, Clapham Road, S.W.9.

The Committee of Management invite applications for the post of HOUSE SURGEON, which will become vacant on May 31st next.

Applicants (men) must be fully qualified and registered. The appointment is for six months, with board, resid nce, and washing provided. Salary at the rate of £100 per annum.

Applications, with copies of testimonials, stating age, should be forwarded on or before Thursday, May 14th, to the Secretary.

Oldham Royal Infirmary.

HOUSE PHYSICIAN and CASUALTY OFFICER required forthwith. Appointment tenable for a period of six months. Salary at the rate of £175 per annum, with board, resid nce, and laundry. Successful candidate will be required to assist the Honorary Pathologist, and will be eligible for re appointment.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Connaught Hospital,

Orford Road, E.17. (100 Beds)

RESIDENT CASUALTY OFFICER (male) required. Salary £100 per annum. Appointment for six months from June 1st, with board, residence, and laundry. Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, should be sent to the Secretary, to reach him by May 18th.

East London Hospital for

CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.1.

Applications are invited for the post of RESIDENT CASUALTY OFFICER (male), vacant on June 1st. Salary at the rate of £125 per annum, with board, residence, and laundry provided. Applications, with testimonials, should reach the undersigned not later than May 16th.

W. M. WILCOX, Secretary.

Huddersfield Royal Infirmary.

(210 Beds.)

Male H [illegible] to commence dut [illegible] per annum, with boar [illegible] Appointment for [illegible] enewal for further three or six months. Applications, with copy testimonials, to be addressed to the Secretary not later than May 16th.

Ilford Isolation Hospital.

TEMPORARY RESIDENT MEDICAL OFFICER (lady) required. Applicants must have held a resident appointment in an Isolation Hospital. Salary £350 per annum, with residential emoluments. Applications to be made to Dr. A. H. G. BURTON, Medical Officer of Health, Public Health Offices, Ilford.

King George Hospital, Ilford

(8 miles from London).

Applications are invited for the appointment of Two HOUSE SURGEONS (male). Salary £100 per annum, with board, residence, etc. Term, six months, with eligibility for a further period. Applications should be sent at once to the Secretary.

Dumfries and Galloway Royal

INFIRMARY.

Applications are invited for the post of RESIDENT MEDICAL OFFICER. The Institution, which contains over 100 beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession. Salary £100 to £150, according to qualifications and experience.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84, Irish Street, Dumfries, at once.

Aberdeen Royal Infirmary.

The Board of Directors invite applications for the post of HONORARY MEDICAL OFFICER in charge of the Department for Diseases of the Skin. Preference will be given to candidates having a knowledge of Venereal Diseases.

Further particulars may be had from the undersigned, with whom applications and testimonials (six copies), should be lodged on or before May 23rd.

JOHN A. McCONACHIE,
230, Union Street, Clerk & Treasurer.
Aberdeen, May 1st, 1931.

Queen's Hospital for Children,

Hackney Road, London, E.2.

HOUSE SURGEON (male) required on July 1st. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the Secretary, and must be sent in, with copies of not more than four testimonials, on or before May 31st.

CHARLES H. BESSELL,
May 1st, 1931. Secretary.

Queen's Hospital for Children,

Hackney Road, London, E.2.

CASUALTY OFFICER required July 1st. Some Dermatology additional. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials, on or before May 31st.

CHARLES H. BESSELL,
May 1st, 1931. Secretary.

Queen's Hospital for Children,

Hackney Road, London, E.2.

HOUSE PHYSICIAN required on July 1st. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials, on or before May 31st.

CHARLES H. BESSELL,
May 1st, 1931. Secretary.

Rotherham Hospital.

(130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £150, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Rotherham Hospital.

Wanted, HOUSE PHYSICIAN (male), qualified. Salary £180 per annum, with board, residence, and laundry, to have charge of Out-patients, administer Anæsthetics, and assist Honorary Physician.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Pontefract General Infirmary.

Wanted, RESIDENT MEDICAL OFFICER. Work largely Surgical. 60 beds, 1,500 In-patients.

Salary £200—£300, according to qualifications. Board, apartments, and laundry provided.

Send three copies of recent testimonials to HERBERT HOLMES, Secretary, Ropergate, Pontefract.

Royal Cornwall Infirmary,

TRURO. (84 Beds.)

HOUSE SURGEON (male) required with experience of Anæsthetics. Salary £170 per annum, rooms, board, and washing. Apply, with copies of three recent testimonials, to the Secretary, of whom further particulars may be obtained.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
GENERAL POST OFFICE. *(Assistant Medical Officer—Woman.)*	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH** *(contd.)*
CONTRACT PRACTICE.	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.)* *(Resident Medical Officer, Preston Institution, Fulwood.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	**PUBLIC HEALTH.**	STAFFS COUNTY MENTAL HOSPITAL, BURNTWOOD. *(Third Assistant Medical Officer.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*	WOLVERHAMPTON COUNTY BOROUGH. *(Assistant Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	DEVON COUNTY COUNCIL. *(School Medical Inspector—Male.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)*	
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*		
NEATH AND DISTRICT. *(Medical Aid Association.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division of Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Macquarie St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 206, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

May 6th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Hospital of St. Cross, Rugby.
(114 Beds.)

THREE RESIDENT MEDICAL OFFICERS (Males) REQUIRED.

Applications are invited for the posts of:
First Resident Medical Officer, qualified. Salary at the rate of £150 per annum, with full board, etc., to commence duties immediately.
Second Resident Medical Officer, qualified. Salary at the rate of £125 per annum, with full board, etc., to commence duties immediately.
Third Resident Medical Officer, qualified. Salary at the rate of £100 per annum, with full board, etc. Commence immediately.
Six months' appointments, and eligible on completion of service for extension or other resident's posts.
Applications, stating age, nationality, and full details, with copies of three recent testimonials, to be sent to the undersigned.

W. COCKBURN,
Superintendent and Secretary.

Radcliffe Infirmary and County
HOSPITAL, OXFORD.

Applications are invited for the post of RESIDENT MEDICAL OFFICER at the Osler Pavilion (Tuberculosis Sanatorium), Headington, Oxford, as from June 1st next.
Appointment will be for six months in the first instance. Salary at the rate of £120 per annum.
Candidates must have a practical knowledge of X-Ray work, Artificial Pneumothorax, and Modern Methods of Treatment.
Applications, with copies of testimonials, must be forwarded to the undersigned, at the Radcliffe Infirmary, not later than May 16th.

A. G. E. SANCTUARY, Administrator.
April 27th, 1931.

East Sussex County Mental
HOSPITAL, HELLINGLY.

JUNIOR ASSISTANT RESIDENT MEDICAL OFFICERS (Two).

Applications are invited from the above posts from duly qualified registered gentlemen (unmarried).
Salary £350 a year, rising by four annual increments of £25 to £450, together with board, lodging, washing, and attendance, valued for superannuation purposes at £90 a year. An additional £50 a year will be paid to any candidate appointed who holds the Diploma in Psychological Medicine, or a similar Diploma.
Preference will be given to those holding a University degree.
The appointments are subject to the provisions of the Asylums Officers Superannuation Act, 1909.
Applications, marked "A.M.O.," giving particulars of previous experience and copies of not more than three testimonials (ad hoc), should be addressed to the Medical Superintendent not later than May 15th.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).
Salary at the rate of £175 per annum, with residence, board, and laundry.
The appointment is for six months and is renewable.
The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.
Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.
Dated this 28th day of February, 1931.

ARTHUR H. LIMB, Secretary.

New Sussex Hospital for Women
AND CHILDREN (INCORPORATED), BRIGHTON. (50 Beds.)

The Council of Management invites applications from qualified Medical Women for the following posts:
(1) HOUSE PHYSICIAN to take up duty on May 15th;
(2) HOUSE SURGEON to take up duty on June 15th;
(3) HONORARY ASSISTANT OPHTHALMIC SURGEON to attend each Friday afternoon.
Honorarium for (1) and (2) at the rate of £50 per annum, with board, residence, and allowance for laundry.
Applications, with copies of three recent testimonials, to reach the Secretary on or before May 11th.

M. F. LOCKWOOD, Secretary.

Leicestershire and Rutland
MENTAL HOSPITAL, NARBOROUGH, NEAR LEICESTER.

MALE ASSISTANT MEDICAL OFFICER Required.

Candidates must be registered and not more than 35 years of age, unmarried. Salary £350 per annum, rising £25 per annum to £450. In addition, £50 per annum will be given if the candidate holds the Diploma of Psychological Medicine. Full board and attendance in addition to the above, valued for superannuation purposes at £150 per annum. The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.
Application, with copies of not more than three recent testimonials, to be sent to the Medical Superintendent forthwith.

(Appointments continued on p. 59).

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
Telegrams: ARTICULATE, WESTCENT, LONDON.
Telephone: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(A line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted, — Assistantship by M.B., Ch.B., married, 25. H.S. Teaching Hospital and Teaching Maternity Hospital, 9 months' good experience panel and private practice. Motor cyclist and motorist. Scotland country district preferred. Wishes to settle. Free end May or sooner.—TINDAL, OATTS & ROBSON, Solicitors, 113, St. Vincent Street, Glasgow.

Wanted, an outdoor Assistant for General Practice (private and panel) in small town South of England. English or Scotch preferred, Protestant, single. For man with experience. £400 p.a., outdoor; for freshly qualified man, £350 p.a. to start with, outdoor. Abstainer. Usual bond.—Address, No. 2938, B.M.A. House, Tavistock Square, W.C.1.

Wanted, — Assistantship with view in 6—9 months, in good Country Practice, or S. England country town. M.B., B.Ch., ex H.S., aet. 25. Unmarried. Good experience Surgery and Gynaecology. Short experience general practice.—Address, No. 2810, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, outdoor Assistant, male, young, active. Residential country town, Cheshire, close to large centres. Able to drive car. Salary £350. Usual bond. Full-time Dispenser kept. Interview. Railway expenses paid. Full particulars.—Address, No. 2813, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, — Outdoor Assistant, in the middle of June, in good-class Practice in the Midlands. Would suit young Graduate reading for higher degree, and wishing to get experience in private practice.—Address, giving full particulars, No. 2926, B.M.A. House, Tavistock Square, W.C.1.

Wanted, — Assistantship, outdoor, with view in 6—12 months, by M.B.(Dunn), M.R.C.S., aet. 28, married, ex H.P. and R.M.O. Some G.P. Good exper. med., anaes., midwifv, and biochemistry. Interview.—Add., No. 2828, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, — Assistantship or LOCUMS by Medical Woman. Five years' experience in private and panel practice. Disengaged middle of May. Can drive car.—Add., No. 2825, B.M.A. House, Tavistock Square, W.C.1.

Wanted, — Assistantship (view preferred) by M.B., B.Ch., ex H.S. and H.P., 3 years' experience of G.P. Male, aged 29, single. Own car. Well received.—Address, No. 2806, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, — Part-time British ASSISTANT (indoor) for pleasant country Practice in Scottish Highlands. Lady preferred who would be good companion for Doctor's wife. Send partics., photo., height, etc. —No 2804 B.M.A House, Tavistock Sq., W.C.1.

Wanted, — Lady Assistant, indoor. Drive car and cycle. Panel and private Practice. English preferred. Photograph. State age and other essential particulars. Work light.—Address, No. 2934, B.M.A. House, Tavistock Square, W.C.1.

Wanted, — Young male Assistant, indoor, good home, in Colliery Practice, Rhondda. Dispenser kept. Salary £350 p.a.—Address, No. 2935, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, outdoor male ASSISTANT, mixed Practice near Birmingham. Married or single. State nationality, age, experience. Photo and references.—No. 2807, B.M.A. House, Tavistock Sq., W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted.—Assistant, end of May. £300, indoor. With small capital. Share soon. Birmingham.—Address, No. 2803, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Woman Indoor ASSISTANT. State age and experience. —Address, No. 2945, B.M.A. House, Tavistock Square, W.C.1.

Assistant wanted for General Practice. Motor cyclist or car owner preferred. Live in. £250—£300. Terms could be arranged for part time services if desirous of doing Post Graduate work. Within easy reach of Teaching School.—Address, No. 2516, B.M.A. House, Tavistock Square, W.C.1.

Assistant (man or woman), indoor, wanted, Country Town. State age, height, religion, and full particulars.—Address, No. 2732, B.M.A. House, Tavistock Sq., W.C.1.

Clinical Assistant required for Private Mental Hospital in London. Resident post. Small salary. Duties light, ample free time for Post-Graduate work or for obtaining the D.P.H.—For further particulars, address, No 2805, B.M.A. House, Tavistock Sq., W.C.1.

Glasgow M.B., Ch.B., wants ASSISTANTSHIP with view, preferably in Scotland, but not essential. Unmarried, aet. 31, ex H.P., ex Senior H.S., exper. G.P., abstainer, keen, energetic, reliable. Free now. —No. 2829, B.M.A. House, Tavistock Sq., W.C.1.

Lady Assistant wanted, to begin at end of May, for Industrial Practice near Manchester. Must be experienced in midwifery. Salary £300. — Address, No. 2802, B.M.A. House, Tavistock Square, W.C.1.

Male Assistant wanted June 1st, Central London, live in or out. Usual salary and bond. Panel and private Practice, not unremunerative. Principal a bachelor. Church of England pref. and middle age no objection.—No. 2939, B.M.A. House, Tavistock Sq., W.C.1.

M.B., Ch.B., married, possessing own household and surgery furniture, desires ASSISTANTSHIP, with or without view. Well exper. in G.P. Ex House Physician, anaesth. and mid. Highest refs. Free shortly. —No. 2827, B.M.A. House, Tavistock Sq., W.C.1.

Pathological and Bacteriological LABORATORY ASSISTANTS ASSOCIATION.—Pathological ... ing SKILLED ASSISTANTS at H. GOODING, Ho ... Grove, Victoria ...

Temporary outdoor Assistant (male) wanted (industrial) in good City (West). Salary at rate of £300 per annum, everything found.—Address, No. 2936, B.M.A. House, Tavistock Square, W.C.1.

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATTEGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2
Tel. { TEMPLE BAR 1054. RIVERSIDE 1254. *(Night Calls)*
Telegrams:
"REASIDE, TUBERCLE, WESTRAND, LONDON."

Hospitality Locum — June, or part. Hospitality offered to Medical Man and wife; should bring own car, but could have use of motor boat. Work light.—Dr. Ross, Mevagissey, Cornwall.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Locum Tenens now free for ENGAGEMENTS during summer. St. Bart's man, qual. 1907, English, experienced panel and G.P., and Mental work. Recent references.—Apply, "MEDICUS," The Red House, Lancing, Sussex. 'Phone: Lancing 57.

Locum Tenens. — Experienced Practitioner wants EMPLOYMENT—Evenings, Week-ends, long or short periods. Fees from 3½ guineas per week.—Address, No. 2940, B.M.A. House, Tavistock Square, W.C.1.

Locums wanted by ex H.S. and H.P. 1 year's experience G.P. Available from now until middle of July.—Address, No. 2823, B.M.A. House, Tavistock Square, W.C.1.

M.B., B.Ch.(Woman) desires LOCUM or ASSISTANTSHIP. Five years' experience panel and private practice. Well received. Used to sole charge. Now free in London — Address, No. 2821, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS. DISPENSERS, etc.

Wanted, situation in Doctor's house (preferably Mental Specialist) or Mental Home. Two sisters, 60 and 57; one normal, excellent cook-housekeeper, other slightly mental, delusions, docile, good needlewoman.—DAVIES, 2, Scudamore Street, Hereford.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

A General Practitioner, retiring from Practice after 30 years, desires some light OCCUPATION. Willing to invest capital in a suitable enterprise.—Address, No. 2830, B.M.A. House, Tavistock Square, W.C.1.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3579, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Dispenser (Hall), lady, middle-aged, requires POST. Capable, quick, and methodical; good testimonials. 15 years' experience Hospital and private practice.—Address, No. 2932, B.M.A. House, Tavistock Sq. W.C.1.

Doctors requiring qualified Dispensers, Nurse Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Lady Dispenser-Bookkeeper (14 years' experience with chemist, hospital, and in private practice) requires POST with Doctor shortly. Available for interviews any Sunday in May. — Address, No. 2931, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser seeks Post in or near London. Hall certif. Experienced all kinds practice. Drives car. Educated. Highest refs. — Write "ADVERTISER," 163, Milton Road, Cambridge.

London trained State registered NURSE seeks appointment as RECEPTIONIST ASSISTANT with London Doctor or Dentist. Experienced private patients. Young, fluent French, educated Cheltenham College.—Address, 12, Dulverton Mansions, Holborn, W.C.1.

Middle-aged couple seek Care-TAKING POST. Country or Town. Woman, light services; man, ex Naval Officer, good gardener. — "L," The Cot, Sealands, Dymchurch, Kent.

Pharmacist (lady), 8 years' good Hospital experience, desires PERMANENCY anywhere, Doctor or Hospital. Can drive car. Moderate terms. Also booking Locums (London preferred).—GORDON, 19, St. Bernard's Road, Olton, Birmingham.

Post-Graduate desires Part-time WORK—e.g., Evening Surgeries—in London for the next six months. Own car. Five years' experience Hospital, panel, and private practice. — *Address*, No. 2944, B.M.A. House, Tavistock Square, W.C.1.

Resident Locum Medical Officer (male) required from June 15th to October 4th. Salary £8 8s. per week, with furnished quarters and attendance, but not board. Home cases mornings; consultations 2—4 p.m.; closed Wednesday 1 p.m. No Midwifery or night work. Applications, with copy testimonials, stating nationality, qualification, and experience, to be sent not later than May 20th to the Secretary, General Dispensary, Steelhouse Lane, Birmingham.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

The Royal Army Medical Corps ASSOCIATION, 85, *Eccleston Square*, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Typewriting and Duplicating undertaken by Expert. Testimonials, Theses, Legal Documents. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD (*B*), 341, Finchley Road, N.W.3. 'Phone Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted in about six months' time, by University Graduate, aged 50 years, returned India, PARTNERSHIP, with view SUCCESSION, good-class Practice. Would consider immediate succession. — Address, No. 2635, B.M.A. House, Tavistock Square, W.C.1.

Wanted, Partnership in London Med Transfer Agency, by young Medical Practitioner, ceased practice through ill health. Propose opening branch in untapped area. Good appearance, business ability. Genuine. Confid.—No 2803, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Partnership offer by M.R.C.P., aged 30, ex H.S., H.P., C.O., now Senior R.M.O. in a London Teaching Hospital.—Write Box 198, 8, Serle Street, W.C.2.

Lancashire Town.—Partnership, 1/2 share £3,000, Panel 3,000. Up-to-date Hospital, with possible staff appointment. Premium £2,250, part by instalments. House on rent. — Address, No. 2615, B.M.A. House, Tavistock Square, W.C.1.

One-fifth Share, unopposed PRACTICE, small town, West Country. £6,000 p.a. 1/5 share 5 years. Good house available. Should have expr. of Surgery and general practice. Cottage Hosp. Prem. 2 yrs. —No 2605, B.M.A. House, Tavistock Sq., W.C.1.

Partner.—Capable, Hospital experience. Minimum income £500. House available. Scotland. Large panel. Early succession. £1,500 wanted. Essential details, testimonials, photo.—Address, No. 2809, B.M.A. House, Tavistock Square, W.C.1.

Partner wanted for Practice in pleasant country district in North of England, near a good town. Share for disposal equals about £1,200 p.a. *Premium* 1½ years' purchase. Good house. Golf, fishing, hunting.—No 2820, B.M.A. House, Tavistock Sq., W.C.1.

South Coast; large town.—Partner leaving shortly. *HALF SHARE* of over £2,300, audited. Good-class district. Panel 2,000. Appointments £350. Modern house to rent. Hospital experience desirable. Two years' purchase. Attractive opening.—Address, No. 2597, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted.—London and District. —The Medical Agency has a large clientele seeking suitable INVESTMENTS in the London area, with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, *on receipt of card*.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Wanted by experienced Practitioner, a Country PRACTICE in non-industrial district. *Income about* £2,000 p.a. Must be able to be worked single-handed.—Address, No. 2826, B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Country Town or Country. Good house. Income £1,000—£1,500. Strict confid. —No. 2501, B.M.A. House, Tavistock Sq., W.C.1.

Wanted in North Lancs or near, good-class PRACTICE, moderate panel, country town or country. Income £900—£1,400. Capital available. Details in confidence.—Address, No. 2816, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Practice or Partnership in Manchester or Glasgow of about £2,000 per annum, preferably about half from panel. Ample capital available. Write in confidence — Address, No. 2814, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Good mixed Practice, £2,000; about 2,000 panel. London or large provincial town. — Box A.Y., CHARLES SELL, Advertising Offices, 5/6, Red Lion Sq., London, W.C.1.

Wanted. — Practice or Partnership, £1,200 to £1,800, for cash. Good panel. Give essential particulars. Strictest confidence.—Address, No. 2942, B.M.A. House, Tavistock Square, W.C.1.

Wanted, in Bristol or surrounding district, mixed middle-class PRACTICE, with panel. Capital available.—Address, No. 2582, B.M.A. House, Tavistock Sq., W.C.1.

Central Scotland.—Practice held by Woman, suit either. Panel about 700. Average receipts £800. Dispensing optional. Excellent scope. House modern, 2 public, 3 bed., garage, large garden. Any reasonable offer considered. Urgent reasons for sale.—Add., No. 2941, B.M.A. House, Tavistock Sq., W.C.1.

Death Vacancy Practice in town in North Wales. Receipts about £1,000 per annum. Panel 750. House can be had on rental or can be purchased.—For further particulars apply Messrs. R. SUMNER & Co., LTD., *Manufacturing Chemists*, 40, Hanover Street, Liverpool.

For Sale. — Increasing Practice in West of England City. Receipts past year £450. Panel 530. Suitable house, with electric light, garage, and garden. Plenty of scope. Premium £450 for prompt disposal.—No. 2824, B.M.A. House, Tavistock Sq., W.C.1.

For Sale. — Surrey, within 12 miles London. Non-dispensing PRACTICE. Receipts £1,400 p.a. Small panel. Good house and garden, central position, to rent. Rapidly growing district.—Address, No. 2822, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Very good-class PRACTICE in Lancs Seaside Resort. Cash receipts over £2,000 p.a. and increasing; panel 600. Good freehold house. Scope for Surgery. Premium 1½ years' purchase. — Address, No. 2611, B.M.A. House, Tavistock Square, W.C.1.

Increasing working-class residential cash and panel PRACTICE. Four miles Piccadilly, thickly populated. Cash takings £2,000, panel over 1,100. Shop-fronted compact cosy house, small rent, long lease. Premium 1½ years' purchase.—Address, No. 2817, B.M.A. House, Tavistock Square, W.C.1.

Lancs Town.—Old-established.—Good house, garage, garden; rent £60. Excellent scope, growing district. Receipts £1,200. Panel 900, increasing. Price, 1 year's purchase for quick sale, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, S.E. — Five minutes from Charing Cross.—Owing to illness, old-established working-class panel and private PRACTICE for Sale. Panel over 1,600, private £350 p.a. approx. Large house, with 15½ yrs. to run. Net rental £52. *Premium for Practice*, lease, furniture, etc., £2,200. Cash transaction only. — Address, No. 2731, B.M.A. House, Tavistock Square, W.C.1.

Manchester.—Old-established.—Nice house, gardens, £50. Receipts (including panel £135) over £600. Great scope. Price £1,000 or near offer (to include fittings, drugs, linoleum coverings, and good debts £600), part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

Medical Practice, private and panel, in Country Town in Cumberland, for sale. Yearly receipts over £2,000.—Apply, CRAWFORD, HERRON & CAMERON, Writers, 257, West George Street, Glasgow.

Medical Practice, Scotland, be*longing to Lady Doctor, within easy* access of Edinburgh and Glasgow. Income increasing. Good house. — ROBERT FLEMING, S.S.C., 21, Hill Street, Edinburgh.

Medical Practice within easy access of Edinburgh. Receipts £800. Panel 745. *Excellent house will be let on lease.* Moderate premium.—Box 475, ROBERTSON & SCOTT, Advertising Agents, Edinburgh.

North Wales, near Chester.—Industrial, Contract, and Country PRACTICE for Sale. Panel about 2,250. Receipts about £2,500. Suitable for two.—"CHEMICALS," 40, Hamilton Street, Hoole, Chester.

Nucleus.—South Coast of England.—Average receipts £360 p.a. Panel 250, rapidly increasing. Reason for disposal, failing health. Premium £250 or near offer. —Address, No. 2933, B.M.A. House, Tavistock Square, W.C.1.

Practice for Sale. — Lancashire Coast.—Developing residential seaside district. Income £1,300 p.a. Splendid double-fronted house, large front gardens, garage. Lease or sale. Good school. Sports centre. One min. rail and sea. Estab. 30 years. 1½ yrs.' prem.—No. 2435, B.M.A. House, Tavistock Sq., W.C.1.

Practice for Sale within 10 miles London, estab. 18 mths. ago. Inc. last year £1,200. Panel 850, rapidly incr. Enorm. scope owing to exten. build. oper. going on. Price—Practice £1,800 cash; house £1,400, *mort.* arr. —No. 2937, B.M.A. House, Tavistock Sq., W.C.1.

Retiring Doctors.—South Coast. Small House facing sea. Doctor had plate up nearly 2 years. *Growing seaside resort.* No opposition. Leaving for health, but wishes Doctor to succeed. NUCLEUS.—Address, No. 2811, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

Woman's Practice.—*Manchester* area. Established 8 years. Panel 550. Receipts £550. House to rent. *Good site on* main road. Splendid scope. — Address, No. 2815, B.M.A. House, Tavistock Square, W.C.1.

HOUSES. CONSULTING ROOMS.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1,

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.

Telephone: 3204 MAYFAIR.

Consulting Room, oak-panelled, bedroom, bathroom, self-contained ground floor, own street door, plate allowed. Excellent position near Harrods. Recently occupied by Doctor. £275 per annum. Services included.—Address, No. 2818, B.M.A. House, Tavistock Square, W.C.1.

EMINENTLY SUITABLE FOR A MEMBER OF THE MEDICAL PROFESSION.

MAYFAIR.

With uninterrupted views over Hyde Park.

A Small House of Distinction AND CHARM.—Modernised and beautifully decorated. Hall, 3 reception rooms, 7 bedrooms, bath dressing room, bathroom, convenient domestic offices. Garage, with rooms over, if desired. LEASE FOR SALE AT A LOW PRICE Sole Agents: Messrs. KNIGHT, FRANK & RUTLEY, 20, Hanover Square, W.1. (11355)

Consulting Rooms to Let.— Harley Street and District. Whole and part time. Rents £80 to £300. Lists sent on application. Rooms wanted in Harley Street district.—ELGOOD & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2501.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Eminently suitable for a Doctor or Dentist.—For Sale, on main approach to Liverpool's favourite residential suburb, well-built modern CORNER HOUSE. Good garden back and front. Five entertaining and seven bedrooms, bath, bath dressing room, two lavatories, and all usual domestic offices. Excellent garage to accommodate 3 cars, or could be sub-let at £45 per annum. House is leasehold for 999 years. Has been occupied by Doctor for 21 years. Immediate possession.—Dr. HARVEY, 5, Allerton Road, Liverpool.

EXCELLENT OPPORTUNITY FOR RE-ESTABLISHING MEDICAL PRACTICE.

For Sale.-Property conspicuously situated in a populous district of Glasgow and lately occupied by a Medical Practitioner, deceased.—The substantial Corner HOUSE (with back and side entrances), No. 1, SETON TERRACE, DENNISTOUN, GLASGOW, of 3 public, 4 bedrooms, consulting room, bathroom, kitchen, pantry, maid's apartment, and cellars, and having an open outlook to an extensive pleasure garden in front. To the rear of the house, enclosed by high retaining walls, is a well-kept garden, with greenhouse and building adaptable for garage. PRICE MODERATE. Liberal mortgage can be arranged.—For further particulars apply to J. M. TAYLOR, NELSON, WALKER & Co., Solicitors, 180, St. Vincent Street, Glasgow.

Farmhouse Board - residence, 10 miles Llandrindod Wells. Bracing. Shooting. Ponies for children. 2½ gns. inclusive. Fishing obtainable. Recommended.—Add., No. 2943, B.M.A. House, Tavistock Sq., W.C.1.

For Sale.—Doctor's House, freehold, Home County, residential. Four sitting, 6 bedrooms and attics. Scope for good-class Practice. Small Nucleus. Suitable for paying patients. Every conven. On 'bus route. —No. 2930, B.M.A. House, Tavistock Sq., W.C.1.

Harley Street. — Part - time CONSULTING ROOM to Let. With or without plate. Handsome waiting room. Good receptionist. Letters and 'phone calls forwarded and appointments made.—Address, No. 2812, B.M.A. House, Tavistock Square, W.C.1.

Liverpool.—For Sale.—10-roomed HOUSE in good industrial neighbourhood, main road, near centre of City. Freehold, in good condition, cheap. Would suit an energetic Doctor. Occupied by a Medical Man who lost his eyesight 3 years ago.—Address, No. 2801, B.M.A. House, Tavistock Square, W.C.1.

TO DOCTORS, DENTISTS, AND PROFESSIONAL MEN.

Mayfair.—Consulting Room and Bachelor FLATS to Let in magnificent ultra-modern building off Bond Street. Constant hot water; passenger lift and service. Porters. Housekeeper. Moderate rents.—Sole Agents, CONSTABLE & MAUDE, 2, Mount Street, W.1.

Modern Hydro for Disposal.— Accommodation for 100 guests. Beautifully fitted and furnished. Lift. Hot and cold water all rooms. Modern Electric, Medical, Turkish, and Russian Baths. Replete in every detail Centrally situated in South Coast town. —Write, MORRIS, 41, Syke Ings, Iver, Bucks.

Queen Anne Street, W.1.—Only £40 a year fine ground floor ance, and every 2114, B.M.A. Hou

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(O. E. BEDFORD, F.S.I., F.A.I.),

Surveyors, Auctioneers, and Estate Agents,

10, WIGMORE STREET,

CAVENDISH SQUARE, W.1.

SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS

in Harley Street and leading Medical Positions.

Telephone: Langham 3927 and 3928.

Part-time use of Consulting ROOM, also Bedroom to let if desired, in Doctor's house, recently redecorated, near Harley Street. Suitable for young Consultant or Anaesthetist. Can be let separately.—Add., No. 2616, B.M.A. House, Tavistock Sq., W.C.1.

"OAKDALE," COLLEGIATE CRESCENT.

Sheffield. — Magnificent stone- built RESIDENCE, own grounds, 15 mins. City. Make excellent Nursing Home. Spacious recep. rooms, 6/7 bedrooms, 2 bathrooms, central heating and elec. throughout; h. and c. water every bedroom. Beaut. lawns. Garages (5 cars) Usual domestic offices. Price £1,600. Sacrifice.

Surrey.—Corner House, freehold, £1,750. Mortgage if required. Golf near. New neighbourhood. Likely new Practice. Four bedrooms, 2 reception rooms, kitchen, central heating, lavatory basins all bedrooms. Garage. Picturesque garden.—Apply, OWNER, Avenir, Downsway, Sanderstead. (Purley 3042)

By Order of the Governing Body of the Mount Vernon Hospital.

7, FITZROY SQUARE, W.1.

This fine Genuine Adam House of five floors, including extensive ground floor. Eminently suitable for Institution, Showrooms, or Offices.

UNRESTRICTED FREEHOLD.

Possession on completion.

For Sale privately or by Public Auction at the London Auction Mart, E.C.4, on May 27th next. Auctioneers: MAPLE & Co., LTD., Tottenham Court Road, W.1.

To Doctors, Directors of Nursing HOMES, etc.—A splendidly equipped and decorated PROPERTY in a busy district close to New Southgate and Friern Barnet Station (L.N.E.R.). Four reception, 7 bedrooms, 2 bathrooms, large garage. A sacrifice. £2,500 freehold. — Apply, BOUSFIELDS, F.S.I., F.A.I., Estate Agents, Friern Barnet, N.11.

MISCELLANEOUS SALES, etc.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS.

49, Chancery Lane, London, W.C.2.

'Phone: Holborn 6659.

INCOME TAX.

Consult me regarding all Income Tax and Accountancy matters. I guarantee satisfaction and immunity from tax worries — For appointment write Mr. C. G. C. KILNER (late H.M. Inspector of Taxes), 17, George St., Baker St., London, W.1. ('Phone Welbeck 2012).

Carpet. — An exceptionally fine 27 guinea real SULTAN CARPET; size 12 ft. by 9 ft. Exquisite Oriental colouring (Royal Shiraz design). Prefectly new condition. Sacrifice £8 15s. Splendid bargain. Approval pleasure. — Address, No. 2791, B.M.A. House, Tavistock Square, W.C.1.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

The Proprietor of British Patent No. 287,749, HYDRAULIC SUPPORT FOR THE UPWARD AND DOWNWARD DISPLACEMENTS OF ANY ARMCHAIRS AND OPERATION TABLES, desires to sell the Patent or enter into an arrangement for the commercial development of the invention.—Full parties. from WHEATLEY & MACKENZIE, Patent Agents, 40, Chancery Lane, London, W.C.2.

IMPORTANT NOTICE

to MEMBERS of the

MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.

SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

SUITS & OVERCOATS to measure from £6 6s

SOLID WORSTED SUITS " £7 7s

DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s

PLUS FOUR SUITS " " from £6 6s

THE IDEAL Suit for ALL Sporting Purposes.

GOLD MEDAL RIDING BREECHES ... from £2 2s

RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" *Coat, Breeches, Habit, & Costume Specialists*

181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:

Regent 3024-3025 & 7486. National 8696/7.

Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Eseff" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

Handsome Pair £4 4s. square polished ASH TENNIS STANDARDS, complete with heavy ground plates, powerful fixing screws, and solid brass net-winder. Accept 47/6. Also full regulation size heavy waterproof NET, with steel headline, 17/6. Both perfect new condition, never used. Approval willingly against post-dated cheque.—GILYARD, Darley Street, Bradford.

IN THE HIGH COURT OF JUSTICE

PROBATE DIVORCE & ADMIRALTY DIVISION (PROBATE)

To—

ETHEL CASLING formerly of Bangalore in India, but whose present whereabouts are unknown.

Take Notice that a citation has been issued citing you to cause an appearance to be entered for you within two *months* after publication hereof in the Principal Probate Registry, Somerset House, Strand, London, England, and accept or refuse Letters of Administration of the Estate of Paul Vernon Casling of Peshawar, North-Western Frontier in India, deceased, or show cause why the same should not be granted to Frank Wood Casling, with an intimation that in default of your appearance Letters of Administration will be granted to the said Frank Wood Casling.

W. INDERWICK, Registrar.

LATTEY & DAWE,
119, Bishopsgate, E.C.2.
Solicitors.

ASSOCIATION OF MEDICAL MEN RECEIVING RESIDENT PATIENTS.

This Association has been in abeyance since 1914, and the Hon. Secretary died several years ago. The President, Co-Trustees, and Hon. Treasurer hereby call a General Meeting at the Wilton Hotel, Victoria, London, at 3 p.m., on May 20th, 1931, when resolutions will be submitted (1) to wind up Association, (2) to hand over surplus assets to a Medical Charity.

Notice of Meeting will be sent to members who can be traced. Those not so notified are asked to notify the Hon. Acting Secretary, 75, Gunterstone Road, London, W.14 (1) of their intention of being present, (2) of their approval or otherwise of the above resolutions; or the President, J. WHEELER O'BRIEN, M.D., 29, Manor House, Marylebone, London, N.W.1.

Administrative County of LONDON.

HOSPITAL LABORATORY SERVICE.

The LONDON COUNTY COUNCIL invites applications from Medical Practitioners with appropriate qualifi
three positions of
Group Laboratorie
Brook Street, Kennington, S.E.5, [illegible] HOSPITAL, S.E.15, and ARCHWAY HOSPITAL, Archway Road, N.19. The scale of salary attached to the positions is £1,100, rising by increments of £50 to £1,500 a year. Candidates must be not less than 30 and not more than 50 years of age on the latest date for receiving applications. In the case of a woman, marriage terminates contract of service. The Group Laboratories are fully equipped, and each Pathologist will be responsible for the organisation and development of the pathological work for the Council's general hospitals in the Group (about 2,000 beds). The work is mainly Bacteriological and Biochemical, although Histological examinations will be carried out. The Pathologist will be expected to visit each Hospital of his Group at frequent intervals, and act generally as a consulting Pathologist to the Group. He will also be expected to carry out research work as opportunities arise.

Forms of application and further details may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by May 29th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.

Kettering Urban District Council

APPOINTMENT OF PART-TIME MEDICAL OFFICER FOR ANTE-NATAL CLINIC.

Applications are invited for the appointment of a Part-time Medical Officer for Ante-Natal work in connection with the Maternity and Child Welfare Service of the Council.

Remuneration £1 11s. 6d. per session.

Particulars of the conditions of the appointment may be obtained on application to the undersigned, and applications, giving full particulars of experience and qualifications, must reach me not later than May 20th.

Council Offices, High Street, Kettering. May 2nd, 1931. JOHN CHASTON, Clerk of the Council.

Brighton, Hove and Preston DISPENSARY AND HOVE HOSPITAL, SACKVILLE ROAD, HOVE.

Applications are invited from registered Medical Practitioners for the appointment of HONORARY PHYSICIAN to the above Institution, at their DITCHLING ROAD DISPENSARY, BRIGHTON.

Applications, together with testimonials, should reach the undersigned not later than Friday, May 15th.

H. AUBREY FROGGATT,
General Secretary.

Cossham Memorial Hospital, KINGSWOOD, BRISTOL.

Applications are invited for the post of HOUSE SURGEON to commence duties at the end of May. Applicants must be British subjects, fully qualified and registered. Salary £150 per annum, with board, apartments, and laundry.

Applications, stating age, qualifications, and previous experience, accompanied by three recent testimonials, should be sent to the Secretary.

Macclesfield General Infirmary. (100 Beds.)

Wanted, SECOND HOUSE SURGEON.

Salary £150 per annum, with board and residence.

Candidates must be legally qualified, and have had experience in the administration of Anæsthetics. Appointment for six months.

Applications, stating qualifications, and enclosing copies of three testimonials, should be sent to the undersigned.

V. E. HANRAHAN, Secretary.

Royal East Sussex Hospital, HASTINGS. (120 Beds.)

Required immediately, JUNIOR HOUSE SURGEON (male). Candidates must be duly registered Medical Practitioners. Salary at the rate of £100 per annum. The appointment to be held for a period of six months. Applications, with copies of recent testimonials, to be addressed to the Secretary.

WILFRID G. KEMSLEY, Secretary.

The Institute of Ray Therapy, 152-154, Camden Road, N.W.1.

A RESIDENT MEDICAL OFFICER (male) is required on June 1st. The duties will include assisting in the treatment, and in the collection of clinical data for purposes of research.

The appointment is for six months, and is eminently suitable for a man reading for a higher examination. Honorarium at the rate of £150 per annum, with board, residence, and laundry. Experience in light treatment is not essential, but applicants must have held a resident appointment at a General Hospital.

Applications, together with copies of three testimonials, must be sent not later than Monday, May 25th, to the Hon. Secretary at the above address.

Royal Infirmary, Blackburn. (240 Beds—5 Residents.)

FOURTH HOUSE SURGEON (male) required at a salary of £150 per annum, rising to £250, with board, residence, laundry, etc. To commence duties June 1st.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, Blackburn. NATHAN A. SMITH
Gen. Supt. & Secretary.

This Institution is recognised for the Surgical practice required for the F.R.C.S. Final Examination.

Doncaster Royal Infirmary. (185 Beds.)

HOUSE SURGEON (male) required immediately. Appointment is for six months and offers opportunity to gain good surgical experience. The successful candidate is eligible for re-appointment.

Salary £175 per annum, with board, residence, and laundry.

Applications, stating age, experience, and full particulars, together with copies of three testimonials, should reach the undersigned by Thursday, May 14th.

WALTER R. SMITH,
Secretary-Superintendent.

Warwick County Mental HOSPITAL, HATTON.

THIRD ASSISTANT MEDICAL OFFICER required. Previous experience essential. Must be capable of taking charge of admission wards and will be expected to help in pathological work etc. Salary £400 per annum, rising by two annual increments of £25 to a maximum of £450, together with board and quarters, etc., valued at £150 per annum.

A qualification in Psychological Medicine carries £50 per annum in addition to this.

Applications, together with copies of testimonials, should be sent to the Medical Superintendent at the Hospital as soon as possible.

Norfolk and Norwich Hospital, NORWICH.

Applications are invited for the post of HOUSE SURGEON. Salary £120 per annum, with board, residence, and laundry. Preference will be given to a candidate who has held a previous Hospital appointment. Candidates (male), who must possess registered qualifications, should forward applications, stating age, nationality, etc., together with copies of testimonials, to the undersigned, not later than Tuesday, May 19th.

FRANK INCH,
May 9th, 1931. House Gov. & Secretary.

King Edward Memorial Hospital, Ealing, W.13.

Applications are invited for the following appointments:

HONORARY ASSISTANT CONSULTING SURGEON.
HONORARY CONSULTING DENTAL SURGEON.
HONORARY ASSISTANT CONSULTING SURGEON to the Throat, Nose and Ear Department.
HONORARY CONSULTING ANÆSTHETIST.

Applications should be sent to the Secretary-Superintendent, from whom particulars may be obtained.

St. Thomas's Hospital.

VACANCY.

The appointment of a VISITING ANÆSTHETIST. Applications, with full details of Academic career and testimonials, to be forwarded to Lt.-Col. A. P. R. IRWIN, Secretary, not later than May 23rd.

City of Salford.

INFECTIOUS DISEASES HOSPITAL.

Applications are invited for the post of JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER (male). Salary £200 per annum, plus board, residence, and laundry. The appointment will be for one year. Forms of application may be obtained from the Medical Officer of Health, 145, Regent Road, Salford, to whom it must be returned, endorsed "Junior Assistant Resident Medical Officer," not later than May 23rd.

H. H. TOMSON, Town Clerk.

Royal United Hospital, Bath.

Wanted at once, an ASSISTANT HOUSE SURGEON. Salary £150 per annum.

The appointment will be for not less than six months, and candidates must be male, unmarried, and of British nationality.

Applications, with three testimonials, to be addressed to the undersigned at once.

J. LAWRENCE MEARS,
April 20th, 1931. Secretary-Supt.

Hospital of St. John and ST. ELIZABETH, 60, Grove End Road, N.W.8.

Applications are invited for the post of TEMPORARY ANÆSTHETIST for a period of three months from May 15th next. Honorarium at the rate of £50 per annum.

Applications, with copies of testimonials, should reach the undersigned on or before May 11th.

F. DUDLEY HOBBS, B.A.,
Secretary.

Royal Northern Infirmary, INVERNESS. (150 Beds.)

HOUSE PHYSICIAN, male, unmarried, wanted, to commence duties on June 1st. The appointment is for six months. Salary is at the rate of £100 a year, with board, residence, and laundry.

Applications, stating age, qualifications, etc., with copies of recent testimonials, should be sent not later than May 20th to the Hon. Secretary, 20, Church Street, Inverness.

Royal Berkshire Hospital. (243 Beds.)

Wanted immediately, CASUALTY OFFICER (with charge of beds) and RESIDENT ANÆSTHETIST. Candidates (male) must be fully qualified and registered. Appointments are for six months. Salaries at the rate of £150 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be addressed to the undersigned.

Reading, May 9th, 1931. F. A. LYON, Secretary.

Birmingham and Midland HOSPITAL FOR WOMEN.

HOUSE SURGEON (man or woman) wanted for six months from July 1st. Salary to be at the rate of £75 per annum.

Applications, with full particulars and copies of testimonials, to be sent to HUGH C. ASTON, 45, Newhall Street, not later than May 18th.

Greenock Royal Infirmary.

Wanted, a HOUSE SURGEON (lady) for June 1st. Salary £100 p.a., including board, residence, and laundry. Other two Residents on Staff. 150 beds. Good experience. Applications invited, with testimonials, to be sent to the Secretary, 2, Hamilton Street, Greenock.

JAS. A. LOVE, Secretary.

Liverpool Hahnemann Hospital, HOPE STREET, LIVERPOOL.

Applications are invited for the post of CLINICAL ASSISTANT to the Ophthalmological Department of the above Hospital. One half-day per week.

Apply, stating age, experience, sex, and enclosing copies of testimonials, to the Registrar.

Manchester Babies' Hospital, Burnage Lane, LEVENSHULME.

The Board of Mar[illegible] for the post of Ho[illegible] above Hospital. [illegible] copies of testimonials, to be sent to [illegible] signed.

ANGELA LOPEZ, Secretary.

The Hospital for Epilepsy and PARALYSIS, Maida Vale, W.9.

TWO MEDICAL REGISTRARS required.

Applications are invited for two posts of Medical Registrar falling vacant in June.
The appointments are for one year, renewable for a further year. Honorarium £100.
Applications, which should be accompanied by copies of not more than three recent testimonials, should reach me by May 18th.
H. W. BURLEIGH,
Secretary & General Supt.

Quarrier's Homes and Bridge of WEIR SANATORIUM.

RESIDENT FEMALE MEDICAL OFFICER required, to commence duty on June 1st. Salary at rate of £200 p.a., with rooms, board, and laundry.
State qualifications and experience, and enclose testimonials.
Apply Medical Superintendent, Sanatorium, Bridge of Weir.

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, Oxford Rd. GLASGOW: 28, Windsor Terr. DUBLIN: 23, Upper Baggot St.
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3162 Ardwick.
Dub., 53: [illegible] 177 Douglas
Tactear, Glasgow.
Tactear, Dublin.

Telephone: WELBECK 2721.
Telegrams: "ASSISTIAMO, LONDON."
NURSES
MALE OR FEMALE.
TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.
Nurses reside on the premises and are available for urgent calls Day or Night.
THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION).
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

Medical Practitioners' Union Agency Limited
56, Russell Square, LONDON, W.C.1.
TRANSFER DEPARTMENT
Telephone: Museum 5197 & 6161.
Telegrams: "Uffabrini, Westcent, London."
PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.
List of Practices, etc., in the "Medical World" each Friday.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET,
Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 5932 CITY.
TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

THE OLDEST AND LEADING MEDICAL AGENT.
PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.
Terms post free on application.

London, S.E. — Woman's PRACTICE. About £550 p.a. Panel 251. Visits 3/6 to 7/6. Small flat at £62 p.a. Premium £750.—No. 8842.

Surrey, Country. — £600 p.a. and scope. Easily worked. Panel over 200. Fees 3/6 to 21/-. Good house in own grounds. For sale.—No. 8841.

Kent, within 25 miles London. —£800 p.a. Panel 470. Fees 3/6 to 21/-. Large house (8 bed.) and garden. For sale.—No. 8840

London, N. — Residential. — About £360 p.a., and ample scope. Fees 5/6 to 10/-. Panel about 200. Excellent house with surgery. House and Practice £2,200.—No 8839.

West Lothian. — £860 p.a. increasing. Panel 650. Fees 2/6 to 10/-. Vills, 2 recep., 3 bed. etc. House and Practice £1,700 or offer.—No. 8837.

South Devon Town. — Average £1,564 p.a. Panel about 2,000. Fees 5/6 to 5/-. Large leasehold house. Practice and lease £2,700 cash.—No. 8816.

Midland Town. — Share worth £800 p.a. Fees 5/- to 21/-. Midwifery 5 to 6 gns. Grad. of Lond., Oxon., or Camb. required.—No. 8815.

London, N.E. — £1,300—£1,400 p.a. Panel 1,200. *No midy., but ample scope.* Lock-up premises. Conv. flat near.—No. 8834.

Riverside Town.—£300 p.a., and resident patient. £4 4s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8831.

Death Vacancy. — £500 a year. Liverpool district. Held 32 years. Easily worked. Good fees. Panel 250. Premium £500 or offer.—No. 8828.

Seaside Resort.—N.W. Coast.— Over £2,000 p.a., scope. Panel 600. Very good schools. Medium house, small garden. Scope for surgery. Cottage Hospital.—No. 8824.

Northern 'Varsity City. — Over £1,600 p.a. Panel 1,500. 12/15 midwifery cases. Fees 3/6 to 5/- and up. Good house and garden.—No. 8823.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 586. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

S. Wales.—£850 with scope.— £750 from panel and contract work. Convenient house; surgery. Rent 17/6 p.w. Premium £700.—No. 8817.

S. W. Scotland.—Near Coast.— £1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 5/6 to 21/-. House, 6 bed., etc., about £650, or to rent.—No 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception, Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

Northern Health Resort guaranteed. with view to Part [illegible]48/150, Gt. Port- £6/700 p.a., increasing 3931 & 7236. years. Fees 3/6
Small panel.—Sector of British Patent [illegible]7,749, HYDRAULIC SUPPORT [illegible]UPWARD AND DOWNWARD DISPLACEMENTS OF ANY ARMCHAIRS AND [illegible]ATION TABLES, desires to sell the [illegible]ent or enter into an arrangement for the [illegible]mmercial development of the invention.—Full [illegible]rticulars from WHEATLEY & MACKENZIE, Patent Agents, 40, Chancery Lane, London, W.C.2.

THE
WESTERN MEDICAL AGENCY
(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)
PHOENIX CHAMBERS,
22, CLARE STREET, BRISTOL.
Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.
NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.
PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. DEATH VACANCY.—CARDIFF.—£360 p.a. Panel 210 Growing district. Good house.
2. SANATORIUM.—Western County.—40 beds. Receipts average £10,055 p.a. Particulars on application.
3. COAST TOWN.—South-West Wales.—Panel 750. Receipts £1,000 p.a. Good house to buy or rent. Man considering purchase could do Locum.
4. DENBIGHSHIRE.—One-third of PARTNERSHIP. £830 p.a. net. Mostly panel and contract work. Good house, rent £78 p.a. Premium £950.
5. CARDIFF.—Industrial PRACTICE, averaging £600 p.a. *Panel 600. Good house.* Premium £600.
6. BEDFORDSHIRE.—Country Practice, last year £485. Good house to rent £68. Price £300.
7. CHESHIRE BORDERS.—One-third share of PARTNERSHIP averaging £2,000 p.a. *Pleasant country district. Panel over 1,700.* Plenty of scope. Premium £1,000.
8. WEST OF ENGLAND.—Cathedral Town.—Ear, Nose, and Throat. NUCLEUS £400 p.a. Three Hospital appointments. Accounts audited. Excellent prospects. Prem. £500.
9. HEREFORDSHIRE. — Country PRACTICE. *Panel 530. Receipts over £1,000.* Several Appointments. Good house. 1½ years.
10. SALARIED PARTNER.—Western City, with option to buy half share. £500 p.a. net. Suitable house. Great scope. Total receipts £1,700. £1,000.
11. SOUTH DEVON. — Averaging 2,400, in *favourite town.* Panel 1,500. Large house for sale or rent. Seaside.
12. MIDLANDS. — Cathedral Town. — Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF
HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR
FOR ALL THESE CONSULT
The
Medical Insurance Agency
(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.
WE CAN ALSO ARRANGE ADDITIONAL CAPITAL [illegible]R THE PURCHASE [illegible] PRACTICE OR [illegible]RTNERSHIP

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. {MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

EAST COAST.—LARGE SEAPORT TOWN.—PARTNERSHIP in large Practice. Income over £10,000 p.a. Panel over 5,000. Good house available, 2 reception, 4 bedrooms. Garden. Premium—1/6 or 1/4 share—1½ years' purchase.—No. 258.

NORTH STAFFS.—INDUSTRIAL TOWN PRACTICE. Cash receipts last year £1,200. Panel nearly 2,000. Good house, 2 reception, 7 bedrooms. Rent approx. £55 p.a. on *long lease.* Premium £2,000 (to include book debts and drugs).—No. 255.

MANCHESTER SUBURB.—PARTNERSHIP in old-estab. Practice. Cash receipts £2,100. Panel 2,155. Semi-detached house available, 2 reception, 5 bedrooms. Rent £45 p.a. Premium 1/3 share £950, part by arrangement.—No. 259.

SOUTH YORKSHIRE — Old-established PRACTICE. Cash receipts 1931, £1,273. Panel 1,430. Excellent house, 3 reception, 4 bedrooms. Garage and good garden. Premium 1½ years' purchase.—No. 253.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. Good house, 2 reception, 5 bedrooms. Garage. Rent £65 p.a. Premium 1½ years' purchase.—No. 251.

MANCHESTER. — Old-established PRACTICE. Average cash receipts £2,361 p.a. Panel over 1,000. Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring. Premium 1½ years' purchase.—No. 65.

MANCHESTER. — INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase. —No. 190.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. *Small panel.* Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Prem. £800. —No. 226.

[illegible]N.—*Near* PRAC- t year, . Excellent house may be rented, 3 reception, 6 bedrooms. Garage and *garden.* Premium 1½ years' purchase. Vendor retiring.—No. 189.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer. —No. 173.

NEAR MANCHESTER. — PLEASANT TOWN, largely residential. — Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. *Great scope. Excellent* detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ yrs.' purchase.—No. 234.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

MANCHESTER.—RESIDENTIAL DISTRICT.—Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium £1,000 (or near offer).—No. 191.

CHANNEL ISLANDS.—PRACTICE in beautiful district. Cash receipts last year £425. Excellent house, 2 reception, 3 bedrooms. *Garage and large garden.* Premium—Practice—£500.—No. 167.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. *Preliminary Assistantship. Purchaser* could live with Vendor. Premium—one-third share—£1,000.—No. 245.

LANCS TOWN. — Old-established PRACTICE. Cash receipts 1930, £1,186. *Panel 900.* Much scope. *Excellent house,* 2 reception, 4 bedrooms. Garage. Premium, best offer. — No. 178.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280. Panel 1,350. Local Hospital. House to rent, 2 reception, 3 bedrooms. Premium 1¼ years' purchase.—No. 194.

MANCHESTER — PLEASANT RESIDENTIAL SUBURB. — Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage, and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purchase. Vendor retiring. —No. 246.

LIVERPOOL (near).—Cheshire Coast Town PRACTICE. Average cash receipts £1,187 p.a. Panel 765. Much scope. Good double-fronted house (freehold), 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100.—No. 248.

DEATH VACANCY.—NORTH-WEST COAST, near LIVERPOOL. Cash receipts £500 p.a. Panel 250. Great scope, district growing. Good Surgery and living accommodation. Premium £500 or near offer.—No. 257.

LINCOLNSHIRE.—COUNTRY PRACTICE. Cash receipts £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium 1½ years' purchase.—No. 193.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(Founded 1880.)

12, Stratford Place,

Tele. Address: Triform, Wesdo—London. **Oxford Street, W.1.** Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch.

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RESHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average nearly £950 p.a. (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Prem. to effect quick sale only £800.

2 S. OF ENGLAND.—Partnership in Practice over £2,000 p.a. in Cathedral City. Panel about 900. Large house (8 bedrooms) available. Three-fourths share for disposal at 2 years' purchase.

3 EAST ANGLIA.—Partnership in Practice over £4,500 p.a. in beautiful country district, easy access of important town. Panel 3,000. Nice detached house (7 bedrooms), garage, etc., garden and grounds of 10 acres, for sale. Sport of most kinds. Considerable scope. Premium two-thirds share 2 years' purchase. Suitable for two to buy together.

4 S. OF ENGLAND.—Partnership in steadily increasing Practice about £6,000 p.a. in small town. Panel 3,300. Suitable house could be purchased. One-eighth share at 2 years' purchase. Preliminary Assistantship. London Graduate preferred.

5 GLOUCESTERSHIRE.—Country Practice about £1,700 p.a. in beautiful district. Panel about 800. Eight-roomed house, with kitchen; price £500. Sport. Scope for increase. Premium to effect quick sale £1,000, part by instalments, if desired.

6 S. OF ENGLAND.—Partnership in good-class Practice in first-rate Residential Town. Suitable house can be obtained. Applicant should be aged about 35/45 and must have had Surgical experience and hold the F.R.C.S. Share of £1,200/£1,500 at 2 years' purchase.

7 MIDDLESEX.—Steadily increasing Practice about £800 p.a. in growing district. Panel about 600. Very good house (5 bed and dressing rooms), garage and excellent garden, for sale. Ample scope Premium £900.

8 LONDON, N.—Practice about £360 p.a. in Residential Suburban district. Panel 180. Detached corner house (4 bedrooms), with small garden, for sale. Scope. Premium £400.

9 N. OF ENGLAND.—Partnership in lucrative Practice in large city. Panel over 5,000. Small house (3 bedrooms and attics) for sale. Partner must be young and energetic. A share of £1,650 or £2,500 would be sold at 1½ years' purchase.

10 LONDON, E.—Practice in thickly populated outlying suburban district. Receipts last year nearly £1,400. Panel over 1,950. Shop-fronted house on main road, to rent. Premium £2,350 cash.

11 S.W. OF ENGLAND. — Partnership in Practice averaging £3,000 p.a. in small town. Very good house (7 bedrooms), good garden, etc., for sale. Hunting, shooting, fishing, etc. Premium two-thirds share 2 years' purchase. Hospital.

12 MIDLANDS. — Practice averaging £4,750 p.a. in clean manufacturing town. Panel 3,570. Two houses for sale. Practice carried on by two Medical Men, both retiring. Premium 1½ years' purchase.

13 LONDON, N. — Practice averaging £950 p.a. Panel about 1,400 Shop-fronted house (4 bedrooms), rent £100 p.a. Scope for increase. Premium £1,650.

14 WITHIN 12 MILES OF LONDON.—Partnership in rapidly increasing Cash Practice about £1,600 p.a. in developing industrial district. Panel 1,870. Small house available. Large Cottage Hospital. Premium two-fifth share 2 years' purchase.

15 W. MIDLANDS.—Partnership in Practice about £2,800 p.a. in attractive market town. Panel about 800. A one-third to one-half share, after preliminary Assistantship, 2 years' purchase. Applicant must be experienced in general practice.

16 S. MIDLANDS.—Practice of nearly £400 p.a. in delightful country district, easy distance of London. Panel 300. Attractive house (7 bed and dressing rooms) in grounds of 2 acres, with garage, to be sold or let. Very suitable for Resident Patients. Good scope. Premium 1 year's purchase.

17 N. MIDLANDS.—Partnership in Practice over £1,400 p.a. in first-rate city. Panel 1,800. House, with 2 reception rooms and 4 bedrooms, to rent. Premium one-half share £1,100. Preliminary Assistantship entertained.

18 S.W. OF ENGLAND. — Partnership in Practice of £3,500 p.a. in small industrial town. Panel 1,870. Very considerable scope for increase. Partner should be capable of doing Surgery. Premium one-third share 1½ years' purchase. Preliminary Assistantship if desired.

19 MIDLANDS.—Practice of over £2,100 p.a. in manufacturing town. Panel 820. House (4 bedrooms) to rent, on lease. Premium 1½ years' purchase.

20 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in own grounds, for sale or rent. Premium one-half share 1½ years' purchase. Suit one aged between 40/50.

21 LONDON, W. — Mixed Practice of over £3,000 p.a. in outlying suburban district. No panel. Semi-detached corner residence (5 bedrooms), garage, etc., to rent on lease. Premium 1½ years' purchase.

22 NORTHUMBERLAND. — Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,425.

23 MIDDLESEX. — Compact non-dispensing PRACTICE of £800 p.a. in rapidly developing district. Panel about 260. Large old-fashioned house (7 bed and dressing rooms), garage, etc., for sale. Considerable scope. Premium 1½ years' purchase.

24 LONDON, E.C.—City Practice. Receipts 1930, over £1,300. Consultations mainly £1 1s., some £1 11s. 6d. and £3 3s. Excellent consulting rooms. Premium 1½ years' pur.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1788

Practices and Partnerships for Disposal (continued).

25 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

26 SURREY.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Premium £300.

27 SURREY. — Partnership in Practice in desirable residential town Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

28 CHESHIRE. — Partnership (after preliminary Assistantship) in Practice over £2,500 p.a. in manufacturing town. Panel 2,100. Plenty of sport. One third share to suitable man at 2 years' purchase.

29 HANTS. — Small easily worked Practice about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

30 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

31 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope. Premium £1,200.

32 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

33 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a. in attractive country town on coast. Panel about 500. Suitable house to rent. Hospital. Share to suitable man after preliminary Assistantship.

34 LONDON, N.W. — Nucleus of Practice in residential district. Income last year £300. Panel 150, rapidly increasing Detached corner residence, in good position, for sale. Scope Premium £300.

35 FAVOURITE HOME COUNTY.—Practice over £2,000 p.a. in pleasant residential country town within 50 miles of London. Panel 1,080. Well-situated detached house (6 bed and dressing rooms), garage, and large garden, for sale or rent. Scope for increase.

36 EAST COAST.—Practice about £1,200 p.a. in small attractive seaside resort. Panel 225. Modern detached house (5 bedrooms), garage, and garden, for sale. Excellent sport and educational facilities Premium 1½ years' purchase.

37 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good class Practice in charming little residential seaside resort. Suitable house to rent Share of £800—£900 after preliminary Assistantship. Applicant should be aged 28—35, and preferably a Graduate of Cambridge or Oxford. Cottage Hospital and scope for Surgery if desired.

38 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a Premium 2 years purchase.

39 N. WALES.—Country Practice of £1,200 p.a. in Welsh speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less

40 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase Premium £500.

41 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

42 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

43 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

44 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

45 LONDON, W. — Middle-class Practice of £740 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,000.

46 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

47 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

48 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). Premium £550.

49 LANCASHIRE. — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms), garage and garden, etc., for sale. Golf. Premium £1,000.

50 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

51 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

52 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwfy. Six-roomed house to rent. Prem. £700.

53 S. OF ENGLAND. — Partnership in good middle-class non-panel Town Practice over £5,300 p.a. Suitable house to purchase. Premium one-fourth share £2,000. Preliminary Assistantship.

54 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

55 WARWICKSHIRE.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage and half acre of garden, for sale. Scope. Premium 1½ years' purchase

56 LONDON, E.—Cash and Panel Practice of £340 p.a. (carried on by Medical Woman) Panel 320. Small house, rent £50. Scope for large increase Premium £400.

57 S.W. OF ENGLAND.—Practice averaging £1,560 p.a. in Seaport Town Panel over 2,000. House, with 5 or more bedrooms, for sale Premium £2,100.

58 S. MIDLANDS. — Partnership in increasing Practice in rapidly growing residential district Suitable house to rent. Incoming Partner should be aged about 30 and hold a University degree. Share worth about £500 p.a. at 2 years' purchase

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12 6

All communications to be addressed to Mr. A. V. STOREY, General Manager.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone } TEMPLE BAR 1054 & 1034. RIVERSIDE 1254. *(Night Calls)*

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

YORKS.—PARTNERSHIP in busy, rapidly increasing Town Practice. *Receipts* £2,300. Panel 1,500. Suitable house available. A third share, with view to succession, 2 years' purchase.

ESSEX.—Middle-class General PRACTICE, situated in well-populated locality. Receipts over £1,000 p.a. Panel 1,130. Suitable house available. *Fees 2/6 up.* Excellent scope. Premium £1,500.

LONDON, E.C.1.—Old-established mixed PRACTICE. Receipts (last year) £750. Panel (recently started) 360. No midwifery. Six-roomed house to rent on lease. Good professional quarters. Excellent scope, especially for a young experienced R.C. Practitioner. Premium £1,000.

LONDON, N.W.—Mixed General PRACTICE, situated in well-populated locality. Medium-sized house to rent on lease. Receipts nearly £1,100. Small panel 300. Fees 2/6 up. Premium £1,500.

SUSSEX.—Middle-class Rural PRACTICE, situated in charming locality. Medium-sized house, with large garden, to rent or purchase freehold. Electric light, etc. Receipts approx. £520. Panel 240. Fees 2/6 up. Three appointments. Premium 1½ years' purchase, cash.

LONDON, E.—SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £50 p.a. Fees 2/- up. Average receipts £516. Panel 350. Excellent scope for young man. Premium for Practice and lease £1,050 cash, or near offer.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,400 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young energetic man. Receipts over £300 p.a. Panel 220 growing. One appointment worth £50/£60 p.a. Small house to rent. Premium £250 or near offer.

ESSEX.—NUCLEUS non-panel PRACTICE, suitable to either sex, with excellent scope for panel if desired, and further increase. Medium-sized double-fronted house to be rented on lease. Receipts approx. £400 p.a. Premium 1½ years' purchase or near offer, cash.

LONDON, S.E.—Old-established G.P., situated in well-populated locality. Excellent scope for young and energetic man. Receipts approx. £1,200 p.a. Fees 2/6 up. Panel nearly 1,600. Premium £1,800 or near offer.

LONDON, E. — NUCLEUS non-panel PRACTICE in thickly populated locality, with excellent scope for panel and further increase. Suitable accommodation for bachelor. Receipts nearly £600 p.a. Fees 2/- up. Rent £55 p.a. Premium £750, or near offer.

S.W. COAST.—Well-established General PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

EASTERN COUNTIES. — Cathedral City. — PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

MIDDLESEX, WEST.—NUCLEUS BRANCH PRACTICE, situated within 10 miles of London, in rapidly developing district. Suitable flat available over surgery. Receipts for 15 months, over £300. Panel 100. Fees 2/6 up. Premium £450 or near offer, to include fittings, fixtures, etc.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,145. Fees 2/6 up. Three hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640 or near offer. Partnership considered.

SURREY.—PARTNERSHIP in rapidly developing residential locality, with splendid scope. Receipts approximately £1,000 p.a. Panel nearly 300. Fees 2/6 up. Premium for 2/5ths share, 2 years' purchase. Excellent opportunity for young and energetic man.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.

(Temple Bar 3873.) —— (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. CATHEDRAL CITY.—Very old-estab. mixed PRACTICE of over £3,000, more than half derived from panel and appts. Price 1½ years' purchase. Excellent residence, etc., at valuation. Very suitable for two men as partners.
2. SEASIDE PRACTICE of over £2,000, including panel £700 and appts. Safe of transfer, opposition very limited. Good house and grounds. Price for goodwill and freehold £3,600 cash, with mortgage of £2,000 at 4½ per cent.
3. MIDLANDS. — PARTNERSHIP.—Half share of Practice within 5 miles of county town. Income £2,000. Panel £1,000. Price 2 years' purchase.
4. HANTS.—Country PRACTICE (unop.). £750. Panel and appts. Price £1,000. Capital family residence for sale.
5. LONDON, N.—Old-estab. PRACTICE, average over £1,200. Panel 1,100. Ample scope for resident owner. Rent £70, lease. Price (6 months' introd.) £2,100.
6. LONDON SUBURB, W.—PARTNERSHIP in Practice of £2,000. Panel over £700. Nice house, garden, garage, at £100. Two-fifth share at first.
7. LONDON, S.E. — Lucrative PRACTICE of £2,000. Panel 1,200 (growing). Rent £80. Accom. limited. Car. Price 1½ yrs.' pur
8. VICTORIA PARK, N.E. — LOCK-UP (with resident accom. if desired).—Very old-estab. and offering great scope. Income £625. Rent of lease £55. Price £750, half by instalments.
9. NURSING HOME in attractive Northern Suburb. Maternity and minor operations. Good profits. Price £675 to incl. furn, etc.
10. REQUIRED in St. John's Wood, Hampstead, [illegible] good-class, non-[illegible]. Ample capital [illegible]

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency.

71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone:* 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700 progressing. Good house, garage, and garden.
2. NORTHERN UNIVERSITY CITY.—Old-estab. middle-class PRACTICE. Receipts average £1,603 p.a. Panel 1,500, and increasing. Good fees. Nice house, garden, etc.
3. YORKSHIRE.—Well-estab. mainly working-class PRACTICE. Rec. almost £1,300 p.a. Panel 1,430. Nice house, on lease or for sale. 3 recep., 4 bed., etc. Gard. and gar.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts averages £1,179 p.a. and unlimited scope. Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. [illegible] middle and [illegible] receipts £988; [illegible] Appt. £30 p.a., and all conven.
7. MIDLANDS, COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts av. over £2,700 p.a. Panel recently started and rapidly increasing. Good fees, house, etc.
8. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

ESTABLISHED 1863.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London. *Telephone:* Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. DERBYSHIRE.—Old-established PRACTICE. Nice Town. Receipts £1,550 p.a., including nearly 1,000 panel. Nice house, good garden, rent £55 p.a., long lease. Premium £2,400.
2. LONDON, E. — Old established Cash and Panel PRACTICE. Receipts about £400 p.a., including nearly 500 on panel. Rent £87 p.a., covered by sub letting. Premium £600.
3. LONDON, E. (5 mins. Liverpool Street).—Lady Doctor's PRACTICE. Receipts over £4 per week in cash and 270 on panel. Rent of surgery 27/- weekly. Premium £200 or near offer.
4. SURREY.—Nice Town.—Half share of well-established PRACTICE. Receipts of whole Practice £1,500 p.a. Good house, rent £85. Premium for share 1½ years' purchase.
5. LONDON, S.E. (nice residential part).—Half share of PRACTICE doing £3,000 p.a. Good panel. House or flat available. Premium 2 years' purchase, payable about £1,000 down, rest spread over 3 or 4 years.
6. LONDON, S.E. (7 mins. Charing Cross).—Lady Doctor's PRACTICE for sale. Receipts average £550 p.a., panel 150. Nice flat available, rent £60. Premium £600.
7. LONDON, S.E.—Death Vacancy.—Old-estab. lished cash and panel PRACTICE for immediate disposal. Receipts average nearly £1,800 p.a., including panel 1,395. Surgery rent £69. Premium £1,500. Locum in charge.
8. LONDON, S.W. (near Chelsea).—Old-established cash and panel PRACTICE. Receipts £1,500 a year. Nice corner house, rent £150, long lease. Situated in residential part. Premium 2 years' purchase.
9. EASTERN SUBURB.—Old-established Cash and Panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by instalments.

No charge to purchasers or for enquiries.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. PARTNERSHIP.—COUNTRY TOWN.—Within 130 miles North of London.—A fifth share, representing about £1,500 p.a., is offered in a particularly sound good mixed-class Practice, having substantial panel. Fees from 4/-. Not much midwifery. Suitable accommodation available. Premium 2 years' purchase. Ingoing partner should be a keen worker, and preferably Scotch or English.

2. LONDON (WEST END).—Old-established non-dispensing and non-panel PRACTICE, averaging over £4,700 p.a. Visits (very few) and consultations from one guinea upwards. No midwifery. Suitable accommodation available on rental. Premium £6,000. Good introduction given. Personal application desired.

3. NORTHERN CATHEDRAL CITY. — Old-established good mixed-class PRACTICE, averaging over £1,100 p.a., including panel of 1,070. Fees from 3/6. Not much midwifery from 2 to 10 gns. Very suitable small house, with 1 sitting, 3 bedrooms, etc. Garden. Garage. Rent on lease £50 p.a. Good sport and first-class schools. Hospital, and prospect of appointment on staff. Premium for prompt sale £1,550 cash.

4. LANCS.—LARGE TOWN.—PARTNERSHIP.—A one-third or two-fifths share is for disposal in well-established and increasing middle and working-class Practice. Gross cash receipts for immediate past 12 months £3,150. Panel of over 3,000. Appts. worth about £80 p.a. Fees from 2/6. Choice of two houses, both at moderate rentals. Premium only 1½ years' purchase.

5. WITHIN 20 MILES OF LONDON (WEST).—Rapidly developing district.—PARTNERSHIP.—A half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100 and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.

6. SURREY.—COUNTRY PRACTICE.—Very old-established, and situated in delightful district. Gross cash receipts for past 12 months £2,000, including panel of about 700. Fees from 2/6 to 21/-. Midwifery 3 to 20 gns. Exceptionally nice house, with 2 reception, 6 bedrooms, *and professional rooms. Nearly 2 acres of garden. Price, freehold,* £3,000, £1,800 on mortgage. Premium £3,000.

7. CHESHIRE.—NEAR COAST.—Old-established good mixed-class PRACTICE, averaging for the past 3 years nearly £1,600, including panel of 1,280. Very good house in 3 acres of ground, with 2 reception, 4 bedrooms, etc. *Rent on lease £85 p.a. Premium £2,300.*

8. PARTNERSHIP.—HOME COUNTY.—Within 40 miles.—In a small country town, in very pleasant district, the third share, with increase *later, of an old-established mixed-class Practice offering good scope.* Cash receipts average over £3,000 p.a., including panel nearly 1,700 and appts. Good house, with 3/4 of an acre of garden, tennis court, etc. Rent on lease £65 p.a. Premium 2 years' purchase. Ingoing partner should be about 30, English or Scotch, and pref. married.

9. WITHIN 30 MILES OF LONDON.—In a [illegible] (well populated and growing rapidly), a [illegible] last year £406, including panel of 300, development. Very good residence (suit: about 2 acres of ground. Price, freehold, £4,000. Mortgage arranged. Premium £400. Excellent schools, good society, and sport.

10. FAVOURITE COAST TOWN.—Old-established good middle and better-class PRACTICE, producing over £1,800 p.a. Selected panel of under 400. Fees 3/6 to 10/6. Very little midwifery. Commodious house, with 2 reception, 6 bedrooms, etc. large garden. *Freehold for sale.* Premium £5,000.

11. SOUTH OF ENGLAND.—Pleasant Town near sea coast.—Very old-established PRACTICE (partly Surgical), averaging over £2,400 p.a. (last year £2,516), including panel of 500. Centrally situated house. Price for Practice and house £5,000. Successor should also have some knowledge of Eye, Ear, Nose, and Throat work.

12. DEATH VACANCY.—LANCS.—LARGE TOWN.—Old-established PRACTICE, averaging about £500 p.a., but capable of much increase as district is growing. Panel of 250. Fees 3/6 to 10/6. Suitable accommodation can be secured. Premium £500 or near offer.

13. HOME COUNTIES.—Within 40 minutes' run of London.—Old-established mixed-class and increasing PRACTICE, situated in small town with pleasant surroundings. Cash receipts average £1,725 p.a., including appt. £70 and panel 1,000. House with good accommodation and small garden. Price for freehold £2,500. Premium 1½ years' purchase. Educational facilities.

14. PARTNERSHIP.—SOUTH-WEST LONDON.—A one-third share is for disposal in very *well-established chiefly middle-class Practice*, producing last year about £2,500, including panel (rapidly increasing) of 1,000. Fees from 2/6. Suitable house can be rented on lease. Premium 2 years' purchase.

15. PARTNERSHIP.—MIDLANDS.—Prosperous Town within 80 miles of London.—A *one-third or five-twelfths share* is for disposal owing to the retirement of the second of three partners in an exceptionally sound mixed-class Practice. Average gross cash receipts £5,300 p.a., including panel of 1,000. Fees 2/6 to 25/-, medicine extra. Premium only 1½ years' purchase for quick sale, owing ill health.

16. LONDON, WEST CENTRAL.—Old-established and increasingly mixed-class PRACTICE, producing for immediate past 12 months £1,790, including panel of 1,390. Fees 2/6 to 10/6. No midwifery. House in excellent repair, contains 2 reception, 4 bedrooms, bathroom, etc. Price for freehold £2,500. Premium 2 years' purchase.

17. LONDON, EAST.—Well-established mixed-class PRACTICE, averaging about £1,150 p.a., including panel of 1,400. Small house, with 1 reception, 2 bedrooms, etc., and 3 professional rooms. Rent on lease £13 per quarter. Premium £2,000.

18. *SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing* PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow *residence in about one acre of ground. Rent £84 on lease. Premium* £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy *instalments. Excellent climate and sport.*

19. NORTH [illegible] one-third share is offered in a good m [illegible] over £1,700 p.a., including panel of [illegible] p.a. Fees 3/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. *Premium 2 years' purchase.*

20. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. *Premium* 1½ years' purchase.

21. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. *Premium only* 1 year's purchase. Ill-health reason of sale.

22. SOUTH-WEST OF ENGLAND.—Near the Sea.—Old-established unopposed and easily worked Country PRACTICE, in beautiful district, within easy reach of Market Town. Receipts just under £1,100 p.a., including appts. and panel £550. Exceptionally attractive house in three acres of ground, with ample accommodation. Water laid on *and electric light available shortly. Price* freehold £2,600, part on mortgage. Premium £1,600. Sport and schools within reach.

23. YORKS.—LARGE TOWN.—Old-established chiefly good working class PRACTICE *averaging about* £1,300 p.a., *including* panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and *dressing room*, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase, chiefly by instalments.

24. LONDON, SOUTH-EAST. — Woman Doctor's PRACTICE, producing £560 immediate past 12 *months. Panel of* 152. Fees 2/6 to 21/-. Suitable flat can be rented at £60 p.a. Premium £650, or near offer. *Very good scope* for increase.

25. YORKS. — HOSPITAL TOWN. — Old-established sound *middle and* working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. *Fees from 3/6. Small house* with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase, payable by *arrangement.* Ill-health reason for sale.

26. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. *Fees* 3/6 to 21/-. Practically unopposed. *Good modern house, with* special professional rooms. Nice garden. Garage. *Freehold for sale,* part *on mortgage. Good sport and schools within reach. Premium* 1½ years' purchase.

27. NORTH OF ENGLAND.—*GOOD TOWN.—A one-third share is offered* in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.

28. NEAR HEREFORDSHIRE BORDER.—*A one-third to one-half share in a well-established good-class non-dispensing* PRACTICE, producing about £1,800 p.a. Panel of over 500. *Good house* can be rented at £60 p.a. *Sport of all kinds. Premium* 1½ years' purchase, part *by instalments. Welsh not necessary.*

29. CHESHIRE.—*COAST TOWN, within reach of Liverpool.*—Well-established PRACTICE, averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.

30. *CORNWALL.—VILLAGE PRACTICE*, within easy reach of Plymouth — PARTNERSHIP.—A one-half share in a very old-established mixed-class Practice, averaging £2,563 p.a., including panel of 850. Fees 3/6 to 21/-. Not much midwifery. Good house, with 3 reception, 6 bedrooms, etc. Large garden. Price for freehold £2,000. *Sport of* all kinds. Premium 1½ years' purchase.

31. SOUTH-WESTERN COUNTY. — Hospital Town. — Good *mixed-class* PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. Price House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.

Full Schedule of Terms and Conditions will be forwarded on application.

IN CONSTIPATION

Try this Tonic Laxative

AGAROL

BRAND COMPOUND

the original mineral oil emulsion with phenolphthalein, not only softens the intestinal contents but *gently stimulates* the peristaltic action and thereby aids in re-establishing normal bowel function.

We will gladly send you a liberal quantity to convince you of its merits.

FRANCIS NEWBERY & SONS, LTD.,
31-33, BANNER STREET,
LONDON, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC.
Manufacturing Pharmacists Since 1856.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The **SPECIFIC OVARIAN HORMONE**
which normally controls and activates the menstrual cycle

SISTOMENSIN
standardised physiologically

dysmenorrhœa, menorrhagia, hæmorrhages of puberty and menopause, hypoplasia of the uterus, disturbances subsequent to menopause or oöphorectomy.

Tablets Ampoules

PROKLIMAN
(Sistomensin Compound)

Association of ovarian hormone with therapeutic agents for the prompt relief of the most pronounced troubles of menopause: cardiovascular and nervous troubles, hot flushes, headache, etc.

Tablets

Hydrosoluble Ovarian Substance

AGOMENSIN

Clinical Reports on request

causes hyperæmia of the female genital organs. Stimulates the function of the genital glands and menstruation.

Functional amenorrhœa, oligomenorrhœa, sterility, vomiting during pregnancy, etc.

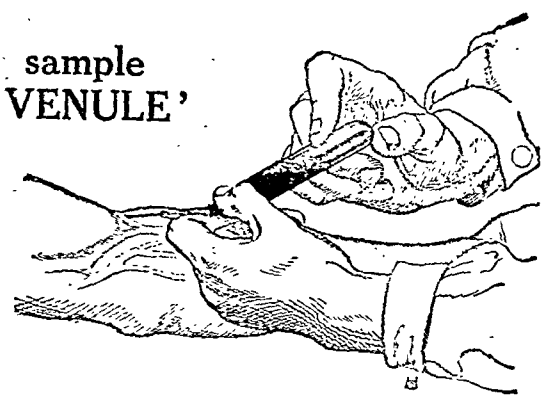
Tablets Ampoules

Samples on request

THE CLAYTON ANILINE Co Ltd., 40 SOUTHWARK STREET, LONDON, S.E.1
Telephones: Hop. 6954, 6955 Pharmaceutical Department Telegrams: Cibadyes Boroh London

The next time you collect a blood sample use the 'BEHRING VENULE'

Automatic Aspirating Syringe
complete with needle
Sterile :: Simple Time-saving



'VENULES' are stocked by the leading hospitals and institutions.
Ask your Laboratory to supply you with 'Venule' outfits.

SAMPLES and description on request to

BAYER PRODUCTS LTD., 19, St. Dunstan's Hill, London, E.C.3.

SOUTH AFRICA.
Taeuber & Corssen (Pty.) Ltd.,
P.O. Box 2953,
Cape Town.

AUSTRALASIA.
Fassett & Johnson Ltd., 36-40 Chalmers Street, Sydney, N.S.W., and P.O. Box 33, Wellington, New Zealand.

NIGHT OR MORNING?
WHEN TO TAKE LAXATIVES

There can, of course, be no universal rule as to the taking of laxatives. Circumstances vary, and only the physician is in a position to judge their relevance. But experience seems to show that a good deal of harm is often done by the common habit, continued over long periods, of taking aperients at bed-time. At night, the colon is normally much less active than in the day; and it seems unwise, unless special reasons exist, to stir it to unwonted activity during the hours which should be allotted to sleep. It is probable that much insomnia and many rest-disturbing dreams have their origin in the taking of a nightly purgative.

When there is an habitual tendency even to slight constipation, not fully remedied by diet and exercise, it is suggested that the most satisfactory result can generally be obtained by the taking, first thing in the morning, on an empty stomach, of a simple refreshing saline draught, such as Eno's "Fruit Salt" provides. Eno is a saline effervescent of fine granular consistency, containing no trace of irritating mineral salts, such as Epsom and Glauber. Owing to its purity and texture, it is agreeable to the palate; its pleasantness owing nothing to added sugar or flavouring matter, from both of which it is entirely free.

"Urgent Abdominal Diagnostics"

The Proprietors of ENO'S "Fruit Salt" will deem it a privilege to send to any member of the Medical Profession a copy of the latest of their series of "Medical Reminders"—with or without a bottle of their preparation as desired. "Urgent Abdominal Diagnostics" summarises the salient facts which need to be ever at the front of the mind when faced with an abdominal emergency. The diseased conditions dealt with include those which most often call for immediate surgical attention. It is bound in black morocco limp to conform to the style of the previous publications in this series.

J. C. Eno, Ltd., 160, Piccadilly, London, W.1

ENO'S "FRUIT SALT"

B.I.S.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3671 SATURDAY, MAY 16, 1931 Price 1/3

UNIQUE BARGAINS

Specially selected for Doctors, and subject to full guarantee

RILEY, 1930, 9 h.p. "Monaco" Saloon, triplex glass; bargain **£195**

HUMBER, 1931 Series, 16/50 h.p. coachbuilt Saloon; sunshine roof; two spare wheels **£380**

M.G., 1930, Midget Coupe de Luxe; carefully used; small mileage; cost £245 ... ... **£180**

HUMBER, 1930, "Snipe" coachbuilt Saloon; leather upholstery; many accessories; excellent order **£340**

ARMSTRONG SIDDELEY, 1930, 20 h.p. coachbuilt 4-door Saloon; leather upholstery; self-changing gear; as new **£375**

ALVIS, 1930, "Silver Eagle" 6-cyl. coachbuilt Saloon; small mileage; blue and blue leather; exceptional condition ... **£395**

ROVER, 1930, Light Six Saloon Coupe; ideal for Medical Man; "Regal" Model; Servo brakes; faultless condition. Choice of two: blue and grey, or two shades of green **£210**

SUNBEAM, 1930 Series, 16 h.p. Weymann Saloon with sunshine roof; black fabric; green leather upholstery; new tyres all round; irreproachable mechanical condition; many extras ... **£340**

AUSTIN, 16 h.p. 6-cyl. A selection of 1928/9/30 Models with various types of coachwork. From ... **£160**

WOLSELEY, 1929, 16/45 h.p. coachbuilt Saloon; in excellent mechanical condition; new tyres all round; very silent running **£170**

MANN & CO EGERTON LTD OVER 100 EQUALLY ATTRACTIVE BARGAINS AVAILABLE.

The Officially Appointed Consulting Engineers to the Medical Insurance Agency

Special Service for Medical Men.

Cars on Loan during Repairs.

West End Showrooms: 156, NEW BOND STREET, W.1. *Gerrard 9060*
Super Service Works: CHURCH ST., EDGWARE RD. *Padd. 9011*
Five Minutes Marble Arch
Also Norwich · Ipswich · Bury St. Edmunds · Lowestoft

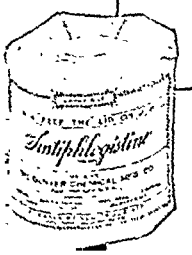
ISSUED WEEKLY [COPYRIGHT] [REGISTERED AS A NEWSPAPER

ACUTE LYMPHADENITIS

ACUTE lymphadenitis in children is a frequent, and sometimes dangerous, condition, which, however, can often be satisfactorily treated with the avoidance of operative measures. In addition to passive hyperæmia and iodine, the continuous application of moist heat, without the occurrence of alternating periods of heat and cold, is an essential measure. Antiphlogistine offers one of the best methods for applying continuous moist heat. Spread in a hot, thick layer over the affected area, this treatment will often result in reduction of the lymphadenitis in a short period of time.

Write for sample and literature

THE DENVER CHEMICAL MANUFACTURING CO.
(Inc. U.S.A. Liability Ltd.)
LONDON, E.3.



℞ ANTIPHLOGISTINE

British Medical Journal

CONTENTS

MAY 16, 1931

ORIGINAL ARTICLES

Obstetric Shock. By MILES H. PHILLIPS, M.B., B.S., F.R.C.S. 833

Cerebral Cortical Structure and its Relations to Mental Disease. By R. J. A. BERRY, M.D., F.R.C.S. (Illustrated) 837

Acidosis and Seborrhoea. By JOHN T. INGRAM, M.D., M.R.C.P., and F. S. FOWWEATHER, M.Sc., M.D., D.P.H.... 839

Rupture of the Coronary Artery. By C. M. BAMFORD, M.D. (Illustrated) 842

A Method of Anchoring Radium Needles in the Pharynx. By J. E. G. MCGIBBON, M.B., B.S. (Illustrated) 843

A Case of Erythroedema. By FRANK J. LEES, M.B., Ch.B. 841

MEMORANDA

The Binoscope. By KENNETH R. SMITH, M.D. 844

REPORTS OF SOCIETIES

MEDICAL SOCIETY OF LONDON:
Medicine as a Science and an Art..... 845

ROYAL SOCIETY OF MEDICINE:
Treatment of Intestinal Amoebiasis .. 845
Surgical Treatment of Gastric Ulcer 847

PATHOLOGICAL SOCIETY OF MANCHESTER and MANCHESTER MEDICAL SOCIETY:
Epidemic Encephalitis 849

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY: Marie's Ataxia..... 849

SOCIETY OF PUBLIC ANALYSTS..... 849

REVIEWS

Disease in Childhood 850
A Survey of Tuberculosis..... 850
Practical Anaesthetics 850
Diseases of the Intestine 851
Sixty Centuries of Health and Physick... 851
Notes on Books 852

OBITUARY

Henry Bright Weir, M.B..... 871
J. W. Tonks, M.D., F.R.C.S. 871
J. C. Turnbull, M.D. 872
W. H. Fenn Godwin, L.R.C.P.&S. 872
Myles Fitzgerald Fallon, M.B., Ch.B.... 872
Jessie Lamb, M.B. 872
Jamshed N. Bahadurji, M.R.C.S. 872

UNIVERSITIES AND COLLEGES

University of Cambridge 872
University of London 873
University of Sheffield 873
Queen's University, Belfast 873
Royal College of Physicians of London 873
Royal College of Physicians of Edinburgh 873
Conjoint Board in Scotland..... 873

LEADING ARTICLES

COD-LIVER OILS AND IRRADIATED PREPARATIONS 853
INTERNATIONAL COMPARISONS OF MEDICAL PRACTICE 854

THE WEEK

Proprietary Medicines Bill 854
The Standard Attained by Midwives in London 855
(..... 855
(iversity 856
: ion 856
Reconstruction of the Royal Institution 857
Public Health Congress at Frankfort... 857

GENERAL ARTICLES AND NEWS

The New Zealand Earthquake. The Emergency Medical Service. By A. C. B. BIGGS, F.R.C.S..... 858

Pregnancy Diagnosis Station: Report on Second Year's Working. By B. P. WIESNER, Ph.D. 860

PREPARATIONS AND APPLIANCES. (Illustrated) 852

MEDICAL NOTES IN PARLIAMENT:
Proprietary Medicines Bill 873
Income Tax..... 874
Silicosis 874
Animal Experiments 874

MEDICAL NEWS 875

LOCAL NEWS

FRANCE—
The B.C.G. Controversy 861
Antitetanic Serum 861
Actions for Malpraxis..... 861
Hôpital Beaujon 862
Medical Degrees for Dentists 862

IRELAND—
The Dublin Hospitals: A Commission of Inquiry Suggested 862
Medical Registration Council..... 862
Public Health in the Free State..... 862
Midwives Bill..... 862
Abraham Colles..... 863

SCOTLAND—
Glasgow Royal Asylum 863
Dangers to [illegible] 863
New Profess[illegible] 863
Central Midwives Board 864

ENGLAND AND WALES—
Medical Women's Federation 864
London Medical Graduates' Dinner... 864
Treatment of Cancer 864
Socialist Medical Association..... 865

INDIA—
[illegible] 865
.. 865
865
866

CORRESPONDENCE

Some Tendon Ruptures. By H. A. T. Fairbank, M.S., F.R.C.S. 865
Coronary Thrombosis and Myocardial Infarction, with Glycosuria. By Norman Cruickshank, M.D. 867
Fractures of the Long Bones. By C. H. Fagge, M.S., F.R.C.S.... 867
Acute Urethritis in Mumps. By H. A. Morton Whitby, M.R.C.S. 868
Treatment of Shock Following Street Accidents. By H. G. Bevan-Pritchard, M.R.C.S. 868
Spinal Anaesthesia. By A. Wilfrid Adams, M.S., F.R.C.S. 869
Cholecyst-Gastrostomy. By Hubert Phillips, D.M., M.Ch., Donald Isaac, M.R.C.S., and James Macdonald, M.B., Ch.B..... 869
The Canfield Operation. By Sir James Dundas-Grant, M.D., F.R.C.S. 869
The Army Medical Services. By Major-General T. M. Corker, M.D., M.Ch. ... 869
Puerperal Sepsis. By J. H. Ward, M.B., Ch.B..... 870
Aberrant Mammary Secretion. By Sibyl T. Widdows..... 870
Immunization Against Vaccinia. By John Bland 871

LETTERS AND ANSWERS

Foreign Throat Clinics 877
Cataract and Medical Practice 877
Left-handedness in a Child 877
Piercing the Lobule..... 877
Dr. Christopher Woodhouse 877
. 878
..... 878
Metal Water-taps and Fittings 878
Shantung School of Medicine 878
Medical Golf 878

VACANCIES 878

(*See also page* 195 *of* SUPPLEMENT)

The SUPPLEMENT contains:

BRITISH M[illegible]
Annual
Resolut
for the *Representative Body.*
CURRENT NOTES:
My Canadian Journey.
Election of Panel Committees, 1931.
ELECTION OF MEMBERS OF COUNCIL.
CORRESPONDENCE:
Change of Doctor.
The Mileage Grant.
NATIONAL INSURANCE:
London Panel Committee.
Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. President: Sir HERBERT WATERHOUSE, F.R.C.S. Entrance Fee, 10/-

No entrance fee to those joining within 12 months of registration. Assets exceed £55,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS

Baillière, Tindall & Cox.
Baillières Synthetic Anatomy 5
Bigger's Bacteriology 5
Buchanan's Dissection Guide 5
Buchanan's Manual of Anatomy 5
Clarke's Refraction 5
Green's Pathology 5
Hadfield's Practical Anæsthetics 5
Irwin, W. K., Urinary Surgery 5
Jellett & Maddin's Midwifery 5
May & Worth's Eye 5
Rose & Carless' Surgery 5
Solomon's Gynæcology 5
Stedman's Medical Dictionary 5

Cassell & Co., Ltd.
Bruett, G. F., Roentgen Therapy 4
Candy, H. C. H.
Physics for Medical Students 4
Carson, H. W., Operative Surgery 4
Choyce & Beattie, System of Surg. 4
Combe, A. P., Surgical Diseases 4
Horder & Gow, Medical Diagnosis 4
Hutchison & Hunter
Clinical Methods 4
Luff & Candy
Chemistry for Medical Students 4
Paterson, D., Sick Children 4
Redding, J. M., X-Ray Diagnosis 4
Reed & Webber, Anæsthesia, etc 4
Talbot, F. B., Epilepsy 4
Treves, F.
Surgical Applied Anatomy 4
Surgical Operations 4

Lewis, H. K. & Co. Ltd.
Brockbank, E. M.
Life Assurance Examination 3
Cassie's Maternity, etc 3
Dawson's History of Medicine 3
Douthwaite, A. H.
Rheumatoid Arthritis 6
Treatment of Asthma 3
Varicose Veins 15
Forsdike's Sterility in Women 3
Goodall & Washbourn
Infectious Diseases 3
Gould's Dictionaries 3
Grant's Practical Forensic Med. 3
Ham's Synoptic Chart of Skin Dis. 3
Hawkin's Medical Climatology 3
Kenwood's Pub. Health Lab. Work 3
Kettle's Pathology of Tumours 3
Lindsay, J. A.
Among the Thinkers 3
Medical Axioms, etc 3
Master's Alcohol Habit, etc 3
Powell & Hartley, Dis. of Larynx 3
Shuttleworth & Potts
Mentally Deficient Children 3
White, R. P., Affections of Skin 3

Oxford University Press.
Brown, W., Science & Personality 6

ASSURANCE COMPANIES—
Century Insurance Company 61

BOOTMAKERS, &c.—
Dowie & Marshall—Bootmakers 41

BRASS NAME PLATES, &c.—
Ford's Name Plates 40
Herd, S. J. & A.—Name Plates 41
Lewis & Co. Ltd.—Name Plates 39
Osborne, F. A. Co.—Name Plates 41

DEBT COLLECTION—
Brit. Med. Protection Society 38

DISPENSING BOTTLES, &c.—
United Glass Bottle Manufrs. Ltd.—
Sterilized Bottles 8

FOOD PREPARATIONS—
Bemax Laboratories—Bemax 37
Brand's Essences 37
Cow & Gate Ltd.—Milk Food Cover iii
Horlick's Malted Milk 22
Nestlé & Anglo-Swiss Con. Milk Co.
Lactogen 37
Robb & Co. Ltd.—Biscuits 14
Valentine's Meat-Juice 20
Wander, Ltd.—Ovaltine 39

MINERAL WATERS—
Ingram & Royle, Ltd.—
Vichy-Célestins 17
Rubinat Llorach 40

MOTOR CARS, TYRES, &c.—
Lodge Sparking Plugs 6
Mann Egerton & Co., Ltd.—
Motors Cover i
Offord & Sons Ltd.—Motor Cars 38
Second-hand Motors for Sale 60
Singer Motor Cars 9

PRINTING & STATIONERY—
Anderson & Son—Account Forms 40
Carlyle, G.—Duplicate Books 40
Taylor's Typewriters 40

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Clarkeadin' Granules 18
'Eucherol' Elixirs 31
American Apothecaries Co.—
'Salvatio' 14
Armour & Co.—Glandol Products 7
Boots Products 21,24
British Drug Houses Ltd.—
Manganese Butyrate B.D.H. 23
Sanocin Soapless 27
Burroughs Wellcome & Co.—
Preparations 33
Continental Labs. Ltd. Rodol 22
Denver Chemical Mfg. Co.
Antiphlogistine Cover ii
Fairchild Bros. & Foster
'Panopepton' & Peptonels 16
Ferrie & Co., Ltd., Preparats &c. 26
Fox's Glacier Mints 41
Gabbé's & Co. Ltd.—Shampoos 7
Gomenol Laboratoires Gomenol 17
Howards & Sons Ltd.—Aperzan 35
Hudson's Eucrasmin 1931 &c. Co.—
'Eucrasthol Jubilee' 41
Ingram & Royle, Ltd.—Carbolsalt 2
Kaylene Ltd.—Kaylene oil 14
Kerol Ltd.—Capsules 6
Laboratoires de l'Opothérapie—
Opsonalcum 13
Martindale, W.—'Steralo' 17
May & Baker, Ltd.—Arthritin' 14
Midgley, Ltd.—Medicup Therapy 21
Mond Staffordshire Refining Co.—
Mersol 23
Newbery & Sons, Ltd.—
Haemetabolal Supercharges 13
Norwegian Cod Liver Oil 30
Opsotherapeutic Products 27
Pearson's Antiseptic Co., Ltd.—
Lodine-Medol 29
Peat Products Ltd.—Spherosol 11
Roberts & Co.—Diamenol 15
Saccharin Corporation Ltd.—
Novocrin 23
Schering, Ltd.—'Progynon' 41
Sharp & Dohme, Ltd.—
Heavitess-resmol Solution 24
S.P. Charges Co.—Sulphurea 15
Wyleys Ltd.—
Elixir Bromo-Valerian Co 16

SURGICAL APPLIANCES—
Acrylonic Depot
Rubberless Stockings 6
Bailey & Son, Patent Belts 31
Curtis & Son—Supports 25
Davidson, F. A. Co.—
Surgical Appliances Cover iv
Dent's 'Artonic' Stethoscope 39
Fleming & Co.—Surgical Equipments 41
Hillyard's New Absorbent Boys 43
Medical Supply Association, Ltd.—
Pare-Bandages 36
'Sanoid' Catgut 36
'Vardan' Elastic Plaster Band 26
Medical Surgical Sundries, Ltd.—
Essell Inhaling Apparatus 60
Millikin & Lawley—
Instruments, Osteology, etc. 36
Salt's Surgical Service 12,13
Salmon Oily—Surgical Appliances 36
Short & Mason—
Tycos Sphygmomanometer 40

TAILORING & UNDERCLOTHING—
Hall, H.—Medical Service Dress 60
Keith Bradbury Ltd.—Tailors 40
The Irish Linen Mesh Co. Ltd.—
Empire Linen Mesh Underwear 40

TOBACCO & CIGARETTES—
Player's No. 3 38

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 60

VACCINES & CULTURE MEDIA—
Allen & Hanburys Ltd.—
Vaccines and Sera 31
Laboratoires of Perth, A. Pub. Hlth. 40
Willows, Francis, Butler &
Thompson, Ltd.—Pollant'n 17

X-RAY & ELECTRO-MEDICAL APPARATUS—
Dean & Co.—X-Ray Apparatus 10
Edison Swan Electric Co. Ltd.—
Ediswan Stationary Batteries 10
Kodak—'Diaphix' X-Ray Film 11
Medical Supply Association, Ltd.—
Diathermy Apparatus 37

BATHS, SPAS, &c.—
48
49
47
48
48
44
41
49
48
49

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—
RE APPOINTMENTS 17

HOSPITAL, &c., VACANCIES—
Aberdeen Royal Infirmary 60
Bath, Children's Orthopædic Hosp. 55
Battersea Borough Council 52
Bermondsey Medical Mission Hosp. 57
Birmingham Children's Hospital 55,56
Blackburn County Borough 55
Blackburn Royal Infirmary 53
Bolton Infirmary & Dispensary 54
Bootle General Hospital & Lanes 56
Brighton, Royal Sussex Co. Hos. 53,54
Bristol, Cossham Memorial Hosp. 56
Chelsea Hosp. for Women, S.W.3 53
Chesterfield & N. Derbys. Roy. Hos. 54
Cygnet Mines Corporation 52
Derbyshire County Council 52
Derbys. Hospital for Sick Children 52
Derbyshire Royal Infirmary 53
Doncaster Royal Infirmary 57
Dumfries & Galloway Royal Infirm. 60
Durham, County Hospital 60
East Ham Memorial Hospital 53
Elizabeth Garrett Anderson Hosp. 52
Fife Joint Asylum Committee 52
Gt. Yarmouth General Hospital 54
[illegible] 53
[illegible] 57
[illegible] 54
Hull Royal Infirmary 52
Hull, Victoria Hosp. for Children 55
Ilford, King George Hospital 55
Institute of Ray Therapy, N.W.1 52
Kent and Canterbury Hospital 55
Kettering Urban District Council 52
Kidderminster General Hospital 56
K. Edward Memorial Hosp. W.13 56
Kingston upon Hull City & County 53
Lancaster County Mental Hospital 53
Leeds Education Committee 54
Leeds Hospital for Women 54
Liverpool and Samaritan Hospital 53
Liverpool Stanley Hospital 57
London County Council 52
[illegible] 54
[illegible] 57
[illegible] 56
[illegible] 60
[illegible] 54
[illegible] 55
[illegible] 54
[illegible] 51
[illegible] 55
[illegible] 55
[illegible] 51
[illegible] 54
[illegible] 52
[illegible] 54
[illegible] 55
[illegible] 53
[illegible] 56
[illegible] 55
[illegible] 53
[illegible] 55
[illegible] 55
[illegible] 53
[illegible] 54
[illegible] 53
[illegible] 53
[illegible] 53
[illegible] 53
Salvation Army Mothers Hospital 53
Samaritan Free Hosp. for Women 56
Seamen's Hospital Society 53
[illegible] 53
[illegible] 56
[illegible] 56
[illegible] 55
[illegible] 55
[illegible] 53
[illegible] 54
[illegible] 53
[illegible] 53
[illegible] 53

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 47
Peebles Hydro 47
Ruthin Castle, North Wales 43
Smedley's Hydro, Matlock 44

INEBRIETY—
Bay Mount, Paignton 45
Cahirecoto Hall, Nuneaton 44,45
Dalrymple House, Rickmansworth 45
* Old Hall House,' Childshurst 45
Rendlesham Hall, Woodbridge 45

SCHOOLS, &c.—
Paton—Schools for Boys & Girls 51
Taunton School, Taunton 51

HOMES & ASYLUMS—
Bornwood House, Gloucester 42
[illegible] 43
Tenvanton, Streatham Hill 43
Gilzal Hospital, Perth 43
Grange, near Rotherham 44
Grove House, All Stretton 47
Haydock Lodge, Lancashire 42
Highfield Hall, St. Albans 42
K. Edward VII Convalescent Home 43
Lawn, Lincoln 42
Littleton Hall, Brentwood, Essex 47
Log House, Kleszers 43
Maudsley Hospital, S.E.5 42
Moat House, Tamworth, Staffs 45
[illegible] 44
[illegible] 44
[illegible] 43
[illegible] 44
Lescent Patients 45
Royal Earlswood Institution 45
St. Andrew's Hosp. Northampton 42
Springfield House, near Bedford 41
Stonycroft Nursing Home 42
Stretton House, Shropshire 44
Tykeford Abbey, Newport Pagnell 42
47
41
45
45

SANATORIA—
Cotswold Sanatorium 43
East Anglian Sanatorium 45
Grampian Sanatorium 42
Linford Sanatorium, Hants 46
Montana Hall, Switzerland 47
[illegible] 42

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital 51
College of Preceptors 43
[illegible] 53

TUTORS & LECTURERS—
[illegible] 51

TRANSFER AGENTS—
Borril Medical Agency, Ltd. 63
British Medical Bureau 63,64,65
[illegible] 62
[illegible] 1
Reeves, [illegible] 61
Pearcock & Hadley, Ltd. 63
Reynolds & Branson, Ltd. 58,62
The Medical Agency 58,61
Turner, P., Ltd. 62
Western Medical Agency, Bristol 62

ASSISTANTS' PRACTICES, &c.—

NURSING INSTITUTES—
Cavendish Nurses 60
Nurses' Association 60

MISCELLANEOUS—
B.M.A. Announcements 7,61
P. & O. Lines Ltd.—Summer Cruises 59
60
60
1
60

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

LEWIS'S PUBLICATIONS

With 26 Plates (including 6 Coloured) and other Illus., 15 Diagrams, and 34 Charts. Demy 8vo. 30s. net; postage 9d.

A TEXT-BOOK OF INFECTIOUS DISEASES

Being the Third Edition of Goodall & Washbourn's MANUAL OF INFECTIOUS DISEASES.

Revised and in large part rewritten by E. W. GOODALL, O.B.E., M.D., B.S.Lond., lately Medical Superintendent and Lecturer on Infectious Diseases and Fever Hospital Administration at the North-Western Hospital of the Metropolitan Asylums Board; Vice-President (formerly President) of the Section of Epidemiology and State Medicine of the Royal Society of Medicine, etc.

"Dr. Goodall's long and intimate acquaintance with the infectious diseases makes this volume very acceptable."—THE LANCET.

JUST PUBLISHED. Pp. viii + 172. Demy 8vo. 7s. 6d. net; postage 5d.

THE CONDUCT OF LIFE ASSURANCE EXAMINATIONS

By E. M. BROCKBANK, M.D.Vict., F.R.C.P., Honorary Consulting Physician, Royal Infirmary, Manchester.

General Practice Series.

Author of "The *Diagnosis and Treatment of Heart Disease*" and "Incapacity and Disablement in its Medical Aspects."

Dawson's HISTORY OF MEDICINE. A Short Synopsis.

By BERNARD DAWSON, M.D.Lond., F.R.C.S.Eng. With a Foreword by H. WOOLLARD, M.D., D.Sc. Crown 8vo. With 31 *Illustrations*. 7s. 6d. net. *Just Published.*

Hawkins' MEDICAL CLIMATOLOGY OF ENGLAND AND WALES.

By EDGAR HAWKINS, M.A.Oxon., M.D.Edin., D.P.H.Oxon. With 148 Charts (145 in Colours). Demy 8vo. 16s. net.

"It should find a place on the desk of every practitioner."—BRITISH MEDICAL JOURNAL.

Kenwood's PUBLIC HEALTH LABORATORY WORK (Chemistry).

By HENRY R. KENWOOD, C.M.G., M.B., D.P.H., F.C.S., etc. *Eighth Edition.* Demy 8vo. 12s. 6d. net. *Lewis's Practical Series.*

"Throughout this text-book Prof. Kenwood shows sound judgment based on ripe experience."—THE LANCET.

Ham's SYNOPTIC CHART OF SKIN DISEASE. For Practitioners and Students.

By BURNETT HAM, M.D., D.P.H Camb., D.C.M.S. With 2 Coloured Plates. Imperial Folio. 12s. 6d. net; postage 9d.

"... very useful for ready reference."—CLINICAL JOURNAL.

Master's ALCOHOL HABIT AND ITS TREATMENT.

By WALTER E. MASTERS, M.D., M.R.C.S., D.P.H. With an Introduction by *Sir* WILLIAM WILLCOX, K.C.I.E., C.B., C.M.G., M.D., M.R.C.P. Crown 8vo. 6s. net. *Just Published.*

Kettle's PATHOLOGY OF TUMOURS.

By E. H. KETTLE, M.D., B.S.Lond. Second Edition. 159 Illustrations. Demy 8vo. 12s. 6d. net; postage 9d.

"... even better than before."—BRITISH MEDICAL JOURNAL.

Douthwaite's TREATMENT OF ASTHMA.

By A. H. DOUTHWAITE, M.D., F.R.C.P.Lond. Crown 8vo. 7s. 6d. net; postage 5d.

"... should be read and re-read."—THE MEDICAL OFFICER.

Grant's PRACTICAL FORENSIC MEDICINE. A Police Surgeon's Emergency Guide.

By GRAHAM GRANT, V.D., L.R.C.P. & S.Edin. Third Edition. With 6 Illustrations. Foolscap 8vo. 4s. 6d. net; postage 2d.

"... a wealth of sound advice."—BRITISH MEDICAL JOURNAL.

THIRD Edition. Brought fully up to date and based on Modern Principles. 52 Plates. Demy 8vo. 35s. net; post. 1s.

THE DERMATERGOSES OR

OCCUPATIONAL AFFECTIONS OF THE SKIN

Giving Descriptions of the Trade Processes, the responsible agents and their actions.

By R. PROSSER WHITE, M.D.Edin., M.R.C.S., President of the Certifying Factory Surgeons' Association; Life Vice-President, Consulting Dermatologist, Royal Albert Edward Infirmary, Wigan, etc.

"Hardly anything in fact could alter our appreciation of its great worth."—ARCHIVES OF DERMATOLOGY AND SYPHILIS.
"A veritable encyclopaedia ... most valuable. ... A generous and complete Index."—BRITISH MEDICAL JOURNAL.

SIXTH Edition. Plates from Original Drawings (6 in Colours) and other Illus. in Text. Demy 8vo. 30s. net; post. 9d.

ON DISEASES OF THE LUNGS AND PLEURAE

Including TUBERCULOSIS AND MEDIASTINAL GROWTHS.

By Sir RICHARD DOUGLAS POWELL, Bt., K.C.V.O., M.D.Lond., F.R.C.P., late Phys.-in-Ordinary to H.M. the King; Consulting Physician to the Middlesex and Brompton Hospitals; and Sir PERCIVAL H. S. HARTLEY, C.V.O., M.A., M.D.Camb., F.R.C.P., Physician, St. Bart's Hospital; Senior Physician, Brompton Consumption Hospital, etc.

"... can be confidently recommended as a safe guide to the practitioner in search of authoritative medical opinion."—BRIT. MED. JOURN.

Lindsay's AMONG THE THINKERS: Leaves from my Note-Books.

By JAMES A. LINDSAY, M.A., M.D., F.R.C.P., Emeritus Professor of Medicine in the Queen's University of Belfast, &c. Pp. x + 198. Crown 8vo. 5s.; postage 4d. *Just Published.*

"... a generous well of worldly wisdom into which one may dip anywhere and bring up a well turned phrase, an acute observation or a profound reflection."—THE LANCET.

BY THE SAME AUTHOR.

MEDICAL AXIOMS, APHORISMS, AND CLINICAL MEMORANDA.

SECOND IMPRESSION. Crown 8vo. 6s. net; postage 4d.

"... we can imagine no more useful book for practitioners of all ages."—THE LANCET.

Forsdike's STERILITY IN WOMEN: Diagnosis and Treatment.

By S. FORSDIKE, M.D., B.S.Lond., F.R.C.S.Eng. and Edin. With 25 Illustrations, including 17 Plates. 9s. net; postage 5d.

"Shows ... evidence of rich personal experience; will well repay the most careful study."—THE LANCET.

Cassie's MATERNITY AND CHILD WELFARE. A Text-book for Public Health Workers.

By ETHEL CASSIE, M.D., Ch.B., D.P.H.Edin. Demy 8vo. 8s. 6d. net; postage 6d.

"... authoritative and practical."—PUBLIC HEALTH.

Shuttleworth and Potts' MENTALLY DEFICIENT CHILDREN: Their Treatment and Training.

By G. E. SHUTTLEWORTH, M.D., and W. A. POTTS, M.D. *Fifth Edition.* With Plates and Illustrations. Crown 8vo. 10s. 6d. net; postage 6d.

"... *excellent book ... unusually complete.*"—THE LANCET.

GOULD'S DICTIONARIES.

MEDICAL DICTIONARY.

Containing all the Words and Phrases generally used in Medicine and the Allied Sciences, with their proper Pronunciation, Derivation, and Definition.

By G. M. GOULD, A.M., M.D. Second Edition. Flexible Leather. Imp. 8vo. 30s. net; postage 1s. (inland), 2s. (abroad).

"... *needs no recommendation.*"—BRITISH MEDICAL JOURNAL.

THE PRACTITIONER'S MEDICAL DICTIONARY.

Third Edition. Flexible Leather. Demy 8vo. 21s. net; postage 9d.

"May be warmly recommended to the attention of medical students and medical men."—BRITISH MEDICAL JOURNAL.

A POCKET MEDICAL DICTIONARY.

Ninth Edition. Containing 40,000 words. Bound Limp Leather. 10s. net; postage 4d. With Thumb Index, 12s. net.

"... a safe and useful companion for any practitioner or student of medicine."—THE LANCET.

Complete CATALOGUE of publications post free on application.

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1

Telephone: MUSEUM 7756-7-8.

Telegrams: "PUBLICAVIT, EUSROAD, LONDON."

CASSELL AND COMPANY, LTD.

NEW WORK. NOW READY.

TREATMENT OF EPILEPSY

By FRITZ B. TALBOT, M.D.,

Clinical Professor of Pediatrics, Harvard University Medical School; Chief of Children's Medical Department, Massachusetts General Hospital.

This work deals briefly with the Incidence, Etiology, Pathology, Diagnosis, Prognosis and Symptoms of Epilepsy, but is mainly concerned with Treatment. It lucidly expounds the theory and gives full details of the application of the Ketogenic Diet Treatment.

Demy 8vo. 322 pages. With 11 Figures and 29 Tables. 18s. net.

RADIUM THERAPY: PRINCIPLES AND PRACTICE

By G. E. BIRKETT, *M.C.*, B.A.Cantab., M.R.C.S.Eng.,

Late Honorary Radiologist, Manchester and District Radium Institute and Christie Hospital for Cancer.

"The book is well and simply written, there is a good index, and the illustrations are excellent." —BRITISH MEDICAL JOURNAL.

"Presents concisely and attractively the position that has been reached in this branch of therapeutics."—LANCET.

Royal 8vo. 196 pages. With 6 Colour and 13 Half-tone Plates, and 52 Text-figures. 17s. 6d. net.

Sick Children: Diagnosis and Treatment.

By DONALD PATERSON, B.A.Manitoba, M.D. Edin., F.R.C.P.Lond. Illustrated. 16s. net.

Clinical Methods.

By ROBERT HUTCHISON, M.D.Edin., F.R.C.P.Lond., and DONALD HUNTER, M.D., F.R.C.P.Lond. *Ninth Edition.* Illustrated. 12s. 6d. net.

The Essentials of Medical Diagnosis.

By Sir THOMAS HORDER, Bart., K.C.V.O., M.D., F.R.C.P.Lond., and A. E. GOW, M.D., F.R.C.P.Lond. Illustrated. 16s. net.

X-Ray Diagnosis.

By J. MAGNUS REDDING, F.R.C.S.Eng. 244 pages, with 80 Radiographic Plates. 21s. net.

A Manual of Chemistry for Medical Students.

By ARTHUR P. LUFF, C.B.E., M.D., B.Sc., F.R.C.P. Lond., and HUGH C. H. CANDY, B.A., B.Sc.Lond., F.I.C. *Seventh Edition,* in two volumes. Illustrated. Vol. I, Introduction and Inorganic Chemistry, 11s. net. Vol. II, Organic Chemistry, 6s. net.

A Manual of Physics for Medical Students.

By HUGH C. H. CANDY, B.A., B.Sc.Lond., F.I.C. (A Companion Volume to Luff & Candy's MANUAL OF CHEMISTRY.) *Second Edition.* Illustrated. 7s. 6d. net.

The Student's Handbook of Surgical Operations.

By Sir FREDERICK TREVES, Bart. *Fifth Edition.* Revised by CECIL P. G. WAKELEY, F.R.C.S Eng., F.R.S.Edin. Illustrated. 10s. 6d. net.

A System of Surgery.

Edited by Prof. CHOYCE, C.M.G., C.B.E., B.Sc., M.D., F.R.C.S.Eng. Pathological Editor, Prof. J. MARTIN BEATTIE, M.A., C.M., M.D. *Second Edition.* Three Volumes. Illustrated. £6 net the set.

Modern Operative Surgery.

By Twenty-four Leading Surgeons. Edited by H. W. CARSON, F.R.C.S Eng. Two Volumes. Illustrated. £3 3s. net the set.

Elements of Surgical Diagnosis.

By Sir ALFRED PEARCE GOULD. *Seventh Edition.* Revised by ERIC PEARCE GOULD, M.D., M.Ch.Oxon., F.R.C.S.Eng. Illustrated. 12s. 6d. net.

Anaesthesia and Anaesthetics.

By F. S. ROOD, M.B., B.S.Dunelm., and H. N. WEBBER, M.A., B.Chir.Cantab. Illustrated. 14s. net.

Surgical Applied Anatomy.

By Sir FREDERICK TREVES, Bart. *Eighth Edition.* Revised by Prof. CHOYCE, C.M.G., C.B.E., B.Sc., M.D., F.R.C.S.Eng. Illustrated. 14s. net.

CASSELL & CO., LTD., LA BELLE SAUVAGE, LONDON, E.C.4

BAILLIERE, TINDALL & COX

¶ "*The finest single-volume text-books of Surgery in the world.*"—LANCET.

13TH EDITION

ROSE & CARLESS' SURGERY

PRICE 30s.

By C. P. G. WAKELEY, F.R.C.S., and J. B. HUNTER, F.R.C.S.

With the assistance of Special Contributors.

Pp. xiii + 1,592, with 664 Illustrations, 19 Coloured Plates, and a Radiographic Supplement containing 43 Radiograms.

This is a practical Dictionary, including Dental, Veterinary, Chemical, Botanical, and other special terms.

STEDMAN'S MEDICAL DICTIONARY

¶ "*Well-arranged and well produced work of reference. . . . Its popularity may be judged by the constant demand for fresh editions.*" —BRITISH MEDICAL JOURNAL.

ELEVENTH EDITION. Quarto size. Pp. xii + 1,194, double columns, with 22 Plates and over 400 Illustrations, of which 64 are coloured. Limp leather, with thumb-cut index. Price 35s. Postage: Inland 1s.

SIXTH EDITION.

MAY & WORTH'S EYE

¶ "*Practical and reliable.*"—GUY'S HOSP. GAZETTE.

Pp. x + 464, 23 Coloured Plates and 337 Figs. Price 15s.

SECOND EDITION.

HADFIELD'S PRACTICAL ANAESTHETICS

¶ "*This excellent handbook . . . eminently suited for the general practitioner.*"—LANCET.

Pp. xii + 344, with 32 Figures. Price 7s. 6d.

¶ "*The best and most convenient substitute for the body.*"—BRITISH JOURNAL OF SURGERY.

BAILLIERE'S SYNTHETIC ANATOMY

By J. E. CHEESMAN.

NOW READY. Part XI.—MALE PERINEUM. Part I.—UPPER ARM; Part II.—THE FOREARM; Part III.—THE HAND; Part IV.—THIGH AND HIP; Part V.—THE LEG; Part VI.—THE FOOT; Part VII.—THORAX; Part VIII.—ABDOMEN (Parts VII and VIII form the complete trunk); Part IX.—HEAD AND NECK; Part IXa.—PTERYGO-MAXILLARY REGION.

Size 9 × 7½. Price 3s. per part. Loose-leaf binding cases to take the whole work, price 3s.

SECOND EDITION.

BIGGER'S BACTERIOLOGY

¶ "*Accurate and adequate.*"—LANCET.

Pp. xii + 452, 5 Coloured Plates and 82 Figures. Price 12s. 6d.

SECOND EDITION.

SOLOMONS' GYNAECOLOGY

¶ "*Presents sound teaching.*"—BRITISH MEDICAL JOURNAL.

Pp. xii + 300, 2 Coloured Plates and 217 Figures. Price 12s.

¶ "*The most exhaustive treatise on Midwifery produced in these Islands.*"—BRITISH MEDICAL JOURNAL.

JELLETT & MADILL'S MIDWIFERY

FOURTH EDITION. Size 9½ × 5½. Pp. xii + 1,231, with 570 Illustrations. Price 25s.

FOURTEENTH EDITION.

GREEN'S PATHOLOGY

¶ "*Will meet the Student's wants.*"—LANCET.

Pp. xiii + 624, 6 Coloured Plates and 224 Figs. Price 21s.

FIFTH EDITION.

CLARKE'S REFRACTION

¶ "*The very best book on the subject.*"—BRIT. MED. JOURN.

Pp. ix + 252, with Coloured Plate and 95 Figures. Price 8s. 6d.

RE-ISSUE IN TWO VOLUMES.

BUCHANAN'S MANUAL OF ANATOMY

FIFTH EDITION. Pp. xvi + 1,702, with 810 Illustrations. Price 35s.

¶ "*Contains more than enough to get a man through any examination.*"—ST. BARTHOLOMEW'S HOSPITAL JOURNAL.

BUCHANAN'S DISSECTION GUIDE

Edited by E. BARCLAY-SMITH, M.D., R. H. ROBBINS, M.D., J. E. FRAZER, F.R.C.S.

Demy 8vo. Pp. viii + 302. Price 10s. 6d.

BAILLIERE, TINDALL & COX, 7 & 8, Henrietta Street, London, W.C.2

SCIENCE AND PERSONALITY

By WILLIAM BROWN, M.A., M.D.(Oxon.), F.R.C.P., D.Sc.(Lond.),

Wilde Reader in Mental Philosophy in the University of Oxford; Psychotherapist to King's College Hospital, London; Hon. Consulting Psychologist and Lecturer on Medical Psychology, Bethlem Royal Hospital, London

Pp. 266. With a Foreword by Sir OLIVER LODGE, D.Sc., F.R.S. 12s. 6d. net.

Contents include: The Physical Sciences—The Biological and Psychological Sciences—Mental Unity and Mental Dissociation—Mind and the Theory of Conditioned Reflexes—Association, Dissociation, and Repression—Instinct, Sentiment, and Value—Theories of Suggestion—The Influence of Mind on Body—The Unconscious Mind—Theories of Mental Analysis—Mental Analysis and Psychotherapy—Suggestion and Will—Religion and Health—Personality and Art—Personality and Psychical Research—Faith, Love, and Personality.

"Dr. William Brown has always shown in his writings the catholicity of his mind. . . . He covers the whole field of the sciences from mathematics to the normative studies of ethics and aesthetics; rightly so, since his thesis is that man's highest pursuits are the Good, the True, and the Beautiful."—THE LANCET.

"Dr. Brown shows a greater maturity of thought and writes with a surer hand than before. The result is a work of very real scientific interest and value, especially to those who are called upon to deal with the maladjustments of modern life."—MEDICAL OFFICER.

"Dr. Brown performs a useful service in emphasizing the importance of the intellect as a factor of instinctive force, and by calling attention to the unwarrantedly complete depreciation of intellectual constructions by Freudian theory. The writing is clear, and the book should appeal very much."—JOURNAL OF NEUROLOGY AND PSYCHOPATHOLOGY.

OXFORD UNIVERSITY PRESS (Humphrey Milford), Amen House, London, E.C.4

Pp. x + 80. Crown 8vo. 6s. net: postage 3d.

THE TREATMENT OF RHEUMATOID ARTHRITIS

By A. H. DOUTHWAITE, M.D., F.R.C.P., Assistant Physician to Guy's Hospital.

". . . an interesting and useful book . . . essentially practical."—Lancet.

". . . well-written book . . . remarkable for its up-to-date summary of knowledge. . . ."—The Practitioner.

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1

Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

"Should be in the possession of every medical man."—*Glasgow Medical Journal.*

URINARY SURGERY

A HANDBOOK FOR THE GENERAL PRACTITIONER

By W. K. IRWIN, M.D., F.R.C.S.,

Assistant Surgeon, St. Paul's Hospital for Genito-Urinary Diseases.

¶ "Clearly written . . . furnishes the practitioner with information of great practical value in his everyday work."—*British Medical Journal.*

SECOND EDITION. Revised and Enlarged. Price 10s. 6d. (postage 6d.).

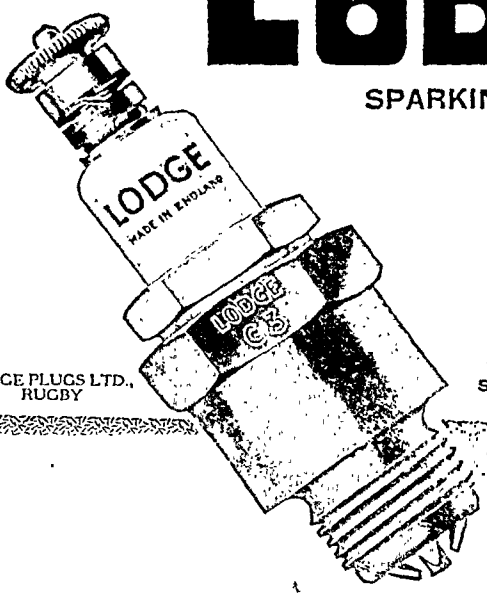
BAILLIERE, TINDALL & COX, 7 & 8, Henrietta St., London, W.C.2.

"a change for the better"—

a new set of

LODGE

SPARKING PLUGS



LODGE C3
the plug for most English and Continental engines.
5/-
everywhere in sealed metal box (red).
Sold at all good garages.

LODGE PLUGS LTD., RUGBY

PERMANENT RELIEF for

VARICOSE VEINS

Is ensured by the world famous

"Academic" RUBBERLESS STOCKING

Claimed as the best and most effective means for relieving Varicose Veins and other leg ailments, and preventing the formation of new varicose veins.

PERFECT COMFORT

STRONG SUPPORT

LEGS ALWAYS SLIM & SHAPELY

The patented heel increases longitudinal pull, never curls, always retains its position, and there is no discomfort or damage to silk hose.

HYGIENIC, WASHABLE & INVISIBLE under the finest silk hose.

From D. H. Evans, Harrods, Army & Navy, Boots The Selfridge's, all branches of Boots The Chemists, and all the leading London and Provincial stores.

Doctors are cordially invited to write for further details.

ACADEMIC DEPOT, 158, Oxford St., W.1.

KEROL CAPSULES

Announcement of the British Medical Association

• British
• Medical
• Journal

EVERY special issue of the British Medical Journal may be expected to provide material of interest to a large proportion of the profession. The next Special Number, to be published on June 6th, will include among its principal contents two recent lectures of much importance, one of them being accompanied by coloured illustrations on art paper plates. Original articles and clinical memoranda, covering a wide field of practice, will also be published together with full information about the Annual Meeting of the British Medical Association to be held at Eastbourne in July.

Mention may be made here of the carefully compiled advertisement sections in the Special Number. Readers have, at all times, shown their appreciation of advertisements appearing in these columns, and it is well known that their practical support has contributed to the high regard in which the British Medical Journal is held throughout the Advertising world. The advertisements published week by week constitute, in effect, an exhibition of current medical and surgical requisites which the doctor mindful of his obligations cannot fail to examine, for this is the recognized channel through which information about the accessories to practice may be obtained.

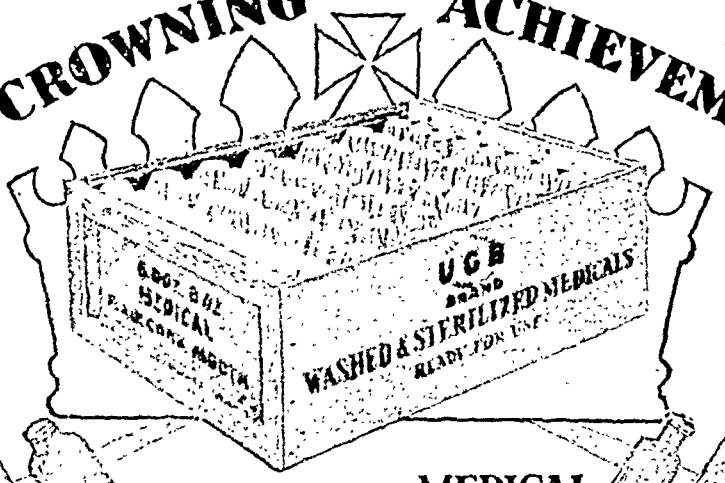
• Special
• Number
• June 6th

The forthcoming Special Number replaces the usual issue due to appear on the same date, and it will be sent to all members of the British Medical Association in the customary way. Despite the higher cost of production, due to reproductions in colour, there will be no increase in the normal charge of 1s. 3d. per copy made in respect of copies purchased by non-members.

• *Enquiries concerning the Journal should be addressed to :—*

The Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1

THE CROWNING ACHIEVEMENT



U.G.B. MEDICAL BOTTLE *Service*

DURING the past ten years at tremendous expense, a very wide range of automatic machine mould equipment has been built up by the U.G.B. to cater for practically every bottle requirement of the Chemist and Dispenser. New and attractive shapes are now being added from time to time.

The Crowning Achievement was the introduction of the "Washed and Sterilised Ready-to-Use Package" which is daily growing in demand.

Only a small percentage of the actual cost of this service is passed on to the customer.

Supplied either for corks or complete with Rustless White Enamelled Screw Caps.

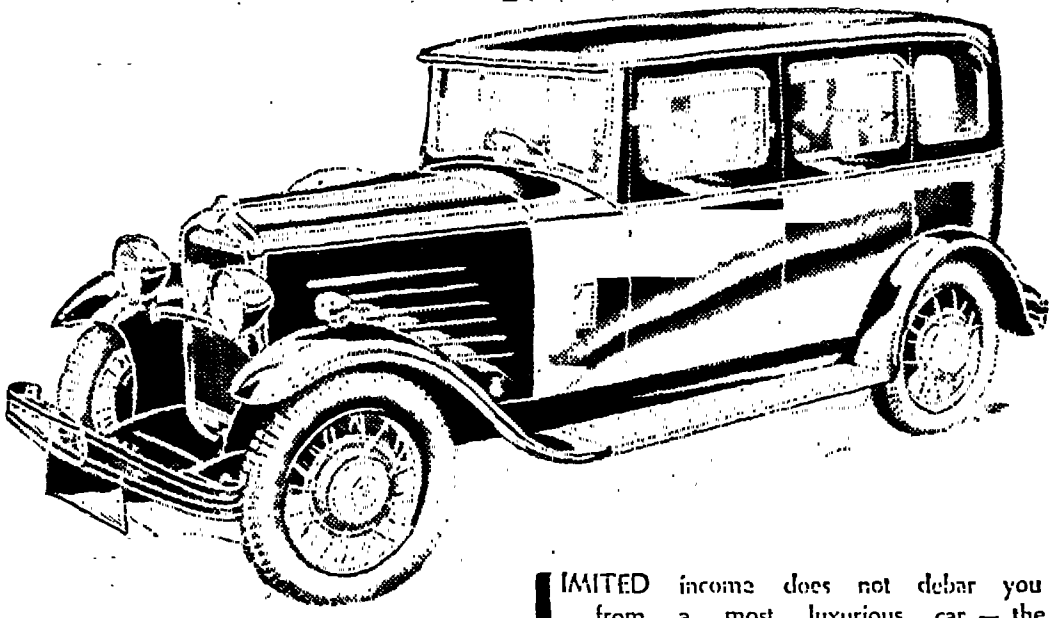
Once you have experienced the value and convenience of this U.G.B. Service you will use nothing else. Try it NOW and be prepared for the WINTER.

Obtainable from all leading Wholesalers.

UNITED GLASS BOTTLE MANUFACTURERS · LIMITED
The largest manufacturers of Glass Bottles in Europe.

Head Offices:
40-43, NORFOLK STREET, STRAND,
LONDON, W.C.2.
'Phone: Temple Bar 6680 'Grams: 'Unglaboman, Estrand, London.'

Own a Luxury Car this time



LIMITED income does not debar you from a most luxurious car — the Singer "Six."

Deep, leather upholstered seats, ample leg, elbow and head room, FOUR SPEED GEAR BOX—vacuum SERVO BRAKES, SAFETY TANK at rear (outside the coachwork) centralised finger tip controls, thermo controlled radiator—these are a few of the luxury car features which are yours at £280.

You can loll back in drawing room comfort, and hum down the roads at a silent "60" if you wish —yet you cannot find a car more docile in traffic, or easier to drive.

Don't condemn yourself to an ordinary car. See this Singer "Six" and be enraptured.

SEND FOR COLOURED ART CATALOGUE

SINGER SIX SALOON
£280

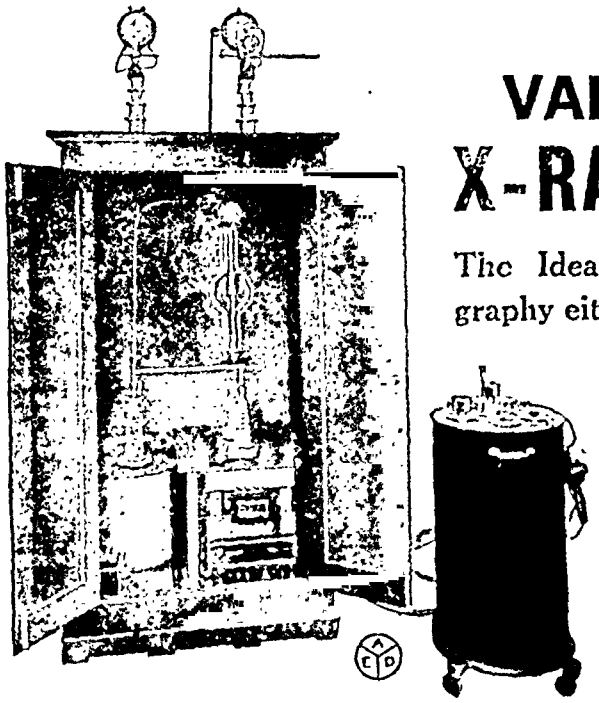
DRIVE IT AWAY FOR £70 DOWN

OTHER MODELS FROM £130

THE Singer SIX

SINGER & CO. LTD., COVENTRY.

London Showrooms: STRATTON HOUSE, PICCADILLY, W.1, and 202, GT. PORTLAND ST., W.1.



1931 MODEL

DEAN'S
VALVE RECTIFIED
X-RAY APPARATUS

The Ideal Apparatus for General Radiography either for Hospital or Private Practice.

Let us have particulars of your requirements and we shall be pleased to advise you.

A. E. DEAN & CO.

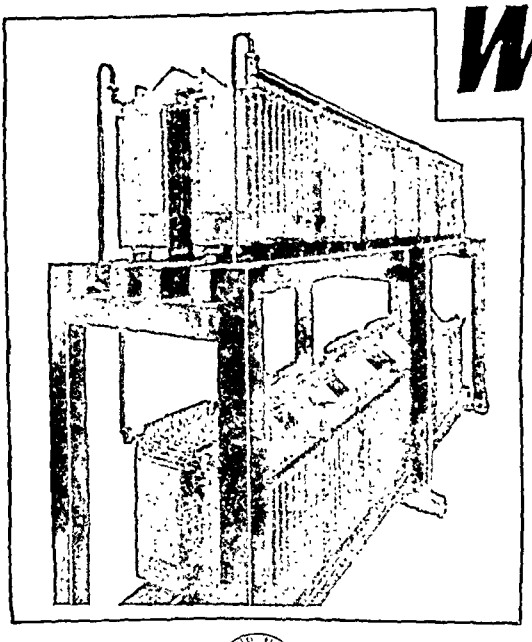
Manufacturers of X-Ray and Electro-Medical Apparatus of the Highest Grade.

LEIGH PLACE, BROOKE STREET, HOLBORN, LONDON, E.C.1

Showrooms: 14, BALDWIN'S GARDENS—adjoining.

AGENTS FOR MIDLANDS:
WATSON & GLOVER, 2, Easy Row, BIRMINGHAM.

NEW ZEALAND AGENTS:
H. COONEY & SON, The Esplanade, Kohimarama, AUCKLAND.



When a life is at stake....

The psychological moment has arrived. Will the operation be successful? . . . Can modern science triumph over such disease? . . . The surgeon bends closer over the table . . . deft fingers touching slender instruments . . . a life is at stake . . . if the lights should fail, plunging the theatre into darkness . . .

Nowhere is reliable light supply more important than in operating theatres. A light failure may have far-reaching consequences. Every hospital should be equipped with Ediswan Stationary Battery. Then if current fails, a switch over to the Ediswan saves the situation and restores light almost immediately.

The Ediswan Stationary Battery for Emergency Lighting is compact and robust. It takes up little space and is sturdily built to give long service. Running costs are almost negligible. Installation costs are low.

May we co-operate with you in evolving a Battery specially to suit your requirements?

THE EDISON SWAN ELECTRIC CO. Ltd.
123/5, Queen Victoria St., London, E.C.4
Branches in all the Principal Towns.

EDISWAN STATIONARY BATTERIES

B 121

"Eastman Diaphax" X-Ray Film

A matt film of increased sensitivity

Coated with ultra-speed emulsion. No change in development procedure. Has a surface suitable for pencil or pen notes. May be viewed on illuminator or before window.

No alteration in price.

Retains all the desirable features of Kodak Emulsion

Kodak Limited, Medical Department,
Kingsway, London, W.C.2

SALT

SERVICE IN SPECIALISATION

In the present age, when strenuous exercise is so prevalent, the danger of discarding elastic hosiery is obvious to Medical Men.

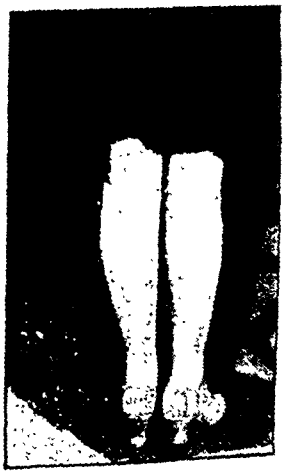
In order to prevent this risk we have produced our famous

DRESS SILK HOSIERY

which is inconspicuous when worn under the fashionable silk stockings of to-day.

This "dress silk" hosiery is composed of a special fabric, manufactured from the finest China silk with rubber strands, and is naturally more expensive and not suitable for rough usage.

We supply, however, 10 qualities of Elastic Hosiery in 8 different colours, to meet the requirements of all classes of patients.



SURGICAL SERVICE SALTAIR

SALT AND SON LTD.

7, CHERRY STREET, BIRMINGHAM

COPYRIGHT

SALT

SPECIALISATION IN SERVICE

SALT'S ELASTIC HOSIERY.

Anklets
Kneecaps
Leggings
Stockings
Knee Stockings
Knee Leggings
Thigh Stockings
Thigh Leggings
Thigh Kneecaps
Thigh Pieces

Our Service—owing to Fitting Rooms and Depots situate in London and Provincial centres—enables the attendant practitioner to send his patient to be fitted by surgical experts with the exact type of appliance prescribed.

London Consulting Rooms:
"OAKLEY HOUSE,"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

Our close co-operation with the Medical Profession for 138 years, together with our practical knowledge, enables us to interpret Medical requirements with the greatest accuracy, and every appliance is specially made for each individual requirement, as prescribed by the attendant practitioner.

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

SALT AND SON LTD.

7, CHERRY STREET, BIRMINGHAM

ESTABLISHED 1793.

PEAT HEALS!

"I would be glad of a further trial sample of your Soaps and Ointments."

"I use Sphagnol largely, especially for Dermatitis and Prurigo—with great results."

Signed . . . . . M.D.

Sphagnol

APPROVED PEAT OINTMENT

FOR FREE SAMPLE

WRITE TO PEAT PRODUCTS (SPHAGNOL) LIMITED (DEPT. B51), 21, BUSH LANE, LONDON, E.C.4

Famous as The Food of Royal Infants

also for invalids, the aged, and all persons of weak digestion

ROBB'S NURSERY BISCUITS have no equal. Easy of assimilation, a nourishing and sustaining diet, its appetising flavour is greatly appreciated by both young and old. Very welcome as a substitute for the ordinary bread-and-milk diet. Can also be lightly baked, with eggs and milk, to supply a delicious custard pudding.

Robb's NURSERY BISCUITS

Highly recommended by eminent Accoucheurs and Physicians throughout the world as the most reliable food for Infants over six or seven months.

ROBB'S NURSERY BISCUIT POWDER is recommended when a feeding bottle is to be used, also as a diet for *invalids*, Nursing mothers and the aged.

ROBB'S DIGESTIVE RUSKS, TOPS and BOTTOMS, GINGER NUTS, and CHARCOAL BISCUITS are specially recommended for invalids and convalescents.

Send for large free sample and descriptive booklet, etc.

Alex. Robb & Co Ltd (Dept. 6), NURSERY BISCUIT FACTORY, ATKINS ROAD, LONDON, S.W.12.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassium Sodii Citro Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to

COATES & COOPER, LTD.,

41, Gt. Tower St., LONDON, E.C.3.

Sole Agents in the United Kingdom.

Two sizes, 4/6 and 7/-.

Saevitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co., New York.

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.

KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.

Telephone: GLADSTONE 1071 (2 lines). *Telegrams:* KAYLOIDOL, CRICKLE, LONDON.

FIFTH EDITION. Crown 8vo. 4s. net; postage 2d.

THE INJECTION TREATMENT OF VARICOSE VEINS

By A. H. DOUTHWAITE, M.D., F.R.C.P.Lond., Assistant Physician to Guy's Hospital.

". . . The book is a simple introduction to the treatment of varicose veins and can be recommended."—British Journal of Surgery.
". . . one of the best of the many books which deal with this subject."—Edinburgh Medical Journal.

London: H. K. LEWIS & CO. LTD., 136, Gower Street, and 24, Gower Place, W.C.1
Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756 (3 lines).

PACKER'S PINE TAR and OLIVE OIL SHAMPOOS

THE Medical Profession is cordially invited to investigate personally the merits of Packer's preparations for the care of the hair. The Packer Manufacturing Company has specialised on this subject for over 60 years. The three Packer preparations are the result of this concentrated study and are believed by their makers to be of outstanding merit. They are:—

Liquid Pine Tar Shampoo for Oily Hair.
„ Olive Oil „ „ Dry „
Pine Tar Soap for Dandruff.

Test sizes of each of these preparations are readily available, free of all cost, to all those medical men who will apply for them, enclosing a professional card, to the Sole Distributors:—

J. C. GAMBLES & CO. LTD.,
211-215, Blackfriars Road,
LONDON, S.E.1.

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.
EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel.

SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ½-doz. SOAP TABLETS.

Samples and Literature on Request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.

For Hay Fever, Bronchial and Summer Colds

Gomenol nasal ointment (Rhino Gomenol) is a convenient form of administering this powerful antiseptic in cases of hay fever, bronchial and summer colds. The principal constituents of Gomenol are Cineol, Pinene, Terpineol, Citrene. Gomenol is an essential oil of great diffusibility; non-toxic, non-irritant, analgesic.

Full particulars, together with reports of medical authorities and evidence of its therapeutic efficacy, are given in a publication which is sent free to the Medical Profession on request to the sole distributors, Messrs. Coates & Cooper, Ltd., 41, Great Tower Street, London, E.C.3.

TRADE MARK.
Gomenol
PREVET BRAND.

Gomenol Laboratories, Prevet, 48, Rue des petites Ecuries, Paris, 10me.

DISMENOL for instantaneous relief of pain in DYSMENORRHOEA

In spasmodic Dysmenorrhoea the primary call is for the elimination of pain, and the physician has a valuable weapon in Dismenol Tablets, which are entirely *free from narcotics.* This product is a sure and safe sedative in all cases of Dysmenorrhoea, possessing anti-spasmodic properties of a remarkable kind. A feeling of general well-being is substituted for the state of lassitude in the patient.

Please write for samples and literature (also formula) to—

ROBERTS & Co., 76, NEW BOND STREET, LONDON, W.1.

Pharmaciens to H.M. the King.

'Panopepton'

AN IDEAL FOOD FOR INVALIDS

'PANOPEPTON' can be relied upon in cases where the nutrition of the patient is of prime importance.

'PANOPEPTON' is the most nutritious, the most agreeable and reliable, the BEST of all foods for the sick.

Supplied in 12-oz. bottles.

'Pepsencia'

'PEPSENCIA' is an ever-ready digestive fluid, containing all the soluble constituents of the gastric juice preserved in an agreeable aromatic menstruum. It represents both the peptic and milk-curdling ferments obtained directly from the fresh peptic glands.

Supplied in four sizes: 4-oz., 8-oz., 16-oz., and W. Qts.

Originated and Manufactured by
Fairchild Bros. & Foster (Inc. N.Y.)
NEW YORK and 65, Holborn Viaduct, LONDON, E.C.1.

Agents:
Burroughs Wellcome & Co.,
LONDON, SYDNEY, and CAPE TOWN.

WYLEYS LIMITED WHOLESALE DRUGGISTS **COVENTRY** *Established 1750.*

ELIXIR BROMO-VALERIAN CO.

Free from any disagreeable taste or odour.

Each fluid drachm (4 c.c.) contains:

Strontii Bromidi	5 gr.	Tinct. Adonis Vernalis	5 m.
Tinct. Valer. Deodorat.	10 m.	Tinct. Visci Alb.	5 m.

Useful for functional nervous affections, particularly in controlling epileptic seizures.

Price 5/- lb.

FULL LISTS ON APPLICATION

HAY FEVER

CAN BE VERY SUCCESSFULLY COMBATED WITH **POLLANTIN**

(A Serum discovered by Prof. Dunbar in 1903)

For literature and prices apply to the distributing Agents

Willows, Francis, Butler & Thompson, Ltd.

73, 75 and 89a, SHACKLEWELL LANE, LONDON, E.8

The French Natural Mineral Water.

VICHY-CÉLESTINS

And the other State Springs of Vichy.

INDICATIONS.

GASTRIC.

PRIMARY DYSPEPSIAS:
- Hyperpepsia — Intermittent hyperchlorhydria.
- Hypopepsia and apepsia—Dyspepsia arising from disturbance of neuro-motility.
- Intermittent pyloric stenosis, not of organic origin.

SECONDARY DYSPEPSIAS:
- Arthritic dyspepsia.
- Toxic dyspepsia (gastro-hepatic).
- Dyspepsia due to enteroptosis.

HEPATIC.

- Congestion due to excessive or improper feeding.
- Congestion due to cirrhosis (before the cachetic stage).
- The diathetic congestions of diabetic, gouty, and obese persons.
- Congestion due to poisoning (mercury, morphine, etc.).
- Toxic congestion (influenza, typhoid fever, etc.).
- Biliary lithiasis.

MALARIA AND TROPICAL DISEASES.

DIATHESIS.

The diabetes of fat people. Arthritic obesity. Uricaemia and gout. Rheumatic gout.

URINARY GRAVEL.

CAUTION.—Each bottle from the STATE SPRINGS bears a neck label with the word "VICHY-ETAT" and the name of the SOLE AGENTS:

INGRAM & ROYLE, LTD.

Bangor Wharf, 45, Belvedere Road, London, S.E.1

And at LIVERPOOL and BRISTOL.

Samples free to Members of the Medical Profession.

PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic oedema, cyclic vomiting, periodic diarrhoea, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Also Peptone "Sterules" according to prescription in article. *Lancet*, April 11th, 1931, p. 805. *Leaflet on application.*

W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON." Telephone Nos.: LANGHAM 2440 and 2441.

The "Allenburys"
"CHARKAOLIN"
GRANULES

"Charkaolin" is a highly efficient agent for the treatment of intestinal infections characterized by abnormal fermentation and the formation of toxins. It combines the absorbent properties of highly activated vegetable charcoal with the well-known toxin adsorbing qualities of "Osmo" Kaolin.

It is in the form of fine, clean granules which disintegrate rapidly in water and diffuse their ingredients evenly throughout the liquid. "Charkaolin" is tasteless, forms a fine suspension in water and is, therefore, quite easy to take.

Descriptive literature and a clinical trial sample will be sent on application.

ALLEN & HANBURYS LTD.

Telephone: Bishopsgate 3201 (10 lines) LONDON, E.2. Telegrams: "Grenbarys Ldo London"

For the Treatment of Arthritis and Neuritis

"ARTHRYTIN" Mark

BRAND

Trade Ammonium ortho-iodoxy benzoate

"ARTHRYTIN" possesses an action resembling that of the salicylates, but is much more potent in its effects. It is indicated in all forms of acute arthritis, and has given strikingly successful results in many cases of chronic arthropathy.

Supplied in capsules for oral administration, and powder for intravenous and rectal injection.

Prepared in the Laboratories of

MAY & BAKER, LTD.

BATTERSEA LONDON, S.W.11

Telegrams: Bismuth, London.
Telephone: Battersea 1813 (6 lines)

Clinical trial sample and literature on request.

IN HÆMORRHOIDS

Congestion Causes Inflammation

CONGESTION means stasis and stasis leads to inflammation. Inflammation may terminate in painful proctitis of the entire affected area.

ANUSOL BRAND HÆMORRHOIDAL SUPPOSITORIES relieve congestion and so reduce the inflammation. As an emollient, they soothe and protect the inflamed mucous membrane.

NO OPIATE or local anæsthetic to dull pain perception and obscure symptoms. Pain is relieved because congestion is reduced.

THE TREATMENT *of hæmorrhoids should begin at the doctor's consulting room. Let us send you a trial supply for use immediately after examination.*

ANUSOL BRAND **Hæmorrhoidal Suppositories**

RELIEVE PAIN : REDUCE CONGESTION : CONTROL HÆMORRHAGE

British Distributors:
FRANCIS NEWBERY & SONS, LTD., 31-33, BANNER STREET, LONDON, E.C.1
Manufactured by GOEDECKE & CO., BERLIN

REMINERALISATION POLYOPOTHERAPY

The oldest and most active of recalcifying agents in endocrino-mineral combination

—•—

OPOCALCIUM

In Tablets and Granules

—•—

Manufacturers
LABORATOIRES de l'OPOCALCIUM
121, Avenue Gambetta
PARIS

Distributors
CONTINENTAL LABORATORIES Ltd.
30, Marsham St., London, S.W.1
TAXOLABS, SOWEST, LONDON VICTORIA 2041

Valentine's Meat-Juice

"For a Tired Stomach"

In **Phthisis, Pneumonia, Influenza** and other **Wasting, Acute** or **Febrile Diseases, When Other Food Fails** and it is **Essential** to **Aid** the **Digestion** and **Sustain** the **Exhausted Patient, Valentine's Meat-Juice** demonstrates its **Ease** of **Assimilation** and **Power** to **Restore** and **Strengthen.**

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

Richmond, Virginia. U. S. A.

JB 97

OVALTINE

FOR THE GROWING CHILD

"Ovaltine" is indicated as a means of promoting normal growth and development when the weight of the child under observation is less than that which statistics show a child of the same height should weigh.

The physician has only to consider the composition and properties of the product to recognize how suitable it is as a building and reconstructive nutrient.

"Ovaltine" is a concentrated extraction of malt, milk, and eggs in the form of golden brown granules. For tissue growth or repair it provides proteins, mineral constituents, adequate energy value, and the Accessory Growth Factors or Vitamins in correct nutritive ratio.

Children love the deliciousness of "Ovaltine" and thrive remarkably well upon this complete food. It is of unsurpassable value as a meal-time beverage in place of tea, coffee, cocoa, or other beverages.

A liberal supply for clinical trial sent free on request.

A. WANDER, Ltd., 184, Queen's Gate, S.W.7.

Works: KING'S LANGLEY, HERTS.

KHNEMU—An Egyptian God whose name means "the moulder or builder of men."

M1245

Per 1/6 bottle
(Special discount to medical profession).

Regesan

CREAM of MAGNESIA with LIQUID PARAFFIN

(CONTAINS 30% LIQUID PARAFFIN)

A STABLE well-balanced combination containing 30% Liquid Paraffin held in suspension in a finely divided state. Its consistency is such that the tendency to leak exhibited by Liquid Paraffin is eliminated. Regesan Cream of Magnesia with Liquid Paraffin provides suitable treatment for all digestive troubles with which constipation and hæmorrhoids are associated. It is certainly the ideal laxative during pregnancy and lactation, and is suitable for infants and children.

FULL-SIZE TRIAL PACKAGE FREE TO MEDICAL PRACTITIONERS IN THE BRITISH ISLES ON APPLICATION TO BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM.

OBTAINABLE FROM

The Boots Chemists

Over 900 Branches in Great Britain.

BOOTS PURE DRUG CO. LTD., NOTTINGHAM.

Medisoap

MIDGLEY'S MEDICATED SOAP Reg.

The word MEDISOAP is a registered trade-mark indicating the pure soap base made and scientifically medicated by CHARLES MIDGLEY, LTD., according to published formulae. This method of skin medication has been brought into favour by the ease with which applications can be made and the certainty of absorption through regularity of use by the patient.

A PRESCRIBER'S INDEX

relative to the comprehensive range of Medisoaps is available to members of the medical profession on application to EVANS' BIOLOGICAL INSTITUTE, RUNCORN.

Medisoap Depots all over the country.

Sole Makers:

ACNE

As an adjuvant in the treatment of this condition there are a number of Medisoap formulae recommended by many practitioners, and patients prefer this treatment to the disfiguring effects of ointments.

MEDISOAP No. 18, containing Naphthol 2½ and Sulphur 10%, used with success in Acne Vulgaris.

MEDISOAP No. 39, containing Ichthamol 5%, Ac. Salicyl 2½%, recommended in Acne Rosacea.

MEDISOAP No. 15, containing Ichthamol 5%, Pix Liquida 5%, is another popular formula.

For further particulars see *"Prescriber's Index."* *(free on request).*

CHARLES MIDGLEY, LTD. Medicated Soap Specialists MANCHESTER

Associated with EVANS SONS LESCHER & WEBB, LTD., Liverpool, London, and Dublin.

HORLICK'S MALTED MILK

is a modified milk food with a fat content protected by the valuable mixed sugars—lactose, maltose, and dextrin. It forms a balanced diet which is easily digested and assimilated.

It is a valuable aid to the physician in the dietetic treatment of many diseases associated with childhood. Marked success has attended its use in digestive disturbances, epidemic diarrhoea, and in infective and respiratory conditions with which acidosis is associated.

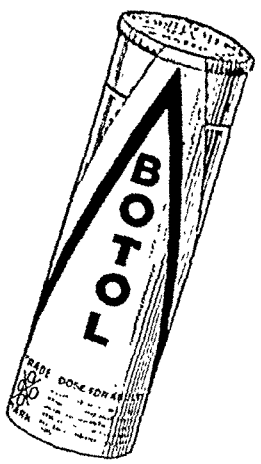
During recent years acidosis has attracted much attention, and it is now recognized that many children who exhibit vague symptoms of ill-health, are debilitated, or who are liable to bilious attacks, suffer from it in some degree. In many cases the condition is due to an intolerance for fat, and is made worse by efforts directed towards improvement by feeding-up the patient with unmodified cow's milk, extra cream, and fatty foods.

To prescribe HORLICK'S for these children is to know that they will speedily regain full health and vitality.

3690

BOTOL

REG. TRADE MARK.

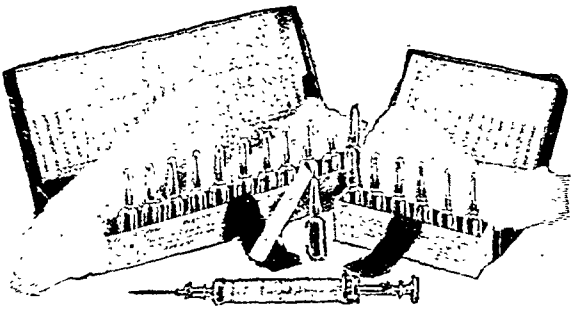


A LARYNGEAL NARCOTIC

Prepared by a new process which enables SOLID BROMOFORM to be combined with CODEINE

IN TUBES OF TWENTY TABLETS

CONTINENTAL LABORATORIES LTD
50, Parkside Street LONDON, S.W.1



MANGANESE BUTYRATE B.D.H.

In acute Staphylococcic and Streptococcic Infections

Manganese Butyrate B.D.H. is particularly useful for combating staphylococcic and streptococcic infections, and it is recommended for use in many septic conditions before resort is made to incision.

The following are typical case reports:—

Case 1—"A baby, four months old, suffered from mastitis (pus formation). The abscess resisted all local treatment and continued to fill. A few days after a 0.25 c.c. injection of Manganese Butyrate the abscess cleared."

Case 2—"A septic stye in the eye, with promise of running a bad course, after one injection of Manganese Butyrate showed a marked improvement, and a second injection given later so improved it as to make it difficult to observe any difference in the eyes."

Case 3—"A child with large hard adenitis under the chin. In forty-eight hours it came to a head and discharged very freely and cleared up very quickly also.

Literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

MB/10

. . *Because of these three qualities:—*

1 Its selective action on Gram-positive organisms.

2 Its efficiency in the presence of inflammatory exudates.

3 Its bland and penetrative powers.

Make a practice of prescribing

MONSOL

GERMICIDAL OINTMENT

for the treatment of

STREPTOCOCCAL and other

forms of DERMATITIS.

Members of the Medical Profession who have once used Monsol Germicidal Ointment continue to do so. It has repeatedly proved its efficacy in cases of subcutaneous infection, septic sores, impetigo, eczemas, ringworm, and pruritus.

MONSOL BRAND

Sample for clinical trial will be sent to members of the Medical Profession on application to the Mond Staffordshire Refining Co., Ltd., Abbey House, Westminster, S.W.1.

5 Facts about HEXYLRESORCINOL Solution S.T. 37

(Liquor Hexylresorcinolis, 1:1000)

1- destroys bacteria almost instantly on contact.

2- powerful, but absolutely *Safe*, even if accidentally swallowed.

3- retains its germicidal activity on tissue surfaces.

4- non-irritating when applied full strength to open wounds and denuded areas.

5- rigid tests check the composition, surface tension and bactericidal activity of each lot manufactured.

3-ounce and 12-ounce bottles

SHARP & DOHME LTD., 252 REGENT STREET, LONDON, W.1.

TRADE MARK BRAND

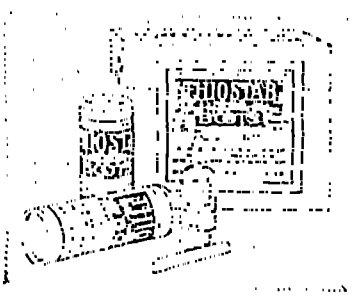
THIOSTAB (BOOTS)

A stable, sterile, aqueous solution of chemically pure Sodium Thiosulphate, for intravenous injection.

Proved to be an excellent agent for controlling metallic intoxication and particularly useful in Arsenical Dermatitis and Stomatitis following Bismuth or Mercury.

SUPPLIED IN AMPOULES READY FOR USE.

BOOTS PRODUCTS
ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS



WHOLESALE AND EXPORT DEPARTMENT
BOOTS PURE DRUG CO. LTD.
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

THE WEAKEST SYSTEM RESPONDS AT ONCE

to these energizing essences

The wonderful stimulating and restorative properties of Brand's Essences of Beef or Chicken have given them the place of first rank among invalid foods.

For over a century doctors have relied on them in their treatment of illnesses because they stimulate, build up energy, and restore appetite. As a preliminary to solid diet they are unparalleled.

Scientific tests have shown that Brand's Essences of Beef or Chicken can be assimilated by the digestive organs forty minutes quicker than ordinary foods and without the formation of residue. Easy to swallow, they are entirely suave and non-irritating.

Hygienically prepared by an exclusive process from the finest freshly killed English meats, the pure juices are drained out and conserved as a delicious amber-coloured essence. No preservatives or colouring matter are used.

Brand's Essences of Beef or Chicken have been found to be indispensable in all disorders associated with pyrexia, in cases of intestinal disturbances and before and after operations. Patients recovering from a long illness and suffering from anorexia find them particularly beneficial.

Ask for samples to-day. They will be gladly sent you on receipt of a professional card. Dept. F33, Brand and Co. Ltd., Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S ESSENCES OF BEEF OR CHICKEN

3168

For the Treatment of Haemorrhoids

SANUSIN SEMPULES

The sempule is an improved form of suppository, specially moulded so that a small portion remains external to the anal sphincter after insertion; the medicament is thus retained at the seat of the disorder until completely melted, thereby assuring its prolonged application and greater absorption. Herein lies its distinct superiority to the usual type of suppository which does not remain in situ, but which passes on and melts in the rectum—thus failing to produce the local effect desired in the treatment of haemorrhoids.

Sanusin Sempules contain resorcin, boric acid, balsam of Peru, zinc and bismuth carbonate—a combination of substances which has great antiseptic and healing power.

Sanusin Sempules have been found effective in many cases which have resisted other methods of treatment.

Literature and clinical sample on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

San.Sem.11

UNG. SEDRESOL (Ferris).

A Valuable Sedative Antiseptic and Healing Ointment.

UNG. SEDRESOL is a combination of the products obtained by the destructive distillation of the wood and bark of the *Betula alba* in combination with Oxide of Zinc and Antiseptics.

UNG. SEDRESOL is supplied to the Medical Profession at the following prices:—
¼-lb. Jars, 1/8 each; ½-lb. Jars, 3/- each; 1-lb. Jars, 5/9 each; 2-lb. Jars, 11/- each; 4-lb. Jars, 21/- each. *(Empty Jars allowed for on return.)*

SEDRESOL DRY DRESSING (Ferris).

A useful surgical dusting powder for cases in which it is not desirable to apply ointments. Sedative, healing, analgesic, stimulating.
Price: 4-oz. tins, 1/6 each; ½-lb. tins, 2/4 each; 1-lb. tins, 4/- each.

SEDRESOL SOAP (Ferris).

A pure superfatted soap for the skin containing the same medication as Ung. Sedresol.
Price: 10d. per tablet, 8/- per dozen. Box of 3 tablets, 2/2.

(The word "Sedresol" is registered under the Trade Marks Act and is the sole property of Ferris & Co., Ltd.)

FERRIS & COMPANY, Ltd.

— BRISTOL —

Wholesale and Export Druggists and Manufacturing Chemists.

NATURAL

CARLSBAD SPRUDEL-SALT

Prepared only by the Municipality of Carlsbad from the World-famous Sprudel "Spring" at Carlsbad
(IN CRYSTALS OR POWDER)

Is the Only Genuine CARLSBAD SALT.

Largely prescribed in cases of Chronic Gastric Catarrh, Hyperaemia of the Liver, Gall-stones, Chronic Constipation, Diabetes, Renal Calculi, Gout, and Diseases of the Spleen, arising from residence in the Tropics or Malarious Districts.

Medical Practitioners should kindly note, when prescribing, to specify "Carlsbad SPRUDEL-Salt" on account of the many artificial preparations upon the market.

The wrapper round each bottle of genuine Salt bears the Signature of the Sole Agents:

INGRAM & ROYLE, LTD.,
BANGOR WHARF, 45, BELVEDERE ROAD, LONDON, S.E.1.
And at LIVERPOOL and BRISTOL.

Samples and Descriptive Pamphlet forwarded on application.

IMPROVED DAY AND NIGHT SERVICE TO THE MEDICAL PROFESSION FOR OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPOT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1
(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, **CLAPHAM ROAD, S.W.9**

Vitamin Deficiency?

Put them on BEMAX

THE NATURAL VITAMIN TONIC FOOD

Bemax was prepared to provide a food rich in natural vitamins, which, added to the normal diet, would restore a balanced metabolism, and so create a condition in which remedial measures by the physician would be assured of the fullest success in all ailments due to deficiency of Vitamins A, B and E.

Laboratory reports on Bemax and clinical sample for personal trial will be sent to any medical man on receipt of his professional card.

THE BEMAX LABORATORIES, 23, UPPER MALL, LONDON, W.6.

Iodine-Medol

Clinical Data in Cases of Psoriasis

collected over a considerable period, show Iodine-Medol to have given good results in this indication. Iodine-Medol is an *Antiseptic Unguentum* presenting Iodine and Creolin in a form possessing peculiar penetrative powers with high germicidal efficiency. Indicated for use whenever Iodine medication would be employed.

Testing samples and full particulars sent on application to :—

Pearson's Antiseptic Co., Ltd., 61, Mark Lane, London, E.C.3.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

CLEFT PALATE.

Typical Case.

E. M., aged 25 years.

Diagnosis: Cleft palate.

Operation: Plastic repair.

Anaesthesia: Novocain-Adrenaline solution.

Operation: Nerves were blocked with a 2 per cent. Novocain-Adrenaline solution, 30 c.c. in all being used. In addition to the nerve block an effort was made to separate the soft tissues from the bone by the "blowing-off" process. This was signally successful; the subsequent raising of the mucoperiosteum being greatly facilitated by this preliminary manœuvre. The palate united completely with the exception of an opening the size of a lead-pencil at the mid-point. This opening was later closed after making a local infiltration with Novocain-Adrenaline solution.

—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

A List of

GLANOID

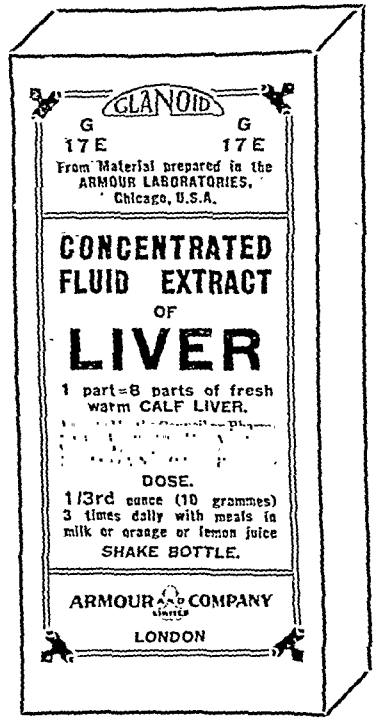
Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
Catgut
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Ligatures**
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Medniphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
*Pituitary, W. G.**
*,, Ant. Lobe**
*,, Post. Lobe**
*,, Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
,, Co.
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

*Literature available on request.

GLANOID

Concentrated Fluid Extract of LIVER

PALATABLE AND READY TO TAKE.



ONE OUNCE EQUALS HALF A POUND FRESH CALF LIVER.

ALSO IN POWDER AND TABLETS.

4-oz. bottle	7/-
8-oz. ,,	12/6
16-oz. ,,	24/-
W.Q. ,,	100/-

We prepare a Sterile Solution for Intramuscular INJECTION

A brochure on "Glanoid" Concentrated Fluid Extract of Liver in the treatment of Pernicious Anaemia, Sprue and allied diseases, will be sent to members of the Medical Profession on request.

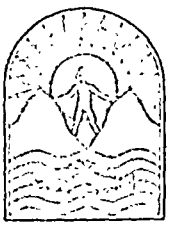
LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.

FABRITIUS, OSLO



THE SUPERIORITY OF COD LIVER OIL AS A CURE FOR RICKETS

Leading Authorities have proved by the most painstaking researches that:

A certain number of D-vitamin units in the form of Cod Liver Oil is far more effective in the treatment of human Rickets than the same or even double the number of these units in the form of irradiated Ergosterol.

Read what Professor E. Poulsson says on the subject in his recent paper "On the Action of Cod Liver Oil and Irradiated Preparations in Rickets", published by the State Vitamin Institute in Oslo.

This paper may be obtained free by post on application to the State Vitamin Institute.

The world-renowned Norwegian Cod Liver Oil has always been noted for its high quality. Exported under control of the Norwegian State.

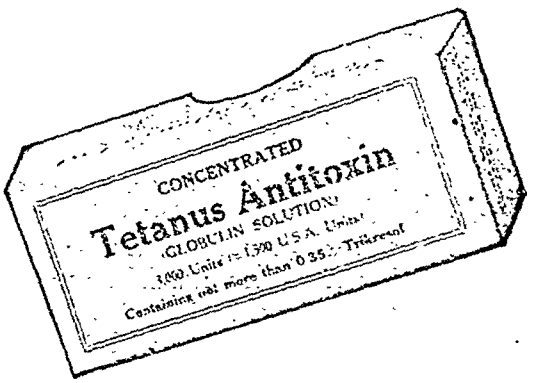
NORWEGIAN COD LIVER OIL

The Lister Institute

OF PREVENTIVE MEDICINE

Therapeutic Substances Act, 1925
Manufacturing Licence No. 9

Vaccines and Sera



Concentrated Tetanus Antitoxin In phials of 1,000 to 40,000 units (=500 to 20,000 U.S.A. units).
Anti-Meningococcus Serum In phials of 10, 15 and 30 c.c.
Compound Catarrhal Vaccine In phials containing 235, 470, 940 and 1,880 million organisms per c.c.
Concentrated Diphtheria Antitoxin In phials of 500 to 10,000 units.
Compound Influenza Vaccine In phials containing 330 and 660 million organisms per c.c.
Micrococcus Catarrhalis Vaccine In phials containing 25, 50, 100 and 250 million organisms per c.c.
Anti-Streptococcus Serum In phials of 10 and 25 c.c.
Vaccine Lymph

A descriptive pamphlet, issued under the Authority of the Governing Body of the Lister Institute, will be sent on request.

Sole Agents:

Allen & Hanburys Ltd., London

Telephone: Mayfair 2216 (three lines)
Telegrams: "Vereburys, Wesdo, London."

Digestibility

*(1) The Fat Content

FACTS ABOUT
LACTOGEN

The ease with which maternal milk can be digested by the infant is partly due to the distribution of the fat as numerous small globules. With an equivalent quantity of fat the globules in cows' milk are many times larger and correspondingly fewer in number. Digestion is thus retarded, since the surface offered to digestive action is considerably diminished. The cream-enriched milk used in the preparation of Lactogen is subjected to a special emulsifying process before drying. This reduces the large fat globules to a state of fine division—increasing by a hundred times the initial surface area. Lactogen, furnishing a fat allowance corresponding to that of the natural diet, can therefore be digested just as easily—even by the most delicate infant.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

Free Samples
with detailed descriptive literature will be sent to any Member of the Medical Profession upon request.

Lactogen Bureau (Dept. 73)
Nestlé and Anglo-Swiss Condensed Milk Co.,
6 & 8, Eastcheap,
LONDON, E.C.3.

*Next advertisement will deal with (2) The Protein Content.

66 LACTOGEN 99
REGD TRADE MARK

BETTER MILK FOR BABIES

PIONEERS AND EMPIRE BUILDERS: No. 596
NINTH PERIOD—circa A.D. 300 to c. 1300

Venereal Disease

'NEOKHARSIVAN' BRAND

NOVARSENOBENZENE

The First British Novarsenobenzene

Usually administered intravenously

Phials of 0·15 gramme, 0·3 gramme, 0·45 gramme, 0·6 gramme, 0·75 gramme and 0·9 gramme, at 1/6, 3/-, 4/-, 5/-, 6/- and 7/- each

'KHARSULPHAN' BRAND

SULPHARSENOBENZENE

For subcutaneous or intramuscular injection

Phials of 0·15 gramme, 0·3 gramme, 0·45 gramme and 0·6 gramme, at 1/6, 3/-, 4/- and 5/- each

Both products are approved by the Ministry of Health and comply with the requirements of the Therapeutic Substances Act (Great Britain), 1925

'HYPOLOID' BRAND BISMUTH METAL

(0·2 gm. in 1 c.c. Sterile Isotonic Glucose Solution)

Presents metallic bismuth—an admitted spirillicide—in the most suitable state for intramuscular injection

Bottles of 5 c.c. at 1/9 each, 10 c.c. at 3/3 each and 25 c.c. at 7/6 each

MERCURIAL PRODUCTS

A wide selection of mercurial products for injection in syphilis will be found on page 123 of Wellcome's Medical Diary

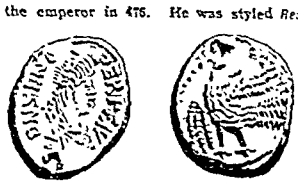
BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

COIN OF ODOVACAR OR ODOACER, WHO MADE ITALY A TEUTONIC KINGDOM, WHICH IT REMAINED FOR SEVERAL CENTURIES.—The extinction of the Roman empire in the West and the rise of the Teutons was marked by the establishment in Italy of Odovacar, the first of a succession of "barbarian" rulers of that country. He was the military leader of the Heruli tribe, under whom they overthrew the emperor in 476. He was styled *Rex Herulorum*, and reigned in Italy from 476 to 493. *It is interesting to find* that he made use, as fully as possible, of the old Roman administrative system; a large new racial element was introduced (for Odovacar's *soldiers were settled upon the land, occupying one-third of it*) with but little disturbance of legal and social conditions. He was acknowledged by the Senate and was addressed by his Roman subjects as *"dominus noster"*; he never attempted to assume the imperial title and seems to have sent the insignia of this office to the Eastern Roman emperor, Zeno, at Byzantium, with whom his relations were friendly. He allowed his subjects religious liberty, a rare tolerance in those days.



DATE: A.D. 476–493 (Odovacar, king of Italy)

COPYRIGHT

'Euvalerol' Elixirs

For the Treatment of Nervous Disorders

THE "Euvalerol" Elixirs are prepared from fresh valerian root by a special process which, while ensuring the retention of the active principles contained in the volatile oil of valerian, eliminates the objectionable odour which ordinary valerian products have.

"Euvalerol" Elixir A
contains the odourless preparation of valerian in Aromatic Elixir. Each fluid ounce is equivalent to approximately one fluid drachm of Tinct. Valer. Ammon., B.P.

"Euvalerol" Elixir B
is "Euvalerol" Elixir A with the addition of **phenylbarbitone gr. ¼** to each fluid drachm, and with a lighter tint, for ease of identification.

"Euvalerol" Elixir C
is "Euvalerol" Elixir A with **ammonium bromide gr. 30, strontium bromide gr. 15,** also a small amount of **sal volatile** in each fluid ounce. It has a darker tint than the other two "Euvalerol" Elixirs.

For Prescribing: 4 oz. and 8 oz. bottles
For Dispensing: 40 oz. and 80 oz. bottles

Descriptive Literature will be sent post free to members of the Medical Profession.

Allen & Hanburys Ltd.
London, E.2
Telephone: Bishopsgate 3201 (10 lines) Telegrams: "Greenburys Edo London"

Remarks ON OBSTETRIC SHOCK*

BY

MILES H. PHILLIPS, M.B., B.S., F.R.C.S.

PROFESSOR OF OBSTETRICS AND GYNAECOLOGY, UNIVERSITY OF SHEFFIELD

Although an alarming case, and especially a fatal case, of shock following a labour is a rare experience for any individual medical practitioner, a considerable number do occur throughout the country. This is established by the investigations which the Departmental Committee on Maternal Mortality and Morbidity has been able to carry out. Presumably a larger number are saved by suitable treatment at the cost of grave anxiety to the doctor in charge. After a careful study of such cases, especially of the predisposing conditions which play a great part in the causation of the shock, and also of the earliest signs of impending shock, I feel convinced that the subject is one well worthy of close attention.

In some cases of shock the cause may be at once obvious—for example, rupture or acute inversion of the uterus; in others, such as a prolonged and difficult forceps delivery, resulting in a severe laceration of the pelvic floor and followed perhaps by post-partum haemorrhage, it is not surprising to find the patient in a collapsed condition. But there is another type, more difficult to detect, in which the patient's condition is at first not alarming—no worse than one would expect considering that the labour had been rather long. "It was rather a tight fit"; there was somewhat more than the usual amount of bleeding, and she had needed stitches. She looks chilled, and the pulse rate is over a hundred; warm blankets and a rectal saline should put her right; they may, but in certain distressing cases the doctor is called back in two or three hours to find the patient desperately ill, and indeed she dies. The primary shock had not in itself given a warning of the impending and insidious secondary phase.

After all, obstetric shock is just the same thing as traumatic or surgical shock. It has the same causes, initiating and predisposing, and must be treated on the same principles. The distinction into primary and secondary phases must be ever in our minds in order that by recognition and prompt thorough treatment of the primary stage, the secondary—the fatal secondary—may be staved off. To anticipate my main conclusions: the blood pressure must be taken and used as a guide in all cases; the depleted plasma of the circulation must be replenished quickly and effectively by the most suitable fluid available, preferably by the injection of gum saline solution intravenously, though intravenous or even subcutaneous normal saline will always do good even if of short duration—it may keep the patient going until more effective fluids are available.

PRIMARY AND SECONDARY SHOCK

It is here necessary to give a short description of the modern conception of traumatic shock. My account is largely based on Cannon's work on the subject.[1] Clinical as well as experimental observations distinguish two stages—primary and secondary.

Early or primary shock is due to afferent impulses causing reflex vaso-dilatation and a consequent marked fall of blood pressure. For long it was thought that the blood vessels of the abdominal viscera were chiefly involved, but it is now recognized that it is in the reflexly dilated capillaries of the skeletal muscles that the blood is dammed up—for the time being, lost to the circulation. The consequent diminished blood supply to the brain will result in faintness and even in loss of consciousness.

The capacity of the dilated capillaries of the voluntary muscles must be enormous. Professor Krogh[2] of Copenhagen, the recognized authority on the subject, states that the capillaries of a man's muscles put end to end would measure 100,000 kilometres, or two and a half times round the globe; their total surface would extend to 6,300 square metres, which I believe is about an acre and a half.

This is no doubt the true explanation of both obstetric and surgical shock, but in the obstetric cases there is also another factor in the more or less sudden lowering of the intra-abdominal blood pressure which follows the emptying of the uterus. In fact, this alone would seem sufficient to explain the phenomena so commonly seen after delivery—the faintness for which we withdraw the pillow beneath the patient's head, the shivering bout, which is probably a reflex from the skin deprived of its full supply of blood. The famous experiments on rabbits strongly support this supposition. A hutch rabbit held up by its ears will die because its disused flabby abdominal muscles cannot support the abdominal blood vessels. The wild rabbit so treated is unaffected; so is the hutch rabbit with a tight binder around its abdomen. Acting on this theory, I always insist on a tight abdominal binder being used as soon after the delivery as possible. In fact, it is only in the first few hours that a binder is of any use at all. With prompt and adequate treatment recovery will gradually take place from this primary shock; otherwise it may merge into the succeeding phase.

Delayed or secondary shock may set in after a latent period, during which nothing obviously abnormal may be noted unless a routine blood pressure reading has been taken. (In the obstetric case it is the downward tendency of the systolic blood pressure which gives the first premonitory warning of impending shock.)

Experiments—especially those of Cannon of Harvard University, in which the effect of crushing the skeletal muscles of animals has been studied—strongly suggest that traumatic shock is caused by some poisonous substance which is liberated from the damaged tissues and causes widespread relaxation of the capillaries. This takes some little time to develop, though it began in twenty minutes in some of the experiments and was well marked in half an hour. Its effect, of course, is to add to the stagnation of blood in the already dilated capillaries of the muscles. The poisonous substance liberated is either histamine or something closely allied and resembling it in action. It is present in all tissues and is readily liberated as a result of even trivial injuries. Besides causing dilatation of the capillaries, the toxic body, whatever its exact nature, also increases the permeability of the capillary walls, and so produces a reduction of blood volume by escape of plasma into the tissues. The amount of blood plasma circulating to the other parts of the body, particularly to the vital centres of the brain, is gravely diminished; this is the essential feature in the modern conception of shock.

The experimental evidence of this toxic explanation of secondary shock was strongly supported by clinical observations during the war. A French surgeon, Professor Quénu of Paris, demonstrated that extensive wounds of muscles were particularly apt to cause profound shock; he also established the view that anything which favours absorption at the region of injury is favourable to the development of shock, and that shock is most severe when the region of damage communicates with the exterior by only a small opening.

By applying these observations to obstetric practice I would venture to suggest that the unexpected secondary

* A paper read before the Sheffield Medico-Chirurgical Society on March 18th, 1931.

phase of obstetric shock may be due to extensive lacerations of the large muscles of the pelvic floor, the levatores ani, especially when such injuries are not accompanied by deep tears of the perineal body and vagina sufficient to expose the lacerated muscles. There is much clinical evidence for such a view. Routine early or late postnatal examination not seldom detects grave damage of the large pelvic floor muscles. The gynaecologist in operating for genital prolapse obtains ocular demonstration of these injuries. During delivery of the head with forceps probably all obstetricians have felt at one time or another "something give way" before or even without any serious tear of the perineal body. (This possibility might be investigated by those making post-mortem examinations in cases of obstetric shock.)

SIGNS OF SHOCK

In marked cases the patient lies very still, as if felled, paying no attention to what is going on around her. Anxiety has changed to mental dullness. The skin and mucous membranes are cold, grey, or cyanotic. The pulse is almost imperceptible, and, as a rule, very rapid. Respiration is shallow and quickened, the temperature subnormal, and the arterial blood pressure is low, perhaps unrecordable. The condition must be contrasted with that produced by haemorrhage alone. Here the patient is mentally alert and acutely anxious, tossing about or struggling to sit up as she gasps for air.

CAUSATION

From the point of view of treatment, and especially of preventive treatment, it is necessary to elaborate the question of causation. Besides the essential initiating causes produced by the original trauma—the primary reflex vaso-dilatation and the secondary toxic poisoning—there are other predisposing conditions or complicating factors. These are all present in varying degrees in the obstetric case. Without attempting to give them in order of importance, they are:

1. Bodily fatigue from prolonged muscular exertion.
2. Cold from exposure.
3. Deprivation of food and water.
4. Sweating
5. Haemorrhage.
6. Anaesthetics.
7. Toxaemia of pregnancy.
8. Infection.
9. Emotion.

Of these I wish at the moment to draw particular attention to two only.

Haemorrhage

This is often a considerable factor, yet of itself it does not give rise to a prolonged permanent fall of blood pressure unless more than 25 per cent. of the body blood is lost. (A woman of 10 stone possesses about eight pints of blood.) Combined with injury it naturally aggravates shock, and therefore every effort must be made to prevent further loss of blood.

Anaesthesia

The type of general anaesthetic used is of prime importance. H. H. Dale[1] has shown experimentally that both chloroform and ether, but not nitrous oxide with oxygen, sensitize the capillaries to the action of histamine, so that in unanaesthetized animals about ten times the dose of the drug is needed to produce a depression of blood pressure equivalent to that in the animal anaesthetized by chloroform or by ether. This has been confirmed by other observers, and Cannon himself says:

"The explanation of the difference between nitrous oxide and oxygen on the one hand, and such anaesthetics as ether and chloroform on the other, in their effects on the blood pressure in shock, has not been fully accounted for. The practical matter, however, is that the patient in shock may be anaesthetized with nitrous oxide and oxygen and suffer no appreciable drop in blood pressure, whereas with ether or chloroform the drop is likely to be considerable and possibly highly dangerous."

Consideration of the other predisposing or complicating factors may be most usefully left to the section on preventive treatment. Cannon lays great stress on sustaining factors which result from the shock itself. These are the lowered metabolism resulting from the fall of blood pressure, the diminished heat production, the defective oxygen supply of all the tissues and of the nervous tissues in particular, and the damage to the walls of the capillaries. He says:

"These injuries to the elements which are essential to the maintenance of an efficient circulation, continue the state of shock which has been originated by other factors and may lower still further the already low arterial pressure."

A series of vicious circles is set up which lead to a depression of the circulation so profound that it cannot be restored, and the patient dies.

TREATMENT OF SHOCK

It is therefore of great importance that the treatment of the original condition should be prompt and adequate. Any further loss of blood must be prevented as far as possible. Body heat must be restored by the means most easily available, care being taken to avoid overheating and consequent sweating. In the less severe cases hot drinks are by far the best method of warming, as all the heat passes to the body itself. Pain, anxiety, and restlessness should be relieved by the injection of morphine, which should be given in an amount sufficient to make the patient quiet and comfortable.

In secondary shock, where blood is not stagnating in the large veins, there is no benefit to be gained by raising the foot of the bed. In the primary condition, however, particularly in obstetric cases with the special tendency to lowering of the intra-abdominal pressure, raising the foot of the bed will almost certainly improve the blood supply to the brain.

Above all, every precaution must be taken to avoid the development of secondary shock. This essentially consists in taking measures to raise the blood pressure. It is of the greatest importance to remember that it is often only by recording the blood pressure that the attendant is brought to realize the seriousness of the state of the patient, the great care that must be taken to prevent further exposure to the conditions which produce shock, and the necessity of employing really effective methods of increasing the volume of blood in circulation.

With the systolic pressure below 100 no operative treatment should be carried out, unless it is absolutely necessary in order to stop the loss of blood. Even then, the only safe anaesthetic to use, as we have already seen, is nitrous oxide and oxygen. Most certainly neither chloroform nor ether should be given for any operative treatment which is not essential at the moment. Here I particularly refer to the suturing of the torn perineum. The dictum "immediate repair of all tears" should always be qualified by excluding the cases in which the patient is shocked. Want of appreciation of this danger is a definite cause of maternal deaths. There is really no urgent necessity to suture immediately a perineal wound. Just as good a result can be obtained by repairing it a few hours later, when the patient has recovered from the shock. Indeed, often a better result can be assured, for time is given to provide assistance, good light, etc. Again, it is sometimes better surgical practice to leave the wound open. I refer to those cases (potentially infected, and often the very cases in which shock is pronounced) where

the labour has been greatly prolonged, in circumstances in which there is considerable liability to bacterial infection. Twenty years ago[5] I produced evidence to show the grave danger to life caused by replacing the inverted uterus when the patient is in a condition of shock. Since then I have come to realize that even the repair of a torn perineum may take away the patient's chance of recovery.

Restoration of Volume of Blood Plasma

All the above procedures are easily carried out. The most important measure, however—namely, that necessary to increase the amount of fluid in the circulation—requires forethought and gives more trouble. Every obstetrician should always be provided with the simple apparatus needed to give at least a subcutaneous saline. Ideally he ought to be prepared to give an intravenous infusion of saline or other more effective fluid. For well-known reasons gum saline solution is definitely more beneficial—more lasting in its effects, especially in the more severe cases—than simple saline. It is nowadays so carefully prepared and conveniently put up by the big chemical firms that there is no excuse for not having it at hand. Warmed to a little above body temperature, it must be injected slowly, at low pressure, into the vein (the more *profound and prolonged the shock, the more slowly ; in* one's anxiety this is not an easy rule to remember). About 500 to 750 c.cm. (a pint more or less) is enough for a first injection ; but another may have to be given. To ensure safety forty to sixty minutes are required for this procedure.

A blood transfusion is even more effective, especially in cases of severe haemorrhage ; in modern hospitals this can usually be carried out within an hour or two. But while waiting for the blood—and this is a point which I particularly wish to emphasize—precious time must not be wasted. The simpler means at hand must be employed. It must not be forgotten that many a life was saved by simple saline solution long before blood transfusion was in vogue. All experienced surgeons can testify to the value of normal saline infusion, especially in cases of haemorrhage.[6] In studying reports of fatal obstetric cases from all over the country, one is dismally impressed by the repeated statement that blood transfusion was considered necessary but was not available, and yet in many of these cases either no attempt at all was made to give any form of fluid, or nothing more than a rectal saline was used. It is very doubtful if this is absorbed at all, or at least rapidly enough, in any but slight cases of shock. A pint or two of normal saline into the large cellular space of the axilla may suffice to restore a mild case, or maintain the serious one until blood is available.

PREVENTION OF SHOCK

This is a much more satisfying procedure for everyone concerned. I have already given a list of predisposing causes, and it will be easiest to indicate the precautions required under those headings.

Bodily Fatigue from Prolonged Muscular Exertion

The amount of muscular exertion involved in labour is, of course, very variable. It should not impose too great a strain on the woman who, by virtue of proper ante-natal management, is in good physical and mental condition at the onset of labour. This essentially involves care in diet, daily exercise, and sound sleep at night. Special attention should be paid to the last point at the end of the pregnancy; if necessary a sleeping draught should be given. During the actual labour, if it be at all prolonged, the necessity for sleep, or at least oblivion to the passage of time, is of still greater importance. The prevention of undue prolongation of the labour requires fine obstetrical discrimination. It is unkind to mother and child to allow the second stage to be unnecessarily protracted—the head in an occipito-posterior position, for instance, pounding on the rigid perineum hour after hour. But it is dangerous to both mother and child, especially from the point of view of shock, to shorten, or to endeavour to shorten, the labour by the premature use of forceps. This misuse of a valuable instrument is too common a cause of the condition we are considering, especially in the primigravida. Extensive trauma is often the result.

Now the stress in labour is much more on the nervous than on the muscular system of the patient ; this must be our guide in seeking to give relief to the actual pain and mental strain. More and more the modern woman demands this relief. What is the best means? Some years ago I read a paper to this society on this question, largely in praise of chloral hydrate, a most valuable drug in some cases of delay from inertia. But for the relief of actual pain I have been entirely converted in the last eighteen months to the use of scopolamine, without any morphine, in the large doses recommended by Dr. David Jennings.[7] When the pains begin to distress the patient, whether in the first or second stage of labour, one-hundredth of a grain is given ; the dose is repeated in half an hour, and again at the end of the next half-hour if it be required. After that the same dose is given at about two-hourly intervals. In most cases only one, two, or three doses are necessary, but I have known as many as six to be given in the course of ten hours. In my experience no harmful effects have occurred ; uterine contractions are certainly not diminished by it, as they may be with morphine. I have never seen the somnolent baby that used to bother me occasionally when morphine was given with small doses of scopolamine. The feeling of well-being, mental and physical, has long been recognized after "twilight sleep." It is most striking after these larger doses. But it is as a preventive of obstetric shock that this method of scopolamine treatment appeals to me.

For some two years the blood pressure, during and after labour, has been recorded in my private cases, and in an increasing number of cases at the Jessop Hospital for Women. The senior resident officers, Mr. Alan Fawcett, and, during the last twelve months, Dr. E. ap I. Rosser, have put themselves to much trouble to make these observations, and I am greatly indebted to them. I have no doubt that the recording of blood pressure will soon be generally recognized as a routine requirement. It has been carried out in all cases at the Jessop Hospital during the last nine months. Sisters in the labour ward can be trained to take reliable readings.

On studying the blood pressure records, taken during the various stages of labour and immediately after, in scores of cases during the last fifteen months, I have been greatly impressed by the fact that the fall of blood pressure has been less when scopolamine is used. In fact, in many cases there is no fall at all, and when anaesthesia is induced during the actual delivery by means of nitrous oxide and oxygen, we have records of even a rise in the systolic pressure. This combination of scopolamine analgesia and gas anaesthesia is the most beneficial advance in the management of labour which I have witnessed. Other drugs are being tested, such as avertin and amytal, but of their value I have no experience. I believe that the solution of the problem of relief of pain in labour will be found in the use of such drugs as scopolamine, rather than in the widespread administration of general anaesthetics such as chloroform.

Cold from Exposure.—As a rule, precautions have been taken to eliminate this factor by proper warming of the room. However, I can recall several instances in which

I have found an emergency case chilled to the marrow in an ice-cold bedroom. In one Derbyshire farmhouse it took two hours to warm up a patient sufficiently to warrant her removal by ambulance. There is also the unavoidable exposure during instrumental delivery and perineal repair. A perineal cloth is some protection, and for years I have always taken a thick pair of stockings, such as are used in operating theatres, to emergency confinements.

Deprivation of Food and Water.—In addition to the usual fluid diet, the free drinking of glucose solution (one pound to a quart of water) is helpful; it is better than the heavily sugared tea with which we plied our district patients in my student days.

Haemorrhage.—To prevent undue loss of blood is a fundamental rule of midwifery. But the average pregnant woman can stand and quickly recover from a haemorrhage considerably more severe than that seen in normal labour. Everyone has observed this time and again. There is just the danger that such experiences may lead to a forgetfulness of the extra care required to control the loss of blood in those cases in which other factors predisposing to shock are present. I need only refer to the necessity for additional care in managing the third stage of labour in cases of placenta praevia. There is grave danger in allowing a trickle of blood to continue during that stage. One must remember that the placenta is already separated to some extent: it must be expressed or removed should a trickle commence.

The prophylactic use of normal saline, gum saline, or even blood transfusion during the course of labour in cases of ante-partum haemorrhage is of great importance in preventing the onset of shock which is so apt to occur after the delivery. Pituitary extract is useful in diminishing the loss of blood by its action on the uterine muscle, and by virtue of its pressor factor it helps to maintain or even raise the systolic blood pressure. In recent years pituitary extract has been standardized, and purified, by washing with alcohol, whereby the "histamine"-like impurity, a product of protein decomposition, has been removed. The danger of overdosage, with consequent syncope due to spasm of the coronary arteries, has thus been greatly lessened, and the risk of actually injecting "histamine" is eliminated. I have seen nothing but good result from the injection of five to ten units of the modern preparation in such cases as we are now considering.

General Anaesthesia.—I have already referred to the grave danger caused by the use of chloroform or ether in the presence of shock. Prolonged use of either of these drugs in labour predisposes to the onset of shock. This applies particularly to chloroform, and especially to the repeated use of chloroform in those obstetric cases—not so very uncommon—in which an anaesthetic is required on two or more occasions during a labour—for example, for the induction of labour, or for a thorough examination in the earlier stages, and later on for the actual delivery or for repair of lacerations. Chloroform is a very useful and convenient drug in midwifery, but it should be used chiefly to relieve the pain caused by the actual birth of the child.

Ether can be given with greater safety for more prolonged periods, but both drugs definitely diminish the activity of the uterine muscle and tend to lower the blood pressure. In all these respects they are greatly inferior to nitrous oxide and oxygen, which, properly given, is not toxic and does not in the slightest degree lessen uterine activity; it often appears to intensify it. Its value is so great that I strongly hold that all maternity hospitals should be provided with an efficient apparatus for its administration. It is nowhere seen to greater advantage than in those cases of "failed forceps" which often show considerable shock on admission to hospital, from trauma and either exposure to prolonged chloroform or the absence of any anaesthetic at all. Annual reports of maternity hospitals nearly always record the death from shock of one or more of these patients. I believe many of them could be saved by the use of gas and oxygen when an anaesthetic is required. McKesson's smaller apparatus, specially devised for obstetric work, is wonderfully efficient and conveniently portable.

Toxaemia.—The woman suffering from toxaemia of pregnancy, especially the nephritic type, is markedly susceptible to the influences which favour shock. Induction of labour must therefore not be delayed if the toxic state is increasing. Methods of delivery involving the least trauma must be chosen. Chloroform should never be given, and ether is not much less harmful. Gas and oxygen is again the best anaesthetic. Glucose should be given by the mouth or even intravenously in severe cases.

Infection will add to the tissue poisons causing shock. It may occur during a prolonged labour, and, if suspected, it is advisable to leave open any perineal or vaginal wound, applying to it a sterile saline or glycerin dressing.

Emotion

This is a factor which is not often predominant, though it may well play a part more often than we realize. In analysing the causes of twenty-six maternal deaths which occurred in 9,468 deliveries (giving the low rate of 2.7 per 1,000) at the Royal Free Hospital, Dame Louise McIlroy[1] attributed six deaths to obstetric shock and four to shock from haemorrhage. She expressed the opinion that "fear, anxiety, and intense suffering during labour are predisposing factors, and that haemorrhage is not always sufficient to account for the collapse, and sometimes death, which occurs after a long painful labour."

We have already considered the use of drugs to relieve fear and anxiety, and to prevent intense suffering, but we must also remember the necessity of recognizing and protecting those patients who are unusually susceptible to emotional shock—by no means an easy matter. Perhaps I can best help by giving three examples. The first is taken from the Bible.*

"And his daughter in law, Phinehas' wife, was with child, near to be delivered: and when she heard the tidings that the ark of God was taken, and that her father in law and her husband were dead, she bowed herself and travailed; for her pains came upon her.

"And about the time of her death the women that stood by her said unto her, Fear not; for thou hast born a son. But she answered not, neither did she regard it."

Ill tidings should not be conveyed to a woman in labour. When a stillbirth occurs it is wise to induce, by means of morphine, a long sleep before the mother is told of her misfortune. Whitridge Williams, in his splendid textbook *Obstetrics*, records a case of emotional collapse, which I transcribe in full. In the section on sudden death during or after labour and under the heading "Profound mental depression" he tells this story.

"In rare instances the only apparent explanation for death, or for a profound collapse which eventuates in recovery, is to be found in the mental condition of the patient, since the most careful examination, both at the bedside and at autopsy, may fail to reveal the slightest abnormality.

"I recall a case in my own practice which apparently belongs in this category. The patient, who was unhappily married, had already passed through two difficult labours. When I saw her, in the latter part of the first stage of her third labour, she was about the room. Just before going to bed at the beginning of the second stage she asked the nurse and me to witness her will, as she said she felt sure she would not survive. The labour was rapid and uneventful, the placenta coming away spontaneously. An hour later, on approaching the bed to take leave of the patient, I was struck with her haggard appearance. Fearing the possibility of

* 1 Samuel, iv, 19, 20.

concealed haemorrhage, I at once applied my hand over the uterus and found it tightly contracted, while the pulse was of excellent quality. Without any apparent reason, and in spite of energetic stimulation, the patient grew slowly worse, the pulse becoming rapid and weak, the eyes sinking back in their sockets, and the face assuming a drawn and Hippocratic expression.

"Thorough examination failed to reveal the slightest cause for the condition. The hand introduced into the uterus could find no trace of rupture. Eight hours after delivery I requested a colleague to see her in consultation, but he also was unable to offer any explanation. It then occurred to me that the condition might possibly be the result of her morbid forebodings, and acting upon that supposition I administered a large dose of morphine hypodermically, which was promptly followed by sound sleep, a marked improvement in the character of the pulse, and some rapid change for the better in the general appearance. Upon awakening a few hours later the patient felt very comfortable and made an uninterrupted recovery."

From my own experience I can record a case which had a tragic ending. These are my notes.

M. W., aged 29, primipara. On April 25th, 1925, attended by her family doctor, a careful and experienced obstetrician. I was called in after the second stage of labour as the patient had collapsed. Labour, expected on the 27th, started on the 22nd. Poor pains, on the 23rd and 24th, were treated with morphine, hyoscine, and chloral. The membranes ruptured on the 25th at 9 a.m. The cervix was then fully dilated and quite effaced. At 11 a.m. 1/2 c.cm. of pituitrin was given. The feeble contractions increased slightly, but were not efficient. About 12 o'clock low forceps were applied under light chloroform anaesthesia induced by the doctor himself. The pelvic floor was very rigid, and twenty minutes were occupied in extracting the child. The patient collapsed very shortly afterwards. There was no haemorrhage, and only a slight tear of the perineal body. As there was no obvious cause for the collapse, and as the placenta had not come away, the doctor explored the vagina and cervix with his hand. He could feel that the placenta was still in the uterus, but, the patient's condition being very serious, he considered it unwise and probably unnecessary to remove it. He sent for assistance and started a submammary infusion of saline.

I arrived at 1 p.m., less than an hour after the delivery. The patient was then very pale, pulseless at the wrist, but not at all restless. The uterus was as high as the umbilicus, not relaxed, but contracting only slightly and at long intervals. There was no bleeding. She was at once given 1/2 c.cm. of omnopon, and glucose was added to the saline. She rallied slowly. By 4 p.m. her colour had returned, and the pulse was countable at the wrist—120, very small. At 7 p.m. the pulse was still 120, still very small, and the patient was sleeping. The condition of the uterus was unchanged. At 10 p.m. the doctor injected ergotamine hypodermically, as a "safeguard" for the night.

I saw her again the next morning at 11 o'clock; she had had a restless night and had passed two very small clots, without pain. The temperature was 98.4° F.; it had been up to 99° F. Her condition was much better. Her colour had returned and she talked freely. There was no abdominal pain nor rigidity. The uterus was unchanged. Before considering the question of removal of the placenta, we decided to move the patient into hospital (her mother had been taken to hospital for removal of adherent placenta after the patient's own birth). The patient readily agreed, but while talking quite cheerfully about the necessary arrangements her face suddenly set, her eyes stared (we thought a fit was impending), and she died in two minutes or less. Traction on the tongue, artificial respiration, strychnine injected hypodermically and into the heart, all failed to revive her.

Afterwards I inspected the vagina and cervix, but found only a moderate tear of the perineal body. I passed my hand into the uterus, but found no rupture. The placenta peeled off with no unusual difficulty. The uterine wall was thin and relaxed. There was no sensation of free fluid in the pouch of Douglas. The ultimate diagnosis was death from emotional shock.

The patient was of gipsy type, very deeply pigmented, and she was said by her father to be of a very emotional temperament. I have seen the statement made that darkly pigmented people are specially vulnerable to shock, whether physical or mental. Unfortunately no record of the blood pressure was taken, and no post-mortem examination of the pelvic floor muscles was made. It is noteworthy that the pelvic floor was described as being very rigid.

The exact cause of death in these cases is not known. Possibly direct cardiac inhibition occurs, but it has been shown experimentally by Cannon[9] and others that mental emotion will stimulate the suprarenal gland to excessive secretion. Now although adrenaline causes a prolonged vaso-constriction in skin vessels, it also produces "an increase in the volume of blood present in voluntary muscle and in the intestine." This has been demonstrated by Dr. G. A. Clark[10] in the physiological department of Sheffield University. We have seen that in traumatic shock the capillaries of muscles are relaxed. The effect of adrenaline either injected into or secreted by a patient already or recently the subject of traumatic shock, will therefore be harmful and possibly even fatal.

In the fatal case just described the placenta was retained. The relationship of shock to retention of the placenta is not quite clear. Personally I prefer the view that it is the shock which paralyses the uterus and causes retention of the placenta to that which holds that the adherent placenta promotes shock. Hence I agree that no attempt should be made to remove the placenta while the shock persists, unless, of course, partial separation leads to haemorrhage.

Finally, we are left with the prevention of emotional shock. This is too wide a subject to deal with here. It is perhaps best summed up in careful and considerate ante-natal care whereby the woman is helped to approach her confinement with a mind freed from anxiety and apprehension.

REFERENCES

1 Cannon, W. B.: *Traumatic Shock*, Appleton.
2 Krogh, August: *The Anatomy and Physiology of Capillaries*, Oxford University Press.
3 Dale, H. H., and Laidlow, P. P.: Histamine Shock, *Journ. of Physiol.*, 1919, liii, 355.
4 Driscoll, W. P.: Shock in Pregnancy and Labour, Surgical Report, Women's Hospital, New York, 1925–28.
5 Phillips, Miles H.: *Brit. Journ. of Gynaecol. and Obstet.*, 1912.
6 Armitage, George: Traumatic Rupture of the Spleen, *Brit. Journ. of Surg.*, xvii, No. 66.
7 Jennings, David R.: Hyoscine Amnesia in Labour, *British Medical Journal*, November 2nd, 1929.
8 McIlroy, Dame Louise: *Lancet*, January 11th, 1930.
9 Cannon, W. B.: *Bodily Changes in Pain, Hunger, Fear, and Rage*, Appleton, 1929.
10 Clark, G. A.: Action of Adrenaline, *Journ. of Physiol.*, April, 1930.

CEREBRAL CORTICAL STRUCTURE AND ITS RELATIONS TO MENTAL DISEASE

BY

R. J. A. BERRY, M.D., F.R.C.S., F.R.S.ED.

DIRECTOR OF MEDICAL SERVICES, STOKE PARK COLONY, BRISTOL; FORMERLY DEAN OF THE FACULTY OF MEDICINE AND PROFESSOR OF ANATOMY IN THE UNIVERSITY OF MELBOURNE

It seems reasonably safe to assume that the average medical man has little or no knowledge of the intricacies of the histological construction of the brain, now technically known as cyto-architectonics, or of the significance and practical utility of these developments in general and special practice. Yet English law may compel every medical man to certify, when necessary, cases of mental deficiency and mental disease; and the most recent Act of all implies a hope that more cures may be effected than heretofore. The profession is thus at a double disadvantage; and so it may be helpful if some brief account be given, as simply as possible, of recent advances in the study of brain structure and its relationship to mental disorder.

HISTOLOGICAL STRUCTURE

The microscopical study of the cells of the human brain is obviously attended by many and great technical difficulties, and is thus beyond the efforts of any but a limited and fortunate few. The work of these few has, however, had far-reaching results, culminating, at the moment, in the work of von Economo of Vienna, whose estimate of the number of brain cells in the normal healthy cerebral cortex is 14,000 millions, or some 5,000 millions more than the previous estimate of Donaldson of the Wistar Institute. These millions of brain cells are not arranged haphazard, as so many modern histological textbooks might lead one to suppose, but are definitely located in layers or laminae, of which English observers, like Bolton, Watson, Mott, and others, have recognized five.

It is perhaps not so well known as it might be that mammals are the only animal forms with a definite neo-pallial cerebral cortex or true end-brain. As the mammalian scale is ascended from the marsupials, through the anthropoids, up to man, this neo-pallial cerebral cortex becomes increasingly complex, culminating in the human brain. Originally a three-layered histological cortex, it becomes, in the higher anthropoids and man, a five-layered one. The successive results of these increments are to be seen in the enormous number of cells in the human brain, far exceeding that of any other mammal. In all mammals, however, these brain cells are arranged in a laminated manner, and the five of man were described and named by Shaw Bolton in 1912 as follows:

1. The outer fibre lamina.
2. The outer cell lamina, chiefly composed of pyramidal cells.
3. The middle cell lamina of granular or minute Golgi Type 2 cells.
4. The inner fibre lamina of axons.
5. The inner cell lamina of polymorphic cells.

From his investigations of the mammalian cerebral cortex Watson came to almost similar conclusions; but he pointed out that the mammalian neo-pallial cerebral cortex is primarily built up on an infragranular basis—that is, of layers lying within or internal to Bolton's third layer. He therefore simplified the nomenclature of the cerebral laminae by suggesting that the cortex should be considered as consisting of three main functional divisions: an internal infragranular cortex composed of polymorphic cells, an external supragranular cortex composed of pyramidal cells, with a third or granular layer between the other two, sharply delimiting the one from the other. There is no part of the body where structure so strictly accords with function as the nervous system, and that some significant functional importance attaches to these three contrasted forms of cells is certain. The views of Mott, Watson, and Bolton thereon are well known, and have been substantiated by others. I do not propose to give a detailed account of the work of these and other investigators, but to give a general introduction to von Economo's more recent researches.

Von Economo's smaller work, in 1929, on the cyto-architectonics of the human cerebral cortex is, in the main, confirmatory of the previous work of the English observers, though naturally differing in details. It extends the application of cortical cytology to other forms of mental disorder and disease, and indicates the different areas and laminae affected in some of the psychoses. Such a work is therefore of importance to the profession generally. Von Economo differs from English investigators inasmuch as he describes the cerebral cortex as a six-layered structure, not a five; and derives this extra layer by regarding the small pyramidal cells of the outermost part of Bolton's second layer as a separate and additional granular layer. These differences in arrangement and nomenclature will be rendered clear by *Fig. 1*, and by the comparative table below.

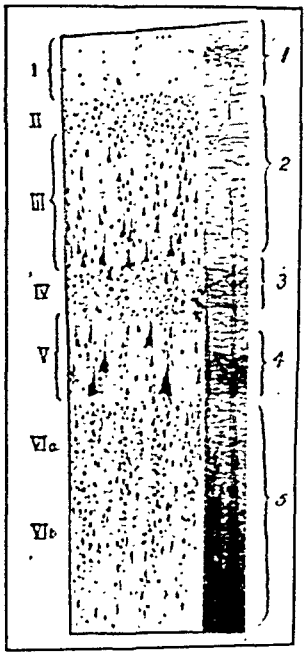


FIG. 1.—Layers of the cerebral cortex, as described and named by von Economo (on the left), and by Shaw Bolton (on the right).

BOLTON	WATSON	V. ECONOMO
1. Outer fibre lamina	Supragranular	I. Molecular layer
		II. External granular layer of fine pyramidal cells
2. Outer cell lamina, chiefly pyramidal cells		III. Pyramidal cell lamina of numerous large pyramidal cells
3. Middle cell lamina, chiefly minute granule cells of Golgi Type 2 variety	Granular	IV. Internal granular layer
4. Inner fibre lamina	Infragranular	V. Ganglionic layer, chiefly fine pyramidal cells
5. Inner cell lamina of polymorphic cells		VI. Layer of fusiform cells

It is to be specially noted that von Economo bases his classification of cortical laminae on cells only, whereas previous English investigators have included the well-defined strata of incoming or outgoing axons. Again, it will be observed that he separates off the small pyramidal cells forming the outermost part of Bolton's outer cell lamina as a separate layer of granules; a new point of some significance, as it means that the supragranular cortex is provided with a receptor layer as well as the older infragranular cortex. Against these minor differences is the major fact that all observers agree in regarding the human cerebral cortex as being a laminated structure with three main types of functional cells (pyramidal, granular, and polymorphic or *fusiform*), and that some functional significance attaches to each of these three principal strata. In von Economo's own and most recent words:

"In applying our present knowledge of cyto-architectonics to cerebral pathology, we must remember the following principles. The three chief forms of cells of the cortex (pyramidal, granule, and fusiform cells) are arranged in horizontal layers. The cortex consists of six such laminae, each of which has probably a certain function in the physiological activity of the grey matter."

LOCALIZATION OF FUNCTION

While it is undoubtedly true that certain portions of the cerebral cortex seem to specialize in particular functions, the conception of brain centres obtained from most textbooks of medicine is extremely misleading; and Broca's area, still unhappily described as the speech centre, forms an example of the persistence of an antiquated ignorance of cerebral function. Speech probably involves many portions of the cortex and myriads of cells in all layers. Notwithstanding this, certain portions of brain cortex do have specialized functions, as is proved by the findings of cyto-architectonics. Brodman, Campbell, Marinesco, Betz, and many others, divide the cortex, from the known arrangement of its cells, into as many as upwards of a hundred areas. It suffices to say, with von Economo, that there are at least five main structural types of cortical cell construction and lamination. Thus the area known generally as the Rolandic motor area is largely devoid of granule cells, which it does not need, because it is concerned with outgoing cerebral impulses. This comparative absence of granule cells enables us to recognize such portions of the cerebral cortex under the microscope with considerable facility, and von Economo calls these areas the agranular cortex. Areas, on the other hand, which are primarily concerned with the receipt of impulses from the chief exteroceptive senses, such as sight, hearing, taste, and touch in all its forms, will be particularly rich in granule cells, thus forming easily recognizable cortical areas, termed granular cortex. With these exceptions, the rest of the cortex is mainly made up of slight, but recognizable, variants of the five or six cellular layers. Correlating these facts with clinical conditions the Viennese and other Continental schools find that mental disorder is rarely associated with area lesions, but shows a predilection for certain laminae in one or other of the five types of cortex.

PATHOLOGICAL CHANGES

With the recognition of these five or six cortical layers of the brain there has subsequently accrued, especially as the result of English work, a considerable knowledge of their pathological alterations in association with certain mental disorders, especially in mental deficiency. It is now well established that mental deficiency results from a lack of development of the cells of either or both of the pyramidal and fusiform cortical layers, with a consequent diminution in their numbers, a disordered structural formation, a consequent microcephaly, and disordered psychological reactions to the environment best summed up, perhaps, by a single word, unsanity. Bolton, in his classic work on *The Brain in Health and Disease*, extended and applied our knowledge of cortical lamination to both the amentias and the dementias; and von Economo has been able to go even further in applying it to both psychology and psychiatry.

The agranular cortex, for example, shows no change in general paralysis, which chiefly affects some of the cell laminae in the anterior frontal lobe of the brain, parts of the parietal and temporal lobes, and certain other sites. According to Jakob, the majority of organic mental diseases do not attack areas of the brain, but show a widespread affection of the cortex with a predilection for certain regions. In demential psychotic disturbances of the personality, von Economo finds that the chief lesions are in the third cortical layer. On the other hand, those diseases which primarily affect the capacity for expression and motility show a particular affinity for the cells of the fifth and sixth layers. In those cases of senile dementia which show a striking extrapyramidal muscular rigidity, in addition to their psychic symptoms, von Economo finds a marked affection of the cells of the fifth and sixth laminae. In many other cases of dementia there is not only a destruction of cortical cells, but also a proliferation of the glial cells, as instanced by von Economo, and also found in a case now under examination from a recent post-mortem at Stoke Park Colony. Mental deficiency, on the other hand, does not result so much from a dissolution of brain cells, as from their inherent inability to develop, many of them remaining in the neuroblastic condition; and feeble-mindedness is, according to Hammarberg, a closely allied condition of inhibition of proper cell development.

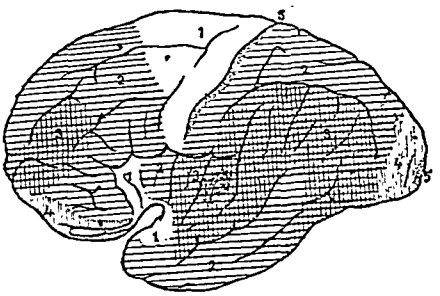


FIG. 2.—Cortical areas of von Economo. 1. Agranular cortex, chiefly confined to motor areas. 5. Granular cortex, chiefly found in sensory areas. 2. Frontal type. 3. Parietal type. 4. Polar type. Nos. 2 to 4 variants of the type illustrated in Fig. 1. No. 3 in the diagram corresponds to focal points of intelligence.

But cyto-architectonics is not of importance only to the psychiatrist. It promises results for the psychologist also, inasmuch as cellular studies of the cortex suggest that there are present richly receptive focal points of intelligence (von Economo) in both the prefrontal and parietal areas; but again the warning must be sounded that "for every kind of psychic expression the functioning of the entire cerebrum is necessary."

Thus does the apparently dullest and most forbidding of subjects, cyto-architectonics, hold out the greatest hope for the future of mental science in all its branches. And indeed it cannot now be long before the brain gives up the last of its secrets—the fashioning of mind out of the functions of neurones and their synapses.

ACIDOSIS AND SEBORRHOEA

BY

JOHN T. INGRAM, M.D., M.R.C.P.

PHYSICIAN IN CHARGE OF THE SKIN DEPARTMENT, GENERAL INFIRMARY, LEEDS; LECTURER ON DISEASES OF THE SKIN, UNIVERSITY OF LEEDS

AND

F. S. FOWWEATHER, M.Sc., M.D., D.P.H.

CHEMICAL PATHOLOGIST TO THE GENERAL INFIRMARY, LEEDS; READER IN CLINICAL CHEMICAL PATHOLOGY, UNIVERSITY OF LEEDS

The problem of seborrhoea is one of great importance and complexity. The minor manifestations of this disorder are so common as to be almost universal, while the major dermatoses of this group form a very large part of all skin cases seen in private and hospital practice. The subject is therefore one of interest to the general practitioner as well as to the dermatologist, and merits investigation from more than one point of view. MacLeod[1] and Dowling[2] have added much to our knowledge of the organisms concerned in the production of some of these disorders, but the seborrhoeic diathesis has received little attention, except from the clinician.

Three factors play a part in the production of most seborrhoeic affections—namely, a constitutional, an infective, and a precipitating factor. A brief explanation of each of these features is necessary.

THE CONSTITUTIONAL FACTOR

In a seborrhoeic subject the whole organism, as well as each separate organ or system, is abnormal to some appreciable extent. Outstanding among these variations is the functional instability of the skin, particularly with reference to its secretory functions, but also manifest in hypersensitivity to external or internal irritants, in vasomotor instability, and in diminished resistance to infection. In like manner the mucous membranes, especially those lining the mouth and upper respiratory passages, show secretory disturbances, diminished resistance to infection, and general hypersensitivity. There is commonly evidence of endocrine imbalance, a feature recognized by all authorities and sufficiently shown in the high incidence of seborrhoeic affections about the time of puberty and the menopause. Seborrhoeics are prone to dyspepsias and other functional disorders of the alimentary system. According to some authors they usually secrete a hyperacid urine[1]; if this is true, it may only be the result of some disorder of the secretory mechanism of the kidney. They are subject to vasomotor disturbances and to functional disorders of the cardio-vascular system. They appear to be more prone to the minor affections of the respiratory organs; and they are commonly the subject of nervous and emotional instability.

The seborrhoeic constitution, it would seem, can be summed up as one of general functional instability, and the question arises whether this feature is dependent upon a primary nervous instability, or upon endocrine imbalance, or whether the syndrome is the result of some unrecognized biochemical abnormality. The problem is probably most easily explained upon the basis of a primary nervous disorder; this is supported by the incidence of seborrhoea in the course of, and as the result of, epidemic encephalitis lethargica.[4] Whatever the basic factor may be, there can be no doubt that constitutional predisposition is the essential consideration in the elucidation of this group of disorders.

THE INFECTIVE FACTOR

The organisms chiefly concerned in provoking seborrhoeic manifestations—the *Staphylococcus epidermidis albus*, the seborrhoeic or acne bacillus, and (most important of all) the bottle bacillus or pityrosporon of Malassez, the nature of which has been recently demonstrated by MacLeod[1] and Dowling[2]—are harmless saprophytes on the normal skin, but may provoke inflammatory reactions in the skin of the seborrhoeic subject. These organisms assume chief importance in the minor manifestations of seborrhoea, as scurf of the scalp, simple pityriasis corporis, and, to some extent, in acne affections, all of which are readily amenable to treatment. The infective organisms of seborrhoea play only an insignificant part, however, in the grosser and more chronic seborrhoeic affections—chronic seborrhoeic dermatitis and eczema, gross acne and rosacea, which are most resistant to treatment and present the dermatologist with some of his most difficult problems.

THE PRECIPITATING FACTOR

Probably every seborrhoeic disorder is dependent at its onset on some precipitating cause acting upon the unstable constitution of the subject, and so reducing resistance to infection or disturbing functional activity of the skin. Such jars may take the form of infective or toxic injuries, physical or chemical trauma, occupational hazards, environmental changes, psychological disturbances, puberty, menopause—indeed, any change affecting the constitution as a whole. It is not our purpose to discuss further this aspect, but to confine ourselves to a consideration of the constitutional factor upon which seborrhoeic disorders must arise.

NATURE AND RESULTS OF INVESTIGATION

We proposed to investigate the acid-base balance in the blood of seborrhoeic subjects, hoping to find some clue as to the character of the constitutional disability we have described.

Sabouraud[3] in 1902 suggested that many seborrhoeics passed a hyperacid urine showing excess of chlorides and diminution of phosphates. In 1918 Barber and Semon,[4] from their study of a large number of cases of seborrhoea among soldiers on active service, reaffirmed this finding as regards hyperacidity, and from certain therapeutic investigations concluded that the "status seborrhoeicus"—as they described the constitutional dyscrasia in seborrhoeics—was essentially a state of relative acidosis. It is widely held that treatment by alkalis is constantly beneficial in seborrhoeic affections (an impression which one of us has not been able to confirm from the clinical point of view) and the finding of a state of relative acidosis in the blood would put such a line of treatment on a rational basis. It seemed to us, therefore, that it would be of some value to examine the blood in various types of seborrhoeic affection from this point of view. Our investigation covered a series of patients of all ages, suffering from various types of the more marked constitutional seborrhoeic disorders.

To say that an acidosis is present in any condition does not carry us much further towards a real understanding of that condition, unless we know something of the mechanism by which the acidosis is produced. Beyond stating that chemical examination of the urine never revealed the presence of diacetic acid or β-oxybutyric acid, Barber and Semon offer no further evidence as to the nature of the acidosis which they believed to be present. As we shall show later, hyperacidity of the urine does not necessarily mean that there is an increase in the total excretion of acid. Further, even when there is an increased excretion of acid, it is not absolutely necessary to conclude that an acidosis is present; for if we assume that, in consequence of some functional disturbance of the kidneys, these organs excrete more acid than normally, while the production of acid within the body remains at its usual level, the result would be a *relatively* increased balance of alkali within the body—that is, we should have an alkalosis. We are not aware that such an alkalosis has ever been described, but its occurrence in this way is conceivable. A similar explanation has been advanced for the alkalosis which sometimes occurs in association with pyloric stenosis—namely, that excessive loss of hydrochloric acid from the stomach, due to vomiting, is the cause of the increased alkali reserve.

Barber and Semon found confirmation of their views regarding the presence of acidosis in seborrhoeics, in the results of tests for alkaline tolerance. It was claimed that these tests showed markedly increased tolerance in the majority of cases. But tests for alkaline tolerance (for example, Sellard's test) are not entirely free from objection as tests for acidosis, and, moreover, in recent work it has been shown that the limits of alkaline tolerance in normal individuals are much wider than was originally supposed. Sellard put the upper limit of alkali tolerance at 5 grams of sodium bicarbonate, while, more recently, Hawk and Bergeim[7] put it at 30 grams.

EXAMINATION OF THE BLOOD

It seemed advisable to investigate acidosis in seborrhoeics having regard to the blood, rather than to the urine. In general, changes in the urine depend on and reflect changes occurring in the blood. An examination of the blood is therefore a more direct approach to the problem than an examination of the urine.

Acidosis is of two main types—namely, that concerned with volatile acid (that is, carbonic acid) and that con-

cerned with fixed acids. There is no reason whatever to assume that in seborrhoea we are dealing with the former type. On the contrary, it is to be inferred, from what has been written on the subject, that, in this condition, certain metabolic disturbances are supposed to be present which result in the production of fixed acids in increased amount, and these have to be dealt with by the blood and finally excreted in the urine. The first result of the pouring of increased amounts of fixed acids into the blood stream is the using up of increased amounts of the alkaline buffer salts (chiefly sodium bicarbonate) which are present in the blood to effect their neutralization; in short, a reduction of the alkali reserve of the blood. Changes in this alkali reserve are fairly well represented by changes in the sodium bicarbonate content, or of the carbon dioxide combining power. The determination of the latter is a fairly simple procedure, which is often employed in clinical investigations, and it is this determination which we have used in the present inquiry.

The normal range for the carbon dioxide combining power of the blood, as shown by Van Slyke, Stillman, and Cullen,[8] is from 53 to 77 c.cm. of CO_2 per 100 c.cm. of plasma. The results which we have obtained in 26 cases of seborrhoea may be grouped as follows:

CO_2 *combining power*: Over 70 c.cm. per 100 c.cm. of plasma, 4 cases; 65 to 70 c.cm., 9 cases; 60 to 65 c.cm., 7 cases; 55 to 60 c.cm., 4 cases; less than 55 c.cm., 2 cases. *The highest figure obtained was 77.7 c.cm., and the lowest 50.9 c.cm.*

It will thus be seen that of our 26 cases, 16 give results between 60 and 70 c.cm.—that is, they fall well within the normal range; 4 cases give values above 70 c.cm., and so approach the *upper normal limit—that is*, alkalosis—while 5 cases give results between 53 and 60 c.cm., and so approach the normal lower limit, or acidosis. Only 1 case gave a result (50.9 c.cm.) which can be considered as outside the normal range. The values obtained and the range shown are almost exactly what would be expected from a similar number of normal individuals. It is clear that, in our cases, there is no evidence whatever of any general tendency towards a depletion of the alkali reserve, and, so far as *the blood is concerned, there is no evidence of* acidosis. These results were not according to our expectations, and during the latter part of the investigation we decided to make examinations of the urine as well as of the blood.

EXAMINATION OF THE URINE

Acidity of the urine is only very roughly gauged by its action on any single indicator. The degree of acidity is most accurately ascertained by determining its *p*H; for practical purposes this can usually be obtained with sufficient accuracy by noting the action of the urine on a series of indicators, or on a composite indicator which shows a number of colour changes over a fairly wide range. But the degree of acidity of urine is not an indication of the actual amount of acid present, since it depends very largely on the amount of buffer substances (chiefly phosphates) present in the urine, and also on the nature of the acids, as well as their quantity. It is obvious that, *for the* purpose of investigating acidosis, the amount of acid excreted offers more information than the degree of acidity of the urine, and this is best obtained *by determining the* titration acidity of the urine—that is, the amount of standard alkali required to neutralize the urine (with phenolphthalein as indicator). The most useful value is that obtained from the twenty-four-hour specimen, but, *unless great care is taken in the* collection and preservation of the urine, very considerable error may be introduced, owing to the liability of the urine to undergo fermentation, with the production of ammonia. As most of our patients were out-patients, we felt it unwise, therefore, to consider the results on twenty-four-hour specimens, and contented ourselves with single specimens passed at the time the blood specimens were taken, and analysed immediately after being passed. All specimens were taken about four hours after the patient's last meal.

The normal values for the titration acidity of urine vary considerably; they usually lie between 10 and 40 c.cm. of decinormal sodium hydroxide per 100 c.cm. of urine. Very much larger values are frequently obtained in acidosis. The urine of 15 of our cases has been examined in this way, with the following results:

Less than 10 c.cm., 5 cases; from 10 to 40 c.cm., 7 cases; over 40 c.cm., 3 cases.

These results are similar in general import to those obtained from examination of the blood, in that they show very wide variation, the majority being within the usual normal limits. They exhibit no recognizable tendency in any one direction, and thus give no support whatever to the view that acidosis is a definite feature in seborrhoeics.

While these figures fail to confirm the opinion that acid excretion in seborrhoeics is increased, they do not disprove the occurrence of hyperacidity—that is, increased degree of acidity as opposed to increased amount of acid—*in the urine of such patients*. This is a point we have not examined, but have reserved for future investigation, since our present concern is simply to obtain evidence as to the occurrence of true acidosis. But if hyperacidity of the urine is present along with normal quantitative excretion of acid, then the quantity of buffer substances excreted must be reduced. This may perhaps be the case, for, as we have already mentioned, Sabouraud found a diminution in phosphate along with hyperacidity. It is obvious, however, that on theoretical grounds, it is unjustifiable to accept hyperacidity of the urine as sufficient evidence of the presence of true acidosis, and our present results show that, *even if hyperacidity does occur*, there is, in fact, no evidence to indicate that acidosis is a constant feature, or even a common feature, in seborrhoeic subjects. As Barber and Semon point out, their subjects—soldiers on active service—were living in very unusual environmental conditions, and, particularly, were on a dietary likely to provoke some degree of acidosis. It seems possible to us that, in their series of cases, an acidosis may have been the precipitating factor in producing seborrhoeic manifestations, especially in view of the dramatic *effects of alkaline therapy recorded by them.*

The majority of the cases investigated by us were of acute and chronic seborrhoeic dermatitis *and seborrhoeic* eczema, with and without secondary impetiginization and septic folliculitis; some cases of severe acne *vulgaris and* rosacea were also included.

CONCLUSIONS

1. We have *found no evidence to suggest the presence* of acidosis in persons subject to *seborrhoeic disorders.*

2. We have *found no evidence to suggest* that there is increased excretion of acid in the urine of seborrhoeic subjects, but we *have not investigated* the question of *their secreting a hyperacid urine.*

3. We have found no evidence to support the alkaline *treatment of seborrhoea*, except where this may be indicated by the nature of the precipitating cause of the attack.

REFERENCES

[1] MacLeod, J. M. H.: *Brit. Journ. of Dermatol.*, xlii, 549.
[2] Dowling, G. B.: Ibid., xlii, 562.
[3] Barber, H. W.: *Lancet*, 1929, ii, 363.
[4] Krestin, D.: *Quart. Journ. of Med.*, 1927, xxi, 177.
[5] Sabouraud, R.: *Séborrhée, Acnés. Calvitie*, 1902.
[6] Barber, H. W., and Semon, H. C.: *British Medical Journal*, 1918, ii, 245.
[7] Hawk and Bergeim: *Practical Physiological Chemistry*, ninth edition, p. 439.
[8] Van Slyke, D. D., Stillman, E., and Cullen, G. E.: *Journ. of Biol. Chem.*, 1917, xxx, 401.

RUPTURE OF THE CORONARY ARTERY

REPORT OF TWO CASES

BY

C. B. BAMFORD, M.D., D.P.M.

SENIOR ASSISTANT MEDICAL OFFICER, RAINHILL MENTAL HOSPITAL

At two recent necropsies at the Rainhill Mental Hospital, the condition of a ruptured coronary artery was found in two patients who had died suddenly, but who were known clinically to have had cardio-vascular degeneration. In each case the cause of death had been certified as cardiac failure and arterio-sclerosis. Though sclerosis of the coronary arteries is by no means uncommon, it is seldom that this condition proceeds to the extent of aneurysmal formation and rupture. In the post-mortem records of this hospital for the last twenty years, comprising nearly three thousand cases, no similar instance of this condition could be found. Its apparent rarity induced me to extend my investigations to a wider source.

In the standard textbooks on medicine and pathology very scanty reference to coronary aneurysms and rupture is made. Kaufman, in his monumental book on pathology, says "haemo-pericardium occurs quite rarely from aneurysms of the coronary artery." Recent references in the literature are practically non-existent, and one must go back thirty years to obtain satisfactory descriptions of this condition. Capps collected nineteen cases of aneurysms of the coronary arteries, and stated that in eleven of these cases death occurred from rupture into the pericardium. He adds, "I was very surprised in reading the literature to learn that, while aneurysms of the heart and of the root of the aorta are comparatively common, so very few instances of coronary aneurysms have been described." The usual site of the dilatation is very near the origin of the coronary artery from the aorta, in the loose cellular tissue described as the periaortic space. This is also a favourite place for interparietal aneurysm of the heart. T. Wardrop Griffith described eighteen cases in which death occurred from rupture into the pericardial sac in exactly one-half. He says: "Aneurysmal dilatations in the course of the coronary arteries of the heart are so uncommon that the experience which fell to my lot of seeing two examples in two successive post-mortems must be unique." With slight differences, history has repeated itself in relation to the two cases about to be described. These differences will be apparent on reading the following account.

CASE I

W. B., aged 64, a patient in this hospital for many years, was a long-standing case of dementia praecox. Though exhibiting many of the characteristics of a chronic dement, he had been employed in rough routine work at the farm for many years. Periodical examination of his physical state revealed the fact that his arteries generally were thickened and tortuous, and his cardiac degeneration was shown by the altered character of his heart sounds. Despite this, he maintained his health and vigour, and was able to work regularly until January 7th, 1931, when he stayed in from his work on the plea that he did not feel well. The next morning he looked ill, and when interrogated replied that he did not feel very well, adding that he had a cold. He was [illegible] to bed in the sick ward, to await the medical [illegible]'s visit. He was found dead a short time after[illegible] just a minute or two after the nurse had taken his temperature. Unfortunately his blood had never been examined for syphilis. At the necropsy the heart *in situ* appeared very large in all dimensions—a typical bullock heart.

As soon as the pericardial sac was opened a dense large coagulum of blood was seen to fill and distend the whole of the pericardium. The recency of the clot was evidenced by the absence of any attempt at organization. The source of the haemorrhage was easily traced to a ruptured aneurysm, about the size of a pea, on the course of the coronary artery on the posterior aspect of the heart in the interventricular groove. The aneurysm was located about an inch from the apex of the heart—the most unusual site. On the anterior surface of the heart there were also two other similar aneurysmal dilatations of a branch of a coronary artery running over the surface of the right ventricle near the cardiac apex. The heart itself (407 grams in weight) was very large, showing hypertrophy of both ventricles, particularly of the left. The aorta (especially the thoracic portion)

Two aneurysms on the coronary artery, as described in Case I. The lower is cut across.

exhibited raised round areas of atheroma irregularly disposed, of the shirt-button variety, which is highly suggestive of a syphilitic aorta. The other arteries were considerably sclerosed. The solid viscera all showed increased density and fibrosis consistent with the usual findings in dementia praecox.

CASE II

S. H., aged 69, a case of dementia, was in very poor bodily health. Her heart was weak and irregular, and a mitral systolic murmur was present. Her arteries, too, were generally hardened. The blood and cerebro-spinal fluid were negative to syphilis. Mentally, she was very dull and confused, and unable to give any account of herself. She died suddenly on December 8th, 1930.

At the post-mortem examination an interesting lesion of the left anterior coronary artery was discovered, which in all probability accounted for the suddenness of her death. The artery was found to have ruptured longitudinally, resulting in a haemorrhagic infiltration of the outer portion of the muscle of the left ventricle. There was no evidence of any aneurysmal formation, although the coronary arteries generally were sclerotic. The heart, weighing 258 grams, showed slight hypertrophy of the left ventricle. Extensive atheroma with ulceration was found in the aorta. The kidneys were small and typically granular. In the brain there were some areas of softening, notably some small perivascular softening in the left basal ganglia and also in the left lobe of the cerebellum.

It will be seen that the special features of interest in Case I were: (1) The presence of multiple aneurysms of the coronary arteries, situated in an unusual position—namely, towards the terminal parts of the artery rather than near the place of origin. (2) The rupture of one of these aneurysms into the pericardium. (3) The condition of the aorta, suggesting a probable syphilitic origin of these aneurysms. In Case II, the rupture of the coronary artery was just the end-result of advanced arterial degeneration, associated with chronic renal disease and cardiac hypertrophy.

I am indebted to Professor Dible for his valuable suggestions and help, and also to Dr. E. F. Reeve for permission to publish the case.

BIBLIOGRAPHY

Capps: Aneurysms of the Coronary Artery, *Amer. Journ. Med.*, September, 1899.

Griffith, T. Wardrop: *British Medical Journal*, February 22nd, 1900.

A METHOD OF ANCHORING RADIUM NEEDLES IN THE PHARYNX

BY

J. E. G. McGIBBON, M.B., B.S.

AURIST AND LARYNGOLOGIST, LIVERPOOL EYE AND EAR INFIRMARY

The difficulty of fixation of radium needles when used for interstitial radiation of pharyngeal neoplasms is generally recognized. Not only is accurate insertion of the needles difficult, but also, as the regions are kept incessantly in motion by involuntary swallowing movements, the needles are liable to be expressed from the tissues. Furthermore, displacement is favoured, as the mere presence of a neoplasm in this locality creates a necessity and desire on the part of the patient to rid his throat of increased secretions by hawking and coughing.

The techniques described for fixation of needles include the following: (1) the needles are inserted in pairs from behind forwards and in the opposite direction, and tied in position[1]; (2) after insertion of the needles the threads are collected into a rubber tube, which is brought through the mouth, and the threads are then fastened to the skin of the cheek by strapping[2,3]; (3) firm suturing of the needles *in situ*.[1,3,4] All of the above procedures possess certain disadvantages. Tying the needles together in pairs when in use in the tonsil is an insecure method of fixation; a pair of needles could easily become displaced. The use of a rubber tube in the mouth for at least a week must be very irksome to a patient, and will interfere with deglutition. Traction on such a tube by movements of the tongue could readily dislodge one or more needles. Suture of the needles *in situ* necessitates three wounds per needle: the needle insertion wound, and the wounds of entrance and exit of the suture. In a patient already poorly nourished and suffering from pain and dysphagia such extensive trauma in a septic area presents obvious disadvantages. Moreover, in spite of careful suturing, the needles may become displaced. Birkett states that it is almost a routine procedure at Manchester to give a second anaesthetic and reinsert the needles.

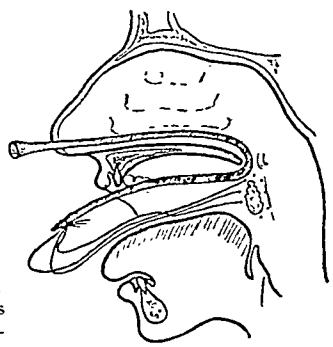


FIG. 1.

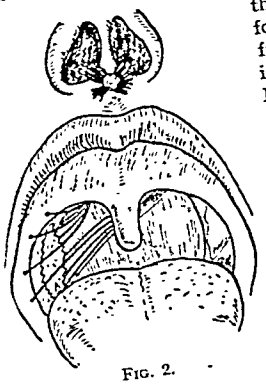


FIG. 2.

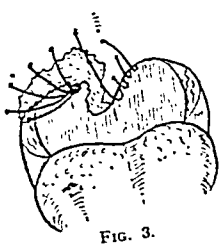


FIG. 3.

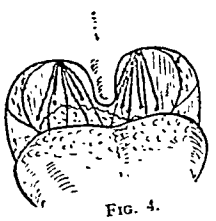


FIG. 4.

DESCRIPTION OF TECHNIQUE

The method described below has been used by me for lesions affecting the tonsil alone (Fig. 2); the soft palate alone (Fig. 3); the tonsil and palate; the tonsil and side of tongue; the tonsil, palate, and side of tongue; and the posterior pharyngeal wall (Fig. 4). It requires good illumination and efficient access. These have been obtained by the use of reflected light from a forehead mirror, and of the Boyle-Davis gag. The needles are inserted in the usual manner through healthy tissue around the lesion, and the threads are left nine to ten inches in length. After insertion of a needle its thread is secured outside the mouth, without any tension, by pressure forceps. When the requisite number of needles have been introduced a soft rubber urethral catheter (about size No. 8), lubricated with liquid paraffin, is passed along the floor of one nasal fossa into the naso-pharynx. As soon as the tip of the catheter is seen below the soft palate it is caught by a pair of Luc's forceps and brought outside the mouth. Half the total number of radium needle threads are then released from the pressure forceps and tied securely to the end of the catheter. Fig. 1 shows the threads tied to the catheter; three threads only have been drawn in the diagram, for purposes of clear illustration. The catheter is now carefully withdrawn from the nose, and immediately the attached threads appear at the nasal orifice they are freed from the catheter. Each thread is gently drawn taut, and, during traction, observation must be kept on the site of insertion of the attached needle in order to prevent accidental withdrawal. These threads are then tied together with a piece of silk or catgut. The lubricated catheter is now passed through the other nasal fossa, and the remaining free threads dealt with in a similar manner. Finally, the two bundles of threads are tied securely together across the columella and the redundant ends cut off (Fig. 2). The patient must be watched constantly until complete recovery from the anaesthetic, in case he should pull on the knot and so displace the entire number of needles.

The presence of the threads in the nose does not interfere with nasal respiration, and appears to cause little discomfort. The threads in the pharynx lie against the posterior and lateral pharyngeal walls, and do not interfere with speech or swallowing. The patients have been able to take ordinary soft food until the fifth day after insertion of the needles, and they have been kept tolerably comfortable during that period by the frequent use of mouth-washes. Owing to reactionary swelling and inflammation of the parts, the patients have been able to swallow only fluids from about the fifth day, until removal of the needles on the eighth or ninth day. Soft food can then be taken again, and ordinary diet gradually resumed in a week to ten days. As a rule, two or three needles have worked out, but as these remain suspended at a visible level in the oropharynx and adhere by moisture to the posterior pharyngeal wall, they can be easily reinserted or removed.

Needles 21.7 mm. in length (active length 10 mm.), 1.65 mm. external diameter, containing 1 mg. radium screened by 0.5 mm. platinum, have been found most convenient for use in the regions discussed above. These needles have been kindly lent by the Liverpool Radium Institute.

REFERENCES

[1] Cade, Stanford. *Radium Treatment of Cancer*, [illegible]
[2] Souttar, H. S. *Radium and its Surgical Applications*
[3] Fitzwilliams, Duncan C. L.: *Radium and Cancer*
[4] Birkett, G. E.: *Radium Therapy: Principles and*

A CASE OF ERYTHROEDEMA

BY

FRANK J. LEES, M.B., CH.B.ABERD.

The subject of this report, a female child born in April, 1930, was, until the age of 6 months, an apparently normal healthy baby of contented disposition. Her weight at birth was 8¼ lb. She was not weaned until well on in her illness.

During October the mother noticed that the child gradually went off her feeds, became irritable and fretful, and could not sleep. Marked constipation alternated with occasional passage of loose green stools. Under observation from day to day, the child ran a temperature (99°–100° F.) until about the middle of November, when she became afebrile, and has remained so since. During her illness she never appeared to be in severe pain, nor yet to be actually ill; but she looked miserable and wretched. Extreme restlessness was a marked feature, the child never remaining in the same position for more than a few moments. Photophobia was active during the whole illness, especially marked in the right eye, though neither iritis nor corneal ulcer was present. The eyes were extremely watery and the lids somewhat injected. The lips were cracked, the tongue coated. The pink nose, pink cheeks set in the pale face, watery eyes, photophobia, and aspect of misery, presented a characteristic picture. The child was in poor condition, and appeared to be suffering from a form of pseudo-paralysis, the neck muscles being so weak that she could not hold up her head. There was also great weakness of the leg muscles. Wasting was marked, especially of the shoulders and inner aspect of the thighs, but never to the point of emaciation. Early in December the child's hands and feet were noticed to be of a bluish-red colour, very cold, swollen, and clammy. This colour did not persist, although the coldness remained. At no time were trophic disturbances of hands and feet observed. Kernig's sign was negative; the heart, lungs, and kidneys were normal; but the pulse was frequent, never being below 130, and usually 150. The knee- and ankle-jerks were elicited only with difficulty. There was a copious non-purulent nasal discharge, examination of which showed staphylococci and diphtheria bacilli. Insomnia was very marked. From time to time sweat rashes were observed. Sweating was always excessive. At the beginning of January, 1931, some improvement became evident, the sweating diminished, and there was no recurrence of rashes. The child, however, pacified by nothing the mother could do, remained in a miserable and restless state, and cried incessantly. During her less miserable periods she would scratch her genitals and the lobes of her ears, making the latter bleed. About the middle of January general improvement was noted, the hands and feet became warmer, and the appetite improved. Bouts of crying still occurred, but did not last so long. In the intervals she was quite comfortable, and if shielded from the light opened her eyes, held her head up better, grasped and handled articles, and played with her toes. Gradually the crying and restlessness subsided, and she slept better. The nasal discharge still continued very profuse. Towards the end of that month she opened her left eye well, but the right eye still showed great sensitiveness to light. During February the child gradually gained strength; her muscles increased in tone, and she held her head erect for longer periods of time. She put on weight fairly quickly, the adductor parts of the thighs especially appearing to fill out and become firm. She had then six teeth, and all seemed firmly fixed in their sockets. She still had slight photophobia in the right eye, which soon cleared up. The hands and feet became warm, she lost all signs of misery, and became happy and contented, playing with her toys and taking notice of things going on around her. She now appears to be perfectly well, except for a liability to colds in the head and to bronchial catarrh.

The treatment was purely symptomatic, a mother's patience and care being *facile princeps*. Bromides and chloral were tried, and appeared to give some small relief. Resorcin was thought to diminish the nasal discharge. Early on in the disease the child was partially weaned, and care was taken to provide her with ample vitamins.

COMMENTARY

Erythroedema, or pink disease, has been recognized only recently as a clinical entity. Known in Australia for twenty-five years, it was first accurately described by Swift[1] in 1918, and by Weston in England in 1920. The most constant symptom is a marked change in the disposition of the child. According to Langmead,[2] intolerable itching is prominent; and he relates that Zahorsky mentions two children who continually pulled their hair out. Langmead also says that the deep reflexes tend at first to be exaggerated, but later to become weakened or lost. He remarks that a leucocytosis of from 12,000 to 30,000 is the rule in severe cases. Vipond[3] lays great stress on the pains in the extremities, saying that this suffering produces an abnormal mental condition, characterized by an extremely high degree of irritability and restlessness which has not been observed in any other disease. He also notices a peripheral neuritis in his cases, with diminution or loss of cutaneous sensibility. He says: "I have proved this condition by putting a needle into an inguinal node without the little one suffering intense pain." According to him, the age of onset is from 8 to 18 months, and the duration of illness from four to six months. He found in the lymph nodes in every case a small Gram-positive diplococcus, from which he made an autogenous vaccine which, he claims, gave good results. Parsons[4] thinks there may be some food-deficiency factor present, and suggests yeast.

Erythroedema must not be confused with acrodynia, which is an epidemic disease of adults (Paris, 1928, epidemic). The former is a sporadic disease met with typically in children; it is a self-limiting disease, and recovery is complete in from three to six months.

REFERENCES

[1] Swift: *Lancet*, 1918, i, 611.
[2] Langmead, F.: *Medical Annual*, 1924, 167.
[3] Vipond, A. E.: *Brit. Journ. Child. Dis.*, 1926, xxiii, 127.
[4] Parsons: *Practitioner*, July, 1930, 153.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

THE BINOSCOPE

The binoscope is an apparatus for training binocular vision. The plan of its construction is based upon that which Nature apparently employs for bringing about and maintaining the habitual use of the vision of both eyes simultaneously in this our highest type of sight, briefly as follows:

In an open space we can see the horizon for about half a circle—that is, the combined field of vision with both eyes extends through nearly 180 degrees from side to side. Rather more than one-third of this in the central part, where the vision of each eye overlaps that of the other, is seen with both eyes in binocular vision. In this part each object is seen with both eyes at the same time, yet it is seen as one object, for the two images—one on each retina—fall upon the corresponding points which exist in both retinae where the vision overlaps The lateral parts of the field of vision are seen with

monocular vision. Each lateral part is seen to its limit with the eye on its own side without the help of the other eye. Thus in these lateral parts the objects seen with one eye are not the same as those seen with the other eye; yet both eyes are used at the same time. Hence this is called simultaneous vision to distinguish it from binocular vision. In ordinary vision out of doors, should one eye fail to function we are at once conscious of it, and this is sufficient to bring normal eyes into activity. In our occupations indoors attention is often concentrated on a much narrower field of vision, and one eye may cease to be used without our being aware of it. Thus the sight of one eye only may be used, until a habit of depending upon one-eyed sight is formed.

The plan upon which the binoscope is constructed trains binocular vision by applying the conditions of the natural field of vision out of doors to a more limited field of vision, such as indoor occupations often bring about. This is effected by partially screening the vision of each eye, so that in this narrower field there is a central part for binocular vision and lateral parts for monocular vision, as in ordinary vision out of doors. Each of the lateral parts is seen with one eye only, and this makes us conscious of the failure should one eye cease to be used. Both eyes are thus kept in a state of activity, and the central part of the field of vision, which is not affected by the screening, is seen with binocular vision as in the field of vision out of doors.

This plan has proved remarkably successful in bringing about and training binocular vision, and can be used for seeing both near and distant objects. Thus, the first teaching of the binoscope is apparently a physiological explanation of the manner in which binocular vision is naturally brought about and maintained. The chief medical use of the binoscope is in the treatment of asthenopia, strabismus, and heterophoria. Most young children with squint temporarily lose the squint, and see with binocular vision, when tried with the binoscope. Older children often see double at first. The physiological test for binocular vision is single vision with both eyes, of the same object. This test the binoscope applies. Exercises with the binoscope have proved very successful in giving relief in asthenopia. This appliance was described and illustrated in the *Proceedings* of the Royal Society of Medicine (vol. xxi, Part I, p. 700).

Carshalton. KENNETH R. SMITH, M.D.Lond.

Reports of Societies

MEDICINE AS A SCIENCE AND AN ART

ORATION TO THE MEDICAL SOCIETY OF LONDON

A general meeting of the Medical Society of London was held on May 11th, with the president, Dr. R. A. YOUNG, in the chair, when Sir JOHN ROSE BRADFORD, Bt., delivered the annual Oration.

Sir John Rose Bradford, who took as his subject "Medicine as a science and an art," said that the last half-century had been marked not only by numerous great discoveries in the realm of natural knowledge, but more especially by the rapid application of those discoveries to the practical needs of humanity. The benefits thereby conferred had led to some confusion as to the real relationship between scientific discovery and the practical application of its results. The demand, ever increasing, for practical applications and benefits was apt to dominate the situation, and might even affect the mental outlook of those whose primary purpose was only to add to knowledge. The chemical or physical problems involved in the production of artificial silk, for example, or in the steam turbine, or in wireless communication were fully appreciated only by the experts in the particular branch of science which was concerned, and frequently they were difficult of apprehension by a worker in another branch, or even in a cognate branch of the same science. When the practice of an art was founded upon the achievements of a science, the differences existing in the modes of thought of workers in the science and those engaged in the art were prone to be accentuated, so that two camps were formed, and it was possible for the one camp to doubt the value or even the very existence of the science in question, while the other camp asserted that all would be well if the so-called art were replaced by something which could be regarded as a science. There were some who doubted whether medicine was a science, but a practitioner could not exercise his art efficiently unless it was scientifically grounded.

The orator introduced a parallel between the profession of medicine and that of the soldier. The soldier, like the doctor, had to realize a situation, and to determine quickly a course of action; he had to have instinct or *flair*, and both soldier and doctor were useless unless their instinct was regulated by sound general principles which owed their origin to the study, in the one case, of the science of war, and in the other, of the science of medicine. He quoted Ruskin's definition, that the work of science is to substitute facts for appearances and demonstrations for impressions. Looked at from one standpoint, medicine was only a branch of biology, most akin to the subdivision of biology known as natural history. Some might be inclined to take a narrow view of medicine, and regard it as merely the physiology of the abnormal, for the connotation of which the terms "pathology" and "pathogeny" had been employed. But the natural history of an animal or plant concerned much more than purely physiological processes, and many phenomena of living organisms could not be fully investigated by the methods of the laboratory alone. If a satisfactory knowledge of the life processes of an animal or plant was to be acquired, the methods of study practised both in the laboratory and in the field were necessary, and it was unfortunate that in biology and in medicine there should be divergence of view as to the relative importance of the one method and the other. It was essential that the pursuit of natural history in the realm of clinical medicine should not suffer because it was supposed to be of less importance or to require a smaller degree of equipment, mental or material, for its pursuit. The two classes of workers must pursue different methods, but both should remember the words of Ruskin.

The darkness of medicine in the ages previous to Harvey was attributable largely to the fact that the book of nature was not consulted, and that reliance was placed on authority. It was Harvey who consulted the book of nature, and proceeded to ask of it a series of masterly questions, finding answers which established the science of medicine. In the progress of science the gift or discovery of a method of inquiry was often of more service even than the discovery of a great fact, and medicine in this respect, through Harvey, had rendered perhaps the greatest assistance to the progress of all biological sciences. The experimental method in recent years had extended the scope of its operations to a remarkable extent. At present much of the work of the biologist and the botanist was performed by its aid. The modern biologist paid an increasing attention to problems capable of solution by the experimental method rather than to the problems of morphology; in other words, function was considered rather than structure. Although medicine was indebted to other sciences, the relationship was not entirely a unilateral one. It was perhaps excusable for

the public to fail to recognize the value of so-called pure research, but those who followed the profession of medicine, and whose daily work afforded them countless instances of the material benefits accruing to their art as a result of such research, should be chary of belittling it even when the practical application was not apparent.

The field of operation for the science of medicine was the study of the phenomena of disease as a whole and the means of its prevention, while the art of medicine was mainly concerned with the problems encountered in the attempt to recognize and treat disease in individuals. No hard-and-fast line could be drawn between the science and the art in given instances, though the knowledge of the prevention of disease might reach a very high level of development from the purely scientific standpoint, while failing in its application owing to imperfections in the art of medicine in the clinical field. He protested that medicine as a science was not a mere appanage of anatomy, of physiology, or even of pathology; there was something more, difficult to describe in words, but which might be summed up as the natural history of man. Clinical medicine, like natural history knowledge in the field, was not easily acquired. It necessitated a long apprenticeship, often long waiting to obtain opportunity, and it was also exceedingly difficult to acquire habits of observation which reached the high standard of scientific accuracy.

In conclusion, Sir John Rose Bradford said that to have a really comprehensive view of medicine attention must not be confined to human medicine. The consideration of disease in animals, at any rate domestic animals, must be included, and this was important, not only from the point of view of the communicability of disease, but from that of checking any tendency to narrowness of outlook or dogma in respect to disease causation. The comparative method had always exercised a broadening influence on the human mind, and might be applied with advantage to medicine, as well as to anatomy and physiology. Further progress must be based rather on the mental attitude of the disciples of medicine than on the mere use of increased instrumental or chemical agencies. It was always possible that great advances might be made by individual discovery, but such discoveries would not only be limited; they would be very difficult of application when removed from the relatively simple conditions of the laboratory to the complex field in which clinical medicine operated. Clinical medicine, as of old, still offered a wide scope for those gifted with real powers of scientific observation, and, important as the experimental method was, and valuable in the instrumental aids it furnished, these were not by any means the sole methods of advance.

TREATMENT OF INTESTINAL AMOEBIASIS

At the meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine on May 7th, with Dr. J. G. THOMSON in the chair, Dr. P. H. MANSON-BAHR opened a discussion on modern methods of treatment of intestinal amoebiasis.

Dr. Manson-Bahr said that he had had under observation over a course of years (partly in private practice and partly at the Hospital for Tropical Diseases) some 300 cases of intestinal amoebiasis. In every instance either the vegetative forms of the *Entamoeba histolytica* or its cysts had been found in the faeces, or the typical lesions had been seen by sigmoidoscopic examination and the parasites demonstrated in preparations made from them. Every endeavour had been made to trace the after-history of the cases. Four main methods of treatment had in sequence been adopted. The first few cases, eleven years ago, were treated only by emetine injections. Emetine alone undeniably had a direct action on the parasite, but he came early to the conclusion that although the immediate results were very striking, this drug, given alone, was not sufficient for eradication. A series of 130 cases was then treated by emetine-bismuth-iodide, given in generally recognized therapeutic doses. In 1925, having read in German and Dutch literature of favourable results with yatren, he obtained a supply and employed this drug, given by the oral and the rectal route simultaneously, in some fifteen cases, but for his last 150 cases he had combined yatren with emetine-bismuth-iodide, and this, in his opinion, was by far the most satisfactory line of treatment. He cited some remarkable cases by way of showing that after one radical treatment lasting twelve days permanent cure of often a long-standing condition resulted. What was sold in this country under the name of quinoxyl produced, so far as he could judge, corresponding results. The drug could be taken as a pill, in cachet form, or by enema. Yatren given by the mouth in large doses produced intestinal disturbance; injected per rectum it produced singularly little discomfort. The bowel was first cleansed out, and the solution run in by means of a tube and funnel, the patient being instructed to retain it as long as possible. Some patients developed a raised yellow rash on the following day, but no other sequel had been observed. It had a wonderful effect in healing amoebic lesions in the bowel, but, given by itself, there were relapses, and therefore he combined it with the emetine-bismuth-iodide treatment, injecting the yatren into the bowel in the day, and administering the other preparation at night. Among the cases treated by the combined method, he knew of only two which had relapsed, and these cleared up on repeating the course, and increasing the yatren enema to 5 per cent. strength instead of 2½ per cent., and in no instance had the treatment to be discontinued on account of intolerance. Whenever possible, a sigmoidoscopic examination of the bowel was made before and after treatment. The disappearance of the amoebic lesions had been usually recorded wherever the yatren had come into contact with them, and the remarkable manner in which the ulcers had granulated and epithelialized had been noted. There was evidence also that yatren solution, injected into the rectum, percolated through the lumen of the large intestine. He had no evidence that yatren in pill form was efficacious in eradicating infection, though he believed it helped to prevent relapses.

Dr. G. CARMICHAEL LOW recalled the old treatment of amoebic dysentery with ipecacuanha; there was no question clinically as to the cures produced by that treatment; they were just as wonderful as those with emetine and later treatments. On treating with emetine-bismuth-iodide, it was found that after treatment there were certain periods when parasitical relapse was most likely to occur—one such period, for example, was twenty-one days after treatment. Therefore clinical cures might be fallacious unless the patient was the subject of extended observation. A patient might have no clinical signs for months, and then suddenly relapse, with blood and mucus in the stools. He thought that workers with emetine-bismuth-iodide had been somewhat optimistic in calculating their cures (80 per cent.), and if it had been possible to continue observations for six months, that estimate would have been reduced. Certain cases, also, resisted emetine. With regard to yatren, he did not know that it had yet been proved that it had a specific action on the parasite similar to emetine; on the other hand, equally good results might be obtained with some other form of bowel lavage.

Dr. H. S. STANNUS asked what evidence there was, when healed ulcers were seen in the portion of the bowel

investigated by the sigmoidoscope, that ulcers higher up in the bowel were healed or healing. If such evidence were established, it would mean a very great advance.

Dr. ALDO CASTELLANI, K.C.M.G. (Hon.), said that he had had the opportunity of treating dysentery in many parts of the world, and the conclusions he had reached were similar to those of Dr. Manson-Bahr. The drugs he had used were mostly emetine, stovarsol, and yatren. Emetine gave striking results, but he agreed that in many cases it did not eradicate the infection. Stovarsol was useful in certain cases, but its action on the amoebae was very slight; it was a tonic rather than an amoebacide. Yatren in usefulness he placed next to emetine, but, in many cases, neither emetine nor yatren alone would bring about a complete cure. A combined treatment was necessary, and he favoured emetine and yatren. He had very seldom used the emetine-bismuth-iodide, generally preferring the emetine periodide or similar drugs.

Dr. J. G. WILLMORE said that he had treated about 200 cases of amoebic dysentery by the combined method, and his experience had been identical with that of Dr. Manson-Bahr. It was not too much to say that amoebic dysentery had lost its terror. His own treatment differed from that of Dr. Manson-Bahr only in unimportant detail. He did not quite understand the rationale of emetine-bismuth-iodide. It was introduced with the idea that it was not decomposed too high up in the gastro-intestinal tract, so that the direct irritant effect on the stomach was avoided, and the emetine, which did the work, was liberated more or less where it was wanted. But emetine-bismuth-iodide was, in fact, decomposed in dilute acid solution. One rather interesting point about yatren was that it was opaque to x rays; by radiology they could discover how far the yatren travelled. He confirmed the point about the uselessness of yatren by the mouth. Out of his 200 cases treated by the combined method—an emetine preparation and yatren enema—he could recall only four which had relapsed protozoologically, and as all his patients were pensioners, he had rather good opportunities of following them up.

Dr. W. BROUGHTON-ALCOCK said that intractable infections were sometimes superadded to amoebic dysentery; whether these produced ulceration he was not prepared to say, but he believed that there could be ulceration following amoebic dysentery which was not due to amoebae. He supported the combined treatment.

Dr. PHILIP FIGDOR remarked that not a few cases showed *Lamblia intestinalis* in the stools for quite a long period while amoebae were not found; then after a time there was a relapse, and amoebae reappeared. He had found it desirable, in cases which had apparently cleared up, to continue small doses of ipecacuanha compounds for an indefinite period.

Dr. MANSON-BAHR, in reply, said that in lamblia infections yatren treatment at least cleared up the symptoms. He also expressed a belief that amoebic dysentery led to appendicitis. He spoke of the difficulty of following up cases for a long period in tropical medicine, but said that he had made an effort, in an extensive series of cases, to assess the exact value of each particular line of treatment.

SURGICAL TREATMENT OF GASTRIC ULCER

At a meeting of the Section of Surgery of the Royal Society of Medicine, on May 6th, with Mr. C. H. FAGGE in the chair, a discussion on the surgical treatment of gastric ulcer was opened by Mr. A. J. WALTON.

A few years ago, Mr. Walton said, there had been a revival in favour of the medical treatment of gastric ulcer, and there were still some who claimed that this should be the only treatment; but although alkaline treatment usually effected an improvement it was temporary, and the patient was subject to the usual recurrent attacks of pain. Moreover, with medical treatment there was always a danger of haemorrhage or perforation. A certain amount of discredit had fallen upon surgical treatment, because it had sometimes been undertaken in cases of acute ulcer, and by inexperienced surgeons. Although everyone heard of the failures of surgical treatment, it was not easy to say what proportion these represented of the whole; nor was it possible to obtain accurate statistics of the end-results obtained by medical treatment, though the results of surgical treatment were readily available. The common history in gastric ulcer was that of a middle-aged man complaining of attacks of pain after food, which did not wake him at night, and which were not relieved by taking food. Severe pain was often due to inflammatory changes round the base of the ulcer, and was, as might be expected, generally relieved by medical treatment. If alkalis had no effect, and if the pain was referred to the shoulder, the ulcer was probably deep, and involving the pancreas. Pain of this type was a definite indication for surgical intervention. A second indication was a long history, which meant an ulcer with a fibrous indurated base which would not heal under medical treatment. Diminution in size of the crater, as shown radiographically, must not be taken as evidence of improvement under medical treatment; oedema and swelling of the mucous membrane often gave rise to a misleading picture. A third indication for operation was the failure of medical treatment. Although some physicians held that every case would yield to medical treatment, he was convinced that this would fail in a few instances. Possibly the patient was unable to follow the necessary regime. A dock labourer, for example, could not attend his work and follow out the details of a Hurst diet at the same time. Perforation was an urgent indication for surgical intervention. The question then arose whether any treatment other than simple suture should be undertaken. Ulcers which perforated were nearly always chronic, and therefore more radical treatment was needed than was provided by suture. He had observed among cases treated with simple suture by his assistants at the London Hospital that not one had subsequently been free of pain. Patients with severe haemorrhage required operation as soon as their condition had sufficiently improved. There were a few cases in which a blood transfusion should be performed and operation carried out immediately if life was to be saved. Ulcers with much fibrosis and distortion of the stomach wall should be treated surgically; hour-glass stomach fell into this group, and was usually found in women with generalized ptosis. A final indication was the suspicion of the onset of carcinoma; it had been estimated that 10 per cent. of ulcers became carcinomatous and that 20 per cent. of carcinomata originated from ulcers. He was convinced that many cases continued to receive treatment for ulcers after these had become malignant. The aim of surgery was to bring about a physiological and mechanical improvement, and, that being so, the method employed was really a matter of personal preference. Gastro-enterostomy was once the operation of choice, but nowadays this was not considered sufficient. He had found that among 30 cases of chronic gastric ulcer which had perforated, and in which he had performed simple suture and gastro-enterostomy, there had been no recurrence of symptoms. When the patient was fragile he had found it useful to perform a gastro-enterostomy only; as a result the ulcer usually became small enough to make a more complete operation possible at a later date, and in three or four of his cases perfect healing had apparently occurred. Mr. Walton believed that this explained some of the cases

recorded of carcinoma of the stomach in which recovery had followed gastro-enterostomy; the supposed carcinomata were simple ulcers which had healed. Partial gastrectomy had an advantage in that it removed the ulcer-bearing portion of the stomach, and also part of the acid-secreting mucosa. But partial gastrectomy did not give complete immunity from the later development of gastro-jejunal ulcers. Other advantages of this method lay in the fact that it was easy to develop an expert technique, that results were rapid and convalescence smooth, and that recurrence, apart from gastro-jejunal ulcers, was almost unknown. For small ulcers high up on the lesser curvature, however, he had always felt that the sacrifice of seven-eighths of the stomach was a drastic remedy. There had been evidence, lately, that partial gastrectomy was followed in some cases by pernicious anaemia. With a very large ulcer, local resection was impossible and partial gastrectomy essential. The type of operation was a matter of individual choice, whether it was a Billroth I, a Schoemaker, Polya, Balfour, Moynihan, or the type which he himself preferred. For small ulcers he used simple suture with gastro-enterostomy; larger ulcers called for partial gastrectomy; with very large ulcers a gastro-enterostomy might be all that the patient could tolerate at the first operation, and a gastrectomy might be performed later. With regard to results, the value of a posterior gastro enterostomy lay in its relatively low risk; it did not, however, promise a complete cure. The mortality with partial gastrectomy varied with the surgeon. With most operators the mortality rate was 15 to 20 per cent.

Mr G. GORDON-TAYLOR said that a few years ago medical treatment of gastric ulcers had been in favour, with the result that many cases reached the surgeons as carcinomata. Medical treatment could certainly cure a simple ulcer, and surgical treatment should not be undertaken until diet and alkalis had been tried. It had been estimated that of cases treated medically 40 per cent. remained free from symptoms, 10 per cent. perforated, and 6 to 10 per cent. developed malignant changes in the ulcer. The type of operation used depended on the preference of the surgeon, and the mortality rate depended on his experience and skill. and Moynihan, for example, had a mortality rate of *condit.6* per cent. with partial gastrectomy. Although clinical been for ten years an ardent gastrectomist Mr. still offerylor said that no surgeon, unless he were powers of and of gastric sacrifice, would feel inclined to experimental nl gastrectomy for small ulcers of the mental aids it fuar be had obtained good results from sole methods of ; combined with gastro-jejunostomy.

ulcer [illegible] ulcers he advocated partial penetrati[illegible]ignancy was remo[illegible]oved, danger of [illegible]ulcer wasBLA[illegible]ow with

TREATMENT C

At the meeting of the[illegible]od, and the mo[illegible]y Parasitology of the Royal that 88 per cent. of his cases with Dr. J. G. THOMSON in[illegible]y after the operation, 91 per BAHR opened a discussion on[illegible] cent. in females. There ment of intestinal amoebiasis. [illegible]urbance, and cases were

Dr. Manson-Bahr said that he had even trebling their tion over a course of years, partly [illegible] investigation had and partly at the Hospital for Tropical cent. of his cases 300 cases of intestinal amoebiasis. In [illegible] these was of either the vegetative forms of the *Entamoeb*[illegible]ate in size he or its cysts had been found in the faeces, or this method lesions had been seen by sigmoidoscopic examin[illegible] of anaemia the parasites demonstrated in preparations ma[illegible] stomach them. Every endeavour had been made to t[illegible] Wherever after-history of the cases. Four main method[illegible] women, for ment had in sequence been adopted. The first [illegible]ox ulcers eleven years ago, were treated only by emetine inj[illegible]y, especially [illegible] a partial [illegible]ecent the operation of choice was a gastro-gastrostomy with resection of the ulcer. Partial gastrectomy gave good results in men. In cases of severe haemorrhage he thought it advisable to postpone operation until the bleeding stopped. With perforation he preferred to suture the ulcer and drain the wound.

Mr. C. A. JOLL said that with ulcers on the lesser curvature, including those giving rise to hour-glass contraction, he performed a retrocolic gastro-enterostomy; with large and penetrating ulcers involving the posterior wall and greater or lesser curvature he gave a blood transfusion and saline, and then did a partial gastrectomy. He had found the results of jejunostomy to be disappointing, and embarrassing to the surgeon at a later operation. In the rare cases of ulcers on the anterior or posterior surfaces only, not involving the curvatures, local excision with gastro-jejunostomy seemed to him to be the operation of choice.

Mr. J. MORLEY agreed that no one measure was suitable for all ulcers. He did not, however, believe that 10 per cent. of ulcers acquired malignancy, and thought that there was still a tendency to overestimate that danger. He believed that the 20 per cent. of carcinomata said to arise in a simple ulcer were probably growths simulating ulcer. The operation which he preferred was that of Schoemaker, in which he had been able to reduce the mortality to 2.5 per cent. in a series of 119 cases. These deaths had been due to pulmonary complications and not to leakage at the so-called dangerous angle. The clinical results were good, and there was less likelihood of anaemia than after a Polya operation, in which a large part of the gastric mucosa was removed. He thought more courage was desirable in the treatment of bleeding ulcers; delay in operation sometimes resulted in death from haemorrhage.

Mr. CECIL ROWNTREE said that for a penetrating ulcer distorting the stomach partial gastrectomy was undoubtedly the correct treatment. With regard to the small ulcer on the lesser curvature, he asked how many of his hearers would contemplate a partial gastrectomy in their own case. He had tried jejunostomy for these cases, and had obtained excellent results with some patients, but poor results with others. He was convinced that haematemesis should be treated by exploration and suture.

Professor C. A. PANNETT agreed that surgical principles should be applied to the treatment of a bleeding ulcer. He also believed in the value of gastro-jejunostomy in cases with very large ulcers, and he had found pyloroplasty to be useful in cases of this kind. He put in a plea for the use of the Billroth I operation whenever possible; it had the advantage of restoring the stomach to an approximately normal state, and gave results slightly better than those of the Polya operation.

Mr. J. CUNNING thought it was possible that perforation of an acute ulcer sometimes occurred. He agreed with Mr. Morley that the number of ulcers becoming malignant had been overestimated. With high ulcers difficult of access he found that more room could be obtained by dividing the last two costal cartilages and carrying the wound transversely as well as vertically.

In replying, Mr. GORDON-TAYLOR said that his experience of operative intervention in haemorrhage was not small; he was convinced that interference was unwise. He had found that food introduced by means of a jejunostomy provoked a copious flow of acid juice in the stomach, and tended to retard healing of the ulcer. Mr. WALTON said that though secondary anaemia was common after partial gastrectomy he had not yet encountered a case of secondary anaemia becoming pernicious, and he supposed that it was extremely rare. Like Mr. GORDON-TAYLOR he preferred to drain cases of perforated gastric

ulcer. He thought it unlikely that acute ulcers perforated. In forty post-mortems of perforation cases the base of a chronic ulcer was found to be the site in every case, although one was associated with multiple acute ulcers.

EPIDEMIC ENCEPHALITIS

At a joint meeting of the Manchester Medical Society and the Pathological Society of Manchester, held under the chairmanship of Mr. J. HOWSON RAY, Professor ARTHUR J. HALL delivered an address on "Epidemic encephalitis: yesterday, to-day, and to-morrow."

The lecture was divided into three parts. Under the heading "Yesterday," an account was given of the acute cases, which, first appearing in 1916, had recurred in epidemic waves of varying extent during the following seven or eight years. Attention was called to the periodicity of their recurrence, to the variability of onset in individual cases—sometimes gradual, at other times remarkably sudden—and to the extreme differences of reaction to infection. In some cases the acute attack presented no diagnostic features, in others there were quite definite signs, while in a third group there was no recognizable illness at all, the first symptoms appearing only at a later period and in more chronic form. The more immediate sequelae, such as respiratory anomalies, sleep disorders, moral changes, muscular spasms, and various endocrine disturbances, were discussed. The frequency with which these complications seemed to replace one another in the same patient was emphasized, and the remarkable attacks known as oculogyric spasms were referred to in some detail. During the last five or six years the number of acute cases had steadily diminished. Undoubtedly sporadic cases were still occurring, but they were few in number, and in this country no epidemic outbreak of any magnitude had followed that of 1924. To-day it was the chronic progressive disease which showed itself, chiefly, though not solely, as Parkinsonism.

The lecturer drew attention to the many variations as regards extent, rate of progress, and complications of Parkinsonism. The varied means by which youth overcame the motor disabilities to which the disease gave rise were illustrated by photographs of cases showing different postures and types of gait. He referred to his apparatus for measuring the rate of arm movements and its value in grading individual cases, in estimating their progress, and particularly in unmasking slight cases in which no slowness had been noticed by others or was admitted by the patient. In regard to the pathological side, mention was made of the destruction of cells in the substantia nigra found in cases of Parkinsonism. The morbid histology of these cases fully endorsed the view, held by most clinicians, that Parkinsonism was a chronic progressive encephalitis of an active kind rather than a mere passive residual effect of the acute attack.

Under the heading of "To-morrow" Professor Hall discussed two important questions: What was the future of those mild and partial cases of Parkinsonism which had so far remained stationary for periods varying from seven to even ten or eleven years? Had the activity of the process ceased or was it only temporarily arrested? As most of the patients were young persons, at an age when marriage and choice of occupation had to be considered, important decisions often depended on the proper answer to this question. The difficulty was great because of the absence of precedent. Professor Hall discussed the possibility of further epidemic waves. While there was evidence that since 1924 the number of new cases had been steadily diminishing, yet, judging by the behaviour of other neurotropic epidemics, it would be rash to prophesy that they would continue to do so.

MARIE'S ATAXIA

At a meeting of the Devon and Exeter Medico-Chirurgical Society, held on April 23rd, with Dr. J. R. HARPER, the president, in the chair, Dr. C. J. FULLER showed a girl, aged 12, suffering from symptoms which, he considered, warranted a diagnosis of Marie's ataxia. According to the mother, attention was first drawn to the condition some eight months ago, by the occurrence of four convulsive attacks. No further fits had taken place, but the girl had been noticed to be "getting weak on her legs" for the last few months. Examination revealed primary optic atrophy in both eyes and nystagmus in all directions. The knee- and ankle-jerks were increased, and the abdominal reflexes were present. Both plantar responses were extensor. Tremor of the hands was obvious, and Rombergism positive, the girl tending to fall to the right. There were no gross sensory disturbances. Dr. Fuller said that the diagnosis lay between disseminated sclerosis, juvenile tabes, Friedreich's ataxia, and Marie's ataxia. Disseminated sclerosis was rare in a child of that age, and progress was too rapid. In juvenile tabes reflexes were absent, and in Friedreich's ataxia the lower tendon reflexes were also absent and disc changes rare. No treatment of any value was known, and the course was one of steady deterioration.

GLANDULAR LIPOMA

Dr. ROBB showed, for Mr. Candler, a glandular lipoma, or "hibernating gland," removed under local anaesthesia from the infrascapular muscle of a man, aged about 45. In situation the tumour was some 3 inches from the vertebral border of the scapula. Microscopical section showed it to be a glandular lipoma, a tumour of rare occurrence in man, although it was found in certain animals as a normal structure, and there playing a central part in hibernation. Functionally, it was in relationship with the thyroid and adrenals in hibernating animals. Attention had been drawn to this interesting and rare type of tumour in the *British Journal of Experimental Pathology* in August, 1920.

At a meeting of the Society of Public Analysts, held at the Chemical Society's Rooms, Burlington House, on May 6th, Mr. E. J. GUILD demonstrated a new development in filter papers. The paper contains at least 99 per cent. of alpha-cellulose, with about 0.01 per cent. of ash. It is extraordinarily strong when wet, and offers great resistance to alkaline solution, such as caustic soda, etc. It is suitable for the rapid filtration on a large scale of coarse or gelatinous substances, and is useful for all but the most delicate analytical work. Mr. N. L. ALLPORT demonstrated a new method for detecting decomposition products in anaesthetic chloroform. The decomposition of medicinal chloroform, resulting in phosgene formation, leads to the presence of free hydrochloric acid due to action on the alcohol which is added as a preservative. The silver nitrate test will not detect less than ten parts of free acid per million. This new test, capable of detecting one part of free hydrochloric acid in a million parts of chloroform, is based upon the condensation of resorcinol and vanillin by the free hydrochloric acid, with the formation of a red acidic dye. By subsequent treatment with alkali a pink aqueous layer is obtained, the intensity of the coloration varying with the quantity of impurity present. Mr. J. N. RAKSHIT read a paper on contaminations in morphine deposited in the *British Pharmacopoeia* process for the analysis of opium. The morphine obtained in the determination of the alkaloid by the *B.P.* process contains from 5 to 6 per cent. of other alkaloids, consisting principally of codeine. A modified method was described in which a lime solution of the opium, prepared according to the *B.P.* process, is extracted with benzene prior to precipitation with ammonium chloride. This yields a much purer morphine than the original process.

Reviews

DISEASE IN CHILDHOOD

Dr. ROBERT HUTCHISON'S well-known *Lectures on Diseases of Children*[1] has now reached its sixth edition, and it is almost enough to say that this has all the good qualities of its predecessors. There is evidence of careful general revision, and three new chapters on diet after infancy, asthma, and splenomegaly have been added. The book now contains thirty-nine clinical lectures on all the common and important diseases of infancy and childhood. These lectures are addressed to medical students, and the series is determined as to its length and character by the limitations of time allotted to the subject in the medical curriculum. It is therefore a clinical and practical introduction of the student to a subject which gives him little anxiety from the examination point of view, but which will at once form an important part of his responsibilities in medical practice. There are many good textbooks on paediatrics, but we do not know any one which achieves so well this purpose of a general and practical introduction of the student.

Above everything else the lectures are interesting, and the difficulty of teachers in dealing with this subject is to engage the interest of the student, whose immediate anxieties are not medical practice, but examinations. Dr. Hutchison succeeds in doing so by presenting essential clinical features, leaving behind him much of the usual baggage of pathology and biochemistry, and, like Julius Caesar, travelling light—*impedimentis relictis*. But the success of these lectures, both as spoken and written, is due to other special qualities in the author. He knows exactly what he wants to say, and can say it in terse and clear language. He has a critical and sceptical mind, and a dry satirical humour in dealing with "ingenious theories." He has an unusual gift of drawing a clinical picture in a few telling phrases. And he knows how to refresh the dry places with an apt quotation: for example, he leads his students into the arid desert of infant feeding with a verse from Omar Khayyám, and throughout the book he frequently picks a flower from great literature to adorn and illustrate his argument—from Wordsworth, Charles Lamb, Kipling, Stevenson, and the English Prayer Book. Indeed, in his own writing, he is a master of English style, and in his pages the reader will find nothing of uncouth scientific jargon or of medical slang.

One or two minor criticisms may be made. The chapter on tuberculosis is hardly up to the general standard in interest and merit; it contains too much pathology and too little clinical material. We suggest that it might be improved in a future edition. A still smaller blemish is that the date of appearance of the English edition of Glisson's *De Rachitide* is given in this and in the previous edition as 1681; the date should be 1651. The book is a model of clinical teaching and medical writing. It is read widely, no doubt, by those who listened to the lectures, and can be recommended as a textbook not only to medical students, but also to practitioners who look back with regret to their brief and casual attention to the subject as undergraduates.

A SURVEY OF TUBERCULOSIS

The volume on the Results of Tuberculosis Research,[2] edited by Professors ASSMANN, BEITZKE, BRAEUNING, and ST. ENGEL, is the second in a series which comprises papers dealing with various aspects of the tuberculosis problem; the previous part was reviewed in our columns on October 11th, 1930 (p. 603). The first paper, by Dr. W. Blumenberg, is a good critical review of the literature on the so-called "filterable stage" of the tubercle bacillus. The old observations of Spengler and of Much are recalled, together with the newer observations of Sweany and of Kahn, in their relation to the possible existence of a developmental life-cycle. After carefully summarizing the experimental evidence, and discussing critically the technique employed, the author comes to the conclusion that convincing evidence in favour of the existence of an ultramicroscopic form of the tubercle bacillus has not so far been produced. Even the role of the granules in the development of the bacilli is undetermined. The position at the moment is, in fact, very much as it has been for the last twenty years.

In the second paper, Dr. Hermann Loeschke and Dr. Elisabeth Dehoff deal with the pathological anatomy of apical tuberculosis. Why the apex of the lung is peculiarly susceptible to tuberculous disease is a question that has puzzled a great many thinkers, and is one to which no satisfactory answer has ever yet been given. The authors of this paper favour Orsós's hypothesis. In opposition to Freund and to Hart, who taught that the apex was constricted by the first rib and was therefore unable to expand freely, Orsós believes that it is the best-ventilated part of the whole lung. By the use of various models he has convinced himself that, on account of the conical shape of the lung, the downward pull of the diaphragm is concentrated chiefly at the apex. Dr. Loeschke himself has adduced evidence to suggest that the effect of the diaphragmatic pull varies according to the degree of divergence of the thorax, being felt most at the apex in long narrow chests. He states that nearly everyone at puberty passes through a stage in which the growth in length of the chest is greater than the growth in breadth; the result is that in the young adolescent the chest tends to be of the long and narrow type, so frequently associated with pulmonary tuberculosis (*habitus phthisicus*). Taking this in conjunction with the fact that apical lesions are uncommon before puberty, while they are present in most town-dwellers by the age of 25 years, the author concludes that the phthisis of young adult life is determined by mechanical changes in the form of the thorax.

Space does not permit a summary of the remaining articles. Those by the late Dr. Robert Meyer-Bisch on the mineral metabolism and its relation to diet, by Dr. Gustav Liebermeister on bilateral artificial pneumothorax, and by Dr. Lutz Schall on the interlobar fissures are of considerable interest, containing as they do a record of a number of facts and original observations. Others, such as those on types of institutional treatment, and the selection of patients for sanatoriums, are mere discussions of an already well-worn topic.

There is much to be said for a book such as this, which is essentially a collection of monographs, and we do not think that anyone interested in tuberculosis will fail to be attracted by it.

PRACTICAL ANAESTHETICS

The Practical Handbook Series of intermediate textbooks has now been enriched by the inclusion of a new edition of Dr. C. F. HADFIELD'S *Practical Anaesthetics*,[3] which is described by the author as produced "for the student and the general practitioner," so that it is really elementary rather than intermediate in its scope. That the teaching is the outcome of wide experience and ripe judgement is implicit throughout the volume, and in general terms it can be affirmed that the extremely difficult problems

[1] *Lectures on Diseases of Children.* By Robert Hutchison, M.D., F.R.C.P. Sixth edition. London: E. Arnold. 1931. (Pp. viii + 487; 104 figures. 21s. net.)

[2] *Ergebnisse der gesamten Tuberkuloseforschung.* Herausgegeben von H. Assmann, H. Beitzke, H. Braeuning, St. Engel. Band ii. Leipzig: G. Thieme. 1931. (Pp. 490; 106 figures. M.43.)

[3] *Practical Anaesthetics.* By Charles F. Hadfield, M.B.E., M.D. Second edition. London: Baillière, Tindall and Cox. 1931. (Pp. xiv + 336; 41 figures. 7s. 6d. net.)

of what should be omitted have been solved in a satisfactory way, though there will be individual anaesthetists who would have chosen topics for omission rather differently. Further, as befits a practical series, the practical note is firmly struck and held throughout.

Dr. Hadfield clearly knows his own mind, and those of his colleagues whose experience is the longest and the widest will be the first to applaud the general combination of common sense and scientific accuracy in his teachings. Good as the book is, however, it could have been made distinctly better by more careful attention to arrangement of the material and by increased lucidity and compression in composition. To give an instance of what is meant, the first chapter (after the historical introduction) begins the study of anaesthesia by considering, in order, vomiting, delayed chloroform poisoning, massive collapse of the lung, preparation, examination, after-treatment—and this in a textbook to be put in the hands of medical students! The next chapter takes up the signs and symptoms of anaesthesia and the use of alkaloids as premedication, two topics which, though in one trifling respect they may impinge on one another, should certainly be dealt with as entirely separate. Before leaving the question of the signs of anaesthesia a mild protest must be lodged against the prominence given all through the book to the condition of the corneal reflex, which precedes all mention of muscular relaxation as a sign of anaesthesia. One of the common faults of the inexperienced administrator is that he is apt to be constantly fiddling with the cornea instead of concentrating on the respiration and the muscular system; and this book will, it is to be feared, encourage rather than discourage the tendency. A really expert anaesthetist does not trouble about what pupillary or corneal reflexes his patient exhibits, and the drawback of bringing up students to test them is that they so easily get into the habit of relying on these fallacious signs as their main indications of the patient's condition.

The illustrations are adequate, if undistinguished; but the author frequently mentions them in his text by number without indicating on which page they can be found—a habit that will irritate some of his readers. The lumbar puncture needle illustrated on page 239 must be a good deal less than actual size; some indication of scale might well be given. The statement that no deaths have occurred attributable to percaine is, unfortunately, a long time out of date.

DISEASES OF THE INTESTINE

The well-illustrated volume *Maladies de l'Intestin*[4] is the first of a series of three which will reflect the teaching of Dr. R. BENSAUDE, who for twenty years has specially organized his clinic at the hospital of Saint-Antoine in Paris on this branch of medicine. It is a piece of team work in which he and his hospital colleagues and assistants have taken part. In his introduction Dr. Bensaude expresses deep regret that the premature death of his colleague Professor Paul Lecène has deprived the reader of a review of the surgical aspects of diseases of the sigmoid and rectum. Memorial volumes of Professor Lecène's surgical pathological teaching are being brought out by his pupils, and the first, dealing with diseases of the mamma, has recently appeared. Dr. Bensaude, who takes a special interest in diseases of the lower bowel, begins with a copiously illustrated account of anoscopy, rectoscopy, and sigmoidoscopy, and then discusses the indications and contraindications, technique, and interpretation of biopsies of ano-rectal growths and inflammatory formations. There are two articles dealing with radiological problems of the large intestine and constipations and faecal tumours (stercoromas and stercoliths) of the rectum and sigmoid. The most important article, contributed by Drs. Bensaude, Rivet, and Godard, and occupying a third of the volume, deals comprehensively with gastro-intestinal syphilis; the various forms of gastric syphilis are described in great detail and well illustrated by naked-eye, microscopical, and radiological figures; syphilis indeed maintains its reputation here as the great imitator of other diseases. The lesions of the intestine and rectum follow, and each section is provided with a bibliography, that on gastric syphilis extending to five pages, so that it is a veritable monograph. In another article chronic diarrhoea in adults is critically considered, and Dr. Bensaude concludes the volume with an account of the treatment at French spas of diseases of the alimentary system.

[4] *Maladies de l'Intestin.* Série I. Par R. Bensaude, avec la collaboration de L. Rivet et A. Cain. Paris: Masson et Cie. 1931. (Pp. 544; 97 figures. 55 fr.)

"SIXTY CENTURIES OF HEALTH AND PHYSICK"

It is the fashion these days, in the writing of popular histories, to begin with the amoeba, with the dawn of Creation, or with the condensation of vapour on the cooling surface of the earth. One cannot, it seems, start too soon. A book about the origin of man will begin with the origin of the world, about the origin of the world with the origin of the universe, and a book about disease with the origin of life. In *Sixty Centuries of Health and Physick*[5] Mr. S. G. BLAXLAND STUBBS and Mr. E. W. BLIGH, with more right on their side than many authors, have felt compelled to follow the fashion. For, as they point out, bacteria have been found in the coprolites of fish of the Carboniferous period, while dinosaurs suffered from dental decay, rheumatic affections, and osteomyelitis. Disease not only preceded man but appeared in the earliest men known to us, for Pithecanthropus had an exostosis on his femur, and Pott's disease has been found in the spine of a Neolithic man. These remarkable facts have driven the authors further back than their contemplated sixty centuries, and the title of their book is a modest understatement of the difficulties of the work they have so ingeniously undertaken.

In the preface they emphasize the fact that this is not a history of medicine, but an attempt "to follow in outline the evolution of ideas in the long quest for health." As Sir Humphry Rolleston says in his introduction, they have "successfully brought out the importance of the preventive idea which should permeate the teaching, practice, and research of the medicine of the future." And in the past the most successful ideas have been those concerned with public health and sanitation. The best civilizations seem to have had the best water supply and the best drains. About 3500 B.C. private houses in Mohenjo Daro, a town in the Indus Valley, had lavatories and bathrooms with "waterproofed brick floors," and brick-built drains in the streets took away household sewage. Archaeological research has shown that the Egyptians had bathrooms and efficient drains in their houses, and at Knossos in Crete it has revealed a most elaborate system of sanitation with water closets similar to the modern type. Hygiene was centuries in advance of medicine and therapeutics. Disease was caused by devils, and could be treated only by powerful magic and incantations, or by such remedies as this Byzantine prescription for epilepsy: "Take a nail of a wrecked ship, make it into a bracelet and set therein the bone of a stag's heart taken from its body while alive; put it on the left arm: you will be astonished at the result." It was 3,000 years before clinical medicine

[5] *Sixty Centuries of Health and Physick.* By S. G. Blaxland Stubbs and E. W. Bligh. With an introduction by Sir Humphry Rolleston, Bart., G.C.V.O., K.C.B., M.D., Hon.D.C.L., LL.D., D.Sc. London: Sampson Low, Marston and Co., Ltd. 1931. (Pp. xvi + 253; 64 plates. 15s. net.)

British Medical Journal

SATURDAY, MAY 16th, 1931

COD-LIVER OILS AND IRRADIATED PREPARATIONS

The Norwegian State Vitamin Research Institute has published an interesting pamphlet by Professor Poulsson, who has collected the evidence regarding the relative actions on rickets of cod-liver oil and of irradiated ergosterol. Two clinical investigations have been carried out in America on this subject. In both cases the activities of a cod-liver oil and of a preparation of irradiated ergosterol were measured in rat units and the action of equivalent quantities on children was determined. Barnes, Brady, and James[1] found that cod-liver oil given in doses of three teaspoonfuls daily (1,400 rat units of vitamin D) prevented or cured rickets in 95 per cent. of a group of 64 children and produced marked benefit in 98 per cent., whereas irradiated ergosterol in a daily dosage of 1,250 rat units of vitamin D prevented or cured rickets in only 44 per cent. of a group of 57 children. De Sanctis and Craig[2] found that a daily dose of cod-liver oil equivalent to 1,400–1,700 rat units completely protected 97 per cent. of a group of 100 children, whereas viosterol in daily doses corresponding to at least 3,000 rat units protected only 77 per cent. of a group of 123 children. Similar results were obtained by Massengale and Nussmeyer, who compared the actions of cod-liver oil and irradiated ergosterol in preventing leg weakness in chickens. They concluded that activated ergosterol was much less effective than the rat-equivalent amount of cod-liver oil in the prophylaxis of this condition.

Poulsson discusses these results, and attributes the superiority of cod-liver oil in the treatment of human rickets to the fact that it contains vitamin A as well as vitamin D. In experimental work on rats the diet is carefully arranged to contain an adequate amount of vitamin A, and as the bone changes studied are due solely to deficiency of vitamin D, they are readily cured by vitamin D alone. The diet of children of the poorer classes is deficient, however, in all animal fats, and for this reason the condition is more complicated. Cod-liver oil, therefore, which contains both the fat-soluble vitamins, produces better results in children than does irradiated ergosterol, which contains only vitamin D.

A complicating element in the nutritional evaluation of cod-liver oils is the variability of the vitamin content figure. Further complexity is introduced by the fact that the methods of assay of cod-liver oil are in a state of confusion. As regards vitamin D, the method of assay of the Pharmaceutical Society is generally accepted in this country. According to this, one rat unit means an antirachitic action equivalent to 0.0001 mg. of the standard irradiated ergosterol supplied by the Medical Research Council. In Norway, however, Poulsson has adopted a procedure in which the rat unit is less than half the British rat unit. Norwegian methods will therefore give a rat-unit value for cod-liver oil two to four times greater than that given by the British methods. The American Council of Pharmacy and Chemistry has proposed yet another method for measuring vitamin D, in which the unit is about six times the British unit. The value of the rat unit of vitamin D varies, therefore, over a twentyfold range, and the term means very little unless the method adopted is stated.

A report entitled "The relative values of cod-liver oils from various sources" has been prepared by Professors Drummond and Hilditch for the Empire Marketing Board.[3] The chief aim of this investigation was to determine the vitamin content of the cod-liver oils produced in Newfoundland and Scotland, but various other problems are discussed. As regards the estimation of vitamin A, the authors consider that the method adopted by the *United States Pharmacopoeia* is unsatisfactory, and may give indefinitely large errors with oils of exceptionally high and low potency. They show that there is a close correlation between the colorimetric method (blue colour with antimony trichloride) and satisfactory biological tests. Generally the A and D values of oils run parallel, and hence for ordinary purposes the medicinal property of a liver oil is indicated by the relatively simple colorimetric test. Oils from Newfoundland and Iceland have a natural yellow colour which is deeper than those from Norway, but there is, unfortunately, a belief that the colour indicates unsatisfactory technique in extraction. Professors Drummond and Hilditch find, however, that "it is certain that the yellow colour of this product is natural and is associated with a high vitamin activity. The same is true of many Icelandic oils, and of some produced in Scotland. The pale oils derived from the Lofoten fishing are, generally speaking, of low vitamin activity." They have analysed a large number of oils from different sources, and their figures show that, when measured by a uniform standard, the Newfoundland and Icelandic cod-liver oils have a vitamin A content about twice that of the Norwegian oils. The values for Scottish oils occupy an intermediate position.

The report includes details of the methods of manufacture of cod-liver oil in Scotland and in Newfoundland, and it should do much to dissipate a certain prejudice that has arisen from misleading statements about the Newfoundland oil. Incidentally, the authors mention the rather startling statements made by Aghuhr regarding the toxic actions which he claimed were produced on the heart by cod-liver oil. This

[1] *Barnes, J., Brady, M. J., and James, E. M.*: The Comparative Value of Irradiated Ergosterol and Cod-liver Oil as a Prophylactic Antirachitic Agent when given in Equivalent Dosage according to Rat Units of Vitamin D, *Amer. Journ. Dis. Childr.*, 1930, xxix, 45.

[2] *De Sanctis, A. G., and Craig, J. D.*: Comparative Value of Viosterol and Cod-liver Oil as Prophylactic Antirachitic Agents, *Journ. Amer. Med. Assoc.*, 1930, xciv, 1284.

[3] Drummond, J. C., and Hilditch, T. P.: *The Relative Values of Cod-liver Oils from Various Sources*. E.M.B. 35. 1930. London: H.M. Stationery Office. (1s. net.)

could worthily take its place beside hygiene, promoted there by Hippocrates, who said: "It is necessary, therefore, to learn the nature of such diseases." During the Middle Ages medicine and hygiene were replaced by superstition and unwholesome smells, until, with the fall of Constantinople, Greek culture and science once more showed men how to think and how to live. A third of the book is devoted to these movements, and the rest to the growth of modern medicine. In the sixteenth century Fracastoro showed that disease could be spread by contagion and by infected articles, and introduced the word "fomes." In the seventeenth century Kircher, a Jesuit, saw further into the nature of infection when he said, "Little worms that cause the plague are very small and imperceptible." Then Pasteur and Koch, in the nineteenth century, discovered the bacteria that had preceded man in the struggle for existence as far back as the Carboniferous period. It is a fascinating story.

At a feast of good things it is perhaps ungracious to grumble at the service; nor should one ask for more. But to describe Malpighi as "that profound and immortal investigator with the microscope," and to call Pepys "the avidly inquisitive Mr. Pepys," shows a lack of verbal discrimination irritating in a book meant for adult readers. In the final chapter, on the epoch of modern medicine, no notice has been taken of modern psychological theory and practice. A still more curious omission is the discovery of blood transfusion, and the reference to it in Pepys's diary, where he writes: ". . . but as Dr. Croone says, may, if it takes, be of mighty use to man's health for the amending of bad blood by borrowing from a better body." On page 6 there is an incomplete sentence in line 3. The illustrations are excellent and well reproduced. This is certainly a book to borrow, if not to buy.

NOTES ON BOOKS

We welcome the appearance of a new and cheaper edition of the surgical classic familiarly known to generations of medical men as Hilton's *Rest and Pain*.[6] This is a reprint of the fifth edition, edited by the late Mr. W. H. A. Jacobson, surgeon to Guy's Hospital.

The fiftieth volume of the *Transactions of the Ophthalmological Society of the United Kingdom*[7] embodies the text of the various communications brought before the society during the session ended April, 1930, together with the reports of the transactions during 1929–30 of the North of England, Midland, and Irish Ophthalmological Societies, and of the proceedings of the Oxford Ophthalmological Congress, 1930. The volume also comprises a comprehensive general index to the *Transactions* of the society (volumes xli–l) for the years 1921–30.

In the preface to the forty-seventh annual volume of *The Year-Book of the Scientific and Learned Societies of Great Britain and Ireland*[8] for the session 1929–30 the publishers announce that they propose to omit from future issues all alphabetical lists of papers, retaining other customary information. This decision has been made in response to a number of suggestions that the volume might receive more liberal support in an abridged and less expensive form. We take this opportunity, therefore, of again emphasizing the usefulness of the *Year-Book* as an authoritative and convenient guide to the work of numerous societies and Government institutions in many branches of science, literature, and art. The medical section of the present volume, which is similar in scope and arrangement to its predecessor, includes lists of reports and other medical publications issued by the Ministry of Health, the Medical Research Council, the British Medical Association, and the Royal Society of Medicine.

Röntgen Technique,[9] by Dr. KURT KIRSCHMANN, is a well-planned manual which should be of value to students of radiology and *x*-ray assistants who are conversant with the German tongue. The sections on general electrical and *x*-ray physics and apparatus are admirable, and profusely illustrated; they occupy about three-quarters of the book. The remaining quarter of the volume is devoted to radiographic and radiotherapeutic technique. These sections might with advantage be enlarged at the expense of the physical sections. The reproductions of normal radiograms are in the main of good quality, and it is a pity that they are not more numerous. Apart from these points the book is to be recommended.

The fourth volume of *Fortschritte der Sexualwissenschaft und Psychanalyse*,[10] edited by Dr. WILHELM STEKEL, contains articles by the editor on the difference between Freud and himself, the psychology of compulsion neurosis, and psycho-analysis (he prefers the term psychanalysis), and education, and short papers by other contributors on psycho-analysis in general practice and dream interpretation.

Rest and Pain. A Course of Lectures on the Influence of Mechanical and Physiological Rest in the Treatment of Accidents and Surgical Diseases, and the Diagnostic Value of Pain. By the late John Hilton, F.R.S., F.R.C.S. New edition. London: G. Bell and Sons, Ltd. 1930. (Pp. xx + 514; 105 figures. 5s. net.)

Transactions of the Ophthalmological Society of the United Kingdom. Vol. l. London: J. and A. Churchill. 1931. (Pp. xxxvi + 946; illustrated. 30s.)

The Year-Book of the Scientific and Learned Societies of Great Britain and Ireland. Compiled from official sources. Forty-seventh annual issue. London: C. Griffin and Co., Ltd. 1931. (Pp. vii + 384. 18s. net.)

[illegible]. Kurt Kirschmann. Lehrbuch. Band i. Leipzig: G. Thieme, 1931. [illegible]. M.23.)

[illegible]haft und Psychanalyse. Von Dr. Wilhelm Stekel. IV Band. Leipzig und Wien: F. Deuticke. 1931. (Pp. 166. M.15.)

PREPARATIONS AND APPLIANCES

MODIFIED LÖWENBERG FORCEPS

Dr. GEORGE C. CATHCART (consulting surgeon, Throat Hospital, Golden Square) writes: At a meeting of the Laryngological Section of the Royal Society of Medicine, held at Nottingham last year, several of the speakers in the discussion on adenoids advanced the opinion that catarrhal deafness was not caused so much by a central mass of adenoids as by the small masses in Rosenmüller's fossae. This is a revival of the teaching of the late Dr. Edward Woakes, who was the pioneer of nasal surgery in this country. He pointed out that it was easy to remove the central mass of adenoids with the curette, which was the instrument generally used, but it was not a good instrument with which to remove the smaller masses in Rosenmüller's fossae, and it was these masses that caused

the inflammation which spread up the Eustachian tubes, thus leading to catarrhal deafness. He therefore devised his modification of Löwenberg's original forceps. These forceps enable one to remove the masses in the fossae under the guidance of the finger of the left hand. I have further modified his forceps by making them sharp cutting forceps with a male and female blade. There are two sizes, so that the larger can be used for the central mass and the smaller can get into the fossae of Rosenmüller of children quite easily. The forceps are made by Mayer and Phelps, who made the original forceps for Dr. Woakes

British Drug Houses Ltd. inform us that the vitamin A concentrate noticed in the *Journal* of May 2nd (p. 757) is now issued under the name "avoleum."

British Medical Journal

SATURDAY, MAY 16th, 1931

COD-LIVER OILS AND IRRADIATED PREPARATIONS

The Norwegian State Vitamin Research Institute has published an interesting pamphlet by Professor Poulsson, who has collected the evidence regarding the relative actions on rickets of cod-liver oil and of irradiated ergosterol. Two clinical investigations have been carried out in America on this subject. In both cases the activities of a cod-liver oil and of a preparation of irradiated ergosterol were measured in rat units and the action of equivalent quantities on children was determined. Barnes, Brady, and James[1] found that cod-liver oil given in doses of three teaspoonfuls daily (1,400 rat units of vitamin D) prevented or cured rickets in 95 per cent. of a group of 64 children and produced marked benefit in 98 per cent., whereas irradiated ergosterol in a daily dosage of 1,250 rat units of vitamin D prevented or cured rickets in only 44 per cent. of a group of 57 children. De Sanctis and Craig[2] found that a daily dose of cod-liver oil equivalent to 1,400–1,700 rat units completely protected 97 per cent. of a group of 100 children, whereas viosterol in daily doses corresponding to at least 3,000 rat units protected only 77 per cent. of a group of 123 children. Similar results were obtained by Massengale and Nussmeyer, who compared the actions of cod-liver oil and irradiated ergosterol in preventing leg weakness in chickens. They concluded that activated ergosterol was much less effective than the rat-equivalent amount of cod-liver oil in the prophylaxis of this condition.

Poulsson discusses these results, and attributes the superiority of cod-liver oil in the treatment of human rickets to the fact that it contains vitamin A as well as vitamin D. In experimental work on rats the diet is carefully arranged to contain an adequate amount of vitamin A, and as the bone changes studied are due solely to deficiency of vitamin D, they are readily cured by vitamin D alone. The diet of children of the poorer classes is deficient, however, in all animal fats, and for this reason the condition is more complicated. Cod-liver oil, therefore, which contains both the fat-soluble vitamins, produces better results in children than does irradiated ergosterol, which contains only vitamin D.

A complicating element in the nutritional evaluation of cod-liver oils is the variability of the vitamin content figure. Further complexity is introduced by the fact that the methods of assay of cod-liver oil are in a state of confusion. As regards vitamin D, the method of assay of the Pharmaceutical Society is generally accepted in this country. According to this, one rat unit means an antirachitic action equivalent to 0.0001 mg. of the standard irradiated ergosterol supplied by the Medical Research Council. In Norway, however, Poulsson has adopted a procedure in which the rat unit is less than half the British rat unit. Norwegian methods will therefore give a rat-unit value for cod-liver oil two to four times greater than that given by the British methods. The American Council of Pharmacy and Chemistry has proposed yet another method for measuring vitamin D, in which the unit is about six times the British unit. The value of the rat unit of vitamin D varies, therefore, over a twentyfold range, and the term means very little unless the method adopted is stated.

A report entitled "The relative values of cod-liver oils from various sources" has been prepared by Professors Drummond and Hilditch for the Empire Marketing Board.[3] The chief aim of this investigation was to determine the vitamin content of the cod-liver oils produced in Newfoundland and Scotland, but various other problems are discussed. As regards the estimation of vitamin A, the authors consider that the method adopted by the *United States Pharmacopoeia* is unsatisfactory, and may give indefinitely large errors with oils of exceptionally high and low potency. They show that there is a close correlation between the colorimetric method (blue colour with antimony trichloride) and satisfactory biological tests. Generally the A and D values of oils run parallel, and hence for ordinary purposes the medicinal property of a liver oil is indicated by the relatively simple colorimetric test. Oils from Newfoundland and Iceland have a natural yellow colour which is deeper than those from Norway, but there is, unfortunately, a belief that the colour indicates unsatisfactory technique in extraction. Professors Drummond and Hilditch find, however, that "it is certain that the yellow colour of this product is natural and is associated with a high vitamin activity. The same is true of many Icelandic oils, and of some produced in Scotland. The pale oils derived from the Lofoten fishing are, generally speaking, of low vitamin activity." They have analysed a large number of oils from different sources, and their figures show that, when measured by a uniform standard, the Newfoundland and Icelandic cod-liver oils have a vitamin A content about twice that of the Norwegian oils. The values for Scottish oils occupy an intermediate position.

The report includes details of the methods of manufacture of cod-liver oil in Scotland and in Newfoundland, and it should do much to dissipate a certain prejudice that has arisen from misleading statements about the Newfoundland oil. Incidentally, the authors mention the rather startling statements made by Aghuhr regarding the toxic actions which he claimed were produced on the heart by cod-liver oil. This

[1] Barnes, J., Brady, M. J., and James, E. M.: The Comparative Value of Irradiated Ergosterol and Cod-liver Oil as a Prophylactic Antirachitic Agent when given in Equivalent Dosage according to Rat Units of Vitamin D, *Amer. Journ. Dis. Child.*, 1930, xxix, 45.

[2] De Sanctis, A. G., and Craig, J. D.: Comparative Value of Viosterol and Cod-liver Oil as Prophylactic Antirachitic Agents, *Journ. Amer. Med. Assoc.*, 1930, xciv, 1284.

[3] Drummond, J. C., and Hilditch, T. P.: *The Relative Values of Cod-liver Oils from Various Sources.* E.M.B. 35. 1930. London: H.M. Stationery Office. (1s. net.)

work has been criticized by various authors, and Professor Drummond states that in a long experience of administration of cod-liver oil to animals of many species, he has never observed harmful results following the use of reasonable doses. Another point touched on is the frequent adulteration of cod-liver oil for cattle, and the suggestion is made that certain specifications should be adopted for liver oils sold for consumption by farm animals. The authors investigated, also, the vitamin content of the food of the cod. They conclude that the primary source of vitamin A is the minute green plant life of the sea, which directly or indirectly forms the primary food supply of the teeming animal life of the ocean. The source of vitamin D is, however, uncertain, for these plants do not produce it in appreciable quantities, and the small crustacea which comprise the main food of the cod were found to be deficient in both vitamins. While it is difficult to account for the source of the high vitamin content of cod-liver oil, they think it unlikely that the fish synthesize the vitamins, and incline to the belief that these are concentrated from the large bulk of food which the fish consume.

INTERNATIONAL COMPARISONS OF MEDICAL PRACTICE

The Milbank Memorial Fund a few years ago decided to undertake a comparative study of the state of medical matters in the several countries of Europe, which should be mainly concerned with the relationship between the private practitioner and the different national public medical and health services. For such a study there exists an abundance of polemical literature, as well as a mass of official reports and statistics, but few readers have access to them, or possess the collateral knowledge necessary to judge of their significance and permanence. It was decided, therefore, to entrust the study to a single observer, to be given time and facilities to collect his own materials on the spot in each country, and to make his own appreciation of the situation in each. The Foundation was fortunate enough to obtain Sir Arthur Newsholme's acceptance of this task, and the first of four promised volumes of *International Studies*[1] from his pen has now been issued. It relates to the Netherlands, Germany, Denmark, Austria, Sweden, Switzerland, and Norway; the second volume is to cover six other countries, including France, Belgium, and Italy; the third is to be given wholly to the United Kingdom and the Irish Free State, while the fourth will take the form of a general review. The present volume by itself is notable testimony to the courage, and, indeed, if Sir Arthur Newsholme will pardon us, the youthful enthusiasm with which he has undertaken this formidable task.

It would be interesting, but we imagine wholly futile, to pass the medical and public health work of every country in Europe under review, pick out their particular excellencies, or find their greatest common measure, and combine them into some international scheme that could be put before the coming generation as an ideal pattern for medicine and the State which should be followed everywhere. Even the strongest advocates of internationalism and unification would hesitate to go this length. Things being as they are, the medical position in each country, like everything else, must be taken with the national position; there can, for instance, be no understanding or forecasting the future of medicine in Austria without realizing the Treaty of St. Germain, or in Denmark unless it is borne in mind how essentially the economic welfare of that country is bound up with the export of its dairy produce to Great Britain. In all countries the practice of medicine and the medical social service must adjust themselves in the long run to the situation, needs and genius of the nation in which they are exercised, and their progress ought not, in the interests of medicine itself, to be handicapped by artificially created international standards and doctrines. But when all is said, we must remember how often in our own time particular features of medical organization have been taken from one country and adapted in another; our own borrowings from Germany in the creation of national health insurance, and the rapidity with which the establishment of regional "health centres" is spreading from country to country in Eastern Europe, are sufficient reminders of this fact.

There is thus a great benefit in possessing, in convenient form, data which show how any given country has reached its present position, or obtained its special advantages, on the medical side. Sir Arthur Newsholme, in this readable and instructive volume, has done this for each territory reviewed, taking as his principal objectives the medical attendance on the poor, the provision of hospital treatment and consultation facilities for the sick, the medical phase of sickness insurance, the special position of tuberculosis and venereal diseases, and particularly the problems of maternity and child welfare. Those who are visiting the countries with which his book deals would do well to slip it in beside their guide-books if they are likely to be meeting their medical brethren abroad, and comparing notes with them on the politics of medical practice, or on the progress of national, social, and hospital services.

[1] *International Studies on the Relation between the Private and Official Practice of Medicine, with Special Reference to the Prevention of Disease.* Conducted for the Milbank Memorial Fund by Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P. Volume i. London: G. Allen and Unwin, Ltd. 1931. (16s. net.)

PROPRIETARY MEDICINES BILL

Adequate control, in the public interest, of the traffic in proprietary remedies is a reform long overdue, and any attempt to effect it is sure of the sympathy of the British Medical Association, which has from time to time made its own contribution to the end in view, notably in its early inquiries into various forms of quackery, in the publication by the *British Medical Journal* between 1905 and 1912 of the analyses collected in the books *Secret Remedies* and *More Secret Remedies*, and in its evidence before the Select Committee on Patent Medicines in 1909. The Proprietary Medicines Bill,

introduced by Mr. Somerville Hastings in the House of Commons on Monday (of which our Parliamentary Correspondent gives a brief summary at page 873), and backed by a group which shows no distinction of party and includes several laymen, is of no small interest. Detailed comment on its provisions must be reserved until the full text is available, but it is already possible to say that in our opinion its sponsors are to be congratulated on the production of a measure which, while based on the recommendations of the Select Committee and the Bill introduced for the Coalition Government by Dr. Addison as Minister of Health in 1920, is definitely superior to its models in points of detail. In drafting the Bill they seem to have made full use of all the material available, including the recommendations of the Select Committee, the text of Dr. Addison's Bill, its discussion in the House of Lords and the amendments there introduced, and the suggestions put forward later for the agreed measure which was promised when the Bill was withdrawn and which doubtless adorns to this day some pigeon-hole at the Ministry. They have also kept in mind such modifications in the position as have been introduced by legislation since the issue of the Select Committee's report in 1914.

THE STANDARD ATTAINED BY MIDWIVES IN LONDON

The general standard attained by midwives in London, especially in ante-natal work, is the subject of a report by the Midwives Acts Committee of the London County Council. Comparisons are made with the conditions obtaining in 1909, 1919, and 1929. In 1909 the midwives who notified their intention to practise numbered 537, of whom 103 had been placed on the roll by virtue of having been in "bona fide" practice. These were mostly quite uneducated women, with, however, a certain proficiency in conducting labours. The number who had gained their certificates between 1902, when the first Midwives Act was passed, and 1909 was 213, and the general education of these women was usually poor and their experience limited. The remaining 221 were on the roll in virtue of possession of earlier certificates, such as those of the London Obstetrical Society and Queen Charlotte's, and were the best-educated and most proficient then practising. The usual fees received by midwives in London at this period were 7s. 6d. to 10s. 6d. a case. By 1919 there had been a considerable improvement in the type and education of midwives. Of the 659 who notified their intention to practise, the "bona fide" numbered only 45. Approximately half the 450 midwives who were estimated to be in constant district practice had passed the examination of the Central Midwives Board, and the effects of the increase in the period of training from three to six months enjoined by the Board in 1916 had begun to be felt. Other factors in the improvement were lectures in advanced midwifery by obstetric specialists, the passing of the first Act for the registration of maternity homes, the increased remuneration (usually 15s. to 30s.) a case, and the higher standard of the midwife teacher. In 1929 the number of midwives notifying was 828, and the "bona fide" had been reduced to 9. There had again been marked advance in the intelligence and education of the midwife, the reasons being the Midwives Act, 1918, with its provisions with regard to note-taking and record-keeping, the new rules of the Central Midwives Board, the grant towards the education of pupil midwives, the improvement in the instruction given by the midwife teacher, the extension from six to twelve months of the period of training for the C.M.B. examination, the campaign in regard to the lessening of maternal mortality, an increase in fees generally (which varied now from 16s. to 30s. in East London, and from 30s. to 50s. in West London), and, finally, a growing feeling of professional pride, fostered by increased intercourse between midwives through the Midwives Institute and in other ways. During 1930 the Council received notices of their intention to practise from 901 midwives, of whom 419 were regularly practising. A detailed assessment of the work of these midwives is given in the report to the Council. As to the ante-natal work, this was declared to be good in 251 cases, fair in 90, and poor in 37, while no assessment was possible owing to insufficient data in the remaining 41 cases, making up the 419. The midwifery work was good in 278 cases, fair in 88, and poor in 17. The conclusion of the report is that the standard of a private midwife to-day compared with that of ten years ago is a much higher one, and incomparably higher than that of twenty years ago. Present-day midwives are younger, more alert, better educated, more intelligent, and of broader outlook. In their dealings with one another they have a higher sense of honour and of professional etiquette. The class of women who enter as midwives is principally the lower middle-class and better artisan type, with a sprinkling of more highly educated women, who are probably attracted to the profession by the opportunities it offers for social work. The data for ascertaining whether the newly trained midwife tends to go into an institution rather than enter private practice are insufficient, but on the whole it appears that the better-educated midwives, and those who are trained nurses, are more frequently attached to institutions than to private practice.

TAVISTOCK SQUARE CLINIC

The invitation to the annual luncheon of the Tavistock Square Clinic, which was held at Wharnecliffe Rooms on May 11th, bore the intimation that the clinic is "in process of extension to become the Institute of Medical Psychology." Dr. H. B. Brackenbury, chairman of council of the clinic, speaking at the annual meeting which preceded the luncheon, said that the clinic would be compelled, owing to the falling in of the lease, to vacate its present premises in Tavistock Square before the end of next year, and some other place would have to be found. This would mean increased expenditure and further help from the clinic's friends. It would also be necessary for the clinic to have a new name, and there was now a project that it should take the name of "The Institute of Medical Psychology." The honorary treasurer, Mr. D. O. Malcolm, announced that for the first time in his recollection there was a balance (of £593) on the right side of the income and expenditure account. He also revealed that the occupation of some premises in Bedford Place, quite near Tavistock Square, is being sought. The gathering at luncheon, over which Dr. Brackenbury presided, was addressed by the Countess of Limerick, who said that the clinic had been in existence for just over ten years. It was the pioneer institute of its kind, and during its

short life it had achieved really valuable work, not only on the curative side, but in the research facilities which it had offered, and, not least, in the long-sighted policy of educating a generation of parents in the principles of child psychology. The number of patients had increased from year to year, and that alone was a fine testimonial to the work achieved. Professor William McDougall, F.R.S., also gave a brief address, in the course of which he expressed admiration for the work the clinic had accomplished. It had solved two problems which even ten years ago appeared insoluble—namely, the problem of providing psychiatric treatment for persons of modest means, and that of providing opportunities for the experience and training of persons who desired to make the handling of cases of functional disorder the main part of their life's work. The Tavistock Square Clinic, in these two important matters, had set the pace to the world. He did not believe there was anything comparable in any European country, or even in the United States. He himself had been pessimistic about the possibilities of doing the things which the clinic was now doing, but the faith and optimism of Dr. Crichton-Miller had shown him that he was wrong. He suggested that its new name should carry the word "National" before it, following the example of the National Institute of Industrial Psychology; he did not think anyone would quarrel with such an assumption. Professor McDougall went on to make a reference to Professor Freud, whose doctrines, he said, did not commend themselves to him as adequate, but he joined in a tribute to his personality and work, and he made the suggestion that a message should be sent, congratulating Professor Freud on his seventy-fifth birthday, which he had celebrated a day or two previously. Professor McDougall also described a scheme in connexion with Columbia University whereby special courses were arranged for university graduates (not necessarily medical) in preparation for a diploma in psychology, the idea being that those who held the diploma would assist in the wise adjustment of the difficulties of individuals, from the preventive rather than from the curative or therapeutic point of view. Dr. Crichton-Miller, the honorary director of the clinic, gave a humorous survey of a day's work, taking his audience in imagination from the front door to the attic, and introducing them to the various members of the staff.

CANCER RESEARCH IN HARVARD UNIVERSITY

Investigators under the Cancer Commission of Harvard University have been working during the past year to gain information about the processes of growth and metabolism in health and disease, since it is thought that thereby light may be thrown on the cause and cure of cancer and tumour formation generally, in view of the likelihood that these pathogenic developments are metabolic in origin. In the medical laboratories, under Dr. J. C. Aub, the inorganic salt metabolism of the body is being examined, chiefly with reference to the influence exerted on it by diet and the endocrine glands. The study of the relation of the thyroid glands to calcium metabolism has been continued, and also the interrelationship, in the body, of calcium and magnesium, as well as the localization, in the bones, of lead deposits, an index to the mode of inorganic salt deposition generally. Dr. D. Drury has been investigating the changes in the chemistry of the blood brought about by hepatic insufficiency. There seems to be some relation between calcium metabolism and the secretion of bile, but its nature is not as yet clear. Various kinds of endocrine preparations have been tried in the treatment of tumours, so far without success, and no benefit followed the employment in carcinoma of the high oxygen and carbon dioxide inhalations suggested by Fischer-Wasels. Other lines of research that are being followed include the physiological action of liver extracts on the blood, the toxic effects of benzol in animals, the glycolytic action of malignant tissues on certain glucose derivatives, and the nature of the chemical elements in tumours and in normal tissues. At the Collis P. Huntington Memorial Hospital, which is working in association with the Cancer Commission, groups of cases are being studied, and a report has been published by Dr. Greenough on the valuation of radiation combined with operation in the treatment of cancer of the breast. The better results were obtained in cases which were not submitted to prophylactic radiation.

INVALID CHILDREN'S AID ASSOCIATION

A largely attended meeting to further the work of the Invalid Children's Aid Association was held at Londonderry House, Park Lane, on May 5th, under the chairmanship of Viscount Burnham. The object of the association, Lord Burnham said, was to find a friend for every invalid child in London, and permanently benefit the children by adequate medical treatment and by procuring for them the means of earning a livelihood. During 1930 the total number of cases referred to the association was 16,023, and help was given in as many as 24,134. The children sent to convalescent homes numbered 7,330, while 1,926 were provided with surgical instruments or walking appliances. Lord Burnham emphasized the close co-operation between the association and public bodies. The Dean of Westminster said that it was his privilege to work for some years side by side with Benjamin Broadbent, who did perhaps more than any man in his quiet, unobtrusive way to further a work which at that time was little regarded. The Dean was glad to see the triumph of the voluntary principle as represented in the association, and especially commended the fact that the co-operation of the parents was sought in all the schemes for their children's welfare. Mr. Hugh Walpole spoke of the need of the work in Greater London, among the tenants of the rows of small houses which were extending on every side. He gave a poignant picture of a child of his acquaintance condemned to immobility on an invalid couch. Mr. P. H. Mitchiner said that when he was a house-surgeon in one of the great London hospitals he very soon realized that the work which could be done on behalf of the children was of little avail unless followed up by some system of after-care in the homes, and for this he came to depend largely on the help of the association. Later, as chairman of the North Lambeth branch of the association, he saw to how very large an extent individual interest in the cases was necessary, a method of treatment which could not be forthcoming in a State organization. Mr. Mitchiner added that he had been surprised to find how many families from Lambeth, having migrated to

Dagenham or some new district, presently returned to their old neighbourhood, for the main reason that in the new district they found no hospitals, no visitors from the Invalid Children's Aid Association, and none of the welcome facilities on which they had learned to depend. Sir Humphry Rolleston also spoke in support of the work, emphasizing its value to physicians and surgeons who had to determine what was the matter with the children and what should be done for them. Anyone who had been accustomed to work in an out-patient department, and to see the number of children coming time after time, would confess how difficult it was for him to say why a particular child was "jumpy," or restless, or ailing. The physician could not himself go into the homes of the children, and yet some information about the conditions there was of extreme importance to him. In providing means of information and social amelioration the Invalid Children's Aid Association was doing much to further the preventive ideal of medicine. It was also able to make arrangements for the children to go into convalescent homes. Dame May Whitty also spoke in support of a resolution pledging the meeting to obtain the financial support needed to carry on the increasing work among the invalid and crippled children of the poor, and Sir Charters Symonds and Mr. H. S. Souttar proposed and seconded a vote of thanks to the chairman and speakers, and to Lord and Lady Londonderry, the host and hostess of the afternoon.

RECONSTRUCTION OF THE ROYAL INSTITUTION

The rebuilding of a considerable part of the Royal Institution became imperative some two years ago, after a series of explosions in Albemarle Street, which compelled the attention of the Managers to the dangerous condition of the Lecture Theatre. This historic room, the scene of the Friday evening discourses and experiments of Davy, of Faraday, and of a long line of distinguished scientific men over a period of 130 years, had remained almost unchanged since it was completed under the supervision of the founder of the Institution, Count Rumford, in 1802. It was built entirely of timber, and by modern standards was very ill provided with exits. A survey made two years ago showed the fire risks to be so grave that they could no longer be ignored. Plans were prepared, and a scheme of reconstruction was undertaken. This has now been completed, and a house-warming party was held on the evening of May 6th. The principal consideration in the rebuilding has been to satisfy modern standards of security by means of fireproof construction and by the provision of suitable exits; but the perfection of the design of the Lecture Theatre for the scientific purpose for which it was built has been recognized the world over, and succeeding generations of members have held their meeting room in affectionate regard, so that it has been a particular care to effect the restoration with as little modification of its qualities and appearance as possible. Advantage has naturally been taken of the opportunity to bring the equipment up to date, and the theatre has been provided with a cinematograph projector, an epidiascope, a great variety of services to the lecture table for experimental purposes, and a number of other refinements for the assistance of the lecturer and the convenience of his audience. The rebuilding of the Lecture Theatre has involved the replanning and reconstruction of a large adjacent part of the building. On the ground floor the arrangements have been largely determined by the requirements for exit to the street from the theatre above. A new entrance hall has been constructed, some of the rooms have been replanned, and a large new chemical laboratory has been built. During the evening Sir William Bragg, Fullerian professor of chemistry and director of the laboratory, demonstrated to the guests some of the classical experiments of the Royal Institution.

PUBLIC HEALTH CONGRESS AT FRANKFORT

The Royal Institute of Public Health has drawn up a varied programme for the annual congress, which, as already announced in our columns, is to be held next week at Frankfort-on-Main. Judged by the syllabus, the meeting amounts to a complete mobilization of all the effectives, medical and lay, of the science and art of hygiene. The president of the congress is the Marquess of Reading, supported by an imposing retinue of honorary vice-presidents, including the Primate, peers, politicians, principals of universities, presidents of societies, provosts of burghs, physicians, philosophers, and professors. There are six scientific Sections, dealing respectively with State medicine and municipal hygiene; architecture, housing, and town planning; industrial hygiene; women and children and the public health; tuberculosis; and pathology, bacteriology, and biochemistry. In each the proceedings will last three days, and with such a comprehensive agenda it seems that the delegates will have to make unusual efforts if they intend to amass all the knowledge at their disposal. It is impossible to mention all the subjects, but some idea of the compass of the meeting may be gained by a haphazard selection among the hundred and twenty titles, which vary from "Some new antiseptics," by Dr. F. L. Pyman, to "Pulmonary tuberculosis and marriage," by Dr. S. Vere Pearson; or from "Mothercraft," by Lady Dawson of Penn, to "Das Deutsche Jugendgericht," by Dr. E. Levi. Of topical interest are the papers on the methods of determination of soot and carbonaceous waste gas in the air (Professor Hirsch); health education in industry (Viscount Leverhulme); and State insurance in relation to health (Dr. Brackenbury). In connexion with the congress educational visits will be made to centres of interest in and about Frankfort, and to those famous health resorts of the Rhine district—Wiesbaden, Bad Homburg, and Bad Nauheim.

Two illustrated lectures on Experimental Research at the Pasteur Institute, Coonoor, will be given by Colonel Robert McCarrison, I.M.S., before the Royal College of Surgeons of England, on Monday and Wednesday next (May 18th and 20th) at 5 p.m. The first lecture will deal with surgical aspects of faulty nutrition, and the second with the causation of stone in India.

We have to announce with much regret that Dr. T. R. Glynn, who was for many years professor of medicine in the University of Liverpool, died at St. Asaph on May 12th, at the age of 90.

THE NEW ZEALAND EARTHQUAKE

THE EMERGENCY MEDICAL SERVICE

We have received from Dr. A. C. B. Biggs, medical superintendent of the Napier Hospital, a full account of the emergency measures which were adopted in the recent earthquake in New Zealand, and as the record is likely to be of value in districts where a similar catastrophe may be expected, we print Dr. Biggs's report in an abridged form, as follows.

DAMAGE TO THE HOSPITAL

In this report I shall endeavour to record, as far as possible, the details of what happened and the steps that were taken to deal with the emergency, covering the period of five days from February 3rd to February 7th, occasioned by the earthquake which overcame Napier. The shock occurred precisely at 10.47 a.m., and was of such severity that in less than a minute the whole of Napier Hospital, an institution of 250 beds, was in ruins from one end to the other. The nurses' home, two-thirds of which was a four-storied building, with the secretary's office on the ground floor, completely collapsed, and was simply a piled-up mass of bricks and mortar, this accounting for several of the fatalities in the nursing and clerical staffs. Several wards were very badly shattered, with the walls, however, not completely gone, so that the roofs were more or less held in place. In Robjohns Ward the walls fell in, so that the whole roof crashed to the floor; it was here that a number of patients and nurses were killed. The isolation building, consisting of two wings with a connecting corridor, shared the same fate, the collapse being complete throughout; here again there was loss of life. The "T.B." shelters, being made of wood with an iron roof, showed little or no sign of damage. In the administration block, a two-storied building, there was remarkably little damage; apart from the chimneys, the building stood the shock well, though it was badly shaken and cracked. The whole of the kitchen block, with the domestic quarters above, became a mass of ruins; here two of the kitchen staff were killed. The boiler-house, with all its machinery, and the laundry above, also sustained considerable damage. The mortuary collapsed, but the disinfecting house remained standing. Fortunately the theatre block, underneath which is the bacteriological department, withstood the shock very well, and remained standing. In the *x*-ray department there was considerable damage, but it is thought that most of the plant is recoverable and that it will be fit for use again. The new out-patient department was badly shattered, most of it being in ruins. For all practical purposes the whole hospital was wrecked and put out of action.

RESCUE WORK

Considering the amount of the damage and the sudden onset and rapidity of the disaster, it is astonishing that there were not many more casualties. I attribute this partly to the fact that at that time of day as many patients as possible were out on the verandas of the wards. I want to emphasize that there was a complete absence of panic, both among the patients and the members of the staff; naturally the children were very frightened and the old people in the chronic ward were severely shaken, but nobody seemed to lose his head. The nurses were magnificent, and without a moment's hesitation they were in among the shattered remnants of the wards and the ruins in a brave endeavour to rescue those who had been caught. As soon as the disaster occurred, the first thing to be done was to see that, as far as possible, all patients were out of the buildings, and in this everyone acted spontaneously; the next was to try to ascertain how many unfortunates were buried in the ruins, and to take steps to release them. It was not long before help arrived, in the shape of men with saws, crowbars, etc., and in this connexion men from H.M.S. *Veronica* rendered great service. The work of extrication went forward as rapidly as possible in the hope of rescuing any who were still alive; in the nurses' home these efforts were in some cases rewarded.

THE EMERGENCY SCHEME

Meanwhile a very valuable piece of work had been done in the establishment of an emergency dressing station in the Botanical Gardens beside the hospital; one of the operating tables and all the necessary equipment was taken out of the theatre in the hospital, and within an hour operations were being performed on the badly injured patients who were rapidly congregating at this spot, not only from the hospital, but from the town; other cases were attended to, the place functioning exactly like an advanced dressing station during a war. I may add that all operations were performed with the same surgical technique and aseptic precautions as in normal times, and in no instance was any person operated on without full anaesthesia.

Arrangements were made to take possession of the Napier Park racecourse, four miles away, in order to establish primarily a main dressing station to deal with the immediate needs of the situation; the idea was that it would later develop into a temporary hospital for the whole district. As soon as it was ascertained that the racecourse was available, and that the road to it was still fit for use, a small staff of nurses was dispatched to make preparations. Mattresses and blankets, loaded on all kinds of transport, were sent from the hospital. The organization of the buildings on the racecourse was commenced immediately; the second operating table from the hospital theatre, an emergency light, and all the essential requirements for operating were then collected; these were delivered by lorry to the racecourse, while the casualties were transported by all sorts of vehicles to the same place.

A surgical team was arranged for the work in the improvised theatre; help soon arrived from outside, and very early in the afternoon four operating tables were fully occupied. The house manager obtained a number of tent-flies and small tents, and these were speedily erected on the racecourse, and accommodated the patients after their injuries had been attended to. He also secured sufficient dressings with which to carry on. Adequate food supplies were obtained to cover our immediate needs; a temporary cook-house was erected, and a kitchen range was got going for heating water. All the usual water supply had failed, but in the neighbouring village wells were still functioning, and an inhabitant guaranteed to keep us supplied. Thus all our immediate and essential needs were catered for; work went on apace, continuing late into the night and throughout all the next day.

DIFFICULTIES OVERCOME

The night work continued under considerable difficulty owing to the want of light. We had our own emergency light in one operating room, and in another room illumination was obtained by shining the headlights of a car through the window. Two acetylene burners were procured to light up the big room underneath the grandstand, which was being used as a receiving room for patients.

Fairly early in the evening it was obvious that unless something was done we should be crowded out with patients, as our resources were already being taxed to the utmost. We therefore began to evacuate with our own ambulances, cases being sent in the first place to Palmerston North, a distance of 112 miles; later the medical superintendent of Dannevirke Hospital, eighty-three miles distant, provided some temporary accommodation for our use; cases were then evacuated to it. Messages were sent to the Health Department informing the authorities of this arrangement, and requesting them to arrange a clearing of cases from this point. Meanwhile we had obtained the use of ambulances from other hospital boards as far down as Palmerston North; later others arrived from Wellington.

All through the afternoon and succeeding night doctors and nurses arrived in large numbers from every direction —in fact, so many responded to the call for help that it

was impossible to find work for them to do. Late at night a large party of doctors arrived from Wellington. It was agreed that they could be much more useful further down the line, and they proceeded at once to return to Waipukurau, forty miles away, there to establish a clearing station close to the railway station; this relay post considerably reduced the distance to be traversed by the ambulances. This station was a most valuable help, and worked most successfully until the train service functioned along the whole of the line.

During the course of Tuesday, February 3rd, our staff at the racecourse was steadily increased. Voluntary helpers came along by the score, until by the evening the place was teeming with as many people as would be seen at a race meeting; practically all of them, however, had definite jobs to do, although there were often more volunteers than we could employ.

On Wednesday, personnel and stores were delivered from the Health Department, and later the news arrived that a complete field hospital with equipment was on the way from Trentham. St. John Ambulance men also reported, and rendered great assistance. Cases were steadily streaming in, and it was difficult to maintain an appropriate rate of evacuation. On Wednesday morning, at a meeting in H.M.S. *Veronica*, plans were made to evacuate all casualties by sea to Wellington in the s.s. *Northumberland* and the s.s. *Taranaki*, which were lying off shore in the bay. At midday, however, the evacuation previously arranged by car through the clearing station at Waipukurau had proved so successful that it was decided to continue, and not to change over to sea transport. The ambulance service, however, failed in the afternoon. It appears that the cars were diverted by unauthorized persons for other purposes; thus the organization was seriously upset.

Major Bowerbank and his colleagues relieved me during Wednesday night, and on the following morning took over the task of supervising the erection of the field hospital that had by then arrived. This enabled me to leave the work of the camp in the hands of Dr. Sheppard, who acted for me in my absence; my time was afterwards largely occupied with problems outside, in Napier and Hastings.

Dressing stations had to be established in the town, and arrangements made for staffing and supplies, with a proper ambulance service; communication had also to be effected with the important centres in the town, and with the heads of the various departments. Arrangements were made with the railway officers regarding a rail evacuation that was to commence the next day, Friday, February 6th.

I take this opportunity of expressing my appreciation of the excellent work and organization of the Railway Department in getting trains through to Napier so rapidly, and for their great assistance in the evacuation of patients; the valuable work rendered by the Post and Telegraph Department in the establishment of communications is also to be commended.

CONDITIONS AT HASTINGS

Hastings was visited, and was found to be admirably served by the local medical men, who had established an excellent emergency station in the buildings of the Hastings racecourse. This dressing station was staffed by the medical practitioners of the town, and by Sister Williams and her staff of the Royston Private Hospital, who immediately undertook the task of organizing the medical and nursing services for the whole of Hastings; without their efforts the townspeople there would have been in a very bad way. The chemists and many voluntary workers gave them great assistance. Within three hours everything was established, operations were being performed exactly as in a regular hospital, and all patients carefully attended to in every way. The combined result was one of which they have every reason to be proud. The medical men concerned were Drs. D. A. Bathgate, R. Cashmore, E. Y. Comrie, R. L. A. Kitchen, O. C. Moller, W. Reeve, A. D. S. Whyte, and Romaine Wright. Dr. H. M. Wilson, to his great disappointment, was unable to assist owing to a severe injury sustained at Napier Hospital at the time of the earthquake.

The Memorial Maternity Hospital at Hastings was, fortunately, very little damaged. The staff and patients were all housed in tents in the grounds; the hospital continued to carry on for emergency work, but all maternity patients who could travel further down the line were encouraged to do so.

OTHER ARRANGEMENTS IN NAPIER

The McHardy Maternity Home in Napier had been badly damaged, and vacated; as soon as possible all the cases there were transferred to a marquee set aside for the purpose at the racecourse hospital at Greenmeadows. Other emergencies had been dealt with by the local practitioners in the two parks in the centre of Napier South. These two parks had been rapidly filled with refugees, and emergency dressing stations were established, which did invaluable work.

A further instance of individual initiative is that of Dr. T. Gilray, who rescued all his patients from his private hospital, conveying them and much equipment from his building to Awatoto, three miles away along the seashore, where he got possession of a private house that had received very little damage, and converted it into a small hospital. There, with the able assistance of his own nursing staff and voluntary helpers from outside, he treated many very seriously injured cases from the town, and maintained this service in a most efficient manner for five days.

With the establishment on Thursday of the field hospital at Greenmeadows and the dressing stations in Napier, all medical practitioners in Napier were invited to co-operate in the work to be done. The following responded to the call, and worked loyally and well in the duties allotted to them: Drs. H. H. Barnett, H. Bernau, A. G. Clark, J. J. Edgar, W. D. Fitzgerald, T. Gilray, F. N. Harvey, J. P. D. Leahy, T. C. Moore, R. H. Oulton, J. P. F. Waters, and D. A. C. Will. Drs. G. E. Waterworth and F. Birkinshaw were drafted to assist in Palmerston North, and Dr. S. Scoular was available for any case requiring his special services.

WORK OF THE HEALTH DEPARTMENT

So far I have said very little about the Health Department, but I take the opportunity now of expressing a deep sense of gratitude for the assistance it gave. Experts in all branches, with the necessary personnel and equipment, arrived from Wellington in a very short time after the disaster. These included Dr. Watt (Director-General of Health), with the Hon. Mr. Stallworthy, Dr. McKibbin (the Head of Hygiene and Sanitation), Dr. Shore, Miss Bicknell, Miss Lambie, Miss Moore, Mr. Allen, Mr. Fenton, and Mr. Moore. They all came with the sole desire to help and not to criticize; everything I asked for was given without question, and all took in hand their own jobs with remarkable rapidity and efficiency. In addition to the needs of the hospital, there was the whole town to consider, in particular the water supply and sewerage—a tremendous problem. In all cases the essential services to the hospital were established at an early date, so that the temporary hospital at the racecourse was able by the end of the week (five days from the date of the earthquake) to function in practically the same way as the old hospital had been doing, with full water supply laid on in pipes, and with electric light and power, thus enabling an *x*-ray plant to be installed, for which we are indebted to Dr. Harvey of Napier and to Messrs. Watson and Sons of Wellington.

I consider that the services rendered by the Health Department were perfect; in fact, I am certain that no country in the world could have given a better organized or more efficient service, however much preparation had been made beforehand.

THE HONOUR ROLL

In conclusion, I should like to reiterate my admiration for the courage and devotion displayed by the whole of the hospital staff under my control. They proved once

more that the spirit we are proud to associate with the British race is still present in the highest degree. While all performed their duties so well, I must make special mention of the following:

Sister R. Lowe, who, after a nerve-racking experience in Robjohns Ward, and heroic efforts to rescue her patients, worked almost without ceasing for thirty-six hours at the racecourse hospital; Dr. T. Gilray, for his splendid work in the town; Dr. A. G. Clark and Dr. F. A. B. Sheppard, for their initiative and the very valuable work in the Botanical Gardens on the first day—they were ably assisted in their operations by Sister M. Read and Nurse F. Chesterman; Sister L. Bull and Dr. F. Birkinshaw, for their great help and unceasing labours, also in the Botanical Gardens (Dr. Birkinshaw proved his ability and aptitude later in his organization and work in the refugees' camp in Palmerston North, where he dealt with from 1,200 to 1,500 people); Dr. H. Barnett and Sister M. Wellock, for their work in McLean Park under great difficulties; Dr. Leahy, with the assistance of Dr. Harvey, for the excellent work of the dressing station in the refugees' camp in Nelson Park; Mr. Colvin, the dental surgeon, for his great help in all directions throughout the day, and in particular for his courage in getting the operating tables and other gear out of the hospital theatre and out-patient department.

PREGNANCY DIAGNOSIS STATION

REPORT ON SECOND YEAR'S WORKING

BY

B. P. WIESNER, PH.D.

MACAULAY LABORATORY, DEPARTMENT OF ANIMAL GENETICS, UNIVERSITY OF EDINBURGH

The first report on the working of the Pregnancy Diagnosis Station, which was published in the *Journal*,[1] dealt with the cases diagnosed up to the end of January, 1930. The present report embodies all cases dealt with from February, 1930, up to the end of January, 1931. There was no essential alteration in the organization of the station. It might be mentioned that this report omits all cases that were examined for purely scientific reasons (that is, without a diagnosis being requested); it includes only the results obtained with samples submitted by private practitioners and hospitals. Thus the report does not refer to tumour patients of either sex, etc.; in some of these cases a positive result was obtained although pregnancy could be excluded. The results of the examinations of such cases will be communicated separately as soon as a sufficient number have been collected.

TECHNIQUE OF TEST

Only one change in the standard technique of the test has been introduced. It had been observed by the originators of the test that a considerable percentage of the samples of urine were toxic to the mice, and a similar observation was made in this station during the first year of its working. In consequence of this no result could be returned (during the first year) in twenty-four cases on account of the toxicity of the urine. Since then a method has been published for the detoxication of the urine (Zondek, 1930), but the experience with this method in this station was not quite satisfactory. It has been found, however, that sulphosalicylic acid can serve as a detoxicating agent in most cases. This acid, which acts as a protein precipitant, has been used extensively in the preparation of gonadotropic hormones; it does not precipitate these hormones in the absence of proteins, and removes only small fractions of the hormone from solutions in which proteins are present. The following procedure has been adopted:

To each 25 c.cm. of urine 1 gram of sulphosalicylic acid is added immediately after arrival at the station. The urine is allowed to stand for thirty minutes with occasional shaking. It is then filtered through a paper filter; the filtrate is adjusted with sodium bicarbonate to approximate neutrality (B.D.H. universal indicator—green); it is then used for injection. The same quantities of urine and the same number of mice are used as in the original Aschheim-Zondek reaction.

It has been the practice of the station to ask for a second sample in all cases where the first test did not yield a completely clear result. However, it is doubtful whether this practice will be made a permanent one, since the repetition of tests has, as a rule, not led to much clearer results than are obtained in the first.

The mice used in the station were again procured from a commercial breeder (The Mousery, Rayleigh), and varied in weight from eight to twelve grams. In some cases mice from another source were used; however, they proved to be of a very early maturing, but slowly growing stock. Three errors were due to the use of the latter stock; in these cases a positive result was returned, spontaneous puberty in one or two mice in each of these groups being mistaken for a positive reaction.

RESULTS

In all, 835 cases have been dealt with in the period covered by the report. In 387 cases a negative result was obtained; in 433 cases the diagnosis was positive; in 15 cases the result was either doubtful and we did not obtain a second specimen although it was asked for, or else "no result" was returned because of toxicity of the urine (these latter cases occurred before the introduction of the treatment of the urine with sulphosalicylic acid). Four hundred and fifteen cases have been controlled so far by the clinical diagnosis; in 400 cases the diagnosis as returned by the doctor agreed with the diagnosis given by the station. In 15 cases the clinical and the biological diagnosis differed, thus resulting in an apparent error of 3.25 per cent., as compared with an apparent error of 3.04 per cent. during the first year.

In the first report it was pointed out that the pregnancy test by means of the Aschheim-Zondek reaction represents a test for the presence of a fully functional placenta or of placental derivatives. Therefore a positive reaction is not necessarily proof of the presence of a foetus. It has also been emphasized in the first report that a positive reaction was found in cases of retained adherent fractions of the placenta, incomplete abortion, hydatidiform mole, and chorion-epithelioma. Moreover, the test remains positive for a few days after parturition or abortion, whereas, on the other hand, the presence of a degenerating placenta is not associated with the excretion of gonadotropic hormones. If one examines the fifteen apparent errors from this point of view it is found that in at least two cases the test in reality was correct. In these the error was due to a fault in technique (use of inadequate stock; see above). The percentage of real error is therefore 2.41 per cent.

Among the "apparent errors" there was again a case of a negative diagnosis in the presence of other clinical symptoms of pregnancy, where the foetus proved to be dead and was aborted shortly after the sample of urine had been taken. On the other hand, during the last year a negative test was obtained in three cases where an advanced pregnancy existed (fourth to sixth month) which proceeded normally at least up to the time when the station received the report of the doctor.

While the available evidence is not yet sufficient to draw any definite conclusions, there are nevertheless obvious indications that a negative test returned in cases where the clinical symptoms of pregnancy are present should be of particular interest. Pooling the results of the first and second year one finds twenty-two cases in which a negative Aschheim-Zondek reaction was obtained, while later observations showed that a pregnancy existed at the time; but in at least seven of these cases pregnancy terminated prematurely.

[1] *British Medical Journal*, 1930, ii, 662.

It seems thus advisable to keep under careful observation cases in which a negative diagnosis was returned in spite of the presence of the clinical signs and symptoms of pregnancy, since the prognosis for uneventful termination of pregnancy does not seem to be very favourable in these circumstances.

The station has received, on several occasions, samples of urine taken shortly after an abortion; it was asked whether the abortion could be regarded as complete. However, since normally gonadotropic hormones seem to occur in the urine as long as nine days after complete abortion, the test cannot be of great clinical help before that period has elapsed. Only if samples of urine are found to be positive later than nine days after abortion can it be concluded that placental tissue or derivatives of normal placental tissue are still present in a functional state.

It is also of interest to note that in two cases of very early pregnancy, and in three cases of advanced pregnancy, the test proved originally negative. In two of these cases the test did not become positive until the sixth and the seventh month respectively. If the quantity of hormones excreted in the urine be taken as an indication of the quantity produced, then one must conclude that in many cases where the secretory level is very low, pregnancy ends in abortion whereas in other cases it reaches full term.

EXPERIMENTS IN RAPID TESTING

The originators of the test have shown that in certain cases the time required for the test can be shortened by injection of concentrated urine so that a diagnosis can be made after three days, which is, however, reliable only in cases where the test is positive. The experience of the station with this modification is as yet too small to warrant any judgement. During the last year an attempt has been made to apply certain observations made by Friedmann to the elaboration of a rapid test for pregnancy. This author, basing his experiments on the previous work of Aschheim and Zondek and Hammond, has shown that the intravenous injection of pregnancy urine in rabbits can cause an enlargement of the follicles similar to that which normally occurs after coitus. He suggested that these observations might be made the basis of a pregnancy test. Experiments were carried out during the last year in a number of cases which were at the same time controlled by the standard method. The rabbits were injected with pregnancy urine after it had been deproteinized with sulphosalicylic acid and neutralized with bicarbonate, receiving two to four intravenous injections of three cubic centimetres each within twelve hours. Fourteen to sixteen hours after the first injection the rabbits were killed and examined for ripe and/or haemorrhagic follicles, the presence of the latter was regarded as a "positive reaction." It was found that all urines that gave a negative reaction with the Aschheim-Zondek test also gave a negative result in the case of rabbits. However, some urines that gave a positive reaction in mice did not give a positive rabbit reaction. On informing Dr Aschheim of these experiments we learned that he had attempted similar experiments, but was, like the writer, not yet satisfied as to the possible practical application of the test. Dr. Aschheim demonstrated his experiments at a scientific meeting in Berlin in November, 1930. It is far too early at present to determine the practical value of this test; if it should prove satisfactory it would in many cases reduce very considerably the time required for arriving at a diagnosis (sixteen hours instead of three to five days). Very much more experience is necessary in order to arrive at any conclusion; it is hoped, however, that next year's report will contain results of a greater number of cases tested by this method.

The fees charged by the station are 10s. for tests required by private practitioners and 3s. for tests asked for by hospitals, public health authorities, etc. These fees serve to cover the expenses of the station incurred in the purchase of animals, food, etc. The station will continue its work, being financially secured against deficit by a guarantee from the Medical Research Council.

France

[FROM OUR OWN CORRESPONDENT.]

The B.C.G. Controversy

The question of B.C.G. vaccine has been discussed again in the Academy of Medicine. It seems that the international inquiry into the Lübeck accidents has proved that Professor Calmette's vaccine was not to be blamed, for he cannot be held responsible for the technical mistakes that were made. It is the general principle that has been persistently attacked by Professor Lignieres. The discussion seems as though it would never come to an end, and the learned assembly became somewhat agitated when Professor Vaquez stood up, and to the great relief of the audience, summarized the whole problem in one simple short question: "Are there any circumstances, either experimental or clinical, under which the B.C.G. may recover its virulence?" It was Professor Calmette's opportunity to reply, and he replied with facts. In France 320,000 children have been vaccinated, in Rumania 75,000, in Spain 10,000, in Sweden 5,000, and in the Far East 120,000. About one million cases are on record. Where are the accidents? If an overdose is injected into a calf, or a guinea-pig, the animal develops a fever that might be called "B.C.G.-itis," with polyadenitis, which always ends favourably, leaving the organism immunized against B.C.G. Professor Calmette said that it was time that unfounded apprehensions should be eased, and that insinuations should be stopped. The only way out was for the Academy to set up a commission to investigate all facts and all cases, and to insist that the conclusions, whatever they might be, should be published. A commission, headed by Professor Chauffard, including our most prominent clinicians and scientists, was appointed. It is to be hoped that this official commission will be able to meet the objections raised against Professor Calmette's vaccine by Professor Lignieres of Buenos Aires. It is expected that all doubtful cases will be openly discussed, and that definite conclusions will bring a long controversy to an end.

Antitetanic Serum

The Academy of Medicine was asked to decide in what cases of wounds it was obligatory to use antitetanic serum. A physician was sued for damages because he had not given an injection and the patient died of tetanus. The judgement was against him, and high damages were accorded to the plaintiff. It seems evident that if he had given the serum and the patient had developed peripheral neuritis he would have had the same responsibility to face. A unanimous vote supported the conclusion of Professor Gosset that serum was not to be used in superficial wounds easily cleaned out and in neat cuts not soiled by earth. This seems to leave a beautiful field open to patients, magistrates, and lawyers alike. It may be that prophylactic vaccination with anatoxin, as Professor Carnot suggested, will keep the question out of the courts altogether.

Actions for Malpraxis

It is becoming quite the thing to do—to sue the physician for malpraxis. Over a million francs' damages were claimed from two prominent medical men because they gave blood transfusion too late and the patient died. This time the claim was so manifestly unfounded, and

if admitted would have had such far-reaching consequences, that judgement went for the defendants without debate. This new attitude of the public seems to be the direct result of articles in the lay press, where the whole of medical science is taught within the limits of a column or two. Perhaps the writers of vulgarized medicine (I believe that some of them are qualified men) will understand that it is better for the layman to realize that ours is a difficult art.

Hôpital Beaujon

We hear with satisfaction that the ugly, old, inefficient Hôpital Beaujon, located in the best residential quarter of Paris, is going to be pulled down. It is to be replaced by a new building of eleven stories, with a capacity of over a thousand beds, one-third of which will be in private rooms. It is the first hospital to be built *en hauteur*—the latest hospitals in Paris extend *en surface*. From the descriptions of the proposed building it will resemble the very latest American hospitals as regards both architecture and organization. The new hospital will form a complete unit in itself, the two top flats to be used for open-air and sun cures. It is to be erected in the north-west district of Paris, and it is expected that the difference between the land value of the old and the new sites will be more than enough to meet expenses.

Medical Degrees for Dentists

A new law has been proposed making a medical degree obligatory for the practice of dentistry. At present, what is necessary is a dental school diploma which does not require the passing of a matriculation examination. It seems likely that such a move, for which our medical faculties are unprepared, comes from the fact that there are so many would-be doctors since the war that some new openings must be found for them. The question will be very much discussed in all circles before it goes to Parliament. But at any rate, we all feel that the whole system of medical education will soon be reformed once more.

Scurvy

Dr. Charcot, the well-known Arctic explorer, has come to the conclusion that scurvy is not so much due to the lack of fresh foods as to the use of canned meat. He holds that in cases of incipient scurvy it is essential that this sort of food should be absolutely withdrawn, even when vitamins are abundantly supplied. The consequences of such a theory are so far-reaching that the Secretary of Health has been asked by the Academy of Medicine to take all necessary measures without delay.

G. MONOD.

Ireland

The Dublin Hospitals: A Commission of Inquiry Suggested

Sir William I. de Courcy Wheeler, speaking at the National Children's Hospital annual meeting on May 5th, with Viscount Powerscourt in the chair, said that he was sure, whether the sweepstakes were right or wrong, that charitable people would not withhold their subscriptions so long as the very poor had the first claim on the beds and doctors continued their services without fee or reward. He feared that the hospitals might become dazzled and blind to the needs of the future by the large amounts of money they had recently received, but there should be no reckless expenditure on bricks and mortar. He was proud to think that one of the first actions of the board of the Children's Hospital in dealing out the sweepstake money was to earmark £5,000 for the establishment of an annexe in the country. A modern children's hospital without provision for open-air treatment was a contradiction in terms. It was proposed to make a small beginning, but there was no doubt the open-air hospital would become an important part of the parent institution. The Dublin hospitals should regard the present time as a transition period ; sooner or later complete reorganization was certain to take place. At present there was a hospital in Dublin at the corner of almost every street, each equipping itself to do the same work as its neighbour. This was uneconomic ; the ever-increasing overhead charges were duplicated and re-duplicated. From the point of view of the application of modern medicine and the education of future specialists, the whole system required a thorough overhaul. No university town of similar size adopted the Dublin system, and no young medical man who was seeking more than local reputation in the future or desired to do honour to his medical school would have a chance unless it was changed.

The appointment of a commission to inquire into the Dublin hospital question had been suggested, he thought, by the late Lord Glenavy. After hearing expert evidence and making inquiries into the methods adopted abroad, such a commission would have to recommend an amalgamation of some of the hospitals, or alternatively to allot a special kind of work to each.

Medical Registration Council

The May session of the Irish Free State Medical Registration Council was held at the office of the Council, Upper Fitzwilliam Street, Dublin, on May 5th. The members present were: Dr. D. J. Coffey (president), Dr. A. F. Dixon, Dr. E. Magennie, Dr. James N. Meenan, Dr. H. F. Moore, Dr. T. G. Moorhead, Dr. R. J. Rowlette, Dr. Stephen Shea, and Dr. R. Atkinson Stoney. Correspondence on various matters having been dealt with, Dr. Atkinson Stoney was appointed to the vacancy among the representatives of the Council on the Dental Board. The auditor's report on the accounts of the Council for the year 1930, having been received, was passed for publication with the Irish Free State *Medical Register* for 1931. Procedure was adopted for a visitation of the qualifying examinations.

Public Health in the Irish Free State

The Minister of Local Government and Public Health has addressed a letter to county councils and boards of health in the Irish Free State, emphasizing the necessity for better water supplies and more efficient sanitation. Accompanying each letter is a copy of the Public Health (Special Expenses) Act, 1931, conferring upon county councils and boards of health extended powers for the financing of schemes for the provision or improvement of sewers or sewage disposal, or for the provision and improvement of water supplies in their respective areas. The Minister points out that such provisions, which are very pressing in many areas, have too often been deferred on account of the cost involved, and proceeds to indicate how county councils may secure co-operation between different parts of the county in carrying out appropriate schemes by rendering financial assistance to the boards of health.

Midwives Bill

In proposing the second reading of the Midwives Bill the Minister for Local Government and Public Health explained that as a result of the experience of the Central Midwives Board, to which the regulation of training, practice, and general control of midwives had been transferred by the Act of 1918, the Bill was brought forward to determine more precisely those persons who were entitled to practise midwifery, and to extend the powers under the Board's regulations to prescribe a badge for identification purposes. In practice it had been found that midwifery had been carried out habitually for gain by persons who were not fully qualified. Under the Bill

any such person who attended a woman in childbirth would be guilty of an offence unless the court was satisfied that attention was given in a case of sudden and urgent necessity. Statistics indicated that the mortality of women in childbirth in 1929—namely, 4.1 per 1,000—was the lowest on record in this country. The averages for the ten years 1919-28 was 4.88. This improvement was due to the control of the Central Midwives Board, and to the additional supervision of county medical officers. The Minister stated that the department's policy had been to urge an increase in the fees of midwives whose remuneration was below the average (£52 to £60 per annum). Since the average number of dispensary cases per midwife was only twenty-five a year, there was opportunity for a fair amount of private practice.

Abraham Colles

On May 8th Dr. T. Percy C. Kirkpatrick, honorary lecturer in medical history, Dublin University, delivered an address on Abraham Colles, his life and work, in the School of Physic, Trinity College, Dublin. Colles, he said, was evidently extremely poor during his student years and after graduation, for the many letters he wrote during that period of his life contain frequent references to the cost of food, lodgings, and other items. On one occasion he states that he was charged the exorbitant sum of one shilling for his dinner, but adds that he thinks the price was justified, as the meal was sufficiently satisfying to take the place of both dinner and supper. After studying at the Medical School of Trinity College, where he obtained his diploma in 1795, and later at Edinburgh, he returned to Dublin, and was appointed house-surgeon at Steevens' Hospital, a post which enabled him to engage in private practice and take apprentices. Almost immediately he made his mark as a teacher, and in 1802, being not yet 29 years of age, he was elected President of the Royal College of Surgeons, Ireland. All his life Colles was an indefatigable worker. He had little interest either in social life or in politics. As a surgeon his reputation depended more upon his extraordinary skill in diagnosis and his power of recommending appropriate treatment than on his dexterity as an operator. Although he was never in the front rank of surgeons, his memory has been perpetuated by such familiar terms as Colles's fascia, Colles's fracture, and Colles's law. He was not a voluminous writer, but his communications include an article on the tying of the subclavian artery, an operation which he was the first to perform. In 1830 he was elected President of the Royal College of Surgeons, Ireland, for a second time. He died in 1843.

Scotland

Glasgow Royal Asylum

The one hundred and seventeenth annual report of the Glasgow Royal Asylum, now known as Glasgow Royal Mental Hospital, has just been issued for the year 1930. Dr. D. K. Henderson, physician-superintendent, records that 536 patients were resident in the hospital at the beginning of the year and 555 at its close, while the total number under treatment during the year was 686. Admissions numbered 150, and discharged patients 131, of whom 55 were recovered, 20 greatly improved, and 12 unimproved. There were 54 deaths. Of the admissions, 147 were private cases, and 3 were service patients maintained by the Ministry of Pensions. The increase in the number of admissions during recent years is explained by more difficult economic conditions, greater stress of life, and by the fact that more confidence is now placed in institutions of this type for treatment. Over half the admissions were voluntary patients. The death rate was 7.14 per cent. of the average number resident; of patients who died, 7 had been resident for over seven years and one for forty-five years. The report mentions that there are many patients who are unsuitable for treatment in a mental hospital, and recommends the establishment of clinics or special departments for mental disorders in affiliation with the general hospital systems. These clinics would further provide departments for research and for the education of the medical profession and of the public in regard to the onset of mental illness. Dr. Henderson is of the opinion that too much emphasis is being laid on the mere determination of sanity or insanity, without adequate consideration of the larger social question of disordered conduct, however it may have been caused. Reference is made to the accommodation recently provided by the directors in a nursing home at Darleith, Cardross, where mental patients not sufficiently ill to need treatment in a mental hospital will be admitted without legal formalities. Commenting on the development of the preventive work carred out in a psychiatric out-patient clinic attached to the Western Infirmary, the report states that the special advantages of association with a general hospital have been found to consist in facility of examination, in recognition of the importance of careful study in early mental abnormality, and in the education of students, colleagues, social workers, and nurses. Cases are mentioned of general paralysis treated with malaria, which have shown more favourable results than any previously recorded. The occupational department continued to employ regularly about one-fifth of the total number of patients in the hospital, the male patients being engaged in leather work, basketry, carpentry, metal work, and the female in the making of various kinds of garments.

Dangers to Health from Soot and Smoke

The Scottish branch of the National Smoke Abatement Society held its annual meeting in Dundee on May 6th, under the presidency of Mr. T. G. Fraser, convener of the Public Health Committee. Dr. Elizabeth C. Mudie, who read a paper on coal, smoke, and cancer, said that tables compiled under the auspices of the Cancer Research Institute in London showed that occupations involving the handling and inhalation of soot and tarry products had a high cancer incidence. Domestic soot contained forty times as much tar as that from the factory boiler chimney, and this might explain the relative immunity enjoyed by the primitive races and in the Middle Ages as compared with that of present-day civilization. She considered that it was desirable to abolish the coal fire, which first implanted disease and then by lowering resistance impaired the powers of combating it. Mr. Thomas M. Ashford, smoke inspector, Glasgow, read a paper on the control of industrial smoke. He thought that the solution of the problem of obtaining a pure atmosphere lay in the extensive employment of electricity for power purposes, greater use of mechanical stokers in steam boilers with large plant, and in the substitution of smokeless fuel in furnaces where mechanical stoking was not suitable. In his opinion it would be necessary to bring the furnaces of metal works and domestic sources of pollution under appropriate legislation.

New Professor of Chemistry in Edinburgh

On May 7th the governors of the Heriot Watt College appointed Mr. Thomas Slater Price, D.Sc., F.R.S., to the chair of chemistry in succession to Professor A. Boon. Professor Price is an honours graduate in chemistry and physics of London University. From 1899 till 1903 he was lecturer and demonstrator at Birmingham and Sheffield, and subsequently head of the chemistry department of the Birmingham Technical College. In 1920 he

became director of research of the British Photographic Research Association. During the war he carried out experimental investigations for the Admiralty. At the same meeting it was reported that a tentative agreement had been reached for the affiliation of the Heriot Watt College with Edinburgh University, and that an ordinance was being prepared which would be submitted to the governors of the College and to the University Court. About nine months would elapse, however, before this scheme could become operative.

Central Midwives Board for Scotland

The examinations of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Dundee, and Aberdeen, have just concluded, with the following results. Out of 168 candidates who appeared for the examination 154 passed. Of the successful candidates, 70 were trained at the Royal Maternity Hospital, Glasgow ; 22 at the Royal Maternity Hospital, Edinburgh ; 4 at the Maternity Hospital, Aberdeen ; 11 at the Royal Infirmary, Dundee ; 20 at the Elsie Inglis Hospital, Edinburgh ; and the remainder at various recognized institutions.

England and Wales

Medical Women's Federation

The president and council of the Medical Women's Federation held a reception, on May 7th, in the Great Hall of the British Medical Association. Departing from the usual custom of giving a dinner with numerous speeches by eminent men, the Medical Women's Federation struck a new and lively note in entertaining their guests with song, music, and dance, and a tastefully chosen cabaret supper. The Russian Corps de Balalaika, looking very English, played with zeal ; the Mayfair Company of English Dancers charmed and delighted the audience with dances ranging from a minuet to " danse orientale " ; and Myrtle Peter and Miles Arlen gave the company dances that were neither Mayfair nor Russian, but something very pleasantly their own. In her speech, the president, Dr. Louisa Martindale, said that she could not welcome all their distinguished guests individually, but would like to say how proud they were to have with them Dr. T. Watts Eden, Sir Walter Fletcher, Dr. Brackenbury, the Duchess of Atholl, Miss E. Wilkinson, Sir E. Graham-Little, Miss E. Rathbone, Lord Moynihan, Mr. Elmslie, Colonel Samman, Lord and Lady Dickinson, Mr. Goiraud, Mrs. Phillips, Mrs. Highett, and Mrs. Pethick Lawrence. In explaining the *raison d'être* of the Federation, she said that there were fifteen local associations in Scotland, Wales, and England, with a membership of 1,400 women doctors. The work of the Federation was carried out by a council which met twice a year, either in the provinces or London, and by various standing committees, as, for example, on maternity and child welfare and on medical aid for women in India. Representatives from the Federation sat on various public medical bodies. Dr. Martindale drew attention to the work done on cancer of the uterus at the Marie Curie Hospital, which is staffed by women surgeons, and expressed a hope that similar units would in the near future be formed in Great Britain. She mentioned the work of the Federation in connexion with the Medical Women's International Association, the council meetings of which had been held in New York, Geneva, London, Prague, Bologne, and Paris ; this year the meeting would be in Vienna. Dr. Watts-Eden, in a brief speech of acknowledgement, said that he had for many years taught women students and so knew their worth. He hoped that in time the Medical Women's Federation would cease to exist and that the medical profession would be one large happy family in which there would be no need to segregate the sexes. Miss Ellen Wilkinson, M.P., in a hurried visit from the House of Commons, said that medical women had been the bravest pioneers in the women's movement. The speeches over, more music and dancing brought a very enjoyable evening to a close.

London Medical Graduates' Dinner

The annual meeting and dinner of the University of London Medical Graduates' Society was held on May 11th at the Langham Hotel. Sir John Rose Bradford, Bt., presided over a large company, and drew special attention to the fact that the society was honoured by three official guests in the persons of the Vice-Chancellor (Dr. Scott Lidgett), the President of the Royal College of Physicians of London, Lord Dawson of Penn, and the President of the Royal College of Surgeons of England, Lord Moynihan of Leeds, both medical graduates of the University of London, and vice-presidents of the Medical Graduates' Society. It was the first occasion in history that a peer of the realm at one and the same time was President of each of the Royal Colleges, and it might never occur again. All three guests replied to the toast of their health, each being given a great welcome. Among others present were Sir Charlton and Lady Briscoe, Sir Crisp English, Sir Robert Armstrong-Jones, Sir John Atkins, Sir Cuthbert Wallace, Professor Lucas Keene, Professor Elizabeth Eaves, Professor Hey Groves, Miss Catherine Lewis, Mr. W. McAdam Eccles, Mr. Victor Bonney, and Dr. Dorothy Hare and Mr. P. H. Mitchiner (honorary secretaries). The next dinner of the society will be held on November 13th at Bristol.

Treatment of Cancer

Speaking at the annual general meeting of the Cancer Hospital, Fulham Road, S.W., on May 1st, Mr. R. H. Jocelyn Swan said that an elaborate scheme had been organized in the last few years by which every patient who had undergone an operation in that hospital was communicated with and, if possible, presented himself for examination every three months. Radium certainly held a place in the treatment of cancer, but its field of usefulness was being narrowed down to certain forms of cancer in particular organs. The actual attack upon a cancer by burying into it multiple needles each containing a small quantity of radium, so that the whole area could be evenly irradiated, appeared to hold out more promise than the external application, or even that form of treatment supplied by the " bomb " ; and work at the hospital had been carried out on these lines. There was no doubt that the primary growths of the tongue and those in the uterus might in a proportion of cases be made to disappear with radium, but to acclaim this as a cure was misleading. Unfortunately radium did not seem to have such an effect upon the secondary glandular spread, so that in many cases in which the primary growth had been cleared away the secondary growths still continued. A number of cases of cancer of the breast and other organs had been treated with radium with encouraging results, but further time must elapse before they could speak of " cures." It was known that cancer began as a local manifestation, but that migration of cancer cells from the primary tumour gained access to other parts of the body and initiated secondary growths. The whole question turned upon getting cases in the early stages of the disease. At present, except perhaps as regards the tongue, the uterus, and possibly the breast, reliance must be placed on the

orthodox widespread removal of the diseased organ, together with its lymphatic areas of spread. Mr. Jocelyn Swan was of opinion that in radium they had a valuable adjunct to methods of treatment, but it was a dangerous weapon, which should be in the hands only of those who knew how to use it and when to use it, and then used it with the minute care and precision learnt from experience. He thought the time might come when, by the aid of pathologists, it would be possible to differentiate between certain types of cancer—those which were amenable to radium and those best treated by surgical removal.

Socialist Medical Association

The first annual general meeting of the Socialist Medical Association was held in London on May 10th, when Mr. Somerville Hastings, M.P., delivered his presidential address. Speaking of the future of the profession, he said that a knowledge of preventive medicine, which at present occupied a very small place in the curriculum, would become more and more important as the necessity for health propaganda and for a periodical medical examination increased. The medical profession had suffered too long from insulation; the team and not the doctor was the unit of the future. Any doctor working alone in competition with other doctors was apt to degenerate professionally; he became autocratic. Every person who applied for the service of a general practitioner should be provided with it. Mr. Hastings suggested that to every doctor of this class should be allotted about 3,000 persons. Where a hospital existed there should be a medical centre attached in which were situated consulting rooms, so that ante-natal care, child welfare, treatment of tuberculosis and venereal disease, and school clinic work could be carried on in one building. Speaking of hospitals, Mr. Hastings said that all such institutions should be linked together to form a single system; thus, cases could readily be transferred from one hospital to another. There should be a general hospital with a staff of specialists for every county. Dr. Alfred Salter, M.P., said that public prejudice in medical matters would be very difficult to overcome. It would be a long time before the "family doctor idea" could be swept away. Any radical changes must be effected gradually and with the backing of the mass of the people.

The report of the executive committee was approved. It states that although the Socialist Medical Association was formed only in October, 1930, it has already justified its existence; until there is a larger membership, however, it is inadvisable to affiliate with the National Labour Party. One of the principal objects of the association is to devise practical measures for the establishment of a free socialized medical service, and to give effect to this a research subcommittee was appointed to which evidence has been submitted by the British Medical Association and other organizations. An educational subcommittee has also been formed; this body will undertake propaganda work by contributions to socialist newspapers and periodicals, and by lectures to members of the trade union, labour, and co-operative movements. The establishment of territorial branches has begun. The London and Home Counties Branch was instrumental in the production of the pamphlet, *Labour's Hospital Policy for London*, which has had official recognition. It is proposed to send a delegation to the coming international conference of socialist physicians at Carlsbad. Several resolutions opposing charges for treatment at municipal hospitals were agreed to, and the opinion was expressed that municipal and hospital treatment should at once be dissociated from the Poor Law. It was also agreed that the income limit for National Health Insurance purposes ought to be raised to £500 a year.

India

Urban Sanitation

One of the major difficulties in public health administration in India is indicated by Lieut.-Colonel C. A. Gill, I.M.S., Director of Public Health in the Punjab, in his report on the progress made during 1929. He remarks that the view is widely prevalent among the natives that water is the gift of God, or should at any rate be provided free of cost by the Government. The imposition of a water tax, or a water rate, is, consequently, very unpopular, as also is the compulsory attachment of meters to private house supplies, which is held to constitute an undue interference with the liberty of the subject. Water scarcity follows the far too common wilful waste, and it is feared that this state of affairs will continue until municipal committees enforce the model water supply by-laws which have been approved by the Government. No outbreak of disease occurred at any of the religious fairs held during the year, suggesting that the sanitary arrangements and the measures undertaken to protect the food and water supplies of the pilgrims were adequate. Steady progress is being made in providing at Government expense a piped supply of filtered water to localities where important fairs are held annually.

Burmese Medical Institutions

Although the number of hospitals and dispensaries in Burma is considerably lower than is required, it has not been possible to make much headway in building new ones owing to the continued financial stringency and the fact that contributions have been very difficult to obtain locally. However, in his report for 1929, Lieut.-Colonel T. F. Owens, I.M.S., Officiating Inspector-General of Civil Hospitals in that province, is able to announce the completion and occupation of the new Women and Children's Hospital in Mandalay, the construction of a new operation theatre at Ye-U, and the improvement of the civil hospital in Papun. In that year, also, the provision of an operating theatre and *x*-ray block at Mandalay was in active progress, and new wards were being erected in three towns elsewhere. The Rangoon General Hospital treated 86,000 out-patients and 12,500 in-patients during the year under review, although its 535 beds proved quite inadequate to meet the demand. Some relief was obtained by transferring 212 chronic and incurable cases to the Bishop Bigandet Home, but the medical superintendent of the hospital finds even that alleviation insufficient, and urges the necessity of extending the Home so as to receive more of the cases of chronic diseases which are inevitably to be found in a cosmopolitan port. Motor vehicle accidents have risen in five years from 500 to 1,148, and the necessity of dealing promptly with these has proved to be a very heavy strain on the available accommodation. The venereal clinics at several headquarters hospitals in the province have become increasingly popular, but there is still great difficulty in persuading the patients to attend for the full course of treatment. The number of officers of the Indian Medical Service practising in Burma in 1929 was reduced to twenty-one, of whom only fourteen were available to fill the twenty-five appointments reserved for this Service in the Medical Department. The military authorities found themselves unable to release any officers for work in the province, and the depletion of staff seems likely to continue. The shortage of nurses and midwives in district hospitals persisted; it is possible that this will not be remedied until more generous rates of pay can be afforded. The recommendations made

by the special leprosy committee for dealing more effectively with this disease are being considered by the Government, and in the meanwhile these patients have to be dealt with in the various private asylums and clinics. The Pasteur Institute at Rangoon continues to prepare and issue hydnocarpus oil to all hospitals. The new buildings of the Burma Government Medical School were taken over in October, 1929, and Lieut.-Colonel Owens announces the entry of fifty-five new students. The usual course of training in midwifery was given at the Dufferin Hospital.

Madras Government Ophthalmic Hospital

The annual reports of the Government Ophthalmic Hospital in Madras always contain matter of clinical interest, and in the issue for 1929 the superintendent, Lieut.-Colonel R. E. Wright, I.M.S., discusses a large number of local diseases and records various cases. The very severe epidemic of superficial punctate keratitis has continued for a second year, more than 3,500 cases being dealt with up to the end of 1929. The astonishing variability of the symptom-complex, ranging from cases simulating gonorrhoeal infection to others presenting only a slight impairment of sight without other physical abnormalities, has been responsible for some faulty diagnoses. No constant bacterial cause was discovered, but eventually it was shown that the disease was transmissible to rabbits and man, irrespective of whether the material had been filtered or not, and the possibility of some filter-passing virus being concerned, related to that of herpes zoster ophthalmicus and herpes febrilis, is discussed. The pre-auricular gland was enlarged in some cases. Keratomalacia in children is probably the most serious cause of preventable blindness in Madras, as also in Bombay and Bengal and the United Provinces, though it seems to be negligible in the Punjab, where deficiency disease is minimal. More insistence on prophylaxis is required, since the incidence of ophthalmia neonatorum is still too high. Gonorrhoeal conjunctivitis, however, seems to be much less destructive in Madras than in Europe, the individual resistance being higher, or the organism less virulent. The value of adrenaline packs in glaucoma is reiterated; an article emphasizing this form of treatment was published in the *British Medical Journal* of September 7th, 1929 (p. 456). The biochemical examination of the blood in these patients has not been found to be of any special value. Further observations were made on the factors which influence the intraocular pressure during cataract operations after the section has been made. There appeared to be a definite relation between the liability to a low ocular pressure and a sunken orbit, and between an increased intraocular pressure and a bulging orbit, under the conditions of the experiments.

Special Factors Causing Disease

The death rate from tuberculosis in Calcutta in 1929 was 2.6 per 1,000, a slight decrease on previous years. The seasonal incidence was not so marked as might have been expected, but out of the 2,834 deaths, 2,591 were caused by the pulmonary form, surgical tuberculosis being very rare in Bengal, as is bovine tuberculosis. While the disease is largely dependent on such factors as poverty, underfeeding, lack of hygienic precautions, and bad housing, Dr. T. N. Majumdar, health officer of Calcutta, in his report for 1929, calls attention to the serious effects of the custom of early marriages of girls. Five girls die between the ages of 10 and 20 for every boy, and three times as many women as men die from tuberculosis between the ages of 20 and 30. He insists that the most important factor in the etiology of this disease among girls [illegible]women is early marriage, which subjects [illegible]strain of repeated pregnancies and prolonged periods of lactation. [illegible]spiratory diseases were, as usual, more common in the female sex—8.2 as compared with a figure of 5.8 for males per 1,000. Certain ill-drained suburban wards of the city, which are specially liable to flooding, are notorious for their invariably high mortality figures. Overcrowding and want of fresh air are also sadly common. Influenza, however, diminished slightly during the year under review. These suburban areas are still inadequately supplied with sewers; the air, soil, and water are heavily contaminated, and flies are numerous. Much also remains to be done as regards the supply of filtered water to the very poor inhabitants of these parts of the city. Much of the cholera in Calcutta is water-borne, and an increase in the mortality figure for this disease is always noticeable after each of the seven greater bathing festivals of the year; the disease here is limited to Hindus in 90 per cent. of the cases. For the lesser as well as for the main bathing festivals special precautions, such as the opening of a temporary cholera hospital and the provision of pure drinking water, are being adopted, but the death rate from this cause rose in 1929.

Correspondence

SOME TENDON RUPTURES

SIR,—The article on this subject by Mr. Harry Platt, published in the *Journal* of April 11th (p. 611), is, it seems to me, full of sound and interesting suggestions. There are, however, a few comments I should like to make on some of the points raised.

First, with regard to "disinsertion" of the extensor tendon of a finger. When the proximal interphalangeal joint of a finger is flexed the terminal portion of the extensor tendon is relaxed, and the distal joint cannot be actively extended. So far as I am aware, Trotter was the first to apply this fact to the treatment of mallet finger.[1] If the damaged finger, even a few weeks after the injury, is fixed, as Trotter suggested, with the proximal joint flexed and the distal hyperextended, the patient is given an even better chance of recovery than when both these joints are extended, as suggested by Mr. Platt.

With regard to rupture of the proximal long tendon of the biceps humeri in an otherwise normal arm, I see no special advantage in suturing the severed tendon to the short head. Since the tendon cannot be reattached to its normal site above the glenoid, why should it not be fixed to the bicipital groove? If the groove and the tendon are scarified, and the tendon is sutured to the roof of the canal after being turned down over its upper margin, a firm attachment is secured, and the alignment of the muscle belly is not disturbed. This method of dealing with such cases has given results which appear to be entirely satisfactory.

Rupture—or, better, "disinsertion"—of the distal tendon of this muscle, admittedly a very rare injury, I have met with twice. In the first case, operation showed that the tendon, with a somewhat bulbous extremity, had torn away from the bone, leaving the radial tuberosity completely bare, as in Mr. Platt's case. Without considerable paring this tendon would have required a dangerously large tunnel in the radius if Mr. Platt's method of repair had been adopted. The bulbous extremity was held approximately in its correct position by stitches through the fascia over the supinator brevis, while the adjacent margin of the brachialis anticus tendon and the bicipital fascia were made use of for tension sutures. The result appears to have been entirely satisfactory to the

[1] *Transactions of the Royal Society of Medicine*, Clinical Section, 1911, p. 175.

patient, a wood-worker, who states that he is able to "carry on his work as before the accident." He adds, however, that extension, though full when the forearm is pronated, is slightly limited if the forearm is supinated. In this connexion it is interesting to recall that Mackenzie, in his book on *The Action of Muscles* (1918, p. 75), insists that the biceps is essentially a supinator and not a flexor of the elbow. In the second case the injury occurred in rather a curious way. While playing fives and striking at the ball, the patient, apparently quite lightly, just touched his opponent's elbow with the tips of his fingers. A sharp pain shot up the arm to the shoulder, and he was obliged to stop the game. The local signs appear to have been of the slightest, and the true nature of the injury was overlooked. He was not seen by me till over two years later, when his age and other considerations made operative treatment inadvisable. The disability, as regards lifting weights, was still considerable.

The only other point I wish to refer to is the ligamentum patellae. When this tendon is ruptured I believe it is always advisable to reinforce the suture line with a fascial or tendinous graft, while with a patient operated upon a considerable time after the injury a supplementary graft is absolutely essential to success.—I am, etc.,

London, W.1, May 5th. H. A. T. FAIRBANK.

CORONARY THROMBOSIS AND MYOCARDIAL INFARCTION, WITH GLYCOSURIA

SIR,—Dr. E. Tytler Burke's interesting letter published in the *Journal* of May 2nd refers to a case of coronary thrombosis which was under my care during the last two weeks of the patient's fatal illness. My object in recording the case was to draw attention to the association between coronary thrombosis and glycosuria, rather than to discuss the etiology and pathogenesis of coronary disease.

While fully recognizing the syphilitic element in the present case, I purposely refrained from speculating upon the probable histo-pathology of the patient's arterial system. Being unprovided with the means of ascertaining the nature of the microscopical changes in these tissues, I applied to them the intentionally vague term "vascular degeneration." Though I am not so completely unfamiliar with the modern pathology of syphilis as Dr. Burke appears to assume, I should like to have some more detailed information than is provided by the naked-eye appearances of the tissues before attributing a purely syphilitic origin to widespread cardio-vascular changes in an elderly labouring man, exposed to the effects of alcohol, tobacco, and one knows not what other circumstances likely to affect the integrity of the circulatory system.

It seems scarcely fair to say that "a syphilitic etiology . . was neither considered nor acted upon," or that "the modern pathology of syphilis . . . was not taken into consideration." There is not much opportunity for "action" when one is dealing with an old man in the last stages of cardiac failure, and even the most ardent syphilologist would surely hesitate to suggest that the last fortnight of the life of such a patient was a suitable time to apply active antisyphilitic remedies.

I am in complete agreement with Dr. Burke in what he writes regarding Levine's estimate of the role of syphilis in the etiology of coronary thrombosis. I do not think, however, that (in this country, at least) the general tendency to overlook syphilis is so great as Dr. Burke suggests. Indeed, one notices an unfortunate inclination to blame the *Treponema pallidum* for almost any lesion occurring in association with a positive Wassermann reaction, while other etiological factors are apt to be ignored.

Dr. Burke's scheme for the exclusion of a diagnosis of syphilis is difficult to apply in routine clinical work, and its complete validity is still a matter of opinion. His letter is of value for its insistence upon what I would be the last to deny—the important part played by syphilis in the etiology and pathogenesis of coronary thrombosis. His remarks upon the relationship between syphilis and glycosuria open up such a wide field that, from considerations of space, I refrain from commenting upon them.—I am, etc.,

Glasgow, May 4th. NORMAN CRUICKSHANK.

FRACTURES OF THE LONG BONES

SIR,—Mr. McMurray has misread me. In my lecture in your issue of May 2nd I did not contend that Sir Robert Jones suggested that "posture can reduce deformity"—exactly the opposite, and I cannot see that the words I used can have any meaning other than that which I intended them to convey. I refer to "the context" in which Sir Robert specifically states that flexion of the arm without correcting the deformity is insufficient; which surely shows that we are in agreement. Will Mr. McMurray tell me how Sir Robert Jones's views have been in the slightest way distorted by my quotation of "small isolated portions" of his article? I have read it again and can see no wrong deduction, but if Sir Robert Jones thinks that I have in any way misquoted him, I of course offer him a very sincere apology. I do regard flexion as a most important factor (if not the chief) in the production of ischaemic contracture: in truth, it is the combination of flexion with swelling which does the harm.

I can recall only one case of ischaemic contracture in my ward in the last ten years, and as it was well established when I first saw the boy I cannot vouch for its early treatment, but it was said to have been put up at once in full flexion. I have seen some half-dozen others at Examinations, and in none does it appear to me that malposition—that is, failure of reduction—is a marked feature. I cannot agree with those who hold that the chief factor is pressure exerted by the misplaced lower end of the upper fragment, but Sir Robert Jones's statement that he has "not seen or heard of one case where flexion with complete replacement of fracture has been responsible for this condition" must be given due weight in showing that deformity is a factor to be reckoned with.

Of course, my view may exaggerate the influence of flexion, for, as Mr. Slesinger points out, contracture does not occur after dislocation of the elbow in which swelling may be as marked as after fracture, nor does it occur after local injuries of the soft parts; therefore he argues that the fracture is a very important factor. He, in a spirit of kindly criticism, rightly charges me with inconsistency because I urge immobilization in antigravity positions and yet refuse to fix fractures near the elbow in flexion, which is the antigravity position of that joint. I have not met with subsequent loss of flexion after immobilization of the elbow at a right angle.

In his fourth paragraph Mr. McMurray surely "falls into the grave error of misrepresenting the writings of another surgeon" when he states that I am of opinion that "retention after reduction is unnecessary." I feel that this is the unkindest cut of all, for I was compelled to re-read my lecture carefully, and cannot find a single word to support his statement. If he had written "retention *in full flexion* is unnecessary" I would agree.

The fracture which he then uses as an example—the small fragment consisted of a flake of diaphysis, external

epicondyle capitellum, and part of trochlear, and therefore it is a misnomer to speak of it, as Mr. McMurray does, as a separated epiphysis—had a very oblique upper surface running downwards and forwards: Mr. McMurray has no grounds for his surmise that it was transverse. No one disputes that in a supracondylar fracture the line of fracture is not usually transverse, but passes obliquely from in front upwards and backwards.

The whole question turns upon "anatomical reposition": it is my contention that if this is secure "there is no one position and one only in which reduction can be maintained." In other words, it makes no difference to the fracture whether the elbow is flexed to 30 degrees or to 90 degrees or more: the limits being wider the more transverse the fracture.

As Mr. McMurray treats "hundreds of these cases," let him for the next six months deal with every trans- or supra-condylar fracture of the humerus in the way I advocate—namely, reduce it under an anaesthetic on the *x*-ray table, and if and when perfect reduction can be obtained by this means, flex and extend the elbow to estimate the range in which there is no recurrence of deformity—and I shall be glad to know after this experience whether he thinks that my conclusions are justified.—I am, etc.,

London, W., May 12th. C. H. FAGGE.

ACUTE URETHRITIS IN MUMPS

SIR,—Mr. Frank Kidd's letter in your issue of May 9th reminds me of a case I treated a few years ago. A young man who had been having regular coitus with the same woman came to me complaining of a purulent urethritis with enlargement of both testicles, the epididymis being free from swelling. At first sight the condition appeared to be gonorrhoea, but repeated smears of the urethral discharge, and examination of the woman, negatived this diagnosis. Five days after the commencement of the urethritis a swelling developed in the left, and later in the right, parotid.

In view of the testicular enlargement I treated the patient in bed, but I must confess I did not conceive the correct diagnosis until the parotitis had developed. The entire condition cleared up in about two months, with no untoward results.—I am, etc.,

H. A. MORTON WHITBY, M.R.C.S.

Hampstead, N.W., May 11th.

TREATMENT OF SHOCK FOLLOWING STREET ACCIDENTS

SIR,—In a recent number of the *British Medical Journal* the serious effect of moving those injured in street accidents was emphasized. Careful notes of 326 cases of street accidents occurring in the region of Charing Cross Hospital very definitely support this view. It is extremely difficult to put into figures the actual facts, for the various factors are:

1. The severity of the injuries.
2. The time elapsing between the accident and removal to hospital.
3. The time occupied in reaching the hospital.
4. The treatment necessary at the hospital
5. The details of the patient's condition from the time of the accident till being put to bed in hospital.

The following points emerge from an analysis of these cases, taking for purposes of comparison, as far as is possible, cases with similar injuries sustained under similar conditions:

1. The longer the time elapsing between the accident and the arrival of the ambulance the better the patient's condition.

2. Time spent in removal, and the distance covered, appear to have little effect one way or another.

It was sometimes more than a coincidence to hear the ambulance orderly say, "The patient got very bad on being put into the ambulance, but seems a little better now." To appreciate exactly how much removal affected the patient's condition would require the taking of the rate, pressure, and character of the pulse, the respiration rate, and observations on the general condition of the patient, at five-minute intervals. One might suggest as a useful line of research the presence of a medical man on the ambulance, who could take these observations, and I am sure that, were this done, immediate removal of patients to hospital would be less frequent and the prognosis made more favourable. The administration of morphine alone would be a great help.

It is impossible to compare the results of removal to hospital with those of treating patients near the scene of the accident, as I was called out only to six such cases. These, however, I treated by giving an injection of morphine, waiting ten minutes, and then very gently removing them to adjacent premises, and bringing them to hospital only when all shock had passed off. Two had fallen from scaffolding, and one had been badly injured by a tramcar. Their injuries were so severe that the police took the unusual course of sending for a doctor to come to them. Their injuries were at least as severe as many brought straight to hospital, and yet their condition at the end of an hour and a half was better than that of similar patients in hospital after the lapse of that time. Moreover, several medical men working in colliery districts are convinced that delay in removal, whenever possible, is very necessary after mine accidents. The few cases I have seen so treated have recovered far more quickly than similar cases which were removed to hospital immediately. I am convinced that if the London County Council or the London hospitals kept a casualty officer for the purpose of examining and treating the injured at the scene of the accident a very great improvement would result.

One further point. On arrival at the treatment centre there is a very strong temptation to do something at once, such as setting a fracture. The resistance of this temptation is in no wise helped by the pressure brought to bear on the casualty officer by well-meaning, sympathetic relatives, and even nurses. Yet this temptation must be resisted. It is far from gratifying to have set a fracture perfectly only to find it has been done on a dead man.

My routine treatment for cases of shock after admission to hospital varied according to whether the injuries were accompanied by haemorrhage or not. If there was no haemorrhage the patient was put to bed gently, lying flat, and as far as possible removed from external stimuli, and kept very warm with hot-water bottles or an electric cradle. Warmth is most important, owing to the great fall in body temperature. The cradle is preferable to hot-water bottles, on the ground that the type of heat given out is more effective, and that the apparatus is safer. If hot-water bottles are used they must be wrapped up very carefully, as they are apt to burn unconscious patients. A cursory examination was then made, but no detailed examination, such as would disturb the patient, was done. As to the administration of drugs, if the pulse was rapid and irregular, with failing heart, 2 c.cm. of ether, camphor, and olive oil was given; this was not repeated. If stimulants were needed again in such a case, and in those cases where either such rapid stimulation was not required or where the pulse, though rapid and irregular, was not too bad, strychnine and digitaline were used. Ether and camphor in olive oil has a much more rapid and considerable effect, but is very apt to be

followed by a sudden failure, and, moreover, the duration of its action is shorter. The use of stimulants in these cases has to be considered very carefully, for often a sedative, such as morphine given hypodermically, is more effective by its action in resting the heart. Certainly, as soon as the cardiac condition is sufficiently good to support life, morphine in small doses (1/8 to 1/6 grain) is beneficial, and wherever there is the least restlessness it is essential. In the latter case the dose of morphine is that quantity which produces the desired effect; 1/4 grain should be given at first, and repeated every half-hour until the patient is quieted. Where there is weakness in the volume of the pulse, pituitrin 1 to 2 c.cm. hypodermically is extremely good; brandy and glucose in hot coffee is a useful adjunct. In serious cases saline and glucose infusion, or transfusion, is invaluable.

Where there is haemorrhage the bleeding point should be secured as soon as possible, and the treatment subsequently is the same as that outlined above. Where it is impossible to secure the bleeding point the following treatment is usually successful. The nursing treatment is the same as above, with this modification—that the bleeding point, if possible, should be higher than the heart. Morphine is essential in these cases. Haemostatic serum is useless for arterial or venous haemorrhage, but is of great value in haemorrhage from arterioles, venules, and capillaries. Haemoplastin is more effective and more easily administered than the more bulky and cheaper coagulen-Ciba. The effective dose is 2 to 4 c.cm., and this can be repeated in two hours if necessary; further repetition is useless. Whether it is necessary to repeat it or not, a second dose must be given within ten days, to desensitize the patient.

In textbooks one is told never to give stimulants in cases of haemorrhage; and while this statement is true for the majority of instances, there is a type in which they must be administered. Frequently a case is admitted in which, from a combination of shock and haemorrhage, the cardiac exhaustion is out of proportion to the severity of the haemorrhage. Here mild but rapid stimulant will enable the heart to carry on its function without greatly increasing the haemorrhage. Saline and glucose infusion, or blood transfusion, should be used when necessary in bad cases after haemorrhage has been arrested, but not before. If it is used before, the infusion will merely serve as a wash-out for the veins, and the result is deplorable.—I am, etc.,

H. G. BEVAN-PRITCHARD, M.R.C.S., L.R.C.P.,
Formerly Resident Casualty Officer, Charing Cross Hospital, London.

Blantyre, Nyasaland.

SPINAL ANAESTHESIA

SIR,—Spinal anaesthesia may be in the minds of many doctors owing to my article in your current issue (May 9th, p. 785). I should like to say that, since my published series, a death has occurred during an operation for a large carcinoma coli. It was about my three-hundredth case. This postscript is not intended as a warning against the method, but shows that it is not without danger.—I am, etc.,

Clifton, Bristol, May 11th. A. WILFRID ADAMS.

CHOLECYST-GASTROSTOMY

SIR,—We hasten to admit our dereliction of courtesy in not acknowledging two papers of prime importance, which to our minds completely establish the *locus standi* of this type of operation in biliary surgery. We refer to the Arris and Gale Lecture of 1930, by Mr. R. H. O. B. Robinson, who has kindly sent us a reprint of his lecture, and to the article, published in the *Journal* of May 31st, 1930 (p. 1009), by Mr. L. R. Braithwaite. Had these papers been published at the time we did it, we should have approached without any misgiving or trepidation our first cholecyst-gastrostomy, for the case made out by them for the anastomosis operation is convincing, both on experimental and on clinical grounds. If we have not specifically "honoured the physician," and surgeon, and have ascribed to physiologists the discovery of the normal regurgitation of bile into the stomach, it is because of our elastic conception of physiologists as including, for example, surgeons such as those of the Leeds school, who have done so much for the advancement, not only of scientific surgery, but of physiology.—We are, etc.,

HUBERT PHILLIPS,
DONALD ISAAC,
Port Talbot, May 5th. JAMES MACDONALD.

THE CANFIELD OPERATION

SIR,—I am sure that if Dr. Aldington Gibb will try the Canfield operation in an obstinate case he will find that, though "wrong in principle" (whatever that may mean), it is right in practice. It is more difficult than the Caldwell-Luc operation, but in such practised hands as those of Dr. Aldington Gibb this would be no objection.—I am, etc.,

London, W.1, May 11th. JAMES DUNDAS-GRANT.

*** This correspondence is now closed.—ED., *B.M.J.*

THE ARMY MEDICAL SERVICES

SIR,—The Council of the British Medical Association has evidently spared no personal trouble in formulating the procedure that would solve the question of the Army Medical Services. The points that I would accentuate are that the Director-General should be on the Army Council and the branch entirely separate, and secondly, that civil contracts should take the place of warrants that cannot be relied upon.

It is not recognized as it should be that the A.M.S. is a national asset, as well as a department without which the British Army would fall to pieces. This point—that it is of national value—has not heretofore been considered. Yet there is no public service that supervises the lives of the pick of its manhood in the same way, or with the same far-reaching experience of each individual in its charge. From the age of 17 upwards the vast majority of enlisted men remain under surveillance, in one way or another, as reservists or pensioners or invalids, and their whole history is recorded in their medical history sheets, etc. Under such conditions, and with appropriate facilities for research, investigations and records should materially advance professional knowledge. No public service, no public hospitals, possess such opportunities. Even as it is, the A.M.S. has already advanced our general knowledge and added to the well-being of the nation. How much more would it do so if such advancement was recognized as one of its special functions?

This and other arguments lead one to see that the habit of comparing the pay, etc., of the A.M.S. with that of other officers is fallacious. It is all very well to do so in the case of officers who join regimentally, perhaps afterwards moving into a Department. The Army has to teach these officers their work, and in the world outside—at least for many a long year—the regimental officer has no market value. I do not mean in any way to detract from his value as an individual, except that he is untrained for anything at all. On the other hand, the candidate for the A.M.S. is the finished article, who can

earn his living, Army or no Army. It is a fallacy, therefore, to attempt to grade our officers in their pay and promotion by a regimental comparison, and the only utility of rank is that it is necessary within a body in which rank alone is understood.

The Director-General should be on the Army Council for good reasons. One is that when a medical point arises, if he is not present, any catch-penny opinion culled from the evening papers is quite likely to be accepted as gospel; and as for the Adjutant-General, the present mouthpiece of the A.M.S., the Council might as well have the Astronomer Royal! The position is ridiculous. Moreover, what holds good for the Council holds good in every division and brigade, and the total result is that the Army at present does not receive the full value of what is paid —little as it is—on the Army medical vote.

The question of status is very important, because the officers of the A.M.S. carry with them into the Army the intelligent outlook of the medical profession, its keenness, its scientific *flair*, its idea of personal respect. The young man, the bachelor, is full of life and energy, and he fights a gay battle on personal questions; but as the years go *by, every man advancing in life thinks more and more* of the respect in which he and his work are held. So it comes about that when the gaiety of youth has passed, and disillusion follows, officers of the A.M.S. are often only too glad to leave a Service which is treated, they consider, as an excrescence rather than as the invaluable asset that it really is. How many put their sons into it? That is a crucial test of men's views, as there is nothing an old regimental colonel desires more, as a rule, than to see his son carrying on the family name and tradition.

I am old enough, I imagine, to consider the whole question philosophically, and it seems to me that there are fundamental reasons for the periodical set-back from which the R.A.M.C. suffers. One reason is that the spirit of an army and the spirit of medicine are diametrically opposed. One is essentially destructive, the other preservative. It is the antithesis of Siva and Vishnu, to borrow analogy from Hindu mythology. It requires, therefore, a very liberal mind to interweave these opposing forces, and—except in these liberal minds—it becomes difficult to accept proposals which conflict with hereditary ideas.

Another reason is that no great profession accords its true value to the life-work of any other, and perhaps the more a man knows of his own the less he thinks of another. What great surgeon has any use for a mere general? And what great general does not regard the surgeon in similar fashion? Hence one concludes that it requires more than ordinary intelligence, indeed a very advanced and patriotic outlook, for the leaders of any profession to welcome and to foster in their ranks the members of another.

Lying before me is a reprint, in the *British Medical Journal* of February 10th, 1917, of Lord Esher's letter (*Times*, January 3rd), in which he appeals to Lord Derby to [illegible] Army Council by placing upon it the Director-[illegible] Medical Services. Here is one paragraph [illegible]:

"Certainly [illegible] lapsing between the Adjutant-General's branch over the R.A.M.C. [illegible] responsible, not only for the early failure to grip the real factors of the war, but for the hampering conditions under which Sir Alfred Keogh has worked."

The Secretary of State for War has now before him two roads to choose from. He can either continue on the present lines, absolutely deadening to those whose lives are lived in a military machine, or he can take the path that would lead to the Army being served by the pick of the medical profession. There is little doubt which the Army itself would prefer, as there is no branch more popular with the Army than the R.A.M.C.

My ideal of the A.M.S. is that to belong to it should be a *cachet* of real distinction. It should be hard to enter, full of honour and of the pride of recognized work, free from little tricks and slights, absolutely safe in pay, pension, and prospects. Evolution will perhaps bring such a condition about in time, and when it does no one will recommend the A.M.S. more strongly, as a career, than the retired officers of the Corps.—I am, etc.,

London, W., May 2nd. T. M. CORKER, Major-General A.M.S. (ret.).

PUERPERAL SEPSIS

SIR,—Some weeks ago I listened with awe to a leading obstetrician stating his views to the members of our Division of the British Medical Association. He was interesting, he was emphatic, he had no doubt whatever he was right. At the request of one of our members he touched upon puerperal fever. The subject was too big to go into fully, but he said that two things were certain: (1) it was always conveyed to the patient by the hands of the nurse or the doctor; (2) no treatment beyond general nursing was really of any value. I felt crushed, and as I have not been free from cases of puerperal fever, I felt almost criminal.

And now for a remarkable fact which can be supported by ample evidence. On April 25th I attended a primipara who gave birth to a male child. The child was alive, but had a meningocele about the size of a Jaffa orange cut longitudinally. This swelling at the end of the spinal column was septic—very septic—and looked more like a carbuncle oozing pus than an ordinary meningocele. The smell was so offensive that it filled the room and could be noticed downstairs in the kitchen. The sepsis was not that of a few hours, but of at least a few days. Of course, my patient soon became a case of puerperal fever, but fortunately she has recovered.

Now I feel less awe-struck, less crushed, less criminal, for to me this case proves beyond any doubt that organisms can and do invade the gravid uterus and cause sufficient mischief to bring about puerperal fever, and that wholesale condemnation of the doctor and the nurse is unjust, unfair, and untrue.—I am, etc.,

Keelby, Lincs, May 7th. J. H. WARD.

ABERRANT MAMMARY SECRETION

SIR,—For some time at this school a group of workers has been investigating breast milk, from both biochemical and chemical aspects. Up to the present the investigation has been chiefly confined to the study of mammary secretion after parturition. It has now been decided that this investigation should be extended to include secretions occurring before parturition, during menstruation, and other instances of mammary activity. As such cases are infrequent, may we ask the help of your readers in giving us the opportunity of getting into touch with women in whom the breasts become active before parturition, or independently of pregnancy? The clinical side of the work is carried out by Dr. Shiskin, The Beeches, 26, Carisbrooke Road, Walthamstow, E.17, who has personally undertaken to extract all samples for us. To give the minimum amount of trouble to any medical men or women who can help us in this matter, we would ask them to communicate directly with Dr. Shiskin.—I am, etc.,

May 6th. SIBYL T. WIDDOWS, London (Royal Free Hospital) School of Medicine for Women.

IMMUNIZATION AGAINST VACCINIA

SIR,—In their article published in your issue of May 2nd Findlay and Hindle set out to show, among other things, that immunization against vaccinia may be obtained by the injection of a mixture of immune serum and living virus. However legitimate it may be for them to conclude that they have done this from the results of experiments which they do not give in detail, the one experiment of which they do give a protocol does not support their thesis.

In this experiment one rabbit was given inoculations of the immune serum mixed with vaccinia virus, a second was given inoculations of the immune serum alone, and a third was given the living vaccinia virus alone. When these animals were subsequently tested for their immunity to vaccinia the first and second were found to be immune, but the third was still susceptible. The only conclusions which it might be legitimate to draw from this experiment are: (1) that living virus does not confer immunity; (2) that immune serum does confer immunity and is responsible for that produced by the serum-virus mixture. Surely some mistake has been made in the recording of this experiment?—I am, etc.,

Hale Clinical Laboratory, London Hospital, May 3rd. JOHN BLAND.

Obituary

HENRY BRIGHT WEIR, M.A., M.B.

Pathologist, National Hospital for Diseases of the Heart

In the death of Henry Bright Weir, which took place with painful suddenness on May 4th, forensic medicine in London has lost a most valuable exponent. Dr. Weir, who was a Cambridge University and a St. Thomas's man, received his early training in pathology at the latter hospital, where he became Louis Jenner research scholar and assistant director of the clinical laboratories. Later he was attached to the School of Pathology at Charing Cross Hospital, and later still was pathologist at the Heart Hospital, Westmoreland Street, W. He preferred to be known as a morbid anatomist rather than as a pathologist, and it was in the former capacity that I was fortunate enough to secure his services some fifteen years ago. Since that time he has acted as one of my pathologists, the other being Sir Bernard Spilsbury. Dr. Weir was one of the most modest, as one of the most charming of men. His ability was far greater than he would ever be likely to admit. He regarded himself as one who was always learning, and he was ever anxious and ready to learn from others. Whenever Sir Bernard Spilsbury had an exceptionally important or interesting necropsy to perform Weir would love to attend it so that he might study the methods of that well-known and experienced pathologist, and could thus add to his own store of expert knowledge. Since the Coroners Act of 1926 came into force coroners have had the power to dispense with inquests in cases of sudden deaths of unknown cause where a post-mortem examination has revealed a natural death. These examinations are even more important than when inquests were held and evidence was given in open court, and increased responsibility now falls upon the coroner who decides the case, and upon the pathologist who makes the post-mortem examination upon which that decision is founded. Accordingly there has arisen in London a practice, and a very wise one, of having these examinations made by experienced pathologists who, by reason of their training, and with the assistance of their laboratory work, can generally arrive at decisive and reliable results. In this way Dr. Weir performed a very large number of post-mortem examinations for me in Westminster, Lambeth, Battersea, Wandsworth, and, during the past six months, in Paddington and Marylebone. I came to value his services in this way most highly, and to rely upon his reports with complete confidence. They were models of terse yet comprehensive conciseness. Their conclusions were always founded upon convincing premisses, and if ever there was the least doubt as to the actual cause of death Weir would invariably come to me for further information before arriving at a definite conclusion. His work, which may seem highly unpleasant to some people, was of absorbing interest to him, and he often talked of the fascination of setting to work to solve that ever-exciting problem of "What did the man die from?" Ever patient, quiet, and restrained, he was none the less pertinacious to a degree, and, as so often happens with these modest and retiring souls, he was the very exemplar of efficiency. For many months past he had suffered from heart trouble, and he had to contend with that disability whilst endeavouring to carry out his very exacting duties. His patient and dogged determination to work on to the last was beyond all praise, although one cannot but regret now that he did not spare himself more, and yield to the pressing demands for rest which his symptoms so clearly indicated as being urgently necessary. He leaves behind a widow and two young children, and a host of friends, among whom is one who will find it impossible to fill his vacant place adequately, and will ever deplore the loss of a faithful friend and a loyal, helpful, and charming colleague.

S. INGLEBY ODDIE.

J. W. TONKS, M.A., M.D., F.R.C.S.

Surgeon, Chesterfield and North Derbyshire Royal Hospital; Obstetric Surgeon, Chesterfield Maternity Hospital

By the unexpected and untimely death of Mr. J. W. Tonks of Chesterfield another name has been added to the long roll of those who have died as a result of the exercise of their professional duties. He was born in 1888 at Wednesbury, Staffordshire, and was educated at Queen Mary's Grammar School, Walsall, and Caius College, Cambridge. He graduated B.A.Cantab. in 1909 with a first class in the Natural Science Tripos, and proceeding to University College Hospital became M.B., B.Ch., and F.R.C.S. in 1914, and M.A., M.D. in 1925. At University College he took the Fellowes silver medal in surgery and the gold medal in medicine. In 1914 he joined the firm of Sir Josiah and Dr. Arthur Court of Staveley, Derbyshire, a large and busy general practice in a coal and iron district. He entered the Army in the following year, and worked as surgical specialist in Bombay and, later, with the Tenth Burma Division. During this period he was especially commended by the Governor of Burma for services rendered to a wounded officer away in the hills. Tonks travelled seventy-four miles through difficult and dangerous jungle on a pony, taking about thirty hours on the journey, and on his arrival performed a major operation under the most primitive conditions with complete success. On his return to Staveley in 1919 he was almost at once appointed honorary surgeon to the Chesterfield and North Derbyshire Royal Hospital. In that capacity he soon made his mark, and rapidly obtained a leading position in the area as a safe and reliable surgeon.

In 1929 he gave up general practice, and devoted his energies to further consolidating his position and reputation as a consulting surgeon. At the time of his death he was acknowledged as the leading surgical specialist in the district, trusted and admired by his general practitioner colleagues and the community at large. Some years ago he was appointed obstetric surgeon to the Chesterfield

Maternity Hospital, and, quite recently, consulting surgeon to the Derbyshire County Sanatorium at Walton, near Chesterfield. But his interests were by no means confined to his surgical practice. As secretary to the medical staff of the Royal Hospital his gift for organization and his wide vision had full scope, and he was largely responsible for many of the recent developments which have done so much to enhance the prestige of the hospital. To him, chiefly, the officers of the local Division of the British Medical Association looked for advice and help in the changes in hospital methods and management which are being brought about by the Local Government Act of 1929. He took a keen interest in the B.M.A. Hospital Policy. For some years he was a member of the Divisional Executive, and was marked down as the chairman-elect for the ensuing year.

An all-round athlete, he was a good cricketer and golfer up to the last. He once remarked that, with the exception of bowls, he did not know of any game he had not played. Tonks was a man universally liked and respected both for his professional ability and for his charming personality. By his passing North Derbyshire has lost an invaluable servant and the medical profession a loyal and able colleague.

The sudden death of Dr. J. C. TURNBULL, which occurred at Sutton, Surrey, on April 15th, came as a shock to the people of Bury and district. Only two weeks before he had, for health reasons, given up practice and gone to take up an appointment at the headquarters of the South-Western Division of the Ministry of Health. James Cameron Turnbull was a native of Glasgow, and there took the degrees of M.B., Ch.B. in 1900, and M.D. in 1903. He settled in Bury in 1905, where his sterling qualities were soon appreciated. He became president of the Local Panel Committee and of the Bury Division of the British Medical Association. After a long and arduous period of service in the Army he was appointed to the staff of Bury Infirmary, and, as honorary gynaecologist and obstetric surgeon, was closely associated with the recent reorganization of the institution, and especially with the building and equipment of the maternity ward. Dr. Turnbull was a Freemason and past-master of his lodge; he was also a member and past-president of the Palatine Club and the Burns Club. He was a musician of considerable ability, and in a very real sense was a social asset to the town, where the feeling of regret at his departure has been turned into mourning at his early death. He will be remembered by his patients and colleagues as a loyal friend who inspired confidence by his quiet simplicity, and who tempered his strong character with a kindly humour.

Dr. W. H. FENN GODWIN, who died on April 28th at Hampstead, was the only surviving son of Captain John Godwin, R.E., Military Knight of Windsor. He was for some time medical officer at Avonmouth Docks, and then practised for ten years in South London. Broken health necessitated his going abroad, and he took service as ship surgeon in the British India Line. Later he acted as railway medical officer in Madras and Uganda. He then lived for nine years in Java, and had special permission from the then Governor-General to practise among the Chinese. At the outbreak of the war he returned home to England and joined the R.A.M.C., but after two years' service he was invalided out, and went to practise in Western Australia.

The Secretary [illegible]ngland, Ireland, and Wales will hear two roads to choo[illegible]he death, at the age of 32, of Dr. the present lines, FALLON, after a long illness. Dr. lives are lived in [illegible] of Belfast University, and graduated path that would l[illegible] After this he held posts as house- pick of the med[illegible]d Wigan, and resident surgical officer [illegible]g which time he obtained the D.P.H. [illegible]o years he acted as a ship surgeon, and with his lovable and genial personality increased the number of his friends. At the time of his death he was assistant medical officer of health for Bury, and had almost completed a piece of work full of promise and achievement, which he intended to submit as a thesis for the M.D.

Dr. JESSIE LAMB, who died at Bath on May 1st, after an operation, was a member of a well-known missionary family in Yorkshire. She was born at Wheldrake on January 29th, 1877, when her father, the late Canon Benjamin Lamb, was vicar there. It was while their father was at Clapham, Yorkshire, that Dr. Jessie Lamb and her two sisters volunteered to go out as missionaries of the Church of England Zenana Missionary Society. Miss Florence Lamb, who was trained as a nurse at Guy's Hospital, was the victim of a bathing accident in China, after she had served for only eighteen months in the mission field. Miss Maud Lamb is still working at the St. Catherine's Hospital of the Society at Amritsar, Punjab, with which Dr. Jessie Lamb was so prominently connected for twenty years. Dr. Lamb went to India in 1906 on the conclusion of her training at the London School of Medicine for Women, and a period of work at the New Hospital for Women, London, and the Bermondsey Medical Mission. She had graduated M.B.Lond. in 1903. She worked for four years at Tarn Taran before going to Amritsar in 1910. There she helped further to develop a fine work for women and girls especially, which had been begun in 1880. The extent of the work is evident from the fact that last year 15,000 out-patients were treated there. The hospital has 100 beds, and an average of 800 operations are performed annually. Dr. Lamb not only worked indefatigably herself and won the love and gratitude of hundreds of Indian women, but she helped in the training of many Indian doctors and nurses. The value of her services was recognized by the bestowal on her of the Kaiser-i-Hind medal in 1920.

Dr. JAMSHED N. BAHADURJI, who died in London on May 4th at the age of 61, was a very popular and successful Parsi practitioner in Bombay, and held appointments at a number of medical institutions in that city. Besides his professional skill he was a keen sportsman—a good cricketer and tennis player. Owing to failing health he retired from practice and made his home in England during the past few years. He was the son-in-law of Sir Muncherjee Bhownagree, K.C.I.E., formerly M.P. for Bethnal Green.

The following well-known foreign medical men have recently died: Dr. VITTORIO ASCOLI, professor of internal medicine at Rome, and editor of *Il Policlinico*, aged 68; Dr. KARL GRAUPNER, director of the oto-rhino-laryngological clinic of Berlin University, aged 59; Professor PAUL SOMMERFELD, a Berlin bacteriologist, and an authority on the hygiene of milk, aged 61; Professor MARTIN HAUDEK, the Vienna roentgenologist, who has given his name to the niche connected with gastric ulcer, aged 51; and Dr. PACIFICO DIAZ, an eminent Buenos Aires dermatologist.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

The General Board of Studies recommends (*a*) that a university lectureship in pharmacology be established in the Faculty of Medicine as from October 1st, 1930; (*b*) that a university demonstratorship be established in the Department of Experimental Psychology as from October 1st, 1931. These recommendations were approved by the Senate on May 9th.

The following Syndicate has been appointed to consider the medical courses and examinations of the University and their relations to courses and examinations for the B.A. degree: the Vice-Chancellor, Professor H. R. Dean, Mr. W. Spens, Sir Humphry Rolleston, Dr. T. S. Hele, Dr. E. D. Adrian, Dr. A. E. Clark-Kennedy, Dr. L. A. Borradaile,

Professor J. T. Wilson, Professor J. Barcroft, Mr. H. Thirkill, and Mr. H. McCombie.

At a congregation held on May 9th the following medical degrees were conferred:

M.D.—H. K. Goadby, A. Sandison, S. E. F. Gooding, W. G. S. Brown.
M.CHIR.—R. W. Butler.
B.CHIR.—V. H. Ellis.

UNIVERSITY OF LONDON

A meeting of the University Court was held on May 7th, when the chairman, Lord Macmillan, presided.

A cordial vote of thanks was accorded to the Rockefeller Foundation for the gift of about £146,000 to the London School of Economics and Political Science for the further expansion of the school, by the erection and equipment of a new library building and the development of the resources of the library, and for improved facilities for research and post-graduate teaching.

It was reported that the late Mr. Clifford B. Edgar, who represented Convocation on the Senate, had bequeathed £4,000 to the London School of Hygiene and Tropical Medicine for the promotion of research.

LONDON HOSPITAL MEDICAL COLLEGE

Lord Macmillan, chairman of the University Court, will distribute the prizes and certificates to students of the London Hospital Medical College on Wednesday, June 24th.

UNIVERSITY OF SHEFFIELD

Dr. T. E. Gumpert has been appointed honorary demonstrator in physiology, and Dr. James Clark, deputy medical officer of health, Sheffield, has been appointed demonstrator in public health.

QUEEN'S UNIVERSITY, BELFAST

The Senate has resolved that the honorary degree of D.Sc. shall be conferred on Dame Louise McIlroy, M.D., professor of obstetrics and gynaecology, London (Royal Free Hospital) School of Medicine for Women, University of London; on Joseph Barcroft, M.A., F.R.S., professor of physiology, University of Cambridge; on Major-General J. W. D. Megaw, Director-General I.M.S., and on H. Hampton Young, M.D., clinical professor of urology, Johns Hopkins University Medical Department, Baltimore.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

Diplomas of L.R.C.P. were conferred on May 7th on the following fifty-eight candidates (including eight *women*), who have passed the requisite examinations and have complied with the by-laws:

Margaret Abernethy, R. E. Adam, Margaret H. Banks, G. Barwell, J. S. Batchelor, R. J. V. Battle, Jessie G. Belilios, L. P. B. Chamberlain, S. C. Cimmering, G. T. Cook, Khorshed M. Cooper, G. J. Cunningham, L. E. A. Dearberg, W. De Lacey, S. D. de Silva, N. B. Fadia, L. Farris, A. C. Frazer, W. G. Glassco, T. N. Gledhill, H. Goldenberg, D. G. Gower, L. J. Hackett, Kathleen M. L. Hall, H. T. Halper, M. Halpérine, A. C. Hauptfleisch, N. Heath, G. Holroyd, J. H. Hunt, A. L. Jacobs, C. D. P. Jones, M. S. Khan, Janet Y. Laidlaw, M. M. Landau, R. C. Langford, G. F. Lashmore, A. J. D. Lewis, H. M. List, A. W. Littlewood, B. F. Longbotham, A. P. McEldowney, G. B. Malone-Lee, T. P. Mulcahy, B. S. Nanjiani, J. L. Parker, J. Ross, Eileen M. M. Shaw, H. J. Shorvon, M. Shorvon, E. G. Sibley, J. H. Spence, A. L. Thomas, J. C. Wharton, Eva M. M. Willett, G. M. Willey, O. S. M. Williams, W. G. Wright.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

A quarterly meeting of the Royal College of Physicians of Edinburgh was held on May 5th, when the president, Sir Norman Walker, was in the chair.

Dr. Thomas Ferguson (Falkirk), Dr. Ronald Douglas Mackenzie (Edinburgh), Dr. Ernest Watt (Edinburgh), and Dr. George Matheson Cullen (Edinburgh) were introduced, and took their seats as Fellows of the College.

Dr. George Hector Percival (Edinburgh), Dr. David Lees (Edinburgh), Dr. Margaret Black Martin (Edinburgh), and Dr. Joseph Ryland Whitaker (Edinburgh) were elected Fellows of the College.

Dr. Robert Thin was re-elected a representative of the College on the Conjoint Committee of Management of the Triple Qualification.

The Freeland Barbour Fellowship was awarded to Robert Henry Slater, B.Sc., Ph.D.

CONJOINT BOARD IN SCOTLAND

The following candidates have been approved at the examinations indicated:

FINAL EXAMINATION.—*Medicine:* T. A. M. Ashforth, S. R. Ayengar, H. F. Ezzat, S. Grasse, W. Kelly, G. D. Morgan, P. A. P. V. Pillai, M. Smellie, J. A. Walsh. *Surgery:* T. A. M. Ashforth, H. F. Ezzat, A. J. Ritchie, A. G. Williams. *Midwifery:* S. R. Ayengar, S. Grasse, L. Lambinson, H. S. M. Maxwell, M. A. Perera, P. A. P. V. Pillai. *Medical Jurisprudence and Public Health:* M. A. Abdalla, A. E. Albuquerque, D. K. Cowan, E. T. Dietrich, L. F. Donnan, P. C. Dutt, M. O. Luck, A. A. M'Nish, M. J. Moynihan, Alice J. Paton, J. C. H. Speirs, O. Springer, A. M. C. Stephenson, W. B. Taylor, V. S. Trivedi, M. L. Varma, R. F. K. Webster.

Out of eighty-one who entered, the following successful candidates were admitted L.R.C.P.Ed., L.R.C.S.Ed., and L.R.F.P.S.Glas.:

L. Ahmed, P. M. Ballantyne, P. Barron, D. A. Black, J. S. F. Botha, J. Boyle, R. Bulman, P. Dass, A. C. Devaraj, A. Fazary, J. T. M. Fenton-Fyffe, K. Graftdyk, D. M. I. Harmar, M. D. D. Jayawardana, S. G. A. Malek, R. E. Mullarky, Alexandrina M. M. Parker, W. R. Parker, G. S. Robertson, J. Rosenberg, G. Rosenbleitt, M. Sarkar, D. W. Semmens, A. Shaheen, J. A. Shehid, J. E. Sprunt, Helen V. Tindal, H. F. Tindal, A. W. Turnbull, Mary T. Wilson, W. R. Young.

The following, having passed the examinations, have been admitted Diplomates in Public Health:

N. W. Ahin, Helena E. Barrett, A. D. Gorman, B. N. Khan, Mary L. Liston, F. F. Main.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

This week the House of Commons discussed Indian affairs, airships, and overseas trade, and also completed the committee stage of the Representation of the People Bill.

On May 12th the Parliamentary Medical Committee, with Dr. Salter in the chair, heard a statement by Mr. Melluish and Mr. Linstead, president and secretary of the Pharmaceutical Society, upon the Pharmacy and Poisons Bill, which was down for second reading in the Commons on May 15th. These visitors discussed the amendments which they wished to see in the Bill. The first was that in any open shop in which medicines were dispensed there should be at least one qualified pharmacist in charge. The second was that permission to sell "Class Two" poisons should not be given to all who applied for it, but that the local authority should have power of restriction or refusal, having regard to the needs of the locality as well as to suitability of applicant and premises. The general feeling of the meeting is reported to have been that the Bill was useful, but would be improved by these suggested amendments.

The Consultative Committee on Health and Housing heard, on May 12th, a deputation from the Pharmaceutical Society, the Retail Pharmacists' Union, and the "Pharmacists' National Opposition," who stated objections to the Pharmacy and Poisons Bill. The main contention of the deputation was that control of the sale of poisons should not be handed over to the Poisons Board, but be left with the Pharmaceutical Society. A committee of the Liberal party also considered the same Bill, and decided that it would require amendment after second reading.

Sir Leonard Hill has promised that, on June 9th, he will discuss the ventilation of the House of Commons at an open meeting of M.P.'s, arranged by the Parliamentary Medical Committee.

Proprietary Medicines Bill

On May 11th Mr. SOMERVILLE HASTINGS presented the Proprietary Medicines Bill "to regulate the manufacture, sale, and advertisement of certain medicines and surgical appliances, and for purposes connected therewith." The Bill was formally read a first time and set down for second

reading on May 20th. It is backed by Dr. Fremantle, Dr. Morris-Jones, Dr. Salter, Mr. Tinne, Mr. T. B. Wilson Ramsay, and Mr. G. H. Oliver.

The Bill proposes to prohibit the sale of any proprietary medicine or proprietary medical appliance unless (*a*) the vendor is registered as owner of the medicine or appliance, or is a person authorized by the owner to manufacture; also unless (*b*) the medicine or appliance is duly registered as the Bill provides; and unless (*c*) in the case of a medicine it is compounded of the ingredients and in the proportions specified in the register, or in the case of an appliance corresponds with a specimen furnished to the registrar.

The Bill is a long one. It prohibits correspondence offering treatment, and publication of misleading or false testimonials, or of assertions that a medicine or appliance is recommended by an unidentified medical practitioner or was introduced by one. The Minister is to keep a register of owners, of medicines, and of appliances, and make regulations for this purpose. Only the Minister can take proceedings against persons preparing for sale a proprietary medicine compounded of other ingredients, or in other proportions, than those specified in the register.

After six months from the coming into force of the Act sale and advertisement will be illegal in the case of remedies or appliances for deafness, rupture, cancer, consumption, lupus, fits, epilepsy, amenorrhoea and other diseases peculiar to women, diabetes, paralysis, locomotor ataxia, or Bright's disease. There is an absolute prohibition of advertisements suggesting the use of articles for abortion, miscarriage, or the cure of sexual weakness.

No opportunity will occur for the passage of the Bill this session.

Income Tax

On May 7th the House of Commons considered the Budget resolution which provides that, on January 1st, three-quarters of the income tax due for the year shall become payable, instead of one-half as at present. Mr. C. WILLIAMS moved an amendment providing that, instead of three-quarters, seven-twelfths of the total sum due should be payable. Dr. ELLIOT, in supporting the amendment, took the case of a doctor, going on year after year, with a large panel practice. Such a man earned a considerable sum, but he could not go on for ever. These proposals would fall hardly on the panel doctor, working long hours and looking forward at a relatively early date to getting away from the heavy hammer of an industrial practice into some country practice, where his income would be very much less, but where his health might be expected to last a good deal longer. The panel doctor in a colliery district worked under a strain from which he frequently broke down. Such a man earned every penny he got, and when the question of a reduction in panel fees was being considered the representatives of the workers often stood out against any proposal for reduction. Mr. W. GRAHAM resisted the amendment, which was defeated by 255 votes to 156. Mr. Hastings, Dr. Hunter, Dr. Drummond Shiels, Dr. Salter, and Dr. Morris-Jones voted against the amendment, which was supported in the division lobby by Dr. Elliot and Dr. Fremantle.

Silicosis

Mr. CLYNES told Mr. Train, on May 7th, that under the Sandstone Industry Silicosis Scheme, 1929, claims had been made in Scotland on the fund for one case of death and two of partial incapacity. The first periodic medical examinations would not be completed for some time. Thereafter the rates of levy paid by quarry masters would be reviewed.

Answering Mr. Rennie Smith on May 7th, Mr. CLYNES said the international classification of the stages of silicosis and their radiological diagnosis, which was mentioned in the report of the International Silicosis Conference of 1930, had been adopted by the conference. Having regard to the character of the conference this classification was universally accepted. The conference [illegible] should institute researches into [illegible] disease due to dust, and [illegible] Industrial Fatigue Research Board [illegible] by the Medical Research Council to investigate silicosis and other forms of pulmonary disease. Schemes of research drawn up by this committee had been approved and were being put into operation. The protection of factory workers against exposure to dust had for many years received attention from the Home Office. The special provisions in codes of regulations for dusty industries were constantly under review. The preventive measures recommended by the International Silicosis Conference were based on those actually adopted and applied in Great Britain.

the present [illegible] officer
lives are lived in [illegible] search
path that would [illegible] After [illegible]
pick of the med[illegible]d Wigan, and resident[illegible]
[illegible]g which time he obtained the D.P.H. [illegible]
[illegible]o years he acted as a ship surgeon

Animal Experiments

Mr. FREEMAN, on May 5th, asked the Home Secretary whether the 131 experiments involving 719 living animals recorded by the Chemical Defence Experimental Station, Porton, during 1930, were recorded in the annual official report of the Home Office as 719 experiments, or, if not, how were they recorded. Mr. CLYNES replied that in this case the number of experiments recorded in the annual return would be greater than 719. The precise figures were not yet available. In some of the cases it was necessary, after the initial procedure, to withdraw a small quantity of blood for examination, and each such withdrawal was treated, for statistical purposes, as a separate experiment. As there were a few returns from licensees still outstanding, the final figures of experiments on living animals in 1930 could not yet be given. It was not expected, however, that they would make a material difference to the total. The available returns showed that 450,744 experiments were performed under the Act during 1930, of which 432,474 were without anaesthetics and 18,270 with anaesthetics. The number performed for cancer research was 25,259, of which 23,964 were without anaesthetics and 1,295 with anaesthetics.

Milk for Schools

In reply to Mr. R. S. Young, on May 6th, Mr. MORGAN JONES said the Board of Education was co-operating with the National Milk Publicity Council, and every opportunity was taken to bring to the attention of local education authorities and teachers the council's scheme for voluntary milk clubs in schools. The National Milk Publicity Council stated that this year they provided milk for 600,000 children, as compared with 350,000 last year.

Answering Mr. Freeman, on May 7th, Mr. LEES-SMITH said he had the power, by compulsion either on education authorities or on parents, to secure that every child in school received a daily supply of fresh milk. He was encouraging such provision.

Traffic Privileges for Doctors

Replying to Mr. Marjoribanks, on May 6th, Mr. HERBERT MORRISON reaffirmed his opinion that the authorization of special signs, horns, or lights on the cars of medical practitioners to give them facilities through traffic in cases of emergency would involve serious interference with the free flow of traffic. Mr. MARJORIBANKS asked that consideration should be given to a system adopted in Canada, which worked well. Mr. MORRISON said he had carefully considered the matter.

Funds for Cancer Research

On May 12th Mr. GREENWOOD told Mr. Freeman that he had no funds at his disposal for making grants to the Imperial Cancer Research Fund and the British Empire Cancer Research Fund. *Information* was not available in his department of the extent to which contributions might have been made to these institutions out of local funds. Any part of the inclusive grant in aid received by the Medical Research Council from the Exchequer might, at its discretion, be allocated to work on cancer, and certain expenditure on the investigation of this subject through a departmental committee was borne on the vote for his Department. He had no information as to any similar expenditure out of local funds.

Vaccination and Small-pox

On May 12th Mr. GREENWOOD told Mr. Freeman that six deaths were registered in 1930 in which vaccination, vaccinia, or post-vaccinal encephalitis was mentioned on the death

certificates. Vaccination was mentioned on the death certificates of all those persons, and their ages were 5 months, 3 years, 4 years, 10 years, 19 years, and 71 years.

Mr. GREENWOOD, on May 12th, also told Mr. Freeman that there were thirty deaths in England and Wales in 1930 in which small-pox was certified as a cause of death. In twenty-six of these some other disease was also mentioned on the death certificate. The ages of those who died from small-pox alone were: 13 days, 3 weeks, 9 years, and 33 years. The ages of those on whose certificates small-pox and other diseases were mentioned were: 18 days, 1 month, 7 weeks, 8 months (2), 5 years, 10 years, 11 years (2), 13 years, 16 years, 45 years, 46 years, 47 years, 50 years, 55 years, 56 years, 58 years, 59 years, 63 years, 66 years (2), 69 years (2), 77 years, and 82 years.

Rejection of Recruits.—Answering Mr. Cecil Wilson, on April 28th, Mr. SHAW said that, in 1909, 46.7 per cent. of the men served with recruiting notice papers for the British Army were rejected. In 1926 the proportion was 58.7 per cent.; in 1927 60.1 per cent.; in 1928 57.3 per cent.; in 1929 54.4 per cent.; in 1930 53.1 per cent. Mr. Shaw also stated that in 1930 54.5 per cent. of recruits were rejected in the London zone. In the other zones the proportion ranged from 70.8 per cent. in the East Lancashire zone to 12.5 per cent. in the North Midland.

Purity of Flour.—Mr. GREENWOOD stated, on April 30th, in reply to Mr. Lees, that the view of the Departmental Committee on the Treatment of Flour with Chemical Substances was that most of the substances known in the baking trade as improvers were unobjectionable on grounds of public health in the quantities in which they were used, but they expressed the opinion that the use of chlorine and nitrogen trichloride was undesirable. The committee did not accept the view that so-called improvers generally enabled the flour to absorb more water.

Camphor and the Budget.—In the House of Commons, on May 5th, during a debate about the increased duty on hydrocarbon oils, Commander KENWORTHY moved to exempt white spirit and turpentine. Sir GEORGE HAMILTON pointed out that synthetic camphor was dependent on turpentine. The proposed tax would increase the cost per hundredweight of camphor by 12s. 4d. Camphor had usually come from Formosa, but its synthetic manufacture in Britain began a few years ago, and was now carried on at Ilford and in Essex. Mr. GRAHAM, in reply, said that, as no turpentine remained in the finished product, there was perhaps a case for the application, but he was obliged to stand by the proposal of the Government.

Ophthalmic Benefit.—Mr. GREENWOOD, on May 5th, told Mr White that the total amount spent by approved societies and branches in England on ophthalmic benefit during 1928 was £276,600; in 1929 it was £278,200; and in 1930 £353,300. These sums included payments for ophthalmic examinations and ophthalmic treatment, but the greater portion of them was spent on the provision of glasses. No information was available to show the amounts paid to particular opticians.

Dangers of the Strait-jacket.—On May 5th Mr. BROCKWAY asked the Minister of Health if his attention had been drawn to the case of David Fyfe, who died in Waterloo House, Bethnal Green, with eleven broken ribs, sustained during his detention and following restraint in a strait-jacket; and if he would make an inquiry into the case. Miss LAWRENCE replied that the Minister of Health had already caused inquiry to be made into the case, but this inquiry was not complete. Mr BROCKWAY asked that, in view of the extraordinary nature of this case, two points should be specially borne in mind in the inquiry. The first was, whether there was any padded room in this establishment where a person under detention could be placed, rather than in a strait-jacket; and in the second, whether Councillor Blackater, J.P., would be examined before the inquiry was concluded. Miss LAWRENCE said that the Minister of Health would be glad to consider any relevant consideration, but she warned the House against taking it for granted that the circumstances were as stated in the question.

Mental Deficiency Statistics.—Miss LAWRENCE, on May 11th, informed Mr. G. Macdonald that statistics on the number of persons in England and Wales certifiable as mental defectives were not available. The persons detained on certificates under the Mental Deficiency Acts on December 31st in each of the last five years were: 1926, 20,091; 1927, 21,598; 1928, 23,275; 1929, 25,076; and 1930, 27,811.

Fat from Sewage.—On May 11th Mr. McELWEE asked Miss Lawrence if the Minister of Health would inquire as to the amount of fat that was extracted from sewage disposal works, and whether the fat was being used in the manufacture of margarine. Miss LAWRENCE said that if Mr. McElwee could send her any information as to this practice she would be glad to receive it. At present there was no information. Mr. McELWEE said he understood that a large dairy company was taking several tons a week.

Mortality of Tuberculous Pensioners.—Mr. ROBERTS, on May 11th, told Mr. Hore-Belisha that he could not state precisely the number of disabled officers and men pensioned for tuberculosis whose cases had been reviewed in 1928, 1929, and 1930. The deaths of tuberculous pensioners reported in 1928 were 1,450; in 1929, 1,400; and in 1930, 1,050; but the number of those cases in which death was due to the disability could not be stated.

Invaliding out of the Navy.—Mr. ALEXANDER, in reply to Sir Bertram Falle, said he could not agree that there was any need to issue further instructions regarding the procedure of invaliding men from the Navy, nor for the appointment of any committee of inquiry. Men invalided had adequate facilities for making representations if they felt dissatisfied.

Notes in Brief

An interim report has been made by the Ministry of Health committee which is examining the reports of regional planning committees.

The report of the Government actuary upon the superannuation of asylum officers will be published in a few weeks' time.

The number of women in Great Britain contributing for national health insurance on December 31st, 1930, was 5,750,000.

Medical News

The next session of the General Medical Council will commence on Tuesday, June 2nd, at 2 p.m., when the President, Sir Donald MacAlister, Bt., M.D., will take the chair and give an address. The Council will continue to sit from day to day until the termination of its business.

The next meeting of the Biochemical Society will be held in the Department of Biochemistry, University of Oxford, to-day (Saturday, May 16th) at 2.30 p.m.

A quarterly meeting of the Medico-Psychological Association will be held at B.M.A. House, Tavistock Square, W.C., on Thursday, May 21st, at 2.30 p.m. Papers will be read by Dr. Norman Phillips on mental disorders associated with pernicious anaemia, by Dr. W. F. Samuels on antimalarial work at the Central Mental Hospital, Tanjong, F.M.S., and by Dr. A. Geoffrey Shera on terminal uraemia, with notes on the prevalence of renal disease among the insane. A dinner to commemorate Sir James Crichton-Browne's long and distinguished service to psychological medicine will be held at the Langham Hotel, Portland Place, W.1, in the evening, at 7.30 p.m.

The Royal Sanitary Institute will hold a sessional meeting on Friday, May 29th, in the Guildhall, Exeter, when a paper on the Exeter new sewage purification works will be read by Mr. E. J. Silcock. The chair will be taken at 4.30 p.m. by Dr. Charles Porter.

A meeting of the Royal Microscopical Society will be held at B.M.A. House, Tavistock Square, on Wednesday, May 20th, at 5 for 5.30 p.m. The papers to be read and discussed include one by Dr. C. A. Hoare on transmission of trypanosomes by insects.

The thirty-second annual meeting of the Lebanon Hospital for Mental Diseases, Asfuriyeh, near Beirut, Syria, will be held on Tuesday, May 19th, at 3.15 p.m., at Friends House, Euston Road, N.W. (opposite Euston Station), under the chairmanship of the Right Rev. Herbert Bury, D.D. The speakers will include Dr. E. W. G. Masterman, chairman of the general committee, and Dr. J. Tylor Fox.

The Inter-State Post-Graduate Assembly of North America will visit London on Tuesday and Wednesday, May 26th and 27th. The following lectures will be given at 1, Wimpole Street: Tuesday morning, "Some medical hints," by Sir Thomas Horder, Bt.; "Some points on the treatment of head injuries," by Mr. Donald Armour; "The myocardium, with special reference to the right ventricle," by Dr. J. Strickland Goodall. Wednesday morning, "Cancer of the rectum" and cinematograph demonstration of the abdomino-perineal operation, by Mr. A. Lawrence Abel; "A gynaecological talk," by Mr. Victor Bonney. Visits will be paid on Tuesday afternoon to the Middlesex Hospital, the Chelsea Hospital for Women, and the Infants Hospital, and on Wednesday afternoon to the London Temperance Hospital, and the National Heart Hospital.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found at page 196 of the *Supplement*. It will be seen that the special evening lectures to candidates for the M.R.C.P. are being continued. A course in gynaecology will be given at the Chelsea Hospital for Women from June 1st to 12th; in ante-natal care at the Royal Free Hospital from June 5th to 26th; in dermatology at the Hospital for Diseases of the Skin, from June 1st to 12th; in diseases of Children at the Children's Clinic and other hospitals, from June 15th to 27th; in tropical medicine, from June 15th to July 4th, at the Hospital for Tropical Diseases; and in medicine and surgery at the Prince of Wales's Hospital, June 1st to 13th. Courses of three months' duration in venereal diseases can be arranged, for women only, at the Royal Free Hospital; these courses will carry a special certificate; fee, 20 guineas. Copies of syllabuses for all courses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1.

The British Social Hygiene Council is organizing its sixth summer school, to be held at St. Hugh's College, Oxford, from July 29th to August 5th. The course is designed particularly to meet the needs of local authorities and national organizations at home and overseas who wish to secure for their officers, speakers, and health visitors instruction in the scientific foundations of social hygiene. The lecturers will include Sir J. Arthur Thomson, Professor Winifred Cullis, Dr. I. Feldman, Professor Cyril Burt, and Dr. William Brown. Particulars may be obtained from the honorary secretary of the Council, Carteret House, Carteret Street, S.W.1.

National Baby Week will be held this year from July 1st to 7th. A national conference on maternity and child welfare, organized by the National Association for the Prevention of Infant Mortality, is to take place in Cardiff on July 1st, 2nd, and 3rd, to discuss (*a*) an effective maternity service for the whole population; (*b*) the physical health of the normal child from 1 to 5 years of age; (*c*) the mental health of the normal child from 1 to 5 years of age; (*d*) children in institutions and boarded-out children. In connexion with the conference, lectures, a baby week film display, visits to child welfare institutions, and other activities, are being arranged in Cardiff. Further information regarding the conference may be obtained from the secretary, National Baby Week Council, 117, Piccadilly, London, W.1.

The International Labour Office has issued seven brochures, Nos. 243 to 249, dealing with the following subjects: solvents; tea and coffee, and telluretted hydrogen; tin; typefounders; ventilation; industrial hygiene, and workshops; and iodine. These publications, which form part of the general series, entitled *Occupation and Health*, are obtainable from the director of the London office of this organization, 12, Victoria Street, S.W.1.

The first issue of a two-monthly official journal for the American Society of Clinical Pathologists appeared in January with the title *American Journal of Clinical Pathology*, under the editorship of Dr. T. B. Magath. The January issue reproduces the presidential address of Dr. J. H. Black at the ninth annual convention of the society last year, and the clinical subjects dealt with include: the haematological aspects of agranulocytosis and other diseases accompanied by extreme leucopenia; agranulocytic syndromes; the Schilling count in appendicitis; the Kline precipitation test; the meningeal reaction to therapeutic serum injections; and a review of the present state of knowledge about cancer. The periodical can be obtained in England from Messrs. Baillière, Tindall and Cox, 8, Henrietta Street, W.C.2, the annual subscription being 23s. 6d., post free.

The Board of Education has published in pamphlet form a revised list of certified special schools for blind, deaf, defective, and epileptic children in England and Wales, and also institutions recognized by the Board as providing higher education for such children, together with a list of nursery schools. The institutions are grouped according to type and arranged in counties, details being given of the available accommodation in each. Copies of the list may be obtained from H.M. Stationery Office, price 9d.

Lady Chamberlain, G.B.E., wife of Sir Austen Chamberlain, K.G., has accepted the chairmanship of the British section of the Save the Children Fund, which is making a special effort to extend the provision of open-air schools for debilitated elementary school children, on the lines of the Fund's first open-air school at Broadstairs.

Major G. W. Dunkin, M.R.C.V.S., of the farm laboratories of the National Institute for Medical Research at Mill Hill, is on a visit, under the aegis of the Medical Research Council, to the United States, having as his primary object the study and discussion of the methods adopted in America for production of serums and vaccines in relation to animal disease, with particular reference to distemper. Major Dunkin bears with him a message from the National Veterinary Medical Association of Great Britain and Ireland to the American Veterinary Medical Association.

The King has approved of the appointment of Dr. Cyril B. Dear, acting chief medical and health officer, to be a nominated official member of the Legislative Council of St. Lucia, and of Dr. Stanley Branch, chief medical and health officer, to be a nominated official member of the Legislative Council of St. Vincent.

The following members of the medical profession were called to the Bar on April 29th: Dr. W. Calverley (Middle Temple), Dr. Mary J. Butcher and Dr. W. J. Butcher (Gray's Inn).

Before the war the Selborne Society started its extension work with a view to helping other societies to get good lectures, as distinct from courses, at moderate fees. It was found, too, that schools soon took advantage of the scheme in order to broaden their pupils' outlook, by giving them something not in the ordinary curriculum. The fourteenth annual edition of the society's lecture list can be obtained for 1s. from the assistant secretary, The Hermitage, Hanwell, W.7.

Circular letters 1202 and 1202A, issued by the Ministry of Health on May 8th, are in substance one circular, urging local authorities who are responsible for the housing of the working classes to increase and accelerate during the present building season the output of new houses and the repair of existing insanitary houses, a work which will not only improve housing conditions, but will help materially in alleviating unemployment in the building industry.

Dr. Cecil M. Rolston, chief medical officer, has been appointed an official member of the Legislative Council of the Presidency of Dominica.

A society of oto-rhino-laryngology for the Lyons district has been established, with Dr. Garel, the founder of laryngology at Lyons, as president for 1931.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to *The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.*

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The TELEGRAPHIC ADDRESSES are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Sour Milk

"H. R. M." asks whether the method advocated by Dr. C. A. Corban (May 2nd, p. 779) can be carried out in India, or will the temperature of that country affect the process? In what conditions is sour milk prescribed, and how does it differ from whey, or, as Indians call it, "chas"?

Foreign Ear, Nose, and Throat Clinics

Mr. W. S. THACKER NEVILLE (Harrogate) writes in reply to "Peroral": The best course of bronchoscopy is given in Paris in the summer by Chevalier Jackson. Another excellent course can be taken in Vienna, and Professor Portmann gives a six weeks' course in Bordeaux once a year.

Psoriasis

"A.M." writes: In reply to "A. D." I have never found the following fail to clear up psoriasis: half a drachm of solution of coal tar, 10 grains of ammoniated mercury, and soft paraffin to 1 ounce. The only disadvantage is that it stains the clothing. It can, however, be decolorized.

Cataract and Medical Practice

"SENEX" writes: I have a patient in active medical practice who is about to undergo an operation for cataract in one eye. He is anxious to know whether, supposing the operation is successful, he will be able to carry on medical practice as at present. The other eye shows some signs of commencing cataract, and may require operation later. At present the sight is very good. Also, supposing both eyes are operated on, would he be able to carry on medical practice with the aid of glasses? Of course, he understands that anyhow he will not be able to drive his car. Do you know of any case of a medical man carrying on under these conditions?

*** We have referred this query to Mr. Bishop Harman, who replies as follows: There is no reason why a medical practitioner who is in fair general health, and who has had a cataract removed from one or both eyes, should not continue to engage in medical practice. Vision after cataract operation is in the majority of cases good. There are certain difficulties that need to be overcome, but they are not insuperable. The chief difficulty arises from the necessarily high power lens required to give a satisfactory focus to the eye that has lost its crystalline lens. The higher the power of a lens the more is the area of good vision restricted. For the most part care is only needed when going down steps or stairs. But patients readily accustom themselves to the new conditions. If one eye only has been operated upon it is generally found that the patient prefers as his master eye the one that has not been dealt with, until such time as the lens opacities in this eye render its vision poor. I have just referred to my notes of three doctors who were operated on more than ten years ago. One had both cataracts removed; the other two had one cataract removed, the other eye being free from cataract. All three continued their work successfully, but, curiously enough, all were in special and not general practice. I may perhaps add that they were quite satisfactory patients, better than most laymen!

Left-handedness in a Child

"H. J. M." writes in reply to "M.D.": My daughter, aged 12, is left-handed, and I found that she made her own choice of side for all essential acts, and any attempt to coerce her caused great mental distress. Such children ought to be allowed freedom of choice, yet they should be encouraged to use the right hand for minor acts where the use of the left hand would be a handicap later on. I should certainly allow a left-hander to play games in the manner decided by a natural cause. I know no useful literature on the subject, despite a search, and I do not see how it could help. Applied common sense should decide the treatment, and the mother of "M.D.'s" patient might be influenced by pointing out the value of ambidexterity in the future, and the difficulty of deciding at the age of 3 years whether it is a case of real left-handedness or just a phase.

Piercing the Lobule

So many replies have been received in answer to the query by "Barbarian" in last week's issue (p. 829) that we have found it necessary to extract the main principles of each in the form of a brief general note.

The preparation of the skin may be done with surgical spirit or warm biniodide solution (1 in 6,000). In piercing the lobule two methods may be used. The first is one in which a fine trocar and cannula, or the smallest Southey's tube and trocar, are used, heat being employed as a sterilizing agent in each case. After withdrawal of the trocar a small gold ring called a "sleeper" is introduced through the cannula and left *in situ* after the cannula is withdrawn. The ring should be worn continuously for three or four weeks. "K.Y." jelly is a good lubricant in this procedure. It is essential to move the ring round and smear it every day with the antiseptic jelly, or ointment of yellow oxide of mercury. The second method is that of inserting a thread of silk or of silkworm-gut (prepared in 2 per cent. mercurochrome) with a fairly large, sharp, straight or curved surgical needle. In some cases a ring of thread can be formed, but by tying a double thread with knots close to the anterior and posterior openings a simpler "sleeper" is formed. The after-treatment consists in careful dressing under aseptic conditions, or by powdering with a preparation such as bismuth-formic-iodide. In the case of the circular silk "earrings," if the patient reports daily they can be turned slightly, so that a fresh piece goes inside the wound every day. It is advisable to mop the area with biniodide solution regularly. At the end of a week or ten days the silk can easily be cut away and the proper earring fitted. All our correspondents, by adopting the above methods, have had successful results, free from septic complications.

Dr. Christopher Woodhouse

Mr. L. WYNN HOUGHTON, F.R.C.S. (Berkhamsted) writes: With reference to the inquiry by "A. A. M." in the *Journal* of May 2nd for some facts concerning Christopher Woodhouse I append the information he requires. Extract from *The Parish Church of Berkhamsted St. Peter*, by R. A. Norris (1922, p. 68):

"Another regrettable loss is that of the stone from the grave of Christopher Woodhouse, who died in 1682, a loss due to the extensive works carried out in 1870. Woodhouse was a very prominent townsman, by profession a doctor of medicine; his name appears on the list of Burgesses, and he also served the office of *Bailiff*. Mr. Woodhouse lived in the house now known as the Homestead, nearly opposite the Alms Houses. Here he was visited by William Penn, who tried to induce Gulielma Woodhouse, Christopher's daughter, to go to his colony in Pennsylvania. Christopher Woodhouse was buried in the N. Transept. Chauncy describes the coat of arms on the tombstone, probably a floor slab, and gives the Latin inscription thereon in full. . . . Dr. Woodhouse appears to have had some reputation for curing 'bewitched persons.' See two singular pamphlets published by W. B. Gerish, Bishop's Stortford, 1921 and 1915."

Description of the coat of arms from Sir Henry Chauncy's *History of Hertfordshire* (1770): In a field sable a chevron argent, between three cinque foyles ermines, guttee de sangue with mantling, doubling, helmet, and for crest over a torse argent an Hercules issuant.

Income Tax

Professional Account: Balance Sheet

"B" explains that the whole of his professional receipts is paid into his bank, and cash is drawn to meet private and professional expenses. The latter are recorded in detail, and a chartered accountant prepares the annual statement of account from the bank pass-books and practice records. It is understood that a certified copy of this account is supplied to the inspector of taxes, but this official now requests to have a copy of a "balance sheet" also. Can this be required?

*** The strict legal position is that the inspector of taxes as such has no authority to require even an account of the receipts and expenses. He can, however, lodge an objection to the return, and the General Commissioners, by whom such an objection would be dealt with, have the right—and would presumably exercise it—of calling for such particulars as they may consider relevant. In general, the inspector of taxes requests to be supplied with such statements, etc., as he may consider the Commissioners would expect to be furnished, and in the case of businesses where substantial assets are involved, or where the nature of the receipts and expenses is such as to provide a wide margin for error and consequently require an additional check, balance sheets are usually called for and supplied. The balance sheet is, in fact, a normal part of the accounts which an accountant would regard as necessary for the information of a trader client. In the case of a professional practice, however, neither of the two conditions referred to above obtains, and, so far as our experience goes, a request that a medical practitioner shall supply a balance sheet setting out the assets and liabilities of his practice is very rare. Further, the balance sheet would be useless as any check upon the accuracy of the "cash" account, because it would have to include outstanding debts and changes which are not directly reflected in a single year's account prepared on the usual cash basis. That basis is possibly incorrect from the point of view of strict legality, but, unless the income is increasing or decreasing materially, or unless the practice is a "new" one—for example, in the years immediately following a change in proprietorship—it is almost always applied as a matter of concession in view of its obvious and great convenience. We therefore suggest that our correspondent should inform the inspector of taxes that as his request for a "balance sheet" is unusual in the case of a medical practice he does not see his way to incur the expense and trouble of having one prepared unless it can be explained to him why the case of his practice should receive exceptional treatment.

Appointment: Motor Expenses

"M.D.LOND." holds an appointment as M.O.H., and last year received £65 "towards his travelling expenses." In July, 1930, he sold his car for £50 and bought a superior car for £299. He is paying for the latter in instalments.

*** The cost of replacement is the amount which the replaced car cost him less £50. The excess of his expenditure over that sum represents improvement, and is therefore regarded as capital outlay. If the car is used for private as well as for professional purposes only a fraction of the replacement cost will be allowable, calculated according to the ratio of private to professional use. It is also possible that he will be required to satisfy the authorities that the allowance of £65 does not cover more than the running cost as a preliminary to receiving an allowance in respect of replacement.

Repairs to Premises

"C. R. H." inquires as to the admissibility of expenditure on repairs to the professional part of the premises. His accountant has pointed out that such expenses are already allowed for under Schedule A, in that tax is paid under that schedule on a net and not on a gross valuation.

*** It has to be remembered that in deducting a fraction of the Schedule A assessment as a quasi-rent paid for the professional portion of the premises it is the net value which is taken as a basis. Consequently in effect the practitioner simply pays on his profit, mainly under Schedule D, and to a small extent under Schedule A, and if no specific deduction is made for repairs none is received. But in any case the point is covered by Rules 3 (*c*) and (*d*) of Cases I and II, Schedule D. Rule 3 (*c*) provides for the deduction of the annual value or the part thereof used for purposes of the profession, and Rule 3 (*d*) for the deduction of sums expended for repairs of premises occupied for the purpose of the profession.

LETTERS, NOTES, ETC.

The Post-Influenzal Cough

Dr. G. A. GAREY SIMPSON (Lancaster Gate, W.) writes: I agree with Dr. W. A. Marris that the post-influenzal cough is due to a pharyngitis. I have invariably noticed that influenza, especially in the last epidemic, starts with a slight sore throat. I find collosol argentum, used undiluted with an all-glass atomizer, acts like a charm. The following will also stop the cough, especially if granules can be seen on the posterior wall of the oropharynx: Tr. krameriae, tr. myrrh, tr. cinchon., tr. kino, half an ounce of each. *Dose:* one teaspoonful to an ounce of water; use as a spray or gargle.

Metal Water-taps and Fittings

Dr. E. W. MATTHEWS (Medical Officer of Health, Kingston-upon-Thames) writes: With regard to the question raised by "Nest" (*May 2nd, p. 779*), I may say that chromium-plated water-taps were installed at my clinic about two years ago. The great difficulty is to prevent cleaners from using any form of metal polish, the result being that all the chromium was worn off within eighteen months. In a new clinic I have just opened I have solid stainless steel water-taps and fittings fixed, obtained from Adamsez, Ltd., 23, Old Queen Street, Westminster, S.W.1. They are very pleasing in appearance, and only need cleaning with a leather, and, I am informed, are not injured in any way by the use of metal polishes. *Needless to say,* they are rather more expensive, but I feel they are worth it.

Shantung School of Medicine

The Shantung Christian University School of Medicine was established in 1909 by the English Baptist Mission and the American Presbyterian Mission jointly, assistance being afforded by the China Medical Board of the Rockefeller Foundation. Despite national disturbances and interruptions of the work from time to time, progress has been continuous, and in the report for 1930 a favourable forecast of future developments is made. Beyond the routine education a certain amount of research is undertaken, and the department of pathology has been able to assist during the year twenty-three mission hospitals in seven different provinces. The teaching staff has more than doubled since 1918, and there is a gratifying increase in the number of students.

Medical Golf

There were close on 150 competitors for the Manchester and District Medical Golfers' Association's annual competition, which was held on May 6th at Wilmslow. The Challenge Cup, which was competed for by medal play over eighteen holes, resulted in a tie at 72 between Dr. J. Scott (Bolton), who was in receipt of 14 strokes, and Dr. C. E. Sykes (Withington), who had 18 strokes allowance. On the replay over nine holes, Dr. Scott was successful, with a net score of 37 against 42. Dr. Sykes won the captain's prize. There was also a tie for the Walter Gold Medal between Dr. J. N. Norman (7) (Pendleton) and Dr. J. L. Bradley (4) (Swinton), who each returned a gross score of 80. Dr. B. Robinson (Bowdon) won the Walter Silver Medal, which is awarded for the best gross score from a handicap of 10 or over.

Corrigendum

We are asked to say that by inadvertence the advertisement of the King Edward Memorial Hospital, Ealing, published last week, was incorrectly worded. The first vacancy announced should have been for an honorary assistant consulting *physician*, and not honorary assistant consulting surgeon as printed.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 51, 52, 53, 54, 55, 56, 57, and 60 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 58 and 59.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 195.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

467 Acute Epidemic Serous Meningitis

H. SCHNEIDER (*Wien. klin. Woch.*, March 13th, 1931, p. 350) refers to several outbreaks of this disease in Germany, chiefly among children, during the summer and autumn of the last four years. The general constitutional symptoms are severe, but a lumbar puncture yields sterile fluid under increased pressure. The prognosis is favourable. The chief symptoms of this "aseptic meningitis" are its acute onset, with typical meningitic symptoms; the slightly turbid cerebro-spinal fluid, due to leucocytosis; the sterility of the fluid on direct examination and on culture; the relatively short course, rarity of complications, and the favourable prognosis; the absence of the ordinary causes of meningitis, such as otorrhoea, the exanthemata, and trauma; and the absence of epidemiological connexion with infective meningitis. Schneider has seen 24 cases since 1927; in 1928 twelve children were under treatment in Leipzig, and in 1930 thirteen children were attacked in Düsseldorf. The disease commenced with sore throat, headache and malaise, nausea and vomiting. Severe cases showed all the classical symptoms of meningitis; milder cases exhibited only a slight Kernig reaction: nuchal rigidity was not always present. One patient had headache and vomiting three weeks before admission; this was followed by the gradual onset of meningeal symptoms. In every case the blood pressure was normal, and no somatic changes were found. The tendon reflexes were brisk; oculomotor symptoms and papilloedema occurred occasionally. The cerebro-spinal fluid pressure was increased. The albumin reaction was positive, with an increased cell count which became normal during convalescence. The fever terminated by crisis or lysis, but in the severe relapsing cases the fever was intermittent. The prognosis is invariably favourable, according to Schneider; in one case ocular symptoms persisted, but complete recovery followed. The youngest of his patients was 14, and the oldest 72; the majority were healthy middle-aged adults; thirteen were females, and eleven were males. The Wassermann and tuberculin reactions were invariably negative. Animal experiments suggest that the so-called "serous meningitis" is an abortive form of epidemic meningitis.

468 Scarlet Fever in Sweden

A. LICHTENSTEIN (*Finska Läkaresällskapets Handlingar*, February, 1931, p. 89) records observations made at the Fever Hospital in Stockholm. Since the middle of last century, when thousands died every year from scarlet fever in Sweden, there has been a marked decline in its severity, the number of deaths from this disease in 1929 being only 91. The incidence of the disease has not, however, showed a corresponding decline. In 1920, for example, there were 9,750 cases and 190 deaths—a mortality of 2 per cent. In 1929 there were still as many as 8,579 cases and 91 deaths—a mortality of 1.1 per cent. During the last few years the ratio of relapses or recurrences has greatly increased, from an average of about 1 to 10 per cent. in 1929. This high recurrence rate may be connected with the present mildness of the disease, which effects a slower and less complete immunity than before. Haemolytic streptococci were found in 83 per cent. of about 3,000 patients on admission, and in 59 per cent. on discharge. The Dick tests carried out on about 2,700 persons of various ages yielded a curve corresponding exactly with that of the incidence of scarlatina at different ages in Stockholm. Of the 546 men in a regiment subjected to the Dick test during an epidemic of scarlatina in Stockholm, 40 per cent. gave a positive reaction; 24 of these positive reactors developed scarlatina during the following weeks, while not one of the negative reactors did so. The Dick test was repeated weekly in 575 cases of scarlatina, and was positive in just over 60 per cent. in the first week; some 10 per cent. continued to give a positive reaction. The serum of convalescents was given in more than 700 severe and moderately severe cases with good results. Antitoxic scarlatinal antistreptococcal serum has been given since 1925 in 600 to 700 severe and moderately severe cases in doses of 10 c.cm. or thereabout by intravenous injection. The results were excellent in uncomplicated cases, but this treatment seemed to have little effect on already existing complications.

469 Paratyphoid B Fever with Lung Complications

B. EDINGER (*Med. Klinik*, March 6th, 1931, p. 352) records two cases of paratyphoid B fever in men, aged 32 and 25 respectively, complicated by pleurisy with effusion. *B. paratyphosus* B was cultivated from the effusion as well as from the sputum in both cases. The disease ran a relatively mild course, and recovery ensued.

Surgery

470 Uraemia Following Blood Transfusion

Halter of Vienna has recently described a case of ruptured tubal pregnancy in which, after transfusion from a Group IV donor to the Group II patient, there was temporary improvement, but this was followed in twenty-four hours by icterus, oliguria and haemoglobinuria, and finally uraemia. P. WEISS (*Zentralbl. f. Chir.*, March 14th, 1931, p. 676) describes two further cases in which uraemia followed blood transfusion; in these cases, however, there was no haemolysis, and in one there was evidence of pre-existing nephritis. One was a Group II patient transfused from Group IV, and in the other case both donor and recipient belonged to Group III. Halter explained his case by assuming that the patient's corpuscles had been haemolysed by the serum of the donor, there being a severe anaemia to start with, and perhaps a strong agglutination titre in the donor's serum. Weiss considers that the evidence of haemolysis is insufficient; he thinks the explanation is that, as in his own cases, the kidney had been damaged by anaemia or infection, the excretion of protein from the donor's serum increasing the damage. In his opinion kidney disease contraindicates transfusion in such cases.

471 Urethral Syphilis

G. PINI (*Urol. and Cut. Rev.*, March, 1931, p. 182), who reports an illustrative case, states that numerous examples have been recorded of syphilitic lesions of the urethra. According to Casoli, chancre of the meatus occurs in 7 per cent. of all cases of syphilis. Endo-urethral chancres, even to the depth of 7 centimetres, have been described by Albarran, Ferrari, Jullien, Gebert, and Winternitz. On the other hand, cases of secondary papular syphilis of the urethra are very rare. This localization has been presumed in the older descriptions from the presence of a catarrhal discharge, from the urethra in syphilitic patients, which disappeared under specific treatment. But the demonstration of specific lesions in the urethral canal dates only from the use of the urethroscope and the discovery of the spirochaete in the urethral discharge. Late manifestations in the form of nodular, ulcerative, and gummatous lesions may involve the meatus, or, more rarely, the first part of the pendulous urethra, as reported by Johnston, Renault, Zeissl, and La Mensa. Pini's patient was a man, aged 24, who some months after contracting a characteristic primary lesion in the balano-preputial sulcus developed soreness in the urethra, pain on micturition and ejaculation, and slight urethral discharge. No gonococci were found, but on urethroscopic examination an eroded and tumid area indicating papular syphilis of the urethra was detected.

472 Injection Treatment of Inguinal Hernia

R. WOLFE (*Med. Journ. and Record*, March 4th, 1931, p. 243) discusses the injection treatment of reducible inguinal hernia from an experience of 22 cases. After skin preparation as for a major abdominal operation, and with the patient in a moderate Trendelenburg position, the hernia is completely reduced; 2 c.cm. of a 2 per cent. procaine solution is then injected into the canal, about half an inch below the internal ring, and lateral to the spermatic cord. With the needle still in position, 2 c.cm. of an alcoholic solution of catechu, krameria, monesia, *Vaccinium myrtillium*, *Rosa centifolia*, and *Rosa canina* are injected very slowly, taking from three to five minutes, and the needle is rapidly withdrawn. The patient is brought to a horizontal position and a truss is temporarily fitted over the area of the internal ring. Satisfactory results were obtained in 19 cases (86 per cent.). All the cases were ambulatory, and the hernias had existed from six months to fifteen years, with an age incidence of 21 to 81. The average number of injections was eight, the minimum being two and the maximum nineteen; no morbidity or mortality occurred in over 250 injections. The method should be restricted to cases of indirect inguinal hernia, and is contraindicated in cases of sliding or irreducible hernia. The author concludes that the procedure is worthy of further investigation, since satisfactory results have been obtained without any ill effects and without the necessity for treatment in hospital. It should be of special value in cases of poor surgical risk, old age, or refusal of radical cure by operation.

473 Radical Cure of Hallux Valgus

A. L. SORESI (*Surg., Gynecol. and Obstet.*, March, 1931, p. 776) describes a procedure by which hallux valgus, associated with a bunion, may be radically cured, even when the bursa has been infected; he resects the head of the metatarsal bone, and preserves the articular surface, thus reconstructing a normal phalango-metatarsal articulation. The head of the metatarsal is exposed, and the periosteum from the middle of the bone to about 1/4 inch from the articular surface is incised. The periosteum is separated around the bone, and the articular surface is detached. This can be done very easily if some bone is left attached to the articular surface itself; the spongy bone offers little resistance to a sharp instrument. The head of the metatarsal is then excised, sufficient bone being removed to straighten the toe. The excess of skin is removed with the bursa, and the wound is closed. A splint is applied, and the wound is covered by gauze impregnated with glycerin or alcohol. The toe is kept at rest until any inflammation has subsided; passive and active movements are then started. Soresi claims that the operation is anatomically and physiologically correct; that the results are functionally satisfactory is demonstrated by a case which he reports.

474 Renal Tuberculosis

R. GUTIÉRREZ (*Journ. d'Urol.*, February, 1931, p. 126) states that there are two different forms of renal tuberculosis, the medical and the surgical, but discusses the diagnosis and treatment of the latter only. He bases his conclusions on 65 nephrectomies, three of which are here recorded; they were performed at a New York hospital during the last ten years. At its commencement renal tuberculosis presents no well-marked anatomical lesion in the kidneys, but only a nephritis. The spread of the disease is at first almost always by the papillae, and dilatation of the calyces ensues by an ulcerative process which becomes ulcero-caseous or ulcero-cavernous. Simple nephrectomy will cure early cases; consequently early recognition is advisable, and in order to avoid diagnostic errors all exploratory measures (including cystoscopy and pyelography) should be employed. When the disease is advanced with involvement of the ureter, Gutiérrez advises uretero-nephrectomy, performed in two stages. The majority of post-operative complications are due to a septic ureteral stump left at a nephrectomy. Regional is preferred to general anaesthesia; the author uses 1 per cent. procaine. Patients should be given post-operative medical and hygienic treatment, and should lead strictly quiet lives, preferably in a sanatorium, for many years.

475 Arborescent Lipoma of the Tendon Sheaths

P. VALDONI (*Chir. d. Org. di Movimento*, February, 1931, p. 509) records a rare case of arborescent lipoma occurring in a lad, aged 19, who had suffered from pleurisy two years previously. In January, 1929, he presented a somewhat elastic swelling on the dorsum of the left hand and a similar smaller swelling on the right hand. In view of the history of pleurisy, a provisional diagnosis of tuberculosis was made. The swelling on the left hand was punctured, and some of the fluid was injected into a guinea-pig, but no tuberculous infection followed. Since the tumour did not disappear, it was excised; it was partly fatty, and with its many vessels almost resembled a naevoid condition. The right hand was operated upon in May; recurrence necessitated a second operation. Similar growths appeared in the sheaths of the peroneal tendons, but it was not considered advisable to remove them. At the first operation the swelling was solid and of a brownish-red colour; at the second it was cystic and arborescent. The recurrence was probably due to incomplete removal at the first operation. When the patient was seen seven months later he had complete functional use of both hands, and there was no sign of local recurrence. The condition of the feet had not become worse.

Therapeutics

476 Treatment of Spasmodic Croup

L. P. CRAWFORD (*New England Journ. Med.*, February 26th, 1931, p. 437) maintains that in the treatment of spasmodic croup the use of drugs and medicated vapours is erroneous and unsatisfactory, the spasm being, he thinks, a toxic manifestation of the absorption of colonic toxins from the small intestine. He found acetone in the urine of all patients with spasmodic croup, and also areas of dullness and tympany over the colon. The removal of impacted faeces which have caused gas to become collected in pockets in the colon relieves all the croup symptoms in a few minutes, because in this way the pressure of gas is taken away from the caecal side of the ileo-caecal valve, the strained valve having previously allowed the bacterial and faecal contents of the caecum to regurgitate into the small intestine, whence the absorption of toxins resulted. Three small soapy water enemas effect this usually; more than half a pint should not be given to a child, or more than a pint to an adult at any one time. The elevation of the syringe should not exceed twelve inches. As soon as the first enema has been expelled the second is given, and so in the case of the third. Neither laxatives nor large enemas should be administered, because the first forces and the second washes additional toxins into the small intestine in cases where the musculature of the colon is already incapacitated by the stretching due to pockets of gas. After appropriate treatment in this way the acetonuria vanishes, and the croup spasms do not recur on the subsequent days.

477 Soya Bean as a Milk Substitute

N. FOUND (*China Med. Journ.*, February, 1931, p. 144) discusses the food value of soya bean, which was not studied scientifically till 1900, though known in China since the time of Confucius. Experiments in infant feeding made by Ernest Tso in 1928 proved that soya bean flour, which has a protein content of 44 per cent., provides proteins easily digested by young infants, and is capable of producing continuous growth, but it is deficient in calcium, sodium, and chlorine, as well as in vitamins other than A and B. At the Evangelistic Centre, Seoul, large numbers of children have been satisfactorily fed on "soya bean milk" at a cost of less than one-third of that of condensed-milk feeding. The "milk" is prepared as follows. The beans are baked overnight in three times

their weight of water. The shells are removed in the morning, and the beans are ground in a mill, then boiled for five minutes, and filtered through a sieve. To every 1,000 grams of the filtrate there are added 20 grams of starch (previously made into a paste with some of the filtrate), 60 grams of sugar, 1.5 grams of calcium lactate, and 1 gram of common salt. This mixture contains protein 4.4 per cent., fat 1.8 per cent., and carbohydrate 1.5 per cent., with a *p*H of 6.8. The addition of cod-liver oil is essential.

478 Sugar in Therapeutics

H. PRIBRAM (*Forsch. und Fortschr.*, March 10th, 1931, p. 118) states that intravenous injection of grape sugar produces the following effects. (1) Strong solutions can remove water from the tissues, especially in cases of oedema. The success of this treatment is best seen in pulmonary oedema, where sugar may save life. The water withdrawn from the tissues is finally excreted by the kidneys. (2) This discharge of fluid from the tissues into the blood stream may also carry off metabolic waste products which have accumulated in the tissues. (3) As Pribram showed many years ago, sugar has an antidotal action, not only in the cases of poisons introduced from without, such as narcotics, veronal, salvarsan, and fungi, but also endogenous intoxication, such as uraemia. (4) Owing to the close relation between sugar and the liver, the combination of sugar with insulin therapy brings about good results in a number of diseases of that organ. (5) In other diseases also in which there is a reduction in the normal sugar content, especially as the result of excessive administration of insulin, sugar is beneficial. (6) It has a good effect on the heart and peripheral vascular system, so that it is useful in myocardial diseases and in many cases of high blood pressure. Sugar, therefore, whether administered by mouth, enema, or intravenous injection, may be of value in a number of different diseases, such as intoxications, infectious diseases, and disorders of the heart, kidneys, metabolism, lungs, and intestines; in the absence of diabetes its administration is absolutely harmless.

479 Dietetic Treatment of Obesity

In the last two years E. MOELLER (*Acta Med. Scand.*, February 18th, 1931, p. 341) has treated 46 patients suffering from obesity (excluding cases of diabetes, nephrosclerosis, myxoedema, exophthalmic goitre, and circulatory failure). Each received the same diet, yielding 950 calories: protein, 160; fat, 300; and carbohydrates, 490. Black coffee, broth, and 10½ oz. of vegetables were given daily, with 1¼ oz. protein. Water and salt were not restricted. Although the diet contains a fair amount of carbohydrate, the quantities of fat which must have been oxidized daily in many cases are so large that ketosis might have occurred, but only eight patients showed slight intermittent acetonuria. The ammonia output was always normal. Certain variations in weight reduction were attributable to the patients' departing temporarily from the prescribed dietary. The author argues that when normal or emaciated patients are underfed, the basal metabolism is reduced considerably. If this occurred in cases of obesity, it would be a strong argument in favour of thyroid treatment, but no significant change in the basal metabolism was observed. If the metabolism is reduced materially, there should be diminished weight reduction. When an ordinary patient with uncomplicated obesity received this diet an average weekly loss of 2⅜ lb. occurred, although in exceptional cases the reduction was 7 oz. only. Whenever the reduction was under 14 oz. there was reason to suspect infraction of the dietary. No undesirable results of prolonged under-nutrition were observed; a minority complained of hunger, but they admitted to feeling fitter on discharge than on admission. In three cases the reduction was between 31 and 25 lb.; in eleven cases, between 25 and 12½ lb.; and in twenty cases, between 12½ and 6½ lb. The average reduction for all patients was 10½ lb. Of 17 hyperpiesic patients, eight had a normal systolic pressure on discharge. The duration of treatment averaged 54 days.

Anaesthetics

480 Regional Anaesthesia

The employment of regional anaesthesia is strongly commended by V. E. WAN (*Nat. Med. Journ. of China*, December, 1930, p. 730), who records an analysis of 2,555 cases; of these 1,817 were field-block (with or without local infiltration), 85 were femoral, 361 sacral, 236 spinal, and 56 brachial block. There was almost invariable and complete success with field-block, femoral, and sacral anaesthesia. With spinal anaesthesia 90 per cent. of the cases were successful, while with brachial block 84 per cent. were considered satisfactory. There was no mortality, and the incidence of untoward sequels was so small that the author thinks that it constitutes no contraindication. Among the abdominal operations in which field-block was used, with or without local infiltration, were appendicectomy, exploratory coeliotomy, enterostomy, and drainage for generalized peritonitis or localized abscess. In thoracic surgery local infiltration was combined with intercostal nerve-block. In 81 per cent. of the spinal anaesthesia cases the success was considered perfect; in 9 per cent. it required supplementing with general anaesthesia; and in 10 per cent. it proved a complete failure.

481 Ethylene Gas Explosions

F. D. JOHNSTON and H. CABOT (*Arch. of Surg.*, February, 1931, p. 195) enumerate recommendations which they believe will provide a safe and workable system for the prevention of explosions during the use of ethylene-oxygen mixtures. Any electrical equipment or other apparatus producing heat must be absolutely prohibited in the vicinity of the anaesthetic mechanism. Static sparks outside the machine should be prevented by sheet metal flooring, in contact with cables to the ethylene-generating apparatus. The bare rubber rebreathing bag renders sparks possible, and if the introduction of a small quantity of a radio-active substance is not effective, a special manometric device is required; a diagram of a possible one is supplied. The exhaust gases must not be poured out into the operating room, and some device such as that suggested by Salzer must be installed. An electrical connexion betwen the patient and the metal operating table is essential. During the cold months of the year it is also advisable to make certain that the system is actually eliminating the danger from static electricity.

482 Amytal in Spinal Anaesthesia

H. KOSTER and L. P. KASMAN (*Med. Journ. and Record*, February 18th, 1931, p. 167) advocate the administration of amytal (sodium iso-amyl-ethyl-barbiturate) as an adjunct to spinal anaesthesia as being of value in eliminating the fear factor in apprehensive patients. The drug is supplied as crystals in sterile ampoules in 1 gram doses with an accompanying ampoule of 10 c.cm. of triply distilled sterile water for preparing a solution for intravenous injection. The patient having been told that it is necessary to obtain a drop of blood from a vein for examination, the solution is slowly injected at the rate of 1 c.cm. per minute. During its administration the patient falls into a sleep which is completely amnesic without any preceding nausea, laryngospasm, or excitement; the sleep becomes deeper as the injection continues. With large doses there is some cyanosis, and if the injection is made too rapidly a period of apnoea may occur. No preliminary narcotic or other preparation is necessary. After removal to the theatre, novocain is given intraspinally, and the operation can be performed in a moderate Trendelenburg posture with complete muscular relaxation and the elimination of physical and psychic shock. Under this anaesthesia 139 operations, most of them major, were performed, five being under amytal alone; no patient died. After the operation the patients usually slept for from six to twelve hours; there may be considerable restlessness, but less morphine is required post-operatively to keep them comfortable than is the case with those who receive spinal anaesthesia only.

Obstetrics and Gynaecology

483 Protein Therapy in Salpingitis

J. S. DIASIO (*Med. Journ. and Record*, March 18th, 1931, p. 291) reports his experience, in 101 patients, of the non-specific treatment of gonococcal salpingitis by intradermal injections of aolan, a bacteria- and toxin-free milk, in contradistinction to comparatively large doses intramuscularly. The procedure is based upon the observation that stimulation of the skin cells intensifies the autonomic changes in the internal organs that apparently produce the therapeutic effect. At one sitting 1 c.cm. is injected in three separate wheals, using 0.3 c.cm. of aolan for each. Daily injections are given, six constituting a course, which is followed by a rest period of several days; no injections should be given during menstruation and for two days after. In the majority of acute and subacute cases one course was sufficient, but chronic cases required two or more. Contraindications are syphilis, alcoholism, diabetes, myocardial insufficiency, liability to serum sickness, asthma, urticuria, epilepsy, and serious nervous conditions. All the author's patients became symptomless, and 43 were so markedly improved that they were considered cured after observation for ten months. Adjuvant local treatment consisted of application of 20 per cent. mercurochrome to the cervix uteri, vaginal insufflation of kaolin and sodium bicarbonate, hot douches, and as much recumbent rest as possible. Improvement in the condition was determined by vaginal examination in each case.

484 Pulmonary Complications of Pregnancy

F. H. PRATTEN (*Canadian Med. Assoc. Journ.*, March, 1931, p. 391) reviews the various pulmonary complications of pregnancy, with special reference to tuberculosis. He concludes that tuberculous women should be advised against marriage, unless the disease has been quiescent for two years, and that married tuberculous women should be given detailed instruction in suitable methods of preventing conception. Should they become pregnant, the induction of abortion during the early months of pregnancy is indicated and justified if the lesion is active, and particularly where there is laryngeal involvement. When pregnancy is permitted to continue, the most careful prophylactic measures are essential. Nursing the child should be invariably prohibited. The most unfavourable prognosis should always be given in cases showing marked constitutional symptoms which are out of proportion to the physical findings, and especially when there are laryngeal symptoms. Temporary improvement during gestation should not be rated too highly, since there is often a serious retrogression subsequently which ends in death. Pneumonia during pregnancy is considered by the author as the second most serious pulmonary complication, resulting as it does in deficient oxygenation both of the mother and of the foetus. Pneumonia causes interruption of pregnancy in 40 per cent. of cases in the first half, and of 60 per cent. in the second half. The maternal mortality is high. Pre-existing emphysema is aggravated by pregnancy; it may cause abortion owing to interference with the oxygenation of the foetal blood, or it may necessitate the induction of premature labour because of the serious condition of the mother.

485 Pregnancy and Tuberculous Laryngitis

P. LARREGLE (*Rev. Med. Latino-Americana*, January, 1931, p. 515), who records an illustrative case, states that tuberculous laryngitis is generally regarded as invariably fatal when it develops as a complication of pregnancy. His case, however, which occurred in a primipara aged 19, was exceptional. Treatment by absolute vocal rest, insolation of the larynx, injections of sanocrysin, and artificial pneumothorax enabled the patient to give birth to a healthy child at full term; two and a half months after delivery she completely recovered from her pulmonary and laryngeal lesions.

Pathology

486 Bovine Tubercle Bacilli as a Cause of Phthisis

B. LANGE (*Zeit. f. Hyg.*, March 18th, 1931, p. 298) records four cases of pulmonary tuberculosis in adults from which he was able to recover a tubercle bacillus of bovine type; in one case the bovine were mixed with human bacilli. Three of the patients had worked in close contact with cows, and it was this circumstance that led to the typing of the bacilli being carried out. Since there was no history of tuberculosis, nor of exposure to familial infection during childhood, the author considers that a primary infection had occurred in adult life. This view is to some extent supported by the fact that in one case, in which a careful post-mortem examination was made, no evidence of tuberculous lesions in the alimentary tract or its regional lymphatic glands could be found. Since tuberculous cows frequently cough up a large amount of infective material it is considered probable that the patients received a primary infection by the respiratory route with bovine bacilli. The disease due to the bovine type does not seem to be especially mild; two of the patients died with extensive pulmonary lesions. Altogether five cases of bovine infection of the lungs in adults have now been recorded in Germany.

487 Influence of Soap on Antiseptics

B. HAMPIL (*Amer. Journ. Hygiene*, March, 1931, p. 623) recalls his previous demonstration that certain highly germicidal phenol derivatives might be rendered inert by the addition of small quantities of soap; he now reports further investigations of a similar kind in connexion with mercurial antiseptics. He found that the antibacterial power of mercuric chloride against virulent staphylococci at 37° C. was remarkably increased by the addition of 1 per cent. or more of soap. Small amounts of soap gave irregular results, and larger amounts than 1 per cent. had no appreciably enhanced effects. The time of exposure required to bring about the result was five minutes, whether the organisms were exposed to the soap or to the mercurial solution first. The addition of soap to strong solutions of the germicide did not shorten the time for complete sterilization. Soap did not enhance the germicidal action against the members of the *coli*-typhoid groups, or against dysentery bacilli, *B. pyocyaneus*, and *M. catarrhalis*; indeed, in these cases it protected them for a short time against the mercurial salt. Mercuric bromide and nitrate were similarly strengthened in their germicidal action on *Staphylococcus aureus* by soap, but not on other organisms. If added to mercuric cyanide and *o*-chlor-mercuric phenol, soap increased the disinfectant action of these compounds three or four times, without any special selective effect for *Staphylococcus aureus*.

488 Acid Production by Brucella Strains

S. H. MCNUTT and P. PURWIN (*Journ. Infect. Dis.*, March, 1931, p. 292) have studied the production of acid in carbohydrate media by organisms of the Brucella group. In ordinary peptone water containing dextrose, levulose, galactose, xylose, or arabinose the medium becomes alkaline, even though chemical estimation shows that the sugars have been partly utilized. Apparently the acid produced by the disintegration of the sugar is more than neutralized by the alkali formed from the peptone. If the sugars are added to a nutrose medium, or, even better, to a nutrose medium containing 10 per cent. raw cow serum, a definite acidity is produced in the presence of arabinose, and a slighter but usually still definite acidity in the presence of xylose; with dextrose, levulose, and galactose the results are variable with the same strain from time to time. In media containing a sugar as the sole source of carbon, growth may occur in the presence of arabinose or xylose, but not in that of the other sugars. The acid production from arabinose and xylose is apparently of no value in differentiating the members of the Brucella group; forty-three strains from various sources were tested, but no satisfactory classification could be made by this method.

The Treatment of Rheumatism, Lumbago, Sciatica, Neuritis, Gout, etc. where due to excess of Uric Acid, by

AGOTAN (Howards)

Weintraud found that in gouty patients on a purine-free diet it **more than doubled the quantity of uric acid excreted in the urine.** Chase and Fine maintain that in normal and gouty individuals it induces an augmented excretion of uric acid in the urine and a decreased concentration in the blood by endowing the renal cells with **an increased power for eliminating uric acid.**

Some Medical Opinions:

M.B., Ch.B.:

"The gouty subject has a notoriously sensitive stomach and an impatient disposition. Many remedies for his condition which we know to be good have to be abandoned for one or other of these two reasons. Agotan, which is a recognised eliminant of uric acid, can be used in such cases in the form of an Ointment either alone or assisted by radiant heat. This ointment should be rubbed in not merely over the area actually affected in cases of 'rheumatism' or 'gout,' but for several inches all round so as to ensure absorption of a sufficiency of the drug. Both acute and chronic conditions of this kind are markedly benefited by it, and in Neuritis it is a veritable boon to all concerned."

M.B., B.Sc., D.P.H.:

reports that he has achieved success with Agotan when salicylates, iodides, ionisation and diathermy, etc., have all been, to use his own expression, "utterly futile." "With Agotan," he writes, "one can safely prophesy an ultimate cure. Even in cases where ultimate resort had had to be made to morphine this can be discontinued in a very short time. Progress towards recovery is never interrupted by exacerbations as is so common with the majority of other drugs."

M.D., C.M., D.P.H., etc.:

"I have run through the whole gamut of B.P. remedies, and I have tried, I think, all the proprietary uric acid solvents of the present day, but after many years of experience I have come to rely on AGOTAN as the most trustworthy preparation at present available. The conditions in which it may be prescribed with confidence embrace all forms of subacute rheumatism, muscular rheumatism or myalgia, including sciatica, brachial neuritis and gout, whether acute or chronic, and most of the gouty skin diseases. The last group often yields remarkably well to AGOTAN."

NOTE.—The ointment may be used alone or in conjunction with Howards' Agotan Tablets.

AGOTAN is the all-British make of Phenyl Cinchoninic Acid B.P.C. and is sold as powder in 1-oz. bottles and in 7½ grain tablets in bottles of 25 and 50 tablets, and in ointment form in collapsible tubes.

FREE SAMPLE sent to any Medical Man by the Manufacturers:

HOWARDS & SONS LTD. (Est. 1797), ILFORD, LONDON.

"VARIBAN"

Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove. Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc. Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SUPPLIED IN WIDTHS

2"	2½"	3"
1/7	1/9	2/-

— EACH —

When stretched measure six yards (approximately)

SAMPLE 3in. "VARIBAN" Elastic Plaster Bandage SENT POST FREE on receipt of P.O. for 2/3

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

"CELLANBAND"

SAMPLE BANDAGE 1/- Post Free

DESCRIPTIVE LITERATURE AVAILABLE ON REQUEST

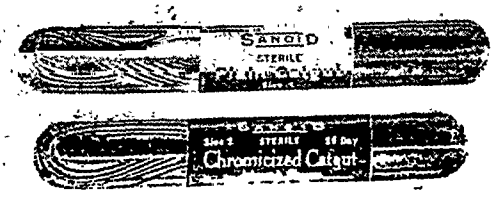
"SANOID"

TUBES OF STERILE LIGATURES

Exceptional Flexibility

Tensile strength and smooth surface are prominent features of these Ligatures. They are prepared in accordance with the Therapeutic Substances (Catgut) Regulations, 1930.

PRICE 9/-
PER DOZ. TUBES



LICENCE No. 40.

Sole Manufacturers—
CUXSON, GERRARD & CO. LTD. MANUFACTURING CHEMISTS OLDBURY, BIRMINGHAM.

Distributors to the Medical Profession—
The MEDICAL SUPPLY ASSOCIATION LTD.
167-185, Gray's Inn Rd., LONDON, W.C.1 10-13, TEVIOT PLACE, EDINBURGH 6-12, Holly St., SHEFFIELD

If you have a difficult case of Hernia send your patient to be properly fitted with a
SALMON ODY BALL & SOCKET TRUSS Perfect support Perfect resiliency. Perfect freedom of movement.
The most scientific truss ever devised.

SALMON ODY

LTD.
Highly recommended by the Medical Profession
7, NEW OXFORD STREET, LONDON, W.C.1
Tele,

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS
The best Medical authorities are agreed that rigid plates are injurious and are prescribing these supports for foot troubles—tired, aching feet, weak insteps, or
15/6
1/6.

Estab. 120 years.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE. Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

CAREFUL ATTENTION GIVEN TO DOCTORS' INSTRUCTIONS AND PROMPT DISPATCH.

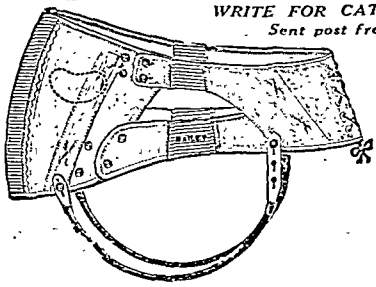
W. H. BAILEY & SON

45, OXFORD STREET, LONDON, W.1.

SPECIALISTS IN ABDOMINAL BELTS, TRUSSES, AND ELASTIC STOCKINGS.

Telephone: GERRARD 3185. 2313.
Telegrams: BAYLEAF, LONDON.

WRITE FOR CATALOGUE.
Sent post free.



No. 5a. BELT (Bailey's Patent) FOR FLOATING KIDNEY.

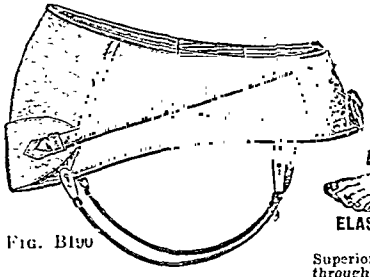
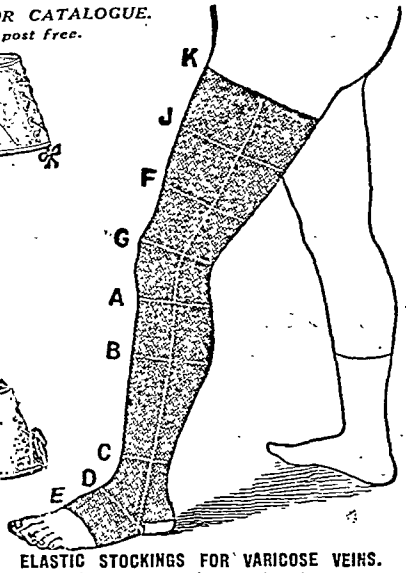


FIG. B190

BELT FOR ENTEROPTOSIS.



ELASTIC STOCKINGS FOR VARICOSE VEINS.
Uniform support maintained throughout.
Superior to any bandage; harm often being caused through unequal pressure in winding round the limb.
97 YEARS' REPUTATION FOR BEST QUALITY AND COMFORT.

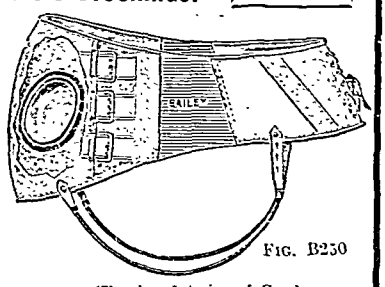
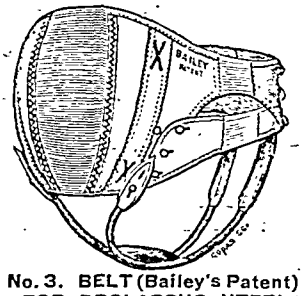


FIG. B250

(Showing Interior of Cup.)
SPECIAL BELT FOR AFTER COLOSTOMY.



No. 3. BELT (Bailey's Patent) FOR PROLAPSUS UTERI.

BUY BRITISH AND SAVE 33⅓% IMPORTATION TAX

The field for Diathermy Current applications is rapidly increasing

DIATHERMY

MEDICAL AND SURGICAL

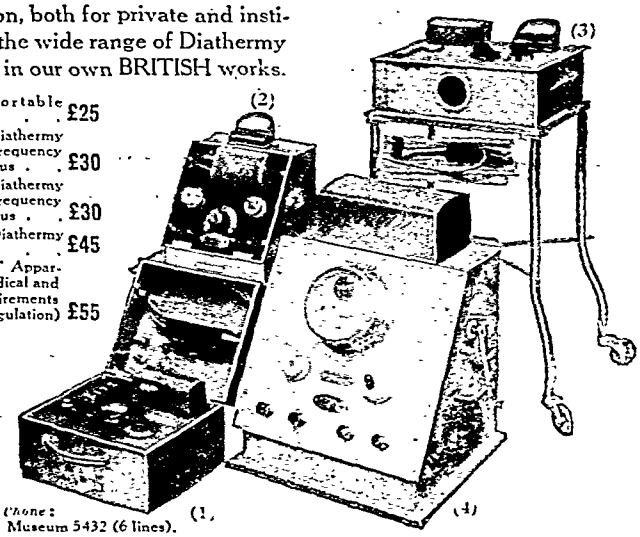
EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available :—

FOR SURGERY
e.g.: Surgical cutting by High Frequency indulations or coagulation.

FOR THE PHYSICIAN
for treatment purposes only.
also
FOR BOTH SURGICAL and MEDICAL.

No. 1. "EMESAY" Portable Diathermy . . . £25
No. 2. "AMAZON" Diathermy and High Frequency Current Apparatus . . £30
No. 3. "MERIDIAN" Diathermy and High Frequency Current Apparatus . £30
No. 4. "EQUATOR" Diathermy Apparatus . . . £45
No. 5. "MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation) £55



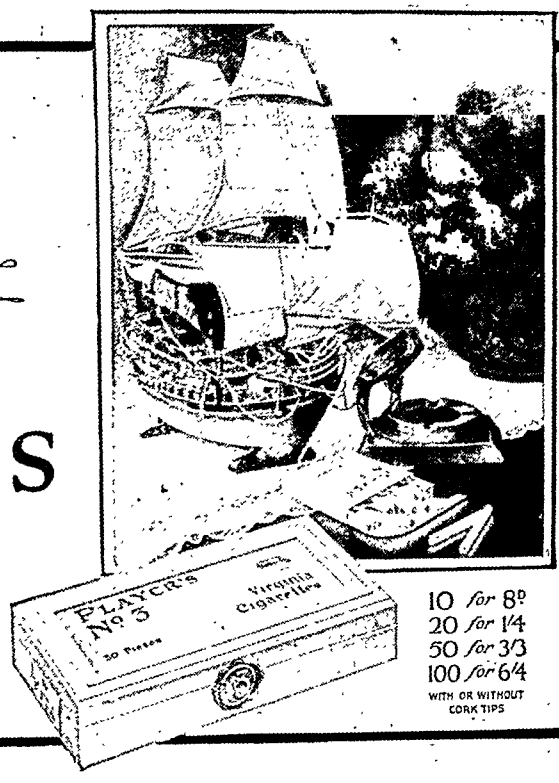
Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

MEDICAL SUPPLY ASSOCIATION, LTD.
167-185, Gray's Inn Road, London, W.C.1.
ACTUAL BRITISH MAKERS.

Phone: Museum 5432 (6 lines).

The EXTRA QUALITY *Cigarette*

PLAYER'S No. 3 VIRGINIA CIGARETTES



10 *for* 8p
20 *for* 1/4
50 *for* 3/3
100 *for* 6/4
WITH OR WITHOUT CORK TIPS

3.P.5.D

The Doctor's Car

NEW CARS	of all the best makes for Immediate Delivery. Fairest allowances for old cars.
USED CARS	properly overhauled, fully guaranteed. Special 14 days' Trial Scheme. List of over 70 cars on request.
HIRE PURCHASE	on special terms up to Three Years. Strictly confidential, no outside Finance Company employed.
SERVICE	after purchase of new and used Cars on most comprehensive basis. We aim to make your motoring economical and free from trouble.
REPAIRS	of every kind, mechanical, coachwork or electrical, quickly executed to guaranteed delivery times. Good cars for use while your own is out of commission.

GARAGE convenient to Harley Street and West End consulting rooms. Leave your car and instruct your patient to come to us and avoid all parking troubles and risks. Low prices, courteous attention, every requirement.

OFFORD & SONS LTD
Established more than a Century

67, GEORGE STREET, PORTMAN SQUARE, W.1.

Welbeck 6899. (Private Exchange.)

'Grams: "Droffo, London."

WITHOUT OFFENCE

The Collection of Overdue Accounts

MEMBER'S STATEMENT:

"I enclose another batch of Ledger Cards for accounts which I should like you to collect. I trust that your skilful blend of tact, courtesy and firmness will produce as satisfactory results as heretofore."

DEBTOR'S STATEMENT:

"I should have paid long ago had it not been for what I consider the very unprofessional procedure meted out to me by your new members. They got a man to call at my residence and leave offensive messages."

Your visiting card marked "B" placed in an envelope will produce all information

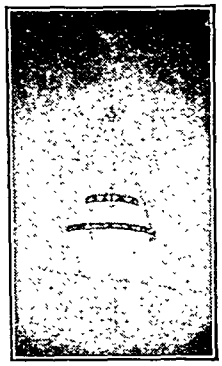
All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY

(B.M.P.S. Ltd.) Established 1891.

26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.



The VITREOSIL Sunshine Lamp

Here illustrated is designed to give a light which is the equivalent of Sunshine in its effects. - - - - -

Careful records show that in offices where it is in use time lost through colds and similar ailments is very much reduced.

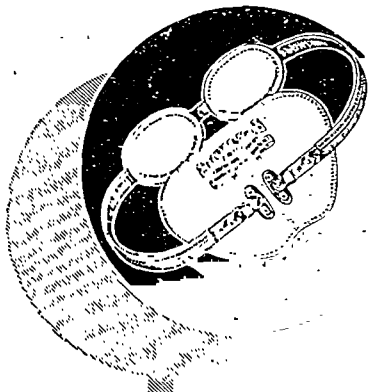
Write for descriptive booklet (post free) to the Sole Manufacturers:

THE THERMAL SYNDICATE LTD.

(Established over a Quarter of a Century)

Vitreosil Works - WALLSEND-ON-TYNE

London Depot: Thermal House, Old Pye Street, S.W.1.



Comfortable, and Correct Support

Assured to all sufferers from abdominal ptosis who wear the Curtis Abdominal Support, Model No. 1. The principle of this support—that of anterior posterior support—has been proved by scientific research to be the most efficient. There is no circumferential pressure, hence the wearer's freedom of movement is in no way restricted. There is no cramping or binding of the hips. It is light in weight, and easy to apply. There are no complicated fastenings.

IN USE IN MOST OF THE LONDON HOSPITALS.

CURTIS

ABDOMINAL SUPPORT

Sole Manufacturers of the Curtis Appliances:—

H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.

Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting.

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS

arranged for Doctors and Patients.

Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

MR R.H.DENT'S

Ardente

FOR DEAF EARS

309, OXFORD ST., LONDON, W.1.

Tel.: Mayfair 1380/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.

206, Sauchiehall Street, GLASGOW.
33, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.
30, Wellington Place, BELFAST.

NATURAL APERIENT MINERAL WATER
OF
RUBINAT LLORACH
(Hydragogue, Purgative, and Cholagogue.)

The official analysis shows in each litre about 1601.321 grains of **Anhydrous Salts**, of which are **Sulp. Soda** 1485.368 grains, and **Sulp. Magnesia** 50.301 grains.

Prescribed in cases of Gall-stones, Liver Disease, and threatened Appendicitis, Constipation associated with Gout, Hepatic Dyspepsia, Gastric Fever, and generally in Abdominal Obstruction.

DOSE.

Wineglassful fasting; can be increased according to temperament. Effect is more rapid if followed by a cup of hot tea.

NO GASTRIC IRRITATION. NO ALTERATION IN DIET REQUIRED.

"A moderately powerful stimulant of the liver, and a powerful stimulant of the intestine.

Duplicate Prescription Books
INVALUABLE TO ALL DOCTORS

Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.

Send for Sample Book, together with Prices and Styles of Printing,

To G. CARLYLE,
116. DUKE STREET, LIVERPOOL.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PUR. Desks, Tables & Chairs
Est. 1884.

Write for Bargain List 32.
Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.

THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.

74. CHANCERY LANE (Holborn End), W.C.2

Doctors' Afc Forms a Speciality

Printed in Best Style.
Account Forms Letterheads, Cards., etc.,
Samples Sent.
R ANDERSON & SON

Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH

Tycos
MANUFACTURED by
SHORT & MASON LTD
WALTHAMSTOW
LONDON, E.17
SPHYGMOMANOMETERS

BRASS and BRONZE
NAME PLATES
by the Actual Maker." Send for List.
FORD, 37, Palace Rd., Bromley, Kent.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS
Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA
Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

FREQUENT MICTURITION.
"YBWET"
NEW ABSORBENT BAGS.
Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our
"NEW SANITUBE"
keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request; HILLIARD, 123, Douglas Street, Glasgow, C.2.

SPORTS WEAR
TERMS £1 MONTHLY

●West End clothing Invariably creates a feeling of confidence which tends to improve one's game. Unfortunately many people fail to appreciate this fact, judging by the way old clothes seem to survive relegation. . . . This is not easy to understand, especially as Keith Bradbury makes a point of supplying, for all occasions, clothing cut to give you the neatness of a new suit with the comfort of the old—AND £1 PER MONTH IS ALL YOU NEED PAY. . . . Then there is the Free Valeting Service for sponging, pressing and repairing, as often as you wish, to keep your clothes always clean and neat. . . . References or enquiries, of course, are entirely unnecessary and we have a little book explaining our methods . . . May we send you a copy with patterns? Sports wear and lounge suits from 5 gns. Flannel trousers from 21/-. Flannel blazers from 45/-. Dinner and evening wear from 6 gns

KEITH BRADBURY LTD.
TAILORS OF CREDIT
137/141 REGENT ST., LONDON, W.1
TELEPHONE: REGENT 5288
Hours 9—7 Saturdays 9—1

Recommended by the medical profession as being the natural protection against colds, rheumatism, — and skin diseases. —
Keeps the body at an even temperature.
EMPIRE
LINEN MESH UNDERWEAR
Sold by all good Outfitters.
Patterns and particulars post free.
THE IRISH LINEN MESH CO. LTD.
BELFAST — NORTHERN IRELAND

SURGICAL & SPECIALLY FITTED FOOTWEAR

We have had more than 100 years' experience in carrying out intelligently the instructions of the Medical Profession.

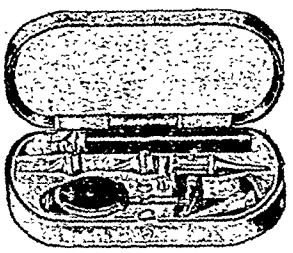
The fitting of Boots and Shoes for Weak Ankles and Flat Feet is also a speciality.

SELECTIONS OF CHILDREN'S SHOES SENT ON APPROVAL IF OUTLINE OF FEET IS SUPPLIED.

DOWIE & MARSHALL Ltd.
Bespoke Shoemakers since 1824.
16, GARRICK STREET, LONDON, W.C.1.
(Opposite the Garrick Club).
Telephone Temple Bar 5567

PERFECT FOOTWEAR IS COMFORT GUARANTEED TO EVERY CUSTOMER.

SURGICAL INSTRUMENTS, FURNITURE AND SUNDRIES.



ELECTRIC COMBINED SET (Standard Ever-Ready Battery in handle). Comprising: May Ophthalmoscope and Auriscope with 3 speculae, tongue spatula, and spare lamp in plush-lined case, as illustrated. OUR PRICE £3.15.0
Same set, without tongue spatula £3.10.0

OUTSTANDING BARGAINS IN
SURGICAL EQUIPMENT AND INSTRUMENTS.

SPECIAL OFFER OF GOVERNMENT SURPLUS STERILIZER DRUMS, Schimmelbusch Pattern, with Sliding Hip Bands, for use with High Pressure Sterilizers. THESE DRUMS are heavily plated on SOLID COPPER, made by the most noted British Makers and supplied by them to H.M. ADMIRALTY.

Each Drum is in new condition, and guaranteed by us.

SIZES AVAILABLE SUBJECT TO REMAINING UNSOLD.

Diameter.	Height.	Price, each.
16 ins.	11 ins.	40/-
7 ins.	14 ins.	20/-

PACKED AND DELIVERED FREE BRITISH ISLES.

CATHETERS, Metal, Nickel-plated, Solid Ends, Aseptic Eyes. Sets of 15, sizes 0 to 12, in handsome mahogany cases. GOVERNMENT SURPLUS. Price per set 25/-

Complete Catalogue of all Government Surplus Surgical Instruments, Appliances and Equipment free on application. All goods definitely guaranteed and on the slightest dissatisfaction can be returned.

ELECTRIC COMBINED SET, consisting of two laryngeal mirrors, spare lamp. Complete set in strong plush-lined case. OUR PRICE £5.15.0

A. FLEMING & CO. (Dept. B.J.), 39, Victoria Street, LONDON, S.W.1.
Telephone: Victoria 4677.
Telegrams: Estlonrus, London.

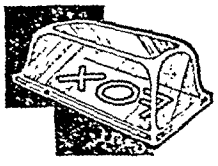
Trade Mark "Progynon" Brand

Female sexual hormone.

Biologically standardised according to the method Allen & Doisy.

Oral and Intramuscular administration.

SCHERING LTD., 3, Lloyd's Avenue, London, E.C.3.



Patients enjoy the clean-eating, delicious flavour and the stimulating, refreshing effect of

FOX'S GLACIER MINTS

Samples gladly sent on request.
FOX'S GLACIER MINTS LTD., LEICESTER.

ORAL SEPSIS.

"EUMENTHOL JUJUBES" (HUDSON)

Made in Australia.

HARMFUL THROAT TABLETS. Throat Tablets and Lozenges containing Formalin (Formaldehyde) are harmful. Miley, of the United States, investigated the effects of small doses of Formalin (Formaldehyde) given with milk, on 12 men during 15 days. Burning in the throat, itching, rash, and loss of body weight were observed.—*Vide* Martindale. All countries which have made legal enactments and laws regarding the purity of its food supply have prohibited the addition of Formaldehyde (Formalin) as a preservative of food. HUDSON'S EUMENTHOL JUJUBES contain no Formalin, Cocaine, or other harmful or poisonous drug. Sold everywhere.

FREE SAMPLES forwarded to Physicians on receipt of professional card by F. NEWBERY & SONS, Ltd., 31-33, Banner St., London, E.C.1. DUNCAN FLOCKHART & Co., Agents, Edinburgh, Scotland.

Manufactured by
G. INGLIS HUDSON, Chemist, *for*
HUDSON'S EUMENTHOL CHEMICAL CO., LTD.,
Manufacturing Chemists, 51, RAY STREET, SYDNEY, AUSTRALIA.
Distillers of Eucalyptus Oil Rectified by Steam Distillation.
Manufacturers of Pure Eucalyptol (Cineol).

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
62 EASTCASTLE ST., LONDON, W.1

NAME PLATES
in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

BOURNEMOUTH.
West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,
MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.
Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel. 1599.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 3417.)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

ST. ANDREW'S HOSPITAL

FOR MENTAL DISORDERS,

NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most *modern treatment of Mental and Nervous Disorders*. It *contains special departments for* hydrotherapy by various methods, including Turkish and Russian baths, *the prolonged immersion* bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas *situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied* to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, *Northampton*), *who can be seen in London by appointment.*

TYKEFORD ABBEY, NEWPORT PAGNELL,

BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London *to Northampton Road, fifty miles from London. Both sexes are accommodated.* Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Billiards, tennis, etc. Fees from five guineas per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel : 64117. *For terms, etc., apply to the Medical Superintendent.*

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, *in connection with Court Hall, for early and convalescent* cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a *private road to the beach*

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P. *Telephone*: Teignmouth 289.

HAYDOCK LODGE,

NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

The MAUDSLEY HOSPITAL

DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: (*a*) 189 beds (both sexes) in wards or separate rooms. (*b*) 13 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS

(*a*) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(*b*) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. *It is beautifully situated at the foot* of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders *is also provided at the MANOR HOUSE,* which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., *apply to*— ARTHUR TOWNSEND, M.D., Medical Supt.

Telephone: No. 7 Barnwood.

THE LAWN, LINCOLN.

This Registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY and I[illegible] *sexes* for treatment [illegible] rders, including [illegible] in adults. Special facilities for Psychotherapy in co-operative cases.

All particulars may be obtained from the Resident Medical Superintendent,

Dr. MARY R. BARKAS, M.D., D.P.M.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

This Registered Hospital for *MENTAL* DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is *for the treatment and care of* PRIVATE PATIENTS of the UPPER and *MIDDLE CLASSES.* Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superintendent, J. A. C. HOY, M.B., who may also be seen in Manchester by appointment.

Telephone: 2231 GATLEY.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the *Herts County Mental* Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as **"HIGHFIELD HALL,"** situate about a mile away from the Hospital.

Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

HOME FOR DELICATE CHILDREN.

"[illegible] HOUSE" KLOSTERS

ft. above sea level

[illegible] guineas weekly.

Inclusive terms from [illegible]

Infectious cases taken. All particulars from Mrs. or Dr. B. HUDSON (above address).

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"

STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 221. Matron: Mrs. Ellen Allfrey, S.R.N.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E. Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

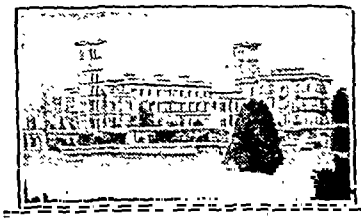
BOWDEN HOUSE,

HARROW-ON-THE-HILL.

A NURSING HOME OPENED IN 1911 FOR THE INVESTIGATION AND TREATMENT OF FUNCTIONAL NERVOUS DISORDERS OF ALL TYPES.

No cases under certificate. Thorough clinical and pathological examinations. Psychotherapeutic treatment, occupation, and recreation as suited to the individual case.

PARTICULARS FROM THE MEDICAL SUPERINTENDENT. *Telephone and Telegrams*: HARROW 0545.



King Edward VII Convalescent Home for Officers of the Navy, Royal Marines, Army, and Air Force.

Massage.
All forms of Electricity.
Ultra-Violet Rays.
Special Dieting.
Golf Course in the Grounds

TERMS:
4/6 to 6/- per day, inclusive.

Hard Tennis Court.
Squash Racquets.
Badminton.
Sailing.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury. Telephone 51.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone:* RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and *Actino-therapy*, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,
GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone:* NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the Medical Superintendent.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.
Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORMANSFIELD
For Mental Defectives of all ages.
Under private management.
Apply to Dr. Langdon-Down,
Normansfield, Teddington.

FUNCTIONAL NERVOUS DISORDERS.
CALDECOTE HALL, NUNEATON.
RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

FENSTANTON,
CHRISTCHURCH ROAD,
STREATHAM HILL, S.W.2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2254.) Apply J. H. EARLS, M.D., Resident Physician. Telephone: Streatham 8430.

STRETTON HOUSE,
Church Stretton, Shropshire.
A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental and Nervous cases are received without certificates as Voluntary Patients under the provisions of the Mental Treatment Act, 1930. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent 'Phone: 10 P.O., Church Stretton.

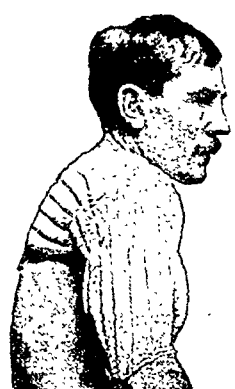
BOREATTON PARK,
BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.
Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.
Voluntary Boarders accepted.
Apply for particulars to Dr. SANKEY.

THE GRANGE,
near ROTHERHAM.
A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

asthma
TREATED AT MONT-DORE
THE FAMOUS FRENCH SPA
40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE
Tavistock House (North), Tavistock Square, LONDON, W.C.1.
Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).



RATIONAL REPETITION IN THE TREATMENT OF RHEUMATISM
For many years Pistany has been appreciated by the Medical Profession for its great work in the cure of Rheumatism.
The properties of Pistany's hot volcanic soft mud are quite peculiar. Its power of stimulating and increasing the absorption of pathological products is still unrivalled.
The treatment may be continued by the patient after returning from the Spa, under his own doctor's supervision, by means of the Mud Packs, which are in use in many rheumatism clinics in this country.

PISTANY
RADIO = ACTIVE MUD PACKS
Send for interesting Medical and Tourist literature.
PISTANY SPA REPRESENTATION, 38, Sackville Street, W.1
'Phone: Regent 2638.

SMEDLEY'S
GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARRISON, M.B., B.Ch., B.A.O. (R.U.I.). R. MACLELLAND, M.D., C.M.(Edin.)

'GRAMS: "SMEDLEY'S MATLOCK." 'PHONE: No. 17.
For Prospectus and full information please write MANAGER, M.J.

MATLOCK

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—WOODBRIDGE, SUFFOLK.

Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16.
(Toll Call from London.)

RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham,

as carried on for the last twenty years, is available. Booklets and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: The Norwood Sanatorium, Limited.

THE ROYAL EARLSWOOD INSTITUTION

FOR MENTAL DEFECTIVES, REDHILL, SURREY.

(Formerly the EARLSWOOD ASYLUM.)

FOR THOSE REQUIRING CONTROL with EXPERT SUPERVISION and needing SPECIAL TRAINING in useful occupations. *SCHOOLS, FARMING, and various TRADE WORKSHOPS.* Inclusive fees from £110 p.a. *THOSE UNABLE TO PAY* admitted by votes of subscribers, with part payment towards cost.

RECREATIONS: ALL outdoor games, EXCELLENT BAND by Male Staff, for Concerts, Dancing, etc.

Apply, THE MEDICAL SUPERINTENDENT, Earlswood, Redhill, Surrey, or to the Secretary, Mr. H. STEPHENS, 14-16, Ludgate Hill, E.C.4.

Telephone: REDHILL 344. *Telephone*: CENTRAL 5297.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of *many years' experience*, and besides removing all craving for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., *do especially well.*

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late *Dr.* FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc., for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

'Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For *further particulars* apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLASS, Resident Physicians.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion *residential Treatment* of the above afflictions is carried out on the most modern scientific *principles*, both physical and psychological, under the supervision of the Res Med. Supt., Dr. A. E. CALVER, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S. 14 acres of grounds.—For *terms*, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

REGISTERED NURSING HOME for PERMANENT PATIENTS.

3, Broadhurst Gdns., L

The MUNDESLEY SANATORIUM

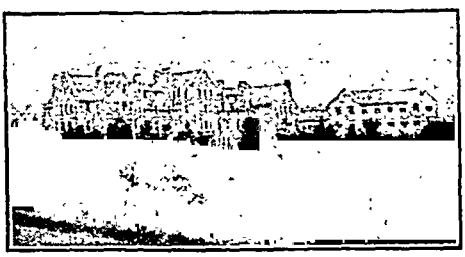
The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless head-phones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON, M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP, M.B.(Cantab.).
ANDREW MORLAND, M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

EAST ANGLIAN SANATORIUM

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and has an ideal situation facing S.S.E. in a very sunny district. Special treatment by artificial Pneumothorax (X-ray controlled). Ultra-violet Ray treatment is available for suitable cases. Matron and full nursing staff. Nurse on duty all night. Electric lighting throughout, radiators and wireless (headphones) in all rooms.

Dr. Jane Walker, C.H., J.P., Medical Superintendent. Dr. Eleanor Soltau, Assistant Medical Superintendent.

For all information apply: The Secretary, East Anglian Sanatorium, Nayland, near Colchester.
Telephone: NAYLAND 1.

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4½ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), A. C. Armstrong, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams:* Nordrach, Blagdon. *Telephone:* Blagdon 23.

MONTANA HALL

MONTANA, Switzerland

The only Sanatorium in Switzerland under British ownership and control, and with a full day and night staff of British Trained Nursing Sisters.

Built 1929-30. Opened Oct., 1930.

For the treatment of Tuberculosis, Diseases of the Chest, Asthma, and for patients requiring rest in the Alps under strict medical supervision.

Montana (5,000 feet above sea-level) is the sunniest mountain resort in Switzerland.

For prospectus and full particulars kindly apply to the Resident Medical Superintendent, HILARY ROCHE, M.D.(Melb.), M.R.C.S. (London), Tuberculous Dis. Dip. (Wales).

PEEBLES

In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air, beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.

Among the Pine-clad Border Hills.

PEEBLES HYDRO, PEEBLES, SCOTLAND

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Resident } W. JOHNSTON SMYTH, M.D.
Physicians: } L. T. ROSE-HUTCHINSON, M.D.

GRAMPIAN SANATORIUM,

KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 ft. above sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms £4 7s. 6d. to £6 6s. p.w. inclusive. No extras. Med. Supt.—FELIX SAVY, M.D.

For particulars apply to the Secretary.

Upton Lodge Nursing Home,

BIRCHINGTON, THANET.

All types of cases taken; special care for aged; shelters in garden; charming comfortable home; nr. sea. Terms mod.—MISS ROBERTSON, Matron.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS, at a weekly fee of TWO GUINEAS and upwards.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverpool St. 26 min.—Apply, Dr. HAYNES.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.

Medical Superintendent: Dr. MCCLINTOCK.

BRITISH SPAS ARE BEST

and membership of the British Spas Federation is a guarantee of efficiency

AT British Spas, treatment is only given (except in a few minor cases) upon medical prescription.

At British Spas the staffs are educated and properly trained and, in some cases, medically trained and medically certificated.

Equipment and administration are thoroughly up to date and scientific. Every new treatment is tested and reported upon before being adopted.

British Spas are also remarkably fortunate as regards situation, scenic beauty and pure air. These factors, combined with the social amenities of a home town, aid the cure considerably.

BATH Hot Springs (120° F.) Radio-active. Royal Baths extensions now open.

BRIDGE OF ALLAN Saline Water. Rich Calcium Bromide and-Iodine Content.

BUXTON Radio-active Mineral Water. New Natural Baths. 3 Guineas Course.

CHELTENHAM Five Natural Waters. Modern Baths.

DROITWICH The Brine Baths Spa in charming Worcestershire.

HARROGATE 88 Waters. 100 Treatments. Medically certificated staff.

LEAMINGTON Advanced Spa Treatment. Saline Springs.

LLANDRINDOD WELLS The Modern Welsh Spa.

TREFRIW WELLS Rich Sulphate Chalybeate Waters.

WOODHALL SPA Bromo-Iodine Waters. Pinewoods. Restful Air.

¶ A New Medical Handbook is being published, specially prepared for the use of the medical profession. A copy will gladly be sent you if you will write to the Hon. Secretary, Box 1, British Spas Federation, Pump Room, Leamington Spa, or to the Managers of any of the Spas here mentioned.

ANNOUNCEMENT BY BRITISH SPAS FEDERATION

BAVARIAN SPAS ARE WORLD FAMOUS

BAD KISSINGEN

INDICATIONS: Gastro-intestinal disturbances, liver disease, disorders of the bile-ducts, heart and vascular troubles, diseases of metabolism, chronic respiratory diseases, diseases peculiar to women, rheumatic troubles, diseased conditions of the blood and tropical diseases.
THERAPEUTICS: Potable Springs: Rakoczy, Pandur, Maxbrunnen, Luitpoldsprudel, Stahlbrunnen. Natural rich carbonic acid and graded brine and hot-spring baths, mineral mud baths, Fango, Hydrotherapy, light, air, sun, steam and hot air baths, inhalations, pneum. chambers (special air breathing), Zander Institute, X-ray treatment.

Prospectus from the "Kurverein." Summer and Winter Cures.
Mineral Waters despatched by the Management.

BAD REICHENHALL

Ideal Climatic Saline Spa in the Bavarian Alps, 1,600 ft. above sea-level.
INDICATIONS: Asthma, emphysema, bronchitis, diseases of the throat, nose, and larynx, heart trouble, diseases of metabolism. Largest installation in the world for pneumatic chambers and inhalation. Beautiful mountain scenery. Strongest saline springs on the Continent. Potable Springs. All modern comfort. All kinds of sports and entertainments. Open all the year round. Information regarding hotel and travel facilities will be gladly given by Thos. Cook & Son, and the "Kurverein Bad Reichenhall" direct.

BAD BRUECKENAU

The Spa for Kidney Trouble—Wernarzer Curative Spring. Highly successful in cases of uric acid diathesis, for gout, kidney, stone, gravel and bladder troubles. Chalybeate spring proved successful for anaemia, women's diseases and diseases of the nerves. Chalybeate and mud baths known to the medical profession for centuries. Hunting and fishing. Spa opens May 1st. Twelve "Kur Halls." Railway Line Hamburg—Munich, local railway from Jossa, also via Bad Kissingen. Fulda and Schlüchtern can be reached by State Route Motor Cars. Information and Prospectus from the "Staatl. Bayerischen Mineralbades Brückenau in Unterfranken."

BAD STEBEN (Therapeutic)

The Chalybeate and Mud Bath in the Frankenwald, 1,906 ft. above sea-level. Proved in cases of anaemia, chlorosis, heart, nerve and women's diseases, gout, rheumatism, sciatica; bathing, drinking and air cures. Park, rest hall, forest environment. Information from the "Staatl. Badeverwaltung" and Travel Bureaux.

Exceptional curative successes. **Best installed Spas.**

ITALIAN HEALTH RESORTS

IN WINTER AND EARLY SPRING there are, in Italy, more SUNNY and WARM RESORTS and SPAS than in any other country in Europe. Many of them have the best all-round climatic conditions to be found in Europe.

IN SUMMER AND AUTUMN. The greater part of Italy is more pleasant in Summer than at any other Season of the year. There are HUNDREDS of DELIGHTFUL ALPINE, DOLOMITE, LAKE and SEA-SIDE RESORTS.

THE SPAS OF ITALY are world famous for their 'cures,' and besides those having seasons in the Spring, Summer, and Autumn there are many that have a pleasant Winter climate.

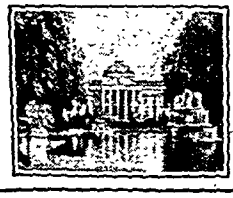
ENIT ALL THE YEAR ROUND ENIT

EVIAN-LES-BAINS

on the Lake of Geneva (Haute Savoie),
FRANCE.
1st MAY—5th OCTOBER.

Hydromineral & Climatic Treatment.
Cure by diuresis. Evian-Cachat Water.
Hydrotherapeutic Establishment.
First-class Hotels: Royal, Splendide, Ermitage.
All Sports: Golf, Tennis, etc.
Beach. Casino.

Full information from—
Federation of the Health Resorts of France, Tavistock House (North), Tavistock Square, London, W.C.1.



THE WORLD SPA **WIESBADEN** On the Romantic Rhine

Germany's greatest Medical Bat[illegible] and State Theatres.
WORLD FAMOUS THERMAL SALT SPRINGS [illegible] RHEUMATISM, GOUT, [illegible] Wiesbaden
metabolic diseases, nervous disor[illegible]
Cure diet. Station [illegible]
SALTS AND PASTILLS FOR EXPORT

Good accommodation at moderate prices. Hotel lists (8,000 beds) from the Municipal Information Office and all Travel Bureaux.

BRIDGE OF ALLAN
Stirlingshire

The rich Calcium Bromine and Iodine content of the Saline Waters renders them peculiarly beneficial in General Debility and Convalescence.

Their high curative value in Rheumatic affections, Gastric and Bronchial Catarrh, Asthma, etc., is thoroughly established.

The Allan Water and Spa Hotel has covered communication with the Spa.

For full particulars apply SPA DIRECTOR.

Wildbad *in the Black Forest*

GERMANY, 1,400 to 2,500 feet above sea-level.

CURATIVE SPRINGS, 93—99° F., for hundreds of years proved beneficial for gout, rheumatism, sciatica, nerve troubles, etc. Rejuvenation; all modern curative methods. Sport. Mountain Railway. Beautiful Woods. Anglican Divine Service. Information from the "Badverwaltung" or the "Kurverein" Wildbad in the Black Forest, and all tourist agencies.

Excellent Trout Fishing

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, Medicated Inhalations by means of the Apneu Inhalation Installation, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

CRUISING!
SCOTTISH FJORDS

SUMMER CRUISES by S.Y. "KILLARNEY" from LIVERPOOL

SPECIAL CRUISE TO BRITTANY & CHANNEL ISLANDS MAY 30TH

FARES from 9 gns.

For illustrated Folder apply—

COAST LINES LTD., Royal Liver Bldg., Liverpool. | TRAVELLERS LTD., 29 (Lr.) Regent St., London, S.W.

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

VICTORIA SANATORIUM : : DAVOS
SWITZERLAND

(BRITISH SANATORIUM), 5,200 feet above sea-level.

ALTERED AND MODERNISED IN SUMMER 1930.

Terms from £5 . 12 . 0 per week.

Medical Supt.:
BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

GILGAL HOSPITAL, PERTH.

Chairman:
THE RT. HON. THE EARL OF MANSFIELD.

For the Treatment of NEUROPATHIC and PSYCHOPATHIC DISORDERS. Certified patients *not received. Under the management of James* Murray's Royal Mental Hospital. Inclusive rates 3 guineas to 8 guineas weekly. Particulars on application.

Physician-Superintendent: W. D. CHAMBERS, M.D., F.R.C.P.E.

CLARENCE LODGE, CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: *Telephone*: Brixton 0494. Clapham Common Tube. Apply, MISS THWAITES.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatmen of stammering and other speech defects."—"Times."
"Thoroughly physiological principles."—"Lancet."
"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/9 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

EDINBURGH POST-GRADUATE COURSES IN MEDICINE

IN CONNECTION WITH THE UNIVERSITY AND ROYAL COLLEGES, 1931.

The POST-GRADUATE COURSES to be held this year comprise:

(1) A GENERAL PRACTITIONERS' COURSE from August 10th to September 5th.

(2) A GENERAL SURGICAL COURSE from August 10th to September 5th.

The composite fee for each Course will be £10 10s. for the four weeks, or £6 6s. for either the first or second fortnight.

(3) A COURSE IN OBSTETRICS AND GYNAECOLOGY AND DISEASES OF CHILDREN, from July 13th to Aug. 8th. Fee £10 10s.

In addition to the above, the following *Special Courses* have been arranged:

SUMMER TERM.

SURGICAL PATHOLOGY.—Mr. Wade, F.R.C.S.Ed., and others. May 12th. Fee: £4 4s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. May 4th. 12 Meetings, thrice weekly. Fee: £5 5s. Minimum number 5.
CLINICAL MEDICINE.—Medical Staff of Royal Infirmary. During May. Fee: £3 3s.

AUTUMN, AND SPRING TERMS.

CLINICAL SURGERY (includ of Royal Infirmary. Fee: £4 4s.
DISEASES OF EAR, NOSE, A ose, and Throat Department, Royal Infirmary. Minimum number 5. Fee: £10 10s.
VENEREAL DISEASES.—Mr. oyal Infirmary. Minimum number 5. Fee: £10 10s.
DISEASES OF EAR, NOSE, AND THROAT.—Dr. Douglas Guthrie. This Class will meet twice weekly at the Ear and Throat Dispensary, Cambridge
DURING THE PERIOD OF THE GENERAL COURSES (AUGUST-SEPTEMBER). [Street. Fee: £4 4s.
rs. F. E. Reynolds and James K. Slater. Minimum number 6. Fee: £3 3s.
dall. Fee: £3 3s. VACCINE THERAPY.—Dr. A. Nimmo Smith. Fee: £3 3s.
M. Dunlop, A. R. Gilchrist, and C. P. Stewart. Fee: £4 4s. Minimum number 6.
—Mr. C. Norman Kemp, B.Sc., A.I.C. Fee: £3 3s.
SES.—Dr. Robert Aitken. Fee £3 3s.
ood, and Paterson. Fee: £5 5s. Minimum number 5.

Further particulars may be had on application to the Hon. Secretary, Post-Graduate Courses in Medicine, University New Buildings, Edinburgh.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

POST-GRADUATE STUDY AT THE NORTH-EAST LONDON POST-GRADUATE COLLEGE

The Prince of Wales's General Hospital, Tottenham, N.15.

Morning and afternoon work in Medicine, Surgery, Bacteriology, Pathology and the Special Subjects. Study-leave, Panel, and individual Courses arranged. Practitioners' general Intensive Courses (limited to 25) held at frequent intervals. Practical instruction in Anaesthetics. Clinical Assistantships.

NEXT INTENSIVE FORTNIGHTLY COURSE, DEALING WITH SPECIAL AND GENERAL SUBJECTS, COMMENCES ON JUNE 1st, 1931.

Prospectus and Syllabuses on application to the Dean.

INSTITUTE OF PATHOLOGY & THERAPEUTIC RESEARCH

ST. MARY'S HOSPITAL, LONDON, W.2

A Course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the SUMMER SESSION. These Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on TUESDAY AFTERNOONS at 5 p.m. as under:—

	SUBJECT.
MAY 19th. Prof. JOHN MELLANBY, M.D., F.R.S. (Prof. of Physiology, University of London).	"Recent work on Blood Coagulation."
MAY 26th. Colonel S. P. JAMES, M.D., F.R.S. (M.O. and Advisor Tropical Diseases, Ministry of Health).	"The New Method of Studying Malaria and Some of its Results."
JUNE 2nd. Dr. ANDRÉ GRATIA (University of Brussels).	"The Schwartzman Phenomenon."
JUNE 9th. Prof. J. S. HALDANE, M.D., F.R.S. (Director of the Mining Research Laboratory, University of Birmingham).	"The Problems of Silicosis."
JUNE 16th. Dr. BERNARD HART, M.D., F.R.C.P. (Phys. Psychol. Med., Univ. College Hospital).	"The Causation of Neurotic Disorders."
JUNE 23rd Prof. HAMILTON HARTRIDGE, M.D., F.R.S. (Prof. of Physiology, St Bartholomew's Medical College).	"The Theory of Hearing."

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,300 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

EXTEMPORE SPEAKING

(Lecture Theatre, Platform, Pulpit, Banquet)

PRIVATE LESSONS

given by Mr. CHAS. SEYMOUR

Tuition includes Fluency, Vocabulary, Retention of Ideas, Voice-Production, AUDIBILITY, Modulation, CONFIDENCE, Breathing, ELOCUTION, Accent and Phonetics.

Prospectus forwarded (Kindly mention B.M.J.)

401 Strand (Opposite Cecil) W.C.2 Temple Bar 2697

DEFECTIVE SPEECH.

Remedial Tuition on modern lines for Stammer, Aphonia, Cleft Palate, Tracheotomy, and Disturbed Co-ordination, by ERIC MIALL, A.L.C.M., who is Speech Instructor at the Middlesex Hospital.

Short courses in elocution, accent, clarity, and public speaking.

39, WELBECK STREET, W.1.

Welbeck 3238.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5 for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

SOCIETY OF APOTHECARIES OF LONDON.

MASTERY OF MIDWIFERY.

Examinations will be held beginning Monday, May 18th, and Monday, November 16th, 1931. For regulations apply to the REGISTRAR, Water Lane, E.C.4.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full pre-paratory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSES for Sept. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., *Surgeons'* Hall, Edinb'h.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.).

POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30) **336**

M.S.(Lond.), 1901-30 (including 4 Gold Medallists) **22**

M.B.,B.S.(Lond.), *Final* 1906-30 (Completed Exam.) **269**

F.R.C.S.(Eng.), *Primary* 1906-30 **162**

Final 161

M.R.C.P.(Lond.), 1914-30 **192**

D.P.H. (Various) 1906-30 **300**

F.R.C.S.(Edin.), (Completed Exam.) 1918-30 **46**

M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.) **467**

M.D.(Dur.) (Practitioners) 1906-30 **38**

M.D. *Various. By Thesis.* Numerous successes.

Preparation for the above and also for Medical Preliminary, *and for all examinations* leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; *also for* D.P.M., D.O.M.S., B.T.M. & H., D.L.O., D.A.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS.—The *method* and the cost of entering the Medical Profession. *Particulars of all* Medical Exs. tal Courses, and Oral the higher Medical *for the higher Sur- sions for the* Special resher Course. Open- writing theses. along with list of tutors, etc., on application to the Principal, Mr E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees *should* be given.

J. & J. PATON, Educational *Agents*, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the *Diploma in Tropical Medicine* commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the *D.T.H.* must possess the D.T.M. of this University.)

For *particulars* apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

TAUNTON SCHOOL, TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the *First* M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special *facilities* are offered for the *teaching* of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, *two lecture rooms*, science library, store rooms, *etc.*, opened in September, 1925. Prospectus from Head Master.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

(University of London.)

Tropical Medicine and Hygiene.

The School provides Two Courses yearly, *each of 22* weeks. The Autumn Course commences *at the* end of September, and the Spring Course *in* February, 1932. Composition fee, to include hire of Microscope, etc., £34 5s.

Diploma in Public Health.

The next Course of study commences on *September 28th*, 1931, and covers *a period of* twelve calendar months (nine calendar months in the case of those who devote the whole of their time to the work). This Course qualifies students to sit for the University of London Diploma. The composition fee of 54 guineas includes the cost of the necessary practical work and instruction in infectious diseases, etc.

Diploma in Bacteriology.

The Course of study, covering one *academic* year, commences early in October. Composition fee £47 15s.

Epidemiology and Vital Statistics.

Special three-monthly Advanced Courses. Composition fee £7 7s.

Applications *for* Prospectuses and for other information *should* be addressed to the Secretary, Keppel St. (Gower Street), London, W.C.1.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London.)

The WINTER SESSION will begin on Thursday, October 1st, 1931.

The Medical *School* provides courses in Preliminary, Intermediate, and Final Subjects, *and* Students can join at once *after matriculation*.

SITUATION.—Between a large population, providing clinical material, and one of the best residential districts, thus enabling students to *live* in close proximity to their work.

CLINICAL POSTS IN MEDICINE AND SURGERY.—Certain members of the Medical and Surgical staff devote their whole time to teaching and research.

NEARLY 1,000 beds available for teaching, *additional clinical* material being provided by affiliation to an Infirmary and other Institutions.

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1,400 are awarded annually.

APPOINTMENTS, *varying* in value up to £750 per annum, open to students after qualification.

For further particulars and illustrated pros*pectus*, apply to the School Secretary.

C. M. WILSON (*M.C.*), M.D., F.R.C.P., *Dean*.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims

Chemistry, Physics, and Biology Labs.

MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

CITY OF LONDON MATERNITY HOSPITAL, CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL *STUDENTS* admitted to Hospital practice, with operative Midwifery, and Obstetrical *complications*. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses *in accordance* with C.M.G. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

MEDICAL CORRESPONDENCE COLLEGE

19, WELBECK ST., LONDON, W.1. Tel. Welbeck 6901.

PROVIDES HIGHLY SUCCESSFUL ORAL AND POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS.

Special Preparations for all Surgical Qualifications.

F.R.C.S.ENGLAND. (Primary & Final.) M.C.CANTAB M.S.LONDON

F.R.C.S.EDINBURGH.

And all other *Surgical* Degrees and Diplomas.

¶ The remarkable success of Students of the Medical Correspondence College at the higher Surgical Examinations is specially noteworthy.

¶ Both at the *Primary* and Final F.R.C.S. England the majority of *our Students* are successful at the first attempt, and Candidates who have failed at these Examinations on several previous occasions get through without difficulty after going through our courses.

¶ *The* Surgical Tutors of *the College* all hold either the M.S.Lond. or F.R.C.S.England, or both, and are highly experienced teachers.

¶ *The Postal Courses* are thoroughly clear, concise, and *up to date*, and the test questions are carefully selected from those set at previous *Examinations*, so as to embrace all parts of the subject. By working systematically through the Course the Student is brought up to the examination standard in the minimum time, *and much* unnecessary reading is saved.

VALUABLE BOOK

"*How to Pass the F.R.C.S.*," *free on application* to the Secretary.

UNIVERSITY OF HONG-KONG

FACULTY OF MEDICINE.

PROFESSOR OF PATHOLOGY.

Applications are *invited* for the CHAIR OF PATHOLOGY.

Salary £1,000 per annum, payable while in the Colony in dollars at the average monthly rate of *exchange*. Free unfurnished *house*; first-class passage for Professor and for wife and for children (if necessary). Candidates *should* be between 28 and 40 years of age. The Professor will be expected to arrive in Hong-Kong by the beginning of September.

Compulsory Superannuation Fund.

Applications for the *post should* be addressed to the Chief Medical Officer, *Ministry of* Health, Whitehall, S.W.1, not later than June 24th, 1931, from whom further information can be obtained.

University of Birmingham.

INGLEBY *LECTURES*, 1931.

The Dean and the Faculty of Medicine *request* the pleasure of the attendance of Members of the *Medical* Profession at The Ingleby Lectures, on Thursdays, May *21st* and June 4th, at 4 o'clock, in the Medical Lecture Theatre (Edmund Street Buildings). L. W. BLAIR BELL, *M.D., F.C.O.G.*, F.R.C.S., Professor of Obstetrics and Gynæcology, University of Liverpool, Gynæcological *and Obstetrical* Surgeon, Royal Infirmary, Liverpool.

Subject: *Maternal Dwarfism*."

City of Salford.

INFECTIOUS DISEASES *HOSPITAL*.

Applications are invited for the post of JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER (male). Salary £200 per annum, plus board, residence, and washing. The appointment will be for six months. Forms of application *may be obtained from the* Medical Officer of Health, 145 Regent Road, Salford, to whom it must be returned not later than May 23rd.

H. H. THOMSON, Town Clerk.

LONDON HOMOEOPATHIC HOSPITAL

(Incorporated by Royal Charter),

GREAT ORMOND STREET, W.C.1.

Post-Graduate Summer Course, 1931.

Friday, June 5th. 5 p.m. Dr. C. E. WHEELER, Honyman - Gillespie Lecturer. *The Principles of Homoeopathy.*

Friday, June 12th. 5 p.m. Dr. WILLIAM ROBIE, Registrar-Tutor. *Methods relating to the Selection of the Homoeopathic Remedy.*

Friday, June 19th. 5 p.m. Dr. JOHN WEIR, C.V.O., Compton Burnett Lecturer. *The Principles involved in Homoeopathic Prescribing.*

Friday, June 26th 5 p.m. *A Series of Clinical Cases, showing results of Homoeopathic Prescribing.*

PAID CLINICAL CLERKSHIPS.

To enable Doctors desirous of studying Homoeopathy for three months at the London Homoeopathic Hospital, Out-patient Clinics, Lectures, etc., a limited number of paid Clinical Clerkships, value £25, are available.

Apply the DEAN, Educational Committee.

Royal Medico - Psychological ASSOCIATION.

The Examination for the GASKELL GOLD MEDAL AND PRIZE and the Examination for the CERTIFICATE IN PSYCHOLOGICAL MEDICINE will be held at the WEST RIDING MENTAL HOSPITAL, WAKEFIELD, on Friday, May 29th, 1931, and on Saturday, May 30th, 1931. The Examination will commence at 10 a.m. on each day.

Applications for entry to either Examination to be sent to the Registrar, St. Andrew's Hospital, Northampton, before Wednesday, May 20th.

There is no fee for entrance to the GASKELL PRIZE EXAMINATION. The entrance fee for the Examination for CERTIFICATE in Psychological Medicine is three guineas, payable to the Registrar.

DANIEL F. RAMBAUT, M.D.,
St. Andrew's Hospital, Registrar.
Northampton.

Cyprus Mines Corporation.

SKOURIOTISSA, NICOSIA, CYPRUS.

MINE HOSPITAL WORK.

SURGEON PHYSICIAN required to take charge Hospital in Cyprus. Age 28/33. Accommodation about 30 patients, three clinics. Experience in general practice necessary. Three years' agreement. Single man preferred. Climate sub-tropical, healthy. Salary £480 to £500. Private practice allowed.

Company supplies furnished accommodation. Write, giving full particulars, training, qualifications, experience, to WILKENS & DEVEREUX, Stone House, Bishopsgate, London, E.C.2, from whom any further information can be obtained.

City and County of Kingston-upon-HULL.

BEVERLEY ROAD INSTITUTION (HOSPITAL).

ASSISTANT MEDICAL OFFICER.

The Corporation of Hull invite applications from Medical Practitioners for the appointment of an Assistant Medical Officer (single) at the above-named Hospital.

Commencing salary at the rate of £300 per annum, for a probationary period of one year, together with an allowance of £150 for board and residence outside the Hospital.

The Hospital Section contains 400 beds, and is equipped with modern X-Ray and Ultra-Violet Light Departments.

Applicants must be under the age of 40 years.

A form of application, together with conditions of appointment and a list of duties, may be obtained from the undersigned, to whom completed applications should be returned not later than 10 a.m. on Monday, June 1st.

W. M. FRAZER, M.D.,
Medical Officer of Health.
Health Department, Guildhall, Hull.
May 11th, 1931.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

ABERGELE SANATORIUM. (262 Beds—210 Children, 52 Adults.)

APPOINTMENT OF ASSISTANT MEDICAL SUPERINTENDENT.

The Public Health Committee invites applications from qualified Medical Men of not over 35 years of age for the position of Assistant Medical Superintendent at the Abergele Sanatorium.

The Sanatorium is fully equipped with all modern requirements for the treatment of Tuberculosis in Children.

It is essential that every candidate shall have held resident Surgical and Medical appointments in a General Hospital, and have had experience in the treatment of pulmonary and non-pulmonary tuberculosis in children.

A knowledge of Orthopaedic work and experience in the administration of Anaesthetics is desirable.

Salary £600 per annum, inclusive of emoluments (house, coal, and light) valued at £92 per annum.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Superintendent, Abergele Sanatorium," must be addressed to the undermentioned only, and not to members of the Committee or Council, and must reach him not later than Saturday, May 30th.

The successful candidate will be under the general administrative control of the Medical Officer of Health, and will be required to pass a medical examination, to devote the whole of his time to the duties of his office, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

Town Hall, F. E. WARBRECK HOWELL,
Manchester. Town Clerk.
May 11th, 1931.

Battersea Borough Council.

RESIDENT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners for the appointment of Resident Medical Officer at the Council's MATERNITY HOSPITAL, Bolingbroke Grove, Wandsworth Common (30 beds), for a period of twelve months (terminable by one month's notice on either side), at a salary at the rate of £150 per annum, together with rations and quarters. Particulars of duties will be forwarded on application. Preference will be given to candidates with Post-graduate experience in Midwifery.

Applications, in envelopes endorsed "Resident Medical Officer," stating age, qualifications, particulars of training and experience, and accompanied by copies only of not more than three recent testimonials, must reach me not later than 12 noon on Monday, May 18th.

Town Hall, EDWIN AUSTIN,
Battersea, S.W.11. Town Clerk.
May 6th, 1931.

Derbyshire County Council.

LOCUM FOR ORTHOPAEDIC HOSPITAL.

Applications are invited for the post of Locum RESI[illegible], OFFICER at BRE[illegible] HOSPITAL, near 32 adult and 115 [illegible]t weeks commencing July 29th. Salary at the rate of £350 per annum, with board, lodging, etc. Experience in Orthopaedic work essential.

Applications, together with copies of two recent testimonials, to be sent to the undersigned on or before June 6th.

New County Offices, W. M. ASH,
St. Mary's Gate, County Medical
Derby. Officer of Health.
May 7th, 1931.

The Institute of Ray Therapy,

152-154, Camden Road, N.W.1.

A RESIDENT MEDICAL OFFICER (male) is required on June 1st. The duties will include assisting in the treatment, and in the collection of clinical data for purposes of research.

The appointment is for six months, and is eminently suitable for a man reading for a higher examina[illegible] rate of £150 per ann[illegible] and laundry. Exper[illegible] not essential, but [illegible] d a resident appoint[illegible]

Applications, together with copies of three testimonials, must be sent not later than Monday, May 25th, to the Hon. Secretary at the above address.

Administrative County of LONDON.

HOSPITAL LABORATORY SERVICE.

The LONDON COUNTY COUNCIL invites applications from Medical Practitioners with appropriate qualifications for appointment to three positions of PATHOLOGIST in charge of Group Laboratories at LAMBETH HOSPITAL, Brook Street, Kennington, S.E.11, LEWISHAM HOSPITAL, S.E.13, and ARCHWAY HOSPITAL, Archway Road, N.19. The scale of salary attached to the positions is £1,100, rising by increments of £50 to £1,300 a year. Candidates must be not less than 30 and not more than 50 years of age on the latest date for receiving applications. In the case of a woman, marriage terminates contract of service. The Group Laboratories are fully equipped, and each Pathologist will be responsible for the organisation and development of the pathological work for the Council's general hospitals in the Group (about 2,000 beds). The work is mainly Bacteriological and Biochemical, although Histological examinations will be carried out. [illegible] pected to visit each [illegible] quent intervals, and [illegible] Pathologist to the [illegible] ed to carry out research work as opportunities arise.

Forms of application and further details may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by May 29th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.

Leeds Education Committee.

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited for the appointment of an Assistant School Medical Officer. Scale of salary £500 per annum, rising by annual increments of £25 to a maximum of £700 per annum. Previous experience in similar work is taken into account when fixing the commencing salary.

Candidates must have had at least three years' experience after obtaining a registrable qualification.

The successful candidate will be required to contribute to the Local Government and Other Officers Superannuation Act, 1922.

Letters of application, stating age, qualifications, and particulars of experience, together with copies of three testimonials, should be forwarded to the undersigned not later than Saturday, June 6th.

Education Offices, JAMES GRAHAM,
Leeds. Director of Education.

Kettering Urban District Council

APPOINTMENT OF PART-TIME MEDICAL OFFICER FOR ANTE-NATAL CLINIC.

Applications are invited for the appointment of a Part-time Medical Officer for Ante-Natal work in connection with the Maternity and Child Welfare Service of the Council.

Remuneration £1 11s. 6d. per session.

Particulars of the conditions of the appointment may be obtained on application to the undersigned, and applications, giving full particulars of experience and qualifications, must reach me not later than May 20th.

Council Offices, JOHN CHASTON,
High Street, Clerk of the Council.
Kettering. May 2nd, 1931.

Fife Joint Asylum Committee,

CUPAR FIFE.

ASSISTANT MEDICAL OFFICER (JUNIOR) wanted at Fife Joint Asylum, Cupar Fife. Applicants must be fully qualified and registered. Salary £300 per annum, with board and residence. The appointment is subject to 3 per cent. deduction under the Asylum Officers Superannuation Act (1909). Applications, stating age, qualifications, and experience, to be submitted to the Medical Superintendent.

South Devon and East Cornwall HOSPITAL, PLYMOUTH. (240 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN (woman).

Salary £120 per annum, with board, residence, and laundry. Appointment is tenable for six months, and is subject to renewal. Candidates must be registered under the Medical Acts.

Applications, stating age and qualifications, together with copies of recent testimonials, to reach the undersigned by May 29th.

ARTHUR R. CASH,
Gen. Supt. & Sec.
May 12th, 1931.

Royal Sussex County Hospital,
BRIGHTON.

Notice is hereby given that a meeting of the Elective Committee will be held in the Board Room of the Hospital on Wednesday, July 1st, for the purpose of electing (1) an HONORARY MEDICAL REGISTRAR, (2) an HONORARY SURGICAL REGISTRAR, (3) an HONORARY CLINICAL ASSISTANT to the Ear, Nose, and Throat Department, and (4) an HONORARY DENTAL CLINICAL ASSISTANT.

[illegible] for the first two [illegible]men who possess a [illegible]qualification of the [illegible] and who are duly registered under the Medical Acts; for the third mentioned office from those possessing a Medical or Surgical qualification of the British Empire and duly registered; and for the last-named office from gentlemen possessing a registrable Degree or Diploma in Dentistry, and who are duly registered under either the Medical or Dentists Acts.

Applications, with proof of the necessary qualifications, must reach the Hospital before 12 noon on Friday, June 19th, addressed to the undersigned, from whom further particulars of the above appointments and the restrictions with regard to canvassing members of the Elective Committee can be obtained.

By Order of the Board of Management,
L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Royal Free Hospital and London
(R.F.H.) SCHOOL OF MEDICINE FOR WOMEN.

Applications are invited for the following appointment, vacant on July 1st:
RESIDENT ASSISTANT PATHOLOGIST. £150, with residence in the Hospital.

Applications, accompanied by copies of not more than three testimonials, should reach one of the undersigned, from whom further particulars may be obtained, by the first post on Friday, June 5th.

Nine copies of all documents must be furnished

REGINALD R. GARRATT, Secretary,
Royal Free Hospital, W.C.1.
LOUIE M. BROOKS,
Warden & Secretary,
London (R.F.H.) School of Medicine for Women, W.C.1.

Wrexham and East Denbigh-
SHIRE WAR MEMORIAL HOSPITAL. (109 Beds.)

Three RESIDENT HOUSE SURGEONS (male or female) required by the above Hospital, to commence immediately. Appointments for a period of not less than six months. Salary £150 per annum, with board and laundry.

Applications, stating age, nationality, experience, and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned immediately.

LESLIE SPENCER, Secretary.

Royal Infirmary, Blackburn.
(240 Beds—5 Residents.)

FOURTH HOUSE SURGEON (male) required at a salary of £150 per annum, rising to £250, with board, residence, laundry, etc. To commence duties June 1st.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, NATHAN A. SMITH
Blackburn. Gen. Supt. & Secretary.

This Institution is recognised for the Surgical practice required for the F.R.C.S. Final Examination.

Chelsea Hospital for Women,
Arthur Street, S.W.3.

There will be a vacancy for a JUNIOR HOUSE SURGEON (male) on July 1st. Appointment for six months. Salary £100 p.a. He will be expected to proceed to the Senior post (six months, salary £120 p.a.) at the end of his term of office. Candidates must be duly registered and preferably unmarried. Applications, accompanied by copies of three testimonials, should be sent not later than Saturday, May 30th, to the Secretary, HERBERT H. JENNINGS.

Buchanan Hospital,
ST. LEONARDS ON-SEA.

Applications are invited for the post of JUNIOR HOUSE SURGEON (female). Salary £125 per annum. Duties to commence July 1st. Eligibility for Senior post after six months' service. Applications, with testimonials, to be sent to the Secretary, Buchanan Hospital, St. Leonards, not later than May 31st.

Royal Victoria Infirmary,
NEWCASTLE-UPON-TYNE. (576 Beds.)

WHOLE-TIME JUNIOR SURGICAL REGISTRAR.

Applications are invited for the post of Whole-time Junior Surgical Registrar.

This appointment is designed for Graduates who desire to gain Surgical experience, and who have already held a post as House Surgeon. Certain duties in the allied departments of the College of Medicine will offer opportunities of post-graduate study.

The appointment will in no case extend beyond three years, and will be for one year in the first instance, beginning June 1st, renewable for two further periods.

The rate of remuneration is £150 per annum.

Applications, with copies of not more than three recent testimonials, must be lodged on or before Tuesday, May 26th, with the House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne, from whom further particulars may be obtained.

S. DUNSTAN,
May 11th, 1931. House Gov. and Sec.

County Mental Hospital,
LANCASTER.

Wanted, a fully trained LABORATORY ASSISTANT, competent in general laboratory routine and post-mortem work, and skilled in bacteriology, serum reactions, and blood and cerebro-spinal fluid biochemistry. The successful candidate will be expected to have a thorough knowledge of photography for portrait and microscopic work. Salary £250, rising by annual increments of £10 to £300 per annum, and subject to the provisions of the Asylums Officers Superannuation Act, 1909. Applications, with copies of testimonials, to be sent as early as possible to the Medical Supt.

Queen's Hospital for Children,
Hackney Road, London, E.2.

HOUSE SURGEON (male) required on July 1st. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the Secretary, and must be sent in, with copies of not more than four testimonials, on or before May 31st.

CHARLES H. BESSELL,
May 1st, 1931. Secretary.

Queen's Hospital for Children,
Hackney Road, London, E.2.

CASUALTY OFFICER required July 1st. Some Dermatology additional. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials, on or before May 31st.

CHARLES H. BESSELL,
May 1st, 1931. Secretary.

Queen's Hospital for Children,
Hackney Road, London, E.2.

HOUSE PHYSICIAN required on July 1st. Six months' appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of not more than four testimonials, on or before May 31st.

CHARLES H. BESSELL,
May 1st, 1931. Secretary.

Oldham Royal Infirmary.

HOUSE PHYSICIAN and CASUALTY OFFICER required forthwith. Appointment tenable for a period of six months. Salary at the rate of £175 per annum, with board, residence, and laundry. Successful candidate will be required to assist the Honorary Pathologist, and will be eligible for re-appointment.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Liverpool & Samaritan Hospital
FOR WOMEN.

Wanted, HOUSE SURGEON for six months, commencing July 1st. Salary at the rate of £100 per annum.

Applications, with testimonials, to be sent to the undersigned by May 31st.

J. ST. G. WILSON.
13, Rodney Street, Liverpool.

The Children's Hospital,
SHEFFIELD. (107 Beds.)

Applications are invited for the following posts, vacant on July 1st:

HOUSE PHYSICIAN. Salary £100 per annum, with board, residence, and laundry. The appointment is for six months, and afterwards the holder is eligible for the post of Senior House Surgeon (salary at the rate of £120 per annum).

THIRD RESIDENT MEDICAL OFFICER. Salary £80 per annum, with board, residence, and laundry. The appointment is for six months, and afterwards the holder is eligible for the post of House Physician (salary at the rate of £100 per annum).

Candidates (female and unmarried) must be fully qualified and registered. Applications, stating age, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.

T. H. G. GARTLAND,
Secretary.

Queen Charlotte's Maternity
HOSPITAL, Marylebone Road, N.W.1.

ASSISTANT RESIDENT MEDICAL OFFICER (male) required to commence duty on July 1st. Applicants must be registered. Appointment for three months. On completion of this appointment the selected candidate will be expected to proceed to the post of Senior Resident Medical Officer (for three months), on the recommendation of the Medical Staff. The salary of the Assistant Resident Medical Officer is at the rate of £80 per annum, and of the Senior Resident Medical Officer £100 per annum, with board, residence, and washing allowance (4/- weekly). Applications, with copies (not originals) of not more than three testimonials, should be sent to the Secretary by May 28th. Canvassing is prohibited.

ARTHUR WATTS, Secretary.

Queen Charlotte's Maternity
HOSPITAL, Marylebone Road, N.W.1.

Two RESIDENT ANAESTHETISTS required to commence duty on July 1st. Applicants must be registered. Appointment for six months. Salary at the rate of £100 per annum, with board, residence, and washing allowance (4/- weekly). Applications, with copies (not originals) of not more than three testimonials, should be sent to the Secretary by May 28th.

ARTHUR WATTS, Secretary.

The Grosvenor Hospital for
WOMEN, Vincent Square, S.W.1.

There is a vacancy on the staff of the Grosvenor Hospital for Women for a GYNAECOLOGIST, for which post the present Chief Assistant will be applying, and should he be appointed there will be a vacancy for the post of Chief Assistant.

Applications are invited for these two appointments, and should reach here not later than Monday, May 25th, together with copies of three recent testimonials.

Candidates must hold the Degree of F.R.C.S. (England) and have had previous experience in Gynaecological work.

EDWARD DEW, Secretary.

East Ham Memorial Hospital,
Shrewsbury Road, London, E.7.
(100 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER for six months commencing July 1st.

Salary at the rate of £200 per annum, with board, residence, and laundry. Preference will be given to candidates who hold the Diploma of F.R.C.S.

Applications, stating age, experience, and full particulars, together with copies of testimonials, should reach the undersigned by June 6th.

REGINALD PERRY, Secretary.

The Stockport Infirmary.

HOUSE PHYSICIAN (male) required. Salary £175, with board, residence, and laundry.

Applications, with copies of three recent testimonials, stating age, University, and experience, to be delivered to the undersigned as soon as possible.

EDWIN J. PEARCE.
May 11th, 1931. Secretary-Supt.

North Riding Mental Hospital,
YORK.

Wanted, LOCUM TENENS MEDICAL OFFICER for July and September next. Salary 7 gns. weekly, with board, lodging, washing etc.

Apply, with full particulars and testimonials, to the Medical Superintendent.

London Homœopathic Hospital

(Incorporated by Royal Charter),
Great Ormond Street and Queen Square,
Bloomsbury, W.C.1. (172 Beds.)

The Board of Management are prepared to receive applications for the following appointment:

ASSISTANT SURGEON for Diseases of the Throat, Nose, and Ear.

The successful candidate must be or become, within a limited period, a Fellow of one of the Royal Colleges of Surgeons, and be or become a Member of the British Homœopathic Society.

Candidates canvassing Members of the Board, Medical Council, or Medical Committee are thereby disqualified.

Candidates will be required to attend a meeting of the Medical Committee.

Applications, stating age, qualifications, and experience, with 35 copies of application and 35 copies of each testimonial, should be sent addressed to the Secretary, of whom further particulars may be obtained.

EDWARD A. ATTWOOD,
Secretary.

The Children's Hospital,

BIRMINGHAM. (232 Beds.)

RESIDENT SURGICAL OFFICER.
HOUSE SURGEON.

Applications are invited for the above posts. Candidates must be qualified and registered.

The salary of the Resident Surgical Officer is at the rate of £175 per annum, and the House Surgeon £75. Both are provided with board, residence, and laundry.

The appointment of Resident Surgical Officer is tenable for one year, and the House Surgeon for six months.

Duties to commence on July 1st.

Applications, giving proof of registration, and not more than three testimonials, should be addressed to the undersigned on or before May 30th.

HAROLD F. SHRIMPTON,
May, 1931. House Governor.

The Lady Chichester Hospital,

HOVE.
(For Early Nervous Breakdowns.) (50 Beds.)

Medical Woman required as HOUSE PHYSICIAN for six months. Salary at the rate of £100 per annum, with board, lodging, and laundry.

Also JUNIOR required, with board, lodging, and laundry, and honorarium at the rate of £50 per annum.

The successful candidates will be required to enter on their duties on July 1st.

Applications must be made in writing, and be accompanied by testimonials, and sent to the Secretary, Mr. A. F. GRAVES, 117, North Street, Brighton, not later than Monday, June 1st.

May 2nd, 1931.

Royal Sussex County Hospital,

BRIGHTON. (238 Beds.)

CASUALTY HOUSE SURGEON (male) required. Salary £120 per annum, with board, residence, and laundry.

Candidates must hold Medical and Surgical qualifications of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of recent testimonials, should be sent immediately to the undersigned.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Salary at the rate of £175 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable.

The Resident Staff consists of a Resident Surgical Officer and Two House Surgeons.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 28th day of February, 1931.

ARTHUR H. LIME, Secretary.

The Royal Alexandra Infirmary,

PAISLEY.

RESIDENT HOUSE SURGEON required for six months. *Honorarium at the rate of £100* per annum, with board, washing, etc.

Apply to Senior Resident House Surgeon.

Chesterfield and North Derby-

SHIRE ROYAL HOSPITAL.
(190 Surgical and Medical Beds.)

CASUALTY OFFICER (DEPUTY RESIDENT SURGICAL OFFICER).

Applications are invited from fully qualified men for the above post. The appointment is *for six months. Candidates must have held* previous Hospital appointments.

Duties include House Surgeon to the Ear, Nose, and Throat Department.

Salary at the rate of £200 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, to be sent to the undersigned.

HOUSE SURGEON.

Applications are also invited from duly qualified men for the above post.

The appointment is for six months.

Salary at the rate of £150 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned.

G. SUNNUCK,
May 5th, 1931. Secretary and Supt.

Manchester Babies' Hospital,

Burnage Lane, LEVENSHULME.

Applications are invited immediately for the post of JUNIOR RESIDENT MEDICAL OFFICER. Appointment is for six months. Salary at the rate of £50 per annum, with laundry.

Applications, together with copies of testimonials, should be sent to the undersigned *immediately and marked "J.R.M.O."*

Applications are also invited for the post of SENIOR RESIDENT MEDICAL OFFICER. Appointment is for six months from July 1st. Salary at the rate of £125 per annum, with laundry. Only candidates with previous Hospital experience need apply.

Applications, together with copies of testimonials, should be sent to the undersigned marked "R.M.O.," by Saturday, June 6th.

ANGELA LOPEZ, Secretary.

Poplar Hospital for Accidents,

East India Dock Road, E.14.

Applications are invited for the post of SENIOR RESIDENT OFFICER.

Salary £200 per annum, with board, residence, and laundry, plus fees £75 per annum as Anæsthetist to Dental Clinic for L.C.C. School Children. Appointment for twelve months.

Applicants must be Fellows of the Royal College of Surgeons. Post offers considerable scope for Surgical practice.

Applications, stating age, qualifications, and enclosing copies of three recent testimonials, to be sent to the undersigned on or before May 22nd.

D. H. LINDSAY,
House Governor & Secretary.

Worcester General Infirmary.

(Voluntary Hospital—132 *Beds.*)

JUNIOR HOUSE SURGEON required July 1st. Salary at the rate of £120 per annum, with board, residence, and laundry. Candidates must be fully qualified, and preferably with previous Hospital experience.

The successful candidate will be eligible for the post of Senior House Surgeon (salary at *the rate of £180 per annum), which becomes* vacant on August 31st.

Applications, stating age, experience, and qualifications, together with copies of three recent testimonials, to be sent to the undersigned forthwith.

PERCY N. GLASS, General Secretary.

Hull Royal Infirmary.

(270 Beds.)

Applications are invited for the post of THIRD HOUSE SURGEON (male), vacant May 31st.

The appointment will be for six months in the first instance, determinable on either side by one month's notice. Salary at the rate of £150 *per annum, plus board, residence, and laundry.*

Applications, together with copies of testimonials, should be sent to the undersigned on or before May 25th.

R. J. CARLESS,
May 11th, 1931. House Governor.

King George Hospital, Ilford

(8 miles from London).

Applications are invited for the appointment of Two HOUSE SURGEONS (male). Salary £100 per annum, with board, residence, etc. Term, six months, with eligibility for a further period. Applications should be sent at once to the Secretary.

Bolton Infirmary & Dispensary,

(301 Beds, including Two Auxiliary Hospitals.)

Applications are invited from gentlemen for TANT RESIDENT ill be in charge of id beds, and will £200 per annum, with board, residence, and attendance. This appointment offers exceptional opportunities for Surgery.

Also applications are invited from ladies and gentlemen having a registered Medical and Surgical qualification for the posts of TWO HOUSE SURGEONS. Salary £150 per annum each, with board, residence, and attendance.

Applications for the above posts, stating age, nationality, and previous experience, together with copies of testimonials, should be forwarded to the undersigned (from whom further particulars may be obtained) not later than Monday, May 25th.

ALBERT E. BRISCOE, Secretary.

St. Mary's Hospital, London,

W.C.2.

Applications are invited from duly qualified Medical Practitioners for the post of RESIDENT ANÆSTHETIST which falls vacant on June 1st. Salary for first month of office at rate of £104 per annum, non-resident; for the re*maining six months £150 per annum, with* board and residence.

The successful candidate will be eligible for re-appointment. Copy of the regulations may be obtained on application to the undersigned.

Last date for receipt of applications, which should be accompanied by testimonials not exceeding three in number, is May 21st.

W. PARKES, Secretary.

St. Mary's Hospital, London,

W.2.

HONORARY MEDICAL AND SURGICAL STAFF.

Applications are invited for the post of SECOND OBSTETRIC SURGEON in charge of Out-patients. Candidates for the *appointment* are requested to forward their applications, with copies (not originals) of testimonials, not exceeding six in number, addressed to the Secretary at the Hospital, on or before May 27th.

Candidates must be Fellows of the Royal College of Surgeons of England.

The appointment is for five years, at the expiration of which *term the holder* will be eligible for re-election.

(Signed) W. PARKES, Secretary.

North Ormesby Hospital,

MIDDLESBROUGH. (140 Beds.)

HOU
requi
per a
There
age,
copies
sent t

Secretary-Superintendent.

Great Yarmouth General

HOSPITAL. (72 Beds.)

Applications are invited for the post of HOUSE SURGEON (one of two *appointments).* Applicants must be male and unmarried. Salary at the rate of £140 per annum, with board, residence, and laundry.

Applications, stating age *and qualifications* together with copies of three recent testimonials, to be forwarded to the undersigned.

FRANK JENNINGS, Secretary.

Hospital for Women at Leeds.

HOUSE SURGEON to commence duties immediately. Salary at the rate of £50 per annum, with board, quarters, and laundry. The appointment is for six months. Applications, together with copies of testimonials, should be sent to the *undersigned* at once.

BRYAN JEAFFRESON,
Hon. Secretary to Faculty.

Pontefract General Infirmary.

Wanted, RESIDENT MEDICAL OFFICER. Work largely Surgical. 60 beds, 1,500 In-patients.

Salary £200—£300, according to qualifications. Board, apartments, and laundry provided.

Send three copies of recent testimonials to HERBERT HOLMES, *Secretary,* Ropergate, Pontefract.

County Council of Middlesex.

Applications are invited as follows:

At the NORTH MIDDLESEX HOSPITAL, Edmonton, N.18.—MALE ASSISTANT MEDICAL OFFICER, full-time, resident, required immediately. Salary £400 per annum, rising £50 annually to £600 p.a., with emoluments valued at £100 per annum. The appointment will be subject to three months' notice on either side. This position is primarily for an Assistant Obstetric and Gynaecological Surgeon for advanced work, and also for general Surgical work under the Chief Assistant in charge of the Department and under the Medical Superintendent and Surgical Director. Candidates will be expected to have high qualifications, and good experience in Obstetrics, Gynaecology, and Surgery. Applications, stating age, experience, and enclosing copies of three recent testimonials, to be sent in writing to the Medical Superintendent at the above Hospital. Selected candidates will be notified to attend for interview later. No interviews at present.

All persons appointed in a permanent position will be required to undergo such medical examination as the Council may direct, and, subject to passing the same, to contribute to the County Council's Superannuation Fund, unless subject to the Poor Law Officers' Superannuation Act, 1896.

By Order,
ERNEST S. W. HART,
Clerk of the County Council.

Guildhall, Westminster, S.W.1.

City and County of Newcastle-upon-Tyne.

NEWCASTLE GENERAL HOSPITAL.

APPOINTMENTS TO MEDICAL AND SURGICAL UNITS.

Applications are invited from duly qualified and registered Medical Practitioners for the following non-resident posts:—

One ASSISTANT PHYSICIAN (Part-time). £500 per annum.
One MEDICAL REGISTRAR (Whole-time). £250 per annum.
One ASSISTANT SURGEON (Part time). £500 per annum.
One SURGICAL REGISTRAR (Whole-time). £250 per annum.

Further particulars may be obtained from the Medical Officer of Health, Health Department, Town Hall, Newcastle upon Tyne, to whom all applications, accompanied by not more than three recent testimonials, should be delivered on or before May 27th

County Borough of Blackburn.

WOMAN ASSISTANT MEDICAL OFFICER OF HEALTH.

The Corporation of Blackburn invite applications from Women Practitioners of Medicine for the position of Assistant Medical Officer of Health, to act under the direction and supervision of the Medical Officer of Health, who is also School Medical Officer and Executive Tuberculosis Officer.

The salary will be £600 per annum, rising by annual increments of £25 to £700 per annum, inclusive.

Preference will be given to candidates with a Diploma in Public Health, and with special experience in Paediatries, Obstetrics, and the treatment of Venereal Diseases in Women and Children.

Forms of application may be obtained from the Medical Officer of Health, Victoria Street, Blackburn, and should be returned, together with copies of three recent testimonials, to the undersigned so that they will be received not later than the first post on Wednesday, May 27th.

Town Hall, BRIGGS H. MARSDEN,
Blackburn. Town Clerk.
May 8th 1931

Kent and Canterbury Hospital,

CANTERBURY.

Applications are invited for the following posts:—

HOUSE PHYSICIAN (male). To commence duties on June 23rd.
HOUSE SURGEON (male). To commence duties on July 1st.

The salary payable in each appointment is at the rate of £125 per annum, plus board, residence and laundry.

Applications, stating age and particulars of qualifications, should be forwarded to the undersigned not later than May 23rd.

W. T. SOUTHWOOD,
Superintendent & Secretary.

County Borough of Walsall.

ASSISTANT MEDICAL OFFICER OF HEALTH.

Applications are invited from duly qualified and registered Medical Practitioners (single) for the post of Assistant Medical Officer of Health. Salary £500 per annum, rising by £25 per annum to £700 per annum.

Candidates must possess a Diploma in Public Health or similar qualification.

The officer appointed will be required to devote his whole time to the duties of the office, which will consist mainly of Medical Inspection of School Children, Maternity, and Child Welfare work, and duties in connection with the treatment of Infectious Diseases. He will work under the direction of the Medical Officer of Health and will be required to reside at the Isolation Hospital when the requisite accommodation is provided.

Applications, on forms to be obtained from the undersigned, stating age, qualifications, training, and experience, together with copies of three testimonials, and endorsed on the envelope "Assistant Medical Officer," should be sent to me not later than May 30th.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Canvassing, directly or indirectly, will be a disqualification.

Council House, HERBERT LEE,
Walsall. Town Clerk.
May 15th, 1931.

The Royal Earlswood Institution,

REDHILL, SURREY.
(Under Mental Deficiency Acts, 1913-27.)

JUNIOR ASSISTANT MEDICAL OFFICER Required.

Applicants must be registered Practitioners, males (British birth), unmarried, and willing to assist in the games and amusements.

The appointment is temporary for six months. Inclusive salary at the rate of £250 per annum, with board, residence and washing. Good facilities for Post-graduate studies, classes, and examinations.

Applications, stating age, religion, and qualifications, with copies of three testimonials of recent date and two references, to be sent on or before the 21st inst. to the Medical Superintendent at the Institution. The envelope to be endorsed "Assistant Medical Officer."

May 8th, 1931. H. STEPHENS,
Secretary.

Norfolk and Norwich Hospital,

NORWICH.

Applications are invited for the post of HOUSE SURGEON. Salary £120 per annum, with board, residence, and laundry. Preference will be given to a candidate who has held a previous Hospital appointment. Candidates (male), who must possess registered qualifications, should forward applications, stating age, nationality, etc., together with copies of testimonials, to the undersigned, not later than Tuesday, May 19th.

May 9th, 1931. FRANK INCH,
House Gov. & Secretary.

The Weir Hospital,

Grove Road, Balham, S.W.12.

JUNIOR RESIDENT MEDICAL OFFICER (male, unmarried) required. Candidates must be fully qualified and duly registered. Salary £150 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, to be sent to the Secretary, from whom further information may be obtained.

University College Hospital,

Gower Street, W.C.1.

Applications are invited for the full-time post of RADIOLOGICAL REGISTRAR, commencing July 1st. Salary £250 per annum.

Applications, accompanied by two recent testimonials, should reach the Secretary (from whom further particulars can be obtained) by noon on June 1st.

Victoria Hospital for Sick CHILDREN, Park Street, HULL.

RESIDENT HOUSE SURGEON and RESIDENT HOUSE PHYSICIAN required (ladies). Salary of former £100 and latter £80 per annum. Experience in laboratory work desirable. 105 beds. Applications, with copies of recent testimonials, stating age, qualifications, and other particulars, to be sent to the Secretary.

Manchester Royal Infirmary.

CENTRAL BRANCH, Roby Street, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment. Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for nine months, commencing forthwith, three months as Junior at £100 per annum, three months as Assistant at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m. on Thursday, May 21st.

By Order,
FRANK C. HAZELL,
Gen. Supt. & Secretary.

Derbyshire Hospital for Sick CHILDREN. (80 Beds.)

Wanted, a RESIDENT HOUSE SURGEON (lady), June 16th, salary £150; also a RESIDENT HOUSE PHYSICIAN (lady), September 16th, salary £130. The appointment in each case is for six months, but may be extended by mutual arrangements. Applicants must be fully qualified.

Applications, with three testimonials, one relating to Anaesthetics, to be sent by May 30th to the undersigned.

ARTHUR N. WHISTON, Secretary.
25, St. Mary's Gate, Derby.

Bath and Wessex Children's ORTHOPAEDIC HOSPITAL, COMBE PARK, BATH.

HOUSE SURGEON required, to commence duty middle of July.

The appointment will be for six months, with salary at the rate of £120 per annum, together with quarters, board, and laundry.

Candidates must have had special experience in administering anaesthetics.

Applications, with copies of three recent testimonials, should be forwarded at once to the undersigned.

May 5th, 1931. HAROLD J. FRICKER,
Secretary.

The Salvation Army,

THE MOTHERS' HOSPITAL,
Lower Clapton Road, Clapton, E.5.

Applications are invited from Medical Women for the post of ASSISTANT RESIDENT MEDICAL OFFICER, vacant June 1st. Salary £80 per annum, with board, residence, and laundry. Candidates should have some experience in Anaesthetics. Applications, with testimonials, must be sent to the Secretary-Superintendent on or before May 21st.

EDGAR DIBDEN,
Secretary-Superintendent.

Seamen's Hospital Society, Greenwich.

HOUSE PHYSICIAN AND HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich, for six months from July 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male. Applications, with copies of three testimonials, to be sent in by June 9th to the undersigned.

Greenwich.
May 9th, 1931. R. E. V. BAX,
Secretary.

Seamen's Hospital Society, Greenwich.

RESIDENT MEDICAL OFFICER required at ALBERT DOCK HOSPITAL, Connaught Road, E.16, for six months from July 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male. Applications, with copies of three testimonials, to be sent in by June 9th to the undersigned.

Greenwich
May 9th, 1931. R. E. V. BAX,
Secretary.

Royal Cornwall Infirmary, TRURO. (84 Beds.)

HOUSE SURGEON (male) required with experience of Anaesthetics. Salary £170 per annum, rooms, board, and washing. Apply, with copies of three recent testimonials, to the Secretary, of whom further particulars may be obtained.

Miller General Hospital,
Greenwich Road, S.E.10.

Applications are invited for the following posts:

HOUSE PHYSICIAN (male); HOUSE SURGEON (male). Salary in each case at the rate of £125 per annum, with board, residence, and laundry. Candidates must be unmarried.

OUT-PATIENT OFFICER (male), who is required to see Medical and Surgical cases. Attendance daily (except Sunday) from 9 to 1, Tuesdays 9 to 5. Salary £150 per annum, and lunch.

The appointments are for six months from July 1st next. There are six Resident Officers.

Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary as soon as possible.

May 12th, 1931.

Elizabeth Garrett Anderson
HOSPITAL, Euston Road.

Wanted, fully qualified Medical Women for t[illegible]

[illegible] rom July 1st [illegible] per annum, with board, residence, and laundry. Applications, with copies of three testimonials, should be sent to the Secretary by Wednesday, May 27th.

JEAN R. MURRAY, Secretary.

Elizabeth Garrett Anderson
HOSPITAL, Euston Road.

Applications are invited from fully qualified Medical Women for the staff appointment of OPHTHALMIC SURGEON.

Applications, with testimonials, should be sent to the Secretary, from whom further particulars can be obtained, before May 29th.

JEAN R. MURRAY, Secretary.

Royal Waterloo Hospital for
CHILDREN AND WOMEN,
Waterloo Road, S.E.1.

There will be a vacancy on June 15th for a HOUSE PHYSICIAN (male) at the above Hospital. The appointment is in the first instance for a period of six months. Salary at the rate of £100 per annum, with board and residence. Application, with copies of testimonials, should be forwarded not later than Tuesday, May 26th, to the Secretary at the above address, from whom further particulars can be obtained.

Bootle General Hospital,
BOOTLE, LANCS. (100 Beds)

Applications are invited for the two posts of HOUSE SURGEON for the period ending September 30th. Salaries at the rate of £150 per annum, with board, etc. Duties to commence as soon as possible.

Applications, stating age and qualifications, with copies of testimonials, to be sent to the undersigned immediately.

J. A. BEARDSALL,
Secretary-Superintendent.

Derbyshire Royal Infirmary,
DERBY.
(General Hospital—346 Beds.)

Applications are invited for the post of CASUALTY OFFICER.

Candidates must be qualified and registered under the Medical Acts.

The appointment is tenable for 12 months.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with copies of testimonials (not more than three), to be sent to the undersigned.

WALTER BANKS,
May 8th, 1931. Supt. & Secretary.

Macclesfield General Infirmary.
(100 Beds.)

Wanted, SECOND HOUSE SURGEON.

Salary £150 per annum, with board and residence.

Candidates must be legally qualified, and have had experience in the administration of Anaesthetics. Appointment for six months.

Applications, stating qualifications, and enclosing copies of three testimonials, should be sent to the undersigned.

A. E. HANRAHAN, Secretary.

North Staffordshire Royal
INFIRMARY, STOKE-ON-TRENT.
(350 Beds.)

HOUSE SURGEON.

The Committee invite applications for the post of House Surgeon.

Salary at the rate of £150 per annum, with board, residence, and laundry.

Previous Hospital experience necessary.

Applications, with copies of two recent testimonials, to be sent to the undersigned immediately.

By Order,
W. STEVENSON,
May 4th, 1931. Secretary & House Gov.

King Edward Memorial Hospital,
Ealing, W.13.

Applications are invited for the following appointments:

HONORARY CONSULTING PHYSICIAN (Additional).

HONORARY CONSULTING DENTAL SURGEON.

HONORARY CONSULTING SURGEON (Additional) to the Throat, Nose and Ear Department.

HONORARY CONSULTING ANAESTHETIST.

Applications should be sent to the Secretary-Superintendent, from whom particulars may be obtained.

Samaritan Free Hospital for
WOMEN, Marylebone Road, London, N.W.1.

VACANCY ON STAFF.

The Committee of Management invite applications for the post of HONORARY SURGEON to Out-patients.

Candidates must be Fellows of the Royal College of Surgeons, England.

Applications, stating age, with twelve copies (not originals) of three recent testimonials, should be sent to the undersigned at the Hospital on or before noon, Thursday, May 28th.

G. H. HAWKINS, Secretary.

Cossham Memorial Hospital,
KINGSWOOD, BRISTOL.

Applications are invited for the post of HOUSE SURGEON to commence duties at the end of May. Applicants must be British subjects, fully qualified and registered. Salary £150 per annum, with board, apartments, and laundry.

Applications, stating age, qualifications, and previous experience, accompanied by three recent testimonials, should be sent to the Secretary.

The Royal Infirmary,
SUNDERLAND. (290 Beds.)

Wanted, beginning of June, HOUSE PHYSICIAN (male). Salary £140 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Taunton and Somerset Hospital,
TAUNTON. (104 Beds.

Two JUNIOR MEDICAL OFFICERS required. House Physician and House Surgeon. Period of appointment not exceeding six months in the first instance. Salaries each at the rate of £100 per annum, with board, residence, and laundry. Applications, with testimonials, to

F. J. J. STACEY, Secretary.

St. Thomas's Hospital.

VACANCY.

T[illegible] [illegible]NG ANAES[illegible] details of [illegible] to be forwarded to Lt.-Col. A. P. B. IRWIN, Secretary, not later than May 23rd.

The Kidderminster and District
GENERAL HOSPITAL. (120 Beds.)

HOUSE SURGEON Required.

Salary £150 per annum, with residence, board, and laundry. Applications, with not more than three testimonials, to be sent to the Assistant Secretary, Miss SUSAN SMITH, South Cliff, Kidderminster.

The Children's Hospital,
BIRMINGHAM.

ASSISTANT AURAL SURGEON AND LARYNGOLOGIST.

A meeting of the Committee of Election will be held in the Board Room on Monday, July 13th, at 11.45 a.m., for the purpose of electing an Assistant Aural Surgeon and Laryngologist.

Applications are therefore invited for the post. Candidates must be qualified as set forth below.

Particulars as to the duties can be obtained on application [illegible] whom applications, [illegible] and Certificate of [illegible] nt by July 4th.

The successful candidate will be appointed for a term of three years, and will be eligible for re-election in the same manner as the Physicians and Surgeons to the Hospital. He will be given three beds in the Hospital.

EXTRACT FROM LAWS.

The Assistant Aural Surgeon and Laryngologist shall be a Fellow of one of the Royal Colleges of Surgeons of England, Edinburgh, or Ireland, and be duly registered, but that candidates who are not Fellows of one of the Royal Colleges of Surgeons may be elected on undertaking to become so within twelve months of their election.

He shall be a specialist in Diseases of the Ear, Nose and Throat.

HAROLD F. SHRIMPTON, House Governor.

Royal Eye Hospital,
St. George's Circus, Southwark, S.E.1.

ASSISTANT HOUSE SURGEON required at the above Hospital. The appointment is in the first instance for a period of six months, with board and residence as from June 1st.

Salary £100 per annum.

Candidates must be registered Practitioners.

Applications, with copies of three recent testimonials, should be sent to the Secretary at the Hospital not later than Friday, May 29th.

F. E. D'ALTON, Secretary.

The Royal Gwent Hospital,
NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to act as House Surgeon to Out-patients and as House Physician.

Salary £135, with board, lodgings, and laundry. Resident Medical staff 5. Eligible for promotion.

[illegible] Department.
[illegible] and qualifications,
[illegible] testimonials, to be
[illegible] not entertained.

J. A. MILLWARD,
April 28th, 1931. Secretary-Supt.

The Hospital for Sick Children,
NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a HOUSE SURGEON (male or female) to commence duties forthwith until September 30th. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle.

Rotherham Hospital.
(130 Beds)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £150, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Rotherham Hospital.

Wanted, HOUSE PHYSICIAN (male), qualified. Salary £180 per annum, with board, residence, and laundry, to have charge of Out-patients, administer Anaesthetics, and assist Honorary Physician.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Rotherham Hospital.
(130 Beds)

Wanted, SENIOR HOUSE SURGEON (male), qualified. A knowledge of Eye work is desirable. Salary £200, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
GENERAL POST OFFICE. *(Assistant Medical Officer—Woman.)*	**CONTRACT PRACTICE** (contd.).	**PUBLIC HEALTH** (contd.)
CONTRACT PRACTICE.	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.)* *(Resident Medical Officer, Preston Institution, Fulwood.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	**PUBLIC HEALTH.**	STAFFS COUNTY MENTAL HOSPITAL, BURNTWOOD. *(Third Assistant Medical Officer.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*	WOLVERHAMPTON COUNTY BOROUGH. *(Assistant Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	DEVON COUNTY COUNCIL. *(School Medical Inspector—Male.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)*	
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*		
NEATH AND DISTRICT. *(Medical Aid Association.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Macquarie St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 206, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

May 13th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

Western Ophthalmic Hospital,
Marylebone Road, N.W.1.

Applications are invited for the post of JUNIOR NON-RESIDENT HOUSE SURGEON. The salary is at the rate of £100 per annum, and the appointment is for six months. Ophthalmic experience is required. The selected candidate will be required to take up duty at an early date.

Applications, accompanied by copies of not less than three testimonials, should be sent to the undersigned at once.

H. W. BURLEIGH, Honorary Secretary.

Liverpool Stanley Hospital.

Applications are invited for the posts of HOUSE PHYSICIAN and HOUSE SURGEON for the period terminating September 30th next. Candidates must be fully qualified and on the Medical Register. Salary at the rate of £100 per annum with board, residence, and laundry. It is desired that the duties should be taken up at once. Applications to be sent to

ERNEST W. OSBORN, Secretary.

Bermondsey Medical Mission
HOSPITAL,
44, Grange Road, London, S.E.1.

Applications are invited from Medical Women for the post of RESIDENT HOUSE PHYSICIAN, vacant June 13th. Salary £100 p.a., with board residence, and laundry. Applications and testimonials should be sent to the Secretary.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

An OPHTHALMIC SURGEON is required on June 1st.

[illegible] Fellows of the Royal [illegible] and, are invited to [illegible] to the Secretary, three testimonials [illegible] rpose, at or before 12 o'clock on Monday, May 18th.

All candidates will be required to attend before the Joint Committee on Wednesday, May 20th, at 5 p.m. precisely.

Forms of application and copies of the rules can be obtained from the Secretary.

By Order of the Committee of Management.

JAMES McKAY, Secretary.

April, 1931.

Doncaster Royal Infirmary.
(185 Beds.)

HOUSE SURGEON (male) required immediately. Appointment is for six months and offers opportunity to gain good surgical experience. The successful candidate is eligible for reappointment.

Salary £175 per annum, with board, residence, and laundry.

Applications, stating age, experience, and full particulars, together with copies of three testimonials, should reach the undersigned by Thursday, May 21st.

WALTER R. SMITH, Secretary-Superintendent.

London Hospital, E.1.

Applications are invited for the post of MEDICAL FIRST ASSISTANT AND REGISTRAR. The appointment is for one year, but is renewable annually, on application, for two further periods of one year. Salary £300 per annum, payable by the Hospital and Medical College jointly.

Candidates must be fully qualified medically.

Applications should arrive at the Hospital not later than by the first post on Saturday, July 11th.

Further particulars may be obtained from the House Governor.

ARTHUR G. ELLIOTT, House Governor.

Warwick County Mental
HOSPITAL, HATTON.

THIRD ASSISTANT MEDICAL OFFICER required. Previous experience essential. Must be capable of taking charge of admission wards and will be expected to help in pathological work etc. Salary £400 per annum, rising by two annual increments of £25 to a maximum of £450, together with board and quarters, etc., valued at £150 per annum.

A qualification in Psychological Medicine carries £50 per annum in addition to this.

Applications, together with copies of testimonials, should be sent to the Medical Superintendent at the Hospital as soon as possible.

(Appointments continued on p. 60).

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted, an outdoor Assistant for General Practice (*private and panel*) in small town South of England. English or Scotch preferred, Protestant, single. For man with experience, £400 p.a., *outdoor*; *for freshly* qualified man, £350 p.a. to start with, outdoor. Abstainer. Usual bond.—Address, No. 2938, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant, in the *middle of June*, in good-class Practice in the Midlands. Would suit young Graduate reading for higher degree, and wishing to get experience in *private practice*.—Address, giving full particulars, No. 2626, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, lady or *gentleman, for general Practice*. Work very light. Ample time off or for study. Remuneration accordingly. Good experience. Newcastle-on-Tyne. Full particulars.—Address, No. 3094, B.M.A. *House, Tavistock Sq.*, W.C.1.

Wanted. — Assistant for panel and private Practice, Kent. Scot preferred, male, married. Complete succession in six months. Interview London necessary. Full particulars.—Address, No. 3077, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Outdoor Assistant end of May, with early view to Partnership, in small town, South of England. Should own car. Suit semi-retired man. Salary £400.—Address, No. 3015, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, near Birmingham, outdoor ASSISTANT, *male*. Salary according to experience. If married, can take charge of and live at branch surgery in pleasant suburb. State age, exp., nationality. —No. 3081, B.M.A House, Tavistock Sq., W.C.1.

Wanted, June 1st, Assistant, male, young, for general private and panel Practice in Belfast, Northern Ireland, live indoor. Please *state age, qualifications*, and other essential particulars.—Address, No. 3021, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, single, male ASSISTANT for *semi-country* Practice, Leicestershire. *Outdoor*, £300, all found. Two in firm. Suit newly qualified man. Usual bond. Send photo and all particulars.—No. 3032, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistant, [illegible]-ble, outdoor, £400 p.a. Country resident, easy reach Cardiff and Swansea. Midwifery, Anæsthetics essential.—Address, No. 3047, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Assistant for Town Practice, young, abstainer. Salary £400 outdoor. Suit recent qualified man. Usual bond.—Address, No. 3, Work light. House, Tavistock Square, W.C.1. B.M.A.

Wanted. — Part-time Assistant, S.E. London. Mainly dispensing. Evenings only. Suit Doctor doing Post-graduate study. Salary £3 weekly.—Address, No. 3007, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant, fully qualified. Allowed to follow Post-graduate lectures. Premium per agreement.—Address, No. 3037, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Young male Assistant, indoor, good home, in Colliery Practice, Rhondda. Dispenser kept. Salary £350 p.a.—Address, No. 3020, B.M.A. House, Tavistock Square, W.C.1.

Wanted in East End Practice, male ASSISTANT, British. Live at surgery.—Address, with references, No. 3029, B.M.A. House, Tavistock Square, W.C.1.

Lady Assistant required for panel Practice in South Wales Seaside Town. Good experience for one recently qualified. Essential particulars.—Address, No. 3002, B.M.A. House, Tavistock Square, W.C.1.

Male Assistant wanted, South-East London panel and private Practice. Work light. £300 indoor; increase later to good man. State age and experience.—Address, No. 3003, B.M.A. House, Tavistock Sq., W.C.1.

North Wales.—Wanted a Welsh-speaking outdoor ASSISTANT for general Practice, private and panel. District industrial and rural. Usual bond. References required. —Address, No. 3031, B.M.A. House, Tavistock Square, W.C.1.

Assistant (male), *outdoor*, wanted mid-June, Midlands. Must have Hospital resident or specialist department experience. Commencing salary £400 p.a.—Address, No. 3083, B.M.A. House, Tavistock Sq., W.C.1.

Assistant wanted for Country Town East of Scotland. Protestant. Male. Scots Graduate preferred. Able to drive car.—Address, No. 3092, B.M.A. House, Tavistock Square, W.C.1.

Assistant (man or woman), in door, wanted. Country Town. State age, height, religion, and full particulars.—Address, No. 2732, B.M.A. House, Tavistock Sq., W.C.1.

Woman M.B., M.R.C.S., requires ASSISTANTSHIP. Free October. Act. 29, experienced, keen. Excellent testimonials. Drive car. Interview.—Address, No. 3027, B.M.A. House, Tavistock Square, W.C.1.

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. *(Night Calls)*

"REASIDE, LONDON."

Wante three mont panel and practic 3095, B.M.A. House, Tavistock Square, W.C.1.

General Medical Practitioner (retired, life abstainer), large experience, undertakes LOCUM TENENS WORK. If duties light, 6 guineas charged.—Addresss, No. 3025, B.M.A. House, Tavistock Square, W.C.1.

Hospitality Locum. — *Doctor*, English, aged 38, reading for higher examination, seeks HOSPITALITY LOCUMS for self and wife, June—July; seaside preferred. Experienced private and panel. *No midwifery.* —No. 3035, B.M.A. House, Tavistock Sq., W.C.1.

Hospitality Locum. — Experienced Medical Man, at present engaged, has June free. Terms £5 5s. per week, with hospitality for wife. Own car.—Address, No. 3090, B.M.A. House, Tavistock Square, W.C.1.

June—July. — Woman M.B., M.R.C.S., experienced, reliable, aet. 29, free to do LOCUM. Drive car.—Address, No. 3026, B.M.A. *House, Tavistock Square*, W.C.1.

Locum, G.P. or Hospital, wanted by London man for about 2 *weeks*. Free May 22*nd*. Ex H.S., H.P., Obstetric H.S. —Address, No. 3017, B.M.A. House, Tavistock Square, W.C.1.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, *Lond.*" 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Locums desired in South-West Wales this summer by M.B.(Lond.), aged 29. Welsh. 6 years qualified. Experienced in Hospital and general practice. Free on 7 days' notice. References.—Address, No. 3086, B.M.A. House, Tavistock Square, W.C.1.

M.D., experienced General Practice, desires LOCUM work. Abstainer. Own car or not as desired. Short or long period. — Address, No. 3028, B.M.A. House, Tavistock Square, W.C.1.

Woman M.B. desires Locums, Whitsuntide—October. Northern Counties preferred. Two years' experience Hospital and G.P. Used to sole charge.—Address, No. 3011, B.M.A. House, Tavistock Square, W.C.1.

Woman Doctor, Scotch, M.B., Ch.B., aged 28, 5 years' experience G.P., wishes LOCUMS Free July, August, *September. Drive car. £6 6s. per week.*—Address, No. 3036, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS. DISPENSERS, etc.

Wanted extremely urgent.—FIVE WOMEN DOCTORS for Mission Hospitals for Women in North and Central China under the Church of Scotland. Highest qualifications; some Post-Graduate experience preferred. Unrivalled professional opportunities; must have *Missionary sympathies. Usual term* of service 5 years; shorter period might be considered.—Apply for full particulars, salary, passage, outfit, etc., to Dr. MURIEL GAMN, 121, *George Street, Edinburgh.*

A Lady *Dispenser-Bookkeeper* supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, *Westbourne* Park Road, W.2.

Dispensers supplied to Doctors at short notice, *without fee. Qualified* and experienced in private and panel practice. Permanency and part-time *Bookkeeper-Dispensers*, Secretary-Dispensers, Nurse-Dispensers, and *Chauffeuse*-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified [illegible] cases, commencing [illegible] daily. In Rochdale or Oldham area. *Own car.* —Address, No. 3005, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser seeks *Post in or* near London. Hall certif. Experienced all kinds practice. Drives car. Educated. *Highest refs.* — Write "ADVERTISER," 163, Milton Road, Cambridge.

Lady Dispenser, qualified, desires LOCUM WORK during first three weeks *in August. Practice or Institution. Thoroughly* experienced. Excellent references.—Address, No. 3015, B.M.A. House, Tavistock Square, W.C.1.

London. — Part-time Work or whole-time Outdoor ASSISTANTSHIP required by M.B., Ch.B. (at present engaged morning surgeries only). Scotswoman. 6 yrs.' exp. G.P. Drive car. Excel. tests.—Address, No. 3089, B.M.A. House, Tavistock Sq., W.C.1.

Middle-aged couple seek Care-TAKING POST. Country or Town. Woman, light services; man, ex Naval Officer, good gardener. — "L.," The Cot, Sealands, Dymchurch, Kent.

Part-time Work wanted, after-noon or evening, by trained Nurse with *morning post.* Excellent knowledge shorthand, typewriting, bookkeeping, *and* all secretarial duties. *Own typewriter.* References.—Miss MURE, 79, Fitzjohn's Avenue, N.W.3.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Potters, Caretakers, etc., without charge to prospective employers.

To Doctors and the Medical Profession.—Lady desires post as RECEP. half day. Own ial experience. . 3096, B.M.A.

Typewriting and Duplicating undertaken by Expert. Testimonials, Theses, Legal Documents. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD (B), 341, Finchley Road, N.W.3. 'Phone Hampstead 6430 (any hour).

PARTNERSHIPS.

Wanted. — Good-class Partnership (preferred) or PRACTICE in Scotland or North of England, by experienced Graduate at present reading for higher medical degrees. — Address, No. 3008, B.M.A. House, Tavistock Square, W.C.1.

Wanted in about six months' time, by University Graduate, aged 50 years, returned India, PARTNERSHIP, with view SUCCESSION, good-class Practice. Would consider immediate succession. — Address, No. 2635, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Partner, Country Town, Cheshire. Share £800 per annum. 1½ years' purchase. Capital not essential. Must be keen and energetic. Ex H.S. and G.P. experience. Increased share at end of one year. —No. 3009, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, Partnership in London Med. Transfer Agency, by young Medical Practitioner, ceased practice through ill health. Propose opening branch in untapped area. Good appearance, business ability. Genuine. Confid — No. 2803, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Partnership offer by M.R.C.P., aged 30, ex H.S., H.P., C.O., now Senior R.M.O. in a London Teaching Hospital.—Write Box 198, 8, Serle Street, W.C.2.

Hampstead. — Wanted to purchase, PARTNERSHIP or PRACTICE to bring additional work to experienced Practitioner in good-class established Practice, where time not fully occupied.—Address, No. 3085, B.M.A. House, Tavistock Square, W.C.1.

Lancashire Town.—Partnership, 1/2 share £3,000. Panel 3,000. Up-to-date Hospital, with possible staff appointment. Premium £2,250, part by instalments. House on rent. — Address, No. 2615, B.M.A. House, Tavistock Square, W.C.1.

M. B., Ch.B.Ed., wants Partner- about £900— £1,50 or Scotland. Count Hospital and G P 3088, B.M.A. House, Tavistock Square, W.C.1.

M. B., Ch.B., at present in large Practice with good salary, but no prospects and no capital, wishes for POST with anyone willing to give a chance of SHARE or PARTNERSHIP after twelve months' Assistantship. Married, Protestant. 7 years' experience G.P. Experienced Maternity, Ultra-violet Ray work, V.V. injections. Accustomed to sole charge. In or near London preferred, but would go anywhere. Personal interview requested. Could be free in one month.—Address, No. 3018, B.M.A. House, Tavistock Square, W.C.1.

N. Wales. — Third share of a well-established PRACTICE for disposal. Total receipts £2,000 p.a., panel 1,750. Pleasant district near large town. Suit young active Practitioner. Premium £1,000.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Popular Resort, South Coast.—PARTNERSHIP, non-dispensing mixed Practice, average cash receipts about £1,600, increasing. Share worth about £750. Good scope. Panel 900. Good house and garden, lease, commanding position. Two years' purchase, cash.—Address, No. 3023, B.M.A. House, Tavistock Square, W.C.1.

Partnership wanted in good-class Practice by capable, well-qualified Graduate, aet. 40, experienced London Hospitals and private. Preferably South or non-industrial. Succession considered. — Address, No. 3006, B.M.A. House, Tavistock Square, W.C.1.

South Coast, large town.—Partner leaving shortly. HALF SHARE of over £2,500, audited. Good-class district. Panel 2,000. Appointments £350. Modern house to rent. Hospital experience desirable. Two years' purchase. Attractive opening.—Address, No. 2607, B.M.A. House, Tavistock Square, W.C.1.

South Coast.—Partnership in old-established Practice with panel. Share of about £1,000 at 2 years' purchase offered to F.R.C.S. Scope for Surgery.—Address, No. 3012, B.M.A. House, Tavistock Square, W.C.1.

Yorks Town. — Partnership in well-established Practice, with receipts £2,300. Panel 1,500, increasing. House available. Succession in one year. Price 1/3 share £1,000.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

PRACTICES.

Wanted.—London and District. —The Medical Agency has a large clientele seeking suitable INVESTMENTS in the London area, with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Wanted in London, preferably Kensington, Hampstead, or West End, a general mixed PRACTICE of £1,500 per annum, with panel of 1,700 upwards. Compact house required at moderate rental, with option to purchase later. Applicant, aged about 30, has ample capital in hand.—Apply, No. 952, c/o PERCIVAL TURNER, LTD., 4, Adam Street, Adelphi, W.C.2.

Wanted by experienced Practitioner, PRACTICE or PARTNERSHIP in Edinburgh or immediate neighbourhood of about £1,500 per annum. Private and panel. —Address, No. 3038, B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Country Town or Country. Good house. Income £1,000—£1,500. Strict confid. —No. 2501, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by experienced Practitioner, mixed-class PRACTICE, with some panel, in pleasant part of town or in country or seaside within reach of good town. Income £900 upwards. Strict confidence.—Address, No. 3004, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by M.D., aged 31, good middle and working-class PRACTICE. Income £1,000 to £1,500 p.a. Panel about 1,000. Town preferred. Scope essential.—Address, No. 3010, B.M.A. House, Tavistock Square, W.C.1.

Wanted in London by experienced Practitioner, PRACTICE or PARTNERSHIP Succession. Income about £2,000 p.a. or more, including substantial panel. Ample capital (cash) available. — Address, No. 3030, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Medical Practice, Country Town or Country, mostly panel. Payable £600 cash and balance by instalments. —Address, No. 3082, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Practice in N.E. Counties. Panel about 1,000 or over. Healthy district. Income £1,200 or over.—Address, No. 3084, B.M.A. House, Tavistock Square, W.C.1.

Wanted to purchase by Harley Street Practitioner, Insurance or other transferable APPOINTMENT. Full particulars. —Address, No. 3079, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Medical Practice, private and panel, convenient to London. House, with garden. Suitable terms.—Address, No. 3080, B.M.A. House, Tavistock Sq., W.C.1.

Wanted in Cheshire. — Practice or PARTNERSHIP, with or without panel. — Address, No. 3087, B.M.A. House, Tavistock Square, W.C.1.

Death Vacancy. — Mauchline, AYRSHIRE (Scotland).—In consequence of the sudden death of Dr. McGregor, Anthorn, Mauchline, his PRACTICE falls to be disposed of (including house). — Offers forthwith to Mr. J. D. MACMILLAN, Solicitor, Mauchline, who will furnish any particulars desired.

Death Vacancy, Gloucestershire. —Receipts £1,000. Panel 766. Nice house available. Price £1,000 or near offer, good part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Derbyshire. — Old-established PRACTICE. Nice Town. Receipts £1,650 p.a., including nearly 1,000 panel. Nice house, good garden, rent £55 p.a., long lease. Premium £2,400. — Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

For Sale in important Seaside South-Western Town, an easily worked PRACTICE, capable of development. Average takings about £750 (£300 from panel). Good house for lease or purchase. No agents. Favourable terms for cash.—Address, No. 3022, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — General Practice, Kent, panel 1,230. Small house, garden, garage, on rental or can be purchased. Receipts £1,200. Scope increasing. Premium 1½ years' purchase.—Address, No. 3078, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Very good-class PRACTICE in Lancs Seaside Resort. Cash receipts over £2,000 p.a. and increasing; panel 600. Good freehold house. Scope for Surgery. Premium 1½ years' purchase. — Address, No. 2611, B.M.A. House, Tavistock Square, W.C.1.

Increasing working-class residential cash and panel PRACTICE. Four miles Piccadilly, thickly populated. Cash takings £2,000, panel over 1,100. Shop-fronted compact cosy house, small rent, long lease. Premium 1½ years' purchase.—Address, No. 2817, B.M.A. House, Tavistock Square, W.C.1.

Lancs Coast.—Residential PRACTICE for Sale. Fees average £1,300. Small panel. Good fees. Mixed class. Delightful house and gardens. Motor house and all other conveniences. Premium 1½ years.—Add., No. 3001, B.M.A. House, Tavistock Sq., W.C.1.

Lancs Town. — Old-established. Receipts £2,500. Panel 1,850. Excellent scope surgery. Appointment £120. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

London, S.E. (7 mins. Charing Cross).—Lady Doctor's PRACTICE for sale. Receipts average £550 p.a., panel 150. Nice flat available, rent £60. Premium £600. — Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

N. Lond. Practice, established 50 years. Panel 250. Visits 5/-. Could be worked as Branch. Experienced Doctor essential. £1,250, including drugs. House to let or sell; sub-letting would pay interest and rates. —No. 3019, B.M.A. House, Tavistock Sq., W.C.1.

Nucleus, Manchester. — Cash receipts past 12 months £520 (Anaesthetic appointments £100 not included). Panel 415. House to rent £40 p.a. Expenses very small. Moderate premium for quick sale.—Address, No. 3014, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — *Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."*

£1,450 secures well-established Country PRACTICE, easy access London. Receipts for 1930 upwards of £900, of which £700 represents Insurance and other contract work. Receipts to April 1st, 1931, at rate of £1,600. No opposition within three and a half miles.—Address, No. 3093, B.M.A. House, Tavistock Square, W.C.1.

HOUSES, CONSULTING ROOMS.

Clapham Common, S.W.4 (immed. fac. and adj. No. 60, South Side). Tiny unique VILLA, just reconstructed at consid. cost. Panelled sitting room, kit., gard., space for 2 bedrooms, bathroom, etc. L.l. Lease 32 yrs. at £20 p.a. Price £705.—Estate Office, 2303, Clapham Rd., S.W.9.

By Order of the Governing Body of the Mount Vernon Hospital.
7, FITZROY SQUARE, W.1.

This fine Genuine Adam House of five floors, including extensive ground floor. Eminently suitable for Institution, Showrooms, or Offices.
UNRESTRICTED FREEHOLD.
Possession on completion.
For Sale *privately or* by Public Auction at the London Auction Mart, E.C.4, on May 27th next.
Auctioneers: MAPLE & Co., LTD., Tottenham Court Road, W.1.

Admirably suitable as a high-class NURSING HOME.—A delightfully situated RESIDENCE, standing in its own grounds of one acre, within 10 miles of London. 8 bedrooms, 6 sitting rooms, 6 bathrooms (with showers), etc. *Beautifully furnished and decorated throughout.* Telephones in all rooms. Garage for 6 cars. Vendor will sell the unrestricted freehold, or grant long lease Price for lease, furniture, and effects £3,500. — WOODCOCK & SON, 20, Conduit Street, W.1.

A Great Opportunity.—To Let, on fringe of dense built-up area of Carshalton-on-the-Hill (at present no Doctor), newly erected Corner HOUSE of ample space. Garage. Gardens laid out. Assistance to Dr. wanting to make way.—COOK, 27, Kingston Road, Leatherhead.

Commodious Residence suitable for NURSING or CONVALESCENT HOME, situated near Clacton-on-Sea, facing South. 11 *bedrooms*, 2 *reception rooms, dining* hall, and sun lounge, 2 bathrooms, and all offices. Garage for 2 cars. All main services, large gardens, space for tennis court. Built 1928 by Owner. Specification and all details on application. £3,550 freehold.—C. H. CHASTON, Holland-on-Sea, Essex.

Consulting Rooms to Let.—Harley Street and District. Whole and part-time. Rents £80 to £300. Lists sent on application. Rooms wanted in Harley Street district.—ELGOOD & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2601.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Small Sanatorium in South of England, with Doctor's residence and 4 acres of land. Moderate price. Further particulars on application.—Address, No. 3039, B.M.A. House, Tavistock Square, W.C.1.

Harley Street. — Part - time CONSULTING ROOM to Let. With or without plate. Handsome waiting room. Good receptionist Letters and 'phone calls forwarded and appointments made.—Address, No. 3024, B.M.A House, Tavistock Square, W.C.1.

Harley Street.—Use of Consulting ROOM, with attendance, required one afternoon per week. Plate Must be reasonable. — Address, No. 3034, B.M.A. House, Tavistock Square, W.C.1.

Modern Hydro for Disposal.—Accommodation for 100 guests. Beautifully fitted and furnished. Lift. Hot and cold water all rooms. Modern Electric, Medical, Turkish, and Russian Baths. Replete in every detail Centrally situated in South Coast town. —Write, MORRIS, 41, Syke Ings, Iver, Bucks.

"OAKDALE," COLLEGIATE CRESCENT.
Sheffield. Modern stone-built . . . , 15 mins. City. Make . . . Spacious recep. rooms . . . ns, central heating and . . . c. water every bedroom Beaut. lawns. Garages for 4 cars. Usual domestic offices. Price £1,650 [illegible] to City.

Suite of [illegible] Dental Surgeon's ground floor waiting room and [illegible] Use of well-furnished [illegible] of butler.—Address, No. 3010, B.M.A. House, Tavistock Square, W.C.1.

Surgery to Let, 30/-, 3 rooms, [illegible] and attic); [illegible] for waiting [illegible] Address, No. 3006, B.M.A. House, W.C.1.

[illegible]-Avenue, Corner Houses, Freehold, [illegible] Bathroom, Hardwood Floors, [illegible] Garage, [illegible] Price £1,850. [illegible]

have had experience in [illegible] Anaesthetics. Appointment for s[illegible] work light. Applications, stating qualificatatly qualified closing copies of three testimonia[illegible]033, B.M.A. sent to the undersigned.
A. E. HANRAHAN, St[illegible]

[illegible] wanted by London [illegible] for about 2 weeks Free May 22nd. Ex H.S., H.P., Obstetric H.S. —Address, No. 3017, B.M.A. House, Tavistock Square, W.C.1.

MISCELLANEOUS, SALES, etc.

IMPORTANT NOTICE
to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.
The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.
JACKET & VEST (in black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.
THE Ideal Suit for Professional or Business wear
SUITS & OVERCOATS to measure from £6 6s
SOLID WORSTED SUITS £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s

UNSOLICITED APPRECIATION

"I [illegible] to ha[illegible] as all [illegible] 30 y[illegible] *Finish.*" (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.
Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.
Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.
Governing Director: HARRY HALL.
"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.
Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX
As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY
TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659.

INCOME TAX.
Consult me regarding all Income Tax and Accountancy matters. I guarantee satisfaction and immunity from tax worries.—For appointment write Mr. C. G. C. KILNER (*late* H.M. Inspector of Taxes), 17, George St., Baker St., London, W.1. ('Phone Welbeck 2012).

Medical Surgical Sundries Ltd.
Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom:* 97, Swinderby Road, Wembley.

Handsome Pair £4 4s. square *polished* ASH TENNIS STANDARDS, complete with heavy ground plates, powerful fixing screws, and solid brass net-winder. Accept 47/6. Also full regulation size heavy waterproof NET, with steel [illegible] perfect new condition [illegible] willingly again [illegible] Darley Street [illegible]

[illegible] AR[illegible] experience in [illegible] car accepted in [illegible] sold early [illegible] Hospital doctor [illegible] otherwise to [illegible] are available [illegible] tropical. Exhaustive Personal [illegible] for [illegible] Caxton Hall, Westminster, S.W.1.

[illegible] Calvert double burner [illegible] [illegible] DAY [illegible] [illegible] [illegible]

Safeguarding the Purchaser.

Although Advertising has become an integral part of modern business, its advantages to the consumer are not always clearly realised. A little thought will show, however, that any product marketed under a recognised name or trade mark must reach a high standard of quality, for were this not so "repeat sales" could not be secured; recognition of a discredited brand reacting to the disadvantage of the manufacturer in inverse proportion to the benefits that are derived when a large and satisfied clientele see, in the name of the product, a guarantee of quality and efficiency.

This argument leads one to expect that branded goods will represent better value than others, and that the standard will be maintained.

Advertising further benefits the purchaser by making possible reductions in the selling price consequent upon increased production resulting from the larger demand created by the advertising campaign. The manufacturer of advertised goods places his cards upon the table, supplying information concerning the product which enables the prospective purchaser to form a judgment upon its suitability to his own particular needs, whereas non-advertised goods rely entirely upon recommendations, often of a confused nature, and it is left to the purchaser to find at his own cost the real value of the product.

It is safe, therefore, to assume that in the majority of cases advertised goods only should be purchased. The advertisement pages of the *Journal* contain offers of a variety of goods and of service designed to meet the professional and personal needs of the medical man.

It should be remembered that while the acceptance of advertisements for publication in the *Journal* is not to be understood to imply a recommendation or guarantee, and while no responsibility can be accepted with regard to the accuracy of the statements contained in advertisements, a very strict censorship is maintained by the Journal Committee, and every effort is made to ensure that the claims set forth are well founded. In this way a degree of confidence has been established between readers and advertisers in the *British Medical Journal* which cannot be paralleled by any other similar publication in the British Empire.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,

(Established 50 years.) LTD.

4 & 5, ADAM ST., STRAND, W.C.2.

Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

Kent, Country, near Sea.—Over £1,100 p.a. Panel 380. Appts. £55. Fees 5/- to 21/-. Convenient house, 6 bed., etc., small garden.—No. 8718.

London, S.E. — Woman's Practice. About £550 p.a. Panel 251. Visits 3/6 to 7/6. Small flat at £62 p.a. Premium £750.—No. 8842.

Surrey, Country. — £600 p.a. and scope. Easily worked. Panel over 200. Fees 3/6 to 21/-. Good house in own grounds. For sale.—No. 8841.

Kent, within 25 miles London. —£800 p.a. Panel 470. Fees 3/6 to 21/-. Large house (8 bed.) and garden. For sale.—No. 8840

London, N. — Residential. — About £350 p.a., and ample scope. Fees 5/6 to 10/-. Panel about 200. Excellent house with surgery. House and Practice £2,200.—No. 8839.

West Lothian. — £860 p.a. increasing. Panel 650. Fees 2/6 to 10/-. Villa, 2 recep., 3 bed. etc. House and Practice £1,700 or offer.—No. 8837.

South Devon Town. — Average £1,564 p.a. Panel about 2,000. Fees 3/6 to 5/-. Large leasehold house. Practice and lease £2,700 cash.—No. 8816.

Midland Town. — Share worth £800 p.a. Fees 5/- to 21/-. Midwifery 5 to 6 gns. Grad. of Lond., Oxon., or Camb. required.—No. 8815.

London, N.E. — £1,300—£1,400 p.a. Panel 1,200. No midy., but ample scope. Lock-up premises. Conv. flat near.—No. 8834.

Riverside Town.—£300 p.a. and resident patient. £8 8s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8831.

Death Vacancy. — £500 a year. Liverpool district. Held 32 years. Easily worked. Good fees. Panel 250. Premium £500 or offer.—No. 8828.

Seaside Resort.—N.W. Coast.— Over £2,000 p.a., scope. Panel 600. Very good schools. Medium house, small garden. Scope for surgery. Cottage Hospital.—No. 8824.

Northern 'Varsity City. — Over £1,600 p.a. Panel 1,500. 12/15 midwifery cases. Fees 3/6 to 5/- and up. Good house and garden.—No. 8823.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 386. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

S. Wales.—£850 with scope.— £730 from panel and contract work. Convenient house; surgery. Rent 17/6 p.w. Premium £700.—No. 8817.

S.W. Scotland.—Near Coast.— £1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1¼ yrs.' purchase.—No. 8808.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

Medical Practitioners' Union Agency Limited

56, Russell Square, LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uffabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be [illegible]

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,

The oldest Medical Agency in Manchester,

6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 6932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations Valuations [illegible]

THE CENTURY INSURANCE COMPANY LTD.,

7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS

TO PURCHASE A PRACTICE OR PARTNERSHIP

NO GUARANTORS REQUIRED. REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054 & 1034. RIVERSIDE 1254. (*Night Calls.*) *Telegrams*: "REASIDE, TUBERCLE, WESTRAND, LONDON."

GLOS.—DEATH VACANCY.—Old-established Country PRACTICE. Suitable house available. Receipts approx. £1,000. Panel 766. Premium £1,000 or near offer, part down and the balance by instalments if desired.

LONDON, N.W.—PARTNERSHIP in rapidly growing G.P., excellent scope for further increase. Receipts nearly £5,000. Panel about 4,000. Excellent corner house available. Fifth share with view to larger share at 2 years' purchase. Suitable for experienced man, aged about 35.

BEDFORDSHIRE.—PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

DEVON (SOUTH).—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Scope for surgery. Hospital. Good schools. Prem. for 1/3 share £2,050. Terms considered to right man.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery; scope. Suitable house available. Premium 1½ years' purchase.

YORKS.—PARTNERSHIP in busy, rapidly increasing Town Practice. Receipts £2,300. Panel 1,500 Suitable house available. A third share, with view to succession, 2 years' purchase.

ESSEX.—Middle-class General PRACTICE, situated in well-populated locality. Receipts over £1,000 p.a. Panel 1,130. Suitable house available. Fees 2/6 up. Excellent scope. Premium £1,500.

LONDON, E.C.1.—Old-established mixed PRACTICE. Receipts (last year) £750. Panel (recently started) 360. No midwifery. Six-roomed house to rent on lease. Good professional quarters. Excellent scope, especially for a young experienced R.C. Practitioner. Premium £1,000.

LONDON, N.W.—Mixed General PRACTICE, situated in well-populated locality. Medium-sized house to rent on lease. Receipts nearly £1,100. Small panel 300. Fees 2/6 up. Premium £1,500.

SUSSEX.—Middle-class Rural PRACTICE, situated in charming locality. Medium-sized house, with large garden, to rent or purchase freehold. Electric light, etc. Receipts approx. £520. Panel 240. Fees 2/6 up. Three appointments. Premium 1½ years' purchase, cash.

LONDON, E.—SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £30 p.a. Fees 2/- up. Average receipts £516. Panel 350. Excellent scope for young man. Premium for Practice and lease £1,050 cash, or near offer.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

ESSEX.—NUCLEUS non-panel PRACTICE, suitable to either sex, with excellent scope for panel if desired, and further increase. Medium-sized double-fronted house to be rented on lease. Receipts approx. £400 p.a. Premium 1½ years' purchase or near offer, cash.

S.W. COAST.—Well-established General PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

EASTERN COUNTIES. — Cathedral City. — PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

SURREY.—PARTNERSHIP in rapidly developing residential locality, with splendid scope. Receipts approximately £1,000 p.a. Panel nearly 300. Fees 2/6 up. Premium for 2/5ths share, 2 years' purchase. Excellent opportunity for young and energetic man.

WE HAVE NUMEROUS SMALL PRACTICES both in London and the Provinces, with incomes from £100 to £500, with and without panel. Full details on application.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency,
71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700, and progressing. Good house, garage, and garden.
2. NORTHERN UNIVERSITY CITY.—Old-estab. middle-class PRACTICE. Receipts average £1,603 p.a. Panel 1,500, and increasing. Good fees. Nice house, garden, etc.
3. YORKSHIRE.—Well-estab. mainly working-class PRACTICE. Rec. almost £1,300 p.a. Panel 1,430. Nice house, on lease or for sale. 3 recep., 4 bed., etc. Gard. and gar.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
7. MIDLANDS, COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts av. over £2,700 p.a. Panel recently started and rapidly increasing. Good fees, house, etc.
8. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

REYNOLDS & BRANSON,

Limited,

MEDICAL TRANSFER AGENTS,

13, BRIGGATE, LEEDS.

GOOD-CLASS PRACTICE in suburb of Midland Town. Three partners. One-sixth share. Total receipts £8,000 p.a. Panel 700. Small house available. Premium 2 years' purchase in cash.—Apply 2595.

WEST RIDING TOWN.—Good middle and working-class PRACTICE for sale in healthy suburb. Panel 1,400. Average annual receipts for the last three years £2,500. Premium about 1½ years' purchase. Good educational facilities. Comfortable freehold house in excellent condition, for sale, which may be rented for 2 years.—Apply 2604.

WEST RIDING TOWN.—Old-established PRACTICE. Average receipts £1,725. Panel 1,070. Good house built for doctor, 7 years' lease to run.—Apply 2605.

CHESHIRE.—THIRD PARTNERSHIP in industrial middle and working-class PRACTICE. Receipts for the past three years average £4,220. Panel 3,744. Rent of house £60 p.a. Premium for 8/25 share £2,500 (including share of instruments, drugs, book debts, etc.).—Apply 2606.

PARTNERSHIP offered in old-established South Yorkshire PRACTICE. General, middle-class, and colliery. One-third share. Panel over 4,500. Clubs about £600 p.a. Premium approximately £2,000. Good house and garage available, which can be rented.—Apply 2611.

SMALL PRACTICE in North-East Port.—Residential district. Good house and garden. Rent £55 p.a. Average receipts £813 p.a. No panel. Premium £800. Good introduction.—Apply 2612.

SOUND PRACTICE in West Riding Town.—Good house can be rented £48 p.a. Receipts £1,825. Panel 760. Vendor will sell half share or the whole Practice.—Apply 2613.

WEST YORKSHIRE.—Near large town.—Old-established PRACTICE. Receipts £1,033. Panel 890. Premium 1½ years' purchase. House can be rented £64 p.a.—Apply 2614.

THE

WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE)

PHOENIX CHAMBERS,
22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: *Bristol 4689.*

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. SANATORIUM.—Western County.—40 beds. Receipts average £10,055 p.a. Particulars on application.
2. BEDFORDSHIRE.—Country PRACTICE, last year £485. *Good house* to rent £68. Price £350.
3. CARDIFF.—Industrial PRACTICE averaging £600 p.a. Panel 600. Good house. Premium £600.
4. SALARIED PARTNER.—Western City, with option to buy half share. £500 p.a. net. Suitable house. *Great scope.* Total receipts £1,700. £1,000.
5. DEATH VACANCY.—CARDIFF.—£360 p.a. Panel 210. *Growing district.* Good house.
6. COAST TOWN.—South-West Wales.—Panel 750. Receipts £1,000 p.a. *Good house to buy or rent.* Man considering purchase could do Locum.
7. WEST OF ENGLAND.—Cathedral Town.—Ear, Nose, and Throat. NUCLEUS £400 p.a. Three Hospital appointments. Accounts audited. Excellent prospects. Prem. £500.
8. HEREFORDSHIRE. — Unopposed Country PRACTICE. Panel 530. Receipts over £1,000. Several appointments. Good house. 14 years.
9. —One-third share of £2,000 p.a. panel over 1,700. £1,000.
10. third share of .a. net. Mostly Good house, 950.

rent £6 p.a.

11. MIDLANDS.—Cathedral Town. — *Receipts* £1,600 p.a. Panel 1,600. Good house to rent £80 p.a.
12. SOUTH DEVON. — Averaging £2,400, in favourite town. Panel 1,500. Large house for sale or rent. *Seaside.*

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. {MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. Large List of Bona-fide Purchasers with Ample Capital Available.

FOR DISPOSAL.

Full Particulars Free on Request.

NORTH STAFFS.—INDUSTRIAL TOWN PRACTICE. Cash receipts last year £1,200 Panel nearly 2,000. Good house, 2 reception, 7 bedrooms. Rent approx. £55 p.a. on long lease. Premium £2,000 (to include book debts and drugs).—No. 255.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE Cash receipts 1930, £1,406. Panel nearly 1,000 *Excellent* house, 2 reception, 6 bedrooms. Rent £90 p.a. Good Local Hospital. Premium £2,050.—No. 260.

SOUTH YORKSHIRE.—Old-established PRACTICE. Cash receipts 1931, £1,275. Panel 1,430. Excellent house, 3 reception, 4 bedrooms. Garage and good garden. Premium 1½ years' purchase. —No. 253.

EAST COAST — LARGE SEAPORT TOWN. — PARTNERSHIP in large Practice; Income over £10,000 p.a. Panel over 5,000. Good house available, 2 reception, 4 bedrooms. Garden. Premium—1/6 or 1/4 share—1½ years' purchase.—No. 258.

MANCHESTER SUBURB — PARTNERSHIP in old-estab. Practice. Cash receipts £2,100. Panel 2,155. Semi-detached house available, 2 reception, 3 bedrooms. Rent £45 p.a. Premium 1/3 share £950, part by arrangement.—No. 259.

LIVERPOOL (near).—Cheshire Coast Town PRACTICE Average cash receipts £1,187 p.a. Panel 785. Much scope Good double-fronted house (freehold). 3 reception, 4 bedrooms, garage Premium—Practice—£1,100. —No. 248.

MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,361 p.a. Panel over 1,000 Suit two friends. Good house to rent in main road, 2 reception, 6 bedrooms. Garage and garden. Vendor retiring Premium 1½ years' purchase.—No. 63.

NEAR LEEDS.—INDUSTRIAL TOWN PRACTICE.—Average cash receipts £1,280 Panel 1,350 Local Hospital. House to rent, 2 reception, 5 bedrooms. Premium 1½ years' purchase.— No 194

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. *Good house*, 2 reception, 5 bedrooms Garage. Rent £65 p.a., Premium 1½ years' purchase.—No 251.

LINCOLNSHIRE.—COUNTRY PRACTICE. *Cash receipts* £990. Panel 777 Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. *Rent £50* p.a. Premium 1½ years' purchase.—No. 195.

MANCHESTER. — PLEASANT RESIDENTIAL SUBURB. — Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600 Much scope. *Excellent house*, 2 reception, 4 bedrooms, garage, and good garden, to be sold, or may be rented for a period on lease. Premium 1 *year's purchase*. Vendor retiring. —No. 246.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "*Vouch, Belfast.*")

[illegible] PLEASANT TOWN, largely residential.—Average cash receipts £995 p.a. not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. *Garage and garden and tennis court.* Premium—Practice—1½ years' purchase.—No. 234.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,505. Excellent house, *3 reception*, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

MANCHESTER.—RESIDENTIAL DISTRICT.—Old-established PRACTICE, capable of *large increase*. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Premium £1,000 (*or near offer*).—No. 191.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house. 3 reception, 4 bedrooms. Garden. Good *schools*. *Premium*—Practice and house—any reasonable offer. —No. 173.

MANCHESTER. — INDUSTRIAL PRACTICE.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. *Rent £50* p.a. Premium 1½ years' purchase.—No 190.

CHESHIRE. — COAST TOWN.—*Near* LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134 Good scope. *Excellent* house may be rented, 3 *reception*, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—*No. 189.*

CHESHIRE BORDERS. — PARTNERSHIP in *Country Practice*. Average cash receipts £2,000 p.a. Panel nearly 1,800. *Scope*. Preliminary Assistantship. Purchaser *could* live with Vendor. Premium—one-third share—£1,000.—No. 245.

MANCHESTER SUBURB.—*Good-class PRACTICE*. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. *Rent £70* p.a. Prem. £800. —No. 226.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 430. *Much scope. Good house to rent*, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

CHANNEL ISLANDS.—*PRACTICE* in beautiful district. Cash receipts last year £425. Excellent house, 2 reception, 3 bedrooms. Garage and large garden. Premium—Practice—£500.—No. 167.

LANCS TOWN. — Old-established PRACTICE. Cash receipts 1930, £1,186. Panel 900. Much scope. Excellent house, 2 reception, 4 bedrooms. Garage. Premium, best offer. — No. 178.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,

Tele. Address: Triform, Wesdo—London.

Oxford Street, W.1.

Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwfy. Six-roomed house to rent. Prem. £700.

2 PARTNERSHIP in Eye, Ear, Nose, and Throat Practice in first-rate town. Good house available to rent or purchase. Partners on Hospital staff. Incoming Partner must be experienced more particularly in Eyes. Share worth £1,650 at 2 years' purchase.

3 YORKSHIRE (W.R.). — Compact easily worked Practice of £1,540 p.a. in manufacturing town. Panel over 1,300 Pleasantly situated double-fronted house (4 bedrooms), with garden, for sale. Premium 1½ years' purchase.

4 MIDLANDS. — Practice averaging over £1,900 p.a. in pleasantly situated market town within 100 miles of London. Nice house (modernised), with garden and paddocks, for sale Cottage Hospital and scope for Surgery.

5 GLOUCESTERSHIRE.—Practice of over £1,100 p.a. in pretty country district. Panel over 1,000. House (6 bed and dressing rooms), garage, and garden, for sale or rent. Scope for increase. Premium £1,500.

6 CO. DURHAM.—Partnership in Country Practice easy distance of coast. Income about £1,650 p.a. Panel 1,550 and Club appointments £560 p.a. Nice house (5 bedrooms), in quarter acre of garden, for sale. Premium for one-half share only £1,000.

7 LONDON, W.—Practice of about £600 p.a. in residential district. Panel 600. Detached double-fronted corner residence (4 bedrooms), garage, and nice garden, for sale. Scope. Premium 1½ years' purchase.

8 KENT.—Practice about £700 p.a., capable of considerable increase, in beautiful country district. Panel 750. Suitable house for sale. Premium £1,000.

9 LONDON, E.—Cash Practice of £850 p.a. in populous neighbourhood. Panel over 1,000. House (5 bedrooms) in main road, to rent. Premium 1½ years' purchase.

10 S. COAST.—Small Seaside Place.—Nucleus of PRACTICE, with very good semi-detached house (3 bedrooms). Would suit semi-retired Practitioner who could wait a while as place is developing quickly. Price for freehold house £1,400.

11 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average nearly £950 p.a. (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Prem. to effect quick sale only £800.

12 EAST ANGLIA.—Partnership in Practice over £4,500 p.a. in beautiful country district, easy access of important town. Panel 3,000. Nice detached house (7 bedrooms), garage, etc., garden and grounds of 10 acres, for sale. Sport of most kinds. Considerable scope. Premium two-thirds share 2 years' purchase. Suitable for two to buy together.

13 S. OF ENGLAND.—Partnership in steadily [illegible] about £6,000 p.a. in small town. Panel 3,300. One-eighth share at 2 years' [illegible] London Graduate preferred.

[illegible] £.—Country Practice [illegible] ict. Panel about 800. Eight- £500. Sport. Scope for increase. Premium to effect quick sale £1,000, part by instalments, if desired.

15 S. OF ENGLAND.—Partnership in good-class Practice in first-rate Residential Town. Suitable house can be obtained. Applicant should be aged about 35/45 and must have had Surgical experience and hold the F.R.C.S. Share of £1,200/£1,500 at 2 years' purchase.

16 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel about 600. Very good house (5 bed and dressing rooms), garage and excellent garden, for sale. Ample scope. Premium £900.

17 LONDON, N.—Practice about £360 p.a. in Residential Suburban district. Panel 180. Detached corner house (4 bedrooms), with small garden, for sale. Scope. Premium £400.

18 N. OF ENGLAND.—Partnership in lucrative Practice in large city. Panel over 5,000. Small house (3 bedrooms and attics) for sale. Partner must be young and energetic. A share of £1,650 or £2,500 would be sold at 1½ years' purchase.

19 LONDON, E.—Practice in thickly populated outlying suburban district. Receipts last year nearly £1,400. Panel over 1,950. Shop-fronted house on main road, to rent. Premium £2,350 cash.

20 S.W. OF ENGLAND. — Partnership in Practice averaging £3,000 p.a in small town. Very good house (7 bedrooms), good garden, etc., for sale. Hunting, shooting, fishing, etc. Premium two-thirds share 2 years' purchase. Hospital.

21 MIDLANDS. — Practice averaging £4,750 p.a in clean manufacturing town. Panel 3,570. Two houses for sale. Practice carried on by two Medical Men, both retiring. Premium 1½ years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880.)

Tele. Address: Triform, Wesdo—London.

12, Stratford Place, Oxford Street, W.1.

Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

22 WITHIN 12 MILES OF LONDON.—Partnership in rapidly increasing Cash Practice about £1,600 p.a. in developing indu-trial district. Panel 1,870. Small house available. Large Cottage Hospital. Premium two-fifth share 2 years' purchase.

23 W. MIDLANDS.—Partnership in Practice about £2,800 p.a. in attractive market town. Panel about 800. A one-third to one-half share, after preliminary Assistantship, 2 years' purchase. Applicant must be experienced in general practice.

24 S. MIDLANDS.—Practice of nearly £400 p.a. in delightful country district, easy distance of London. Panel 300. Attractive house (7 bed and dressing rooms) in grounds of 2 acres, with garage, to be sold or let. Very suitable for Resident Patients. Good scope. Premium 1 year's purchase.

25 N. MIDLANDS.—Partnership in Practice over £1,400 p.a. in first-rate city. Panel 1,800. House, with 2 reception rooms and 4 bedrooms, to rent. Premium one-half share £1,100. Preliminary Assistantship entertained.

26 MIDLANDS.—Practice of over £2,100 p.a. in manufacturing town. Panel 820. House (4 bedrooms) to rent, on lease. Premium 1½ years' purchase.

27 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in own grounds, for sale or rent. Premium one-half share 1½ years' purchase. Suit one aged between 40/50.

28 LONDON, W. — Mixed Practice of over £3,000 p.a. in outlying suburban district. No panel. Semi-detached corner residence (5 bedrooms), garage, etc., to rent on lease. Premium 1½ years' purchase.

29 NORTHUMBERLAND. — Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,425.

30 LONDON, E.C.—City Practice. Receipts 1930, over £1,500. Consultations mainly £1 1s., some £1 11s. 6d. and £3 3s. Excellent consulting rooms. Premium 1½ years' pur.

31 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

32 SURREY.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Premium £300.

33 SURREY. — Partnership in Practice in desirable residential town Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

34 CHESHIRE. — Partnership (after preliminary Assistantship) in Practice over £2,500 p.a. in manufacturing town Panel 2,100. Plenty of sport. One-third share to suitable man at 2 years' purchase.

35 HANTS. — Small easily worked Practice about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

36 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

37 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope. Premium £1,200.

38 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

39 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a. in attractive country town on coast. Panel about 500. Suitable house to rent. Hospital. Share to suitable man after preliminary Assistantship.

40 LONDON, N.W. — Nucleus of Practice in residential district. Income last year £300. Panel 150, rapidly increasing. Detached corner residence, in good position, for sale. Scope. Premium £300.

41 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good-class Practice in seaside resort. Suitable house to rent. Share of £800—£900 at 2 years' purchase. Applicant should be aged 28—35, and preferably a Cambridge, Oxford, or London man. Cottage Hospital and scope for Surgery, if desired.

42 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 1½ years' purchase.

43 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

44 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

45 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

46 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held resident appointments.

47 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

48 HOME COUNTIES. — Partnership in middle and working-class Practice of £5,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

49 LONDON, W. — Middle-class Practice of £740 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,000.

50 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

51 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

52 MIDLANDS. — Country Practice about £500 p.a. in hunting centre. Panel about 400. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent (smaller house available). Premium £550.

53 LONDON, S.W.—Good middle-class Practice of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

54 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

55 S. OF ENGLAND. — Partnership in good middle-class non-panel Town Practice over £5,300 p.a. Suitable house to purchase. Premium one fourth share £2,000. Preliminary Assistantship.

56 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one half share at 1½ years' purchase. Welsh not necessary.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS (BARNARD & STOCKER). *Post free* 12 6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

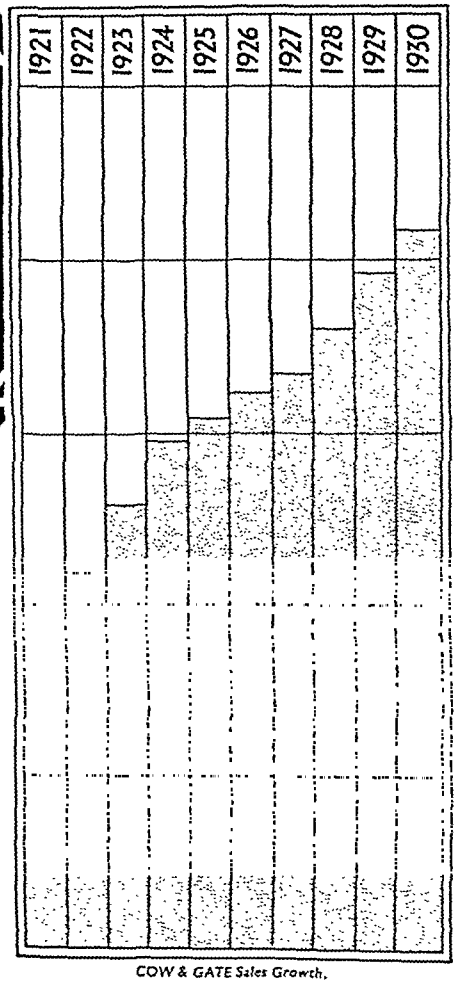
No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. LONDON, SOUTH-WEST.—Very sound good middle-class PRACTICE, old-established, and held by the Vendor for twelve years. Average gross cash receipts nearly £1,600, including panel of over 1,700. Fees 2/6 to 10/6. Very little midwifery. Good-sized house, with 2 reception, 6 bedrooms, etc. Price £1,000. Premium £2,365.
2. PARTNERSHIP.—YORKSHIRE.—LARGE CITY.—A one-third share, with succession to the whole Practice in about one year's time, is offered in a rapidly increasing PRACTICE, producing for the last 12 months approximately £2,300, including panel of 1,500. One appt. worth £150. A suitable house will be vacant shortly. Premium £1,200. Large scope for further development.
3. LONDON, N.W. (Kentish Town area).—In a well-populated district a mainly working-class PRACTICE, producing for twelve months ending March last £728, including panel of 260. House contains 10 rooms, with small garden; garage. Rent £120 p.a. on lease. Premium £1,000.
4. PARTNERSHIP.—COUNTRY TOWN.—Within 130 miles North of London—A fifth share, representing about £1,500 p.a., is offered in a particularly sound good mixed-class Practice, having substantial panel. Fees from 4/-. Not much midwifery. Suitable accommodation available. Premium 2 years' purchase. Ingoing partner should be a keen worker, and preferably Scotch or English.
5. LONDON (WEST END).—Old-established non-dispensing and non-panel PRACTICE, averaging over £4,700 p.a. Visits (very few) and consultations from one guinea upwards. No midwifery. Suitable accommodation available on rental. Premium £6,000. Good introduction given. Personal application desired.
6. NORTHERN CATHEDRAL CITY. — Old-established good mixed-class PRACTICE, averaging over £1,100 p.a., including panel of 1,070. Fees from 3/6. Not much midwifery from 2 to 10 gns. Very suitable small house, with 1 sitting, 3 bedrooms, etc. Garden. Garage. Rent on lease £50 p.a. Good sport and first-class schools. Hospital, and prospect of appointment on staff. Premium for prompt sale £1,550 cash.
7. LANCS.—LARGE TOWN.—PARTNERSHIP.—A one-third or two-fifths share is for disposal in well-established and increasing middle and working-class Practice. Gross cash receipts for immediate past 12 months £3,150. Panel of over 3,000. Appts. worth about £80 p.a. Fees from 2/6. Choice of two houses, both at moderate rentals. Premium only 1½ years' purchase.
8. WITHIN 20 MILES OF LONDON (WEST).—Rapidly developing district.—PARTNERSHIP.—A half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100 and appts worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
9. SURREY.—COUNTRY PRACTICE.—Very old-established, and situated in delightful district. Gross cash receipts for past 12 months £2,000, including panel of about 700. Fees from 2/6 to 21/-. Midwifery 3 to 20 gns. Exceptionally nice house, with 2 reception, 6 bedrooms, and professional rooms. Nearly 2 acres of garden. Price, freehold, £3,000. £1,800 on mortgage. Premium £3,000.
10. CHESHIRE.—NEAR COAST.—Old-established good mixed-class PRACTICE, averaging for the past 3 years nearly £1,600, including panel of 1,280. Very good house in 3 acres of ground, with 2 reception, 4 bedrooms, etc. Rent on lease £85 p.a. Premium £2,300.
11. PARTNERSHIP.—HOME COUNTY.—Within 40 miles.—In a small country town, in very pleasant district, the third share, with increase later, of an old-established mixed-class Practice offering good scope. Cash receipts average over £3,000 p.a., including panel nearly 1,700 and appts. Good house, with 3/4 of an acre of garden, tennis court, etc. Rent on lease £65 p.a. Premium 2 years' purchase. Ingoing partner should be about 30, English or Scotch, and pref. married.
12. WITHIN 30 MILES OF LONDON.—In a delightful residential district (well populated and growing rapidly), a small PRACTICE, producing last year £406, including panel of 300, and capable of considerable development. Very good residence (suitable for resident patients) in about 2 acres of ground. Price, freehold, £4,000. Mortgage arranged. Premium £400 Excellent schools, good society, and sport.
13. FAVOURITE COAST TOWN —Old-established good middle and better-class PRACTICE, producing over £1,800 p.a. Selected panel of under 400. Fees 3/6 to 10/6. Very little midwifery. Commodious house, with 2 reception, 6 bedrooms, etc. large garden. Freehold for sale. Premium £3,000.
14. SOUTH OF ENGLAND.—Pleasant Town near sea coast.—Very old-established PRACTICE (partly Surgical), averaging over £2,400 p.a. (last year £2,516), including panel of 500. Centrally situated house. Price for Practice and house £5,000. Successor should also have some knowledge of Eye, Ear, Nose, and Throat work.
15. HOME COUNTIES.—Within 40 minutes' run of London.—Old-established mixed-class and increasing PRACTICE, situated in small town with pleasant surroundings. Cash receipts average £1,725 p.a., including appt. £70 and panel 1,000. House with good accommodation and small garden. Price for freehold £2,500. Premium 1½ years' purchase. Educational facilities.
16. PARTNERSHIP.—SOUTH-WEST LONDON.—A one-third share is for disposal in very well-established chiefly middle-class Practice, producing last year about £5,500, including panel (rapidly increasing) of 1,600. Fees from 2/6. Suitable house can be rented on lease. Premium 2 years' purchase.
17. PARTNERS[illegible] within 80 miles of London.—A [illegible] for disposal owing to the retirem[illegible] in an exceptionally sound mixe[illegible] receipts £3,500 p.a., including panel of 1,000. Fees 2/6 to 25/-, medicine extra. Premium only 1½ years' purchase for quick sale, owing ill health.
18. LONDON, WEST [illegible] gly mixed-class PRACTICE, [illegible] £1,790, including panel o[illegible] House in excellent repair, [illegible] room, etc. Price for freehold £2,500. Premium 2 years' purchase.
19. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast; producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. *Premium* £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy [illegible]port.
20. [illegible] one-third share is offered in [illegible]g over £1,700 p.a., including panel of 470 and appts. of about £100 p.a. Fees 3/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. Premium 2 years' purchase.
21. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.
22. SOUTH CORNWALL.— [illegible] PRACTICE producing about £700 p.a. [illegible]600. Fees 5/- to 21/-. Suitable house, [illegible]ms, etc. Rent on lease £50 p.a. Good sp[illegible]ium only 1 year's purchase. Ill-health reason of sale.
23. YORKS.—LARGE TOWN.—Old-established chiefly good working-class PRACTICE averaging about £1,300 p.a., including panel of 1,400. Fees from 2/6. Suitable house, with 3 reception, 4 bedrooms, and dressing room, etc. Garden; garage. Price £1,200. Premium 1½ years' purchase, chiefly by instalments.
24. LONDON, SOUTH-EAST. — Woman Doctor's PRACTICE, producing £560 immediate past 12 months. Panel of 152. Fees 2/6 to 21/-. Suitable flat can be rented at £60 p.a. Premium £650, or near offer. Very good scope for increase.
25. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs. pu[illegible]hed PRACTICE, produc-
26. N[illegible] g panel of 1,700. Fees in[illegible]od modern house, with 3/[illegible]rage. Freehold for sale, spl[illegible] within reach. Premium pa[illegible]
27. N[illegible]ie-third share is offered 1½[illegible]t £5,000 p.a. Ingoing in[illegible] interested in medicine. pa[illegible] purchase.
28. [illegible]ird to one-half share in PRACTICE, producing a[illegible]l house can be rented about £2,000 [illegible] kinds. Premium 1½ years' purchase, part at £60 p.a. Sport of all kinds. Welsh not necessary.
29. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE, averaging over £1,200 p.a., including panel of 780. Fees from 3/6. *Mid.* 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.
30. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. *Visits* 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. *Price* for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.
31. MIDLANDS.—COUNTY TOWN.—Old-established better-class PRACTICE, averaging £793 p.a. and offering good scope. Panel 500. Fees 5/- upwards. Well situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate Surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.
32. KENT.—Country PRACTICE near Coast.—Old-established mixed-class Practice, averaging about £1,100 p.a. Panel of nearly 400. Fees 3/6 upwards. *Convenient* house, with 3 reception, 6 bedrooms, etc. Good garden. Price £1,650, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

Facts WHICH SPEAK for THEMSELVES!



COW & GATE Sales Growth.

COW & GATE Milk Food is now supplied to almost every Hospital and Welfare Centre in this country, although it is the highest priced food on the market.

We illustrate here a graph showing the COW & GATE sales growth during the last ten years.

THERE MUST BE A REASON FOR THIS EXTRAORDINARY GROWTH!

It is because the Medical Profession has over a long period proved the value of COW & GATE, and insist on having the best!!

Support Home Agriculture. COW & GATE LIMITED is an all English Firm, using only home produced milk.

Write for particulars of our special Milk Foods for difficult Infant Cases.

"The best milk for babies, when natural feeding fails"

Cow & Gate Milk Food

COW & GATE LTD. **GUILDFORD, SURREY**

B.M.J. May 16th, 1931.

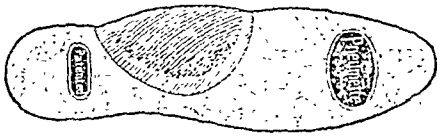
"FLAT FOOT"

or a "Falling of the Arch"

Is the cause of many true and false ailments. There are aching, swollen or painful feet, walking is a trouble, one soon gets tired, ankles are weak and liable to "turn over," cramp at times in the toes, feet, or legs, weakness at the knees; there are pains similar to rheumatism or sciatica—all traceable to the condition of the feet.

THE "PNEUMETTE" IS THE REMEDY.

(Patented and British.)



THE ONLY FOOT ARCH SUPPORT WITH AN AIR CUSHION. YOU WALK ON AIR—not on metal. You don't feel them—only the wonderful support they give.

The Effect in most cases is Immediate.

What the Pneumatic Tyre is to the car **"Pneumettes"** are to the feet.

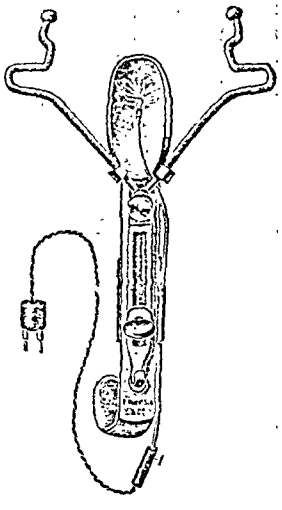
MODEL A.—For Flat Foot or Trouble under Instep. Price per pair 16s. 6d.

MODEL B.—Combined Support for Main and Metatarsal Arches. Price per pair, 17s. 6d.

PAMPHLET ON FOOT TROUBLES, with an Article, "The Medical Aspects of Flat Foot," by an eminent London Physician, free.

SOMETHING NEW.

Dr. Guttman's (German) SELF-HOLDING VAGINAL SPECULUM, Chromium plated.



Complete with Davidson's electric attachment, rheostat, spare lamp, and "Davon" Battery, in case

£5 5 0

Note.—The "Davon" Battery has a well-earned reputation in the medical world for reliability and long life. Our guarantee is behind it.

EXAMINATION CYSTOSCOPE.

(Foreign)

"Kollmorgen" optical system.

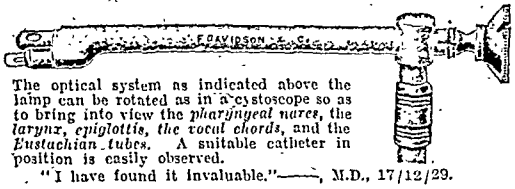
Giving a very brilliant upright image.

Complete in case, with spare lamp, £5 17 6 while stock lasts (usual price £9 9 0).

ELECTRIC PHARYNGOSCOPE

(Foreign)

(New optical system giving much improved view.)

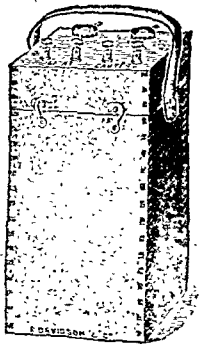


The optical system as indicated above the lamp can be rotated as in a cystoscope so as to bring into view the *pharyngeal nares*, the *larynx, epiglottis, the vocal chords*, and the *Eustachian tubes*. A suitable catheter in position is easily observed.

"I have found it invaluable."——, M.D., 17/12/29.

Pharyngoscope, "Davon" Battery, and Rheostat in Walnut Box	7 5 6
Pharyngoscope alone or with Battery (not the "Davon") in handle	5 15 0
"Davon" Battery 7/6. Walnut Case	10 0
Ear, Nose, and Throat Outfits from	3 12 6

"DAVON" PORTABLE SET FOR CAUTERY & LIGHT.



No. 18C. 0 to 4 Volts.
Actual capacity 20 ampere hours.

This constitutes an achievement in the production of a highly efficient apparatus at a moderate cost.

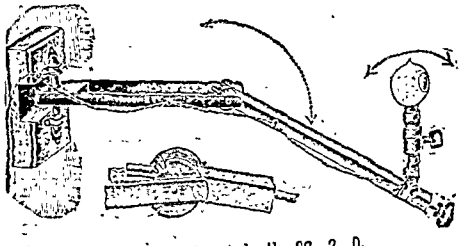
No. 18C comprises a new pattern 4 volt glass accumulator made without plate separators and concealed rheostats for cautery and light actuated by rotating knobs on the lid. These permit of very easy and gradual adjustment. Separate terminals for cautery and light allow of both being employed at the same time.

In Walnut Box with strap handle Price ... ... £4 4 0.

Cautery Handle, Cords, and 2 Burners ... £2 4 6.

THE "DAVON" BRACKET.

Well made and serviceable at a very MODERATE PRICE.



Price without bulb £2 2 0.

Target frosted bulbs (please state voltage) each 3/6.

OCULIST'S TRIAL CASES.

In large variety from £10 10 0 complete.

All lenses mounted, and adjustable trial frame.

Secondhand cases frequently in stock at tempting prices.

TEST TYPES, &c., of every description.

F. DAVIDSON & CO.

143-149, GREAT PORTLAND ST., LONDON, W.1. *(Estab. 1890.)* *Catalogue free.*

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3672 SATURDAY, MAY 23, 1931 Price 1/3

EMPLETS

Enteric-Coated Gland Products

AN improved form for the administration of gland products is furnished by the "Emplet" series of compressed tablets coated with a special acid-resisting material.

This enteric coating is the result of many years of research work in the Parke, Davis and Co. Laboratories. It contains no salol and is therapeutically inert.

Gland substances enclosed in this material are protected from possible inactivation through destruction of the active principle by the hydrochloric acid and pepsin of the gastric juice. As the Emplets readily disintegrate on contact with the alkaline secretions of the duodenum, the gland substances are released at the zone of maximum absorption.

Clinical evidence suggests that gland substances administered orally in Emplet form are more effective than when given in ordinary uncoated tablets.

The following gland substances are supplied in EMPLET form:—

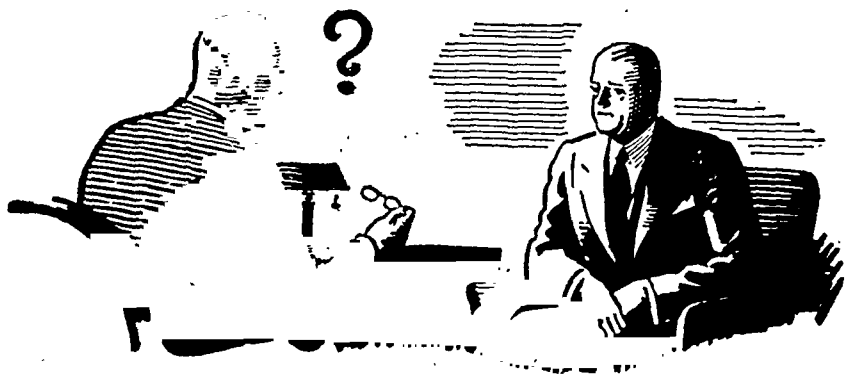
Corpora Lutea 2 gr.
Orchic Substance 5 gr.
Ovarian Substance 5 gr.
Ovarian Residue 5 gr.
Parathyroid 1/10 gr.
Pituitary (Whole) 1 gr.
Pituitary (Anterior) 2½ gr.
Suprarenal 2 gr.
Thyroid, gr. ½, 1¼, 2½ and 5 grs. (fresh)
Thyroid-Ovarian

FURTHER PARTICULARS WILL BE SENT ON REQUEST.

PARKE, DAVIS & CO., 50 BEAK STREET, LONDON, W.1.

Laboratories: Hounslow, Middlesex. .·. *Inc. U.S.A., Liability Ltd.*

D



The Answer to the "first Question"

INVARIABLY before prescribing for any ailment, the first question the physician asks the patient concerns the function of the bowels.

He then naturally asks himself what corrective, if any, to prescribe to suit the condition, without interfering with the treatment.

Agarol provides a safe answer to this.

Agarol Brand Compound the original mineral oil and agar-agar emulsion with phenolphthalein, is free from any artificial flavouring, sugar, alkali or alcohol. It is safe in diabetes, in gastric diseases, for children as well as adults. No excess of mineral oil to interfere with digestion or to cause leakage.

In addition, *gentle stimulation* of peristalsis, makes the result certain and the re-establishment of regular habits possible.

One tablespoonful at bedtime —is the adult dose.

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

AGAROL BRAND COMPOUND *for Constipation*

FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC., *Manufacturing Pharmacists Since 1856.*

British Medical Journal

CONTENTS

MAY 23, 1931

ORIGINAL ARTICLES

Angina Pectoris. By JOHN COWAN, M.D. (Illustrated) ... 879

The Development of the Science of Nutrition in Relation to Disease. By J. B. ORR, M.D., D.Sc. ... 883

Three Cases of Psittacosis with Two Deaths. By H. R. FISHER, M.B., Ch.B., and R. J. HELSBY, L.R.C.P. & S. With **Summary of Necropsy,** by DOROTHY S. RUSSELL, M.D.; and **Note on the Bacteriological Findings,** by S. P. BEDSON, M.D., M.Sc. ... 887

A Case of Cerebellar Abscess. By COURTENAY YORKE, M.D., F.R.C.S. ... 891

The Technique of Surgical Diathermy. By ALBERT EDINOW, M.B., B.S. (Illustrated) ... 892

MEMORANDA

Suicidal Cut Throat Recovery. By M. W. WARREN, M.R.C.S., L.R.C.P. ... 894

Treatment of Pernicious Anaemia. By H. C. KEATES, M.D., B.S. ... 894

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE:
The Obstetrical Problem of Contracted Pelvis ... 895
Injection Treatment of Piles ... 897

HARVEIAN SOCIETY: Calcium Therapy 898

REVIEWS

A System of Bacteriology ... 899
The Control of Malaria ... 900
Social Progress and Health ... 900
Surgery for the General Practitioner ... 901
A History of the Ambulance Movement 901
Notes on Books ... 902

MEDICO-LEGAL

Ether-Oxygen Anaesthetic Fatality ... 915
Alleged Fraudulent Misrepresentation by Medical Adviser ... 915

OBITUARY

T. R. Glynn, M.D., F.R.C.P. (With Portrait) ... 917

LEADING ARTICLES

THE PROPRIETARY MEDICINES BILL ... 903
HUGHLINGS JACKSON ... 904

THE WEEK

Schools of Hygiene ... 905
Traffic in Narcotic Drugs ... 905
Glass ... 906
British Science Guild's Programme ... 906
Cats and Human Disease ... 907
Post-graduate Courses in Tuberculosis 907
Welfare of the Blind ... 907

GENERAL ARTICLES AND NEWS

Early Men and Apes. By Professor G. ELLIOT SMITH, M.D., F.R.S. ... 908

Hughlings Jackson Memorial ... 908

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN ... 909

PREPARATIONS AND APPLIANCES. (Illustrated) ... 902

MEDICAL NOTES IN PARLIAMENT:
Lotteries for Hospitals ... 916
Deaths from Cancer ... 916
Milk ... 916

MEDICAL NEWS ... 919

LOCAL NEWS

IRELAND—
University of Dublin ... 910
National Health Insurance (Irish Free State) ... 910
Memorial to Dr. Arthur Dobbs ... 910
Armagh Mental Hospital ... 910

ENGLAND AND WALES—
Pay-Bed Section, Royal Victoria In[illegible] ... 910
[illegible] ... 911
[illegible] ... 911
[illegible] ... 911

UNIVERSITIES AND COLLEGES

University of London ... 918
Royal College of Surgeons of England ... 918
Royal College of Physicians of London 918
Royal College of Surgeons of Edinburgh 918

CORRESPONDENCE

The New Zealand Earthquake. By L. A. Parry, M.D., F.R.C.S. ... 912
Obstetric Shock. By F. G. Crookshank, M.D., F.R.C.P. ... 912
Detached Retina. By J. Cole Marshall, M.D., F.R.C.S. ... 912
Fractures of the Long Bones. By T. P. McMurray, M.Ch., F.R.C.S.Ed. ... 912
Fractures of the Neck of the Femur. By J. E. T. Shirlaw, M.B. ... 913
Coronary Thrombosis and Myocardial Infarction, with Glycosuria. By Griffith Evans, D.M., F.R.C.S. ... 913
A Barber-Surgeon's Instrument Case. By Sir D'Arcy Power, F.R.C.S. ... 914
Spinal Anaesthesia. By Basil Hughes, F.R.C.S. ... 914
Schistosome Worms and Schistosome Monsters. By R. L. Sheppard ... 914
Acidosis and Seborrhoea. By A. Arnold Osman, M.R.C.P. ... 914
Cancer and Race. By N. Pines, M.B. ... 914
Immunization Against Vaccinia. By G. M. Findlay, M.D., D.Sc., and E. Hindle, Sc.D. ... 914
Diet and the Teeth. By Mrs. Mellanby 914

LETTERS AND ANSWERS

Income Tax ... 920
Ulcerative Colitis ... 920
Pregnancy with Intact Hymen ... 920
Clinical Thermometers ... 920
Visit of Scientists to Russia ... 920
Medical Golf ... 920

VACANCIES ... 920

(See also page 207 of SUPPLEMENT*)*

The SUPPLEMENT contains:

State Insurance in Relation to Health. Address by Dr. H. B. BRACKENBURY.

Proprietary Medicines Bill.

NOTICES OF MOTION FOR THE ANNUAL REPRESENTATIVE MEETING.

MEDICAL WOMEN'S FEDERATION.

CORRESPONDENCE.

Association Notices: Vacancies and Appointments: Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, Bart., K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners, to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-.

Those who join within one year of Registration are exempt from Entrance Fee.

Telephone GERRARD 3414.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Churchill, J. & A.
Books on the Eye.. 3
Books on Pathology, etc 3
Edon & Holland's Midwifery 3
.. 3
3
3
3
3
3
Yorke & Maplestone—Nematode Parasites of Vertebrates 3

Lewis, H. K. & Co. Ltd.
Jelliffe & White—
Diseases of the Nervous System 4
Jones, D. W. C.—Elementary Med. 4
Mackenzie, C.—Action of Muscles . 4
Tilney & Riley—
Central Nervous System 4

Livingstone, E. & S.
Morley, J.—Abdominal Pain.. 4

Simpkin Marshall Ltd.
Taylin, A. B.—
Hypnotic Suggestion, etc. 4
Hypnotism, etc. 4

Wright & Sons, Ltd.
Hutchison, R.—Medical Treatment 4
Medical Annual, 1931 4

Hopewell-Ash, E. L.—
Medical Hypnosis & Suggestion . 4

ASSURANCE COMPANIES—
London Med. Protection Society.. .. 1
Medical Insurance Agency Cover iii, 53

BOOTMAKERS, &c.—
Holland & Son—Natureform Shoes 34

BRASS NAME PLATES, &c.—
Herd, S. J. & A.—Name Plates 32
Lewis & Co. Ltd.—Name Plates 4
Osborne, F. & Co.—Name Plates..... 4

DEBT COLLECTION—
Brit. Med. Protection Society 32

SURGICAL APPLIANCES—
[illegible]
35
34
34
34
4
8
52
9
Lycos Sphygmomanometer 4

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee . . . 10
Battle Creek Food Co.—
Lacto-Dextrin & Psylla.. 11
Benger's Food 26
Cow & Gate Ltd.—Milk Food.... 25
[illegible]
31
23
10
.. .. 28
Soya Flour Manufacturing Co.—
Soyolk 13
Valentine's Meat-Juice.. 11

HOSPITAL, &c., FURNITURE—
Furniture, &c., Depositories, Ltd.—
Second-hand Furniture 35
Ward, Ltd.—Invalid Chairs 34

HOUSE AGENTS—
Bedford & Co. 52
Elliott, Son & Boyton 52

MOTOR CARS, TYRES, &c.—
Armstrong Siddeley Motor Cars.. .. 32
Second-hand Motors for Sale 52

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
Castor Oil 10
Insulin 'A.B.' 16
'Lixen' 29
Stomach Tissue.. 29
Alliance Drug & Chemical Co.—
Price List.. 35
Bio-Chemical Laboratories—
Disulphamin 17
Boots Products 15,16
British Drug Houses Ltd.—
Aether Purias. B.D.H. 21
Caprokol 18
Insulin 'A.B.' 16
Burroughs Wellcome & Co.—
Preparations .. .. Cover iv
Cranbux Ltd.—Odol 21
Cuxson, Gerrard & Co., Ltd.—
Regulol 22
Dinneford & Co. Ltd.—Magnesia . 12
Duncan, Flockhart & Co.—
Haemamol.. 12
Evans Sons Lescher & Webb Ltd.—
Arocan 27
[illegible]
11
18
20
24
19
17
10
15
Agarol.. .. .. Cover ii
14
13
ii
22
39
[illegible]
18
24
23
19

PRINTING & STATIONERY—
Anderson & Son—Account Forms 32
Carlyle, G.—Duplicate Books 4
Hamiltons—N.H. Filing Cabinets .. 32
Taylor's Typewriters 34

TAILORING & UNDERCLOTHING—
[illegible]

TOBACCO & CIGARETTES—
Coen, L. Ltd.—Cigarettes 35
Player's Navy Cut 35

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 51

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub. Hlth. 34
Willcox, Francis, Butler & Thompson, Ltd.- Pollant'n . . . 10

X-RAY & ELECTRO-MEDICAL APPARATUS—
Gen. Radio. & Surg. Appar. Co—
Diathermy Apparatus 8
Victor X-ray Corporation Ltd.—
X-Ray Apparatus 7

BATHS, SPAS, &c.—
Harrogate Royal Baths.. 40
La Lechere-Les-Bains, France 41
Mont-Dore. 41

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 41
Peebles Hydro 47
Ruthin Castle, North Wales 37
Smedley's Hydro, Matlock 38

INEBRIETY—
Bay Mount, Paignton 39
Caldecote Hall, Nuneaton . . . 38
Dalrymple House, Rickmansworth 38
'Old Hall House,' Chislehurst.. .. . 38

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—
RE APPOINTMENTS..... 49

HOSPITAL, &c., VACANCIES—
Act n Hospital, W.3 47
[illegible]
St. Mary's Hospital, W. 47
[illegible] Hospital 47
47
46
44
47
47
44
43
48
45
46
47
48
45
43
48
45
49
48

HOTELS & HOTEL RESORTS—
Grand Hotel Harrogate.. 40
Hotel Majestic, Harrogate 40

HOMES & ASYLUMS—
Bailbrook House, Bath 38
Harewood House, Hampstead 38

SANATORIA—
[illegible] 41
[illegible]

SCHOOLS, &c.—
Colthurst House School, Warford .. 38
Taunton School, Taunton 42

MEDICAL SCHOOLS, &c.—
[illegible] 41
[illegible]

TUTORS & LECTURERS—
Exams.—Med. Corresp. College.... 43
F.R.C.S. Edin. Classes—H. C. Orrin 41
F.R.C.S. Ed. Classes—C. Whittaker 41
Fellowship of Medicine 41
Manchester Tutorial College 42
St. Mary's Hospital 41
Stammering—Miss E. Behnke 41
University Exam. Postal Institution 42

TRANSFER AGENTS—
Bevril Medical Agency, Ltd 52
56,57
54
52
53
52
Needes, H. 54
Peacock & Hadley, Ltd.. 53
Sumner & Co., Ltd. 50,54
The Medical Agency 50,53
Turner, P., Ltd 54
Western Medical Agency, Bristol .. 53

ASSISTANTS, PRACTICES, &c.—
[illegible]

NURSING INSTITUTES—
Cavendish Nurses 53
Nurses' Association 53

MISCELLANEOUS—
B.M.A. Announcements 5
Consulting Rooms, &c., to Let 52
Frigidaire Ltd.—Refrigeration 6
Income Tax Consultant—Hardy 52
Miscellaneous Sales &c. 52

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

J. & A. CHURCHILL

NEW EDITIONS of TWO FAVOURITES.

SEVENTH EDITION.

EDEN AND HOLLAND'S MIDWIFERY

9 Plates. 389 Illustrations. **21s.** Postage 9d.

TWENTIETH EDITION.

HALE-WHITE'S MATERIA MEDICA

Revised by
A. H. DOUTHWAITE, M.D., F.R.C.P.
10s. 6d. Postage 5d.

BOOKS ON PATHOLOGY AND BACTERIOLOGY

BEAUMONT & DODDS' RECENT ADVANCES IN MEDICINE. Fifth Edition 49 Illus. 12s. 6d.
DIBLE'S RECENT ADVANCES IN BACTERIOLOGY. 24 Illus. 12s 6d.
PINEY'S RECENT ADVANCES IN HAEMATOLOGY. Third Edition. 4 Col Plates. 12s. 6d.
PINEY'S DISEASES OF THE BLOOD. 26 Illus. 12s. 6d.
FOWWEATHER'S CLINICAL CHEMICAL PATHOLOGY. 18 Illus. 8s 6d.
PANTON & MARRACK'S CLINICAL PATHOLOGY. Second Ed. 15s.
HEWLETT'S BACTERIOLOGY. Eighth Edition. 101 Illus. 18s.
HEWLETT'S PATHOLOGY. Fifth Edition. 60 Illus. 18s.
JOHNSTON & SIMPSON'S PRINCIPLES OF PRACTICAL BACTERIOLOGY. 5s.
GILTNER'S ELEMENTARY TEXTBOOK OF MICROBOLOGY. 99 Illus. 15s.
WHITBY'S BACTERIOLOGY FOR MEDICAL STUDENTS. 75 Illus. 10s. 6d.
BOWLBY, ANDREWES, AND KEYNES' SURGICAL PATHOLOGY. 8th Ed. 224 Illus. 21s.
GOULD'S SYNOPSIS OF SURGICAL PATHOLOGY. 6s.

BOOKS ON THE EYE

PARSONS' DISEASES OF THE EYE. Sixth Edition. 369 Illustrations. 18s.
DUKE-ELDER'S RECENT ADVANCES IN OPHTHALMOLOGY. Second Edition. 114 Illus. 12s. 6d.
DUKE-ELDER'S PRACTICE OF REFRACTION. 208 Illus. 12s. 6d.
NEAME'S HANDBOOK OF OPHTHALMOLOGY. 235 Illus. 12s. 6d.
MOORE'S MEDICAL OPHTHALMOLOGY. 100 Illus. Second Edition. 18s.
KOBY'S SLIT-LAMP MICROSCOPY OF THE LIVING EYE. Second Edition. 104 Illus. 15s.
GOULDEN'S REFRACTION OF THE EYE. 180 Illus. 10s. 6d.
WHITING'S OPHTHALMIC NURSING. 51 Illus. 5s.
HARTRIDGE'S REFRACTION OF THE EYE. Sixteenth Edition. 110 Illus. 7s. 6d.
HARTRIDGE'S OPHTHALMOSCOPE. Sixth Edition. 6s. 6d.
FERGUS' OPHTHALMOSCOPE. Second Edition. 17 Illus. 3s. 6d
ALEXANDER'S OPHTHALMOSCOPY AND SKIASCOPY. 31 Illustrations. 5s.
HARDWICKE'S SIGHT TESTING MADE EASY. Fourth Edition. 12 Illus. 5s.

THIRD EDITION. 20 Illustrations. **18s.** Postage 9d.

SYNOPSIS OF HYGIENE

By W. WILSON JAMESON, M.D., D.P.H., Prof. Public Health, London University; and G. S. PARKINSON, D.S.O., M.R.C.S., L.R.C.P., D.P.H., Lt.-Col. R.A.M.C.(Ret.).

SECOND EDITION. 104 Illustrations. **15s.** Postage 9d.

KOBY'S SLIT-LAMP MICROSCOPY OF THE LIVING EYE

Translated by CHARLES GOULDEN, O.B.E., F.R.C.S.; and CLARA LOMAS HARRIS, M.B.

12 Coloured Plates, and 194 Illustrations in the Text. **12s. 6d.**, postage 9d.

A HANDBOOK OF OPHTHALMOLOGY

By HUMPHREY NEAME, F.R.C.S., Ophthalmological Surgeon, University College Hospital; and F. A. WILLIAMSON-NOBLE, F.R.C.S., Assistant Ophthalmological Surgeon, St. Mary's Hospital.

FOURTH EDITION. 56 Coloured Plates and 360 Text-figures. **42s.** Postage 9d.

SEQUEIRA'S DISEASES OF THE SKIN

"Contains in readable form all that can be regarded as proven in an expanding and increasing complex branch of medicine."—LANCET.

SECOND EDITION. **5s.** Postage 3d.

WARD'S FAVOURITE PRESCRIPTIONS

Including Dosage Tables and Hints for Treatment of Poisoning.

307 Illustrations. **36s.** Postage 9d.

THE NEMATODE PARASITES OF VERTEBRATES

By WARRINGTON YORKE, M.D., and P. A. MAPLESTONE, M.B., D.S.O.

SIXTH EDITION. 14 Illustrations. **8s. 6d.** Postage 5d.

THE DIABETIC LIFE

By R. D. LAWRENCE, M.D., M.R.C.P., Chemical Pathologist and Lecturer in Chemical Pathology, King's College Hospital.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1

LEWIS'S PUBLICATIONS

FIFTH Edition. Revised and Enlarged. With 13 Plates and 475 other Illustrations. Royal 8vo. £2 2s. net.

DISEASES OF THE NERVOUS SYSTEM

A Text-book of Neurology and Psychiatry.

By S. E. JELLIFFE, M.D., Ph.D., formerly Professor of Psychiatry, Fordham University, New York, etc.; and W. A. WHITE, M.D., Professor of Nervous and Mental Diseases, Georgetown University, etc.

"... a wealth of information fully illustrated ... of great value ... a monument of industry."—BRITISH MEDICAL JOURNAL.

SECOND Edition. With 100 Original Illustrations, including 16 Plates. Demy 8vo. 12s. 6d. net; postage 6d.

THE ACTION OF MUSCLES

Including Muscle Rest and Muscle Re-education

By Sir COLIN MACKENZIE, M.D., F.R.C.S., F.R.S.(Edin.), Professor of Comparative Anatomy, and Director of the Australian Institute of Anatomy, Canberra.

"... a work which should be studied and mastered by every orthopaedic surgeon."—BRITISH MEDICAL JOURNAL.

SECOND Edition. With 591 Figures containing 763 Illustrations of which 56 are coloured. Royal 8vo. £2 12s. 6d.

THE FORM & FUNCTIONS OF THE CENTRAL NERVOUS SYSTEM

An Introduction to the Study of Nervous Diseases.

By F. TILNEY, M.D., Ph.D., Professor of Neurology, Columbia University; and H. A. RILEY, A.M., M.D., Associate in Neurology, Columbia University. Foreword by G. S. HUNTINGTON, Sc.D., M.D.

"The design is bold, the plan excellent, and the execution creditable."—BRITISH MEDICAL JOURNAL.

With Illustrations. Demy 8vo. 12s. 6d. net; postage 9d.

ELEMENTARY MEDICINE IN TERMS OF PHYSIOLOGY

An Introduction to Clinical Work.

By D. W. CARMALT JONES, M.A., M.D.Oxon., F.R.C.P.Lond., Professor of Systematic Medicine, University of Otago, New Zealand; Physician, Dunedin Hospital, New Zealand; Consulting Physician, Westminster Hospital, etc.

"... will be widely used—an excellent introduction to clinical medicine."—BRISTOL MEDICO-CHIRURGICAL JOURNAL.

**** Complete CATALOGUE of publications post free on application.

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1

Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

NOW READY. 49th YEAR. With 70 Plain and Coloured Plates and many Text Illustrations. 20s. net. Postage 9d

MEDICAL ANNUAL, 1931

A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX.

A Review of the Year's Progress in Medicine and Surgery, arranged in Alphabetical order.

EDITORS: CAREY F. COOMBS, M.D., F.R.C.P., and A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.

IN CONJUNCTION WITH 29 WELL-KNOWN CONTRIBUTORS.

"There can be few medical publications in the English language that are so widely read as the 'Medical Annual.'"—BRIT. MED. JOURN.

Third Large Impression. Crown 8vo. 168 pp. 7s. 6d. net. Postage 4d.

THE ELEMENTS OF MEDICAL TREATMENT

By ROBERT HUTCHISON, M.D., F.R.C.P., *Physician to the London Hospital and the Hospital for Sick Children, Great Ormond Street.*

"The advice it contains is sound, free from fads, and not overburdened with useless details."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

E. & S. LIVINGSTONE (Medical Publishers), **16 & 17, Teviot Place, Edinburgh.**

JUST PUBLISHED THIS MONTH. Demy 8vo. 203 pp. 22 Illustrations. Price 10s. 6d. Postage 6d.

ABDOMINAL PAIN

By JOHN MORLEY, Ch.M., F.R.C.S., Hon. Assist. Surgeon, Manchester Royal Infirmary; Hon. Consulting Surgeon, Ancoats Hosp.; Hon. Surgeon for Children, St. Mary's Hosp., Manchester; Lecturer in Systematic Surgery, Univ. of Manchester.

With an Introduction by J. S. B. STOPFORD, M.D., F.R.S., Professor of Anatomy, University of Manchester.

An Illustrated Prospectus will be sent post free on application.

MEDICAL HYPNOSIS AND SUGGESTION

The following recent publications by EDWIN L. HOPEWELL-ASH, M.D., are now obtainable from BM/ELHA, London, W.C.1.

(1) THERAPY OF PERSONAL INFLUENCE: An ABC of Treatment by Personal Influence, Suggestion, Medical Hypnosis, and Psychomagnetic Methods. 2/9 post free. Includes notes of 114 successful cases.

(2) AN ABC OF MEDICAL HYPNOSIS. 1/1 post free. Outlines simple methods—essentially practical.

(3) PSYCHOMAGNETISM AND PERSONAL INFLUENCE IN TREATMENT. A B.M.A. address reprint; complimentary to medical practitioners.

Second Edition. Cloth. 10/6 net; postage 6d.

HYPNOTIC SUGGESTION AND PSYCHO-THERAPEUTICS

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin., Member of Council and late President of the Psycho Medical Society of Great Britain, and late President of the Liverpool Psychological Society (Liverpool University).

ALSO

HYPNOTISM AND TREATMENT BY SUGGESTION,

By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin. Fourth Edition. 2/6 net; postage 3d.

Publishers:

LITTLEBURY BROS. LTD., Crosshall St., Liverpool.
SIMPKIN MARSHALL LTD., LONDON.

Tycos MANUFACTURED by SHORT & MASON LTD WALTHAMSTOW LONDON, E.17

SPHYGMOMANOMETERS

Duplicate Prescription Books

INVALUABLE TO ALL DOCTORS

Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.

Send for Sample Book, together with Prices and Styles of Printing,

To G. CARLYLE,
116, DUKE STREET, LIVERPOOL.

NAME PLATES

In BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.

FREQUENT MICTURITION.

"YBWET"

NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request:

HILLIARD, 123, Douglas Street, Glasgow, C.2.

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Send for Book 18.
Museum 2264. P. OSBORNE & Co., Ltd.
27, EASTCASTLE ST., LONDON, W.1

Announcement of the British Medical Association

British Medical Journal

Special Number June 6th

EVERY special issue of the British Medical Journal may be expected to provide material of interest to a large proportion of the profession. The next Special Number, to be published on June 6th, will include among its principal contents two recent lectures of much importance, one of them being accompanied by coloured illustrations on art paper plates. Original articles and clinical memoranda, covering a wide field of practice, will also be published together with full information about the Annual Meeting of the British Medical Association to be held at Eastbourne in July.

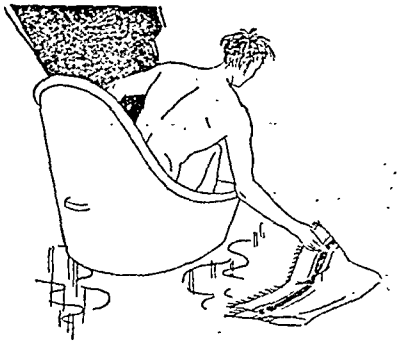
Mention may be made here of the carefully compiled advertisement sections in the Special Number. Readers have, at all times, shown their appreciation of advertisements appearing in these columns, and it is well known that their practical support has contributed to the high regard in which the British Medical Journal is held throughout the Advertising world. The advertisements published week by week constitute, in effect, an exhibition of current medical and surgical requisites which the doctor mindful of his obligations cannot fail to examine, for this is the recognized channel through which information about the accessories to practice may be obtained.

The forthcoming Special Number replaces the usual issue due to appear on the same date, and it will be sent to all members of the British Medical Association in the customary way. Despite the higher cost of production, due to reproductions in colour, there will be no increase in the normal charge of 1s. 3d. per copy made in respect of copies purchased by non-members.

Enquiries concerning the Journal should be addressed to:—

The Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1

The man who had your practice 100 years ago . . .



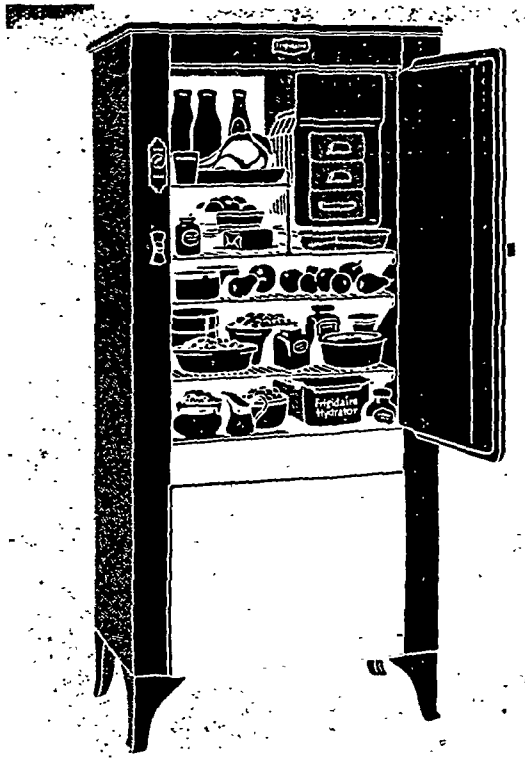
probably bathed in a tin tub and got about on a cob. You enjoy "h. & c." and a motor car. That's Progress . . . . the sloughing off of old ideas . . . . Hundreds of doctors to-day are already discarding old-fashioned ideas about keeping food. Knowing the importance of "controlled temperature" for *pure* food, they have installed Frigidaire. Their food tastes better, because it is always fresh. They have ice in plenty for hot weather needs. Their wives have no worries about food preservation nor food wastage . . . . Send the coupon and find out how inexpensively you may enjoy these benefits.

Frigidaire incorporates all the conveniences and refinements that you would wish to have in your electric Refrigerator. Here are just a few of them.

The Quickube Ice Tray, enabling single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the tap. Your cocktail ice is ready at a moment's notice. This is an exclusive Frigidaire feature.

The Cold Control, by which the freezing of ice cubes or any other frozen delicacy can be accelerated at will.

The automatic feature of Frigidaire is invaluable. The safety of your food does not depend on a maid's vigilance. Frigidaire maintains a dry cold that is *always* under 50°—the only safe temperature for food.



Practical, flat top, makes a useful shelf.

The Hydrator—a *moist* cold compartment, for fresh vegetables, sandwiches, etc., etc. Even *wilted vegetables will* regain their crispness here in a few hours.

Ease of installation. A Frigidaire only needs connection with your electric supply. No plumbing is necessary.

Frigidaire Cabinets are all white porcelain on steel—the finest durable finish it is possible to have. And easily kept clean by just a rub with a damp cloth.

The new Frigidaire is quiet—you *can't* hear it start, stop or run.

SHOWROOMS AT 141, NEW BOND STREET, LONDON, W.1, AND IN ALL PRINCIPAL TOWNS.

COUPON

FRIGIDAIRE LIMITED (*Incorporated in Canada*)
Dept. BG-235, Edgware Road,
The Hyde, Hendon, N.W.9

Please give me by return, without any obligation on my part,

(a) Price of a Frigidaire cabinet suitable to my particular needs; or

(b) Particulars of your system of convenient deferred payments.

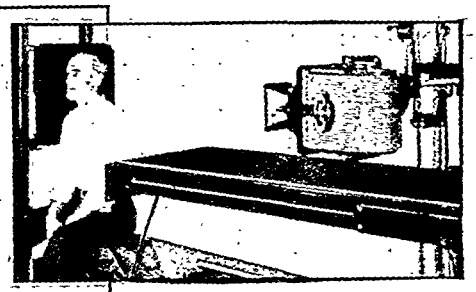
Name .....

Address .....

.....

No. in Family .....

THE PROFESSION RENDERS ITS VERDICT ON THE VICTOR SHOCK PROOF



These photos of a Model "B" Shock Proof X-Ray Unit show how one Coolidge tube serves for all positions in radiography and fluoroscopy, both under and over the table. The same flexibility is realized with the table in vertical and angular positions.

"Never Before Such Satisfaction"

"I have used a wide variety of equipment in my twenty years of application to this work," writes the head of an X-ray Laboratory, "and have never experienced before such satisfaction and pleasure in handling any apparatus as this. To one who admires fine workmanship, excellence of design and ease of operation, the Shock Proof is ideal."

Another Physician writes, "I cannot praise the Victor Shock Proof enough. As a piece of mechanical construction, it is a delight. Quick and responsive to every change in position, anyone can operate it . . . to one situated as I am this outfit is well-nigh perfect. Uniformity in radiographic results is certain, together with remarkable clarity and beautiful contrast. One can undertake with assurance lateral spine and all abdominal work, and can do fine chest work with flash exposure. The unit is shock-proof and with reasonable care should last a life-time."

Not only in the doctor's surgery, but also in Mental or Nervous Institutions and Children's Hospitals, does the Shock-Proof fit in better than any available equipment. Its unique 100% electrical safety is the reason.

A full appreciation of the Victor Shock Proof and its significance may be gained through reading an illustrated brochure we have prepared. Won't you write for a copy to-day?

VICTOR X-RAY CORPORATION, Ltd.

15-19, Cavendish Place (Cavendish Square), London, W. 1

Telephone: LANGHAM 4074-5 VICTOR *Telegrams:* STABILIZER

GRSA

NEW DIATHERMY APPARATUS

ALL PRICES REDUCED

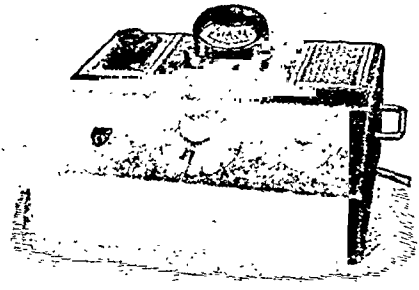
Machines for purely medical purposes, surgical purposes, and combined models for either purpose.

THERMOFLUX CK

(as illustrated)

This is an inexpensive universal model for the private doctor, and has been designed to meet the demand for a reasonably portable apparatus. It has an output of 200 watts and weighs only 60 lbs.

Reduced price for A.C.
£40



OTHER MODELS

THERMOFLUX A, for Small Surgical Operations...	£25
THERMOFLUX M, for Major Surgical Operations...	£80
THERMOFLUX G, for Medical Diathermy	£80
THERMOFLUX C ...	£35
THERMOFLUX D2 ...	£45
THERMOFLUX K ...	£55
THERMOFLUX D4	£47.10

RECENT INSTALLATIONS INCLUDE—
ST. THOMAS'S HOSPITAL, ST. GEORGE'S HOSPITAL, MIDDLESEX HOSPITAL, BRITISH RED CROSS CLINICS, Etc.

Write for particulars of our ELECTRO-ATMOS for use with surgical machines.

The General Radiological & Surgical Apparatus Co. Ltd.

204-206, Great Portland Street, London, W.1

'Phone: Museum 1719 and 8326. Showrooms: FIRST FLOOR. 'Grams: Equispital, Wesdo, London.

PRINCIPAL AGENTS: Scotland: The Medical Supply Association, Ltd., 12 & 13, Teviot Place, Edinburgh.
Ireland: The Irish Radiological & Surgical Supply Co., Ltd., 7, Lower Pembroke Street, Dublin.

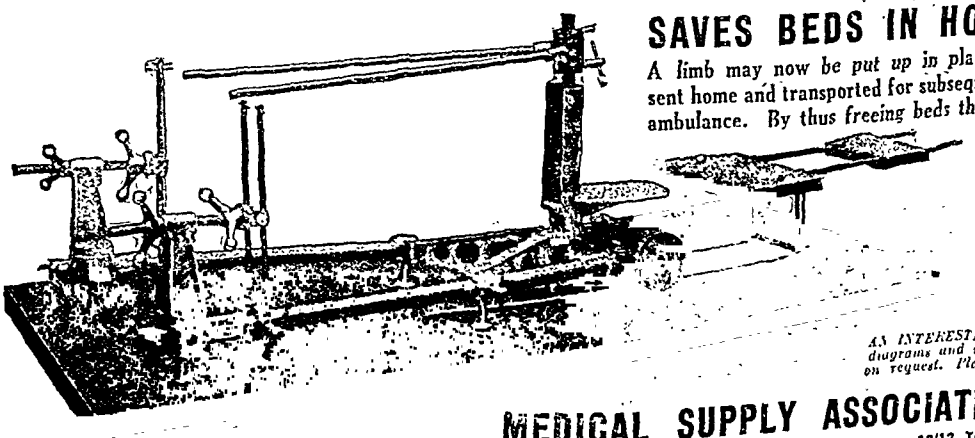
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk: also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35in. × 15in. × 11in.

AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

167/185, Gray's Inn Road, LONDON, W.C.1. 12, Holly Street, SHEFFIELD. 10/13, Teviot Place, EDINBURGH.

London Telephone: Terminus 5432 (6 lines).

SURGICAL SERVICE
SALTAIR

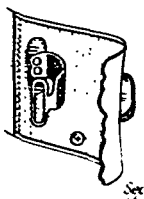
SALTAIR SURGICAL SERVICE

Guarantee

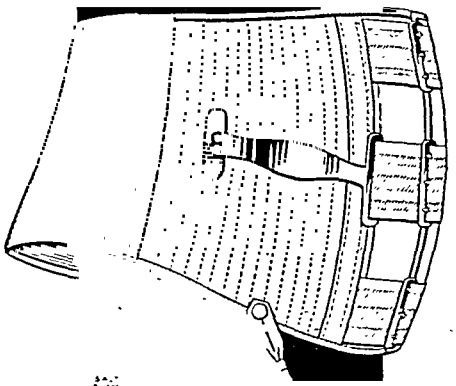
"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

SALT'S Patent Kidney Belt



Sectional view showing spring pressure on mid-adjustable pad



This belt affords general abdominal support, retaining the Kidneys in their normal position,

BUT . . . this support is given without pressure ON the kidneys.

SALT'S
Patent Kidney Belt
is designed in conjunction with eminent Medical Men and thus is
Anatomically Correct.

Made in materials and styles to suit the tastes of all patients.

N.B.—Should the appliance supplied not be acceptable to the patient, the Medical Man is fully protected by our unique guarantee.

London Consulting Rooms:
"OAKLEY HOUSE,"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

'Phone London - Museum 3845.
'Phone Birmingham - Midland 5455.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

ESTABLISHED 1793

COPYRIGHT.

THE MODIFICATION OF COW'S MILK

BY **ROBINSON'S**

"patent" **BARLEY**

What milk can do depends on whether milk can be thoroughly and easily digested. Fresh cow's milk if taken with Robinson's "Patent" Barley is practically as digestible as mother's milk. Taken alone it forms a clot in the stomach—and in infants this must, of course, be avoided.

The accompanying photographs illustrate an experiment carried out in the Research Laboratories of Keen, Robinson & Co. Ltd. These show in a graphic way how Robinson's "Patent" Barley prevents the formation of the tough indigestible clot.

CVS-14

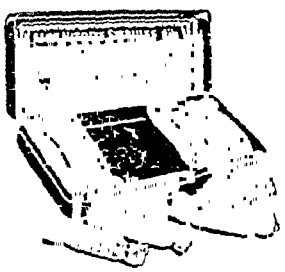
Fig. 1.

Fig. 2.

Fig. 3.

Fig. 1—The indigestible clot.
Fig. 2—Milk modified by Robinson's "Patent" Barley.
Fig. 3—The further effect of more Robinson's "Patent" Barley.

KEEN, ROBINSON & CO. LTD.
Carrow Works - Norwich



"STERULES" *Regd.*

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

Telegrams: "MARTINDALE, CHEMIST, LONDON." Telephone: LANGHAM 2440.

HAY FEVER

CAN BE VERY SUCCESSFULLY COMBATED WITH **POLLANTIN**

(A Serum discovered by Prof. Dunbar in 1903)

For literature and prices apply to the distributing Agents

Willows, Francis, Butler & Thompson, Ltd.

73, 75 and 89a, SHACKLEWELL LANE, LONDON, E.8

THE 'ALLENBURYS' CASTOR OIL

Is Tasteless and is the Standard of Quality

Supplied in bottles at 8d., 1/3, 2/3 and 4/- each

BANTAM Coffee

absolutely free from adulterants and has been awarded ... certificate of the Institute of Hygiene.
A 2/- tin yields 50 cups of delicious coffee.
Dept. 68. BANTAM PRODUCTS LTD., LEEDS.
Samples for testing will be sent on application.

COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"
Trade Mark

Clinically tested and proved all over the world

REMINERALIZATION
VITALITY
ENERGY

DEMINERALIZATION
CONVALESCENCE
NEURASTHENIA

SODIUM
CALCIUM
POTASSIUM
MANGANESE AND IRON
STRYCHNINE AND QUININE

FELLOWS MEDICAL MANUFACTURING COMPANY, Inc.
26 Christopher Street, New York City.

Valentine's Meat-Juice

For **Quieting** the **Irritable Stomach** and **Aiding** the **Tired Digestive Organs**, for **Refreshing** the **Fever Patient** and for **Restoring** and **Strengthening** when Other Food Fails, **Valentine's Meat-Juice** is used in **Hospitals** and prescribed by many leading Physicians and Surgeons.

Physicians are invited to send for Clinical Reports from Hospitals and General Practitioners in all parts of the world.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 94

A safe and simple antacid which is also a gentle laxative must necessarily be of great value to medical practitioners when administering to ladies and children and all who are constitutionally delicate.
May we, therefore, venture to remind you of

DINNEFORD'S PURE FLUID MAGNESIA

which has been extensively prescribed and used by the Medical Profession for a Century, and is still the best and safest means of administering Magnesia.

When prescribed for the nursery, too, Dinneford's Magnesia has always proved immensely useful as a corrective, and when mixed with infant's food it prevents many of the troubles which are due to acidity, flatulence, etc.

We are confident that you will find in Dinneford's Fluid Magnesia a reliable and safe solution which may be freely used for many ailments, and we would request your kind consideration of its use as occasion offers.

Dinneford's Pure Fluid Magnesia possesses antacid and laxative qualities which are incomparably better than those of any of the various preparations of Magnesia, in powder, now being introduced.
It cannot harm the most delicate constitution and is at all times a safe and effective laxative.
Manufactured in London for the past 100 years.

DINNEFORD & Co. LTD.

RELIABLE PREPARATIONS

HAEMAMOL
(DUNCAN)

Duncan

ANTISEPTIC. EMOLLIENT.
ASTRINGENT. SEDATIVE.

Sample and Prices on Application.

An efficacious Ointment for the speedy relief of all cases of Haemorrhoids and for abrasions and irritations of the skin.

Supplied in bulk or in 1-oz. and 2-oz. tubes.

DUNCAN, FLOCKHART & CO.
EDINBURGH and LONDON
104, Holyrood Road. 155, Farringdon Road, E.C.1.

45% PROTEIN **SOYOLK** 20% FAT

AN IMPORTANT DISCOVERY IN FOOD SCIENCE

Made from the wonderful Soya Bean

Containing Vitamins A, B, D, & E.

NO STARCH.

Now used largely in some of the Leading Hospitals and Sanatoria in Bread, Cakes, Puddings, and all culinary articles.

IT IS A

NATURAL MUSCLE, BONE & NERVE BUILDING FOOD

Apply for free sample and literature to:

THE SOYA FLOUR MANUFACTURING CO., 7, MINCING LANE, E.C.3.

IMPROVED
DAY AND NIGHT SERVICE
TO
THE MEDICAL PROFESSION
FOR
OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPÔT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1
(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE or WIRE

John Bell & Croyden, Wigmore Street, W.1 - Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, CLAPHAM ROAD, S.W.9

ALKA-ZANE

A pleasant, effervescent granular preparation composed of carefully selected salts of Sodium, Potassium, Calcium and Magnesium in physiologically correct proportions.

is a palatable and rational antacid, indicated in all conditions of relative hyperacidity, rheumatism, gout, intestinal, gastric, and certain cutaneous disorders.

Prompt in action, lasting in effect, it promotes diuresis, neutralizes excess acid production and helps to rebuild the alkaline bases.

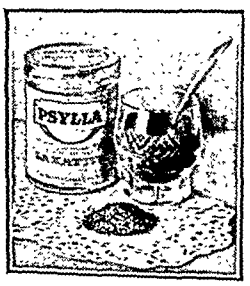
The efficiency of Alka-Zane is demonstrable by the briefest of trials.

A supply for clinical use and literature sent gratis to physicians on request.

Francis Newbery & Sons, Ltd.,
31-33, Banner Street, London, E.C.1
Prepared by WILLIAM R. WARNER & CO., INC.,
Manufacturing Pharmacists Since 1856.

TWO NEW PREPARATIONS

Vide THE LANCET, Jan. 10th, 1931.



"PSYLLA (psyllium seed); LACTO-DEXTRIN (Battle Creek Food Company, Mich., U.S.A., Distributing Agents, Coates & Cooper, Ltd., 41, Great Tower Street, London).—This company have sent us specimens of their laxative agent, Psylla, and their preparation, Lacto-Dextrin, for use in intestinal toxaemia. Psyllium seeds when immersed in water yield a mucilaginous substance which is able to take up relatively large quantities of water to form a gelatinous mass. They become in this way a useful lubricant, while the emollient character of the mass renders it of special service in Fissure or Haemorrhoids. The same firm has received favourable reports from the clinical use of their combination of lactose and dextrin."—*Lancet*, Jan. 10th, 1931.

Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, Ltd., 41, Great Tower Street, London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA
(Psyllium Seed)

LACTO-DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

"VARICANE"
Trade Mark BRAND

Sclerosing Solutions

For the Modern Treatment of Varicose Veins

"VARICANE" SODIUM MORRHUATE is specially noteworthy for its purity and its light colour which allows blood to be readily seen in the syringe when the needle enters the vein. Available in strengths of 5% and 10%

"VARICANE" QUININE HYDROCHLORIDE & URETHANE. The special process of manufacture prevents crystallising out and obviates irritation on injection

"VARICANE" SODIUM SALICYLATE. Available in strengths of 20%, 30%, 40% and 50%

Write for your copy of "The Modern Treatment of Varicose Veins" and clinical trial sample

MAY & BAKER LTD.
BATTERSEA LONDON, S.W.11
Telephone: Battersea, 1813 (6 lines) *Telegrams:* Bismuth, London

INSULIN (BOOTS)

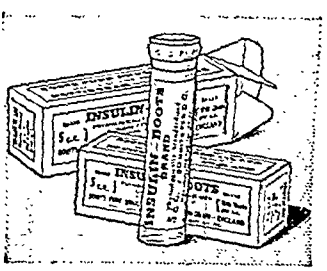
INSULIN (BOOTS) is prepared in the Laboratories of Boots Pure Drug Company Ltd., under Licence No. 19 (Therapeutic Substances Act, 1925) of the Ministry of Health.

It is made from selected ox pancreas which is subject to the strictest examination before use.

The company possesses specially equipped Analytical, Pharmacological and Bacteriological Laboratories in which all the tests required by the Therapeutic Substances Act are carried out.

Each batch of Insulin (Boots) is tested for potency against the International Standard Insulin and also for sterility—these tests being carried out both before and after filling into ampoules. A sample of each batch, together with a report on the potency and bacteriological tests made, are submitted to the British Medical Research Council whose certificate of correct strength and of sterility is obtained before the batch is issued.

BOOTS PRODUCTS
ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS



WHOLESALE AND EXPORT DEPARTMENT
BOOTS PURE DRUG CO. LTD.
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

Price 1/3 and 2/3 per bottle
(Special discount to medical profession).

Regesan

CREAM OF MAGNESIA

A PURE, finely divided Magnesium Hydroxide ($Mg(OH)_2$) suspended in water. A simple antacid and valuable laxative. Digestive troubles and gastric conditions indicating the necessity of a corrective of this type quickly respond to treatment with Regesan Cream of Magnesia. It does not gripe nor cause discomfort, and is mild in action.

FULL-SIZE TRIAL PACKAGE FREE TO MEDICAL PRACTITIONERS IN THE BRITISH ISLES ON APPLICATION TO BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM.

OBTAINABLE FROM

The Boots Chemists

Over 900 Branches in Great Britain.

BOOTS-PURE DRUG CO. LTD., NOTTINGHAM.

Purity, Activity and Stability

INSULIN 'A.B.'

TRADE A B MARK

The world-wide supremacy of Insulin 'A.B.' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions.

Supplied in two strengths:

20 units per c.c. Packed in bottles containing:

5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing

5 c.c. (200 units or 20 doses) 4/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession

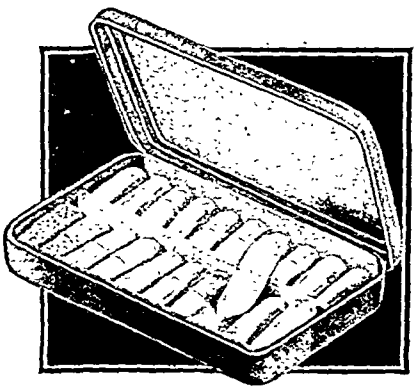
Joint Licencees and Manufacturers:

The British Drug Houses Ltd.
Graham Street, London, N.1

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

A *New* chemo-therapeutical preparation

for the treatment of influenza, septic diseases and toxemias



Used in America for treating Influenza for the past two or three years with great success. The physician's sample illustrated here will be sent to you free on request.

Indications.
Influenza Colds, Pyelitis, Puerperal Sepsis, Surgical Sepsis, Bronchial Asthma, Obstetric Morbidity, Cystitis, etc.

DISULPHAMIN is a mixture of Sulpho-salicyl formol sodium nucleinate and Dimethylamino-antipyrin combined with camphor. The antitoxic action is based on the assumption that Disulphamin transforms the toxic colloid to a crystalloid, thereby facilitating its dialysis through the walls of the blood vessels, and accelerating its elimination by the kidneys.

While phenol is bactericidal in a 1/100 dilution, Disulphamin is bactericidal in a dilution of 1/10,000 to 1/50,000.

In a series of tests made in the treatment of Influenza with Disulphamin, it was found that the course of the disease was materially shortened, and very seldom did Broncho-pneumonia or other complications supervene. Although the etiology of influenza has not yet been clearly determined, it appears that Disulphamin exerts a polyvalent action.

The clinical results thus far obtained are so encouraging that physicians have ample justification for employing Disulphamin in Febrile Toxemias arising from Sepsis.

Samples and literature, including charts of actual tests and important hospital findings, will be sent free on request to Messrs. COATES & COOPER, Ltd., 41, Great Tower Street, London, E.C.3.

DISULPHAMIN

Product of
THE BIO-CHEMICAL LABORATORIES
LOCARNO, SWITZERLAND

THE ONLY LYSOL MADE TO THE ORIGINAL FORMULA, MARSHALL'S is relied upon by the greatest hospitals throughout the world. For your next case specify—
MARSHALL'S LYSOL.
Sample free on request to members of the medical and nursing professions.
LYSOL LTD., Dept. K,
19, RAYNES PARK, S.W.20.

THIS
IS YOUR SAFEGUARD

The name MARSHALL'S on a Lysol bottle is an assurance that the doctor and nurse can place implicit confidence in its germicidal and antiseptic efficiency.

There are cheaper Lysols than MARSHALL'S, but the standard of quality set by the original product has never been equalled. There are preparations claimed to be "just as good," but MARSHALL'S LYSOL can be relied upon in every type of case as no other preparation on the market to-day. Its emollient action makes its safe to use for the most delicate purposes, and in the correct dilution it will not roughen the hands or corrode instruments.

The germicidal activity of MARSHALL'S Lysol is not impaired by the presence of organic matter, so it is efficient under all conditions.

MARSHALL'S
Lysol

Lysol

Caprokol Therapy
ensures

Quick Relief
from
Unpleasant Symptoms

Eventual Sterilisation
of the
Urinary Tract

In Capsules and in Solution

Sole Selling Agents:

THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Cap/40

TRADE "HEPATAGEN" MARK

(MIST. HEPATICA CONC. HEWLETT).

COMPOSITION—Ext. Cascaræ, Ext. Rhei, Jalapin, Podophyllin, Cocainæ Hydrochlor., 1-20th gr. in each fluid drachm.

This preparation does not come under the Dangerous Drugs Act.

THIS excellent compound, first introduced as a general aperient and cholagogue, has now become a popular remedy in that class of cases spoken of as Chronic Biliousness, in Catarrhal Jaundice and in the Jaundice of simple Hepatic Torpor. In passive or habitual Congestion of the Liver, so frequently met with, it has been used with marked benefit.

In the treatment of acute or temporary constipation, frequently met with in the convalescence from acute disease and in pregnancy, or in the constipation due to sedentary habits, to a deficiency of intestinal secretion and of peristalsis, the mixture can be prescribed with wonderful effect.

The dose is from 10 to 60 minims, according to the age and condition of the patient. One drachm is a direct aperient and is not accompanied by griping or tenesmus.

Packed only in 5-oz., 10-oz., 22-oz., 48-oz., and 90-oz. Bottles.
Price in England, 12/6 per lb.

This preparation is also supplied "*sine* Cocaina," the dose and price remaining the same.

C. J. HEWLETT & SON, Ltd.,
Wholesale and Export Druggists
and Manufacturing Chemists,
35 to 42, CHARLOTTE STREET, LONDON, E.C.2.

A RATIONAL TREATMENT FOR COUNTERACTING ALL THE USUAL CAUSES OF CONSTIPATION

TABLETS

LACTOBYL

REGULATES THE FLOW OF BILE, STIMULATES PERISTALSIS, AND NEUTRALIZES INTESTINAL PUTREFACTION

LACTOBYL IS DIGESTED & DISINTERGRATED IN THE ALKALINE SMALL INTESTINE.

Prepared by:

LABORATOIRES LOBICA

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd.,
30 Marsham St., London, S.W.1.

The Medical Profession
when prescribing
"Liquor Carbonis Detergens"
SHOULD ADD THE WORD

Wright's

On receipt of your professional card, a package will be sent containing a sample of each of the following—

Wright's Coal Tar Soap.
Wright's Coal Tar Ointment.
Wright's Lysol.
Wright's *Liquor Carbonis* Detergens.

Although there is no secrecy as to the composition of Liquor Carbonis Detergens (it is described as "an alcoholic solution of coal tar"), the method of manufacture is unique. Imitations will be found to be produced by simple digestion, usually accompanied by some primitive, perfunctory, and inadequate stirring; whereas, in the case of the genuine product, the intimate contact required, for the complete extraction of all the soluble antiseptic constituents, is attained by a series of complicated processes, involving the use of highly specialized machinery.

WRIGHT, LAYMAN & UMNEY LTD., 66, Park Street, Southwark, S.E.1

Kaylene

for the treatment of acute intestinal infections, ptomaine and other forms of food poisoning, and all diarrhoeal conditions. It acts by adsorption and is the true antidote to bacterial toxins and toxalbumins in contaminated food.

The action is speedy and certain.

Kaylene-ol

An emulsoid of the toxin adsorbent Kaylene combined with a highly viscous Liquid Paraffin. The latter counteracts the consolidating effect of the Kaylene. This preparation may be prescribed with confidence for those conditions in which toxaemia is associated with constipation. It actively prevents the absorption of toxins and completely puts an end to the fouling of the lymphatics and the blood.

Samples and "adsorption" literature obtainable on request to the Manufacturers:

KAYLENE LIMITED,

Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone— GLADSTONE 1071 (2 lines). *Cables*— KAYLOIDOL, LONDON. *Telegrams*— KAYLOIDOL, CRICKLE, LONDON. *Code*— BENTLEY'S.

Priced at 3/- and 3/8 per lb.
A super quality at 4/2 per lb.

THE DOCTOR'S CHINA TEA

FOR ALL CASES OF GASTRIC TROUBLE.

It is definitely not safe to allow any tea but China tea to be used when there is the slightest tendency to gastric trouble. The Doctor's China Tea has no excess of Tannin whatever—it is therefore ideal as a delicious and healthful drink for all who enjoy a good cup of tea and especially for those of your patients who suffer from any form of indigestion.

HARDEN BROS. & LINDSAY, LTD.
(Dept. 153), 30/34, Mincing Lane, London, E.C.3.

AETHER PURISS. B.D.H.

The crucial test of an anaesthetic is its every-day use in the widely-different conditions associated with hospital and private practice.

The Crucial Test

Anaesthetists and surgeons alike have come to depend on Aether Puriss. B.D.H. for the production of a deep, comfortable and safe anaesthesia—as the following reports, typical of many, indicate:—

Every-day Routine

"... nothing but praise for Aether Puriss. B.D.H. ... just used it for two gynaecological anaesthetics, its smoothness of action gives one every confidence in administration. ..."

Hospital

"... Aether Puriss. B.D.H. excellent in every respect. I use it exclusively in my private practice. ..."

Private Practice

Literature on request

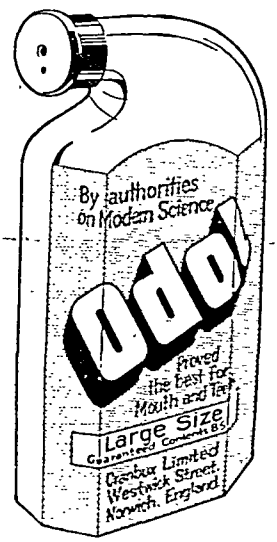
THE BRITISH DRUG HOUSES LTD. LONDON N-1

A.P.117

The Gargle and the Child

Whilst medicine, though unpleasant to take, can be forced on the unwilling child, it is not so simple a matter to compel a child to gargle. The act of gargling cannot be enforced, and, where the actual gargle is disagreeable, few children will submit. Therefore, a very necessary act is often scamped or entirely avoided.

Odol Mouthwash very successfully solves this problem. Its very pleasant taste appeals to the child and its proven bactericide efficiency achieves the desired results. Moreover, Odol is absolutely harmless and cannot injure the delicate mucous membrane of the child's mouth.



Samples and literature will be gladly sent to members of the Medical Profession on request.

Cranbux Limited, Norwich, England

ANTI-ACID NON-CAUSTIC NON-TOXIC

BRITISH MADE BY BRITISH LABOUR
FINANCED BY BRITISH CAPITAL

Aldrych

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ROYAL LONDON OPHTHALMIC HOSPITAL. , MAIDSTONE.
" ALMIC HOSPITAL. INFIRMARY.
PITAL.
TAL.
" "BAY.
"ARY.
AL.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

The Ideal Laxative

REGULOL

REGD.

"REGULOL" IS AVAILABLE IN TWO FORMS: "PLAIN" or "COMPOUND." The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

SAMPLE 1-lb. JAR FREE ON REQUEST.

Please indicate whether Plain or Compound is required.

(This offer is limited to the British Isles.)

CUXSON, GERRARD & Co., Ltd.
Oldbury, *Birmingham.*

An Improved form of Treatment for Digestive Disorders

"Alocol" is the practitioner's safeguard when alkaline medication is required. Its clearly defined antacid properties exceed those of bicarbonate of soda, magnesia and subnitrate of bismuth; furthermore, "Alocol" eliminates all the unpleasant drawbacks which are particularly feared with the usual alkalis and oxides.

When "Alocol" reaches the stomach adsorption takes place; a colloidal jelly is formed which, adhering to the walls of the stomach, diminishes their sensibility. The excess of hydrochloric acid is absorbed, but the acid reaction necessary for peptic digestion remains normal.

"Alocol" is highly recommended for use in all cases of hyperacidity, against which it is a specific. It is also indicated in the more serious manifestations, such as gastrectasis, gastrelcosis, pyloric and duodenal ulcers, etc.

Complete chemical history of "Alocol," with convincing clinical reports and supply for trial, sent free to physicians on request.

A. WANDER, Ltd., Manufacturing Chemists, 184, Queen's Gate, London, S.W.7

Works: KING'S LANGLEY, HERTFORDSHIRE.

M233

ALOCOL

Colloidal Hydroxide of Aluminium

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative, "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

M 279

BACILLUS COLI BACILLURIA & URINARY INFECTIONS

CONDITIONS dependent upon infection of the urinary tract by *B. coli* are by no means uncommon, and present varying degrees of severity, from serious suppurative lesions of the kidney to mild bacilluria of little importance.

The mechanism of infection by *B. coli* in these cases is uncertain, but it may depend upon minute lesions of the mucous membrane of the bowel through which it passes, together with probably an increase in the numbers of a particular and more virulent type (hæmolytic varieties of *B. coli* are common in urinary infections in the male).

If, then, disinfection of the intestinal canal is accomplished, these forms are destroyed, and those already located in the urinary tract may be attacked by a urinary antiseptic. By the combined administration of Kerol, urotropin (hexamine) and acid sodium phosphate, the treatment of urinary infections by *B. coli* is placed on a rational basis, and many cases are cured by this line of treatment when they fail to yield to urotropin alone.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.

Intestinal

Kerol Capsules

Disinfection

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD.
Ravens Lane
Berkhamsted, England

STANIFORM
Regd.

BRAND Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is contraindicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A panacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Kliniek (Utiecht, Holland), in cases of bed sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments.

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

MILK POWDER for SAFETY!

The following extracts from *The Lancet*, and the Presidential Address at the Royal Sanitary Institute Congress at Margate, show the risk run in feeding raw milk to infants:

'There can therefore be no doubt that a fair proportion of cases of ordinary adult phthisis in Scotland are due to the bovine bacillus .....'—*The Lancet*

Extract from the Annual Report for 1928 of the Medical Officer of Health for———

INFANTILE DIARRHŒA

"Until the methods of farmers and others concerned in the milk industry have been revolutionised, and consumers have been provided with facilities for storage and education in the handling of milk, *I am definitely of the opinion that liquid milk should be banished from the dietary of infants.*"

.... 'But when to this is added the fact that in England 31.5 per cent. of tuberculosis in children up to 15 years of age is of bovine origin, and deaths from tuberculosis in children up to 5 years is 29.5 per cent. of bovine origin, that 57 per cent. of cervical adenitis in the same ages is of bovine origin, that 33 per cent. of bone and joint tuberculosis in children under 5 years and 24 per cent. in children from 5 to 10 years is of bovine origin, that in Scotland it is recorded that in certain hospitals in Edinburgh as much as 90.3 per cent. of cervical adenitis and 61.2 per cent. of bone and joint tuberculosis in children up to 12 years is of bovine origin, it is high time that this grave condition and this very serious menace to public health should be mended and ended.'

Extract from Presidential Address, Royal Sanitary Institute Congress, Margate.

Cow & Gate Milk Food

"The best milk for babies, when natural feeding fails."

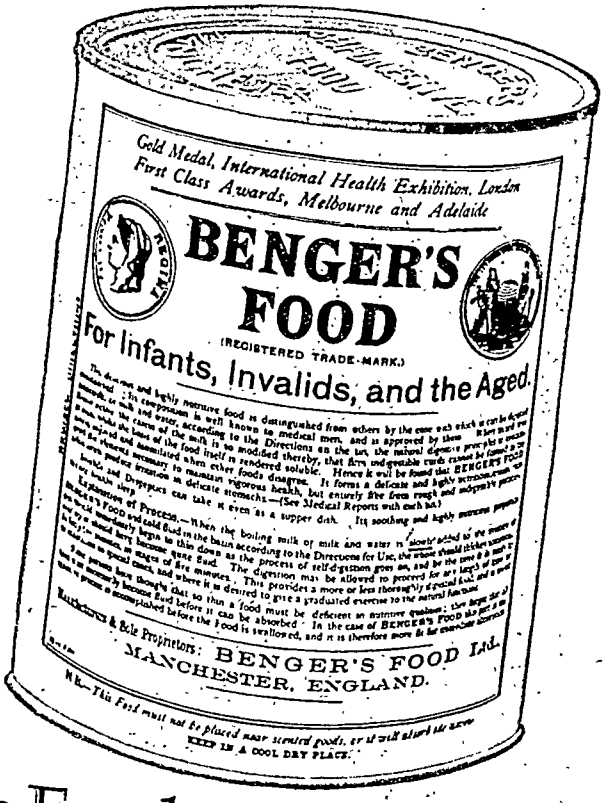
COW & GATE MILK FOOD

is prepared by our Special Improved Roller Process employing a short heat treatment which destroys all disease organisms but leaves the natural vitamins and minerals unimpaired. *It is a basic milk food which can be modified by the profession as they desire to suit all and every case.*

WRITE FOR PARTICULARS OF OUR SPECIAL MILK FOODS FOR DIFFICULT INFANT CASES

©

Dept. 20, COW & GATE LTD., GUILDFORD, SURREY.



Benger's Food—*the adjustable diet.*

The "LANCET" describes it as "Mr. Benger's admirable preparation."

Owing to the presence of the natural enzymes of digestion (*Amylopsin* and *Trypsin*), and its method of preparation for a patient, the extent of self-digestion of Benger's Food and the milk with which it is mixed *can be regulated to suit the digestive powers of the patient.*

Benger's Food is prepared with fresh cows' milk. It forms a dainty cream which becomes the easier of digestion the longer it is allowed to stand after mixing. The process may be arrested at any time by simply bringing the mixture to the boil. (A useful average time for standing is 15 minutes).

Patients ordinarily unable to digest milk can take this mixture satisfactorily, as the Benger's food so softens the casein that when under the influence of the gastric juice it forms into minute flocculi instead of a heavy curd.

Benger's Food is of the highest nutrient value and is not found to pall, even when taken over long periods.

A Physician's Sample will be sent post free to any member of the Medical Profession making application to the Proprietors—

BENGER'S FOOD, LTD., Otter Works, MANCHESTER.

Branch Offices—NEW YORK (U.S.A.) 90, Beekman St.
SYDNEY (N.S.W.): 350, George St.
CAPE TOWN (S.A.): P.O. Box 573.

Benger's Food in sealed tins is on sale throughout the world by chemists, etc.

BENGER'S Food

(Aesculapius)

AROCAN

The word AROCAN indicates a series of local anaesthetics specially prepared at Evans' Biological Institute, containing a highly purified form of diethylaminoethyl-p-aminobenzoate, hydrochloride, and Adrenalin in various strengths.

AROCAN Solutions are remarkably stable, keeping satisfactorily for an indefinite period; can be boiled without loss of activity, and are in themselves sufficiently antiseptic to inhibit the growth of any contaminating organism.

AROCAN Solutions are not subject to the Dangerous Drug Act Regulations, containing no cocaine, and are relatively non-toxic. Three strengths are issued as follows:—

AROCAN LOCAL ANAESTHETIC is a solution containing 2% diethylaminoethyl-p-aminobenzoate, hydrochloride, and Adrenalin 1 in 50,000. It is specially prepared for REGIONAL ANAESTHESIA and, diluted, is suitable for MINOR SURGICAL OPERATIONS.

AROCAN DENTAL ANAESTHETIC contains 2% diethylaminoethyl-p-aminobenzoate, hydrochloride, and Adrenalin 1 in 10,000.

AROCAN SPINAL ANAESTHETIC contains 5% diethylaminoethyl-p-aminobenzoate, hydrochloride (known as Novocaine, Procaine, or Ethocaine B.P.C.), and Adrenalin 1 in 25,000.

Literature on application

EVANS' JOURNAL. Members of the Medical Profession who have not received the current number are invited to apply to

EVANS' BIOLOGICAL INSTITUTE,
Higher Runcorn, Cheshire.

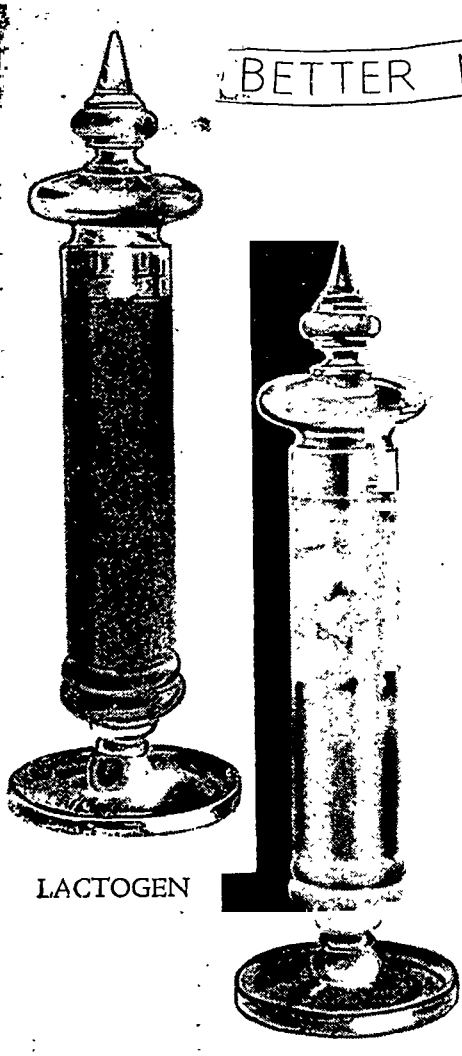
EVANS SONS LESCHER & WEBB, LTD

Manufacturers of Fine Chemicals, Pharmaceutical & Biological Products.

LIVERPOOL
56, Hanover Street.

LONDON
50, Bartholomew Close, E.C.1

BETTER MILK FOR BABIES



LACTOGEN

COWS' MILK

FACTS ABOUT
LACTOGEN

Digestibility

*(2) The Protein Content

The digestibility of any milk diet is to a large extent governed by the nature of the curds formed during digestion. The large firm curds of unmodified cows' milk are in marked contrast to those of breast milk, which, being fine and flaky, are easily digested. In the preparation of Lactogen the protein undergoes an essential modification, and the curd formed during digestion is of a finely flocculent nature so characteristic of the natural diet. Lactogen provides a protein allowance comparable with that of maternal milk—in nutritive value and ease of digestion.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

Free Samples
with detailed descriptive literature will be sent to any Member of the Medical Profession upon request.
Lactogen Bureau (Dept. Z4). Nestlé and Anglo-Swiss Condensed Milk Co., 6 & 8, Eastcheap, London, E.C.3.

"LACTOGEN"
REGD. TRADE MARK

BETTER MILK FOR BABIES

*The previous advertisement dealt with (1) The Fat Content. Copies may be had free upon request.

Stomach Tissue

in the treatment of

Pernicious Anæmia

'Byno Eugastrol'

A combination of hog's stomach tissue extract with 'Bynin' Liquid Malt.

The usually recommended daily dose is three tablespoonfuls, which represents an amount of extract equivalent to 100 grammes of fresh stomach tissue.

A very palatable preparation.

In bottles, 4 oz., 10 oz. and 20 oz.

'Kapsol Eugastrol'

Presents hog's stomach tissue extract in the form of capsules, each equivalent to 25 grammes of fresh stomach tissue.

The usual daily dose is four capsules.

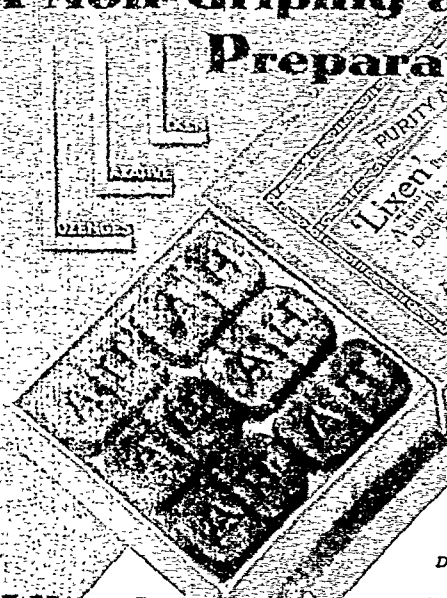
In tins containing 20, 40 and 80 capsules.

Further particulars sent on request.

Allen & Hanburys Ltd., London, E. 2

Telephone: 3201 Bishopsgate (10 lines). *Telegrams*: "Greenburys Edo London."

A Non-Griping and Palatable Preparation of Senna



Contain "Lixen" in a fruit basis.

Really pleasant to take.

Appeal particularly to children.

Each lozenge is equivalent to 6 large senna pods.

In boxes of 12 and 24 lozenges for prescribing.
In bottles of 100 lozenges for dispensing.

Descriptive literature and clinical trial sample will be sent on request.

Allen & Hanburys Ltd., London, E.2.

Telephone: 3201 Bishopsgate (10 lines) *Telegrams*: Greenburys Edo London.

SANDOZ SANDOZ

CALCIUM-SANDOZ

$(C_6H_{11}O_7)_2$ Ca.

Unique Advantages:

1.—It is effective. It supplies the physiologically active calcium ion.

2.—It shows distinct superiority in all modes of administration.

ORALLY: It is well absorbed. It is easily administered and does not upset the digestive tract.

INTRAVENOUSLY: It is better tolerated than calcium chloride. The acid-base factor is eliminated.

INTRAMUSCULARLY: It is painless and non-irritating. It is the *only* calcium salt which can be so administered in adequate doses.

3.—It enables physicians to adequately meet the requirements of any given case.

BY VEIN, for acute need.
BY MUSCLE, to secure intense and prolonged action.
BY MOUTH, for prolonged administration, to meet an increased demand by the organism.

4.—It is completely sufficient in itself as a therapeutic agent.

CALCIUM-SANDOZ is supplied in

Ampoules containing a 10% sterile solution for intravenous or intramuscular injection.
2 c.c. size: Boxes of 10 ampoules.
5 c.c. size: Boxes of 2 and 10 ampoules.
10 c.c. size: Boxes of 1, 5, and 20 ampoules.

Powder for oral administration.—Cartons of 2, 4, and 16 ounces.

Tablets for oral administration.—Each tablet contains 25 grains of calcium gluconate and is especially adapted for division into three parts. Boxes of 30 and 150 tablets. Cartons containing 12 boxes of 30 tablets.

AGENCY:—
THE SANDOZ CHEMICAL WORKS
PHARMACEUTICAL DEPT.
5, WIGMORE STREET, LONDON, W.1.

Observations
ON
ANGINA PECTORIS

BY
JOHN COWAN, M.D.
CONSULTING PHYSICIAN, GLASGOW ROYAL INFIRMARY

Angina pectoris is not a specific disease of the heart, but merely a single symptom of varied origin. If there is anything certain about it, it is its uncertainty. The initial seizure may prove fatal, or recurring attacks may continue indefinitely without gravely interfering with the business of life; but sooner or later it causes death. The striking feature of most diseases of the heart, even mortal disease, is the absence of pain. Anguish may be great from shortness of breath, a feeling of suffocation or consciousness of the heart beat, but actual pain is rare. In angina pain is the dominating symptom—"a suffering as sharp as any that can be conceived in the nature of pain"—and often accompanied by something beyond the nature of pain, a sense of impending death. The pain is as a rule related to the chest; it comes suddenly and goes suddenly. This may be the whole feature of an attack.

NATURE AND DISTRIBUTION OF THE PAIN

Angina varies greatly in its severity in different patients. Slight forms are common, the grave ones relatively rare. In the milder degrees it is only a slight uneasiness about the chest, with no particular localization or characteristics. There may be sensations of numbness, deadness, oppression, constriction, or tightness. It has been compared to a constricting band, or the action of pincers on the chest, and is usually described as dull. Whatever its character, in severe cases the agony may be exquisite.

The site of the pain is generally behind the centre of the sternum, but it may be referred to one side of the chest, usually the left. The pain most commonly radiates into the left shoulder and down the ulnar border of the arm as far as the elbow or fingers; less commonly into both arms, and rarely, into the right arm alone. It may pass upwards into the neck or backwards between the shoulder-blades. In exceptional cases it is referred to the epigastrium or the xiphoid cartilage, and consequently ascribed by the patient to some gastric disorder. For a short time after the attacks the affected arm may be weak, it may be so tender that blood pressure examinations are impossible, or it may be insensitive, though this is rare. Attacks of herpes in the painful areas, atrophy of muscles, and vasomotor phenomena such as pallor or cyanosis have been recorded. As a rule the character and the distribution of the pain in successive attacks remain constant.

Distribution of the Pain

	Cases
Substernal	95
Substernal radiating into the left arm	36
Substernal radiating into the right arm	2
Substernal radiating into both arms	24
Substernal radiating into the neck	19
Substernal radiating into the back	8
Chiefly epigastric	11
Chiefly about the shoulder...	5
	200

Coinciding with the pain there is, not infrequently, a feeling of impending death, which may be more overwhelming than the pain itself. This angor animi, as Ryle[1] points out, is not a fear of death, but a sense of impending dissolution, often accompanied by a sensation of constriction of the chest and the feeling that any movement, thoracic or systemic, would prove fatal. Usually associated with pain, it may, however, occur independently—the angina sine dolore of Gairdner. In one attack which we witnessed this angor animi was the prominent symptom, the patient being quite definite that he did not suffer pain. He died three years later from an infarct of the heart. In the typical attack the patient stops and holds on to some support, unable to speak, breathe, or move from the intensity of his distress; his face pale and covered with sweat, or unaltered save for the expression of his agony. The initial attack generally follows physical exertion. Several of our patients suffered for the first time when hurrying to catch a train, walking uphill or against a strong wind, or lifting an unusual weight. But it may ensue on ordinary exertion, particularly shortly after a meal. Emotional disturbance—joy, fear, excitement, fits of temper (as in John Hunter's case)—may also be the exciting cause. Cessation of the exertion is rapidly followed by cessation of the pain, but as time passes slight degrees of exertion or disturbance may bring on an attack.

This angina of exertion must be clearly distinguished from comparable attacks occurring during rest, the angina of decubitus (infarct of the heart). These may arise when the patient is quietly reading; or he may be roused from sleep by the pain. In most instances they succeed attacks of the angina of exertion, but occasionally they come without warning. In a series of 84 cases of infarct this unforeseen catastrophe occurred in 7 cases.

Duration of Attack

The duration of attacks varies. In the angina of exertion the onset and termination are usually abrupt, the seizure lasting from a few seconds to a minute or two. It rarely lasts for more than ten minutes, but we have seen one persist for forty-five. In the angina of decubitus the attacks may recur in quick succession for several hours (status anginosus) or may last for a day or more, notwithstanding liberal doses of opium. The termination of attacks is sometimes accompanied by the passage of large quantities of urine, or eructations; but this is unusual. Following attacks the patient as a rule feels exhausted for a time, and then quite well save for the remembrance of his agony.

Such are the usual symptoms in the initial attacks. Eventually death occurs—instantaneously, after a few minutes of pain, or following a prolonged paroxysm. Rarely, a paroxysm is followed by cardiac failure of the congestive type, unaccompanied, as a rule, by pain.

ETIOLOGY

Angina is more common in men than in women, occurring most frequently in the fifth and sixth decades. Our youngest patient was aged 23; but cases have been recorded at the age of 7 (Stewart) and 12 (Allbutt, Heberden, Wild). It is most common among brain workers, as contrasted with the labouring classes, and in occupations which entail nervous strain. Only 13 of our 200 cases were of the hospital class.

We have failed to trace any special relationship between angina and the infections. Apart from the exanthemata, rheumatic fever was the most common antecedent in this series, but its incidence was small. The association of angina and syphilis is, however, closer. In this series 17 patients were known to have suffered from syphilis and 4 from gonorrhoea, the incidence of venereal disease thus being 10.5 per cent. Only one of these patients was in hospital, where the incidence of syphilis in our wards, as shown by routine Wassermann tests, was 8.6 per cent. in the men and 7.2 per cent. in the women. But several writers have found a higher incidence of syphilis in angina, Huchard reporting its presence in 33 out of 130 cases of angina, and Josué in 30 out of 100 cases.

Syphilis is the common cause of angina before 40 years of age, and is generally associated with aortic valvular disease, the valves and the orifices of the coronary arteries both being affected. In this series the three men aged 30 were all syphilitic. After 40 it is less important. One must remember, however, that angina may occur in rheumatic aortic disease, which was the cause in our patient aged 23.

The recognition by Jenner of the common association of angina and disease of the coronary arteries led to the theory that it was due to this arterial lesion; but it was soon found that the coronary arteries might be grossly diseased without the occurrence of angina, and, conversely, that they might be normal in typical cases. It was then suggested, on theoretical grounds, that angina was due to spasm of the coronary arteries. The discovery that the first part of the aorta was frequently diseased in these cases changed the venue to this part, the pain being ascribed to stresses upon it. It was found, however, that these lesions were not invariable. Attention was then paid to the muscle of the heart; but again it was shown that myocardial lesions were inconstant. It was now apparent that angina could not be due to any specific anatomical lesion, but must be the result of some physiological disturbance of the cardiac muscle. Angina, it was suggested, might be due to distension of the heart, with consequent strain upon the muscle, or to muscular exhaustion, or to strain upon a damaged heart or aorta.

Muscular Anoxaemia

The current theory is that angina, however caused, results from muscular anoxaemia. This theory was first formulated by Allan Burns in 1809,[2] and has been elaborated experimentally by J. A. MacWilliam and W. J. Webster[3] in 1923, and clinically by C. S. Keefer and W. H. Resnik[4] in 1928.

Allan Burns's statement may be quoted:

"In health when we excite the muscular system to more energetic action than usual, we increase the circulation in every part, so that to support this increased action the heart and every other part has its power augmented. If, however, we call into vigorous action a limb round which we have, with a moderate amount of tightness, applied a ligature, we find that then the member can only support its action for a very short time; for now its supply of energy and its expenditure do not balance each other; consequently it soon, from a deficiency of nervous influence and arterial blood, fails and sinks into a state of quiescence. A heart, the coronary arteries of which are cartilaginous or ossified, is in nearly a similar condition. It can, like the limb begirt with a moderately tight ligature, discharge its function so long as its action is moderate and equal. Increase, however, the action of the whole body, and along with the rest that of the heart, and you will soon see exemplified the truth of what has been said; with this difference, that as there is no interruption to the action of the cardiac nerves the heart will be able to hold out a little longer than the limb."

MacWilliam applied a tourniquet to the arm and noted the results: (*a*) so long as the forearm muscles remained inactive, and (*b*) when these muscles were thrown into action. As he found that the symptoms might, in part, be due to turgescence of the limb if the constriction was suddenly applied, he made the limb ischaemic by means of an elastic bandage, applied first to the fingers and the hand, and only removed after the application of the tourniquet. In a limb thus treated and kept immobile no notable result followed for the next twenty minutes, save for some coldness in the part, an inclination to shift the position of the arm, and a certain amount of discomfort at the site of the constriction. Muscular activity of the forearm muscles, however, rapidly produced marked discomfort. Fatigue, as measured by the number and force of contractions executed within a given period, was readily produced, the fatigue point being reached in one-half or one-third of the time required in the normal limb. The forearm, too, rapidly became painful, and, as the fatigue point was approached, so acutely painful that the desire for relief became urgent. Cessation of the exercise did not relieve the pain, which ceased only after relaxation of the tourniquet and the return of blood to the ischaemic muscles. Though relief of pain was thus readily afforded, fatigue was still apparent, and passed off only after some interval of time.

"It need hardly be pointed out that the foregoing observations have a close bearing upon the problems associated with the production of pain in angina pectoris, showing as they do how readily acute pain can be excited in skeletal muscles working with lack of blood supply, the pain developing while the contractile power, though to some extent weakened, is still sufficient to execute movements of considerable force and energy—that is, long before complete fatigue."

This experimental work is supported by clinical observations. In intermittent claudication severe pain and weakness in the muscles of the legs may ensue on exertion and cease when the exertion ceases. In senile gangrene from obliteration of an artery pain is constant; and in cases of embolic arterial block—for example, in mitral valvular disease—pain is always present if a limb is involved. We have notes of seven cases of this kind where gangrene followed; and in a case where gangrene resulted from thrombosis of a popliteal aneurysm acute pain in the leg occurred suddenly, and persisted. Intermittent claudication is exactly comparable to angina of exertion; senile gangrene and embolic block to angina of decubitus (infarct).

Keefer and Resnik[4] analysed a series of 399 cases of angina in which post-mortem examination had been made. In 380 cases the coronary arteries were diseased, and in the remaining 19 the aortic valves were incompetent. It may readily be assumed that, in certain circumstances, all these cases suffered from anoxaemia of the myocardium. Disease of the coronary arteries must necessarily limit the flow of blood to the heart, which may be sufficient for the muscle working quietly, but be inadequate to meet any additional exertion. In aortic incompetence the diastolic blood pressure is low, and, as the muscle of the heart is supplied with blood during diastole, its blood supply even at rest must be limited, and may become insufficient if extra exertion demands a more ample supply. It is in the syphilitic cases that angina is most common, for here aortitis is the rule, and the coronary orifices are frequently involved in the lesion. The resulting ischaemia produces pain. There is no essential difference between the angina of exertion and that of decubitus. In the first, the ischaemia is relative and intermittent; in the second, absolute and permanent. If the circulation is merely impaired, symptoms will only ensue when exertion renders the parts relatively ischaemic, while if the block is complete the symptoms will continue for an indefinite period.

A similar line of reasoning explains the occurrence of angina in all the other conditions with which it may be associated. It occurs, rarely, in severe anaemias in which ischaemia might readily occur. But the ischaemia in these cases is general and affects all the tissues of the body, and the general debility as a rule prevents exertion capable of throwing undue strain upon the heart. In mitral valvular disease and congenital heart disease venous congestion, if present, is general, and the whole heart fails, dyspnoea checking the exertion before the painful stage of ischaemia develops. In coronary disease only a part of the heart is concerned, the greater bulk remaining unaffected. The heart as a whole can thus respond effectively to a demand for increased activity, but the part whose blood supply is limited now becomes ischaemic, and painful sensations arise. Thus angina can coexist with the possession of adequate power by the heart as a whole. In one of our cases the blood pressure at rest measured 280 mm.

Post-mortem Appearances

In this series a post-mortem examination was obtained in 13 cases. Of these, 12 presented infarcts or fibrosis in the muscle, the coronary arteries being extensively diseased. The other patient, a man aged 47, who had been out work for a couple of months on account of shortness of breath and palpitation on exertion, had his first attack of angina when walking, and died two days later during another attack. There was well-marked syphilitic aortitis above the aortic cusps, which were thick and shortened, with a slight recent acute endocarditis superadded. The orifices of both coronary arteries were involved in the aortitis and greatly narrowed. The arteries in their course were normal and the muscle of the heart intact. In two cases there was rupture of the heart.

Vasomotor Disturbances

Vasomotor disturbances not infrequently accompany attacks of angina. In two of our patients the blood pressure during an attack measured 160 mm. Hg, and in the intervals 120 mm. in one case, and 130 to 140 mm. in the other. In another patient an "interval" blood pressure of 140 mm. Hg rose to 190 mm. during an attack. Sometimes attacks occur during a period of high blood pressure, and cease with its disappearance. A stoker, aged 50, caught cold, and a week later began to suffer from attacks of angina on exertion. After a few days he entered hospital and his attacks ceased. His blood pressure, on admission 215 mm., fell steadily, reaching 145 mm. on the fifth day, and 135 mm. before discharge. At the same time his left heart, which on admission had been slightly dilated, recovered its tone. He was in hospital three and six years later suffering from bronchitis and gastritis. The angina had not recurred. His systolic blood pressure was then between 135 and 150.

Some patients who suffer from angina tell us that, while they can in favourable circumstances undertake considerable exertion without distress, attacks ensue if they are exposed to cold, if exercise is taken immediately after food, or if they are subjected to nervous strain. The cause is to be found in vasomotor alterations in the distribution of the blood. Everyone knows that the increased supply of blood to the digestive organs after a meal produces mental languor as the result of the lessened supply available for the brain. Cold, food, emotion, are all factors which influence the blood pressure and the distribution of the blood throughout the body.

Professor MacWilliam points out another possible factor.

"So far as my observations go there is not necessarily such rise of blood pressure on exposure to cold as would throw a decidedly greater strain upon the heart. It seems to me that some transient attacks of pain, with no obvious and sufficient exciting cause, probably depend upon a central nervous factor, an increased susceptibility to pain from irritant influences arising in the heart. Exposure to cold, for instance, often tends to excite neuralgic pains, anywhere, in a susceptible subject."

Such an explanation seems feasible. Many patients are highly strung and intolerant of discomfort, and some are quite unable to bear a blood pressure examination of the left brachial artery. Several, too, have told us that their attacks cease as soon as they have swallowed a tablet of trinitrin, before any effects of the drug could have been manifested.

Intoxications

In rare instances angina seems directly related to feelings of constriction experienced in other situations; tobacco, tea, and coffee being the common offenders. One of our patients suffered from exophthalmic goitre, two from myxoedema; in these toxic causes of impending asphyxia were present. F. R. Fraser, however, informs us that he has never seen angina pectoris in Graves's disease, although he has frequently experienced it himself. Rylet points out that in myxoedema angina is very rare in spite of the presence of arterial degeneration. Usually associated with arterial degeneration, the association was probably accidental. We have seen a clear case due to tobacco.

The patient was a healthy, well-built man, aged 21. His first attacks had occurred six years previously, when serving in the Army, from which he was, in consequence, discharged. At that time he smoked heavily, but subsequently gave it up until shortly before his admission to hospital. The attacks at once recurred. The pain, he said, was never very severe, but sufficient to make him stop work. It was substernal, and occurred only when he was at his work, which was arduous. For a week before admission the pain had been increasing in severity, and he had become short of breath on exertion. His organs seemed sound. His pulse rate on admission was only 40 per minute, but the heart's action otherwise was normal, and the blood pressure within normal limits. His fingers showed a fine, rather irregular, tremor. In a few days his pulse rate rose to 68, and all discomfort disappeared.

Nicotine has a powerful action upon nerve cells, producing an initial stimulation followed by paralysis. At first the pulse rate slows and the blood pressure rises; and this is followed by an increase in the pulse rate and a fall of blood pressure, due, in part at any rate, to direct action of the drug upon the myocardium (Cushny).

THE NERVE SUPPLY OF THE HEART

The exact details of the nervous supply of the heart are as yet undetermined. The pathway of the efferent nerve fibres is fairly clear; the inhibitory impulses travel

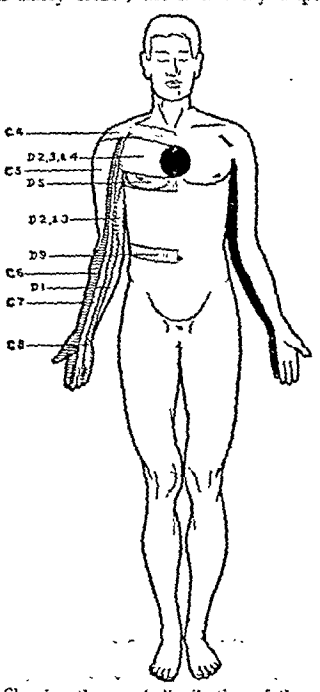


FIG. 1.—Showing the usual distribution of the pain in angina and the relative spinal distribution.

along the vagus nerve, while the accelerator impulses, issuing from the upper dorsal segments of the cord, pass through the inferior cervical ganglion and the inferior cardiac nerve, and perhaps, in part, through the middle cardiac nerve. The pathway of the afferent fibres is less clear. The depressor impulses pass upwards along the vagus nerve, but the other afferent impulses pass through the sympathetic system, entering the cord through the upper five or six dorsal roots. There is no evidence of their passage through any cervical root, or the vertebral nerve (Langley).[3]

The reason for the characteristic distribution of the pain in angina is thus apparent. The cardiac sensations enter the upper dorsal segments of the spinal cord. Th peripheral representation of these segments is shown i Fig. 1. Extreme stimulation of the dorsal segments le

to an overflow of the stimuli to adjacent segments and so to radiation of the pain into the neck and epigastrium.

DIAGNOSIS

The diagnosis is established by the history of attacks of substernal pain occurring on exertion and relieved by rest, with or without the characteristic radiations and angor animi. The distribution of the pain varies in different patients, but it is never referred to the apex of the heart save as a part of a widespread distribution. Pain in this area alone, a common complaint in stout women, is due to causes other than cardiac. Some are gastric in origin, some due to hyperaesthesia of the breast, some to fibrositis or strain of the pectoral muscle.

The majority of our patients were at work, apparently in their usual health, at the onset of their symptoms, only 44 being under medical care at the time. Of these the largest group complained of cardiac symptoms, a lesser number suffering from symptoms due to arterial or renal disease.

Although the majority of our patients made no complaint prior to the onset of their anginous attacks, subsequent examination, as a rule, revealed pathological changes. In 90 cases the heart was enlarged ; in 83 of 136 cases the blood pressure was over 150 mm. Hg, the extremes being 105 and 280 mm. In 14 cases the aortic valves were incompetent, and in 45 mitral murmurs were present though not necessarily due to valvular disease. One patient had mitral stenosis. Apart from murmurs the cardiac sounds were often abnormal, the first sound being weak, muffled, or distant, the second sound accentuated or intoned, suggesting myocardial or arterial disease. The electrocardiograms were frequently abnormal. Out of 122 cases the QRS complex was abnormal in 16 ; T-waves were normal in 46 cases, inverted in Lead I in 39, and in Lead III in 37 cases. Heart-block was present in 5 cases, bundle-branch block in 8, extrasystoles in 13, fibrillation in 4 cases, and irregular rhythm in one. In the exceptional case the most careful examination may fail to reveal any abnormality, though as a rule some deviation from the normal is revealed. It may seem difficult in such cases to relate the pain of angina to the heart, but a little consideration shows the reasons. The cause of the symptoms is insufficiency of the cardiac blood supply from narrowing of the arteries at their orifice or in their course, and neither of these lesions has distinctive physical signs. Syphilitic aortitis is often a post-mortem discovery, as it fails to show itself unless "something happens"—incompetence of the aortic valves, narrowing of the coronary orifices, or aneurysmal dilatation. A purely local lesion of the coronary arteries will only manifest itself by physiological disturbances. In one of our patients who died of angina, due to coronary stenosis at the orifice from syphilitic aortitis, the heart itself was quite sound. Arterial disease is usually associated with high blood pressure, renal disease, syphilis, etc., which present their own characteristic signs. The combination of aortic valvular disease and angina always strongly suggests a syphilitic origin, especially in men under 40 years of age, though it may occur in cases of rheumatic or other origin.

PROGNOSIS

Most patients with angina die more or less suddenly. In experimental ligation of the coronary arteries in animals, the cardiac action becomes irregular from extrasystoles, which are followed by tachycardia, ventricular fibrillation, and death. In some cases of angina the cardiac action rapidly weakens—the pulse rate usually increasing—and failure ensues. Life to the anginous patient is uncertain, but may be prolonged for years. Dr. Arnold died in his first attack ; John Hunter had angina twenty years before he died. Two of our patients died at the age of 76—one twenty years, the other fourteen years, after the first attack. Another died at the age of 70, thirty years after the occurrence of Stokes-Adams attacks, due to heart-block which persisted unchanged. Several patients are working, even playing golf, after five and ten years. Even those who have had definite infarcts may make a good recovery. One of our patients worked hard for five of the seven years which elapsed between his infarct and his death, and one of A. G. Gibson's patients lived an active life for five years after his attack, dying at the age of 72.

The best outlook is that of the toxic and anaemic group if the cause of their symptoms can be removed. Of the other groups, those with a high blood pressure, those with aortic valvular disease, those with a low blood pressure, in order. Patients with high blood pressure can, as a rule, be relieved by appropriate treatment. Syphilitic valvular disease can be helped by specific treatment. Those whose hearts are weak, without obvious cause and so in all probability from coronary stenosis, are unlikely to obtain satisfactory remission of the underlying pathological cause.

Two other factors are important: the exciting cause of the original attack, and the mental attitude of the patient towards his difficulties. It is obvious that if an attack supervenes on trivial provocation it is more likely to be due to a gross lesion than one which follows severe physical or mental strain. The mental attitude is equally important. Can the individual react to his limitations successfully, adapting his life to his altered equilibrium, or will he fail to do so, and continue to run his usual course? An attack of angina gives warning that the pace in future must be lessened.

TREATMENT

The general lines of treatment are well defined. The treatment of the toxic and anaemic cases is obvious ; and that of aortic valvular disease, with angina, is similar to that of the cases without anginous symptoms. In the cases due to coronary disease every endeavour should be made to *prevent undue strain upon the heart until satisfactory anastomoses have had time to form* and to supply the myocardium with sufficient blood. The coronary circulation is ample, and free anastomoses exist between the main arteries, and between their branches. An attack of angina indicates that some arteries are narrowed, and that closure may occur. Functional overactivity of the heart will lead to disaster. In angina confinement to bed is not always helpful, though sometimes useful from the psychological standpoint ; but activities must be kept at a low level for a prolonged period. All other treatment is subsidiary. In patients with high blood pressure increased elimination must be secured by the usual methods. In syphilitic cases specific treament must be instituted. In patients with weak hearts stimulant treatment is indicated.

The treatment of a paroxysm is necessary but of less importance than its prevention. Angina is a danger signal, a sign of some harmful activity, and if we make the patient insensitive to his discomforts he will soon kill himself. If the blood pressure is raised during attacks the nitrites are useful, but they are useless if the blood pressure is not raised. Sedatives should be given without hesitation, morphine being the most effective. Chloroform is sometimes necessary.

Surgical Treatment

The surgical treatment of angina is still in the experimental stage, and we doubt if it will ever prove of much value. All surgical treatment aims at the relief of cardiac pain ; but pain is a useful danger signal, an

indication to the patient that his current activities are harmful and must be stopped at once, or death will ensue. But there remain a few patients whose sufferings are so severe that relief at any cost seems desirable.

Numerous operations on the cervical nerves and ganglia have been performed with the object of severing the sensory communications between the heart and the brain; but so far as our knowledge goes these operations are based upon erroneous theories. The sensory tracts run into the upper dorsal segments of the spinal cord, and not along the neck. It is known that left-sided pain is referred from the heart to the upper five or six segments, the chief pathway being along the inferior cardiac nerves, the stellate ganglion, the vertebral sympathetic ganglia, and the white rami communicantes to the spinal cord. Subsidiary pathways may exist along the middle cardiac nerves and the lower cervical sympathetic trunk to the stellate ganglion; and directly from the heart to the upper dorsal vertebral ganglia[4] (Fig. 2).

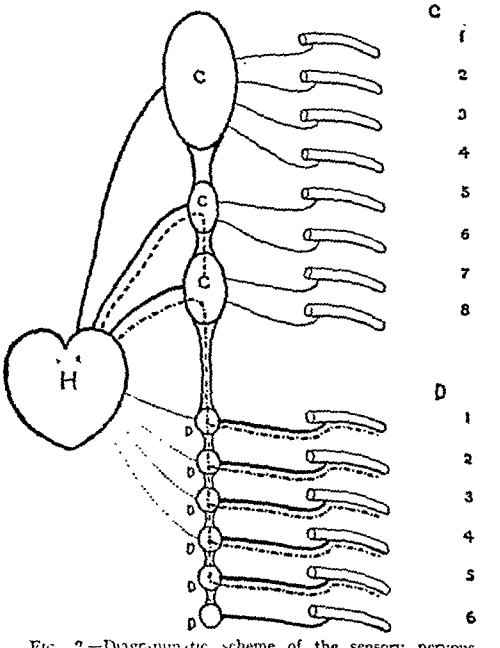


FIG. 2.—Diagrammatic scheme of the sensory nervous connexions of the heart. C, Cervical sympathetic ganglia; D, Dorsal sympathetic ganglia; D, Dorsal nerve roots; — — — — —, Main route of sensory impressions; - - - - - -, Secondary route; . . . . . Direct route.

The pathways might be blocked by: (1) removal of the stellate and the upper dorsal vertebral ganglia; (2) section or block of the rami communicantes; (3) section or block of the posterior nerve roots.

The least dangerous procedure seems to be alcohol injection of the rami communicantes, of which favourable results have been reported.[7] James C. White has now operated upon 17 patients who were subject to severe and frequent attacks of angina which resisted medical treatment. All recovered from the operation without serious trouble, the only unfavourable sequels being attacks of pleurisy in three cases, which rapidly subsided. In 7 cases complete relief from the left-sided pain followed, and in 5 the relief, while not complete, was considerable. In 3 cases improvement was slight, and in 2 cases no improvement resulted. Five patients have been able to return to work. He states that shortness of breath, peculiar sensations, without pain, in the region of the heart, or mild attacks of right-sided angina, have always afforded sufficient warning to the patient that the danger zone of exertion was being approached. The upper dorsal ganglia were removed in 3 patients whose general condition permitted an open operation by Henry's route. All these patients made good recoveries, and the pain was completely checked.

Eight of these patients have died, seven of them within a year of the operation, one from an empyema, the others from cardiac causes. One patient is alive three years after operation, and two patients two years after operation. Such results must be expected, for the operation is merely palliative and in no way curative. But relief from severe recurrent pain, even if of short duration, may be an inestimable boon to some patients.

We have great pleasure in acknowledging the kindly assistance of many friends; in particular, G. B. Fleming, F. R. Fraser, D. Dale Logan, G. D. Logan, J. A. MacWilliam, J. K. Rennie, James C. White, and Farquhar Macrae.

REFERENCES

[1] Ryle, J. A.: Angor animi, *Guy's Hospital Reports*, 1928; *Lancet*, 1928, i, 332.
[2] Burns, Allan: *Observations on Some of the Most Frequent and Important Diseases of the Heart*. Edinburgh, 1809.
[3] MacWilliam, J. A., and Webster, W. J.: *British Medical Journal*, 1923, i, 51.
[4] Keefer, C. S., and Resnik, W. H.: *Arch. Int. Med.*, 1928, xli, 769.
[5] Langley, J. N.: *Lancet*, 1924, ii, 955.
[6] Jonesco, D., and Enarchesco, M.: *Compt. Rend. Soc. de Biol.*, 1927, xcvii, 977; Cannon, W. B., Lewis, J. T., and Britton, B. W.: *Amer. Journ. Physiol.*, 1927, lxxvii, 326.
[7] Swetlow, G. I.: *Amer. Heart Journ.*, 1926, i, 393.
[8] White, James C.: *Amer. Journ. of Surg.*, 1930, ix, 98.

THE DEVELOPMENT OF THE SCIENCE OF NUTRITION IN RELATION TO DISEASE*

BY

J. B. ORR, *D.S.O., M.C.*, M.A., M.D., D.Sc.

THE ROWETT RESEARCH INSTITUTE, ABERDEEN

In the last twenty years there have been rapid developments in our knowledge of animal nutrition. This knowledge continues to accumulate at an increasing rate; it has such a direct and important bearing on the prevention or cure of disease that nutrition may now be regarded as a new branch of medical science.

HISTORY

It is interesting to contrast the outlook of last century with that of the present day. At the beginning of the period our ideas were little in advance of those held by the Greeks. Writers still believed that there was only one nutrient substance common to all foodstuffs. Early in the century it was established that heat and muscular energy had their origin in a process of oxidation, and calorimetric studies had shown that the human body obeyed the law of conservation of energy. By the middle of the century, chemists had differentiated food constituents into three "proximate principles"—proteins, fats, and carbohydrates—all yielding energy. At the end of the century, the energy values of different foodstuffs, and the energy requirements of the human body under different conditions, were fairly well known, and the position of the calorie as the symbol of nutrition was well established. Proteins were recognized to be of special value, being necessary for construction in growth and repair of "tear and wear" of the tissues. Dietaries were calculated in terms of calories and protein, and studies in the physiology of nutrition were concerned mainly with metabolic processes involving exchanges of energy, and with the metabolism and chemistry of the proteins and their derivatives, and to a lesser extent of

* Summary of a British Medical Association Lecture delivered to the Dundee Branch on March 11th.

the fats and carbohydrates. With knowledge at this stage it was inevitable that workers should tend to over-emphasize the analogy between the body and a machine as energy converters, and to regard the provision of sufficient fuel for energy and material for repair as the only aspects of nutrition which were of practical importance. Although the limitations of this view are now recognized, we must not underestimate the importance of the work done in the nineteenth century. The succession of investigators from Lavoisier to Fischer established the main principles and laid the foundation of the science of nutrition. Nor can we assume that the research on energy exchange and protein metabolism is finished. Although at the present time popular interest has moved to the newer aspects of the subject dealt with here, there is still work of great scientific interest and practical importance being done on energy exchange and the metabolism of the proteins, fats, and carbohydrates.

The main feature of the work of the present century has been the shift of the centre of interest in nutrition from quantity to quality. The epoch-making experiments on vitamins, and the tardy recognition that a diet may be adequate in calories and protein, and still deficient in some of the inorganic constituents, opened up new fields of research. The discovery that a slight difference between two diets, which could neither be detected by the eye nor determined by chemical analyses, might mean the difference between life and death, completely altered our point of view, and of necessity our methods of work. In addition to chemistry and mathematics we had to resort to the biological test to determine the value of foodstuffs. Calculations based on the results obtained with the calorimeter and the test tube have been supplemented by clinical observations; the adequacy or inadequacy of a diet is now judged by observations on the state of health, the presence or absence of symptoms of disease, the rate of growth, and powers of reproduction. In this way, modern nutritional studies are tending more and more to become of the same nature as clinical studies, and so the gap that existed at the end of last century between the biochemical laboratory and the hospital ward is now being bridged.

RESULTS OF MODERN INVESTIGATION

Let us review briefly the main results obtained in experimental work on animals by these newer methods of investigation. The spectacular effects in diseases arising from vitamin deficiency, such as scurvy, beri-beri, and rickets, are so well known that they need not be further discussed. It is completely established that these diseases can be produced or prevented at will in experimental animals by introducing or withholding certain nutrients from the ration. The work on diseases due to mineral deficiencies which has been done on the larger domestic animals is not so well known to the medical profession. Owing to the very rapid rate of growth of modern improved breeds the mineral requirements of the larger domestic animals are relatively high, and consequently the effects of deficiency are easily demonstrated. Rickets and osteoporosis can be produced by deficiency either of calcium or of phosphorus. In cattle, a condition characterized by inco-ordination of movement, and later by paralysis accompanied by the usual signs of malnutrition, is produced on a phosphorus-deficient diet. In certain districts, goitre accompanied by a high mortality rate in the young occurs, and is prevented by the administration of iodine. Anaemia, which can be prevented by administration of iron, is found both in cattle and pigs on certain diets. All these diseases in domestic animals, which have been produced and studied under experimental conditions, are known to occur, and in some cases to be common under ordinary conditions.

The discovery that these deficiency diseases are due to the lack of specific nutrients, whether vitamins or minerals, was in itself a great achievement, but the practical importance of this work is much greater than the mere cure or prevention of these pathological conditions. In experimental studies with animals it has been observed that there are all stages of malnutrition ranging from what we regard as normal health to that in which the gross and terminal symptoms appear. The signs of minor degrees of deficiency are now well known, and need not be enumerated. Some of the signs are common to, and occur in, the early stages of nearly all deficiency diseases. Generally they are indications of lowered vitality. Young animals have a slower than normal rate of growth, the reproductive powers of adults are defective, the coat is dull and lustreless, appetite is decreased, and the animals show, instead of the *joie de vivre* of the perfectly healthy animal, lethargy and other signs of premature senility. A point of practical importance which should be emphasized is that when these diseases occur under ordinary conditions the number of animals suffering from minor degrees of deficiency usually far exceeds the number showing the gross signs of disease.

Increased Susceptibility to Infections

There is another result of dietary deficiency which is equally far reaching in its practical importance. It has been noted by many workers that susceptibility to certain infectious diseases is definitely greater in groups of animals on deficient diets than in comparable animals on complete well-balanced diets. Classical examples of this are the development of xerophthalmia in rats, and epithelioma contagiosum in fowls, in deficiency of vitamin A. It has been repeatedly noted that animals on diets deficient in the fat-soluble vitamins have a high proportion of deaths from respiratory and alimentary infections. It is believed by some (though we lack definite data on the subject) that in deficiency of calcium and iron there is increased susceptibility to pulmonary infections, and recent work on cattle in South Africa seems to indicate that deficiency of phosphorus increases the death rate, apart from the deaths due directly to styfsiekte or lamsiekte, the direct or indirect cause of which is phosphorus deficiency. The information obtained from these observations warrants us accepting, as a working hypothesis, the view that in animals suffering from even minor degrees of deficiency, resistance to organisms normally present in the body may be reduced, and hence bacteria, which, in an animal on a perfect diet might remain non-pathogenic, find in the abnormal tissues and fluids of the host a favourable medium in which their activities can give rise to the specific signs of infection. This aspect is only beginning to be explored. It is an intricate subject to study, because there are involved such a large number of factors, some of which are difficult to control.

It is impossible here to do more than indicate the nature of the work being done in this field of research. There are three important lines: attempts are being made to ascertain (1) the changes which occur in the composition of the blood under different dietary conditions; (2) the effect of diet on immunological reactions; and (3) the effect of diet in altering either the nature of the flora or the pathogenicity of the existing flora in the respiratory, intestinal, and other areas in the body.

Diet and the Composition of the Blood

Biochemical examination of the blood of experimental animals has shown that the level of some of the mineral elements is by no means so constant as was at one time thought. For example, it has been shown that the feeding of a diet low in calcium and high in phosphorus results in a lowering of blood calcium and a rise of blood

inorganic phosphorus to an extent which was thought impossible a short time ago. In an experiment on sheep at present being carried out, it has been found that the blood calcium has been nearly halved, and inorganic phosphorus more than doubled. On the other hand, in cattle suffering from aphosphorosis, the inorganic phosphorus in the blood may be less than half the normal. These results in large animals are on the same lines as those which have been previously noted in rats. Studies are also being made on the influence of the diet on the alkali reserve of the blood, which, as is well known, can be altered within fairly wide limits by medication.

These experimental studies in which workers are seeking for a correlation between composition of diet and composition of blood are already giving fairly definite results in so far as the inorganic constituents are concerned. Comparatively little headway has been made, however, with the organic constituents, though observations on these are being carried out.

Diet and Immunological Reactions

Side by side with this inquiry by chemical methods, investigations are proceeding on the effect of diet on immunological reactions. Here, also, positive results are being obtained. Thus, in observations on agglutinin formation in guinea-pigs and rats inoculated with *B. typhosus*, it has been noted that there is a significantly low titre in animals on a diet deficient in phosphorus, and both agglutinins and bacteriolysins against *B. typhosus* in rats are reduced on diets deficient in vitamins A and D, or B and E. In work on sheep very marked changes have been found in animals transferred from deficient experimental rations to pasture feeding.

Diet and the Flora

The effect of diet on the flora in different areas of the body has been studied in the case of the intestine for many years. It is well known that the reaction of the intestinal contents can be altered by the food, and that such alterations cause changes in the bacterial flora. Of special interest are some observations on the effect of changes in the reaction of the blood. Most bacteria flourish best in a slightly alkaline reaction. It has been observed that treatment which tends to alter the *p*H of the blood to the acid side, or which lowers the alkali reserve, reduces antibody formation in response to infection. Reduction of bactericidal power has been obtained by an administration of hydrochloric acid, and by section of the spinal column, which causes a fall in blood alkalescence. On the other hand, a directly reverse effect has been noted in a recent study of wound infections. In controlled experiments in which alkali reserve, *p*H of blood, and *p*H of wound exudate were estimated, it was found that a rise in the alkali reserve above normal was associated with an increase in the number and virulence of the bacterial flora, and that a shift to the acid side resulted in a reduction of the number of infecting organisms. If these results be confirmed they show that the alkali reserve, which can be controlled by the diet, is an important factor in resistance to infection, and that changes in its level affect differently the individual types of bacteria.

Even this brief consideration of work along these three lines is sufficient to show that we have here a most promising field of research. The scrappy data which we have already obtained prove that the nature of the diet affects the powers of the body fluids to deal with infection, and, what is equally important for the success of further work, that chemical analyses of the blood and serological tests give us a means to make a quantitative assessment of the effect.

In view of the vast extent of this field, however, we cannot claim to have done more, so far, than make a few preliminary observations. Even the meagre results obtained have not yet been all confirmed, nor is their full significance clear. More experimental work is needed before we can begin to link up the biochemical, immunological, and clinical data to see what correlation exists between different dietary factors, the chemical composition of the blood, its immunological reactions and susceptibility to different pathogenic organisms. When we *do* reach that stage we will have greatly increased our powers to prevent and cure disease. We will be able, by dietary measures, to keep animals in such a state of health that when invasion by organisms takes place the *vis medicatrix naturae*—the only therapeutic agent of any real value—will be able to exert its full beneficial influence, unhampered by abnormal conditions of body fluids and tissues due to faulty diet.

NUTRITION AND THE HUMAN BEING

So far we have confined the discussion almost exclusively to the results of experimental work on animals. Let us consider to what extent our findings are applicable to human beings. We know that deficiency diseases such as scurvy and rickets occur in the human being, and are cured by the same dietary manipulations as are found to prevent or cure them in animals, and there is abundant evidence to show that when these diseases appear, minor degrees of malnutrition are prevalent among the whole population living under the same dietary conditions as those suffering from the gross symptoms of disease. Thus it is now recognized that beri-beri is but the terminal gross manifestation of deficiency disease, the actual outbreaks being merely superimposed on a condition of chronic ill-health.

We cannot put groups of human beings under experiment to test directly the effect of diet on the chemical composition and serological reactions of the blood and on resistance to disease. Recently, however, observations have been made on two tribes in Africa, living under conditions almost as favourable for the study of this problem as if the diets had been prearranged. The diet of one of the tribes consisted chiefly of cereals, and was found to be deficient in calcium, and almost certainly in vitamins A and D. The diet of the other tribe, consisting largely of milk, meat, and raw blood, though defective in other respects, was rich in those nutrients deficient in the former tribe. Unfortunately, samples of blood could be obtained only from members of the cereal-eating tribe, but the incidence of disease was studied in both. It was found that the average calcium content of the blood serum in the tribe on the cereal diet was only 9.4 mg., compared with an average of 11.4 mg. for Europeans living in the same district. A survey of the incidence of disease showed that in the tribe with the cereal diet, pulmonary conditions, bronchitis, and pneumonia accounted for 31 per cent. of all cases of sickness, tropical ulcers 33 per cent., and phthisis 6 per cent., compared with a percentage of 4, 3, and 1 respectively in the tribe with the meat, milk, and raw blood diet. In the latter tribe the chief disease was rheumatoid arthritis. There is obviously in these two tribes a correlation between the nature of the diet and the resistance to disease.

Some surveys on the incidence of disease in this country show a social distribution which indicates a possible connexion with diet. In a recent study in which the population was divided into five social classes, ranging from the professions and higher ranks of business to unskilled labour, it was found that at ages between 20 and 65 the death rate from respiratory diseases was 3.3 times, from heart disease 2.24 times, and from cancer

1.54 times as high in the fifth class as in the first class. There are here other environmental factors which complicate the issue, but the fact that the diets of the professions and higher ranks of business life are so much more varied and better balanced than the cheaper, carbohydrate-rich diet of unskilled labour, suggests that diet may be a factor, and warrants further study.

If malnutrition with increased susceptibility to certain diseases commonly exists, it should be possible to show that dietaries in common use are faulty. Unfortunately, we have too little information on the requirements for either vitamins or minerals, the two classes of nutrients to which our discussion has been limited. Nor have we much exact information as to the amount of intake of these nutrients. We have had many dietary surveys of the protein, fat, and carbohydrate intake, but very few on those dietary factors which we are finding of so much importance for health. One such survey, recently completed in Scotland, has yielded results which suggest that in a large proportion of families the diet does not supply a sufficiency of certain minerals to maintain the maximum rate of growth. In 607 families in the seven largest Scottish towns it was found that in only two cases was the energy value of the diet below 2,000 calories per man. There was thus no indication of any gross undernutrition. If we take Sherman's figures, however, which are almost the only reliable data we have on the subject, as a true indication of the requirements of the growing child for calcium and phosphorus, we find that there was a deficiency of calcium in 24.5 per cent. and of phosphorus in 23 per cent. of the dietaries. The position was worse in the case of iron. In 61.6 per cent. of families the amount of iron in the food was below that regarded by those who have worked on the subject as the optimum intake. In 41 per cent. of the families the protein intake, though sufficient for adults, was below the optimum requirement for growth in children.

We must not place too much importance on these findings, since far too little work has been done to enable us to know, with any degree of certainty, the requirements of the child for these food constituents. The results, however, appear to be of some significance when they are considered in the light of a test on the value of an increased consumption of milk in children drawn from the households of which the survey was made. In that test it was found that the addition of milk, either whole or separated, during a seven months' experimental period was accompanied by a rate of growth as indicated by increase in both height and weight about 20 per cent. greater than that in the children not receiving the extra milk. Clinical examination of the children showed that the increased rate of growth was accompanied by an improvement in the general condition. The improvement could not have been due to an increase in the number of calories, because it was found that in different groups of children who received carbohydrate and fat-rich biscuits of equal caloric value to the milk, there was no improvement in condition or increase in rate of growth. This is in accordance with the finding of the survey that the calorie intake was, on the whole, ample. It may be assumed that the effect of the milk was due to the fact that it supplied nutrients which the survey showed to be otherwise deficient.

CONCLUSIONS

We have here brought together some of the more striking results of experimental studies on animals and of observations on human beings, to illustrate the nature of the recent developments of our knowledge of nutrition in its relation to disease. It is obvious that the progress already made in this new field of study is of great importance in both preventive and therapeutic medicine. The principles of some of the results have been applied in stock farming, and have led to a reduction in disease and to increased output by farm stock. In human medicine the effects of their application on children, who are more likely to suffer from deficiencies than adults, are well known, especially as regards the cure and prevention of rickets and scurvy. The spectacular results obtained in the United States and Switzerland in the prevention of endemic goitre and cretinism by iodine medication, and such facts as the prevention of beri-beri by the improvement of rations through the substitution of unpolished for polished rice, are now common knowledge. The recent work on the influence of the acid-base ratio of the diet on chronic nephritis gives an interesting example of the application of nutritional science to therapeutic ends.

The potential value of the information acquired from the research work we have described, as well as the practical results, give every encouragement to extend our studies. Some of the lines along which work should be conducted are clear. We need more information dealing with the amounts of different nutrients required for optimum growth in children, and for the maintenance of health, and also as to the amounts of these nutrients present in dietaries in common use. A concerted international effort to elucidate whether there is a correlation, and, if so, to what extent, between dietary habits, physique, and incidence of disease in the different populations throughout the world would yield results of fascinating interest. The League of Nations has recently carried out a survey of the diet of Japan in relation to beri-beri. The wider problem of the world correlation between diet and health appears to be of sufficient importance to warrant the attention of that council.

In addition to such dietary studies, an urgent need exists for more clinical research on nutritional lines. There are a number of diseases of which the main symptoms are those of disturbance of the normal digestive or metabolic processes—for example, gastric and duodenal ulcers, constipation and its sequelae, rheumatism, anaemias, high blood pressure, and cardiac and nephritic disorders. The etiology of these remains obscure. It has been suggested that they originate in long-continued errors of diet. As a matter of fact, we have very little definite evidence to show to what extent hereditary, nutritional, and other factors are involved. An extended series of studies of previous nutritional histories, of the condition of the circulating fluids, and of the influence of dietary factors on the course of these diseases might throw much-needed light on their etiology.

Future advances in the study of nutrition as applied to human medicine will undoubtedly be made through team work, especially of biochemist, immunologist, and clinician. An essential feature of such work should be the co-ordination of research on the larger domestic animals with that on human beings. The main problems are essentially the same in both fields, and, indeed, some of the diseases on which more work is urgently required are common to man and the higher mammals. For example, osteoarthritis is as common in the horse as in man, and simple goitre appears to occur in all mammals in certain areas where its distribution is coincident with that of endemic goitre in the human population. The nutritional factor in resistance to tuberculosis, which is now recognized as being of importance in human medicine, is equally important in the dairy cow. It is to be hoped that, in the future, in those comprehensive studies which are initiated or supported by the State, there will be co-operation, not only between individual workers in different branches of science, but also between medical and veterinary research institutions and organizations.

THREE CASES OF PSITTACOSIS WITH TWO DEATHS

BY

H. R. FISHER, M.B., CH.B.LIVERP.

AND

R. J. HELSBY, *M.C.*, L.R.C.P., L.R.C.S.ED.

It has been generally accepted that psittacosis is usually caused by contact with parrots, and it must be admitted that the human cases of the disease that were being so regularly reported in the medical journals during the early part of 1930 appeared to cease after the regulations of the Ministry of Health prohibiting the importation of parrots came into force in May of that year. The small outbreak described below suggests, however, that psittacosis may still be occurring unrecognized, and that the possible contact with birds of patients suffering from symptoms suggestive of an atypical pneumonia or enteric fever should not be overlooked, especially as these three cases show the very real danger of human case-to-case infection in psittacosis.

We were fortunate in obtaining the collaboration of the Ministry of Health in the investigation of these cases, and also of Dr. Dorothy S. Russell and Dr. S. P. Bedson of the London Hospital, both of whom have kindly contributed notes on the pathological and bacteriological findings, which appear below; and we wish to record our appreciation of the assistance given to us.

On October 21st, 1930, one of us (H. R. F.) returned from a holiday and found that his locumtenent had been greatly puzzled by a case which eventually appeared to have been one of pneumonia.

CASE I

The patient, a lady, aged 45, on a visit with another lady, began to feel unwell on October 11th, the day after her arrival. During the first four days of her illness, the only symptoms were severe headache, pyrexia (103° F.), and quickened respirations; later she had constipation, followed, after a dose of Epsom salts, by a somewhat severe diarrhoea. She also had attacks of epistaxis both in the early days and later in her illness. After the fourth day signs of pneumonia developed at the angle of the right scapula; there was little cough, no sputum, and no dyspnoea. This condition persisted until October 19th, when the temperature began to fall. By October 21st the temperature was normal and the patient felt pretty well. The signs of consolidation were quite marked in the region mentioned, and there were coarse crepitations. The temperature rose to 100° on the following evening, but came down in a few hours, and remained normal throughout her convalescence. The signs at the angle of the right scapula remained practically unchanged until October 28th, when they suddenly disappeared in one night. Her friends noticed that, during the acute period of her illness, the patient showed slowness and thickness of speech, though this was quite foreign to her usual condition. During convalescence her speech became normal, but she was able to remember very little about her illness.

CASE II.

Towards evening on October 26th the second lady, aged 35, who had slept in the same bed as the first patient, and had nursed her during the first week of her illness, felt unwell and shivery. On the following morning she was very drowsy, and suffered acutely from occipital headache and photophobia; her temperature was 102°, pulse 110, respirations 30. On October 28th her temperature rose to 104°; the headache and photophobia were still severe, and the patient said she felt as if her hair was being pulled. There were no physical signs, no cough, sputum, or dyspnoea. There was no tenderness anywhere except in the occipital region. The bowels were acting normally, and, except for some abdominal distension, she had no gastro-intestinal symptoms. On October 29th the temperature rose to 104.5°, the pulse was 116, and the respirations 30; the patient had some epistaxis, but her condition was much the same, except that the drowsiness and photophobia were less marked.

In the meantime it had been discovered, in the course of a chance conversation with the convalescent patient, that the ladies had an aviary at their home, and that the first patient had nursed a sick budgerigar for some days immediately preceding her illness. These facts, coupled with the suggestive course of the illness, prompted communication with the Ministry of Health.

On October 30th the temperature rose to 105°, the pulse was 118, respirations 30; there was slight impairment of note and diminution of the breath sounds at the angle of the right scapula. These signs became more pronounced during that day. On October 31st the temperature remained at 105° (there had been no remissions), respirations were 32, and the pulse varied between 102 and 120. The signs in the chest had become marked; there was bronchial breathing, dullness in the area already mentioned, and rales all over. Cough was slight, and there was no dyspnoea. The patient vomited a little, and started menstruating prematurely. S.U.P. 36 was given on this day with no result. This patient also showed some slowness of cerebration, and "wandered" during the night, though, when she finally understood a question, she answered intelligently but in a slow, hesitant manner. On November 1st the temperature was 104.5°, pulse 110, respirations 38; her condition was much the same. On November 2nd the temperature was 100° in the morning, with pulse 96, respirations 32; in the evening it was up again to 104°. On November 3rd and 4th the patient was worse; she took no interest in her surroundings, and moaned and sighed loudly for long periods; the first patient had also moaned a great deal. Her temperature was swinging between 99° and 104°. At midnight (November 5th–6th) the patient became collapsed; but the pulse soon strengthened and the temperature, pulse, and respirations began to fall until at 6 a.m. they were normal. She felt much better, and chatted in her usual way. That evening, however, the temperature rose to 102°, the pulse and respirations quickened, and she vomited. On November 7th the temperature was swinging between 99° and 104.5°, while the vomiting continued. On November 8th the patient became cyanosed, complained a great deal of epigastric pain, and died at midday.

It seems likely that this lady was infected by the previous patient, with whom she was in close contact during the first week of the latter's illness. Still, the possibility that she also came into contact with a sick bird before leaving home on October 10th cannot be entirely disproved; though, as she left home on October 10th and did not begin to be ill until October 26th, the incubation period was sixteen or more days. While this is not unknown, it is less usual than one of eight to fourteen days, a period coinciding with the time of her contact with an acutely ill patient.

CASE III

During the night of November 19th–20th, eleven days after the previous patient's death, a trained nurse, aged 63, who had been in attendance on both these cases, felt unwell. On November 20th she had epistaxis, and complained of frontal headache and vomiting. The pulse was 80, temperature 99.5°. On November 21st she was removed to hospital. This patient was undoubtedly infected by the patients she had been nursing; at no time had she been in contact with sick birds. During the first day after her admission into hospital there were no physical signs in the chest, but she vomited and was constipated; her temperature was 104° F., pulse 92,

respirations 30. On November 23rd there was dullness over the left lower lobe, with rales over the right side. The sputum was scanty and rusty. She complained a good deal of frontal headache, and had difficulty in swallowing. After November 24th she began to have incontinence of urine and faeces, which continued until her death. On November 26th there appeared to be paralysis of the left side of the body and the right side of the face, but this passed off in a couple of days. Gradually, however, nervous symptoms became more marked, together with abdominal tumescence, drowsiness, and symptoms generally reminiscent of typhoid fever. In fact, during the last five days of her life, the patient was in a typhoid state, more or less unconscious, and with a subnormal temperature. She died on the morning of December 3rd.

Two other nurses in attendance on the first two cases remained well, and there were no other cases in the home of the original patients.

SUMMARY

The sequence of events in these cases was as follows:

1. At the end of September or the beginning of October, 1930, patient No. 1 nursed a sick budgerigar.
2. October 11th, patient No. 1 fell ill when away from home on a visit. She eventually recovered, but as late as January 15th, 1931, was reported still to be suffering from insomnia, lack of energy, and occasional depression.
3. October 26th, patient No. 2 fell ill. She had nursed patient No. 1, had shared her bed, and was probably infected by her.
4. November 8th, patient No. 2 died.
5. November 19th, patient No. 3 fell ill. She was a hospital nurse in attendance on the previous patients from October 23rd, and was infected by them.
6. December 3rd, patient No. 3 died.

The source of infection of the budgerigar was not definitely traced. A number of other birds, budgerigars, foreign finches, and a blue and white canary, had died in the aviary from an unknown cause during September and the beginning of October, and the dealer who had supplied the birds admitted to deaths among the birds in his shop. Later on this dealer was found to have been importing budgerigars from the Continent, but he maintained that the birds he had sold to these ladies were home-bred.

SUMMARY OF NECROPSY (DECEMBER 4TH, 1930)

BY

DOROTHY S. RUSSELL, M.D.Lond.

RESEARCH ASSISTANT, PATHOLOGICAL INSTITUTE, LONDON HOSPITAL

Haemorrhagic broncho-pneumonia of lower lobe and of lower third of upper lobe of left lung. Early broncho-pneumonia of lower lobe of right lung. Congestion and emphysema of lungs. Anthracosis, engorgement, slight subacute inflammation and sinus catarrh of bronchial lymph glands. Acute and subacute inflammation without enlargement of spleen. A few streaks of submucous haemorrhage in caecum close to ileo-caecal valve. Slight injection of mucosa throughout intestinal tract. Slight fatty degeneration of myocardium. Considerable ischaemic atrophy of kidneys. Albuminous degeneration of tubular epithelium in kidneys; fatty degeneration of a few groups of second convoluted tubules. Severe degeneration of hypertrophied media and intima in large and small arteries. Ante-mortem thrombus adherent to ulcerated intima of anterior wall of very atheromatous abdominal aorta 3 cm. above bifurcation. Focal microscopic areas of bone formation in atheromatous and calcified intima beneath thrombus. Foramen ovale closed. Cardio-vascular hypertrophy. Focal ischaemic fibrosis of myocardium. Very severe atheroma of coronary arteries. Almost complete obliteration of right coronary artery by calcareous atheroma 1 cm. from its origin. Small area of softening and gliosis in right pulvinar. Area of gliosis and infiltration with pigment granule cells in ventral border of optic thalamus. A few petechial haemorrhages in basal ganglia. Congestion of brain. Central congestion of lobules of liver. Slight back pressure congestion of kidneys and spleen. Pitting oedema of left leg. Ante-mortem thrombosis of left femoral vein at brim of pelvis. Slight fatty infiltration of parenchyma and conspicuous fatty infiltration of Kupffer cells in liver. Fine granules of lipochrome in centres of lobules of liver and in myocardium. Brown atrophy of thyroid gland. Fibrous peritoneal adhesions between omentum and loops of small intestine obliterating pouch of Douglas. Slight focal chronic perisplenitis. Slight dilatation and injection of pelvis of right kidney. Aberrant branch of right renal artery entering lower pole of right kidney. Pancreas and suprarenal bodies normal. No macroscopic abnormality in muscles of abdominal wall. No enlargement of Peyer's patches or of solitary follicles.

MACROSCOPIC APPEARANCES

Lungs.—There was considerable injection of the trachea and bronchi. The pleural sacs contained no free fluid. Both visceral and parietal layers of the pleura were uniformly smooth and glistening. The lungs appeared small and congested. The upper lobes were conspicuously emphysematous, while the lower lobes felt boggy and slightly crepitant. The lower lobe of the left lung was heavier and fuller than the right, and felt unevenly nodular. On section the right lung appeared very congested. The upper and middle lobes were emphysematous. In the lower lobe there were numerous small, irregular, apparently peribronchial, areas of haemorrhage; there was no evidence of bronchitis or of consolidation; a little blood-stained frothy fluid exuded from the cut surface on pressure, and the tissue was aerated and floated in water. The left lung, on section, appeared different. With the exception of the upper two-thirds of the upper lobe the lung looked less aerated. At the apex of the lower lobe was an area of rather firm, swollen, finely granular, dusky, pinkish-grey consolidation. No fluid was expressed from this by gentle pressure. A similar area occupied the adjacent middle third of the upper lobe. In the remainder of the lower lobe there were numerous, sometimes confluent, finely granular areas of pinkish-grey peribronchial consolidation lying in a haemorrhagic ground. Dirty greyish-yellow slime exuded from the centres of these areas on pressure. The intervening lung tissue was deeply congested, and on pressure exuded a little fluid and very little air.

Bronchial Lymph Glands.—These glands were small and firm. The cut surfaces were flat and grey, and mottled with deposits of soot.

Spleen.—The spleen was small and moderately elastic. The capsule over the diaphragmatic surface showed a few irregular patches of fibrous thickening, between which were numerous pin-point glistening fibrous granulations. On section the cut surfaces were flat and firm. The trabeculae were easily seen, but the Malpighian bodies were indistinguishable. The pulp was a dull pink mottled with numerous small patches of deep red. There was no macroscopic evidence, therefore, of inflammation.

MICROSCOPICAL APPEARANCES

Lungs.—Blocks from the right lower lobe, the consolidated areas in the middle third of the left upper lobe and the apex of the left lower lobe, and from the broncho-pneumonic part of the left lower lobe, were taken for examination. In the right lower lobe some bronchioles were partly or completely filled with red corpuscles; most were filled with necrosed desquamated epithelium, ghosts of round cells, amorphous granular lumps, a few red corpuscles, and masses of cocci and bacilli. A few alveoli at the periphery of the section were emphysematous or partly collapsed; the remainder were filled with albuminous coagulum and a few red corpuscles, occasionally with many red corpuscles. They contained no fibrin, but everywhere were large numbers of Gram-positive cocci and Gram-positive and Gram-negative bacilli. Of these,

streptococci were the most abundant. In a few places were groups of Gram-negative bacilli of the influenza type. Immediately round some of the bronchioles the alveolar walls were necrosed and contained brown pigment. The pleura was unchanged. In the apex of the left lower lobe the bronchioles were either filled or lined with albuminous coagulum, desquamated epithelium, and red corpuscles, or a similar exudate containing neutrophil leucocytes. The walls of the bronchioles were very congested, and conspicuously infiltrated with large mononuclear cells, neutrophil leucocytes, and small lymphocytes. A similar infiltration was seen in the septa of the lung. The respiratory bronchioles occasionally contained coagulum and red corpuscles alone, but usually they contained numerous neutrophil leucocytes. Some of the adjacent alveoli were also crowded with neutrophil leucocytes, but mostly they showed coagulum, red corpuscles, a few neutrophil leucocytes, and desquamated epithelial cells, many of which were remarkably large. Other groups of alveoli were stuffed with red corpuscles, and were less distended. The distribution of these haemorrhagic areas appeared fortuitous: occasionally they encircled bronchioles or respiratory bronchioles, but in other instances they were of larger size and did not appear to have any special relationship to other structures. In these larger areas there were often poorly defined foci in which the alveolar walls were necrosed. Very little fibrin was present. The tissue was crowded with a great variety of Gram-positive and Gram-negative cocci and bacilli, among which streptococci were predominant. In one small area many minute bacilli resembling the influenza bacillus were present. The pleura was not affected.

In the lower part of the left lower lobe there was great distension of the bronchioles and respiratory bronchioles with neutrophil leucocytes, and sometimes with red corpuscles as well. The walls of the bronchioles were engorged and infiltrated as in the section from the apex already described. There was great purulent infiltration of the alveoli about the bronchioles, and around these was an outer zone in which the alveoli were slightly collapsed and occupied by albuminous exudate, red corpuscles, and occasionally a little fibrin. In other peripheral areas the alveoli contained less blood and more numerous neutrophil leucocytes and large epithelial cells. In some of the more haemorrhagic areas there was necrosis of the alveolar walls. Organisms were abundant as before. In the left upper lobe many of the bronchioles were empty; a few contained purulent exudate. Their walls were congested, but were less heavily infiltrated with cells than in the lower lobe. The respiratory bronchioles were distended with neutrophil leucocytes, and about these the alveoli were conspicuously infiltrated with neutrophil leucocytes, mononuclear leucocytes, desquamated epithelial cells of the remarkably large size seen in other sections, and a few red corpuscles. These pneumonic areas were sometimes confluent. In other places the alveoli were less distended and filled either with red corpuscles or with bubbly coagulum and occasionally a little fibrin. The septa of the lung were infiltrated with many neutrophil leucocytes and large lymphocytes. A great many organisms were present throughout the tissue as before. The pleura was unaffected.

Lymph Nodes.—The left bronchial lymph nodes were considerably engorged, and in a few places there were minute haemorrhages. Many large lymphocytes and plasma cells were present in the lymphadenoid tissue, but there was no emigration of leucocytes. There was an increase in the number of endothelial cells in the sinuses, and many had been desquamated. The glands contained considerable deposits of soot.

Spleen.—In a section of the spleen there was focal engorgement of the pulp. In the venous capillaries or sinuses there was an excess of neutrophil leucocytes and some large macrophages, a few of which contained red corpuscles. There was also an infiltration of the Malpighian bodies with neutrophil leucocytes. These were found round the central arteries and in the periphery, where they were accompanied by a few eosinophil leucocytes. In the pulp strands there were many plasma cells and large lymphocytes, a considerable number of neutrophil leucocytes, and a few macrophages. There was severe hyaline degeneration of the media and intima of the arterioles.

Discussion

The condition present in the lower lobe of the right lung appeared to be an early broncho-pneumonia. The necrosis associated with brown pigmentation of the contents of the bronchioles and of adjacent alveolar walls was probably due to acid digestion. The broncho-pneumonia may have been due to the inhalation of stomach contents before death, or it may have been an early stage of the condition seen in the apex of the left lower lobe complicated after death by acid digestion. In the left lung there was a broncho-pneumonia, characterized by purulent bronchiolitis of respiratory rather than of larger bronchioles, and a pneumonia which began with haemorrhage and marked albuminous exudate and later became leucocytic. There was extremely little fibrin formation and no thrombosis of vessels. The changes present in the apex of the lower lobe appeared to represent a stage earlier than those seen in the lower part of the left lower lobe and in the upper lobe. The pneumonia differed from an ordinary broncho-pneumonia in the absence of any marked degree of collapse, in the great abundance of albuminous and haemorrhagic exudate, and in the predilection of the inflammation for the respiratory bronchioles. It differed from a pneumonia in the concentration of the inflammatory reaction about the respiratory bronchioles. The presence of such large numbers of bacteria in all the sections could be explained by the lapse of over twenty-four hours between the time of death and the necropsy without storage of the body in a cold chamber; and also, perhaps, by the inhalation of stomach contents immediately before death. The great variety of bacteria found in the tissues made the task of identifying the pathogenic organism a hopeless one.

There was only a slight subacute inflammation of the bronchial lymph glands. The absence of enlargement of the spleen suggested that the acute inflammation found on microscopical examination was early and therefore a terminal event. The inflammation was probably due to a bacterial invasion of the lungs in the later stages of the illness. The septicaemia, therefore, was probably a late event. The only evidence of toxaemia was the presence of a little fatty degeneration of the myocardium, and albuminous and slight fatty degeneration of the kidneys. There was therefore little evidence of toxaemia.

A contributory cause of death may be found in the condition of the cardio-vascular system. Necropsy revealed extreme degeneration of the arteries and hypertrophy of the heart. In addition, there was almost complete occlusion of the right coronary artery by atheroma. Microscopically there was hypertrophy of the myocardium and of the muscular arteries, associated with very severe degeneration of both media and intima. In the abdominal aorta a section of the wall taken through a mass of adherent ante-mortem thrombus showed foci of bone formation in the degenerated intima. Further, the arterial change was correlated with ischaemic fibrosis of the myocardium and kidneys, and with microscopic patches of softening, gliosis, and rusty pigmentation in the basal ganglia. A moderate degree of terminal heart failure was indicated by the central congestion of the hepatic lobules, and slight congestion of spleen and kidneys, and perhaps by the few recent petechial haemorrhages in the brain. Ring-haemorrhages, evidently of toxic origin, have been observed in this laboratory in two brains from cases of *psittacosis* (Sturdee and Scott, 1930). The haemorrhages in the case under discussion were exceedingly scanty, were not ring-haemorrhages, and were associated with evidence of a few old haemorrhages. It is probable that they were due to the chronic vascular

degeneration, and not to an acute toxic change. The slight degree of fatty degeneration of the myocardium has already been quoted as evidence of toxaemia. It might, however, be argued that the degeneration was the sequel and not the precursor of the heart failure. The short duration of the heart failure, as estimated by the microscopical as well as the macroscopical changes in the organs, does not support such an argument. The thrombosis of the left femoral vein may either have been secondary to the heart failure or it may have been caused by the action of the psittacosis virus. Some support for the latter view lies in the finding of extensive pulmonary thrombosis by Turnbull (1930) in the first case of this disease reported from the London Hospital.

The conclusion drawn from the examination as a whole is that death was caused by a haemorrhagic broncho-pneumonia, acting upon a subject in whom the cardio-vascular system was already greatly impaired by degeneration.

The inflammation of the lung resembled that described in the first case of psittacosis examined in this hospital in the abundance of albuminous and haemorrhagic exudate and the presence of conspicuously large desquamated epithelial cells; but it differed in being a broncho-pneumonia rather than a pneumonia, in the almost complete absence of fibrinous exudate, in the absence of capillary and arterial thrombosis, and in the presence of bacteria in great number and of great variety. It was also complicated by acid digestion.

In impression preparations made from the spleen and stained by Giemsa the elementary virus bodies described by Levinthal, Lillie, and Coles were found.

NOTE ON THE BACTERIOLOGICAL FINDINGS IN THE ABOVE OUTBREAK OF PSITTACOSIS

BY

S. P. BEDSON, M.D., M.Sc.Dunelm.

SENIOR FREEDOM RESEARCH FELLOW

(From the Hale and Dunn Clinical Laboratories, London Hospital)

The material received for examination consisted of: (1) blood from patient No. 2; (2) a budgerigar (*Melopsittacus undulatus*) belonging to patients Nos. 1 and 2; and (3) organs obtained post mortem from patient No. 3.

Blood of Patient No. 2.—This was collected in an equal amount of 2 per cent. citrate on November 3rd, 1930, the seventh day of disease. It was received in the laboratory November 5th, and proved to be free from cultivable bacteria. Two mice, M. 235 and M. 236, were inoculated with this citrated blood, each animal receiving 0.5 c.cm. subcutaneously and 0.5 c.cm. intraperitoneally. One mouse, M. 236, died on the thirty-fifth day after inoculation, the other was killed when very ill on the thirty-sixth day. The post-mortem findings were in keeping with the death having been due to the virus of psittacosis. The spleen of Mouse 236 was suspended in 5 c.cm. tyrode and proved to be free from cultivable bacteria. Two mice, M. 255 and M. 256, inoculated intraperitoneally with 0.5 c.cm. of this suspension on December 11th, are still alive and well, February 23rd, 1931.

The Budgerigar B. 157.—This bird, belonging to patients Nos. 1 and 2, and nursed by patient No. 1 before her own illness, had been suffering from diarrhoea, and though it was in fair condition when seen by Dr. Sturdee of the Ministry of Health, November 3rd, he decided to have it killed and examined for the presence of psittacosis virus. Post-mortem examination of the bird showed injection of the intestines, a chamois-leather liver (fatty change), and enlargement of the spleen. The lungs appeared normal. The spleen and a small portion of liver—0.25 gram in all—were suspended in 5 c.cm. N/50 phosphate *p*H 7.6. The suspension was [illegible] sterile, and two mice were inoculated with it. The results obtained in this primary transmission experiment and subsequent passages are given in Table I.

TABLE I

Passage	Material	Mouse	Result
Primary transmission	Suspension of spleen and liver of budgerigar in phosphate; unfiltered; culturally sterile	M.233	Killed, moribund, tenth day
		M.234	Killed, very ill, tenth day
1st passage	Spleen of M.233 suspended in 10 c.cm. tyrode; filtered Chamberland L1 bis	M.241	Died seventh day.
		M.242	Killed, moribund, seventh day
2nd passage	Spleen of M.242 suspended in 5 c.cm. tyrode; unfiltered; culturally sterile	M.249	Died fifth day
		M.250	Killed, moribund, fifth day
3rd passage	Spleen of M.250 suspended in 5 c.cm. tyrode; unfiltered; culturally sterile	M.257	Killed, moribund, third day
		M.258	Ditto
4th passage	Spleens of M.257 and M.258 suspended in 10 c.cm. tyrode; unfiltered; culturally sterile	M.261	—
		M.262	Killed, very ill, fourth day
5th passage	Spleen of M.252 suspended in [illegible] culturally sterile	M.275	Killed, very ill, fourth day
		M.276	Ditto
6th passage	Spleens of M.275 and M.276 suspended in 10 c.cm. saline; unfiltered	M.281	Killed, very ill, fourth day
		M.282	Died fourth day
7th passage	5 [illegible]	M.287	Ill, second day, still under observation
		M.288	Ditto

Post-mortem Material from the Nurse (Patient No. 3).—This consisted of lung, liver, and spleen obtained at the post-mortem examination carried out by Dr. Dorothy Russell. A 5 per cent. suspension in tyrode made from the pooled organs gave a copious growth of a variety of organisms accounted for by the presence of numerous secondary invaders in the lung. This suspension was filtered through a Chamberland L1 bis candle, and two mice, M. 253 and M. 254, were inoculated with the filtrate, each receiving 1 c.cm. intraperitoneally. Both mice became ill ten days after inoculation. One, M. 254, died on the twentieth day, the other recovered. The spleen of M. 254 was suspended in 5 c.cm. N/50 phosphate *p*H 7.6, and proved to be free from cultivable bacteria. With this suspension further mice were inoculated, with a fatal result, and the strain has now been carried to the tenth generation in mice. This strain rapidly increased in virulence, and from the fifth passage onwards killed mice in two days. This is a point of some interest, for the great majority of human strains of psittacosis virus never attain any high degree of virulence and are difficult to maintain.

Identification of the Strains of Virus by the Neutralization Test.—The death of the two mice inoculated with the blood of patient No. 2 was in all probability due to psittacosis virus, but positive passage was not obtained; so this point remains unsettled. The two strains of virus, B. 157 and "Bangor" obtained from the budgerigar and the organs of the nurse (patient No. 3), were almost certainly psittacosis virus; but in order to settle this point beyond dispute the effect of neutralization with a specific serum was determined. The serum employed was one produced in mice, M. 176, M. 177, and M. 178, with a strain of virus "G.B." isolated from budgerigars. Previous work (Bedson and Western, 1930) had shown that this serum neutralized not only the homologous strain, but a strain isolated from a parrot and one from a Java sparrow as well. Mixtures of serum and virus (spleen suspension in saline) were made in which the final concentration of serum was 1 in 100, and the concentrations of virus 1 in 1,000 and 1 in 10,000. These mixtures were allowed to stand at room temperature and then inoculated intradermally in the guinea-pig in a dose of 0.2 c.cm. At the same time titrations of the two viruses were made in the same animal. The results of this experiment are given in Table II. The signs denote the degree of reaction in the guinea-pig's skin.

The strain "Bangor" is obviously the stronger, and probably the end point was not reached, but the strain B. 157 would certainly have gone no further than the 1 in 10,000 dilution. The serum therefore neutralizes approximately 100 m.l.d. of each strain of virus, a finding in

keeping with previous titrations of this serum with other strains of psittacosis virus (Bedson and Western, 1930).[1] Thus proof is forthcoming that the two strains B. 157 and "Bangor" are immunologically identical, and that they are strains of psittacosis virus.

TABLE II

Virus	Treatment	Dilutions of Virus		
		1 in 100	1 in 1,000	1 in 10,000
B 157 ..	Virus in saline (titration)	+	±	∓
	Virus with immune serum M.176, M.177, and M.178	−	−	
Bangor	Virus in saline (titration)	++	+	±
	Virus with immune serum M.176, M 177, and M.178	∓	−	−

CONCLUSIONS

Certain points arise out of the consideration of these cases. First, psittacosis is still liable to occur in this country, and should be borne in mind when one or more patients in a household are found to be suffering from an influenzal type of illness, with early signs in the lungs and perhaps some typhoid-like symptoms, such as epistaxis, abdominal distension, vomiting, constipation, or diarrhoea. Especially should such a diagnosis suggest itself if influenza is not prevalent in the surrounding neighbourhood at the time. Secondly, parrots are not the only birds which cause psittacosis in man. In the report of the Ministry of Health,[2] lovebirds, thrushes, and canaries, among other birds, are stated to have been the cause of human illness. It is apparently not certain how many types of birds suffer from diseases communicable to man, so the fact that a patient keeps birds should probably always arouse suspicion in doubtful cases of human illness. Certainly all bird keepers should take care always to wash their hands after attending to the birds, and especially before taking food. Thirdly, an unusual factor in the cases described in this article is that three generations of human psittacosis followed from the original sick budgerigar. Cosman, quoted in the Ministry's report, mentions a woman who caught psittacosis from a patient she nursed and afterwards infected her own child, but such a sequence is sufficiently unusual to be worth noting. Fourthly, the infection of a trained nurse in the course of her ordinary duties shows the care required in dealing with psittacosis, and incidentally, therefore, the necessity of early diagnosis of the disease. The nurses attending on these patients were warned to treat them like cases of typhoid, and this is probably all that can be done. So far as is known, this is the first instance in this country of the infection of a hospital nurse with psittacosis by her patient, and, even so, two out of the three nurses in attendance escaped the disease.

REFERENCES

[1] Bedson, S. P., and Western, G. T.: *Brit. Journ. Exper. Path.*, 1930, ii, 502.

[2] *Public Health and Medical Subjects*, No. 61, H.M. Stationery Office.

A CASE OF CEREBELLAR ABSCESS

BY

COURTENAY YORKE, M.D., F.R.C.S.

AURIST AND LARYNGOLOGIST TO THE LIVERPOOL STANLEY HOSPITAL

Cerebellar abscess is not a very rare condition, and recovery occurs after operation in a small percentage of cases. It is thought, however, that the following case may be of sufficient interest to report, on account of its dramatic course, and also because of important considerations of treatment that it raises.

CLINICAL HISTORY

On January 8th, 1931, Dr. A. Moscrop Walker of Wallasey asked me to see, in consultation, a girl, E. M. T., aged 13, who had acute middle-ear suppuration, with involvement of the mastoid. I was informed that the ear infection had set in suddenly at a boarding school a fortnight previously, and that there had been no antecedent ear trouble. The mastoid symptoms were only of a few days' duration. On examination I found the left ear discharging. There was also tenderness and swelling over the mastoid and above the ear. The pulse rate was 120, and the temperature 99.4° F. The patient was moved to the Wallasey Cottage Hospital, and an operation was performed the same night.

The entire mastoid was in a condition of acute osteitis, and there were numerous small collections of pus scattered throughout the mastoid cells. There was also pus in the mastoid antrum. The mastoid was widely opened, a large rubber tube being used for drainage.

The patient was more comfortable after the operation, and for the first five days appeared to be progressing satisfactorily. It was observed, however, that she was rather apathetic and disinclined for food, but no special misgiving was felt on that account. On January 14th she vomited twice and became more lethargic, but there was no headache, and the temperature and pulse were normal. Later in the day she refused food, and during the night passed rapidly into a semi-comatose condition, with occasional meningeal cries. On the following day the coma deepened and she responded to questions in monosyllables only, and after long delay. She lay curled up on the right side. Incontinence was present. The eyes were half open, fixed, and staring. The pupils were unequal, and the right one was a little irregular in outline. The right eye was very slightly deviated downwards and outwards. There was no nystagmus and no papilloedema. The mouth was open and the tongue dry and furred. The temperature was 97.5°, and the pulse rate 76.

The case appeared to be one of brain abscess, but whether in the cerebrum or cerebellum it was impossible to say. Under ether anaesthesia the temporo-sphenoidal lobe was explored, without pus being found. The more difficult exploration of the cerebellum was then commenced, but before the dura mater of the posterior fossa was exposed, the condition of the patient became so alarming that the operation had to be rapidly terminated.

On January 16th the coma was deeper and the patient could not be roused. Lumbar puncture was performed, and 10 c.cm. of clear cerebro-spinal fluid was withdrawn under pressure. It was decided to make a further attempt to explore the cerebellum. A general anaesthetic being out of the question, 1/6 of a grain of morphine was given hypodermically, and the operation of the previous day was resumed as the patient lay in bed. An area of dura mater, the size of a sixpence, in front of the lateral sinus, was at length exposed. The dura was incised and a knife inserted into the cerebellum to a depth of one inch in different directions, but without result. A Record syringe with a stout needle was then tried, and at a depth of one and a half inches one drachm of pus was withdrawn. A small rubber tube, the width of a slate pencil, was used for draining the brain abscess. It was stitched to the skin to prevent displacement.

The withdrawal of pus was immediately followed by deeper breathing. The coma lifted slowly and consciousness was not fully restored for two days. Incontinence continued for nearly a week. When the patient was sufficiently conscious to co-operate in the eye tests, the changes observed were as follows: (1) nystagmus, on movement of the eyes to the left; (2) conjugate deviation of both eyes to the right, in the normal resting position; (3) diplopia, the right eye was inclined downwards and outwards; (4) the eyes had a fixed, staring appearance, spontaneous movements were very limited, and the patient was unable to move the eyes together in different directions and hold them there. She did not experience any

vertigo, and there was no homolateral weakness of the limbs or muscular inco-ordination.

On January 18th the use of the tube was discontinued, the discharge having ceased. It was thought that the tube might be obstructing the sinus, and the latter was kept open by fine forceps during the next two days. Between January 20th and 29th, apart from a quick pulse and a moderate pyrexia, there were all the indications of excellent progress. The eye changes disappeared except the nystagmus, incontinence ceased, and the appetite was fully restored. The mind was clear and animated. On January 31st a sudden relapse occurred, and the patient became rapidly comatose again. The tube was reinserted, but for several days she remained in a moribund condition, and could not be induced to swallow more than an occasional teaspoonful of water. Hiccup was a prominent symptom at this stage.

After these critical days had passed rapid improvement set in. The pulse and temperature remained normal and progress was uninterrupted. The tube drained freely and was left in for a fortnight, until it could no longer be inserted.

During the whole of this period the tube was taken out for cleaning twice daily. It remained, however, stitched to the skin all the time, so that there was no uncertainty in reintroducing it to the proper depth. The girl was able to get up on February 19th and returned home on February 25th. Since then she has made unremitting progress. The nystagmus disappeared in a week or two. Now, at the end of April, she is in vigorous health and entirely free from any ill effects of her serious illness.

CONCLUSIONS

The conclusions to be drawn from this case are:

1. That brain abscess may develop insidiously, and that the first intimation may be incipient coma.

2. That a hypodermic syringe may discover pus when other means fail.

3. That drainage should be continued as long as possible; for this purpose a very small tube may be adequate, the pus escaping alongside it rather than through it.

THE TECHNIQUE OF SURGICAL DIATHERMY

DESCRIBING A NEW ELECTRODE

BY

ALBERT EIDINOW, M.B., B.S.

HONORARY PHYSICIAN TO THE LONDON LIGHT AND ELECTRIC CLINIC, VICTORIA, S.W.

The electric current employed in diathermy treatment and for surgical operations is of the nature of a high-frequency current. D'Arsonval (1895) showed that an alternating electric current, making and breaking about 15 times per second, would produce clonic contraction of isolated muscle preparations when tested *in vitro*. When the frequency of the current was increased 20 to 30 times per second tonic spasm was observed. The severity of the muscular contraction was augmented as the frequency was increased up to 300 cycles per second. Beyond this optimum the response of such muscle preparations to electrical stimuli diminished, and at about 10,000 times per second muscular spasm ceased and heat was developed. Electric currents which oscillate at 10,000 times per second are known as high-frequency currents; they have an entirely separate physiological action on tissues, as they cause heating, in contrast to lower frequency currents, which cause muscular contraction.

HIGH-FREQUENCY CURRENTS IN DIATHERMY

High-frequency electrical currents which are employed in diathermy or for surgical operations are obtained by means of coils and condensers. The main alternating current supply of 100 to 250 volts, and frequency of 50 to 60 cycles per second, is connected to the primary coil of a transformer; by this means a high voltage alternating current is developed in the secondary coil, which is connected to a series of condensers storing up the electrical charge until the voltage is sufficiently high to cause discharge through a spark-gap. The condensers are immediately recharged, and the process is repeated. With modern diathermy apparatus these oscillations are continuously maintained. The oscillating high-frequency current is taken up by a resonance coil of low resistance, and a second circuit is connected to the patient, which, when properly applied, produces the effects of diathermy. In place of the spark-gap, thermionic valves, three-electrode valves, or grid valves may be employed; these give a smoother current, which is perfectly continuous, but have the disadvantage that they are fragile and costly; further, they cannot carry a very heavy load of current. By such methods it is possible to obtain a high-frequency current of 3,000,000 cycles per second. Currents of electricity travel at a constant speed of 300,000 kilometres per second, but the nature of the wave-length transmitted varies with the frequency. Thus, a wave-length of 300 metres corresponds to a frequency of 1,000,000 cycles per second. The nature of the vibration of an oscillating current may be similar to the motion of a vibrating violin string, or it may be a series of undulating waves of uniform magnitude. The former are called damped oscillations, and the latter undamped oscillations. The thermionic valve apparatus emits a continuous flow of undamped oscillations; the apparatus containing spark-gaps produces damped oscillations. Each type of high-frequency current, differing in wave-length, causes variable reactions when applied to living tissue. The biological action of high-frequency current depends upon: (1) the intensity or amperage; (2) the tension or voltage; (3) the frequency of wave-length; (4) the nature of the oscillations; (5) the size of the electrodes; and (6) the electrical conduction of the living tissue. The amperage, voltage, and frequency directly control the intensity and dissipation of electrical energy, and therefore regulate the quantity of energy in terms of electricity or heat. As the amperage is increased the voltage and frequency diminishes; and, as a result, a heavier diffused current is generated, which is suitable for coagulation of tissues, and has greater power of penetration.

SURGICAL DIATHERMY

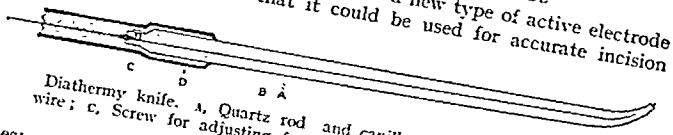
As a rule two electrodes are necessary for surgical diathermy. A large indifferent electrode is attached to a big area of the skin of the limbs or abdomen, and allows a wide path for the current to be generated to the body. This is discharged at the point of contact with the second active electrode. The size of the electrodes are directly proportional to the conduction of heat. Therefore a pin-point electrode will cause a discharge of electrical energy over a small area and result in rapid destruction of tissues by coagulation; whereas a larger plate electrode will have a generally diffused temperature effect over a wide area, which will not be sufficient to destroy tissue, but will only generate heat. The latter is the principle involved in therapeutic uses of diathermy. In order to obtain a maximum effect of deep penetration, a long wave-length current is applied by generating electricity at a high amperage, low voltage, and low frequency of damped oscillations. The maximum warmth the patient will tolerate is carried to the site of application by two large lead plates, copper foil or mesh, which are employed as the active electrodes.

Coagulation and Excision Technique

In surgical diathermy high-frequency currents are employed in two ways: (1) for the destruction of tissue by coagulation; and (2) for direct excision, similar to excision by a surgical knife. For coagulation, the active electrode is, as a rule, a small metal button or ball of varying shape and size, attached to an insulated handle and rubber-covered flex. The whole should be designed so that it can be completely sterilized. The extent and depth of coagulation is regulated by: (1) the intensity of the diathermy current; (2) the time the electrode is in contact with the tissues; and (3) the nature of the electrical conductivity of the tissues. For this purpose spark-gap diathermy apparatus is superior, as it permits a heavier load of current to be generated. This is desirable when coagulating large areas of diseased tissue. A current of relatively high amperage (1 to 20 amperes), low voltage and low frequency (under 1,000,000 cycles per second) is employed. Firm pressure should be applied, and the diseased tissue should be slowly coagulated. If too much current is employed, sparking, fulguration, and haemorrhage will result, which will rapidly cause a charred dry scab, as this is a poor conductor, it will inhibit the passage of further current; by consequence there will be only a superficial destruction of tissue, the diseased parts of which will remain within the depth of the lesion. In coagulation technique a "white reaction" should be obtained rather than a black eschar. After the coagulation operation is completed, it may at times be necessary to fulgurate the surface of a lesion, or the coagulated region may be completely excised by the cutting current and the excision technique. At first the active electrode should be firmly applied to the diseased tissue; the apparatus is then switched on with the indicator dial at the zero mark, and the current is gradually increased until "white coagulation" can be seen spreading around the margin of the electrode; the switch is then turned off and the electrode is moved, and a further area of diseased tissue is coagulated in a similar manner. If the active electrode is applied with too heavy a load of current passing through, only charring and sparking of the surface layers will result, and the deeper layers will not be heated. Similarly, sparking will occur if the active electrode is suddenly released before the apparatus is switched off. The depth of coagulation can be controlled by regulation of the intensity of the current, by the size of the active electrode, and by the time it is in contact with the tissues. Whenever it is practicable, coagulation should be continued until it can be seen that it has penetrated throughout the depth of the diseased tissue to the surface layer of the healthy tissue. Rapid coagulation, the use of small electrodes, or excessive current are to be avoided. The coagulation may be further controlled by the use of a thermo-couple embedded in a hollow needle, and in this way the temperature at any given region can be recorded by observation of the deflection of the needle of a sensitive galvanometer. Cutting tissues by means of the diathermy current involves a technique which is different from the methods of coagulation. A diathermy current of short wave-length, low amperage (100 to 200 milliamperes), higher voltage (4,000 to 8,000), and a frequency of 3,000,000 oscillations per second is usually generated. The active electrode is a fine needle or a wire loop. The object of such operations is to cut tissues cleanly with the minimum diffusion of coagulation beyond the limits of the incised area. In this way a bloodless incision is attempted, which, after suture, should heal by first intention. Many types of active cutting electrodes have been described. Many of them are too long and do not allow the depth of incision to be controlled. Others are too thick, and cause diffused coagulation.

AUTHOR'S CUTTING ELECTRODE

Recently I have designed a new type of active electrode (see Fig.) so that it could be used for accurate incision



Diathermy knife. A, Quartz rod and capillary bore; B, Molybdenum wire; C, Screw for adjusting free end; D, Rubber tubing.

and dissection of tissue with the same safety as the surgeon's scalpel.

This electrode consists of a molybdenum wire which projects 2 mm. beyond a quartz rod. This quartz rod is about 9 inches long and is tapered and bent at its end; a capillary hole is bored throughout its whole length, and the molybdenum wire is threaded through the fine hole and projects for 1 to 2 mm.; this can be regulated and adjusted by a clamping screw. The molybdenum wire is connected to some copper flex, which is covered by rubber tubing throughout its whole length, and is attached to the outer wall of the terminal half-inch of the quartz rod. In this way the electrode is completely and safely insulated, and can be readily sterilized by boiling. Since fused quartz can withstand high temperature, rapid cooling, and is a good insulator, there is no danger that this electrode will be damaged or crack. The electrode can be used repeatedly, as it is rustless and is not softened or damaged by high temperature or oxidation. The length of the active end of this electrode is roughly 2 mm., and it is surrounded by the quartz capillary bored rod and therefore is well insulated.

By this means it is possible to cut and dissect tissues carefully and to operate on vascular areas, avoiding the important large blood vessels and nerves. The depth of the incision can always be controlled with the same care as with the scalpel. Pressure on the electrode should be avoided, for the incision is made by the electrical discharge from the point of the active electrode.

Operative Technique

Skin and muscle are readily incised, but fat and hard scar tissue are more difficult to deal with, as they are poor conductors of electricity. A heavier current is necessary, and at times the dissection of a mass of fat will prove difficult and laborious. The electrode should be used with a rapid light stroking movement; for if it is left in contact with tissues for long, diffuse coagulation will result. Bleeding is rarely excessive, except from the larger blood vessels, which should be clamped in the usual way, and later sealed off by applying the point of the electrode to the pressure forceps and changing over from the cutting to the coagulating diathermy current. It is advisable to ligature larger blood vessels by the usual methods. The control of the diathermy current during operations needs skill and knowledge. The current should be slowly regulated to obtain the correct cutting effect so that the coagulation does not spread further than 0.3 mm. The intensity must be regulated from time to time during the whole operation to compensate for the changes in conductivity of the various tissues—that is, skin, fatty tissue, muscle, and scar tissue. Excessive discharge of current or incorrect frequency will cause sparking, and result in diffused coagulation. Operation by the diathermy current produces a sterile and almost bloodless incision; the lymphatics are sealed off and the danger of dissemination of malignant cells or bacteria is diminished. The heat caused by the high-frequency current counteracts the surgical shock following exposure of wide areas of tissues, which are quite warm after diathermy operations.

Indications for Operation

This method of operation has been employed for:

1. The excision of areas of disease of the tongue and palate.
2. The excision of malignant disease of the breast.
3. Excision of areas of necrosis and ulceration following malignant disease.
4. Radium and *x*-ray necrosis and ulceration.
5. Excision of tissue in vascular areas, in which it is difficult to control haemorrhage by other means (bladder and brain).

The cases which have been selected for diathermy were those in which surgical operation by other means would be difficult owing to the danger of haemorrhage or the inability to dissect successfully the adherent masses of scar tissue. The operation for excision of the breast by diathermy has invariably healed by first intention. At times it has been possible to excise a mass of adherent malignant glands, even when in close proximity to the axillary vessels. Foul and sloughing malignant ulcers have been excised, and the base has been coagulated, leaving clean granulating surfaces with consequent relief of pain and discomfort. It has been possible to heal cases of *x*-ray ulcerations and radium burns in the same way, such treatment giving immediate relief of the pain associated with these lesions. After diathermy operations a solution of flavine in liquid paraffin applied once every day is a suitable dressing. On the seventh to tenth day after operation a slough separates, leaving a clean granulating surface. Healing at this stage may be accelerated by means of ultra-violet irradiation. In successful cases wide areas may be excised or destroyed by the diathermy current, and will finally heal completely without the necessity of skin graft. Diathermy operations of the tongue, tonsil, and palate cause more severe reaction; oedema is marked, and secondary haemorrhage may occur at the stage of separation of the slough. It is more difficult to obtain healing by first intention. I have attempted to dissect tonsils by means of the cutting diathermy current with the help of Mr. E. Steeler. In all, twenty cases were done. We obtained good results in eighteen cases, but in two cases secondary haemorrhage occurred nine days after operation. The destruction of enlarged tonsils by the technique of coagulation has given favourable results in adult patients. Surgical diathermy is a very useful agent for the removal and destruction of naevi, moles, and warts. The operation is rapid and bloodless, it can be performed without anaesthesia, and results in a successful healing with no unpleasant disfigurement or scar.

I am indebted to Mr. Stanford Cade and Mr. Douglas Harmer for their valuable help in giving me the opportunity to assist them at operations.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

SUICIDAL CUT THROAT: RECOVERY

The following case of a suicidal cut throat recovering, after very severe injuries, seems of sufficient interest to publish.

On January 19th, 1931, in answer to an urgent call to the receiving ward at the West Middlesex Hospital, I found a well-nourished man, aged 30, sitting fully dressed, with a loose scarf bandage draped around his neck, and his head slightly flexed and rotated to the left. On examination I found the patient almost aphonic, with a circular cut in the neck 5 inches in length, extending from about 1 inch to the right of the mid-line, to 4 inches to the left of the mid-line, at the level of the upper border of the thyroid cartilage. There was comparatively little bleeding, although the cut extended through all soft tissues, including the infrahyoid group of muscles, the thyrohyoid membrane, the tip of the epiglottis, and the lateral walls of the pharynx, back to the vertebrae. There was abundant discharge of mucus. Temperature 97°, pulse 130, respirations 24.

I learned that this was a suicidal cut, inflicted with an ordinary razor in a moment of financial anxiety. I ordered a hypodermic injection of morphine 1/4 grain to be given statim. After consultation with the medical superintendent, Dr. J. B. Cook, we decided against any attempt at surgical repair. Warm saline dressings were applied to the neck, and rectal glucose and coffee salines were given six-hourly: also a hypodermic injection of adrenaline co. 1 in 1,000, with atrop. sulph. 1/200 grain, and strychnine hydrochlor. 1/100 grain.

On January 22nd the patient started taking sips of water and diluted milk by mouth; the rectal salines were gradually discontinued, and by the 25th he was taking an ordinary fluid diet and the neck wound was healing up rapidly. On February 17th the patient started getting up; and, except for an attack of influenza which developed on the 22nd, he made an uninterrupted recovery. He was bright, and quite normal mentally, during the whole of his stay in hospital, and was discharged cured on March 19th.

I have to thank the medical superintendent for allowing me to publish these notes.

MARJORY W. WARREN, M.R.C.S., L.R.C.P.,
Assistant Medical Officer, West Middlesex Hospital, Isleworth.

TREATMENT OF PERNICIOUS ANAEMIA

The following brief history of a case of pernicious anaemia, which I have had under my observation for nearly three years, and now appears to be cured, may be of some interest from the point of view of treatment.

I first saw the patient, a man aged 54, on July 24th, 1928. He was then complaining of shortness of breath and weakness. His heart was dilated, auscultation revealing a mitral systolic murmur, and there was some oedema of both legs; he was very pale, and at first I thought of aortic disease. He gave a history of not feeling well for a year, and of having weakness in the right arm and leg. The knee-jerk on the right side was very feeble, and the hand-grip on the same side was weak. Examination of a blood film showed a typical picture of pernicious anaemia, with the exception that there were very few nucleated red cells. I was at the time unable to make a blood count, but the haemoglobin was 60 per cent. There were some petechiae scattered over the chest and back.

I prescribed half a pound of raw liver daily, and 5 minims of liquor arsenicalis and 10 grains of ferri et ammon. cit. to be taken three times a day. The patient responded fairly quickly, so that on September 11th the haemoglobin was 80 per cent., and on October 6th 90 per cent. The dose of liquor arsenicalis had been increased to 8 minims. He ceased attending in the early part of October.

He again appeared in June, 1929. His condition had deteriorated, and his haemoglobin was only 60 per cent. He had acquired a distaste for raw liver, and had not been taking it very regularly, I think. I put him on liver extract, in full doses, and the arsenic mixture as before. On July 20th a blood count showed 1,800,000 red cells per c.mm., and the haemoglobin was 75 per cent. Instead of the arsenic mixture dilute hydrochloric acid was given in 30-minim doses three times a day, with tincture of nux vomica and gentian. On October 17th the red cell count was 1,250,000 and the haemoglobin 60 per cent. On October 21st the haemoglobin had gone up to 80 per cent. He was now taking raw liver as much as possible, and the extract only at intervals.

He did not attend again until April 19th, 1930. His condition was then so grave that I suggested treatment in a hospital, with a view to transfusion of blood, but he would not agree to this. He was extremely weak and dyspnoeic. His right leg had again become weak. A blood count showed that the red cells were down to 950,000 per c.mm., and the haemoglobin was 50 per cent. Throughout his illness he had an extremely high colour index. His appetite was very poor, and he found it impossible to take raw liver on account of the nausea and loathing it produced. He had been receiving the equivalent of 6 ounces of liver, as liver extract, daily. I now gave him 1 drachm of glycerin of pepsin, with 30 minims of dilute hydrochloric acid (later increased to 40 minims), and 10 minims of tincture of nux vomica, three

times a day after meals. His nausea quickly disappeared, and he was then able to take the juice of 8 ounces of raw liver daily. The liver was cut up into very small pieces and all the juice expressed. From this moment he never looked backwards.

On April 26th the red cells were 1,465,650 per c.mm., and the haemoglobin was 60 per cent. On May 3rd the red cells were 1,856,250, and the haemoglobin was 70 per cent. On May 20th the red cells were 3,416,000, and the haemoglobin was 70 per cent. During this period there was a considerable increase of nucleated red cells. On July 12th the red cells had increased to 4,166,250, and haemoglobin to 90 per cent., on July 19th the red cells numbered 4,875,000, and on August 1st the red cells numbered 5,373,250, and haemoglobin was 100 per cent. He is now taking 4 ounces of raw liver juice daily as a prophylactic.

The interesting point is that, his irregular attendance apart, the patient's improvement was slow until, in addition to his raw liver, he took glycerin of pepsin and acid mixture. He improved certainly with arsenic, and to a lesser degree with dilute hydrochloric acid, but it was not until I gave him the glycerin of pepsin that a really striking improvement occurred. A rise in the red cell count from 950,000 to 5,373,250 in less than four months is certainly remarkable. The grip of his right hand is now quite strong, and there is only slight weakness in his right leg. In fact, the man is hardly recognizable as the wreck I saw a year ago.

In future I shall certainly put any more patients with pernicious anaemia on to glycerin of pepsin or some other form of stomach extract straight away, in addition to the raw liver juice. Liver extract did not seem in this case to be nearly as effective as the fresh raw product.

London, S.W. H. C. KEATES, M.D. B.S.Lond.,
Lieutenant-Colonel I.M.S. (ret.).

Reports of Societies

THE OBSTETRICAL PROBLEM OF CONTRACTED PELVIS

At the meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on May 15th, under the presidency of Sir EWEN MACLEAN, a discussion was held on the relative value of the induction of premature labour, test labour, and Caesarean section in minor degrees of contracted pelvis.

Mr R. ALAN BREWS said that the practice at the London Hospital in all cases of contracted pelvis was either elective Caesarean section or test labour. In the three years covered by his statistics induced premature labour for contracted pelvis had never been done. The cases treated were those in which there was true clinical disproportion—a head which could not be engaged and which would not go into the pelvis without holding. He had divided them into two groups—namely, those in which the diagonal conjugate was above 4¼ inches, and those in which it was between 3¾ and 4¼ inches. The total number of deliveries in the hospital had been 5,284 in three years, and the number of cases in which test labour or Caesarean section had been employed in the treatment of minor degrees of contracted pelvis was only 45. The number of spontaneous deliveries had been 29, of assisted deliveries 3, and of Caesarean section following test labour 13. No maternal mortality had resulted, and morbidity had occurred in only two cases. The foetal and neo-natal mortality had been 4.8 per cent. The cases treated by Caesarean section had been attended by no foetal mortality, as well as by no maternal mortality or morbidity. The advantages of test labour were that the uterus and the pelvis were given a chance of showing what they could do, and that all the infants were full term. Uterine inertia, occipito-posterior positions, and early rupture of the membranes were difficulties that had to be dealt with. Pelvic measurements were of great value when dealing with test labour; in the vast majority of cases with large pelvic measurements the child came through perfectly easily, and there was a normal puerperium.

Mr. G. F. GIBBERD considered that a satisfactory definition of moderately contracted pelvis was impossible. The standard adopted at Guy's was "the degree of disproportion where intervention seems necessary." The total deliveries in three years had been 5,045, and 186 patients had been treated for contracted pelvis; of these, 133 had been unselected, and in 53 some difficulty had been anticipated before admission. Inductions had been performed in 83 cases, trial labour followed by Caesarean section in 42, and forceps delivery in 61. His figures did not take into account the cases in which trial labour ended in spontaneous delivery. Although forceps delivery figured largely in the results, his hospital did not advocate it as a method of treatment. It had been used in the inevitable rubbish heap of cases in which other treatment might have been tried had there been earlier opportunity; and also in cases in which induction of premature labour had wrongly been considered unnecessary. The infant mortality attending forceps delivery (18 per cent.) was therefore not so much a condemnation of forceps delivery as an indication of how far other methods fell short of the ideal. In his view there was room both for trial labour and for induction of premature labour. By the use of both methods, and by forceps when some degree of disproportion held up the second stage of labour, he felt that better results were forthcoming than by rigid adherence to one method in all cases.

Dr. J. W. A. HUNTER brought forward figures for St. Mary's Hospitals, Manchester. He had made a careful examination of the records of 850 cases treated during the past five years for a minor degree of contraction, choosing only those cases which had been delivered in hospital after attending the ante-natal clinic. Figures for primigravidae and multiparae were presented separately. He said that a large proportion of the cases had been treated by induction—77 per cent. in the one group and 54 per cent. in the other. The average time of induction of labour had been the thirty-eighth week. Medicinal induction—namely, castor oil, quinine, and pituitrin, or in a few cases castor oil and quinine only, or ovarian extract only—had been successful in 82 per cent. of cases. The resulting delivery in 68 per cent. of inductions of premature labour had been by natural forces. There had been one maternal death out of 277 inductions of premature labour in the primiparae, and none out of 270 inductions among the multiparae. The cases delivered by Caesarean section in the first group had numbered 37, with no maternal deaths, and in the second group 164, with 4 deaths. The high proportion of Caesarean sections among the multiparae was because many of the women had been known to have had stillbirths previously. As to trial labour, there had been 23 cases in the first group, and 41 in the second. Induction with delivery by Caesarean section had been practised in 16 cases, with 2 maternal deaths; and trial labour with delivery by Caesarean section in 32 cases, also with 2 maternal deaths. One significant point was the high foetal or infant mortality resulting from trial labour (14.3 per cent. in the primiparae, and 21.9 per cent. in the multiparae). He put forward a plea for the method of induction of premature labour. Out of the 275 cases in which induction of premature labour had been practised in multiparae, just over half the previous confinements of these women had resulted in stillbirths, or the infants had died shortly after delivery. The way in which infant welfare centres now looked after premature children, practically not allowing them to die, could be set against the disadvantage of the method from

the point of view of the infant. Caesarean section showed the highest maternal mortality and the lowest foetal mortality, though the latter was not appreciably lower than that in the induction of premature labour. He protested against the ever-increasing practice of Caesarean section, which was insidiously assuming such proportions as to threaten to become a national menace. In the series of cases from his own hospitals there had been eight deaths following Caesarean section out of 249 cases in which it had been practised for contracted pelvis (diagonal conjugate, 4 to 4½ inches). Of the eight deaths, three had been due to peritonitis, and the others to tuberculous pneumonia, paralytic ileus, post-partum haemorrhage, faecal fistula, and pulmonary embolism.

Dr. A. MORRIS-JONES sent a communication from Queen Charlotte's Hospital, which was read. Out of 10,646 deliveries in five years, 1,285 were for contracted pelvis, of which 814 were delivered by induction, 327 by forceps, and 144 by Caesarean section. All the inductions took place between the thirty-sixth and thirty-ninth weeks; 475 cases were successfully induced by mechanical contrivances, and 339 by drugs. Of the 144 cases in which Caesarean section was done for disproportion, 7 of the women had previously undergone induction in the nature of trial labour. Two of the Caesarean section patients died, of septicaemia in the one case, and post-partum haemorrhage in the other; and 38 cases showed some degree of morbidity. The foetal mortality rate following Caesarean section was 4.1 per cent. The number of maternal deaths following induction was 7, and 3 followed forceps delivery; 79 cases in the former category and 71 in the latter showed morbidity. The foetal mortality was 8.09 per cent. in the case of straightforward induction, and 30 per cent. in the case of induction with forceps. He considered the figures justified the rather high proportion of cases in which induction was decided upon.

Dr. GLADYS HILL, for the Royal Free Hospital, said that the standard of contraction there laid down was that the head could just enter the pelvis at the thirty-eighth week. Out of 46 inductions in primiparae and 15 in multiparae, 48 had ended in spontaneous delivery, and 13 had forceps. There had been no maternal mortality; the maternal morbidity had been 9.8 per cent., and the infant mortality 14.7 per cent. With the 17 primiparae and 5 multiparae submitted to Caesarean section after test labour there had been no maternal deaths; the maternal morbidity had been 22.7 per cent., and the infant mortality 4.5 per cent. Taking the whole of the cases, the stillbirth rate (9.81 per cent.) was about three times the foetal death rate for the whole of the deliveries at the hospital (9,468) during the period covered. The average weight of the infant in the cases induced had been about one pound less than the average weight in the cases in which Caesarean section had been performed. From the maternal point of view, the chief favourable factor in Caesarean section was the avoidance of a labour definitely prolonged above the average; but against this was the higher morbidity rate, the risk attending an abdominal operation, and the presence of a scar in the uterus, though such a scar had been found not to preclude subsequent delivery by the natural route. A further advantage was that the infants were all alive, all at term, and with no birth injuries. She added that it was a matter of observation that as one became more experienced in ante-natal work the proportion of cases in which intervention was regarded as necessary was diminished.

Dr. J. GARDINER WIGLEY gave figures for St. Thomas's. Out of a total of 2,572 deliveries the cases in which a moderate degree of contracted pelvis called for treatment numbered 137. The maternal mortality rate had been 7 per cent., the morbidity rate 13.1 per cent., and the infant mortality rate 10.9 per cent. Most of the cases (92) had been treated by induction, and 23 by induction and forceps.

Dr. A. J. WRIGLEY, for the General Lying-in Hospital, York Road, said that the total number of deliveries from 1925 to 1930 was 6,012, of which 184 had a slight degree of contraction. No emergency cases were included in this series. Of these cases 47 had spontaneous delivery, 17 had forceps, 103 had induction (with spontaneous delivery in 94, and with forceps in 9), and there had been 17 Caesarean sections. Only one maternal death had occurred in the whole series; this was a woman in her fourth pregnancy, who had been induced, with spontaneous delivery. The morbidity had been 4.3 per cent., and the total infant mortality 10.8 per cent.

Sir EWEN MACLEAN briefly reviewed the reports brought forward by the hospitals, and expressed a wish that some of the speakers had illustrated a little their difficulties with regard to the measurement of the diagonal conjugate. Presumably the difficulties were not the same in all cases, but confidence in perimetry generally was to be attained only after considerable experience and after testing one's forecasts by the after-history of the cases. He thought there would be general response to the protest of one speaker against the abuse of Caesarean section. Apparently at Guy's that operation was performed only after trial labour.

Mr. ALECK W. BOURNE said that the first thing that struck him in the discussion was the uncertainty as to the type of pelvis about which they were talking. He felt that a number of cases of induction, supposedly for minor degrees of pelvic contraction, were really not done on account of such contraction. They were not troubled in conducting labour nearly so much by a small degree of contracted pelvis as by the unflexed head. Therefore, although he came from a hospital which had had opprobrium thrown upon it for its wide practice of induction and Caesarean section, he found himself inducing labour to a very much less extent. By inducing labour two or three weeks before term very little was saved in respect to the size of the head when subjected to moulding; and the question was whether, if the head was to be moulded, it was better that it should be the premature head at thirty-seven weeks or the more mature head at forty weeks. He disliked trial labour, and never did it; it was a confession of failure of judgement. Trial labour followed by Caesarean section was bad for the mother and the infant, and the performance of Caesarean section after the introduction of bougies was even less defensible.

Mr. VICTOR LACK said that at the London Hospital during the last four years they had given up induction for a minor degree of disproportion, and had been quite well satisfied with the results. To say that trial labour meant that a case had not been investigated was hardly justifiable. He agreed with Mr. Bourne that to start a trial labour was a very serious undertaking, but he did not consider that, properly conducted, it was to be deprecated.

Dr. J. S. FAIRBAIRN thought it clearly established that there were a great many unnecessary inductions, just as there were a great many unnecessary Caesarean sections. But induction had the advantage over Caesarean section in that something could be learned from it about the labour, whereas nothing at all was to be learned from Caesarean section. He was sure that trial labour could be worked successfully, but it was a measure which called for wide experience, and also hospital equipment. Hence it had a limited application in the general run of deliveries.

Dr. J. M. WYATT thought that teaching hospitals should teach their students a method which it would be possible for them to apply in outlying districts. Induction of labour was not very difficult, and the results both to

mother and infant were good provided it was done at the right time. Induction followed by forceps had a high foetal mortality, but induction not followed by forceps had not.

Dr. R. KELSON FORD pointed out the importance, in some parts of the country, of the industrial efficiency of the mother. In an industrial community it had been his experience that the people were very much against an operation. They would rather lose the baby than have an operation which meant a longer time in bed and away from employment. That was, prima facie, an argument in favour of induction, other things being equal.

Mr. L. C. RIVETT pointed out the curious disparity in the figures presented. The London Hospital, out of 5,284 deliveries in three years, had had only 45 deliveries for contracted pelvis, whereas Queen Charlotte's, with 10,646 deliveries had had 1,285. It was difficult to decide what was meant by a minor degree of contraction. The diagonal conjugate was of very little value. It all depended on the size of the foetal head and the amount of flexion.

Mr. D. W. ROY had been surprised to find how well the moderate use of induction came out, within the limitations of the statistics. He thought it played a most useful part in treating moderate degrees of contracted pelvis, and he was pleased that Dr. Hunter had taken the view that the children of these inductions had a much higher survival rate than many had suggested. The danger of Caesarean section increased in geometrical progression with the number of times it was performed on the patient. Test labour seemed to be useful in cases which, owing to some mischance, had passed the point at which induction might usefully have been done, and yet in which Caesarean section forthwith did not seem justified.

Dr. G. W. THEOBALD pointed out that St. Thomas's appeared to be the only hospital where they tried to estimate whether the head would go through by putting the patient under an anaesthetic. Dr. W. H. F. OAKLEY said that ante-natal deaths were not a sufficient criterion for estimating the value of any method; a record should be kept of infants during the first year of life. Dr. FRANCES IVENS-KNOWLES agreed that the induction of premature labour was not an operation to be undertaken without very careful consideration. She had seen various patients who had not done at all well because they had not been examined for cervical discharge. If induction of labour became a routine method in general practice that danger would be encountered a good deal.

Dr. BREWS, in reply, stressed the importance of pelvic measurements, and also urged that students should be taught that there were cases of labour which ought not to be delivered in general practice. Dr. HUNTER remarked that in Manchester there was possibly a higher proportion of true pelvic contractions than in London.

THE INJECTION TREATMENT OF PILES

At the meeting of the Subsection of Proctology of the Royal Society of Medicine on May 13th, with Mr. L. E. C. NORBURY in the chair, a discussion took place on the injection treatment of piles.

Mr. W. S. PERRIN said that he had used for the last eight or nine years, with considerable success, the fluid recommended originally, he thought, by Mr. Swinford Edwards, consisting of one part carbolic acid, two parts glycerin, and two parts distilled water. He customarily injected two piles at one sitting, as high up as possible, putting in the needle about a quarter of an inch. He never injected more than 10 minims of this strong solution, often 5 minims or less. No other injection into the same pile should be made within less than a fortnight. In a bad case six injections might be required. What was known as the primary type of pile, which did little except bleed, was the kind most suitable for injection treatment. The secondary type of pile, which protruded only on defaecation, and replaced itself or could be replaced by the paper, might also often be injected with hope of success, but another type, in which the pile protruded at any time, was not suitable. Among 800 cases at the London Hospital which had been treated by injection he knew of no complications, and the same was true of cases he had seen in private practice. Occasionally the patient had a certain amount of pain following injection; this he thought to be due, as a rule, to the injection of too much solution, but it occurred also after quite small injections.

Mr. W. B. GABRIEL said that simple uncomplicated internal piles which were soft and reducible could be readily cured by a few high carbolic injections. Fibrous piles or polypi, enormous prolapsing piles, or piles associated with anal fissures or fistulae, were not amenable to injection, and here operative treatment was required. He used 5 per cent. phenol in almond oil, usually 3 c.cm. A week later a firm leathery induration was felt in the quadrant injected, often extending up as high as the fingers could reach. A large proportion of cases needed only three or four injections, and many in which the trouble arose from a single pile were put right by one treatment. He considered the oily solution a marked advance in efficiency and safety. Out of 800 new cases of internal haemorrhoids seen at St. Mark's during the last two years, about 75 per cent. had been treated by the injection method. The majority had remained under observation until they were free from symptoms, and examination showed a satisfactory sclerosis. The method of injection had meant a saving of hospital beds and of the patient's time. He gave a table showing the reduction in the number of operations for uncomplicated piles at St. Mark's during the last two years owing to the increased application of injection treatment in the out-patient department. Injections produced fewer dramatic results in women than in men, and there was a plethoric type of female, seen in the period of child-bearing, in which piles should be treated only on palliative lines.

Mr. E. T. C. MILLIGAN said that he now used for injection 5 per cent. solution of phenol in almond oil. For three years he had tried 20 per cent. injection of phenol in glycerin as a routine method, but in certain cases severe reactions occurred. The 5 per cent. solution, using 3 c.cm., resulted in comparative freedom from complications. His syringe was an eccentric 10 c.cm. Record with encircling markings of 3 c.cm. amounts, and he used a long injection needle. It was only fair to point out that secondary haemorrhage and pain was as frequent and severe after big injections as after operation, and much more difficult to explain to the patient. The site of injection was also important; if too low, discomfort and pain would arise. The knee-chest position was desirable, and it was important that the rectum should be distended with air. Another point to bear in mind in comparing methods was that if injection treatment had been improved, so had the technique of operative removal, and in competent hands operation was as free from complication as were injections.

Dr. CUTHBERT DUKES discussed, with the aid of drawings, the anatomy of the rectum and anal canal, and the relationship of the different structures, and Mr. C. I. N. MORGAN added some further remarks on the anatomy, pointing out that the internal haemorrhoidal plexus, which was fairly constant in position, extended upwards above the level of the internal sphincter

Sir CHARLES GORDON-WATSON stated that for his own part, in spite of having urged his colleagues to use the new injection of 5 per cent. phenol in almond oil, he

himself had not used it, finding that he had got on very well with the old carbolic-glycerin solution, which he used at a strength of 15 per cent. carbolic, neither more nor less, and he very seldom found that he required more than three injections to get rid of a pile. In pre-war days, when he had an out-patient department, he never favoured injections, having been deterred by seeing one case in which very serious complications had arisen. Since then, however, reassured by the experience of his colleagues, he had used injection treatment, but he had not had an opportunity of carrying it out on large numbers of out-patients. He had to admit that there were complications with injections, and he was amazed at the London Hospital record of 800 cases without, as far as was known, any complication. Sometimes too much fluid was given, and the patient suffered pain, and there was a little sloughing. A number of patients appeared to have pain twenty-four hours after injection. He had not seen any serious haemorrhage or sepsis.

Mr. A. S. MORLEY expressed surprise at the unanimous approval which this method was now receiving from proctologists. He had been working on the subject since the early days of the war, when there was great hostility to injection treatment of all sorts. He first employed a 20 per cent. carbolic solution, and he got very good results, but occasionally there were complications. Haemorrhage occurred, perhaps, once in 200 cases, but it was sufficient to make one hesitate. Then he heard that in America 5 per cent. carbolic was given in a certain vegetable oil (he believed copra seed oil or something similar), and he adopted this method, using almond oil. The oil had to be vegetable, not mineral, because mineral oil was not absorbed quickly enough. With regard to the instrument, he had tried various slotted speculums, with no great satisfaction, and he now used Kelly's speculum, the end of which was bevelled off so that one side was longer than the other. The longer side held back the part of the rectum on which one was not working, and kept it out of the way. His speculum had a Z-shaped handle, so that it was well out of the way of the buttocks. He used an eccentric Record syringe, with a special needle, bent at an angle at the upper end, because that kept the point of the instrument under the eye, and the rest of the instrument and one's hand did not get in the way. He preferred the knee-elbow position, and used it wherever possible in men ; in women, the left lateral position was his choice. The site of injection should be as high as any loose mucous membrane could be detected. As to complications, pain occasionally occurred, which meant that there had been too much or too frequent injection. Severe pain was experienced perhaps in one case out of 500 ; it was due to some error of technique. He disagreed with previous speakers as to choice of case. In his view there was no case of uncomplicated haemorrhoids which was unsuitable for treatment by injection, and the old-fashioned operations of ligature and cautery ought almost to be relegated to the dust heap. Fistulae, the presence of fibroid polypi on stalks, and gangrene were the only contraindications. He had treated many patients in whom prolapse was reduced with great difficulty, and the piles came down as quickly as they were released from pressure, but even here prompt injection kept them up, and they did not come down again. He had written to some 300 patients who had been treated three or four years previously, and found that 83.4 per cent. were free from recurrence. These patients had been treated by means of the 20 per cent. carbolic solution ; he had not the figures as yet showing the results of treatment by the later method. Another point was that patients did not object to a second series of injections, whereas they did object to a second operation.

Mr. KENNEDY MURPHY said that only simple uncomplicated piles were suitable for injection—that is, haemorrhoids in which the veins were not very much sclerosed, and in which there was very little fibrous tissue. Carbolic acid and glycerin could not be expected to get rid of fibrous tissue ; on the contrary, this agent increased it. The cure by injection would depend on the closeness of approximation to the most satisfactory operative procedure—namely, the ligature operation. Mr. ASLETT BALDWIN had been using urea and quinine injections and found them very satisfactory. Mr. TURNER WARWICK had found phenol and almond oil no more satisfactory than 20 per cent. carbolic. Glycerin solutions should be used both on the pedicle and the pile. The PRESIDENT pointed out that in some cases a combination of methods gave a better result than any single plan of injection alone. The possibility of pain after injection was important to remember ; there need be no pain after ordinary surgical operation for piles.

CALCIUM THERAPY

At a meeting of the Harveian Society, held at Paddington Town Hall on May 14th, with Sir THOMAS HORDER in the chair, Dr. DONALD HUNTER opened a discussion on calcium therapy.

He said that a survey of the results of calcium administration in disease showed that as a therapeutic agent calcium had proved disappointing. The constant supply of calcium in the food and the large available store in the bones made it unlikely that the regulating mechanism ever lacked calcium for distribution throughout the body. He demonstrated by lantern slides the effects of total thyro-parathyroidectomy in dogs ; tetany was relieved by injections of parathyroid extract. He showed how the prolonged use of such injections in man raised the serum calcium and increased calcium output in the urine. This calcium came from the bones. Hyperparathyroidism was a disease of bones ; and the first operation for hyperfunction of a parathyroid tumour had been performed by Mandl of Vienna in 1925. Since that time thirty-two cases had been recorded, including four of the speaker's own operated upon by Mr. Walton. In this disease (generalized osteitis fibrosa) the serum calcium was high and the calcium output from the urine might be six times the normal. Usually no lump was palpable in the neck, but on exploration a parathyroid tumour was found. After this was removed, pains in the bones ceased, the calcium metabolism was promptly restored to normal, the *x*-ray shadows of the bones became more dense, and the patient was often saved from being a cripple. In focal osteitis fibrosa evidence of hyperparathyroidism was lacking, and operation on the neck was entirely unjustified, even if many bones were affected. Whereas in hyperthyroidism bones lost calcium by a process of excessive osteoclastic resorption, the bone changes in osteomalacia and rickets were due to a failure of calcification of osteoid tissue. This had nothing to do with the parathyroid, but was due to the lack of the powerful calcifying substance vitamin D. The problem of osteomalacia in China and India was rendered difficult by religious and other customs, but the main factors in its etiology were inadequate diet and lack of sunlight. The tetany of osteomalacia and rickets should be treated by large doses of calcium lactate. In emergency, intramuscular calcium gluconate or intravenous calcium chloride should be given. Vitamin D must always be administered.

Mr. A. J. WALTON said that recent work on calcium metabolism had made it possible for a physician to say dogmatically that a parathyroid tumour was present. The parathyroids varied very widely in position. The superior pair, in his experience, were always placed in front of the thyroid fascia, between it and the thyroid

capsule. The inferior pair showed an important variation which determined the path of spread of a tumour; they might be below the inferior thyroid artery and in front of the fascia, or above the artery and deep to the fascia. Occasionally one or more parathyoids might be in the substance of the thyroid gland, and therefore certain to be removed in partial thyroidectomy. A small adenoma of the thyroid might be mistaken for a parathyroid and the true tumour overlooked. The operation of parathyroidectomy required light ether anaesthesia and a wide exposure, for the tumour might be at some distance from its expected site. He therefore made a wide collar incision, retracted the sterno-mastoids, and divided the pretracheal muscles at the level of the isthmus. The lateral lobes of the thyroid were rolled inwards in turn, and thus a tumour in the normal site of a parathyroid could be discovered at once. So far he had not had a case of tumour of the upper parathyroid bodies, and the real difficulties had arisen from the relation of the inferior pair to the thyroid fascia. If the body lay between the fascia and the capsule of the thyroid, the tumour would enlarge downwards along the thyroid veins and in front of the carotid artery, like a retrosternal goitre. If the parathyroid was behind the thyroid fascia, no sign of the tumour was perceptible from in front, and nothing could be felt by passing a finger into the thorax on either side of the trachea. The tumour was then found as soon as a small incision was made through the fascia above the inferior thyroid artery. In one case a small mass in the lower part of the right lobe of the thyroid had been removed. Professor Turnbull had reported that it was an adenoma, and not a parathyroid tumour; but Dr. Hunter had been convinced from his biochemical studies that a parathyroid tumour was present, and a second operation had therefore been undertaken. A small typical parathyroid tumour had been found behind the oesophagus and removed; a finger had been inserted into the wide space thus revealed, and a large kidney-coloured tumour, the size of a plum, found immediately in front of the second and third dorsal vertebrae. This case had shown that an enlargement of the inferior thyroid body, when situated behind the thyroid fascia, passed down behind the oesophagus into the thorax, quite out of sight. The surgical after-treatment was the same as for thyroid adenoma, but careful attention had to be given to the blood calcium estimation, and tetany must be prevented by the administration of calcium and parathormone.

Professor TOM HARE mentioned the condition of aphosphoria, which was characterized by a deficiency of inorganic salts. He was not satisfied that rickets in animals was always due to a lack of vitamin D, as a certain number of cases would not respond to vitamin treatment. He thought there might be some hereditary factor behind this failure; from the histological point of view the cases might be examples of osteitis fibrosa and not of rickets; but he had never seen a parathyroid tumour in an animal.

Dr. HUNTER, in reply to a question from the Chairman, said that calcium was beneficial in some cases of urticaria, and should not be withheld merely because its use was empirical. Oedema had been removed by parathyroid hormone. In cases of poisoning by carbon tetrachloride, necrosis of the liver occurred only if the blood calcium was low; calcium probably exerted some protective action on the liver. In eclampsia, intravenous glucose was useless without the addition of calcium. Calcium also relieved various colics, including lead colic, ureteric colic, and other cases where smooth muscle was involved. Biochemistry, he concluded, might be just as helpful as histology in the differential diagnosis of diseases of bone.

Reviews

A SYSTEM OF BACTERIOLOGY

In previous issues of this *Journal* six volumes of the *System of Bacteriology*[1] have been reviewed. Of the three remaining, volume vi is devoted to the subject of immunity, and may therefore be said to be one of the most important of the series. It opens with a chapter by H. B. Maitland on bacteria in relation to disease, which is disappointing in some respects. We should have thought that more might have been made of the question of the origin of pathogenic species—the evolution of disease—though admittedly the paucity of facts makes this question highly speculative. The conception of bacteria in the intestinal contents as living *in* the host is, of course, incorrect, though a mistake which is commonly made. Natural immunity is not a theme which lends itself to brief exposition, but J. C. G. Ledingham in Chapter II has given a most excellent account of the subject. We are still very ignorant on this question, but the difficulties with which the problems are hedged round are perhaps some excuse for lack of knowledge. A feature of this chapter is the section devoted to Besredka's recent investigations of local immunity, which are dealt with in an impartial and critical manner. The next chapter on the production of active immunity to bacterial and virus infections, contributed by J. C. G. Ledingham and H. Schütze, is also very good. It would appear that as a general rule vaccines of living bacteria produce a more solid immunity than killed vaccines, and in this respect bacteria and filterable viruses show little difference, a point not commonly realized. The bearing of recently acquired knowledge of antigenic structure on the problem of active immunization makes most interesting reading. Chapter IV, by A. T. Glenny on active immunization with toxin, could hardly fail to be of great value, coming as it does from one who has had such a vast experience.

An account of the physiological action of toxins by J. W. Trevan (of necessity brief because our knowledge of the subject is so incomplete) is followed by a consideration of antigens and antibodies and the various immunity reactions. Knowledge of antigens and antibodies has been gained by a variety of methods: from the observation of their activities and reactions both in the living body and in the test tube, from a study of their chemical nature, and from a consideration of their reactions in the light of physical chemistry. The first of these lines of approach has given us a wealth of valuable facts, which are most ably presented in this ... volume in a series of chapters by R. ... C. ... H. Browning, J. A. Arkwright, and H. R. Dean, each of whom speaks with the authority gained by long and fruitful research. Although this type of immunological investigation can still be pursued with advantage, it is recognized that without the aid of the chemist and physical chemist much would remain unsolved.

In Chapter VII P. Hartley gives us an excellent survey of the activities of the chemist in this field. It is a very clear account, and leaves no doubt of the great practical value of the knowledge that the chemist is unearthing. The bearing of physical chemistry on immunological problems is a most important one, and should, in consequence, receive serious treatment; D. Steabben's chapter on this aspect of the subject is disappointing, and, in our opinion, quite inadequate. The chapter on anaphylaxis and related phenomena by W. M. Scott is excellent; we

[1] *A System of Bacteriology in Relation to Medicine*. Medical Research Council. Vol. VI. London: H.M. Stationery Office. 1931. (Pp. 558. Single volumes, £1 1s. net; set of nine volumes, £8 8s. net.)

have rarely read such a clear exposition of anaphylaxis. The volume closes with a valuable chapter on chemotherapy by C. H. Browning.

THE CONTROL OF MALARIA

In the majority of tropical countries, and in many temperate regions as well, malaria, its control and eradication, is an ever-present problem which is bound to come under the notice of the medical practitioner, no matter within which branch of medical science may lie the scope of his activities. How, then, is an estimate to be made of the prevalence of the disease; how may one determine in any given area which is the prevailing anopheline vector; and in what manner can steps be taken to lessen the incidence of the disease? All these and other questions are answered in the excellent work on malariology which Dr. MARK BOYD describes too modestly as an "Introduction" to the subject.[2]

It can be stated very briefly that the usefulness of this book is due to the fact that the author has presented within the compass of one publication all the essential features which, previously, had to be extracted from a wide range of textbooks, periodicals, and reports often not readily accessible to officers in the field. Such a book can and will be recommended with every confidence to the student and the beginner; the experienced malariologist will recognize its value at first sight. The general scheme is well planned. There are six sections in all, beginning with an introductory chapter which deals chiefly with the historical side of the work, especially in the New World, showing how, in many regions, there has been a fall in the incidence of malaria, and giving the reasons for that decline. The geographical distribution throughout the world is dealt with briefly but efficiently, and also is shown, in graphic form, by the aid of maps, to lie between the northern and southern isotherms of 60° F. Another particularly useful map indicates the various regions within which the three species of malarial parasites are endemic.

Within the limited space available it is impossible to do full justice to the wealth of material which the author has collected into the compass of this book, though it must not be imagined that the subject loses in any way from this condensation. All the facts are clearly expressed, and the text is easy to read. In the second chapter, for example, a useful account is given of the various types of fever, the relation between the number of parasites in the blood and the fever (the pyretogenous level), which anism of relapses, recrudescences, and recurrences, frequent inje... vexed questions of resistance, immunity, and toler... case out ... due importance is placed on the enlargement of the spleen, ... agreed the various influences which may modify that enlargement, the relation between the size of the spleen and the degree of anaemia, and the effect of treatment in causing a reduction in the bulk of the organ. An interesting account is given of the current state of knowledge with regard to the infectivity of the parasites in any given host towards anophelines, and the various factors that appear to have a bearing on the production of individuals who are what may be termed "good infectors" of mosquitos. The period of invasion, which may vary considerably in its clinical manifestations in different persons, is discussed in full. Before leaving this chapter on the natural history of malaria, mention must be made of the section on malaria prevalence, where a comprehensive view is taken of all the factors having a bearing on the production of endemic or epidemic conditions. The urgent necessity for such a broad outlook in malaria control is a matter on which Boyd rightly lays great emphasis. Chapter III is concerned with the methods of undertaking malaria surveys. The author draws attention to the fact that such surveys, for a multitude of reasons, can be carried out only on parts of the total population, and therefore that the "sample" surveyed should be as representative as possible. The sections on the estimation of the "splenic rate" and the "parasite rate" are particularly valuable from the practical point of view. In the former the various methods adopted by different workers of measuring the size of the organ are enumerated in detail, while the section on the parasitology is accompanied by a coloured plate illustrating the forms of the three malarial parasites in the blood of man.

The final chapters treat in turn of the "natural history of anophelines," "anopheline surveys," and the "relation of surveys to control work." The last of these is very short, and we feel that out of his ripe experience the author might advantageously have given more on the various practical steps to be adopted in malaria control. This is not intended as an adverse criticism, for in the one volume has been included all that could reasonably be expected; rather is it a suggestion for a future publication. Indeed, it may be said that in the excellent description of the biological characters of the vector, and in the detailed account of the conduct of anopheline surveys, Boyd has laid the essential foundation on which to base the subsequent measures of eradication.

[2] *An Introduction to Malariology.* By Mark F. Boyd. Cambridge, Massachusetts: Harvard University Press; London: Milford, Oxford University Press. 1930. (Pp. xiv + 437; 82 illustrations. 25s. net.)

SOCIAL PROGRESS AND HEALTH

The Halley Stewart Lectures, 1930, were delivered by Sir GEORGE NEWMAN, and have now been published in book form under the title *Health and Social Evolution.*[3] They assist in the study of Christianity in its "explicit and implicit application to the social relationships of man: for every individual by furthering such favourable opportunities as shall enable him most perfectly to develop body, mind, and spirit; in all social life, domestic, industrial, or national, by securing a just environment." They set out a clear and fascinating story in an admirable form and in an eloquent and beautiful style. Leading up to their main object of describing modern collective humanism at work in health services, and of counting, if possible, the national gains and losses up to the present time, they describe how England learned to control disease in the Middle Ages and in Tudor times, what the eighteenth century contributed to humanitarianism and to medicine, how the industrial revolution affected health problems, and how the coming of democracy and a more modern spirit have led to the health work of the State, the local authority, and the medical profession to-day.

This volume is intended primarily for the wide educated public interested in social problems and in public health, and Sir George Newman has again performed a useful service, both to the public and to the members of his own profession, in his wise presentation of the true relation of the medical profession to national health organization and those social movements with which it is intimately and increasingly associated. Two quotations will illustrate his message and his exposition.

"It is sometimes alleged that the State has captured the medical man and drawn him unwillingly within by its tentacles. But the facts of the last two hundred years suggest a truer interpretation of the relation between the State and the doctor. . . . From the beginning of the nineteenth century the Government has on innumerable occasions called in the doctors to advise on the nation as patient. . . . It has desired advice from those most competent to give it. . . . I know of no evidence that the State has captured the doctor, but it has, wisely enough, captured his goods. The medical

[3] *Health and Social Evolution.* By Sir George Newman, K.C.B., M.D., Hon. D.C.L., LL.D. London: G. Allen and Unwin, Ltd. 1931. (Pp. 200. 4s. 6d. net.)

man in Britain has not withheld his goods. Two generations ago the British system of public health was unique among the nations of the world. Why was this? Other nations were equally advanced in civilization, but in Britain the medical man had been called in and had willingly responded. He responded because he shared with other citizens that remarkable genius and instinct of public spirit and public service which has built our island history. . . . It was the general practitioner who in the eighteenth century laid the foundations of State Medicine. But it has been the social evolution of the nation which has given him the opportunity. . . . If he had been in Germany, France, Russia, or Italy, he would have found no social vehicle or scope for his public ministrations. Because he was in Britain, and within the elastic walls of its constitution, he arrived. Thus the State and the doctor have mutually co-operated with each other. . . . The doctor has joined in the national movement of collective humanism in behalf of the expansion and application of science to the betterment of man's estate. His sporadic and intermittent contribution has slowly become an organized national service."

"It became necessary to recognize that the doctor could only rightly and effectually serve the State if his individualistic and inductive characteristics were respected and safeguarded. Some principles governing the doctor's service to the State (as distinct from his medical practice on behalf of his private patients) had therefore to be considered and acknowledged. For instance, (*a*) that a doctor should not (except perhaps in time of war) be compelled to serve the State, as a doctor, against his will, for the simple reason that he could not practise medicine effectually except by his own free will and judgement; (*b*) that any medical or surgical advice given by him should be what he deems by the best exercise of his skill to be appropriate to the occasion, and not a treatment prescribed or restricted by the State; and (*c*) that between the doctor and his State-provided patient there should be as far as practicable mutual freedom of choice; that is to say that, apart from 'mental' or juvenile persons, the patient chooses his doctor or his hospital, and is not subjected to a doctor of whom, or of whose treatment, he does not approve. Let me put this into one word, a public medical service should never convert the medical profession into a branch of the Civil Service, for that would thwart or stultify the value of the particular service the doctor could render."

In his relatively short review of the problem of infant mortality, of the school medical service, of the health insurance system, and of the protection of motherhood, Sir George Newman clarifies the position by getting down to the essential features of each subject, and by his wise and careful comments it is to be hoped that he will be proved to have helped both the medical profession and the public to judge the situation intelligently, and to dismiss as negligible some of the wild statements on all these matters which are from time to time made by persons who, though they assume authority, have little or no practical experience of the subjects on which they speak. Finally, Sir George Newman does well to remind us of the health work of the League of Nations, and to emphasize the fact that health is, after all, a matter of individual responsibility, that "it is not the State that can or should give us all good things," and that "a public health service can only be effective if it is received and practised by an enlightened people."

SURGERY FOR THE GENERAL PRACTITIONER

Die Chirurgie des Praktischen Arztes,[4] by Professor ERICH SONNTAG of Leipzig, belongs to a class which it is very difficult to define and criticize. Such books are more common in Germany than in England. While they do not aim at a complete exposition of the subject, yet they pretend to be much more than works on minor surgery, and, generally speaking, they err on the side of over-ambition. Professor Sonntag's is a case in point. It contains nearly 900 pages and weighs (unbound) 5 lb., without professing to offer a complete presentation of the science and practice of surgery, and there is much in it that can hardly be turned to useful account by the average general practitioner, even in Germany. What this book offers to us, however, is in the circumstances good. Professor Sonntag knows his subject and how to set it forth.

The subject is considered in two parts, general and special, and the former occupies 400 pages. In examining such a book the reviewer naturally turns to the descriptions of some of those injuries and diseases which are most likely to come into the hands of general practitioners, and to the instructions given for their treatment; for on the prompt and correct treatment of these their reputation or even their living may depend. Less than five pages are devoted to fractures of the humerus, without any illustrations. Fractures of the lower end of the radius, including Colles's, fare better, and are illustrated by four figures. All kinds of fractures of the femur are dismissed in six pages of print, without illustrations. The Thomas splint is only referred to and represented as used after amputation. Internal derangements of the knee-joint receive very cursory notice. Fractures about the ankle, including Pott's, receive more attention, but are not illustrated, though the description of the procedure of putting up such a fracture in gypsum is careful. Appendicitis seems to interest the author more than fractures; incisions for the operation for its relief are described and illustrated; we presume it is by an oversight that the bare fore-fingers are represented as inserted into the abdominal incision. A striking feature of the book is its dearth of reproductions of *x*-ray pictures, although the importance of Roentgen films is insisted on generally. On the other hand, there is a photograph of a pair of ordinary nail scissors recommended for the care of the surgeon's hands, and illustrations are included to show how a sister in the theatre should and should not hold a bowl.

A HISTORY OF THE AMBULANCE MOVEMENT

In the eleventh book of the Iliad there is a reference to the principles of first aid. It was, however, practised long before the days of Homer, for, as Dr. CORBET FLETCHER says in his record of the St. John Ambulance Association,[5] "the history of the ambulance movement is the history of the world." The author presents us with a simple but carefully compiled diary of events, not only in the work of the association since 1864, but also in that of all the other kindred organizations. He has traced the gradual development of first-aid training in the police forces, on the railways, and in the mercantile marine. Many of the chronicled events occur on red-letter days in the history of the movement—for example, the designation, on December 14th, 1909, of No. 1 District of the Brigade as the "Prince of Wales's Corps," in recognition of "the valuable services rendered by the Brigade generally, and especially by the Metropolitan Corps, on so many public occasions in London, the metropolis of the Empire." This is a commendable publication, concise and full of information, with a good index and appendices concerning the personnel, honours, competition records, and textbooks of the association. We suggest that the page headings might give some indication of the principal item mentioned below; no doubt this will be considered in future editions. The volume should prove valuable to all interested in the subject of first aid, but especially to the rank and file of the association, to whom it is dedicated.

[4] *Die Chirurgie des Praktischen Arztes.* Von Professor Dr. Erich Sonntag. Leipzig: G. Thieme. 1931. (Pp. xi + 879; 684 figures. M.49.)

[5] *The St. John Ambulance Association, its History and its Part in the Ambulance Movement.* Compiled by N. Corbet Fletcher, M.B., B.Chir., M.R.C.S., L.R.C.P. London: The St. John Ambulance Association. 1931. (Pp. 116. 3s. 6d.)

NOTES ON BOOKS

In the preface to *A Handbook on Diseases of Children*[6] Dr. BRUCE WILLIAMSON indicates that he has tried to provide a "short but complete account of the diseases and disorders of infancy and childhood" for the student, the practitioner, and the post-graduate working for a higher examination. The book is certainly short, but success cannot be recorded for the other claims. Prematurity and diseases of the newly born receive no mention, and the treatment of many subjects is sketchy. For example, in the section on scurvy, haematemesis is stated to be "fairly common," whereas in fact it is a rare symptom, while the almost constant presence of red blood cells in the urine is not recorded here; although it is mentioned under the diagnosis of acute nephritis. In recommending sodium salicylate for the treatment of rheumatism, the author mentions the addition of sodium bicarbonate to the mixture only in the "formulary" at the end of the book, and not at the place where the inquirer would naturally look—namely, under rheumatism. In many places the phraseology is either vague—as, for example, under the treatment of summer diarrhoea, when it is advised to give saline "into the fontanelle"—or slapdash—as in the statement that "purpura has a hundred and one causes." The chapters on disorders of the heart and circulation reproduce much of Dr. G. A. Sutherland's valuable teaching, which will be, perhaps, new to those not actively engaged in the study of diseases of children.

Miss R. M. SIMMONDS'S *Handbook of Diets*[7] is a most useful volume, which will prove of great assistance to those responsible for treatment of patients, both in private practice and in institutions. It includes a table giving the carbohydrate, protein, and fat content of a large number of common foodstuffs, many prescriptions and recipes, specimen diet sheets, and useful tables. Miss Simmonds is to be congratulated on producing a very concise and satisfactory handbook.

Dr. I. FISCHER'S work on Proper Names in Nosological Terminology,[8] which is reprinted from issues of the *Wiener medizinische Wochenschrift* of the last two years, is appropriately dedicated to Lieut.-Colonel Garrison. It contains, in alphabetical order, a list of eponymous diseases, with a short account of the author who first described the disease, and references to his original description, from which a short extract is occasionally given, and to other historical articles on the particular disease. The work forms a valuable supplement to the ordinary medical dictionary, in which space forbids more than the briefest mention of eponymous diseases.

The *Pharmacopoeia of St. Thomas's Hospital*,[9] of which a new edition has just appeared, is at least as compact and comprehensive as any other work of its kind, and will no doubt prove of much service to students, past and present, of the hospital.

The biographical sketch of Brown-Séquard and his Work,[10] by Dr. F. A. ROUGET, president of the Mauritius Medical Society, represents a token of respect offered by that society to the memory of its most distinguished president of honour, who was not only an eminent neurologist, but also the founder of endocrinology. The book is divided into seven parts, dealing respectively with Brown-Séquard's life, family and marriages, the question of his nationality, his character, his scientific work, tribute to his achievements, and a list of the numerous distinctions conferred upon him. The appendices contain a variety of miscellaneous information about Brown-Séquard, including recollections and appreciations of him by his pupils and friends.

The Temple Press, Ltd., has published, at the price of 2s. 6d., a fifth edition of *The Motor Electrical Manual*. This illustrated handbook and guide for motorists describes in simple language the principles, construction, and working of electrical appliances used on cars.

The *Handbook*[11] offered by Messrs. T. P. M'DONALD and GEORGE DAVIE as a guide to the complexities of the Contributory Pensions Acts of 1925 and 1929 is a laudable attempt to bring light into dark places, and will doubtless be welcomed by those who may be called upon to advise potential beneficiaries as to their position under the Acts. After reading it we can well believe, with the authors, that "many people are in doubt whether the Act of 1929 has conferred upon them any right to a pension."

[6] *A Handbook on Diseases of Children*. By Bruce Williamson, M.D.Ed., M.R.C.P. Edinburgh: E. and S. Livingstone. 1931. (Pp. xii + 290; 50 figures. 10s. 6d. net.)

[7] *Handbook of Diets*. By Rose M. Simmonds, S.R.N. London: W. Heinemann (Medical Books) Ltd. 1931. (Pp. vii + 108. 7s. 6d. net.)

[8] *Die Eigennamen in der Krankheitsterminologie*. Von I. Fischer. Wien und Leipzig: Moritz Perles. 1931. (Pp. vi + 144. M.5.)

[9] *Pharmacopoeia of St. Thomas's Hospital*. Compiled under the direction of a Committee of the Medical and Surgical Staff by C. Wilson Peck. London: H. H. G. Grattan, and the Bookstall, St. Thomas's Hospital. 1931. (Pp. 179. 3s. net.)

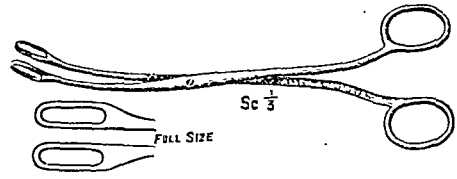
[10] *Brown-Séquard et Son Œuvre*. Par Dr. F. A. Rouget, O.B.E. Esquisse biographique. Port-Louis, Mauritius: The General Printing and Stationery Company, Ltd. 1930. (Pp. iii + 160.)

[11] *Handbook of Widows', Orphans', and Old Age Contributory Pensions*. By T. P. M'Donald, LL.B., and George Davie, B.L. Edinburgh and London: W. Hodge and Co., Ltd. 1930. (Pp. 104. 3s. 6d. net.)

PREPARATIONS AND APPLIANCES

COMMON DUCT FORCEPS

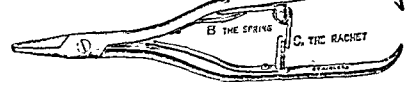
Mr. CHARLES KINDERSLEY (Bath) writes: Having been struck by the fact that the blades of Desjardin's common duct forceps were usually smooth when closed, and presented some comparatively sharp corners when open, I asked Messrs. Allen and Hanburys Ltd. to make a pair to my own design.



The only difference in the new pattern is that all the projecting corners have been eliminated, the gripping surfaces of the jaws being the same. When the forceps are applied to a stone in the bile ducts or the ureter they cannot injure the mucous membrane. This sometimes happened with the old pattern.

A MODIFICATION OF MAYO'S NEEDLE HOLDER

Dr. R. C. MACPHERSON (medical superintendent, St. Mary's Hospital, Milton, Portsmouth) writes: In using the original Mayo's needle holder for deep abdominal work I have recently found that the small knob on the handle with the thin steel wire spring becomes weak and inefficient with constant use, and eventually breaks. This causes the grip on the needle



to become loose, and I have asked Messrs. Maw to make a modification, which I consider adds surety and safety to the grip on the needle. The modification consists of a powerful spring band attached to the inner surface of the handle (as illustrated), which gives a much firmer bite on the needle and a firmer engagement of the hook on the ratchet of the other blade. This improvement has to be felt in practice to be fully appreciated. The old spiral spring of the original Mayo needle holder is much too flimsy. It gets out of order in such a way that the hook does not properly engage on the ratchet, and the slightest accidental touch on the knob sets free the catch, so releasing the grip on the needle at the most inopportune moment. The new spring requires a firm, deliberate pressure on the knob to release the needle, which cannot be done accidentally.

British Medical Journal

SATURDAY, MAY 23rd, 1931

THE PROPRIETARY MEDICINES BILL

We print in our *Supplement* this week the full text of Mr. Somerville Hastings's Proprietary Medicines Bill. Whatever its ultimate fate (and it is at least clear that it can make no progress this session) the Bill should prove a useful instrument of education if it can secure the publicity it deserves. Its provisions fall into three groups, dealing with compulsory registration of remedies, total prohibition of direct distribution to the public of remedies for certain scheduled diseases, and elimination of some undesirable forms of advertising. Of these the first group is the most controversial. It has been argued on the one hand that disclosure of ingredients to the purchaser should be a condition of sale, and on the other that in the case of medicines declaration of the inclusion or absence of any ingredient named in the schedules to the Poisons and Pharmacy Acts should be a sufficient safeguard, and that control of appliances is unnecessary. The Bill rejects both these alternatives in favour of the original proposal of the Select Committee—namely, confidential communication of formulae to the authority for registration and the deposit of specimens with the authority in the case of appliances. In the absence of any indication that public opinion would support publication of formulae this middle path is clearly the way of wisdom. Disclosure of ingredients mentioned in the schedules to the Poisons and Pharmacy Acts would do no more than will be provided by the Pharmacy and Poisons Bill now under discussion, and would not touch the main evil. Nor is it desirable to suggest either that the dangers of indiscriminate medication are confined to scheduled poisons, or that deliberate fraud may be tolerated so long as no direct danger to health arises. Further, nothing short of the confidential communication of formulae and deposit of specimens can enable the authority for registration to pass judgement upon the propriety of the therapeutic claims advanced and the directions for use issued with any proprietary remedy as he is required by the Bill to do, or safeguard the public against variations in the composition of a remedy from year to year or month to month, to suit the economic convenience of the proprietor.

Registration of appliances involves some practical difficulties, but it seems no less desirable than registration of medicines. Indeed, since the publication of the Select Committee's Report, the position as regards appliances has been altered for the worse by the multiplication of "electric" and "radio-active" frauds on the one hand, and of effective and therefore potentially dangerous electric or radio-active appliances and numerous forms of apparatus for light treatment on the other. In all these cases there ought to be some check upon the claims made and upon the directions for use. If any further reasons are needed for controlling appliances as well as medicines it may be pointed out that to control the latter and leave the former free would merely divert the unscrupulous proprietor from one field to the other. In dealing with the total prohibition of the sale and advertisement direct to the public of remedies for certain specified diseases the Bill follows the amendments made by the House of Lords in Dr. Addison's Bill, in preference to the recommendations of the Select Committee. The original proposal was to prohibit the sale of "all remedies stated to be effective for the prevention, cure, or relief of cancer, consumption, lupus, fits, epilepsy, amenorrhoea and other diseases peculiar to women, diabetes, paralysis, locomotor ataxia, Bright's disease, deafness, and rupture," but it was pointed out in discussion that there is a legitimate field for the exploitation of appliances for the relief of deafness and rupture, provided exaggerated and misleading claims are excluded. Accordingly the prohibition in the new Bill is made applicable to medicines and surgical appliances held out as effective for the "cure" of deafness or rupture, or the "prevention, cure, or relief" of the other diseases enumerated above. Any alteration by the Minister of the scheduled list of diseases is made subject to the approval of both Houses by resolution.

In the provisions designed to eliminate undesirable forms of advertising, the Bill embodies certain clauses not included in Dr. Addison's Bill of 1920. Of these it may be said at the outset that none goes beyond the spirit of the recommendations of the Select Committee, and some would give effect to specific recommendations of that body which seem to have been overlooked when the earlier measure was drafted. Thus the Select Committee recommended prohibition of all advertisements of remedies for diseases arising from sexual intercourse or relating to sexual weakness, and also of any advertisement suggesting that an article might be used or might operate as a means of procuring abortion or miscarriage. The first of these prohibitions was omitted from the Addison Bill, possibly from some erroneous idea that the point had been covered in the Venereal Diseases Act. Its importance needs no elaboration for anyone conversant with widely circulated advertising literature of this class, and it is included in the present Bill. Another useful addition is the clause which defends professional publications from misquotation in advertisements by requiring that any reference to an alleged recommendation of a proprietary remedy in such a publication shall be authenticated for purposes of verification by mention of the name, date, and page of the publication quoted. For the rest the Bill follows the recommendations of the Select Committee in penalizing publication of a false trade description of any proprietary remedy, and thus goes further than the Addison Bill.

As we have already stated the Bill is, in our opinion, well drawn, but we regret that so unfavourable a time has been chosen for its introduction. Proposals for the control of traffic in proprietary remedies must inevitably meet with an opposition whose bitterness and strength correspond to the magnitude of the material interests affected. But the Bill is open to attack from another angle. Any scheme of registration must involve not only the erection of a new authority or an addition to the existing powers of the Ministry of Health, but also an addition to the ranks of the Civil Service, for the purpose of carrying out the requisite inspection and analysis and the examination of therapeutic claims and directions for use. This is hardly an auspicious moment to propose either new powers for a Minister or additional public outlay. That objection, however, is inapplicable, or applicable only in a minor degree, to the provisions prohibiting the sale and advertisement of remedies for the scheduled diseases, and those for the regulation of advertising. The issue as regards the former group is clear, and must be faced on its merits; it cannot be avoided by an appeal to economy or to the fear of departmental tyranny. Concerning the latter, we have reason to believe that the proposals for the better regulation of advertising would in the main have the whole-hearted support of the Advertising Association and of that section of the press which already tries to discriminate between legitimate and fraudulent or dangerous advertising and finds real difficulty in doing so. We suggest, therefore, that the sponsors of the Bill might be well advised to consider the possibility of withdrawing, for the time being, the clauses that deal with registration, and to concentrate upon the less controversial clauses that deal with the scheduled diseases and the regulation of advertising. This is emphatically a case in which any advance is better than no advance at all; and there seems no ground for supposing that the ultimate fate of any scheme of registration to be introduced at some more favourable opportunity would be in any way prejudiced by the immediate success of the partial measure we suggest.

HUGHLINGS JACKSON

We publish on another page this week a letter, signed by a number of representative physicians, surgeons, and scientists, appealing for support for a fund which it is proposed to raise with a view to commemorating the name of Dr. Hughlings Jackson. The Hughlings Jackson Lecture was founded in 1897 by the old Neurological Society to do honour to him as its first president, and it has been delivered triennially ever since, with some interruptions. With the money to be obtained the signatories of the letter suggest an endowment sufficient to furnish future lecturers with an honorarium, and, it is understood, also with a medal, thus enabling them to have a worthy souvenir of their official association with the memory of a man who was held in the highest esteem and regarded with the deepest affection by all who came to know him.

Jackson died in 1911, and already those who were his intimates and associates are becoming fewer, while others who came in contact with him as juniors find their memories dimmed with the passing of time. It is difficult to convey to newcomers in the field of neurology the peculiar influence unconsciously exercised by him on the minds of his colleagues and students. What his subject was like when he entered the field in the sixties of last century can be gauged by reference to contemporary literature; it was the era of morbid anatomy, with little or no serious attempt at scientific clinical observation, and still less at either neurophysiological or psychological experiment. Jackson proceeded quietly but insistently on his way; his vivid but controlled imagination, combined with the philosophic bent of his mind, resulted in the appearance of a succession of hypotheses, founded on exact clinical study, which as by a flash illuminated the workings of the brain, and served in the most striking fashion to stimulate inquiry and provoke systematic research. No better proof of this is required than the unanimity with which distinguished colleagues acknowledged their indebtedness to him, or the eagerness that animated younger men to get into personal touch with him and learn from his rich experience or become imbued with some of his spirit. As the years passed it became obvious that Hughlings Jackson had consolidated doctrines in respect of the nervous system and its functions which proved to be not merely fundamental on the scientific side, but extraordinarily fertile when applied to problems of nervous disease. To the end of his life he was instrumental in fanning the flame of research in other minds, in awakening thought and stimulating observation; and when these effects were produced by one of singular modesty and personal charm, willing and ready to see points of view other than his own, the result was to endear him to the hearts of all who were associated with him.

Yet in one sense his fame was limited: to understand his marvellous achievement required knowledge of the subject, and neurology had not then attained the prominence, even publicity, which it receives to-day. Without being aware of it, perhaps, a new generation has arisen which has entered into his labours, and the commonplaces of nervous disease and of cerebral physiology are accepted without a thought being given to the one man above all others whose genius discovered them and foresaw their significance. To commemorate in some permanent way his greatness, to secure, even if tardily, that further honour should be done to his name, to evince to younger students of the same subject that he was the fount of inspiration to their predecessors, is the purpose of this appeal. It is twenty years since he died, and if personal memories linger only with comparatively few, the spirit which animated him is undying so long as it is reborn in those that come after him and find in his work an incentive and in its emulation a reward.

SCHOOLS OF HYGIENE

The Commission on Education in Hygiene and Preventive Medicine, appointed by the Health Committee of the League of Nations in 1924, invited and received reports from a number of countries, including Great Britain. It attended conferences at the opening of new schools of hygiene at Warsaw, Budapest, and Zagreb, and in 1930, under its auspices, meetings of the directors of certain schools of hygiene were held in Paris and Dresden. The report[1] on these conferences is of interest both for the general principles it formulates and for the data it supplies regarding the scope of health instruction in Great Britain and other countries. The introductory section, by Professor Léon Bernard of Paris, recalls three principles in health organization which are regarded as vital: (1) that unless a body of trained experts is formed no public health work is possible; (2) that without the collaboration of an enlightened medical profession the work of these experts would be sterile; and (3) that without the support of the masses the precepts of hygiene would remain a dead letter. With reference to the schools of hygiene in which these experts receive their training, three further principles are laid down: (1) that there should be co-operation between schools of hygiene and universities and the public health services; (2) that the universities and public health services should be represented in the management of the schools; and (3) that the schools should combine the scientific spirit with a practical outlook. The report urges the value of research to schools of hygiene on the ground that it stimulates the intellectual activity of the members of the teaching staff and increases their influence both on their colleagues and on their students. Whether the research is pure or applied is not of primary importance. It will, as a rule, be carried out by the staff, but it may be entrusted to specially qualified students. The place occupied in curriculums by sanitary engineering will depend upon the degree of development of the general sanitation in the country concerned. In less advanced countries the subject may occupy a prominent position; in countries like ours which enjoy an established sanitary tradition it is only necessary that the student who aspires to become a medical officer of health should acquire enough knowledge of sanitary engineering to enable him to supervise the work of his sanitary inspector and to discuss with understanding plans or schemes drawn up by engineering specialists. Much weight is properly attached to "field training," by which is meant the opportunity of gaining experience of the practical aspects of hygiene. To this end visits should be made to places and institutions of hygienic interest, and the student should himself take part in the work of a public health service. Field instruction should aim at training, not teaching, and a period of not less than six months should be devoted to it. The number of teachers of different subjects in a school should be ten to fifteen. If the number is inadequate specialized instruction can scarcely be given: if there are too many the course tends to be broken up into a succession of detached lectures. Some schools provide training for auxiliary health personnel and also instruction in health matters for the general public; others confine their efforts to the training of medical officers of health. Schools of hygiene should be autonomous institutions, not necessarily closely associated with a university, but including university professors on their staffs. With regard to the health teaching of the student of medicine, as distinguished from that of the candidate for a diploma in sanitary science, the report emphasizes that in most European countries the instruction which the medical student receives is not sufficient to equip him for the proper discharge of his duties as a medical practitioner. It is confined to a theoretical outline, and does not adequately take account of the social problems involved. Throughout his curriculum the student's attention should be directed to the social aspects of medicine. The task of inculcating this lesson would fall mainly to his clinical teachers in dispensaries and out-patient departments. Arrangements along these lines, it is suggested, would function best in small teaching units; in large universities suitable schemes may be difficult to organize. In some cases it would be possible for the medical officer of health to take part in the practical instruction of students of medicine. The preventive idea should pervade the whole of the student's medical training; if this is secured he will come to his formal course in hygiene towards the end of his curriculum with a mind prepared. The professor of hygiene, who should himself have a thorough experience of practical hygiene and be a competent clinician, should urge this policy on his colleagues in the school or university. The body of the report sets forth with numerous plans and illustrations the construction, arrangement, administration, and curriculums of the schools of hygiene of London, Warsaw, Zagreb, and elsewhere. It should prove of interest to all engaged in the organization of new schools or in the rearrangement and expansion of existing institutions.

[1] League of Nations Health Organization. Report on the Work of the Conferences of Directors of Schools of Hygiene. Geneva, 1930. (1.25 dollars; obtainable in Great Britain from Allen and Unwin, Ltd., 5s.)

A NEW INTERNATIONAL CONFERENCE ON THE TRAFFIC IN NARCOTIC DRUGS

An international conference on the limitation of the manufacture of narcotic drugs will assemble under the auspices of the League of Nations at Geneva on May 27th. Representatives from all countries, whether producers or consumers only of the drugs in question, will there meet, with a view, if possible, to agree on amendments of the Geneva Convention of 1925 and to achieve the limitation of the dangerous alkaloids derived from the opium poppy and coca leaves to strictly medical uses, as contemplated by Article 9 of The Hague Opium Convention of 1912. A twenty-seven-page pamphlet has been prepared by the secretariat of the League describing the history of the movement since 1912 and the present situation. It recites the task submitted by the Assembly of the League to the contentious conferences which met at Geneva in 1924, and how the direct limitation of the production of opium and coca leaves and their alkaloids to the amounts required for legitimate use was abandoned in favour of indirect limitation by the control of imports and exports. It shows how failure to ratify, or to carry out, the Geneva Convention led, during the next five years, to an increase of the illicit traffic, till it assumed "alarming proportions." It relates the attitude of the Advisory Opium Committee,

which favoured procedure under the Geneva Convention, and that of the tenth Assembly of the League, which preferred "supplementing the Convention without delay so as to limit the manufacture of dangerous drugs to the amounts required for medical and scientific purposes." Reference is made to the limitation scheme of 1930, based on the allocation of quotas of the total world requirements among manufacturing countries, and to the failure of the London Conference of November, 1930, to agree on what the quotas should be. Further investigation by the Advisory Committee, now reinforced by representatives of non-producing countries, has shown the complexity of the problems which will confront the conference; the draft of a new convention, which is to be submitted, is clearly understood to be merely a basis for discussion, and alternative methods of achieving the desired limitation will be duly considered. The Italian, Belgian, Japanese, Turkish, and Yugoslav delegations have objections to raise or amendments to propose, while the method of dealing with contraband seizures, the control of prices, the inclusion of new drugs of addiction, and the constitution of a central organ for supervising estimates and distribution, will engage the attention of the new conference.

GLASS

Glass is of such common use that very few think what an amazing substance it is: solid, resistant, and yet able to transmit the view as though there were no obstruction between the eye and the view. But more amazing are the varieties of glass which the modern chemist has devised. In a recent lecture to the Illuminating Engineering Society[1] Dr. S. English dealt with the technical aspects of these glasses. The bands of coloured light we see in the rainbow do not represent the total radiations present in the sunlight. The same is true of most artificial sources of light. There are invisible rays at each end of the spectrum—the ultra-violet rays and the infra-red rays. According to the chemical constituents of the glass so the transmission of these rays may be varied and the invisible rendered visible. The ideal material for transmitting ultra-violet rays is silica, though it is too expensive for general use; ordinary glass contains 70 to 75 per cent., but since there are many other constituents little of these rays pass through it. Iron oxide is the chief of the obstructors; good ultra-violet glass may contain as little as 0.02 per cent. The ferrous oxide is less disturbing than the ferric oxide. In the preparation of such glass, reducing substances are included in the batch mixture to convert the ubiquitous iron to the ferrous salt. But when the glass is exposed to ultra-violet radiation, either from the sun or from an artificial source, the ferrous oxide is converted into the ferric oxide. Because of this change a glass which has a transmission of, say, 60 per cent. of the health rays when new may have this figure reduced to 50 or even 40 per cent. after its iron oxide has come to an equilibrium. The change is spoken of as "solarization"; it takes from three to six months to become complete. All commercial glasses suffer from this defect in varying degrees. Wood's glass, named after its inventor, Professor Wood of Johns Hopkins University, owes its peculiar properties to the fact that it contains a certain proportion of nickel oxide on a potash base, which is sufficient to colour the glass a very deep blue, and thus obstruct the passage of rays of visible light, but not the ultra-violet rays. By the use of a glass of this type it is possible to have a room in darkness but filled with invisible rays that only need a suitable medium for showing them up. Fluorescent solutions will do this. But there is a glass, known as canary glass from its colour, which contains 1 per cent. of uranium oxide; this has the power of converting the invisible rays into the longer rays of green light, which can be seen by the eye. Wood's glass has been very valuable in research and in applied medicine; by means of it hair from a scalp infected with ringworm shows a strong fluorescence, healthy hair does not. Genuine pearls and false ones can be distinguished, natural teeth and artificial, and so forth. It can be employed in delicate acid-alkali titration tests, with quinine as an indicator. Crookes's glass is well known and widely used. The cerium in it absorbs the ultra-violet rays strongly. It may be a nearly colourless glass, and yet filter the active rays from light to the comfort of the eyes of the hypersensitive, and for the protection of fabrics likely to fade. Everyone is familiar with the power of glass to transmit heat, of which advantage is taken in the common garden greenhouse, but a glass that will cut off all the heat rays can be produced. Crookes found that iron oxide was the most effective constituent of glass for this purpose, giving it the familiar green colour of the pre-war bottle. Glasses of this type are of great value in the Tropics, and even in this country for roofs or skylights, and they have been found of service for hospital operating theatres. By the use of such glass the temperature indoors can be kept quite cool when there is hot sunshine out of doors. The colour of the glass is not in its favour, but after a little time is spent in a room or workshop glazed with such glass the colour is not noticed. A glass the very reverse of this has been produced, which will absorb all visible rays but transmit infra-red rays. It has been of great service in invisible signalling, and it has a field of usefulness for burglar alarms and apparatus of that type.

[1] *Illuminating Engineer*, February, 1931.

THE BRITISH SCIENCE GUILD'S PROGRAMME

Speaking at the annual meeting of the British Science Guild, the president, Sir Samuel Hoare, said that the Guild was intended to be a bridge between the world of science and the general life of the country. Its lectures and publications showed how catholic were its interests and how practical its methods. It had, for instance, published a *Catalogue of British Scientific and Technical Books*, now in a third and enlarged edition. It had carried out an investigation into the position of the technical expert in the public services and industry; and such lectures as Sir William Pope's on "Science and modern industry" and Sir David Prain's on "Science discipline" made a considerable impression on public opinion during the past twelve months. The Guild was now anxious to embark upon a more ambitious programme, and intended to investigate the potentialities of existing industries and the effect that the proper application of science would

have upon them. In the present crisis all the help that scientific inquiry could apply was needed. Were successive Governments helping or hindering the application of science to industry? How far were reactionary employers and equally reactionary trade unions impeding progress? These were the kind of questions that the Guild wished to deal with in its inquiry. Science and disarmament was another field of investigation that he would like to see explored. The knowledge he gained at the Air Ministry convinced him that armaments was going to be the central question of foreign politics in the years immediately ahead. He believed that if the discussions at Geneva next year were to be really useful, the scientific aspects of disarmament should be brought into even greater prominence than its political and financial aspects. The main problem, and by far the most difficult, was that of the new weapons of destruction and the need for finding some means of controlling them. Should the world of science help these developments? The question was by no means a simple one, for scientists would discover new rays and gases and explosives in the stride of their ordinary work. Should gas warfare be prohibited? One school of thought maintained that gas warfare was more humane than a warfare of machine-guns and high explosives, and that the gas warfare of 1917 exhausted the future possibilities of this kind of attack. Sir Samuel Hoare did not share this view, but he maintained that scientists alone could give a true answer to the question.

CATS AND HUMAN DISEASE

There must be several million cats at present alive in this country. They live in a very intimate relationship with mankind, more intimate than in the case of any other animal, and their potentialities for the transmission of disease to human beings must be considerable. Accordingly, a recent review of the literature on the cat in relation to disease transmission[1] by D. R. A. Wharton, is of considerable interest. Cats, especially when young, may be experimentally infected with the organisms of diphtheria and of tuberculosis. There is, however, little evidence that cats frequently or even occasionally suffer from naturally acquired diphtheria; and, while they are susceptible to both human and bovine strains of tuberculosis, and have almost unrivalled opportunities for becoming infected with either, a remarkably small number suffer from this disease also. Cats do sometimes suffer from plague, and may play a part in the dissemination of this disease; and, like their masters, occasional cases of glanders, anthrax, and foot-and-mouth disease have been reported in them. Rabies occurs now and then in cats, and here the bite is probably more dangerous than that of the dog, because of the fine, needle-like teeth. Sometimes protozoa pathogenic to man are reported from the cat, and it does undoubtedly harbour a number of human helminths, especially those which, like dibothriocephalus, clonorchis, heterophyes, and paragonimus, are transmitted by fish or shell-fish. Lastly, feline mange, fleas, and ringworm are sometimes transmitted to man. The net results of the review is that, while the cat can suffer from a variety of infections which also occur in man, in actual practice, apart from acting as reservoir to a number of flatworms, its influence on public health is probably negligible.

[1] *The Cat in Relation to Disease Transmission: A Review.* By Denis R. A. Wharton. Long Island, New York: The Biological Laboratory, Cold Spring Harbor. March, 1931.

POST-GRADUATE COURSES IN TUBERCULOSIS

The Joint Tuberculosis Council has arranged a post-graduate course in Holland from June 29th to July 4th. Visits will be paid to The Hague, Amsterdam, Alkmaar, Laren, Hilversum, and Apeldoorn among other places; arrangements will be made to inspect urban and rural dispensaries, tuberculosis hospitals, open-air schools, after-care colonies, and sanatoriums, special lectures and demonstrations being given in each place. No lecture fee will be charged; inquiries about touring expenses should be addressed to Dr. W. Brand, 8, Highway Court, Beaconsfield, Bucks. A post-graduate course will be held in Lancashire from October 19th to 24th, with special relation to central administration in counties and cities, the application of actinotherapy and radiology to tuberculosis, the pathology of tuberculous lesions, treatment of advanced and chronic pulmonary cases, and pneumonoconiosis. Dr. P. W. Edwards, medical superintendent of the Cheshire Joint Sanatorium, will give, at dates to be arranged, a series of short intensive post-graduate practical courses on modern methods of treating tuberculosis of the respiratory system, with special reference to collapse therapy. Methods of sanatorium administration will also be demonstrated. No class will exceed four members in number or three days in duration, and suitable arrangements for board and residence can be made within convenient distance of the sanatorium. All communications about these courses should be addressed to Dr. Brand.

WELFARE OF THE BLIND

In view of the continued development in the work among the blind, owing to the operation of the Blind Persons Act, 1920, and the Local Government Act, 1929, and the new problems constantly arising in connexion with this service, the Minister of Health has reappointed the Advisory Committee on the Welfare of the Blind for a further period of office. The committee has been constituted so as to afford representation to the local authorities concerned with the working of the Blind Persons Act, 1920, and to voluntary associations for the blind, as well as to organized blind workers. The chairman of the committee is Lord Blanesburgh, and the medical members are Dr. A. Eichholz, Dr. S. J. C. Holden, and Dr. J. Middleton Martin. The committee will advise the Minister on matters relating to the care and supervision of the blind, including any question that may be specially referred to it by the Minister. Mr. F. M. Chapman of the Ministry of Health will act as secretary.

The Minister of Health and the Secretary of State for Scotland have appointed a committee to inquire into the working of the law as to the composition and description of articles of food other than milk, and to report what alterations, if any, in the law or its administration appear to be desirable. The chairman of the committee is Sir Frederick J. Willis, and the medical member is Dr. J. M. Hamill. The secretary is Mr. W. J. Peete of the Ministry of Health, to whom all communications on the subject should be addressed.

HUGHLINGS JACKSON MEMORIAL

We have received for publication the following letter dated May 13th, 1931:

"A fund is being raised to establish a permanent memorial to Dr. Hughlings Jackson. Among those who are taking action in the matter are many old friends and pupils who revered and loved Jackson, and who recognize to what an extent the pre-eminent position of British neurology in the medical world is due to his work and influence. He was among the great leaders of modern neurology, and it is much to be desired that the inspiration that he gave to so many in his lifetime should be kept fresh, and still serve as a stimulus to a younger generation who knew him not.

"It is hoped to raise an amount sufficient to provide a permanent endowment for the Hughlings Jackson Lecture, given every third year before the Section of Neurology of the Royal Society of Medicine. Several generous promises of support to such a fund have already been received, but the signatories of this letter feel that an opportunity to subscribe should be given to many who can only be reached through the publicity of the press, and who would certainly wish to show their appreciation of the position which Hughlings Jackson holds in the history of modern medicine. Dr. Wilfred Harris, of 56, Wimpole Street, London, W.1, has consented to act as treasurer of the fund, and subscriptions should be sent to him, marked 'Hughlings Jackson Memorial Fund.'"

This letter is signed by Sir Thomas Barlow, Past-President, Royal College of Physicians; Sir John Rose Bradford, Past-President, Royal College of Physicians; Professor Judson Bury, Past-President, Association of Physicians; Sir E. Farquhar Buzzard, Regius Prof... of Medicine, University of Oxford; Dr. James Coll..., Senior Physician, National Hospital, Queen Square; Lord Dawson of Penn, President, Royal College o... Physicians; Sir Henry Head, late Editor of *Brain*; Dr. Gordon Holmes, Editor of *Brain*; Mr. Leslie Paton, President, Section of Neurology, Royal Society of Medicine; Sir Percy Sargent, Surgeon, National Hospital, Queen Square; Sir Charles Sherrington, Past-President, Royal Society; Dr. James Taylor, Consulting Physician, National Hospital, Queen Square; Dr. S. A. Kinnier Wilson, President, Section of Psychiatry, Royal Society of Medicine; and Dr. Wilfred Harris.

FIRST LIST OF SUBSCRIBERS

The following is a preliminary list of subscribers to the Hughlings Jackson Memorial Fund.

Dr. W. J. Adie
Professor E. D. Adrian
Sir Thomas Barlow
Dr. A. Stanley Barnes
Dr. Helen Boyle
Sir John Rose Bradford
Dr. Judson Bury
Sir E. Farquhar Buzzard
Dr. Hugh Carleton
Dr. P. C. P. Cloake
Dr. James Collier
Dr. Macdonald Critchley
Lord Dawson of Penn
Dr. D. E. Denny-Brown
Sir David Drummond
Dr. Anthony Feiling
Dr. R. G. Gordon
Dr. J. G. Greenfield
Sir William Hale-White
Dr. Wilfred Harris
Dr. Gordon Holmes
Dr. Redvers Ironside
Dr. Ernest Jones
Dr. H. S. Le Marquand
Dr. Douglas McAlpine
Dr. E. D. Macnamara
Dr. Edward Mapother
Professor Pierre Marie
Dr. C. S. Myers
Dr. E. O'Flynn
Mr. Leslie Paton
Dr. S. M. Payne
Sir James Purves-Stewart
Dr. Nathan Raw
Dr. George Riddoch
Dr. A. E. Russell
Dr. J. S. Risien Russell
Dr. W. R. Russell
Sir Percy Sargent
Dr. Ruby Stern
Dr. W. H. B. Stoddart
Dr. H. N. Stoessiger
Dr. C. P. Symonds
Dr. James Taylor
Dr. Theodore Thompson
Dr. Campbell Thomson
Mr. Wilfred Trotter
Dr. W. Aldren Turner
Dr. Parkes Weber
Mr. F. A. Williamson-Noble
Dr. S. A. Kinnier Wilson
Dr. W. Wyllie

EARLY MEN AND APES

BY

PROFESSOR G. ELLIOT SMITH, M.D., F.R.S.

During the time that has elapsed since Sir Arthur Keith last made (in 1925) a comprehensive survey of the facts relating to the antiquity of man so much of cardinal importance has happened in the domain of human palaeontology that the time was ripe for a commentary on the new discoveries. This he has supplied in the present volume,[1] which closely conforms in its methods of exposition and illustration to the well-known treatise to which it forms a supplement. It gives a very useful survey of the additions to our knowledge of Neanderthal Man and the new representatives of that species found in Gibraltar, Germany, Italy, the Crimea, and Palestine; and of the conflicting reports on the remains of more modern men from East Africa, South Africa, Australia, and elsewhere. There are also disquisitions on the excavations at Ur in Sumer, on the significance of endocranial casts, and on an acromegalic skull from a Christian cemetery of the twelfth century in Greenland, to which, with amazing irrelevance, a distinct specific rank (*gardarensis*) is accorded. This provides Sir Arthur with the opportunity for [illegible] with his familiar speculation that some [illegible] primitive men were the victims of an imaginary disturbance in the working of their pituitary glands. On this subject he still leaves us wholly in the dark as to the precise nature of his claims, and what exactly his argument is.

The major part of the book is devoted to lengthy reports on, and discussions of the significance of, the Taungs ape, first described in 1924 by Dr. Raymond Dart, professor of anatomy and dean of the Medical School in the Witwatersrand University; the Lloyds skull, representing the earliest known inhabitant of the City of London, the finding of which was recorded by Mr. Warren R. Dawson in 1925; and the most significant discovery in human palaeontology, the remains of Peking Man, with which the name of Professor Davidson Black will always be associated, though the actual fossils were found in 1927, 1928, and 1929 by Dr. Birger Bohlin and Mr. W. C. Pei. Sir Arthur Keith gives a full and precise account of the remains of the Taungs ape, and a sober assessment of their significance, with which most anthropologists are likely to agree. As his detailed statement of the evidence and his judgement of its meaning are in complete agreement with the brief summary in my *Evolution of Man* (1927), it is hardly necessary for me to say more than repeat the verdict that *Australopithecus* is an ape akin to the chimpanzee and gorilla, and even more nearly to the extinct *Dryopithecus*, which reveals a more definite, if slight, approach to the human condition than any other known ape.

Sir Arthur devotes special attention to "The Lady of Lloyds," and expresses the opinion that this earliest

[1] *New Discoveries Relating to the Antiquity of Man.* By Sir Arthur Keith, M.D., F.R.S. London: Williams and Norgate, Ltd. 1931. (Pp. 512; 18 figures. 21s. net.)

known inhabitant of London deserves much more attention than I showed her in 1925 (*British Medical Journal*), and 1927 (*Evolution of Man*). I can only assure him that I share his opinion. Sir Arthur's suggestion that the Lloyds skull should be assigned to the Piltdown type, however, is devoid of any sort of justification. Some years ago Miss Dorothy Garrod convinced me that the geologists were in error when, in 1925, they refused to admit that the fossil was as old as the Mousterian. But while admitting its remote antiquity I fail to discover in the Lloyds skull any reasons for associating it in type with the Piltdown skull. The comparison is made plausible only by the fact that Sir Arthur still persists in using his old reconstruction of the Piltdown skull, which is obviously erroneous. No one can fail to recognize the medial part of the lambdoid suture on the fossil and even in Mr. Barlow's excellent casts, which are now exhibited in many museums. Yet Sir Arthur assumes (see his Figs. 154, 155, and 157) that this part of the suture is not present, but about a centimetre distant from the fossil parietal in his hypothetical restoration. The error created by this neglect of the clear anatomical evidence revealed in the fossil is still further exaggerated by his failure to recognize the median plane (which he has put some distance to the right of its true situation), and the mode of articulation of the parietal with the temporal bone. Hence there is a profound contrast between his conception of the Piltdown skull and the reconstruction I made (see my *Evolution of Man*, 1927, Figs. 17 to 24) to give proper expression to the facts of anatomy actually displayed in the bones. The true reconstruction of the skull reveals nothing whatever to justify the claim that the Piltdown skull resembles the Lloyds skull.

In his introduction Sir Arthur Keith confesses that he wants to reopen the Piltdown controversy. It is strange that this provocative challenge should be accompanied by his old diagrams revealing anatomical errors of which he cannot be ignorant. This persistence in error becomes all the more incomprehensible in the light of the discoveries in China, for the skull found near Peking on December 2nd, 1929, reveals in an exaggerated form (particularly in the view of the brain-case from behind) those bizarre features which in 1913 seemed so incomprehensible to Sir Arthur that he felt it necessary to disregard the sutures and make a monstrous big skull. In his otherwise excellent account of the Peking skull he omits all reference to this aspect of the new fossil, which more than any other factor confers exceptional importance on the Chinese discoveries.

Sir Arthur discusses several matters that have no direct relevance to the problems of the fossil remains of man. For instance, he gives us his views on the origin of agriculture. Without citing a single fact in justification, he says: "We must give it an antiquity of some 10,000 or 12,000 years" (p. 170). Moreover, "it is certain that a knowledge of agriculture was carried into Egypt." Claims such as these, which come into conflict with all the known facts, should not be made without evidence or argument in their support. Yet such speculations as Sir Arthur does make would, if admitted, be fatal to the acceptance of the statements just quoted. Thus he accepts at their face value the strange claims for the former existence in Egypt of a so-called "Badarian" phase of culture presumed to be older than the pre-Dynastic period. These "ancient dwellers in the Fayum," he proceeds to tell us, "had come by a knowledge of agriculture, while the cave people of Palestine had no such knowledge" (p. 230). In fact, there is no evidence anywhere in Asia of the practice of farming at all comparable in age to that attributed to the Badarians. Yet he asserts that "our modern civilization, which was made possible by the discovery of agriculture, was born in the south-western part of Asia," whence it "was carried into Egypt." This purely imaginary, and certainly fictitious, version is set forth without any reference of any sort to the body of decisive evidence, which is fatal to it, collected by Professor Thomas Cherry of Melbourne while he was serving in Palestine and Egypt with the Australian Medical Corps during the great war. I need not say more of Dr. Cherry's important researches here, because I have given in my book, *Human History* (Chapter VII), a full report of his evidence and conclusions, which in my opinion settle the question once for all. But, whether or not this is admitted, the facts cited by Professor Cherry cannot be ignored, as Sir Arthur Keith has done.

Surely the last two chapters must have been included by inadvertence? An interpretation of endocranial casts which leads to the conclusion "that a large brain was given to man, not that he might understand life, or circumvent difficulties, but simply to enjoy it," can hardly be meant seriously. Why also devote a whole chapter to "The discovery of *Homo galilaeensis*," when Sir Arthur frankly admits that this individual of the new species was in fact a twelfth-century Christian afflicted with acromegaly.

In spite of these minor defects the book is an eminently useful guide to the recent advances in human palaeontology. It is as brilliant in exposition as it is entertaining in the telling of the story, and it gives just and generous acknowledgement to those adventurous anatomists Davidson Black and Raymond Dart, whose great achievements will always be regarded as outstanding events in the progress of the palaeontology of apes and men during the last decade.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN

The annual general meeting of the Society for Relief of Widows and Orphans of Medical Men was held on May 13th, when the president, Mr. Warren Low, C.B., F.R.C.S., was in the chair. The annual report for 1930 showed that the membership of 285 was composed of 160 life members, 124 ordinary members, and 1 honorary member. During the year six members had died, among whom was Sir Francis Champneys, a member of forty years' standing, a vice-president, and at one time an active member of the court of directors; seven new members had been elected. The annual grant was £75 to widows over 65 years of age, and £60 to those under 65, while each orphan under 15 years of age received £50; in addition, a Christmas present of £10 was made to each widow and orphan. The sum of £241 was also paid to six orphans who had reached the age of 16, to enable them to continue their education at school or to start some professional or business career. The expenditure in grants and presents amounted to £4,963, while the expenses were £350.

The society is a mutual provident benevolent association of medical men who at the time of their admission to membership are resident within a radius of twenty miles from Charing Cross. The invested funds of the society, which was founded in 1788 and incorporated by Royal Charter in 1864, exceed £140,000. The annual subscription of a member under 40 years of age is £2 2s., and after payment of three annual subscriptions his dependants become eligible for benefits; a single payment of £21 secures a life membership to a member under 30 years of age, with immediate eligibility of his dependants for benefits. Full particulars can be obtained from the secretary, 11, Chandos Street, London, W.1.

As an instance of the benefit of joining the society, attention is called in the report to the case of a widow who had been on the fund since 1917 till her death in 1930; she had received £925 in grants; her husband had paid £31 10s. in subscriptions.

Ireland

University of Dublin

The first John Mallet Purser Lecture will be delivered in the School of Physic, Trinity College, Dublin, on June 26th, by Sir Edward Sharpey-Schafer, F.R.S., professor of physiology in the University of Edinburgh, who has chosen as his subject "The new physiology." The lecture will be open to medical students and medical practitioners. This lectureship was endowed by Miss Sarah Purser, in memory of her brother, the late Dr. Purser, who devoted his life to the welfare of the School of Physic, where he taught for many years.

The usual three weeks' post-graduate course for general practitioners, which will be held this autumn from September 14th to October 3rd, will include clinical lectures in surgery, medicine, obstetrics, orthopaedics, laryngology, ophthalmology, and diseases of the skin. Laboratory instruction will be given each afternoon in the medical school in anatomy, physiology, pathology, and bacteriology. There will also be demonstrations on the use of the electrocardiograph and of radium, and lectures on medicine and therapeutics. Members of the classes will be accommodated, as far as possible, in the College rooms.

National Health Insurance (Irish Free State)

In moving the vote for National Health Insurance in the Dáil the Minister for Local Government and Public Health said that the Act of 1929 had enabled him to make some reductions in the cost of the headquarters staff, amounting to approximately £4,000. The cost of sickness benefit, however, had become so heavy that investigation was required to see how far the increase in this item was due to laxity in certification or increased illness, or to a combination of both. In 1927 the number of cash payments, excluding sanatorium benefits, was 638,596; in 1928, 652,833; in 1929, 681,051; in 1930, 713,662—an increase over the four years of 75,066, or 11 per cent. During the same period the number of medical certificates issued increased from 1,117,471 to 1,251,185. On the other hand, there was a steady growth in the number of insured persons and of the contributions paid by employers and employees. The contributions paid had increased from £509,500 in 1927 to £565,000 in 1930, an increase of 10.8 per cent. Sir James Craig (Dublin University), Dr. O'Dowd (Roscommon), Dr. Tubridy (Galway), and Dr. T. Hennessy (Dublin S.) took part in the discussion, and referred to the charges of lax certification and additional medical benefits for insured persons. In reply the Minister said that the weakness in medical certification was probably not due to the doctors. The difficulty was the indecision of doctors to put a person who had been in receipt of benefit back on the working list, but their certification of persons for two or three days had a material effect on the total amount of benefit to be paid.

Memorial to Dr. Arthur Dobbs, Athlone

Under the auspices of the Athlone branch of the District Nursing Association, a nurses' home, erected to the memory of the late Dr. Arthur Dobbs, medical officer of health for Athlone and district for thirty-eight years, and else[illegible] was opened recently by Mrs. Homan Mulock, Bellair House, Ballycumber. At a public meeting held after the ceremony the Very Rev. Canon Crowe remarked that the provision of a comfortable home for the district nurse was the best guarantee for the continuance of the association. He congratulated all those who had contributed to the success of the enterprise, especially Mr. Burgess, founder of the local nursing association, and Mrs. Murtagh, secretary of the home, whose enthusiasm and devotion had been invaluable. Miss Colburn, superintendent of Jubilee Nurses of Ireland, said that there were nearly two hundred district nursing associations in the country, but many more nurses were needed. No one could assert that their nurses were overpaid, in view of the very high qualifications demanded of them. In regard to the pension fund for nurses, half the sum required to ensure a pension for every nurse in Ireland had been obtained; there was still, however, a deficiency of £10,000. Last year the owners of private gardens had raised £4,000 by charging visitors a small fee for admission. She hoped that these garden schemes, which were organized for the benefit of the association and of the pension fund, would be extended. Dr. H. O'Neill, county medical officer, Westmeath, pleaded for the foundation of associations in other parts of the county. A voluntary association, he said, apart from stimulating interest in health, could give great assistance in carrying out the special services concerned with maternity, child welfare, and school medical inspection. He wondered sometimes if they appreciated sufficiently their good fortune in having a supply of nurses from the Institute of District Nursing in Dublin. These nurses were not only qualified in medical and surgical nursing, but they were certified midwives, capable of advising expectant and nursing mothers, and trained to deal with the minor ailments of infants and young children. Above all, they were able to recognize when medical advice was necessary. In paying a warm tribute to the work of the late Dr. Dobbs, Dr. O'Higgins praised the magnanimous spirit of self-sacrifice and devotion that was consistently shown by district nurses in extremely arduous circumstances.

Armagh Mental Hospital

Dr. Dora Allman has been appointed resident medical superintendent of Armagh Mental Hospital, at a salary of £600 a year and emoluments valued at £150 a year. Dr. Allman has been assistant medical officer in the institution for thirty-two years. She is the first woman to be appointed to such a post in Ireland.

England and Wales

Pay-Bed Section, Royal Victoria Infirmary, Newcastle

The Royal Victoria Infirmary, Newcastle-upon-Tyne, has issued a descriptive pamphlet outlining the features of its pay-bed section, which has been opened to provide up-to-date hospital treatment for patients of moderate means. In order to save the time and expense of multiple consultations, the medical services, which are supplied by the visiting and consulting staff of the infirmary, have been organized as in the wards of a large general hospital, a single inclusive fee being charged at a substantially reduced contract rate. This team service is stated to be complete in all branches of diagnosis and treatment, and a resident medical staff is available as required. The paying patients occupy three pavilions running north and south, with a total accommodation at present of eighty-six beds. Balconies, which can be enclosed by collapsible fronts glazed with "vita" glass, look out on to airing courts between the pavilions. Each of these three wings has clothing and food stores, clinical laboratory, sister's room, ward kitchen, interview room, linen room, and necessary staff offices. The buildings have been fitted up on approved modern principles with entirely new equipment. Single bedrooms contain a wash basin with hot and cold water, mirror, wardrobe, side table, bedside lamp, and a wireless apparatus. Other features include electrocardiograph leads to each pavilion; a fully equipped dark room for eye,

throat, ear, and nose cases; a sterilizing room, centrally situated; and two anaesthetic rooms. There are two main operating theatres with furniture and instruments of the latest type. The pamphlet is illustrated, and contains a list of regulations giving definite information about the conditions and cost of treatment. Patients are admitted only on the recommendation of a medical practitioner; for the assessment of fees for maintenance and medical services they are graded in four classes according to their income. No provision is made for maternity cases.

The Middlesex Hospital and Cancer Wing

Prince Arthur of Connaught, chairman of the board of management, presented, on April 15th, his report for 1930 on the Middlesex Hospital and Cancer Wing. His Royal Highness said that since the last report the reconstruction scheme had been carried a stage further. Additional out-patient accommodation and certain special wards had been built, and there now remained two big pieces of construction before the original reconstruction scheme could be completed. For the first, the Woolavington paying patients' block, they had money in hand, but for the completion of the second approximately £245,000 must be found. To accomplish this task would necessitate the concerted efforts of everyone interested in the Middlesex Hospital. The new buildings occupied last year were the out-patient department in the annexe, the neurological and observation wards, the Bernhard Baron children's ward, and the new residents' house. The total bed capacity of the hospital, including the cancer wing beds, was 471; and during the year 6,751 in-patients had been admitted, the average cost of each patient per week being £5 4s. 1d., and the average stay 22.49 days. The number of new out-patients was 52,118. Although the expenditure for the year had increased, amounting to £129,966, they were left with a balance of £11,635, chiefly as a consequence of legacies. On the advice of the medical committee and the cancer and general research committee, a new department of clinical research in radium therapy had been set up in order to correlate the results of work done on cancer at home and abroad. By this means reduplication of inquiry would be avoided, and the whole body of knowledge of this disease would be available for all those concerned in its investigation. The hospital had received a further loan of 370 mg. of radium, and an increase in the annual grant from the British Empire Campaign. At the convalescent home at Clacton, 1,460 patients had been treated in the past year; and the provision of an efficient nursing staff had made it possible to transfer patients in the early stages of recovery. This had enabled the hospital to meet growing demands for in-patient treatment. There had been a considerable increase in the work done in the infant welfare department. The hospital provided thirty-one resident appointments, and ten registrarships in medicine and surgery, which enabled men to work for three years at an adequate salary in the higher branches of their profession.

Mental Deficiency in London

The Mental Hospitals Committee of the London County Council has expressed its general agreement with the report of the Departmental Committee on Mental Deficiency (the "Wood" Report), and states that the main reason why so far there has not been an exhaustive overhaul of the patients in the London county mental hospitals, with a view to action under the Mental Deficiency Acts, has been the practical one that suitable accommodation in institutions for defectives has not been available to a sufficient extent to make such an overhaul worth while. Now that the Metropolitan Asylums Board's mental hospitals are coming under the Council's direction, and a "comb-out" of the Poor Law institutions is expected, it seems advisable that the population of the Council's mental hospitals should be subjected to an adequate review, and instructions have been given to that effect. With regard to the conclusion of the Departmental Committee, from figures submitted, that the number of defectives ascertained and provided for by local education and mental deficiency authorities is far smaller than it should be, the Mental Hospitals Committee strongly expresses the view that in London all that the law provides has as far as possible been done. It is also of opinion that the co-operation between the mental deficiency authority and other agencies exists in London to a degree as great as circumstances permit. Another suggestion from the Mental Hospitals Committee is that the recommendation of the Departmental Committee that defectives with incorrigible criminal tendencies and those suffering from a multiplicity of defect should be accommodated in institutions to be provided by the Board of Control ought not to be applied too rigidly in London so far as the "incorrigible" are concerned. At Farmfield, an L.C.C. institution where many of these defectives are placed, many apparently incorrigible lads have begun to amend. The Mental Hospitals Committee feels that the transfer of this institution to State control would hinder rather than help the problem of institutional care of defectives in London.

West London Hospital and the "Class Between"

A festival dinner was held in the Guildhall on May 12th to mark the seventy-fifth anniversary of the West London Hospital's existence, and also to make an appeal for funds on behalf of a scheme to solve the problem of the middle-class patient, as well as to improve the ordinary accommodation. Prince Arthur of Connaught, the president of the hospital, explained the purposes of the extension, already outlined in these pages (February 7th, p. 236). His Royal Highness said that for the past six years the hospital had provided accommodation in private rooms for twenty-six middle-class patients; and it had now been decided to add a further seventy-four private rooms, making 100 in all. Hitherto £5 5s. weekly had been charged for a private room, but this had been subject to additions varying in amount for medical and surgical fees and the cost of special treatments. Owing to the generosity and kindness of the honorary medical and surgical staff, to whom most grateful thanks were due for their valuable co-operation, a plan had been evolved for a flat-rate weekly payment, beginning at £7 7s. and increasing according to the patient's ability to pay. This fee would be inclusive, so that the patient would know in advance his periodical liability. He believed that this scheme had never been tried in England before, and that it was a great step forward in dealing with middle-class patients who could not afford the charges in nursing homes and the fees of private specialists. The hospital was also improving its ordinary wards, and remodelling its main frontage to make larger provision for the ever-increasing number of casualties, for the pathological laboratories, and for the *x*-ray and electrical departments. Mr. Winston Churchill, who was the principal guest, said that the community had had many burdens to face of recent years, but it had steadily maintained its system of help for the suffering. A very large part of our population was now provided for under the National Health Insurance Acts and other social legislation. At the opening of the present century, though there was much voluntary provision, there was no State provision; but the last twenty years had seen a system of insurance—contributory certainly, but also State-aided—come into being to deal, if not adequately, at least more comprehensively than in any other country with sickness and disease among great

masses of the people. Mr. Churchill believed that British social institutions had played a great part in mitigating the rancour of industrial disputes, in enabling the nation to emerge at least as well as any other from the stress of the war, and in making this country, in spite of everything, the best in which duke or dustman could live. These provisions for the wage-earning population, however, left untouched the black-coated man, the member of the upper section of the middle class, of the intelligentsia, which was essential to the life of the nation. He therefore commended the effort made by the West London Hospital, within the limits of its own organization, to fill the gap and meet a crying need.

Correspondence

THE NEW ZEALAND EARTHQUAKE

SIR,—The account of the New Zealand earthquake in your issue of May 16th is most interesting, and must have filled all your readers with pride at the action of Dr. Biggs and his staff. The manner in which they dealt with an unprecedented situation was worthy of the best traditions of British pluck, and I am sure every one of us, your readers, is proud of his profession and of that of the nurses. All showed not only great courage and determination, but also skill and ability in coping with the very difficult position in which they found themselves. I think we should all like Dr. Biggs and those associated with him to know how much we appreciate their remarkable achievement.—I am, etc.,

Hove, May 18th. L. A. PARRY.

OBSTETRIC SHOCK

SIR,—It may be hoped that Dr. Phillips's most valuable paper in the *Journal* of May 16th (p. 833) will draw attention, not only to the importance of emotional shock in bringing about obstetric shock, but to that of preparturient psychological situations in modifying the course and event of parturition and the puerperium. It is "not enough," however, to recognize that anxiety, worry, and so forth are "contributing causes" or "play an important part" in the bringing about of untoward happenings. Every general practitioner knows, or should know, as much as that.

Modern psychology, it should be clearly understood, has made real progress in analysing, classifying, or "typing" the kinds of situation that tend to be followed by certain kinds of reaction. So much is this the case that a physician who is not altogether unacquainted with certain modern psychological trends may, not without justification, be sometimes a little impatient when an illness, evidently to him expressive of a patient's mood, is considered by a colleague to have an explanation in terms of biochemistry, or even of endocrinology. Whatever we may think of Dickens as a portrayer of character, probably no writer of fiction—not even Guy de Maupassant—has ever been a finer observer of life situations than he; and, in the opening chapter of *Dombey and Son*, he has given us an imperishable record of the kind of way in which the first Mrs. Dombeys of the Victorian world "reacted" to the marital situations created for them by the Dombeys themselves—a race not yet extinct. Such deathbeds as those of the first Mrs. Dombey are perhaps rarer than they were, even thirty or forty years ago. But they still may be witnessed, and strong-minded Lousas still urge the patients to "make an effort," just as hearty young doctors from our athletic hospitals think they are practising psychology when adjuring their dying invalids to "buck up."

Dickens, indeed, affords us very many obstetrico-psychological pictures of the highest import—the death of the mother of David Copperfield is one of much the same type as the death of Mrs. Dombey. And there are other vignettes no less valuable. The Royal College of Physicians several years ago ceased to require—as some think, unfortunately—any evidence of even nominal acquaintance with the great sources of humane, as distinguished from scientific, knowledge, at the hands of candidates for membership. But we have now a College of Obstetricians and Gynaecologists, and perhaps that learned body might do worse than test the humanities of its young men by examining them in the works of Dickens, and calling for commentary on selected passages!

Sir John Rose Bradford has just impressively reminded us that our medical studies must not be confined to the laboratory; but even clinical or bedside study, in addition, is "not enough." Human medicine, which embraces psychology no less firmly than it does biochemistry and post-mortem research, cannot be learned unless studies are pursued in the market-place, or even, as Sydenham well knew, in the window-seat of a tavern. The best and truest of modern psychologies has been so learned. But the extent to which it has developed and to which it is applicable at the bedside and in the lying-in wards seems to be almost unknown to those who still hope to discover the secrets of life in the deadhouse.—I am, etc.,

London, W.1, May 16th. F. G. CROOKSHANK.

DETACHED RETINA

SIR,—Now that the so-called "Gonin's operation" for detachment of the retina is being done all over the British Isles, and, one may say, wherever ophthalmic surgery is done, I feel that it is of great importance that medical men should realize what a benefit it is if cases of detached retina are sent immediately to the nearest ophthalmic hospital or ophthalmic surgeon. I feel that I cannot do better than quote a small part of the latest paper written on Gonin's operation by Dr. Mark Amsler of Lausanne, in the *Klinische Monatsblätter für Augenheilkunde*, (January, 1931, vol. 86).

"But the indications will become more and more extended, and the prognosis of the operation will be better and better, if the patients start treatment as soon as possible under an ophthalmic surgeon—a knowledge which must become extended among the public, exactly like the conviction that only the immediate operation in acute appendicitis, with the fear of perforation, or in extrauterine pregnancy, can save life.

"In this sense medical men and patients must come to an understanding, and under this condition Gonin's thought will develop into a general beneficent act of healing, whose final form, without doubt, is not yet discovered; rather more, it will be further perfected in method and technique by all ophthalmologists."

—I am, etc.,

London, W.1, May 13th. J. COLE MARSHALL.

FRACTURES OF THE LONG BONES

SIR,—I have read with great interest Mr. Fagge's letter, in which he states that my reading of his remarks on the treatment of supracondylar fracture of the humerus was wrong, and that my interpretation of his writing was exactly the opposite of what was intended, and of what the words conveyed. In these circumstances I must at once apologize to Mr. Fagge, but I can assure him that, although a re-reading of the article now makes the meaning clear, I am by no means the only reader who obtained the wrong impression. His letter, however, raises interesting issues which will repay consideration, and I feel certain we may profitably study it with care in an effort at least to clear up some of the points of importance.

Mr. Fagge tells us that he can recall only one case of ischaemic contracture in his ward during the last ten years. This is stated to have been put up at once in full flexion—probably following on a fracture. This may well have been so, but can Mr. Fagge recollect sufficiently clearly after this interval, or can he get from his notes or his *x*-ray photographs the very important point as to whether or not the fracture was completely reduced? Similarly, in regard to the half-dozen cases he has seen at Examinations, he states that in none does it appear that malposition—that is, failure of reduction—is a marked feature. Surely this is not the point. Can Mr. Fagge state that in any one of these cases there was a complete reduction of the fracture? It is because supracondylar fractures of the humerus are generally oblique that the rectangular position of the elbow will not retain reduction. Many experiments have been carried out on this matter, but perhaps the fullest series are those reported by Ashhurst in his *Anatomical and Surgical Study of Fractures of the Lower End of the Humerus*. Here we find that a very lengthy and careful series of experiments confirms the clinical findings of surgeons generally that the fuller flexion of the elbow after reduction of a supracondylar fracture is the ideal position of retention. In this position of flexion the coronoid process of the ulna comes into the coronoid fossa, and effectually steadies the lower fragment on its anterior aspect, whilst the tense triceps tendon, lying closely against the posterior aspect of the shaft and fragment, acts as an efficient splint and retains the fragment in position—just as the tense capsule of the hip-joint retains the fractured neck of a femur in alignment when the hip has been placed in a position of abduction and internal rotation. Splints are undesirable in the treatment of a supracondylar fracture, necessitating as they do circular compression, and neither are they any more effective than the right-angled position in preventing lateral movement.

When Mr. Fagge goes so far as to say that after accurate reduction of the fracture it does not matter whether the elbow be fixed at an angle of 30 degrees, 90 degrees, *or more* (the italics are mine), I feel that his advice is positively harmful, because the ordinary oblique supracondylar fracture of the humerus cannot, and does not, stay reduced when put up in this last position.

In the concluding paragraph of his letter Mr. Fagge suggests that I should in future examine and report upon the stability of the elbow, both at an angle of 30 degrees and of 90 degrees, under the *x*-ray screen. This I have often done, and can assure him that the stability is much more marked in the more flexed than in the rectangular position. I would suggest, however, that the movement he advises—namely, that of flexion and extension—is but a very poor test. The movement that matters is backward and lateral displacement of the forearm. If this, which is obviously the only true test, is made, Mr. Fagge will no longer advocate the rectangular fixation.—I am, etc.,

T. P. McMURRAY.

Liverpool, May 18th.

FRACTURES OF THE NECK OF THE FEMUR

SIR,—The excellent article by Sir Robert Jones on fractures of the neck of the femur, published in the *Journal* of May 9th (p. 781), must surely convey a new optimism to many who have previously regarded such fractures in the aged with undue hopelessness. A favourable prognosis in 75 per cent. of all cases is a very different result from the high mortality rate which resulted from the old sand-bag method.

I have at present under my care an old lady, aged 84, who slipped and fell on the floor on September 3rd, 1930, sustaining a fracture of the neck of the left femur. Although no *x* rays were available, all the typical signs of a fractured neck were present—namely, adduction, shortening, external rotation, and loss of power. She refused to go to hospital, so extension was applied, the limb abducted and the foot internally rotated. Unfortunately the old lady would not tolerate this position for more than a week, and owing to her refusal to take any nourishment while so "trussed up," the bandages had all to be removed, and only extension could be maintained. Result—an un-united fracture with adduction and external rotation, but a healthy return of appetite at once.

On the morning of April 3rd, I received an urgent call to see her again. She had tried to get out of bed herself and had fallen and hurt her other thigh. On examination I found that she had a fracture of the right femur at the junction of the lower and middle thirds. This was reduced and fixed in plaster, an operation to which she submitted with very bad grace. She had recovered her appetite again in three days, but could not resist trying to get the plaster off. At the end of four weeks she had so loosened the plaster case that it had become useless, and on removing it I found that the fragments were well united. She refused to allow me to apply another plaster case, the best I could do being to apply lateral splints and maintain them in position with elastoplast bandages.

It seems now that if the old lady will allow me to try to correct the adduction of the left leg, the application of a walking calliper splint may enable her to leave her bed and resume her place as a comparatively active member of the family.—I am, etc.,

J. E. T SHIRLAW.

Upholland, May 13th.

SIR,—With reference to Sir Robert Jones's article on fractures of the neck of the femur in your issue of May 9th, I note that in two places (p. 782, col. 1, under "Diagnosis," and p. 783, col. 2, under "The old un-united case") the signs and deformities typical of a fracture in this situation are described respectively as (*a*) *adduction*, shortening, and external rotation, and (*b*) ". . . flexion of the thigh, *adduction*, rotation outwards . . ." I have always been taught that the classical signs of a fracture of the neck of the femur are shortening, *abduction*, and eversion of the limb on the affected side. I should therefore be grateful if this apparently divergent view—if I have read the article correctly—could be elucidated.—I am, etc.,

C. S.

London, May 11th.

CORONARY THROMBOSIS AND MYOCARDIAL INFARCTION, WITH GLYCOSURIA

SIR,—The letters of Dr. Cruickshank and Dr. Tytler Burke on this subject are interesting, because they represent two schools of thought which are bound to come into conflict before long. Dr. Burke rightly attributes the syndrome to syphilitic infection because he can demonstrate microscopically every step in its development. Dr. Cruickshank deplores this inclination to blame the *Treponema pallidum* for the lesions while other etiological factors are apt to be ignored. He mentions two—alcohol and tobacco—and syphilologists have a right to ask him to demonstrate microscopically the steps from poisoning with alcohol or tobacco to fully developed coronary thrombosis. When he does this he can claim for alcohol and tobacco the same well-founded position in the etiology as is enjoyed by syphilis.

Medical students are still taught, and their teachers must be assumed to believe, that alcohol, lead, syphilis, and gout are equally responsible for a mass of indefinite chronic degenerations. This is a Victorian tradition, born in an age too respectable to believe that a "filth" disease could possibly be responsible for many of its

masses of the people. Mr. Churchill believed that British social institutions had played a great part in mitigating the rancour of industrial disputes, in enabling the nation to emerge at least as well as any other from the stress of the war, and in making this country, in spite of everything, the best in which duke or dustman could live. These provisions for the wage-earning population, however, left untouched the black-coated man, the member of the upper section of the middle class, of the intelligentsia, which was essential to the life of the nation. He therefore commended the effort made by the West London Hospital, within the limits of its own organization, to fill the gap and meet a crying need.

Correspondence

THE NEW ZEALAND EARTHQUAKE

SIR,—The account of the New Zealand earthquake in your issue of May 16th is most interesting, and must have filled all your readers with pride at the action of Dr. Biggs and his staff. The manner in which they dealt with an unprecedented situation was worthy of the best traditions of British pluck, and I am sure every one of us, your readers, is proud of his profession and of that of the nurses. All showed not only great courage and determination, but also skill and ability in coping with the very difficult position in which they found themselves. I think we should all like Dr. Biggs and those associated with him to know how much we appreciate their remarkable achievement.—I am, etc.,

Hove, May 18th. L. A. PARRY.

OBSTETRIC SHOCK

SIR,—It may be hoped that Dr. Phillips's most valuable paper in the *Journal* of May 16th (p. 833) will draw attention, not only to the importance of emotional shock in bringing about obstetric shock, but to that of preparturient psychological situations in modifying the course and event of parturition and the puerperium. It is "not enough," however, to recognize that anxiety, worry, and so forth are "contributing causes" or "play an important part" in the bringing about of untoward happenings. Every general practitioner knows, or should know, as much as that.

Modern psychology, it should be clearly understood, has made real progress in analysing, classifying, or "typing" the kinds of situation that tend to be followed by certain kinds of reaction. So much is this the case that a physician who is not altogether unacquainted with certain modern psychological trends may, not without justification, be sometimes a little impatient when an illness, evidently to him expressive of a patient's mood, is considered by a colleague to have an explanation in terms of biochemistry, or even of endocrinology. Whatever we may think of Dickens as a portrayer of character, probably no writer of fiction—not even Guy de Maupassant—has ever been a finer observer of life situations than he; and, in the opening chapter of *Dombey and Son*, he has given us an imperishable record of the kind of way in which the first Mrs. Dombeys of the Victorian world "reacted" to the marital situations created for them by the Dombeys themselves—a race not yet extinct. Such deathbeds as those of the first Mrs. Dombey are perhaps rarer than they were, even thirty or forty years ago. But they still may be witnessed, and strong-minded Lousas still urge the patients to "make an effort," just as hearty young doctors from our athletic hospitals think they are practising psychology when adjuring their dying invalids to "buck up."

Dickens, indeed, affords us very many obstetrico-psychological pictures of the highest import—the death of the mother of David Copperfield is one of much the same type as the death of Mrs. Dombey. And there are other vignettes no less valuable. The Royal College of Physicians several years ago ceased to require—as some think, unfortunately—any evidence of even nominal acquaintance with the great sources of humane, as distinguished from scientific, knowledge, at the hands of candidates for membership. But we have now a College of Obstetricians and Gynaecologists, and perhaps that learned body might do worse than test the humanities of its young men by examining them in the works of Dickens, and calling for commentary on selected passages!

Sir John Rose Bradford has just impressively reminded us that our medical studies must not be confined to the laboratory; but even clinical or bedside study, in addition, is "not enough." Human medicine, which embraces psychology no less firmly than it does biochemistry and post-mortem research, cannot be learned unless studies are pursued in the market-place, or even, as Sydenham well knew, in the window-seat of a tavern. The best and truest of modern psychologies has been so learned. But the extent to which it has developed and to which it is applicable at the bedside and in the lying-in wards seems to be almost unknown to those who still hope to discover the secrets of life in the deadhouse.—I am, etc.,

London, W.1, May 16th. F. G. CROOKSHANK.

DETACHED RETINA

SIR,—Now that the so-called "Gonin's operation" for detachment of the retina is being done all over the British Isles, and, one may say, wherever ophthalmic surgery is done, I feel that it is of great importance that medical men should realize what a benefit it is if cases of detached retina are sent immediately to the nearest ophthalmic hospital or ophthalmic surgeon. I feel that I cannot do better than quote a small part of the latest paper written on Gonin's operation by Dr. Mark Amsler of Lausanne, in the *Klinische Monatsblätter für Augenheilkunde*, (January, 1931, vol. 86).

"But the indications will become more and more extended, and the prognosis of the operation will be better and better, if the patients start treatment as soon as possible under an ophthalmic surgeon—a knowledge which must become extended among the public, exactly like the conviction that only the immediate operation in acute appendicitis, with the fear of perforation, or in extrauterine pregnancy, can save life.

"In this sense medical men and patients must come to an understanding, and under this condition Gonin's thought will develop into a general beneficent act of healing, whose final form, without doubt, is not yet discovered; rather more, it will be further perfected in method and technique by all ophthalmologists."

—I am, etc.,

London, W.1, May 13th. J. COLE MARSHALL.

FRACTURES OF THE LONG BONES

SIR,—I have read with great interest Mr. Fagge's letter, in which he states that my reading of his remarks on the treatment of supracondylar fracture of the humerus was wrong, and that my interpretation of his writing was exactly the opposite of what was intended, and of what the words conveyed. In these circumstances I must at once apologize to Mr. Fagge, but I can assure him that, although a re-reading of the article now makes the meaning clear, I am by no means the only reader who obtained the wrong impression. His letter, however, raises interesting issues which will repay consideration, and I feel certain we may profitably study it with care in an effort at least to clear up some of the points of importance.

Mr. Fagge tells us that he can recall only one case of ischaemic contracture in his ward during the last ten years. This is stated to have been put up at once in full flexion—probably following on a fracture. This may well have been so, but can Mr. Fagge recollect sufficiently clearly after this interval, or can he get from his notes or his *x*-ray photographs the very important point as to whether or not the fracture was completely reduced? Similarly, in regard to the half-dozen cases he has seen at Examinations, he states that in none does it appear that malposition—that is, failure of reduction—is a marked feature. Surely this is not the point. Can Mr. Fagge state that in any one of these cases there was a complete reduction of the fracture? It is because supracondylar fractures of the humerus are generally oblique that the rectangular position of the elbow will not retain reduction. Many experiments have been carried out on this matter, but perhaps the fullest series are those reported by Ashhurst in his *Anatomical and Surgical Study of Fractures of the Lower End of the Humerus*. Here we find that a very lengthy and careful series of experiments confirms the clinical findings of surgeons generally that the fuller flexion of the elbow after reduction of a supracondylar fracture is the ideal position of retention. In this position of flexion the coronoid process of the ulna comes into the coronoid fossa, and effectually steadies the lower fragment on its anterior aspect, whilst the tense triceps tendon, lying closely against the posterior aspect of the shaft and fragment, acts as an efficient splint and retains the fragment in position—just as the tense capsule of the hip-joint retains the fractured neck of a femur in alignment when the hip has been placed in a position of abduction and internal rotation. Splints are undesirable in the treatment of a supracondylar fracture, necessitating as they do circular compression, and neither are they any more effective than the right-angled position in preventing lateral movement.

When Mr. Fagge goes so far as to say that after accurate reduction of the fracture it does not matter whether the elbow be fixed at an angle of 30 degrees, 90 degrees, *or more* (the italics are mine), I feel that his advice is positively harmful, because the ordinary oblique supracondylar fracture of the humerus cannot, and does not, stay reduced when put up in this last position.

In the concluding paragraph of his letter Mr. Fagge suggests that I should in future examine and report upon the stability of the elbow, both at an angle of 30 degrees and of 90 degrees, under the *x*-ray screen. This I have often done, and can assure him that the stability is much more marked in the more flexed than in the rectangular position. I would suggest, however, that the movement he advises—namely, that of flexion and extension—is but a very poor test. The movement that matters is backward and lateral displacement of the forearm. If this, which is obviously the only true test, is made, Mr. Fagge will no longer advocate the rectangular fixation.—I am, etc.,

Liverpool, May 18th. T. P. McMURRAY.

FRACTURES OF THE NECK OF THE FEMUR

SIR,—The excellent article by Sir Robert Jones on fractures of the neck of the femur, published in the *Journal* of May 9th (p. 781), must surely convey a new optimism to many who have previously regarded such fractures in the aged with undue hopelessness. A favourable prognosis in 75 per cent. of all cases is a very different result from the high mortality rate which resulted from the old sand-bag method.

I have at present under my care an old lady, aged 84, who slipped and fell on the floor on September 3rd, 1930, sustaining a fracture of the neck of the left femur. Although no *x* rays were available, all the typical signs of a fractured neck were present—namely, adduction, shortening, external rotation, and loss of power. She refused to go to hospital, so extension was applied, the limb abducted and the foot internally rotated. Unfortunately the old lady would not tolerate this position for more than a week, and owing to her refusal to take any nourishment while so "trussed up," the bandages had all to be removed, and only extension could be maintained. Result—an un-united fracture with adduction and external rotation, but a healthy return of appetite at once.

On the morning of April 3rd, I received an urgent call to see her again. She had tried to get out of bed herself and had fallen and hurt her other thigh. On examination I found that she had a fracture of the right femur at the junction of the lower and middle thirds. This was reduced and fixed in plaster, an operation to which she submitted with very bad grace. She had recovered her appetite again in three days, but could not resist trying to get the plaster off. At the end of four weeks she had so loosened the plaster case that it had become useless, and on removing it I found that the fragments were well united. She refused to allow me to apply another plaster case, the best I could do being to apply lateral splints and maintain them in position with elastoplast bandages.

It seems now that if the old lady will allow me to try to correct the adduction of the left leg, the application of a walking calliper splint may enable her to leave her bed and resume her place as a comparatively active member of the family.—I am, etc.,

Upholland, May 13th. J. E. T. SHIRLAW.

SIR,—With reference to Sir Robert Jones's article on fractures of the neck of the femur in your issue of May 9th, I note that in two places (p. 782, col. 1, under "Diagnosis," and p. 783, col. 2, under "The old un-united case") the signs and deformities typical of a fracture in this situation are described respectively as (*a*) *adduction*, shortening, and external rotation, and (*b*) ". . . flexion of the thigh, *adduction*, rotation outwards . . ." I have always been taught that the classical signs of a fracture of the neck of the femur are shortening, *abduction*, and eversion of the limb on the affected side. I should therefore be grateful if this apparently divergent view—if I have read the article correctly—could be elucidated.—I am, etc.,

London, May 11th. C. S.

CORONARY THROMBOSIS AND MYOCARDIAL INFARCTION, WITH GLYCOSURIA

SIR,—The letters of Dr. *Cruickshank* and Dr. Tytler Burke on this subject are interesting, because they represent two schools of thought which are bound to come into conflict before long. Dr. Burke rightly attributes the syndrome to syphilitic infection because he can demonstrate microscopically every step in its development. Dr. Cruickshank deplores this inclination to blame the *Treponema pallidum* for the lesions while other etiological factors are apt to be ignored. He mentions two—alcohol and tobacco—and syphilologists have a right to ask him to demonstrate microscopically the steps from poisoning with alcohol or tobacco to fully developed coronary thrombosis. When he does this he can claim for alcohol and tobacco the same well-founded position in the etiology as is enjoyed by syphilis.

Medical students are still taught, and their teachers must be assumed to believe, that alcohol, lead, syphilis, and gout are equally responsible for a mass of indefinite chronic degenerations. This is a Victorian tradition, born in an age too respectable to believe that a "filth" disease could possibly be responsible for many of its

woes. When Dr. Cruickshank joins Dr. Hurst in deploring the tendency to fall back on syphilis in any diagnostic uncertainty, he forgets that the uncertainty is an attribute of alcohol, tobacco, lead, etc., and that nothing is more certain or better established in medicine than the microscopical pathology of syphilis.—I am, etc.,

GRIFFITH EVANS.

Carnarvon, May 17th.

A BARBER-SURGEON'S INSTRUMENT CASE

SIR,—The sixteenth century case for surgical instruments, so well described by Mr. C. J. S. Thompson in your issue of May 9th (p. 811), ought surely to be preserved in the Museum of the Royal College of Surgeons in Lincoln's Inn Fields, for it is the gift of a king to an English surgeon. The price at which it would be sold is easily ascertainable, and if this were reasonable every effort ought to be made to buy it. I would for my own part gladly subscribe five guineas towards a fund for the purpose.—I am, etc.,

D'ARCY POWER.

London, W., May 18th.

SPINAL ANAESTHESIA

SIR,—I should like to add my thanks to Mr. A. Wilfrid Adams for his contribution on spinocain, published in the *Journal* of May 9th (p. 785). As a result of a chance communication with Professor Burgess of Manchester some time ago, I have used spinocain in some hundreds of cases at the two hospitals in Bradford, and I can endorse almost entirely the conclusions arrived at by Mr. Adams. I have, however, despite various trials with body tilt, been unable with the 2 c.cm. ampoule of spinocain to obtain satisfactory anaesthesia and relaxation for abdominal operations in the region of the diaphragm. On inquiry I find this is the experience of others. I also learn that Pitkin himself finds a bigger quantity (3 c.cm.) necessary for such high operations. If this is true, and 3 c.cm. can be safely given with a suitable body tilt, it is a very important addition to our knowledge. I should like to know the experience of others on this point.

An important complication mentioned by Mr. Adams has interested me—namely, temporary paralysis of the external rectus muscle of the eye. This has happened in two of my "spinocain cases" operated on for acute appendicitis; they both had occupied the same bed in the hospital, which made us think of external causes, and each took four weeks to recover.—I am, etc.,

BASIL HUGHES.

Bradford, May 12th.

SCHISTOSOME WORMS AND SCHISTOSOME MONSTERS

SIR,—In suggesting, in your issue of May 9th (p. 817), that Dr. M. Khalil, in his recent *Bibliography of Schistosomiasis*, is the first to err in classifying the papers of purely teratological interest by Eisenbarth and Notter as helminthological, Professor Leiper is perhaps a little unfair. Dr. Khalil has erred in good company. The reference to R. Eisenbarth's paper "Ein Fall von *Schistosoma reflexum*" (*Wochenschrift für Tierh. u. Viehzucht*) was given by those doyens of medical bibliography Drs. Robert Fletcher and Fielding H. Garrison under the heading "Diseases due to Parasites (Animal and Vegetable)" in the *Index Medicus* (1908, p. 720), and also appeared under the heading "Schistosomiasis [Katayama disease]" on page 205 of the *Index-Catalogue of the Library of the Surgeon-General's Office, U.S. Army*, (1910, second series, vol. xv).

C. Notter's paper "Schistosomen beim Schwein" (*Virchow's Arch. f. path. Anat.*) appeared with the translation "Schistosomiasis in pigs" under the heading "Schistosomiasis" on page 1125 of the *Quarterly Cumulative Index Medicus* (1927, vol. ii), issued under the joint auspices of the American Medical Association and the Surgeon-General's Library, and in *Biological Abstracts*, (1929, vol. iii, p. 1367), under the heading "Parasitology (Animal)."

Medical bibliography is beset with pitfalls. It would be hard if Dr. Khalil should be held entirely responsible for one that had been dug by others.—I am, etc.,

R. L. SHEPPARD.

St. John's Wood, N.W., May 11th.

ACIDOSIS AND SEBORRHOEA

SIR,—I was interested to read in your issue of May 16th (p. 839) that Drs. Ingram and Fowweather had been unable to find any evidence of the presence of acidosis in persons subject to seborrhoeic disorders, because I am able to confirm their findings in a few typical cases referred to me by Dr. H. W. Barber in 1923. Seven cases only were investigated, and in all the plasma bicarbonate, estimated by the method of Van Slyke, Stillman, and Cullen (*Journ. Biol. Chem.*, 1919, xxxvii, 167), was normal. The mean value obtained was 0.033 molar, the highest being 0.036 and the lowest 0.032 molar. All the cases were males. There was therefore no evidence of acidosis in this small series. The urine was not investigated, and I have no experience of the treatment of this condition.—I am, etc.,

A. ARNOLD OSMAN.

London, W., May 17th.

CANCER AND RACE

SIR,—Dr. M. Sorsby, whose book is reviewed in your issue of May 9th (p. 800), can certainly be congratulated on completion of a useful and original piece of work. But is he justified in his insistence on the importance of the Mosaic law of sexual hygiene? If that were so, then the *puella publica* would be the greatest sufferer from carcinoma of the uterus; but, as far as my knowledge goes, she is not. For every form of carcinoma, and in any part of the body, chronic irritation and trauma are the predisposing factors. Gonorrhoea was notoriously rare among the strictly orthodox Jews; with relaxation of the religious influence the Jewish communities show the same amount of sexual laxity as their Christian neighbours—hence the increase of gonorrhoea, with chronic cervicitis, endometritis, etc. I still remember the wise words of Fritsch, that "without gonorrhoea there would be no gynaecology." As a general formula it may be exaggerated, but there is a great deal of truth in it.—I am, etc.,

N. PINES.

London, E.1, May 11th.

IMMUNIZATION AGAINST VACCINIA

SIR,—We have to thank Dr. Bland for drawing our attention to an error in our paper published in your issue of May 2nd. In the last paragraph but one of the protocol, published on page 741, "Rabbit 118" should obviously read "Rabbit 119," and vice versa.—We are, etc.,

G. M. FINDLAY,
E. HINDLE.

Wellcome Bureau of Scientific Research, London, May 16th.

DIET AND THE TEETH

SIR,—In Part II of my report, "Diet and the teeth: an experimental study" (Medical Research Council Special Reports Series No. 153), I referred to a paper entitled "A histological investigation into so-called pyorrhoea alveolaris," published in the *British Dental Journal* of 1927. I regret that in giving the names of the authors I omitted to include that of Dr. Arthur Counsell, who collaborated with Mr. W. Warwick James.—I am, etc.,

MAY MELLANBY.

Sheffield, May 15th.

Medico-Legal

ETHER-OXYGEN ANAESTHETIC FATALITY

An inquest was held by the Birmingham coroner, on May 12th, on the body of a man, aged 60, who died in unusual circumstances at the General Hospital, Birmingham, on April 20th.

On April 15th, in the course of an operation for dilatation of a cancerous growth of the oesophagus with insertion of radium, and while the surgeon was withdrawing a small pencil light, an explosion occurred in the patient's mouth, and the Shipway apparatus delivering the anaesthetic exploded and burst into flames. The Shipway apparatus was connected to a cylinder of oxygen, and the gas was passed through it to a rubber tube inserted in the patient's nostril and fitted to an intratracheal catheter. Induction was by means of ether (1 part) and chloroform (2 parts) mixture—open method—and when the apparatus was first used a mixture of oxygen, chloroform, and ether was given, but at the time of the explosion and before the lamp was inserted into the mouth the apparatus was set to cut off all ether, and to deliver only chloroform and oxygen. It was admitted, however, that a small quantity of ether vapour may also have been passing to the patient. The pencil light was fitted with an ordinary commercial type Osram 3½-volt metal filament lamp, screwed into the lamp holder, and the lighting current was derived from a 4-volt accumulator situated outside the operating theatre and connected to the lamp by flex insulated wire over 20 feet in length.

Professor G. Haswell Wilson, who made a post-mortem examination, said that there was extensive bruising of the pharyngeal mucous membrane, especially round the rima glottidis. There was a ragged tear in the mucous membrane of the left pyriform fossa 3/4 inch in length, with underlying tissues infiltrated with pus. There were haemorrhages beneath the mucous membrane of the epiglottis. The mucous membrane of the trachea and larger bronchi was covered with a thin layer of fibrinous exudate and bathed in pus. The bronchi were intensely congested, containing a large amount of a foul-smelling pus. The substance of the lungs was oedematous, with some areas of early pneumonia towards the base. A cancerous growth was found behind the cricoid cartilage, 1¼ inches in length, encircling the lumen of the oesophagus, with marked narrowing. "The changes in the lung were those of intense inflammation of the bronchial tree, with decomposition of the inflammatory exudate. The fact that the inflammation of the bronchi was extreme while there was but little evidence of pneumonia suggested that the lung tissue had not been damaged to any extent in the first instance. From the history of the case it is probable that the mucous membrane of the trachea and the bronchi had been extensively damaged by heat with subsequent putrid bronchitis as a cause of death."

It was established that the explosion first occurred in the patient's mouth, and from there was transmitted along the rubber tube to the Shipway apparatus. The cause of the explosion was attributed to defective contact between the lamp and the holder, thus causing a spark. Experiments conducted by Dr. Morgan (who was a member of the committee to report on "risks associated with electric exploders in coal mines" to the Department of Mines) demonstrated that while a spark from a 4-volt accumulator failed to explode ether vapour mixed with air in explosive proportions (volume of ether 2.9 to 7.5, volume of air 97.1 to 92.5) an explosion readily occurred in mixtures of oxygen and ether. The current consumption of the lamp in use when full on was 0 3 ampere. A current of 0.25 ampere was sufficient to cause ignition readily, and his experiments led him to the conclusion that any spark, however small, must be regarded as highly dangerous in an ether-oxygen mixture.

ALLEGED FRAUDULENT MISREPRESENTATION BY MEDICAL ADVISER

In the King's Bench Division, before Mr. Justice Horridge and a special jury, on May 11th and four following days, the claim was heard of Mrs. Ada Ann Oliver of Hotel Somerset, London, W., against Dr. Ernest Snowden of New Cavendish Street, W., for damages for alleged negligence, alleged breach of duty as medical adviser, and alleged fraudulent misrepresentation. All the charges were denied.

Sir Patrick Hastings, K.C., who appeared for the plaintiff, said that Mrs. Oliver had suffered from a nervous complaint, and her general practitioner had advised her "to consult a psycho-analyst." Dr. Snowden, a psychologist, attended her from February, 1928, until the autumn of 1929. The fees for that period amounted to £1,350. Dr. Snowden was a director of a sulphur mining company which had been in suspended animation for some years, though apparently it hoped to acquire wealth from sulphur deposits in Nisiro, in the Eastern Mediterranean. Dr. Snowden told Mrs. Oliver of this company, stating that it was a new one, that it owned valuable sulphur mines, and was likely to pay large dividends. In July, 1928, he persuaded her to purchase 4,000 five shilling shares.

Mrs. Oliver, in evidence, said that she was instructed by Dr. Snowden as part of the treatment to tell him everything about herself. He always had the blind down so that she could better concentrate and subordinate her will to his. She told him that she had £3,000 or £4,000 on deposit, and when he described the prospects of the sulphur company she asked her husband to write the cheque for £1,000 (at that time she had been in bed for about nine months, and was unable to write a cheque herself). She had never received any part of the money back, or any dividend in respect of it, though she had asked Dr. Snowden "hundreds of times." In cross-examination, she said she was grateful to Dr. Snowden for his treatment, and had confidence in him until this occurrence. She admitted that on January 1st last she wrote begging Dr. Snowden (whom she had then not seen for fourteen months) to visit her, saying, "You cannot imagine the happiness it will bring me." She was a very sick woman, and felt that he could still help her with his psychological treatment. On her remarking that Dr. Snowden was a psychologist, not a psycho-analyst, the judge said that he did not know the difference, and Sir Patrick Hastings added, "I do not know which is the worse."

Mr. Doughty, K.C., for the defence, said that Dr. Snowden was practising with considerable success a serious branch of medical science, and the treatment of Mrs. Oliver had had very good results. He had talked to Mrs. Oliver about various matters to get her interested, and, discovering her interest in business affairs, he told her about the sulphur mining company. She said that she would like to invest. Realizing how undesirable it was that he should have anything to do with the financial affairs of a patient, he endeavoured to dissuade her, and, finding that impossible, suggested that she should invest no more than £200; but she insisted, and her husband, to whom he also appealed, said she was to do as she wanted. After the money had been paid, it was discovered that the owner of the concession in the Mediterranean was giving trouble, and the company was brought to a standstill, but Mrs. Oliver continued on friendly terms, and there was no suggestion of fraud until the writ was issued.

Dr. Snowden, in evidence, said that he was psychologist to the Hospital for Epilepsy and Paralysis, Maida Vale, and assistant in the psychological department, St. Bartholomew's. He did not practise as a psycho-analyst. Mrs. Oliver was suffering from acute anxiety and obsessional fears, of which he endeavoured to discover the original cause. It was no part of his treatment to discover the extent of her private banking account. In cross-examination, Dr. Snowden said that he became a director of the company in May, 1928, at which time it had no assets, but a series of agreements existed by which the company was to acquire concessions to work the sulphur mines in Nisiro. He was closely cross-examined on some of the proceedings of the company, and said that he knew nothing about business matters, and simply did what he was instructed or advised to do. He would not agree that at the time Mrs. Oliver paid the money she was in a serious mental condition, but it was necessary for him to attend every day, because, if he did not, she became anxious and worried. Corroborative evidence on certain points connected with the affairs of the company was given.

The jury returned a verdict for the defendant, but added the rider: "We desire to say we feel that the defendant was unwise in receiving from his patient money for a concern in which he was interested." Judgement was entered for Dr. Snowden on the claim, and also on a counterclaim of 72 guineas (fees for twenty-four visits), together with costs.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The Registration and Regulation of Osteopathy Bill was withdrawn on May 12th, having failed to secure a second reading.

The House of Commons took the second reading of the Finance Bill this week, and also debated the Representation of the People Bill and the vote of the Foreign Office.

During the debate on the Finance Bill, on May 13th, Sir Stafford Cripps, Solicitor-General, said it was impossible to exempt from the land values tax land held by colleges and hospitals.

The Sentence of Death (Expectant Mothers) Bill was reported to the House of Commons with amendments from a committee on May 14th.

The second reading of the Pharmacy and Poisons Bill was set down by the Government for May 15th in the House of Commons, but the discussion on it was postponed by agreement. On the previous day a deputation of members, including Dr. Salter and Mr. Somerville Hastings, had met Mr. Short, Under Secretary for Home Affairs, to consider the suggestions made by the pharmacists for amending the Bill. The postponement of the Bill followed.

In the House of Commons, on May 18th, the London Squares Preservation Bill was read a second time.

The text of the Proprietary Medicines Bill was issued on May 18th, and is reproduced in the *Supplement* this week at page 203. This Bill does not apply to Scotland or Northern Ireland.

Miss Lawrence told Mr. Haydon Jones, on May 19th, that, owing to the state of business, the Government could not introduce legislation this session to give effect to the recommendations of the Select Committee on Patent Medicines, which was issued in 1914.

In the House of Lords, on May 19th, the Workmen's Compensation Bill was read a second time.

Lotteries for Hospitals

On May 19th Sir W. DAVISON asked leave to introduce the Hospitals Lotteries Bill, to authorize the raising of money by means of lotteries for the support of hospitals. He said that he had sent to the Home Secretary a memorial signed by seventy members of the House asking him to take this matter into consideration. He had also furnished Mr. Clynes with the results of a questionary recently sent out by the Special Appeals Committee of St. Bartholomew's Hospital to some thousands of representative people, including supporters of the hospital. The result to date was that 3,125 persons were stated to be in favour of a lottery for the hospital, and only 61 were against. Meanwhile nothing was being done, and British hospitals were in the greatest need of funds for building, equipment, and maintenance. He was aware that a number of members of the House of Commons considered that hospitals should be a charge upon the State, but even they must surely realize, in view of the statements of the Chancellor of the Exchequer in presenting his Budget, that it was not practical politics in present financial conditions to provide State money for hospitals in the immediate future. The chairman of a large hospital, in a letter to the *Times*, pointed out that hospitals were being seriously prejudiced by the uncertain state of the law in regard to this matter, and that they were losing subscriptions, both from those in favour of and from those opposed to lotteries. That supported the view that it was time this uncertainty of the law should be ended, at any rate so far as hospitals were concerned. Immense sums had been raised in Dublin in aid of the Southern Irish hospitals. The Bill did not attempt to modify or remove the many anomalies relating to lotteries, raffles, and sweepstakes. It was a short, permissive measure, which left the law as it stood until such time as the Government were in a position to deal with it. The Bill provided that, notwithstanding anything in the existing law, a lottery might be held under regulations to be approved by the Home Secretary for the benefit of British hospitals something on the lines of the Irish Free State hospitals lottery, but with improved regulations as a result of experience gained in the conduct of that lottery.

Mr. FOOT opposed the Bill, which, he said, could not be limited to hospitals. If a lottery was right for hospitals, it was right for the blind, for orphanages, and for every beneficent enterprise—national and municipal. This was a charity lottery which would not achieve its purpose, but would dry up the sources of charity. A short time ago the Earl of Onslow, at one time chairman of the Voluntary Hospitals Commission, wrote to the *Times* setting out his reasons for condemning this proposal as disastrous to the financial interests of the hospitals of this country. The same opinion was given by the chairman of the Royal London Ophthalmic Hospital, and by Sir Arthur Stanley, treasurer of St. Thomas's Hospital.

Leave to introduce the Bill was refused by 181 votes to 58.

Deaths from Cancer

On May 8th Mr. FREEMAN asked Mr. Greenwood the percentage increase or decrease in deaths from cancer each year since the Imperial Cancer Research Fund was started, taking the figures for the first year as a basis. On May 14th Mr. GREENWOOD replied that he could not answer the question in that precise form, but he could give the percentage increase which had been in the certificates of cause of deaths classified to cancer in England and Wales in each of the years from 1903 to 1930, compared with the number of deaths registered and so classified in the year 1902. The figures were: 1903, 4.37; 1904, 6.49; 1905, 8.43; 1906, 13.62; 1907, 13.90; 1908, 17.38; 1909, 22.18; 1910, 24.16; 1911, 28.81; 1912, 33.91; 1913, 39.71; 1914, 41.78; 1915, 42.96; 1916, 45.77; 1917, 47.67; 1918, 47.92; 1919, 51.21; 1920, 56.74; 1921, 65.12; 1922, 68.28; 1923, 74.61; 1924, 80.79; 1925, 86.35; 1926, 90.94; 1927, 94.02; 1928, 101.83; 1929, 104.13; 1930, 107.67 (based on provisional figures).

Milk

Answering Captain Peter Macdonald, on May 14th, Mr. GREENWOOD said that samples of imported dried and condensed milks were taken both at the time of importation and at the time of exposure for sale. These were examined by the Government chemists and the public analysts to ascertain whether the requirements of the regulations on composition and labelling were observed. These regulations required that if fat had been removed from the milk from which the dried or condensed milk is made the fact must be clearly declared on the label. If any constituent of natural milk, other than water or fat, were removed the product would not fall within the definition of dried or condensed milk. He saw no need for legislation on the subject.

In a further reply to Captain Macdonald, on May 14th, Mr. GREENWOOD said that in consultation with Dr. Addison he was considering the introduction of legislation to regulate the production and sale of milk with a view to reducing the incidence of bovine tuberculosis in human beings.

Answering Dr. Fremantle, on May 14th, Mr. GREENWOOD said the Ministry of Health memorandum on bovine tuberculosis in man had been published as a non-parliamentary paper, and was available to M.P.'s on application.

Animal Experiments.—On May 15th Mr. Freeman asked who, in experiments on living animals, decided whether the experiment was calculated to give pain; and if the performer was the only judge. Mr. CLYNES answered: In this Act, as in all others, people have to consider for themselves whether what they propose to do is in accordance with the law; but if they infringe the provisions of the Act they are liable to have legal proceedings taken against them, and the court decides whether the experiment is or is not calculated to cause pain. Experience shows that people who propose to perform experiments which might by any possibility be regarded as calculated to cause pain are anxious to comply with the requirements of the Act in order to be on the safe side.

Infant Mortality.—Mr. Greenwood reports that, according to the most recent available returns, which are those for 1926-30, Paddington, Stepney, and Shoreditch are the metropolitan boroughs with the highest infantile mortality rates.

Obituary

T. R. GLYNN, M.D., F.R.C.P.

Consulting Physician, Royal Infirmary, Liverpool; late Professor of Medicine, Liverpool University

As briefly recorded in last week's *Journal*, Emeritus Professor T. R. Glynn died on May 12th, at his residence, near St. Asaph, in North Wales. He was in his ninety-first year.

Thomas Robinson Glynn, son of Edward Dashper Glynn, a Liverpool shipowner, was educated at Liverpool College, and studied medicine at St. Bartholomew's Hospital and in Paris. He graduated M.B. at the University of London in 1865, taking the M.D. in 1879. Elected a Fellow of the Royal College of Physicians of London in 1882, he was appointed Lumleian Lecturer in 1903, Councillor in 1907-9, and Bradshaw Lecturer in 1913. He was president of the Liverpool Medical Institution in 1892 and 1893, and president of the Association of Physicians in 1910.

Soon after settling in Liverpool he was appointed assistant physician to the Children's Hospital, physician to the Northern Hospital, and in 1871 physician to the Royal Infirmary, passing on to the consulting staff in 1901, when he reached the retiring age. Other appointments were: chief medical officer to the Royal Insurance Company and examiner for others; medical officer to H.M. Customs, and for many years consulting physician to the Woolton Convalescent Hospital, the Hoylake Cottage Hospital, the Liverpool Dental Hospital, and physician to the Catholic Blind Asylum. Though he had bought a general practice, this work was soon given up, and a large and widely spread consulting practice in Lancashire, Cheshire, and North Wales was built up and held for fifty years.

Dr. Glynn was lecturer in medicine at the Royal Infirmary School of Medicine—one of the band of distinguished teachers (Mitchell Banks, Richard Caton, Alexander Davidson, William Carter, Rushton Parker) that gained for the school a high reputation. They played a large part in the foundation of University College in 1881, Glynn becoming the first professor of medicine (1884-1922). His published work deals with many subjects, perhaps the most notable being the Lumleian Lecture on infective endocarditis, and those on hysteria and allied nervous affections.

As pupil, resident, and colleague, the writer has had ample occasion to realize the wide and sound knowledge Professor Glynn had, founded on careful bedside work coupled with thorough study of morbid anatomy, the value of the correlation of clinical signs and pathological features never being overlooked. He was a brilliant teacher, but to his students something more—a genial comrade, always appreciative of a good story and ready to cap it. In his earlier years Glynn was a great swimmer, and later, when longer holidays became possible, he practised his artistic gifts (at one time he worked with the late Robert Fowler, R.I.) and reached almost a professional standard. Many of his paintings were exhibited at the Royal Liver Society, and some at the Liverpool Autumn Exhibitions. The University possesses a valuable series of drawings of morbid conditions, notably those of heart lesions. He had, too, a good knowledge of music, and was a vocalist of considerable ability.

Professor Glynn, a widower, leaves three daughters and four sons, and to them we offer our sympathy in their loss, and it goes especially to the two daughters who have so helped to make the last years of their father's life such happy ones.

J. H. A.

Dr. CHARLES MACALISTER writes:

A memoir of the late Professor Thomas R. Glynn is, I understand, being written by one who was associated with him academically for many years, and the history of his career, and of his association with the Liverpool School of Medicine throughout the various phases which led to its becoming a very important faculty in the University of Liverpool, need not be reiterated. It is of the man himself and of the influences of his work and of his personality that I venture to add a few words of appreciation.

It was not as a student of the school that I had the advantages of his teaching. As a young practitioner one soon realized that he was a master of clinical medicine, the dynamic power of whose teaching attracted those fortunate enough to be able to attend his clinic. Every man's life involves a history, and, so far as our profession is concerned, it was the fact that Dr. Glynn was a great clinical observer and teacher which rendered his life so essentially valuable. He belonged to the days when specialism had not as yet split up the work of the physician. He taught general medicine, of which his knowledge was wide, on broad lines eminently educative, not only in the way of impressing clinical facts, but, importantly, in that of cultivating the principles of observing the meanings and associations of these facts. The value of his influence as a teacher is reflected by the circumstance that very many members of the hospital staffs were his pupils, who carry on the traditions of his work. To his immediate students, who were attracted in large numbers to his wards, he was a kind of god, an oracle whose word was beyond dispute. I recollect many years ago discussing a case with a young resident who had been one of his pupils. He held very definite opinions about the case in question, and, on inviting his reasons, his answer was, "Because Dr. Glynn thinks differently from most people about these cases," or words to the same effect, which indicated that he meant to hold by the teaching of his master whatever others might think of the matter. Dr. Glynn's quickness of perception was illustrated by his noting an ill-looking boy in the out-patient room becoming distressed by a draught from an opening door. He at once suspected that the lad might be suffering from rabies, which proved to be the case. When calling on Dr. Glynn last year I reminded him of

the incident, which must have happened more than forty years ago, and he was much interested to hear that I remembered it. His teaching was largely based on his knowledge of pathology, and at the Medical Institution and in his class-rooms his expositions were frequently illustrated by excellent water-colour paintings of specimens of fresh preparations, and also of clinical conditions.

Dr. Glynn's life was a busy one. A large consulting practice, added to his professorial and hospital work, afforded him little time for leisure. In the 'nineties it used to be said that it was hardly proper for any well-known citizen to die without being seen by him or by another eminent contemporary physician. His temperament, however, was one of great activity, and it would have been impossible for him to leave any time unoccupied. He was an artist of considerable merit, and had a fine appreciation of colour. As a landscape artist he produced many paintings which, in some respects, resembled those of Robert Fowler, who was frequently his guest during the summer vacations. I expect that Fowler interested him beyond the artistic side of his character in that he suffered from agoraphobia, and invariably had a companion with him when he was working. Another aspect of Dr. Glynn's life was his love of music. He was an organist, and he delighted in singing. He retained his singing voice even when he was over 80 years of age. He had a great sense of humour, which permeated both the professional and social sides of his life. He, Sir Mitchell Banks, and Edgar Browne were a never-failing source of entertainment at dinners and social functions. At the Chester Medical Society's annual dinners, for example, the spontaneous wit and repartee emanating from all three of them were as much an annual event as the dinners themselves.

On the death of an old friend memories of the past crowd in to the mind; but one must forbear reference to them, and while rejoicing that a long life given to useful work and to the establishment of indelible traditions has been lived, yet we mourn in that we shall neither see nor hear again one who has been a devoted friend to, and a distinguished member of, our profession.

[The portrait reproduced is from the painting by R. E. Morrison.]

Universities and Colleges

UNIVERSITY OF LONDON

A special meeting of the University Court, on May 18th, had before it a letter from the clerk to the Goldsmiths' Company, stating that the Court of the Company had had under consideration the prospective needs of the University in connexion with the establishment of its own headquarters in Bloomsbury, and has decided to offer, subject to the consent of the Charity Commissioners, and to certain other conditions, a sum not exceeding £50,000 towards the cost of erecting and equipping the library building of the new headquarters. The Court, in accepting this munificent offer, has conveyed to the Goldsmiths' Company an expression of its cordial thanks and high appreciation of this further evidence of the interest taken by the Company in the life and growth of the University.

UNIVERSITY ENTRANCE SCHOLARSHIPS

Combined Hospital Examination

The Medical Schools of Guy's and St. Thomas's Hospitals, and the Medical College of St. Bartholomew's Hospital, have recently had under consideration the methods of award of university entrance scholarships, and are unanimously of opinion that, in the interests of medicine, scientific merit and attainments should be the determining factors. They have therefore agreed that their university entrance scholarships shall be awarded as a result of open competitive examination, and they have arranged to hold a common examination for the purpose. Each school offers annually a scholarship of £100 and an exhibition of £60, and the scholarships and exhibitions will be awarded by the deans of the three schools sitting in conference, after receiving reports from the examiners. The scheme will come into operation in July, 1932, when the examination will be held at St. Thomas's. Thereafter the examination will be held at each of the schools in rotation. Candidates will, of course, be entitled to express their preference for any particular school, and the stated preference will be taken into consideration when the scholarships are awarded. They will be open to students who have completed their examinations in anatomy and physiology in a British school or university outside the London metropolitan area.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

An ordinary Council meeting was held on May 14th, when the President, Lord Moynihan, was in the chair.

Mr. Ernest F. Neve and Mr. G. H. Edington were introduced and admitted Fellows of the College.

Diplomas

Diplomas of Membership were granted to 161 candidates. (The names were published in reports of meetings of the Royal College of Physicians of London printed in our issues of May 9th, p. 820, and May 16th, p. 873.)

The diploma of Fellowship was granted to Alfred Richard Denis Pattison.

The Diploma in Gynaecology and Obstetrics was granted, jointly with the Royal College of Physicians, to Wallace Freeborn.

Honorary Gold Medal

The Honorary Gold Medal of the College was awarded to Mr. G. Buckston Browne, in recognition of his valuable contributions to the surgery of the genito-urinary system, and of his great liberality in the endowment of an Institute for Surgical Research.

Fellowship Examinations

The Huddersfield Royal Infirmary was recognized for the twelve months' surgical practice required of non-Members before admission to the Final [illegible]

The secretary reported that [illegible] had applied for admission to the [illegible] for the Fellowship to be held in Australia.

Vacancy on Court of Examiners

The President reported that the vacancy on the Court of Examiners occasioned by the retirement of Mr. L. Bathe Rawling would be filled up at the ordinary meeting of the Council on June 11th.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

Lectures

At a meeting of the Royal College of Physicians held on May 14th, with the President, Lord Dawson of Penn, in the chair, the following lectureships were announced:

Lumleian (1932), Dr. C. E. Lakin.
Goulstonian (1932), Dr. L. J. Witts.
FitzPatrick (1932), Dr. James Collier.
Croonian (1933), Dr. W. E. Dixon.

Diploma

A Diploma in Gynaecology and Obstetrics was granted, jointly with the Royal College of Surgeons, to Wallace Freeborn, M.B., Ch.M.Sydney.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

A meeting of the Royal College of Surgeons of Edinburgh was held on May 13th, when Dr. James Haig Ferguson, President, was in the chair. The following twenty-three successful candidates out of eighty-three entered, who passed the requisite examinations, were admitted Fellows:

W. A. D'A Adamson, S. S. Ahluwalia, G. L. Alexander, A. L. Dawkins, H. E. Emmett, E. L. Farquharson, G. J. Hanly, R. W. Hendry, R. W. Johnson, I. Kallmeyer, C. H. Leedman, J. F. Macdonald, L. G. McQueen, B. T. Mayes, S. J. G. Naim, Belinda E. Nesbitt, P. Pattabhiramaiya, A. A. Pullar, I. M. Robertson, K. G. W. Saunders, W. G. E. Shand, G. D. Shaw, W. C. Wickremesinghe.

The Bathgate Memorial Prize, consisting of bronze medal and set of books, was, after a competitive examination in materia medica, awarded to N. W. Nisbet (Edinburgh).

Medical News

The Royal College of Physicians of London will be closed to-day (Saturday, May 23rd) and on Monday, May 25th.

The house and library of the Royal Society of Medicine will be closed to-day (Saturday, May 23rd) and on Monday, May 25th.

The annual summer dinner of the Glasgow University Club, London, is to be at the Café Royal, 68, Regent Street, W., on Friday, June 12th, at 7.30 p.m., with Professor Gilbert Murray, LL.D. in the chair. Any Glasgow University men who, though not members of the club, would like to be present are invited to communicate with the honorary secretaries, 62, Harley House, N.W.1.

A garden party in aid of the educational work of the Royal Medical Benevolent Fund Guild will be held at the Royal Botanic Gardens, Regent's Park, N.W., on Tuesday, June 2nd, from 2.30 to 8.30. H.R.H. the Duchess of York (patroness of the Guild) has consented to be present. Particulars and tickets of admission may be had from the honorary treasurer, Mrs. E. D. D. Davis, 46, Harley Street, W.1. (Telephone, Langham 1178.)

A meeting of the Medico-Legal Society will be held at 11, Chandos Street, W.1, on Thursday, May 28th, at 8.30 p.m. Dr. Nathan Raw will read a paper on dangerous drugs; a discussion will follow.

The fourth Hugh Owen Thomas Memorial Lecture will be given in the Liverpool Medical Institution on Thursday, May 28th, at 4.30 p.m., by Mr. D. McCrae Aitken, F.R.C.S. The subject will be "Principles of rest and exercise in the treatment of joints."

The annual oration to the St. John's Hospital Dermatological Society will be given on Wednesday, May 27th, at 5.30 p.m. by Dr. S. Lomholt of Copenhagen, on the effects of concentrated ultra-violet light upon the skin, and its uses in dermatological therapy.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found at page 208 of the *Supplement*. The special evening lectures to candidates for the M.R.C.P. are being continued. Copies of syllabuses for all courses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W.1.

At the meeting of the Central Midwives Board for England and Wales on May 7th the correspondence included letters from the Ministry of Health enclosing, for the information of the Board, copies of the Colchester, Lowestoft, and Walthamstow (Supervision of Midwives) Orders, 1931, which Orders create the borough councils of those places respectively local supervising authorities. It was agreed, on the motion of Dr. J. J. Buchan, "That the chairman of the Board, for the time being, be, by virtue of his office, a member of all committees of the Board, and of all subcommittees which may, from time to time, be appointed by such committees or any one of them."

The New York correspondent of the *Times* records the exhibition, on May 16th, at the General Electric Laboratories at Schenectady, of an *x*-ray tube having a power far beyond that of any other yet devised. Within the tube electrons were discharged at a speed of 184,000 miles a second, under the pressure of an electrical current of 900,000 volts. The rays, after penetrating a layer of copper three millimetres thick, and then 4 inches of iron, were still powerful enough to take an *x*-ray picture. The tube has been made by Dr. W. D. Coolidge, and it will be used in the Memorial Hospital, New York, for the treatment of cancer.

The committee of award has made appointments to twenty-seven Commonwealth Fund Fellowships tenable by British graduates in American universities for the two years beginning September, 1931. These fellowships are offered by the Commonwealth Fund of New York, of which Mr. Edward S. Harkness is president. The list includes the name of J. H. Biggart, M.B., B.Ch., B.A.O., Queen's University, Belfast, who is appointed to Johns Hopkins University, Baltimore, with a fellowship in medicine.

The fifty-fifth Congress of the German Society for Surgery was held at the Langenbeck-Virchow House, Berlin, on April 8th, under the presidency of Professor Schmieden of Frankfort-on-Main, when the chief subject discussed was the surgery of the peripheral nerves, introduced by Professor Kuttner of Breslau.

The third International Congress of Radiology will be held in Paris from July 26th to 31st, when the following subjects will be discussed: radiological examination of the mucosa of the alimentary canal; radiological examination of the urinary system by excretion of opaque substances; pre- and post-operative treatment of mammary cancer (recurrences and metastases excepted); radiotherapy of inflammatory diseases; and diathermy in inflammatory diseases. The subscription is 300 francs for members of the congress, and 50 francs for persons of the members' families. Members of the congress will be allowed a reduction of 50 per cent. on their fares when travelling on French railways to and from the congress. Summaries of communications, not exceeding 400 typewritten words in English, French, or German, should be sent to the office of the congress, 122, Rue la Boëtie, Paris, VIIIe.

Dr. C. P. Oliver, C.B., C.M.G. of Maidstone has been appointed a deputy lieutenant for the county of Kent.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the *British Medical Journal* are MUSEUM 9861, 9862, 9863, and 9864 (internal) exchange, four lines).

The TELEGRAPHIC ADDRESSES are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Inflammation at Site of Old Vaccination Scars

Dr. WILLIAM J. LEDGERWOOD (Holsworthy) writes: Could any of your readers give me an explanation of the following case, and suggest what treatment might be employed? A girl, aged 16, came to me last September complaining of great pain and stiffness in the left upper arm. The arm in the region of the vaccination scars was red, hot, swollen, and very tender. Three of the vaccination scars (the vaccination having been performed in infancy) were of a dark purple colour. She told me that the trouble began in the scars, which became purple and painful, and then the surrounding skin became inflamed. Later, small vesicles formed on the inflamed skin, and eventually, after about six weeks, during which many applications were tried, the condition cleared up, the vaccination scars looking quite normal. She has just returned to me, complaining of pain in the arm and with purple discoloration of the same three vaccination scars.

Income Tax

Allowable Expenses

"G. C. M." asks for a statement of the expenses which a general practitioner can claim, and of the proportion allowable in each case, and also as to the basis of liability in a *new practice*.

*** It is perhaps simplest to consider expenses as falling under one of three heads—entirely professional, almost entirely professional, and general. The first is, of course, simple, and includes drugs, medical stores, upkeep of instruments, medical subscriptions, and so on. It should, however, be remembered that it is the ordinary annual expenditure which is allowable; the cost of setting up a dispensary or acquiring or adding to a set of instruments is capital outlay, and not deductible. Where almost the whole cost is incurred for professional purposes, the usual method of dealing with such expenses is to charge the whole amount *less* a sum which represents the personal advantage—this covers such expenses as car (running costs and depreciation), telephone, and chauffeur's wages and board. No general guide can be given as to the amount to be treated as "personal"—circumstances differ so widely. With regard to the general house expenses—rent and rates, gas, coal, etc.—probably the most common ratio in provincial practices is one-half, but here again a good deal depends on circumstances—for example, if a specially high rent is being paid for a specially desirable site for professional reasons, one-half may not be adequate, and, on the other hand, if it does not include a garage, it may be excessive. As regards domestic servants, it is apparently fairly common to allow the cost of one where two or more are kept, the cost, of course, to include food, laundry, etc. On the "general" expenses question it is sometimes helpful to look at the reverse position—that is, to inspect the balance of such expenses after the professional proportion has been deducted, and see whether that is reasonable, having regard to what the practitioner and his family get first and to local conditions generally. With regard to the basis, the position is as follows: for the first year, the earnings of that year; for the second year, the earnings of the first year, unless the second year's earnings are less, in which case the taxpayer can claim a revision of the assessment to the profits of the second year; for the third and subsequent year, the earnings of the previous year. The cash basis will not be accepted for the calculation of the earnings of the first two years of a new practice.

Private use of Car

"R. B." has for some years treated one-tenth of the cost of running his car as representing private use. He has expended £150 in replacing his car, and the inspector claims that one-tenth of that sum should similarly be ignored in computing his professional expenses.

*** There seems to be no valid legal difference between running costs and replacement expenses in this connexion. If in fact the car has been used one-tenth for private and nine-tenths for professional purposes, then one-tenth of the £150 represents costs incurred through private use, and is not deductible for income tax purposes.

LETTERS, NOTES, ETC.

Ulcerative Colitis

DR. T. GERALD CARRY (Montecatini, Italy) writes: Dr. Hurst, in his very interesting paper in the *Journal* of April 25th, suggests that bacillary dysentery and ulcerative colitis are identical, in other words, that the colitis is a sequela of the dysenteric condition. I venture to say that few with experience of these affections in tropical or semi-tropical countries will agree with this view. In Egypt, where bacillary dysentery is prevalent, ulcerative colitis is comparatively rare, and I can recall but one instance among hundreds where the condition became chronic and ended in ulcerative colitis. On the other hand, among Americans colitis is extremely common—indeed, at one time it threatened to become a fashionable malady—until attention was focused on the unfortunate gall-bladder. Among Americans colitis is certainly not due to the *B. dysenteriae*, but rather to the inordinate use of "canned" food to the exclusion of fresh food—fruit and vegetables especially. Bacillary dysentery is very amenable to energetic treatment; Glauber's salts, etc., will be found more effective than serums or vaccines, while in chronic colitis, which is prevalent at spas, it is found that a cure is frequently effected without the use of crude mechanical devices for diagnosis or treatment. The bile is the natural intestinal disinfectant, hence the efficacy of certain natural mineral waters with a specific action on the liver.

Pregnancy with Intact Hymen

DR. G. M. HODGES (Deddington, Oxon.) writes: Dr. Sefton's letter in the *Journal* of May 2nd (p. 780) interested me, as I saw a similar case some years ago. An unmarried woman, aged 23, consulted me in March on account of four months' amenorrhoea and was found to be pregnant. She denied coitus, and was at her own request examined. The hymen was found to be quite intact, with a central opening that admitted nothing larger than a lead pencil. The hymen was not unduly elastic or sensitive. On questioning, it appeared that her "young man" had emitted semen on or between the vulvae on several occasions without any attempt at penetration. Coitus after marriage was quite painless, and when seen before delivery in the August the hymen presented the usual latero-posterior tear.

DR. MARIE C. STOPES writes: In his note under the above title (May 2nd, p. 780) Dr. J. Sefton draws deductions from his statement "the sperm is said to die within a few hours of deposition in the vagina (unless it enters the cervix)." Such deductions are not necessarily correct, for sperms have been found alive in the vagina as long as seventeen days after their deposition; much will depend on the degree of normal acidity in the vaginal secretions of the individual woman, a point of great personal variability. Facts and discussions on these very interesting points are to be found in my book *Contraception, Its Theory, History, and Practice*, Chapter VI.

Clinical Thermometers

MESSRS. G. H. ZEAL, LTD. (London), write: Our attention has been called to Dr. Robertson's letter (*Journal*, May 9th, p. 830) and the statements made therein, and we are writing to point out that the method of testing the fourteen clinical thermometers adopted by Dr. Robertson could not possibly give satisfactory results. It is a well-known fact that water in a vessel varies considerably in temperature in various parts of the vessel unless the following conditions exist: (1) a suitably constructed vessel; (2) effective heating—preferably electrical; (3) an efficient stirring apparatus. Without these three factors the temperature of the water varies appreciably in different parts of the vessel. It is also necessary to keep the mercury bulbs of the thermometers well apart in order to allow an effective flow of water between each instrument, and unless special apparatus is available, such as is used by the National Physical Laboratory and by the leading manufacturers, no degree of accuracy or uniformity of reading can be guaranteed.

Visit of Scientists to Russia

We are asked to say that arrangements have been made for a second party of scientists to visit Soviet Russia this summer. It will leave London Bridge for Leningrad on August 8th, returning to London in time for the British Association Meeting. The return fare is £18 inclusive, and the latest date for receiving applications is June 15th. Applications and inquiries should be addressed to the secretary, Society for Cultural Relations, 1, Montague Street, London, W.C.1.

Medical Golf

The annual golf competition for members of the West Suffolk Division of the British Medical Association was held at Worlington on May 14th. The following took part: Drs. F. R. Barwell, B. E. A. Batt, J. D. Batt, W. F. Bennett, J. W. E. Cory, E. C. T. Clouston, O. G. Clouston, G. Garratt, E. C. Hardwicke, D. J. P. O'Meara, C. Tylor, A. L. Ritchie, and Colonel A. D. Waring. Dr. J. D. Batt and Dr. A. L. Ritchie tied for first, one down to bogey. They will play another match.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 43, 44, 45, 46, 47, 48, 49, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 207.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

489 Hepatic Insufficiency

M. LABBÉ (*Ann. de Méd.*, February, 1931, p. 97) points out that, clinically, functional disorders of the liver play a very important part, greater perhaps than do anatomical lesions, and that a systematic examination and study of its functions will reveal hepatic insufficiency in many morbid conditions in which it is unsuspected. The biliary, glycogenic, proteolytic, and haemopoietic functions of the liver, and their pathological variations, are described. Many urine and blood tests are enumerated, and their significance in revealing hepatic insufficiency is demonstrated. One test alone is not an index of functional disorder, and many must be performed in order to reach a diagnosis; the liver, pancreas, and endocrine glands co-operate in the glyco-regulating function of the body, hence glycosuria of itself does not indicate hepatic trouble, as it does when associated with urobilinuria and cholaluria. Moreover, tests of the primordial hepatic functions (biligenesis, the metabolism of the carbohydrates, albumins or fats, and coagulation of the blood) are the most important. In conclusion, Labbé cites and briefly discusses the various conditions in which there is an underlying, unsuspected hepatic pathogenesis which can be demonstrated only by a complete examination such as is described.

490 Prognosis in Spasmophilia

U. HJÄRNE (*Acta Paediatrica*, March 15th, 1931, p. 281) states that the view has been maintained in the German paediatric literature of the last twenty-five years that the majority of children who have shown signs of spasmophilia, such as convulsions, laryngospasm, or tetany, subsequently present an abnormal psychical development and tend to suffer from neuropathy, psychopathy, and imbecility. A close examination, however, of the investigation on which this view was based revealed that only a small proportion of the formerly spasmophilic children had been subsequently examined. Hjärne in 1930 examined 29 children who had been treated for spasmophilia at the Upsala University children's clinic from 1916 to 1924, and found that their physical and mental development was completely normal apart from the teeth, which were almost always characterized by considerable caries, while half the cases presented hypoplasia of the permanent incisors.

491 Calcareous Aortic Valvular Disease

H. M. MARGOLIS, F. O. ZIELLESSEN, and A. R. BARNES (*Amer. Heart Journ.*, February, 1931, p. 349) have made an etiological, pathological, and clinical study of calcareous aortic disease occurring without significant degrees of involvement of other valves. They have investigated 42 consecutive cases coming to necropsy during the past eight years. In only three of these patients had there been a history of rheumatism, while only four showed definite or suggestive evidence of syphilitic infection. Males were affected four times more often than females, and 35 of the patients were more than 50 years old on first presenting themselves for examination. Only six patients complained primarily of symptoms referable to the heart. Clinical evidences of peripheral arterio-sclerosis and of cardiac enlargement were found in about half the cases. Hypertension was noted in twelve patients. The signs on auscultation were very variable. Abnormalities in the electrocardiogram were comparatively uncommon; inversion of the T-wave in a significant lead was observed in five, and left ventricular preponderance in nine patients. Roentgenograms usually confirmed the clinical evidence of cardiac enlargement. Except for occasional slight atheroma of the mitral cusps, pathological changes were found in the aortic valve alone. These consisted chiefly in calcareous deposits in the valve leaflets producing distortion and stiffening with varying degrees of stenosis or insufficiency, or both. In several instances intimal proliferation of the arterioles of the aortic ring was observed, and hyalinization extended into the aortic tissues from these vessels. It is thought that these obliterative changes in the aortic ring result in ischaemia of the valve cusps, and that degenerative changes, with subsequent calcification, ensue. In a few cases, both clinical and pathological data pointed to a rheumatic origin, or to an inflammatory process involving the nutrient arteries of the aortic valves.

492 E. L. TUOHY and P. F. ECKMAN (*Minnesota Med.*, April, 1931, p. 289) report cases of gross enlargement of the heart associated with local lesions in the aortic cusps which induced marked aortic stenosis. They consider that it is insufficiently realized that the appearance of calcareous nodules in these valves can produce very large hearts with thick dilated left ventricles, even though no outward signs or symptoms of the process are observable. This local process may develop much earlier than the usual atheromatous series of changes, and is often seen most typically in patients outside the age limit of rheumatic cardiac complications. With the syndrome there are associated no inflammatory reactions, but it can so modify the base of the aorta as to give rise to typical angina without the characteristic narrowing along the course of the coronary arteries. Such nodular lesions are said to be curiously unlike the ordinary intimal atheroma commonly seen within the endocardium and intima of the aorta, the calcification process being one of media degeneration and infiltration. If death does not supervene from other causes, this lesion can lead to an extreme degree of aortic stenosis with great enlargement of the heart. The authors urge the importance of more careful attention to the determination of the heart outline in all suspicious cases, and suggest that it is unwise to exclude the possibility of aortic stenosis even in the absence of multiple involvement of the valves and of a rheumatic or syphilitic history.

Surgery

493 Renal Carbuncle

B. LIPSHUTZ (*Annals of Surgery*, March, 1931, p. 766) describes carbuncle of the kidney as a rare but definite lesion, which is probably more common than is generally believed. The primary focus is usually some staphylococcal infection of the skin, such as carbuncle or hard furuncle, or the condition may follow mastitis, osteomyelitis of the finger, angina, or even influenza. The average interval between the healing of the primary infection and the appearance of a renal or pararenal infection is from three to five weeks. In some cases trauma has been noted as a definite cause. The infection begins in the interstitial portion of the cortex of the kidney, and is usually of haematogenous origin. The first change produced in the kidney is an infarct, which is always directed towards the cortex of the kidney, with the apex towards the pelvis. This pyramidal-shaped infarct is soon converted into a suppurative focus. The symptoms are those of a mild or severe septicaemia, with a fluctuating temperature, and pain which varies in intensity from a dull ache to a sharp localized pain. Tenderness is most acute in the region between the twelfth rib and the muscles of the loin, and there may be some restriction of the respiratory movements of the affected side. The most common urinary finding is a trace of albumin, a few red cells, and some leucocytes. A correct diagnosis is seldom made before operation. When the other kidney

is normal, nephrectomy is the operation of choice, and may be performed successfully even though there is toxic nephritis in the other kidney. If the infection is limited to a small area of the cortex, resection of the infected kidney focus may be feasible. The infarct in the early stage of the infection can easily be removed, and the cavity be packed with gauze, the wound being left open to prevent an extensive area of infection. The prognosis is good when the diagnosis is made early, and the operation is carried out while the infection is in its initial stage, consisting only of a circumscribed zone of multiple suppurative foci.

494 Surgical Treatment of Raynaud's Disease

T. MARIO (*Rif. Med.*, February 9th, 1931, p. 203) reports a case of Raynaud's disease treated by sympatheticectomy of the periarterial branches, and later by arterio-venous anastomosis; the condition began with an attack of rheumatic polyarthritis fourteen years previously. In spite of various medical applications signs of gangrene appeared in the toe, and periarterial sympathectomy was performed. This was followed by considerable improvement for a short time, but eventually the disease spread and amputation became necessary. Three years later similar symptoms began to appear in the other foot, and as no improvement followed the usual treatment, the author tried the effect of arterio-venous anastomosis, with the idea of improving the circulation. This operation gave rise to considerable relief, but after about a month the condition became as bad as before. The author discusses the various theories as to the causation of Raynaud's disease and the different suggestions as to treatment. The temporary improvement following arterio-venous anastomosis is, he thinks, probably due to passive hyperaemia. The effect of cold or hot applications may help in differentiating gangrene due to Raynaud's disease from that caused by arterio-sclerosis; in the first, warmth does good, while in arterio-sclerosis cold applications are of more use. In spite of occasional cures, none of the various medical or surgical treatments can be relied on as certain or specific.

495 Parathyroid Tumour and Generalized Fibro-cystic Osteitis

I. SNAPPER (*Bruxelles-Médical*, March 15th, 1931, p. 585) reports a case in which a parathyroid tumour was found to be responsible for symptoms of "osteomalacia." Five years previously the patient, a man aged 56 years, had complained of a slight stiffness of the legs which increased to actual pain. The patient had lost weight, and for a year he had been bed-ridden and cachectic. A month before being seen by Snapper he had had a spontaneous fracture of the right femur. Radiographs showed an extreme decalcification of the pelvis and femora, which explained the previous diagnosis of osteomalacia. The patient appeared to be in a desperate state; the blood calcium was 20–23 mg. per cent. A radiograph which had been taken in Antwerp in 1925 showed the characteristic changes of a cystic fibrositis of the second metatarsal and of the left glenoid cavity. It appeared probable that the patient was suffering from Recklinghausen's disease; the high blood calcium figure pointed also to the presence of a tumour of the parathyroid. An adenoma 2.5 cm. by 1.5 cm. was in fact removed from the left parathyroid. The result was good; sixteen months after the operation the patient could walk with a stick for one hour, had no pain, and felt himself cured. Radiographs showed a marked recalcification of the pelvis and femora. Immediately after the operation, owing to the rapid fall in the blood calcium, injections of parathyroid extract and intravenous injections of calcium were necessary. Later, oral administration of calcium lactate sufficed to maintain the equilibrium of calcium metabolism. The markedly good results of the operation proved that the removal of a parathyroid adenoma exercised a salutary influence on the Recklinghausen's disease even when the late stage of pseudo-malacia was present. Snapper suggests that there may be some connexion between parathyroid tumour and true osteomalacia.

Therapeutics

496 Malaria Therapy in Neurosyphilis

In a survey of the medical aspects of malaria therapy in neurosyphilis G. S. JOHNSON and R. A. JEFFERSON (*Journ. Nerv. and Ment. Dis.*, April, 1931, p. 405) enumerate the contraindications as: the existence of rapidly progressive paresis and far advanced tabes, with incontinence and severe ataxia; juvenile general paralysis; primary optic atrophy; severe cachexia, or the presence of such systemic diseases as diabetes, nephritis, and active pulmonary tuberculosis; and a history of attacks of heart failure in a case presenting clinical evidence of morbus cordis. The authors agree that high fever is not the primary therapeutic agent, and believe that improvement is due to a tissue reaction which builds up immunity in the nervous system. Excessive high fever is neither necessary nor desirable, and every effort should be made to keep the temperature consistently below 106° F. A course of eight paroxysms is considered sufficient; longer periods of treatment debilitate the patient and damage his recuperative powers. The authors have found that 35 per cent. of such cases show evidence of aortic or cardiac disease, and believe that the incidence of this complication is even higher. Circulatory collapse may occur during malaria therapy; it is apparently brought about by severe fatigue due to disturbance of the vasomotor tone. Treatment is similar to that for shock, and the malaria therapy must be promptly terminated; digitalis is ineffectual in such cases. The authors believe that a systolic blood pressure below 90 mm. of mercury is not a dangerous sign during treatment; in many of their patients it remained consistently around 70 without any adverse sequels. They urge that the criterion for malaria therapy should be the physical condition of the patient rather than his mental state. Careful attention to the medical aspects will lower the mortality rate, and carry even the less hopeful cases through treatment satisfactorily: Antisyphilitic chemotherapy is valuable before malaria is induced, especially in debilitated cases, and it is highly advisable after the malaria has been terminated.

497 Precautions during Arsphenamine Administration

In 1919 Davis and Whipple reported that diets rich in carbohydrates afford protection against liver injury caused by chloroform, whereas diets rich in fat and protein predispose to hepatic disturbance; it was subsequently assumed that the same conclusions might be applicable to the toxic effects of arsphenamine. E. B. CRAVEN, jun., (*Bull. Johns Hopkins Hosp.*, March, 1931, p. 131) doubted whether such a conclusion was justifiable in the case of two drugs chemically so dissimilar, even though the type of liver injury, central necrosis, was the same in both. Experiments were therefore devised to test the three principal diets—namely, high in carbohydrate, high in fat, and high in protein—against the liver injury produced by arsephenamine. Craven found that diets rich in fat and protein gave the maximum protection against such liver injury, the fat being definitely more efficacious in this respect. Diets containing large quantities of carbohydrates seemed to confer on the liver the maximum susceptibility to hepatic intoxication during the administration of arsphenamine; another predisposing factor of the same kind was starvation. This action of carbohydrate dietaries was not modified by the addition of cystin to them, or its intravenous injection. Craven, therefore, disagrees with the established practice in certain clinics of placing patients suffering from arsphenamine jaundice on a high carbohydrate diet.

498 Barium Chloride in Typhoid Fever

E. PETRINA (*Il Policlinico*, Sez. Prat., March 30th, 1931, p. 437) publishes brief notes of six cases of typhoid fever treated with barium chloride, and refers to 23 other cases in which this salt was tried. In spite of the reputation of extreme toxicity attached to this drug, the author encountered no bad results from its administration, except

in one instance where it caused vomiting. He gave 1.5 grams each day, in three divided doses, for five days; allowed a five-day interval, and then repeated the administration for a second period of five days. The benefit appeared in the form of clearing up the stuporose condition, cleansing the mouth, lessening the meteorism and enlargement of the spleen, and hastening the disappearance of the rash. The presence of considerable albuminuria proved no drawback in this treatment, and all the patients recovered.

499 The Glucosides of Squill in Acute Scarlatinal Nephritis

A. STROE and P. KLINGER (*Paris Méd.*, April 11th, 1931, p. 357) report a series of 21 cases of scarlatinal nephritis, of which 9 were of the hydraemic, 5 of the azotaemic, and 7 of the mixed types, which were treated by squill glucosides. Scillarene was used in the form of tablets containing 0.000S gram, or as a solution of 0.00S gram. in 1 c.cm., two to three tablets or 20 to 30 drops being given daily. The daily administration was continued until improvement was shown by reduction of the oedema, fall in the blood urea, or increase in the output of urinary urea. The minimum time for the appearance of any improvement was forty-eight hours, and treatment has been continued for as long as thirty days without the development of toxic signs due to accumulation of the drug. Some patients were admitted with marked oedema; in these it was difficult to assign the amount of improvement due to the specific diuretic, and to the usual dietetic and hygienic measures, but in the case of those admitted early to hospital the authors have no doubt that the drug materially hastened recovery. Only one instance of intolerance to the drug was noted, vomiting supervening and preventing further trial; in one case there was no improvement, and in a third the drug failed, as did every other possible therapeutic measure. In no case did the appearance or increase of epithelial casts or red blood cells in the urine give evidence of renal damage by the drug. The authors consider that the failure of this powerful diuretic to damage the essential renal tissues supports the hypothesis of Chabanier and Blum assigning an important role to the extra-renal tissues in the mechanism of chloride retention.

Laryngology and Otology

500 Pathogenesis of Aural Cholesteatoma

D. MCKENZIE (*Journ. of Laryngol. and Otol.*, March, 1931, p 163) reviews the etiology of causation of cholesteatoma, but declines to endorse the theory of epidermal invasion, or that of metaplasia. Primary cholesteatoma, a rare but definite condition, is described in detail, and a full account is given of the microscopical structure and the behaviour of primary and secondary cholesteatoma. Three theories are advanced to explain the expansion of the cholesteatomatous cavity: (1) simple pressure atrophy; (2) some chemical action; and (3) invasion of the Haversian systems, a theory first advanced by Kirchner. McKenzie, however, favours the pressure atrophy theory. Attention is drawn to cholesteatomata, which occur rarely in the basal cisternae, and which are now believed to be inclusion tumours, they closely resemble aural cholesteatomata in their microscopical appearance. The conclusion drawn is that all cholesteatomata are primary, and that the so-called secondary cholesteatoma is one which has broken through its limiting membrane and become secondarily infected. The theory that cholesteatoma is an inclusion tumour brings aural and cerebro-spinal cholesteatomata into line, and the site of origin in the aditus-antrum region, where many elements meet, favours this theory. McKenzie, however, is not convinced of its validity. This account has one important bearing on treatment—namely, the removal of the thin plate of bone in the aditus-antrum region, if the disease is limited to that small area. If symptoms of wider infection are absent the mastoid operation is avoided, and many hearing ears may be saved.

501 Treatment of Peritonsillar Abscess

G. CANUYT (*Ann. d'Oto-Laryngol.*, January, 1931, p. 61) describes investigations which he has made in order to discover the exact site of pus collection in the so-called antero-superior peritonsillar abscess. The tonsillar region in a fatal case was dissected carefully, and fluid was injected into the peritonsillar region in dissecting-room subjects. These experiments led the author to the belief that the abscess is situated between the tonsillar capsule and the pharyngeal wall. *X*-ray examination of the living after the injection of lipiodol, and the conditions met with in a series of tonsillectomies during the acute stage of peritonsillar abscess, pointed to the same conclusions. In describing his technique of treatment the author recommends exploratory puncture with a wide-bore needle, and aspiration in every case. This, and the further incision of the abscess, is conducted under infiltration anaesthesia, which has always proved effective. If pus is found on exploration, the abscess is then opened by a long incision through the anterior pillar of the fauces, and by the opening up with blunt instruments of the tonsillar fossa between the capsule and the pharyngeal wall. This approach provides free drainage from the most dependent part of the abscess, and is in accordance with general surgical principles. Canuyt recommends that the first incision should be made with an electro-surgical instrument if this is available. In conclusion, it is emphasized that the best prophylaxis of peritonsillar abscess is complete tonsillectomy.

502 Acute Inflammation of the Auditory Meatus

B. FOSTER (*Med. Journ. of Australia*, January 3rd, 1931, p. 15) reports a case which might easily have been mistaken for a furuncular abscess in the external auditory meatus had not the patient insisted that there was a foreign body in the left ear. Twenty days previously he felt something enter the ear; he could not remove it, and since the ear became increasingly sore he sought medical advice. Syringing gave but temporary relief, and the pain returned with such severity that the patient was deprived of sleep. When seen by Foster the meatus was occluded by inflammatory swelling, and there was well-marked facial paralysis of the left side. The meatus contained a large quantity of creamy material of faint pink tinge. When this was cleared away there appeared to be a bead of granulation tissue on the floor of the cartilaginous meatus. A minute foreign body, smooth and hard, and quite embedded in the floor of the meatus, was removed by aural forceps, proving to be a squashed tick about 4.5 mm. in length, which had burrowed for about half its length into the floor of the meatus. The creamy material was mainly excretion from the tick. There was no other injury apart from the small excavation in the floor of the meatus. The middle ear was intact, and hearing was unimpaired. The condition rapidly cleared up, and within three days all signs of facial paralysis had disappeared.

Obstetrics and Gynaecology

503 Monilial Vulvo-vaginitis

E. D. PLASS, H. C. HESSELTINE, and I. H. BORTS (*Amer. Journ. of Obstet. and Gynecol.*, March, 1931, p. 320) believe that vaginal fungus infections are more common than is generally believed. Opinions differ regarding the pathogenicity of monilia. Normal females may have a chronic symptomless infection. Some writers regard its presence as symbiotic. Trichomonas and monilia may exist together or separately, with or without symptoms. Animal experiments have not been conspicuously successful. Inoculation of a healthy pregnant woman from a case of mycotic vaginitis caused transient local irritation that subsided spontaneously. Vaginal inoculation with brewers' yeast is said to have relieved persistent leucorrhoea. In severe cases a granular vaginitis resembling that seen in severe gonorrhoea is observed. Inguinal lymphadenitis is rare. When found, typical white flakes

are pathognomonic. Infection may occur at any age, but is most frequently in sexually active adults; menstruation probably, and diabetes and pregnancy certainly, are predisposing factors. Monilia infection during pregnancy may produce oral thrush in the newborn child. The present authors have examined the secretions in five diabetic patients, and in every case monilia was present, although only one patient complained of irritation. Diagnosis may be made from hanging-drop preparations, by finding mycelial threads and budding elements. When mycelia are absent, a positive diagnosis can be made only by stained smears and cultures. Both mycelial and conidial forms stain well, and are definitely Gram-positive. Sabouraud's medium (dextrose-peptone-agar adjusted to a *p*H of 5.5) is the best for the detection of fungi in doubtful cases, or for confirmation, since the excess of acid inhibits growth of most symbiotic organisms, although some staphylococci and bacilli grow freely. Monilial vaginitis tends to undergo spontaneous cure, but occasionally becomes chronic. In pregnancy, delivery is followed usually by complete relief, and menstruation relieves temporarily. Local application of aqueous solution of gentian violet (1 per cent.) is most efficacious; alkaline douches may assist.

504 Pessaries and Vaginal Cancer

G. v. WOLFF (*Zentralbl. f. Gynäk.*, March 14th, 1931, No. 11a, p. 942), who records three illustrative cases, states that while it is well known that chronic irritation of a chemical, thermal, mechanical, or physical nature may frequently lead to cancer, as is shown in the case of chimneysweeps, aniline workers, pipe smokers, and tar cancer in mice, comparatively few cases have been recorded of vaginal cancer due to a long-retained pessary. The author has found only 19 examples in German literature extending over a large number of years. His own cases, however, all occurred within a relatively short period. The first patient was a woman, aged 58, who had had ten children and seven abortions, and had worn a ring pessary which had not been changed for six years. Septicopyaemia developed shortly after the institution of radium treatment, and at the post-mortem examination, in addition to vaginal cancer, septic thrombophlebitis and metastases in both lungs were found. The second patient was a woman, aged 71, a 3-para, who had worn a ring continuously for eleven years; she was still under treatment by radium. The third patient was a nullipara, aged 69, who had worn a ring uninterruptedly for thirty years, and was still under radium treatment. Histological examination of the first case showed the presence of cancroid, and in the other two of squamous-celled epithelioma.

505 The Barbiturates in Obstetrical Analgesia

M. L. AXELROD (*Anesthesia and Analgesia*, March–April, 1931, p. 64) has found, as the result of experiments, that the only barbiturates, soluble in oil and ether, that can be safely and efficiently used in obstetrics with supplemental (nitrous oxide-oxygen) anaesthesia are iso-propyl-allyl, *n*-butyl-ethyl, and methyl-*l*-ethyl-butyl. The action of these was practically identical in the same dosage. They eliminate the use of drugs which may seriously affect the infant, and have no effect on the latter; they also reduce the post-operative need of narcotics. Labour pains, and the pulse, respiration, blood pressure, and blood loss are not affected. No late after-effects have been noted, though restlessness may develop, and so the patient must be watched. Axelrod found that 1 gram of barbiturate in 2½ oz. ether and 1¼ oz. oil with 20 grains quinine gave the best results. Though in most cases the dosage was regulated according to the body weight, the maximum dose of the barbiturate never exceeded 1 gram. Premedication varies with the obstetrician. This rectal instillation is given in the first stage of labour, and is preceded by 1 oz. plain oil and the application of vaseline round the anus to prevent irritation should ether be expelled. The instillation should be given uniformly and slowly to permit of the mixture entering the colon between contractions. Light anaesthesia of twelve to fifteen hours is obtained. This method has been used in about 100 cases (6 are here reported) with only 2 failures.

Pathology

506 The Kahn and Wassermann Tests

C. H. K. SMITH and N. A. MICHAEL (*Journ. Royal Army Med. Corps*, March, 1931, p. 202) have compared the Wassermann and Kahn tests in 2,300 cases. The Wassermann technique was that described as No. 1 Method in the Medical Research Committee's Special Report Series (1918), while for the flocculation procedure Kahn's routine test was the one adopted. It was found that a "home-made" antigen for the Kahn test gave satisfactory readings, was very economical, though slightly less sensitive than the Parke Davis standardized antigen. The results of the 2,300 serums showed 96 per cent. agreements; an analysis is given of the discordant results. Disagreement was most marked in cases of primary syphilis before treatment (28); when the Wassermann reaction was negative and the Kahn negative-incomplete (a fine granulation in two tubes). In ten of these *T. pallidum* was found, and both reactions became positive later. In the remaining cases both reactions became positive later, the Kahn reaction tending to do so rather earlier than the Wassermann. In 23 cases of syphilis during or after treatment the Wassermann reaction was weakly positive and the Kahn was positive, appearing to persist longer during treatment than the Wassermann. Disagreements were also noted with septic serums, the impression being that a positive Wassermann reaction was more likely to be caused by sepsis than a positive Kahn. In favour of the Kahn test, in the author's opinion, is its great simplicity; the fact that it does not require any elaborate apparatus, or animals, permits its being performed in small laboratories.

507 The Blood Platelets in Pulmonary Tuberculosis

G. BAQUERO (*Arch. de med., cir. y esp.*, March 19th, 1931, p. 231) made a study of the blood platelets in 23 cases of pulmonary tuberculosis in various stages of the disease, with the following results. In cases of fibroid tuberculosis in which the process has shown a more or less prolonged state of stabilization with hardly any clinical symptoms, the number of the blood platelets remains the same or shows a tendency to be slightly subnormal. The same character of stabilization in the platelet values is seen in cases of fibro-caseous tuberculosis, without, however, any tendency to subnormal figures, but rather with a slight increase. This stabilization is interrupted by appreciable changes in cases of fibro-caseous tuberculosis in which complications develop. These changes give rise to an increase which may be considerable, and they are proportionate to the destructive character of the lesions. If the complications produce a high temperature the number of the platelets fails to reach the normal when the fever has subsided. In advanced fibro-caseous tuberculosis the platelets are considerably increased. When there is a marked exudative tendency the platelets are generally greatly increased, and they present certain variations. The platelets do not show any appreciable change connected with haemoptysis in pulmonary tuberculosis.

508 The Bacteriophage in the Diagnosis of Dysentery

Sonnenschein was the first to make use of the bacteriophages in bacteriological diagnosis, and he has described specific phages for typhoid and for the various types of dysentery bacilli. M. TOYODA (*Deut. med. Woch.*, March 13th, 1931, p. 451) now describes a bacteriophage isolated from hen's excreta which is specific for the dysentery group of bacilli but is polyvalent—that is, it reacts with all the members of the dysentery group though not with similar organisms, such as *B. coli*, *B. typhosus*, and the paratyphoid and food-poisoning bacteria. Toyoda has used this agent for the rapid diagnosis of the presence of dysentery bacilli in cultures from patients' faeces; all suspicious colonies, after being inoculated for twelve to twenty-four hours, are mixed with the bacteriophage and tested for lysis.

SUNSHINE GLAXO

Sunshine Glaxo is made from the milk of selected dairy herds that are pasture-fed throughout the year.

Sunshine Glaxo is of the highest bacterial purity. The most stringent bacteriological control is exercised at all stages of its manufacture.

Sunshine Glaxo is free from B. Tuberculosis.★

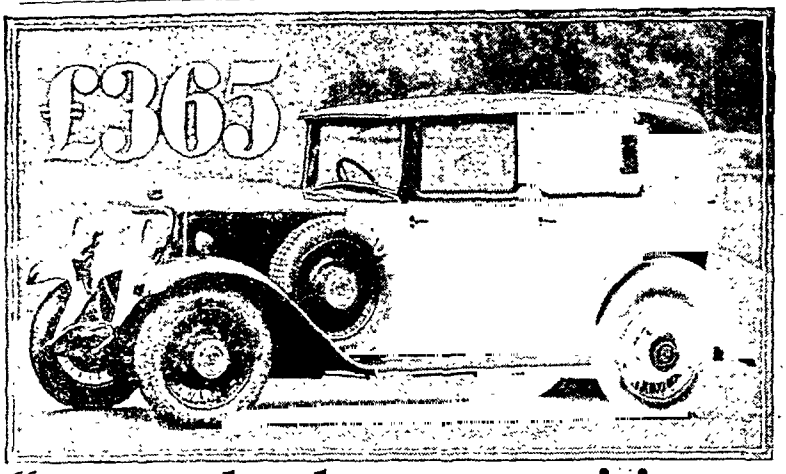
To recommend Sunshine Glaxo is to ensure freedom from milk-borne infections.

Sunshine Glaxo provides all the desiderata for the artificial feeding of infants:

(1) Milk of assured bacterial purity;
(2) Humanised formula;
(3) Optimal vitamin and mineral content.

★ As part of the routine of bacteriological control Sunshine Glaxo is regularly examined for absence of B. Tuberculosis by inoculation test. No positive reaction has ever been observed.

TRIAL SUPPLIES ON APPLICATION TO
GLAXO LABORATORIES : 56 Osnaburgh Street : LONDON, N.W.1



"... to the busy practitioner who needs to conserve the last ounce of energy, the absence of all effort in gear changing must count a great deal in a busy day's work..." A.J., M.D.

"Your Self-Changing Gear has been a perfect revelation. I now come in from a busy round with no sort of feeling of fatigue as the result of stopping, starting, and changing gear so many times as I needs must do. The relief from this work as compared with the old form of gear change is really rather remarkable."

M.B., Ch.B.

Arrange a Trial Run—Have an Armstrong Siddeley for a round of visits and notice what a difference the self-changing gear makes. It is something you have been waiting for for years.

Prices from £275—All Six Cylinders

ARMSTRONG SIDDELEY

Write for Catalogue BW142
ARMSTRONG SIDDELEY MOTORS LIMITED, COVENTRY
LONDON, 10 OLD BOND STREET, W.1
Manchester: 35 King St. West. Agents everywhere

LINEN MESH protects the body and keeps it warm, but it also throws off heat and stimulates the body to engender more, as required to meet prevailing conditions of temperature. Therefore it is the essential underwear for any climate.

THERE'S HEALTH and COMFORT IN

EMPIRE LINEN MESH UNDERWEAR

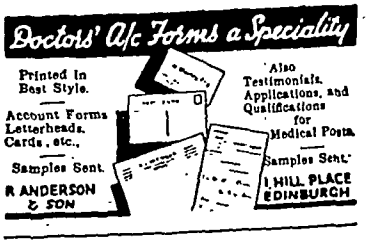
Sold by all good Outfitters. Patterns and particulars post free.
THE IRISH LINEN MESH CO. LTD. BELFAST, NORTHERN IRELAND

A Gentleman Always Looks Well Dressed in Savile Row Clothes.
[REDUCED PRICES.]
NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.:—DAVIES, LESLEY & ROBERTS, SCHOLTE, &c. LOUNGE, DRESS, SPORTS SUITS, &c. OUR PRICES NOW 3 to 8 Gns.
Alterations on Premises.
REGENT DRESS CO., Piccadilly Mansions, 17, Shaftsbury Avenue, Piccadilly Circus, W.1. Ladies' Dept. on 1st Floor. (Next Cafe Monico.) GER. 7611

SPECIAL OFFER!
N.H. OAK FILING CABINETS
(Also stocked in Belfast).

1 dr.	2 dr.	4 dr.
23/6	35/-	63/-

Send for our samples of the very best Medical Stationery.
HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.



NAME PLATES
in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

Collection of Overdue Accounts

ONE-THIRD of the accounts sent to us or collection are hopeless for a variety of reasons; they may be correctly described as "valueless."

The Annual Subscription and the exceedingly small Registration Fees are all we get to remunerate us for the vast amount of unprofitable work involved in trying to collect money from these impossible cases.

WITHOUT OFFENCE

Your visiting card marked "B" placed in an envelope will produce all information.

All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.) Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.

Players always Please

Smokers find a World of satisfaction in

PLAYER'S

Quality and Quantity

10 for 6ᵈ 20 for 11½ᵈ

N.C.C. 51

GAMAGES—HOLBORN—

1931 Waterproof is equal to Waterproofs at Thrice the Price!

Gamages Double Texture Waterproof is an innovation. It is a British made, really high-grade Waterproof manufactured with meticulous attention to detail and embodying ideas hitherto found only in expensive waterproofs. Because Gamages are able to place large contracts it sells at only 10/9. Apart from the special features enumerated below, its smart appearance will satisfy the most discriminating purchaser.

PRICE *(Post. 9d.)*

SIZES 34" to 44" CHEST

10/9

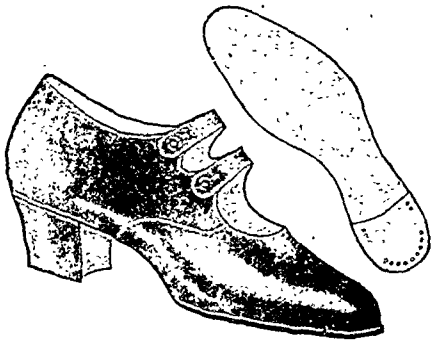
Post Orders: State height and chest measure taken loosely over waistcoat.

SPECIAL FEATURES

1. Material is absolutely impervious to rain, being of double texture waterproof cloth.
2. Double-protection afforded by the special wind fly.
3. Every coat has a storm collar 3 ins. in depth.
4. Ventilated yoke ensures every comfort to the wearer.
5. Pockets are constructed to allow easy access to jacket pockets.
6. An all-British Production that will give years of service.

GAMAGES, HOLBORN, LONDON, E.C.1

Telephone: Holborn 8484.



HOLLAND'S *Modified*
Natureform Shoes
are of special interest to Medical Women.

Made from new model lasts following the principle of the straight inner side, but all unnecessary room is eliminated—giving freedom of movement for all the bones of the feet—yet they are not ugly. You can recommend these productions to your patients with the assurance that they will enjoy better health and prevent malformation due to cramping of the metatarsal bones. Sample shoes sent for inspection to any member of the medical profession. Shoes specially made for any form of malformation.

Catalogue of "Natureform" Productions and Modified Natureform Shoes sent free on application.

B. M. HOLLAND & SON, 46, South Audley Street, London, W.1.

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting.

1. It [illegible] *the case* [illegible].
2. It [illegible] and leaves
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS
arranged for Doctors and Patients.
Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

Mr R.H.DENT'S
Ardente
FOR DEAF EARS

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.
53, Lord Street, LIVERPOOL

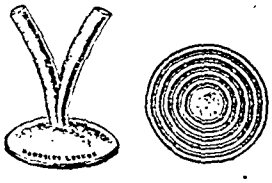
309, OXFORD ST., LONDON, W.1.
Tel.: Mayfair 1380/1718.

206, Sauchiehall Street, GLASGOW.
23, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.
30, Wellington Place, BELFAST.

BLOOD PRESSURE
SPHYGMOMANOMETERS
Mercurial: Aneroid: Recording

NEW CATALOGUE
post free on application.

STETHOSCOPES



NEW
'METALLIQUE' CHEST END
(Pat. app. for)
The specially constructed metal diaphragm is extremely sensitive and magnifies heart sounds without distortion.

Price, chest end only, 10s. 6d.

Obtainable from all Dealers, or from the Makers:

HAWKSLEY & SONS Ltd.
83, Wigmore Street, London, W.1
Telephone: Welbeck 3559.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES
AUTOGENOUS AND STOCK.
Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for *prophylaxis* or therapeusis.

ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS
Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA
Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines.
Write for Bargain List 82.
'Phone—Holborn 3791.
BUY A BIJOU FOR 5/- per week.
74, CHANCERY LANE (Holborn End), W.C.2

Desks, Tables & Chairs
Est. 1881.

THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.

'WARDWAY'

The Chair you can wheel upstairs

John Ward, Specialist in Invalid Chairs, respectfully invites members of the Medical Profession to write for the "Wardway Booklet No. 9."

JOHN WARD Ltd
242-7 Tottenham Ct. Rd. London

ALLIANCE DRUG & CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C.3.

Telephone: ROYAL 5865.

Tel. Address: "NALTROF," BILGATE, LONDON.

Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulae as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED. 1-7 in 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.

Lassar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Liq. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/3 lb.
Chloroform Pur., 3 lb. @ 5/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 5 lb. @ 18/6 lb.
Sod. Sulph. Feathers cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosp. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillæ, B.P., 7 lb. @ 8d. lb.
Sennæ, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Bland's (Sugar-coated), gr. 5	3/10
Nitroglycerin, B.P., gr. 1-50th	5/-
Perchloride of Mercury (Coloured)	15/-

One Tablet in 1 *pint* of water is equivalent to 1 in 1,000.

Thyroid Gland, gr. 5 ... 12/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES. In 5-lb. Bottles.

	B.P. Aquos.	B.P. Aquos.	
Belladon.	4/5	1/6	Hyoscyam. 4/5 2/4
Benzoin Co.	4/7	—	Nucis Vom. 3/10 1/4
Camph. Co.	3/-	1/6	Opii 6/3 4/3
Card. Co.	2/6	1/6	Quin. Ammon. 3/3 —
Gentianæ Co	2/8	1/6	Rhei Co. 2/8 1/9

Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichthamolis, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

*Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

Important Sale

THE FURNITURE & FINE ART DEPOSITORIES, LTD.

HAVE RECEIVED INSTRUCTIONS TO DISPOSE OF IMMEDIATELY the entire contents of several Town and County Residences, Flats, etc., removed to their Galleries for convenience of sale, and are offering many important items from the following collections.

SIR FREDERICK CHARLES HOLIDAY (Decd.);

MARY ANNA DUCHESS OF ABERCORN (Decd.);

THE THIRD EARL OF DURHAM (Decd.);

and others.

ON SALE EVERY DAY, 9 till 7.

MAGNIFICENT BEDROOM APPOINTMENTS, comprise Complete Bedroom Suites in Walnut, Mahogany, Silver Ash, Chorcely Figured Satinwood, also Lacquer in the Chinese Style, and Figured Oak, ranging from 6 Guineas to 250 Guineas. Bedsteads to match. *Bachelor Bedroom* Suites in Solid Oak, with Bedsteads to match, offered at the extremely low figure of £4 15s. complete.

GENUINE ANTIQUES, including Four-post Bedsteads, Tallboy and shaped front Chests, Bow-front Wardrobes, Sofa Tables, Corner Washstands, and Toilet Mirrors. Gents' Wardrobes with interior fitments from 4 Guineas each.

SETTEES AND LOUNGE EASY CHAIRS, quantity removed from St. James's Street Club, covered Real Leather, Art Tapestry, Brocade Silk, etc. Several exquisitely spring upholstered, covered in Art Linen, *all equal to new.* Small Lounge Chairs offered at 21/-. Larger Lounge Chairs £2 17s. 6d. to 12 Guineas. Exceptionally well made and softly sprung Chesterfield Settees 5 Guineas to 25 Guineas.

[illegible]

Complete Dining Room Suites in English Oak, with Sideboard, Set of Chairs, and Dining Tables, offered for 10 Guineas the set. More *elaborate complete* sets ranging from 25 Guineas to 300 Guineas. Most of these exquisite Suites cost over treble the price now asked. Quantity of Cottage Wheelback Chairs 6s. 9d. each, with Cottage Oak Dressers, two-flap Tables, in good condition, at 35s.

CARPETS AND RUGS, including fine Persian, Turkey, Chinese, Aubusson, and Axminster, a large *salvage stock* being offered at 50% below cost. Quantity of fine Pile Carpet at 2s. 9d. *per yard.* Several Seamless Squares in various designs and colourings, undamaged and unsoiled, from 21s. each.

PIANOFORTES BY EMINENT MAKERS, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, collection of *Marble* and Bronze Statuary, Pictures, Silver and Sheffield Plate, old Cut Glass, Linen, and a quantity of Office Furniture, including Roll-top Desks, Pedestal Desks, Bookcases, Iron Safes, etc.

16 h.p. Austin Motor Car, River. Punt, and Two Dinghys.

TO AVOID DISAPPOINTMENT EARLY INSPECTION IS INVITED, AS A SPEEDY CLEARANCE IS ANTICIPATED. On Sale every day 9 till 7. *Any item may be purchased separately; can remain warehoused free for 12 months,* or DELIVERED TO ANY PART OF THE COUNTRY BY OUR OWN LORRIES *FREE. Send for* PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F) *Post Free.*

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.

PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1

Few minutes from Highbury Station, North London Railway. Train fares refunded to all purchasers.

(Within 10 minutes of West End.)

Telephone: North 3580 & 3581.

The Goodness of Turkish Cigarettes

When the doctor says:—"Smoke fewer cigarettes!" patients reply sweetly "All right, I'll smoke more Royal Beauties!" and the doctors are not cross—they understand, for pure Turkish contains only about half the nicotine of ordinary Virginia tobacco and is therefore much better for you. And the linen filters in Royal Beauties do the rest. Some people fancy Turkish tobacco is doped. Royal Beauties are unconditionally guaranteed to contain nothing but absolutely pure undoped Turkish tobacco—so that's that

In three sizes: Turkish, 9/6, 10/6 and 12/6 a hundred

ROYAL BEAUTIES

CIGARETTES

From leading stores or direct from Louis Coen Ltd., 88 Piccadilly, W.1. Telephone: Grosvenor 1979

STERILIZED DRESSINGS

In Sealed Drums.

A complete range of Dressings available for every Surgical Operation.

JOHN BELL & CROYDEN

50-52, WIGMORE STREET, W.1.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, *including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental and Nervous cases are received without certificates as Voluntary Patients under the provisions of the Mental Treatment Act, 1930.* Bracing Hill country. *See Medical Directory, p. 2153.*—Apply to Medical Superintendent. *Phone: 16 P.O., Church Stretton.*

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

BOREATTON PARK, BASCHURCH, SALOP

Suitable for a seaside holiday. Patients received.

A first-class Country Mansion in a sheltered position. Motor and Tennis reception of a limited number of Gentlemen mentally afflicted or ill. Large gardens, deer park, fishing. Grounds extend 4 miles. Voluntary Boarders accepted. Apply for particulars

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary Boarders, persons suffering from incipient nervous and mental disorders, as well as certified patients of both sexes, are received for treatment. *Careful clinical, biochemical, bacteriological,* and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

[illegible] own farm and gardens

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. *Telephone*: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P. *Telephone*: Teignmouth 289.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel: 64117. *For terms, etc., apply to the Medical Superintendent.*

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.

Obtainable [illegible] NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

HAWKSLE [illegible]nsion of Historical interest, standing in 9 acres of garden and grounds, [illegible] miles from Northampton, and 12 miles from Bedford on the main London **83, Wigmore** [illegible] fifty miles from London. Both sexes are accommodated. Psycho- *Telephone*: [illegible] is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra- [illegible] and Foam Baths. Billiards, tennis, etc. Fees from five gns. per week. [illegible]M DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

ST. ALBANS, HERTS.
(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country-mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital.
Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This Registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superin- [illegible] A. G. ROY, M.B., *who may* also

HINDHEAD.

850 feet above sea-leve[l]

STONYCREST NURSIN[G]

(Registered)

For MEDICAL, SU[RGICAL] CONVALESC[ENT]

RESIDEN[T]

Apply, Miss OLIV[ER]

THE LA[WN]

This Registered H[ouse] [illegible] large grounds near the Ca[mpus]. VOLUNTARY and PRIVATE [Patients] of both sexes for treatment of Mental [Nervous Disorders, including Post-Encephal[itic] conditions in adults. Special facilities [for] Psychotherapy in co-operative cases.

All particulars may be obtained from the Resident Medical Superintendent,
Dr. MARY B. BARRAS, M.D., D.P.M.

Tel. & Telegrams "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.
Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
[illegible] of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
[illegible] Superintendent at the Hospital.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury Telephone 51.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acr[illegible] Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusement[illegible] other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and [illegible] immersion Baths. *Operating Theatre, Dental Surgery, and Ophthalmic Dept.* Chapel. Sc[illegible] Dr. Hall: James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist [illegible] may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the Medical Superintendent.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

'Grams: "Smedley's Matlock." 'Phone No. 17. For Prospectus and full information please write MANAGER, M.J.

MATLOCK

WOODLANDS PARK

GREAT MISSENDEN BUCKS.

550 feet above sea-level on Southern Chilterns. 90 acres, Gardens, Woods, and Park.

FOR INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and REST AFTER OPERATION or ILLNESS.

FEES FROM 8 GUINEAS.

Telephone: 91 Gt. Missenden. Apply: C. W. J. BRASHER, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the [illegible] abuse. Large secluded grounds on the bank of th[illegible] croquet, bowls. *Golf* (Moor Park, Sandy Lodge) clos[illegible] F. S. D. HOGG, M.R.C.S., &c., Resident Medical Sup[illegible]

SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA, Nr. LIVERPOOL.

Specially built and licensed for the care and treatment of a limited number of Ladies and Gentlemen suffering from Nervous and Mental breakdown. *Voluntary and certified* patients received. Ladies also admitted as "Temporary Patients" without certification. Terms moderate. Apply RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. CARVER, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 241.

The Stanboroughs,

WATFORD HERTS.

Specially equipped for treating cases of functional nervous disorders, *alcoholism*, and drug addiction. Fees moderate. Extensive park. Inspection invited.

S. MCCLEMENTS, M.R.C.S., L.R.C.P., Medical Superintendent.

Phone: WATFORD 1751.

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL *for* the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, *with* 20 [illegible] grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. *Telephone* No. Bathaston 8189.

Bishopstone House, Bedford.

PRIVATE HOME *for* MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2703.

GILGAL HOSPITAL, PERTH.

Chairman:

THE RT. HON. THE EARL OF MANSFIELD.

For the Treatment of NEUROPATHIC and PSYCHOPATHIC DISORDERS. Certified patients not received. Under the management of James Murray's Royal Mental Hospital. Inclusive rates 3 guineas to 8 guineas weekly. Particulars on application.

Physician-Superintendent: W. D. CHAMBERS, M.D., F.R.C.P.E.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [illegible] Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:

A. E. CARVER, M.D., D.P.M.

Telephone: Nuneaton 241.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS, at a weekly *fee of* TWO GUINEAS and upwards.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 26 years Med. Supt. of The *Norwood Sanatorium, and author of* "Alcoholism," etc.; *for the treatment of* ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

EPILEPSY.

Attendance at school is a necessary part of the satisfactory treatment of Epilepsy in Children.

COLTHURST HOUSE SCHOOL

meets all the requirements of children of middle-class parentage. Extensions made necessary by the success of the school have created several vacancies.

Only bright and intelligent boys and girls are eligible for admission.

Apply to the Medical Supt., Colthurst House School, Warford, Alderley Edge.

FUNCTIONAL NERVOUS DISORDERS.

Ladbroke House, Southam (near Rugby).

A limited number of Ladies and Gentlemen *suffering* from mild Nervous Disorders can be received as Voluntary Boarders. The house is situated about 8 miles from Leamington Spa, where all kinds of hydrotherapy, including Turkish and Russian Baths, Vichy Douche, Electrical Baths, *Plombières* Treatment, etc., are available at the Pump Rooms. The house is in the middle of a famous hunting district. Ample facilities for *riding*, golf, cricket, tennis, squash rackets, etc.

Apply, in first instance, to J. PIRIE, M.D., Harbury, Leamington Spa.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: [illegible] *Telephone*: Brixton 0494. Clapham Common Tube. Apply, Miss THWAITES.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering *from* NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates. Resident Physician: CEDRIC W. BOWER.

Ordinary Terms: Five Guineas per week. (Including Separate Bedrooms where suitable.) Interviews in London by appointment.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S. 14 acres of grounds.—For terms, apply [illegible] W.1.

Elderly people taken; good home facing sea, tonic air. Recommended by medical profession and others. Every attention. Church of England. — Mrs. FLORENCE COHEN, 22, The Terrace, Roker, Sunderland.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.

Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

The MUNDESLEY SANATORIUM

The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless head-phones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON, M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP, M.B.(Cantab.).
ANDREW MORLAND, M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1931. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray Plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra Violet Rays for surgical cases of Tuberculosis. Terms: £4 7s. 6d. to £6 6s. per week inclusive. No extras.

MEDICAL SUPT.: FELIX SAVY, M.D. For particulars apply to the Secretary.

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), A. C. Armstrong, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

EAST ANGLIAN SANATORIUM

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and has an ideal situation facing S.S.E. in a very sunny district. Special treatment by artificial Pneumothorax (X-ray controlled). Ultra-violet Ray treatment is available for suitable cases. Matron and full nursing staff. Nurse on duty all night. Electric lighting throughout, radiators and wireless (headphones) in all rooms.

Dr. Jane Walker, C.H., J.P., Medical Superintendent. Dr. Eleanor Soltau, Assistant Medical Superintendent.

For all information apply: The Secretary, East Anglian Sanatorium, Nayland, near Colchester.

Telephone: NAYLAND 1.

HARROGATE

for the Treatment of
RHEUMATISM,
ARTHRITIS,
FIBROSITIS,
NEURITIS,
Diseases of the
LIVER and GALL BLADDER,
GASTRIC CATARRH
and COLITIS,
SKIN DISEASES,
ANAEMIA and
Convalescence from Acute Illness.

*

SULPHUR, Saline Iron and Pure Chalybeate waters, together with the presence of large deposits of Volcanic Mud, enable Harrogate to offer every facility for the cure of an unusually wide range of the diseases amenable to Spa Treatment.

The Harrogate Royal Baths, housed in one of the finest Spa buildings in Europe, are equipped with the most modern apparatus for all forms of Physiotherapy.

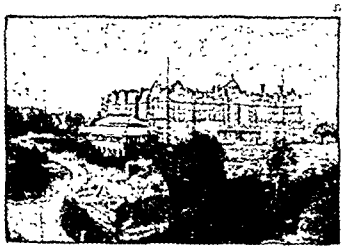
THE "CURE" is taken in a holiday environment: three golf courses, putting greens, hard tennis court, swimming baths, beautiful gardens and moorlands encourage sport and exercise.

First-class hotels, hydros, boarding houses and private apartments meet all requirements for accommodation.

Harrogate is an ideal holiday centre and is surrounded by some of the most beautiful scenery in England.

Members of the Medical Profession are asked to write for particulars of Complimentary Facilities to :—
F. J. C. BROOME,
General Manager, 3, The Royal Baths, Harrogate.

Pullman and Fast Restaurant Car Trains daily from King's Cross Station, London.



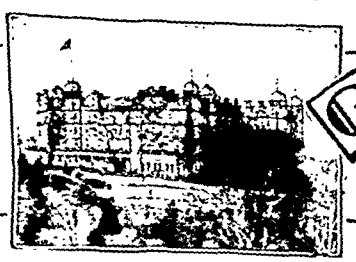
Telegrams—"Majestic, Harrogate."
Telephone—2261.

HOTEL MAJESTIC
HARROGATE
FINEST SPA HOTEL IN THE WORLD
Stands in its own Glorious Grounds of Ten Acres

Overlooking Royal Baths and Pump Room. En-Tout-Cas Tennis Courts. Putting Green. Garage. Beautiful Winter Garden and Ball Room. Saturday Night Dances. Comfortable self-contained Suites. Large number of Bedrooms with Private Bathrooms. Every room fitted with hot and cold running water, central heating and telephone.

Perfect Cuisine and Attentive Service. Write for Illustrated Tariff.

THE MOST MODERN IN THE SPA



DANCING EVERY SATURDAY

GRAND HOTEL
HARROGATE

200 rooms fitted with hot and cold water. 50 suites with private baths and telephones. Hard Tennis Courts and Putting Green. Garage 100 cars.

FINEST CUISINE ABSOLUTE COMFORT

Telegrams: "Grand."

SPLENDID BALLROOM CORRI TATTI BAND

Telephone: Harrogate 4631.

DELIGHTFUL SITUATION OPPOSITE VALLEY GARDENS

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, Medicated Inhalations by means of the Apneu Inhalation Installation, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

DARTMOOR CONVALESCENT HOME.

750 FEET ABOVE SEA-LEVEL

Established 1903 for Treatment of Pulmonary and other forms of Tuberculosis. Sheltered Situation on the slopes of the bracing moorland. Radiographic Installation, Electric Light, Central Heating, Separate Bedrooms, Efficient Treatment, combined with individual comfort and minimum restrictions. Illustrated Prospectus on request to the Resident Physician: C. H. BERRY, M.R.C.S., L.R.C.P., Torr House, Chagford, Devonshire. Telephone: 11 CHAGFORD. Telegrams: TORR, CHAGFORD.

The Thermal Springs of La Léchère-les-Bains

Their Value in the Treatment of Varicose Veins, Phlebitis & Arterial Pressure, etc.

The attention of medical men is called to the remarkably successful cures of venous disorders, high blood pressure, rheumatism, sciatica, etc., and kindred ailments, at La Léchère. This famous spa, 1,500 feet above sea-level, beautifully placed in the heart of Savoy, possesses radio active hot-water springs with a long established record for curative power. A clinical review of results obtained in actual cases has been prepared by Dr. Charles Millet, Consulting Physician at La Léchère, and will gladly be sent to medical men, on request, from

THE FEDERATION OF THE HEALTH RESORTS OF FRANCE, Tavistock House (North), Tavistock Square, London, W.C.1.

"RADIANA" Bath Salts

These curative salts of La Léchère are sold at 2/- per carton at the La Léchère Information Bureau at address opposite

HOTEL TRAVEL INFORMATION

La Léchère is well served by modern hotels, is easily accessible by rail or road, and enjoys an equable climate. Travel and Hotel information for tourists should be addressed to:—

LA LÉCHÈRE INFORMATION BUREAU
Room 220, 329, High Holborn, London, W.C.1.

asthma

TREATED AT MONT-DORE

THE FAMOUS FRENCH SPA

40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE Tavistock House (North), Tavistock Square, LONDON, W.C.1. Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).

HOSPITAL FOR CONSUMPTION

AND DISEASES OF THE CHEST, BROMPTON, and FRIMLEY SANATORIUM.

PAYING PATIENTS RECEIVED.

BOTH MEDICAL and SURGICAL CASES.

4 to 8 guineas per week.

APPLY TO THE SECRETARY:—BROMPTON HOSPITAL, S.W.3.

PEEBLES

In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air, beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.

Among the Pine-clad Border Hills.

PEEBLES HYDRO, PEEBLES, SCOTLAND

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

MONTANA HALL

MONTANA, Switzerland

The only Sanatorium in Switzerland under British ownership and control, and with a full day and night staff of British Trained Nursing Sisters.

Built 1929-30 Opened Oct., 1930.

For the treatment of **Tuberculosis, Diseases of the Chest, Asthma,** and for patients requiring rest in the Alps under strict medical supervision.

Montana (5,000 feet above sea-level) is the sunniest mountain resort in Switzerland.

For prospectus and full particulars kindly apply to the Resident Medical Superintendent, HILARY PRIDE, M.D.(Melb.), M.R.C.S. (London), Tuberculous Dis. Dip. (Wales).

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Resident J. W. JOHNSTON SMYTH, M.D.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.

Medical Superintendent: Dr. MCCLINTOCK.

[illegible]

[illegible] BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times."
"Thoroughly physiological principles."—"Lancet."
"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/B of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental [illegible] Labs. [illegible] COLLEGE, [illegible].

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £8 8s for 10 lessons.—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

POST-GRADUATE STUDY AT THE
NORTH-EAST LONDON POST-GRADUATE COLLEGE
The Prince of Wales's General Hospital, Tottenham, N.15.

Morning and afternoon work in Medicine, Surgery, Bacteriology, Pathology and the Special Subjects. Study-leave, Panel, and individual Courses arranged. Practitioners' general Intensive Courses (limited to 25) held at frequent intervals. Practical instruction in Anaesthetics. Clinical Assistantships.

NEXT INTENSIVE FORTNIGHTLY COURSE, DEALING WITH SPECIAL AND GENERAL SUBJECTS, COMMENCES ON JUNE 1st, 1931.

Prospectus and Syllabuses on application to the Dean.

POST-GRADUATE COURSES

will be given in the following subjects:

ANTE-NATAL, GYNAECOLOGY, MEDICINE and SURGERY (2), DERMATOLOGY, FRACTURES, CHILDREN (2), CARDIOLOGY, TROPICAL MEDICINE, V.D. for Women Graduates only. M.R.C.P. Evening Course.

Apply for detailed syllabuses to

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, London, W.1. Langham 4266.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S WEYMOUTH, M.A. (Lond.).
POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	22
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary*	162
	1906-30) *Final*	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.
M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)
CONTENTS.—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women. Hints for writing theses.
Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

INSTITUTE OF PATHOLOGY & THERAPEUTIC RESEARCH
ST. MARY'S HOSPITAL, LONDON, W.2

A Course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the SUMMER SESSION. These Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on TUESDAY AFTERNOONS at 5 p.m. as under:—

	SUBJECT.
MAY 26th. Colonel S. P. JAMES, M.D., F.R.S. (M.O. and Advisor Tropical Diseases, Ministry of Health).	"The New Method of Studying Malaria and Some of its Results."
JUNE 2nd. Dr. ANDRE GRATIA (University of Brussels).	"The Schwartzman Phenoménon."
JUNE 9th. Prof. J. S. HALDANE, M.D., F.R.S. (Director of the Mining Research Laboratory, University of Birmingham).	"The Problems of Silicosis."
JUNE 16th. Dr. BERNARD HART, M.D., F.R.C.P. (Phys. Psychol. Med., Univ. College Hospital).	"The Causation of Neurotic Disorders."
JUNE 23rd. Prof. HAMILTON HARTRIDGE, M.D., F.R.S. (Prof. of Physiology, St Bartholomew's Medical College).	"The Theory of Hearing."

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee.

CITY OF LONDON MATERNITY HOSPITAL,
CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.
MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.
PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.G. regulations.
PRIVATE WARDS for paying patients.
MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,
TAUNTON.

A PUBLIC SCHOOL FOR BOYS.
Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.
Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.
New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

Derbyshire County Council.
LOCUM FOR ORTHOPAEDIC HOSPITAL.

Applications are invited for the post of Locum RESIDENT OFFICER at BRETTHOSPITAL, near 32 adult and 115 children) for a period of eight weeks commencing July 29th. Salary at the rate of £350 per annum, with board, lodging, etc. Experience in Orthopaedic work essential.
Applications, together with copies of two recent testimonials, to be sent to the undersigned on or before June 6th.

New County Offices, St. Mary's Gate, Derby. W. M. ASH, County Medical Officer of Health.
May 7th, 1931.

North Ormesby Hospital,
MIDDLESBROUGH. (140 Beds.)

HOUSE SURGEON, male and unmarried, required at once. Salary £135 per annum, with board, residence, and laundry. There are three Residents. Applications, stating age, qualifications, experience (if any), with copies of three recent testimonials, should be sent to the undersigned.

GEORGE WATTS,
Secretary-Superintendent.

VALUABLE BOOK

FREE!

Are you preparing for any MEDICAL, SURGICAL, or DENTAL EXAMINATION?

Send Coupon below for our valuable publication

"Guide to Medical Examinations"

PRINCIPAL CONTENTS:

The Examinations of the Conjoint Board.
The M.B. and M.D. Degrees of all British Universities.
How to pass the F.R.C.S. Exam.
The M.S.Lond. and other Higher Surgical Examinations.
The M.R.C.P.
The D.P.H. and how to obtain it.
The Diploma in Tropical Medicine.
The Diploma in Psychological Medicine.
The Diploma in Ophthalmology.
The Diploma in Laryngology.
The Mastery of Midwifery.

Do not fail to get a copy of this Book before commencing preparation for any Examination. It contains a large amount of valuable information. Dental Examinations in special dental guide.

Send for your copy now!

The Secretary,
MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck St., Cavendish Square, London, W.1.

SIR,—*Please send me a copy of your "Guide to Medical Examinations" by return.*

Name .....

Address .....

Examination in which interested .....

County Borough of Blackburn.

WOMAN ASSISTANT MEDICAL OFFICER OF HEALTH.

The Corporation of Blackburn invite applications from Women Practitioners of Medicine for the position of Assistant Medical Officer of Health, to act under the direction and supervision of the Medical Officer of Health, who is also School Medical Officer and Executive Tuberculosis Officer.

The salary will be £600 per annum, rising by annual increments of £25 to £700 per annum, inclusive.

Preference will be given to candidates with a Diploma in Public Health, and with special experience in Paediatrics, Obstetrics, and the treatment of Venereal Diseases in Women and Children.

Forms of application may be obtained from the Medical Officer of Health, Victoria Street, Blackburn, and should be returned, together with copies of three recent testimonials, to the undersigned so that they will be received not later than the first post on Wednesday, May 27th.

Town Hall, Blackburn. May 8th, 1931. BRIGGS H. MARSDEN, Town Clerk.

£100 Grant for Post-Graduate

STUDY OF HOMOEOPATHY.—The BRITISH HOMOEOPATHIC ASSOCIATION (Inc.), 43, Russell Sq., London, W.C.1, invite applications from Graduates of Medicine of a British University, or the University of Calcutta, for a GRANT of £100 for a Post-Graduate Course of Study of the Principles and Practice of Homoeopathy, for six months, at the London Homoeopathic Hospital. Applicants must be under 30 years of age on March 1st, 1931. Closing date for applications July 1st, 1931. For further particulars apply to the Secretary at 43, Russell Square, W.C.1.

The Victoria University of MANCHESTER.

POST-GRADUATE MEDICAL COURSES.

An INTENSIVE POST-GRADUATE COURSE in OBSTETRICS is to be held at St. Mary's Hospital, Whitworth Street, Manchester, from Sunday, June 7th to June 14th, 1931. Fee for the Course 3 guineas.

Fee for residence, payable at St. Mary's Hospital, 4 guineas.

Further information may be obtained from the Dean of the Medical School.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

ABERGELE SANATORIUM. (262 Beds—210 Children, 52 Adults.)

APPOINTMENT OF ASSISTANT MEDICAL SUPERINTENDENT.

The *Public Health* Committee invites applications from qualified Medical Men of not over 35 years of age for the position of Assistant Medical Superintendent at the Abergele Sanatorium.

The Sanatorium is fully equipped with all modern requirements for the treatment of Tuberculosis in Children.

It is essential that every candidate shall have held resident *Surgical* and *Medical* appointments in a General Hospital, and have had experience in the treatment of pulmonary and non-pulmonary tuberculosis in children.

A knowledge of Orthopaedic work and experience in the administration of Anaesthetics is desirable.

Salary £600 per annum, inclusive of emoluments (house, coal, and light) valued at £92 per annum.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Superintendent, Abergele Sanatorium," must be addressed to the undermentioned only, and not to members of the Committee or Council, and must reach him not later than Saturday, May 30th.

The successful candidate will be under the general administrative control of the Medical Officer of Health, and will be required to pass a medical examination, to devote the whole of his time to the duties of his office, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

Town Hall, Manchester. May 11th, 1931. F. E. WARBRECK HOWELL, Town Clerk.

County Borough of Walsall.

ASSISTANT MEDICAL OFFICER OF HEALTH.

Applications are invited from duly qualified and registered Medical Practitioners (single) for the post of Assistant Medical Officer of Health.

Salary £500 per annum, rising by £25 per annum to £700 per annum.

Candidates must possess a Diploma in Public Health or similar qualification.

The officer appointed will be required to devote his whole time to the duties of the office, which will consist mainly of Medical Inspection of School Children, Maternity, and Child Welfare work, and duties in connection with the treatment of Infectious Diseases. He will work under the direction of the Medical Officer of Health and will be required to reside at the Isolation Hospital when the requisite accommodation is provided.

Applications, on forms to be obtained from the undersigned, stating age, qualifications, training, and experience, together with copies of three testimonials, and endorsed on the envelope "Assistant Medical Officer," should be sent to me not later than May 30th.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Canvassing, directly or indirectly, will be a disqualification.

Council House, Walsall. May 15th, 1931. HERBERT LEE, Town Clerk.

County Borough of West Ham.

EDUCATION COMMITTEE.

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICERS.

Applications are invited from fully qualified and registered Medical Practitioners for two appointments as Assistant School Medical Officers, under the direction of the School Medical Officer. The persons appointed will be required to devote their whole time to the service of the Education Committee.

Salary £500 per annum, rising by annual increments of £25 to a maximum of £700 per annum, allowance being made in respect of similar service under other Local Authorities in fixing the commencing salary in accordance with the scale agreed between the British Medical Association and the Local Education Authorities.

Applicants must have had not less than three years' experience since qualification and should have had previous experience in Medical Inspection and Treatment of School Children. A diploma in Public Health will be an advantage.

The appointments are designated posts under the Local Government and Other Officers Superannuation Act, 1922, and the successful applicants will be required to pass a medical examination as required by the Council for the purposes of that Act, and the statutory contributions of five per cent. to the Superannuation Fund will be deducted from their salary. In the event of the appointment of a woman, such appointment will be automatically terminated on marriage.

Canvassing members of the Education Committee or the Council, either directly or indirectly, will be considered a disqualification.

Forms of application, together with particulars of duties, may be obtained from the School Medical Officer, Town Hall, West Ham, E.15, upon receipt of a stamped addressed envelope, and should be returned to the undersigned not later than Saturday, May 30th.

Education Office, 95, The Grove, Stratford, E.15. May 13th, 1931. CHARLES E. CRANFIELD, Town Clerk and Education Officer.

Surrey County Council.

KINGSTON & DISTRICT HOSPITAL.

SECOND AND THIRD ASSISTANT RESIDENT MEDICAL OFFICERS (Male).

Applications are invited from fully qualified Medical Practitioners for the above-mentioned appointments, which will be for a period of six months in the first instance, but may be extended for a further term of six months.

Salaries will be at the rate of £300 per annum and £250 per annum respectively, together with full residential emoluments (rations, apartments, laundry, and attendance).

In the case of the Second Assistant Medical Officer, previous experience as House Surgeon in a General Hospital is essential.

The officers appointed will be required to assist at operations, to administer anaesthetics, to undertake casualty work, and such other duties as may be assigned to them by the Medical Superintendent.

Further particulars of the appointments may be obtained from the Medical Superintendent, Kingston & District Hospital, Kingston-on-Thames.

Applications, stating age, experience, qualifications, and nationality, accompanied by copies of not more than three recent testimonials, should be forwarded to the Divisional Public Assistance Officer, 29, Coombe Lane, Kingston-on-Thames, not later than Saturday, June 6th.

Canvassing, either directly or indirectly, will disqualify.

County Hall, Kingston-on-Thames. May 18th, 1931. DUDLEY AUKLAND, Clerk of the Council.

London Temperance Hospital,

Hampstead Road, N.W.1.

Applications are invited for the post of CASUALTY OFFICER (male). The appointment will be for a period of six months, at a salary of £120 per annum, and will date as from July 1st. Preference will be given to those who have held a resident post.

Candidates must submit applications, stating qualifications, age, etc., with copies of not more than three testimonials, by Friday, June 5th, addressed to the Secretary.

Coventry and Warwickshire HOSPITAL. (307 Beds.)

RESIDENT HOUSE SURGEON (male) wanted. Salary £125 per year. Board, lodging, and attendance provided. Candidates must be duly qualified and registered. Applications, stating age, and enclosing copies of recent testimonials, should be sent to the Secretary on or before June 6th. (Miss) R. HOOPER, Secretary.

Manchester Royal Infirmary.

CENTRAL BRANCH, Roby Street, MANCHESTER.

HOUSE SURGEON (Lady).

The ... the Manchester Royal I ... for the above appoin ... registered and hold a ... tication. The ... nine months, comme ... ths as Junior at £100 per annum, three months as Assistant at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m. on Thursday, June 4th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

Dorset County Hospital,

DORCHESTER.

APPOINTMENT OF HOUSE SURGEON.

The Committee of Management are open to receive applications for the position of House Surgeon, to take up his duties on or about June 12th.

Every candidate must be unmarried and possess a registered qualification to practise Medicine and Surgery from some recognized Body in Great Britain or Ireland. Salary £160 per annum, with board and lodging. The appointment is for a period of not less than six months. All applications, accompanied by copies three recent testimonials, should be sent to the Secretary, Dorset County Hospital, on or before *June 2nd.*

Candidates must be of British nationality.

Elsie Inglis Memorial Maternity

HOSPITAL.
Spring Gardens, EDINBURGH. (60 Beds.)

Applications are invited from qualified Medical Women for the following posts:

(a) JUNIOR HOUSE SURGEON at above Hospital for six months from June 1st, with board, residence, and laundry. Honorarium at the rate of £25 per annum.

(b) DISTRICT MEDICAL OFFICER for six months from July 1st, serves for three months on district and three months as Senior House Surgeon. Board, residence, and laundry. Honorarium at rate of £50 per annum.

Applications, with copies of testimonials, to be received by the Secretary at 1, Bruntsfield Crescent, for Junior post immediately, and for Senior post on or before June 6th.

The Royal Infirmary, Sheffield.

There is a vacancy on the Honorary Medical Staff for the post of ASSISTANT PHYSICIAN, and notice is hereby given that, in accordance with Rule No. 32, the Election Committee with whom the appointment rests will proceed to fill up the vacancy at a meeting to be held at the Royal Infirmary on Wednesday, June 10th, at 11.45 o'clock a.m. Candidates are requested to forward applications, with diplomas and testimonials, to the undersigned on or before June 6th.

JNO. W. BARNES, F.C.I.S.,
Board Room, Gen. Supt. & Secretary.
May 13th, 1931.

N.B.—The Medical Registrar will be an applicant for the post.

The Royal Infirmary, Sheffield.

There is a vacancy on the Honorary Surgical Staff for the post of ASSISTANT SURGEON, and notice is hereby given that, in accordance with Rule No. 32, the Election Committee with whom the appointment rests will proceed to fill up the vacancy at a meeting to be held at the Royal Infirmary on Wednesday, June 10th, at 11.45 o'clock a.m. Candidates are requested to forward applications, with diplomas and testimonials, to the undersigned on or before June 6th.

JNO. W. BARNES, F.C.I.S.,
Board Room, Gen. Supt. & Secretary.
May 13th, 1931.

N.B.—The Surgical Registrar will be an applicant for the post.

The Royal Infirmary,

SUNDERLAND. (290 Beds.)

Wanted, beginning of June, HOUSE SURGEON (male). Salary £140 per annum, with board, residence, and laundry.

Applications stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned

S. C. FRYERS,
House Governor & Secretary.

New Sussex Hospital for Women

AND CHILDREN,
BRIGHTON (INCORPORATED).
(50 Beds.)

The Council of Management invites applications from qualified Medical Women for the following posts:

(1) HOUSE PHYSICIAN to take up duty on June 8th.

(2) HOUSE SURGEON to take up duty on June 15th.

(3) HONORARY ASSISTANT OPHTHALMIC SURGEON to attend each Friday afternoon.

Honorarium for (1) and (2) at the rate of £50 per annum, with board, residence, and allowance for laundry.

Applications, with copies of three recent testimonials, to reach the Secretary on or before *May 30th.*

M. F. LOCKWOOD, Secretary.

Manchester Babies' Hospital,

Burnage Lane, LEVENSHULME.

Applications are invited immediately for the post of JUNIOR RESIDENT MEDICAL OFFICER. Appointment is for six months. Salary at the rate of £50 per annum, with laundry.

Applications, together with copies of testimonials, should be sent to the undersigned *immediately* and marked "*J.R.M.O.*"

Applications are also invited for the post of SENIOR RESIDENT MEDICAL OFFICER. Appointment is for six months from July 1st. Salary at the rate of £125 per annum, with laundry. Only candidates with previous Hospital experience need apply.

Applications, together with copies of testimonials, should be sent to the undersigned marked "R.M.O.," by Saturday, June 6th.

ANGELA LOPEZ, Secretary.

The Lady Chichester Hospital,

HOVE.
(For Early Nervous Breakdowns.) (50 Beds.)

Medical Woman required as HOUSE PHYSICIAN for six months. Salary at the rate of £100 per annum, with board, *lodging,* and laundry.

Also JUNIOR required, with board, lodging, and laundry, and honorarium at the rate of £50 per annum.

The successful candidates will be required to enter on their duties on July 1st.

Applications must be made in writing, and be accompanied by testimonials, and sent to the Secretary, Mr. A. F. GRAVES, 117, North Street, Brighton, not later than Monday, June 1st.

May 2nd, 1931.

The London Female Lock

HOSPITAL,
283, Harrow Road, London, W.9.

The Board of Management invite applications for the post of HOUSE SURGEON (female). *Salary* at the rate of £150 per annum, with furnished rooms, full board, and washing. Candidates, who must be doubly qualified and duly registered, should send in their applications by the first post on June 8th (accompanied by copies of three recent testimonials) to the Secretary, from whom further particulars can be obtained. The appointment is for six months commencing July 1st. Preference will be given to candidates having previous Obstetric experience.

By Order of the Board,
HY. J. EASON,
May, 1931. *Secretary.*

Dumfries and Galloway Royal

INFIRMARY.

Applications are invited for the *post of* RESIDENT MEDICAL OFFICER. The Institution, which contains over 100 beds, is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of *gaining* experience in all branches of the profession. Salary £100 to £150, according to qualifications and experience.

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84, Irish Street, Dumfries, *at once.*

East Ham Memorial Hospital,

Shrewsbury Road, London, E.7.
(100 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER for six months commencing July 1st.

Salary at the rate of £200 per annum, with board, residence, and laundry. Preference will be given to candidates who hold the *Diploma* of F.R.C.S.

Applications, stating age, experience, and full particulars, together with copies of testimonials, should reach the undersigned by *June 6th.*

REGINALD PERRY, Secretary.

Queen Mary's Hospital for the

EAST END, E.15.
Telephone: Maryland 2616.

Applications are invited from fully qualified and registered Medical Men for the following posts:

One RESIDENT MEDICAL OFFICER. Salary £200 p.a.
Two HOUSE SURGEONS. Salary £120 p.a.
One HOUSE PHYSICIAN. Salary £120 p.a.
One OBSTETRIC HOUSE SURGEON. Salary £120 p.a.
One HOUSE PHYSICIAN ... d RESIDENT ... 0 p.a.
O ... ary £150 p.a.
T ... including 47
Mat ... Departments.

Candidates, who should previously have held Hospital appointments, must send applications, accompanied by testimonials, to the undersigned, not later than Wednesday, June 3rd. The appointments will date from July 1st, and will be for six months.

RAPHAEL JACKSON (Major),
Secretary.

Queen Mary's Hospital for the

EAST END, E.15.

Applications are invited for the post of HONORARY ASSISTANT OBSTETRIC SURGEON and GYNAECOLOGIST at the above Hospital. He will have charge of 20 Maternity *beds.*

Candidates must be Fellows of the Royal College of Surgeons of England.

Applications, with copies of three recent testimonials, should be forwarded to the undersigned not later than Wednesday, June 3rd.

RAPHAEL JACKSON (Major),
Secretary.

Queen Mary's Hospital for the

EAST END, E.15.

Applications are invited for the post of HONORARY NEUROLOGIST at the above Hospital.

Candidates must be Graduates of a British University, or Fellows or Members of the Royal College of Physicians.

Applications, with copies of three recent testimonials, should be forwarded to the undersigned not later than Wednesday, June 3rd.

RAPHAEL JACKSON (Major),
Secretary.

The Grosvenor Hospital for

WOMEN, Vincent Square, S.W.1.

There is a vacancy on the staff of the Grosvenor Hospital for Women for a GYNAECOLOGIST, for which post the present Chief Assistant will be applying, and should he be appointed there will be a vacancy for the post of Chief Assistant.

Applications are invited for these two appointments, and should reach here not later than Monday, May 25th, together with copies of three recent testimonials.

Candidates must hold the Degree of F.R.C.S. (England) and have had previous experience in Gynaecological work.

EDWARD DEW, Secretary.

Evelina Hospital for Children,

Southwark, S.E.1.

Applications are invited for the post of HOUSE PHYSICIAN (male) for six months from June 12th (first two months in Casualty and Out-patient Department). Salary at the rate of £120 per annum, with board and residence.

Applications, stating age, experience, and qualifications, accompanied by copies of four *testimonials,* to be sent to the undersigned *not* later than June 2nd, from whom rules and other particulars can be obtained.

By Order of the Committee of Management,
W. H. SIDNELL,
May 12th, 1931. Secretary-Supt.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (94 Beds.)

Applications are invited for a HOUSE SURGEON (male or female) to commence duties forthwith until September 30th. Salary at the rate of £100 per annum, together with board, residence, and laundry. Applications, stating age and qualifications, with copies of testimonials, to be sent to the Secretary, Mr. NEIL BROWN, 18, City Road, Newcastle.

Elizabeth Garrett Anderson

HOSPITAL, Euston Road.

... fully qualified ... appointment of ... should be sent ... her particulars can be obtained, before May 29th.

JEAN R. MURRAY, Secretary.

City of Carlisle.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Council of the City and County Borough of Carlisle invite applications for the appointment of Assistant Medical Officer of Health, at a salary of £650 per annum, rising by annual increments of £50 to a maximum of £750 per annum. The duties of the appointment are principally those connected with the diagnosis and treatment of Tuberculosis and the medical inspection and treatment of school children, including Eye Work and Refractions.

Candidates must not be more than 40 years of age, and must be fully qualified and registered Medical Practitioners, holding the Diploma in Public Health or an equivalent qualification.

Candidates must either have held a previous appointment as Tuberculosis officer with the approval of the Minister of Health, or, subsequent to qualification:

(1) Have had at least three years' experience in the practice of their profession;
(2) Have spent in general clinical work a period of not less than eighteen months, of which not less than six months have been spent in a Hospital as Resident Officer in charge of beds occupied by general medical or surgical cases; and
(3) Have received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis.

The gentleman appointed will be required to devote the whole of his time to the duties of the office, to reside in the City, and will not be allowed to engage in private practice.

The appointment is an established post under the Local Government and Other Officers Superannuation Act, 1922, and the gentleman appointed will be required to pass a medical examination, and contribute 5 per cent. of his salary to the Superannuation Fund.

The Committee also employ a Female Assistant who is the Medical Officer for Maternity and Child Welfare, and undertakes part of the work of School Medical Inspection.

Applications, stating age, qualifications, and experience, accompanied by copies of not more than three recent testimonials, and endorsed "Assistant Medical Officer of Health," must reach me not later than the first post on Thursday, June 4th.

Canvassing, either directly or indirectly, is prohibited.

Applicants may, if they desire, forward stencilled copies of their applications and testimonials to the members of the Selection Committee, a list of whose names will be supplied by the undersigned upon request.

FREDK. G. WEBSTER, Town Clerk.
Town Clerk's Office, Carlisle.
May 19th, 1931.

City of Cardiff.

LLANDOUGH HOSPITAL.

MEDICAL SUPERINTENDENT.

Applications are invited from duly qualified Medical Practitioners (who have had experience of Hospital administration) for the appointment of Medical Superintendent of Llandough Hospital.

The Hospital, which is now in course of construction, is a Municipal General Hospital, where 340 beds will be provided in the first instance, under the management of the Health Committee.

Until the opening of the Hospital the Medical Superintendent will be engaged in its preparation and equipment, and will also act as Part-time Medical Officer of the City Lodge Poor Law Institution, where there are three Resident Assistant Medical Officers.

The salary will be £750 per annum, rising by biennial increments of £50 to £950 per annum, with emoluments (including house, with heating, lighting, and laundry) valued at £150 per annum.

The person appointed, who must devote his whole time to the duties of the post under the direction of the Medical Officer of Health, will be required to contribute 5 per cent. of his salary to the Superannuation Scheme of the Council, and for this purpose to pass a medical examination.

Applications, on forms obtainable from the Medical Officer of Health, City Hall, Cardiff, accompanied by copies of three recent testimonials, and endorsed "Medical Superintendent," must be sent to the Medical Officer of Health so as to reach him not later than Monday, June 8th.

City Hall, Cardiff.
May 18th, 1931.

CECIL G. BROWN, Town Clerk.

The Royal Alexandra Infirmary,

PAISLEY.

RESIDENT HOUSE SURGEON required for six months. Honorarium at the rate of £100 per annum, with board, washing, etc. Apply to Senior Resident House Surgeon.

Administrative County of LONDON.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications for appointment as RESIDENT MEDICAL SUPERINTENDENT in the Public Health Department for duty at HAMMERSMITH HOSPITAL, Ducane Road, Shepherd's Bush, W.12. The duties also include those of Medical Officer and Acting Master of Hammersmith Institution.

The person appointed will be required to act under the direction of the Medical Officer of Health and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council.

The salary is £950 a year, rising by annual increments of £50 to £1,200 a year. £100 a year extra will be paid so long as the officer is acting as administrative and medical head of the Institution. An unfurnished house or quarters, free of rates, taxes, or water charges, will be provided, valued provisionally at £100 a year.

Candidates must be duly qualified Medical Practitioners of at least five years' standing, and produce evidence of having held the appointment of House Physician or House Surgeon in a public General Hospital, and of having had experience of Hospital administration.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Clerk of the Council, The County Hall, Westminster Bridge, S.E.1, and must be returned by June 8th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.
The County Hall,
Westminster Bridge, S.E.1. May, 1931.

County Borough of West BROMWICH.

HALLAM HOSPITAL.

RESIDENT HOUSE SURGEON.

Applications are invited from fully qualified male registered Practitioners (single) for the above appointment.

The appointment is for twelve months, but either party may give six weeks' notice terminating the engagement. The Hospital has 474 beds, and is equipped with up-to-date Special Departments. There is a visiting staff of eight Consultant Physicians and Surgeons.

Preference will be given to applicants with previous Hospital experience.

Salary £250 per annum.

Canvassing, either directly or indirectly, is strictly prohibited and will be deemed a disqualification.

Applications, stating age, experience, and qualifications, together with copies of three recent testimonials, must be forwarded to the Medical Officer of Health, 2, Lodge Road, West Bromwich, so as to arrive not later than by first post on Wednesday, June 10th.

Town Hall, West Bromwich.
May 16th, 1931.

ALFRED WICKHAM, Town Clerk.

The Hospital for Sick Children,

Great Ormond Street, London, W.C.1.

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on July 1st.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 12 o'clock on Monday, June 1st, with copies of not more than three testimonials given specially for the purpose, and also evidence of their having held a responsible Hospital appointment.

The appointments are made for six months. Salaries at the rate of £100 per annum, laundry allowance £5, board and residence in the Hospital.

Candidates must be unmarried, and possess a legal qualification to practise.

All candidates must be in attendance to appear before the Joint Committee, if required, at their meeting on Wednesday, June 3rd, at 5 p.m. precisely.

Forms of application and copies of the Rules may be obtained from the Secretary.

By Order of the Board of Management,
JAMES MACKAY, Secretary.
May, 1931.

Edinburgh Hospital for Women AND CHILDREN,

Whitehouse Loan, EDINBURGH. (50 Beds.)

Applications are invited from qualified Medical Women for the post of HOUSE PHYSICIAN at the above Hospital. The appointment is for six months from July 1st, with board, residence, and laundry. Honorarium at the rate of £80 per annum.

Applications, with copies of testimonials, to be received by the Secretary at above address on or before June 6th.

Hertfordshire County Council.

PUBLIC ASSISTANCE.

BARNET GUARDIANS COMMITTEE.

WELLHOUSE HOSPITAL, BARNET, HERTS.

ASSISTANT MEDICAL OFFICER (Male).

Applications are invited from registered Medical Practitioners for the appointment of Assistant Medical Officer at the Wellhouse Hospital. The Hospital is a modern Poor Law Hospital, and comprises Medical, Surgical, Maternity, X-ray, Massage, and Radiant Heat and Sunshine Departments.

Salary at the rate of £200 per annum, with the usual emoluments.

The appointment is on the medical side and is (subject to one month's notice on either side) for a period of six months in the first instance, which may then be renewed for a further six months, when the salary would be increased to £250 per annum. Previous experience as H.P. and Anæsthetics in a General Hospital essential.

The person appointed will be required to devote his whole time to the service of the County Council.

Applications, stating age, experience, and qualifications, with copies of not more than three recent testimonials, should be sent to S. F. WILSHIRE, Clerk to the Barnet Guardians Committee, 1, Wellhouse Lane, Barnet, Herts, not later than Tuesday, June 2nd.

Ministry of Pensions.

BIRMINGHAM PENSIONS HOSPITAL COMMITTEE.

HIGHBURY HOSPITAL, MOSELEY, BIRMINGHAM.

Applications are invited for the post of RESIDENT ASSISTANT MEDICAL OFFICER at the above Hospital.

The cases treated are Surgical and Medical. Salary £300 per annum, with lodging, fuel, and light. The appointed candidate to be prepared to take up duty as soon as possible.

Candidates selected for interview will be required to pay their travelling expenses. Applications, stating age, experience, and war service (if any), together with copies of recent testimonials, to be received not later than Wednesday, June 3rd, addressed to the Chairman of the Committee, Highbury Hospital, Moseley, Birmingham.

City and County of Kingston-UPON-HULL.

BEVERLEY ROAD INSTITUTION (HOSPITAL).

ASSISTANT MEDICAL OFFICER.

The Corporation of Hull invite applications from Medical Practitioners for the appointment of an Assistant Medical Officer (single) at the above-named Hospital.

Commencing salary at the rate of £300 per annum, for a probationary period of one year, together with an allowance of £150 for board and residence outside the Hospital.

The Hospital Section contains 400 beds, and is equipped with modern X-Ray and Ultra-Violet Light Departments.

Applicants must be under the age of 40 years.

A form of application, together with conditions of appointment and a list of duties, may be obtained from the undersigned, to whom completed applications should be returned not later than 10 a.m. on Monday, June 1st.

W. M. FRAZER, M.D.,
Medical Officer of Health.
Health Department, Guildhall, Hull.
May 11th, 1931.

Cornelia & East Dorset Hospital,

POOLE, DORSET. (105 Beds.)

ASSISTANT PHYSICIAN.

The Committee of Management invite applications for the post of Honorary Assistant Physician which has become vacant.

Applications, stating age, experience, and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital by noon on Saturday, June 13th.

E. S. FOLEY, Secretary.

Cossham Memorial Hospital,

KINGSWOOD, BRISTOL.

[illegible] for the post of [illegible] duties at the [illegible] must be British [illegible] registered. Salary [illegible], apartments, and laundry.

Applications, stating age, qualifications, and previous experience, accompanied by three recent testimonials, should be sent to the Secretary.

Worcester General Infirmary.
(Voluntary Hospital—132 Beds.)

JUNIOR HOUSE SURGEON required July 1st. Salary at the rate of £120 per annum, with board, residence, and laundry. Candidates must be fully qualified, and preferably with previous Hospital experience.

The successful candidate will be eligible for the post of Senior House Surgeon (salary at the rate of £180 per annum), which becomes vacant on August 31st.

Applications, stating age, experience, and qualifications, together with copies of three recent testimonials, to be sent to the undersigned forthwith

PERCY N. GLASS, General Secretary.

The General Hospital,
BIRMINGHAM.

OPEN APPOINTMENTS.

Applications are invited for the following Resident appointments, vacant immediately:

ANÆSTHETISTS (Two). Salary £120 per *annum*

HOUSE SURGEON. Salary £70 per annum.

Applications, giving full details of qualifications, and accompanied by testimonials (if desired), should be sent to the undersigned as soon as possible.

A. H. LEANEY,
House Governor.

County Mental Hospital,
LANCASTER.

Wanted, a fully trained LABORATORY ASSISTANT, *competent* in general laboratory routine and post-mortem work, and skilled in bacteriology, serum reactions, and blood and cerebro-spinal fluid biochemistry. The successful candidate will be expected to have a thorough knowledge of photography for portrait and microscopic work. Salary £250, rising by annual increments of £10 to £300 per annum, and subject to the provisions of the Asylums Officers Superannuation Act, 1909. Applications, with copies of testimonials, to be sent as early as possible to the Medical Supt.

National Hospital for Diseases of
THE NERVOUS SYSTEM,
Queen Square, W.C.1.

HONORARY ASSISTANT RADIOLOGIST.

The Board of Management invite applications from qualified Medical Men for the post of Honorary Assistant Radiologist. Applicants should possess a diploma in Medical Radiology and Electrology, preferably the Cambridge Diploma. Applications should be sent to the undersigned, together with copies of recent testimonials, on or before June 8th.

GODFREY H. HAMILTON,
National Hospital, Secretary.
Queen Square, *W.C.1.*

There will be a vacancy for a
MEDICAL OFFICER at WESTMINSTER HOSPITAL ANNEXE, 66, Fitzjohn's Avenue, Hampstead, on July 1st.

Salary at the rate of £300 per annum (non-resident). The appointment will be for six months and may be renewed.

The post offers an opportunity for wide and unique radium experience.

Candidates who previously have held a House appointment preferred.

Applications should be submitted to the undersigned at Westminster Hospital, Broad Sanctuary, Westminster, not later than June 4th.

CHARLES M. POWER, *Secretary.*

Samaritan Free Hospital for
WOMEN, Marylebone Road, London, N.W.1.

VACANCY ON STAFF.

The Committee of Management invite applications for the post of HONORARY SURGEON to Out-patients.

Candidates must be Fellows of the Royal College of Surgeons, England.

Applications, stating age, with twelve copies (not originals) of three recent *testimonials*, should be sent to the undersigned at the Hospital on or before noon, Thursday, May 28th.

G. H. HAWKINS, Secretary.

City of London Hospital for
DISEASES OF THE HEART & LUNGS,
Victoria Park, E.2.
(Bus, Tram, and Rail, Cambridge Heath, L. & N.E. Railway.)

A vacancy for a HOUSE PHYSICIAN (male) will occur on July 1st. Six months' appointment. Salary at the rate of £100 per annum. Board, residence, and laundry provided.

Applications, with copies of three testimonials, should be sent to the undersigned on or before Friday, June 19th

GEORGE WATTS, Secretary.

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION,
GLOUCESTER. (155 Beds—Four Residents.)

Applications are invited for the post of HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned. The elected candidate will be required to enter upon his duties at once.

F. J. SYMONS,
April 29th, 1931. Secretary.

Doncaster Royal Infirmary.
(185 Beds.)

HOUSE SURGEON (male) required immediately. Appointment is for six months and offers opportunity to gain good surgical experience. The successful candidate is eligible for re-appointment.

Salary £175 per annum, with board, residence, and laundry.

Applications, stating age, experience, and full particulars, together with copies of three testimonials, should reach the undersigned by *Thursday, May 28th.*

WALTER R. SMITH,
Secretary-Superintendent.

Derbyshire Hospital for Sick
CHILDREN. (80 Beds.)

Wanted, a RESIDENT HOUSE SURGEON (lady), June 16th, salary £150; also a RESIDENT HOUSE PHYSICIAN (lady), September *16th, salary £150.* The appointment in each case is for six months, but may be extended by mutual arrangements. Applicants must be fully qualified.

Applications, with three testimonials, one relating to Anæsthetics, to be sent by May 30th to the undersigned.

ARTHUR N. WHISTON, Secretary.
25, St. Mary's Gate, Derby.

King Edward VII Hospital,
WINDSOR. (181 Beds.)

Two HOUSE SURGEONS required for six months from date of appointment. Applicants must be fully qualified women and registered. One appointment will be vacant July 1st and the other August 3rd.

Salary at the rate of £100 per annum, together with board, residence, and laundry.

Applications, stating age, qualifications, and experience, accompanied by copies of testimonials, should be sent to the undersigned not later than June 17th.

A. E. CHURCHER, *Secretary.*

Oldham Royal Infirmary.

HOUSE PHYSICIAN and CASUALTY OFFICER *required forthwith. Appointment tenable for a period of six months.* Salary at the rate of £175 per annum, with board, residence, and laundry. Successful candidate will be required to assist the Honorary Pathologist, and will be *eligible for re-appointment.*

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Huddersfield Royal Infirmary.
(210 Beds.)
(Officially recognised for the Surgical Practice required of Non-members before admission to the Final Fellowship Examination of the Royal College of Surgeons of England.)

Male HOUSE SURGEON required to commence duty June 1st, or as early as possible. *Salary £150 per annum, with board, residence,* and laundry. Appointment for seven months, subject to renewal for further three or *six* months. Applications, with copy testimonials, to be addressed to the Secretary immediately.

Rotherham Hospital.
(130 Beds.)

Wanted, CASUALTY HOUSE *SURGEON* (male), qualified. Salary £150, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be *sent* to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Rotherham Hospital.
(130 Beds.)

Wanted, SENIOR HOUSE SURGEON (male), *qualified.* A knowledge of Eye work is desirable. Salary £200, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, *Moorgate Street, Rotherham.*

Bolton Infirmary & Dispensary.
(301 Beds, including Two Auxiliary Hospitals.)

Applications are invited from gentlemen for [illegible] ASSISTANT RESIDENT [illegible] o will be in charge of [illegible] and beds, and will [illegible] lary £200 per annum, [illegible] and attendance. This appointment offers exceptional opportunities for Surgery.

Also applications are invited from ladies and gentlemen having a registered Medical and Surgical qualification for the posts of TWO HOUSE SURGEONS. Salary £150 per annum each, with board, residence, and attendance.

Applications for the above posts, stating age, nationality, and previous experience, together with copies of testimonials, should be forwarded to the undersigned (from whom further particulars may be obtained) not later than Monday, May 25th.

ALBERT E. BRISCOE, Secretary.

Cheshire County Mental
HOSPITAL, PARKSIDE, MACCLESFIELD.

Male ASSISTANT MEDICAL OFFICER required, *not* over 30 years of age. Previous Mental Hospital experience not essential. Salary £350, rising annually by £25 to £450, with board, apartments, and laundry, valued at £100. Subject to deductions under the Asylums Officers Superannuation Act, 1909.

The successful candidate will be expected to obtain the D.P.M. (which carries with it an addition of £50 per annum to the salary stated) as soon as possible after appointment. There is *every scope for original research*, the Hospital having a modern laboratory and full equipment for the latest methods of treatment.

Time will be arranged for attendance of lectures at Manchester University.

Preference will be given to candidate with *Bacteriological experience.*

Applications, stating qualifications, with copies of three recent testimonials, to be sent to the Medical Superintendent, to be received as soon as possible.

City Mental Hospital,
HUMBERSTONE, LEICESTER.

JUNIOR *ASSISTANT RESIDENT* MEDICAL OFFICER (single, under 30).

Applications are invited for the above post.

Salary £400 a year, rising by annual increments of £50 to £500, together with board, lodging, [illegible] ished for purposes of [illegible] annum.

Candidate [illegible] Hous[illegible] *appointment* in a recognised Teaching Hospital for at least six months.

Preference will be given to those holding a *University* degree.

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, marked "A.M.O.," giving particulars of experience and copies of not more than three testimonials, to be sent to the Medical Superintendent.

The Children's Hospital,
SHEFFIELD. (107 Beds.)

Applications are invited for the following posts, vacant on July 1st:

HOUSE PHYSICIAN. Salary £100 per annum, with board, residence, and laundry. The appointment is for six months, and afterwards the holder is eligible for the post of Senior *House Surgeon (salary at the rate* of £120 per annum).

THIRD RESIDENT MEDICAL OFFICER. Salary £80 per annum, with board, residence, *and laundry.* The appointment is for six months, and afterwards the holder is eligible for the post of *House Physician* (salary at the rate of £100 per annum).

Candidates (female and *unmarried*) must be fully qualified and registered. Applications, stating age, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.

T. H. G. GARTLAND,
Secretary.

The Royal Gwent Hospital,
NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL *OFFICER to act as House* Surgeon to Out-patients and as House Physician.

Salary £135, with board, lodgings, and laundry. Resident Medical staff 5. Eligible for promotion.

[illegible] Department.
[illegible] and *qualifications*, [illegible] testimonials, to be

not entertained.
J. K. MILLWARD.
April 28th, 1931. *Secretary-Supt.*

Cardiff Royal Infirmary.

(Associated with Welsh National School of Medicine.)

Applications are invited for the undermentioned posts:

HOUSE SURGEON—Aural.

CASUALTY SURGICAL OFFICER.

Salary is at the rate of £75 per annum for the H S Aural, with board and lodging. For the Casualty Surgical Officer, salary is at the rate of £75 per annum to an applicant with previous Hospital experience, and £50 per annum without.

Appointments are for six months commencing June 20th.

Application forms can be had from the undersigned, and should be returned, with copies of three recent testimonials, not later than first post on June 2nd.

May 19th, 1931. R. ARMSTRONG, Medical Supt.

Woking and District Victoria Hospital.

(General Hospital. 50 Beds.)

Female RESIDENT MEDICAL OFFICER (unmarried) required for July 1st. Applicants must be doubly qualified and registered. Salary £100 per annum, with board, residence, and laundry.

Appointment for six months, and renewable for further six months.

Applications, stating age, etc., and accompanied by copies of recent testimonials, to be addressed to the undersigned, from whom all particulars may be obtained. They must be received on or before June 1st. Personal canvassing not allowed.

R. MANNING DRIVER, Hon. Sec.

Woking & District Victoria Hospital.

Chesterfield and North Derbyshire Royal Hospital.

(150 Surgical and Medical Beds.)

CASUALTY OFFICER (DEPUTY RESIDENT SURGICAL OFFICER).

OPEN APPOINTMENT.

Applications are invited from fully qualified men for the above post. The appointment is for six months. Candidates must have held previous Hospital appointments.

Duties include House Surgeon to the Ear, Nose, and Throat Department.

Salary at the rate of £200 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, to be sent to the undersigned.

May 19th, 1931. G. SUNNUCK, Supt. & Secretary.

Chesterfield and North Derbyshire Royal Hospital.

Notice is hereby given that on June 4th a meeting will be held by the Elective Committee in the Board Room of the Hospital for the purpose of election of an HONORARY SURGEON.

Candidates should be prepared to devote their whole time to the practice of Surgery.

Candidates must make written application for the appointment and must deliver same to the undersigned on or before Saturday, May 30th.

Candidates shall not canvass members of the Committee but may send in 70 copies of application and testimonials for distribution to them.

May 19th, 1931. G. SUNNUCK, Supt. & Secretary.

North Staffordshire Royal Infirmary, Stoke-on-Trent.

(350 Beds.)

HOUSE SURGEON.

The Committee invite applications for the post of House Surgeon.

Salary at the rate of £150 per annum, with board, residence, and laundry.

Previous Hospital experience necessary.

Applications, with copies of two recent testimonials, to be sent to the undersigned immediately.

By Order, W. STEVENSON, Secretary & House Gov.

May 4th, 1931.

Royal Berkshire Hospital.

(243 Beds.)

Wanted immediately, RESIDENT ANAESTHETIST. Candidates (male) must be fully qualified and registered. Appointment is for six months. Salary at the rate of £150 per annum with board, residence, and laundry.

Applications, with copies of testimonials, should be addressed to the undersigned.

Reading. F. A. LYON, Secretary.

May 23rd, 1931.

Royal Manchester Children's Hospital.

Out-patients' Department, Gartside Street, MANCHESTER.

Wanted for the Out-patients' Department, a SENIOR MEDICAL OFFICER (non-resident). Applicants must be doubly qualified and on the Medical Register. Hours: 9 a.m. to 4 p.m. Saturdays noon. Particulars of the duties can be obtained from the Secretary. Salary £300 per annum. The appointment is for one year, with a view to extension for a further period.

Applications, stating age and experience, and accompanied by copies of not more than four testimonials, to be sent to the undersigned at the Hospital, Pendlebury, Manchester, on or before Wednesday, June 10th.

By Order, W. M. HUMPHRY, Secretary.

May 21st, 1931.

Royal London Ophthalmic Hospital

(MOORFIELDS EYE HOSPITAL), City Road, E.C.1.

SIX OUT-PATIENT OFFICERS.

Applications are invited for the post of Out-patient Officer to attend on two mornings each week as follows:

Monday and Thursday;
Tuesday and Friday;
Wednesday and Saturday.

Candidates must be registered Medical Practitioners. Salary at the rate of £100 per annum. The Out-patient Officers will be eligible for a period of one year from July 1st, and will be eligible for re-appointment. All the present Out-patient Officers are applying for re-appointment.

Copies of Regulations governing the appointment can be obtained on application.

Applications, with testimonials, stating age and qualifications, must be received not later than June 3rd by

ARTHUR J. M. TARRANT, Secretary.

Salford Royal Hospital.

(263 Beds.)

The Board of Management invite applications for the appointment of HONORARY DERMATOLOGIST. Candidates must be registered under the Medical Acts.

Applications, accompanied by certificates of age and of registration, and by not more than six testimonials, must be delivered to the undersigned (from whom all details of duties may be obtained) on or before June 5th.

By Order of the Board, GEORGE RUDDLE, General Supt. & Secretary.

Salford Royal Hospital.

May 23rd, 1931.

The Radcliffe Infirmary and County Hospital, Oxford.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (female) at the TUBERCULOSIS BRANCH of the RADCLIFFE INFIRMARY, The Osler Pavilion, Headington, Oxford, as from June 1st next.

The appointment will be for six months in the first instance. Salary at the rate of £120 per annum.

Applications, with copies of testimonials, should be forwarded to the undersigned at the Radcliffe Infirmary, as soon as possible.

A. G. E. SANCTUARY, Administrator.

May 18th, 1931.

Central London Throat, Nose, and Ear Hospital,

Gray's Inn Road, London, W.C.1.

ASSISTANTS IN THE OUT-PATIENT DEPT.

There is a vacancy for a SECOND ASSISTANT for attendance on Fridays, and for a THIRD ASSISTANT for attendance on Thursdays; both at 2 p.m.

The duties are to assist the Surgeons in seeing the patients, and the posts are honorary ones.

Applications, which may be for a period of three, six, or twelve months, should be sent to the undersigned on or before June 6th.

JOHN H. YOUNG, Secretary-Superintendent.

The Children's Hospital, Sunderland.

(70 Beds.)

Wanted, Two RESIDENT MEDICAL OFFICERS (female)—one middle of June, one middle of July. Candidates must possess double qualifications (registered). Salary £100 per annum, with board, residence, and laundry. The appointments are for six months. Applications, stating age, with copies of three recent testimonials, to be sent to the undersigned.

S. C. TRYERS, House Governor & Secretary.

Ethel Hedley Orthopaedic Hospital for Crippled Children, Windermere.

An active Surgical Centre, with 50 beds, serving the Counties of Westmoreland, Cumberland, and North Lancashire, with attendance at After-Care Clinics in these Areas.

Applications are invited for the post of RESIDENT HOUSE SURGEON. Candidates (female) must be fully qualified and registered, and have held a previous Resident appointment. The appointment is for six months commencing June 23rd, with extension to one year. Salary at the rate of £150 per annum.

Applications, stating age, and with copies of three recent testimonials, should be submitted not later than June 13th to the Medical Director, Ethel Hedley Hospital, Calgarth Park, Windermere.

West Norfolk and King's Lynn General Hospital. (75 Beds)

The Board of Management of the above Hospital invite applications for the post of JUNIOR HOUSE SURGEON (male or female). Duty to commence June 1st, or nearly as possible. Salary £125 per annum. To have charge of Medical and Ophthalmic beds. Preference given to candidates with previous experience. Appointment for six months in first instance, and consideration will be given for Senior appointment.

Applications, stating experience and full particulars, together with copies of three recent testimonials, to be received by May 30th and sent to

JOSEPH E. SERJEANT, House Governor and Secretary.

West Norfolk and King's Lynn Hospital.

May 18th, 1931.

Seamen's Hospital Society, Greenwich, S.E.10.

The Committee of Management invite applications for the appointment of DENTAL SURGEON at the ALBERT DOCK HOSPITAL, Connaught Road, E. The elected officer will be appointed for twelve months and will be eligible for re-election.

Candidates must be doubly qualified and registered, and hold a diploma in Dental Surgery.

Applications, with copies of testimonials, to be sent in on or before June 9th to the undersigned, from whom further particulars can be obtained.

By Order, R. E. V. BAX, Secretary.

Greenwich.

May 18th, 1931.

Seamen's Hospital Society, Greenwich.

HOUSE PHYSICIAN AND HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich, for six months from July 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male. Applications, with copies of three testimonials, to be sent in by June 9th to the undersigned.

R. E. V. BAX, Secretary.

Greenwich.

May 9th, 1931.

Seamen's Hospital Society, Greenwich.

RESIDENT MEDICAL OFFICER required at ALBERT DOCK HOSPITAL, Connaught Road, E.16, for six months from July 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male. Applications, with copies of three testimonials, to be sent in by June 9th to the undersigned.

R. E. V. BAX, Secretary.

Greenwich.

May 9th, 1931.

Acton Hospital, W.3.

Applications are invited for the appointment of a RESIDENT MEDICAL OFFICER (male, unmarried) Salary £100 per annum, with board, residence, and laundry. Duties to commence July 1st.

Candidates must be fully qualified and registered. Applications, stating age, nationality, and qualifications, together with a copy of three recent testimonials, should reach the Secretary, Acton Hospital, Gunnersbury Lane, W.3, by Monday, June 1st.

Victoria Hospital, Blackpool.

(132 Beds.)

Applications are invited for the posts of SENIOR and JUNIOR HOUSE SURGEONS, six months, male or female. Salary £225 and £150 respectively, with residence, board, and laundry [illegible] duly qualified [illegible] are, quainted with three [illegible] House Surgeon," [illegible] 3rd to [illegible] on. Secretary.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

WITHINGTON HOSPITAL.

APPOINTMENT OF TWO ASSISTANT MEDICAL OFFICERS.

The Public Health Committee invites applications from qualified Medical Men for the positions of Two Assistant Medical Officers at the Withington Hospital (1,200 beds), and Institution (1,150 beds), Nell Lane, West Didsbury, Manchester.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous Hospital experience.

The Hospital is a recognised Training School for Nurses, and is equipped with all modern requirements.

Salary £275 per annum in each case, with board, residence, and laundry in addition. No bonus.

The appointments will be made, in the first instance, for a period of six months. The successful candidates, however, will be eligible for re-appointment for a further period of six months at the end of that period.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials and endorsed on the envelope "Assistant Medical Officer, Withington Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, June 4th.

One candidate appointed will be required to commence duty on August 4th, and one on September 1st. Each candidate appointed will be required to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

F. E. WARBRECK HOWELL,
Town Clerk.

Town Hall,
Manchester. May 18th, 1931.

West London Hospital,

Hammersmith, W.6. (234 Beds.)

Required, One HOUSE PHYSICIAN (General and Skin), one HOUSE SURGEON (General and Genito-Urinary) and one AURAL AND OPHTHALMIC HOUSE SURGEON for six months from July 1st next, subject to one month's notice on either side. Salary at the rate of £100 per annum, with board, lodgings, and laundry allowance.

Candidates must be registered under the Medical Act. Applications (which must be made on printed forms obtainable from me) must reach me not later than Thursday, June 18th. Selected candidates will be required to call upon such members of the Medical Staff as directed, to be in attendance at a meeting of the Medical Council on Friday, June 26th, at 4 p.m., and the House Committee meeting at 4-45 p.m. the same day, when the appointments will be made.

H. A. MADGE, Secretary.

Bethlem Royal Hospital,

MONKS ORCHARD, EDEN PARK, BECKENHAM, KENT.

Wanted, TWO RESIDENT HOUSE PHYSICIANS (gentlemen, unmarried), recently qualified in Medicine and Surgery. Apartments, complete board and laundry provided, and an honorarium at the rate of £25 per quarter will be paid. They will be under the direction of the Physician-Superintendent, to whom they should apply.

Copies of the duties can be obtained from the undersigned or from the Physician-Superintendent.

JOHN L. WORSFOLD, Clerk, etc.

Bethlem Hospital Office,
14a, New Bridge Street, E.C.4.
May, 1931.

Royal Cornwall Infirmary,

TRURO. (84 Beds.)

HOUSE SURGEON (male) required with experience of Anaesthetics. Salary £170 per annum, [illegible] board, and washing. Apply, with copies of three recent testimonials, to the Secretary, of whom further particulars may be obtained.

General Lying-In Hospital,

York Road, Lambeth, S.E.1.

RESIDENT MEDICAL OFFICER required for July 1st next. Appointment for three months; £[illegible] with board. Applications, [illegible] monials, to be sent to the Secretary not later than June 5th.

County Borough of Bury.

ASSISTANT MEDICAL OFFICER OF HEALTH, ASSISTANT SCHOOL MEDICAL OFFICER, and ASSISTANT TUBERCULOSIS OFFICER.

The Corporation of Bury are prepared to receive applications for the post of Assistant Medical Officer of Health, Assistant School Medical Officer, and Assistant Tuberculosis Officer, at a salary of £500 per annum, rising by annual increments of £25 to £700 per annum.

The principal duties will consist of the Medical Inspection of School Children, Maternity and Child Welfare work, and the Diagnosis, Treatment, etc., of Tuberculosis, but the person appointed will also be required to assist the Medical Officer of Health in his other duties as the Health Committee may direct.

Applicants must be registered Medical Practitioners, must possess the Diploma of Public Health, and must have had at least three years' experience of Post-graduate Medical work. They must have had special practical experience in the Diagnosis and Treatment of Tuberculosis. Preference will be given to applicants who have taken a course in Mental Deficiency work.

The person appointed will be required to reside in the Borough.

Forms of application and terms of appointment can be obtained from the Medical Officer of Health, Clough Street, Bury.

Applications, endorsed "Assistant Medical Officer of Health," and accompanied by copies of three recent testimonials, must be forwarded to the undersigned not later than Monday, June 8th.

Municipal Offices, RICHARD MOORE,
Bank Street, Town Clerk.
Bury. May 20th, 1931.

St. Mary's Hospital, W.2.

CASUALTY HOUSE SURGEON.

Applications are invited from duly qualified candidates for the post of Casualty House Surgeon.

Candidates must have been House Surgeons for a full period of office to this Hospital, or to some other General Hospital approved by the Board. The salary is £100 per annum, with board and residence, and the appointment is for six months. Applications, with copies of testimonials not exceeding three in number, should reach the undersigned (from whom particulars of the office may be obtained) on or before Thursday, May 28th.

The successful candidate will be expected to take up the duties immediately.

W. PARKES, Secretary.

City of London Maternity

HOSPITAL, City Road, E.C.1.

Applications invited for fully qualified candidates for post of ASSISTANT RESIDENT MEDICAL OFFICER, vacant July 1st. Three months' appointment at £80 per annum. If satisfactory, appointee fills Senior post for ensuing three months at £100 per annum, with board, quarters, and laundry.

Twenty copies of application and testimonials should reach the undersigned by June 11th.

RALPH B. CANNINGS, Secretary.

General Hospital, Nottingham.

(397 Beds.)

A CASUALTY OFFICER (male) is required at the above Institution. Appointment for six months. Salary at the rate of £200 a year, with board, residence, and laundry. Applications, stating age, qualifications, and experience, together with copies of testimonials, to be delivered to me not later than June 20th. The appointment will be made on July 1st. Duties to commence on Tuesday, July 14th.

PETER M. MACCOLL,
House Governor & Secretary.

Royal Eye Hospital,

St. George's Circus, Southwark, S.E.1.

ASSISTANT HOUSE SURGEON required at the above Hospital. The appointment is in the first instance for a period of six months, with board and residence as from June 1st.

Salary £100 per annum.

Candidates must be registered Practitioners.

Applications, with copies of three recent testimonials, should be sent to the Secretary at the Hospital not later than Friday, May 29th.

F. E. D'ALTON, Secretary.

Royal Lancaster Infirmary.

(106 Beds.)

JUNIOR HOUSE SURGEON (male, British) required immediately. Salary £130 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be addressed to the Hon. Secretary.

Lancaster. May 13th, 1931.

Royal Free Hospital,

Gray's Inn Road, W.C.1.

Applications are invited for the following re[illegible]

HOUSE PHYSICIAN to the Children's Dept.
GYNAECOLOGICAL HOUSE SURGEON.
OBSTETRIC HOUSE SURGEON.
UNIT RESIDENT ANAESTHETIST.

Duties of the above posts to commence July 1st.

RESIDENT ANAESTHETIST.
SECOND HOUSE PHYSICIAN.
DISTRICT OBSTETRIC ASSISTANT (salary £100 per annum).

Duties of the above posts to commence August 1st.

Preference is given to applicants from former Students of the London (Royal Free Hospital) School of Medicine for Women. Candidates must be duly qualified registered Medical Practitioners, and must submit applications, stating age, and accompanied by copies of three recent testimonials, to the undersigned on or before June 5th.

REGINALD R. GARRATT, Secretary.

Royal Free Hospital,

Gray's Inn Road, W.C.1.

Applications are invited from duly qualified and registered Medical Men for the following resident posts:

HOUSE SURGEON to the Senior Surgeon and the Surgeon in Charge of the Ear, Nose, and Throat beds.
CASUALTY OFFICER.

Duties to commence August 1st.

Candidates for the above posts must submit applications, stating age, and accompanied by copies of three recent testimonials, to the undersigned on or before June 5th.

REGINALD R. GARRATT, Secretary.

The Royal Hospital,

WOLVERHAMPTON.
(Incorporated under Charter.)

HOUSE SURGEON required. Duties to commence July 1st next. The Hospital contains 240 beds, includes the usual Special Departments, and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice.

Candidates must be registered under the Medical Acts, and unmarried.

The appointment is for six months. Salary at the rate of £100 per annum; board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded to the undersigned by June 8th.

W. H. HARPER,
House Governor.

Wolverhampton.
May 18th, 1931.

Royal Northern Infirmary,

INVERNESS. (150 Beds.)

HOUSE PHYSICIAN, male, unmarried, wanted, to commence duties on June 1st. The appointment is for six months. Salary is at the rate of £100 a year, with board, residence, and laundry.

Applications, stating age, qualifications, etc., with copies of recent testimonials, should be sent not later than May 28th to the Hon. Secretary, 20, Church Street, Inverness.

York County Hospital.

(200 Beds.)

The post of RESIDENT ANAESTHETIST and ASSISTANT HOUSE SURGEON will shortly become vacant. Salary £150 a year, with board, residence, and laundry. Duties commence July 16th. Applications, stating age and previous experience, together with copies of not more than three recent testimonials, to be sent to the undersigned not later than June 13th.

H. E. RYAN, Manager.

York County Hospital.

(200 Beds.)

HOUSE SURGEON required. Salary £150 per annum, with board, residence, and laundry. Applications, stating age, qualifications, and previous experience, together with copies of not more than three recent testimonials, to be sent to the undersigned on or before June 13th.

H. E. RYAN, Manager.

King George Hospital, Ilford

(8 miles from London).

Applications are invited for the appointment of Two HOUSE SURGEONS (male). Salary £100 per annum, with board, residence, etc. Term six months, with eligibility for a further period. Applications should be sent at once to the Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to [illegible] without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the [illegible] Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.
GENERAL POST OFFICE. *(Assistant Medical Officer—Woman.)*
CONTRACT PRACTICE.
EBBW VALE, MON. *(Workmen's Medical Society.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*
LLWYNYPIA [illegible] PENYGI [illegible] *(Workme[illegible]*
MARDY [illegible] (Workmen
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*
NEATH AND DISTRICT. *(Medical Aid Association.)*

Town or District.
CONTRACT PRACTICE *(contd.)*.
OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*
OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*
PUBLIC HEALTH.
CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
DEVON COUNTY COUNCIL. *(School Medical Inspector—Male.)*
MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)*

Town or District.
PUBLIC HEALTH *(contd.)*
NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.)* *(Resident Medical Officer, Preston Institution, Fulwood.)*
STAFFS COUNTY MENTAL HOSPITAL, BURNTWOOD. *(Third Assistant Medical Officer.)*
WOLVERHAMPTON COUNTY BOROUGH. *(Assistant Medical Officer.)*
YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Macquarie St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 206, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. T. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies' Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), *British Medical Association, Medical Society Hall*, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

May 20th, 1931. By Order of the Council. ALFRED COX, *Medical Secretary.*

South Devon and East Cornwall
HOSPITAL, PLYMOUTH. (240 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN (woman).

Salary £120 per annum, with board, residence, and laundry. Appointment *is tenable* for six months, and is subject to renewal. Candidates must be registered under the Medical Acts.

Applications, stating age and qualifications, together with copies of recent testimonials, to *reach the undersigned* by May 29th.

ARTHUR R. CASH,
May 12th, 1931. Gen. Supt. & Sec.

Wrexham and East Denbighshire War Memorial Hospital.
(109 Beds.)

Three RESIDENT HOUSE SURGEONS *(male or female)* required by the above Hospital, to *commence immediately*. Appointments for a period of not less than six months. Salary £150 per annum, with board and laundry.

Applications, stating age, nationality, experience, and *qualifications*, accompanied by copies of three recent testimonials, to be sent to the undersigned *immediately*.

LESLIE SPENCER, Secretary.

Chelsea Hospital for Women,
Arthur Street, S.W.3.

There will be a vacancy for a JUNIOR HOUSE SURGEON (male) on July 1st. Appointment for six months. Salary £100 p.a. He will be expected to proceed to the Senior post (six months, salary £120 p.a.) at the end of his term of office. *Candidates* must be duly registered and preferably unmarried. Applications, accompanied by copies of three testimonials, should be sent not later than Saturday, May 30th, to the Secretary, HERBERT H. JENNINGS.

Royal Sussex County Hospital,
BRIGHTON. (238 Beds.)

CASUALTY HOUSE SURGEON *(male)* required. Salary £120 per *annum*, with board, residence, and laundry.

Candidates must *hold Medical* and Surgical qualifications of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of *recent testimonials*, should be sent immediately to the undersigned.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Hull Royal Infirmary.
(270 Beds.)

Applications are invited for the post of THIRD HOUSE SURGEON (male), vacant May 31st.

The *appointment* will be for six months in the first *instance, determinable* on either side by one month's notice. Salary at the rate of £150 per annum, plus board, residence, and laundry.

Applications, *together with* copies of testimonials, *should be sent to* the undersigned on or before May 25th.

R. J. CARLESS,
May 11th, 1931. House Governor.

Hospital for Women at Leeds.

HOUSE SURGEON to commence duties immediately. Salary at the rate of £50 per annum, with board, quarters, and laundry. The appointment is for six months. Applications, together with copies of testimonials, should be sent to the *undersigned* at once.

BRYAN JEAFFRESON,
Hon. Secretary to Faculty.

Queen's Hospital for Children,
Hackney Road, London, E.2.

HOUSE SURGEON (male) required on July 1st. Six months' appointment. Salary at the rate of £100 *a year*, with board, lodging, and washing.

Applications must be made on forms to be obtained from the Secretary, and must be sent in, with copies of *not more* than four testimonials, on or before May 31st.

CHARLES H. BESSELL,
May 1st, 1931. Secretary.

Queen's Hospital for Children,
Hackney Road, London, E.2.

CASUALTY OFFICER required July 1st. Some Dermatology *additional*. Six months' appointment. Salary at the rate of £100 a year, *with* board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of *not more* than four testimonials, on or before May 31st.

CHARLES H. BESSELL,
May 1st, 1931. Secretary.

Queen's Hospital for Children,
Hackney Road, London, E.2.

HOUSE PHYSICIAN required on July 1st. Six *months'* appointment. Salary at the rate of £100 a year, with board, lodging, and washing.

Applications must be made on forms to be obtained from the undersigned, and must be sent in, with copies of *not* more than four testimonials, on or before May 31st.

CHARLES H. BESSELL,
May 1st, 1931. Secretary.

(Appointments continued on p. 52).

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted immediately, really energetic young ASSISTANT, view to early Partnership, replacing retiring junior partner, in large private and panel Practice, Bristol. Capital an advantage, not absolutely essential however for right man. Must like Midwifery. Salary generous and house. Splendid opening.—Address, No. 3103, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, outdoor Assistant, male, young, active. Residential country town, Cheshire, close to large centres. Able to drive car. Salary £350. Usual bond. Full-time Dispenser kept. Interview. Railway expenses paid. Full particulars.—Address, No. 3243, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Male Assistant of good appearance, for Practice in large industrial town near Manchester. Englishman preferred. Early Partnership to suitable man. Salary £300 indoor, £400 outdoor, if married. Car provided. Little mid.—Address, with photo., No. 3261, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Male, experienced, well-qualified ASSISTANT (£550 outdoor), view early Partnership, easy terms, large Practice, Yorkshire Ear, Nose, and Throat experience preferred, not essential. Must be worker. State full parties. Photo. returnable.—No. 3238, B.M.A. House, Tavistock Sq., W.C.1.

Wanted immediately, experienced capable and energetic outdoor ASSISTANT, preferably married, with own car, in large Kentish town, 30 miles London. Good terms and subsequent Partnership offered to suitable man.—Address, with photo. and tests.—No. 3101, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistant, young, male, single, for mixed and panel Practice. Salary £312 and half midwifery, altogether about £400. Rooms and board, etc., all found. Bond.—Address, No. 3232, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant who has held an Ophthalmic or E.N.T. appt. £6 to £7 weekly (indoor), according to experience and whether married or single. Send photo. State height, etc.—Address, No. 3116, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistantship, preferably South of England, with view, by M.R.C.S., L.R.C.P., ex H.S. London Teaching Hospital. Aged 26, married, abstainer, motorist. Free July.—Address, No. 3111, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant for some months, male, British, Scots Graduate post. Light work. Car provided. Suit one reading for further qualifications and requiring good experience of general practice.—Address, No. 3114, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Assistant, well qual., to take sole charge while Principal takes holiday. Large Practice requiring young energetic graduate (Scot). North-East Yorks.—Address, No. 3240, B.M.A. House, Tavistock Square, W.C.1.

Wanted, in Liverpool, in July, Indoor ASSISTANT. Salary £325. Good prospects. British essential. Would also suit young Graduate reading for higher degree. Send copy of references.—Address, No. 3124, B.M.A. House, Tavistock Square, W.C.1.

Wanted, July 1st, male Assistant, single, outdoor, without view, village near Doncaster. Suit recently qualified. Work light. Salary £400 p.a., experienced man.—Reply, with particulars, Doctors O'DONNELL and GILCHRIST, New Edlington, Doncaster.

Wanted. — Indoor Assistant in large industrial Practice in the Midlands (three men). British Protestant preferred.—Address, stating necessary particulars, No. 3104, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and *Outdoor ASSISTANTS for Town and* Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Assistant required, English or Scotch. Charge of Branch. Large panel. Prospects to suitable man. 25 miles London.—Address, No. 3119, B.M.A. House, Tavistock Square, W.C.1.

Assistant wanted in pleasant semi-rural Practice. Outdoor £300, with furnished house. Indoor £250, with half Maternity fees, and annual increase up to £500 in each case.—Apply, Murray House, Chesterfield.

North Wales.—Wanted a Welsh-speaking outdoor ASSISTANT for general Practice, private and panel. District industrial and rural. Usual bond. References required.—Address, No. 3108, B.M.A. House, Tavistock Square, W.C.1.

Part-time Assistant (male) wanted week-ends, London, S.W.—Address, No. 3112, B.M.A. House, Tavistock Sq., W.C.1.

Scots Graduate (1927) seeks ASSISTANTSHIP (outdoor, suitable married man), preferably in Scotland, London, or West Country. Conscientious. Hospital experience. [illegible] rgery or in [illegible] No. 3123, [illegible] W.C.1.

LOCUMS.

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAN GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. *(Night Calls)*
Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

Wanted. — Locums by Medical Woman, L.R.C.P.S., L.M., D.P.H. Accus. sole charge; 5 years' exper. Free in town May 30th for 10 days; also booking for summer. London or S. of England preferred.—Address, No. 3236, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Locum for three months, male or female. Small panel and practice. Easy post.—Address, No. 3095, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Locums by L.R.C.P. & S.Ed. (lady). Experienced in G.P. Excellent testimonials. Drive car.—Address, No. 3109, B.M.A. House, Tavistock Square, W.C.1.

Fly-fishing wanted by G.P., home from abroad for August, in return for light LOCUM work and accommodation for wife, anywhere in British Isles. — Apply, "J.N.D.," 4, Rodney Court, Sandgate, Kent.

Hospitality Locum wanted in Cornish village for September, during Partner's holiday. Work very light. Some remuneration. — Address, No. 3121, B.M.A. House, Tavistock Square, W.C.1.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Locum or Assistantship wanted by M.B., B.Ch. (Woman). Four years' experience panel and private practice. Well-received. Now free in London.—Address, No. 3106, B.M.A. House, Tavistock Square, W.C.1.

School Medical Officer, experienced in Locum work, own car, wants family HOSPITALITY LOCUM at seaside. Free July 24th to August 23rd.—Address, No. 3107, B.M.A. House, Tavistock Square, W.C.1.

Woman Doctor, Scotch, M.B., Ch.B., aged 28, 5 years' experience G.P. wishes LOCUMS. Free July, August, September. Own car. £6 6s. per week.—Address, No. 3113, B.M.A. House, Tavistock Square, W.C.1.

Young Practitioner, Partner in large suburban Practice, would do HOLIDAY LOCUM in return for Hospitality for wife and baby (1 year). June, July, or September. Own car. Country or seaside.—Add., No. 3117, B.M.A. House, Tavistock Sq., W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

A large Industrial Corporation operating in the East has an appointment as ASSISTANT CHIEF MEDICAL OFFICER. [illegible] over 36 years of age. [illegible] al experience. Special [illegible] nd Tropical Medicine [illegible] quarters. Climate sub-tropical and healthy. Prospects good for a keen man. — Write, Box R. 428, WILLINGS, 133, Moorgate, E.C.2.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with *practical experience in private* practice and dispensary work, also trained in Bacteriological [illegible] LONDON COLLEGE OF [illegible] paration for [illegible] 'phone (Park [illegible] Park Road, W.[illegible]

Dispenser-Bookkeeper, qualified, experienced, age 25, requires POST with Doctor. Country preferred. — BETTY GILL, Collaton, Marlborough, Kingsbridge, Devon.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Per-

Dispenser - Secretary (qualified) seeks POST. Good experience in town and country. Can assist with electrical treatments. Drive car.—"DISPENSER," 48, Crouch Hill, N.4. 'Phone: Archway 2055.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Educated lady desires post as RECEPTIONIST-SECRETARY or SECRETARY to Doctor or Dentist. Knowledge French and Spanish. Previous experience. Good references. — Address, No. 3239, B.M.A. House, Tavistock Square, W.C.1.

Electro-Medical.—Practical Electrician desires APPOINTMENT with Sanatorium or preferably *private Institution*. Maintenance and repair of all kinds of electro-medical instruments; a thorough knowledge of all Pantostat systems. H.F., cautère, diathermy, X-rays, all systems of arc lamps. Where laboratory provided, research work a speciality.—Write Box 397, SELLS LTD., Fleet St., E.C.4.

Experienced Practitioner offers SERVICES as ANAESTHETIST—Surgical cases, confinements. Week-ends or part-time daily. In Rochdale or Oldham area. Own car.—Address, No. 3005, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser - Bookkeeper (Hall), desires POST with Doctor or firm of Doctors. Experienced in panel, club, and private work. Excellent testimonials.—Address, "K.R.," 6, Thorney Court, Palace Gate, Kensington, W.8.

Middle-aged couple seek CARETAKING POST. Country or Town. Woman, light services; man, ex Naval Officer, good gardener. — "L.," The Cot, Scalands, Dymchurch, Kent.

Male, aet. 42, Honours degree, Conjoint, F.R.C.S.(England), requires DAY WORK London; or long Hospital LOCUM. Hospital and Special experience since 1911. Offers of other work considered.—Address, No. 3235, B.M.A. House, Tavistock Square, W.C.1.

Medical Man, experienced Dermatology, desirous taking up V.D. work, would be grateful anyone offering facilities for attending Clinic for necessary period, etc. Moderate fee.—Address, No. 3120, B.M.A. House, Tavistock Square, W.C.1.

Resident Medical Officer required from August 1st next for STOURBRIDGE DISPENSARY (Out-patients only). Salary £250 per annum, with prospect of increases. Furnished house containing 2 reception rooms, 3 bedrooms, kitchen, etc., and bathroom. Use of garage. Applications, stating age, qualifications, and testimonials, to be sent immediately to the Secretary, PERCIVAL [illegible] FORKES, [illegible]

[illegible] and July), anywhere, or Part-time work in London only over longer period, required by Woman Doctor. Hospital, panel and private experience.—Address, No. 3231, B.M.A. House, Tavistock Square, W.C.1.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Typewriting and Duplicating undertaken [illegible] Theses, Legal Docum[illegible] appreciation from D[illegible] (B), 341, Finchley R[illegible] 'Phone Hampstead 6450 (any hour).

Young lady seeks post with professional. Shorthand-typing; knowledge of bookkeeping; experience of Hospital work; drive a car; good references.—Address, No. 3129, B.M.A. House, Tavistock Sq., W.C.1.

PARTNERSHIPS.

Wanted by Cambridge Man, aet. 30, with wide experience of good-class private practice, a PARTNERSHIP in good non-industrial Country or Country Town Practice. Good house essential. Share £1,000 to £1,500. —No. 3245, B.M.A. House, Tavistock Sq., W.C.1.

A Third Share is offered in a sound and increasing PRACTICE, receipts averaging £2,900 p.a., in good Lancashire town, near seaside.—Address, No. 3241, B.M.A. House, Tavistock Square, W.C.1.

Lancashire Town.—Partnership, 1/2 share £5,000. Panel 3,000. Up-to-date Hospital, with possible staff appointment Premium £2,250, part by instalments. House on rent.—Address, No. 2515, B.M.A. House, Tavistock Square, W.C.1.

Partnership wanted, with or without succession, in mixed Practice, London, S.W., W., N.W., by experienced Doctor, bachelor, aged 33. Share £1,000 up. Capital avail. E.N.T. experience. Interview.—Address, No. 3126, B.M.A. House, Tavistock Sq., W.C.1.

Small Lancashire Town. — Half SHARE of well-estab. Partnership returning £4,000. Six years' audits. Panel 3,500. Good house. 3½ yrs.' purchase. Every facility for investigation. Surrounding dist congenial. —No. 3234, B.M.A. House, Tavistock Sq., W.C.1.

South Coast, large town.—Partner leaving shortly. HALF SHARE of over £2,500, audited. Good-class district. Panel 2,000. Appointments £350. Modern house to rent. Hospital experience desirable. Two years' purchase. Attractive opening.—Address, No. 2997, B.M.A. House, Tavistock Square, W.C.1.

Third Partner required in large non-panel, non-dispensing Practice in pleasant North Country town. Possession of M.D. or M.R.C.P. desirable, but not essential. Quarter share for sale at 2 years' purchase.—No. 3254, B.M.A. House, Tavistock Sq., W.C.1.

Doctor, retiring after 40 years, is prepared

to Give Goodwill in unopposed, charming seaside COUNTRY PRACTICE near London, in return for taking over very cosy, comfortable house at bargain price.

Economical upkeep, easy work, nice people. Golf, tennis, sea. Ideal for Resident Patients.

Dr. V., White Lodge, Beltinge, Herne Bay.

PRACTICES.

Wanted in first-class suburb, or anywhere S. of England, by experienced Camb. Graduate, a good-class PRACTICE of about £1,500, with scope. Large panel, surgery and midwifery discouraged. Good house with ample accommodation, in really quiet neighbourhood, with large garden essential, preferably to rent.—Address, No. 3233, B.M.A. House, Tavistock Square W.C.1.

Wanted.—London and District. —The Medical Agency has a large clientele seeking suitable INVESTMENTS in the London area, with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Wanted by experienced Practitioner (eyes special), aged 35, a good-class PRACTICE or PARTNERSHIP, with view to succession. Income £900 to £1,500, with scope. House with garden essential. Strict confidence.—No. 3125, B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Country Town or Country. Good house. Income £1,000—£1,500. Strict confid. —No. 3260, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by University Grad., experienced in good-class Practice, ex H.S., PRACTICE or PARTNERSHIP in South, about £1,500; house to rent preferably. Willing call for interview, early June, or do Locum. —No. 3128, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Small Practice (non-panel), South of England. Suitable for semi-retired Practitioner. Good house, 3 entertaining rooms. — Address, No. 3237, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Medical Practice, private and panel, convenient to London. House, with garden. Suitable terms.—Address, No. 3110, B.M.A. House, Tavistock Sq., W.C.1.

Death Vacancy, Shropshire, Country Town, beautiful surroundings. PRACTICE held by Deceased for 35 years, average gross receipts £1,050 per annum. Poor Law appointment, Post Office, panel and private. Reliable Locum in charge. Excellent house for sale, with garden and garage.—Apply, SPROTT & MORRIS, Solicitors, Shrewsbury.

Increasing working-class residential cash and panel PRACTICE. Four miles Piccadilly, thickly populated. Cash takings £2,000, panel over 1,100. Shop-fronted compact cosy house, small rent, long lease. Premium 1½ years' purchase.—Address, No. 2817, B.M.A. House, Tavistock Square, W.C.1.

Doctor with small Practice in Kensington, London, wishes to hear from Doctor practising seaside or country, with view to EXCHANGE for few weeks in summer.—Address, No. 3105, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Practice of £2,000 p.a. and rapidly increasing, situated on outskirts of Midland City. Panel 2,500. Good modern house. Growing district. Premium £3,000.—Address, No. 3116, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Lancs Town.—Old-established mixed-class PRACTICE, excellent position. Receipts £2,780. Panel 2,860. House with garage, £2,000. Premium 1½ years' purchase.—Address, No. 3127, B.M.A. House, Tavistock Square, W.C.1.

Lancs Coast.—Residential Practice for Sale. Fees average £1,300. Small panel. Good fees. Mixed class. Delightful house and gardens. Motor house and all other conveniences. Premium 1½ years.—Add., No. 3001, B.M.A. House, Tavistock Sq., W.C.1.

Medical Bachelor, desirous of country life, good home, some Practice can hear of same by addressing No. 3244, B.M.A. House, Tavistock Square, W.C.1.

North Wales, near Chester.—Industrial, Contract, and Country PRACTICE for Sale. Panel about 2,250. Receipts about £2,500. Suitable for two.—"CHEMICALS," 46, Hamilton Street, Hoole, Chester.

Practice or Partnership wanted by capable Practitioner, with long Teaching Hospital experience. Premium payable £1,000 down. Near Manchester or other good town. Good panel desirable. — Address, No. 3130, B.M.A. House, Tavistock Square, W.C.1.

Practice wanted, country, near town, preferably Cotswolds district. Cash available. Send details to 1007, W. A. WHARRAM (1929), LTD., Wholesale Chemists, 34, Lady Lane, Leeds.

Practice for Sale in North London. Panel 570.—Ring North 0877, 10—12 a.m.

Select Medical Practice and Resident Patients received. Charming detached house, Hampshire Resort. Splendid scope. Vendor retiring, ill health. Price £2,250, prompt sale, including good furniture, ultra-violet ray lamps, instruments. — Address, No. 3230, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

HOUSES, CONSULTING ROOMS.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Hoit, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1,

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.

Telephone: 3204 MAYFAIR.

Bournemouth.—In best position on main Poole Road. — For Sale with possession, detached RESIDENCE, 9 bedrooms, 2 bathrooms, 3 reception, servants' sitting room, etc. Garage with rooms over. 1/2 acre. Price £2,600. Ground rent 15 guineas. Lease 57 years' unexpired.—Apply, FOX & SONS, Estate Agents, Bournemouth West.

Consulting Room, oak-panelled, bedroom, bathroom, self-contained ground floor, own street door, plate allowed. Excellent position near Harrods. Recently occupied by Doctor. £275 per annum, services included.—Address, No 3242, B.M.A. House, Tavistock Square, W.C.1.

Consulting Rooms to Let.—Harley Street and District. Whole and part-time. Rents £80 to £500. Lists sent on application Rooms wanted in Harley Street district.—ELGOOD & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2601.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Important main road.—Corner HOUSE, many years in occupation of Doctor. Rent £150. 21 years' lease.—Apply, FLOOD & SONS, 474, Harrow Road, W.9, opposite the property.

London Suburb. — Modern six-roomed HOUSE, close Metro station, in key position on big new estate and adjoining much bigger developing estate. Suit man without children. Very excellent opportunity. Garage space. — Address, No. 3122, B.M.A. House, Tavistock Square, W.C.1.

Paying Guests.—5 minutes 'bus, 10 minutes trains, beautifully decorated modern house. Terms moderate. On links. 5 minutes tennis Comfortable home, garage, 'phone.—"E.," 80, Montalt Rd., Woodford Green.

Sussex, near the Coast.—Suitable for Nursing Home, etc.—A Country HOUSE of 15-20 bedrooms, with electric light installed, occupying a secluded position in a Park. To be LET.—WINKWORTH & Co., 48, Curzon St., W.1.

By Order of the Governing Body of the Mount Vernon Hospital.

7, FITZROY SQUARE, W.1.

This fine Genuine Adam House of five floors, including extensive ground floor. Eminently suitable for Institution, Show-rooms, or Offices.

UNRESTRICTED FREEHOLD.

Possession on completion.

For Sale privately or by Public Auction at the London Auction Mart, E.C.4, on May 27th next. Auctioneers: MAPLE & Co., LTD., Tottenham Court Road, W.1.

Torquay. — Doctor wishes sell small HOUSE, excellent order, Babbacombe. Four bed., 2 recep., small garden. Suitable man retiring. Price £1,300.—Address, No. 3115, B.M.A. House, Tavistock Sq., W.C.1.

Welbeck Street. — Delightful MAISONETTE and CONSULTING ROOM, 2 large recep., 2 bed., maid's room, etc. Cons. hot water, lift. £350 or offer. Also spacious CONSULTING ROOM, every convenience, lift attendance and use of waiting room; £250.—SIMMONDS, 226, Strand, or 'phone Central 6319.

Welbeck Street, W.—Consulting ROOMS to Let, with constant hot water and telephones. Rent from £125 p.a., including attendance Convenience of meals when desired.—Phone Welbeck 8116.

Wimpole Street.—Part-time use of CONSULTING and EXAMINATION ROOMS. Good attendance, butler. Name in Telephone Directory. No plate at present Moderate rental — Address, No. 3102, B.M.A. House, Tavistock Square, W.C.1.

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.),

Surveyors, Auctioneers, and Estate Agents,

10, WIGMORE STREET,

CAVENDISH SQUARE, W.1.

SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS

in Harley Street and leading Medical Positions.

Telephone: *Langham 3927 and 3928.*

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (in black or grey), £5 5s.

SO.ID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

SUITS & OVERCOATS to measure from £6 6s

SOLID WORSTED SUITS £7 7s

DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s

PLUS FOUR SUITS ... ... from £6 6s

THE IDEAL Suit for ALL Sporting Purposes.

GOLD MEDAL RIDING BREECHES ... from £2 2s

RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists

181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:

Regent 3024-3025 & 7486. National 8696/7.

Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS.

49, Chancery Lane, London, W.C.2.

'Phone: Holborn 6659.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles.

Showroom: 97, Swinderby Road, Wembley.

Safety First. — **Ernest Grimaldi,** Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspe[illegible]

—ERNEST

land Stre[illegible]

For Doctor.—Set of McClean's, also Polin-Wu, blood-sugar outfit; Colorimeter; Bausch Lombe Incubator; Medical, Surgical, and Obstetric Instruments [illegible] be seen by [illegible] Hampstead.

APPOINTMENTS.—Contd.

Victoria Hospital for Sick CHILDREN, HULL. (INCORPORATED).

RESIDENT HOUSE SURGEON required (lady). Salary £100 per annum. Applications, with copies of recent testimonials, stating age, qualifications, and other particulars, to be sent to the Secretary.

Royal Infirmary, Blackburn. (240 Beds—5 Residents.)

FOURTH HOUSE SURGEON (male) required at a salary of £150 per annum, rising to £250, with board, residence, laundry, etc. To commence duties June 1st.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, Blackburn. NATHAN A. SMITH Gen. Supt. & Secretary.

This Institution is recognised for the Surgical practice required for the F.R.C.S. Final Examination.

London Temperance Hospital, Hampstead Road, N.W.1.

Applications are invited for the post of HOUSE PHYSICIAN (male). The appointment will be for a period of six months, at a salary of £100 per annum, and will date as from July 1st. Preference will be given to those who have held resident posts.

Candidates must submit applications, stating qualifications, age, etc., with copies of not more than three testimonials, by Friday, June 5th, addressed to the Secretary.

Royal Waterloo Hospital for CHILDREN AND WOMEN, Waterloo Road, S.E.1.

There will be a vacancy on June 15th for a HOUSE PHYSICIAN (male) at the above Hospital. The appointment is in the first instance for a period of six months. Salary at the rate of £100 per annum, with board and residence. Application, with [illegible] should be forwarded not l[illegible] to the Secretary at [illegible] further particulars can be obtained.

Manchester Ear Hospital, GROSVENOR SQUARE, ALL SAINTS'.

The Board invite applications for the post of NON-RESIDENT HOUSE SURGEON. 24 beds. Salary at the rate of £150 per annum, with partic[illegible]e duly qualified [illegible] with copies of fo[illegible] forwarded to Mr. [illegible] o. Secretary, Manchester Ear Hospital, c/o Mr. W. J. ELLAM, 33, Brazennose Street, Manchester.

Durham County Hospital. (75 Beds.)

HOUSE SURGEON required immediately (two kept). Salary £150 per annum, with board and lodging.

Applications, with copies only of testimonials, stating age and when at liberty, to be sent to WM. R. WILSON, Secretary, 79, Saddler Street, Durham.

Golden Square Throat, Nose, and EAR HOSPITAL, London, W.1.

Applications are invited for the post of CLINICAL ASSISTANT. They should be received by May 30th.

Particulars of the duties may be obtained from the undersigned.

F. P. CARROLL, Secretary-Superintendent.

Liverpool & Samaritan Hospital FOR WOMEN.

Wanted, HOUSE SURGEON for six months, commencing July 1st. Salary at the rate of £100 per annum.

Applications, with testimonials, to be sent to the undersigned by May 31st.

J. ST. C. WILSON.

13, Rodney Street, Liverpool.

Manchester Royal Eye Hospital.

JUNIOR HOUSE SURGEON required. Salary £120 per annum, with residence, board, etc.

Applications (with copies of testimonials), endorsed "House Surgeon," to be addressed to the Chairman of the Board of Management not later than June 5th.

H. R. NORTH, Secretary.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,

The oldest Medical Agency in Manchester,

6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER."

Telephone: 5932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

Midland Town. — Over £2,200 p.a. Panel 820. Appts. £50. Fees 3/6 up. House 2/3 recep., 4 bed., to rent on lease. —No. 8846.

London, S.W. — £800 or more. Panel worth £110. Appts. £25. Large family house, 12 rooms or more, and nice garden. Price £2,200 Practice and lease.—No. 8845.

Kent, Country, near Sea.—Over £1,100 p.a. Panel 380. Appts. £55. Fees 5/- to 21/-. Convenient house, 6 bed., etc., small garden.—No. 8718.

London, S.E. — Woman's Practice. About £550 p.a. Panel 251. Visits 3/6 to 7/6. Small flat at £62 p.a. Premium £750.—No. 8842.

Surrey, Country. — £600 p.a. and scope. Easily worked. Panel over 200. Fees 3/6 to 21/-. Good house in own grounds. For sale.—No. 8841.

Kent, within 25 miles London. —£800 p.a. Panel 470. Fees 3/6 to 21/-. Large house (8 bed.) and garden. For sale.—No. 8840

London, N. — Residential. — About £360 p.a., and ample scope. Fees 3/6 to 10/-. Panel about 200. Excellent house with surgery. House and Practice £2,200.—No. 8839.

West Lothian. — £860 p.a. increasing. Panel 650. Fees 2/6 to 10/-. Villa, 2 recep., 3 bed. etc. House and Practice £1,700 or offer.—No. 8837.

South Devon Town. — Average £1,564 p.a. Panel about 2,000. Fees 3/6 to 5/-. Large leasehold house. Practice and lease £2,700 cash.—No. 8816.

Midland Town. — Share worth £800 p.a. Fees 5/- to 21/-. Midwifery 5 to 6 gns. Grad. of Lond., Oxon., or Camb. Required.—No. 8815.

London, N.E. — £1,300—£1,400 p.a. Panel 1,200. No midy., but ample scope. Lock-up premises. Conv. flat near.—No. 8834.

Riverside Town.—£300 p.a. and resident patient. £8 8s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8831.

Seaside Resort.—N.W. Coast.—Over £2,000 p.a., scope. Panel 600. Very good schools. Medium house, small garden. Scope for surgery. Cottage Hospital.—No. 8824.

Northern 'Varsity City. — Over £1,600 p.a. Panel 1,500. 12/15 midwifery cases. Fees 5/6 to 5/- and up. Good house and garden.—No. 8825.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 586. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

S.W. Scotland.—Near Coast.—£1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/- House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

Yorkshire. — Industrial Town. Over £1,400. Panel nearly 1,100. House, 6 bedrooms, dressing, 2 reception. Surgery, etc., separate entrance. £70 p.a. £2,250, £1,500 down.—No. 8802.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

Messrs. R. SUMNER & Co., Ltd.,
Manufacturing Chemists,
40, HANOVER ST., LIVERPOOL.

PRACTICE for Sale in North Lancashire Town. Receipts £1,160 per annum. Panel 1,504. House can be either purchased or had on rental.
PRACTICE for Sale in residential area of Liverpool. Receipts £1,196 per annum. Panel 640. Established 30 years. House on rental.
DEATH VACANCY PRACTICE in North Wales. Receipts about £1,000 per annum. Panel 621. House can be either purchased or had on rental.
PRACTICE for Sale in Ramsey, Isle of Man. Receipts £850 per annum. House for sale. Well established.
PRACTICE for Sale near Stoke-on-Trent. Receipts £1,220 per annum. Panel 1,945. House on rental.
PRACTICE for Sale in Burnley, very old-established. Receipts £2,000 per annum. Panel 1,900. House can be either purchased or had on rental.
PRACTICE for Sale in Town in Yorkshire. Receipts £1,325 per annum. Panel 760. House on rental.
PARTNERSHIP in North Wales.—Third Share. Receipts of whole Practice £2,000 per annum. Panel 1,750.
For further particulars apply to the above.

Medical Practitioners' Union Agency Limited
56, Russell Square,
LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uffabrini, Westcent, London."
PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.
Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER*: 176, *Oxford Rd.*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas.
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

THE
WESTERN MEDICAL AGENCY
(DR. R. H. BENNETT, DR. W. J. PARAMORE.)
PHOENIX CHAMBERS,
22, CLARE STREET, BRISTOL.
Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. SANATORIUM.—Western County.—40 beds. Receipts average £10,055 p.a. Particulars on application.
2. BEDFORDSHIRE.—Country PRACTICE, last year £483. Good house to rent £68. Price £350.
3. CARDIFF.—Industrial PRACTICE averaging £600 p.a. Panel 600. Good house. Premium £600.
4. SALARIED PARTNER.—Western City, with option to buy half share. £500 p.a. net. Suitable house. Great scope. Total receipts £1,700. £1,000.
5. DEATH VACANCY.—CARDIFF.—£360 p.a. Panel 210. Growing district. Good house.
6. COAST TOWN.—South-West Wales.—Panel 750. Receipts £1,000 p.a. Good house to buy or rent. Man considering purchase could do Locum.
7. WEST OF ENGLAND.—Cathedral Town.—Ear, Nose, and Throat. NUCLEUS £400 p.a. Three Hospital appointments. Accounts audited. Excellent prospects. Prem. £500.
8. HEREFORDSHIRE. — Unopposed Country PRACTICE. Panel 530. Receipts over £1,000. Several appointments. Good house. 1½ years.
9. [illegible] are of [illegible] p.a. 1,700. Plenty of scope. Premium £1,000.
10. DENBIGHSHIRE. — One-third share of PARTNERSHIP. £830 p.a. net. Mostly panel and contract work. Good house, rent £78 p.a. Premium £950.
11. MIDLANDS.—Cathedral Town. — Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a.
12. SOUTH DEVON. — Averaging £2,400, in favourite town. Panel 1,500. Large house for sale or rent. Seaside.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT
The
Medical Insurance Agency
(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054 & 1034. RIVERSIDE 1254. *(Night Calls.)*

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

MIDDLESEX, WEST.—Well-established G.P., situated in rapidly developing residential locality. Receipts £1,200, mostly cash. Panel 900. Fees 2/6 up. Excellent scope to keen and energetic man. Premium £2,000 cash.

NORTH-WEST COAST. — PARTNERSHIP in old-established good-class non-panel and non-dispensing Practice. Suitable house available. Receipts approx. £3,600. Fees 10/6 up. One-third share with view to half and possible succession, 1½ years' purchase, cash. Excellent scope for Physician.

LONDON, N.W.—PARTNERSHIP in rapidly growing G.P., excellent scope for further increase. Receipts nearly £5,000. Panel about 4,000. Excellent corner house available. Fifth share with view to larger share at 2 years' purchase. Suitable for experienced man, aged about 35.

BEDFORDSHIRE.—PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

DEVON (SOUTH).—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Scope for surgery. Hospital. Good schools. Prem. for 1/3 share £2,030. Terms considered to right man.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery; scope. Suitable house available. Premium 1½ years' purchase.

YORKS.—PARTNERSHIP in busy, rapidly increasing Town Practice. Receipts £2,300. Panel 1,500. Suitable house available. A third share, with view to succession, 2 years' purchase.

ESSEX.—Middle-class General PRACTICE, situated in well-populated locality. Receipts over £1,000 p.a. Panel 1,130. Suitable house available. Fees 2/6 up. Excellent scope. Premium £1,500.

LONDON, E.C.1.—Old-established mixed PRACTICE. Receipts (last year) £750. Panel (recently started) 360. No midwifery. Six-roomed house to rent on lease. Good professional quarters. Excellent scope, especially for a young experienced R.C. Practitioner. Premium £1,000.

LONDON, N.W.—Mixed General PRACTICE, situated in well-populated locality. Medium-sized house to rent on lease. Receipts nearly £1,100. Small panel 300. Fees 2/6 up. Premium £1,500.

LONDON, E.—SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £30 p.a. Fees 2/- up. Average receipts £516. Panel 350. Excellent scope for young man. Premium for Practice and lease £1,050 cash, or near offer.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. Premium for 1/2 share 2 years' purchase.

ESSEX.—NUCLEUS non-panel PRACTICE, suitable to either sex, with excellent scope for panel if desired, and further increase. Medium sized double-fronted house to be rented on lease. Receipts approx. £400 p.a. Premium 1½ years' purchase or near offer, cash.

S.W. COAST.—Well-established General PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

EASTERN COUNTIES. — Cathedral City. — PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

SURREY.—PARTNERSHIP in rapidly developing residential locality, with splendid scope. Receipts approximately £1,000 p.a. Panel nearly 300. Fees 2/6 up. Premium for 2/5ths share, 2 years' purchase. Excellent opportunity for young and energetic man.

WE HAVE NUMEROUS SMALL PRACTICES both in London and the Provinces, with incomes from £100 to £500, with and without panel. Full details on application.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. LONDON, N.W.—Share worth £1,000 for sale in large Panel PRACTICE, panel 4,000. Nice house available. Premium 2 years' purchase for Partnership.
2. LONDON, S.E.—Death Vacancy.—Old-established PRACTICE. Receipts estimated at £550 p.a., including panel 366. Several appointments in addition at 1 year's purchase on those transferred. Premium for Practice and panel, £600 or near offer.
3. LONDON, E. — Old-established Cash and Panel PRACTICE. Receipts about £400 p.a., including nearly 500 on panel. Rent £87 p.a., covered by sub-letting. Premium £600.
4. SURREY.—Nice Town.—Half share of well-established PRACTICE. Receipts of whole Practice £1,500 p.a. Good house, rent £85. Premium for share 1½ years' purchase.
5. EASTERN SUBURB.—Old-established Cash and Panel PRACTICE. Receipts average £820 p.a. Nice house to rent £75 p.a. Premium £1,250, part by instalments.
6. N. WALES.—Third Share of well-established PRACTICE for disposal. Total receipts £2,000 p.a., panel 1,750. Pleasant district near large town. Suit young active Practitioner. Premium £1,000.
7. LONDON, S.E. (7 mins. Charing Cross)—Lady Doctor's PRACTICE for sale. Receipts average £550 p.a., panel 150. Nice flat available, rent £60. Premium £600.
8. LONDON, S.W. (near Chelsea)—Old-established Cash and Panel PRACTICE. Receipts £1,000 a year. Nice corner house, rent £150, long lease. Situated in residential part. Premium 2 years' purchase.
9. SCOTLAND.—Large Town.—Well-established PRACTICE. Receipts £2,000 p.a., panel [illegible]. Very good house, rent £78 p.a. Premium 1½ years' purchase, part payable by instalments.

No charge to purchasers or for enquiries.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency,

71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700, and progressing. Good house, garage, and garden.
2. NORTHERN UNIVERSITY CITY.—Old-estab. middle-class PRACTICE. Receipts average £1,603 p.a. Panel 1,500, and increasing. Good fees. Nice house, garden, etc.
3. NORTH OF ENGLAND.—Panel, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appointments £350. Good house to rent. Considerate scope for energetic man.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts averaged £1,179 p.a. and unlimited scope. Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
7. MIDLANDS, COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts av. over £2,700 p.a. Panel recently restarted and rapidly increasing. Good fees, house, etc.
8. BERKS (Country Town).—PARTNERSHIP, 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.

FINANCIAL [illegible] o approved applicants [illegible] ractices or Partnership[illegible] erms. Full

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.

(Temple Bar 3873.) —— (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. IN A RAPIDLY GROWING district within 12 miles of the Marble Arch, a recently estab. mixed PRACTICE of £1,200, including panel of 900, for sale at £2,000, with freehold at £1,400. At present progress should return £2,000. Or Vendor would sell 5/12 SHARE to active Junior for £1,000.
2. CATHEDRAL CITY.—Very old-estab. mixed PRACTICE of over £3,000, more than half derived from panel and appts. Price 1¾ years' purchase. Excellent residence, etc., at valuation. Very suitable for two men as partners.
3. MIDLANDS. — PARTNERSHIP.—Half share of Practice within 5 miles of county town. Income £2,000. Panel £1,000. Price 2 years' purchase.
4. HANTS.—Country PRACTICE (unop.). £750. Panel and appts. Price £1,000. Capital family residence for sale.
5. LONDON, N.—Old-estab. PRACTICE, average over £1,200. Panel 1,100. Ample scope for resident owner. Rent £70, lease. Price (6 months' introd.) £2,100.
6. LONDON SUBURB, W.—PARTNERSHIP in Practice of £2,000. Panel over £700. Nice house, garden, garage, at £100. Two-fifth share at first.
7. LONDON, S.E. — Lucrative PRACTICE of £2,000. Panel 1,200 (growing). Rent £80. Accom. limited. Car. Price 1½ yrs.' pur.
8. VICTORIA PARK, N.E. — LOCK-UP (with resident accom. if desired).—Very old-estab. and offering great scope. Income £625. Rent of lease £55. Price £750, half by instalments.
9. NURSING HOME in attractive Northern Suburb. Maternity and minor operations. Good profits. Price £675 to incl. furn, etc.
10. REQUIRED in St. John's Wood, Hampstead, [illegible] good-class, non- [illegible] Ample capital

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

LANCS TOWN, near MANCHESTER.—Excellent PRACTICE. Cash receipts £2,844 p.a. *Panel 2,660. House, 2 reception, 4 bedrooms.* Garage. *Rent £60* p.a. Premium—1½ years' purchase, *or* near offer for quick sale. Ill-health sole cause of relinquishing. —No. 262

CHESHIRE TOWN, near MANCHESTER.—PRACTICE. Cash receipts last year, £1,035. Panel 650. Good house, 3 bedrooms, Rent £45 p.a. Premium 1½ years' purchase.—No. 263.

LANCS TOWN, near MANCHESTER.—*Old-established* PRACTICE. Cash receipts 1930, £1,406. Panel *nearly* 1,000. Excellent house, 2 reception, 6 bedrooms. Rent £90 p.a. Good Local Hospital. Premium £2,050.—No. 260.

NORTH STAFFS. — INDUSTRIAL TOWN PRACTICE. Cash receipts last year £1,200. Panel nearly 2,000 Good house, 2 reception, 7 bedrooms. Rent *approx.* £55 p.a. on long lease. Premium £2,000 (to include book debts and drugs).—No. 255.

LIVERPOOL.—PRACTICE OF RADIOLOGIST. *Cash* receipts £500 p.a. from part-time work only. Excellent rooms in centre of City. Premium (including electric apparatus, fittings, etc.) £550.—No. 265.

SOUTH YORKSHIRE. — Old-established PRACTICE. Cash receipts 1931, £1,273. Panel 1,430. Excellent house, 3 reception, 4 bedrooms. Garage and good garden Premium 1½ years' purchase.—No. 253.

MANCHESTER SUBURB. — PARTNERSHIP in old-estab. Practice. View succession 3, 5 years. Cash receipts £2,100. Panel 2,155. Semi detached house available, 2 reception, 3 bedrooms. Rent £45 p.a Prem. 1/3 share £950, part by arrangement.—No. 259.

EAST COAST.—PARTNERSHIP *in large Town Practice.* Income over £10 000 p.a. Panel over 5,000. *Good house* available, 2 *reception*, 4 bedrooms. Garden. Premium—1/6 or 1/4 share—1½ years' purchase.—No 258.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. *Good house*, 2 reception, 5 bedrooms Garage. Rent £65 p.a., Premium 1½ years' purchase.—No 251.

LIVERPOOL (near)—Cheshire Coast Town PRACTICE. *Average* cash receipts £1 187 p.a. Panel 785. *Much scope. Good* double-fronted house (freehold). 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100 —No. 248.

MANCHESTER — PLEASANT RESIDENTIAL SUBURB. — Old-established PRACTICE. Average *cash receipts £685* p.a. Panel over 600. Much scope. Excellent house, 2 *reception, 4* bedrooms, garage, and good garden, to be *sold*, or may be *rented for a* period on lease. Premium 1 *year's purchase*. Vendor *retiring*. —No 246.

NEAR LEEDS.—INDUSTRIAL TOWN *PRACTICE*.—Average cash receipts £1,280. Panel 1,350. Local Hospital. *House* to rent, 2 reception, 3 bedrooms. *Prem.* 1½ years' purchase.—No. 194.

LINCOLNSHIRE.—COUNTRY PRACTICE. *Cash* receipts £990. Panel 777. *Excellent* detached house, 2 *reception*, 5 *bedrooms*. Garage and large garden. Rent £50 p.a. Premium 1½ years' purchase.—No. 195.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house— any reasonable offer.—No. 173.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. *Average* cash receipts £995 p.a. Panel 902. *Appointments not* included £100 p.a. *Great scope.* Excellent detached house (freehold), 3 reception, 5 *bedrooms*. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No. 234.

CHESHIRE. — COAST TOWN.—Near PRAC- year, *Excellent* may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

LANCS TOWN.—Near Country.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,305. Excellent house, 3 reception, 5 bedrooms Garage and garden. For sale or to rent for a period. *Prem.* 1½ years' *purchase*.—No. 232.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. *Rent* £70 p.a. Premium £800.—No. 226.

CHESHIRE BORDERS. — PARTNERSHIP in *Country* Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. *Scope.* Preliminary Assistant could live with Vendor. Prem 245.

LANCS TOWN. — Old-established *PRACTICE. Cash* receipts 1930, £1,186. Panel 900. *Much scope. Excellent* house, 2 reception, 4 bedrooms. Garage. *Premium, best offer.* — No. 178.

MANCHESTER.—*RESIDENTIAL DISTRICT*.—Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. *Good* house, *2 reception*, 4 *bedrooms*. Rent £50 p.a. *Premium £1,000* (or near offer).—No. 191.

LANCS TOWN.—*PRACTICE*.—Average cash receipts £751. Panel 430. Much scope. *Good* house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Telephone: Mayfair {1782 / 1783

Tele Address: Triform, Wesdo—London.

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch.

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. Full particulars sent free.

1 S. COAST.—Partnership in non-dispensing Practice in seaside resort. Incoming Partner must hold the F.R.C.S. Hospital. Scope for Surgery. Share worth about £1,000 p.a. (after short preliminary Assistantship) at 2 years' purchase.

2 LONDON, W.—Partnership in non-dispensing Practice of £3,000 p.a. in West End of London. Fees one guinea upwards. No midwifery. One-third to one-half share at 2 years' purchase.

3 S. OF ENGLAND. — Partnership (with preliminary Assistantship) in Practice averaging over £2,000 p.a. in Cathedral City. Panel 900. Applicant should be aged about 28/30, well qualified, and competent to undertake Obstetrical work and minor operations. Scope for consulting work. Share up to one-half to suitable man at 2 years' purchase.

4 LONDON, N.W.—Partnership in Practice about £5,000 p.a. in suburban district. Panel about 4,000. Suitable house available Premium one-fifth share 2 years' purchase.

5 MIDLANDS. — Partnership in Country Town Practice about £3,500 p.a. Panel over 1,500. Small detached house (4 bedrooms) to rent. After short preliminary Assistantship one-fourth share would be sold at 2 years' purchase.

6 LONDON, S.W.—Practice about £500 p.a. in suburban district. Panel 650. No midwifery. Semi-detached corner house (6 bedrooms) for sale. Scope. Premium 1½ years' purchase.

7 W. OF ENGLAND. — Country Practice about £400 p.a. in beautiful district. Small panel. Large and beautiful house, with garden and paddock, for sale. Scope. Premium 1 year's purchase.

8 SURGICAL PRACTICE of about £3,600 p.a. Purchaser must hold the F.R.C.S. as there is a considerable amount of consulting work. House, with 5 bedrooms, for sale or rent. Hospital. Premium 1 year's purchase.

9 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwfy. Six-roomed house to rent. Prem. £700.

10 PARTNERSHIP in Eye, Ear, Nose, and Throat Practice in first-rate town. Good house available to rent or purchase. Partners on Hospital staff. Incoming Partner must be experienced more particularly in Eyes. Share worth £1,650 at 2 years' purchase.

11 YORKSHIRE (W.R.). — Compact easily worked Practice of £1,540 p.a. in manufacturing town. Panel over 1,300. Pleasantly situated double-fronted house (4 bedrooms), with garden, for sale. Premium 1½ years' purchase.

12 MIDLANDS. — Practice averaging £1,900 p.a. in pleasantly situated market town within 100 miles of London (Waterloo). House (modern), with garden and paddocks, [illegible] Hospital and scope for Surgery. Premium 1½

13 GLOUCESTERSHIRE.—Practice of over £1,100 p.a. in pretty country district. Panel over 1,000. House (6 bed and dressing rooms), garage, and garden, for sale or rent. Scope for increase. Premium £1,500.

14 CO. DURHAM.—Partnership in Country Practice easy distance of coast. Income about £1,650 p.a. Panel 1,550 and Club appointments £560 p.a. House (5 bedrooms), in quarter acre of garden, for sale. Premium for one-half share only £1,000.

15 LONDON, W.—Practice of about £600 p.a. in residential district. Panel 600. Detached double-fronted corner residence (4 bedrooms), garage, and nice garden, for sale. Scope. Premium 1½ years' purchase.

16 KENT.—Practice about £700 p.a., capable of considerable increase, in beautiful country district. Panel 750. Suitable house for sale. Premium £1,000.

17 LONDON, E.—Cash Practice of £850 p.a. in populous neighbourhood. Panel over 1,000. House (5 bedrooms) in main road, to rent. Premium 1½ years' purchase.

18 S. COAST.—Small Seaside Place.—Nucleus of PRACTICE, with very good semi-detached house (5 bedrooms). Would suit semi-retired Practitioner who could wait a while as place is developing quickly. Price for freehold house £1,400.

19 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average nearly £950 p.a. (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Prem. to effect quick sale only £800.

20 EAST ANGLIA.—Partnership in Practice over £4,500 p.a. in beautiful country district, easy access of important town. Panel 3,000. Nice detached house (7 bedrooms), garage, etc., garden and grounds of 10 acres, for sale. Sport of most kinds. Considerable scope. Premium two-thirds' share 2 years' purchase. Suitable for two to buy together.

21 S. OF ENGLAND.—Partnership in steadily increasing Practice about £6,000 p.a. in small town. Panel 3,300. Suitable house could be purchased. One-eighth share at 2 years' purchase. Preliminary Assistantship. London Graduate preferred.

22 MIDDLESEX.—Steadily increasing Practice about £800 p.a. in growing district. Panel about 600. Very good house (5 bed and dressing rooms), garage and excellent garden, for sale. Ample scope. Premium £900.

23 LONDON, N.—Practice about £360 p.a. in Residential Suburban district. Panel 180. Detached corner house (4 bedrooms), with small garden, for sale. Scope. Premium £400.

24 N. OF ENGLAND.—Partnership in lucrative Practice in large city. Panel over 5,000. Small house (5 bedrooms and attics) for sale. Partner must be young and energetic. A share of £1,650 or £2,500 would be sold at 1½ years' purchase.

25 LONDON, E.—Practice in thickly populated outlying suburban district. Receipts last year nearly £1,400. Panel over 1,950. Shop-fronted house on main road, to rent. Premium £2,350 cash.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tels. Address: Triform, Wesdo—London. Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

26 S.W. OF ENGLAND. — Partnership in Practice averaging £5,000 p.a in small town. Very good house (7 bedrooms), good garden, etc., for sale. Hunting, shooting, fishing, etc. Premium two-thirds share 2 years' purchase. Hospital.

27 MIDLANDS. — Practice averaging £4,750 p.a. in [illegible] town. Panel 3,570. Two houses for sale. Two Medical Men, both retiring.

[illegible]ES OF LONDON.—Part-[illegible]g Cash Practice about £1,600 p.a. [illegible]t. Panel 1,870. Small house avail. Premium two-fifth share 2 years' purchase.

29 W. MIDLANDS.—Partnership in Practice about £2,800 p.a. in attractive market town. Panel about 800. A one-third to one-half share, after preliminary Assistantship, 2 years' purchase. Applicant must be experienced in general practice.

30 S. MIDLANDS.—Practice of nearly £400 p.a. in delightful country district, easy distance of London. Panel 300. Attractive house (7 bed and dressing rooms) in grounds of 2 acres, with garage, to be sold or let. Very suitable for Resident Patients. Good scope. Premium 1 year's purchase.

31 N. MIDLANDS.—Partnership in Practice over £1,400 p.a. in first-rate city. Panel 1,800. House, with 2 reception rooms and 4 bedrooms, to rent. Premium one-half share £1,100. Preliminary Assistantship entertained.

32 MIDLANDS.—Practice of over £2,100 p.a. in manufacturing town. Panel 820. House (4 bedrooms) to rent, on lease. Premium 1¼ years' purchase.

33 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in own grounds, for sale or rent. Premium one-half share 1¼ years' purchase. Suit one aged between 40/50.

34 NORTHUMBERLAND. — Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,425.

35 LONDON, E.C.—City Practice. Receipts 1930, over £1,300. Consultations mainly £1 1s., some £1 11s. 6d. and £3 3s. Excellent consulting rooms. Premium 1½ years' pur.

36 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £460. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

37 SURREY.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Premium £300.

38 SURREY. — Partnership in Practice in desirable residential town. Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

39 CHESHIRE. — Partnership (after preliminary Assistantship) in Practice over £2,500 p.a. in manufacturing town. Panel 2,100. Plenty of sport. One-third share to suitable man at 2 years' purchase.

40 HANTS. — Small easily worked Practice about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

41 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

42 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope Premium £1,200.

43 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

44 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a. in attractive country town on coast. Panel about 500. Suitable house to rent. Hospital. Share to suitable man after preliminary Assistantship.

45 EAST ANGLIA.—Partnership (after preliminary Assistantship) in good-class Practice in seaside resort. Suitable house to rent. Share of £800—£900 at 2 years' purchase. Applicant should be aged 28—35, and preferably a Cambridge, Oxford, or London man. Cottage Hospital and scope for Surgery, if desired.

46 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 1¾ years' purchase.

47 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

48 CHESHIRE.—Practice of nearly £500 p.a. In residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

49 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

50 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

51 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

52 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

53 LONDON, W. — Middle-class Practice of £740 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,000.

54 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

55 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

56 MIDLANDS. — Partnership in Practice about £2,100 p.a. in hunting centre. Panel about 1,000. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent. Premium one-third share £1,000.

57 LONDON, S.W.—Good middle-class Practice of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000.

58 BERKS. — Small non-dispensing Practice averaging £275 p.a. in favourite town. Panel 300. Semi-detached house (7 bedrooms), with garden and garage, for sale. Ample scope. Premium £200.

59 S. OF ENGLAND. — Partnership in good middle-class non-panel Town Practice over £5,300 p.a. Suitable house to purchase. Premium one-fourth share £2,000. Preliminary Assistantship.

60 BORDERS OF ENGLAND AND WALES. —PARTNERSHIP in non-dispensing Practice of £1,800 p.a. in beautifully situated Country Town. Panel about 650. House (5 bedrooms) to rent. Good schools. Excellent sport. First-class Hospital. One-third to one-half share at 1½ years' purchase. Welsh not necessary.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. LONDON, WEST.—Old-established good middle-class PRACTICE, averaging over £2,500 p.a. (last year £2,600), including panel of 890. Visits 5/- to 10/6 and occasionally 21/-. Midwifery discouraged; 2 or 3 cases yearly at 15 to 20 gns. House contains professional accommodation, 2 reception, 6 bedrooms, dressing rooms, etc. Leasehold (23 years to run at £10 p.a. ground rent). Price £1,650. Premium £4,475
2. NORTH DEVON AND CORNWALL BORDERS.—Very old-established unopposed Country PRACTICE, in beautiful district near the coast. Cash receipts average just over £1,100 p.a., including appt. and panel of 350. Suitable house available. Premium £1,600, to include drugs, etc. Hunting, golf, fishing, tennis, etc.
3. MIDLANDS.—COUNTY TOWN.—PARTNERSHIP.—A one-fourth share is offered in an exceptionally sound good mixed-class Practice, averaging over £5,000 p.a., including panel of 3,400. Lowest fee 4/-. Very little midwifery. If single, purchaser can live in comfortable rooms; otherwise choice of houses for sale, or on rental. Premium 2 years' purchase.
4. PARTNERSHIP.—YORKSHIRE.—LARGE CITY.—A one-third share, with succession to the whole Practice in about one year's time, is offered in a rapidly increasing PRACTICE, producing for the last 12 months approximately £2,300, including panel of 1,500. One appt. worth £150 A suitable house will be vacant shortly. Premium £1,200. Large scope for further development.
5. LONDON, N.W. (Kentish Town area).—In a well-populated district a mainly working-class PRACTICE, producing for twelve months ending March last £728, including panel of 260. House contains 10 rooms, with small garden; garage. Rent £120 p.a. on lease. Premium £900.
6. LONDON (WEST END).—Old-established non-dispensing and non-panel PRACTICE, averaging over £4,700 p.a. Visits (very few) and consultations from one guinea upwards. No midwifery. Suitable accommodation available on rental. Premium £6,000. Good introduction given. Personal application desired.
7. NORTHERN CATHEDRAL CITY. — Old-established good mixed-class PRACTICE, averaging over £1,100 p.a., including panel of 1,070. Fees from 3/6. Not much midwifery from 2 to 10 gns. Very suitable small house, with 1 sitting, 3 bedrooms, etc. Garden. Garage. Rent on lease £50 p.a. Good sport and first-class schools. Hospital, and prospect of appointment on staff. Premium for prompt sale £1,550 cash.
8. LANCS.—LARGE TOWN.—PARTNERSHIP.—A one-third or two-fifths share is for disposal in well-established and increasing middle and working class Practice. Gross cash receipts for immediate past 12 months £5,150. Panel of over 3,000. Appts. worth about £80 p.a. Fees from 2/6. Choice of two houses, both at moderate rentals. Premium only 1½ years' purchase
9. WITHIN 20 MILES OF LONDON (WEST).—Rapidly developing district.—PARTNERSHIP.—A half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100 and appts worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
10. SURREY.—COUNTRY PRACTICE.—Very old-established, and situated in delightful district. Gross cash receipts for past 12 months £2,000, including panel of about 700. Fees from 2/6 to 21/-. Midwifery 3 to 20 gns Exceptionally nice house, with 2 reception, 6 bedrooms, and professional rooms. Nearly 2 acres of garden. Price for Practice and house £5,000.
11. CHESHIRE.—NEAR COAST.—Old-established good mixed-class PRACTICE, averaging for the past 3 years nearly £1,600, including panel of 1,280. Very good house in 3 acres of ground, with 2 reception, 4 bedrooms, etc Rent on lease £85 p.a. Premium £2,500.
12. PARTNERSHIP.—HOME COUNTY.—Within 40 miles.—In a small country town, in very pleasant district, the third share, with increase later, of an old-established mixed-class Practice offering good scope. Cash receipts average over £3,000 p.a., including panel nearly 1,[illegible] and appts. Good house, with 3/4 of an acre of garden, tenn[illegible] etc. Rent on lease £65 p.a Premium 2 years' purchase. Ingoing partner should be about 30, English or Scotch, and pref. married.
13. WITHIN 30 MILES OF [illegible] district (well populated and [illegible] producing last year £406, incl[illegible] derable development' Very g[illegible] nts) in about 2 acres of grou[illegible] ranged. Premium £450. Ex[illegible]
14. FAVOURITE COAST [illegible] better-class PRACTICE, pro[illegible] under £90 Fees 3/6 to 1[illegible] with 2 reception, 6 [illegible] house, Premium £3,000 [illegible] or sale.
15. SOUTH OF ENGLAND.—Pleasant Town near sea coast.—Very old-established Medical PRACTICE (partly Surgical), averaging over £2,400 p.a. (last year £2[illegible] including panel of 500. Centrally situated house. [illegible] and house £5,000. Successor should also have [illegible] Eye, Ear, Nose, and Throat work.
16. HOME COUNTIES.—Within 40 minutes' run of London.—Old-established [illegible] passing PRACTICE, situated in small town with pleasant surroundings. Cash receipts average £1,725 p.a., including appt. £70 and panel 1,000. House with good accommodation and small garden. Price for freehold £2,500. Premium 1½ years' purchase. Educational facilities.
17. PARTNERSHIP.—SOUTH-WEST LONDON.—A one-third share is for disposal in very well-established chiefly middle-class Practice, producing last year about £5,500, including panel (rapidly increasing) of 1,500. Fees from 2/6. Suitable house can be rented on lease. Premium 2 years' purchase.
18. PARTNERSHIP [illegible] Town within 80 miles of London.—A [illegible] is for disposal owing to the retireme[illegible] rtners in an exceptionally sound mixed [illegible] cash receipts £3,300 p.a., including p[illegible] 35/-, medicine extra. Premium only 1½ years' purchase for quick sale, owing ill health.
19. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.
20. NORTH WALES.—PARTNERSHIP.—A one-third share is offered in a good mixed-class Practice producing over £1,700 p.a., including panel of 470 and appts. of about £100 p.a. Fees 3/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. Premium 2 years' purchase.
21. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.
22. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium only 1 year's purchase. Ill-health reason of sale.
23. LONDON, SOUTH-EAST. — Woman Doctor's PRACTICE, producing £560 immediate past 12 months. Panel of 152. Fees 2/6 to 21/-. Suitable flat can be rented at £60 p.a. Premium £650, or near offer. Very good scope for increase.
24. YORKS. — HOSPITAL TOWN. — Old-established sound middle and working-class PRACTICE, producing about £1,300 p.a., including panel of 1,300, and appts. worth £50. Fees from 3/6. Small house with one reception, 3 bedrooms, boxroom, etc. Premium 1 to 1½ yrs.' purchase, [illegible] ill-health reason for sale.
25. NORTH [illegible] PRACTICE, producing last [illegible] panel of 1,700. Fees 3/6 to [illegible] modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase
26. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
27. [illegible] BORDER.—A one-third to one-half share in [illegible] non-dispensing PRACTICE, producing [illegible] over 500. Good house can be rented [illegible] nds. Premium 1½ years' purchase, part [illegible] necessary.
28. [illegible] within reach of Liverpool.—Well-estab[illegible] over £1,200 p.a., including panel of [illegible] 2 to 5 gns. Double-fronted house, with [illegible] c. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.
29. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.
30. MIDLANDS.—COUNTY TOWN.—Old-established better-class PRACTICE, averaging £793 p.a. and offering good scope. Panel 500. Fees 5/- upwards. Well situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate Surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.
31. KENT.—Country PRACTICE near Coast.—Old-established mixed-class [illegible] £1,100 p.a. Panel of nearly 400. Fees house, with 3 reception, 6 bedrooms, etc. 650, part on mortgage. Good sport and [illegible] mium 1½ years' purchase.
32. NEAR HUDDERSFIELD.—PARTNERSHIP.—A half share in an old-established mixed-class Practice. Income for past 12 months over £4,[illegible] ,500. Fees 3/6 to 7/6. Very good hous[illegible] ·ooms, etc. 1½ acres of garden. Price for [illegible] 1¼ years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

THE
MEDICAL INSURANCE AGENCY
has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the **Insurance of Cars.**

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, Sickness (Permanent Contracts), &c., Insurances under comprehensive policies, giving full protection.

What the Agency has done for the Profession:

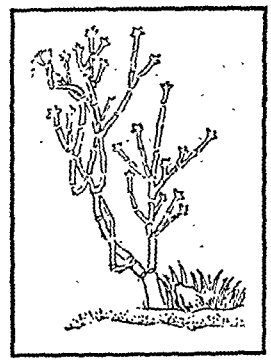
Saved by way of Rebates on Premiums - - over £42,500
Contributed to the Medical Charities - - - over £25,500

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1, &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

Ephedrine in Asthma and Hay Fever

At this season Ephedrine becomes of particular interest for the treatment of hay fever. Whilst 'Tabloid' Ephedrine Hydrochloride, taken orally, is specially indicated, other products are provided for injection and local application



An ancient Chinese woodcut of Ma Huang. Ephedrine (Ma Huang) is the source of the lævo-rotatory alkaloid used in the Burroughs Wellcome & Co. Ephedrine Hydrochloride

For the patient to carry

TRADE MARK 'TABLOID' BRAND
Ephedrine Hydrochloride

Gr. ¼ *(0·016 gm.) Bottles of* 25 *and* 100, *9d. and* 2/3 *each*

Gr. ½ *(0·032 gm.) Bottles of* 25 *and* 100, 1/3 *and* 3/9. *each Tubes of* 6, 6*d. each*

Ensures regular and accurate doses

For local use at home

TRADE MARK 'EPINALIN' BRAND
SOLUTION OF ADRENALIN AND EPHEDRINE

Each c.c. contains: Adrenalin, 0·0001 gramme (=1 in 10,000); and Ephedrine Sulphate, 0·02 gramme (=1 in 50)

Combines the relatively transient action of adrenalin with the sustained action of ephedrine

Bottles of 10 *c.c. and* 25 *c.c.,* 1/4 *and* 2/9 *each*

TRADE MARK 'VAPOROLE' BRAND
Ephedrine Spray Compound

Contains Ephedrine 1 per cent., Menthol, Camphor and Oil of Thyme, of each 2 per cent., in a base of 'Paroleine' Liquid Paraffin

Bottles of 1 *fl. oz.,* 2/3 *each*

Prices in London to the Medical Profession

For other Adrenalin and Ephedrine products, see pages 9-12 and 71-74, Wellcome's Medical Diary

BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W. 1

Associated Houses: NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

H 2858

COPYRIGHT

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3673 SATURDAY, MAY 30, 1931 Price 1/3

The "Allenburys"

"CHARKAOLIN"

GRANULES

"Charkaolin" is a highly efficient agent for the treatment of intestinal infections characterized by abnormal fermentation and the formation of toxins. It combines the absorbent properties of highly activated vegetable charcoal with the well-known toxin adsorbing qualities of "Osmo" Kaolin.

It is in the form of fine, clean granules which disintegrate rapidly in water and diffuse their ingredients evenly throughout the liquid. "Charkaolin" is tasteless, forms a fine suspension in water and is, therefore, quite easy to take.

Descriptive literature and a clinical trial sample will be sent on application.

ALLEN & HANBURYS LTD.

Telephone— Bishopsgate 3201 (10 Lines) LONDON, E.2. Telegrams— "Greenburys Edo London"

 [COPYRIGHT]

BRITISH BRITISH

Elastoplast

(Patent 253,527)

THE ORIGINAL & FINEST ELASTIC PLASTER

The cure of Varicose Ulcer by means of Elastoplast Bandages is now practised in nearly every Hospital in the British Isles, and 100% cure of cases is achieved.

In certain cases of Varicose Veins where on account of systemic disease, or the patient's timidity, a curative course of injection cannot be given, then the veins can be kept obliterated by Elastoplast.

Elastoplast is also extensively used for general surgical and orthopaedic work.

As a support for varicose veins, sprains, strains, dislocations, after-treatment of fractures, weak joints, flat or dropped foot, etc., Elastoplast is unequalled.

Manufactured from the finest yarns, Elastoplast is the only Elastic Plaster having the correct degree of elasticity, thus ensuring perfect compression and support.

Woman patient aged 55. After 12 weeks' treatment. After a further 2 weeks.

The only treatment consisted of Elastoplast Bandages, changed weekly at first, and later fortnightly.

Other Elastoplast Specialities include:—Finger Dressings, Wound Squares, Wound Strips, Boil Dressings, Eye Dressings, Vaccination Dressings, etc., all on the pliable Elastoplast base, with medicated pads. Elastoplast will reduce your Dressings Accounts, save you valuable time, increase the efficiency of the injured person, and, moreover, ensure cleanliness.
Also—VISCOPASTE BANDAGES (improved Unna's Paste Type), Adhesive Gelatine Bandages.

Literature and cuttings will be sent on application, or a trial set containing full Bandages and a range of Dressings upon receipt of P.O. value 2/6 (Overseas postage extra) by the manufacturers:

T. J. SMITH & NEPHEW, Ltd.

HULL. LONDON. GLASGOW. MANCHESTER.

Enquiries to—Dept. B, 42, Tavistock Square, London, W.C.1.

ELASTOPLAST MAY BE OBTAINED FROM YOUR USUAL SURGICAL SUPPLY HOUSE.

British Medical Journal

CONTENTS

MAY 30, 1931

ORIGINAL ARTICLES

Hume Lectures on Haemolytic Icterus. By LORD DAWSON OF PENN, M.D., F.R.C.P. Lecture I. (Illustrated)... 921

Pseudo-Argyll Robertson Pupils with Absent Tendon Reflexes. By W. J. ADIE, M.D., F.R.C.P. 928

Acute Massive Collapse of the Lung Following Lipiodol Injection. By A. J. SCOTT PINCHIN, M.D., F.R.C.P., and H. V. MORLOCK, M.D., M.R.C.P.... 930

Homologous Antipneumococcal Serums in the Treatment of Lobar Pneumonia. By RICHARD R. ARMSTRONG, M.D., F.R.C.P., and R. SLEIGH JOHNSON, M.D., M.R.C.P. (With Charts.) 931

MEMORANDA

Frontal Sinusitis with Intracranial Suppuration and Invasion of Blood by Different Organisms. By JOHN A. BURGESS, M.B., Ch.B. 936

Subcutaneous Prolapse of Umbilical Cord During Early Months of Pregnancy. By M. HAWKE, L.R.C.P. 936

REPORTS OF SOCIETIES

MEDICAL SOCIETY OF INDIVIDUAL PSYCHOLOGY: Obsessional Neurosis 935

ROYAL ACADEMY OF MEDICINE IN IRELAND: Intracranial Complications of Ear Disease 937

REVIEWS

Preventive Medicine 938

Streptococci and Scarlet Fever 938

The Viscerographic Method 939

Protozoology 939

Notices of Books 939

UNIVERSITIES AND COLLEGES

University of Cambridge 959

University of London 959

University of Durham 959

LEADING ARTICLES

ETIOLOGY OF DISSEMINATED SCLEROSIS 943

BOVINE TUBERCULOSIS IN MAN 943

THE WEEK

[illegible] 944

[illegible] 945

[illegible] 945

[illegible] 946

Travel 947

Dr. Barnardo 947

GENERAL ARTICLES AND NEWS

Annual Meeting of the Association, Eastbourne, 1931: The Surroundings of Eastbourne. (Illustrated) 948

Ischaemia of Muscle as a Cause of Anginal Pain. St. Cyres Lecture by Sir THOMAS LEWIS, M.D., F.R.S. 941

Nova et Vetera: Leonardo da Vinci as Anatomist 950

THE UNITED STATES PUBLIC HEALTH SERVICE 951

PREPARATIONS AND APPLIANCES. (Illustrated) 940

[illegible] 959

[illegible] 960

MEDICAL NEWS 960

LOCAL NEWS

ENGLAND AND WALES—
Detection of Small-pox 952
Occupational Diseases in Coal Miners 953
Leicester Royal Infirmary 953

SCOTLAND—
Post-Graduate Courses in Glasgow ... 953
Health of Dunfermline 953
Lord High Commissioner and Hospitals 953

IRELAND—
Public Health in County Meath 954
Clean Milk Society 954
Mental Hospitals in the Irish Free State 954

CORRESPONDENCE

Infarction of Heart with Pericardial Effusion in a Phthisical Subject By Andrew Morland, M.D. 954

Pituitrin and Obstetric Shock. By Peter McEwan, F.R.C.S.Ed. 955

Spinal Anaesthesia. By A. Wilfrid Adams, M.S., F.R.C.S. 955

Kondoléon's Operation. By A. P. Bertwistle, F.R.C.S.Ed... 955

Examination of Motorists Charged with Drunkenness. By W. Brooks Keith, M.D. 956

MEDICO-LEGAL

Allegation of Negligence Against Surgeon Withdrawn 955

OBITUARY

W. D. Halliburton, M.D., F.R.S. (With Portrait) 957

Seymour Taylor, M.D., F.R.C.P. 953

W. D. Paterson, M.B., B.Sc. 959

John Owen Jones, L.R.C.P. & S. 959

LETTERS AND ANSWERS

Income Tax 962

[illegible] 962

[illegible] esia 962

[illegible] 962

[illegible] 962

VACANCIES 962

(See also page 215 of SUPPLEMENT)

The SUPPLEMENT contains:

"The Twenty-four-inch Gauge." By J. J. HARPER-NELSON, M.D.

CURRENT NOTES:
B.M.A. Charities Trust Fund.

NOTICES OF MOTION FOR THE ANNUAL REPRESENTATIVE MEETING.

CORRESPONDENCE: Vaccination Fees.

THE DENTAL BOARD.

Association Notices: National Insurance; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. *President:* Sir HERBERT WATERHOUSE, F.R.C.S. Entrance Fee, 10/-

No entrance fee to those joining within 12 months of registration. Assets exceed £55,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

British Medical Association.
Archives of Disease in Childhood 16

Churchill, J. & A.
Barton-Wright, E.—Plant Physiol 3
Beaumont & Dodds—Medicine 3
Bourne, A. W.—Obstetrics etc 3
Brain & Strauss—Neurology 3
Burrell, L. S. T.—Tuberculosis 3
Cameron, A. T.—Biochemistry 3
Cameron & White—Practical Biochemistry 3
Connor, F. P.—Surgery in Tropics 3
Culpin, M.—The Psychoneuroses 3
Devine, J. H.—Psychiatry 3
Dible, J. H.—Bacteriology 3
Duke-Elder, W. S.—Ophthalmology 3
Practice of Refraction 3
East & Bain—Cardiology 3
Evans, C. L.—Physiology 3
Findlay, G. M.—Chemotherapy 3
Fowweather, F. S.—Clinical Chemical Pathology 3
Harrison, G. A.—Clinical Medicine 3
Haslam, J. F. C.—Preventive Med 3
Imms, A. D.—Entomology 3
Jellett, H.—Maternal Mortality 3
Kerley, P.—Radiology 3
Kirk, J. B.—Health in the Tropics 3
Mackie, G.—Surgical Anatomy 3
Mitchell, C. A.—Analytical Chem 3
Ogilvie, W. H.—Surgery 3
Pearson & Wyllie—Diseases of Children 3
Piney, A.—Diseases of the Blood 3
Haematology 3
Piney, Graves, McBride, Hewer & Barton-Wright—Microscopy 3
Piney & Wyard—Clinical Atlas 3
Poynton & Schlesinger—Rheumatism 3
Pride, J.—Biochemistry 3
Rogers, L.—Tropical Medicine 3
Rogers & Megaw—Tropical Med 3
Romanis & Mitchiner—Surgical Emergencies 3
Smith & Glaister—Forensic Med 3
Tottenham, R. E.—Midwifery 3
Whitby, L. E. H.—Bacteriology 3
Woollard, H.—Anatomy 3

Lewis, H. K. & Co. Ltd.
Bonthwaite, A. H.—Rheumatoid Arthritus 4
Elliot, R. H.—Couching for Cataract 4
Glaucoma 4

Oxford Medical Publications
Elliot, R. H.—A Treatise on Glaucoma 4
The Care of the Eyes 4
Tropical Ophthalmology 4

Hopewell-Ash, E. L.—Medical Hypnosis & Suggestion 4

ASSURANCE COMPANIES—
Century Insurance Company 50
Medical Insurance Agency 8

BRASS NAME PLATES, &c.—
Cooke's Name Plates 4
Herd, S. J. & A.—Name Plates 4
Lewis & Co. Ltd.—Name Plates 4
Osborne, F. & Co.—Name Plates 4

DEBT COLLECTION—
Brit. Med. Protection Society 10

SURGICAL APPLIANCES—
Curtis & Son—Supports 28
Dent's 'Arlente' Stethoscope 4
Hilliard's New Absorbent Dress. 4
Medical Supply Association, Ltd.—
Paste-Bandages 31
'Sanoid' Cement 31
'Vardan' Elastic Plaster Band. 31
Medical Surgical Synonyms, Ltd.— 43
Ewoff Inhaling Apparatus
Mitchell & Lawley—Instruments Osteology, etc. 4
Salmon, Otir Surgical Appliances 32
Salt's Surgical Service 12
Short & Mason—Tycos Sphygmomanometer 32
Smith & Nephew Ltd.—Elastic Plaster Bandage Cover ii

HOSPITAL, &c., FURNITURE—
Bailey & Son—Consult. Room Furn. 29

CHEMISTS, &c.—
Allen & Hanburys Ltd.—'Azoule' Solution A.B.A. 29
'Charkaolin' Granules Cover i
American Apothecaries Co.— 30
'Salvitae' 27
Armour & Co.—Glanoid Products 23
Bencard, Ltd.—Leo Gastrosic 17,20
Boots Products 16
British Drug Houses Ltd.—
Pituitary Extract B.D.H. 25
Burroughs Wellcome & Co.—
Preparations Cover iv
Carnrick, G. W., Co.— 26
Hormotone 21
Cranbux Ltd.—Odol 14
Crookes Laboratories—
Chynoge of Address
Dimol Laboratories—Dimol 24
Evans Sons Lescher & Webb Ltd.— 11
Hepatex 19
Fox's Glacier Mints 15
Gibbs Dentifrice
Hoffmann-La Roche Chem. Works—
'Allonal' 4
Hudson's Eumenthol Chem. Co.—
'Eumenthol Jujubes' 30
Kaylene Ltd.—Kaylene-ol 11
Kerol Ltd.—Capsules 30
Martindale, W.—'Sterules' 17
May & Baker, Ltd.—Vaccine 18
Mond Staffordshire Rehming Co.— 14
Monsol 30
Oppenheimer Products
Peat Products Ltd.—Sphagnol. 22
Saccharin Corporation Ltd.— 32
Norocain 15
Schering Ltd.—Veramon 18
Thomson, R.—Cod-Liver Oil Cream 22
Wander, Ltd.—Cristolax
Wylcys Ltd.—
Elixir Bromo-Valerian Co

FOOD PREPARATIONS—
Brand's Essences 27
Cow & Gate Ltd.—Milk Food. Cover iii
Horlick's Malted Milk 19
Valentine's Meat-Juice 56

MOTOR CARS, TYRES, &c.—
Lodge Sparking Plugs 11
Offord & Sons Ltd.—Motor Cars 10
Second-hand Motors for Sale 48

PRINTING & STATIONERY—
Anderson & Son—Account Forms 4
Carlyle, G.—Duplicate Books 4
Taylor's Typewriters

TAILORING & UNDERCLOTHING—
Greves, Ltd.—Tailors, etc. 10
Hall H.—Medical Service Dress 48
The Irish Linen Mesh Co. Ltd.—
Empire Linen Mesh Underwear 32

TOBACCO & CIGARETTES—
'du Maurier' Virginia Cigarettes 7
Player's No 3 11
Three Nuns Tobacco 9

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 46

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub. Hlth. 4
Willows, Francis, Butler & Thompson, Ltd.—Pollant'n 32

X-RAY & ELECTRO-MEDICAL APPARATUS—
Edison Swan Electric Co Ltd.—
Ediswan Stationary Bitteries 28
Kodak—X-Ray Reduction Camera 15
Medical Supply Association, Ltd.—
Electrical Apparatus 29
Thermal Syndicate Ltd—
Vitreosil Sunshine Lamp 31

BATHS, SPAS, &c.—
Bridge of Allan Spa 37
British Spas Federation 38
Evian-Les-Bains 37
La Lechere-Les-Bains, France 39
Mont-Dore 37
Swiss Spas 39
Trefriw Chalybeate Wells 37
Wildbad 37

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 38
Peebles Hydro 38
Ruthin Castle, North Wales 35
Smedley's Hydro, Matlock 39

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 45

HOSPITAL, &c., VACANCIES—
Accrington, Victoria Hospital 43
Berkshire Royal Hospital 49
Birmingham Ear & Throat Hosp 49
Birmingham Public Health Dept. 43
Birmingham Royal Infirmary 43
Blackburn Royal Infirmary 48
Blackpool, Victoria Hospital 42
Brighton, Royal Sussex Co. Hosp 42
Bury County Borough 43
Cancer Hospital (Free), S.W.3 42
Cardiff City 42
Carlisle City 45
Cen. Lond. Throat & Nose Hosp. 44
Chesterfield & N. Derbys. Roy. Hos. 45
City of Lond. Hos. for Dis. of Heart 48
Connaught Hospital, E.17 49
Coventry & Warwickshire Hospital 43
Derbys. Hospital for Sick Children 43
Derbyshire Royal Infirmary 43
Doncaster Royal Infirmary 44
Durham County Council 42
East Ham Memorial Hospital 49
E. London Hosp. for Children, E.1 49
Essex County 42
Exeter, Royal Devon Hospital 49
Gloucershire Royal Infirmary 43
Greenock Royal Infirmary 49
Hospital for Sick Children, W.C.1 43
Ilford, King George Hospital 48
Kent and Canterbury Hospital 48
Kidderminster General Hospital 45
King's Lynn, W. Norfolk Gen. Hos. 42
Lancaster Royal Infirmary 48
Leeds Hospital for Women 48
Leicester Royal Infirmary 49
Liverpool Hahnemann Hospital 42
Liverpool County Council 45
London County Council 41
London Female Lock Hospital 43
London Temperance Hospital 49
Lowestoft & N. Suffolk Hospital 49
Macclesfield, Cheshire Mental Hos. 43
Manchester Babies' Hospital 42
Manchester City 44
Manchester Ear Hospital 41
Manchester Radium Institute 43
Manchester Royal Children's Hosp. 43
Manchester Royal Infirmary 43
Manchester Royal Infirmary 48
Middlesbrough, N. Riding Infirm. 43
Miller General Hospital, S.E.10 49
Ministry of Pensions, W.C.1 43
Nat. Hosp. for Nervous Dis., W.C.1 49
Newport, Royal Gwent Hospital 49
Nottingham General Hospital 43
Oldham Royal Infirmary 43
Paisley, Royal Alexandra Infirmary 43
Plymouth Central Hospital 44
Poole, Cornella & E. Dorset Hosp. 49
Princess Louise Kensington Hosp. 50
Queen Mary's Hosp'tal, E.15 50
Rotherham Hospital, W.C.1 48
Royal Free Hospital 44
Salford Royal Hospital 45
Seamen's Hospital Society 45
Sheffield Children's Hospital 49
Sheffield, Jessop Hosp. for Women 49
Southampton County Borough 48
Southampton, Royal S. Hants Hosp 49
Southampton Metropolitan Borough 44
Southwark Metropolitan Borough 48
Stafford-hire, Longton Hospital 43
Stourbridge, Corbett Hospital 43
Sunderland Royal Infirmary 44
Walsall County Borough 49
Walsall General Hospital 42
Walsall & W. Bromwich Joint Com. 42
West Bromwich County Borough 42
West London Hospital, W.6 45
Westminster Hospital Annexe 43
Westminster, Ethel Hedley H. sp. 43
Windermere, King Edward VII Hosp 43
Windsor, King Edward VII Hospital 50
Wolverhampton Royal Hospital 49
York County Hospital 49
York, The Retreat 46

SANATORIA—
Cotswold Sanatorium 36
East Anglian Sanatorium 38
Grampian Sanatorium 38
Montana Haus, Switzerland 36
Mundesley Sanatorium, Hants. 36
Nordrach-upon-Mendip Sanatorium 33
Pendyffryn Hall Sanatorium 36
Tor-na-Dee Sanatorium 39
Victoria Sanatorium, Davos 39

SCHOOLS, &c.—
Marlborough College, Macclesfield 41
Paton—Schools for Boys & Girls 41
Taunton School, Taunton 41

HOMES & ASYLUMS—
Barnwood House, Gloucester 34
Bishopstone House, Bedford 33
Boreatton Park, Salop 39
Camberwell House, S.E.5 35
Cheadle Royal, Cheshire 34
Chiswick House, Pinner 32
City of London Mental Hospital 31
Clarence Lodge, Clapham Park 39
Coppice, Nottingham 34
Court Hall, Kenton, Exeter 34
David Lewis Colony, Warford 39
Dunley Hill Nursing Home 35
Fenstanton, Streatham Hill 32
Gilgal Hospital, Perth 32
Grange, near Rotherham 33
Grove House, All Stretton 34
Haydock Lodge, Lancashire 34
Highfield Hall, St. Albans 34
Lawn, Lincoln 37
Littleton Hall, Brentwood, Essex 34
Maudsley Hospital, S.E.5 38
Moat House, Tamworth, Staffs 38
Normansfield, Teddington 38
Northumberland House, N.4 33
Northwoods, Bristol 35
Old Manor, Salisbury 35
Oxhey Grove, Middlesex 35
Peckham House, S.E.15 39
Resident Patients 34
St. Andrew's Hosp., Northampton 38
Southbourne House, Bournemouth 38
Springfield House, near Bedford 38
Stonycroft Nursing Home 32
Stretton House, Shropshire 34
Tekeford Abbey, Newport Pagnell 32
West Haven, Bournemouth 35
Woodside Nerve Hospital, N.10 38
Wye House, Buxton 38

INEBRIETY—
Bay Mount, Paignton 33
Caldecote Hall, Nuneaton 33,35
Dalrymple House, Rickmansworth 35
Old Hill House, Chislehurst 35
Rendlesham Hall, Woodbridge 35

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital 41
College of Preceptors 41
Edinburgh University 40
Liverpool School of Trop. Medicine 41
Liverpool Post-Grad. College 43
N.E. London Post-Grad. College 41
N.E. London Maternity Hospital 43
Q. Charlotte's Maternity Hosp 43
Royal Westminster Ophthal. Hosp 43
Salvation Army, Mothers' Hospital 43
West London Hospital 40

TUTORS & LECTURERS—
Elocution—Mr. Chas. Seymour 40
Exams.—Med. Corresp. College 41
F.R.C.S. Edin. Classes—H. G. Orrin 40
F.R.C.S. Ed. Classes—C. Whittaker 41
Manchester Tutorial College 43
Royal College of Physicians, Lond. 41
St. Mary's Hospital 39
Society of Apothecaries 43
Stammering—Miss E. Behnke 41
University Exam. Postal Institution 41

TRANSFER AGENTS—
Borril Medical Agency, Ltd. 55
British Medical Bureau 61,62,63
Lee & Martin, Ltd. 64
Manchester Medical & Schol. Assoc. 54
Manchester Practitioners' Union Agency 60
Med. Practitioners' Union 51
Needles, H. 45,51
Peacock & Hadley, Ltd. 46,50
The Medical Agency 51
Turner, P., Ltd.
Western Medical Agency, Bristol

ASSISTANTS, PRACTICES, &c.—
Assistances Wanted and Vacant 46
Dispensers, Medical Posts, &c. 45,47
Locums Wanted and Vacant 46
Partnerships Wanted and Vacant 47
Practices Wanted and Vacant 47

NURSING INSTITUTES—
Cavendish Nurses 50
New Mental Nurses Co-operation 50
Nurses' Association 50

MISCELLANEOUS—
B.M.A. Announcements 5
Consulting Rooms, &c., to Let 47,48
Consulting Room, &c.—Refrigeration 6
Frigidaire Ltd.—Refrigeration 43
Income Tax Consultant—Hardy 1
Medical Defence Union 43
Miscellaneous Sales &c. 43
Union-Castle Line—South Africa 13

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

J. & A. CHURCHILL

THE EMPIRE SERIES

PUBLIC HEALTH PRACTICE IN THE TROPICS
[illegible] LOUR KIRK, M.B., D.P.H., D.T.M. & H., [illegible] Health Department, Mauritius. 80 Illus. 15s. Post. 9d.

TROPICAL MEDICINE
[illegible] LEONARD ROGERS, C.I.E., M.D., F.R.C.P., [illegible] F.R.S., and Maj.-Gen. JOHN W. D. [illegible] I.M.S., C.I.E., V.H.S., M.B. 1 Coloured [illegible] 77 Text-figures. 14s. Post. 9d.

SURGERY IN THE TROPICS
[illegible] FRANK P. CONNOR, D.S.O., F.R.C.S., [illegible] 99 Illustrations. 12s. 6d. Post. 6d.

CHEMICAL METHODS IN CLINICAL MEDICINE
[illegible] HARRISON, M.D., M.R.C.S., Reader and [illegible] in Chemical Pathology, St. Bartholo- Hospital. 65 Illustrations. 18s. Post. 9d.

CLINICAL ATLAS OF BLOOD DISEASES
[illegible] PINEY, M.D., M.R.C.P., and STANLEY [illegible] M.D., M.R.C.P. 36 Plates. 32 Coloured. 12s. 6d. Post 6d.

SURGICAL EMERGENCIES IN PRACTICE
[illegible] H. C. ROMANIS and PHILIP H. MITCH- [illegible] Surgeons, St. Thomas's Hospital. 158 [illegible] 18s. Post 9d.

SURGICAL ANATOMY
[illegible] KANT MASSIE, M.B., M.S.(Lond.), F.R.C.S. [illegible] 121 Illustrations. 15s. Post. 6d.

A TEXTBOOK OF BIOCHEMISTRY
A. T. CAMERON, D.Sc., F.I.C., F.R.S.C. Second Edition. 2 Plates, 12 Text-figures. 15s. Post. 6d.

PRACTICAL BIOCHEMISTRY
A. T. CAMERON, D.Sc., F.I.C., F.R.S.C., and FRANK D. WHITE, A.R.T.C., Ph.D., F.I.C. 4 Plates. 23 Text-figures. 8s. 6d. Post. 6d.

MEDICAL BACTERIOLOGY
L. E. H. WHITBY, C.V.O., M.D., D.P.H. 75 Illustrations. 10s. 6d. Post. 6d.

CLINICAL CHEMICAL PATHOLOGY
F. S. FOWWEATHER, M.D., M.Sc., D.P.H. 18 Illustrations. 8s. 6d. Post. 4d.

THE PRACTICE OF REFRACTION
W. STEWART DUKE-ELDER, D.Sc., M.D., F.R.C.S. 203 Illustrations. 12s. 6d. Post. 6d.

MATERNAL MORTALITY
HENRY JELLETT, M.D., F.R.C.P.I., late Master, Rotunda Hospital, Dublin. 15s. Post. 6d.

DISEASES OF THE BLOOD
A. PINEY, M.D., M.R.C.P., Research Pathologist, Cancer Hospital. 20 Illustrations, including 6 Coloured Plates. 12s. 6d. Post. 6d.

A HANDBOOK OF MIDWIFERY
RICHARD E. TOTTENHAM, M.D., F.C.O.G., F.R.C.P.I., Professor of Obstetrics, University of Hong-Kong. 10s. 6d. Post. 6d.

THE "RECENT ADVANCES" SERIES

[illegible] treatment change so quickly that such publications as the 'Recent Advances' Series are invaluable to the general [illegible] as he usually is, for post-graduate study."—BRITISH MEDICAL JOURNAL.

[illegible] Advances' Series published by Messrs. J. & A. Churchill meets a want in medical literature by providing a concise, [illegible] detailed summary of developments in the theory as well as in the practice of the various specialities into which medicine [illegible] very steadily."—EDINBURGH MEDICAL JOURNAL.

RHEUMATISM
[illegible] ANTON, M.D., F.R.C.P., and [illegible] SCHLESINGER, M.D. 25 [illegible]

CHEMOTHERAPY
[illegible] LINDLAY, O.B.E., M.D. 15 Illus.

PREVENTIVE MEDICINE
[illegible] BOSTAM, M.C., M.D. 30 Illus.

SURGERY
[illegible] GRAHAM, F.R.C.S. 2nd Ed. [illegible]

OPHTHALMOLOGY
[illegible] DUKE-ELDER, D.Sc., M.D., F.R.C.S. [illegible] Plates. 110 Figs. 12s. 6d.

DISEASES OF CHILDREN
[illegible] EATSON, D.S.O., D.M., and W. G. [illegible] M.D. 2nd Ed. 20 Plates. 34

TROPICAL MEDICINE
[illegible] LEONARD ROGERS, C.I.E., M.D., [illegible] F.R.C.P., F.R.S. 2nd Ed. [illegible]

BACTERIOLOGY
[illegible] DOBELL, M.B., B.Ch. 24 Illus.

MICROSCOPY, Biological Applications
A. PINEY, M.D., BASIL GRAVES, M.C., E. W. MACBRIDE, F.R.S., H. R. HEWER, and E. C. BARTON-WRIGHT. 83 Illus. 12s. 6d.

OBSTETRICS & GYNAECOLOGY
ALECK W. BOURNE, M.B., F.R.C.S. 2nd Ed. 67 Illus. 12s. 6d.

NEUROLOGY
W. R. BRAIN, M.D., and E. B. STRAUSS, B.M. 2nd Ed. 39 Illus. 12s. 6d.

MEDICINE
G. E. BEAUMONT, D.M., and E. C. DODDS, M.A.O., M.D. 5th Ed. 49 Illus. 12s. 6d.

FORENSIC MEDICINE
SYDNEY SMITH, M.D., and J. GLAISTER, Jnr., M.D. 66 Illus. 12s. 6d.

PLANT PHYSIOLOGY
E. BARTON-WRIGHT. 51 Illus. 12s. 6d.

CARDIOLOGY
C. F. TERENCE EAST, M.D., F.R.C.P., and C. W. CURTIS BAIN, M.C., M.B. 2nd Ed. 10 Plates. 62 Figs. 12s. 6d.

PULMONARY TUBERCULOSIS
L. S. T. BURRELL, M.D., F.R.C.P. 2nd Ed. 32 Plates. 17 Figs. 12s. 6d.

ENTOMOLOGY
A. D. IMMS, D.Sc., F.R.S. 84 Illus. 12s. 6d.

RADIOLOGY
PETER KERLEY, M.B., B.Ch., D.M.R.E., Assist. Radiol., Westmin. Hosp. 120 Illus. 12s. 6d.

BIOCHEMISTRY
J. PRYDE, M.Sc. 3rd Ed. 42 Illus. 12s. 6d.

ANATOMY
H. WOOLLARD, M.D., B.S. 4 Col. Plates. 73 Figs. 12s. 6d.

PHYSIOLOGY
C. LOVATT EVANS, D.Sc., F.R.C.P., F.R.S. 4th Ed. 113 Illus. 12s. 6d.

HAEMATOLOGY
A. PINEY, M.D. 3rd Ed. 6 Col. Plates. 18 Figs. 12s. 6d.

PSYCHIATRY
H. DEVINE, O.B.E., M.D., F.R.C.P. 4 Illus. 12s. 6d.

THE PSYCHONEUROSES
MILLAIS CULPIN, M.D., F.R.C.S. 12s. 6d.

ANALYTICAL CHEMISTRY
C. A. MITCHELL, D.Sc., M.A., F.I.C. Vol. I, Organic. 6 Plates, 17 Text-figs. 12s. 6d. Vol. II, Inorganic. 12s. 6d.

Recent Advances' Series has established such a high standard of excellence that one expects much in any book included MEDICAL PRESS.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

British Medical Association.
Archives of Disease in Childhood . 16

Churchill, J. & A.
Barton-Wright, E.—Plant Physiol. 3
Beaumont & Dodds—Medicine 3
Bourne, A. W.—Obstetrics, etc. 3
Brain & Strauss—Neurology 3
Burrell, L. S. T.—Tuberculosis 3
Cameron, A. T.—Biochemistry 3
Cameron & White—
Practical Biochemistry 3
Connor, F. P.—Surgery in Tropics 3
Culpin, M.—The Psychoneuroses. .. 3
Devine, H.—Psychiatry 3
Dible, J. H.—Bacteriology 3
Duke-Elder, W. S.—
Ophthalmology 3
Practice of Refraction 3
East & Bain—Cardiology 3
Evans, C. L.—Physiology. 3
Findlay, G. M.—Chemotherapy 3
Fowweather, F. S.—
Clinical Chemical Pathology. . 3
Harrison, G. A.—Clinical Medicine 3
Haslam, J. F. C.—Preventive Med. 3
Imms, A. D.—Entomology 3
Jellett, H.—Maternal Mortality 3
Kerley, P.—Radiology 3
Kirk, J. B.—Health in the Tropics 3
Mascie, G.—Surgical Anatomy. . 3
Mitchell, C. A.—Analytical Chem. 3
Ogilvie, W. H.—Surgery 3
Pearson & Wyllie—
Diseases of Children 3
Piney, A.—
Diseases of the Blood 3
Haematology 3
Piney, Graves, McBride, Hewer & Barton-Wright—Microscopy 3
Piney & Wyard—Clinical Atlas. 3
Poynton & Schlesinger—
Rheumatism 3
Pride, J.—Biochemistry 3
Rogers, L.—Tropical Medicine 3
Rogers & Megaw—Tropical Med 3
Romanis & Mitchiner—
Surgical Emergencies 3
Smith & Glaister—Forensic Med. .. 3
Tottenham, R. E.—Midwifery 3
Whitby, L. E. H.—Bacteriology.... 3
Woollard, H.—Anatomy 3

Lewis, H. K. & Co. Ltd.
Douthwaite, A. H.—
Rheumatoid Arthritus 4
Elliot, R. H.—
Couching for Cataract 4
Glaucoma 4

Oxford Medical Publications
Elliot, R. H.—
A Treatise on Glaucoma 4
The Care of the Eyes 4
Tropical Ophthalmology 4

Hopewell-Ash, E. L.—
Medical Hypnosis & Suggestion .. 4

ASSURANCE COMPANIES—
Century Insurance Company 50
Medical Insurance Agency 8

BRASS NAME PLATES, &c.—
Cooke's Name Plates 4
Hord, S. J. & A.—Name Plates 4
Lewis & Co. Ltd.—Name Plates 4
Osborne, F. & Co.—Name Plates.... 4

DEBT COLLECTION—
Brit. Med. Protection Society.... 10

SURGICAL APPLIANCES—
Curtis & Son—Supports 28
Dent's 'Ardente' Stethoscope 4
Hilliard's New Absorbent Bags 4
Medical Supply Association, Ltd.—
Paste-Bandages 31
'Sanoid' Catgut 31
'Varban' Elastic Plaster Band. 31
Medical Surgical Sundries, Ltd.—
Pneff Inhaling Apparatus 43
Millikin & Lawley—
Instruments, Otecology, etc. 4
Salmon Odr-Surgical Appliances 32
Salt's Surgical Service 12
Schorr & Mosch—
Tycos Sphygmomanometer 32
Smith & Nephew Ltd.—
Elastic Plaster Bandage Cover ii

HOSPITAL, &c., FURNITURE—
Bailey & Son—Consult Room Furn. 29

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Azonle' Solution A.B.A. 20
'Charkaolin' Granules .... Cover i
American Apothecaries Co.—
'Salvitae' 30
Armour & Co.—Glanoid Products... 23
Bencard, Ltd.—Leo Gastrosic 27
Boots Products. 17,23
British Drug Houses Ltd.—
Pituitary Extract B.D.H. 16
Burroughs Wellcome & Co.—
Preparations 25
Carrick, G. W., Co.—
Hormotone .... Cover iv
Cranbux Ltd.—Odol 26
Crookes Laboratories—
Change of Address 21
Dimol Laboratories—Dimol.... 14
Evans Sons Lescher & Webb Ltd.—
Hepatex 24
Fox's Glacier Mints. 11
Gibbs Dentifrice 19
Hoffmann-La Roche Chem. Works—
'Allonal' 15
Hudson's Eumenthol Chem. Co.—
'Eumenthol Jujubes' 4
Kaylene Ltd.—Kaylene-ol 30
Kerol Ltd.—Capsules 11
Martindale, W.—'Sternules' 30
May & Baker, Ltd.—'Var cane' 17
Mond Staffordshire Refining Co.—
Monsol 13
Oppenheimer Products 14
Peat Products Ltd.—Sphagnol.... 30
Saccharin Corporation Ltd.—
Novocain 22
Schering Ltd.—Veramon 32
Thomson, R.—Cod-Liver Oil Cream 15
Wander Ltd.—'Cristolax' 18
Wyleys Ltd —
Elixir Bromo-Valerian Co.... 22

FOOD PREPARATIONS—
Brand's Essences 27
Cow & Gate Ltd.—Milk Food. Cover iii
Horlick's Malted Milk.... *19*
Valentine's Meat-Juice.... 56

MOTOR CARS, TYRES, &c.—
Lodge Sparking Plugs 11
Offord & Sons Ltd.—Motor Cars 10
Second-hand Motors for Sale 48

PRINTING & STATIONERY—
Anderson & Son—Account Forms 4
Carlyle, G.—Duplicate Books.... 4
Taylor's Typewriters.... 4

TAILORING & UNDERCLOTHING—
Gloves, Ltd.—Tailors, etc. 10
Hall, H.—Medical Service Dress ... 48
The Irish Linen Mesh Co. Ltd.—
Empire Linen Mesh Underwear. 32

TOBACCO & CIGARETTES—
'du Maurier' Virginia Cigarettes ... 7
Player's No. 3 11
Three Nuns Tobacco.... 9

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 46

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub. Hlth. 4
Williams, Francis, Butler & Thompson, Ltd.—Pollant'n 32

X-RAY & ELECTRO-MEDICAL APPARATUS—
Edison Swan Electric Co. Ltd.—
Ediswan Stationary Batteries .. 28
Kodak—X-Ray Reduction Camera 13
Medical Supply Association, Ltd.—
Electrical Apparatus 29
Thermal Syndicate Ltd.—
Vitreosil Sunshine Lamp 31

BATHS, SPAS, &c.—
Bridge of Allan Spa 37
British Spas Federation 38
Evian-Les-Bains 37
La Lechere-Les-Bains, France 39
Mont-Dore 39
Swiss Spas 37
Trefriw Chalybeate Wells 39
Wildbad 37

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 38
Peebles Hydro 38
Ruthin Castle, North Wales 35
Smedley's Hydro, Matlock 39

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 47

HOSPITAL, &c., VACANCIES—
Accrington, Victoria Hospital 45
Berkshire Royal Hospital. 49
Birmingham Ear & Throat Hosp. 49
Birmingham Public Health Dept .. 44
Blackburn Royal Infirmary 49
Blackpool, Victoria Hospital.... 43
Brighton, Royal Sussex Co. Hosp .. 48
Bury County Borough 42
Cancer Hospital (Free), S.W.3 43
Cardiff City.... 42
Carlisle City.... 42
Cen. Lond. Throat & Nose Hosp 45
Chesterfield & N. Derbys. Roy. Hos. 44
City of Lond. Hos. for Dis. of Heart 43
Connaught Hospital, E.17 48
Coventry & Warwickshire Hospital 49
Derbys. Hospital for Sick Children 43
Derbyshire Royal Infirmary.... 43
Doncaster Royal Infirmary.... 43
Durham County Council 44
East Ham Memorial Hospital 49
E. London Hosp. for Children, E.1 49
Essex County.... 42
Exeter, Royal Devon Hospital.... 43
Gloucestershire Royal Infirmary 43
Greenock Royal Infirmary.... 49
Hospital for Sick Children, W.C.1... 43
Ilford, King George Hospital 48
Kent and Canterbury Hospital 49
Kidderminster General Hospital .. 48
King's Lynn, W. Norfolk Gen. Hos. 45
Lancaster Royal Infirmary.... 42
Leeds Hospital for Women.... 48
Leicester Royal Infirmary.... 48
Liverpool Hahnemann Hospital 49
London County Council.... 42
London Female Lock Hospital.... 45
London Temperance Hospital 41
Lowestoft & N. Suffolk Hospital . 42
Macclesfield, Cheshire Mental Hos. 44
Manchester Babies' Hospital.... 43
Manchester City.... 42
Manchester Ear Hospital.... 44
Manchester Radium Institute.... 41
Manchester Royal Children's Hosp. 43
Manchester Royal Infirmary 45
Middlesbrough, N. Riding Infirm. 48
Miller General Hospital, S.E.10 49
Ministry of Pensions 49
Nat. Hosp. for Nervous Dis., W.C.1 41
Newport, Royal Gwent Hospital... 48
Nottingham General Hospital.... 49
Oldham Royal Infirmary.... 43
Paisley, Royal Alexandra Infirmary 43
Plymouth Central Hospital 44
Poole, Cornelia & E. Dorset Hosp. 48
Princess Louise Kensington Hosp. 49
Queen Mary's Hospital, E.15.... 50
Rotherham Hospital.... 50
Royal Free Hospital, W.C.1.... 48
Salford Royal Hospital.... 44
Seamen's Hospital Society.... 45
Sheffield Children's Hospital.... 45
Sheffield, Jessop Hosp. for Women 49
Southampton County Borough 45
Southampton, Royal S. Hants Hosp. 49
Southwark Metropolitan Borough .. 44
Stafford-hire, Longton Hospital .. 48
Stourbridge, Corbett Hospital 43
Sunderland Royal Infirmary.... 43
Wal-sall County Borough 44
Walsall General Hospital 49
Walsall & W. Bromwich Joint Com. 42
West Bromwich County Borough.. 42
West London Hospital, W.6.... 45
Westminster Hospital Annexe.... .. 43
Windermere, Ethel Hedley Hosp. .. 45
Windsor, King Edward VII Hosp .. 45
Wolverhampton Royal Hospital 45
York County Hospital.... 50
York, The Retreat.... 49

SANATORIA—
Cotswold Sanatorium 36
East Anglian Sanatorium 36
Grampian Sanatorium.... 38
Montana Hall, Switzerland 38
Linford Sanatorium, Hants.... 36
Mundesley Sanatorium 36
Nordrach-upon-Mendip Sanatorium 35
Pendyffryn Hall Sanatorium.... 39
Tor-na-Dee Sanatorium.... 36
Victoria Sanatorium, Davos.... 39

SCHOOLS, &c.—
Marlborough College, Macclesfield 41
Paton—Schools for Boys & Girls.... 41
Taunton School, Taunton 41

HOMES & ASYLUMS—
Barnwood House, Gloucester 34
Bishopstone House, Bedford 33
Boreatton Park, Salop 39
Camberwell House, S.E.5.... 35
Cheadle Royal, Cheshire.... 34
Chiswick House, Pinner 32
City of London Mental Hospital ... 34
Clarence Lodge, Clapham Park.... 39
Coppice, Nottingham 34
Court Hall, Kenton, Exeter 34
David Lewis Colony, Warford 39
Dunley Hill Nursing Home 35
Fenstanton, Streatham Hill.... 32
Gilgal Hospital, Perth.... 32
Grange, near Rotherham 32
Grove House, All Stretton 33
Haydock Lodge, Lancashire.... 34
Highfield Hall, St. Albans 34
Lawn, Lincoln.... ....
Littleton Hall, Brentwood, Essex...
Maudsley Hospital, S.E.5.... ....
Moat House, Tamworth, Staffs ....
Normansfield, Teddington ....
Northumberland House, N.4. ....
Northwoods, Bristol ....
Old Manor, Salisbury ....
Oxhey Grove, Middlesex.... ....
Peckham House, S.E.15.... ....
Resident Patients ....
St. Andrew's Hosp. Northampton ....
Southbourne House, Bournemouth ....
Springfield House, near Bedford.... ....
Stonycrest Nursing Home.... ....
Stretton House, Shropshire ....
Tykeford Abbey, Newport Pagnell ....
West Haven, Bournemouth ....
Woodside Nerve Hospital, N.10.... ....
Wye House, Buxton ....

INEBRIETY—
Bay Mount, Paignton ....
Caldecote Hall, Nuneaton 32
Dalrymple House, Rickmansworth ....
'Old Hill House,' Chislehurst.... ....
Rendlesham Hall, Woodbridge ....

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital
College of Preceptors ....
Edinburgh University.... ....
Liverpool School of Trop. Medicine
N.-E. London Post-Grad. College...
Q. Charlotte's Maternity Hospital
Royal Westminster Ophthal. Hosp.
Salvation Army, Mothers' Hospital
West London Hospital ....

TUTORS & LECTURERS—
Elocution—Mr. Chas. Seymour.... ....
Exams.—Med. Corresp. College.... ....
F.R.C.S. Edin. Classes—H. C. Orrin
F.R.C.S. Ed. Classes—C. Whittaker
Manchester Tutorial College ....
Royal College of Physicians, Lond.
St. Mary's Hospital ....
Society of Authority ....
Stammering—Miss E. Behnke ....
University Exam. Postal Institution

TRANSFER AGENTS—
Borril Medical Agency, Ltd.... ....
British Medical Bureau 51,52,
Lee & Martin, Ltd. ....
Manchester Medical & Schol. Assoc.
Med. Practitioners' Union Agency
Needes, H. ....
Peacock & Hadley, Ltd.... ....
The Medical Agency 45,
Turner, P., Ltd. 45,

ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant.... ....
Dispensers, Medical Posts, &c. ... 45,
Locums Wanted and Vacant ....
Partnerships Wanted and Vacant... ....
Practices Wanted and Vacant ....

NURSING INSTITUTES—
Cavendish Nurses ....
New Mental Nurses Co-operation ....
Nurses' Association ....

MISCELLANEOUS—
B.M.A. Announcements ....
Consulting Rooms, &c., to Let 47,
Frigidaire Ltd.—Refrigeration ....
Income Tax Consultant—Hardy.... ....
Medical Defence Union.... ....
Miscellaneous Sales &c.... ....
Union-Castle Line—South Africa... 1

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copi

J. & A. CHURCHILL

THE EMPIRE SERIES

PUBLIC HEALTH PRACTICE IN THE TROPICS
J. BALFOUR KIRK, M.B., D.P.H., D.T.M. & H., Director, Health Department, Mauritius. 80 Illustrations. 15s. Post. 9d.

TROPICAL MEDICINE
Sir LEONARD ROGERS, C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S., and Maj.-Gen. JOHN W. D. MEGAW, I.M.S., C.I.E., V.H.S., M.B. 1 Coloured Plate, 77 Text-figures. 14s. Post. 9d.

SURGERY IN THE TROPICS
Sir FRANK P. CONNOR, D.S.O., F.R.C.S., D.T.M. & H. 99 Illustrations. 12s. 6d. Post. 6d.

CHEMICAL METHODS IN CLINICAL MEDICINE
G. A. HARRISON, M.D., M.R.C.S., Reader and Lecturer in Chemical Pathology, St. Bartholomew's Hospital. 65 Illustrations. 18s. Post. 9d.

CLINICAL ATLAS OF BLOOD DISEASES
A. PINEY, M.D., M.R.C.P., and STANLEY WYARD, M.D., M.R.C.P. 36 Plates. 32 Coloured. 12s. 6d. Post. 6d.

SURGICAL EMERGENCIES IN PRACTICE
W. H. C. ROMANIS and PHILIP H. MITCHINER, Surgeons, St. Thomas's Hospital. 158 Illustrations. 18s. Post 9d.

SURGICAL ANATOMY
GRANT MASSIE, M.B., M.S.(Lond.), F.R.C.S. (Eng.). 121 Illustrations. 15s. Post. 6d.

A TEXTBOOK OF BIOCHEMISTRY
A. T. CAMERON, D.Sc., F.I.C., F.R.S.C. Second Edition. 2 Plates, 12 Text-figures. 15s. Post. 6d.

PRACTICAL BIOCHEMISTRY
A. T. CAMERON, D.Sc., F.I.C., F.R.S.C., and FRANK D. WHITE, A.R.T.C., Ph.D., F.I.C. 4 Plates. 23 Text-figures. 8s. 6d. Post. 6d.

MEDICAL BACTERIOLOGY
L. E. H. WHITBY, C.V.O., M.D., D.P.H. 75 Illustrations. 10s. 6d. Post. 6d.

CLINICAL CHEMICAL PATHOLOGY
F. S. FOWWEATHER, M.D., M.Sc., D.P.H. 18 Illustrations. 8s. 6d. Post. 4d.

THE PRACTICE OF REFRACTION
W. STEWART DUKE-ELDER, D.Sc., M.D., F.R.C.S. 208 Illustrations. 12s. 6d. Post. 6d.

MATERNAL MORTALITY
HENRY JELLETT, M.D., F.R.C.P.I., late Master, Rotunda Hospital, Dublin. 15s. Post. 6d.

DISEASES OF THE BLOOD
A. PINEY, M.D., M.R.C.P., Research Pathologist, Cancer Hospital. 20 Illustrations, including 6 Coloured Plates. 12s. 6d. Post. 6d.

A HANDBOOK OF MIDWIFERY
RICHARD E. TOTTENHAM, M.D., F.C.O.G., F.R.C.P.I., Professor of Obstetrics, University of Hong-Kong. 10s. 6d. Post. 6d.

THE "RECENT ADVANCES" SERIES

"Methods of treatment change so quickly that such publications as the 'Recent Advances' Series are invaluable to the general practitioner, too busy, as he usually is, for post-graduate study."—BRITISH MEDICAL JOURNAL.

"The 'Recent Advances' Series published by Messrs. J. & A. Churchill meets a want in medical literature by providing a concise, yet sufficiently detailed summary of developments in the theory as well as in the practice of the various specialities into which medicine is gradually resolving itself."—EDINBURGH MEDICAL JOURNAL.

RHEUMATISM
F. J. POYNTON, M.D., F.R.C.P., and BERNARD SCHLESINGER, M.D. 25 Illus. 12s. 6d.

CHEMOTHERAPY
G. M. FINDLAY, O.B.E., M.D. 15 Illus. 15s.

PREVENTIVE MEDICINE
J. F. C. HASLAM, M.C., M.D. 30 Illus. 12s. 6d.

SURGERY
W. H. OGILVIE, F.R.C.S. 2nd Ed. 115 Illus. 15s.

OPHTHALMOLOGY
W. S. DUKE-ELDER, D.Sc., M.D., F.R.C.S. 2nd Ed. 4 Col. Plates. 110 Figs. 12s. 6d.

DISEASES OF CHILDREN
W. J. PEARSON, D.S.O., D.M., and W. G. WYLLIE, M.D. 2nd Ed. 20 Plates. 54 Figs. 15s.

TROPICAL MEDICINE
Sir LEONARD ROGERS, C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S. 2nd Ed. 16 Illus. 12s. 6d.

BACTERIOLOGY
J. H. DIBLE, M.B., B.Ch. 24 Illus. 12s. 6d.

MICROSCOPY, Biological Applications
A. PINEY, M.D., BASIL GRAVES, M.C., E. W. MACBRIDE, F.R.S., H. R. HEWER, and E. C. BARTON-WRIGHT. 85 Illus. 12s. 6d.

OBSTETRICS & GYNAECOLOGY
ALECK W. BOURNE, M.B., F.R.C.S. 2nd Ed. 67 Illus. 12s. 6d.

NEUROLOGY
W. R. BRAIN, M.D., and E. B. STRAUSS, B.M. 2nd Ed. 39 Illus. 12s. 6d.

MEDICINE
G. E. BEAUMONT, D.M., and E. C. DODDS, M.V.O., M.D. 5th Ed. 49 Illus. 12s. 6d.

FORENSIC MEDICINE
SYDNEY SMITH, M.D., and J. GLAISTER, Jnr., M.D. 66 Illus. 12s. 6d.

PLANT PHYSIOLOGY
E. BARTON-WRIGHT. 51 Illus. 12s. 6d.

CARDIOLOGY
C. F. TERENCE EAST, M.D., F.R.C.P., and C. W. CURTIS BAIN, M.C., M.B. 2nd Ed. 10 Plates. 62 Figs. 12s. 6d.

PULMONARY TUBERCULOSIS
L. S. T. BURRELL, M.D., F.R.C.P. 2nd Ed. 32 Plates. 17 Figs. 12s. 6d.

ENTOMOLOGY
A. D. IMMS, D.Sc., F.R.S. 84 Illus. 12s. 6d.

RADIOLOGY
PETER KERLEY, M.B., B.Ch., D.M.R.E., Assist. Radiol., Westmin. Hosp. 120 Illus. 12s. 6d.

BIOCHEMISTRY
J. PRYDE, M.Sc. 3rd Ed. 42 Illus. 12s. 6d.

ANATOMY
H. WOOLLARD, M.D., B.S. 4 Col. Plates. 73 Figs. 12s. 6d.

PHYSIOLOGY
C. LOVATT EVANS, D.Sc., F.R.C.P., F.R.S. 4th Ed. 113 Illus. 12s. 6d.

HAEMATOLOGY
A. PINEY, M.D. 3rd Ed. 6 Col. Plates. 18 Figs. 12s. 6d.

PSYCHIATRY
H. DEVINE, O.B.E., M.D., F.R.C.P. 4 Illus. 12s. 6d.

THE PSYCHONEUROSES
MILLAIS CULPIN, M.D., F.R.C.S. 12s. 6d.

ANALYTICAL CHEMISTRY
C. A. MITCHELL, D.Sc., M.A., F.I.C. Vol. I. Organic. 6 Plates, 17 Text-figs. 12s. 6d. Vol. II. Inorganic. 12s. 6d.

"The 'Recent Advances' Series has established such a high standard of excellence that one expects much in any book included in it."—MEDICAL PRESS.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1

Pp. x + 80. Crown 8vo. 6s. net; postage 3d.

THE TREATMENT OF RHEUMATOID ARTHRITIS

By A. H. DOUTHWAITE, M.D., F.R.C.P., Assistant Physician to Guy's Hospital.

". . . an interesting and useful book . . . essentially practical."—*Lancet.*

". . . well-written book . . . remarkable for its up-to-date summary of knowledge. . . ."—*The Practitioner.*

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1

Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

MEDICAL HYPNOSIS AND SUGGESTION

The following recent publications by EDWIN L. HOPEWELL-ASH, M.D., are now obtainable from BM/ELHA, London, W.C.1.

(1) THERAPY OF PERSONAL INFLUENCE: An ABC of Treatment by Personal Influence, Suggestion, Medical Hypnosis, and Psychomagnetic Methods. 2/9 postfree. Includes notes of 114 successful cases.

(2) AN ABC OF MEDICAL HYPNOSIS. 2/2 post free. Outlines simple methods—essentially practical.

(3) PSYCHOMAGNETISM AND PERSONAL INFLUENCE IN TREATMENT. A B.M.A. Address reprint; complimentary to Medical Practitioners.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE.

Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

By Lt.-Col. ROBERT HENRY ELLIOT, M.D., B.S.Lond., F.R.C.S.Eng., I.M.S.(rtd.).

A TREATISE ON GLAUCOMA.

Second Edition. Revised and Enlarged, 1922. With 215 Illustrations, 30s. net.

TROPICAL OPHTHALMOLOGY

7 Plates and 117 Illus. 31s. 6d. net. Spanish and French Eds., 1922. Full German Abstract.

THE CARE OF EYE CASES

FOR NURSES, PRACTITIONERS & STUDENTS. With 135 Illustrations. 12s. 6d. net. Chinese Edition.

THE OXFORD MEDICAL PUBLICATIONS.

GLAUCOMA:

FOR THE GENERAL PRACTITIONER. With 23 Illustrations. 4s. net.

COUCHING FOR CATARACT.

With 45 Illustrations. 7s. 6d. net.

H. K. LEWIS & CO., LTD.

Duplicate Prescription Books

INVALUABLE TO ALL DOCTORS

Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.

Send for Sample Book, together with Prices and Styles of Printing,

To G. CARLYLE,

116, DUKE STREET, LIVERPOOL.

NAME PLATES

FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.

Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks, ready for fixing.

With fastenings ready for fixing. SEND FOR ILLUSTRATED CATALOGUE.

COOKE'S (Finsbury) Ltd. Signs Dept.

FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

BRONZE NAME PLATES

Clear engraved lettering, no cleaning required

BRASS NAME PLATES

Museum 2264. *Send for Book 18.*

F. OSBORNE & Co., Ltd.

27, EASTCASTLE ST., LONDON, W.1

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

NAME PLATES

In BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd., *Medical and Scientific Stationers,* 136, GOWER STREET, LONDON, W.C.1.

ORAL SEPSIS.

"EUMENTHOL JUJUBES" (HUDSON)

Made in Australia.

HARMFUL THROAT TABLETS. Throat Tablets and Lozenges containing Formalin (Formaldehyde) are harmful. Wiley, of the United States, investigated the effects of small doses of Formalin (Formaldehyde) given with milk, on 12 men during 15 days. Burning in the throat, itching, rash, and loss of body weight were observed.—*Vide* Martindale. All countries which have made legal enactments and laws regarding the purity of food. have prohibited the addition of Formaldehyde (Formalin) as a preservative of food. HUDSON'S EUMENTHOL JUJUBES contain no Formalin, Cocaine, or other harmful or poisonous drug. Sold everywhere.

FREE SAMPLES forwarded to Physicians on receipt of professional card by F. NEWBERY & SONS, Ltd., 31-33, Banner St., London, E.C.1.

DUNCAN FLOCKHART & Co., Agents, Edinburgh, Scotland.

Manufactured by

G. INGLIS HUDSON, Chemist, for

HUDSON'S EUMENTHOL CHEMICAL CO., LTD.,

Manufacturing Chemists, 31, BAY STREET, SYDNEY, AUSTRALIA.

Distillers of Eucalyptus Oil Rectified by Steam Distillation.

Manufacturers of Pure Eucalyptol (Cineol).

FREQUENT MICTURITION.

"YBWET"

NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request; HILLIARD, 123, Douglas Street, Glasgow, C.2.

POCKET MONEY ADDING MACHINES 15/- post free

TAYLOR'S TYPEWRITERS

SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 52.* 'Phone—Holborn 3783.

Desks, Tables & Chairs Est. 1884.

BUY A BIJOU FOR 5/- per week.

THE BIJOU

The best portable Writer Complete in Travelling Case, from £9 9s.

74, CHANCERY LANE (Holborn End), W.C.2

FOR DEAFNESS

Doctors use and recommend Ardem F

because it fulfils its claims.

309, Oxford St., London, W.1.

Midway between Oxford Circus & Bond St. *Mayfair 1380/1718.*

NAME PLATES

in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet

S. J. & A. HERD,

30, CLERKENWELL ROAD, E.C.1.

Announcement of the British Medical Association

• British
• Medical
• Journal

EVERY special issue of the British Medical Journal may be expected to provide material of interest to a large proportion of the profession. The next Special Number, to be published on June 6th, will include among its principal contents two recent lectures of much importance, one of them being accompanied by coloured illustrations on art paper plates. Original articles and clinical memoranda, covering a wide field of practice, will also be published together with full information about the Annual Meeting of the British Medical Association to be held at Eastbourne in July.

Mention may be made here of the carefully compiled advertisement sections in the Special Number. Readers have, at all times, shown their appreciation of advertisements appearing in these columns, and it is well known that their practical support has contributed to the high regard in which the British Medical Journal is held throughout the Advertising world. The advertisements published week by week constitute, in effect, an exhibition of current medical and surgical requisites which the doctor mindful of his obligations cannot fail to examine, for this is the recognized channel through which information about the accessories to practice may be obtained.

• Special
• Number
• June 6th

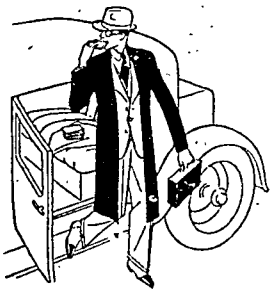
The forthcoming Special Number replaces the usual issue due to appear on the same date, and it will be sent to all members of the British Medical Association in the customary way. Despite the higher cost of production, due to reproductions in colour, there will be no increase in the normal charge of 1s. 3d. per copy made in respect of copies purchased by non-members.

• *Enquiries concerning the Journal should be addressed to:—*

The Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1

The same old round . . .

but what a treat to come home to!



. . . so many patients to visit that you only have time to snatch a sandwich in the car at lunch time. But if, at the end of the day, there was a long, cold drink to come home to, and the sort of perfectly served meal that comes cool and fresh and appetising from a Frigidaire . . . what a difference! . . . Fill in the coupon and see how easily you *can* afford a Frigidaire.

Frigidaire incorporates all the conveniences and refinements that you would wish to have in your electric refrigerator. Here are just a few of them.

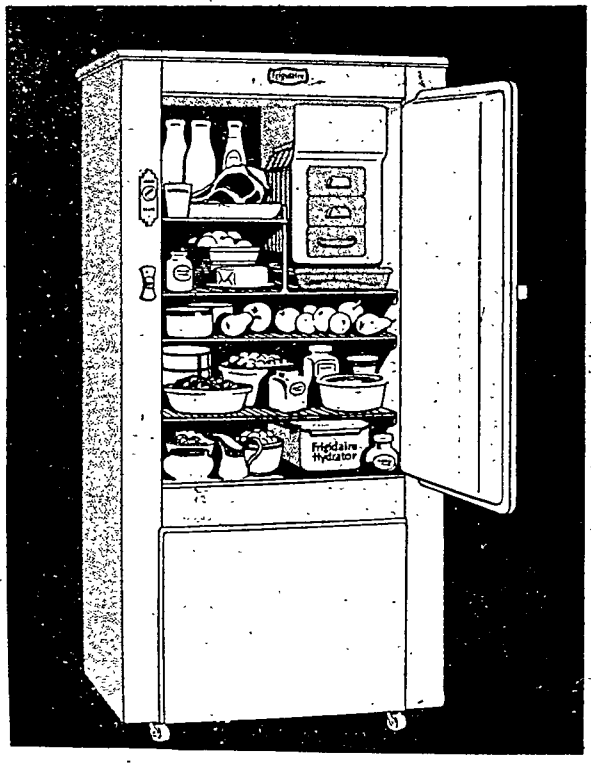
The Quickube Ice Tray, enabling single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the tap. Your cocktail ice is ready at a moment's notice. This is an exclusive Frigidaire feature.

●

The Cold Control, by which the freezing of ice cubes or any other frozen delicacy can be accelerated at will.

●

The automatic feature of Frigidaire is invaluable. The safety of your food does not depend on a maid's vigilance. Frigidaire maintains a dry cold that is *always* under 50° — the only safe temperature for food.



Practical, flat top makes a useful shelf.

○

The Hydrator—a *moist* cold compartment, for fresh vegetables, sandwiches, etc. Even wilted vegetables will regain their crispness here in a few hours.

●

Ease of installation. A Frigidaire only needs connection with your electric supply. No plumbing is necessary.

●

Frigidaire Cabinets are all white porcelain-on-steel—the finest durable finish it is possible to have. And easily kept clean by just a rub with a damp cloth.

●

The new Frigidaire is quiet—you can't hear it start, stop or run.

SHOWROOMS AT 141 NEW BOND STREET, LONDON, W.1, AND IN ALL PRINCIPAL TOWNS

COUPON

FRIGIDAIRE LIMITED (*Incorporated in Canada*)
Dept. BG-305, Edgware Road,
The Hyde, Hendon, London, N.W.9.

Please give me by return, without any obligation on my part,

(a) Price of Frigidaire cabinet suitable to my particular needs; or

(b) Particulars of your system of convenient deferred payments.

Name.....

Address.....

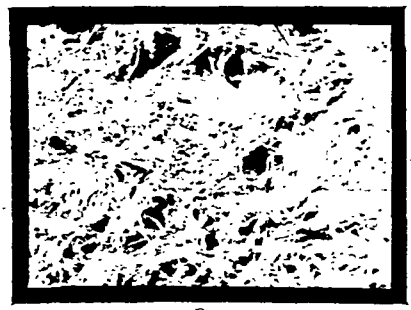
.....

No. in Family.....

A NEW departure in CIGARETTE manufacture

The Introduction of the Filter-Tip

Under the name 'du Maurier,' so called by courtesy of Sir Gerald du Maurier, for whom the cigarettes were originally made, a new departure in cigarette manufacture has been introduced. It consists of a cigarette, containing natural Virginia leaf of high quality, at the end of which is a filter-tip, on behalf of which claims are made of interest to the medical profession. They may be summarised as follows :



Magnified view of cellulose fibre (contained in the filter-tip). BEFORE SMOKING.

Magnified view of the cellulose fibre (contained in the filter-tip). AFTER SMOKING.

I. The filter-tip is selective in its action and while permitting the full passage of all the desirable constituents, shows a high capacity for retaining both the pyridine bases and non-volatile bodies, which undoubtedly form the principal source of throat irritation.

II. Unfiltered smoke is as dangerous as unfiltered water and as irritating as dust-laden air. The filter-tip effectively purifies tobacco smoke from harmful irritant and acrid substances which are inevitably formed when tobacco leaf, even of the finest-quality, is burned.

III. By the introduction of the filter-tip the palate loses nothing, but the voice and throat gain immeasurably as the irritants are held in check without impairing the flavour or delicate character of the smoke. This is the central advantage to be gained from the filter-tip.

IV. Cigarettes containing this filter-tip will be welcomed both by the medical profession and the public as a valuable means of preventing "smoker's cough" and other adverse effects on the pharynx, larynx or general health, traceable either directly or indirectly to the irritants and acrids in tobacco smoke.

V. They constitute the only safe form of smoking for those predisposed to, or suffering from, pharyngitis, laryngitis, or any form of bronchial or respiratory affection. They are invaluable in cases of gastric trouble due to tobacco tar.

From THE BRITISH MEDICAL JOURNAL
April 18th, 1931, page 692.

The aim of this ingenious filter is to trap the irritating pyridine derivatives and other non-volatile bodies while permitting free passage of the agreeable volatile constituents of tobacco smoke.

From THE LANCET'S report,
January 24th, 1931, page 194.

We have tested these cigarettes and find them to be cooler and less irritating to the mucous membrane than ordinary cigarettes of good quality without the filter-tip.

The filter-tip . . . retains bodies which are generally held to be the principal cause of throat irritation. Additional advantages of the filter-tip comprise protection of the lips, teeth and fingers from unsightly stain, and prevention of fragments of tobacco from getting into the mouth.

The du Maurier cigarettes may be regarded in every way as satisfactory, and they constitute a distinct and hygienic advance in the marketing of cigarettes.

du MAURIER *Virginia*

'du Maurier' Virginia Cigarettes at 20 for 1/-, 50 for 2/6, can be obtained from Peter Jackson, 217, Piccadilly, London, W.1, but we would prefer you to buy them from your tobacconist.

L9352 *Peter Jackson (Tobacco Manufacturer) Ltd., 217, Piccadilly, London, W.1.*

THE
MEDICAL INSURANCE AGENCY
has arranged
LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over
TWO MILLION POUNDS
If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the
"Doctor's Special Policy"
(Underwritten at Lloyd's)
for the **Insurance of Cars.**
Comprehensive "Cover." Moderate Premiums. Security.
SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.
Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, Sickness (Permanent Contracts), &c., Insurances
under comprehensive policies, giving full protection.

What the Agency has done for the Profession:
Saved by way of Rebates on Premiums - - over **£42,500**
Contributed to the Medical Charities - - - over **£25,500**

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1, &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH
WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

Why Worry?

"Don't I keep telling you, Lassie, there's *nothing* the matter? . . . True, to-day my play was rejected for the seventeenth time . . . True, last night Mildred flatly and finally turned me down . . . True, my new shoes are pinching like the deuce . . . But with a perfectly good pouchful of Three Nuns in one's pocket, who'd be upset by little things like that? . . . Don't be a *fuss-pot*, Lassie!"

* * *

The rest is silence—and

THREE NUNS

the tobacco of curious cut—1s. 2d. an ounce

For FREE SAMPLE *send a postcard to Dept. BM, Stephen Mitchell & Son, 36 St. Andrew Square, Glasgow*

Issued by the Imperial Tobacco Co. (of Great Britain & Ireland), Ltd.

TAILORS HATTERS HOSIERS By Appointment
GIEVES LIMITED
21 OLD BOND STREET
31 BURLINGTON ARCADE
LONDON W.1.
OUTFITTERS Established 1785 By Appointment

BRANCHES:
PORTSMOUTH SOUTHAMPTON LIVERPOOL EDINBURGH MALTA PLYMOUTH WEYMOUTH SOUTHSEA CHATHAM GIBRALTAR

The Doctor's Car

NEW CARS of all the best makes for Immediate Delivery. Fairest allowances for old cars.

USED CARS properly overhauled, fully guaranteed. Special 14 days' Trial Scheme. List of over 70 cars on request.

HIRE PURCHASE on special terms up to Three Years. Strictly confidential, no outside Finance Company employed.

SERVICE after purchase of new and used Cars on most comprehensive basis. We aim to make your motoring economical and free from trouble.

REPAIRS of every kind, mechanical, coachwork or electrical, quickly executed to guaranteed delivery times. Good cars for use while your own is out of commission.

GARAGE convenient to Harley Street and West End consulting rooms. Leave your car and instruct your patient to come to us and avoid all parking troubles and risks. Low prices, courteous attention, every requirement.

OFFORD & SONS LTD Established more than a Century

67, GEORGE STREET, PORTMAN SQUARE, W.1.

Welbeck 6899. (Private Exchange.)
'Grams: "Droffo, London."

The Collection of Overdue Accounts

WITHOUT OFFENCE

Your visiting card marked "B" in an envelope will bring our Prospectus.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.) Established 1891.
26, Langham Street, Portland Place, London, W.1
Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.

MEMBER'S STATEMENT:

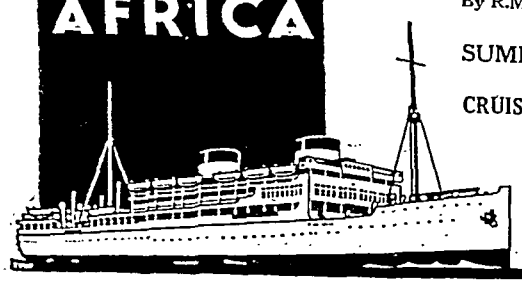
Gloucestershire,
7th May, 1931.

Dear Sir,

Enclosed please find cheque for Subscription due to the Society. I received a cheque from Mrs. C—— for £10-18-0 this morning and have forwarded a receipt to her.

THE ABOVE MEMBER SENT HIS LIST OF DEBTS TO US ON THE 5th MAY, 1931. WE THINK THIS SPEAKS FOR ITSELF.

SOUTH AFRICA

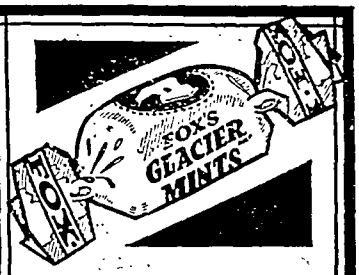


SPECIAL TOUR TO SOUTH AFRICA
By R.M.S. "Kenilworth Castle." From Southampton 24th July, 1931.
Reduced Return Fares.

SUMMER TOURS TO MADEIRA or CANARY ISLES
at Reduced Return Fares.

CRUISES TO ANTWERP, ROTTERDAM, HAMBURG and back.
Fortnightly from London. 13-14 days.

UNION-CASTLE LINE
Write for full particulars to:—
Head Office: 3, Fenchurch St., London, E.C.3.
West End Agency: 125, Pall Mall, S.W.1.



Give the Patients

FOX'S GLACIER MINTS REG.

THEY ARE SO PURE AND SO GOOD FOR THE DIGESTION

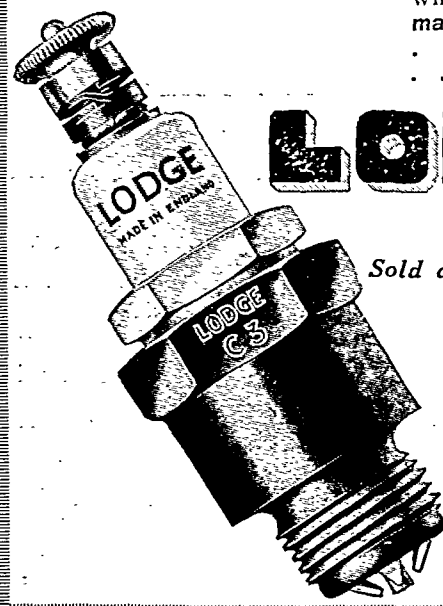
SAMPLES GLADLY SENT ON REQUEST.

FOX'S GLACIER MINTS LTD., LEICESTER.

KEROL CAPSULES

The best plug for *your* car

whatever its make . . .
. . type or .
. . . power



LODGE

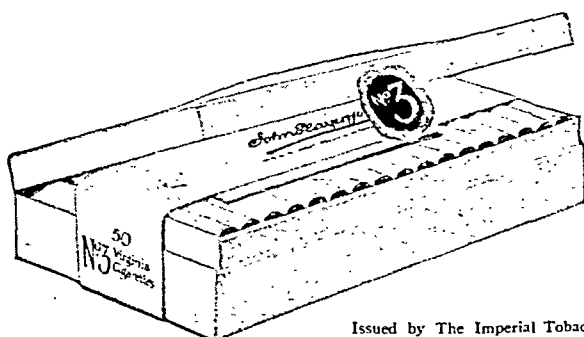
Sold at all good garages

LODGE C3
the plug for most English and Continental engines.
5/-
everywhere
in sealed metal box (red).

LODGE PLUGS LTD., RUGBY

PLAYER'S No. 3

Made from a delightful blend of specially selected fine Old Virginia Tobacco



10 *for* 8D
20 *for* 1/4
50 *for* 3/3
100 *for* 6/4
WITH OR WITHOUT CORK TIPS

EXTRA QUALITY VIRGINIA

Issued by The Imperial Tobacco Company (of Great Britain and Ireland), Ltd.

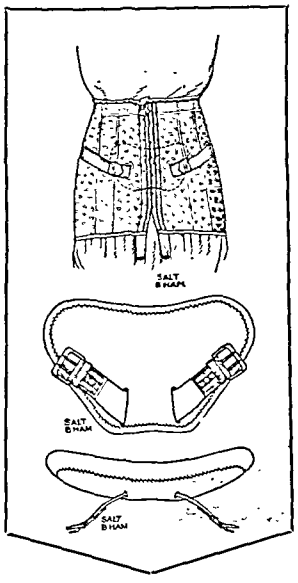
SALTAIR SURGICAL SERVICE

SALTAIR SURGICAL SERVICE

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.



SALT'S PATENT GASTROPTOSIS CORSET.

All the well-known features of Salt's Gastroptosis Belt are incorporated in this Corset.

This is an instance where, by supplying a special Corset, the necessity is obviated of the patient wearing a belt in addition to ordinary corsets.

Write for full particulars.

A slightly dilated and much dropped stomach radiographed immediately after partaking of a Barium (6 ozs.) "Umbrose" Meal. The greater curvature projects 3½in. below a line drawn from one iliac crest to the other. *(Taken in the upright position.)*

Shows same stomach radiographed 15 minutes later, the patient having lain upon a couch, the bottom feet of which were raised 9 in. *The Belt was then applied,* the patient allowed to walk about for 5 to 6 minutes, and the radiograph *taken in the upright position.*

(Dotted line shows level of Iliac Crest in each case.)

London Consulting Rooms:
"OAKLEY HOUSE," 14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

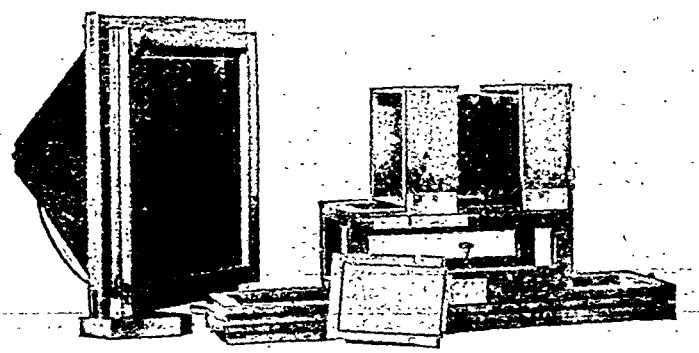
Phone Birmingham - Midland 5455.
Phone London - Museum 3845.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT

ESTABLISHED 1793

"Kodak" X-Ray Reduction Camera



A simple and solidly built camera. Reduces negatives of any size up to 17 x 14 ins.

Suitable for making bromide prints or transparencies of $6\frac{1}{2}$ x $4\frac{3}{4}$ size or smaller, and lantern slides.

An automatic focussing scale makes the "Kodak" Reduction Camera exceedingly simple to operate.

Kodak Limited, (Medical Dept.)
Kodak House, Kingsway,
London, W.C.2.

Dimol

The most reliable non-toxic bactericide for all diseases associated with an intestinal focus.

PULVERETTES. An effective preventive against attacks of Dysentery, Diarrhoea, Enteric Fever and Stomach Fermentations.

SYRUP. For administration in liquid form, especially suitable for infants and children.

OINTMENT. For insect bites, stings, scalds, etc.

Recommended by the Medical Profession for over 10 years. Supplied to the Admiralty and Australian Navy.

Dimol Laboratories, Ltd.
40, Ludgate Hill, London, E.C.4

Distributing Agents for U.K.:
SANGERS, Ltd.
258, Euston Road, London, N.W.1

IMPROVED DAY AND NIGHT SERVICE TO THE MEDICAL PROFESSION FOR OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPOT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1
(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, CLAPHAM ROAD, S.W.9

'Allonal' Analgesic and Hypnotic for Pain & Insomnia!

Issued in Bottles of 12, 100 & 500.

Sedative:—1—2 Tablets.

Analgesic / Hypnotic } 1—3 Tablets.

Literature and Samples from:—

THE HOFFMANN-LA ROCHE CHEMICAL WORKS Ltd.,
The 'Roche' Laboratories,
51, Bowes Road, London, N.13.

Cod-Liver Oil Cream

This ethical preparation is particularly acceptable to children. It may be prescribed with confidence that good results will be obtained.

Children take it readily, even where the usual difficulty has been experienced in inducing them to take other forms of Cod-Liver Oil. They rapidly respond to its nutritive and strengthening influence.

The Cream contains 50% of recently refined Cod-Liver Oil of high vitamin content. The fresh eggs used in the making enhance the value of the preparation as a nutrient. The Emulsion is perfect (vide *The Lancet*, Jan. 4th, 1930), rendering the assimilation easy, even in cases where digestion is weak.

The fact that it is freshly prepared every week ensures freedom from loss of vitamin efficiency of the oil, due to storage or exposure to sunlight.

The preparation is endorsed by many members of the Medical Profession.

4/-, 7/-, and 10/-, post free.

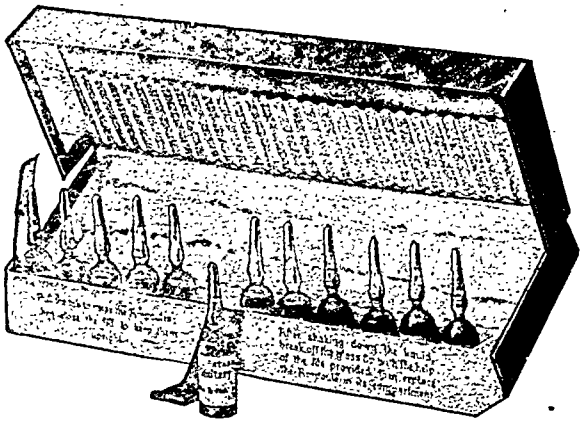
Supplied by return of post to ensure freshness.

Prepared by:
R. THOMSON, Chemist, 21, Abbey Street, ELGIN.

London Agents:
Messrs. SQUIRE & SONS, Ltd., Chemists to H.M. the King, 413, OXFORD STREET.

PITUITARY EXTRACT B.D.H.

(Posterior Lobe)



An entirely British product

Made in the B.D.H. laboratories from posterior lobe dissected from glands obtained from animals immediately after death.

Each batch of Pituitary (Posterior Lobe) Extract B.D.H. is standardised—

(a) **for oxytocic activity**

(b) **for pressor effect**

Literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Pit.Ext./18

IN PREPARATION.

ARCHIVES OF DISEASE IN CHILDHOOD

EDITED BY

HUGH THURSFIELD, D.M., F.R.C.P., and REGINALD MILLER, M.D., F.R.C.P.,

WITH THE HELP OF

H. C. CAMERON, M.D., F.R.C.P.
H. A. T. FAIRBANK, D.S.O., M.S., F.R.C.S.
LEONARD FINDLAY, D.SC., M.D.
A. DINGWALL FORDYCE, M.D., F.R.C.P.ED.
C. MAX PAGE, D.S.O., M.S., F.R.C.S.
LEONARD G. PARSONS, M.D., F.R.C.P.
G. F. STILL, M.D., F.R.C.P.
EDITOR OF THE *British Medical Journal*.

Vol. 6. JUNE, 1931. No. 32.

Published by the British Medical Association.

London: British Medical Association House, Tavistock Square, W.C.1.

Yearly Subscription (6 numbers), 25/-. Single Number, 4/6.

"VARICANE"

Trade Mark BRAND

Sclerosing Solutions

For the Modern Treatment of Varicose Veins

"VARICANE" SODIUM MORRHUATE is specially noteworthy for its purity and its light colour which allows blood to be readily seen in the syringe when the needle enters the vein. Available in strengths of 5% and 10%

"VARICANE" QUININE HYDROCHLORIDE & URETHANE. The special process of manufacture prevents crystallising out and obviates irritation on injection

"VARICANE" SODIUM SALICYLATE. Available in strengths of 20%, 30%, 40% and 50%

Write for your copy of "The Modern Treatment of Varicose Veins" and clinical trial sample

MAY & BAKER LTD.

BATTERSEA LONDON, S.W.11

Telephone: Battersea, 1813 (6 lines) *Telegrams:* Bismuth, London

Full size trial sample free to any medical practitioner in British Isles, on application by postcard to BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM

WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG COMPANY LIMITED,
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

Regesan

FRUIT SALINE

AN agreeable effervescent preparation containing the fruit acid of the grape and antacids which correct minor disturbances of the stomach, liver and bowels.

Regesan Fruit Saline has been found to be of considerable value when the promotion of increased peristalsis has been desirable. Free from sugar, it may be prescribed for Diabetics and others who cannot tolerate sugar in any form

OBTAINABLE FROM

The Boots Chemists

OVER 900 BRANCHES IN GREAT BRITAIN

MONSOL
Liquid GERMICIDE

The power of MONSOL in killing the Streptococcus Pyogenes and notably the strain Hæmolyticus is more than 10 times greater than that of pure phenol or of lysol, and being NON-CAUSTIC Monsol can be used at adequate strength to kill these germs without in any way injuring the delicate tissues. Literature and samples will be sent on request to members of the medical and nursing professions.

Monsol Liquid Germicide means adequate strength *with* safety.

1/- and 2/- per bottle from all Chemists.

NON-CAUSTIC

SPECIALLY VALUABLE IN MIDWIFERY

10 TIMES STRONGER THAN LYSOL

MOND STAFFORDSHIRE REFINING CO., LTD., ABBEY HOUSE, WESTMINSTER, S.W.1

Intestinal Debility

"Cristolax" is worthy of careful trial in all cases of constipation. It is composed of 50 per cent. of the purest medicinal paraffin in combination with 50 per cent. of "Wander" Dry Malt Extract. The paraffin content acts mechanically for expelling the fæces, while the high diastatic property of the malt extract assists digestion and improves nutrition.

Where the patient has been accustomed to use an ordinary laxative regularly it is recommended that this should be continued in diminishing doses with the "Cristolax" treatment. It is quickly found that the "Cristolax" method of intestinal lubrication will alone ensure adequate and regular defecation.

Patients highly approve the pleasant flavour of "Cristolax," the complete absence of oiliness and its cleanly form.

"CRISTOLAX"
BRAND
MALT EXTRACT WITH PARAFFIN
Lubricant-Laxative-Nutrient-Digestive

A supply for Clinical trial sent free on request.

Of all Pharmacists, in bottles at 3d & 2- each.

A. WANDER, LTD., 184, QUEEN'S GATE, LONDON, S.W.7

M228

HORLICK'S

HORLICK'S MALTED MILK is a food which can be usefully employed by the physician, not only in acute illnesses and during convalescence, but in the many chronic conditions of ill-health, which are favourably modified by correct dieting. In heart diseases generally, and in myocardial failure particularly, HORLICK'S acts as a "stimulant" and gives a maximum of energy with a minimum of effort. It is a muscle food, and lessens the strain upon the heart by reason of both its ease of digestion and its tendency to correct constipation. If the intake of fluid has to be limited, HORLICK'S MALTED MILK will be found palatable and agreeable even in a concentration twice the normal strength. The mixed carbohydrates—lactose, maltose and dextrin—in HORLICK'S MALTED MILK give it a value in nephritis. Carbohydrates are usually well utilized in this condition and, being "protein-sparers," afford rest to the inflamed structures. As a diet in gout and other disturbed metabolic conditions in which purin bodies are contraindicated, HORLICK'S can be safely recommended, since it is purin free.

Proverbs Up-to-date No 6

KEEP YOUR POWDER DRY

Manufacturers of Tooth Powders are accustomed to advance strong arguments for the use of dry powder as a cleanser of the mouth and teeth. It cannot be denied that a powder, if not too abrasive, forms an excellent polishing agent. And for this reason, a powder compounded of specially selected materials of exact quality and texture forms the polishing agent in Gibbs Dentifrice. It loses none of its efficiency by being combined with a saponaceous base. Indeed the saponaceous base of Gibbs Dentifrice tends to counteract any possible harshness, adds materially to the cleansing efficacy, and dispenses with one of the greatest disadvantages that a raw Powder exhibits; namely, wasteful messiness.

That is why Gibbs Dentifrice has won the wholehearted support of leading Medical authorities. By providing the public with a thoroughly safe and efficient dentifrice, and by giving it the widest publicity in the national press, Gibbs makes a valuable contribution to the cause of preventive dentistry. But in all Gibbs propaganda, the indispensability of the Doctor and Dentist is made perfectly clear. In fact, the most frequently recurring phrase in Gibbs Advertising is "Visit your Dentist twice a year, and use Gibbs Dentifrice twice a day.

G.BBS MOUTHWASH

A Peroxide Mouth Wash in Powder form. A new Preparation by Gibbs that has met with instant success. Gibbs Mouth Wash produces Oxygen in the mouth, which has a wonderfully efficient cleansing and antiseptic effect; and definitely purifies the breath. Although intended for twice daily household use, Gibbs Mouth Wash provides an excellent and safe mouth wash for use following extractions.

Gibbs Dentifrice

BRITISH MADE

Literature, propaganda material, cinematograph films, leaflets, etc., as well as samples, are always freely at your disposal. Address: Dental Dept. 6 WX. D. & W. Gibbs Ltd., London, E.1.

GD Dr 5a

"Azoule" Solution A.B.A
TRADE MARK

IN PRURITUS ANI

Accumulating experience confirms the remarkable effect of the new local anæsthetic **'Azoule' Solution A.B.A. in Pruritus Ani and Anal Fissure** (see B.M.J., Aug. 30, 1930). Outstanding features of this product are its prolonged local anæsthetic effect which lasts as long as ten days and its non-toxicity.

Wherever prolonged local anæsthesia is required 'Azoule' Solution A.B.A. is the agent of choice.

Other references: B.M.J., June 15, 1929, p. 1070. B.M.J., June 28, 1930

'Azoule' Solution A.B.A. is supplied in 2 c.c. ampoules. Boxes of 6 and 12 at 5/6 and 10/-

Descriptive literature on request.

Allen & Hanburys Ltd., London, E. 2.

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

CONCENTRATED FLUID
EXTRACT OF LIVER (BOOTS)

A PALATABLE concentrated preparation which has been tested and found to be clinically active in the treatment of Pernicious Anæmia. One fluid ounce is equivalent to half-a-pound of Fresh Liver.

PRICES:—
4 oz. bottle, 7/-, 8 oz. bottle, 12/6
SPECIAL DISCOUNT TO THE MEDICAL PROFESSION.

WHOLESALE AND EXPORT DEPARTMENT
BOOTS PURE DRUG CO. LTD.
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

BOOTS PRODUCTS
Are obtainable through all branches of BOOTS THE CHEMISTS.

CHANGE OF ADDRESS

OF

THE CROOKES LABORATORIES

Owing to the continuing expansion at home and abroad in the prescribing of

CROOKES COLLOSOLS

by the medical profession, it has been found necessary to erect and equip more extensive Laboratories and Model Works.

All orders, enquiries and correspondence should be sent to

THE CROOKES LABORATORIES

[British Colloids, Ltd.]

GORST ROAD

PARK ROYAL

LONDON, N.W.10

Telephones: WILLESDEN 6313 (three lines)
Telegrams: COLLOSOLS, HARLES, LONDON

THE CROOKES LABORATORIES

British Colloids Ltd. Registered Offices: 22 Chenies Street, W.C.1

Telephone: Museum 3663

ALSO

BOMBAY AND NEW YORK

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

CERVICAL ADENITIS.

Typical Case.

R. H., aged 19 years.

Diagnosis: Bilateral cervical adenitis (tuberculous).

Operation: Block dissection of the neck (right side).

Anaesthesia: Local infiltration, cervical neck block 160 c.c. of a 0.7 of 1 per cent. Novocain-Adrenaline solution were used. A complete block dissection was made under perfect anaesthesia. On October 3rd, 1919, the patient re-entered the hospital for a dissection of the opposite side and the same procedure was carried out.

—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

WYLEYS LIMITED WHOLESALE DRUGGISTS COVENTRY *Established 1750.*

ELIXIR BROMO-VALERIAN CO.

Free from any disagreeable taste or odour.
Each fluid drachm (4 c.c.) contains:

Strontii Bromidi - -	5 gr.	Tinct. Adonis Vernalis - -	5 m.
Tinct. Valer. Deodorat. -	10 m.	Tinct. Visci Alb. - - -	5 m.

Useful for functional nervous affections, particularly in controlling epileptic seizures.

Price 5/- lb.

FULL LISTS ON APPLICATION

A List of

GLANOID MEDICINAL PRODUCTS OF ANIMAL ORIGIN

Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
Calgut
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Ligatures**
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
*Pituitary, W. G.**
*,, Ant. Lobe**
*,, Post. Lobe**
*,, Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
,, Co.
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

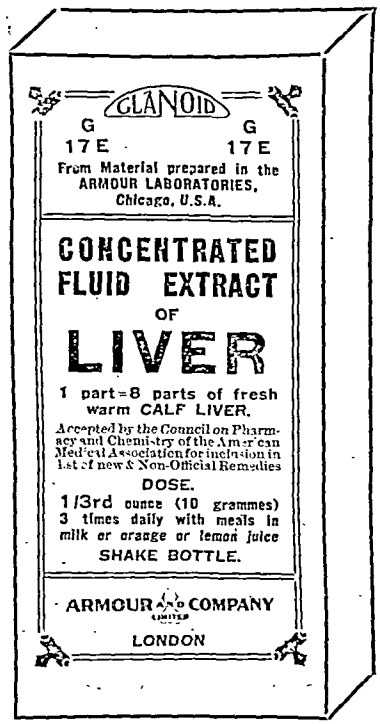
*Literature available on request.

GLANOID

Concentrated Fluid Extract of LIVER

PALATABLE AND READY TO TAKE.

ALSO IN POWDER AND TABLETS.



ONE OUNCE EQUALS HALF A POUND FRESH CALF LIVER.

4-oz. bottle	7/-
8-oz. „	12/6
16-oz. „	24/-
W.Q. „	100/-

We prepare a Sterile Solution for Intramuscular INJECTION

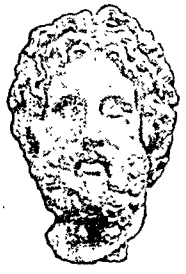
A brochure on "Glanoid" Concentrated Fluid Extract of Liver in the treatment of Pernicious Anaemia, Sprue and allied diseases, will be sent to members of the Medical Profession on request.

LABORATORY DEPARTMENT

ARMOUR AND COMPANY LIMITED

ARMOUR HOUSE, St. MARTIN'S-LE-GRAND, LONDON, E.C.1.

TELEGRAMS: "ARMOSATA—CENT," LONDON.
TELEPHONE: NATIONAL 2424.



(Aesculapius)

Liver Therapy in ANAEMIA

The haemopoietic value of liver manifests itself clinically in a most rapid and convincing manner, and it is now recognised that various fractions exist, having separate and distinct characteristics.

HEPATEX

This is the liquid extract of liver made at Evans' Biological Institute. Introduced for the treatment of pernicious anaemia, in which it has been proved highly satisfactory, its success in the severe secondary anaemias has been so pronounced as to warrant investigation. It is now found that HEPATEX contains the full Vitamin B complex, the various components of which must assuredly be of great therapeutic value, and it may well be that its usefulness in the secondary anaemias is due to this factor. HEPATEX is prepared and concentrated so that a teaspoonful dose contains the full therapeutic principles of 2 ozs. of fresh liver.

Issued in 4 oz. bottles, 12/6 each.

Prepared at Evans' Biological Institute, Higher Runcorn, Cheshire.

EVANS SONS LESCHER & WEBB, LTD

Manufacturers of Fine Chemicals, Pharmaceutical & Biological Products.

LIVERPOOL
56, Hanover Street.

LONDON
50, Bartholomew Close, E.C.1.

PIONEERS AND EMPIRE BUILDERS: No. 597
NINTH PERIOD—circa A.D. 300 to c. 1300

Acute Intestinal Obstruction and Post-Operative Ileus

TRADE MARK "WELLCOME" BRAND

CONCENTRATED ANTI-GAS-GANGRENE-GLOBULINS (W)

(B. welchii=B. perfringens)

Used in abdominal surgery for the treatment and prophylaxis of the toxæmia of acute intestinal obstruction and peritonitis with ileus (on the hypothesis that the toxæmia is due to proliferation of *B. welchii* in the obstructed intestine); in certain cases of puerperal septicæmia following abortion; and as a prophylactic against gas-gangrene in grossly infected wounds such as occur in road accidents

Prices in London to the Medical Profession:

Phials containing 4000 "W" units, in 10 c.c. or less, at 6/6 each
Phials containing 10,000 "W" units, in 25 c.c. or less, at 15/- each

Prepared at:
THE WELLCOME PHYSIOLOGICAL RESEARCH LABORATORIES, BECKENHAM, KENT (ENG.)

Supplied by:
BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

ENLARGED COIN OF THEODORIC THE GREAT, KING OF THE GOTHS AND RULER OF THE ROMANS.

Theodoric, son of Theudemir, king of the Ostrogoths, was brought up at the court of the East Roman emperor at Constantinople, having been surrendered, at the age of eight by his reluctant father, as hostage for the good faith of the Ostrogoths in a renewed alliance with the empire. During his years of honourable captivity, he became imbued with Graeco-Roman civilisation. Returned to his own people, he was made king on the death of his father. In 488, he led the Goths, in the name of the emperor Zeno, into Italy and in 493 became "Governor of the Goths and Romans" in place of the defeated Odovacar—like himself a Teuton. During his reign of thirty-three years Theodoric laboured to restore degenerated Italy; he succeeded in rousing in her a sense of nationality and in placing her in a position of political dignity. The system he built up by the sheer force of his lofty personality brought a generation of happiness and prosperity to Italy. For fourteen years Theodoric also governed the Visigoths in Spain conjointly with their young king Amalaric.

DATE: Theodoric, rule in Italy A.D. 493-526

COPYRIGHT

What three doctors say about Odol

1. STOMATITIS

"I have often recommended Odol to patients suffering from Stomatitis and have found it very efficacious."

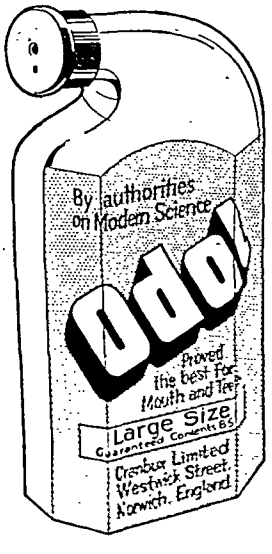
....., M.R.C.S.Eng., L.R.C.P.Lond.

2. NOSE WORK

"I use a solution of Odol for all nose work, washing out the antrum and sinuses, etc. It is excellent and a soothing antiseptic."

....., M.D.

3. ZYMOTIC DISEASES



"It is most excellent in septic conditions of the mouth such as one finds in the zymotic diseases."

....., M.C., L.R.C.P., M.D.H.

Not only is Odol definitely antiseptic—not only does it destroy disease germs of the mouth and throat—not only does it check the growth of bacteria for hours after use—but it is perfectly safe. Non-toxic, non-caustic, and non-acid, Odol does not injure the teeth or the mucous membrane of the mouth.

Samples and literature will gladly be sent to any member of the Medical Profession on application to:

CRANBUX LIMITED OF NORWICH

BRITISH MADE BY BRITISH LABOUR
FINANCED BY BRITISH CAPITAL

The Hume Lectures
ON
HAEMOLYTIC ICTERUS*

BY
LORD DAWSON OF PENN, P.C., M.D., D.C.L.
PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON; PHYSICIAN IN ORDINARY TO H.M. THE KING; EXTRA PHYSICIAN TO THE LONDON HOSPITAL

LECTURE I

The disease haemolytic jaundice has an interest beyond itself, in that its features bring us in contact with the problems of the origin and destiny of blood and bile, and so with the functions of marrow and liver and spleen—difficult though fruitful territories for exploration. For the purpose of these lectures it is well at the outset to recall briefly our present knowledge of jaundice. It is now established that, unlike bile salts, bile pigment is in the higher mammals formed in greater part outside the liver. The later stages of this knowledge have been gained as follows.

ORIGIN OF BILE PIGMENT

In 1913 Whipple and Hooper[1] found that in dogs in which the liver had been isolated from the general circulation, bile pigment accumulated in the blood, and jaundice followed. From 1921 onwards Mann and his co-adjutors,[2 3 4 5] by brilliant technique, were able to show in a succession of researches that after complete removal of the liver in dogs bilirubin appeared in the blood plasma. If from one dog the liver was removed, and in another dog the common bile duct was ligated and the gall-bladder removed, within three hours in each case bilirubin appeared in the plasma. Thus the origin of bilirubin is extrahepatic.

Next it was found that even after removal of all the abdominal organs, bilirubin made obvious appearance in the plasma. Further, by the delicate spectrophotometer[5] the bilirubin contents of the arterial and venous blood travelling to and from a limb, the inside of a long bone, and the kidneys and the spleen, could be compared. In the case of the limb and the kidney there was no difference, whereas in the case of the marrow and spleen the venous blood contained more bilirubin than the arterial blood. The inference was therefore clear that the marrow and spleen are sites for the formation of bilirubin. Of these two sites the marrow, in the dog, was considered the more important for two reasons; first, the excess of bilirubin was greater in its veins compared with that of the splenic vein, and secondly, bilirubin still appeared in the plasma after complete excision of the abdominal organs. At a later date[6] the blood leaving the liver was shown to have a bilirubin content in excess of that of the arterial blood entering the liver. The above results have been confirmed by Rich[7 9] and other observers.[10] Similarly, investigation in man demonstrated the formation of bilirubin outside the liver. Thus it was shown by van den Bergh and Snapper[11] in 1915 that the blood from the splenic vein had a higher bilirubin content than the blood from the splenic artery. Rich and Reinhoff[12] came to similar conclusions.

Is it not notable that, as far back as 1847, Virchow[13]—a master-mind alike in science and statesmanship—after observing that haematoidin was found in old blood clots, concluded that bile pigment could be formed outside the liver, and it is now known that haematoidin and bilirubin are the same substance?[14] Lepehne,[15] Rosenthal,[16] and other Continental workers, however, are not so far convinced that the polygonal cell of the liver plays no part in the formation of bilirubin.

THE RETICULO-ENDOTHELIAL SYSTEM

To Aschoff[17] we owe the interesting conception of specialized endothelial cells, mesoblastic in origin, in some places woven together into more or less defined formations and in others existing as isolated units like the British Empire, a fabric scattered and loose in formation yet with unity of purpose. These cells lie along the venous sinusoids and capillaries of the bone marrow, spleen and liver, and the lymph sinusoids of lymphatic glands. They also appear singly throughout the connective tissue of the body. In response to the needs of the organism this system of cells is capable of a considerable hyperplasia and even of extension—for example, pleural cells will take on the function of these specialized cells (macrophages). The property of imbibing intra-vitam stains possessed by these cells has been beautifully illustrated by the work of Cappell.[18] By their phagocytic power they probably play a part in the defence against infections, and it is now established they are sites

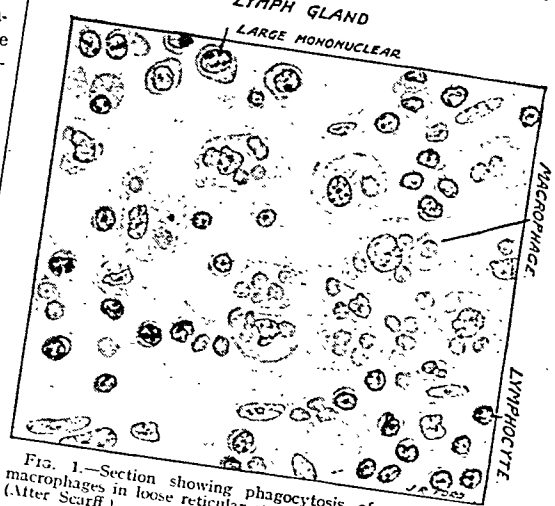


FIG. 1.—Section showing phagocytosis of red cells by macrophages in loose reticular structure of lymphatic gland. (After Scarff.)

where haemoglobin is disintegrated and pigment is formed (Fig. 1). McNee[19] made the suggestion (1913) that in these endothelial cells bilirubin had its origin.

Isolated units of wandering endothelial cells in the periphery of old blood clots have been shown by Rich and others[12] to imbibe the haemoglobin and to convert it into bilirubin within their protoplasm; further, Rich[20] has demonstrated the formation of bilirubin from haemoglobin, even in tissue culture cells. Large numbers of such endothelial cells exist as textures within the spleen and marrow. In the liver this reticulo-endothelial system is represented by the Kupffer cells, which are extensions of the endothelial lining of the vascular capillaries. These cells take up the haemoglobin from the blood stream and split it into bilirubin and haemosiderin.

In birds, where the spleen is very small and the liver large, the Kupffer cells are prominent, and play an important part in the conversion of haemoglobin into bilirubin; but in the higher mammals the Kupffer cells play but a small part in this conversion, though after splenectomy they increase in formation and function.

It is thus clear that bilirubin formed in the reticulo-endothelial system is carried to the liver by the portal vein. A diagrammatic representation of the liver is

* Delivered before the Northern Counties and Newcastle-upon-Tyne Medical Society on February 19th and 26th.

shown in *Fig. 2*. In each lobule it is excreted from the portal venous sinusoid by the polygonal cells into the bile capillary. Put in other words, the liver cells excrete the bile pigment and secrete the bile acids into the bile capillary. In the polygonal cells the threshold of excretion is normally a low one, so that the bilirubin content of the blood is small—namely, 0.2 unit to 0.4 unit (van den Bergh). If, however, the bilirubin content of the incoming blood is too high, or if the liver cells are damaged (for example, by some diseased process), or if there is a combination of these two conditions, there is an inadequate excretion of bilirubin, which banks up in the portal blood and the unexcreted portion passes thereby via the hepatic vein into the general circulation. In the strict sense the unexcreted portion does not enter the liver, but is retained in the blood —"retention jaundice." If the plasma bilirubin is duly excreted into the biliary capillaries, but there is some obstruction to the flow of the bile into the intestine, then there is a back pressure, and the whole bile migrates (regurgitation) from the overfilled canaliculi into the tissue spaces, and so into the periportal lymphatics and into the venous sinusoids, and so into the central intralobular vein—"regurgitation jaundice." The classification into retention and regurgitation jaundice suggested by Rich[21] would thus appear to be the most comprehensive.

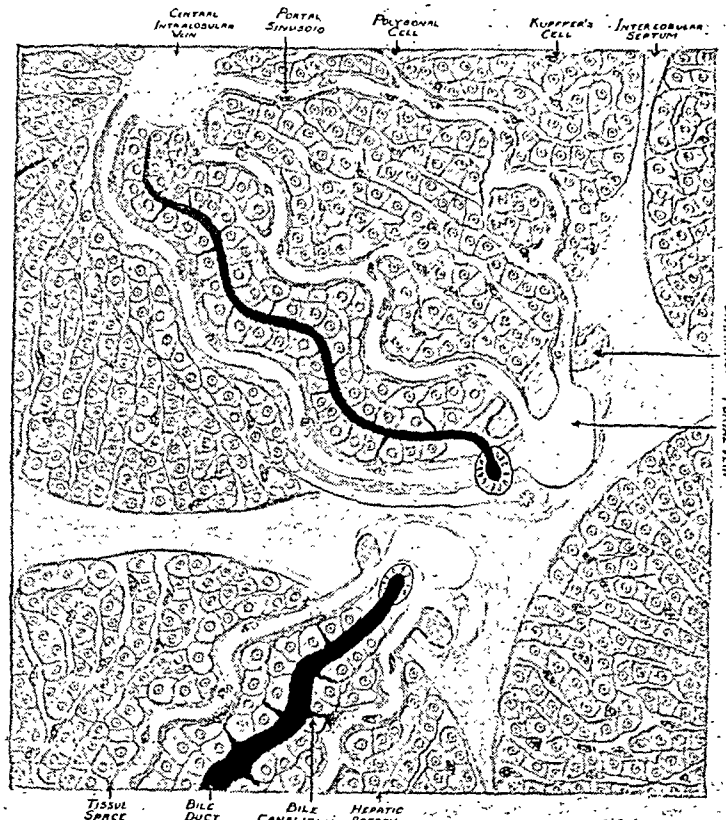


FIG. 2.—Diagrammatic representation of liver lobules, showing relation of portal sinusoids to polygonal cells. Lower portion of diagram shows the distended bile duct as found in obstructive jaundice, with rupture of bile canaliculi into lymphatic tissue space and sinusoid.

HYPERBILIRUBINAEMIA

There are thus two forms of hyperbilirubinaemia: one in which bilirubin of the plasma has first passed through the liver cells, and has perhaps been modified thereby, and the other in which the bilirubin has passed direct into the circulation without contact with the liver cells. In practice the two forms may coexist. Jaundice is an outward and visible sign of excess of bilirubin in the blood. If that excess is marked, jaundice there must be. There may, however, be a moderate degree of this hyperbilirubinaemia, and one that may be long-continuing without jaundice being apparent, given a low threshold and good function of liver cells and a free biliary tract.

The detection and measurement of bilirubinaemia have become an accurate procedure, thanks to the van den Bergh tests and the spectrophotometer. The latter is the more delicate, the former the more easily applied, method.

The van den Bergh test not only gives a measure of the amount of bilirubin present, but enables discrimination to be made between bilirubin which has, and bilirubin which has not, been excreted by the liver cells into the biliary ducts. The former gives a direct or immediate reaction, and the latter an indirect or delayed reaction. The indirect reaction represents bile pigment retained in the circulation, and the direct reaction bile which has filtered back into the circulation either through back pressure in the biliary tree or on account of serious damage to the liver cells. Bile derived either from the common duct or from the gall-bladder will give the direct reaction. Sometimes a so-called diphasic reaction occurs which is intermediate between the direct and indirect reactions. This diphasic reaction indicates that bilirubin is present in excess, but does not define the mode of its entry into the blood. In health the bilirubin content of the blood varies between 0.2 and 0.5 unit. (*N.B.*, 2 units = 1 mg. bilirubin per 100 c.cm.)[22] Allowing for exceptions, the van den Bergh reaction is a valuable guide to the origin and amount of a bilirubinaemia. The difference between the indirect and the direct reactions may be explained by assuming that the bilirubin undergoes some change in passing through the liver cells, but a more probable explanation is that in the retention type of jaundice the bilirubin is held by the plasma, whereas in the regurgitation jaundice the excess of bile salts prevents this linkage, and the bilirubin exists in a free state.[23 24 25] A colour comparison of the serum with a standard potassium dichromate solution has been used to assess the degree of bilirubinaemia.[26 27 28] This gives quantitative figures (icterus index), but no information on the type of jaundice, and does not discriminate between small amounts of bile pigment in the serum and other colouring substances, such as are found in carotinaemia.

I will now pass to the consideration of haemolytic icterus (acholuric jaundice), this study of which is based on forty cases.*

RETENTION JAUNDICE

The jaundice, if haemolytic, is never deep; it may be obvious as a lemon colouring of skin and conjunctivae, or may be confined to tinting of the conjunctivae only; again, in some cases it is absent. It is a variable feature; it will ebb and flow or come and go, though the disease persists. Chilling of the body will provoke its increase. Further, the time of its first appearance varies. Though commonly manifest in infancy, its first appearance may be delayed for several years; thus in this series some eleven

* Portions of this study have been communicated to meetings of the Association of Physicians, but have not been reported.

cases showed jaundice for the first time at various ages—for example, 6, 12, 18, 23, 44—though splenomegaly, anaemia, and hyperbilirubinaemia, and probably increased fragility, were previously present.

Of even greater interest is the fact that in some cases jaundice is absent. That was so in four cases of this series. Thus in the family, "Tope," to be described below, two members have had no jaundice, although one of these died of acute anaemia at the age of 3½; whereas two other members of the same family have had a yellow colour since birth. In a family reported upon by Gotsky and Isaac,[29] three children had increased fragility, splenomegaly, and anaemia, but no jaundice, whereas with their father and grandmother jaundice was an outstanding feature. Nor do the jaundice and the anaemia show correlation in intensity, but appear to be variants of the same haemolytic process. In such of these cases in which the van den Bergh test has been recorded, the indirect reaction, though always positive, does not appear to be proportional to the degrees of anaemia or fragility.

The amount of bilirubin in the blood, registered by the van den Bergh test, will depend not only on the grade of haemolysis, but as much, if not more, on the excreting capacity of the liver cells. The threshold of these cells is low, and even if the haemolysis is considerable, and the delivery of the bilirubin by the portal veins high, the rate of excretion by the liver cells keeps only a short distance behind. In fact, the distance behind may be so short in some cases that no jaundice is apparent.

Thus in one case there was a high fragility, 0.7 to 0.4, a red cell count of 2,920,000, reticulocytes 6.5 per cent., indirect van den Bergh reaction 3.0 units, and yet only a tinge of jaundice—that is, a considerable haemolysis, a moderate increase of plasma-bilirubin, and only a slight icterus. In other words, excretion by the liver cells into the canaliculi was not far from keeping pace with the larger supply.

It follows that in haemolytic icterus there should be an increased quantity of bilirubin passing from the bile ducts into the intestines, where it would be reduced to urobilin; such increase of the faecal urobilin (stercobilin) does occur. An interesting illustration of this fact is afforded by duodenal intubation in icterus neonatorum. Hess[30] found that where jaundice was marked, the bile in the duodenum was plentiful, but in infants not jaundiced it was scanty or absent.

The urobilinuria so usual in haemolytic icterus is accounted for by this increased amount of urobilin in the intestine. The absence of bilirubin from the urine is more difficult to explain. It has been suggested that its fixation to the blood plasma prevents the kidney cells from excreting it.

Regurgitation Jaundice

The increased production of bilirubin from the blood in haemolytic icterus will surcharge the liver with this product and predispose to the throwing down of pigment. When this occurs biliary colic or dyspepsia and backpressure jaundice are likely to appear, and the van den Bergh test will give either a direct or a biphasic reaction. In this series thirteen patients developed symptoms due to the gall-bladder or biliary ducts, and with four of them gall colic was the first event in the clinical history, the yellow tint of the haemolytic jaundice having been previously absent or so faint as to escape notice.

The Spleen

The spleen as a rule is palpable and often considerably enlarged; the enlargement is liable to vary. According to Gänsslen,[31] in as many as 30 per cent. of cases the spleen is not palpable, but it may still be enlarged in an upward or backward direction. A palpable spleen is often the means of putting the clinician on the track of the disease, and without it atypical cases would escape notice, especially if they did not manifest jaundice or anaemia. The measure of the enlargement is not necessarily related to the severity of the case; thus "B. Tope," aged 10, is now at school, plays like other children, and has no jaundice, yet has a spleen occupying the greater part of the left side of the abdomen, a fragility of 0.6 to 0.4, and an indirect van den Bergh reaction of 3.1 units. That the spleen plays a dominant part is shown by the complete disappearance of jaundice and anaemia following its removal.

The Anaemia

There is a varying degree of anaemia. Its amount depends on the result of the rival forces of blood destruction and construction. The gravity of the anaemia is not measured only by the number of red cells, but by the amount of marrow effort required to maintain that red cell count. The anaemia is of the secondary type unless it becomes severe and the patient ill, when there may be close assimilation to the blood picture of pernicious anaemia. A habitual low red cell count is in this disease, as in others, compatible with absence of symptoms. Is this some unknown process of adaptation? In the present list of cases there are records of several patients playing their parts in the world with 3½ to 3 million red cells, and a colour index well under 1.

Microcytosis is a feature, so much so that a number of small red cells of dark colour seen in a film will suggest the disease. Reticulocytes are more numerous than in any other condition; their presence is evidence of activity in red cell formation. From 5 to 15 per cent. is a reading commonly recorded, but when a big effort is being called forth the reticulocytes may reach to 30, 40, or even 60 per cent.; in no other disease are such high readings found.

Fragility

The fragility of the red cells, in contrast to pernicious anaemia, where the red cells have an increased resistance, is commonly greater than that of normal blood. The method devised by Creed[32] for measuring the fragility is especially reliable. The point at which haemolysis commences shows some variation, but the point at which it is complete shows consistency, among the records of different observers. Fragility of the blood of haemolytic icterus varies not only in different subjects, but in the same subject. Taking the average fragility of normal blood as 0.45 to 0.35, the range in haemolytic icterus may be as high as 0.8. Its extent is not an indication of the severity of the clinical condition, and though increased fragility is a usual finding, it is not a necessary feature of the disease. Thus five cases of those specially under review had normal fragility, and Gänsslen[31] reports that in 10 per cent. of cases of acholuric jaundice there is no increase of fragility. In short, increased fragility is a factor not an essential feature—an adaptable part of a larger mechanism. Of the cases treated by splenectomy, in some the fragility is diminished after the operation without reaching the normal. Thus in this series

0.75 was 0.5 when examined three years later.
0.65 was 0.5 immediately, and four years after operation.
0.8 was 0.5 three years later.
0.7 was 0.55 twelve years later.
0.75 was 0.62 soon after.

In at least as many cases the fragility was unchanged, and Creed[33] had one case in which the fragility increased after splenectomy. The fragility is thus a variable feature, and there is no certain parallelism between its measure of increase and the severity of the jaundice, or the anaemia, or the splenomegaly. All these factors make varying contributions to the genesis of the condition. An interesting association between microcytosis and increased fragility is brought out by the observation that in various mammals those with the smaller red cells have the higher fragility (Krumbhaar).[34] Vallery-Radot and L'Heritier[35]

TABLE I.—*"Mrs. Tope"*

Date	R. B. C. c.mm.	W. C. c.mm.	Hb %	Index	Small Lympho-cytes %	Reticulo-cytes %	Van den Bergh		Cholesterol mg. p r 100 c.cm.	Fragility	Remarks
							Direct	Indirect units			
12/8/27	3,040,000	8,200	60	1.0		8 0	0	+++		0.65–0.45	Microcytosis
1/*/28	5,836,000		85								
28/3/28	3,450,000	11,200	70	1.0	12.0		0	3.5			
15/5/28							0	4.5			
17/5/28	3,220,000	8,400	60	0 9	14.8	28					No abnormal r. c.
21/5/28									80		
8/12/.8							0	3.5			
10/12/28	3,100,000	12,240	60	0.97	8.0						Slight aniso- and poikilo-cytosis
13/12/28									118		
22/1/31	3,700,000	10,200	85	1.1	11.0	5 8	0	3.6			

compared the size and resistance of washed erythrocytes in various mammals, with the results given below.

Species	Size in Microns.	Completed Haemolysis
Man	... 7.6	0.42–0.48
Guinea-pig	... 7.5	0.44–0.46
Monkey	... 7.2	0.44–
Dog	... 6.6	0.50–0.54
Rabbit	... 6.3	0.52–0.54
Horse	... 6.2	0.54–0.58
Rat	... 6.0	0.54–0.56
Cat	... 5.6	0.60–0.66
Goat	... 5.3	0.72–0.74

CASES, WITH COMMENTARY

I will now consider some cases in detail and, through them, certain aspects and relationships of this disease. Let us first study the family, "Tope," under the care of Dr. Sydney Atkin.

The mother began to show jaundice at the age of 6; she is now 44; she has borne four children, and leads an active life. She is always somewhat jaundiced. There is no family history of jaundice and no evidence of increased fragility in several members of the family who have been investigated. The spleen extends to the iliac crest and to the middle line; liver just palpable. The data may be set forth in tabular form (Table I).

This patient runs a busy home without apparent effort and with an average of about 3¼ million red cells—a fact which prompts the reflection that mere "numbering of the people" is an imperfect criterion of functional efficiency. A study of her chart (Table I) shows her haemolysis to be considerable, and her bone marrow is having a struggle to keep pace. The red cell count may decline further without making sign until a dangerous haemolytic anaemia appears. Moreover, the capacity of her bone marrow is more likely than not to decrease with the passing of the years. Splenectomy would be the wise course.

"P. Tope," aged 12, daughter of the foregoing, a well-made child with healthy heart and lungs. She began, at the age of 2, to have attacks of vomiting lasting about two days. She has always been pale rather than yellow, and the yellowness has never been more than a tinge. When 8 years old she had an acute illness, which was characterized first by vomiting and then by progressive pallor and weakness, the spleen being noted as large and firm, and reaching to the iliac crest; the heart became dilated, and a systolic murmur was audible over the precordium. Recovery took place after a fortnight, and about three weeks later the skin and conjunctivae were definitely, though slightly, icteric, and there was marked pallor; the spleen filled the left side of the abdomen; the liver was not felt; glands were not enlarged. The initial blood and other findings are dated August 12th, 1927, in the subjoined table.

TABLE II.—*"P. Tope"*

Date	R. B. C. c.mm.	W. C. c.mm.	Hb %	Index	Small Lympho-cytes %	Reticulo-cytes %	Van den Bergh		Cholesterol mg. per 100 c.cm.	Fragility	Remarks
							Direct	Indirect Units ++			
12/8/27	2,*80,000	7,000	58	1.0		6.6				0.6–0.4	W. R. neg. Test meal 0.05 per cent. free HCl
11/2/28	4,176,000	8,800	65	0.83	13	11.0					Marked microcyto is.
29/2/28	Splenectomy						0	5.5 (splenic vein)	70		One nucleated r. c. in 300 w. c.
2/3/28	4,*03,000				9	4.0	0	2.1			
3/3/28						3.0					
5/3/28	4,000,000		85		9						
7/3/28	5,11*,000		85		10.0	1.0					
10/3/28	5,4*0 000		85		16.0						
12/3.28	4,200,000	7,240	80		32.5	0.3					
14/3/28	4.8 0,000	9,*80	80		26 5	0					
19/3/28	6,070,000	9,280	80								
21/3/28	5,836,000	10,2*0	80		37.5	0	0	0.4	170		
28/3.28									170		
15/5/28	5,256,000	11,4*0	105	1.0	31.2	1.0	0	0.5		0.6–0.4	No abnormal r. c.
18/5/28							0	0.6			
8/6/28							0	0.6			
15/12/28	6,400,000	2*,120	80	0.62	12.5						
22/1/31	5,900,000	13,600	90	0.76	27.0				154		

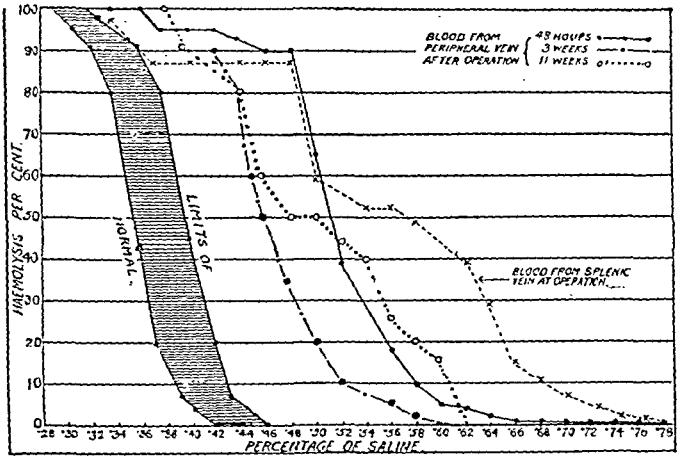


FIG. 3.—"P. Tope." Fragility of red cells.

The fragility of the blood is even better appreciated from the chart (Fig. 3). The vertical column of figures on the left stands for percentages of haemolysis; the horizontal figures indicate percentages of saline.

In February of the following year the red cell count had improved, but the reticulocytes had increased to 11 per cent., and there was marked microcytosis—a feature characteristic of this condition. Further, the van den Bergh test was as high as 5.5. There was thus a good deal of blood destruction with an active blood formation. Mere counting of red cells would have given a false impression of security. The next event was the performance of splenectomy by Mr. T. P. Dunhill, and at the same time a sample of bone marrow from the upper end of the tibia was taken. The recovery both of the patient and of the patient's blood has been notable (Fig. 4), and Table II sets it forth in graphic manner. Note the dates along the base, and the vertical column full of figures. Note the four curves, showing the red cell counts, the reticulocyte counts, which are good evidence of active formation of blood in the marrow; note the plasma-bilirubin and cholesterol. Note the 6 million red cells on March 19th, and the high red cell readings on subsequent dates; at the same time the reticulocytes and the plasma-bilirubin fell within normal limits. This polycythaemia means that splenectomy has done more than we wanted; there was no physiological necessity to remove the whole spleen.

Beer[36] draws attention to the polycythaemia that may result from splenectomy, stating that as high as 13,000,000 red cells have been recorded. Weinert[37] is an advocate of more conservative surgery, such as ligation of the splenic vessels, and he recalls that the first historical record in the surgery of the spleen was the ligature of the splenic vessels by Viard in the sixteenth century. It must be remembered, however, that ligation of the splenic vessels can be more difficult than the removal of the whole spleen, and its effects more difficult to control. There is at that point not enough haemolysis, an accumulation of old red cells, and no call for new ones. (So reticulocytes are very few.) This happening resembles that found in animal experiments. The low reading of cholesterol in the blood and its sharp rise after splenectomy is significant; the same will be noted with the case of E. H. below. In contrast, however, other cases show an approximately normal blood cholesterol content. The spleen weighed 12 ounces, showed great congestion, and a little iron-free pigment. A notable feature of this case was the sudden and dangerous illness due to acute haemolysis.

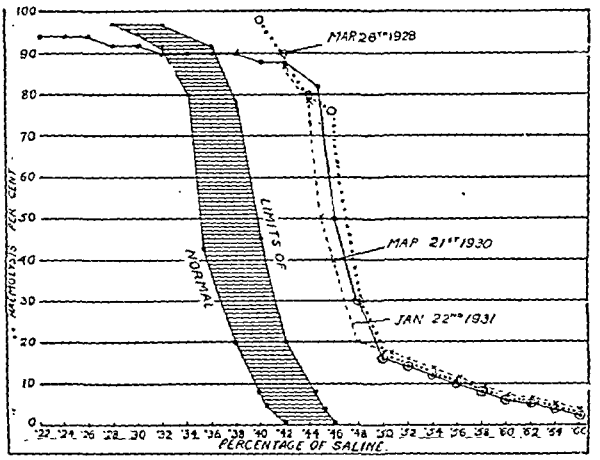


FIG. 5.—"B. Tope." Fragility of red cells.

"S. Tope."—An attack of acute illness with splenomegaly similar to that which nearly killed "P. Tope" was fatal to this younger sister, aged 3½, in the year 1927. This child's health had previously been excellent, and she had never shown any icterus. Her illness began acutely with vomiting; the spleen was palpable; pallor and weakness rapidly increased, and death occurred in six days. Blood tests are lacking here, but the close resemblance between the illnesses of the two sisters is highly suggestive. The presence of jaundice in the sister and its absence here is in keeping with known facts. The liability to severe haemolytic crises with short or no warning in this disease should be borne in mind. In this series of cases seven patients showed this feature, and of these three succumbed.

"B. Tope," aged 10, another daughter, has never been jaundiced or ill. Though pale, she has always been active and vivacious. In 1928 her spleen reached to the umbilicus. The report on the findings then and subsequently arising forth in Table III. (The graph of the fi... of red cells is shown in Fig. 5.)

Can there be any doubt that th... child, however well she appears, should have her spleen removed?

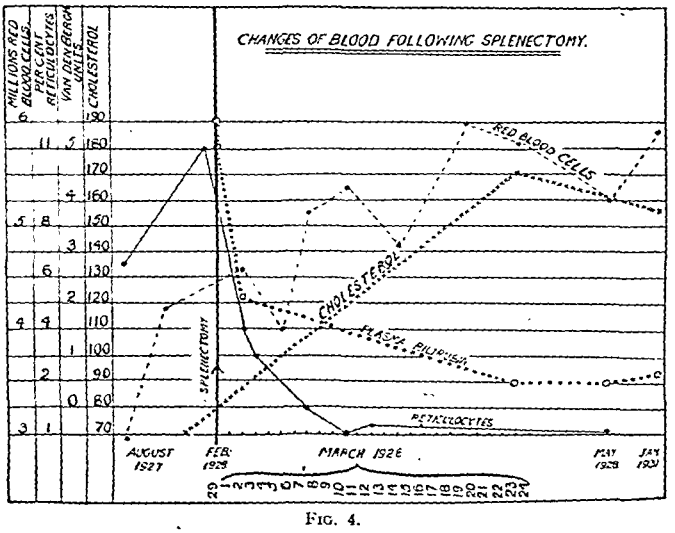


FIG. 4.

TABLE III.—"B. Tope." Never any Jaundice

Date	R. B. C. c.mm.	W. C. c.mm.	Hb %	Index	Small Lymphocytes %	Reticulocytes %	Van den Bergh Direct	Van den Bergh Indirect units	Cholesterol mg. per 100 c.cm.	Fragility	Remarks
1/8/27	4,200,000	7,100	64	0.76		13	0			0.6–0.4	Microcytosis
4/3/28											W. R. negative
28/3/28	4,900,000	11,840	65	0.65	22.5		0				
10/12/28	4,850,000	11,140	65	0.67	24.0		0	1.5	107		
21/5/30	4,360,000	4,900	72	0.83	16.8	3	0				
22/1/31	4,200,000	9,600	90	1.0	13.0	4.4	0	2.0			
							0	3.1	107	0.5	
										0.6–0.3	

This family shows notable variety in the features of the disease; the mother definitely icteric and anaemic, yet working hard and without apparent difficulty; "P. Tope," more anaemic than jaundiced, nearly killed by an acute attack of haemolytic anaemia, and cured by splenectomy. The younger sister ("S. Tope") died from an acute attack of haemolytic anaemia, and had little or no jaundice. "B. Tope" is active and vivacious, has never yet been ill or jaundiced, yet is anaemic, and has the same high fragility of 0.6 and a raised indirect van den Bergh reaction.

The following two cases—I. S., aged 11½, and H. S., aged 10—illustrate the attacks of anaemia referred to above, though in milder form. These were characterized by restlessness and sleeplessness, and increasing pallor and weakness, and had a greater proneness to occur in cold weather. Both boys has an icteric tinge and enlarged spleens.

Van den Bergh reaction in I. S., 5 units—positive indirect; in H. S., 2.5 units—positive indirect. Blood: I. S., 4,500,000 red cells, colour index 0.84, haemoglobin 78 per cent.; H. S., 4,780,000 red cells, colour index 0.9, haemoglobin 85 per cent. Fragility in each case within the normal.

E. H., a girl aged 15, exemplified Chauffard's description, "*plus ictériques que malades.*" But for jaundice, which had been with her since babyhood, this girl had the appearance of health and vigour. Yet a study of her case shows how unstable was her present, how perilous her future. The spleen was palpable.

A study of this table (IV) suggests the following reflections. In spite of appearances the anaemia was pronounced, the haemolysis as shown by the van den Bergh reaction considerable, and the innate reserve power of this patient's bone marrow none too good, for the output of reticulocytes (a maximum of 14 per cent.) before the operation was not striking in face of the need; and a constant high colour index with that red cell count is not a good sign. Moreover, when the strain of haemolysis was slow. With such a recovery of the red cell count was slow. With such a haemolysis might have come like "a patient a severe haemolysis might have come like "a thief in the night." Such a haemolysis nearly killed "P. Tope," and did kill her younger sister. Following the splenectomy, the plasma-bilirubin fell to normal in four days, and there was a change in the patient's complexion. The reticulocyte count reached normality in ten days, but, as just stated, the red cells have been slow in recovery, since, four months after the operation, they were only 4,400,000. Contrast this with "P. Tope": a week after her splenectomy her red cells were over 5 millions, and in three weeks 6 millions, either because her pre-operation haemolysis was less or because her bone marrow gave more response when the destructive force was removed. The point worthy of comment is that the low cholesterol content of the blood present in the

TABLE IV.—E. H.

Date	R. B. C. c.mm.	W. C. c.mm.	Hb %	Index	Small Lymphocytes %	Reticulocytes %	Van den Bergh Direct	Van den Bergh Indirect Units	Cholesterol mg. per 100 c.cm.	Fragility	Remarks
13/7/30	2,700,000		55	1.01	24.5		0	10.)		0.55	Polychromatophilia
2/ /30	2,800,000	4,120	65	1.07		14.0				0.62–0.44	Free HCl 0.07 %
23/5/30	3,500,000	4,480	70	1.0	34.0	9.0		5.5			
26/5/30	3,650,000	5,210	75	1.0	35.0	11.0			157		Anisocytosis
30/5/30	3,800,000	5,200	75	1.0	29.0						
2/6/30	3,100,000	7,000	75	1.2	35.0	5.0					
5/6/30	3,920,000	5,400	75	0.93	19.5						
11/6/30	*Splenectomy and Cholecystectomy. Mr. A. J. Wa'ton.*				35.0	5.4					
12 6/30	3,700,000	22,400	75	1.0	8.5		0	5.0			Anisocytosis
13 6/30						5.4					
14 6/30											
16 6/30	3,700,000	11,920	70	0.9	27.0	1.4	0				
18 6/30	3,650,000	9,200	75	1.0	33.5	3.2		5.0			Anisocytosis
23/6/30	4,000,000	5,600	80	1.0	27.5	0.6	0				
27/6/30	4,500,000	8,520	80	0.8	31.0	0.2		1.0			Anisocytosis
5/7/30											
17/ /30	4,550,000	8,200	85	0.85	39.5	0.2	0				
21/ /30	4,400,000	5,480	15	0.9	37.5	0.5		0.5			
							0		160	0.6–0.44	

"Tope" family, and which rose strikingly after the removal of "P. Tope's" spleen, did not exist in this case. E. H.'s gall-bladder was thickened, and contained pigment-calcium calculi, together with a cluster of white calcium carbonate crystals. No organism could be grown from the centre of a calculus—that is, the calculi were of metabolic, not of infective, origin.

THE FAMILIAL FEATURE

The following case is cited as illustrating the familial feature.

W. G., male, was first seen on August 17th, 1924, aged 34, with the following history. He was quite well up to the age of 22, when pain in the left upper abdomen led to the discovery that he had a spleen enlarged to the umbilicus; he was anaemic, and had a slight yellow tinge. A diagnosis of splenic anaemia was made, and splenectomy advised but refused. He recovered and remained well for eight years, pursuing his employment. Then he had jaundice, dark-coloured urine, and pale stools, but no pain. He recovered health for a further two years, when (1922) jaundice and dark urine returned, and this time there was pain with tenderness over the lower part of enlarged spleen (? result of blow). The table of findings shows that this patient's bone marrow was holding out; but note how a simple operation put this red cell count down (Table V).

TABLE V.—*W. G. Blood Counts*

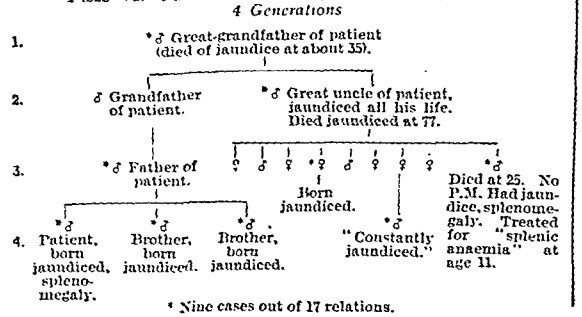
Date	R. B. C. c.mm.	Hb %	C. I.	W. C. c.mm.	Small Lympho-cytes %	Aniso-cytosis	Poly-chro-mato-philia
13/6/22	3,000,000	60	1.0	9,600	19.0	+	+
21/6/22	4,010,000	85	1.1	10,120	12.5	—	—
24/6/22	4,100,000	80	0.98	7,830	22.5	—	—
27/6/22	3,825,000	85	1.1	9,040	17.0	—	—
28/6/22	4,500,000	85	0.94	7,200	10.5	—	—
1/7/22	4,080,000	80	0.99	7,080	20.0	—	—
3/7/22	3,160,000	85	1.3	10,280	20.5	—	—
19/2/23	4,650,000	100	1.1	6,400	21.5	+	—
18/12/23	3,900,000	80	1.0	9,880	15.0	+	+
19/8/24	4,700,000	81	0.86	12,690	17.5	—	—
17/11/25	4,800,000	78	0.81	9,840	21.0	—	—
9/12/27	*Left supraclavicular abscess opened and drained*						
10/12/27	3,050,000	55		8,600	23.0		

Fragility

13/6/22: Haemolysis of patient's red cells commences at 0.5 saline.
17/12/24: Haemolysis of patient's red cells commences at 0.6 saline.
17/11/26: Haemolysis of patient's red cells commences at 0.55 saline.
Urine.—14/6/24: Much urobilinogen present. *Wassermann reaction.*—14/6/24: Negative.

On questioning W. G. it appeared that he had a yellow tinge as a baby. "My brothers and myself," he said, "were born with jaundice." Thanks to Dr. Harvey Francis, the familial character of this disease in W. G.'s family is well illustrated.

TABLE VI.—*Familial Acholuric Jaundice—9 Affected in 4 Generations*



* Nine cases out of 17 relations.

HAEMOLYTIC ICTERUS IN LATER LIFE

It will be convenient to study next certain cases of haemolytic icterus in later life, as they represent end-results.

Mrs. Labourne, aged 53, was admitted to hospital with manifestations of anaemia so severe as to make it obvious that her life was in danger—pallor, faintness, dyspnoea, oedema of feet; there was a faint icteric tinge; her spleen was enlarged to a level below the umbilicus; liver just palpable; no enlarged glands. Her blood count was as follows:

Red blood cells, 2,000,000; haemoglobin, 26 per cent.; colour index, 0.65; white blood cells, 8,400; 3 normoblasts and 2 megaloblasts seen in counting 200 white cells. Poikilocytosis, anisocytosis, polychromatophilia, and punctate basophilia present. Anisocytosis very marked, and a notable increase in the larger variety of red cells. Wassermann reaction, negative; blood urea, 0.048 per cent.; fragility, haemolysis up to 0.75; van den Bergh reaction, direct and indirect positive; urine, trace of albumin, no bile.

This illness commenced three weeks before, and ended in death ten days after, admission to hospital. For eighteen years prior to this illness the patient had lived an ordinary life, except for occasional attacks of abdominal pain and vomiting, no doubt due to gall-stones. She had borne children and had done her domestic work. Further investigation disclosed that in girlhood she had been yellow, and that she and her sister were teased at school on account of this and called the "yellow sisters," though they were both well and active. This patient had lost her jaundice, while her sister retained it. In the year 1890, at the age of 17, Mrs. Labourne suffered for three years from severe anaemia—faintness, pallor, dyspnoea, oedema of feet; heart normal, liver and spleen were both much enlarged; red cell count was 1,400,000. A year or two after there occurred the first attack of abdominal pain. In 1909 the patient was admitted with shivers, fever (103° F.), and jaundice. At the same time she was very pale; her spleen extended to the iliac spine, and the red blood count was 800,000, normoblasts and megaloblasts being present. Her case was then diagnosed as pernicious anaemia, but after a while she improved and returned home. After this she was relatively well for twenty years, and then came the fatal attack of haemolytic anaemia. There will be further reference to this case when pathology is being considered.

Mrs. P.—This woman, aged 55, the sister of Mrs. Labourne, had to be traced to her home. She admitted no disabling illness. Since she was a "yellow sister" in childhood she had remained yellow more or less ever since, but never deeply so. About the age of 30 she had a nagging pain in the left upper abdomen, worse when up, and she herself felt a lump in that position. She was then liable to periods of dyspnoea, weakness, palpitation, etc. But she has lived her life, has had nine pregnancies, and has seven children alive, none of whom are yellow. At the time of her discovery in 1927 she showed slight jaundice and pallor, and had a normal heart.

Red blood cells, 2,900,000; haemoglobin, 32 per cent.; colour index, 0.55; white blood cells, 9,520; 1 normoblast in 200 white cells. Poikilocytosis and anisocytosis present. Wassermann reaction negative.

A notable blood picture, this, for a woman living an ordinary life.

The record of these sisters is complete and informing. Mrs. Labourne in her girlhood showed acholuric jaundice, and probably from the first had a low red blood count due to haemolysis; and a workable balance was only maintained by over-production on the part of the bone marrow. When she was 17 the marrow became exhausted, and the patient suffered for three years from severe anaemia, afterwards recovering equilibrium. In 1909, at the age of 36, she was thought to have pernicious anaemia. There followed eighteen years without disabling illness, and then came a short and fatal attack of haemolytic anaemia at the age of 53. Note how the clinical picture changed; at one time jaundice, and at another anaemia, was the outstanding feature. The sister, Mrs. P., has had to combat a less powerful haemolysis, and is still active; but a similar end probably awaits her.

Mrs. "Ford," aged 65 in 1926, an old lady whose father, daughter, and grandson also had haemolytic icterus, illustrates the frequent association of cholecystitis and cholangitis with this condition, and, when from age or severity of symptoms, both gall-bladder and spleen cannot be operated upon at the same time, the importance of deciding which operation should have priority. This patient had in her youth mild jaundice, varying in degree and probably of haemolytic origin, for her spleen was known to be enlarged. As time wore on, the jaundice picture altered and suggested cholecystitis. At the age of 51, in 1912, the gall-bladder was drained and calculi were removed. Thereby the pain disappeared, but jaundice persisted. The unwisdom of not removing the large spleen shortly thereafter is obvious. A few years later, when aged about 65, haemolytic anaemia in the shape of breathlessness and palpitation made itself manifest, and the blood picture showed 3,384,000 red cell count, the fragility was 0.6 for commencing haemolysis, the van den Bergh test showed a negative direct and a positive indirect reaction, and there was no bilirubin in the urine. A year later the jaundice increased, the van den Bergh direct reaction became positive, and bile pigment appeared in the urine; henceforth the case resembled more the picture of cholangitis. The red cell count was now 3,050,000, and the reticulocytes only 0.6 per cent., showing that there was but little fight left on the part of the bone marrow. Finally, it was decided to operate on the cholangitis; this was done, but, as a preliminary, after every care in typing, blood transfusion was performed. There followed a gradual deepening of the jaundice to a dark olive-green colour. Death ensued. The patient would have been better without the transfusion. This occurrence of severe jaundice following transfusion again finds illustration in the next case.

Mrs. "Bass."—Aged 44, admitted on January 11th, 1928, under Dr. Leyton, for whose permission I am indebted. There was here a doubtful history of icterus early in life; at the age of 13 the patient had been treated for chlorosis. She had had fourteen children, of whom thirteen died at or soon after birth. The last and fatal illness, at the age of 44, lasted nearly six months, and was characterized by increasing anaemia, an icteric tint, failure of appetite, and later loss of flesh. The spleen was enlarged nearly to the umbilicus; the liver was just palpable. Lungs clear; heart, soft systolic murmur at base; blood pressure 140/75; small haemorrhages in right fundus; urine cloudy with albumin; urobilin ++; *x*-rays of bones, normal.

TABLE VII.—"*Mrs. Bass*."

Date	R. B. C. c.mm.	W. C. c.mm.	Hb %	Index	Small Lymphocytes %	Reticulocytes %
11/1/28	1,600,000	8,000	33	1.03	31.0	30.0
17/1/28	1,600,000	9,000	34	1.06	20.5	43.4
23/1/28	1,600,000	8,500	32	1.0	27.5	65.2
4/2/28	1,400,000	9,300	28	1.0	29.0	
26/1/28	2,000,000	10,500	40	1.0	31.0	51.4
5/3/28	1,600,000		35			
8/3/28	1,900,000	11,500	39	1.02	9.0	48.5

11/1/28 33 normoblasts in counting 200 white cells
4/2/28 78 normo., 8 megal., 5 micro. in 200 w. cells
26/2/28 14 normo., 4 megal., in 200 white cells
5/3/28 41 normo., 16 megal., in 200 white cells
} Poikilocytosis, anisocytosis, and polychromatophilia in all instances marked.

16/1/28 *Van den Bergh reaction*: Direct negative. Indirect positive.
14/2/28 Strong biphasic reaction after first transfusion.
5/3/28 Strong biphasic 4.8 units
5/3/28 *Fragility* reached 0.82. Wassermann reaction negative.
5/3/28 *Cholesterol*: 157 mg.
5/3/28 *Test meal*: Free HCl absent. Total acidity 0.22.

The patient received three blood transfusions during the last sixteen days of her life: (1) 350 c.cm., (2) 600 c.cm., and (3) 500 c.cm. The blood group was No. 2. Each transfusion was followed by pyrexia (up to 104° F.), vomiting, diarrhoea, and deepening jaundice. Towards the end there was increased anuria, and two days before death (March 28th, 1928) only three ounces of urine were passed. This anuria has been shown by Baker and Dodds[29] to be due to the blocking of the kidney tubules by masses of acid haematin pigment.

Here, then, is a second case which suggests caution in the employment of transfusion of blood in this disease. It will be noted also how some of the severe cases are almost identical in their pictures to pernicious anaemia (for example, Labourne and Bass).

[The list of references will appear at the end of Lecture II.]

PSEUDO-ARGYLL ROBERTSON PUPILS WITH ABSENT TENDON REFLEXES

A BENIGN DISORDER SIMULATING TABES DORSALIS

BY

W. J. ADIE, M.D.ED., F.R.C.P.

PHYSICIAN, CHARING CROSS HOSPITAL AND ROYAL LONDON OPHTHALMIC HOSPITAL; PHYSICIAN TO OUT-PATIENTS, THE NATIONAL HOSPITAL FOR NERVOUS DISEASES, QUEEN SQUARE

I wish to draw attention to a benign symptomless disorder characterized by pupils which react on accommodation but not to light, and by absent tendon reflexes.

Five of the six cases I am about to describe came under my notice in the course of a few weeks; the condition therefore cannot be very rare. Though harmless in itself it merits recognition because it is often mistaken for a manifestation of syphilis of the nervous system, with unfortunate consequences for the patients and their families.

CASE I

A woman, aged 36, was admitted to the Hospital for Tropical Diseases under the care of Dr. G. Carmichael Low for an "overhaul" on her return from abroad. Physical examination and routine laboratory tests revealed no evidence of disease apart from the neurological signs that concern us here. There was nothing in the family or personal history to explain these signs. Ten years ago she noticed that her pupils were unequal. On examination I found pupils of moderate size, the right just larger than the left, which was slightly oval; neither reacted to light, direct or consensual; both contracted fully on convergence, but the movement was remarkably slow; after the effort to converge was relaxed they remained small for several seconds, then dilated very gradually to their original size. All the tendon reflexes in the upper and lower limbs were completely abolished. There were no other signs of organic nervous disease. I knew that this myotonic pupillary reaction had nothing to do with syphilis, but had never seen or heard of it in association with absent tendon reflexes. I reported as follows: "A most unusual case; I prefer not to make a diagnosis; the condition is benign, and should not prevent her from returning to her work abroad." After her discharge, Dr. Low kindly allowed me to consult the hospital notes, and I found that Wassermann's test had been done on the blood and cerebro-spinal fluid with negative results.

CASE II

A woman, aged 23, attended hospital because her brother, an optician, had found that she had Argyll Robertson pupils. She was admitted to the National Hospital for investigation. She knew "what they thought," and was greatly distressed. With the first case in mind I promised her that she should leave the hospital with the stigma removed. Apart from the special signs, nothing of importance was discovered in the course of a thorough routine investigation. The following observations were made: the pupils were unequal, right 3½ mm., left 3 mm.; the right was irregularly oval with the long axis vertical, the left regularly oval with the long axis horizontal. The reaction to light was completely absent in both; the reaction on convergence was present in both, but was abnormal; the contraction was delayed and proceeded slowly until the pupils reached pin-point size. When the effort to converge was relaxed they dilated very slowly to their original size. The knee- and ankle-jerks

were completely absent. These observations were confirmed repeatedly by myself and my colleagues. The Wassermann reaction was negative in the blood and cerebro-spinal fluid. The report on the fluid was as follows: clear, colourless; no cells seen; total protein 0.035 per cent.; Nonne-Apelt and Pandy reactions negative; Lange's colloidal gold test, no change (Dr. J. G. Greenfield).

CASE III

A young man, now aged 32, was brought to me twelve years ago by his sister, a medical student, who discovered that he had Argyll Robertson pupils. I found that his knee-jerks were absent, and thought that he was a case of congenital tabes. He came to see me recently about another matter, and I went into his family and personal history and made a complete physical examination. Nothing apart from the neurological signs suggested syphilis, congenital or acquired. His general health was good. The pupils were moderate in size and unequal, right larger than left. The right was totally inactive to light, the left reacted very feebly. On convergence both pupils contracted very slowly to pin-head size, then dilated still more slowly when he looked into the distance. He had noticed himself that the pupils varied in size from time to time. All the tendon reflexes in the upper and *lower limbs* were absent. There were no other neurological signs. He has submitted to several tests of the blood and cerebro-spinal fluid, all with negative results.

CASE IV

A woman, aged 45, attended the Royal London Ophthalmic Hospital for glasses and was referred to me by Mr. Foster Moore, who had noticed the abnormal pupils. There was nothing worthy of note in the family or personal history. Her general physical condition was good. Vision improved to 6/9 right, 6/18 left; no optic atrophy (Mr. Foster Moore). The pupils were unequal; right 3 mm., left 2½ mm. The left pupil did not react to light; on convergence it contracted slowly but fully, and maintained its smaller size long after convergence had ceased; it then dilated very gradually. The right pupil contracted feebly to light, slightly better on convergence; the contraction was not slow or unduly maintained. The knee-jerks were easily obtained and equal, but the ankle-jerks were completely absent. The Wassermann reaction in the blood was negative. The cerebro-spinal fluid has not yet been examined.

CASE V

A girl, aged 17, was referred to me by Mr. Foster Moore and admitted to the National Hospital for investigation. She noticed about two years ago that her pupils were unequal, and that the left pupil varied in size from time to time. Four months ago the left pupil became permanently large; since then she has not been able to use it for close work. Otherwise she has always been in perfect health. Examination revealed no other signs except the following. The pupils were unequal; right 2½ mm., left 8 mm. They were both inactive to light; on convergence the right pupil contracted slowly to pin-point size, and when convergence ceased it again dilated very slowly. The left did not contract on convergence. The knee-jerks were brisk; for a patient of her age, and compared with the active knee-jerks, the ankle-jerks were certainly abnormally sluggish. The Wassermann reaction was negative in the blood and cerebro-spinal fluid. Report on the cerebro-spinal fluid: clear, colourless, 1 cell per c.mm.; total protein 0.03 per cent.; Nonne-Apelt and Pandy reactions negative; Lange's colloidal gold reaction 0001100000 (Dr. J. G. Greenfield).

CASE VI

In an article on the myotonic pupil in Wilbrand and Saenger's *Neurologie des Auges*, I found a reference to a case described by Gehrcke in which eye signs like those in my cases were found in a patient with "imperfect stationary tabes." The following is an extract of the case history: A woman, aged 45; right pupil inactive to light, very slow contraction and relaxation on convergence; ankle-jerks absent. There were no other signs of organic nervous disease. The family history was not given. The Wassermann reaction was negative in the blood and cerebro-spinal fluid. The Nonne-Apelt, Weichbrodt, and Pandy reactions were all negative; no increase of cells; pressure normal. Nevertheless, because the ankle-jerks were absent the diagnosis of tabes was made. This is the only case resembling my own that I have been able to find in the literature. I have not yet completed my search. (See note at end.)

COMMENTARY

It is not surprising that all of these patients with "Argyll Robertson pupils" and absent tendon reflexes were thought to be suffering from syphilis of the nervous system, congenital or acquired. The correct diagnosis can be made with certainty by closely observing the contraction of the pupil during the act of accommodation for near objects. The true Argyll Robertson pupil reacts promptly and fully, often excessively, on convergence, and dilates again as soon as the effort to converge the visual axes is relaxed. In these cases the pupils show the so-called myotonic reaction; they do not respond to light; they contract very slowly through a wide range during a sustained effort to converge; often remain small long after the effort ends, and, when they dilate again, do so slowly. They differ in other ways from the true Argyll Robertson pupil, but the above features are sufficient to distinguish them. This myotonic reaction is well known to ophthalmologists, and it has been firmly established that syphilis plays no part in its production. Mr. Foster Moore has described seven cases under the title "Non-luetic Argyll Robertson pupil," and has told me of several others he has seen. The characteristics of his cases are, he says, the complete or substantially complete inaction of the pupil to the light stimulus, the leisurely manner in which it contracts with convergence, and in which it again dilates after relaxation of convergence; the frequency with which it is unilateral; the integrity of accommodation; the absence of syphilis; the presence of knee-jerks, and the absence of signs of any nervous disease even after many years.

It seems to me more than probable that some of his cases with non-luetic Argyll Robertson pupils but normal tendon reflexes are examples of a milder form of the same benign disorder that I have described here. I think, too, that my cases are related to those described by Mr. Gayer Morgan and Dr. C. P. Symonds under the titles "A series of cases with rapid onset of unequal pupils and failure of accommodation: a forme fruste of encephalitis lethargica," and "Internal ophthalmoplegia with absent tendon reflexes." In their cases the defect was most often unilateral, the affected pupil was dilated, and reacted not at all or incompletely both to light and on convergence; further, accommodation was partially paralysed, so that visual symptoms were produced. In some of their cases the tendon reflexes were diminished or lost.

My fifth patient seems to me to provide evidence that links the three groups. In one eye her pupil was dilated and fixed, with paralysis of accommodation, as in the cases described by Mr. Morgan and Dr. Symonds; in the other eye accommodation was normal, the light reflex was absent, and the reaction on convergence was myotonic as in the non-luetic Argyll Robertson pupils of Mr. Foster Moore. My fourth case also showed a myotonic pupil on one side and a partially fixed pupil on the other. I have reason to believe that a large fixed pupil is sometimes the forerunner of a myotonic pupil. These and other more academic aspects of the subject I hope to deal with at another time. My object now is to make it known that pupils conforming to the prevailing loose definition of an Argyll Robertson pupil, and easily mistaken for the true

Argyll Robertson sign, may be found associated with loss of tendon reflexes in patients with a benign disorder that has nothing to do with syphilis whatsoever.

Note.—After this was written, Mr. Foster Moore kindly allowed me to read the typescript of his paper on the non-luetic Argyll Robertson pupil, which he read at the recent ophthalmological congress. In one of his fifteen patients with this abnormal reaction of the pupil, the knee-jerks were absent: in another they were obtained with reinforcement only.

BIBLIOGRAPHY

Wilbrand and Saenger: *Neurologie des Auges*, 1922, ix, 143.
Moore, R. Foster: *Transactions of the Ophthal. Soc. of the United Kingdom*, 1924, xliv, 38.
Morgan, G. and Symonds, C. P.: *Guy's Hospital Reports*, 1927, lxxvii, 13.

ACUTE MASSIVE COLLAPSE OF THE LUNG FOLLOWING LIPIODOL INJECTION

BY

A. J. SCOTT PINCHIN, M.D., F.R.C.P.
PHYSICIAN TO VICTORIA PARK CHEST HOSPITAL; PHYSICIAN, WEST LONDON AND HAMPSTEAD GENERAL HOSPITALS

AND

H. V. MORLOCK, *M.C.*, M.D., M.R.C.P.
PHYSICIAN TO OUT-PATIENTS, VICTORIA PARK CHEST HOSPITAL, MILLER AND HAMPSTEAD GENERAL HOSPITALS

In view of the more general use of lipiodol injection of the bronchial tree as an aid to the diagnosis of pulmonary disease and of the increasing importance which collapse of the lung is assuming in the etiology of acute pulmonary conditions, this case is of special interest.

The patient, a healthy-looking young man, aged 18, was sent to us because of a pain in the side, which he had had for two months and which his doctor suspected as a pleurisy. The pain was sufficiently severe to prevent him breathing deeply. There were no physical signs except feeble breath sounds. He was admitted to hospital for further investigation to exclude the possibility of fibrosis with bronchiectasis. A simple skiagram of the chest showed no abnormality. A lipiodol injection of the bronchial tree was done by the crico-thyroid route. To suit the convenience of the hospital this procedure was carried out on the *x*-ray table. The following points are to be noted:

1. The injection was done on the *x*-ray table, the film being in position, and the time from the injection to record of the skiagram was considerably less than five minutes, probably only three minutes.
2. At the time of the collapse the patient showed only slight respiratory distress. The physical signs present were diminished movement, slight impairment of percussion note, and a considerable diminution of the air entry over the affected side of the chest.
3. The speed with which recovery took place according to the skiagraphic records.

Jacobaeus, Selander, and Westermark,[1] in their paper on acute massive collapse of the lung, record four such cases in which the injection of lipiodol was followed by collapse of the lung. These were from a series of eight patients with normal bronchi whom the authors were injecting for purposes of investigation, and it is somewhat astonishing that they should have found so high a proportion in whom the injection was followed by massive collapse.

In our case the bronchi were normal, but in a previous investigation on the subject of dry haemorrhagic bronchiectasis we occasionally injected lipiodol into a patient with normal bronchi, yet this is the first case of massive collapse from this cause that we have seen. In a series of many hundreds of lipiodol examinations for many varying pulmonary conditions at Victoria Park Hospital no such case of massive collapse has occurred.

A point of considerable interest is the length of time between the injection and the collapse. In Jacobaeus's cases ten to fifteen minutes elapsed between the injection and the skiagrams. In our case the time between the injection and the record by skiagram was probably not more than three minutes. That is to say, the collapse was practically immediate. Coryllos, Birnbaum,[2] and also Lee, Radwin, Tucker, and Pendergrass[3] produced massive pulmonary collapse in animals by plugging a bronchus with a balloon. The collapse was not complete till six hours later. The latter authors also obstructed a bronchus with a solution of gum arabic, causing complete collapse in four hours. The time taken for the collapse to disappear in Jacobaeus's cases was from two and a half to nine hours; in our case there was considerable improvement in half an hour, and complete recovery in twelve hours.

ETIOLOGY OF MASSIVE COLLAPSE

Morison,[4] in an instructive article reviewing massive collapse, groups the four main theories of etiology as follows:

1. Failure of the respiratory power of the lung playing an active part (Pasteur).
2. The mucus plug theory (Jackson, Lee, and others).
3. Reflex spasm of muscles of the bronchioles (Bradford, Sante, and others).
4. Inflammation of the crus and one-half of the diaphragm or of pleural membrane covering it (Charlton Briscoe).

Clinical experience goes to show that Group 1 probably has least influence in the production of the condition. A mucus plug, acting either as a complete obstruction or as a check valve (in which case the air may be exhausted much more rapidly), may indeed be a factor in the causation of post-operative collapse, but cannot cause this instantaneous collapse.

Reflex spasm, involving the walls of the bronchioles, is the only way in which the lung could be so rapidly emptied of its air. Jacobaeus put forward this view in explanation of his four cases following lipiodol injection, concluding that spasm of the bronchi and bronchioles squeezed out most of the air in the bronchial system, leaving only the alveolar air to be absorbed. In support of this view he claimed that in two cases of his the bronchi were seen to be distinctly smaller in the state of collapse than later when the collapse had passed off. This scarcely seems a fair contention, as one would expect that in a collapsed lung the bronchi would naturally be smaller.

Sante[5] incorporates the first three views in his theory that the condition is due to simultaneous inhibition of the cough reflex by some toxic or reflex stimulus, with an impairment of the respiratory muscles, caused either by a defensive immobilization or by paralysis from a toxic neuritis. This permits secretion to accumulate and block the bronchus, atelectasis resulting.

In this explanation the mucus plug is the final cause of the atelectasis. As has already been recorded, an atelectasis produced by a mucus plug in animal experiments required four to six hours to develop, but in these animals the inhibition of the cough reflex and the impairment of the respiratory muscles were not present. In cases of immediate collapse, we would suggest that it is the inhibition of the cough reflex and the impairment of the respiratory muscles which produce a reflex spasm of the bronchi and bronchioles (as suggested by Jacobaeus), thus actively expelling the air from the bronchial system, while the mucus plug acts as a check valve, not allowing air to re-enter.

REFERENCES

1 Jacobaeus, H. C., Selander, G., and Westermark, N.: *Acta Med. Scand.*, 1929, lxxi, 439.
2 Coryllos, P. N., and Birnbaum: *Arch. Surg.*, 1928, xvi, 501.
3 Lee, W. E., Radwin, I. S., Tucker, G., and Pendergrass, E. P.: *Ann. Surg.*, 1928, lxxxviii, 15.
4 Morison, J. M. W.: *British Medical Journal*, 1930, ii, 237.
5 Sante, L.: *Ann. Surg.*, 1928, lxxxviii, 161.

HOMOLOGOUS ANTIPNEUMOCOCCAL SERUMS IN THE TREATMENT OF LOBAR PNEUMONIA

BY

RICHARD R. ARMSTRONG, M.D., F.R.C.P.

AND

R. SLEIGH JOHNSON, M.D., M.R.C.P.

Serum treatment of lobar pneumonia is no new thing. Fresh interest has been aroused in this subject during recent years by the use, in America, of the "Felton" concentrated antipneumococcal serum. Reports have appeared very recently, from Edinburgh and Glasgow, of the therapeutic application of the concentrate in cases of lobar pneumonia due to infection by the pneumococcal Types I and II. It has been our good fortune, thanks largely to the Medical Research Council, to try this new remedy during the past few months. It will be evident from the account which follows that we believe the antipneumococcal serum to be a remedy of the first importance. There is, however, a strong body of opinion, concerned not so much with clinical evidence as with crude mortality statistics, which inclines to doubt this conclusion, particularly in view of the fact that the mortality, in cases due to Type II infection, has not been shown to be materially reduced. On our part, we seriously doubt whether crude mortality experience affords a true criterion by which the success of this treatment may be judged, for every physician will agree that a great variety of conditions may prejudice the course of pneumonia and lead to the death of the patient, irrespective of the pulmonary condition.

THE FIELD OF INQUIRY

The field of inquiry was limited at first to St. Bartholomew's Hospital. It soon became apparent that the number of cases likely to be available there was small. Grateful thanks are due to the Medical Officer of the London County Council for permission to work, since mid-January, in the Council's highly efficient and well-equipped hospitals at Mile End and Bermondsey; acknowledgements are due to the medical superintendents at each of these hospitals for unrestricted access to cases, and to the members of their medical and nursing staffs for loyal co-operation. Foremost among our allies has been Dr. Gordon Sears at Mile End, whose balanced judgement of the clinical aspect of treated cases has been of superlative value to us. Some cases at the Victoria Park Chest Hospital were also treated.

RAPID METHOD OF DETERMINING PNEUMOCOCCAL TYPE

So far as we know at the time of writing, the basis of our inquiry differs from that adopted in any other investigation of the kind in this country, in that we have determined before administration of serum the serological type of pneumococcus responsible in each case. The method has already been described in a recent number of the *Journal* (February 7th, p. 214). In brief, a mouse is inoculated with the patient's sputum; in four hours or less the animal's peritoneal cavity is explored by acupuncture. The exudate so obtained is mixed on a slide with an equal volume of each of the type agglutinating serums and examined under the microscope. A characteristic change in the appearance of the pneumococci takes place in the case of a positive reaction. The cocci become conspicuously enlarged; if present in considerable numbers they speedily agglutinate. The reaction is quite characteristic and free from ambiguity. Thus in no instance was serum administered unnecessarily, as happened in other hands, in cases due to infection by nondescript pneumococci.

METHOD OF ADMINISTRATION: SENSITIZATION

The most important consideration in serum treatment must be early administration of the largest convenient dose. In the first instance, intravenous medication is essential; by no other route may the desired result be attained. The suggestion of intravenous serum therapy conjures up the dread of anaphylactic shock. This dread is imaginary rather than real; it ceases to be of importance if the simple procedure be observed of keeping a hypodermic syringe containing 1 c.cm. of 1 in 1,000 adrenaline solution always in readiness before giving the serum. One of our patients had a very severe anaphylactic reaction, but this was promptly controlled by subcutaneous adrenaline. It is the rule that first reactions are the most severe, and that subsequent inoculations progressively provoke less shock; the same generalization applies to the rigors and other forms of disturbance of less moment which are occasionally seen. The elaborate tests for sensitization by dropping serum on to the eye or by squirting it into the skin are, we venture to state, as unnecessary as they are apt to be misleading.

VARIOUS SERUMS USED

The serums used have come, partly by gift and partly by purchase, from different sources; our supplies have been very strictly limited. Our gratitude for the gifts is not the less sincere from the fact that we are not at liberty to divulge the donors' names. A concentrate containing antibodies against the pneumococcal Types I and II prepared by Parke, Davis and Co. or by Lederle was used. A similar concentrate, effective only against Type I pneumococcus, from the Wellcome Laboratory, was also given. These concentrates are alike prepared by the Felton method, being derived from the serum protein of immunized horses by precipitation of the euglobulin fraction, associated with the specific antipneumococcal antibodies, in a large volume of distilled water, the precipitate being collected and redissolved. The protective values, per maker's dose (the contents of each phial supplied), of the three concentrated serums used have been accepted for the purpose of this inquiry as approximately equal, a practice which has been justified by the clinical results.

An unconcentrated (horse) serum, Type I, supplied from the Wellcome Laboratory, was also used by us in four cases. This serum was of exceptionally high titre, and was said to be of nearly two-thirds the protective value of an equal volume of the same firm's concentrate. The preparation of concentrate is both difficult and costly, so that therapeutic trial of this unconcentrated serum was not without point. Seeing that the primary object of treatment is administration of the largest possible quantity of antidote at the earliest moment, the conditions of the experiment are scarcely satisfied by the use of the unconcentrated remedy. This view was confirmed by experience in two cases, although in two others of less severity the results were all that could be desired. We concluded that unconcentrated serum should be used only in early cases of moderate severity or in adolescents whose illness it might be desired to abort.

DOSAGE

The considerations which have determined the size and spacing of doses must now be discussed. The reports from Scotland state that a wide range of doses from a minimum of one dose to a maximum of twenty-six was employed there, with an average of six doses per case. Our impression of the system adopted in America is that there five doses per case represented the average requirement.

Although in many cases improvement follows intravenous injection of the remedy, without any disturbance

of the patient's general state, rigors are of frequent occurrence, particularly in cases treated early in the disease. The severity of the reaction seems proportional to the dose. We find that the contents of two phials (a double dose), approximately 20 c.cm. volume, administered with an ordinary 20 c.cm. glass or Record syringe, is generally the maximum desirable ; this dose should be given slowly and cautiously at first. With a sensitive patient or in one subject to bronchitis or asthma, it is better, in our experience, to reduce the dose to one phial. The same conditions apply to the spacing of doses, for if the reaction be severe, six hours is all too short an interval ; eight hours is preferable, and in early cases we have been quite content to begin with a double dose morning and evening, a manœuvre very convenient to the practitioner, who is likely in any event to see his patient twice a day during the acute stage of the pneumonia. Our standard procedure has therefore become: in early cases, an initial double dose followed by a second similar dose, then a final single dose; administration at eight- to twelve-hour intervals ; in later cases, three double doses and a final single dose. These doses have generally sufficed, but it must not be supposed that we have been constrained by any arbitrary considerations, as in every case the clinical indications have been our guide. Thus, in some, three doses have aborted the illness ; while in one case of exceptional severity nine were given. In general terms, however, if a favourable effect does not follow a course of seven doses, we seriously question whether benefit is likely to follow prolongation of serum treatment.

Analysis of Cases

Clinically typical cases of pneumococcal primary lobar pneumonia in adult men and women have been exclusively selected for study or treatment. The series includes no children or old people. The incidence of the pneumococcal types of infection is shown in the table.

Incidence of Pneumococcal Types

Type I		Type II		Type III	Nondescript	Total Cases Investigated
Treated	Untreated	Treated	Untreated			
16	10	10	5	6	47	80

It is generally held that cases due to Type II pneumococcal infection are more severe and more resistant to treatment than cases due to Type I. While admitting this contention, we have not perceived, in the admittedly limited number of cases of each infection treated by us, any marked difference in the response to serum treatment, as we have obtained equally good results in both instances. Let it be strongly emphasized that we have abstained from serum treatment in all cases, irrespective of the pneumococcal type of infection, which were obviously mild and progressing in a favourable manner ; moreover, we have never intervened later in the illness than on the sixth day. The results appear in the tabular analysis which follows, and illustrate the supreme importance of early treatment.

Analysis of Twenty-Six Treated Cases. Types I and II

Day Treated	Result		
	Aborted	Improved	Uninfluenced
Second... ...	6	—	—
Third	3	4	1
Fourth	1	3	—
Fifth	—	3	1
Sixth	—	2	2

Symptomatology of Serum-treated Cases

The effects of treatment by concentrated antipneumococcal serums may be conveniently summarized under two headings: (1) conspicuous immediate results ; (2) characteristic general effects.

Conspicuous Immediate Results

Shock.—We noted in six of our twenty-six treated cases that the first dose of serum was followed by respiratory distress, varying from rapid and shallow breathing, with or without a sense of constriction in the lower chest or round the waist, to urgent dyspnoea and cyanosis, observed in two cases of the series. At the same time, the pulse became frequent and ill-sustained or for a short time barely perceptible at the wrist. The patient's face was livid, the lips colourless, and the eyes sunken. At this moment adrenaline was given, and was followed in every case by rapid cessation of the alarming symptoms. The onset of shock was from five to fifteen minutes after the serum injection ; the phase of discomfort lasted up to half an hour if adrenaline was not administered.

Rigors.—In twelve cases a rigor or shivering attack followed the first injection, the highest level of temperature reached being 105.8° F. In ten cases, a rigor, with lower maxima, followed the second dose ; in four only, the third or subsequent doses. Our experience consistently proves that a brisk rigor following the injection is of favourable import. This phenomenon was specially observed when the Parke Davis concentrate was used, and also with a particular batch of serum concentrate from the Wellcome Laboratories.

Sweating.—Profuse sweating, a constant accompaniment of spontaneous crisis in lobar pneumonia, does not occur with the same frequency when the clinical course of the disease is interrupted by serum treatment, nor is defervescence, following a rigor, necessarily associated with sweating. Thus only six of our patients sweated after the first dose of serum and ten after the second. The presence or absence of sweating gave us no definite indication as to the probable course of the illness.

Cyanosis.—Cyanosis is a characteristic feature in almost every case of lobar pneumonia. Most clinicians believe that this bears no exact relationship to the extent of consolidation in the lung. Indeed, cyanosis is frequently observed long before consolidation has taken place. One of the most remarkable effects of the serum treatment is improvement in the patient's colour. Sometimes after the first dose, usually after the second, the normal complexion returns, so that one may perceive, even at a distance from the bedside, the disappearance of the pneumonic facies. This change often occurs before the pulse and respiration rates have subsided, and bears no relation to the physical signs of consolidation, which are usually better defined than before treatment, corresponding to the course of the inflammatory process in the lungs. We submit that there is considerable probability that cyanosis in lobar pneumonia is a toxic phenomenon due to damage to the alveolar walls by pneumococcal products ; we claim this important evidence of the benign effect of serum treatment as proof of its highly specific action. An analysis of treated cases shows that cyanosis vanished in seventeen cases, was lessened in five, and remained unchanged in two cases which ended fatally. Two other cases were profoundly anaemic ; therefore the characteristic cyanotic tinge was not to be expected. The respiration rate usually falls more gradually after serum treatment than after true crisis More conspicuous is the disappearance of respiratory distress and cessation of the pneumonic grunt.

The Mental State.—Sleeplessness causes as much anxiety as any symptom of pneumonia to the physician in

attendance. Among other mental disturbances are restlessness and anxiety, with confusion of mind and even active delirium. The effects of serum are consistently beneficial in this respect, affording conspicuous relief to the patient. Natural deep sleep for some hours, without the aid of hypnotics, followed the first dose of serum in eleven of our patients, and in seventeen the mental state improved. Of the group of twenty-six cases, nineteen patients slept after the second dose and in twenty-two the mind became clear and composed. The exceptions were afforded by two fatal and two anaemic cases. Proof of the extreme deprivation of rest suffered in the untreated case of lobar pneumonia lies in the well-known fact that after natural crisis the patient will often sleep for days. No such exhaustion was apparent in our cases treated early; more than once, these patients have personally testified to their intense satisfaction in having enjoyed a night's good rest after the serum.

Albuminuria.—Among the consequences of the pneumonic toxaemia is albuminuria. Urinary tests were not made in every case, but in a number observed daily the disappearance of an albuminuria, often gross, was a constant sequel of treatment. In any event, one of the most frequent subordinate evidences of recovery from the acute stage of lobar pneumonia is diuresis; this flow is expedited by giving serum.

Characteristic General Effects of Serum Treatment

Whereas it is fair to state that the illness in cases of primary lobar pneumonia untreated by antipneumococcal serum becomes increasingly more serious up to the time of crisis, when within a few hours the picture changes, in cases treated early by the Felton concentrated antipneumococcal serum symptoms progressively abate after the inoculations. In cases in which treatment is begun later the effects are not dissimilar to those observed in normal subsidence by lysis. Slight irregular fever following a course of serum is not infrequent, this happening most often in cases treated late and in those in which scattered bronchitis accompanies the pneumonia. This slight fever, occurring when the height of the disease is past, must not be considered of adverse clinical significance or as evidence that the remedy is inadequate. Success or failure in the serum treatment of lobar pneumonia is to be gauged by the patient's improved general state, in particular by the disappearance of the so-called "toxaemic" symptoms rather than by slavish concentration on minor vagaries in his temperature. Analysis of the 26 treated cases shows that 11 became and remained afebrile following the last intravenous dose of serum, an irregular slight fever persisted for a few days in 12 others, while in 3 cases the temperature did not respond.

The pulmonary condition is not the only consideration in lobar pneumonia. At least an equal measure of attention must be paid to the heart and the general state of the patient. The importance of adequate rest has already been emphasized. We do not propose to digress into a discussion on the control of the pulse rate, although we incline to favour tincture of digitalis, given early in the illness, as a conservator of cardiac energy. We are not averse to the giving of alcohol (whisky or brandy) as required. Cane sugar or glucose may be taken freely, being a food which is easily assimilated and speedily utilized. Returning to serum treatment, this undoubtedly has favourable influence on the alimentary system. After the first, usually, almost invariably after the second, dose of serum, the tongue becomes moist and cleaner; appetite rapidly returns. It is hardly possible to describe the astonishment we felt on finding a patient who had suffered violent anaphylactic shock and a severe rigor, following serum administration at 11 o'clock in the forenoon, sitting up in bed at 6 o'clock the same evening, when his final dose of serum was due, enjoying tea, bread-and-butter, and a boiled egg. This occurred on the fifth day of an illness which was exceptionally severe before treatment was begun. The inevitable loss of flesh and the asthenia which is a consequence of pneumonia are stayed or prevented if serum is given early in the disease, as on the one hand the illness is aborted and on the other the patient is not called upon to sustain the effects of days of fever and starvation. Hence convalescence is greatly shortened and assisted.

THE GENERAL EXPEDIENCY OF SERUM TREATMENT

It is appropriate to refer to certain essentially practical aspects of the results of serum treatment. Unquestionably lives are saved, the patient's sufferings are relieved, and the acute anxiety of his relatives is consequently soothed. Other more mundane considerations follow: admitting that the serum is at present costly both to make and to market, in all probability serum treatment represents actual economy. The services of both a day and a night nurse, essential for the case of severe pneumonia, may be dispensed with at an early stage; visits from the physician, twice daily or more often, soon cease to become necessary, and convalescence is so far accelerated that the wage-earner returns to work in a state of full efficiency, literally weeks before the untreated case. These considerations apply with equal force to the case of the sick in institutions and to the private patient; it would be exceedingly interesting to offset the expenditure on a course of serum treatment, say ten to fourteen guineas, with a virtual guarantee of speedy recovery, against the alternative cost of a long and serious illness, with prolonged convalescence, in the untreated case.

SERUM TREATMENT OF LOBAR PNEUMONIA COMPLICATING PREGNANCY

Pregnancy is occasionally complicated by lobar pneumonia, and miscarriage or abortion not infrequently ensues. Two pregnant women were treated by us. One was aged 27 years, with a recrudescence of nephritis, blood and much albumin (1.5 per cent.) in the urine, pregnant 2½ months; the other had a straightforward pregnancy of 7½ months. In neither case was the pregnancy disturbed, while the nephritic woman left hospital ten days later with only a "cloud" of albumin in the urine and no blood.

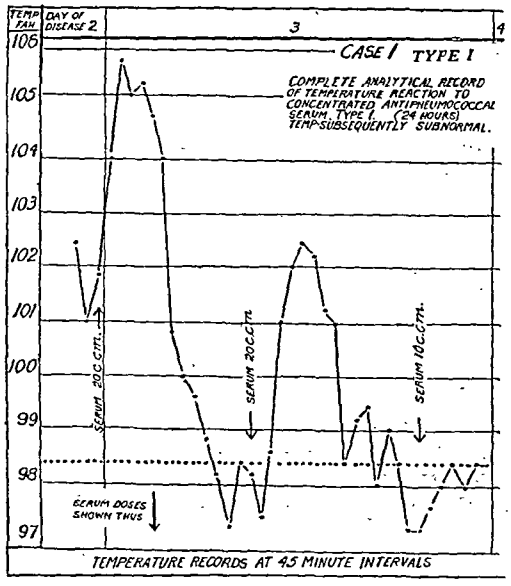
INFLUENCE OF SERUM TREATMENT ON THE PHYSICAL SIGNS

We deny, on the basis of our experience, that serum treatment causes delayed resolution of the consolidated lung. We are not entirely in agreement with those who assert that the course of events in the lungs is uninfluenced. Considering cases treated within the first three days from the onset, the physical signs, indicating the course of the inflammatory process in the lung, undergo rapid change, corresponding with the effect of serum in relieving symptoms. Signs of the first stage of resolution, weak or absent breath sounds, replacing bronchial breathing over the consolidated areas, and signs of the second stage—namely, the appearance of the coarse, moist rales found during resolution—follow on successive days, accompanied by rapid diminution of percussion dullness. Correspondingly, the typical viscid, blood-stained, rusty, highly albuminous sputum of early pneumonia, containing scanty alveolar and bronchial epithelial cells, changes in a day to a loose, purulent expectoration, full of polymorphocytes.

These rapid changes are to be likened, in our experience, to those which quickly succeed each other in the very mild cases of lobar pneumonia (albeit due to the pneumococcal Types I and II) occurring in adolescents and to infection

by unclassified strains of low virulence in adults. This class of case commonly ends by crisis on the third day of illness. An important difference exists between these mild cases and the typical severe cases in adult men and women selected by us for treatment—namely, that in the mild untreated cases physical signs are limited in extent. Ample evidence of the potential severity of our early cases was afforded by extensive consolidation of one lung, often accompanied by physical signs on the opposite side, which sometimes progressed, despite treatment, to an area of definite consolidation.

With few exceptions our patients, treated early, complained of pain, frequently at both bases, often referred to the shoulder or abdomen on the side where consolidation was most extensive; pleural friction was to be heard with the stethoscope. We noted a difference in this respect from the behaviour of untreated cases at the same stage of the disease, and suggest the following explanation. With alleviation of symptoms and restoration of lucid perception, the patients undoubtedly become aware and grumble at lesser discomforts, which are ordinarily masked by the severity of the illness and the confused mental state usual at this stage. Moreover, it is not improbable that the pleurisy is arrested in the so-called "dry" stage before the gross "buttery" fibrinous exudate of late pneumonia has had time to develop. Movements of the chest wall are very limited on the affected side in pneumonia; the artificial arrest of inflammation by serum undoubtedly relieves this muscular spasm, and so permits a friction between the roughened surfaces of the visceral and parietal pleura. The condition lasts at most two to three days, and is relieved by local applications—a linseed poultice or antiphlogistine.



CASE 1.—Male, 38. Onset, sudden; symptoms, typical; signs, consolidation of whole right lower lobe, general bronchitis; dramatic improvement after first dose of serum; shock, absent; resolution rapid; pleural pain seventh day of disease.

These points are worth noting. We became able, as our experience grew, to reassure our patients, saying that the symptoms were insignificant and would soon pass. We anticipate that the development of new symptoms and fresh physical signs, such as pleural friction on one or both sides of the chest, might well cause apprehension in the mind of the physician, treating his first case with serum, that complications or recrudescence of the pneumonia were pending. *There is no cause for alarm.*

LATE SERUM EFFECTS

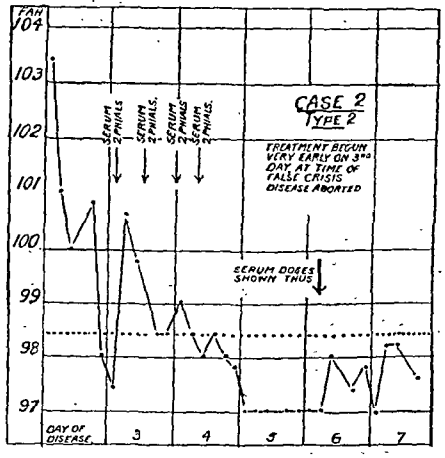
Late effects from administration of therapeutic serums of whatever kind are apt to be disconcerting to the physician, and, particularly in the case of painful or swollen joints, distressing for the patient. Nettle-rash developed in two patients, both of whom had received the unconcentrated Type I antipneumococcal serum mentioned earlier in this paper. Adrenaline injections successfully controlled the irritation. Two patients had a transitory acute arthritis, yielding at once to salicylates—one after concentrated, the other after unconcentrated, serum.

COMPLICATIONS

It is impossible to give an opinion, on the slender basis of twenty-six cases, as to any alteration in the incidence of complications such as empyema, in cases treated by antipneumococcal concentrate. A study of the very extensive American literature on the subject suggests that serum treatment does not prevent these complications.

EXAMPLES OF SUCCESSFUL TREATMENT BY SERUM

We do not question that spontaneous recovery would have occurred, in all probability, in most of our successful cases, but we strongly urge that the remarkable amelioration in the patient's condition which follows serum is more than sufficient justification for our advocacy of this treatment.



CASE 2.—Male, 32. Onset, sudden; symptoms, severe; signs, consolidation of whole right lower lobe and later of left base; marked improvement after second dose of serum; shock, considerable; resolution satisfactory; pleural friction seventh day of illness.

Considerations of space require the omission of full notes on representative cases; the reader's attention is directed to the charts, illustrating this paper, and to the accompanying legends.

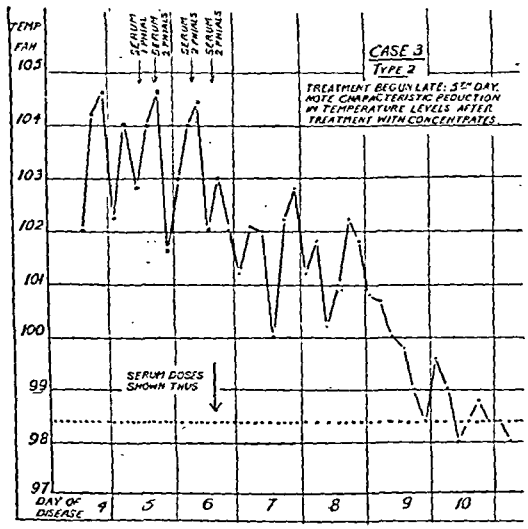
A TYPICAL CASE TREATED BY NORMAL HORSE SERUM AS A "CONTROL"

A case of Type I infection, of average severity at the time of onset, was treated by normal horse serum as a "control" with the object of deciding the possible non-specific effects of horse-serum protein. A course of seven doses, given as usual in three doses of 20 c.cm. and a final dose of 10 c.cm., were given at twelve-hour intervals, beginning on the third day. The patient became steadily worse as his illness progressed unchecked. There was relapse, due to consolidation of the opposite lung, and when the illness ended by a slow lysis, extending over the seventh to ninth days, he was left extremely debilitated, and convalesced but slowly. In fact, physical signs of consolidation in both lungs still persisted three weeks after lysis.

UNSUCCESSFUL CASES

Much stress has been laid on the high mortality in cases of pneumonia with pneumococcal septicaemia. Blood cultures have been made by us in all our severest cases, but in none has there been a positive result. We offer no evidence on this point, but wish to emphasize that the observations made in this paper apply to the sporadic form of lobar pneumonia occurring in the British Isles. It is obvious that this form is far less severe than that which prevails in New York or that responsible for the Rand epidemics a few years ago. Likewise, the small number (26) of cases treated and the method of selection —namely, the choice of (1) early, or (2) severe cases— deprives our mortality experience of significance, for the group is not homogeneous.

There were three fatal cases. One patient (Type I) apparently recovered from his pneumonia with the aid of serum, but died from the results of a surgical operation (reported in the *Journal* of April 25th, p. 701). A second (Type II), our oldest patient, a man aged 60, did not respond to serum given on the fourth day of disease.



CASE 3.—Female, 21. Onset, sudden; symptoms, severe; signs, consolidation of whole right lung and later of left base; gradual improvement after second dose of serum; shock, absent; resolution satisfactory.

Outstanding adverse features were myocarditis, chronic bronchitis, past syphilis, and alcoholism. Death occurred on the fifth day, from heart failure rather than from the lung affection. In a third case (Type II), serum given on the third day of illness was followed by marked initial improvement; misled by this apparently good result, we unfortunately stopped treatment prematurely. The patient became worse. Serum administered after an interval of forty-eight hours was ineffective, and he died.

SUMMARY

1. The course of primary lobar pneumonia, due to the pneumococcal Types I and II, may generally be aborted if treatment with the homologous concentrated antipneumococcal serum is begun within the first three days of the disease.

2. The course of primary lobar pneumonia, due to Types I and II, may be favourably influenced if treatment with the concentrate is begun on the fourth or fifth day of the disease.

3. It is doubtful whether the course of the disease is influenced to any extent if treatment is begun later than the fifth day.

4. The contents of five phials or makers' doses, estimated to contain 10,000 standard antipneumococcal units per dose, generally suffice for early cases of Type I infection.

5. The optimum dosage for cases of Type II pneumococcal infection, and for later cases of Types I and II infection, is the contents of seven phials.

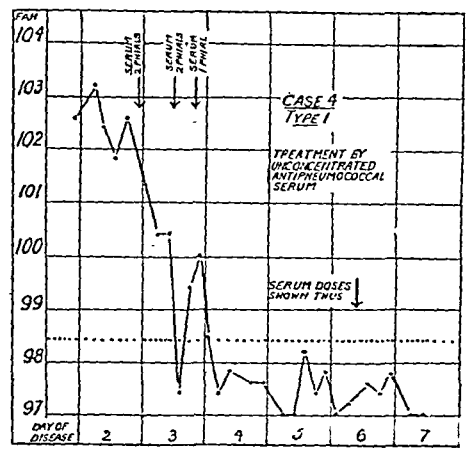
6. The intervals between doses should be not less than six hours, but may be conveniently extended to twelve hours if treatment is begun within the first three days of illness.

7. Unconcentrated antipneumococcal serums of high titre may be used with success for very early cases of moderate severity, and in adolescents.

8. The serum must be given intravenously; by no other route may satisfactory results be obtained.

9. Desensitization is unnecessary; 1 c.cm. of 1 in 1,000 adrenaline solution should be administered subcutaneously whenever symptoms of shock are apparent.

10. The intravenous administration of serum is especially effective in aborting and eliminating toxic phenomena, cyanosis, delirium, etc. The action of the serum appears to be specific.



CASE 4.—Male, 35. Onset, sudden; symptoms, typical but moderate; signs, consolidation of left base; improved after first dose of serum; disease aborted; resolution accelerated, almost complete on seventh day.

11. Considering the cases of Type I and Type II infection together, of 26 cases 18 were treated by antipneumococcal serums within the first four days of the disease. In 10 of these the pneumonia was aborted and in 7 improvement was apparent. One patient showed initial benefit, but relapsed and died. Eight were treated with serum on the fifth and sixth days; five were improved, and three uninfluenced. These results sufficiently illustrate the supreme importance of early treatment.

CONCLUSION

A final word of explanation of the form of this communication is perhaps desirable. It is a common mistake to claim too much for a new remedy; indeed, the field we have entered has been beset for years by enthusiastic advocates of a variety of medicaments. Good effects in two or three cases might be attributed to coincidence or to unconscious favourable selection, but any such influences may be excluded without misgiving when consecutive experience confirms first impressions. The accounts of treatment in America are widely scattered through the literature, and not easily accessible to most English readers. We pay homage to the workers across

the Atlantic and to those in Glasgow and Edinburgh, and pray to be excused detailed reference to the work of others; we do not wish to overload our text.

We have tried to convey to the practitioner a clear impression of what takes place at the bedside, and to guide him in dosage and in the treatment of emergencies. To those who are interested, we offer the advice to apply the remedy to the first suitable case that arises in their practice.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

FRONTAL SINUSITIS WITH INTRACRANIAL SUPPURATION AND INVASION OF BLOOD AND CEREBRO-SPINAL FLUID BY DIFFERENT ORGANISMS

The following is a record of a case of acute frontal sinus suppuration terminating in meningitis, and presenting some unusual bacteriological features.

On April 25th, 1930, a male, aged 28, was admitted to the ear, nose, and throat department suffering from oedema of the left conjunctiva of three days' duration, limitation of eye movement, and proptosis.

On investigation there was definite tenderness over the left frontal sinus, and transillumination showed the left frontal area to be dark. X-ray examination disclosed little difference between the two sides. Next day a Howarth's operation was performed by Dr. J. S. Fraser; a little pus was present in the ethmoidal and left sphenoidal sinuses, but in the left frontal sinus there was a large quantity which, when tested, showed a *Staphylococcus aureus* infection. For three days after operation the temperature was high, and a growth of *Staphylococcus aureus* was obtained in a blood culture on April 29th. The next day abscesses appeared in the gluteal and deltoid regions. From the pus obtained by opening and draining these abscesses a *Staphylococcus aureus* was again cultured.

During the next fortnight the temperature continued to swing, and, on examination of the lungs, signs of old tuberculous lesions with definite cavities were found at both apices. The sputum contained no *B. tuberculosis*, but many organisms of the strepto-pneumococcal group. From blood culture on May 14th a very strongly haemolytic streptococcus was found. The patient improved to some extent, and blood culture a fortnight later was negative, although the temperature continued to swing. On June 4th he complained of headache and became mentally abnormal, refusing to speak but willing to do anything he was asked. The following day there developed paresis of the muscles below the left eyebrow and of the right arm. The knee-jerks were brisk and abdominal reflexes present. There was no ankle-clonus, but there was an extensor plantar reflex, a positive Kernig's sign, and some difficulty in swallowing. On lumbar puncture the cerebro-spinal fluid was turbid and under pressure, and a *Pneumococcus mucosus* was found. This was non-haemolytic, inulin-fermenting, bile-soluble, and agglutinated by Type III serum.

The patient died on June 6th. Post-mortem examination showed intradural and extradural abscesses over the left frontal lobe, with chronic osteomyelitis of the left frontal bone, and cario-necrosis of the roof of the orbit extending to the roof of the sphenoidal sinus. There was also an early well-marked leptomeningitis. On bacteriological examination of the pus from the intradural abscess two organisms were found—namely, a *Staphylococcus aureus* and a *Pneumococcus mucosus* (Type III).

The striking feature of this case is the variation of the type and origin of the infecting organism at different periods of the illness. In all, three distinct organisms were found—namely, *Staphylococcus aureus*, haemolytic streptococcus, and Type III pneumococcus. In the early stages a *Staphylococcus aureus* infection was predominant, the source of this being presumably the infected frontal sinus. Later, however, a haemolytic streptococcal septicaemia developed, the organism probably having its origin in the lung condition. Unfortunately, a more complete examination of the sputum was not carried out, as at this time the significance of this source of blood infection was not fully realized. Finally, *Pneumococcus mucosus* was found in the intradural abscess along with *Staphylococcus aureus*, while the Type III pneumococcus was alone responsible for the infection of the cerebro-spinal fluid.

I wish to thank Dr. J. S. Fraser for his kind permission to use the case notes, and Dr. W. R. Logan for his guidance in the bacteriological work.

JOHN A. BURGESS, M.B., Ch.B.,
Assistant Bacteriologist, Royal Infirmary, Edinburgh.

SPONTANEOUS PROLAPSE OF UMBILICAL CORD DURING EARLY MONTHS OF PREGNANCY

Spontaneous prolapse of the umbilical cord during the early months of pregnancy appears to be of sufficiently rare occurrence to justify a brief description of the following case.

Mrs. S., aged 37, engaged me to attend her at her confinement. She had had three children, the eldest being 16, and all previous confinements were normal. The patient had been under my care for about a month, receiving a course of intensive alkali treatment for gastric ulcer, and it was during the convalescent stages of this complaint that I made the routine ante-natal examination. All pelvic measurements were normal, and the uterus corresponded in size to a pregnancy of five months' duration. Foetal heart sounds could be heard quite distinctly, and, apart from a very slight degree of uterine prolapse, there were no abnormalities worthy of record.

A few days later I received a message from the patient requesting me to visit her immediately as "her inside had come down." Upon my arrival she explained that during the early hours of the morning she had discovered something protruding from the vagina, but had not experienced any symptoms suggestive of labour pains or abdominal discomfort of any description. There was a loop of normal pulsating cord, measuring about eight inches, protuding from the vagina, but apart from this the cervix would only admit the tip of the index finger. There were no uterine contractions.

It was evident that the only line of treatment to be adopted in this case was to encourage the early onset of labour. This was accomplished by the administration of continuous hot rectal saline, and pituitrin in 2.5 unit doses when pains threatened. Labour commenced about eighteen hours after the prolapse of the cord, and the subsequent history of the case was uneventful; the foetus and placenta were entirely free from abnormalities.

M. HAWKE, L.R.C.P., M.R.C.S., L.M.S.S.A.
Tollesbury, Maldon.

Reports of Societies

OBSESSIONAL NEUROSIS

At the meeting of the Medical Society of Individual Psychology on May 14th, with the president, Dr. O. H. WOODCOCK in the chair, Dr. M. C. LUFF read a paper on a case of obsessional neurosis.

After a brief summary of the chief features of interest presented by the case, Dr. Luff considered these and other points in more detail. The patient was a married woman, aged 30. The obsessions of which she complained showed a close relation to schizophrenia. This finding suggested that in this case there was no clear demarcation between psychoneurosis and psychosis—a possibility which further study of the case served to confirm. Thus neither the fears from which she had suffered from the age of 7, nor

similar symptoms which arose in the course of treatment, could be clearly differentiated from delusions. The same lack of true insight was displayed in the way in which she associated herself with crimes read of in newspapers. Her style of life illustrated in many ways Adler's views as to the mechanisms which might underlie neurotic symptom formation. A pampered only child, she was ill adapted to meet any rebuff to her wish for complete domination. Her hostility to her father was largely connected with the fact that he teased her. Attempts to educate her away from home had to be abandoned because she was so unhappy at school, feeling that the girls did not like her. Ill adjusted to the demands of society, she was equally so with regard to sex. With romantic fantasies of the ideal husband, she married a man whom she despised. She came for treatment two years after marriage, and normal sexual relations were established only as a result of psychotherapy.

THE PSYCHOLOGICAL FACTOR IN THE RHEUMATIC SYNDROME

Dr. M. B. RAY read a paper on the psychological factor in the rheumatic syndrome. He prefaced his remarks by a survey of the predisposing and exciting causes of rheumatism. From this point he passed on to matters of a more general nature. He defined environment as that "which embraces everything that interacts in any way with the individual, be it a group of cells or the whole." He considered that it was the quality of this interaction which determined good or bad function. As an example, he pointed out that it was because the autonomic and endocrine systems helped to maintain such a dynamic equilibrium that they were essential to health. Certain observations indicated that rheumatoid arthritis might be related to a permanent autonomic imbalance. The possibility that this finding might be in part dependent upon psychological factors was suggested by the well-known clinical fact that mental states might exert a profound effect upon the autonomic endocrine balance, and vice versa. He had found clinical confirmation for this *a priori* assumption in his work at the clinic of the British Red Cross Society. He could recall several cases of hydrarthrosis which had been due to sudden mental shock. Rheumatoid arthritis was most common in women. Brachial neuritis and sciatic neuralgia attacked more particularly worrying, anxious people. He concluded with a summary of several case histories in which the rheumatic condition seemed to have been psychologically determined.

INTRACRANIAL COMPLICATIONS OF EAR DISEASE

At the last meeting of the Section of Laryngology and Otology of the Royal Academy of Medicine in Ireland, with the president, Sir ROBERT WOODS, in the chair, Dr. HORACE LAW read notes on two cases of aural disease with intracranial complications.

The first was a case of lateral thrombosis with fatal termination due to lung abscess. The patient, a girl of 18, was brought to hospital on August 4th, 1930, suffering from pain in the right ear together with high fever. The history was that for a fortnight these conditions had existed, accompanied by tenderness and a grave amount of constitutional disturbance. On examination, there was tenderness and some swelling behind and above the right ear; an acute inflammation of the drum was found, with a copious discharge. There was no swelling over the mastoid or in the tissues of the neck. The internal jugular vein could not be palpated, and there was no sense of discomfort on deep pressure in the neck. An ordinary radical mastoid operation was done, a large periosteal abscess being found, with cholesteomatous debris in the antrum and middle ear. There was no indication to proceed further, as enough had been found to account for the high temperature and pain. Three days later, however, the patient had two rigors. The lateral sinus over a large area was at once laid bare, and a perisinutic abscess revealed; the sinus was soft, and showed no signs of thrombosis; the condition of the neck was exactly as mentioned above. Unfortunately this procedure seemed to make no difference to the condition of the patient, who still ran an extremely high temperature, going up most nights to 104° F. Injections of S.U.P. 36 and scarlatina antitoxin were tried, but had no influence on the course of the trouble. Eleven days after this operation the patient again had another rigor, and her condition was so serious that Dr. Law decided to cut down on the jugular vein. He opened the sinus above, which bled freely. The jugular vein was not easy to locate, as the tissues were extremely disintegrated, and the vein itself very soft. It was found to be full of pus as far down as the root of the neck. The wound was plugged and left open. A probe was passed up to meet another in the jugular bulb; this portion was proved to be patent. The local condition steadily improved, but the patient developed definite lung symptoms and began to expectorate evil-smelling sputum. Haemorrhages supervened, one of which proved fatal on September 6th.

The second patient was a female, aged 17, who was brought into hospital on November 21st, 1930, in an unconscious condition. The history was that she had acute otitis some days previously, growing rapidly worse and becoming unconscious on the morning of the 21st. Beyond the discharge from the ear it was not possible to make any definite diagnosis. Dr. Bewley saw the patient and found the reflexes fairly normal; there were no gross eye signs. He made a lumbar puncture and withdrew 50 c.cm. of fluid, under pressure, but quite clear. Dr. Law at once did a radical mastoid, laying bare the sinus and breaking down the tegmen tympani. In the groove of the sinus and under the tegmen were found fairly large subdural abscesses. When that of the tegmen was opened, the patient at once stopped breathing, though the heart remained strong and the pulse regular. She was kept alive partly by artificial respiration and partly by intratracheal oxygen, and the rest of the operation was completed as mentioned above, leaving the area wide open. The following remedies were used in an effort to make her breathe: oxygen, carbon dioxide, stimulants, strychnine 1/10 grain, pituitrin, sterile saline intrathecally. These various attempts were continued for four hours, the pulse remaining good throughout; after that time, as there seemed to be no prospect of any natural respiration, the attempts were given up.

Dr. T. G. WILSON, referring to the second case, said that when respiration ceased in these circumstances a cerebellar abscess was usually present, and its evacuation was usually followed by restoration of respiration. Dr. GEOFFREY BEWLEY said that he had performed the lumbar puncture, and that he did not think the cessation of respiration was due to this procedure, notwithstanding the large amount of fluid drawn away. He thought some more serious intracranial trouble was present. Mr. A. A. MCCONNELL suggested three methods of restoring respiration which had proved successful in cases of cerebellar tumour. These were: (*a*) changing the position of the head, from flexion to extension, or vice versa; (*b*) putting the patient into the Trendelenburg position; and (*c*) opening the foramen magnum.

Dr. LAW, in replying, said that permission for a post-mortem examination had been refused.

Others who contributed to the meeting were Dr. P. J. KEOGH, who showed a case of papilloma of the right vocal cord; Dr. R. R. WOODS, who read notes on a condition he described as vallecular dysphagia, and on a case of abscess of the temporal lobe; Dr. P. DEMPSEY, who showed a case of epithelioma of the fauces successfully treated by diathermy; Dr. T. O. GRAHAM, who demonstrated two successful results of the operation for lateral sinus thrombosis; and Dr. T. G. WILSON, who read notes on a case of temporal lobe abscess in a child of 9 months, and on a case of perisinus abscess with purulent meningitis.

Reviews

FORENSIC MEDICINE

Two textbooks on forensic medicine from American sources have recently appeared. One of these, written by ELMER D. BROTHERS[1] of the Chicago Bar, deals almost entirely with the legal aspect of the subject, and gives a clear exposition of the law as it affects the medical practitioner. Although the outlook is essentially American there is much to interest English readers. The author clearly defines the contractual relations existing between the physician and his patient; he goes into the question of civil and criminal malpractices and the legal liabilities that may arise out of the negligence of nurse, assistant, or partner. In discussing the question of torts, he raises a point which appears amusing to us over here—namely, the question of false advertisement and fraud by physicians. He cites decisions where patients have sued practitioners for fraudulently guaranteeing to cure certain diseases known to be incurable. In one instance a person was positively assured that he could be cured, and on this assertion he gave a written agreement to pay 500 dollars. He was suffering from the effects of a fractured base, and when he found that no cure was possible he successfully sued the doctor and institution for fraudulently obtaining his money. The manner in which such cases of "infamous conduct" are dealt with, if they are subject to the control of any professional body, is not disclosed by the author. The section containing miscellaneous legal information is of much interest. Mr. Brothers devotes about fifty pages to the medical aspect of his subject, and the least said about this section the better. There are many mistakes, and the author would be well advised either to omit this part altogether or have it revised by a medical specialist. The book is, in general, good reading, and if the author is weak on the medical side he certainly gives us some very interesting material from the legal side. While not of great value to the medical practitioner, and even of less to the medical student, it has its place on the library shelves of universities and institutions.

The second book[2] is from the pen of Dr. RALPH WEBSTER, professor of medical jurisprudence in Chicago University, and co-author of the well-known textbook by Petersen, Haines, and Webster. We should not have expected any dearth of material for the medical jurist practising in Chicago, and were the more surprised to find an almost complete lack of original matter. In fact, the constant references for details to other sources, particularly to Petersen, Haines, and Webster, suggests that it might be better to read the original in the first place. The book lacks proportion, undue prominence being given to certain sections at the expense of others equally important. Thus, toxicology accounts for about 500 out of the 800 odd pages in the book, and though the author says that "wounds involve the medical practitioner in court proceedings more frequently than any other cause," he devotes only thirty pages to this important part of legal medicine. On the other hand, twenty-three pages are given to ethyl and methyl alcohol; a fact not without significance when we consider that the author is dealing with a prohibition country. The technique for the examination of blood-stains is well described, and the chapters on various forms of violent death, infanticide, rape, etc., follow conventional lines. There is in general, however, a lack of practical detail, which greatly detracts from the value of the book. For example, there is no instruction in the method of performing a post-mortem examination, and exhumation is not even mentioned; there is no description of wounds in various parts of the body, and even such things as fractures of the skull, cerebral haemorrhage, concussion, compression, etc., are not mentioned. No information is given about the identification of firearms and projectiles, or on the examination of powder residues, although firearm injuries would appear to be of considerable importance in the United States in general, and in Chicago in particular. The toxicological section is easily the best part of the book, indicating clearly that the interests of the author are chemical and analytical rather than clinical and pathological. The action of poisons and their isolation and detection are discussed in a practical manner, as by one quite at home in this branch of work. The precautions in connexion with the prescribing, dispensing, and sale of poisons, however, are not mentioned, although the Harrison Law and the Volstead Act, with references to narcotic and alcoholic substances, are discussed in the earlier pages. In the general sections of the book we find much material which is both interesting and instructive, and which gives a basis for comparison of our own methods and statutes with those of the United States. For example, there has been for some time in this country a growing feeling of dissatisfaction with the coroner system, and it is with interest that we note the rapid replacement of coroners in America by medical examiners, whose duty it is, when called upon, to investigate the medical facts in all cases where the cause of death is unknown. The author adds his quota of praise for the new system. The book is well printed and bound, but would be much improved by the introduction of more illustrations; the illustrations given are not original, and do not cover the range of the subject-matter sufficiently. With such gaps in it, the book can hardly be recommended to the student or to the general practitioner, but will be of interest to the specialist in forensic medicine.

[1] *Medical Jurisprudence*. By Elmer D. Brothers, B.S., LL.D. Third edition. London: H. Kimpton. 1930. (Pp. 509. 15s. net.)
[2] *Legal Medicine and Toxicology*. By Ralph W. Webster, M.D., Ph.D. Philadelphia and London: W. B. Saunders Company. 1930. (Pp. 862, 46 figures. 37s. 6d.)

STREPTOCOCCI AND SCARLET FEVER

The view that a streptococcus is the specific cause of scarlet fever is now generally, although not universally, accepted. The grounds on which this conclusion is based are discussed in great detail in the elaborate work of Drs. DAVID and ROBERT THOMSON on "The Rôle of the Streptococci in Scarlet Fever," which forms the sixth volume of the *Annals of the Pickett-Thomson Research Laboratory*.[3] As is well known, a streptococcus is to be found in the throat in almost every case of scarlet fever, and it has been proved experimentally in human volunteers that the disease may be produced by swabbing the throat with pure cultures of the organism. It has also been contracted in the laboratory by persons working with the streptococcus. In 1924 Dick and Dick made the important discovery that this streptococcus produces an exotoxin, demonstrable in Berkefeld filtrates, which, when injected into susceptible persons, is capable of producing the general malaise, nausea, vomiting, fever, and rash which characterize the spontaneous disease. The same observers have also shown that the filtrate may be used, by intradermal injection, as a test of the susceptibility and non-susceptibility to the disease; for example, of 20,856 persons whom the Dick test indicated as non-susceptible, none contracted the disease after passing through one or more epidemics. It has been further shown that the immunization of susceptible persons may

[3] *Annals of the Pickett-Thomson Research Laboratory*. Vol. vi: The Pathogenic Streptococci: The Rôle of the Streptococci in Scarlet Fever. London: Baillière, Tindall and Cox; Baltimore: The Williams and Wilkins Company. 1930. (Pp. xiii + 470; 13 plates. £2 2s. net.)

be effected by injections of the toxin or of antistreptococcic horse serum, and also by vaccination.

The evidence in support of the streptococcal origin of scarlet fever is therefore very strong; and the modern view of its pathogenesis suggests an analogy with that of diphtheria—namely, that the disease is a local infection of the throat and cervical glands, while the general symptoms are the result of the circulation of a soluble exotoxin. Some have thought that the presence of streptococci in the scales is evidence of the transmission of the organism through the blood, but Deicher has found that patients who have been bathed and are still desquamating show no streptococci in the scales. Apart from the propagation of the disease through contaminated articles, such as milk, the authors consider that the chief mode of spread is by droplet infection from the respiratory tract, especially of human carriers such as discharged convalescents and missed or mild cases without the typical rash. The frequency of this mode of propagation is sufficient to explain the inefficiency of such measures as isolation, disinfection, and fumigation, in controlling the disease. The highly technical question of the precise relation of the streptococcus to other haemolytic streptococci appears to be still *sub judice*; the authors incline to regard it as a distinct species.

The authors deserve high praise for the accomplishment of what, without exaggeration, may be called their stupendous work. They have apparently brought together the entire extant information on the subject in a form which seems to render a reference to work of earlier date superfluous. An inspection of the copious index to the volume will give some idea of the immense amount of detail included in the review, which has entailed an analysis of some 1,400 publications. The monograph is the eleventh of a series on the pathogenic streptococci, the earlier fasciculi of which were referred to in the *Journal* of August 3rd, 1929 (p. 206). The streptococci of erysipelas and skin diseases will form the subject of a volume which is due to appear in the present year.

THE VISCEROGRAPHIC METHOD

The introduction of the graphic method in the investigation of the physiology and pathology of the circulation was so fruitful of results that it is surprising that it was not immediately adopted in the study of other contractile organs. The first attempt at the systematic employment of the method in the latter was undertaken by Professor DANIELOPOLU in 1921, although isolated observations had been made before that date by Morat, Coulson, and Cannon. Professor Danielopolu has since been engaged in an extensive research, a detailed account of which is contained in his work on the Viscerographic Method.[4] The apparatus employed is simple, consisting of a hollow sound with a bladder tied to its extremity; this is introduced into the organ, and the bladder, by a suitable mechanism, is distended to the desired degree of tension. The variations of tension produced by the contractions of the organ are registered in the usual way in the form of a curve on a revolving drum with smoked paper. The method has the advantages of being exact and giving measureable results, and of being directly applicable to the human subject, as a clinical procedure. By its means the physiology, pathology, and the normal and pathological pharmacology of the motility of the contractile viscera have been studied in connexion with the oesophagus, stomach, intestines, and bladder, with results which leave no doubt of the value of the method.

Professor Danielopolu has in the first place described the normal curve of motility for the organs mentioned, in connexion with which he has some interesting facts to record relating to the reflex mechanism concerned. He next describes the oculo-visceral reflexes, the influence of sleep on motility, and the action of hyperventilation of the lungs. The pathological conditions studied include tetany, stenosis and spasm of the oesophagus, and pyloric stenosis; the pharmacological section deals with the action of atropine, adrenaline, calcium salts, eserine, pilocarpine, papaverine, insulin, ephedrine, and tobacco. In the course of his investigations the author was able to explain certain discrepancies which have been thought to exist between the action of the vegetative nervous system on the circulatory apparatus, and its apparent action on other hollow viscera. The more exact results obtainable by the viscerographic method have shown that the same rules hold good in the alimentary tract and bladder as in the circulatory system. The book is illustrated with a large number of viscerograms, which render the author's descriptions easy to follow.

[4] *Die viscerographische Methode.* Von D. Danielopolu. Berlin: S. Karger. 1930. (Pp. 166; 130 figures. M.7.20.)

PROTOZOOLOGY

The study of the unicellular animals has made considerable advances in the past twenty years, and the protozoan parasites are now regarded as one of the most important factors in the development of tropical countries. This has stimulated general interest in the group as a whole, and many universities and colleges now offer courses dealing with both free-living and parasitic protozoa. It is to meet the need of such classes that a *Handbook of Protozoology*,[5] by R. R. KUDO, has been published. Most modern publications on the subject emphasize the parasitic forms, and do not give much space to the taxonomy, biology, and orientation of the free-living forms from which the parasitic group has been evolved. The present work therefore provides a handbook of introductory information on the common and representative genera of all the groups of protozoa. It is divided into two parts: an introductory section of three chapters giving a general account of the morphology, physiology, and reproduction of the protozoa, and a larger second part which deals with the taxonomy, biology, and development of common forms. Each chapter concludes with a list of important references, which serve as guides for more intensive study. The book is lavishly illustrated with line drawings, mostly under a comparatively low magnification, so that they can be of the greatest practical value to students using the ordinary powers of the microscope. There is, finally, an appendix on collection, cultivation, and observation, and an adequate subject and author index.

The book is an excellent one, within the limits set by its author, and will be of considerable value as a textbook to all interested in a general account of the phylum.

NOTES ON BOOKS

A second edition of *A Text-Book of Medicine*,[6] by American authors, has recently made its appearance under the editorship of Dr. RUSSELL L. CECIL, with whom is associated Dr. FOSTER KENNEDY in the section devoted to diseases of the nervous system. It is little more than two years since a review of the book appeared in these columns, so that it is only necessary to say that the whole work has been thoroughly revised and reset. Since the first edition was published death has claimed five of the contributors, including that eminent Japanese Dr. Hideyo Noguchi, who wrote the chapter on yellow fever. The places of these men have been taken by others

[5] *Handbook of Protozoology.* By Richard R. Kudo, D.Sc. London: Baillière, Tindall and Cox. 1931. (Pp. x + 454; 175 figures. 25s. net.)

[6] *A Text-Book of Medicine*, by American Authors. Edited by Russell L. Cecil, M.D., Sc.D.; Associate Editor for Diseases of the Nervous System, Foster Kennedy, M.D., F.R.S.E. Second edition. Philadelphia and London: W. B. Saunders Company. 1930. (Pp. xxv + 1592; 90 figures. 40s. net.)

equally distinguished in the special subjects with which they deal. Several new articles have been added, and the work has been brought thoroughly up to date. It can be recommended as a safe guide for all—students and practitioners alike.

Volume xi (Metabolic Diseases) of "Medical Practice"[7] will prove a useful addition to the preceding volumes. It aims at being comprehensive, and has succeeded. There can be few conditions classifiable as disorders of metabolism which do not receive mention. Its length, however, is only 118 pages (excluding the bibliography and index), and, as would be expected, the treatment accorded to each disease is but brief. The author has endeavoured, not without success, to bring out the salient points about each condition. The amount of space devoted to treatment is perhaps, in most cases, shorter than is altogether advisable.

The Diet Book,[8] by Mrs. MARGUERITE REQUA REA, will prove a compact and useful guide to medical men who are concerned with the practical and culinary details of dietary—and most medical men are, from time to time, so concerned. It should also be of service to the housewife in carrying out the doctor's directions.

The eighth volume of *Allen's Commercial Organic Analysis*[9] deals with glucosides and with the vegetable bitter principles which are not glucosidal. It also includes an account of enzymes, animal bases and acids, cyanogen compounds, proteins, and the digestion products of proteins. These volumes afford ready access to the kind of information which would otherwise be obtainable only from original publications. Organic analysis is peculiarly dependent for success in its general practice on information which is wanted only at rare intervals. The purpose of the work would be partly fulfilled if the book did no more than provide this information in assorted form; but it does much more. Great care and much labour have been bestowed on the arrangement and co-ordination of the subject-matter for the purpose of saving the reader's time and effort. Thus for the glucosides, a diverse class of substances difficult to classify, a table of some 140 varieties is given, showing the source of the substance, its chemical formula, melting point, specific rotation, and the products resulting from its hydrolytic cleavage. The other chief essential in a book of this character is also well provided for—namely, technical directions for the laboratory worker, which vary much in different circumstances. Under hydrocyanic acid, for example, special attention is given to methods of recognition and determination of the substance in cases of poisoning.

In his *Selected Readings in the History of Physiology*[10] Dr. J. F. FULTON, who, after several years' residence at Oxford as Fellow of Magdalen College, was recently appointed Sterling Professor of Physiology at Yale University, has collected a number of passages illustrating various branches of physiology from Aristotle down to F. G. Banting. The work is divided into eight chapters, dealing respectively with general principles, the circulation of the blood, the capillaries, respiration, digestion, muscle and peripheral nerves, the central nervous system, and miscellaneous subjects. The selection from each writer is prefaced by a short account of the man and his work, and the text is freely interspersed with portraits, facsimiles of title-pages, and other illustrations from the works of the older physiologists. Dr. Fulton is to be congratulated on his selection of the extracts, many of which are from works not readily accessible, as well as on his translation of foreign writers and his judicious comments. The work should appeal not only to the medical graduate interested in the history of medicine, but also to the medical student, who, as Dr. Fulton remarks in his preface, will realize from its perusal that men as young as himself have made important contributions to physiology.

[7] *Medizinische Praxis*. Herausgegeben von L. R. Grote, A. Fromme, K. Warnekros. Band xi: *Stoffwechselkrankheiten*. Von Dr. med. Erich Leschke. Dresden und Leipzig: T. Steinkopff. 1930. (Pp. x + 130. R.M.8.)

[8] *The Diet Book*. By Marguerite Requa Rea. With a foreword by Sir James Purves-Stewart, K.C.M.G., C.B., M.D.Ed., F.R.C.P. London: Milford, Oxford University Press. 1931. (Pp. xii + 197. 7s. 6d. net.)

[9] *Allen's Commercial Organic Analysis*. Vol. viii. Edited by C. Ainsworth Mitchell, D.Sc., F.I.C. Fifth edition, revised and partly rewritten. London: J. and A. Churchill. 1930. (Pp. x + 761; 31 figures. 30s.)

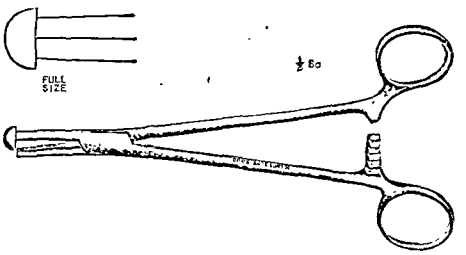
[10] *Selected Readings in the History of Physiology*. Edited by John Farquhar Fulton, M.D. London: Balliere, Tindall and Cox. 1930. (Pp. xx + 317; 60 figures. 22s. 6d. net.)

PREPARATIONS AND APPLIANCES

PHRENIC EVULSION FORCEPS

Mr. WALTER MERCER, F.R.C.S.Ed. (Edinburgh), writes:

In performing the operation of phrenic evulsion the phrenic nerve is exposed in the neck under a local anaesthetic and grasped by fairly strong forceps. The nerve is then divided above the forceps, and pulled slowly out from the chest cavity. The evulsion has to be very slowly proceeded with, so that the nerve will be removed in as great a length as possible. If it is pulled out too strongly or too quickly the nerve may break. If this breakage occurs above the communicating branches which reach it below the clavicle, the diaphragm will still receive nerve impulses from these branches, so that the operation will be useless.



By experience one finds that the best way of controlling this gradual pull on the nerve is to rotate the forceps and wind the nerve on to them very slowly. If ordinary forceps are used the nerve slips off the end, since the forceps cannot be kept on the same plane as the nerve, which lies at the bottom of the fairly deep wound. To overcome this minor difficulty these forceps were produced. The round tip projects from the edges of the blade, and so prevents the nerve from slipping over it. The blades themselves have longitudinal grooves, assuring a good grip of the nerve. The forceps should be of a fairly heavy type, as this ensures a firmer and more complete control of the amount of force required.

The forceps are made by Down Bros. Ltd., London.

"BAROLAC": BARIUM SULPHATE IN SUSPENSION

We have received from Burroughs Wellcome and Co. a sample of their brand of barium sulphate for *x*-ray purposes, made up in the form of 30 per cent. suspension. The appearance of the liquid is of milky whiteness; it is quite odourless, and neutral to the taste, as well as of satisfactory bulk, and the manufacturers give an assurance that it is entirely free from soluble barium salts. The suspension is very smooth, and the salt is in so finely divided a condition that no mucilaginous agent like tragacanth is necessary for effective distribution of the particles. The absence of anything disagreeable from the meal makes flavouring agents unnecessary, but vanilla, saccharin, or cocoa can be added if desired. The name of "barolac" has been given to this preparation, which is issued in Winchester quarts.

OVARIAN HORMONE

Theelin is a solution of the active crystalline ovarian hormone prepared by Messrs. Parke, Davis and Co. The crystalline substance is stated to have an activity of 3 million rat units per gram. The solution contains 50 rat units per c.cm., and is recommended for use subcutaneously in doses of 1 to 2 c.cm. daily.

Intensive investigation is at present proceeding on the therapeutic use of the follicular hormone. The isolation of the pure active principle is a great advance, but the dosage required to produce a therapeutic action in a woman is still very uncertain. There appears to be a general agreement that the use of this hormone is more likely to be attended with success in cases of secondary amenorrhoea than in cases of primary amenorrhoea.

ISCHAEMIA OF MUSCLE AS A CAUSE OF ANGINAL PAIN

ST. CYRES LECTURE BY SIR THOMAS LEWIS

Sir THOMAS LEWIS delivered the St. Cyres Lecture at the National Hospital for Diseases of the Heart on May 14th, with Dr. FREDERICK PRICE in the chair. The subject of the lecture, of which the following is an abstract, was ischaemia of muscle as a cause of anginal pain.

The lecturer said that when he referred to angina pectoris he would follow Heberden in employing this term as the name of a specific disease. He did not intend to touch on the general pathology of angina pectoris, but only on the origin of the pain, which was one of its leading symptoms. The cause of this pain had been the subject of much theoretical debate since Heberden gave the first classical description of the disease. In those early days it was discussed by the Gloucestershire Medical Society, of which Edward Jenner was a member, and it was Jenner who first considered that angina pectoris was a disease arising from an affection of the coronary arteries. In a letter he wrote to Heberden he stated that it was the function of these arteries which was affected. Later Parry put plainly the case for arterial disease. He recognized that the rigidity of arterio-sclerotic coronary arteries impeded the blood flow to the cardiac muscle, and that though sufficient blood might pass to nourish the muscle when the patient was at rest, the quantity might be inadequate during vigorous activity. He believed, therefore, that under unusual exertion the power of the heart failed, and that paroxysms of syncope anginosa arose in consequence. While this was an explanation of angina pectoris, it did not account for anginal pain. Parry's book on syncope anginosa was one of his best-known works, but he was even better remembered for the term "syncope anginosa" itself; he considered that many cases of angina pectoris were associated with syncope, but subsequent experience had shown that he was wrong. Syncope was rare in anginal attacks.

In 1809 Allan Burns drew an analogy between the heart in angina pectoris and the deficient nourishment of a limb "begirt by a ligature." The heart, like the limb, was working under conditions in which the flow of blood was impeded. Burns made no mention of pain induced in the limb, and it was probable that he almost entirely followed Parry in his view of the disease. Benjamin Brodie, in 1846, referred to cases of arterial disease in the leg with gangrene of the toes, and compared them with angina, but he, too, made no mention of pain. It was left to Potter, in 1866, to draw a comparison between intermittent claudication in a limb and the pain of angina pectoris.

ARTERIAL OCCLUSION

Sir Thomas Lewis then went on to say that experiments had been made to decide where the pain arose in a limb in which the arterial flow had been temporarily occluded. The view had been held by Zach and others that it originated in the arteries, and was due to spasmodic contraction of their walls. He and his colleagues had set this explanation on one side because they had found that if the blood supply to the forearm was occluded and the muscles then exercised until the pain became severe, the removal of the ligature gave rise to an immediate flushing of the muscles, synchronous with the first pulse beat; the pain, however, persisted for some seconds after the removal of the ligature. Potter, in his study of intermittent claudication, had evidence of the condition as found in horses. Charcot observed a patient who developed cramp-like pain on walking, and ascribed the pain to cramp comparable to cadaveric rigidity. The conception of the pain as due to cramp, however, was not correct, since the pain could be induced easily by exercising a ligatured limb, cramp being rare. The subject might complain of cramp-like pain, but no increase in the tone of the muscles could be observed.

The method used by the lecturer and his co-workers for engendering the pain was simple. A small instrument with a spring registering the strength of the movement was taken in the hand and gripped at intervals of one second, as recorded by a metronome, the circulation being cut off by means of a sphygmomanometer. The pain arose quite regularly at the end of thirty to thirty-five seconds; it grew steadily in intensity until, after from seventy-two to seventy-eight seconds, it became so intolerable that the subject stopped. There was no question of one person stopping at fifty seconds and another at ninety; the time was in the region of seventy-two to seventy-eight seconds for different subjects and for the same subject on different days. It was possible, therefore, to make experiments with a basis of uniformity.

The character of the pain was difficult to describe. It could be said to be diffuse, and even aching. It was situated in the neighbourhood of the acting muscles, and could be produced in any group by bringing them into play. Moreover, the muscles became tender, and this tenderness persisted after the pain had disappeared.

MUSCULAR ANOXAEMIA

Another theory of the causation of the pain attributed it to lack of oxygen in the muscle. The unsoundness of this idea could be demonstrated by two simple experiments. In the first place, if the circulation to a limb was stopped but the limb kept at rest, no pain would develop, even when the limb became anaesthetic after twenty or thirty minutes. Secondly, if in a limb in which the circulation was occluded the subject worked his muscles until he knew that he was within two or three contractions of the development of pain and then stopped, no pain would develop; the muscles had been working vigorously and would still be using up oxygen after they were at rest, and yet the pain did not appear.

On the other hand, it would be observed that whether the load on the muscle was increased or the rate of the contractions augmented, both the onset of pain and the point at which it became intolerable would be expedited. Therefore the onset was determined by the amount of energy expended by the muscle. Sir Thomas said that he and his colleagues had found that certain simple observations had given them the clue to the origin of the pain. If the circulation was cut off and the limb worked until the pain reached a certain intensity, either mild or severe, and then allowed to rest, as long as the ligatures remained in place the pain would persist at the same degree of intensity, without any signs of abating. As soon as the ligature was released the pain disappeared in from two to four seconds. He believed, therefore, that the cause of the pain was chemical or physico-chemical in origin. The theory they had reached was that changes occurred in the muscle as a result of muscular work, and that these gave rise to a change in conditions in the tissue spaces, outside the muscle fibres, and that this change was responsible for the pain. Their reason for considering that changes in the tissue spaces, and not in the muscle fibres themselves, produced the pain depended on another series of experiments.

ALTERATIONS IN THE TISSUE SPACES

When the ligature was released the pain went almost in a flash, but if as soon as it had disappeared the ligature was restored and exercise resumed, the onset of the pain was earlier than usual, and the shorter the period of rest the more quickly it arose. Actually the muscle did not

recover completely for at least ten minutes after the removal of the ligature, and it might be assumed that the process engendered in the muscle fibres required a longer period to subside than the process in the tissue spaces. Again, if exercise was begun before the ligature was applied and then carried on after the circulation had been occluded, the pain developed more quickly than usual. There could have been no heaping up of the factor responsible for pain in the tissue spaces before the application of the ligature, but there must have been an accumulation in the muscle fibres of the factor produced there by exercise.

If, with the circulation occluded, exercise was performed until pain arose, and if the ligature was then released but the exercise continued until the pain disappeared, the re-application of the ligature and the simultaneous cessation of exercise would result in the return of pain in twenty to thirty seconds. Some change in the condition of the muscle must therefore be ultimately responsible for the pain. *Pari passu* with the process developing in the muscles of an exercised limb in which the circulation was occluded, there occurred the collection in the tissue spaces of the factor responsible for pain. If the circulation was not occluded the tissue spaces would be kept free of this physico-chemical factor, whatever it might be, and pain would not arise. In passing to a consideration of pain in angina pectoris it might be said that, if this was due to ischaemia, pain ought to arise either when the work of the muscle remained constant and the blood supply was decreased, or when the work of the muscle was increased and the blood supply failed to keep pace. In coronary thrombosis, although there was no increase in the work of the heart, the vessels were failing to supply the usual quantity of blood. There were certain similarities and differences between the pain due to coronary occlusion and the pain of angina pectoris; in both the pain was severe and continuous and not spasmodic, like, for example, bowel pain. It was often intense, and the situation was the same in both: the pain was felt over the upper and lower sternal regions and over the precordium, and the spread was the same in both cases. The two conditions differed in the predominance of epigastric pain in coronary thrombosis, and the greater length of the period during which the pain was felt.

MUSCULAR ISCHAEMIA

Coronary thrombosis offered the best possible evidence that pain actually did arise from coronary occlusion. Sutton had experimented by placing a ligature round the coronary arteries of dogs, under general anaesthesia. On the recovery of consciousness, traction on the ligatures produced immediate and definite symptoms of pain in the dogs; the clinical evidence, however, should take precedence of this, since a ligature round an artery was bound to affect surrounding structures. Sutton was unable to produce pain by experiments on other structures in the neighbourhood of the coronary arteries, and on this point his observations went further than clinical evidence.

If coronary thrombosis was thought of in terms of muscular ischaemia, it could be assumed that the affected vessel was closed and that the muscle supplied by that vessel, continuing to work, heaped up the pain-producing factor in the tissue spaces; the pain began mildly and grew more intense, but the heart muscle, unlike the muscle of a limb, was driven inevitably to continue its contractions. For this reason the pain of coronary thrombosis must persist for a long time.

Parry's theory of pain in angina pectoris postulated an increase of strain in a sore or irritable aorta; if this were the case a rise of blood pressure alone should be sufficient to initiate an attack. But it had been observed in certain cases of paroxysmal tachycardia, in which there was no rise of blood pressure, that attacks of anginal pain might occur during the paroxysm; in these cases there could be no question of strain on the aorta. One observer of attacks of angina pectoris occurring in himself recorded that when he was in company he had often been able to conceal the pain and to go on moving during the attack until the pain stopped. Was the pressure diminished in these circumstances, or did the arteries accommodate themselves to the attack? Far more observations on the blood pressure during attacks required to be made before a definite statement could be offered.

In the angina of effort it must not be assumed that the pain was due to a rise of blood pressure unless this could be verified. Muscular ischaemia supplied an adequate explanation of this type of angina pectoris, as of other types. In angina pectoris occurring in males with grave heart disease, usually aortic regurgitation, the attacks were associated in the early stages with effort, but in the later stages they occurred while the patient was in bed, usually in the small hours of the morning. The attacks were associated with throbbing in the chest, head, and neck, and the rise in blood pressure and pulse rate was conspicuous; amyl nitrite was particularly effective in relieving these patients. But the blood pressure was not the only factor in producing pain, as could be shown by quoting the case of a man in whom the attacks developed following food.

At a time when his systolic pressure was 142 and his pulse rate was 77 he was given a piece of toast. By the time he had finished it his blood pressure was 152 and his pulse 112. Within a few moments an attack began, his blood pressure being 172 and his pulse rate 116. On another day the same man was made to perform exercise standing up; his blood pressure rose from 167 to 205, and his pulse rate from 78 to 108, but no pain developed. The experiments were repeated on another day with the same results; food produced pain, and exercise had no such effect. The blood pressure at the end of the attack initiated by food was 179, and the pulse rate 108.

AMYL NITRITE AND BLOOD PRESSURE

The general belief was that amyl nitrite relieved an attack of angina pectoris by lowering the blood pressure and decreasing the work of the heart; this was the view of Brunton, who introduced it. Few observations of the action of the drug on the blood pressure during an attack had been made to confirm this theory, and Sir Thomas Lewis's own continuous observations in the ward had shown it not to be the full story. In one case the blood pressure was 200 and the pulse rate 144 during an attack; one minute later, after an inhalation of amyl nitrite, the pain was gone, the blood pressure was 212, and the pulse rate 132. Other cases in his series had shown comparable results; in all of them the differences in the blood pressure were very small, and where a fall occurred it was not great enough to bear out the theory that amyl nitrite acted by reducing the blood pressure. It seemed far more likely that it acted by causing a dilatation of the coronary vessels. In coronary thrombosis inhalation of amyl nitrite gave no relief because it could not open up the blocked vessel, but in those cases where it relieved the pain experience showed that it did not have any marked effect upon the blood pressure. Inhalation was followed only by a transient flushing of the skin, and yet an attack might be warded off by its use. The likelihood was that it dilated the coronary arteries, and the increased supply of blood swept out the pain-producing factor from the tissue spaces.

In conclusion, Sir Thomas Lewis said that he had attempted in this lecture to outline the main facts in support of the view that ischaemia of the muscle was the cause of anginal pain.

British Medical Journal

SATURDAY, MAY 30th, 1931

ETIOLOGY OF DISSEMINATED SCLEROSIS

Early last year Miss Kathleen Chevassut,[1] working at the Westminster Hospital, reported the recovery from the spinal fluid in cases of disseminated sclerosis of an organism or virus, which was only discernible by Barnard's ultra-microscopical technique. She named it *Spherula insularis*, and credited it with etiological significance. She emphasized the importance of inoculating culture tubes with the fluid immediately after its withdrawal, and described certain subsequent changes in the *p*H of the media employed, which, if other causes such as ferments or enzymes could be excluded, might support the view that a living entity was present. Sir James Purves-Stewart,[2] using a vaccine prepared from these cultures for intravenous injections, obtained promising clinical results, although it was admitted that in disseminated sclerosis, with its frequent remissions and subsequent exacerbations, caution was necessary in interpreting such clinical results as being due to the vaccine treatment. Confirmatory pathological discoveries were recorded later by Smith and Ransome.[3]

Commenting on Miss Chevassut's claims (*British Medical Journal*, June 14th, 1930, p. 1102) we indicated the necessity for repetition of the whole procedure under identical conditions by other workers, and expressed the hope that, in any event, her report would stimulate renewal of interest in the various problems of disseminated sclerosis, in this country and abroad. Two repetitions have been subsequently recorded. On January 8th of this year Dr. E. A. Carmichael[4] read a paper before the Section of Neurology of the Royal Society of Medicine, in which he gave details of an attempt to recover the *Spherula insularis*. He examined nineteen cases of disseminated sclerosis, but was unable to detect the spherules in the cerebro-spinal fluid in a single instance. He did not find the alteration in the medium employed for cultivation, but in the subsequent discussion doubt was expressed as to whether his technique was strictly comparable with that of Miss Chevassut. The latter point, alteration in the *p*H, is admittedly of secondary importance, since Miss Chevassut did not claim that this change was at present to be considered a proof of the existence of the *Spherula* as a living organism, but it has, undoubtedly, a bearing on the evaluation of the evidence as a whole.

In Paris, meanwhile, a parallel investigation was in progress, and Drs. Pierre Lépine and P. Mollaret[5] reported at a meeting of the Academy of Medicine on March 24th, 1931, that they had been quite unable to assure themselves that a specific virus had been discovered. In spite of taking the most rigid care to repeat exactly the work of Miss Chevassut they could not detect any difference between the cerebro-spinal fluids of patients suffering from disseminated sclerosis and those of other persons. They found in their controls the spherules and granules described by her, often in large numbers, but they never obtained, by cultivating them on similar media, the large colonies she had reported. The existence of filterable contaminants is admitted, and these two French workers are inclined to think that the bodies are of this derivation, and are not specific to disseminated sclerosis. Furthermore, they claim to have produced similar appearances by injecting a drop of human serum into the aqueous humour of the eye of a rabbit, and withdrawing and examining the fluid after twenty-four hours; they insist that the spherules then present were indistinguishable from those described by Miss Chevassut. They conclude that these bodies represent the results of flocculation of certain elements of human serum in special chemico-physical conditions, and have no definite pathological significance. Drs. Lépine and Mollaret investigated with equal care the changes in the *p*H of the media employed for cultivation, and report only a slight alkalinization attributable to the loss of carbon dioxide; they were unable to detect any evidence of the presence of a living and growing organism. On the other hand, they admit that "vaccines" have been prepared by them on the lines suggested by Miss Chevassut, and that they cannot so far exclude the possibility that there is some therapeutic benefit following the injection of such vaccines into patients as a form of non-specific protein therapy. They are therefore continuing to treat patients on these lines, and will report the clinical results when sufficient time has elapsed to make it clear whether or not the benefit is persistent and attributable to the vaccine. They are at present inclined strongly to the view that the *Spherula insularis* is a physical phenomenon only, brought about by the presence of human serum in the culture media into which the cerebro-spinal fluid was inoculated.

BOVINE TUBERCULOSIS IN MAN

The Ministry of Health has just issued a short pamphlet[6] designed to enable the general public to appreciate the significance of bovine tuberculosis to the community, and to understand the practical and scientific difficulties involved in its control both in man and in animals. It is now definitely accepted that man may suffer from tuberculosis originating from

[1] *Lancet*, 1930, i, 552.
[2] Ibid., 1930, i, 560.
[3] Ibid., 1930, ii, 901.
[4] *British Medical Journal*, 1931, i, 98; and *Proc. Roy. Soc. Med.*, xxiv, 591.
[5] *Bulletin de l'Académie de Médecine*, 1931, Série 3, cv, 367.
[6] Reports on Public Health and Medical Subjects, No. [illegible]. Memorandum on Bovine Tuberculosis in its Relation to Man with Special Reference to Infection by Milk. Ministry of Health. H.M. Stationery Office. 1931. (6d. net.)

animals, the disease in each case being essentially the same in its general nature, though sometimes differing in degree. Children are particularly subject to infection with the bovine bacillus, and there is no doubt that a considerable amount of tuberculosis in childhood is caused by the drinking of milk from tuberculous cows. Assuming that the races of tubercle bacilli do not become modified by passage through man, and that the discovery of bacilli of the human or bovine type in any case of tuberculosis gives an accurate indication of the origin of the infection, it would seem that a large proportion of tuberculosis in children under 15 years of age—in some cases up to half—is caused by bacilli from cattle, with an annual death roll of about 1,000 in England and Wales. There is little or no evidence that pulmonary tuberculosis in children is caused by milk.

The disease is common in cattle, and while it is difficult to make an accurate estimate, there is reason to believe that it is not less than 40 per cent. Cows suffering from tubercular mastitis are the most important from the public health point of view, and between 0.3 and 6 per cent. appear to be so affected, with between 1 and 2 per cent. yielding tuberculous milk. There is no evidence to show whether the incidence of the disease in bovines is increasing or decreasing, though undoubtedly non-pulmonary human tuberculosis is definitely on the down grade. Complete eradication of all animals which react to the tuberculin test is impracticable in Britain, partly because of expense and dislocation of milk supply, and partly because it is doubtful whether the eradication would be permanent. At present we destroy all animals in an advanced state of the disease, but, even if this were completely carried out, it could not seriously affect the position either in man or in animals. Bang's method of building up tubercle-free herds by the segregation of calves at birth is somewhat costly, but is worthy of more extensive trial in this country than it has yet received. Preventive vaccination with B.C.G. vaccine has given promising results in calves, and there is evidence that a certain degree of immunity can be produced in these animals; but its protective value for children has yet to be established.

In Scotland the routine clinical examination of milk herds at frequent intervals by competent veterinarians, and the exclusion of diseased animals, has given most encouraging results. This method is being rapidly extended there, although it has only been tried to a small extent further south. Milk tests, both biological and microscopical, can give valuable assistance to this scheme; and the grading of milk, with its necessary good dairy hygiene, should constitute an important element in any comprehensive scheme for the improvement of the milk supply. Meanwhile, under careful methods of operation and scientific control, pasteurization can ensure a milk supply which is not only perfectly safe for consumption, but which retains its food value practically unimpaired by the heat to which it is subjected.

PATHOLOGICAL FUNCTION OF THE KIDNEYS IN RENAL DISEASE

Whatever may be said of the detailed accuracy of Cushny's theory of the secretion of urine there can be no doubt that it has acted as a fruitful stimulus to physiological investigations. When the facts of renal pathology are reviewed in the light of this theory some minor modifications seem to be necessary, such as those suggested by C. Holten and P. B. Rehberg,[1] who admit that there occurs in the glomeruli a filtration of fluid of the same composition as the plasma, but without the colloids. This filtrate is concentrated in the tubules by an active reabsorption of water, and by the back diffusion of the non-threshold substances controlled by the permeability of the cells of the tubules for the substance in question. These authors point out that creatinin is concentrated by the kidneys to a much greater extent than any other substance, and the diffusion back of creatinin through the tubules is practically *nil*. The amount of filtrate per unit of time can be calculated from a simultaneous determination of the creatinin concentration in plasma and urine, provided that the amount of urine per unit of time is known. For this reason the measurements of creatinin in the urine and plasma are likely to prove the most accurate means of determining renal function. We have in the Volhard-Strauss test of renal function a very useful indication of the activity of the kidney, particularly of the function of the tubules in the absorption of water. In this test the volume and specific gravity of the urine are determined in four consecutive hours after taking 1,000 c.cm. of water. The usual result is that most of it is excreted in the course of the four hours, and that the specific gravity falls to 1001–1004. In conjunction with this a concentration test is done in which, by putting the patient on a dry diet, the kidneys are induced to concentrate the urine as much as possible—normally to a specific gravity between 1025 and 1030. In this test the maximum concentration affords the best criterion of the reabsorption of water in the tubules, and therefore of one of the chief functions of the tubules. It is interesting to consider the principal symptoms of Bright's disease in the light of this modification of Cushny's filtration theory. With regard to albuminuria, it is well known that the greater part of the protein excreted in the urine is serum albumin, excreted because of an abnormal permeability of the glomeruli. The loss of albumin in albuminuria is of prime importance in the production of oedema because of the altered physical condition of the plasma. Polyuria can be explained as the result of diminished water absorption in the tubules. The authors pay particular attention to chronic uraemia, the symptoms of which are certainly due to the retention of nitrogenous bodies. In severe cases of uraemia it is possible to improve the symptoms by restricting the nitrogen metabolism without, however, effecting any real improvement in the renal function. The nature of the nitrogenous substance which causes the toxic symptoms is unknown. Urea and creatinin appear to be quite atoxic when by administering them their concentrations in the blood are brought to the same height as, or above, those found in severe uraemia. There is no doubt that genuine uraemic symptoms occur with

[1] *Acta Medica Scandinavica*, 1931, vol. lxxiv, Fasc. 5.

different degrees of azotaemia in different individuals. The acidosis and low calcium content of the blood in true uraemia are probably secondary factors. From their studies of restricted protein diet and uraemic symptoms Holten and Rehberg deduce that uraemic symptoms disappear quickly when the glomerular filtration is fairly well maintained, and slowly when it is small, and that they persist when it is greatly decreased. The blood urea can be influenced by diet most when the glomerular filtration is fairly well maintained, and least when it is bad.

NOMENCLATURE OF PYORRHOEA

At the International Dental Congress, to be held in Paris next August, a special sectional discussion will take place on the nomenclature of pyorrhoea, and it seems likely that the British and the Continental view will be sharply contrasted. At a meeting of the Section of Odontology of the Royal Society of Medicine, held at the Royal College of Surgeons on Monday, May 18th, Dr. E. W. Fish, who acts as secretary of the Section for foreign correspondence, stated that an attempt has lately been made in Holland to frame a better nomenclature for the group of diseases called pyorrhoea than that which at present obtains. The trouble with this group of diseases, said Dr. Fish, was that every worker in this particular domain almost always devised new names to suit his own views of the etiology of the condition, and it was felt by a number of Dutch workers, who were trying to divide the disease up into the various clinical manifestations, that it was first of all necessary to arrive at some nomenclature free from any reference to the etiology of the disease and merely to describe the conditions seen in the mouth. With that object in view a committee in Holland set to work, and had endeavoured to devise names which would be acceptable internationally. The suggestions so far made—which were quite tentative—were that pyorrhoea should be divided into three groups—namely, gingivitis marginalis suppurativa, peridentosis, and alveolar atrophy. The first group would consist obviously of a superficial inflammation of the gum margins indicated by the reddened edge of the gum. Peridentosis was taken to include diseases in which there was loss of tissue around the teeth. It was proposed to subdivide this group into three classes—namely, peridentosis profunda, really the later stage of gingivitis, in which there were pockets and pus; peridentosis dystrophia diffusa, in which there was an irregular loss of bone, with loosening of teeth; and, finally, peridentosis dystrophia complicata, in which there were pockets, pus, and wandering or loosening of teeth. The third category, alveolar atrophy, included the conditions in which the loss of tissue was definitely associated with age (many workers would not regard these as diseases at all) and might be subdivided into atrophia praecox and atrophia senilis. Mr. F. N. Doubleday hoped that in this country no such classification would be accepted. It might fairly be observed, he said, that a somewhat similar classification had come from Vienna, and from Toronto and New York. The objection to these classifications was that they were based on the Continental conception of pathology—that is to say, on certain morbid appearances, and not on the pathological conception as it was understood in this country. Pyorrhoea might be divided simply into two groups: that which was due to some local cause, which was under control and would yield to surgical treatment; and that which was due to constitutional causes and must be correspondingly treated. Mr. Doubleday added that a great deal of pathological work had been done in the Section of Odontology, particularly by Sir Frank Colyer, on the infective organism, and he hoped that the British delegates at Paris would not agree with the proposed Continental nomenclature.

THE ROYAL SOCIETY CONVERSAZIONE

Standing behind the mace presented to the Royal Society by King Charles II in 1663, the president, Sir Frederick Gowland Hopkins, received guests at the conversazione held at Burlington House on the evening of May 20th. If Samuel Pepys, Esq., F.R.S., had been one of the guests he would, one feels sure, have been "full of admiration, all admiration," as was the Duchess of Newcastle, who, "after much debate pro and con," attended a meeting of the Royal Society on May 30th, 1667, and was shown "several fine experiments . . . of colours, loadstones, microscopes, and of liquors; among others, of one that did while she was there turn a piece of roasted mutton into pure blood, which was very rare." Pepys would have seen all these experiments except the last one, which is still very rare. With so many exhibits of such divergent interest as "the somatic induction of polypoids" and "the application of the methods of *x*-ray crystal analysis to industrial problems," the visitor felt an urgent need for the Dioptrical Paradox (Exhibit No. 17) which will "refract to the eye the various parts as one entire figure to be represented." Perhaps that which, as much as anything else, distinguished this meeting from those held in the seventeenth century was the part taken by industry in the demonstration of experiments on loadstones and liquors. The projection of films showing the application of substandard cinematograph apparatus to the study of crystal growth was one of the exhibits of Imperial Chemical Industries, Ltd.; fused quartz mirrors were shown by the Thermal Syndicate, Ltd.; and Messrs. Vickers-Armstrong, Ltd., had on view a new model projection microscope which will take heavy objects up to 50 lb. in weight, which is immune from vibration, and which can be used for the examination of transparent or opaque specimens at magnifications of from three to five thousand diameters. That the cell in the developing embryo is predestined to one organic fate, and one only, would seem to be disproved by the work of Mr. C. H. Waddington from the Strangeways Research Laboratory, Cambridge. A series of beautiful microscopical specimens showed that in avian embryos a developing primitive streak can induce a neural plate in ectoderm which does not normally form such a structure; and, furthermore, that the primitive streak itself can be regenerated even after it has been removed. Another very interesting exhibit from the same laboratory demonstrated that exposure of tissue cultures to lethal doses of gamma rays produced the same result, given either in one continuous irradiation of six hours or in hourly fractions on six successive days; the action is cumulative. But if a shorter irradiation, merely hindering cell division, is given, the action is not cumulative, and its effect varies with the length of the interval between the irradiations. The interest shown

by the guests in casts of the skull of the Peking man, and in the fossil remains of the Taungs ape, testified to the fascination of the anthropological jigsaw puzzles which are adduced as evidence of man's origin. Professor G. Elliot Smith, in a note on the cast of the Peking man, prepared by Professor Davidson Black, pointed out that the absence of a projecting mastoid and the unusual form of the robust tympanum more closely resembled the simian condition than any known human skull, while the articulation of the lower jaw approximated to the formation regarded hitherto as distinctive of *homo sapiens*. The two outstanding features of the evening, however, were the cinematograph films of virus diseases of plants and of a new process of colour photography on non-inflammable film. The first showed the changes taking place in the cell of the plant *Solanum nodiflorum* after infection with a virus. With a magnification of twenty thousand, and at a speed of twelve times the natural rate, the protoplasm was seen to move round the confines of the cell and along the strands intersecting the body of the cell, while the nucleus was jostled along by this never-ceasing cytoplasmic stream. The first effect of the virus was an acceleration of the movements of the cell contents. Then, passively carried about the cell by the moving cytoplasm, numerous small protein particles appeared, which tended to congregate in the neighbourhood of the nucleus. In the end they coalesced to form a single rounded mass, or inclusion body, usually closely adjoining the nucleus. In one cell an inclusion body was shown to be separate from the nucleus. Dr. W. B. Brierley, who was demonstrating the film for Dr. F. M. L. Sheffield, emphasized that the inclusion body was non-motile, was not a living entity, and was an aggregate of particles giving a protein reaction. After a time this body tends to break down into a number of protein crystals. It is impossible to do justice in a short space to the work of Mr. S. R. Wycherley and Mr. T. Thorne Baker, members of the technical staff of Messrs. Spicer, Ltd. In their new process, coloured objects are photographed in an emulsion coated over a matrix consisting of some half-million red, green, and blue-violet squares to the square inch on non-inflammable film. The advance on previous colour photography was well shown in a series of interesting cinematograph films of Piccadilly Circus, of the French Riviera, of the Royal Botanical Gardens, of the gardens of the Zoological Society, and, to the delight of the audience, of Sir Frederick Hopkins at work in his laboratory. In the "close-ups" of flowers one saw excellent examples of the delicate gradations of colours obtained by this process; the only difficulty that remains to be overcome is the diffusion of blue in open scenes. And so to bed after having enjoyed, with the shade of Pepys, "a great meeting of worthy noble persons."

PLAGUE IN ECUADOR

Plague was introduced into the West Coast of South America in 1903, when a vessel from India brought it to Peru. About five years later it was carried to Ecuador. Since then nearly 8,000 cases have been officially reported from the port of Guayaquil, latterly becoming stabilized at about 110 cases yearly. When the disease first got a footing there were about 300 cases yearly, and the gradual decline, as shown by a recent report of the United States Public Health Service,[1] is probably due to a reduction in rodent plague consequent upon an increasing immunity of rats to the infection. The disease has of course spread from the port to inland towns and villages, but it is believed that the extermination of plague in Guayaquil will mean its extermination throughout the country. Pneumonic plague is rare, and septicaemic plague is not common. The usual form is bubonic plague, as in most other countries, but axillary buboes are very frequent. In addition, especially in the mountain districts, a tonsillar form (angina pestosa), and a vesicular form (viruela pestosa), resembling chicken-pox and small-pox, are often encountered. The first of these special varieties is probably due to the habit of the Indians of killing vermin with their teeth; it is unknown why the second atypical form occurs. The important form, however, is the ordinary bubonic plague, which has a relatively low mortality—about 36 per cent. The main cause of the condition is the tropical rat flea (*Xenopsylla cheopis*) in the areas where rats comprise the important reservoir. But it is believed that *Pulex irritans* is the main cause in the mountain regions, and is probably instrumental in carrying it from man to man; it is probably the main cause of the two atypical forms. The plague reservoirs, in Ecuador as elsewhere, are rodents, and although guinea-pigs are extensively kept in houses, the important rodent is *Rattus norvegicus*. Few towns are more suitable for the establishment of rat colonies than Guayaquil. There are a very few concrete buildings more or less rat-proof; a considerable number of cheap bamboo shacks which from the poorness of their construction offer little rat harbourage; and many blocks of wooden buildings which offer almost ideal conditions for rats. Those occupied by the poorer classes are overcrowded to an unbelievable extent with human beings and with guinea-pigs. Hygiene is poor; and, to add to the complications, the elaborate death ceremonies of the Indians keep relatives, from long distances, in close contact with the body for several days—often lying on the floor in a drunken stupor most of the time. Finance made it impracticable to insist on rat-proof buildings, but towards the end of 1929 a small Government grant was provided for antiplague measures. This was expended in trapping and poisoning rats. The use of poison has been in practice in many places before; but this method has seldom been employed with the intensity adopted in the past few months in Guayaquil. The poison—arsenic or barium carbonate with a suitable bait—is made up in small paper packages by boys and sprayed with oil of anise before being stored in barrels for subsequent distribution throughout the town. The best bait was found to be dried fish, corn meal, and arsenic. Barium carbonate is slightly less effective as a poison, and more has to be used in a package (35 per cent., against 18 per cent. of arsenic), but it has advantages when poisons are first being introduced, because of its lesser toxicity to the general population. No accidents have occurred in the town during the campaign, except the death of some ten cats, which had been attracted by the fish baits. The

[1] U.S. Treasury Department. Public Health Service. *Chief Etiological Factors of Plague in Ecuador and the Anti-Plague Campaign.* By C. R. Eskey. Reprint No. 1409 from the Public Health Reports. Washington: Government Printing Office. 1939. 15 cents. (For sale by the Superintendent of Documents, Washington, D.C.)

oil of anise used seems to have an attraction for rats, but not for other animals. The results of the use of poison show that it is an inexpensive, safe, simple, and effective procedure to employ in any antiplague campaign. So successful has it been that it is anticipated that, without any other measures whatever, if the poison campaign is continued with the same activity as during the past seven months, plague will be eradicated from Ecuador within a year.

MEDICAL PROBLEMS OF CLIMATE AND AIR TRAVEL

In a previous note in these columns (December 20th, 1930, p. 1055) on medical research at the Eppendorf General Hospital in Hamburg, mention was made of the special "pneumatic rooms," where the air pressure could be varied within wide limits. The suitability of these pressure chambers for investigation of many outstanding physiological and medical problems has led to the founding of a special research institute concerned with problems relating to air travel and climatic conditions. In conjunction with other research departments in Hamburg, it is proposed to investigate at various "heights" (that is, at various degrees of atmospheric pressure) the general efficiency of air pilots and air travellers at rest, at work, after training, and after periods of recuperation. Observations will be made on the functional efficiency of the heart, lungs, kidneys, special senses, nervous system, etc., under these conditions. Ergometry and balance experiments, measurement of metabolism of the power of concentration and latent period, will also be carried out under different degrees of reduced atmospheric pressure. Particular attention will also be paid to the medical aspects of air-, sea-, and mountain-sickness. The optimum efficiency of human beings under varying atmospheric states will be investigated, in association with the meteorological institute in Hamburg and the light research institute at the Eppendorf Hospital. The influence, on several groups of subjects, of atmospheric pressure, degree of humidity, water-vapour tension, temperature, radiation from the sun, wind, and electrical charge, will be observed. The physiological behaviour of healthy persons both at rest and at work, and of patients suffering from various diseases under the conditions outlined above, will be studied. By means of the climatic conditions artificially produced in the pressure rooms, methods will be devised for testing the suitability of tuberculous patients, for example, for treatment at high altitudes. Sudden climatic variations, and the importance of acclimatization on the physiological state of subjects at work and at rest, will also come under consideration; while the investigation and treatment of caisson disease and bronchial asthma, for example, by high pressure, will also be carried out. In conjunction with other departments of the Eppendorf Hospital it is also proposed to conduct, at very low pressure, a series of animal experiments bearing upon the question of stratosphere flying, now much before the public eye in Germany. Problems connected with anoxaemia, acapnia, greatly reduced temperature, and artificial respiration apparatus for the administration of oxygen are particularly those with which modern air travel is concerned, as well as with those more special problems of the effect of high altitude and high speed on balancing power and sense of position. It is hoped that the new institute in Hamburg will eventually be able to throw some light on these comparatively unknown regions of human physiology.

DR. BARNARDO

A valuable record of the life of a great man who was a member of the medical profession will be found in a book entitled, *Dr. Barnardo: Physician, Pioneer, Prophet*,[1] by Dr. J. Wesley Bready. It is a refreshing volume, interesting throughout, and even fascinating in that portion of it which tells of Barnardo's discoveries of the homeless boy population of London and of his early efforts to make their existence known to others, and to deal with the appalling situation. The subtitle of the book, "Child Life Yesterday and To-day," is appropriate, for the work and achievement of Dr. Barnardo lay not only in the establishment of an organization and institution which is one of the great monuments of modern philanthropy, but in the change which his influence and action has very largely helped to bring about in regard to child welfare, to the custody of children, and to Poor Law homes and schools, as well as in connexion with the migration of children to the oversea Dominions. A fine tribute was paid to his work by the chairman of the Local Government Board's Departmental Committee in regard to Poor Law children when he said: "Most of the reforms that the committee has recommended Dr. Barnardo had anticipated and put into practice. We owe him much for what he has done. I think we owe him more for the example he has set us of how to do it." Not only does Dr. Bready vividly record a large number of striking episodes, but he succeeds also in presenting a complete picture of the man, stirred by evangelical faith and humanitarian pity, who shirked no danger and steadfastly met all sorts of opprobrium in the cause which he had adopted as his life-work. He was a remarkable reformer and organizer, impetuous and obstinate, autocratic and self-sacrificing, with a rare vision and an abundant human sympathy—a personality, in fact, of which any profession and any generation might be proud. To this account of Barnardo's life and work is attached an admirably characteristic portrait taken shortly before his death.

We much regret to announce the sudden death, at Whitsuntide, of Sir Herbert Waterhouse, consulting surgeon to Charing Cross Hospital and president of the Medical Defence Union. We hope to publish an obituary notice next week.

We regret to record the death of Dr. A. T. MacConkey, late bacteriologist in charge of the serum department, Lister Institute of Preventive Medicine.

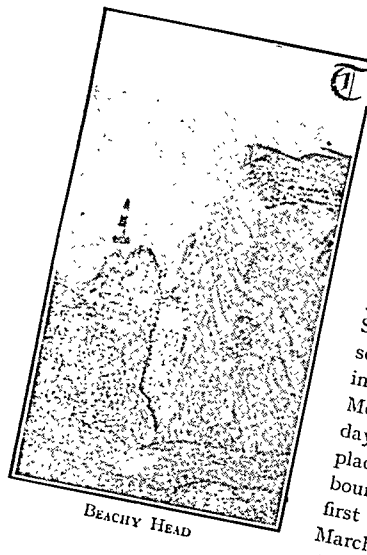
The President of the Royal Society, as chairman of the General Board of the Laboratory, will receive visitors at the National Physical Laboratory, Teddington, on the afternoon of Tuesday, June 23rd.

[1] *Dr. Barnardo: Physician, Pioneer, Prophet.* By J. Wesley Bready, Ph.D.Lond., B.D.Toronto. London: Hodder and Stoughton, Ltd. 1931. (Pp. 271. 7s. 6d. net.)

NINETY-NINTH ANNUAL MEETING
of the

British Medical Association

EASTBOURNE, 1931



BEACHY HEAD

THE ninety-ninth Annual Meeting of the British Medical Association will be held at Eastbourne this summer under the presidency of Dr. W. G. Willoughby, medical officer of health for Eastbourne, who will deliver his address to the Association on the afternoon of Tuesday, July 21st. The sectional meetings for scientific and clinical work will be held, as usual, on the three following days, the morning sessions being given up to discussions and the reading of papers, and the afternoons to demonstrations. The Annual Representative Meeting, for the transaction of medico-political business, will begin on the previous Friday, July 17th. The provisional programme for the work of the fourteen Scientific Sections, together with the full list of presidents, vice-presidents, and honorary secretaries of the Sections, and the time-table of social events, was published in the *Supplement* of May 2nd. Other details of the arrangements for the Annual Meeting will appear in later issues. During the week, and in particular on the last day of the meeting (Saturday, July 25th), there will be excursions to neighbouring places of interest. We publish below, the third of a series of articles on Eastbourne and its neighbourhood, with special reference to medical institutions. The first article—"Eastbourne in History and To-day"—appeared in our issue of March 14th (p. 464), and the second—"The Hospitals of Eastbourne"—on April 11th (p. 637).

THE SURROUNDINGS OF EASTBOURNE

It is convenient for the purpose of a brief description to divide the country round Eastbourne into three sections. The first is the Downs section south-west of the main road to Lewes; the second, the region between that road and the main road to Tunbridge Wells, which is nearly due north of Eastbourne; and the third comprising the country to the east of the Tunbridge Wells Road.

THE DOWNS

The road to Lewes passes through Willingdon and Polegate, where it leaves the London Road and proceeds to Wilmington. All the way to Lewes the Downs are close at hand on the left. At Wilmington there is the famous "Long Man" cut in the turf. He holds a staff in either hand, unless, as has been suggested, the upright strokes represent doorposts. The symbolism, as well as the origin, of the figure is a matter of controversy. Here also are the remains of an ancient priory, on the right of a branch road leading to Lullington, Litlington, and Exceat. The church at Lullington claims to be the smallest in England; it is, however, but the chancel of a larger church, the rest of which has fallen into ruin. Beyond Wilmington the main road passes over the River Cuckmere (pronounced "Cook-mere"). A short distance down the river may be seen Alfriston (Alfred's or Alfric's town), whose church, the largest of the Down churches, has been called "the cathedral of the Downs." Other noteworthy features are the old Market Cross and the Star Inn. Between Alfriston and Seaford, on the coast, the road ascends a steep hill, appropriately named "High-and-Over," from the summit of which a fine view of the Cuckmere Valley can be obtained. The next village on the Lewes Road is Berwick, pronounced as spelled. It is customary in Sussex, in the pronunciation of its place-names, to give each syllable its full value, even the suffix "ham," being pronounced quite distinctly—for example, Etching-ham, not Etchingum; a final —as in East Hoathly or Hellingly, is pronounced long. Between Berwick and Selmeston a short by-road on the left leads to Alciston, where there is a footpath over the Downs to Seaford; another side road in the same direction, a few miles further on, leads to Firle, beneath Firle Beacon (700 feet). At Beddingham, where the Lewes Road bears to the right, the Downs are visible on both sides. The road crosses Glynde Reach, a tributary of the Ouse, and the railway climbs up the side of the Downs and descends to the bank of the Ouse, which is crossed shortly afterwards in Lewes itself. At their confluence, and for some distance above, both the Ouse and Glynde Reach are tidal. From this point the distance to the sea by river is about nine miles.

Lewes, the county town, is full of interest. Dominating it is the castle of Simon de Montfort, to whom was addressed the ode beginning

Salve Simon Montis fortis,
tocius flos militiae.

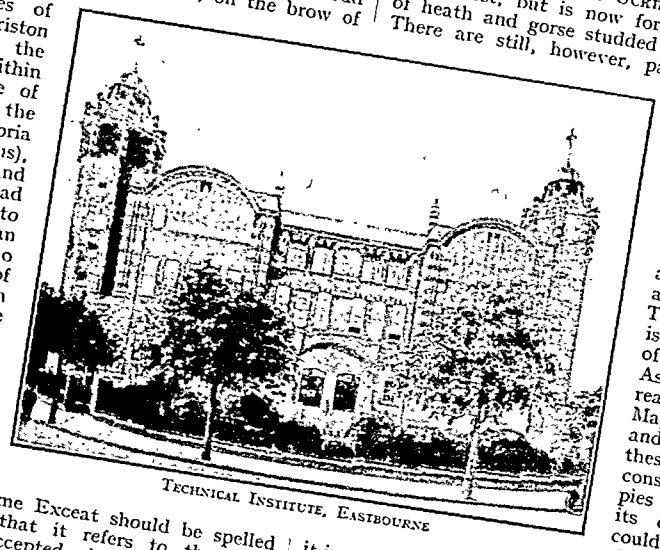
"Tocius," pronounced to scan, will appeal to those who have been chastised for false quantities, unless it is intended to be Lucretian. At the top of a hill rising steeply from the river is the county hall, containing the assize courts, then Castlegate and the Barbican, and further along High Street on the same side the official church of St. Michael-in-Lewes, which has a twisted spire similar to that at Chesterfield, though the twist is less extreme. At the top of Castlegate is a small promenade facing up the Ouse Valley. Below this viewpoint, on the right, is the brick-built church of St. Johnsub-Castro. The exterior is somewhat grim and barrack-like, but still more grim are some of the headstones in the churchyard, which bear death's heads and other gruesome devices in relief.

Two roads lead from Lewes to Newhaven, one on each side of the Ouse. Both pass through picturesque villages, the eastern through Tarring Neville, the western through Southease and Piddinghoe. Each of these villages has a church with a short spire—Tarring Neville pyramidal, Southease conical, and Piddinghoe hexagonal. The mellow

lichened roofs of Tarring Neville are very pleasing to the eye. From Southease a by-road crosses the river and the railway (Lewes to Newhaven branch) to join the eastern road leading to Seaford. Newhaven, at the mouth of the Ouse, is well known to many who cross the Channel. Though Seaford has the appearance of a modern seaside resort, it is an ancient port with a history; witness the punning epitaph upon Sir N. Pelham, which concludes with the lines:

What time the French sought to have sack't Sea Foord,
This Pelham did repel 'em back aboord.

The more direct route from Eastbourne to Seaford is over the Downs, leaving Eastbourne either by Old Town and up East Dean Hill, or at the western end of the Parade and by the Duke's Drive, which also leads to Beachy Head and Birling Gap. Beachy Head is famous enough to need no description here; Birling Gap is the only place between Eastbourne and the mouth of the Cuckmere where the cliffs are low enough to give an approach to the shore. The first villages on the road are East Dean, in a valley, and Friston, on the brow of the hill above it. Both have small churches of great antiquity. At Friston a road branches to the right for Jevington (within easy walking distance of Eastbourne, over the Downs from the Victoria Drive bus terminus). Wannock, Willingdon, and Polegate. The main road continues westward to Exceat. West Dean can be seen off the road to the right, in a hollow of the Downs. Exceat is on the Cuckmere, half a mile from the mouth, which may be reached by a footpath along the further bank. The river flows cut into the sea partly in an open channel and partly by percolation through the shingle. Some have suggested that the name Exceat should be spelled "Exeat," on the ground that it refers to the river mouth; but the generally accepted view is that it is a Saxon word. It is difficult to see why, if Latin, it should be in the subjunctive. The Downs rise again from the western bank of the Cuckmere, and Seaford is soon reached. Beyond Seaford and Newhaven the road continues along the cliffs through Peacehaven, Saltdean, and Roedean, to Brighton—some twenty-one miles from Eastbourne.



TECHNICAL INSTITUTE, EASTBOURNE

BETWEEN LEWES AND TUNBRIDGE WELLS

Between the Lewes Road and the Tunbridge Wells Road lies country which—until Ashdown Forest is reached—is less characteristic of Sussex, but is by no means devoid of interest. Ashdown Forest, through which the London Road passes, will be referred to later. On the western side of this region lies the valley of the Upper Ouse, here neither tidal nor navigable, except for small pleasure craft. A little to the north-east of Lewes is Ringmer, and to the south-east Glynde, joined by a picturesque and hilly road. East of these, and very close together, lie the villages of Ripe and Chalvington, occupying the centre of a flat and thinly populated area to the north of the Eastbourne-Lewes Road, and bounded on the east by the Cuckmere. On the Eastbourne side of the Cuckmere, and reached by road, either from the London Road just south of Hailsham, or from the Lewes Road by turning right at Wilmington, is "The Hide," more fully Milton or Arlington Hide, a large common dotted with gorse bushes, and forming a verge to the large and dense wood known as Abbot's Wood. The latter is well known to entomologists, who find in it a hunting ground scarcely inferior to the New Forest. The wood is private, but permits can be applied for. An idea of its extent can be most readily obtained from the top of the Downs above the Long Man of Wilmington. On the opposite side of the Hide is a road leading to Michelham Priory (whose ancient gateway is approached by means of a bridge over the Cuckmere) and the villages of Upper and Lower Dicker. Hailsham is a market town about eight miles from Eastbourne. Some two miles further is Horsebridge, a road junction with two dangerous corners; here roads lead to London, Tunbridge Wells, and Hastings. The Cuckmere is crossed between the two corners.

North of a line drawn from Lewes to Horsebridge, as far as the high ground of North Sussex, the country is gently undulating and well wooded. The only town is Uckfield; in this region the population is distributed in isolated farms and houses and in small villages, such as Chiddingly and East Hoathly. Ashdown Forest begins a few miles north of Uckfield. In olden days it was a true forest, but is now for the most part a high moor of heath and gorse studded with groups of fir and pine. There are still, however, parts of the old forest in all their density, especially near Worth. The remainder went to smelt Sussex iron before the age of coal. Crowborough, some nine miles from Uckfield, is the highest town in the county, and the journey by road to this, or indeed any, point in the forest affords magnificent views. The Tunbridge Wells Road is somewhat to the east of the main part of Ashdown Forest, but reaches high points at Mayfield, Mark Cross, and Frant. The first of these three is especially conspicuous, since it occupies the top of a hill of its own. Though much could be written about the forest and its history, its towns, and its villages, it is somewhat far afield from Eastbourne, and we have yet to notice the country east of the Tunbridge Wells Road, a region of perhaps even greater interest, since it abounds in relics of Roman, Saxon, and Norman times, and includes the actual site of the Conqueror's decisive battle.

EAST OF EASTBOURNE

Eastward from Eastbourne lie some twelve miles of level country, with the low hill of Pevensey in its midst. Pevensey was once an island; what are now marshes were covered by the sea, which in receding has left Pevensey a mile inland. Its strategic position was recognized by the Romans, and later by the Normans. Pevensey Castle, lately taken over and extensively restored by the National Trust, is a Norman castle within Roman walls. The most likely site of the Roman Anderida is here, though other conjectures have been made, including Eastbourne itself. Adjoining the Castle is the old Mint House. Not far from Pevensey, where Wartling Hill rises off the eastern edge of the levels, is Hurstmonceux Castle, which was the first brick building of consequence erected in England.

From Heathfield, a town about eighteen miles north of Eastbourne, and just off the Tunbridge Wells Road, a ridge of hills, continuous with the Ashdown Forest range, runs south-east, to terminate in the Hastings cliffs. This ridge borders the Pevensey Levels, and Wartling Hill is one of its lower slopes. Before proceeding further east we should notice the country upon and behind this ridge. Heathfield is a pleasant little town, increasing in size as its attractions become better known. To the east, Dallington stands on a hill in much the same manner as does Mayfield, already mentioned. The Cuckmere rises between Heathfield and Dallington. Brightling Beacon,

near Dallington, and at an altitude of 620 feet above sea-level, is a conspicuous landmark and an observation point for the coast from Beachy Head eastwards along Pevensey Bay. On the seaward side of the ridge are Warbleton and Penhurst, on the landward side Burwash; the hills and valleys around them are not overcrowded with traffic, and, being within easy reach of Eastbourne, make a good objective for a quiet tour. The road along the ridge next leads to Battle, which is reached more directly from Eastbourne via Pevensey, whither we will therefore return.

Continuing eastward from Pevensey, we may take either the Wartling or the Hooe Road to cross the remainder of the marshes. The latter is the more direct for Battle or for Bexhill and Hastings. On the right a by-road leads to Norman's Bay, nominally the site of the Conqueror's landing. The visitor approaching Hooe will observe a couple of oast-houses built on the hillside. These buildings are a prominent feature all over this part of Sussex, where the hop industry was extensively carried on. Hops are still grown in Sussex, but less than heretofore. The site of the famous battle of 1066, usually called the Battle of Hastings, is Senlac Hill, near the town of Battle, and about seven miles north-west of Hastings. The ancient building of Battle Abbey, which William the Conqueror founded as a thank-offering, was recently damaged by a disastrous fire. To the north-east of Battle, some seven or eight miles distant, is Bodiam Castle, one of the best-preserved fourteenth century castles in England. It stands on the north bank of the Rother, and its ancient moat is still water-filled. The castle was the property of the late Marquess Curzon, who left it to the nation. Hastings, one of the Cinque Ports, is too well known to call for description. It also has an ancient castle, on the heights to the east of the town. Beyond Hastings are Winchelsea and Rye, which both deserve a visit.

CONCLUSION

To attempt to do justice to Eastbourne's surroundings in such a limited compass is impossible. Sussex, with its long coast-line, its wide diversity of scenery, its venerable history, and its sunny climate, has no lack of panegyrists in prose and verse, and if this short description of a part of the county assists intending visitors in making their own explorations, it will have served its purpose.

Nova et Vetera

LEONARDO DA VINCI AS ANATOMIST

The steps which have given us Professor McMurrich's book about Leonardo da Vinci[1] are as numerous and as complicated as those involved in the production of the proverbial loaf of wheaten bread. There is first the apprenticeship of Leonardo to a painter in Florence in 1472, the apprentice being at that time 18 years of age. Then there were visits to the post-mortem room of a hospital in Florence, where the apprentice became interested in the internal structure as well as the outward form of the human body. In the third place, there was the growth of a curious habit in the apprentice of registering what he saw by means of marvellous sketches—adding to them hurried notes of his interpretation of anatomical appearances. At the time of his death at the age of 67 his folios and notebooks numbered 120; they were the material out of which he was to construct a complete account of the natural history of the human body. Death stepped in before he began his final task, and his harvest of hieroglyphs, of which he only had the key, was scattered abroad in Europe. Part of it went to Spain, and when the prince who afterwards became Charles I went wooing there in 1623, although he failed to find a bride, he did capture a large and valuable part of the Leonardo documents, which duly found their way to the Royal Library at Windsor. Others turned up in Italy and France.

The steps just narrated refer to the sowing of the Leonardo harvest; to explain those which have led to the gleaning and the production of this very solid loaf of a book it is necessary to pass to the nineteenth century, when a young Scot named Andrew Carnegie made a home and a fortune in the United States of America. Part of that fortune went to the establishment of the Carnegie Institute in Washington. In 1918 the president of the Institute invited Dr. George Sarton to write the history of science. He soon perceived that Leonardo da Vinci was one of the scientific giants of the fifteenth century, and that to assess the value of his contributions to anatomy it was necessary to call in professional assistance. He wisely went to Toronto, and enlisted the services of that distinguished anatomist Professor McMurrich, who has just sought retirement after being known to two generations of medical men by important contributions made to the embryology and anatomy of the human body. In writing this book, which represents a labour of ten years, Professor McMurrich has had at his command all known anatomical records made by the great artist. Never before have medical men had at their disposal the means of forming a just opinion of the greatness of Leonardo as an anatomist. The opinion formed by the reviewer is that, high as the author has placed him, the pedestal given is not equal to Leonardo's deserts.

It may seem ungracious, where so much is admirable, to cite a minor slip made by Professor McMurrich in one of his opening chapters. Writing about the Leonardo drawings preserved at Windsor our author states (p. 68):

> "When the rediscovery was made the book was brought to the attention of John Hunter, then the most outstanding English anatomist, and in his *Two Introductory Lectures*, published in 1784, he mentions the anatomical drawings with high appreciation. . . . A little later they were inspected by Blumenbach."

Those who are acquainted with the writings and life of John Hunter will be surprised to find him extolling the works of dead anatomists. He had very decided opinions of the value of their books. He held that their true value was to be assessed, not by what was read into them by "moderns," but by the opinion formed and appreciation expressed by the generation to which such works were addressed. In John Hunter's opinion, a discovery was valid only when it became the starting-point of a development of new knowledge; if it fell dead it did so because the discoverer did not understand what he had found. This is certainly not true of several discoveries made by Leonardo; he understood and demonstrated many things which should not have had to wait four centuries to be appreciated at their full value. Leonardo wrote in a new way, using hieroglyphical drawing as his medium of expression.

The man who recognized the great merits of Leonardo was John Hunter's elder brother William. He was certainly the greatest *human* anatomist produced by England in the eighteenth century. He also built up a great museum—a priceless collection of manuscripts, a unique collection of ancient coins—all of which are now preserved in the University of Glasgow. He was a man-midwife, the author of *The Gravid Uterus*—with its superb plates. In the course of his professional attendance on the Royal Family he had often to pass days at Windsor Castle awaiting "interesting events." It was

[1] *Leonardo da Vinci, the Anatomist (1452–1519)*. By J. Playfair McMurrich, Professor of Anatomy, University of Toronto. London: Baillière, Tindall and Cox. 1930. (Pp. xx + 265; 89 figures. 27s. net.)

during one of these visits, probably in 1782, that "Mr. Dalton, the King's Librarian, informed me of the discovery of these drawings, and at my request procured me the honor of leave to examine them. . . . In due time I hope to engrave and publish the principal of Leonardo's anatomical designs. They will be a curious and valuable acquisition to the history of Anatomy." Alas! death again stepped in, and deprived Leonardo of the anatomist more fitted than any other to be his commentator. As is well known, William Hunter gave his last course of lectures in his school in Windmill Street in 1782–83; he died soon after bringing the course to an end. In the opening lecture of his last course, which was published by his executors the year after his death, he announced the discovery of Leonardo's drawings, and gave his opinion of them in the following words:

"In tracing the great revolution in learning, which happened in the 15th century, I am enabled to carry the history of the improvement of anatomy farther back than has been done generally by our own writers, and to introduce into the annals of our art a genius of the first rate, Leonardo da Vinci, who has been overlooked because he was of another profession. *I believe he was by far the best anatomist and physiologist of his time*, the first man we know of who introduced the practice of making anatomical drawings. I saw, and indeed with astonishment, that Leonardo had been a general and a deep student. When I consider what pains he has taken on every part of the body, the superiority of his universal genius, his particular excellence in mechanics and hydraulics, and the attention with which such a man would examine and see objects he was to draw, I am fully persuaded that Leonardo was the best anatomist at that time in the world."

William Hunter was a man who weighed his words; so does Leonardo's present editor; the opinion the one came to in 1782 regarding Leonardo's merits is almost the same as the other has come to in 1930, save perhaps that the flash of insight lies with the eighteenth century anatomist rather than with his modern successor.

A survey of the documents which Professor McMurrich has placed before his readers astonishes the critic by revealing Leonardo in two quite different lights. His drawings of the articulated human spinal column are masterpieces of accuracy—notwithstanding the extra spinous process to which Professor McMurrich has drawn attention! The length, inclination, and shape of every vertebral process—spinous and transverse—are introduced with more than photographic accuracy. The man who depicted so unerringly the varying length and inclination of the transverse processes of the dorsal vertebrae had evidently fathomed the significance of the series in its relation to respiration. Yet modern textbooks leave the functional significance of the arrangement of these processes unmentioned. He approached the study of the backbone and of its musculature with no preconceptions, and drew with unerring truthfulness. But when he approached the study of the heart and great vessels he diagrammatized so as to make the parts fit with Galen's conception of the circulation. Even one of the greatest and most original minds twisted facts to suit a theory—a warning for all time.

If anyone wishes to realize how modern—nay, ultra-modern—Leonardo could be, let him look at the plate which provides Professor McMurrich with Fig. 12. A series of studies is given representing the part played by the muscles round the hip-joint in maintaining the body erect. In two drawings the muscles have been removed and their place taken by bands or cords to represent the part they play in balancing the body at the hip-joint. One drawing represents the buttock region of a horse rearing on its hind quarters, the other a profile of the left thigh and buttock of a man standing erect. Leonardo clearly realized that in assuming such postures all the muscles act from their lower attachments; the thigh provides their fixed point for action; the hip-bone moves. Yet one will search modern books in vain for his vivid representation of a truth of the utmost value to orthopaedic surgeons. He also realized that in the act of rearing a horse threw into action the same muscles as a man does who raises his body from a stooping to the erect posture.

Only a few scattered grains culled from the great wealth of this book have been placed before the reader—just enough to show the feast which awaits the real student. One might put up a claim for Leonardo as giving better guidance to the orthopaedic anatomy of the human body than has yet been given by any other master. Whether such a claim is justifiable or not, there cannot be any doubt as to the present benefit conferred by the Carnegie Institute on all students of the human body by the publication of Professor McMurrich's *Leonardo da Vinci, the Anatomist*.

A. K.

THE UNITED STATES PUBLIC HEALTH SERVICE

For the information of those desirous of entering the Regular Commissioned Corps a pamphlet has recently been issued by the United States Treasury Department dealing with the history, functions, and organization of the Public Health Service, and also regarding appointments, compensation, promotions, duties, and retirements.[1]

SUMMARY OF FUNCTIONS

The United States Public Health Service has existed since 1798, and until 1902 was known as the Marine Hospital Service. Created originally to provide medical care and treatment for sick and disabled seamen, its functions have been extended to include scientific research and measures for the protection of the public health; these include quarantine duties, the medical examination of aliens, both at home ports and in foreign countries, the study of exotic diseases, and the regulation of inter-State traffic in serums, toxins, and analogous products. In 1901 the construction of the Hygienic Laboratory was authorized for the systematic investigation of infectious and contagious diseases and matters pertaining to the public health; in 1912 authority was given for field investigations of health problems, including sanitation and sewage and the pollution of navigable rivers; in 1918 special authority was granted for the investigation and control of venereal diseases; and during the past two years the Service has been charged with studies of drug addiction and the care and rehabilitation of drug addicts, and also the broad study of mental hygiene. In 1930 laws were enacted for co-operation with other departments of the Government in public health activities, and for the establishment in Washington of the National Institute of Health, successor to the Hygienic Laboratory, for the purpose of scientific research of problems of disease in man and matters pertaining to the public health. Numerous laws have also been enacted from time to time legalizing the policy of co-operation with other Federal agencies and with State and local health authorities in their measures for the prevention of disease and the promotion of the public health, though no details are given of the extent and character of this co-operation.

Nearly 500,000 persons apply annually for medical care and treatment, mostly officers and men connected with various Government marine services, but including lepers, cases of tuberculosis, officers of the Public Health Service, prisoners at United States penal and correctional institutions, and patients at Federal narcotic farms. Hospitals and other relief stations are maintained by the Public Health Service at 155 ports of the United States and its possessions. The marine hospitals number 25, and are operated by 300 doctors and dentists, the daily

[1] Reprint No. 1414 from the Public Health Reports, United States Treasury Department, Washington, 1931. (10 cents.)

average of patients being about 4,000. The annual expenditure of the marine hospitals and other relief stations exceeds 5,000,000 dollars. All the marine hospitals are medical and surgical hospitals, except that at Carville, Louisiana, which is devoted to lepers, and that at Fort Stanton, New Mexico, which treats merchant seamen and others with tuberculosis suitable for treatment in a high altitude. New hospitals have been provided at Detroit and Cleveland, and others are being constructed or have been authorized at San Francisco (500 beds), Galveston, and New Orleans (600 beds), New York (600 beds), Baltimore, and Seattle. Several small hospitals and a field laboratory are maintained for the eradication of trachoma, and other duties include control measures for the sanitation of shellfish-bearing areas and fundamental research of public health problems in laboratories and in the field.

ORGANIZATION OF THE SERVICE

As regards organization, the Public Health Service is under the control of the Treasury Department, and is presided over by the Surgeon-General at Washington, whose acts are subject only to the general supervision and approval of the Secretary of the Treasury and the President of the United States. The office has eight divisions, each in charge of an assistant surgeon-general or medical director, dealing with (1) marine hospitals and relief, (2) domestic (inter-State) quarantine, (3) foreign and insular quarantine, (4) sanitary reports and statistics, (5) scientific research, (6) venereal diseases, (7) mental hygiene, (8) personnel and accounts. Candidates for the Service must pass a physical, educational, and professional examination, have certificates of good character, and their age must be between 23 and 32 years. Applicants may enter for the medical, dental, public health engineering, or pharmacy branches of the Service. Candidates in medicine who have passed the tests of the National Board of Medical Examiners are not required to pass the written professional test. On first appointment the grade entered is that of assistant surgeon (three years' service), higher grades being those of passed assistant surgeon (nine years'), surgeon (eight years'), senior surgeon (six years'), and assistant surgeon-general or medical director. The Surgeon-General is selected by the President. Public Health Officers are commissioned in grades similar to those of the Medical Corps of the United States Army. If an officer is found not to be qualified for promotion for reasons other than physical disability his commission is terminated, six months' pay and allowances in the case of assistant surgeons and one year's pay and allowances for passed assistant surgeons being granted.

PAY AND PROSPECTS

Maximum annual pay and allowances for assistant surgeons are 3,158 dollars, and, independent of promotion, all officers receive as part of their total compensation 5 per cent. of their basic pay for each three years of service, up to 50 per cent. Officers with dependants receive higher pay, the difference in the case of assistant surgeons being about 450 dollars per annum. The maximum basic pay of the surgeon-general is 9,700 dollars per annum, while senior surgeons receive approximately 7,000 dollars. Special allowances are made for travelling, and also for transport expenses on change of station. One month's annual leave of absence is allowed, which may accumulate to the amount of four months. On incapacitation by disease or accident an officer, after the expiration of his annual and sick leave, is retired and placed on permanent "waiting orders" status, and receives three-fourths of his basic pay and longevity increase, irrespective, it would seem, of length of service. On retirement for reasons other than ill-health, senior officers receive up to 60 per cent. of active duty pay.

Officers in the United States Public Health Service are apparently not required to possess any special degree or diploma in public health, and their duties embrace some of those undertaken in Great Britain by the Ministry of Health, port sanitary officers, the R.A.M.C., and, in a minor degree, by local sanitary authorities. The Service is evidently developing rapidly, though the pamphlet does not indicate its relationship to, or degree of co-ordination with, the civil health authorities.

The pamphlet concludes by pointing out that an efficient member of the Public Health Service has a pleasant and useful career, though the pay and allowances are moderate, as compared with some of those in private life. The statement is also made that "a commission in the Public Health Service is not a sinecure, on account of the lack of a fixed dwelling place, the separation at times from the family, and the conditions at times of emergency field service," and that "no officer may expect to amass great wealth through the pay of his commission, but he is assured of a comfortable living and safeguards for disability and old age." Having regard to the greater cost of living in the United States it does not appear that the conditions of service and pay in the United States Public Health Service are superior to those of officers in Great Britain who are engaged in the public services on similar duties.

England and Wales

Detection of Small-pox

The London County Council recently decided that admission of patients to the small-pox receiving station at South Wharf, Rotherhithe (where cases are collected before transport, usually by river, to the small-pox hospitals at Dartford) should be limited to cases in which a medical certificate has been given that the patient is suffering from the disease. Since then representations have been made by the Hackney, Deptford, and Islington metropolitan borough councils protesting against the decision, and pointing out that, in congested boroughs especially, it is most undesirable that a patient whose symptoms suggested small-pox should be obliged to remain at home until the rash has developed sufficiently to enable a definite diagnosis to be made. On the other hand, the London County Council drew the attention of the protesting boroughs to the diagnostic consultant service which it provided, of which some boroughs had not made full use. This service has been established for many years in order to give assistance in doubtful cases. Until about two years ago the duties were performed by a whole-time officer, and since then they have been taken over by a panel of medical superintendents of the fever hospitals. It was also pointed out by the London County Council that precautions must be taken to ensure that patients who have not contracted the disease are not exposed to the risk of such infection by being taken to the small-pox hospital or the receiving station. During 1930 the number of cases sent to South Wharf without a clear certificate of small-pox was 457, of which 94 were proved not to have the disease. In view of the representations made, however, the Central Public Health Committee proposes to modify the regulations, and to instruct that patients suspected as suffering from small-pox, but not so certified, be admitted to South Wharf for observation on the following conditions: (1) that the metropolitan borough medical officer of health has called in to the case one of the council's consultants; (2) that the patient has been examined by the medical officer and by the consultant, in addition to having been examined by the general medical practitioner (in cases in which one has been called in) and that they have all been unable to say definitely that the case is small-pox, although there is a strong presumption in the affirmative; (3) that the application for admission has been made by the borough medical officer of health; (4) that the arrangement whereby borough medical officers obtain information each evening from the Council as to the final diagnosis of cases admitted for observation continues; and (5) that the responsibility for the initiation and carrying out of all preventive action in such cases remains with the metropolitan borough councils.

Occupational Diseases in Coal Miners

In the first of two Chadwick Public Lectures on "The coal miner, his health, and occupational diseases," Professor E. L. Collis dealt with the personal factor in coal mining. He asked his audience to go with him in thought on to a coalfield, while he showed pictorially the way in which the miner worked and earned certain physical disabilities. Miners' nystagmus topped all other occupational diseases added together for which workmen's compensation was paid; it was estimated to cost the mining industry about a million pounds a year. Many more coal miners, on account of their high accident rate, as well as the tendency to certain diseases, claimed compensation every year than did other workers. After nystagmus, the next most frequent disease was beat-knee, followed by beat-hand, beat-elbow, and inflamed wrist. These maladies were due to the way in which the miner used, or rather misused, his body while at work, and they mended rapidly if the fault was corrected. They were far different from miners' nystagmus, with its all-important psychological factor; but in their treatment the aim must be complete restoration of function, so that the miner did not lose his earning capacity. Many mines were not only hot, but deep, and the miner, even though he worked stripped to the waist, perspired freely. Two results might follow: first, his skin was rendered more liable to microbic infection, and he might develop boils; or he might develop cramp if he drank plain water to assuage the thirst caused by free sweating. Miners were exposed to much dust underground, which they could not avoid breathing, so that the lungs of a coal miner became as black as the coal he worked. So long as this dust contained nothing except pure coal no damage resulted, but if rock particles were also present the lungs might be seriously impaired. Some miners only worked upon rock, in cutting roads underground so that the hewers could get to the coal; these men were seriously affected by the dust they created at their work. The dust hazard had been increased by the introduction of pneumatic drills, but a device had been invented for capturing the dust as it was generated. The most serious cause of accidents among miners was falls of roof, due largely to careless timbering of the roof while at work. The mortality rates experienced by coal miners from various diseases, and from accidents, showed interesting variations in different coalfields, and it had been observed that miners tended to be most dissatisfied with their working conditions in those coalfields where the mortality was highest.

Leicester Royal Infirmary

Leicester Royal Infirmary was founded in 1771 by the Rev. Dr. Watts, and its 160th anniversary is commemorated in the annual report for 1930 by a short account of the conditions in England in the second half of the eighteenth century. During the last thirty years three-quarters of a million pounds have been spent in changing Leicester Infirmary from a place which "provided for the needs of the sick for whom no institutional treatment or medical service was available" to a highly equipped modern hospital supported by voluntary contributions. In place of forty-two beds there are now 472. In 1921 4,282 in-patients were treated, and in 1930 the number had increased to 8,008. The ordinary income ten years ago was £51,105, last year it was £83,903. The establishment of a radium department and the installation of an electrocardiograph apparatus are two further examples of the admirable progress made along modern lines by this hospital. It is proposed to make this 160th anniversary an opportunity for a decennial appeal. One of the first works to be undertaken is the enlargement and modernization of the nurses' home.

Scotland

Post-Graduate Courses in Glasgow

The Glasgow Post-Graduate Medical Association will hold a summer session from June till October for post-graduate teaching in Glasgow. The teaching facilities will fall chiefly into two divisions: (*a*) general medical and surgical course, and (*b*) clinical assistantships. During the last two weeks of August and the first two weeks of September a whole-time course in general medical and surgical work will be conducted in the general and special hospitals; for this an inclusive fee will be charged. The mornings will be occupied with general medical and surgical diagnosis and minor surgery, in the Royal Infirmary and in the Victoria Infirmary. In the afternoons special subjects will be dealt with in some of the special hospitals of the city and in special departments of the general hospitals, two subjects being considered each afternoon. In a number of the institutions taking part in this scheme clinical assistantships are available during the summer months as well as at other times of the year; they are designed to make provision for graduates who desire opportunities for a detailed study of one or other of the specialties. Further particulars can be obtained from the secretary, Glasgow Post-Graduate Medical Association, The University, Glasgow.

Health of Dunfermline

In the annual report on the health of Dunfermline for 1930, Dr. C. Barclay Reekie, medical officer of health for the burgh, states that the infantile mortality rate of 51 per 1,000 births for the year is the most favourable on record, and that the general death rate of 11.6 has only once been lower. Although the incidence of infectious disease during the year was higher than the previous year, the number of cases of scarlet fever—namely, 112—represented a decrease of 164; among these cases there was only one death. In one instance the outbreak was traced to a dairy. Cases of diphtheria numbered 91, an increase of 11; one death was recorded. The principal cause of the increase in infectious cases was measles, of which 402 cases were notified—an increase of 277. Three patients, all under 5 years of age, died. In connexion with this disease about four hundred visits in Dunfermline were made by nurses. There were 133 cases of whooping-cough and 315 cases of chicken-pox. Nine cases of malaria were notified, all imported from abroad. Of the seven patients requiring insulin, 3 in necessitous circumstances received the treatment free. Altogether 37,300 units were issued from the public health department. Patients with pulmonary tuberculosis numbered 40; of these, 20 were given sanatorium treatment. During the year 128 patients with this disease, 109 with other forms of tuberculosis, and 20 patients under observation were visited by tuberculosis nurses. The maternity home, established by the town council in 1921 with ten beds, is urgently in need of extension, since 323 patients, whose home conditions were unsuitable, were received during the past year.

Lord High Commissioner and Hospitals

The Lord High Commissioner, Mr. James Brown, M.P., representing the King at the General Assembly of the Church of Scotland, paid the usual round of visits to the hospitals in Edinburgh in the course of the past week. On May 20th he visited the Royal Infirmary, being received by Lady Findlay, chairman of the Board of Managers, and presented the prizes gained by nurses in the recent examinations. On the same day the Lord High Commissioner's wife visited the Royal Maternity and

Simpson Memorial Hospital, which during the past year has treated the largest number of cases in its history. A visit was subsequently paid to the Children's Shelter of the Royal Scottish National Society for the Prevention of Cruelty to Children. In a short address Dr. Harry Miller said that in 1930 the society had dealt with 1,041 cases, involving the welfare of 1,507 parents and 2,978 children; 13,599 visits were paid by inspectors.

Ireland

Public Health in County Meath

In his annual report on conditions of health in County Meath, Dr. T. F. O'Higgins, county medical officer of health, states that the death rate from puerperal sepsis was higher in Meath than in any other county in the province of Leinster. This indicated the absence of skilled attendance at many births, and showed how necessary it was to apply the Notification of Births Acts to County Meath, which was not done by the Board of Health until September, 1930. Mortality from tuberculosis was exceeded only by that from heart disease and cancer, while the death rate from the principal epidemic diseases was 0.32. On the other hand, there has been a marked decline in the death of infants under 1 year, which is attributed to the work of district nurses and nursing associations. In proportion to its population, Meath appears to be better served in this department of public health than other Irish counties. Some reference is made in the report to the general system of water supply throughout the county. With the exception of the three urban districts—Trim, Navan, and Kells—and the town of Slane, where waterworks have been erected, all the towns and villages depend for their water supply on pumps or shallow wells. While pumps are stated to be kept in satisfactory order, the labour entailed in transporting the water often results in shortage and undue economy in its use, and leads to insanitary domestic conditions.

Clean Milk Society

At a recent meeting of the Irish Clean Milk Society, held in Dublin, Sir Edward Coey Bigger, in the chair, declared that if the public was assured that the milk supply was perfectly safe and free from disease, the consumption of milk would undoubtedly be greatly increased. Milk was one of the best and cheapest foods, especially for infants and children, and something had been done to improve it by the use of preservatives. In presenting the report Professor J. W. Bigger of Trinity College, chairman of the committee, said that the Irish Clean Milk Society's activities during the past year had been chiefly educational—for example, in emphasizing the dangers lurking in milk. When the society was founded there were no suppliers of tubercle-free milk in the neighbourhood of Dublin; to-day there were a considerable number who supplied absolutely safe, clean milk—a change that had been brought about largely by the society's efforts. The farmer who took the trouble to supply clean milk would find a market for it. They had failed, however, to secure legislation to improve the milk supply of the country. At present the Irish Free State was behind England, Scotland, and Northern Ireland. Scotland had about one hundred tubercle-tested herds and Northern Ireland about thirty, all under Government control. In this country there were a number of tested herds, but absolutely no Government control. The Inter-Departmental Committee, appointed in 1928, recommended that a system of graded milk should be introduced, and that there should be a penalty for selling dirty milk; yet the Government had done nothing. It was ridiculous that it was safer to sell dirty milk for drinking purposes than to send it to creameries for conversion into butter, largely for export. Even the worst milk could be described as certified in this country. Milk was as important for the health of the baby as water was for adults. In the Irish Free State several hundred babies died every year because they were fed on contaminated milk. These deaths were preventable and absolutely unnecessary. To fail to prevent death was morally the same as murder, and the responsibility rested with every Minister and member of the Dáil and Senate who obstructed in any way the introduction of legislation which tended to improve the milk supply. In proposing the adoption of the report Professor T. Gillman Moorhead, President of the Royal College of Physicians, said that the latest returns from the Public Health Department of the Saorstat showed that while pulmonary tuberculosis was declining surgical tuberculosis was not, and that it would not decline until legislation was introduced to provide clean milk. The society should continue to press for measures to prevent the disease. It was easier and cheaper to prevent infection than to spend a lot of money on cripples as the result of drinking unclean milk.

Mental Hospitals in the Irish Free State

A report presented to the Minister of Local Government and Public Health states that the number of insane persons treated in public and private mental hospitals and other institutions in the Irish Free State in 1929 was 20,050. Of these, 52.2 per cent. were males and 47.8 per cent. were females, distributed as follows: district mental hospitals, 86.7 per cent.; private mental hospitals, 5 per cent.; Poor Law institutions, 7.7 per cent.; and the State Criminal Lunatic Asylum, 0.6 per cent. The daily average number resident in all these institutions during 1929 was 17,273—9,174 males and 8,099 females—and the total number of discharges was 1,283.

Correspondence

INFARCTION OF HEART WITH PERICARDIAL EFFUSION IN A PHTHISICAL SUBJECT

SIR,—The interesting report by Lieut.-Colonel T. A. Hughes and Dr. Mohammad Yusuf (*British Medical Journal*, May 9th, p. 794) of a case diagnosed as infarction of the heart with pericardial effusion in a young phthisical subject has encouraged me to publish a similar history of a patient treated at the Mundesley Sanatorium.

A female patient, aged 36, was admitted on June 13th, 1930. Tubercle bacilli had been present in the sputum for the last eighteen months, during the greater part of which period the patient had undergone treatment in Switzerland. At the time of admission she was afebrile, and her general condition was fairly satisfactory; cough was severe, and purulent frothy sputum amounted to ten ounces in the twenty-four hours. The most remarkable feature of the case was a loud stridor, audible at a considerable distance; apart from a variable number of rhonchi, physical signs in the chest were conspicuously absent, and an antero-posterior skiagram showed heavy hilar shadows, but little else. A lateral *x*-ray picture showed a well-marked opacity in the posterior mediastinum, in which there was some suggestion of clear areas.

The condition remained stationary until August 14th, when pain in the left side of the chest was first complained of. This persisted during the next few days, but was not severe. About 8 a.m. on August 17th there was a sudden attack of agonizing pain, the patient became practically pulseless, and

the heart sounds were faint. Consciousness was not completely lost, but speech and movement were impossible. During the next few days the pain continued, with gradually diminishing severity, and frequent injections of morphine were necessary. The temperature rose to 104° F., and the pulse rate, which had been 72, to 150. An electrocardiogram taken on August 23rd by Dr. H. J. Starling showed no abnormality in any lead. With strict rest the condition gradually improved, and by August 27th an *x*-ray examination was possible; this showed the enlargement of the cardiac outline typical of pericardial effusion, and at the same time the possibility of oesophageal obstruction was excluded.

Gradual improvement continued, but the amount of sputum was unchanged, and the physical signs over the left lung were variable; sometimes loud rhonchi could be heard, and at others the breath sounds were inaudible. At the end of September a small pleural effusion appeared at the left base. The temperature remained between 100° and 101° in the evening. On October 31st a left artificial pneumothorax was induced, and was followed by considerable improvement in the general condition, cough, and sputum. At present the patient is afebrile, up most of the day, and doing short walks; the daily sputum varies between one drachm and five ounces, the stridor has disappeared, and the breathing is easier than it has been for two years. A few tubercle bacilli are still present.

The most interesting feature of this case is the occurrence of precordial pain and pericardial effusion in a patient suffering from a form of tuberculosis unusual in that it produced pressure symptoms on the main air passages to such an extent that the presence of a neoplasm was suspected. Although infarction of the heart is quite a possible diagnosis, the presence of a tuberculous focus causing pressure in the near vicinity makes it seem more probable that the sudden onset of severe symptoms was due to the discharge of tuberculous material into the pericardial sac. In this connexion it would be interesting to hear if the authors of the previous paper were able to find any evidence of disease in the neighbourhood of the pericardium.—I am, etc.,

ANDREW MORLAND, M.D., M.R.C.P.,
Resident Physician, Mundesley Sanatorium.

May 15th.

PITUITRIN AND OBSTETRIC SHOCK

SIR,—In the *Journal* of May 16th (p. 837) Professor Miles Phillips records in detail a case of collapse occurring soon after the end of the second stage of labour and culminating in sudden death within twenty-four hours, and states that, no cause for the condition being discovered, the ultimate diagnosis was death from emotional shock. May I suggest that, in this and similar cases, the possibility of death being due to an idiosyncrasy to pituitrin should not be overlooked? I had occasion, about the same year (1925), to see a case which closely resembles that described by Professor Phillips.

A primipara, aged 29, after being fully twenty-four hours in labour, delivered herself without the aid of instruments at 11.20 p.m. She had been given 3 c.cm. of pituitrin, as follows: 1 c.cm. at 5 p.m., 1 c.cm. at 8 p.m., and 1 c.cm. at 10.30 p.m. The child did not survive, despite every care, though it drew a deep breath at long intervals for nearly two hours. At 11.45 p.m. the mother's pulse was scarcely perceptible at the wrist and 120 per minute in the femoral artery. The mother felt quite well, and continued to feel well till about 1 a.m. Despite warmth and salines her pulse did not improve. The uterus was nearly as high as the umbilicus, contracted occasionally, and there was no sign of haemorrhage or rupture. The placenta lay *in utero*, and was not interfered with. The patient was not restless. From 1 a.m. she gradually sank, and died at 3 a.m. Death was, apparently with justification, attributed to pituitrin. The same preparation, I was credibly informed, had been used freely in many previous cases without ill effect.

This case very closely resembles that described by Professor Phillips. It is true that in his case 1/2 c.cm. only of pituitrin was given; but pituitrin used to vary notably in strength. In the report of the Medical Research Council in December, 1922, it was shown that commercial preparations varied so greatly that the most potent may have eighty times the strength of the least potent, and vary marked variations both in oxytocic and pressor effects occurred in extracts described by the manufacturers as physiologically standardized. Also, the question of idiosyncrasy cannot be ruled out. In the current edition of the *Medical Annual*, Professor Beckwith Whitehouse, in the article on labour and its complications, quotes A. M. Mendenhall as sounding a timely note of warning regarding the use of pituitary extract. Mendenhall states that in actual clinical practice the effects of the same dose and of the same preparation often differ widely in patients under similar conditions; and that, furthermore, once started, the effect must continue, as no satisfactory antidote to pituitary extract is at present known.—I am, etc.,

Bradford, May 22nd. PETER MCEWAN.

SPINAL ANAESTHESIA

SIR,—In thanking Mr. Basil Hughes for his appreciative letter in last week's issue, may I say that it has become my practice to reserve the 3 c.cm. dose for cases demanding increased duration of anaesthesia. I depend only on upward table-tilting to extend the anaesthesia to the higher abdomen, and use the standard 2 c.cm. dose.

May not the dose in these cases literally be a vital point? For to obtain upper abdominal anaesthesia one depends on a rising tide of spinocain round the spinal nerves. There is obviously a high-water mark beyond which the tide cannot safely rise, and it is not only the rate of flow but also the volume of the rising tide that can harm the patient. Skill in administration depends on arresting the tide at the critical moment. Therefore it is among these upper abdominal cases the fatalities of spinal anaesthesia will chiefly occur, and, other things being equal, then the smaller the dose which is adequate the less the risk, and the larger the dose used the more perfect the precision required to control it.

It was largely thanks to a conversation with Professor Burgess of Manchester that I, too, embarked on spinocain anaesthesia.—I am, etc.,

Clifton, Bristol, May 25th. A. WILFRID ADAMS.

KONDOLÉON'S OPERATION

SIR,—Mr. J. Ewart Schofield's views on the Kondoléon operation in your issue of May 9th (p. 795) should not be allowed to go unchallenged. This operation, based on the work of Sappey (1874) on the lymphatics, was brilliantly conceived. It aimed at the removal of the dense deep fascia which was obstructing the flow of lymph. That in some cases the result was not permanent was shown by A. L. Gregg to be due to re-formation of this thickened fascia.[1] From the photographs, Mr. D. J. Harries's very successful case (*British Medical Journal*, December 27th, 1930, p. 1079) was one of true elephantiasis, giving a history of tuberculous disease and infection. A survey of some ninety cases recorded in the literature as elephantiasis showed that a very large proportion proved to be only oedema from lymphatic or venous obstruction. Hutchinson's definition is "a condition resulting from solid oedema and more or less resembling the appearance

[1] A. P. Bertwistle and A. L. Gregg: *Brit. Journ. Surg.*, 1928, xvi, No. 62.

of an elephant's limb." The outstanding feature of elephantiasis is chronic inflammation. Is it not possible that Mr. Schofield's was a case of lymphatic obstruction or thrombosis of the femoral vein and the tibial venae comites? In such cases where "the deep fascia was not easily defined" the operation could hardly be expected to give relief.—I am, etc.,

London, W., May 20th. A. P. BERTWISTLE.

EXAMINATION OF MOTORISTS CHARGED WITH DRUNKENNESS

SIR,—Is it not time the British Medical Association took steps to put a stop to the farce of a medical man being called in to say whether or not an individual who is obviously drunk and incapable is in a fit state to drive a motor car? The other day, at Cambridge, a man was found lying insensible over the steering-wheel of his car, which was on the pavement, and there were no tyres on the rear wheels. The police apparently had no doubt as to what was the matter with him, but, in order to satisfy the law, two medical men had to be got out of bed between 2 and 3 a.m. to say whether or not the man was drunk!

If the law insists on requiring a doctor to state the obvious, and regards his opinion as expert evidence, which it apparently does, the fee should at least be somewhere in keeping with the nature of the services rendered. I am fortunate in having so far escaped being called to such a case, and it was only to-day that I learned—to my amazement—that the usual fee is 5s. by day and 7s. 6d. during the night. I submit that the latter is not even sufficient as compensation for having had a much-needed night's rest ruined by a drunken reveller, let alone paying for the expert opinion. There are very few people these days who can afford the luxury of indulging in alcohol to the extent of placing their sobriety in question, and those who are in the privileged position of being able to do so can surely afford to pay the doctor a guinea by day, or two guineas by night, for services which may be the means of saving them from being sent to prison.—I am, etc.,

Melton, Suffolk, May 23rd. W. BROOKS KEITH, M.D.

Medico-Legal

ALLEGATION OF NEGLIGENCE AGAINST SURGEON WITHDRAWN

On May 11th, before Mr. Justice McCardie and a special jury, who were prepared to re-try the action, it was announced that a settlement had been reached in the case of Moore and Wife *v.* Ligat, which had previously come before Mr. Justice Horridge and a special jury, the jury disagreeing after a six days' hearing. The settlement was on the basis of an *ex gratia* payment, with the withdrawal of all allegations against the defendant.

Mr. H. H. Joy, K.C., and Mr. F. W. Wallace appeared at both courts as counsel for plaintiffs, and Mr. Roland Oliver, K.C., and Mr. H. C. Dickens for defendant. The defence was instructed by Messrs. Hempsons, acting on behalf of the Medical Defence Union.

In this case it was alleged that the defendant, Mr. David Ligat, F.R.C.S., had performed an operation on Mrs. Moore so negligently and unskilfully that the sight of her left eye had been destroyed, with the result that she could not carry on her occupation as a dressmaker. It appeared that some time before June, 1927, Mrs. Moore attended the out-patient department of the Buchanan Hospital, St. Leonards, for deflected septum and polypi. On examination by Mr. Ligat, surgeon in charge of the ear, nose, and throat department of the hospital, both nostrils were found plugged with multiple polypi, and the infection was setting up retrobulbar neuritis. An operation was arranged, and was performed by Mr. Ligat. He began to operate on the right side, first removing the polypi and then the turbinate bone, and the ethmoidal cells were cleaned out. He then proceeded to operate on the left side, but, unfortunately, instead of the turbinate bone coming away at its root, the ethmoidal cells, owing to the progress of the disease, came away with the turbinate, leaving a free opening between the nasal and the orbital cavities. This condition, not infrequent in operations, was recognized at once, and the surgeon refrained from plugging the nose, so as to ensure free drainage for any bleeding which ensued. Shortly after the operation it was noticed that the left eye was swollen slightly, and by the time the surgeon arrived the patient complained of loss of sight in the eye, and it was clear that there had been extensive haemorrhage into the eye, due to the breaking down of the partition wall. The defendant did what he could to relieve the position, hoping that the sight would recover when the haemorrhage was absorbed, but owing either to pressure from the haemorrhage on the already diseased optic nerve, or else to a thrombosis which very possibly existed prior to the operation, Mrs. Moore never recovered the sight of the eye.

On behalf of the plaintiffs, negligence and lack of skill were alleged in that Mr. Ligat appeared to have severed or injured beyond remedy the left optic nerve, or the arteries or veins, or that he failed to use reasonable care and skill in operating on or near the orbital plate of the ethmoid bone, and by means of his instrument penetrated and removed part of the orbital wall. On behalf of the defendant it was urged that if he had not operated at once the patient would certainly have lost the sight of this eye, and possibly of both, and that there was also a danger of loss of life from meningitis. Mr. Ligat himself was of opinion that the loss of sight was due to haemorrhage, and this view was shared by Mr. J. F. O'Malley and Mr. Somerville Hastings, both of whom gave evidence on his behalf. Both these witnesses agreed that the breaking down of the partition—that is, the ethmoidal cells between the nasal and the orbital cavities—could not be avoided in these cases, though it was not usually attended with such dire results. Mr. M. H. Whiting, who also gave evidence for the defendant, considered that the loss of sight was due to thrombosis, but he also agreed that the accident, if it might be so termed, was unavoidable, and that the condition found was quite compatible with Mr. Ligat's account of the case. A good deal of conflicting evidence was given as to the circumstances of Mrs. Moore's admission to the hospital, and as to whether she had complained of failing eyesight before the operation, which she strongly denied having done.

As stated, the jury disagreed.

When the re-trial of the action was about to begin, Mr. Joy, for the plaintiffs, said that the jury would not be troubled with the case. He had advised Mrs. Moore to accept a sum which the defendant had offered—she would receive £75 clear—but this in no way involved any admission of negligence on the part of the defendant. It was an *ex gratia* payment, and accepted in that spirit. The allegations of negligence were all withdrawn. He believed the plaintiffs were well advised to take this course. The "accident" had resulted in loss of sight of one eye, but he hoped that the lady would be able to make good use of the remaining eye and resume her occupation.

Mr. Roland Oliver said that, as all the expenses were borne by the Medical Defence Union, this was, for the surgeon, not a matter of money in the least; he was there to defend his reputation. His reputation was now vindicated by the frank and generous admission of counsel on the other side. The action, had it been retried, would have been costly, and it was better that the defence should offer to make some monetary payment. The reputation of the surgeon he was defending was fully restored and untarnished.

Mr. Justice McCardie said that he felt sure the parties had been well advised. The complete withdrawal of any suggestion of negligence had doubtless achieved the object with which the defendant and the Medical Defence Union had contested the case. He assented with pleasure to the compromise whereby £75 was paid to Mrs. Moore, and all allegations of negligence against Mr. Ligat were completely withdrawn.

Obituary.

W. D. HALLIBURTON, M.D., D.Sc., F.R.C.P., LL.D., F.R.S.

Emeritus Professor of Physiology, King's College, University of London

The death of Professor Halliburton at the age of 70 takes from us one of the great figures in the science of medicine in the last forty years. He had gone on holiday to Cornwall, as was his wont, but illness overtook him, and he passed away after an operation in a nursing home in Exeter on May 21st. His death, however, was not altogether unexpected, for since his retirement from his chair at King's College he had been far from well, and although he took a lively interest in affairs until quite recently, it was evident to his friends that he was slowly fading. In a physical sense Halliburton was never a robust plant — indeed, his whole life was a conquest over infirmity, and few men would have succeeded, as he did, in making one almost forget that he never had the power of his right hand. And yet few men have led more useful lives or have earned the right to be numbered among those to whose vision the world owes much, for he was one of the first to recognize the importance of chemistry in medicine, and he is remembered as one of the founders of the science of biochemistry.

William Dobinson Halliburton was educated at University College School, and subsequently at University College, where, after holding the usual clinical appointments, he became Sharpey scholar, and graduated B.Sc. in 1879. In 1883, when he became M.R.C.S., he was appointed assistant in physiology in University College under Professor (now Sir Edward Sharpey) Schafer, in succession to McWilliam, who became professor of physiology in the University of Aberdeen. He obtained the M.D. degree in 1884, and the M.R.C.P. diploma in the following year, and was elected a Fellow of the Royal College of Physicians of London in 1892. On the retirement of Gerald Yeo in 1889, Halliburton was appointed to the chair of physiology at King's College at the early age of 29. For thirty-four years he was at King's College, and although the world knows him for the work which he did there in the interests of physiology, few know how much he did for the College, for he took a lion's share in its administration. He was for many years dean of the Faculty of Medical Science, and on the death of Principal Burrows he acted as chairman of the Professorial Board. He was a member of the College staff in its dark days, and the College was indeed fortunate in such times of stress that it should have had in a central position one whose worldly goods made him independent of the then meagre College emoluments, and who devoted himself so ably and so whole-heartedly to its welfare. Had he chosen he might have led a life of leisure, but Halliburton was not such a man, and to him more than to any other single man the Medical Faculty at King's College owes its very existence. He resigned from his chair in 1923 on account of ill-health, and was made Emeritus Professor by the University. It is a happy thought to realize that he lived to see his years and years of labour fructify, for since the war the Faculty which he nurtured has grown to proportions previously undreamed of; and now it is one of the largest in London. In 1928 he himself had the pleasure of opening the extensions to the Department of Physiology—extensions which to him had been but a land of promise into which he never entered; and during the last year, when his physical activities were very limited, no one was more interested in the further extensions now in progress.

At King's College Halliburton gathered round him a number of able investigators—Brodie, Locke, C. J. Martin, Rosenheim, Da Fano, to name but a few—and many men now most distinguished clinicians were his pupils. He came particularly in contact with Ferrier and Mott, and there is little doubt that in some part this association was responsible for his making a special study of the chemistry of nervous tissues. It is interesting to remark that it was his researches, and those of Rosenheim in his laboratory, which led to the discovery that cholesterol might contain as impurity ergosterol, in which we now know vitamin D is developed under the influence of ultra-violet light. In these researches there is an untapped mine of knowledge still to be drawn upon in the interests of medicine. His biochemical laboratory — improvised in a corridor, and the first in London—rapidly became the Mecca to which large numbers of young biochemists came for instruction and inspiration. His early work was largely in relation to the biochemistry of the proteins of muscle and blood. For this work he was made a Fellow of the Royal Society in 1891. In the nature of things many of his discoveries have passed from current knowledge, but they will ever stand as essential stepping-stones in the advance of knowledge of the subject. He did not, however, confine himself strictly to biochemistry. With W. E. Dixon he carried out researches on the cerebral circulation and the cerebro-spinal fluid. He was one of the founders of the Biochemical Society, of which he was the only honorary member.

As a writer the name of Halliburton is a household word in medicine, and as such he joins the immortals. His name was as well known abroad as at home. Not only was he a brilliant writer, but he was assiduous to a degree that in our time appears phenomenal, the more so when we remember that he did all his writing with his left hand. Undoubtedly his greatest work is his *Textbook of Chemical Physiology and Pathology*, a volume of some 900 pages published in 1891. It collected together for the first time all the known information on this subject, and even to-day it is still used as a book of reference. His best-known book is "Halliburton's *Physiology*," which for the last thirty years has been the vade-mecum of

the medical student. It was originally "Kirkes's" *Physiology*, but he made it more popular than it ever was before. During his authorship, which began in 1896, there were nineteen editions, and no fewer than 125,000 copies were published. It has twice been translated into Chinese. In addition, he published a vast number of scientific papers, of which his *Essentials of Chemical Physiology* is still widely used at home and abroad. Others include *The Chemical Side of Nervous Activity* (Croonian Lectures, Royal College of Physicians, 1901), *Biochemistry of Muscle and Nerve* (1904), and *Physiology and National Needs* (1919). In 1916 he was asked by the Physiological Society to take over the editorship of *Physiological Abstracts*, which the society had decided to inaugurate. During his editorship the journal became firmly established, and now it is a periodical of international importance. Halliburton had already shown his great facility at this kind of work in writing the physiological section of the annual report of the Chemical Society.

Much of the work which he undertook was of the thankless variety, and carried with it none of the glamour which leads to material reward, but few have done more than he to spread the gospel of British Physiology and British Biochemistry. No one was more pleased than he to see the Royal Society elect, for the first time in history, a biochemist to its presidential chair, the more so since its choice was his friend Sir Frederick Hopkins. The Universities of Aberdeen and Toronto honoured Halliburton with their LL.D.; he was a Fellow of King's College and of University College; member of Senate, University of London, 1900–3; member of Council, Royal Society, 1898–1900. As a speaker Halliburton in his heyday had few equals, and when it was necessary to find a physiologist who could delight a popular audience he was often selected for the task. It was indeed a tragedy that in his later years this should have been the faculty which was slowly taken from him. But frailty had already tested his great spirit, and he murmured not.

As a man Halliburton was one of the old school, who knew how to make up his mind and to carry a clear-cut decision to its conclusion. Yet he was ever lovable and approachable. He had, among his more intimate friends, a great sense of humour, and nothing he enjoyed more than a comic song, at which he would often laugh immoderately. His kindly attitude to his students was nowhere better to be seen than on the occasion of the presentation by his students on his retirement. His short speech did not begin in the usual way, but "Boys and girls," and everyone felt the pathos of the occasion when he knew he was saying good-bye for ever to the students he loved so well. They often asked his help, and none asked in vain. His house—Church Cottage, nestling beside Marylebone Parish Church—was well known to his many friends, for he was ever a generous entertainer, and in this he was assisted by his wife, now his widow, who in his later years has been his faithful and ever-present companion in his hour of need. Often the possibility of moving to a more convenient house was discussed, but more and more it became evident that it was his earnest desire to remain in the atmosphere which was filled with the memories of more energetic days. Gradually he began to lose the friends of his own time, and we all knew that he sadly missed his great companion Sir Frederick Mott. Now that his own chapter closes, well may we thank God that men such as Halliburton have lived and shown us how to live.

R. J. S. McDOWALL.

Professor Halliburton had been for many years a member of the British Medical Association. At the Annual Meeting in 1893 at Newcastle-on-Tyne he held office as vice-president of the Section of Anatomy and Physiology, and he was president of the Section of Physiology at Ipswich in 1900, and again at Toronto in 1906. For five consecutive years—from 1909 to 1914—he received scientific grants from the Association. Many contributions from his pen appeared at different times in the *British Medical Journal*, and his Oliver-Sharpey Lectures on "New facts in relation to the processes of nervous degeneration and regeneration" were published in these columns in 1907.

[The photograph reproduced is by Elliott and Fry.]

SEYMOUR TAYLOR, M.D., F.R.C.P.

Consulting Physician, West London Hospital

We regret to record the death, on May 20th, at his home in Wembley Park, of Dr. Seymour Taylor, who practised for many years as a consulting physician in London, and was well known in medical circles for his kindly, genial disposition.

Seymour Taylor was born at Derby in May, 1851, and studied medicine at St. Thomas's Hospital, where he won several prizes and acted as demonstrator of anatomy, and at the University of Aberdeen. He obtained the M.R.C.S. diploma in 1872, graduated M.B., C.M.Aberd. in 1877, and proceeded M.D. in 1881, in which year he became M.R.C.P.Lond. Securing election to the visiting medical staff of the West London Hospital, he served in turn as assistant physician, physician, and consulting physician. He was also for many years physician to the North London Hospital for Consumption. He had been an examiner in anatomy at Aberdeen University, and was examiner in medicine for the English Conjoint Board for four years. In 1900 he was elected a Fellow of the Royal College of Physicians of London. He had long been physician to the Equitable Assurance Company. He was a past-president of the West London Medico-Chirurgical Society, and at one time treasurer of the Medical Defence Union.

Dr. Seymour Taylor was the author of two books, an *Index of Medicine*, published in 1894, and a little work, *Health for the Middle-Aged*, which reached a third edition. He also contributed papers on clinical subjects to professional journals.

Dr. ALGERNON D. BRENCHLEY writes:

I should like to add my tribute as one who has enjoyed the privilege of Seymour Taylor's friendship for fifty-four years, during the whole of which he never uttered one single unkind word. We were fellow students, and took our degree at the same time. He afterwards became physician to the West London Hospital, and lived in Seymour Street, Portman Square, till he retired. He was an excellent physician, a very sound clinician, full of common sense, with broad views, of a sympathetic, confident, cheerful nature, with, at proper times, a humorous vein. He paid much attention to life assurance, and was most of his life on the staff of one of the oldest companies, who thought so highly of his services that they continued to pay his full salary for life after his retirement. During the war he served on many medical boards. In private life he was a man of great personality and character, staunch to his friends, of whom he had many. His interest in sport was great; he loved fishing, golf, and country life. He was a member of the Savage Club, and was always the best of company at dinners and public meetings; he loved a witty tale, and told many himself. He is survived by Mrs. Seymour Taylor, and his son, Captain S. Taylor, R.A., and his daughter, who is secretary of the British Legation in Lisbon. Many will miss him, but none more than the writer of this note.

We regret to announce the death of Dr. W. D. PATERSON of Murrayfield Avenue, Edinburgh, at the early age of 30. He graduated M.B., Ch.B. at Edinburgh in 1923, and in 1927 obtained the B.Sc. degree at Oxford. A colleague (W. F. H.) sends the following appreciation: Only those of us who knew him will realize the extent of the loss the medical profession, and those of the public who would, in the natural course of events, have come under his care, have suffered in the death of William Dallas Paterson at the outset of what must have been a brilliant career. Son of a physician who was beloved, I have heard on all sides, by his patients, he would, in his turn, have occupied a position as trusted adviser to his patients and friends. Paterson was a profound thinker, an earnest inquirer, and, above all, conscientious. During his university career he threw himself heart and soul into every subject in the curriculum, studying each for the time being as if it were to be his life-work; physiology perhaps interested him most. After graduation at Edinburgh he went to Leith Hospital, where he spent a year studying clinical medicine in its practical aspects; he brought to this study the mind of the true student—the keen desire to find the prime cause, to evaluate accurately the effects of his treatment—and a profound knowledge of the basic sciences, which, alas! most of us do not possess. It was during this year that I associated with him most and came to know his true worth. After Leith came Oxford, where he attended a course in human physiology, and later worked at the hospital. During this time Paterson worked on a portable instrument for recording graphically systolic and diastolic blood pressures and fluctuations therein. At the time of his death he had but recently returned from a sojourn in Canada, where, at the Royal Victoria Hospital, Montreal, he continued his work on the same apparatus with encouraging results. His death on the threshold of his career, after spending so many years fitting himself for it, is indeed a tragedy, the more unexpected because of his apparent good health. He was always energetic; a keen walker, and in athletics a runner of merit, having won the mile at his school, Edinburgh Academy.

We regret to record the death, on May 12th, of Dr. JOHN OWEN JONES of Holywell. After obtaining the diplomas of the Conjoint Board in Scotland in 1886, he was appointed surgeon to the Flintshire Dispensary and Holywell Cottage Hospital, and medical officer in charge of the Holywell Auxiliary Hospital. He was also certifying factory surgeon, surgeon, and examiner of the St. John Ambulance Association, and an approved lecturer of the Central Midwives Board. A prominent member of the British Medical Association, he served as chairman of the Denbigh and Flint Division in 1912–13. He was a justice of the peace, and an alderman of the Flintshire County Council, the retention of which dignity compelled him to resign his offices under the Poor Law, through the introduction of the new Local Government Act. He was, however, appointed a member of the Public Assistance Committee. Dr. Jones was a member of the Court of Governors of University College, Bangor. He took great interest in Welsh literature, and always kept himself abreast of new medical work. He was a Liberal in politics and an elder of his church. A hard worker and with a large experience, he was often able to give valued advice to his colleagues and medical neighbours, by whom he was highly esteemed. He died in his sleep on returning home to bed from a very early consultation about one of his old patients. He leaves a widow, four daughters, and one son, who is a member of the medical profession.

The following well-known foreign medical men have recently died: Professor KARL L. SCHAEFER of Berlin, an authority on the physiology and pathology of the ear, aged 74; Professor OTTO HUNTEMÜLLER, formerly director of the international health office in Jerusalem, aged 53; Dr. UBALDO FERNANDEZ, professor of clinical obstetrics and director of the Alvear Maternity Hospital at Buenos Aires, aged 55; and Dr. PAUL SIMON, formerly professor of pathology at Nancy, aged 73.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

At a congregation held on May 22nd the degrees of M.B. and B.Chir. were conferred on F. G. Wood-Smith.

John Lane Presentation

The presentation to John Lane, senior steward of the University Anatomical Department, will be made on Tuesday, June 2nd, at 5 p.m., in the Anatomy School. It will consist of a gold watch and chain, together with a cheque, a short address, and a list of the subscribers, whose presence will be welcome on the occasion.

UNIVERSITY OF LONDON

Sir Ernest Graham-Little, M.P., M.D., has been re-elected by Convocation a member of the Senate.

Dr. E. L. Kennaway has been appointed to the University Chair of Experimental Pathology at the Cancer Hospital (Free) from May 1st.

The title of Emeritus Professor of Experimental Pathology in the University has been conferred upon Sir Charles Martin, M.D., F.R.S., and that of Emeritus Professor of Biochemistry on Dr. Arthur Harden, F.R.S., on their retirement from the Lister Institute of Preventive Medicine.

The title of Professor has been conferred on Dr. C. R. Harington, F.R.S., in respect of the post held by him at University College Hospital Medical School.

The Dunn Exhibitions in Anatomy and Physiology for 1931 have been awarded to E. W. Bintcliffe of St. Bartholomew's Hospital Medical College, and to S. O. Aylett of King's College.

UNIVERSITY OF DURHAM

On the occasion of the Marquess of Londonderry's installation as Chancellor of Durham University, on May 20th, Lord Dawson of Penn, President of the Royal College of Physicians of London, received the honorary degree of D.C.L.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons adjourned on May 22nd till June 2nd, and the House of Lords from May 21st till June 9th.

On May 20th the House of Commons considered the Representation of the People Bill on report, and decided, by a majority, that at a General Election no person should vote in more than one constituency. The Government refused to make an exception for the University elector.

The Architects Registration Bill, which has passed the Commons, was read a third time by the Lords on May 21st.

Silicosis and Asbestosis (Medical Fees) Regulations, dated May 18th, 1931, have been laid on the tables of both Houses.

The Housing (Rural Workers Amendment) Bill was read a third time by the House of Commons on May 21st.

On May 21st the Home Secretary told the House of Commons that, in view of the legislation to which Parliament was committed and the present state of business, the postponement of the Factories Bill to next session seemed inevitable. On the same day the Prime Minister said he could hold out no hope of time being found for discussion of the Nursing Profession (Wages and Hours) Bill.

Alcohol and Motorists

At the House of Commons, on May 20th, Mr. Herbert Morrison received a deputation of medical men, who came to advocate the issue by the Minister of Transport to all applicants for a driving licence of an "alcohol warning card" similar to those issued by police authorities in Berlin and in Ontario. The deputation was introduced by Mr. Somerville Hastings and Dr. Alfred Salter, and speeches were delivered

by Sir Arthur Newsholme and Dr. H. M. Vernon. These pointed out the effect of small doses of alcohol in delaying the nervous reactions of motorists. Mr. Morrison, in reply, agreed that even the moderate use of alcohol by motorists was undesirable, but said that the issue of such advice was not likely to be respected by the British temperament. The Road Traffic Act had given special attention to the matter.

Shortage of R.A.M.C. Officers

Replying to Dr. Fremantle on May 21st, Mr. PETHICK-LAWRENCE stated that the interdepartmental committee to inquire into the shortage of officers of the Royal Army Medical Corps had not yet been set up, but it was hoped to announce its composition and terms of reference in a few days. Dr. FREMANTLE asked whether consideration was being given to the fact that a great deal depended on the future career offered in civil life after these officers retired, and whether it was possible to include in the committee some representatives of the Civil Services which employed the services of medical officers. Mr. PETHICK-LAWRENCE asked for notice of these questions.

Numbers of Insane and Mental Defectives

Mr. GREENWOOD furnished, on May 21st, a table which showed that on January 1st, 1930, there were chargeable to the State 6,356 insane persons, comprising 909 criminals, 152 in naval or military hospitals, and 5,295 Service or ex-Service patients. On the same date 884 mentally deficient persons were in State institutions. The comparable totals for those chargeable to local authorities on January 1st, 1930, were: insane persons, 126,941 ; mentally deficient persons in institutions under order, 20,629 ; other such persons under Section 3 of the Act of 1913, 177 ; such persons under guardianship (1,559) and in " places of safety " (216) making a total of 22,581 mental defectives chargeable to local authorities.

National Insurance

Mr. GREENWOOD told Mr. Thomas Lewis, on May 21st, that £500,000 was in process of distribution to approved societies in respect of arrears in the contribution year ended July, 1929, owed by persons who would otherwise be subject to reduction or suspension of benefits. A similar sum for the year to July, 1930, would be distributed on receipt of returns from the societies.

Mr. GREENWOOD states that, according to the latest returns, 344 out of 6,784 approved societies and branches in England and Wales have deficiencies in their administration accounts.

Slum Clearance.—In reply to Mr. Charles Williams on May 14th, Mr. GREENWOOD announced that in England and Wales 70 authorities had declared 205 clearance areas containing some 7,500 houses and a population of approximately 39,000. He added that it was too soon for him to express either satisfaction or dissatisfaction with the progress made in slum clearance schemes.

Schools for Epileptics.—In a reply to Mr. Albery, on May 14th, Mr. LEES-SMITH said that six residential special schools for epileptic children, providing accommodation for 609 children, were certified by the Board of Education. None of these schools was in Kent, but most admitted children from any area. Some institutions made provision for children whose mental defect was combined with epilepsy. There was a shortage of accommodation for epileptic children, but the Board of Education offered a grant of 50 per cent. to any local authority or voluntary association establishing these schools, and he hoped an increase in accommodation would result.

Housing in Scotland.—Mr. WESTWOOD, replying on May 19th to Mr. Boothby, said that last year 11,056 State-aided houses were completed in Scotland. This year, up to March 31st, 1,911 houses had been completed.

Pensions.—On May 19th Sir H. CAYZER asked the Minister of Pensions, in cases where a retired regular officer applied for commutation of pension supported by an opinion of his medical practitioner that he was a fit case, sympathetically to consider recommending such a case to the Commutation Board for medical examination before a decision on the application was given. Mr. F. O. ROBERTS said any medical evidence as to his state of health which an officer might submit would always receive full consideration by the Ministry of Pensions.

Gland Grafting in Veterinary Practice.—Mr. SHORT told Mr. Freeman, on May 20th, that gland grafting on living animals had been performed by Mr. Male of Reading in the ordinary course of veterinary practice for the purpose of treatment of the patients. These were not experiments within the meaning of the Act, so that no licence was necessary, nor had the Home Office any jurisdiction in the matter.

Infant Mortality in Scotland.—Mr. WESTWOOD, Under Secretary for Scotland, told Miss Lee, on May 20th, that in 1930 the average infantile mortality rate for the whole of Scotland, excluding burghal areas, was 69 per 1,000 births. The highest rate was 89 per 1,000 in Dumbartonshire, and the lowest 23 per 1,000 in Bute.

Notes in Brief

The report of the Royal Commission on Labour in India is expected towards the end of June.

From January 1st to May 19th, 1931, 45 of the Royal Air Force personnel have been killed in aircraft accidents and 39 injured.

In March, 1931, 203,617 cwt. of skimmed and sweetened milk, condensed, were imported into the United Kingdom.

The Minister of Health cannot at present contemplate the introduction of legislation to amend the Blind Persons Act with a view to increasing their pensions.

Medical News

A garden party in aid of the educational work of the Royal Medical Benevolent Fund Guild will be held at the Royal Botanic Gardens, Regent's Park, N.W., on Tuesday, June 2nd, from 2.30 to 8.30. H.R.H. the Duchess of York (patroness of the Guild) has consented to be present. Particulars and tickets of admission may be had from the honorary treasurer, Mrs. E. D. D. Davis, 46, Harley Street, W.1. (Telephone, Langham 1178.)

The Cavendish Lecture before the West London Medico-Chirurgical Society will be delivered by Professor Julian Huxley at the Kensington Town Hall on Friday, June 5th, at 8.15 p.m. ; his subject is " Development in relation to heredity and evolution." A reception will be held from 7.45 p.m., and the annual conversazione will follow the lecture.

An open-air Chadwick Lecture on " Trees and man " will be given by Mr. T. F. Chipp, D.Sc., at the Chelsea Physic Garden, Swan Walk, S.W., on Thursday, June 4th, at 5 p.m. ; Sir William J. Collins will take the chair.

Founder's Day will be celebrated by Lord Mayor Treloar Cripples' Hospital and College at Alton, on Monday next, June 1st, when Admiral of the Fleet Sir Roger Keyes will open the Portsmouth Block, which contains the Fourth Destroyer Flotilla and Naval Memorial wards. Viscount Burnham will preside at the function, supported by the Lord Mayor of London, Admiral Sir Lionel Halsey, the Earl of Malmesbury (chairman of the Hampshire County Council), and the Lord Mayor of Portsmouth. Five sections of the new hospital are now completed.

At the inaugural meeting of the congress of the Royal Institute of Public Health, held in the University of Frankfort-on-Main on May 19th, the Harben gold medal of the institute was presented to Professor William Henry Welch of Johns Hopkins University, Baltimore, in recognition of his eminent services to public health. At the same meeting the Rector Magnificus presented to Sir William R. Smith the Ehrlich-Weigert medal of the Medical Faculty of the University of Frankfort. On May 20th, at the Rathaus, the Oberbürgermeister presented to the institute the medal of honour of the city in remembrance of this congress—the first to be held on German soil for nineteen years—and handed the medal to Sir Thomas Oliver, pro-vice-chancellor of the University of Durham, and chairman of council of the institute.

The president (Viscount D'Abernon) and council of the National Institute of Industrial Psychology will receive guests at the Institute, Aldwych House, on the evening of Monday, June 1st, and on the afternoon of Tuesday, June 2nd. Films bearing on the Institute's work will be shown, and a number of demonstrations will be given, illustrating, *inter alia*, the measurement of ventilation and lighting conditions, the influence of rhythm on motor activity, tests of colour discrimination, methods of vocational guidance, the psycho-galvanic reflex, and a test for motor driving.

A medical tour of Czechoslovakian spas is being arranged by the Pistany Spa Representation (38, Sackville Street, Piccadilly, W.1). The party will leave London for Ostend on the morning of August 24th, and will travel direct by sleeping car to Austria, where visits will be made to Linz and Vienna. Four days will then be spent at Pistany, three each at Luhacovice and at Prague, and the party will return via Nuremberg, reaching London on the evening of September 11th.

The president and council of the Harveian Society of London, in continuation of the society's centenary celebrations, will make a pilgrimage to the tomb of William Harvey in the parish church of Hempstead, in Essex, on Saturday, June 13th. The Bishop of Colchester will conduct a short service at twelve noon, when a silver patten, presented by the society, will be consecrated. On the return journey the party will be entertained to tea by Lady Lloyd, at Rolls Park, Chigwell, which was originally the home of William Harvey.

The University of London has added Stoke Park Colony, Stapleton, Bristol, to the list of institutions recognized for practice under Regulation 3 for the Diploma in Psychological Medicine for candidates offering mental deficiency as their special branch under Regulation 4.

The Very Rev. Garfield Hodder Williams, dean of Llandaff, who has been appointed to the deanery of Manchester, studied medicine at St. Bartholomew's Hospital and graduated M.B., B.S. of the University of London.

The third International Congress of Radiology will be held at the Sorbonne, Paris, from July 26th to 31st, with Mme Curie as president of honour and Dr. Antoine Béclère as president. More than 300 communications have been announced. The congress will be divided into six sections: (1) radio-diagnosis; (2) radiotherapy and radium therapy; (3) radio-physics; (4) radio-biology; (5) electrology; (6) natural and artificial heliotherapy. Further information can be obtained from the general secretary, Dr. Ledoux-Lebard, 122, Rue La Boëtie, Paris, 8e.

The sixth International Congress of Industrial Accidents and Diseases will be held at Geneva from August 3rd to 8th, when special attention will be devoted to cutaneous affections in relation to occupation, the influence of previous health on the results of industrial accidents, sequels of traumatic wounds of the spine, trauma of blood vessels, reaction to toxic substances used in industry, diseases of cement and stone workers, and fatigue. Arrangements for the journey and for accommodation in Geneva are being made by Messrs. Thomas Cook and Son. Further information about the conference may be obtained from Mr. G. L. Perry, Industrial Welfare Society, 51, Palace Street, Westminster, S.W.1.

The second International Congress of Light Therapy will be held at Copenhagen from August 15th to 18th, 1932, under the presidency of Dr. Axel Reyn, chief physician to the Finsen Institute in that city. The main topics to be discussed are the part played by the skin pigmentation in the therapeutic uses of light; the way in which light baths act in tuberculosis; sunshine and climate in relation to public health administration; and the report of the international committee on ultra-violet light standardization. Any medical practitioner may attend the congress, and further particulars may be obtained from the general secretary, Dr. A. Kissmeyer, Finsens Lysinstitut, Copenhagen.

The report of the pathological laboratories of the City of London Hospital for Diseases of the Heart and Lungs for 1930 has been issued as a booklet. It contains a summary of the work performed, and reprints of various papers published by Dr. S. Roodhouse Gloyne, pathologist to the hospital during 1930. These laboratories were equipped by the Prudential Assurance Company.

The King has confirmed the appointment of Dr. Alexander H. B. Pearce, chief medical officer, to be a nominated member of the Legislative Council of the Colony of Fiji.

Dr. George Hargreaves has been appointed a nominated member of the Legislative Council of Jamaica, subject to His Majesty's pleasure.

Dr. Simon Flexner, director of the Research Laboratories of the Rockefeller Institute of New York, has been elected a corresponding member of the Académie des Sciences, and Professor Niessl von Mayendorf of Leipzig has been elected a corresponding member of the Société de Neurologie of Paris.

Only two cases of small-pox occurred in each of the years 1929 and 1930 in Germany, and all four recovered, as compared with 11,000 cases in England, with 30 deaths in 1929 and 9,000 cases with 22 deaths in the first half of 1930.

The increased incidence of pellagra of recent years in the United States is shown by the fact that while in 1924 there were only 2.5 cases per 10,000 inhabitants, in 1928 there were 5.7, and in 1929 5.5.

In 1930 six fresh cases of leprosy were notified in Germany. Infection had taken place abroad, in most cases in South America. Ten cases remained under treatment at the end of the year.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Erythromelalgia

Dr. J. AICKIN writes: I have a case at present of erythromelalgia in a woman, which is very resistant to treatment along the ordinary lines. She has had bromides and liq. trinitrini, and sedative applications to the affected tee. I wonder if any of your readers have had a similar case, and what line of treatment they found useful.

Malnutrition with Ammoniacal Urine

"CARNE" asks for advice about the treatment of the following case: A child, aged 3 years, born six weeks prematurely, fails to put on weight, though growing, urine always strongly ammoniacal, and testicles very incompletely descended.

Income Tax

Motor Car Transactions

"A. R." bought a 12 h.p. car for £425 in 1922 and sold it in 1930 for £40, when he bought a 16 h.p. car for £400. *He has made no claim for depreciation.*

*** He can claim as a professional expense of the year 1930 £400 − £40 = £360. The net loss of £25 provides no claim, though he would have received an allowance for it if he had claimed depreciation. Presumably the new car is a better one than the original car, but the income tax authorities are not likely to raise that point, as its cost is less than that of the car displaced.

"A. E. B." bought a car in March, 1926, for £225 and sold it in April, 1931, for £15, buying another car (second-hand apparently) for £135. What allowance is he entitled to? He has not claimed depreciation.

*** Depreciation should undoubtedly have been claimed; the omission to make such claims nearly always involves loss sooner or later. The renewal claim which "A. E. B." can make is for £120 only—the amount of his actual out-of-pocket expenditure—and as the expense was incurred *during the financial year 1931-32 it will not affect his* liability for that year, but for 1932-33.

"F. Z. O." bought a car in 1907 for £550, and since then has had numerous cars, but this year bought one for £515, the majority of the other cars having cost about £350 each. The maximum allowance offered by the income tax authorities is based on a replacement value of £400.

*** We are not aware that the case is covered by direct judicial authority, but we fear that the income tax inspector is right. The cardinal principle is that the cost of improving, as distinct from maintaining, the equipment must be regarded as capital outlay, and it is presumably beyond argument that the present £515 car is a more powerful and better car than the original one at £550. When the price of cars rose during the war the cost of replacement was allowed though it exceeded the cost of the car replaced. "F. Z. O." was in the converse position, apparently, when he was buying his cars at £350, and now has to bear the whole cost of the "improvement."

New Partner: Cash Basis

"P. N. B."—A has been in general practice since 1917, and has throughout been assessed on the cash basis. In 1925 he took B into partnership on a one-third basis, B purchasing one-third of the agreed value of book debts. The income tax inspector now claims that the value of all outstanding debts should be ascertained and tax paid on that amount.

*** We cannot see the justification for such a request. If the gross earnings of the practice are increasing so that the amount of the cash receipts is lagging behind the real earnings there is something to be said for departing from the cash basis and in future basing the assessment on the value of each year's bookings, but not for claiming tax on the amount of the value of the outstanding debts as an additional liability. The whole principle of the "cash receipts" basis is that it yields, taking one year with another, the same gross assessment as the "value of bookings basis"; and as the share of debts which B purchased has, in fact, been included in the cash receipts for assessment purposes, there appears to be no ground for the action suggested. In any case, for which year does the inspector suggest that the supplementary assessment should be made?

Alteration of Previous Year's Assessment

"X X" left his former practice as from November 15th, 1929, and since then has been in practice elsewhere. For the final period his old practice was comparatively unprofitable, "but 1928-29 was a good one financially." The assessment for that year was a small one, and the income tax authorities are now seeking to alter it. Is this correct?

*** Yes; under fairly recent legislation, where a practice changes hands, the assessment on the former practitioner for the year in which the change takes place, *and the previous year* can be altered to the amounts of the actual profits of those years. It is apparently under that provision that the authorities propose to alter the assessment for the year ending April 5th, 1929, to the amount of the profits of the practice for that year.

Allowance of Cost of Subscriptions

"A. T." has been informed by the inspector of taxes that the cost of his subscriptions to the British Medical Association, Royal Sanitary Institute, Society of Medical Officers of Health, and other bodies cannot be allowed as deductions from his income; the authority cited is the decision in Simpson *v.* Tate.

*** Presumably the income in question is the salary of an office or employment, and in that case the inspector's view is legally correct, unless it was an express or implied condition of the appointment that "A. T." should be a member of the societies, etc., specified. This results from the very strict rule applicable to Schedule E. Similar expenses would be allowed if incurred in connexion with general practice the profits of which are assessable under Schedule D.

LETTERS, NOTES, ETC.

Nitrous Oxide Mixtures

Dr. BELLAMY GARDNER (London, N.W.) writes: I consider that a specific name of an attractive character has long been required for nitrous oxide and its mixture with oxygen and small percentages of carbon dioxide. If we look carefully at its chemical composition, we find that only those elements which are present in the atmosphere are contained in it. I suggest, therefore, that the word *aeris*—that is, of air—would be a scientific and euphonious designation for this most acceptable and beneficent anaesthetic. The word "gas" is a misleading generic term, associated in the public mind with various unpleasant and irrespirable gases.

Hypnosis with Spinal Anaesthesia

Dr. E. L. HOPEWELL-ASH (London, W.) writes: In his remarkably interesting study of 250 cases of spinal anaesthesia (*British Medical Journal*, May 9th) Mr. Wilfrid Adams makes an important point when he notes, "Sometimes the patient's mind is not at ease, and to avoid psychic shock requires the most thoughtful care." It is my view that in the induction of definite hypnosis he will find just the adjunct required to complete his technique. Application of a few simple rules will suffice to bring about a mental state characterized by calm and confidence, which can be reinforced by suggestion to an unlimited extent.

Varicose Ulcers

"M. M." writes: I have read the letters in the *British Medical Journal* about varicose ulcers. I wonder if anyone has tried what I have seen somewhere described as an ointment bath. My plan is: A piece of boric lint the size and shape of the ulcer has spread on one side a fairly good supply of boric ointment made with yellow vaseline. Over this is a larger piece of lint put on dry, and the whole is kept in position by inch-wide strips of Mead's plaster going fully around the leg well above and below the ulcer. If I find the plaster irritates the skin I put gauze under it. This dressing is changed weekly, and the patient allowed to go about. The results are really very satisfactory.

Medical Golf

The Divisional stage in the Treasurer's Cup golf competition was played by members of the Dumbartonshire Division at Cardross Golf Course, by the courtesy of the council of the club, on May 13th. In spite of very uncertain weather there was a fair turn-out, and the afternoon proved very enjoyable to those taking part. The result of the game, which was played under medal conditions, members playing from their club handicap, was as follows: Winner: Major M. Purvis, I.M.S. (ret.), Dunbeg, Helensburgh (88 − 11 = 77 net). Runner-up: Dr. L. Crombie, Dunollie, Dalmuir (87 − 10 = 77 net). Major Purvis's score was 42 for the return half, and Dr. Crombie's 46, so that the former was declared the winner. Dr. A. D. Downes, Helensburgh, who was third, participated with the winner and runner-up in the sweepstake.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 42, 43, 44, 45, 48, 49, and 50 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 215.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

509 The Blood in Delirium Tremens

E. TOULOUSE, A. COURTOIS, and RUSSELL (*Ann. Méd.-psych.*, February, 1931, p. 124) examined the blood in the course of delirium tremens with the following results. The amount of urea, sugar, and cholesterin is usually normal, or only slightly increased, at the onset of the mental symptoms. During the course of the attack there is a retention of these bodies chiefly affecting the urea. After the attack the azotaemia does not return to the normal for several days. The bile pigments were always found distinctly increased on admission of the patients, but rapidly became eliminated, and their amount soon fell after the attack. This fact, correlated with the changes found in the urine (albuminuria, glycosuria, and abundant urobilinuria), appeared to indicate an initial insufficiency of the liver. In fatal cases the azotaemia rose while the attack lasted, but usually at the time of death the amount of urea did not reach 2 grams per mille. As this figure may be exceeded in non-fatal cases, the prognostic value of this azotaemia is very slight.

510 Pulmonary Embolisms in Developing Myocardial Infarct

P. LÉCHELLE and R. BOUCOMONT (*Presse Méd.*, March 18th, 1931, p. 399) record the case of a man, aged 52, who was seen first in August, 1929, suffering from severe precordial pain, the sputum being typical of acute pulmonary oedema. These cardiac attacks had occurred for several years, and an *x*-ray examination two years earlier had revealed hypertrophy of the left ventricle and dilatation of the aorta. The apex beat was in the sixth space, outside the nipple line; there was a mitral systolic murmur, gallop rhythm, pericardial friction at the base, and a pulse rate of 120. There were moist rales at both pulmonary bases. The liver was slightly enlarged and tender, and the temperature 100.8° F. After 500 c.cm. of blood had been withdrawn, an intravenous injection of 0.25 mg. of ouabain was given, and repeated the same evening; 2 ampoules of pantopon were injected. The patient improved, and on the fifth day pain and pericardial friction had disappeared. Ouabain was continued, but gardenal was substituted for the opium. On the seventh day there was a severe attack of pain at the right base, with orthopnoea, and the appearance of a murmur accompanied dry crepitant rales in this region. The temperature rose to 101°, and on the ninth day there was blood-stained sputum. A pleural effusion ensued. All signs at the right pulmonary base disappeared in a few days, but on the fourteenth day there was a similar attack localized under the left armpit. Blood-stained sputum reappeared for a few days. During all this period there were increasing signs of cardiac insufficiency and dilatation of the right heart. Ouabain was continued for twenty-six days without any sign of intolerance. On the twentieth day digitaline was exhibited. Signs of the two pulmonary infarcts disappeared in five weeks. The blood pressure ranged between 165/90 and 135/80. Ouabain by the mouth and gardenal were continued. The patient returned to his ordinary occupation, but died from an acute attack in February, 1930.

511 Angina Pectoris

F. C. WOOD, C. C. WOLFERTH, and MARY M. LIVEZEY (*Arch. Int. Med.*, March, 1931, p. 339) studied the clinical and electrocardiographic phenomena in thirty cases of angina pectoris before, during, and after the attacks; they also compared them with the effects of experimental temporary coronary occlusion. Transient ventricular complex changes were noted in fifteen during the pain; neither exercise nor the accompanying alterations in blood pressure and pulse rate were altogether responsible for these changes. The remaining fifteen patients showed no such electrocardiographic changes, and the severity of the pain did not appear to be the main determining factor of their presence or absence. That the absence of electrocardiographic changes seen in 50 per cent. of the cases does not prove that temporary myocardial ischaemia did not occur was borne out by the result of experimental occlusion of a coronary artery; the production of alterations in the cardiac appearance and action was frequently unaccompanied by any electrocardiographic change. The relief of pain by nitrites did not always appear to be dependent upon the lowered blood pressure caused thereby, since the fall in blood pressure within fifteen seconds after inhaling amyl nitrite usually rebounds to from 10 to 20 mm. above its original level after inhalation stops. The prognostic value of these electrocardiographic changes during attacks cannot yet be determined; although no untoward occurrences arose, the procedure cannot be recommended owing to the danger attending the induction of anginal attacks. Temporary interference with part of the coronary circulation in animals produced changes in the electrocardiogram somewhat analogous to those seen during an attack of angina. The authors add that these studies support the hypothesis that the majority of true anginal attacks are associated with a localized circulatory disturbance in the heart, though they do not preclude the possibility that other mechanisms may produce precordial pain.

512 Syphilis without Chancre

M. MANSOUR (*Thèse de Paris*, 1931, No. 21), who records sixteen illustrative cases, states that syphilis may occur without an initial chancre; it is then manifested either by a glandular reaction or by the appearance of secondary or secundo-tertiary symptoms. With the exception of the congenital disease, this form of syphilis appears to be rare, and a careful examination should be made for the chancre or a scar in every suspected case of syphilis. In view of the undoubted possibility of transmission of syphilis from the donor to the recipient, special care should be taken to make sure of the donor's good health in transfusions of blood, and, except in extremely urgent cases, a complete clinical and serological examination of the donor should be undertaken. In the case of professional donors it is not sufficient for this examination to be made only once, but it should be repeated at frequent intervals, at least every month, and as near as possible to the date of transfusion.

513 Vaccinial Encephalitis

H. R. VIETS and S. WARREN (*New England Journ. Med.*, March 5th, 1931, p. 475) report three cases of this form of encephalitis; two patients died on the fourteenth day after vaccination. The earliest symptoms are headache, vomiting, and pyrexia, with a tendency to paralysis. In infants, in addition to these symptoms, convulsions are frequent. Consciousness is soon lost. The paralysis consists of weakness of the cranial nerves or of the extremities, and there is a considerable variation in the intensity from time to time. The Babinski response is sometimes obtained; as the disease progresses the deep reflexes disappear. Sphincter control is usually disordered, incontinence being a common finding. Trismus has occurred in many cases—a symptom which has led to errors in diagnosis. The spinal fluid pressure is often increased, and there may be present a few mononuclear and polynuclear cells; otherwise it is negative. Residual defect, as in poliomyelitis, is not usual, though in the case that recovered in this series "foot-drop" was present four months after the illness. Later manifestations, so frequent in encephalitis lethargica, have not been recorded. The mortality ranges from 35 to 50 per cent. The microscopical pathology is distinctive; the outstanding lesion is perivascular cellular infiltration, extending out into

the brain substance, and usually accompanied by demyelinization. The lesions tend to involve the white matter rather than the grey, but the more acute the case, the more even is the distribution. The lesions may be most intense in the region of the pons and the upper portion of the medulla.

514 Cutaneous Pigmentation and Health

As the result of an extensive study of the effects of heliotherapy, particularly in children, FR.-M. MESSERLI (*Rev. Méd. de la Suisse Romande*, March 10th, 1931, p. 137) states that cutaneous pigmentation is constant in helio- or actino-therapy, and as a rule individuals who pigment readily are in better health than those who do so with difficulty. This pigmentation, which is a special defensive property of the skin against injurious external agents, and is due to melanin in the deep layer of the Malpighian stratum, depends on the individual pigmentary reserve, the amount of haemoglobin, and the presence or absence of cachectic disease. Though seemingly not an important agent in causing cure, it gives useful indications as to the patient's general resistance and progress. Depigmentation depends on the same factors and, providing still clearer indications as to the results and permanency of the cure, is a guide to diagnosis, prognosis, and future treatment. In each individual there is a limit of pigmentation, ascertainable by a pigmentometer; when this has been reached further treatment by heliotherapy is useless. The power of pigmentation varies from year to year, but generally increases each year until the limit is reached. It has been noted that in certain diseases, such as tuberculosis, patients become pigmented much less markedly and lose their colour more rapidly. Messerli advises that, as a guide to diagnosis and treatment, a pigmentary curve of each subject under treatment be made by ascertaining weekly the rapidity and degree of pigmentation and depigmentation, and that the temperature be taken frequently, preferably every two hours.

515 Mental Symptoms of Hypoglycaemia

REINWEIN (*Deut. med. Woch.*, April 3rd, 1931, p. 571) draws attention to the fact that mental symptoms, such as disorientation, uncontrolled laughter, and peculiar behaviour, may be due to hypoglycaemia; they are not necessarily preceded by the usual complaint of hunger, sweating, or weakness. In other cases, epileptiform attacks, or symptoms resembling apoplexy, occur. Several illustrative cases are recorded of diabetic patients receiving relatively large doses of insulin and, owing to some upsetting factor such as diarrhoea, vomiting, or excessive muscular work, suddenly developing hypoglycaemia with mental symptoms. The diagnosis is usually easy so long as the existence of diabetes is borne in mind. In some cases large amounts of sugar must be given, so that failure to relieve the symptoms immediately by injecting glucose does not disprove the diagnosis.

516 Meningococcal Meningitis

V. CANTALAMESSA (*La Pediatria*, March 1st, 1931, p. 233), as the result of a study of 42 cases of meningococcal meningitis occurring in infants, concludes that although its insidious onset makes early diagnosis difficult, suggestive symptoms are the quick pulse and respiration without fever; the hyperaesthesia, restlessness, and vomiting; the tense fontanelle and neck rigidity (in rare cases flaccidity occurs rather than rigidity); and the convulsions, wasting, and leucocytosis. There is usually intermittent irregular fever; in four cases the course of the disease was apyrexial. In every case meningococci were found in the spinal fluid. In some cases blockage occurred in the cerebro-spinal channels, causing secondary hydrocephalus in three cases. The mortality was high (75 per cent.) in spite of serum injections into the spinal canal and ventricles. The duration of the disease varied from a minimum of three or four days up to fourteen or fifteen weeks. In 20 of the author's cases there was a sudden onset; of these only 3 recovered, while of the 22 with slow onset 7 recovered. Moderate enlargement of the spleen was noted in several instances.

Surgery

517 Acute Dilatation of the Stomach

J. MORROW (*Minnesota Med.*, March, 1931, p. 218) describes ten cases of post-operative dilatation of the stomach; in none of them was the stomach operated on, and two were fatal. The probable etiology, he states, is, firstly, gastric relaxation due to reflex loss of tone, and secondly, some added and perhaps chance mechanical obstruction. An early symptom is constant distress in the left upper quadrant of the abdomen, unrelieved by enema. A tympanitic note may be heard over a large area, and immediate relief follows the passage of the stomach tube. A later stage is characterized by the accumulation of very large quantities of water in the stomach, toxic symptoms, signs of dehydration, and collapse. Gastric lavage every four hours is advised, aided by elevation of the pelvis, or even the adoption of the knee-elbow position, if practicable, and by small doses of pituitrin. For cases with toxaemia intravenous injections of 500 c.cm. of normal saline are advocated. The duodenal tube and continuous gastric siphonage were both tried with comparatively poor results.

518 Spondylitis Deformans

According to S. KLEINBERG (*Arch. of Surg.*, March, 1931, p. 485) the progressive deformity of spondylitis deformans may be checked by an early diagnosis and by the immediate institution of proper treatment. This chronic disease of the back is characterized by increasing stiffness and deformity of the spine; backache; pains in the head, chest, or extremities; and impairment of the general health. Three etiological types may be distinguished: one which is part of a general metabolic disturbance, the traumatic, and one associated with some infection. The chief pathological change, common to all varieties, is a chronic, progressive, ossifying periostitis of the spine which leads to ankylosis of the vertebral and costo-vertebral joints. This process may be limited, but it usually involves the entire spine. Treatment, both general and local, to be effective must be instituted before the spinal ankylosis is complete. Local measures consist in continuous treatment on a convex frame, supplemented by physiotherapy, stretching of the back, and voluntary corrective exercises. After correction of the deformity, the back must be supported in a spinal brace for a long period. Four cases, representative of the different types, are recorded.

519 Obliteration of the Common Bile Duct

R. L. T. GRANT and L. O. BETTS (*Med. Journ. of Australia*, February 14th, 1931, p. 200) report the case of a boy, aged 8 years, with a history of jaundice of three months' duration. The skin, sclerae, urine, and faeces presented the usual appearances. The liver dullness extended just below the costal margin. The Wassermann test was negative. The urine contained bile but no urobilinogen. Van den Bergh's test was positive; the bilirubin was increased to 4 units. The Mantoux and Casoni tests were negative. On cholecystography no shadow of the gall-bladder was seen. The levulose tolerance test showed slight but definite impairment of liver function. No bile was demonstrated in the contents of the duodenum, aspirated through a tube passed by the mouth. All tests showed complete obstructive jaundice. The boy's condition had deteriorated materially during the month of these investigations, and an exploratory operation was performed; all that could be found representing the common bile duct was a definite fibrous band in which no lumen could be discovered. The gall-bladder was not distended; it was opened and about 8 c.cm. of concentrated bile were evacuated. As the cystic duct was apparently functioning a cholecyst-duodenostomy was performed. On the duodenum being opened, a little bile-stained fluid was seen, but the boy's condition precluded further investigation. Convalescence was satisfactory, the jaundice disappearing completely in five weeks.

520 **Exophthalmic Goitre**

B. DESPLAS (*Bull. et Mém. Soc. Nat. de Chir.*, March 14th, 1931, p. 360) reports eleven goitre patients, of whom eight were suffering from Basedow's disease and three from grave toxic goitre. There was only one death in the series; this occurred thirty-six hours after operation in a patient who had a very rapid and irregular pulse with diarrhoea and cold sweats. It was the only case in which the general anaesthetic used was ether; although the patient was in a very poor condition, the author regrets that local anaesthesia was not employed, since it proved so successful in the other cases. A two-stage operation was found to be the most satisfactory, the first stage consisting of ligature of the superior thyroid vessels combined with a sympathectomy, the second stage being hemithyroidectomy or enucleation of the adenomata when present. In certain cases where the patient is in a grave condition, ligature of the thyroid vessels only is carried out, and this has given relief. Careful pre-operative measures, such as complete rest, a milk diet, and digitalis and iodine treatment, are of great benefit. In cases which show an intolerance for iodine this must be omitted. One case treated by radiotherapy developed *x*-ray dermatitis with ulceration without deriving any benefit, although a subsequent hemithyroidectomy was most successful. The after-results in the ten patients who recovered were very satisfactory, and after an interval ranging from two to eleven years all but one were in good health. The essential syndrome had disappeared, and there was no more tachycardia or pulse irregularity; the patients had gained in weight, and were able to lead normal lives.

521 **Results of Extrapleural Thoracoplasty**

As indications for thoracoplasty in pulmonary tuberculosis, O. SCHEDTLER (*Deut. med. Woch.*, March 20th, 1931, p. 491) enumerates: (1) all unilateral cavernous cases; (2) bilateral cavernous cases if the state of the opposite lung is not too advanced, and is not progressing (at least two months' observation); (3) incomplete pneumothorax with cavernous or adherent upper lobes; (4) the same with serous or purulent exudate; (5) residual cavities after pyo-pneumothorax, if conservative treatment fails; (6) dangerous haemoptysis, if pneumothorax is impossible or unsuccessful; and (7) severe fibrosis with symptoms due to cardiac displacement. The operation of total thoracoplasty is performed as rapidly as possible under local anaesthesia in one stage, or more commonly two. In 320 consecutive cases operated on in Ziegler's clinic prior to October, 1929, the total mortality within eight weeks of operation was 5.3 per cent., but in uncomplicated unilateral cases 3.3 per cent. Of the first 200 thoracoplasties performed 64.5 per cent. of the patients are alive and 2 per cent. untraced; 43.5 per cent. of the 200 are considered healed—that is, they are capable of light or moderate work without symptoms, and are sputum-negative. Another 19.5 per cent. improved. In the author's opinion thoracoplasty is an effective method of combating severe cases of pulmonary tuberculosis which at present is not sufficiently recognized and used. If the correct indications are observed, and careful pre- and post-operative treatment is combined with exact technique, the procedure is comparatively safe.

522 **Osteoma of the Humerus**

G. FORNI (*Chir. d. Org. di Movimento*, February, 1931, p. 497) reports the case of a boy, aged 10, who sustained a slight injury to his left arm in September, 1927. In the following November some swelling of the arm was noted; periostitis was diagnosed, and treatment appropriate to that condition was applied, but no improvement followed. In March, 1929, the arm was *x*-rayed, and a diagnosis of osteosarcoma was made. The parents refused amputation. Since the growth was very slow, and there were no signs of secondary deposit, a part of the tibia with its periosteum was excised and transplanted into the gap made by complete resection of the growth in the humerus. Convalescence was satisfactory, and after nearly two years the boy remains well, has a useful arm, and shows no signs of recurrence.

Therapeutics

523 **Serum Treatment of Erysipelas**

F. EISELBERG (*Wien. klin. Woch.*, February 27th, 1931, p. 290) records his observations on 43 cases of erysipelas treated by subcutaneous injections of polyvalent anti-streptococcal serum. The cases in which the serum was used were characterized by a progressive character, high temperature, and toxic symptoms. The initial doses were 20–40 c.cm., and the other injections were repeated until a total of 80–100 c.cm. in all had been given. The results were as follows: in half the cases there was no obvious effect on the temperature curve, while in the other half the fall of temperature was only transient. In most of the cases, however, there was a rapid relief of subjective symptoms, even when the serum was given after the fourth day. Six of the 43 cases ended fatally, death being due in one instance to sinus thrombosis and meningitis, and in the other five to severe septicaemia which was in no way affected by the serum.

524 **Treatment of Chronic Arthritis**

PODOLSKY (*Med. Journ. and Record*, March 18th, 1931, p. 270) states that benefit is obtained in chronic arthritis by associating the magnesium salt of phenylcinchoninic acid with such compounds as magnesium oxide. The ethyl ester of para-methyl-phenylcinchoninic acid was also used effectively in this way. Podolsky reports a series of thirty arthritic patients dealt with on these lines, and details are given of the clinical results, improvement ensuing in some cases which had proved absolutely resistant to other forms of treatment. The doses of the synergistic magnesium compounds employed were minimal. No gastro-intestinal disturbance or nausea was observed, and there were no manifestations of any other form of toxicity. Pain not easily controlled by other forms of medication seemed to yield more readily, and active motion of the joints was attempted earlier. In the first fifteen cases the magnesium salt of phenylcinchoninic acid, thus reinforced, was used; in the second fifteen the ethyl ester of para-methyl-phenylcinchoninic acid was employed with magnesium. In both series this treatment was continued for nine days in daily doses, and was followed by a saline cathartic. Subsequently the patient received aceto-salicylic acid for about a week, when the magnesium combination was repeated, if necessary. No signs of any scleral icterus were detected. Emphasis is laid on the value of this treatment in inducing the patient to submit to joint movement at a much earlier date than in the case of other therapeutic procedures.

525 **Treatment of Meningococcal Meningitis**

T. GOLDMAN and A. G. BOWER (*Amer. Journ. Med. Sci.*, March, 1931, p. 414) record their observations on 50 cases of meningococcal meningitis in which specific serum was given by the cisternal route, as compared with 48 cases in which it was injected by lumbar puncture. Each of the 50 cases treated by cistern puncture received an average of 6.4 punctures, or two less than by the lumbar method. An average of 135 c.cm. of antimeningococcal serum was injected in the cisterna, and 128 c.cm. was given either intravenously or intraperitoneally, a total of 263 c.cm., or 30 c.cm. less than was used in treatment with the lumbar method. Of the 50 cistern cases 18 were fatal (36 per cent.), a difference in mortality of 22 per cent. in favour of the cisternal route; the difference was still greater after exclusion of 7 patients who died within twenty-four hours of admission.

526 **Treatment of Syphilis**

M. B. PAROUNAGIAN (*New York State Journ. Med.*, March 1st, 1931, p. 261) reviews the newer methods of treating syphilis, and concludes that arsphenamine is the drug of choice in early disease (chancre and secondaries) affecting young robust patients; he prefers neoarsphenamine for elderly persons, pregnant women, children, and patients with renal, cardiac, and other complications. Silver arsphenamine is useful in neurosyphilis,

extensive gummatous ulcerations, and anaemia, as well as for patients who cannot tolerate other arsenicals. Mercury is always to be included in the therapeutic attack on syphilis, but the reaction of the patient must be considered when deciding on the dosage, the duration of treatment, and the type of preparation likely to be most effective. Bismuth may be substituted for mercury when the latter is not well tolerated, and also when the patient has become sensitized to both arsphenamine and mercury. The author has at times observed some gratifying clinical improvement when colloidal bismuth is tried in cases of congenital syphilis and of tabes. Iodides are employed in all types of infiltrating lesions, such as persistent chancre, deep-seated secondaries, and gummatous deposits. Parounagian remarks that the latter-day acceptance of the possibility of syphilitic reinfection indicates that the newer methods are more successful than the earlier ones.

527 Calcium Gluconate in Oedema

W. S. O'Donnell and S. J. Levin (*Journ. Amer. Med. Assoc.*, March 14th, 1931, p. 837) commend the administration of calcium gluconate for the relief of oedema in children who are suffering from nephrosis. This salt, which contains 9.3 per cent. of calcium, is supplied in ampoules containing 15½ grains in about 10 c.cm. of water. No nausea or vomiting followed, and there were no undesirable sequels of any kind. Although the injections made into the oedematous tissues caused no harmful effects, it is suggested that it is better to give small doses of 10 c.cm. at different points, spaced apart, and subcutaneously. Ascites disappeared, and there was a decrease in the size of the abdomen. A general improvement in the appetite and health of the children was observable after the disappearance of the oedema; the dehydration of the bronchial mucous membranes seemed to have a good effect on the resistance to the dangerous respiratory complications, and the kidneys were also dehydrated concurrently without adverse signs developing. Details are given of three cases so treated; it was calculated that about 7½ grains were required for each pound of fluid removed. The dose necessary in each case could be estimated in advance, and the requisite amount of calcium gluconate be given rapidly in two doses so as to abolish the oedema without delay. It is necessary to keep such patients on a measured sufficiency of protein in the diet, in order to restore the lost blood protein and to keep the kidneys from secreting too much albumin.

528 Bromide and Iodide Therapy

According to V. E. Henderson and G. H. W. Lucas (*Canadian Med. Assoc. Journ.*, March, 1931, p. 412) there is no pharmacological reason for using any other bromide or iodide than the sodium salt. The preference attached by some physicians to the potassium, ammonium, and strontium salts seems to be based on the fact that very marked changes in the isolated heart and the intestines can be produced by increasing the percentage of potassium or calcium, but it is now recognized more and more that the active agencies are the bromide and iodide ions; the intensity of the effect of a bromide salt, for example, depends on the degree of substitution of bromide ion for the chloride, so that the patient who is not taking ordinary salt in his diet shows the effect of bromide therapy more rapidly. The only indication for the ammonium salt would be the need of giving a bromide base and at the same time changing the acid-base balance to the acid side. To make these salts palatable they should be well diluted, so that the solution, as taken, should not contain more than 15 grains to the ounce. The addition of syrup definitely improves the flavour. When the bromides are to be combined with hyoscyamus, both the flavour and the colour are very largely dependent on the quality used, a good tincture yielding a greenish solution, and a poorer one a brownish solution; clarity cannot be obtained without adding alcohol; otherwise, oily globules will separate after standing. Syrup of ginger is a useful addition, and so also is the extract of liquorice for those patients who do not dislike its flavour.

Disease in Childhood

529 The Diagnosis of Pulmonary Tuberculosis in Childhood

V. Poulsen (*Ugeskrift for Laeger*, February 5th, 1931, p. 125) discusses the not altogether rare cases in which a tuberculin reaction is positive in childhood but the stethoscopic and *x*-ray signs are inconclusive or negative, and it is impossible to diagnose pulmonary tuberculosis unless tubercle bacilli can be found in the sputum. As the sputum is usually swallowed in childhood, tubercle bacilli can be found only by washing out the stomach, and by a direct microscopical examination supplemented by cultures on Petroff's medium and inoculation of guinea-pigs. After recording several cases showing that open pulmonary tuberculosis may exist without stethoscopic or *x*-ray signs, the author insists that the demonstration of tubercle bacilli in the contents of the stomach must be accepted as conclusive evidence of pulmonary tuberculosis, provided the child is not suffering from tuberculosis of the tonsil or stomach or a tuberculous gland which has broken into the oesophagus, and has not consumed the unboiled milk of a tuberculous cow. He does not accept the suggestion that tubercle bacilli may be innocent incidental occupants of the stomach in the same way that diphtheria bacilli and pneumococci may exist in the mouths of healthy persons. In this connexion he quotes the observations of N. R. Christoffersen, who washed out the stomachs of 30 tuberculin-negative children and did not once succeed in demonstrating tubercle bacilli. As this diagnostic method is both unpleasant and expensive, it should not be resorted to when it is possible to diagnose pulmonary tuberculosis definitely by other means. Poulsen has examined altogether 110 children up to the age of 8 in this way, and has found tubercle bacilli in 53. Among the 62 children under the age of 3 years there were as many as 41 whose stomachs contained tubercle bacilli, whereas among the 48 children over this age there were only 12 harbouring tubercle bacilli in the stomach. Among the 53 positive cases there were only 38 in which tubercle bacilli were found at the first examination, and it should therefore be repeated twice, thrice, or oftener in suspect cases.

530 Types of Enuresis

L. Mandel (*Brit. Journ. Child. Dis.*, January–March, 1931, p. 1) distinguishes five types of enuretics with their appropriate treatment as follows. (1) Those children in whom some palpable physical irritating stimuli exist, such as worms, overdistension of bladder, or cystitis; in these cases the treatment is obvious. (2) The hypersensitive or neuropathic type which responds to dietetic and medicinal measures, combined with readjustment of the environment and gentle re-education. (3) The so-called psychopathic child, in whom the enuresis is more a behaviour complex, and the treatment required is for the most part psychological. (4) Endocrine dysharmony, particularly hypothyroidism leading to a loss of inhibition; in such cases small doses of thyroid with pituitrin as an adjuvant are indicated. (5) The debilitated child, often convalescent from some illness, for whom general tonic treatment is indicated. In all types atropine or belladonna is the specific drug of choice.

531 Meningococcal Meningitis in Infants

V. Cantalamessa (*La Pediatria*, March 1st, 1931, p. 233) records 42 cases of meningococcal meningitis occurring in children between the ages of 1 and 12 months. He remarks that the high mortality in such cases is partly due to the difficulty of diagnosis in the early stages; thus in 22 out of his 42 cases the disease began with irregular fever, restlessness, vomiting, and slight diarrhoea. Rapid pulse and respiration rates with no suspicious signs in the lungs, and associated with only moderate fever, may arouse suspicion, as also should hyperaesthesia. Lumbar puncture often reveals the nature of the malady. The fontanelle is generally tense, but where there is much diarrhoea this helpful sign may fail. Rigidity of the neck, frequently

associated with opisthotonos, was present in every case, and in no instance was there seen the flaccidity of the neck described by Netter. General convulsions were observed in 24 cases, but herpes was not present in any. Some degree of leucocytosis was noted. In four cases the course of the disease was apyretic; two of these patients died. In ten cases there was evidence of some obstruction of the cerebro-spinal fluid, in the form of a persistently tense fontanelle after lumbar puncture; the mortality was very high in this group (9 out of 10). The cases which began with a brusque onset (20) were more usually fatal than those beginning gradually. The duration of the disease ranged widely from three or four days to fourteen or fifteen weeks. Moderate enlargement of the spleen was noted in a few cases. In spite of specific serotherapy the mortality reached as high as 75 per cent.

Obstetrics and Gynaecology

532 Etiology of Eclampsia

R. H. PARAMORE (*Gynécol. et Obstét.*, February, 1931, p. 114) believes in the mechanical origin of eclampsia. He maintains that this condition is not brought about by biological or chemical causes, but by physical ones. As a result of his researches twenty years ago on the evolution of the pelvic floor in vertebrate non-mammifers and in pronograde mammals, it appeared that intra-abdominal pressure was directly interdependent on the general metabolism. As a corollary to this fact he suggests that eclampsia might be a result of changes in the intra-abdominal pressure. It is known that seven out of ten eclamptics are also primiparae. Nearly always the woman is young, active, and strong, working much about the house and eating well. Eclampsia supervenes either at the time when she works more and eats more, or later when she has to submit to violent movements and alterations of abdominal pressure. The kidneys, liver, and colon relieve the blood of waste products which can, if retained, give rise to grave intoxications of which eclamptic crises are examples. These organs depend for their efficiency on the amount of blood passing through them, and this in turn is regulated by the intra-abdominal pressure. The chief difference between the abdomen of the primipara and that of the multipara is the amount of pressure that can be exerted by the abdominal walls. The stronger the woman the more she works and eats, the greater the amount of work thrown on the viscera, and the greater the need for free circulation of the blood. Paramore deals fully with the question why the viscera do not hypertrophy to meet this demand. He instances twin pregnancies (in which eclampsia is four to five times as frequent as in single pregnancy), hydramnios, concealed intrauterine haemorrhage, and hydatidiform mole as parallel conditions in which pressure is increased and in which a toxaemia comparable to eclampsia may be produced. The objection that large intra-abdominal tumours do not cause eclampsia is met by the statement that the growth of a tumour is gradual, and therefore the muscles regulating the pressure have time to accommodate themselves, whereas the increase in size of a pregnant uterus is relatively very rapid, and there is not time for a similar adjustment to take place.

533 Pre-adolescent Ovarian Tumours

Ovarian tumours in children are rare, and a correct preoperative diagnosis is seldom made. R. K. FINLEY (*Surg., Gynecol. and Obstet.*, March, 1931, p. 723) reports the case of a patient, 9 years old, in which, since an immediate operation was not indicated, time permitted of an accurate diagnosis by utero-salpingography. An injection of 3 c.cm. of lipiodol was made into the uterus, and an *x*-ray picture was taken; another 2 c.cm. of the oil was then injected, and a second photograph was obtained. The plates showed torsion of a right ovarian cyst. Torsion of the uterine adnexa before puberty is extremely rare, and such cases seem to fall under three headings: torsion of abnormal adnexa, of normal adnexa in abnormal sites, and of apparently normal adnexa normally situated. These different types are described, and short reports are appended of 25 cases illustrative of each type which have been recorded since 1920.

534 Hydatidiform Mole, Chorion-Epithelioma, and the Zondek-Aschheim Reaction

According to M. REEB (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, January, 1931, p. 94) 50 per cent. of chorion-epitheliomata follow hydatidiform mole, 25 per cent. an abortion, and 25 per cent. pregnancy at term; one in twenty cases of hydatidiform mole is followed by chorion-epithelioma. That a mole is malignant cannot be decided microscopically, and so the probable supervention of chorion-epithelioma cannot be thus predicted. Careful supervision of the patient must continue after expulsion of a hydatidiform mole; until latterly, repeated clinical examinations and curettings were required for early detection of a chorion-epithelioma, but more recently the Zondek-Aschheim urine test, which is strongly positive in chorion-epithelioma, has furnished a more reliable mode of diagnosis. Biological diagnosis is also easier, for in the case of histological diagnosis from curettings it has to be remembered that many chorion-epitheliomata are atypical; sources of error are present, moreover, in the benign chorionic invasions of muscle which occur during and after normal pregnancy, and in the decidual myometrial reaction. Zondek and Aschheim showed that the urine of a patient harbouring living chorionic villi contains a substance which, injected into immature mice, produces in the ovaries follicular haemorrhages and lutein formations; this reaction becomes negative shortly after death of the ovum and four to six days after labour. In the presence of hydatidiform mole and chorion-epithelioma the hormone is found in the urine in ten to three hundred times the concentration of normal pregnancy. The reaction may remain positive for twenty to twenty-five days after evacuation of a hydatidiform mole; if it remains positive longer, even in the absence of metrorrhagia, curetting should be performed and chorion-epithelioma suspected. If after a hydatidiform mole the Zondek-Aschheim reaction becomes negative, and then again positive, either a new conception has occurred, or a uterine or ectopic chorion-epithelioma is present; quantitative findings may here be decisive. A. GINGLINGER (ibid., p. 99) describes a case in which the Zondek-Aschheim test led to the diagnosis of chorion-epithelioma (verified at operation), in the absence of clinical signs or symptoms, three months after expulsion of a hydatidiform mole.

535 Treatment of Eclampsia

H. SCHMORELL (*Zentralbl. f. Gynäk.*, March 14th, 1931, p. 654) records the case of a primipara, aged 30, who became comatose after a second fit of post-partum eclampsia, and whose condition became steadily worse in spite of lumbar puncture, venesection, and Stroganoff therapy. She received 650 c.cm. of 12 per cent. dextrose solution, containing 20 units of insulin and 0.48 gram of euphyllin, by slow intravenous injection lasting two hours. Diuresis speedily became established, and cure followed; later on 20 per cent. dextrose solution had been administered by the rectum. Injections of hypertonic dextrose solution in eclampsia have previously been recommended by Bokelmann and Dieckmann (*Arch. f. Gynäk.*, 1930). The objective of this treatment is (1) to reduce tissue oedema, especially in the brain; (2) to promote diuresis; and (3) to stimulate the detoxicating activities of the liver, in which the glycogen content is seriously depleted.

536 Treatment of the Vomiting of Pregnancy

H. GUGGENHEIMER (*Deut. med. Woch.*, January 23rd, 1931, p. 149) strongly advocates the use of bromides in cases of persistently severe vomiting of pregnancy. He gives, as a clyster, two tablespoonfuls of 10 per cent. solution of sodium bromide at night, and one tablespoonful in the morning. If after a few days the vomiting ceases, the dose of bromide is halved, and the morning dose is omitted or may be given by the mouth. To avoid relapse it is advisable to give 1 to 2 grams of bromide at night for several weeks. The patient is kept in bed during the first week.

Pathology

537 Heart Failure and Metabolism

H. SCHWARZ, H. DIBOLD, and D. RAPPAPORT (*Wien. klin. Woch.*, February 27th, 1931, p. 280) estimated the reducing power of the urine—that is, its content of unoxidized substances—daily for at least six to eight days in a number of normal subjects, and for a longer period in a number of cardiac patients, all kept on a standard diet; they have expressed the result of this investigation in terms of "urinary oxygen deficiency" (Vakatsauerstoff). The figure varied somewhat in normal subjects, but never in these exceeded 10 grams a day; in pathological conditions it might be as high as 30 or 40 grams. The variations were apparently independent of the type of diet, whether pure carbohydrate, mixed, or with low fat content. The cardiac cases examined fell into two groups. Those with a tendency to oedema showed normal or low normal urinary oxygen deficiency values, which increased considerably as the condition improved. The second group comprised cases of heart failure without marked oedema; the urine contained large amounts of unoxidized substances, which diminished again as the general condition of the patients improved under treatment. Further tests showed that the reducing substances responsible were mainly non-nitrogenous, and were to some extent proportional to the amount of lactic acid in the urine. The fact that a fruit and carbohydrate diet increases the lactic acid in the urine, without increasing that in the blood, and is known to have a beneficial effect on the oedema, is regarded as evidence that the increased reducing value of the urine shown in these tests is due to defective intermediate oxidation in the tissues. That it is not directly due to stasis in the liver is shown by the fact that a levulose test on the same cardiac patients did not produce any definite pathological rise in blood sugar. It is suggested that further chemical study along these lines may throw light on the general metabolic changes associated with heart failure.

538 Absorption of Tetra-ethyl Lead

R. A. KEHOE and F. THAMANN (*American Journ. of Hygiene*, March, 1931, p. 478) record experiments on rabbits which show that tetra-ethyl lead is absorbed through the skin. Its initial distribution through the tissues corresponds with that of an oil-soluble material, and it appears, therefore, that some portion of this lead derivative is absorbed and circulates in this form. It is, however, rapidly decomposed by the tissues, including the skin, and so only a small portion of the lead found later in the blood is in the tetra-ethyl form. After a period of from three to fourteen days all the lead in the tissues is distributed in the characteristic form of water-soluble lead compounds. In small doses the factors of rapid decomposition and low concentration in the blood interfere with the distribution of this lead preparation to such an extent as to prevent its primary absorption by the nervous system. Tetra-ethyl-lead poisoning resembles the poisoning produced by other lead compounds, but evidence was obtained by the authors that its absorption from petrol in concentrations not exceeding 0.1 per cent. was not followed by any appreciable results.

539 The Preparation of Tetanus Anatoxin

S. HOSOYA, M. TAKADA, and S. TERAO (*Japan. Journ. Exper. Med.*, February, 1931, p. 33) describe the preparation of anatoxin from a purified tetanus toxin. Anatoxin, as usually prepared by the formolization of broth cultures, contains a number of non-specific substances which are more or less objectionable; moreover, its preparation takes four weeks or longer. The method described by the authors involves the production of a high-grade toxin by growth of the tetanus bacillus in a liver and meat infusion broth for ten days, with subsequent filtration; such a filtrate should prove fatal to mice in a dose of 0.0001–0.00005 c.cm. To it is added 2 per cent. aqueous zinc chloride solution. The toxin comes down in the precipitate, which is washed repeatedly with distilled water and ground up in a mortar. The precipitate is then dissolved in ammonium citrate solution, and the zinc is thrown out by the addition of ammonium sulphide. The zinc sulphide precipitate is removed, and the remaining filtrate is dialysed against running water for twenty-four hours. The non-dialysable fraction, which is neutral, clear, and faintly yellow, contains the purified tetanus toxin, with a lethal dose similar to that of the original crude toxin. To the purified toxin 0.4 per cent. of formol is added, and the mixture is incubated at 37° C. After forty-eight hours it is completely innocuous for mice, even in a dose of 0.5 c.cm. Immunization tests on guinea-pigs and horses indicated that this formolized toxin had considerable antigenic powers; animals injected with it were protected against the injection of toxin or of living tetanus bacilli.

540 Immunization against Typhus Fever

H. ZINSSER and M. R. CASTANEDA (*Journ. Exper. Med.*, March, 1931, p. 325) record experiments in which they succeeded in conferring an appreciable degree of immunity to typhus fever on guinea-pigs by vaccination with a formolized virus. The vaccine was prepared by grinding up infected tunica vaginalis tissue, and exposing it overnight to a saline solution containing 0.2 per cent. formol. Three injections were made in about a fortnight, the dose each time corresponding to one-third of a single tunica. The test inoculations, consisting of a mixture of defibrinated blood and brain of an animal inoculated with European typhus virus, were given seventeen to twenty-one days after the last vaccination. In the first experiment three control animals showed a typical febrile course following inoculation, while in the six vaccinated animals the disease ran a milder course, one animal proving completely resistant. In the second experiment the two control animals showed the usual fever, while three out of five vaccinated animals showed no reaction; of the remaining two vaccinated animals, one showed a typical and the other a modified febrile reaction. In a second paper H. ZINSSER, M. R. CASTANEDA, and C. V. SEASTONE (ibid., p. 333) describe the greatly increased susceptibility to experimental typhus of guinea-pigs and rats fed on a vitamin deficient diet. In such animals the disease is much more severe; the temperature may rise on the day after inoculation, or there may be very little febrile reaction; some of the animals die, and nearly all of them show enormous numbers of rickettsiae in the peritoneum and the tunica vaginalis. Besides being of interest from the epidemiological point of view in suggesting why typhus fever is so closely related to war and famine, these experiments indicate how exudates may be prepared which are very rich in rickettsiae, and which are therefore eminently suitable for the preparation of vaccine.

541 Estimation of Glycaemia

L. PINELLI and A. CORBIA (*Biochim. e Terap. Speriment.*, January 31st, 1931, p. 19) have examined different methods for estimating the sugar content of the blood in healthy and in sick persons, especially those of Folin-Wu, Schaeffer-Hartmann, Hagedorn-Jensen, Jonescu-Mathiu, and Bertrand-Silvestri. They conclude that the methods based on the reduction of salts of iron, especially the Jonescu-Mathiu method, give more constant and less variable results than those involving the reduction of salts of copper. The authors maintain that the minimum and maximum values of blood sugar content should never be regarded as absolute, but only as values relative to the special method employed in the estimation.

542 Actino-sensitivity of Oestrin

F. LUDWIG and J. V. RIES (*Zentralbl. f. Gynäk.*, January 17th, 1931, p. 137) have confirmed the observation of Allen and Ellis that the activity of the oestrus-producing follicular hormone is destroyed by exposure to ultra-violet radiation. They find, in addition, that exposure to the red rays leads to a twofold increase in the activity of oestrin as tested in the mouse, and that red radiation restores the activity of oestrin which has been subjected to ultra-violet radiation. *X*-radiation is without effect on oestrin.

Clinical Report from a British Hospital on

LEO GASTROSIC

To C. L. BENCARD, LTD., 8th May, 1931.
184, WARDOUR STREET, LONDON, W.1.

DEAR SIRS,

I think you may be interested to hear of the sample of "Gastrosic Leo" which you kindly sent me on 7th April.

On that day a woman was admitted to this Hospital with primary (pernicious) anaemia. She was desperately ill and was given two tubes of liver extract daily until April 18th, when 10 grammes of "Gastrosic Leo" was substituted for it and given daily in stout.

The patient made a remarkable recovery as the result of the blood examination shows.

On the third day she was given a blood-transfusion of 300 c.cm.

Date.	Red cells.	Haemoglobin.	Colour-index.	White cells.
8/4/31	788,000	16%	1.14	7,600
22/4/31	1,376,000	27%	8.0	11,600
2/5/31	4,268,000	55%	0.65	

Yours truly,
(signed) Physician, M.D.

The remarkable feature of the above report is that the increase in red blood and haemoglobin took place during 11 days with only 10 grammes of "Gastrosic Leo" administered daily, and as the price of "Gastrosic Leo" is only 10s. for 18 packets of 10 grammes each, the improvement in the patient's condition from the 22nd April to the 2nd May only cost 6s. 2d.

Samples and full particulars can be obtained from the above or from
JAMES WOOLLEY, SONS & CO., LTD., Victoria Bridge, Manchester.
South African Distributors: LENNON LTD., Cape Town and Branches.

THEY STIMULATE!

THEY REVIVE!

THEY SUSTAIN!

BECAUSE they supply energy almost at once without effort or strain to the digestive organs, Brand's Essences of Beef or Chicken are recommended by the entire medical profession of Great Britain.

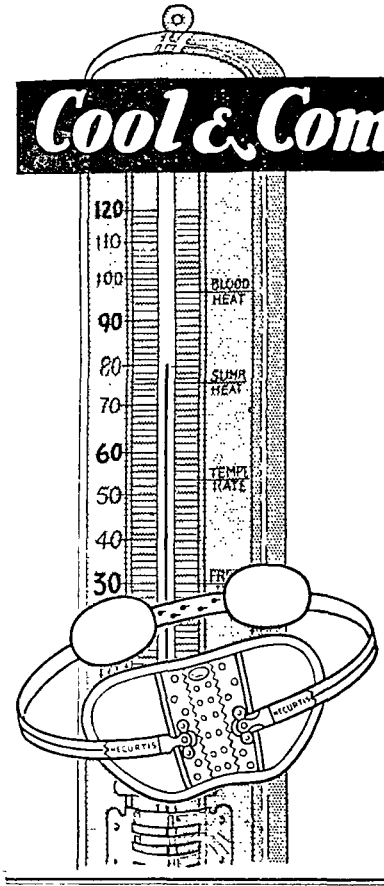
99 out of every 100 doctors interviewed recently prescribe them in severe illnesses and during convalescence when the patient's recovery is so often hampered by anorexia.

Suave and non-irritant, they are particularly suitable in all cases of intestinal disturbances, in specific fevers and before and after operations. Assimilated by the digestive organs forty minutes quicker than ordinary foods and without the formation of residue, Brand's Essences revive vitality and quickly prepare the system to accept a solid diet.

Brand's Essences are hygienically prepared by an exclusive process from the finest freshly killed English meats. No preservatives or colouring matter, just the pure essences, condensed in their clear natural form—easy to swallow and delicious to taste.

Samples will be gladly sent on receipt of a professional card. Dept. F34, Brand & Co. Ltd., Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S ESSENCES OF BEEF OR CHICKEN



Cool & Comfortable in Hot Weather

AND THE MOST EFFICIENT SUPPORT ON THE MARKET!

The Curtis Abdominal Support Model No. 1 Skeleton type is lighter and more hygienic than any other support on the market, whilst its efficiency is in no way impaired. The average weight for a person with a hip circumference of 32" is only 10 ozs. All covering is detachable and washable, and each appliance is supplied with a spare set of covers at an inclusive charge of **£3 : 12 : 0.**

CURTIS

SKELETON TYPE

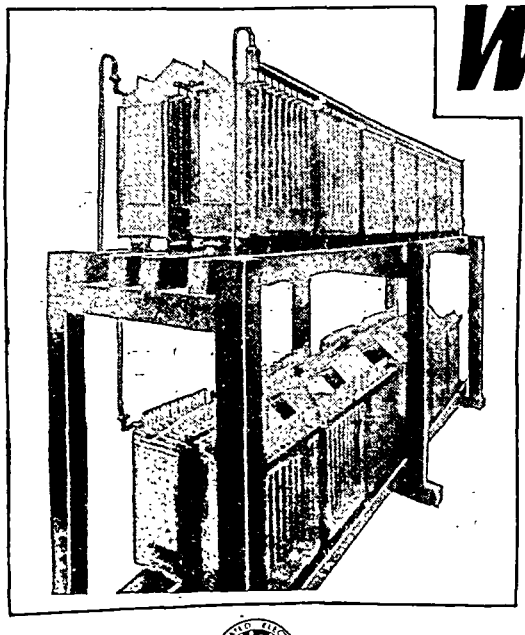
ABDOMINAL SUPPORT

Model No. 1.

Sole Manufacturers of the Curtis Appliances:

H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.

Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.



When a life is at stake....

The psychological moment has arrived. Will the operation be successful? . . . Can modern science triumph over such disease? . . . The surgeon bends closer over the table . . . deft fingers touching slender instruments . . . a life is at stake . . . if the lights should fail, plunging the theatre into darkness . . .

Nowhere is reliable light supply more important than in operating theatres. A light failure may have far-reaching consequences. Every hospital should be equipped with Ediswan Stationary Battery. Then if current fails, a switch over to the Ediswan saves the situation and restores light almost immediately.

The Ediswan Stationary Battery for Emergency Lighting is compact and robust. It takes up little space and is sturdily built to give long service. Running costs are almost negligible. Installation costs are low.

May we co-operate with you in evolving a Battery specially to suit your requirements?

THE EDISON SWAN ELECTRIC CO. Ltd.
123/5, Queen Victoria St., London, E.C.4
Branches in all the Principal Towns.

EDISWAN STATIONARY BATTERIES

B.121

Telephone No. Gerrard {3185. {2313.

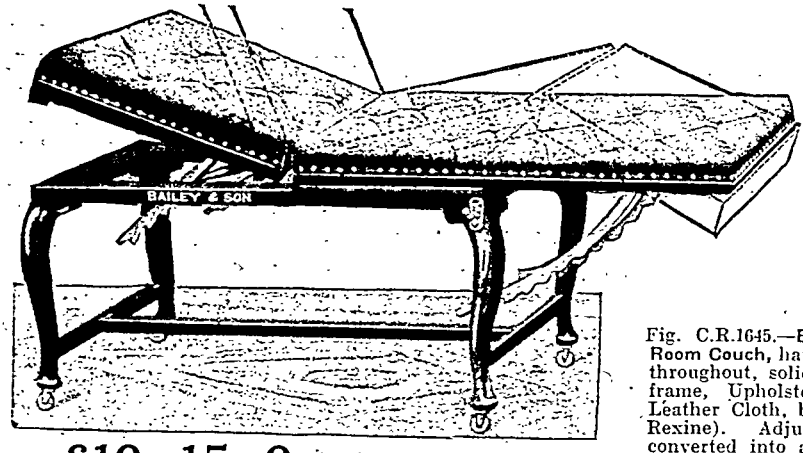
W. H. BAILEY & SON

Telegrams: "Bayleaf, London."

CONSULTING ROOM FURNITURE.

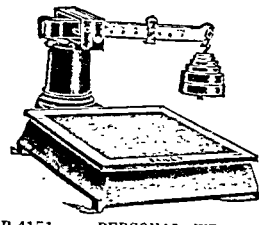
BEST WORKMANSHIP AND FINISH THROUGHOUT.

Catalogue post free, with patterns of Rexine.



£10 15 0 Carriage Paid, England.

Detachable Leg Section extra 15s. Leg Crutches and Sockets extra 36s.



C.R.4151. — PERSONAL WEIGHING MACHINE. Height 10 in. Can be stowed away under couch. Enamelled Green or Black. Weighs accurately to 20 stone £3 3 0

Stand for Ditto, raising machine to seat level, extra £1 5 0

S.P.1040.—Basket to fit in platform of machine illustrated for weighing Babies. 10/6 extra.

MOST SUITABLE FOR CLINICS.

Fig. C.R.1645.—Bailey's Perfection Consulting Room Couch, handsome, strong, and best finish throughout, solid Mahogany, Oak, or Walnut frame, Upholstered hair and best Rexine Leather Cloth, buttoned or plain (any colour Rexine). Adjustable, and can instantly be converted into a chair for throat, nose, and ear examinations.

Surgical Instruments and Appliances - 45, OXFORD STREET,
Hospital and Invalid Furniture - - 2, RATHBONE PLACE, } LONDON, W.1

ULCERATIVE COLITIS

Treatment Apparatus for Electric Ionisation

£10 - 8 - 6
Complete (A & B)

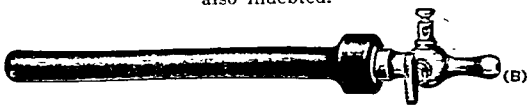
SEE ARTICLES IN BRITISH MEDICAL JOURNAL—October 18th, 1930, pp. 640–641, and March 7th, 1931, p. 406.
Reprint free on request.

The illustration depicts a very convenient group of apparatus for Dr. Burnford's technique and comprises a galvanic battery complete with measuring milli-ampere meter, delicate control rheostat, control switch, etc., built into a neat attache carrying case, and is complete with a full set of electrodes.

We are indebted to Dr. R. T. BRAIN, M.D., M.R.C.P., M.R.C.S., for the design of this battery.

Also rectal flushing electrode designed by us to the instructions of Dr. Julius Burnford, to whom we are also indebted.

(A)


(B)

THE MEDICAL SUPPLY ASSOCIATION LTD.,

167-185, GRAY'S INN ROAD, LONDON, W.C.1.

PEAT HEALS!

"May I thank you for the sample of Sphagnol Soap and Ointment which I have used—together with another box—with great success in an obstinate case of Psoriasis and Eczema? I shall have no hesitation in recommending it for my skin trouble."

Signed....., S.R.N.

Sphagnol

APPROVED PEAT OINTMENT

FOR FREE SAMPLE WRITE TO PEAT PRODUCTS (SPHAGNOL) LIMITED, (DEPT. B 52), 21, BUSH LANE, LONDON, E.C.4.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to

COATES & COOPER, LTD.,

41, Gt. Tower St., LONDON, E.C.3.

Sole Agents in the United Kingdom.

Two sizes, 4/6 and 7/-.

Saevitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co., New York.

PEPTONE "STERULES" in ASTHMA

(REGISTERED TRADE MARK)

Also employed with success in hay fever, associated skin affections, angio-neurotic oedema, cyclic vomiting, periodic diarrhoea, and the migraine-epilepsy syndrome; in short, to such conditions as exhibit an anaphylactic character or sensitisation.

Graded Series of 10 "Sterules," price on prescription, 8/6, professional price, 7/6. Continuation Course of 6 "Sterules," for intravenous and intramuscular use—please state which is desired—price on prescription, 7/6, professional price, 6/6.

Also Peptone "Sterules" according to prescription in article.

Lancet, April 11th, 1931, p. 805. *Leaflet on application.*

W. MARTINDALE (MANUFACTURING CHEMIST) 12, New Cavendish Street, London, W.1

Telegraphic Address: "MARTINDALE, CHEMIST, LONDON." Telephone Nos.: LANGHAM 2440 and 2441.

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.

KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.

Telephone: GLADSTONE 1071 (2 lines). *Telegrams*: KAYLOIDOL, CRICKLE, LONDON.

"VARIBAN"

Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove. Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc. Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SUPPLIED IN WIDTHS

2"	2½"	3"
1/7	1/9	2/-

— EACH —

When stretched measure six yards (approximately)

SAMPLE 3in. "VARIBAN" Elastic Plaster Bandage SENT POST FREE on receipt of P.O. for 2/3

PASTE-BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."

(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.

SAMPLE BANDAGE 1/- Post Free

MESSRS. CUXSON, GERRARD & Co. Ltd., have pleasure in informing the members of the medical profession that they are now manufacturing paste-bandages strictly according to the formula mentioned in the above article, under the descriptive name of

"CELLANBAND"

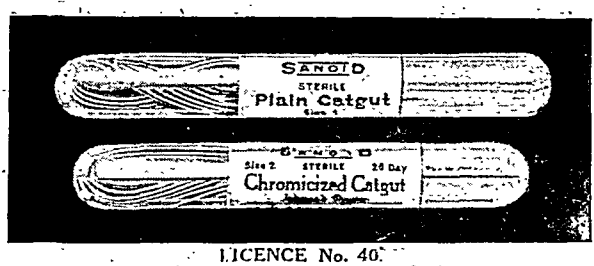
DESCRIPTIVE LITERATURE AVAILABLE ON REQUEST

"SANOID" TUBES OF STERILE LIGATURES

Exceptional Flexibility

Tensile strength and smooth surface are prominent features of these Ligatures. They are prepared in accordance with the Therapeutic Substances (Catgut) Regulations, 1930.

PRICE 9/-
PER DOZ. TUBES



LICENCE No. 40

Sole Manufacturers—
CUXSON, GERRARD & CO. LTD. MANUFACTURING CHEMISTS OLDBURY, BIRMINGHAM.

Distributors to the Medical Profession—
The MEDICAL SUPPLY ASSOCIATION LTD.
167-185, Gray's Inn Rd., LONDON, W.C.1 10-13, TEVIOT PLACE, EDINBURGH 6-12, Holly St., SHEFFIELD

The VITREOSIL Sunshine Lamp

here illustrated is designed to give a light which is the equivalent of Sunshine in its effects.

Careful records show that in offices where it is in use time lost through colds and similar ailments is very much reduced.

Write for descriptive booklet (post free) to the Sole Manufacturers:

THE THERMAL SYNDICATE LTD.
(Established over a Quarter of a Century)
Vitreosil Works - WALLSEND-ON-TYNE
London Depot: Thermal House, Old Pye Street, S.W.1.

HAY FEVER

CAN BE VERY SUCCESSFULLY COMBATED WITH **POLLANTIN**

(A Serum discovered by Prof. Dunbar in 1903)

For literature and prices apply to the distributing Agents

Willows, Francis, Butler & Thompson, Ltd.

73, 75 and 89a, SHACKLEWELL LANE, LONDON, E.8

Veramon

TRADE MARK

"We have not found anything in our experience to compare with 'Veramon' as a ROUTINE ANALGESIC."

——, M.D.

——, M.B., B.Ch.

SCHERING LIMITED, 3, Lloyd's Avenue, London, E.C.3

If you have a difficult case of Hernia send your patient to be properly fitted with a SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency Perfect freedom of movement. *The most scientific truss ever devised.*

SALMON ODY

LTD.

Highly recommended by the Medical Profession

7, NEW OXFORD STREET, LONDON, W.C.1

Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS

The best Medical authorities are agreed that rigid plates are injurious and are prescribing these supports for foot troubles—tired, aching feet, weak insteps, or rheumatic pains, 15/6 per pair. Metatarsal 18/6 per pair. State size of footwear when ordering.

Estab. 120 years.

LINEN MESH gives freedom, health and comfort to the body, promoting best results at work and play.

Wear

EMPIRE

LINEN MESH UNDERWEAR

Sold by all good Outfitters.

Patterns and particulars post free.

THE IRISH LINEN MESH CO. LTD.

Belfast Northern Ireland

Tycos

MANUFACTURED by SHORT & MASON LTD WALTHAMSTOW LONDON, E.17

SPHYGMOMANOMETERS

NORMANSFIELD

For Mental Defectives of all ages.

Under private management.

Apply to Dr. Langdon-Down,

Normansfield, Te[illegible]gton.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*

A. E. CARVER, M.D., D.P.M.

Telephone: Nuneaton 241.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental and Nervous cases are received without certificates as Voluntary Patients under the provisions of the Mental Treatment Act, 1930. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. 'Phone: 10 P.O., Church Stretton.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

GILGAL HOSPITAL,

PERTH.

Chairman:

THE RT. HON. THE EARL OF MANSFIELD.

For the Treatment of NEUROPATHIC and PSYCHOPATHIC DISORDERS. Certified patients not received. Under the management of James Murray's Royal Mental Hospital. Inclusive rates 3 guineas to 8 guineas weekly. Particulars on application.

Physician-Superintendent: W. D. CHAMBERS, M.D., F.R.C.P.E.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

FENSTANTON,

CHRISTCHURCH ROAD,

STREATHAM HILL, S.W.2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2254.) Apply J. H. EARLS, M.D., Resident Physician Telephone: Streatham 8430.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

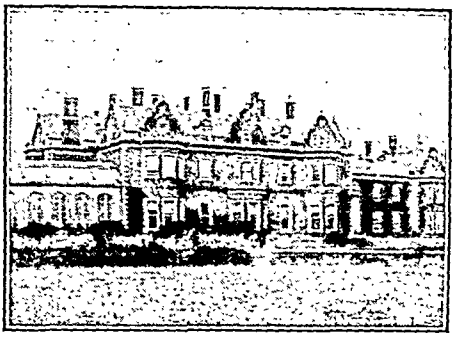
(Postal Address)—WOODBRIDGE, SUFFOLK.

Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16. *(Toll Call from London.)*



RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham,

as carried on for the last twenty years, is available. Booklets and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: The Norwood Sanatorium, Limited.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury Telephone 51.

NORTHWOODS, Winterbourne, Bristol.

Telephone and Telegrams: Winterbourne 18.

This beautiful mansion in fifty acres of secluded grounds was built specially for the TREATMENT OF MENTAL ILLNESS. Certified patients of both sexes. Thorough clinical, bacteriological, and pathological examinations. Separate bedrooms. Private suites. Indoor and outdoor amusements. Wireless and other concerts. Occupational therapy. Physical drill. Private golf course. Garden and dairy produce from farm on the estate. A few voluntary are received in the Medical Superintendent's house. Terms from 4 to 6 guineas a week.

For further particulars and prospectus apply to JOSEPH CATES, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3¼ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

'Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above affections is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. CARVER, M.D., D.P.M. Fees moderate.

Further particulars from the Central Secs., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 243.

Grove House, Church Stretton, Shropshire. All Stretton.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing. Dr. MCCLISTOCK, Medical Superintendent.

ST. ANDREW'S HOSPITAL

FOR MENTAL DISORDERS,

NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary patients, who are suffering from incipient mental disorders or who wish to prevent recurrent attacks of mental trouble; temporary patients; and certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. *Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.*

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

TYKEFORD ABBEY, NEWPORT PAGNELL,

BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Diathermy and Foam Baths. Billiards, tennis, etc. Fees from five gns. per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P. *Telephone*: Teignmouth 289.

HAYDOCK LODGE,

NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

The MAUDSLEY HOSPITAL

DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: (*a*) 189 beds (both sexes) in wards or separate rooms. (*b*) 13 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS

(*a*) £5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.

(*b*) £6 6s. a week.

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—ARTHUR TOWNSEND, M.D., Medical Supt. Telephone: No. 7 Barnwood.

THE LAWN, LINCOLN.

This Registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY and PRIVATE PATIENTS of both sexes for treatment of Mental and Nervous Disorders, including Post-Encephalitic conditions in adults. Special facilities for Psychotherapy in co-operative cases.

All particulars may be obtained from the Resident Medical Superintendent, Dr. MARY R. BARKAS, M.D., D.P.M.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

This Registered Hospital for MENTAL DISEASES, with the seaside branch *Glan-y-Don*, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.D., who may also be seen in Manchester by appointment.

Telephone: 2231 GATLEY.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital. Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS, at a weekly fee of TWO GUINEAS and upwards.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

OXHEY GROVE,

HATCH END, MIDDLESEX.

A NURSING HOME for BORDERLINE CASES of BOTH SEXES, twelve miles from Marble Arch. Resident Medical Officer, male and female staff, visiting Pathologist. Fees 5 to 12 guineas.

Full particulars from the MEDICAL SUPERINTENDENT. Telephone: Hatch End 368.

"PEACEFUL QUIETUDE 'MIDST THE SURREY HILLS"

STANDING in well-timbered grounds of 40 acres, 637 feet above sea-level on the beautiful Surrey Hills, DUNLEY HILL is for those who appreciate well-studied comfort, and freedom from petty restrictions. Special MATERNITY WARD; fully-equipped OPERATING THEATRE. Private dairy. Portable wireless; cinematograph; grass and hard tennis courts; garages.

Illustrated Brochure on request.

"DUNLEY HILL"

NURSING HOME

Ranmore Common, Near Dorking, Surrey.

'Phone: Clandon 281 Matron: Mrs. Ellen Allfrey, S.E.N.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E. Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.

Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the Medical Superintendent.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy. Prolonged Immersion Baths. Operating Theatre. Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

The MUNDESLEY SANATORIUM

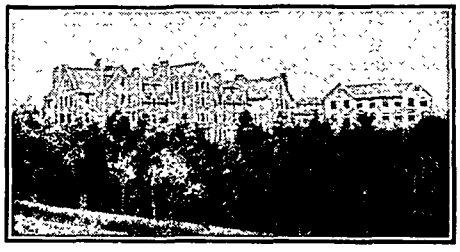
The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless headphones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON,
M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP,
M.B.(Cantab.).
ANDREW MORLAND,
M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams*: Nordrach, Blagdon. *Telephone*: Blagdon 23

EAST ANGLIAN SANATORIUM

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and has an ideal situation facing S.S.E. in a very sunny district. Special treatment by artificial Pneumothorax (X-ray controlled). Ultra-violet Ray treatment is available for suitable cases. Matron and full nursing staff. Nurse on duty all night. Electric lighting throughout, radiators and wireless (headphones) in all rooms.

Dr. Jane Walker, C.H., J.P., Medical Superintendent. Dr. Eleanor Soltau, Assistant Medical Superintendent.

For all information apply: The Secretary, East Anglian Sanatorium, Nayland, near Colchester.

Telephone: NAYLAND 1.

THE COTSWOLD SANATORIUM

Specially built in 1893 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, Medicated Inhalations by means of the Apneu Inhalation Installation, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

SWISS SPAS

BADEN.

On the main line Zürich-Basle and Zürich-Berne. The hot springs of Baden were already known to the Romans. 17 radio-active wells at a temperature of 118.4°F. They contain sulphur and sodium chloride. The baths are obtainable in the hotels themselves. Treatments: warm baths, shower baths, massage, electric baths, inhalation, drinking cure, diagnostic-therapeutic institute, mechanotherapy. Recommended for metabolic diseases, rheumatism, gout, sciatica, diseases of the muscles, bones, and joints, retarded convalescence after injuries and operations.
Season: April 1st to November 1st.
For information apply to: Spa Director, Baden, Switzerland.

LOÈCHE-LES-BAINS.

One hour by electric railway from Loèche (main station on the Simplon route). Mild alpine climate. The baths were already known to the Gauls and Romans. The radio-active springs contain chiefly sulphate of lime. Two swimming pools. Every hotel has its own bathing installation. Treatments: warm baths, douche-massage, injections, air and sun baths. Recommended for: gout, rheumatism, sciatica, anaemia, post-operational conditions, convalescence, gynaecological diseases, circulatory disturbances, skin diseases.
Season: May to October.
For information apply to: Hotel Association, Loèche-les-Bains, Switzerland.

PASSUGG.

Near Chur. Situated on a picturesque plateau. Mild sub-alpine climate. Vast forests.
Treatments: The Ulricus spring (alcaline-muriatic), Belvedra spring (chalybeate), Fortunatus spring (alcaline-muriatic with iodine), Helen spring (mildly alcaline and acid), Theopnil spring. All varieties of accessory treatment. Dietetic treatment. Indications: Diseases of the digestive organs, diseases of the liver and bile ducts, kidney and bladder diseases, diseases of nutrition and metabolic diseases, especially diabetes, arterio-sclerosis, diseases of the blood and tropical diseases.
Season: May to October.
For information apply to: Spa Director, Passugg, Switzerland.

RHEINFELDEN.

10 miles from Basle, on the railway line Zürich-Basle. Famous for its vigorous brine, containing 31% salt, and for its "Kapuziner" spring, a highly diuretic calcium and boric acid well, and for its "Magdalena" spring, containing sulphates of calcium, sodium, and magnesium. 8 bath establishments with up-to-date installations. Treatments: brine baths, carbonic acid brine baths, drinking, mud-packs, "Mutterlauge" packs, inhalation, massage, gymnastics, all varieties of electric treatment, dietetic treatment. Recommended for: gout, rheumatism, arthritis, women's diseases, sterility, obesity, children's diseases, arterial hypertension, diseases of the heart, affections of muscles, bones, and joints, convalescence.
Any information and detailed booklet gladly supplied by: Enquiry Office, Rheinfelden, Switzerland.

SCHINZNACH.

Railway connections: Basle-Brugg-Zürich, and Berne-Brugg Zürich. The hot springs of Schinznach were in use in Roman times and belong to the strongest radio-active sulphur wells on the Continent. Newly equipped, comfortable baths and inhalation rooms. Treatments: baths, drinking, sulphur-mud and sulphur-water packs, irrigations, inhalatorium, massage, X-rays. Recommended for: gout, rheumatism, affections of bones and joints, non-tuberculous catarrhs of the air passages, arterio-sclerosis, diseases of the skin, diseases of women, children's diseases.
Season: May to October.
For information apply to: Spa Director, Schinznach Bad, Switzerland.

TARASP-SCHULS-VULPERA.

The chief spa of the Lower Engadine. Glauber salts wells. The advantage of this spa lies in the combination of the curative properties of the waters with the alpine air and sun.
10 mineral springs of various composition. Up-to-date equipment for drinking and baths, air and sun baths, swimming baths, Zander-hall, X-ray institute, diet. Recommended for: affections of the digestive organs, metabolic ailments, nervous troubles, affections of the organs of circulation, of the organs of respiration, of the genito-urinary system, malaria.
Information supplied by: General Manager, Kurhaus Tarasp.

The introduction of special dietary tables for diseases of the digestive organs and the kidneys, as well as for diabetes, permits the physician to treat to the fullest extent each patient individually.

For information and the booklet "Swiss Spas and their Mineral Springs" (sent gratis), please apply to the Office of the Swiss Federal Railways, 11b, Regent Street, London, S.W.1.

BRIDGE OF ALLAN
Stirlingshire

The rich Calcium Bromine and Iodine content of the Saline Waters renders them peculiarly beneficial in General Debility and Convalescence.

Their high curative value in Rheumatic affections, Gastric and Bronchial Catarrh, Asthma, etc., is beyond question.

The Allan Water and Spa Hotel has covered communication with the Spa.

For full particulars apply SPA DIRECTOR

EVIAN-LES-BAINS

on the Lake of Geneva (Haute Savoie),
FRANCE.
1st MAY—5th OCTOBER.

Hydromineral & Climatic Treatment.
Cure by diuresis. Evian-Cachat Water.
Hydrotherapeutic Establishment.
First-class Hotels: Royal, Splendide, Ermitage.
All Sports: Golf, Tennis, etc.
Beach. Casino.

Full information from—
Federation of the Health Resorts of France, Tavistock House (North), Tavistock Square, London, W.C.1.

Wildbad—
in the Black Forest

GERMANY, 1,400 to 2,500 feet above sea-level.

CURATIVE SPRINGS, 93—99° F., for hundreds of years proved beneficial for gout, rheumatism, sciatica, nerve troubles, etc. Rejuvenation; all modern curative methods. Sport. Mountain Railway. Beautiful Woods. Anglican Divine Service. Information from the "Badverwaltung" or the "Kurverein" Wildbad in the Black Forest, and all tourist agencies.

Excellent Trout Fishing

BRITISH SPAS
ARE BEST

and membership of the British Spas Federation is a guarantee of efficiency

AT British Spas, treatment is only given (except in a few minor cases) upon medical prescription.

At British Spas the staffs are educated and properly trained and, in some cases, medically trained and medically certificated.

Equipment and administration are thoroughly up to date and scientific. Every new treatment is tested and reported upon before being adopted.

British Spas are also remarkably fortunate as regards situation, scenic beauty and pure air. These factors, combined with the social amenities of a home town, aid the cure considerably.

BATH Hot Springs (120° F.) Radio-active. Royal Baths extensions now open.

BRIDGE OF ALLAN Saline Water. Rich Calcium Bromide and Iodine Content.

BUXTON Radio-active Mineral Water. New Natural Baths. 3 Guineas Course.

CHELTENHAM Five Natural Waters. Modern Baths.

DROITWICH The Brine Baths Spa in charming Worcestershire.

HARROGATE 88 Waters. 100 Treatments. Medically certificated staff.

LEAMINGTON Advanced Spa Treatment. Saline Springs.

LLANDRINDOD WELLS The Modern Welsh Spa.

TREFRIW WELLS Rich Sulphate Chalybeate Waters.

WOODHALL SPA Bromo-Iodine Waters. Pinewoods. Restful Air.

A New Medical Handbook is being published, specially prepared for the use of the medical profession. A copy will gladly be sent you if you will write to the Hon. Secretary, Box 1, British Spas Federation, Pump Room, Leamington Spa, or to the Managers of any of the Spas here mentioned.

ANNOUNCEMENT BY BRITISH SPAS FEDERATION

MONTANA HALL
MONTANA, Switzerland

The only Sanatorium in Switzerland under British ownership and control, and with a full day and night staff of British Trained Nursing Sisters.

Built 1929-30. Opened Oct., 1930.

For the treatment of **Tuberculosis, Diseases of the Chest, Asthma,** and for patients requiring rest in the Alps under strict medical supervision.

Montana (5,000 feet above sea-level) is the sunniest mountain resort in Switzerland.

For prospectus and full particulars kindly apply to the Resident Medical Superintendent, HILARY ROCHE, M.D.(Melb.), M.R.C.S. (London), Tuberculous Dis. Dip. (Wales).

PEEBLES
In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air, beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.
Among the Pine-clad Border Hills.
PEEBLES HYDRO, PEEBLES, SCOTLAND

BOURNEMOUTH HYDRO,
with Vita-glass Sun-lounge and Marine Balcony on the South Coast.
Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.
Resident Physicians: W. JOHNSTON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

GRAMPIAN SANATORIUM,
KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 ft. above sea-level. *Sheltered situation in pine wood.* Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms £4 7s. 6d. to £6 6s. p.w. inclusive. No extras. Med. Supt.—FELIX SAVY, M.D.
For particulars apply to the Secretary.

SOUTHBOURNE HOUSE NURSING HOME,
Southbourne-on-Sea, Bournemouth.
Medical, Surgical and Convalescent Patients.
Quiet house on cliff.
Matron: Miss MACMILLAN (London Hospital). Tel.: Southbourne 1186.

THE MOAT HOUSE,
TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 3417.)
For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S. 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

PENDYFFRYN HALL SANATORIUM

PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4½ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), A. C. Armstrong, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

The Thermal Springs of La Léchère-les-Bains

Their Value in the Treatment of Varicose Veins, Phlebitis & Arterial Pressure, etc.

The attention of medical men is called to the remarkably successful cures of venous disorders, high blood pressure, rheumatism, sciatica, etc., and kindred ailments, at La Léchère. This famous spa, 1,300 feet above sea-level, beautifully placed in the heart of Savoy, possesses radio-active hot-water springs with a long established record for curative power. A critical review of results obtained in actual cases has been prepared by Dr. Charles Millet, Consulting Physician at La Léchère, and will gladly be sent to medical men, on request, from

THE FEDERATION OF THE HEALTH RESORTS OF FRANCE, Tavistock House (North), Tavistock Square, London, W.C.1.

"RADIANA" Bath Salts

These curative salts of La Léchère are sold at 2/- per carton at the La Léchère Information Bureau at address opposite.

HOTEL TRAVEL INFORMATION

La Léchère is well served by *modern hotels, is easily accessible* by rail or road, and enjoys an equable climate. Travel and Hotel information for tourists should be addressed to:—

LA LÉCHÈRE INFORMATION BUREAU, Room 220, 329, High Holborn, London, W.C.1.

asthma

TREATED AT MONT-DORE

THE FAMOUS FRENCH SPA

40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE, Tavistock House (North), Tavistock Square, LONDON, W.C.1. Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARRINSON, M.B., B.Ch., B.A.O. (R.U.I.). R. MACLELLAND, M.D., C.M. (Edin.).

'Grams: "Smedley's Matlock." 'Phone No. 17. For Prospectus and full information please write MANAGER, M.J.

MATLOCK

Member of the British Spas Federation.

TREFRIW CHALYBEATE WELLS

Established over 70 years.

The richest Sulphur-Iron waters known, containing Iron as Ferrous-Sulphate, maximum dose only one ounce. Wonderfully efficacious for Rheumatoid Arthritis, Rheumatism, Sciatica, Neuritis, Anaemia, and Kindred Ailments.

SPA CURE AT HOME.

The Waters are scientifically bottled in perfectly natural Spa condition, without alteration or manipulation, and may be prescribed to patients at home just as beneficially as at the Spa. The remarkable efficacy of the home treatment, which is a very important feature of this Spa, cannot be too strongly emphasized, and is well attested by eminent medical authority. Full particulars and sample of the Waters post free from MANAGER, Trefriw Wells, Trefriw, N. Wales.

EPILEPSY.

Owing to extensions there are at present a few Vacancies at the

DAVID LEWIS COLONY

for Ladies and Gentlemen who have Epilepsy, but are of good intelligence and sound mind.

Colony life gives to most people who have epilepsy the best chance of happiness and contentment.

Apply to the Medical Superintendent,

The David Lewis Colony, Warford, Alderley Edge.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY.

Resident Patient. — Wanted, a Temporary HOME in Doctor's house at Fishing Village or Seaport, East or South-East coast preferred, for Post-Institutional treatment and care case of alcoholism, aged 40, gentleman, keen on sailing. Willing pay 5 gns. p.w.—Z.O. 565, c/o DEACON'S, Fenchurch Av., E.C.4.

VICTORIA SANATORIUM : : DAVOS

SWITZERLAND

(BRITISH SANATORIUM), 5,200 feet above sea-level.

ALTERED AND MODERNISED IN SUMMER 1930.

Terms from £5 . 12 . 0 per week.

Medical Supt.: BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube. *Telephone:* Brixton 0494. Apply, Miss THWAITES.

SOCIETY OF APOTHECARIES OF LONDON.

MASTERY OF MIDWIFERY

Examinations will be held beginning Monday, May 18th and November 15th 1931. For regulations apply to the REGISTRAR, Water Lane, E.C.4.

EDINBURGH POST-GRADUATE COURSES IN MEDICINE

IN CONNECTION WITH THE UNIVERSITY AND ROYAL COLLEGES, 1931.

The POST-GRADUATE COURSES to be held this year comprise:

(1) A GENERAL PRACTITIONERS' COURSE from August 10th to September 5th.

(2) A GENERAL SURGICAL COURSE from August 10th to September 5th.

The composite fee for each Course will be £10 10s. for the four weeks, or £6 6s. for either the first or second fortnight.

(3) A COURSE IN OBSTETRICS AND GYNAECOLOGY AND DISEASES OF CHILDREN, from July 13th to Aug. 8th. Fee £10 10s.

In addition to the above, the following *Special Courses* have been arranged:

SUMMER TERM.

SURGICAL PATHOLOGY.—Mr. Wade, F.R.C.S.Ed., and others. May 12th. Fee: £4 4s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. May 4th. 12 Meetings, thrice weekly. Fee: £5 5s. Minimum number 5.
CLINICAL MEDICINE.—Medical Staff of Royal Infirmary. During May. Fee: £3 3s.

SUMMER, AUTUMN, AND SPRING TERMS.

CLINICAL SURGERY (including Radiology).—Surgical Staff of Royal Infirmary. Fee: £4 4s.
DISEASES OF EAR, NOSE, AND THROAT.—Staff of Ear, Nose, and Throat Department, Royal Infirmary. Minimum number 5. Fee: £10 10s.
VENEREAL DISEASES.—Mr. Lees, F.R.C.S.Ed., Ward 5a, Royal Infirmary. Minimum number 5. Fee: £10 10s.
DISEASES OF EAR, NOSE, AND THROAT.—Dr. Douglas Guthrie. This Class will meet twice weekly at the Ear and Throat Dispensary, Cambridge Street. Fee: £4 4s.
DURING THE PERIOD OF THE GENERAL COURSES. (AUGUST-SEPTEMBER).
PATHOLOGY OF THE NERVOUS SYSTEM.—Drs. F. E. Reynolds and James K. Slater. Minimum number 6. Fee: £3 3s.
DISEASES OF THE BLOOD.—Dr. Alex. Goodall. Fee: £3 3s.
VACCINE THERAPY.—Dr. A. Nimmo Smith. Fee: £3 3s.
MODERN DIAGNOSTIC METHODS.—Drs. D. M. Dunlop, A. R. Gilchrist, and C. P. Stewart. Fee: £4 4s. Minimum number 6.
X-RAY PHYSICS AND ELECTRO-TECHNICS.—Mr. C. Norman Kemp, B.Sc., A.I.C. Fee: £3 3s.
ULTRA-VIOLET RADIATIONS AND THEIR USES.—Dr. Robert Aitken. Fee £3 3s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. Fee: £5 5s. Minimum number 5.

Further particulars may be had on application to the Hon. Secretary, Post-Graduate Courses in Medicine, University New Buildings, Edinburgh.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL MEDICAL SCHOOL.

(FOUNDED 1816.)

Telephone: TEMPLE BAR 1457. BROAD STREET, HOLBORN, W.C.2. (Near British Museum Station.)

The Hospital has been rebuilt and has 86 beds, including fourteen private rooms for paying patients. The building has been specially designed for clinical teaching and post-graduate study.

Classes for the D.O.M.S. Examination (Part I and Part II) commence in October.

Out-patients are seen daily at 1 o'clock. Operations are performed at 3 p.m.

Qualified medical practitioners and registered students may join at any time. For particulars apply to the Dean or Secretary at the Hospital.

POST-GRADUATE STUDY AT THE NORTH-EAST LONDON POST-GRADUATE COLLEGE

The Prince of Wales's General Hospital, Tottenham, N.15.

Morning and afternoon work in Medicine, Surgery, Bacteriology, Pathology and the Special Subjects. Study-leave, Panel, and individual Courses arranged. Practitioners' general Intensive Courses (limited to 25) held at frequent intervals. Practical instruction in Anaesthetics. Clinical Assistantships.

NEXT INTENSIVE FORTNIGHTLY COURSE, DEALING WITH SPECIAL AND GENERAL SUBJECTS, COMMENCES ON JUNE 1st, 1931.

Prospectus and Syllabuses on application to the Dean.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

INSTITUTE OF PATHOLOGY & THERAPEUTIC RESEARCH
ST. MARY'S HOSPITAL, LONDON, W.2

A Course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the SUMMER SESSION. These Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on TUESDAY AFTERNOONS at 5 p.m. as under:—

	SUBJECT.
JUNE 2nd. Dr. ANDRÉ GRATIA (University of Brussels).	"The Schwartzman Phenomenon."
JUNE 9th. Prof. J. S. HALDANE, M.D., F.R.S. (Director of the Mining Research Laboratory, University of Birmingham).	"The Problems of Silicosis."
JUNE 16th. Dr. BERNARD HART, M.D., F.R.C.P. (Phys. Psychol. Med., Univ. College Hospital).	"The Causation of Neurotic Disorders."
JUNE 23rd. Prof. HAMILTON HARTRIDGE, M.D., F.R.S. (Prof. of Physiology, St Bartholomew's Medical College).	"The Theory of Hearing."

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

EXTEMPORE SPEAKING

(Lecture Theatre, Platform, Pulpit, Banquet).

PRIVATE LESSONS given by Mr. CHAS. SEYMOUR

Tuition includes Fluency, Vocabulary, Retention of Ideas, Voice-Production, AUDIBILITY, Modulation, CONFIDENCE, Breathing, ELOCUTION, Accent and Phonetics.

Prospectus forwarded (Kindly mention B.M.J.) 401 Strand (Opposite Cecil) W.C.2 Temple Bar 2697

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times."
"Thoroughly physiological principles."—"Lancet."
"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/6 of Miss BEHNKE, 39, Earl's Court Sq., S.W.5.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5 for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,300 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

MEDICAL CORRESPONDENCE COLLEGE

19, WELBECK STREET, LONDON, W.1.

PROVIDES HIGHLY SUCCESSFUL ORAL, POSTAL, AND PRACTICAL COACHING FOR ALL MEDICAL EXAMINATIONS.

M.D.Lond., M.R.C.P.Lond., M.D.Thesis (all Universities), F.R.C.S.Eng. and Edinburgh, D.P.H., D.P.M., D.T.M., D.L.O., D.O.M.S., & L.D.S.

COURSES are always in progress for the above; also

1st, 2nd, and FINAL MEDICAL EXAMINATIONS of all Universities and Examining Bodies.

Special Oral and Practical Vacation Courses in Chemistry, Physics, Biology, Anatomy, Physiology, Pathology, and the Final Subjects.

MICROSCOPE AND MUSEUM WORK

CLINICAL INSTRUCTION can be arranged at any time.

VALUABLE BOOK FREE!

Write at once for our "Guide to Medical Examinations," and a copy will be sent post free by return.

MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, Cavendish Sq., LONDON, W.1.

MARLBOROUGH COLLEGE,

Near MACCLESFIELD, CHESHIRE,

Specialises in CAREERS FOR GIRLS, General Education to Matric., etc. Special Terms to Medical Men. Apply: *LADY WARDEN.*

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.G. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees should be given.

J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

Royal College of Physicians of LONDON.

The next ordinary PROFESSIONAL EXAMINATION for the MEMBERSHIP will commence on Friday, July 17th, 1931.

Candidates are required to give 21 days' notice, in writing, to the Registrar of the College, to whom all certificates and testimonials required by the By-laws must be sent at the same time.

Candidates who propose to submit published work under the Regulations now in force should apply, in writing, to the Registrar, without delay, for detailed instructions as to the procedure they should follow.

RAYMOND CRAWFURD, M.D.,
Pall Mall East, S.W.1. Registrar.

Royal College of Physicians of LONDON.

Professor M. J. STEWART, F.R.C.P., will deliver the CROONIAN LECTURES on June 4th, 9th, and 11th, at 5 o'clock, at the College, Pall Mall East, S.W.1.

Subject: "*Precancerous Lesions of the Alimentary Tract.*"

Any member of the Medical Profession admitted on presentation of card.

By Order of the President,
H. M. BARLOW,
Bedell & Secretary.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.).

POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	22
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary* 1906-30	162
	Final	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women. Hints for writing theses.

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

The Manchester and District RADIUM INSTITUTE, MANCHESTER.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER.

Applications are invited for the above vacancy (appointment for six months in the first instance). General Medical and Surgical experience essential. Previous Radium experience not essential.

This appointment offers excellent experience in Radium Therapy.

Salary £300-£500 according to qualifications.

Applications, with full details of previous experience, should be sent forthwith to the Hon. Secretary and Treasurer, The Radium Institute, Nelson Street, Manchester.

London Temperance Hospital, Hampstead Road, N.W.1.

Applications are invited for the post of HOUSE PHYSICIAN (male). The appointment will be for a period of six months, at a salary of £100 per annum, and will date as from July 1st. Preference will be given to those who have held resident posts.

Candidates must submit applications stating qualifications, age, etc., with copies of not more than three testimonials, by Friday, June 5th, addressed to the Secretary.

London Temperance Hospital, Hampstead Road, N.W.1.

Applications are invited for the post of CASUALTY OFFICER (male). The appointment will be for a period of six months at a salary of £120 per annum, and will date as from July 1st. Preference will be given to those who have held a resident post.

Candidates must submit applications stating qualifications, age, etc., with copies of not more than three testimonials by Friday, June 5th, addressed to the Secretary.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

WITHINGTON HOSPITAL.

APPOINTMENT OF TWO ASSISTANT MEDICAL OFFICERS.

The Public Health Committee invites applications from qualified Medical Men for the positions of Two Assistant Medical Officers at the Withington Hospital (1,200 beds), and Institution (1,150 beds), Nell Lane, West Didsbury, Manchester.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous Hospital experience.

The Hospital is a recognised Training School for Nurses, and is equipped with all modern requirements.

Salary £275 per annum in each case, with board, residence, and laundry in addition. No bonus.

The appointments will be made, in the first instance, for a period of six months. The successful candidates, however, will be eligible for re-appointment for a further period of six months at the end of that period.

Every application, stating fully the training, qualifications, and experience of the candidate, and his age, with copies of three recent testimonials, and endorsed on the envelope "Assistant Medical Officer, Withington Hospital," must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Thursday, June 4th.

One candidate appointed will be required to commence duty on August 4th, and one on September 1st. Each candidate appointed will be required to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect, is prohibited.

F. E. WARBRECK HOWELL,
Town Hall, Town Clerk.
Manchester. May 18th, 1931.

County Borough of West Bromwich.

HALLAM HOSPITAL.

RESIDENT HOUSE SURGEON.

Applications are invited from fully qualified male registered Practitioners (single) for the above appointment.

The appointment is for twelve months, but either party may give six weeks' notice terminating the engagement. The Hospital has 474 beds, and is equipped with up-to-date Special Departments. There is a visiting staff of eight Consultant Physicians and Surgeons.

Preference will be given to applicants with previous Hospital experience.

Salary £250 per annum.

Canvassing, either directly or indirectly, is strictly prohibited and will be deemed a disqualification.

Applications, stating age, experience, and qualifications, together with copies of three recent testimonials, must be forwarded to the Medical Officer of Health, 2, Lodge Road, West Bromwich, so as to arrive not later than by first post on Wednesday, June 10th.

Town Hall, ALFRED WICKHAM,
West Bromwich. Town Clerk.
May 16th, 1931.

The Walsall and West Bromwich (BARR & WIGMORE) JOINT COMMITTEE.

Great Barr Children's Homes and Great Barr Park Colony for Mental Defectives.

APPOINTMENT OF ASSISTANT RESIDENT MEDICAL OFFICER.

The Committee invite applications for the appointment of Assistant Resident Medical Officer for the Institutions at Great Barr Park.

The appointment will be for a period of twelve months and the salary at the rate of £275 per annum, together with the usual residential emoluments.

The officer appointed must devote the whole of his or her time to the duties and will be required to act under the general direction of the Medical Officer.

Canvassing, either directly or indirectly, is strictly prohibited and will be deemed a disqualification.

Applications, stating age, experience, and qualifications, accompanied by copies of not more than three recent testimonials, must reach me not later than Monday, June 8th.

By Order,
22, Lombard St., A. H. WARD,
West Bromwich. Clerk.
May 21st, 1931.

City of Carlisle.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Council of the City and County Borough of *Carlisle* invite applications for the appointment of Assistant Medical Officer of Health, at a salary of £650 per annum, rising by annual increments of £50 to a maximum of £750 per annum. The duties of the appointment are principally those connected with the diagnosis and treatment of Tuberculosis and the medical inspection and treatment of school children, including Eye Work and Refractions.

Candidates must not be more than 40 years of age, and must be fully qualified and registered Medical Practitioners, holding the Diploma in Public Health or an equivalent qualification.

Candidates must either have held a previous appointment as Tuberculosis Officer with the approval of the Minister of Health, or, subsequent to qualification:

(1) Have had at least three years' experience in the practice of their profession;
(2) Have spent in general clinical work a period of not less than eighteen months, of which not less than six months have been spent in a Hospital as Resident Officer in charge of beds occupied by general medical or surgical cases; and
(3) Have received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis.

The gentleman appointed will be required to devote the whole of his time to the duties of the office, to reside in the City, and will not be allowed to engage in private practice.

The appointment is an established post under the Local Government and Other Officers Superannuation Act, 1922, and the gentleman appointed will be required to pass a medical examination, and contribute 5 per cent. of his salary to the Superannuation Fund.

The Committee also employ a Female Assistant, who is the Medical Officer for Maternity and Child Welfare, and undertakes part of the work of School Medical Inspection.

Applications, stating age, qualifications, and experience, accompanied by copies of not more than three recent testimonials, and endorsed "Assistant Medical Officer of Health," must reach me not later than the first post on Thursday, June 4th.

Canvassing, either directly or indirectly, is prohibited.

Applicants may, if they desire, forward stencilled copies of their applications and testimonials to the members of the Selection Committee, a list of whose names will be supplied by the undersigned upon request.

FREDK. G. WEBSTER, Town Clerk.
Town Clerk's Office, Carlisle.
May 19th, 1931.

City of Cardiff.

LLANDOUGH HOSPITAL.

MEDICAL SUPERINTENDENT.

Applications are invited from duly qualified Medical Practitioners (who have had experience of Hospital administration) for the appointment of Medical Superintendent of Llandough Hospital.

The Hospital, which is now in course of construction, is a *Municipal General Hospital*, where 340 beds will be provided in the first instance, under the management of the Health Committee.

Until the opening of the Hospital the Medical Superintendent will be engaged in its preparation and equipment, and will also act as Part-time Medical Officer of the City Lodge Poor Law Institution, where there are three Resident Assistant Medical Officers.

The salary will be £750 per annum, rising by biennial increments of £50 to £950 per annum, with *emoluments (including house, with* heating, lighting, and laundry) valued at £150 per annum.

The person appointed, who must devote his whole time to the duties of the post under the direction of the Medical Officer of Health, will be required to contribute 5 per cent. of his salary to the Superannuation Scheme of the Council, and for this purpose to pass a medical examination.

Applications, on forms obtainable from the Medical Officer of Health, City Hall, Cardiff, accompanied by copies of three recent testimonials, and endorsed "Medical Superintendent," must be sent to the Medical Officer of Health so as to reach him not later than Monday, June 8th.

City Hall, CECIL G. BROWN,
Cardiff. Town Clerk.
May 18th, 1931.

Royal Lancaster Infirmary.

(106 Beds.)

JUNIOR HOUSE SURGEON (male, British) required immediately. Salary £130 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be addressed to the Hon. Secretary.

Lancaster. May 13th, 1931.

County Borough of Bury.

ASSISTANT MEDICAL OFFICER OF HEALTH, ASSISTANT SCHOOL MEDICAL OFFICER, and ASSISTANT TUBERCULOSIS OFFICER.

The Corporation of Bury are prepared to receive applications for the post of Assistant Medical Officer of Health, Assistant School Medical Officer, and Assistant Tuberculosis Officer, at a salary of £500 per annum, rising by annual increments of £25 to £700 per annum.

The principal duties will consist of the Medical Inspection of School Children, Maternity and Child Welfare work, and the Diagnosis, Treatment, etc., of Tuberculosis, but the person appointed will also be required to assist the Medical Officer of Health in his other duties as the Health Committee may direct.

Applicants must be registered Medical Practitioners, must possess the Diploma of Public Health, and must have had at least three years' experience of Post-graduate Medical work. They must have had special practical experience in the Diagnosis and Treatment of Tuberculosis. Preference will be given to applicants who have taken a course in Mental Deficiency work.

The person appointed will be required to reside in the Borough.

Forms of application and terms of appointment can be obtained from the Medical Officer of Health, Clough Street, Bury.

Applications, endorsed "Assistant Medical Officer of Health," and accompanied by copies of three recent testimonials, must be forwarded to the undersigned not later than Monday, June 8th.

Municipal Offices, RICHARD MOORE.
Bank Street, Town Clerk.
Bury. May 20th, 1931.

Administrative County of LONDON.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications for appointment as RESIDENT MEDICAL SUPERINTENDENT in the Public Health Department for duty at HAMMERSMITH HOSPITAL, Ducane Road, Shepherd's Bush, W.12. The duties also include those of Medical Officer and Acting Master of Hammersmith Institution.

The person appointed will be required to act under the direction of the Medical Officer of Health and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council.

The salary is £950 a year, rising by annual increments of £50 to £1,200 a year. £100 a year extra will be paid so long as the officer is acting as administrative and medical head of the Institution. An unfurnished house or quarters, free of rates, taxes, or water charges, will be provided, valued provisionally at £100 a year.

Candidates must be duly qualified Medical Practitioners of at least five years' standing, and produce evidence of having held the appointment of House Physician or House Surgeon in a public General Hospital, and of having had experience of Hospital administration.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Clerk of the Council, The County Hall, Westminster Bridge, S.E.1, and must be returned by June 8th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.
The County Hall,
Westminster Bridge, S.E.1. May, 1931.

Administrative County of ESSEX.

MALE ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

The County Council of the Administrative County of Essex invite applications for the above post from registered Medical Practitioners holding a Diploma of Public Health, and not over 45 years of age.

The commencing salary attached to the appointment will be from £500 to £600 per annum, according to experience, and will rise by annual increments of £25 to £700 per annum. Travelling expenses will be paid by the Council.

The Local Government and Other Officers Superannuation Act, 1922, has been adopted by the County Council.

Applications on the prescribed form, obtainable from the undersigned, and accompanied by copies of not more than three testimonials, which will not be returned, should be addressed to me and delivered at the Shire Hall, Chelmsford, *not later than 10 a.m. on Friday*, June 12th.

Shire Hall, JOHN H. GOOLD,
Chelmsford. Clerk of the County Council.
May 23rd, 1931.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on July 1st.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 12 o'clock on Monday, June 1st, with copies of not more than three testimonials given specially for the purpose, and also evidence of their having held a responsible Hospital appointment.

The appointments are made for six months. Salaries at the rate of £100 per annum, laundry allowance £5, board and residence in the Hospital.

Candidates must be unmarried, and possess a legal qualification to practise.

All candidates must be in attendance to appear before the Joint Committee, if required, at their meeting on Wednesday, June 3rd, at 5 p.m. precisely.

Forms of application and copies of the Rules may be obtained from the Secretary.

By Order of the Board of Management,
JAMES MACKAY, Secretary.

May, 1931.

Manchester Royal Infirmary.
CENTRAL BRANCH, Roby Street, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment. Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for nine months, commencing forthwith—three months as Junior at £100 per annum, three months as Assistant at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their applications and testimonials to the undersigned by 9 a.m. on Thursday, June 4th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

There will be a vacancy for a
MEDICAL OFFICER at WESTMINSTER HOSPITAL ANNEXE, 66, Fitzjohn's Avenue, Hampstead, on July 1st.

Salary at the rate of £300 per annum (non-resident). The appointment will be for six months and may be renewed.

The post offers an opportunity for wide and unique radium experience.

Candidates who previously have held a House appointment preferred.

Applications should be submitted to the undersigned at Westminster Hospital, Broad Sanctuary, Westminster, not later than June 4th.

CHARLES M. POWER, Secretary.

Derbyshire Royal Infirmary,
DERBY.
(General Hospital—346 Beds.)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON.

Candidates must be qualified and registered under the Medical Acts.

The appointment is for twelve months.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with copies of testimonials, to be sent to the undersigned.

WALTER BANKS,
May 29th, 1931. Supt. & Secretary.

National Hospital for Diseases of
THE NERVOUS SYSTEM,
Queen Square, W.C.1.

HONORARY ASSISTANT RADIOLOGIST.

The Board of Management invite applications from qualified Medical Men for the post of Honorary Assistant Radiologist. Applicants should possess a diploma in Medical Radiology and Electrology, preferably the Cambridge Diploma. Applications should be sent to the undersigned, together with copies of recent testimonials, on or before June 8th.

GODFREY H. HAMILTON,
National Hospital, Secretary.
Queen Square, W.C.1.

Doncaster Royal Infirmary.
(185 Beds.)

HOUSE SURGEON (male) required immediately. Appointment is for six months and offers opportunity to gain good surgical experience. The successful candidate is eligible for re-appointment.

Salary £175 per annum, with board, residence, and laundry.

Applications, stating age, experience, and full particulars, together with copies of three testimonials, should reach the undersigned by Thursday, May 28th.

WALTER R. SMITH,
Secretary-Superintendent.

Royal Manchester Children's
HOSPITAL.
Out-patients' Department, Gartside Street, MANCHESTER.

Wanted for the Out-patients' Department, a SENIOR MEDICAL OFFICER (non-resident). Applicants must be doubly qualified and on the Medical Register. Hours: 9 a.m. to 4 p.m. Saturdays noon. Particulars of the duties can be obtained from the Secretary. Salary £300 per annum. The appointment is for one year, with a view to extension for a further period.

Applications, stating age and experience, and accompanied by copies of not more than four testimonials, to be sent to the undersigned at the Hospital, Pendlebury, Manchester, on or before Wednesday, June 10th.

By Order,
W. M. HUMPHRY,
May 21st, 1931. Secretary.

The Cancer Hospital (Free)
(Incorporated under the Royal Charter),
Fulham Road, London, S.W.3.

The Committee are prepared to receive applications for the post of HOUSE SURGEON. Salary at the rate of £100 per annum. The appointment is for six months and subject to rules. Candidates must call upon each member of the Medical Committee not later than Wednesday, June 17th. A copy of the rules and the names and addresses of the Medical Committee may be obtained from the Secretary. Previous experience as a House Surgeon is indispensable.

Applications, with three (copies only) testimonials, to be sent to the undersigned not later than the first post on Monday, June 15th.

J. COURTNEY BUCHANAN,
Secretary.

King Edward VII Hospital,
WINDSOR. (181 Beds.)

Two HOUSE SURGEONS required for six months from date of appointment. Applicants must be fully qualified women and registered. One appointment will be vacant July 1st and the other August 3rd.

Salary at the rate of £100 per annum, together with board, residence, and laundry.

Applications, stating age, qualifications, and experience, accompanied by copies of testimonials, should be sent to the undersigned not later than June 17th.

A. E. CHURCHER, Secretary.

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION, GLOUCESTER. (155 Beds—Four Residents.)

Applications are invited for the post of HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned. The elected candidate will be required to enter upon his duties at once.

F. J. SYMONS,
April 29th, 1931. Secretary.

Oldham Royal Infirmary.
HOUSE PHYSICIAN and CASUALTY OFFICER required forthwith. Appointment tenable for a period of six months. Salary at the rate of £175 per annum, with board, residence, and laundry. Successful candidate will be required to assist the Honorary Pathologist, and will be eligible for re-appointment.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

City of London Hospital for
DISEASES OF THE HEART & LUNGS,
Victoria Park, E.2.
(Bus, Tram, and Rail, Cambridge Heath, L. & N.E. Railway.)

A vacancy for a HOUSE PHYSICIAN (male) will occur on July 1st. Six months' appointment. Salary at the rate of £100 per annum. Board, residence, and laundry provided.

Applications, with copies of three testimonials, should be sent to the undersigned on or before Friday, June 19th.

GEORGE WATTS, Secretary.

Corbett Hospital, Stourbridge.
RESIDENT HOUSE SURGEON required to commence duties on July 12th next. Appointment for not less than six months. Salary at the rate of £200 p.a., with board, apartments, and laundry.

Applications, with copies of testimonials, to be sent to the undersigned not later than Friday, June 12th next.

118, High St., F. PERCIVAL EVERS,
Stourbridge. Secretary.

The Royal Hospital,
WOLVERHAMPTON.
(Incorporated under Charter.)

HOUSE SURGEON required. Duties to commence July 1st next. The Hospital contains 240 beds, includes the usual Special Departments, and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice.

Candidates must be registered under the Medical Acts, and unmarried.

The appointment is for six months. Salary at the rate of £100 per annum; board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded to the undersigned by June 8th.

W. H. HARPER,
Wolverhampton. House Governor.
May 18th, 1931.

Manchester Babies' Hospital,
Burnage Lane, LEVENSHULME.

Applications are invited immediately for the post of JUNIOR RESIDENT MEDICAL OFFICER. Appointment is for six months. Salary at the rate of £50 per annum, with laundry.

Applications, together with copies of testimonials, should be sent to the undersigned immediately and marked "J.R.M.O."

Applications are also invited for the post of SENIOR RESIDENT MEDICAL OFFICER Appointment is for six months from July 1st. Salary at the rate of £125 per annum, with laundry. Only candidates with previous Hospital experience need apply.

Applications, together with copies of testimonials, should be sent to the undersigned marked "R.M.O.," by Saturday, June 6th.

ANGELA LOPEZ, Secretary.

Derbyshire Hospital for Sick
CHILDREN. (80 Beds.)

Wanted, a RESIDENT HOUSE SURGEON (lady), June 16th, salary £150; also a RESIDENT HOUSE PHYSICIAN (lady), September 16th, salary £130. The appointment in each case is for six months, but may be extended by mutual arrangements. Applicants must be fully qualified.

Applications, with three testimonials, one relating to Anaesthetics, to be sent by May 30th to the undersigned.

ARTHUR N. WHISTON, Secretary.
25, St. Mary's Gate, Derby.

Victoria Hospital, Accrington.
The Governing Body of this Hospital invites applications for the post of HOUSE SURGEON.

Candidates must be duly qualified and registered. Number of beds, 50. Salary £150 per annum, with board and lodging.

Conditions of appointment and particulars of duties may be obtained from the undersigned, to whom applications, with copies only of testimonials, should be sent on or before June 15th.

Town Hall, W. H. WARHURST,
Accrington Hon. Secretary.

Victoria Hospital, Accrington.
Applications are invited for the post of ANAESTHETIST on the Honorary Staff of this Hospital. Gentlemen intending to apply must submit their applications, in writing, with a statement of their qualifications, not later than June 8th, to the undersigned.

Town Hall, W. H. WARHURST,
Accrington. Hon. Secretary.

Victoria Hospital, Blackpool.
(132 Beds.)

Applications are invited for the posts of SENIOR and JUNIOR HOUSE SURGEONS, six months, male or female. Salary £250 and £150 respectively, with residence, board, and laundry. Applicants must be duly qualified and registered. Applications, stating age, qualifications, and experience, together with three recent testimonials, endorsed "House Surgeon," must be sent on or before June 3rd to

JOHN HACKING, Hon. Secretary.

The Royal Infirmary,
SUNDERLAND. (290 Beds.)

Wanted, beginning of June, HOUSE SURGEON (male). Salary £140 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

The Royal Alexandra Infirmary,
PAISLEY.

RESIDENT HOUSE SURGEON required for six months. Honorarium at the rate of £100 per annum, with board, washing, etc. Apply to Senior Resident House Surgeon.

County Council of Durham.

DISTRICT TUBERCULOSIS MEDICAL OFFICER.

The County Health Committee invite applications for a District Tuberculosis Medical Officer, at a commencing salary of £500 per annum, rising by annual increments of £25 to £700 per annum. Travelling expenses will be paid by the County Council.

The appointment will be held subject to three months' notice on either side, and to the following conditions:

(1) The officer appointed must be a registered Medical Practitioner between the ages of 25 and 45 years, must devote the whole of his time to the duties of the office, and must not engage in private practice.

(2) He should either have held a previous appointment as Tuberculosis Medical Officer, with the approval of the Minister of Health, or

(i) Have had at least three years' experience in the practice of his profession;

(ii) Have spent in general clinical work a period of not less than eighteen months, of which not less than six months have been spent in a Hospital as Resident Officer in charge of beds occupied by general medical or surgical cases; and

(iii) Have received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis.

(3) He will be attached to the County Health Department, and will, subject to the directions of the County Medical Officer, be under the control of the Central Tuberculosis Medical Officer.

(4) He will be required to reside in his Dispensary area, or such other centre as required by the Council.

(5) He will be required to carry out the duties of a District Tuberculosis Medical Officer.

(6) He must be prepared, if called upon, to act as Locum Tenens to other members of the Medical Staff of the County Medical Officer.

(7) The holding of a Diploma in Public Health, and practical experience in Bacteriological Laboratory work, will be deemed additional qualifications for the post.

The candidate appointed will be required to pass the County Council's medical examination, and will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications, endorsed "District Tuberculosis Medical Officer," and accompanied by copies of not more than three recent testimonials, must be addressed to the undersigned, and must be received by him not later than June 13th.

Shire Hall, Durham. C. FRANKS, County Medical Officer.

May 23rd, 1931.

County Borough of Walsall.

APPOINTMENT OF ASSISTANT CLINICAL TUBERCULOSIS OFFICER, ASSISTANT MEDICAL OFFICER OF HEALTH, AND ASSISTANT SCHOOL MEDICAL OFFICER (Male).

Applications are invited from Medical Men, not over the age of 35, for the appointment of an Assistant Clinical Tuberculosis Officer and Assistant Medical Officer of Health, etc.

Salary £750 per annum.

Applicants must be duly registered Medical Practitioners, holding a Diploma of Public Health, and should have had at least six months' experience since graduation as House Physician or House Surgeon in a General Hospital, together with special experience of Tuberculosis in Dispensary and Sanatorium Practice.

A knowledge of Bacteriology is essential.

Applications, on forms to be obtained from the undersigned, stating age, qualifications, training, and experience, together with copies of three recent testimonials, and endorsed on the envelope "Assistant Clinical Tuberculosis Officer," should be sent to the Town Clerk not later than Saturday, June 6th.

The person appointed will be required to devote the whole of his time to the duties, to reside in Walsall and to act under the administrative control of the Medical Officer of Health.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Canvassing, directly or indirectly, will be considered a disqualification.

Council House, Walsall. HERBERT LEE, Town Clerk.

May 21st, 1931.

Manchester Ear Hospital,

GROSVENOR SQUARE, ALL SAINTS'.

The Board invite applications for the post of NON-RESIDENT HOUSE SURGEON. 24 beds. Salary at the rate of £150 per annum, with partial board. Candidates must be duly qualified and registered. Applications, with copies of four recent testimonials, to be forwarded to Mr. REGINALD S. MILFORD (Hon. Secretary, Manchester Ear Hospital), c/o Mr. W. J. ELLAM, 33, Brazennose Street, Manchester.

Durham County Council and CHESTER-LE-STREET URBAN DISTRICT COUNCIL.

APPOINTMENT OF DISTRICT TUBERCULOSIS MEDICAL OFFICER AND MEDICAL OFFICER OF HEALTH (Male).

Applications are invited for the above appointments. Candidates must be registered in the Medical Register as holding a Diploma in Sanitary Science, Public Health, or State Medicine, and must have had a satisfactory experience in the diagnosis and treatment of Tuberculosis.

The salary will be £800 per annum, in the proportion of £572 15s. payable by the County Council, and £227 5s. payable by the Chester-le-Street Urban District Council.

The officer appointed must either have held a previous appointment as Tuberculosis Medical Officer, with the approval of the Minister of Health, or

(i) Have had at least three years' experience in the practice of his profession;

(ii) Have spent in general clinical work a period of not less than eighteen months, of which not less than six months have been spent in a Hospital as Resident Officer in charge of beds occupied by general medical and surgical cases; and

(iii) Have received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis.

Travelling and subsistence allowances according to scale will be paid by the County Council in respect of the duties of District Tuberculosis Medical Officer, and the officer will, subject to the directions of the County Medical Officer, be under the control of the Central Tuberculosis Medical Officer.

It will be a condition of the appointment that if either post is terminated, the other post will be automatically vacated.

The appointments will be subject to the approval of the Minister of Health; and the officer will not be permitted to take part in private practice.

The person appointed will be required to live in or near Chester-le-Street.

Applications, endorsed "T.M.O. and M.O.H.," and accompanied by copies of not more than three recent testimonials, must be addressed to the undersigned, and must be received by him not later than June 13th.

Shire Hall, Durham. C. FRANKS, County Medical Officer.

May 23rd, 1931.

Birmingham Public Health DEPARTMENT.

TUBERCULOSIS SECTION.

Applications are invited from single male Medical Practitioners for the post of ASSISTANT MEDICAL OFFICER in the Tuberculosis Section of the Public Health Department. The successful candidate will be employed both in a Sanatorium and in a Dispensary.

Candidates should have held a resident General Hospital appointment or an appointment in some Institution set apart for the treatment of those suffering from Tuberculosis.

The salary will be at the rate of £400 per annum, rising by annual increments of £25 to £450 per annum, with emoluments valued at £150 per annum.

The officer appointed will be required to refund to the Council all fees, allowances, and emoluments (other than the foregoing) received by him.

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme, and to the candidate passing a medical examination, and will be subject to one month's notice on either side.

Forms of application may be obtained from, and should be returned with three recent testimonials to, the Chief Clinical Tuberculosis Officer, 44a, Broad Street Birmingham, before June 13th.

Council House, Birmingham. T. H. C. WILTSHIRE, Town Clerk.

Chesterfield and North Derbyshire Royal Hospital.

(190 Surgical and Medical Beds.)

CASUALTY OFFICER (DEPUTY RESIDENT SURGICAL OFFICER).

OPEN APPOINTMENT.

Applications are invited from fully qualified men for the above post. The appointment is for six months. Candidates must have held previous Hospital appointments.

Duties include House Surgeon to the Ear, Nose, and Throat Department.

Salary at the rate of £200 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, to be sent to the undersigned.

May 19th, 1931. G. SUNNUCK, Supt. & Secretary.

Metropolitan Borough of SOUTHWARK.

APPOINTMENT OF MEDICAL OFFICER OF HEALTH.

The Council invite applications for the appointment of a male Medical Officer of Health, at a minimum commencing salary of £1,200 per annum, such remuneration to be inclusive of all emoluments, payments, and fees which he may receive in respect of appointments and duties devolving upon him in respect of any office which he may hold by reason or in consequence of his being Medical Officer of Health.

Candidates must hold the qualifications prescribed by the Sanitary Officers Order, 1926.

The officer appointed will be required to devote his whole time to the duties of the office, and will not be allowed to engage in private practice.

The duties to be performed are those prescribed by the Sanitary Officers Order, 1926, dated May 27th, 1926, together with any duties which may from time to time devolve on a Medical Officer of Health of a Metropolitan Borough by virtue of any present or future Act of Parliament or Orders or Regulations of the Minister of Health, subject to such variations in administration as the Council may from time to time direct. The duties will include the general supervision of the Tuberculosis Dispensary, the Municipal Creche and Maternity and Child Welfare Centres, and the officer appointed will also act as Port Medical Officer and Certifying Officer in connection with the export of meat foods.

The officer appointed will hold office subject to the standing orders of the Council, and the appointment will be subject to the approval of the Minister of Health; to the provisions of the Shoreditch and Other Metropolitan Borough Councils (Superannuation) Act, 1922, as amended; and to the passing of the required medical examination.

Canvassing of members of the Council, directly or indirectly, will be regarded as a disqualification.

Forms of application may be obtained from the Town Clerk on sending a stamped addressed foolscap envelope.

Applications, accompanied by copies of three recent testimonials, addressed to the Town Clerk, and endorsed "Medical Officer of Health," must be received not later than noon on Monday, June 8th.

D. T. GRIFFITHS, Town Clerk.

Southwark Town Hall, Walworth Road, S.E.17.

May 21st, 1931.

Salford Royal Hospital.

(263 Beds.)

Applications are invited for the following vacancies, which will occur in the Resident Medical Staff (male), on June 30th next:

HOUSE PHYSICIAN. Salary at the rate of £125 per annum.

HOUSE SURGEON (attached to the Genito-Urinary Department). Salary at the rate of £125 per annum.

The appointments are for a period of six months, with board and residence.

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England, and appointments here are recognised for the English Fellowship (Final).

Forms of application, which may be obtained from the undersigned, must be delivered on or before June 9th.

By Order of the Board,
GEORGE RUDDLE,
General Supt. & Secretary.

Salford Royal Hospital.

May 25th, 1931.

Central Hospital, Plymouth.

(50 Beds, situated near the Hoe.)

Applications are invited for the post of HOUSE SURGEON (male or female). The appointment is immediate, and is in the first instance for a period of six months. Salary at the rate of £140 per annum, with board, residence, etc.

Applications, stating age, nationality, with not more than three recent testimonials, to be forwarded to the undersigned not later than June 5th.

WM. W. URELL, Secretary.

Cornelia & East Dorset Hospital,

POOLE, DORSET. (105 Beds.)

ASSISTANT PHYSICIAN.

The Committee of Management invite applications for the post of Honorary Assistant Physician which has become vacant.

Applications, stating age, experience, and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital by noon on Saturday, June 13th.

E. S. FOLEY, Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
GENERAL POST OFFICE. *(Assistant Medical Officer—Woman.)*	**CONTRACT PRACTICE** (contd.).	**PUBLIC HEALTH** (contd.)
CONTRACT PRACTICE.	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.)* *(Resident Medical Officer, Preston Institution, Fulwood.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	**PUBLIC HEALTH.**	STAFFS COUNTY MENTAL HOSPITAL, BURNTWOOD. *(Third Assistant Medical Officer.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*	WOLVERHAMPTON COUNTY BOROUGH. *(Assistant Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	DEVON COUNTY COUNCIL. *(School Medical Inspector—Male.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MARDY, GLAMORGAN. (Workmen's Medical Scheme.)	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.)*	
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*		
NEATH AND DISTRICT. *(Medical Aid Association.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Macquarie St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 206, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR, (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

May 27th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

West London Hospital,
Hammersmith, W.6. (234 Beds.)

Required, One HOUSE PHYSICIAN (General and Skin), one HOUSE SURGEON (General and Genito-Urinary), and one AURAL AND OPHTHALMIC HOUSE SURGEON for six months from July 1st next, subject to one month's notice on either side. Salary at the rate of £100 per annum, with board, lodgings, and laundry allowance.

Candidates must be registered under the Medical Act. Applications (which must be made on printed forms obtainable from me) must reach me not later than Thursday, June 18th. Selected candidates will be required to call upon such members of the Medical Staff as directed, to be in attendance at a meeting of the Medical Council on Friday, June 26th, at 4 p.m., and the House Committee meeting at 4.45 p.m. the same day, when the appointments will be made.

H. A. MADGE, Secretary.

The London Female Lock HOSPITAL,
283, Harrow Road, London, W.9.

The Board of Management invite applications for the post of HOUSE SURGEON (female). Salary at the rate of £150 per annum, with furnished rooms, full board, and washing. Candidates, who must be doubly qualified and duly registered, should send in their applications by the first post on June 8th (accompanied by copies of three recent testimonials) to the Secretary, from whom further particulars can be obtained. The appointment is for six months commencing July 1st. Preference will be given to candidates having previous Obstetric experience.

By Order of the Board,
HY. J. EASON,
May, 1931. Secretary.

The Children's Hospital,
SHEFFIELD. (107 Beds.)

Applications are invited for the following posts, vacant on July 1st:

HOUSE PHYSICIAN. Salary £100 per annum, with board, residence, and laundry. The appointment is for six months, and afterwards the holder is eligible for the post of Senior House Surgeon (salary at the rate of £120 per annum).

THIRD RESIDENT MEDICAL OFFICER. Salary £80 per annum, with board, residence, and laundry. The appointment is for six months, and afterwards the holder is eligible for the post of House Physician (salary at the rate of £100 per annum).

Candidates (female and unmarried) must be fully qualified and registered. Applications, stating age, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.

T. H. G. GARTLAND,
Secretary.

Central London Throat, Nose, AND EAR HOSPITAL,
Gray's Inn Road, London, W.C.1.

ASSISTANTS IN THE OUT-PATIENT DEPT.

There is a vacancy for a SECOND ASSISTANT for attendance on Fridays, and for a THIRD ASSISTANT for attendance on Thursdays; both days at 2 p.m.

The duties are to assist the Surgeons in seeing the patients, and the posts are honorary ones.

Applications, which may be for a period of three, six, or twelve months, should be sent to the undersigned on or before June 6th.

JOHN H. YOUNG,
Secretary-Superintendent.

West Norfolk and King's Lynn GENERAL HOSPITAL. (75 Beds.)

The Board of Management of the above Hospital invite applications for the post of JUNIOR HOUSE SURGEON (male or female). Duty to commence June 1st, or nearly as possible. Salary £125 per annum. To have charge of Medical and Ophthalmic beds. Preference given to candidates with previous experience. Appointment for six months in first instance, and consideration will be given for Senior appointment.

Applications, stating experience and full particulars, together with copies of three recent testimonials, to be received by May 30th, and sent to JOSEPH E. SEARJEANT,
House Governor and Secretary.
West Norfolk and King's Lynn Hospital.
May 18th, 1931.

Ethel Hedley Orthopaedic HOSPITAL FOR CRIPPLED CHILDREN, WINDERMERE.

An active Surgical Centre, with 50 beds, serving the Counties of Westmorland, Cumberland, and North Lancashire, with attendance at After-Care Clinics in these Areas.

Applications are invited for the post of RESIDENT HOUSE SURGEON. Candidates (female) must be fully qualified and registered, and have held a previous Resident appointment. The appointment is for six months commencing June 23rd, with extension to one year. Salary at the rate of £150 per annum.

Applications, stating age, and with copies of three recent testimonials, should be submitted not later than June 13th to the Medical Director, Ethel Hedley Hospital, Calgarth Park, Windermere.

(Appointments continued on p. 48.)

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s. Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted.—Male Assistant of good appearance, for Practice in large industrial town near Manchester. Englishman preferred. Early Partnership to suitable man. Salary £300 indoor, £400 outdoor, if married. Car provided. Little mid.—Address, with photo., No. 3251, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Assistant (married or single) capable of taking charge. If with view, state available capital. Easy terms, £300 to £350 (indoor). Usual bond. State height, age, and enclose photo. — Address, No. 3312, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, an outdoor ASSISTANT (male), young, active, in a Partnership near Manchester. Regular time off. State nationality, experience, and other essential particulars. — Address, No. 3330, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, Assistant, outdoor, industrial Practice, Manchester district, male, married. Salary, with house (available), commencing £360 p.a. Interview essential. Refs. and photo.—Address, No. 3311, B.M.A. House, Tavistock Square, W.C.1.

Wanted, in Liverpool, in July, Indoor ASSISTANT. Salary £325. Good prospects. British essential. Would also suit young Graduate reading for higher degree. Send copy of references.—Address, No. 3124, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistancy by London trained man, aged 36. Four years' experience in private and insured practice. London or Home Counties preferred.—Address, No. 3331, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Hard-working ASSISTANT, good salary, view Partnership, old-established Practice. Ear, Nose, and Throat appointment available. State particulars. Photo, returnable.—Address, No. 3301, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Male Assistant, good appearance, to take charge Branch Surgery in nice residential district, preferably married. Salary £400, with free house and rates, also garage, etc., for own car.—Address, No. 3315, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Outdoor Assistant, lady, for panel and private Practice in favourite South Coast Resort. Preference given to one having own car. Salary £360 per annum. — Address, No. 3309, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant (male) immediately, in small town, Kent, for private and panel Practice. Please state age, qualifications, etc. Two in firm.—Address, No. 3306, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Part-time Assistant 3 days or 3 evenings a week—Wednesday, Thursday, and Friday—beginning June 10th, for at least 3 or 4 months.—Address, No. 3339, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted.—Outdoor Assistant for mixed Practice in Midlands. Pleasant district. Good hospital and scope for surgery. —Address, No. 3337, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Lady Assistant (outdoor), London, S.W., with or without view to early succession.—Address, No. 3317, B.M.A. House, Tavistock Square, W.C.1.

North Wales.—Wanted a Welsh-speaking outdoor ASSISTANT for general Practice, private and panel. District industrial and rural. Usual bond. References required. —Address, No. 3108, B.M.A. House, Tavistock Square, W.C.1.

Part-time Assistant (male) wanted week-ends, London, S.W.—Address, No. 3112, B.M.A. House, Tavistock Sq., W.C.1.

Scots Graduate (1927) seeks ASSISTANTSHIP (outdoor, suitable married man), preferably in Scotland, London, or West Country. Conscientious. Hospital experience. If necessary, could live at Surgery or in similar accommodation:—Address, No. 3123 B.M.A. House, Tavistock Square, W.C.1.

LOCUMS.

HOLIDAY LOCUMS

FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)

Wanted. — Woman Doctor as LOCUM for Woman Doctor's Practice in exchange for hospitality and fees from three small public appointments; about June 15th to July 20th. Work very light. Experience unnecessary. Seaside.—Address, No. 3324, B.M.A. House, Tavistock Square, W.C.1.

Ex Tuberculosis Officer, London district, desires LOCUM ENGAGEMENTS during Summer months. Free now.—Address, No. 3332, B.M.A. House, Tavistock Sq., W.C.1.

General Medical Practitioner (retired), life abstainer, undertakes LOCUM WORK. If duties light, £6 6s. charged. —Address, No. 3334, B.M.A. House, Tavistock Square, W.C.1.

Locums undertaken by experienced man in Coast Towns, S.W. Counties. Highest recent local and London refs. Usual terms. — Apply, Dr. MARTYN, Crantock, Cornwall.

Practitioner (with own Practice) would do HOLIDAY LOCUM at Seaside, in return for hospitality for wife and two children (4 yrs. and 1 yr). July, August, or September. Own car. — Address, No. 3316, B.M.A. House, Tavistock Square, W.C.1.

Radiological Locum required by D.M.R.E. Free now. Knowledge of Radium-therapy. — Address, No. 3318, B.M.A. House, Tavistock Square, W.C.1.

Woman M.B., British, desires LOCUMS in Sanatoria during the Summer. 10 years in hospital in India. Some experience of Tuberculosis work.—Address, No. 3302, B.M.A. House, Tavistock Square, W.C.1.

Woman, M.B., M.R.C.S., aged 27, free to do LOCUMS from July 1st. Experienced private and panel. Ex H.P. Drive car or cycle. London preferred.—Address, No. 3335, B.M.A. House, Tavistock Square, W.C.1.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

MEDICAL POSTS. DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0959). Secretary, 7, Westbourne Park Road, W.2.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctor's Daughter, with business experience, seeks post as RECEPTIONIST-SECRETARY in London. Business and social references available.—Miss D. B. K. ALLEN, 82, Kensington Park Road, W.11. 'Phone: Park 8304.

Doctor offers accommodation, attendance, etc., and small remuneration, in return for care of his Practice at night. Work negligible. Suitable for anyone reading (or two friends).—Address, No. 3305, B.M.A. House, Tavistock Square, W.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Dr. Spoor highly recommends his HOUSEKEEPER; excellent cook; all duties or with maids. Can act as Receptionist. Absolutely trustworthy, refined, and pleasant appearance. Daughter, 13, at secondary school. —Write MRS. L., 1, Bank Parade, W.14.

Experienced Medical Man required for morning and evening surgery for 9 weeks during the summer. N. London. Would suit Post-graduate. Hospitality offered if desirable. State essential particulars.—Add., No. 3327, B.M.A. House, Tavistock Sq., W.C.1.

Lady Dispenser (Hall) desires POST, S. of England. Six years' varied experience. Locum or permanency. — "F." Cheriton, Castle Road, Torquay.

M.B., B.S. (30), well received, six years' experience General Practice, desires PART-TIME EMPLOYMENT, London area. Free afternoons, evenings, week-ends. Highest references.—Address, No. 3304, B.M.A. House, Tavistock Square, W.C.1.

Nurse-Masseuse, C.S.M.M.G. certificates, U.V.R. experience, requires DAILY POST in or near London or Brighton. Excellent testimonials. Some knowledge typewriting. — Address, No. 3322, B.M.A. House, Tavistock Square, W.C.1.

Resident Medical Officer required from August 1st next for STOURBRIDGE DISPENSARY (Out-patients only). Salary £250 per annum; with prospect of increases. Furnished house containing 2 reception rooms, 3 bedrooms, kitchen, etc., and bathroom. Use of garage. Applications, stating age, qualifications, and testimonials, to be sent immediately to the Secretary, PERCIVAL D. FOLKES, Chartered Accountant, Stourbridge.

Secretary - Receptionist wishes post in Manchester or Bolton, with Doctor, now or shortly. Gentlewoman, 38 years of age. Held present post 18 years. Sunday work.—Address, No. 3338, B.M.A. House, Tavistock Square, W.C.1.

Semi-retired Doctor can have S. House, rent free, and agreed fees, in small country town in South Devon, in return for OCCASIONAL HELP and Locum duty. Eight rooms, gas, electric light, garden, good water. —Address, No. 3323, B.M.A. House, Tavistock Square, W.C.1.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

The Governors of Campbell COLLEGE, BELFAST, NORTHERN IRELAND, propose to appoint shortly a full-time RESIDENT MEDICAL OFFICER for the School. The successful candidate will be expected to take up residence on or about September 1st. Further particulars may be obtained on application to the Clerk to the Governors, Campbell College, Belfast.

To Medical Man.—Gentlewoman seeks post in London as SECRETARY-RECEPTIONIST; age 36; nine years' reference from last employer. Sunday work if required. —Address, No. 3336, B.M.A. House, Tavistock Square W.C.1.

Typewriting and Duplicating undertaken by Expert. Testimonials, Theses, Legal Documents. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD (B), 341, Finchley Road, N.W.3. 'Phone Hampstead 6430 (any hour).

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

PARTNERSHIPS.

Wanted by Cambridge Man, aet. 50, with wide experience of good-class private practice, a PARTNERSHIP in good non-industrial Country or Country Town Practice. Good house essential. Share £1,000 to £1,500. —No. 3245, B.M.A. House, Tavistock Sq., W.C.1.

Manchester residential suburb.— HALF SHARE PARTNERSHIP, with view to early succession. Receipts £1,800, with much scope for increase. House available. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Partner wanted, preliminary Assistantship at £350, in industrial country Practice in Cornwall. Suit young Graduate.—Address, No. 3319, B.M.A. House, Tavistock Square, W.C.1.

South Coast, large town.—Partner leaving shortly. HALF SHARE of over £2,500, audited. Good-class district. Panel 2,000. Appointments £350. Modern house to rent. Hospital experience desirable. Two years' purchase. Attractive opening.—Address, No. 3326, B.M.A. House, Tavistock Square, W.C.1.

Surrey.—Nice Town.—Half Share of well-established PRACTICE. Receipts of whole Practice £1,500 p.a. Good house, rent £85. Premium for share 1½ years' purchase. —Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

PRACTICES.

Wanted in first-class suburb, or anywhere S. of England, by experienced Camb. Graduate, a good-class PRACTICE of about £1,500, with scope. Large panel, surgery and midwifery discouraged. Good house with ample accommodation, in really quiet neighbourhood, with large garden essential, preferably to rent.—Address, No. 3235, B.M.A. House, Tavistock Square W.C.1.

Wanted.—London and District. —The Medical Agency has a large clientele seeking suitable INVESTMENTS in the London area, with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Wanted by experienced Practitioner, good-class PRACTICE, income about £2,000, scope for surgery and gynaecology, in country town, South or South-West England. — Address, No. 3320, B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Country Town or Country. Good house. Income £1,000—£1,500. Strict confid. —No. 3260, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, country or country town PRACTICE, preferably North or Midlands. Income £1,000 or higher. Substantial panel essential. Good house at reasonable price. — HOUGH, HOSEASON & CO., LTD., Manchester.

Wanted, July 1st, by experienced Practitioner (M.D.), mixed-class PRACTICE with some panel in country town or country with scope. Income £900 upwards. Capital available. Strict confidence.—Address, No. 3308, B.M.A. House, Tavistock Sq., W.C.1.

Eastern Suburb.—Old-established cash and panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by instalments.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

For Sale.—Old-established Practice, in City, Yorkshire, over £1,600 per annum. Good house and modern conveniences. Premium 1½ years' purchase. House can be rented or bought. Panel 1,700 and great scope.—Address, No. 3325, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — Succession to Ear, Nose, and Throat PRACTICE in Hull. Hon. appointment with Practice. Very low price will be accepted.—Apply, J. E. D. STICKNEY, Solicitor, 37, Scale Lane, Hull.

Doctor, retiring after 40 years, is prepared to Give Goodwill in unopposed, charming seaside COUNTRY PRACTICE near London, in return for taking over very cosy, comfortable house at bargain price.

Economical upkeep, easy work, nice people. Golf, tennis, sea. Ideal for Resident Patients.

Dr. V., White Lodge, Beltinge, Herne Bay.

For Sale. — Increasing Practice in West of England City. Receipts past year £450. Panel 580. Suitable house, with electric light, garage, and garden. Plenty of scope. Premium £450 for prompt disposal.—No. 2824, B.M.A. House, Tavistock Sq., W.C.1.

For Sale. — Old-established General PRACTICE, London, E.C. Receipts £1,400 p.a. Panel 1,860. House on lease £90 p.a. Expenses low. Scope for young man. Premium £2,300, cash.—Address, No. 3333, B.M.A. House, Tavistock Square, W.C.1.

Increasing working-class residential cash and panel PRACTICE. Four miles Piccadilly, thickly populated. Cash takings £2,000, panel over 1,100. Shop-fronted compact corner house, small rent, long lease. Premium 1½ years' purchase.—Address, No. 2817, B.M.A. House, Tavistock Square, W.C.1.

Lancs Coast.—Residential Practice for Sale. Fees average £1,300. Small panel. Good fees. Mixed class. Delightful house and gardens. Motor house and all other conveniences. Premium 1½ years.—Add., No. 3001, B.M.A. House, Tavistock Sq., W.C.1.

London Suburb, E. — Urgent Sale. — Well-established cash and panel PRACTICE. Receipts average £630 p.a., panel nearly 600. Good house, long lease. Any reasonable offer considered. Locum in charge. —Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

London, N.W.—For Sale.—Old-established PRACTICE. Receipts about £1,000 (95 per cent. cash). Panel 400. Exceptional scope for young man. Good house, garden. Purchase freehold. Price 1½ yrs.' pur.— No. 3313, B.M.A. House, Tavistock Sq., W.C.1.

Manchester.—Old-established.— Nice house, gardens, £50. Receipts (including panel £135) over £600. Great scope. Price £1,000 or near offer (to include fittings, drugs, linoleum coverings, and good debts £600), part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

Medical Practice, private and panel, in country town in Cumberland, for sale. Yearly receipts over £2,000.—Apply, CRAWFORD, HERRON & CAMERON, Writers, 257, West George Street, Glasgow.

Medical Practice, West Lothian. Receipts £800. Panel 745. Excellent house. Low premium to prompt purchaser.— ROBERT FLEMING, S.S.C., 21, Hill Street, Edinburgh.

Messrs. R. Sumner & Co., Ltd., Manufacturing Chemists, 40, Hanover Street, Liverpool, have a number of PRACTICES on their books for disposal and will be pleased to hear from Medical Men who are interested in same.

Practice for Sale in North London. Panel 570.—Ring North 0877, 10—12 a.m.

Select Medical Practice and Resident Patients received. Charming detached house, Hampshire Resort. Splendid scope. Vendor retiring, ill health. Price £1,250, prompt sale, including good furniture, ultra-violet ray lamps, instruments. — Address, No. 3230, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

HOUSES, CONSULTING ROOMS.

EXCELLENT OPPORTUNITY FOR RE-ESTABLISHING MEDICAL PRACTICE.

For Sale. — Detached freehold PROPERTY situated in a good-class populous suburb of London and lately occupied by a Medical Practitioner deceased.

This Residence, 51, Wiltshire Road, Brixton, which stands where 4 roads converge (with front, back, and side entrances), contains 7 bedrooms, consulting room, bathroom, kitchen, etc. Spacious garden back and front, and garage. Premises in excellent condition.

For further particulars, apply Mrs. BARNES, occupier and owner.

Wanted by Practitioner with City Practice, comfortable HOUSE, as near to Bank Station as possible, for residence and practice combined. Would consider purchase of Practice to obtain suitable premises.— No. 3303, B.M.A. House, Tavistock Sq., W.C.1.

Consulting Rooms to Let.— Harley Street and District. Whole and part time. Rents £80 to £300. Lists sent on application. Rooms wanted in Harley Street district.—ELGOOD & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2601.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

For Disposal. — Lease of Shop- FRONTED HOUSE, 7 rooms, main street, near Camden Town, with furniture and Nucleus included. Price £150.—Address, No. 3329, B.M.A. House, Tavistock Square, W.C.1.

Harley Street.—Part-time Consulting ROOM to Let, two afternoons or morning and afternoon. With or without plate. Handsome waiting room, attendance, telephone. Appointments made.—Address, No. 3321, B.M.A. House, Tavistock Square, W.C.1.

Important main road.—Corner HOUSE, many years in occupation of Doctor. Rent £150. 21 years' lease.—Apply, FLOOD & SONS, 474, Harrow Road, W.9, opposite the property.

Near Sutton, Surrey.—Splendid opportunity to build new Practice. Centre new district. Ideal HOUSE, perfect order, lovely garden. Garage. £4,000 freehold.—LONGLEY & BROADBEAD (opposite station), Sutton, Surrey.

Part-time Consulting Room in Harley Street district.—A fine CONSULTING ROOM, with or without plate, is now available in a first-class professional building. Every convenience. Rent £50 p.a.—Address, No. 3328, B.M.A. House, Tavistock Sq., W.C.1.

Weymouth Bay Estate.—New HOUSE for SALE. Suit retired Doctor or one wishing to start in a growing neighbourhood. 3 reception, 3 beds, bath, etc., garage. —Address, No. 3307, B.M.A. House, Tavistock Square, W.C.1.

8, WOBURN SQUARE, W.C.1.
Suitable Private Occupation, Dentist, Doctor, or Professional Man.

This desirable, modernised GENTLEMAN'S RESIDENCE, with three reception, seven bedrooms, three bathrooms, up-to-date domestic quarters. Central heating. Newly erected double garage. Rent £180 p.a. Long lease. Moderate premium.
ALAWAY & PARTNERS,
20, Bloomsbury Sq., W.C. Museum 0431.

Part-time Consulting Room, Harley Street, to let Name plate available. Times by arrangement.—Address, No. 3310, B.M.A. House, Tavistock Square, W.C.1.

Part-time use of Consulting ROOM, near Harley Street. Bedroom also to Let at same address. — Address, No. 3314, B.M.A. House, Tavistock Square, W.C.1.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE
to MEMBERS of the
MEDICAL PROFESSION
CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.
The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.
SPECIAL OFFER.
JACKET & VEST (in black or grey), £5 5s.
SO ID FANCY WORSTED TROUSERS, £2 2s.
THE Ideal Suit for Professionalor Business wear
SUITS & OVERCOATS to measure from £6 6s
SOLID WORSTED SUITS ... £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s
UNSOLICITED APPRECIATION.
"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.
PATTERNS POST FREE.
Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.
Visitors to London can order and fit same day, or leave record measures.
HARRY HALL Ltd.
Governing Director: HARRY HALL.
"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.
Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX
As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.
HARDY & HARDY
TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659.

Medical Surgical Sundries Ltd.
Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

Morris-Oxford de Luxe Saloon, 4 cyl., 1929, wine maroon, 4 doors, triplex glass, leather seating. New condition, run only 4,000 miles. Insured till March, 1932. £130.—JAQUES, 33, Down View Road, Worthing.

APPOINTMENTS.—Contd.

North Riding Infirmary,
MIDDLESBROUGH
(General Hospital—150 Beds.)

Applications are invited for the post of THIRD HOUSE SURGEON (lady or gentleman), to commence duties as early as possible.
The appointment will be for a period of six months.
Salary at the rate of £125 per annum, with board, residence, and laundry.
Applications, stating age and nationality, with copies of recent testimonials, should be sent forthwith to the undersigned.
CHARLES POSTGATE,
Secretary-Superintendent.

The Royal Gwent Hospital,
NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to act as House Surgeon to Out-patients and as House Physician.
Salary £135, with board, lodgings, and laundry. Resident Medical staff 5. Eligible for promotion.
Large Out-patients' Department.
Applications, stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.
Applications from ladies not entertained.
J. K. MILLWARD,
May 23rd, 1931. Secretary-Supt.

Royal Sussex County Hospital,
BRIGHTON. (238 Beds.)

CASUALTY HOUSE SURGEON (male) required. Salary £120 per annum, with board, residence, and laundry.
Candidates must hold Medical and Surgical qualifications of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.
Applications, with copies of recent testimonials, should be sent immediately to the undersigned.
L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Leicester Royal Infirmary.
(472 Beds.)

HOUSE PHYSICIAN.

A vacancy has arisen for a House Physician; appointment to October 1st, with possibility of re-appointment for six months. Salary at the rate of £125 per annum. Applicants should have held a resident Hospital post, or had similar experience of Hospital work.
Applications forthwith to the House Governor and Secretary.
May 26th, 1931.

Connaught Hospital
Walthamstow, E.17.
(100 Beds, with three Resident Medical Officers.)

RESIDENT HOUSE PHYSICIAN (male) required. Salary £100 per annum. Appointment for six months from July 1st, with board, residence, and laundry. Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, should be received not later than Friday, June 12th.
KENELM S. ELLISON, Secretary.

The Kidderminster and District
GENERAL HOSPITAL. (120 Beds.)

HOUSE SURGEON Required.

Salary £150 per annum, with residence, board, and laundry. Applications, with not more than three testimonials, to be sent to the Assistant Secretary, Miss SUSAN SMITH, South Cliff, Kidderminster.

Hospital for Women at Leeds.

HOUSE SURGEON to commence duties immediately. Salary at the rate of £50 per annum, with board, quarters, and laundry. The appointment is for six months. Applications, together with copies of testimonials, should be sent to the undersigned at once.
BRYAN JEAFFRESON,
Hon. Secretary to Faculty.

Longton Hospital, Staffordshire.

Applications are invited for the post of LADY HOUSE SURGEON to the above Hospital. Salary £120 per annum, with board, residence, and laundry, plus certain fees.
Applications, with copies of three recent testimonials, should be addressed to the Chairman of Directors, Longton Hospital, Stoke-on-Trent, to arrive not later than June 9th.

County Borough of Southampton
APPOINTMENT OF MEDICAL OFFICER OF HEALTH.

The Corporation invite applications for the position of Medical Officer of Health, Port Medical Officer, etc., for the County Borough at a salary of £1,250 per annum.
The gentleman appointed must not exceed 45 years of age, and must be experienced in all branches of Municipal Medical Service. He will be required to perform all duties prescribed by statute, and such other duties as the Council may from time to time assign to him.
He must devote the whole of his time to the office, and must not engage in private practice, and all fees or emoluments payable to or received by him must be paid to the Corporation.
The post is designated under the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to undergo a medical examination.
The appointment, which will be terminable by three months' notice on either side, will be subject to the approval of the Minister of Health.
Forms of application can be obtained from the undersigned.
Applications on the proper form, accompanied by copies of not more than three recent testimonials, and endorsed "Medical Officer of Health," must be delivered at my office not later than June 17th.
Canvassing of members of the Council will be regarded as a disqualification.
R. RONALD H. MEGGESON,
Municipal Offices, Town Clerk.
Southampton. May, 1931.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited for the following resident appointments:
SECOND HOUSE SURGEON.
THIRD HOUSE SURGEON.
FIRST HOUSE PHYSICIAN.
HOUSE PHYSICIAN to the Children's Dept.
GYNAECOLOGICAL HOUSE SURGEON.
OBSTETRIC HOUSE SURGEON.
UNIT RESIDENT ANAESTHETIST.
Duties of the above posts to commence July 1st.
RESIDENT ANAESTHETIST.
SECOND HOUSE PHYSICIAN.
DISTRICT OBSTETRIC ASSISTANT (salary £100 per annum).
Duties of the above posts to commence August 1st.
Preference is given to applicants from former Students of the London (Royal Free Hospital) School of Medicine for Women. Candidates must be duly qualified registered Medical Practitioners, and must submit applications, stating age, and accompanied by copies of three recent testimonials, to the undersigned on or before June 5th.
REGINALD R. GARRATT, Secretary.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited from duly qualified and registered Medical Men for the following resident posts:
HOUSE SURGEON to the Senior Surgeon and the Surgeon in Charge of the Ear, Nose, and Throat beds. Duties to commence July 1st.
CASUALTY OFFICER. Salary £150 per annum. Duties to commence August 1st.
Candidates for the above posts must submit applications, stating age, and accompanied by copies of three recent testimonials, to the undersigned on or before June 5th.
REGINALD R. GARRATT, Secretary.

Royal Free Hospital,
EASTMAN DENTAL CLINIC,
Gray's Inn Road, W.C.1.

Applications are invited from duly qualified and registered Medical Practitioners for the post of RESIDENT HOUSE SURGEON. Duties will include care of wards for Tonsil and Adenoid Treatments, attendance in the Ear, Nose, and Throat Department, and administration of Anaesthetics in the Dental and Tonsil Departments.
Intending candidates should submit applications to the undersigned, stating age and qualifications, accompanied by copies of three recent testimonials, on or before Wednesday, June 10th.
REGINALD R. GARRATT, Secretary.

King George Hospital, Ilford
(8 miles from London).

Applications are invited for the appointment of HOUSE SURGEON (male). Salary £100 per annum, with board, residence, etc. Term six months, with eligibility for a further period. Applications should be sent at once to the Secretary.

Miller General Hospital,
Greenwich Road, S.E.10.

Applications are invited for the following posts:

HOUSE PHYSICIAN (male); HOUSE SURGEON (male). Salary in each case at the rate of £125 per annum, with board, residence, and laundry. Candidates must be unmarried.

OUT-PATIENT OFFICER (male), who is required to see Medical and Surgical cases. Attendance daily (except Sunday) from 9 to 1, Tuesdays 9 to 5. Salary £150 per annum and lunch.

The appointments are for six months from July 1st next. There are six Resident Officers.

Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary as soon as possible.

May 12th, 1931.

Royal Devon and Exeter
HOSPITAL, EXETER.

SENIOR HOUSE SURGEON, HOUSE SURGEON, AND HOUSE SURGEON TO SPECIAL DEPTS.

Applications are invited for the above resident appointments, shortly becoming vacant at this Hospital. The Senior appointment is for twelve months, the Junior posts six months. Candidates are eligible for re-election.

The salary of the Senior House Surgeon is at the rate of £250 per annum, the other posts being £150, with board, apartments, and washing.

Applications, stating age and qualifications, together with certificate of registration and copies of three recent testimonials, should be sent to the undersigned on or before Monday, June 8th.

By Order of the Committee,
S. S. COLE, Secretary & Manager.
May 21st, 1931.

The Retreat, York.

Applications are invited for the post of SENIOR ASSISTANT MEDICAL OFFICER (male) at this registered Mental Hospital. Previous Mental Hospital experience essential. Preference will be given to candidates who possess the Diploma in Psychological Medicine. If a candidate without this qualification is appointed, he will be expected to obtain it within two years of appointment. Commencing salary based on experience and qualifications. Minimum £400 per annum for an unmarried Assistant, with full board, residence, and laundry; or £500 per annum for a married Assistant, with house, rent, and rates free.

Applications, with copies of testimonials, to be sent to the Medical Superintendent.

Royal Infirmary, Blackburn.
(240 Beds—5 Residents.)

FOURTH HOUSE SURGEON (male) required at a salary of £150 per annum, rising to £250, with board, residence, laundry, etc. To commence duties early as possible.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, NATHAN A. SMITH
Blackburn. Gen. Supt. & Secretary.

This Institution is recognised for the Surgical practice required for the F.R.C.S. Final Examination.

Coventry and Warwickshire
HOSPITAL. (307 Beds.)

RESIDENT HOUSE SURGEON (male) wanted. Salary £125 per year. Board, lodging, and attendance provided. Candidates must be duly qualified and registered. Applications, stating age, and enclosing copies of recent testimonials, should be sent to the Secretary on or before June 6th.

(Miss) R. HOOPER, Secretary.

Greenock Royal Infirmary.

Wanted, a HOUSE SURGEON (lady) for July 1st. Salary £100 per annum, including board, residence, and laundry. Other two Residents (ladies) on staff. 150 beds. Good experience. Applications invited, with testimonials, to be sent to the Secretary, 2 Hamilton Street, Greenock.

JAS. A. LOVE, Secretary.

Royal Berkshire Hospital.
(243 Beds.)

Wanted immediately, RESIDENT ANAESTHETIST. Candidates (male) must be fully qualified and registered. Appointment is for six months. Salary at the rate of £150 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be addressed to the undersigned.

Reading. F. A. LYON,
May 23rd, 1931. Secretary.

Ministry of Pensions.
BIRMINGHAM PENSIONS HOSPITAL COMMITTEE.

HIGHBURY HOSPITAL, MOSELEY, BIRMINGHAM.

Applications are invited for the post of RESIDENT ASSISTANT MEDICAL OFFICER at the above Hospital.

The cases treated are Surgical and Medical. Salary £300 per annum, with lodging, fuel, and light. The appointed candidate to be prepared to take up duty as soon as possible.

Candidates selected for interview will be required to pay their travelling expenses. Applications, stating age, experience, and war service (if any), together with copies of recent testimonials, to be received not later than Wednesday, June 3rd, addressed to the Chairman of the Committee, Highbury Hospital, Moseley, Birmingham.

Cheshire County Mental
HOSPITAL, PARKSIDE, MACCLESFIELD.

Male ASSISTANT MEDICAL OFFICER required, not over 30 years of age. Previous Mental Hospital experience not essential. Salary £350, rising annually by £25 to £450, with board, apartments, and laundry, valued at £100. Subject to deductions under the Asylums Officers Superannuation Act, 1909.

The successful candidate will be expected to obtain the D.P.M. (which carries with it an addition of £50 per annum to the salary stated) as soon as possible after appointment. There is every scope for original research, the Hospital having a modern laboratory and full equipment for the latest methods of treatment.

Time will be arranged for attendance of lectures at Manchester University.

Preference will be given to candidate with Bacteriological experience.

Applications, stating qualifications, with copies of three recent testimonials, to be sent to the Medical Superintendent, to be received as soon as possible.

Kent and Canterbury Hospital,
CANTERBURY.

Applications are invited for the following posts:

HOUSE PHYSICIAN (male).
HOUSE SURGEON (male).

The salary payable in each appointment is at the rate of £125 per annum, plus board, residence, and laundry.

Applications, stating age and particulars of qualifications, and enclosing copies of testimonials, should be forwarded to the undersigned.

W. T. SOUTHWOOD,
Superintendent & Secretary.

East Ham Memorial Hospital,
Shrewsbury Road, London, E.7.
(100 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER for six months commencing July 1st.

Salary at the rate of £200 per annum, with board, residence, and laundry. Preference will be given to candidates who hold the Diploma of F.R.C.S.

Applications, stating age, experience, and full particulars, together with copies of testimonials, should reach the undersigned by June 6th.

REGINALD PERRY, Secretary.

The Jessop Hospital for Women,
SHEFFIELD. (146 Beds.)
Gynaecological and Maternity Departments.

The Board of Management invite applications for the appointment of Three ASSISTANT HOUSE SURGEONS (male), for a period of six months from a date early in July. Salary £100 per annum, together with board, residence and laundry.

Applications, stating age, together with copies of recent testimonials, should be addressed to the undersigned immediately.

H. B. SHELSWELL, Secretary.

Lowestoft and North Suffolk
HOSPITAL.

JUNIOR HOUSE SURGEON (man or woman) required. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

East London Hospital for
CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.1.

Applications are invited for the post of RESIDENT CASUALTY OFFICER (male) vacant now. Salary at the rate of £125 per annum, with board, residence, and laundry provided.

Applications, with testimonials, should be sent to the undersigned.

W. M. WILCOX, Secretary.

Princess Louise Kensington
HOSPITAL FOR CHILDREN.
St. Quintin Avenue, North Kensington, W.10.
(50 Beds.)

HOUSE SURGEON (woman) required for six months from July 1st. Salary for first three months at the rate of £100 a year, after which, should she be appointed Senior Resident (of two) the salary would be at the rate of £125 a year; with board, residence, and laundry in each case. It is desirable that applicants should have held a responsible Hospital post.

Applications, with copies of three testimonials, must be submitted on a form to be obtained from the Secretary, and must reach the Secretary not later than first post on Wednesday, June 17th.

Liverpool Hahnemann Hospital,
HOPE STREET.

Applications are invited for the post of RESIDENT MEDICAL OFFICER to the above Hospital. Only one R.M.O. kept.

Duties include occasional Anaesthetics, and assisting at operations, General, Gynaecological, Ophthalmic, and Aural.

Appointment is for six months, renewable. Salary at the rate of £100 per annum.

Knowledge of Homoeopathy desirable, but not essential.

Apply, stating age, sex, nationality, and previous experience, and enclosing copies of testimonials to the Registrar before June 13th next.

Seamen's Hospital Society,
Greenwich, S.E.10.

The Committee of Management invite applications for the appointment of DENTAL SURGEON at the ALBERT DOCK HOSPITAL, Connaught Road, E. The elected officer will be appointed for twelve months, and will be eligible for re-election. Candidates must be doubly qualified and registered, and hold a Diploma in Dental Surgery. Applications, with copies of testimonials, to be sent in on or before June 9th to the undersigned, from whom further particulars can be obtained.

By Order,
Greenwich. R. E. V. BAX.
May 18th, 1931. Secretary.

Royal South Hants and
SOUTHAMPTON HOSPITAL, SOUTHAMPTON.

Applications are invited for the following Resident appointments, which will fall vacant on June 30th next:

One HOUSE SURGEON, £180 per annum, six months' engagement.

Two ASSISTANT HOUSE SURGEONS, £180 per annum, six months' engagement.

All with full board, lodging, and laundry.

Applications, together with not more than three testimonials, should be sent to the undersigned as soon as possible.

HY. TRUSSON, Secretary.

Ear and Throat Hospital,
EDMUND STREET, BIRMINGHAM.

HOUSE SURGEON wanted (non-resident), to assist chiefly in Out-patient Department. Must be qualified and with Clinical experience. Duties to commence July 1st. Appointment to September 30th, when one of the other House Surgeon appointments will be vacant. Salary at the rate of £150 per annum, with part board, and an allowance at the rate of £50 per annum in lieu of full board and lodging. Applications and testimonials to be forwarded on or before June 20th to the undersigned.

May, 1931. S. G. GREW, Secretary.

General Hospital, Nottingham.
(397 Beds.)

A CASUALTY OFFICER (male) is required at the above Institution. Appointment for six months. Salary at the rate of £200 a year, with board, residence, and laundry. Applications, stating age, qualifications, and experience, together with copies of testimonials, to be delivered to me not later than June 20th. The appointment will be made on July 1st. Duties to commence on Tuesday, July 14th.

PETER M. MACCOLL,
House Governor & Secretary.

Walsall General Hospital.

The Committee invite applications from men or women for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months.

The Hospital contains 100 beds, and is equipped in all Special Departments, and

Applications, stating age, qualifications, and nationality, should be addressed to the undersigned at once.

WALTER FRANCOMBE, Secretary.

Queen Mary's Hospital for the
EAST END, E.15.
Telephone: Maryland 2616.

Applications are invited from fully qualified and registered Medical Men for the following posts:

One RESIDENT MEDICAL OFFICER. Salary £200 p.a.
Two HOUSE SURGEONS. Salary £120 p.a.
One HOUSE PHYSICIAN. Salary £120 p.a.
One OBSTETRIC HOUSE SURGEON. Salary £120 p.a.
One HOUSE PHYSICIAN and RESIDENT ANAESTHETIST. Salary £120 p.a.
One CASUALTY OFFICER. Salary £150 p.a.

The Hospital contains 217 beds, including 47 Maternity beds, and other Special Departments.

Candidates, who should previously have held Hospital appointments, must send applications, accompanied by testimonials, to the undersigned, not later than Wednesday, June 3rd. The appointments will date from July 1st, and will be for six months.

RAPHAEL JACKSON (Major),
Secretary.

Queen Mary's Hospital for the
EAST END, E.15.

Applications are invited for the post of HONORARY ASSISTANT OBSTETRIC SURGEON and GYNAECOLOGIST at the above Hospital. He will have charge of 20 Maternity beds.

Candidates must be Fellows of the Royal College of Surgeons of England.

Applications, with copies of three recent testimonials, should be forwarded to the undersigned not later than Wednesday, June 3rd.

RAPHAEL JACKSON (Major),
Secretary.

Queen Mary's Hospital for the
EAST END, E.15.

Applications are invited for the post of HONORARY NEUROLOGIST at the above Hospital.

Candidates must be Graduates of a British University, or Fellows or Members of the Royal College of Physicians.

Applications, with copies of three recent testimonials, should be forwarded to the undersigned not later than Wednesday, June 3rd.

RAPHAEL JACKSON (Major),
Secretary.

York County Hospital.
(200 Beds.)

The post of RESIDENT ANAESTHETIST and ASSISTANT HOUSE SURGEON will shortly become vacant. Salary £150 a year, with board, residence, and laundry. Duties commence July 16th. Applications, stating age and previous experience, together with copies of not more than three recent testimonials, to be sent to the undersigned not later than June 13th.

H. E. RYAN, Manager.

York County Hospital.
(200 Beds.)

HOUSE SURGEON required. Salary £150 per annum, with board, residence, and laundry. Applications, stating age, qualifications, and previous experience, together with copies of not more than three recent testimonials, to be sent to the undersigned on or before June 13th.

H. E. RYAN, Manager.

Rotherham Hospital.
(130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £150, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Rotherham Hospital.
(130 Beds.)

Wanted, SENIOR HOUSE SURGEON (male), qualified. A knowledge of Eye work is desirable. Salary £200, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

MR. HERBERT NEEDES,
31, Bedford Street, Strand, W.C.2.
(Temple Bar 3373.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
(Established 50 years.) LTD.
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

Staffs Town. — Over £700 and scope. Vendor retiring. Panel £460 p.a. Club £24. House, with 2 recep., 5 bed., surgery, etc., to rent.—No. 8856.

Lancs Town. — Over £1,100 p.a. Panel 1,450. Visit and med., 5/6 and 6/-. House, 3 recep., 5 bed., surgery, etc. For sale at £1,200.—No. 8849.

Midland Town. — Over £2,200 p.a. Panel 820. Appts. £50. Fees 5/6 up. House 2/3 recep., 4 bed., to rent on lease. —No. 8846.

London, S.W. — £800 or more. Panel worth £110. Appts. £25. Large family house, 12 rooms or more, and nice garden. Price £2,200 Practice and lease.—No. 8845.

Kent, Country, near Sea.—Over £1,100 p.a. Panel 380. Appts. £55. Fees 5/- to 21/-. Convenient house, 6 bed., etc., small garden.—No. 8718.

London, S.E. — Woman's Practice. About £550 p.a. Panel 251. Visits 3/6 to 7/6. Small flat at £62 p.a. Premium £750.—No. 8842.

Surrey, Country. — £600 p.a. and scope. Easily worked. Panel over 200. Fees 3/6 to 21/-. Good house in own grounds. For sale.—No. 8841.

Kent, within 25 miles London. —£800 p.a. Panel 470. Fees 3/6 to 21/-. Large house (8 bed.) and garden. For sale.—No. 8840

London, N. — Residential. — About £360 p.a., and ample scope. Fees 3/6 to 10/-. Panel about 200. Excellent house with surgery. House and Practice £2,200.—No. 8839.

West Lothian. — £860 p.a. increasing. Panel 650. Fees 2/6 to 10/-. Villa, 2 recep., 3 bed. etc. House and Practice £1,700 or offer.—No. 8837.

South Devon Town. — Average £1,564 p.a. Panel about 2,000. Fees 3/6 to 5/-. Large leasehold house. Practice and lease £2,700 cash.—No. 8816.

Midland Town. — Share worth £800 p.a. Fees 5/- to 21/-. Midwifery 5 to 6 gns. Grad. of Lond., Oxon., or Camb. required.—No. 8815.

London, N.E. — £1,300—£1,400 p.a. Panel 1,200: No midy., but ample scope. Lock-up premises. Conv. flat near.—No. 8834.

Riverside Town.—£300 p.a. and resident patient. £8 8s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8831.

Seaside Resort.—N.W. Coast.— Over £2,000 p.a., scope. Panel 600. Very good schools. Medium house, small garden. Scope for surgery. Cottage Hospital.—No. 8824.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 386. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

S. W. Scotland.—Near Coast.— £1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

Near Manchester.—Share worth £1,200—£1,300. Large panel. Visits 2/6 up. Detached house, 5 bed., etc., rent £69 10s. Prem. 1½ yrs.' purchase.—No. 8808.

Wales, near Cheshire.—£2,000. One-third Partnership. Panel 1,700, much midwifery. Could live in to start. Scot or Welshman pref. £1,000 for share.—No. 8807.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants.

Full particulars on application to Mr. Percival Turner.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, *Oxford Rd.*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas.
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

THE
NEW MENTAL NURSES CO-OPERATION,
139, Edgware Road, Marble Arch, W.

Specially trained Nurses for Mental and Nerve cases. (All Nurses are insured under the Employers Liability Act, 1906.) Apply the Supt.

Telegrams: "Psyconurse, Padd., Lond." *Telephone*: No. 6105 Padd.

THE CENTURY INSURANCE COMPANY LTD.,
7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS TO PURCHASE A PRACTICE OR PARTNERSHIP

NO GUARANTORS REQUIRED. REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. {MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of *Bona-fide* Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

NORTH STAFFS.—INDUSTRIAL TOWN PRACTICE. Cash receipts last year £1,200. Panel nearly 2,000. Good house, 2 reception, 7 bedrooms. Rent approx. £55 p.a. on long lease. Premium £2,000 (to include book debts and drugs).—No. 255.

LANCS TOWN, near MANCHESTER.—Excellent PRACTICE. Cash receipts £2,844 p.a. Panel 2,860. House, 2 reception, 4 bedrooms. Garage. Rent £60 p.a. Premium—1½ years' purchase, or near offer for quick sale. Ill-health sole cause of relinquishing.—No. 262.

CHESHIRE TOWN, near MANCHESTER.—PRACTICE. Cash receipts last year, £1,055. Panel 650. Good house, 3 bedrooms, Rent £45 p.a. Premium 1½ years' purchase.—No. 263.

MANCHESTER.—RESIDENTIAL DISTRICT.—Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Offers invited.—No. 191.

ISLE OF MAN.—SEASIDE TOWN.—Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house— any reasonable offer.—No. 173.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium £300. —No. 226.

EAST COAST. — PARTNERSHIP in large Town Practice. Income over £10,000 p.a. Panel over 5,000. Good house available, 2 reception, 4 bedrooms. Garden. Premium—1/6 or 1/4 share—1½ years' purchase.—No. 258.

MANCHESTER. — PLEASANT RESIDENTIAL SUBURB.—Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage, and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purchase. Vendor retiring.—No. 246.

LANCS TOWN, near MANCHESTER. —Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. Good house, 2 reception, 5 bedrooms. Garage. Rent £55 p.a. Premium 1½ yrs.' purchase.—No. 251.

LINCOLNSHIRE. — COUNTRY PRACTICE. Cash receipts £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium 1½ years' purchase.—No. 195.

LANCS TOWN. — Old-established PRACTICE. Cash receipts 1930, £1,186. Panel 900. Much scope. Excellent house, 2 reception, 4 bedrooms. Garage. Premium, best offer. —No. 178.

CHESHIRE. — COAST TOWN —Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

LIVERPOOL (near).—Cheshire Coast Town PRACTICE. Average cash receipts £1,187 p.a. Panel 783. Much scope. Good double-fronted house (freehold). 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100.—No. 248.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Cash receipts 1930, £1,406. Panel nearly 1,000. Excellent house, 2 reception, 6 bedrooms. Rent £90 p.a. Good Local Hospital. Premium £2,050.—No. 260.

NORTH-WEST COAST. — SEASIDE RESORT. — Old-established PRACTICE. Cash receipts about £1,000 p.a. Small panel. Excellent freehold house.—No. 266.

MANCHESTER SUBURB.—PARTNERSHIP in old-estab. Practice. View succession 3 5 years. Cash receipts £2,100. Panel 2,155. Semi-detached house available, 2 reception, 3 bedrooms. Rent £45 p.a. Prem. 1 3 share £950, part by arrangement.—No. 259.

SOUTH YORKSHIRE.—Old-established PRACTICE. Cash receipts 1931, £1,273. Panel 1,430. Excellent house, 3 reception, 4 bedrooms. Garage and good garden. Premium 1½ years' purchase. —No. 253.

LIVERPOOL.—PRACTICE OF RADIOLOGIST. Cash receipts £500 p.a. from part-time work only. Excellent rooms in centre of City. Premium (including electric apparatus, fittings, etc.) £550.—No. 265.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistantship. Purchaser could live with Vendor. Premium—one-third share—£1,000.—No. 245.

LANCS TOWN.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,460. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No. 234.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the **British Medical Bureau** is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the **British Medical Bureau.** Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the **British Medical Bureau** to ensure that only the most **Trustworthy and Reliable** Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the **British Medical Bureau.** A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The **British Medical Bureau** has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 MIDLANDS. — Partner required in sound lucrative Practice in residential town close to large city. Small panel. Very good Cottage Hospital. Share up to £1,250 p.a. at 2 years' purchase. Applicant should be married (aged 30/40) and well up in his work.

2 SURREY. — Very old-established Country PRACTICE of £2,000 p.a. in delightful district. Panel about 700. Fees 2/6 to 21/-. Particularly attractive house (6 bedrooms). Large garden. Price of freehold £2,500. Premium for Practice £2,500.

3 S. COAST.—Partnership in old-established Practice (about £2,900 p.a.) in a seaside resort. One-third share for disposal.

4 DEVON. — Partnership (with preliminary Assistantship) in old-established Practice about £3,000 p.a. in beautiful part. Good house (5 bedrooms) to rent. Premium one-third share 2 years' purchase.

5 LONDON, S.W. — Partnership in well-established suburban Practice (about £2,400 p.a.), easy access of West End. Premium for one-third share £1,500.

6 S. COAST.—Partnership in non-dispensing Practice in a seaside resort. Good house (6 bedrooms) to rent. Share about £750 p.a. at 2 years' purchase.

7 S. COAST.—Partnership in non-dispensing Practice in seaside resort. Incoming Partner must hold the F.R.C.S. Hospital. Scope for Surgery. Share worth about £1,000 p.a. (after short preliminary Assistantship) at 2 years' purchase.

8 S. OF ENGLAND. — Partnership (with preliminary Assistantship) in Practice averaging over £2,000 p.a. in Cathedral City. Panel 900. Applicant should be aged about 28/30, well qualified, and competent to undertake Obstetrical work and minor operations. Scope for consulting work. Share up to one-half to suitable man at 2 years' purchase.

9 LONDON, N.W.—Partnership in Practice about £5,000 p.a. in suburban district. Panel about 4,000. Suitable house available. Premium one-fifth share 2 years' pur.

10 MIDLANDS. — Partnership in Country Town Practice about £3,500 p.a. Panel over 1,500. Small detached house (4 bedrooms) to rent. After short preliminary Assistantship one fourth share would be sold at 2 years' purchase.

11 LONDON, S.W.—Practice about £500 p.a. in suburban district. Panel 650. No midwifery. Semi-detached corner house (6 bedrooms) for sale. Scope. Premium 1½ years' purchase.

12 W. OF ENGLAND. — Country Practice about £400 p.a. in beautiful district. Small panel. Large and beautiful house, with garden and paddock, for sale. Scope. Premium 1 year's purchase.

13 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwfy. Six-roomed house to rent. Prem. £700.

14 PARTNERSHIP in Eye, Ear, Nose, and Throat Practice in first-rate town. Good house available to rent or purchase. Partners on Hospital staff. Incoming Partner must be experienced more particularly in Eyes. Share worth £1,650 at 2 years' purchase.

15 YORKSHIRE (W.R.). — Compact easily worked Practice of £1,540 p.a. in manufacturing town. Panel over 1,300. Pleasantly situated double-fronted house (4 bedrooms), with garden, for sale. Premium 1½ years' purchase.

16 CO. DURHAM.—Partnership in Country Practice easy distance of coast. Income about £1,650 p.a. Panel 1,550 and Club appointments £700 p.a. Nice house (5 bedrooms), in quarter acre of garden, for sale. Premium for one-half share only £1,000.

17 LONDON, W.—Practice of about £600 p.a. in residential district. Panel 600. Detached double-fronted corner residence (4 bedrooms), garage, and nice garden, for sale. Scope. Premium 1½ years' purchase.

18 KENT.—Practice about £700 p.a., capable of considerable increase, in beautiful country district. Panel 750. Suitable house for sale. Premium £1,000.

19 LONDON, E.—Cash Practice of £850 p.a. in populous neighbourhood. Panel over 1,000. House (3 bedrooms) in main road, to rent. Premium 1½ years' purchase.

20 S. COAST.—Small Seaside Place.—Nucleus of PRACTICE, with very good semi-detached house (3 bedrooms). Would suit semi-retired Practitioner who could wait a while as place is developing quickly. Price for freehold house £1,400.

21 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average nearly £950 p.a. (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Prem. to effect quick sale only £800.

22 EAST ANGLIA.—Partnership in Practice over £4,500 p.a. in beautiful country district, easy access of important town. Panel 3,000. Nice detached house (7 bedrooms), garage, etc., garden and grounds of 10 acres, for sale. Sport of most kinds. Considerable scope. Premium two-thirds share 2 years' purchase. Suitable for two to buy together.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

23 S. OF ENGLAND.—Partnership in steadily increasing Practice about £6,000 p.a. in small town. Panel 3,300. Suitable house could be purchased. One-eighth share at 2 years' purchase. Preliminary Assistantship. London Graduate preferred.

24 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel about 600. Very good house (5 bed and dressing rooms), garage and excellent garden, for sale. Ample scope. Premium £900.

25 LONDON, N.—Practice about £360 p.a. in Residential Suburban district. Panel 180. Detached corner house (4 bedrooms), with small garden, for sale. Scope. Premium £400.

26 N. OF ENGLAND.—Partnership in lucrative Practice in large city. Panel over 5,000. Small house (3 bedrooms and attics) for sale. Partner must be young and energetic. A share of £1,650 or £2,500 would be sold at 1½ years' purchase.

27 LONDON, E.—Practice in thickly populated outlying suburban district. Receipts last year nearly £1,400. Panel over 1,950. Shop-fronted house on main road, to rent. Premium £2,350 cash.

28 DEVON.—Partnership in Practice averaging £3,000 p.a. in small town. Very good house (7 bedrooms), good garden, etc., for sale. Hunting, shooting, fishing, etc. Premium two-thirds share 2 years' purchase. Hospital.

29 MIDLANDS. — Practice averaging £4,750 p.a in clean manufacturing town. Panel 3,570. Two houses for sale. Practice carried on by two Medical Men, both retiring. Premium 1½ years' purchase.

30 WITHIN 12 MILES OF LONDON.—PARTNERSHIP in rapidly increasing Cash Practice about £1,600 p.a. in developing industrial district. Panel 1,870. Small house available. Large Cottage Hospital. Premium two-fifth share 2 years' purchase.

31 S. MIDLANDS.—Practice of nearly £400 p.a. in delightful country district, easy distance of London. Panel 300. Attractive house (7 bed and dressing rooms) in grounds of 2 acres, with garage, to be sold or let. Very suitable for Resident Patients. Good scope. Premium 1 year's purchase.

32 N. MIDLANDS.—Partnership in Practice over £1,400 p.a. in first-rate city. Panel 1,800. House, with 2 reception rooms and 4 bedrooms, to rent. Premium one-half share £1,100. Preliminary Assistantship entertained.

33 MIDLANDS.—Practice of over £2,100 p.a. in manufacturing town. Panel 820. House (4 bedrooms) to rent, on lease. Premium 1½ years' purchase.

34 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in own grounds, for sale or rent. Premium one-half share 1½ years' purchase. Suit one aged between 40/50.

35 NORTHUMBERLAND. — Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,425.

36 LONDON, E.C.—City Practice. Receipts 1930, over £1,300. Consultations mainly £1 1s., some £1 11s. 6d. and £3 3s. Excellent consulting rooms. Premium 1½ years' pur.

37 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

38 SURREY.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Premium £300.

39 SURREY. — Partnership in Practice in desirable residential town. Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

40 HANTS. — Small easily worked Practice about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

41 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

42 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope. Premium £1,200.

43 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

44 DORSET.—Partnership (after preliminary Assistantship) in Practice about £2,000 p.a. in attractive country town on coast. Panel about 500. Suitable house to rent. Hospital. Share to suitable man after preliminary Assistantship.

45 EAST ANGLIA.—Partnership (after preliminary Assistantship) in sound Practice in seaside resort. Suitable house to rent. Share of £800—£900 at 2 years' purchase. Applicant should be aged 28—35, and preferably a Cambridge, Oxford, or London man. Cottage Hospital and scope for Surgery, if desired.

46 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 1½ years' purchase.

47 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

48 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

49 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

50 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

51 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

52 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase

53 LONDON, W. — Middle-class Practice of £740 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,000.

54 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

55 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

56 MIDLANDS. — Partnership in Practice about £2,000 p.a. in hunting centre. Panel about 1,000. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent. Premium one-third share £1,000.

57 LONDON, S.W.—Good middle-class PRACTICE of £900 p.a. in pleasant outlying suburb. No panel or midwifery. Corner house (5 bedrooms), garage, and garden, for sale. Plenty of scope. Premium £1,000

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12 6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054 & 1034. RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

YORKSHIRE.—Well-established mixed rural PRACTICE. Suitable house available (4 beds). Receipts approximately £1,000. Panel 620. Fees 3/6 up. One appointment. *Premium* 1½ years' purchase.

LONDON, N.1.—Mixed G.P., with excellent scope for increase. Receipts nearly £700. Panel over 500. Fees 1/6 up. Can be run as lock-up. Premium 1½ years' purchase or near offer.

MIDDLESEX, WEST.—Well-established G.P. in rapidly growing residential locality, with excellent scope for still further increase. Suitable freehold house available (6 beds), £1,450. Receipts £1,200. Panel nearly 900. *Premium* £2,000. Splendid scope for keen and energetic man.

NORTH-WEST COAST. — PARTNERSHIP in old-established good-class non-panel and non-dispensing Practice. Suitable house available. Receipts approx. £3,600. Fees 10/6 up. One-third share with view to half and possible succession, 1½ years' purchase, cash. Excellent scope for Physician.

LONDON, N.W.—PARTNERSHIP in rapidly growing G.P., excellent scope for further increase. Receipts nearly £5,000. Panel about 4,000. Excellent corner house available. Fifth share with view to larger share at 2 years' purchase. Suitable for experienced man, aged about 35.

BEDFORDSHIRE.—PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. *Premium* 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

DEVON (SOUTH).—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Scope for surgery. Hospital. Good schools. Prem. for 1/3 share £2,030. Terms considered to right man.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery; scope. Suitable house available. Premium 1½ years' purchase.

YORKS.—PARTNERSHIP in busy, rapidly increasing Town Practice. Receipts £2,300. Panel 1,500. Suitable house available. A third share, with view to succession, 2 years' purchase.

ESSEX.—Middle-class General PRACTICE, situated in well-populated locality. Receipts over £1,000 p.a. Panel 1,130. Suitable house available. Fees 2/6 up. Excellent scope. Premium £1,500.

LONDON, N.W.—Mixed General PRACTICE, situated in well-populated locality. Medium-sized house to rent on lease. Receipts nearly £1,100. Small panel 300. Fees 2/6 up. Premium £1,500.

LONDON, E.—SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £30 p.a. Fees 2/- up. Average receipts £516. Panel 350. Excellent scope for young man. Premium for Practice and lease £1,050 cash, or near offer.

LONDON, E.—PARTNERSHIP in well-established mixed Practice, working-class locality. Receipts approx. £1,800 p.a. Panel nearly 1,700. Fees 2/6 up. *Premium* for 1/2 share 2 years' purchase.

ESSEX.—NUCLEUS non-panel PRACTICE, suitable to either sex, with excellent scope for panel if desired, and further increase. Medium sized double-fronted house to be rented on lease. Receipts approx. £400 p.a. Premium 1½ years' purchase or near offer, cash.

S.W. COAST.—Well-established General PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. *Premium* for Practice £4,000.

EASTERN COUNTIES. — Cathedral City. — PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

SURREY.—PARTNERSHIP in rapidly developing residential locality, with splendid scope. Receipts approximately £1,000 p.a. Panel nearly 300. Fees 2/6 up. Premium for 2/5ths share, 2 years' purchase. Excellent opportunity for young and energetic man.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700, and progressing. Good house, garage, and garden.
2. LANCASHIRE. — Old-estab. and industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95 Good house to rent.
3. NORTH OF ENGLAND.—Panel, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appointments £350. Good house to rent. Considerable scope for energetic man.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts averages £1,179 p.a. and unlimited scope. Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
7. MIDLANDS, COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts av. over £2,700 p.a. Panel recently started and rapidly increasing. Good fees, house, etc.
8. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

Medical Practitioners' Union Agency Limited

56, Russell Square, LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uflabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,

MEDICAL TRANSFER AGENCY, 19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London. *Telephone*: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected. LOCUM TENENS and ASSISTANTS *supplied free of charge to principals.*

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,

The oldest Medical Agency in Manchester,

6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER." *Telephone*: 5932 CITY.

TRANSFERS and PARTNERSHIPS *arranged*, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

THE

WESTERN MEDICAL AGENCY

(DR. R. H. BENNETT, DR. W. J. PARAMORE.)

PHOENIX CHAMBERS, 22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. CORNWALL. — Unopposed Agricultural PRACTICE, near beautiful N.C. seaside resort. Receipts over £900 p.a. Panel 550. M.O. value £50. Pub. Vac. House for sale £450. Practice, drugs, etc., £1,400.
2. CARDIFF.—Industrial PRACTICE averaging £600 p.a. Panel 600. Good house. Premium £600.
3. SANATORIUM.—Western County.—40 beds. Receipts average £10,055 p.a. Particulars on application.
4. DENBIGHSHIRE. — One-third share of PARTNERSHIP. £830 p.a. net. Mostly panel and contract work. Good house, rent £78 p.a. *Premium* £950.
5. BEDFORDSHIRE.—Country PRACTICE, last year £483. Good house to rent £68. Price £350.
6. SALARIED PARTNER.—Western City, with option to buy half share. £500 p.a. net. Suitable house. Great scope. Total receipts £1,700. £1,000.
7. COAST TOWN.—South-West Wales.—Panel 750. Receipts £1,000 p.a. Good house to buy or rent. Man considering purchase could do Locum.
8. SOUTH DEVON.—Averaging £2,400 p.a. in favourite town. Panel 1,500. Large house for sale or rent. Seaside.
9. WEST OF ENGLAND.—Cathedral Town.—Ear, Nose, and Throat. NUCLEUS £400 p.a. Three Hospital appointments. Accounts audited. Excellent prospects. Prem. £500.
10. HEREFORDSHIRE. — Unopposed Country PRACTICE. Panel 530. Receipts over £1,000. Several appointments. Good house. 1½ years.
11. CHESHIRE BORDERS.—One-third share of PARTNERSHIP averaging £2,000 p.a. Pleasant country district. Panel over 1,700. *Plenty of scope. Premium £1,000.*
12. MIDLANDS.—Cathedral Town. — Receipts £1,600 p.a. Panel 1,600. Good house to rent £80 p.a.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants. Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. WITHIN 20 MILES OF LONDON (WEST).—Well-established rapidly increasing PRACTICE, in very pleasant growing residential district, offering excellent future prospects. Cash receipts last year £1,700, including small panel of 150. No dispensing. Visits 5/- upwards; mids. from 4 gns., about 40 cases. Good house (3 reception, 5 bedrooms, etc.), in half an acre of garden, with tennis court. Garage. Price, freehold, £1,850. Premium £2,100. Cottage Hospital. Ill health reason for selling.
2. ESSEX.—Very old-established PRACTICE, situated in pleasant country district, in growing area about 30 miles from London, and few miles from the sea. Cash receipts average nearly £900 p.a., including panel of 600. House contains surgery and waiting room, 3 reception, 5 bedrooms, bathroom, etc. Garden. Garage. Gas, but electric light available. Moderate rental. Premium 1½ years' purchase.
3. LONDON, EAST.—Very old-established working-class PRACTICE averaging for past twelve months over £2,300, including panel of over 2,800. Good appts. worth nearly £160. Visits from 2/6. Very low expenses. Suitable house can be rented or purchased. Central surgery can be rented. Premium £4,250.
4. LONDON, WEST.—Old-established good middle-class PRACTICE, averaging over £2,500 p.a. (last year £2,600), including panel of 890. Visits 5/- to 10/6 and occasionally 21/-. Midwifery discouraged; 2 or 3 cases yearly at 15 to 20 gns. House contains professional accommodation, 2 reception, 5 bedrooms, dressing rooms, etc. Leasehold (23 years to run at £10 p.a. ground rent). Price £1,650. Premium £4,475.
5. PARTNERSHIP.—SOUTH-WEST LONDON.—A one-third share is for disposal in very well-established chiefly middle-class Practice, producing last year about £5,500, including panel (rapidly increasing) of 1,600. Fees from 2/6. Suitable house can be rented on lease. Premium 2 years' purchase.
6. WEST MIDLANDS.—Old-established PRACTICE, in small country town, in very picturesque surroundings, averaging over £1,200 p.a. (last year £1,300). Panel of about 700. Fees from 3/6. Centrally situated house, with 2 reception, 5 bedrooms, etc. Rent on lease £90 p.a. Good sport and schools. Premium £2,000.
7. NORTH DEVON AND CORNWALL BORDERS.—Very old-established unopposed Country PRACTICE, in beautiful district near the coast. Cash receipts average just over £1,100 p.a., including appt. and panel of 330. Suitable house available. Premium £1,600, to include drugs, etc. Hunting, golf, fishing, tennis, etc.
8. MIDLANDS.—COUNTY TOWN.—PARTNERSHIP.—A one-fourth share is offered in an exceptionally sound good mixed-class Practice, averaging over £6,000 p.a., including panel of 3,400. Lowest fee 4/-. Very little midwifery. If single, purchaser can live in comfortable rooms; otherwise choice of houses for sale, or on rental. Premium 2 years' purchase.
9. PARTNERSHIP.—YORKSHIRE.—LARGE CITY.—A one-third share, with succession to the whole Practice in about one year's time, is offered in a rapidly increasing PRACTICE, producing for the last 12 months approximately £2,300, including panel of 1,500. One appt. worth £150. A suitable house will be vacant shortly. Premium £1,200. Large scope for further development.
10. LONDON, N.W. (Kentish Town area).—In a well-populated district a mainly working-class PRACTICE, producing for twelve months ending March last £728, including panel of 260. House contains 10 rooms, with small garden; garage. Rent £120 p.a. on lease. Premium £900.
11. LONDON (WEST END).—Old-established non-dispensing and non-panel PRACTICE, averaging over £4,700 p.a. Visits (very few) and consultations from one guinea upwards. No midwifery. Suitable accommodation available on rental. Premium £6,000. Good introduction given. Personal application desired.
12. LANCS.—LARGE TOWN.—PARTNERSHIP.—A one-third or two-fifths share is for disposal in well-established and increasing middle and working class Practice. Gross cash receipts for immediate past 12 months £3,150. Panel of over 3,000. Appts. worth about £80 p.a. Fees from 2/6. Choice of two houses, both at moderate rentals. Premium only 1½ years' purchase.
13. WITHIN 20 MILES OF LONDON (WEST).—Rapidly developing district.—PARTNERSHIP.—A half share in a well-established good middle-class Practice, averaging over £5,500 p.a. Panel of 1,100 and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
14. SURREY.—COUNTRY PRACTICE.—Very old-established, and situated in delightful district. Gross cash receipts for past 12 months £2,000, including panel of about 700. Fees from 2/6 to 21/-. Midwifery 3 to 20 gns. Exceptionally nice house, with 2 reception, 6 bedrooms, and professional rooms. Nearly 2 acres of garden. Price for Practice and house £5,000.
15. CHESHIRE.—NEAR COAST.—Old-established good mixed-class PRACTICE, averaging for the past 3 years nearly £1,600, including panel of 1,280. Very good house in 3 acres of ground, with 2 reception, 4 bedrooms, etc. Rent on lease £85 p.a. Premium £2,300.
16. PARTNERSHIP.—HOME COUNTY.—Within 40 miles.—In a small country town, in very pleasant district, the third share, with increase later, of an old-established mixed-class Practice offering good scope. Cash receipts average over £3,000 p.a., including panel nearly 1,700 and appts. Good house, with 3/4 of an acre of garden, tennis court, etc. Rent on lease £65 p.a. Premium £1,700. Ingoing partner should be about 30, English or Scotch, and pref. married.
17. WITHIN 30 MILES OF LONDON.—In a delightful residential district (well populated and growing rapidly), a small PRACTICE, producing last year £406, including panel of 300, and capable of considerable development. Very good residence (suitable for resident patients) in about 2 acres of ground. Price, freehold, £4,000. Mortgage arranged. Premium £400. Excellent schools, good society, and sport.
18. FAVOURITE COAST TOWN.—Old-established good middle and better-class PRACTICE, producing over £1,800 p.a. Selected panel of under 400. Fees 3/6 to 10/6. Very little midwifery. Commodious house, with 2 reception, 6 bedrooms, etc. large garden. Freehold for sale. Premium £3,000.
19. SOUTH OF ENGLAND.—Pleasant Town near sea coast.—Very old-established PRACTICE (partly Surgical), averaging over £2,400 p.a. (last year £2,516), including panel of 500. Centrally situated house. Price for Practice and house £5,000. Successor should also have some knowledge of Eye, Ear, Nose, and Throat work.
20. HOME COUNTIES.—Within 40 minutes' run of London.—Old-established mixed-class and increasing PRACTICE, situated in small town with pleasant surroundings. Cash receipts average £1,725 p.a., including appt. £70 and panel 1,000. House with good accommodation and small garden. Price for freehold £2,500. Premium 1½ years' purchase. Educational facilities.
21. PARTNERSHIP.—MIDLANDS.—Prosperous Town within 80 miles of London.—A one-third or five-twelfths share is for disposal owing to the retirement of the second of three partners in an exceptionally sound mixed-class Practice. Average gross cash receipts £3,300 p.a., including panel of 1,000. Fees 2/6 to 25/-, medicine extra. Premium only 1½ years' purchase for quick sale, owing ill health.
22. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.
23. NORTH WALES.—PARTNERSHIP.—A one-third share is offered in a good mixed-class Practice producing over £1,700 p.a., including panel of 470 and appts. of about £100 p.a. Fees 3/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. Premium 2 years' purchase.
24. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.
25. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium only 1 year's purchase. Ill-health reason of sale.
26. LONDON, SOUTH-EAST. — Woman Doctor's PRACTICE, producing £560 immediate past 12 months. Panel of 152. Fees 2/6 to 21/-. Suitable flat can be rented at £50 p.a. Premium £650, or near offer. Very good scope for increase.
27. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
28. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
29. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.
30. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE, averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.
31. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.
32. MIDLANDS.—COUNTY TOWN.—Old established better class PRACTICE, averaging £795 p.a. and offering good scope. Panel 500 Fees 5/- upwards. Well situated house with good garden, with reception, 4 bedrooms, etc. Separate Surgery. Rent on lease £11 p.a. Premium 1¼ years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Valentine's Meat-Juice

In **Typhoid Fever, Diarrhoea and Cholera Infantum,** when it is **Essential** to **Sustain** the patient **without irritating** the **Digestive Organs,** the **Ease** of **Assimilation** and **Power** of **Valentine's Meat-Juice** to **Restore** and **Strengthen** has been demonstrated in Hospital and Private Practice.

THE quickness and power with which VALENTINE'S MEAT-JUICE acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

Physicians are invited to send for brochures containing clinical reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

Richmond, Virginia, U. S. A.

WB 302

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SAVED BABY'S LIFE!

PORTE'S CAESAREAN OPERATION

In 'The Scottish Nurse' for January 1931 appeared an article by a Scottish State Registered Nurse describing an exceedingly severe operation—*Porte's Caesarean Section*—which she underwent in Malta at the hands of a well-known surgeon.

Twenty-four hours after the second stage of labour had begun it was discovered that delivery was impossible. The womb had become septic and the Porte Caesarean was performed, the baby being safely extracted.

The condition of the mother was then highly critical, and the baby had to be revived by artificial respiration. For a week after birth she weighed only five pounds. The mother, despite intense pain and weakness, endeavoured to nurse her, but as progress appeared stationary she was put on alternate feeds of Cow & Gate Full Cream Milk Food and Breast.

From then onwards she made rapid progress and at four months the mother weaned her altogether.

Now eight months old, the child is the picture of contentment and happiness and weighs over 17 pounds.

COW & GATE MILK FOOD

has saved more baby lives than any other preparation in the world

"The best milk for babies, when natural feeding fails."

Cow & Gate MilkFood

COW & GATE LTD, GUILDFORD SURREY

B.M.J., May 30th, 1931.

AMENORRHEA

The most successful treatment is that which supplies the endocrine stimulus to menstruation

Prescribe

HORMOTONE
BRAND

The clinical use of Hormotone has now extended over a long period of years and its success has been thoroughly demonstrated. In scanty menstruation or actual suppression of the menses it is an effective therapeutic agent.

Dose: 1 or 2 tablets three times daily.

Bottles of 100 tablets.

G. W. CARNRICK CO.

20, Mt. Pleasant Avenue,
NEWARK, NEW JERSEY, U.S.A.

Dependable Gland Products.

London Agents: BROOKS & WARBURTON Ltd., 240, Vauxhall Bridge Road, S.W.1

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3674 SATURDAY, JUNE 6, 1931 Price 1/3

Medisoap

MIDGLEY'S MEDICATED SOAP

Medisoap Therapy to-day forms an important part of the standard treatment prescribed by leading dermatologists. Skin medication by means of Medisoaps is free from the discomforts of ointments, a fact which is of marked importance in scalp diseases for which Medisoaps are ideal.

A PRESCRIBER'S INDEX

relative to the comprehensive range of Medisoaps is available to members of the medical profession on application to:—

EVANS' BIOLOGICAL INSTITUTE, HIGHER RUNCORN, CHESHIRE

Medisoaps are stocked by pharmacists in all parts of the country.

Sole Makers:

CHARLES MIDGLEY, LTD. *Medicated Soap Specialists* MANCHESTER

Associated with EVANS SONS LESCHER & WEBB, LTD., Liverpool and London.

ISSUED WEEKLY [COPYRIGHT] [REGISTERED AS A NEWSPAPER

FELAMINE BRAND SANDOZ

SANDOZ

An association of the most powerful cholagogue—pure crystallised cholic acid—and the classical biliary disinfectant—hexamine, entirely free from accessory substances.

Indications:

CHOLANGITIS, CHOLECYSTITIS, HEPATIC INSUFFICIENCY, HEPATIC CONGESTION, JAUNDICE, CHRONIC CONSTIPATION.

Felamine is supplied in Bottles of 50 and 250 Tablets.

AGENCY:-
SANDOZ CHEMICAL WORKS PHARMACEUTICAL DEPT.
5, WIGMORE STREET, LONDON. W. 1.

British Medical Journal

CONTENTS

JUNE 6, 1931

ORIGINAL ARTICLES

Hume Lectures on Haemolytic Icterus. By LORD DAWSON OF PENN, M.D., F.R.C.P. Lecture II. (With Coloured Plates) 963

Some Surgical Aspects of Faulty Nutrition. By ROBERT MCCARRISON, M.D., F.R.C.P. (Illustrated)..... 966

Treatment of Dysmenorrhoea. By B. VENN DUNN, M.D., F.R.C.S.Ed. ... 971

Minor Surgery of Infancy. By DAVID LEVI, M.S., F.R.C.S. (Illustrated)... 973

An Anaesthetic Screen, Needle, and Thimble as "Surgical Aids." By Sir W. I. de C. WHEELER, M.D. F.R.C.S.I. (Illustrated)..... 975

Perforated Typhoid Ulcer. By J. B. G. MUIR, M.B., B.S., F.R.C.S., and S. C. CHIA, M.B., B.S. 976

Tuberculous Peritonitis Simulating Coeliac Disease. By E. C. WARNER, M.D., M.R.C.P. (Illustrated)..... 977

MEMORANDA

Perforation of Gastric Ulcer 3½ Years After Gastro-Enterostomy. By C. C. HOLMAN, M.B., F.R.C.S. 978

Keratodermia Blennorrhagica. By D. E. FINLAY, M.B., B.S. (Illustrated)... 979

REPORTS OF SOCIETIES

ROYAL SOCIETY: Sensory Messages 979

ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION:
Mental Disorder and Pernicious Anaemia 980

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION:
The Voluntary Mental Patient 981

REVIEWS

The Medical Annual, 1931 982

Radiology for Students 983

Primary Syphilis in the Female..... 983

A Synopsis of Medical History 984

Biliary Function 984

Notes on Books 984

UNIVERSITIES AND COLLEGES

Society of Apothecaries of London 1004

THE SERVICES

Territorial Decoration 1004

Indian Medical Service Dinner 1004

LEADING ARTICLES

HAEMOLYTIC JAUNDICE 989

PREVENTION OF SMALL-POX 990

THE EASTBOURNE PROGRAMME 991

THE WEEK

Recent Research on Vitamins..... 991

The Waking Hour in Hospital 992

Tests for Filariasis 993

Studies of Apical Infection 993

Bats 993

Dutch Tribute to Sir Robert Jones 994

The Dance of Death 994

B.C.G. 994

Stephen Paget Lecture 994

GENERAL ARTICLES AND NEWS

The Lübeck Catastrophe. A General Review 986

Birthday Honours.....1004

Small-pox Prevention and the Vaccination Acts 995

MENTAL HOSPITAL ACCOMMODATION... .. 996

PREPARATIONS AND APPLIANCES. (Illustrated) 985

MEDICAL NOTES IN PARLIAMENT:
Infant Mortality in India..... 1004

MEDICAL NEWS 1005

CORRESPONDENCE

Osteopathy at Home and Abroad. By Sir Ernest Graham-Little, M.D., F.R.C.P., M.P. 1000

Operation for Cataract. By H. M. Traquair, M.D., F.R.C.S.Ed. 1001

Fractures of the Neck of the Femur. By Sir Robert Jones, Bt., F.R.C.S.... .1001

Treatment of Brain Abscess. By H. V. Forster, M.B., M.Sc. 1001

Pseudo-Argyll Robertson Pupils with Absent Tendon Reflexes. By F. Parkes Weber, M.D., F.R.C.P. 1001

Rupture of Tendons. By C. M. Finny, F.R.C.S. 1002

Convulsions During Surgical Anaesthesia. By W. Spalding Laurie, M.D.1002

Alkaline Therapy in Scarlet Fever. By James B. Samson, M.D. 1002

The Modern Conception of Early Phthisis. By J. V. Sparks, M.R.C.S.1003

Microcephaly. By Noel H. M. Burke, M.R.C.S. 1003

Pituitrin and Obstetric Shock. By Parke, Davis and Co. 1003

Examination of Motorists Charged with Drunkenness. By Rees Phillips, M.D. 1005

LOCAL NEWS

SCOTLAND—
Mental Defect in Scotland 995
Scottish Nursing Conference 997
Edinburgh University 993

ENGLAND AND WALES—
Voluntary Hospital Progress 993
Cave-dwellers of Derbyshire 993
King's College, London 993
The Sound Film in Medical Education 999
Coroners' Inquests 999

IRELAND—
Northern Ireland Vital Statistics..... 999
Hospital Services in Armagh 999
St. Ultain's Hospital 999

OBITUARY

Sir Herbert Waterhouse, M.D., F.R.C.S. (With Portrait).....1005

The late Professor Halliburton 1005

Alfred John S. Roe, L.R.C.P. & S.....1005

LETTERS AND ANSWERS

Gestation Period in Animals 1007

Inflammation at Site of Old Vaccination Scars.....1007

Income Tax 1003

Axis-traction Forceps 1003

Neoplasm following War Service 1003

Garden Sanitation 1003

Medical Golf 1003

A Warning 1003

VACANCIES 1003

(*See also page* 231 *of* SUPPLEMENT)

The SUPPLEMENT contains:

BRITISH MEDICAL ASSOCIATION:
An Open Letter to Non-members.
Growth of the Association: Fifty Years' Progress.
Form of Application for Membership.

Annual Meeting, Eastbourne: Provisional Programme and List of Accommodation.

CURRENT NOTES:
Ninety-nine Years After.
Help to Individual Members.
Social Life and the Association.
Medical Importance of Teeth.

NOTICES OF MOTION BY DIVISIONS.

GENERAL MEDICAL COUNCIL: President's Address.

NATIONAL EYE SERVICE.

Association Notices; Correspondence; National Insurance; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, Bart., K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-. Tel-phone: GERRARD 4814.

Those who join within one year of Registration are exempt from Entrance Fee.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Appleton, D., & Co.
Gynecological & Obstetrical Monographs, 1931 Edition .. 12

Arnold & Co.
Crichton Miller, H.—Insomnia .. 8
Fraser, J.—Surgery of Childhood . 8
Garrod, Batten, & Thursfield—Diseases of Children . 8
Hutchison, R.—Dis. of Children . 8
Text-Book of Surgical Diagnosis 8
Topley & Wilson—Bacteriology . 8

Bailliere, Tindall & Cox.
Allen, F. M. B.—Dis. of Infants .. 5
Eyre's Bacteriological Technique .. 5
Hadfield's Practical Anæsthetics . 5
Jellett & Madill's Midwifery .. 5
May & Worth's Diseases of the Eye 5
Nicole, J. E.—Psychopathology. 5
Rose & Carless' Surgery .. 5
Stedman's Medical Dictionary 5
Tredgold's Mental Deficiency 5

British Medical Association.
Archives of Disease in Childhood 10
Journal of Neurology and Psychopathology 10

Cassell & Co., Ltd.
Birkett, G. E.—Radium Therapy 11
Herman's Difficult Labour 11
Horder & Gow—Medical Diagnosis 11
Paterson, D.—Sick Children . 11
Rood & Webber—Anæsthesia, etc. 11
Talbot, F. B.—Epilepsy 11

Churchill, J. & A.
Barton-Wright, E. C.—Plant Physiology . 7
Brain & Strauss—Neurology 7
Cushny's Pharmacology, etc ... 7
Eden & Holland's Midwifery 7
Eden & Lockyer's Gynæcology... . 7
Fox, R. F.—Waters and Coasts of Britain . 7
Haslam, J. F. C.—Preventive Med. 7
Orla-Jensen's Dairy Bacteriology .. 7
Pearson & Wyllie—Diseases of Children 7
Piney, A.—Haematology 7
Piney, Graves, McBride, Hewer, & Barton-Wright—Microscopy ... 7
Thresh & Beale—Water Analysis .. 7
White, H. P. W.—Stone in the Urinary Tract 7

Hodge, W., & Co. Ltd.
Notable British Trials Series..... 8

Lewis, H. K., & Co. Ltd.
Brockbank, E. M.—Life Assurance Examinations . 6
Treatment of Heart Disease . 6
Crocket, J.—Exam. of the Lungs . 6
Fisher, A. G. T.—Chronic Arthritis 6
Internal Derangements of the Knee-Joint . 6
Treatment by Manipulation .. 6
Fitzwilliams's Radium & Cancer ... 6
Forsdike's Sterility in Women . 6
Kenwood's Pub. Health Lab. Work 6
Lindsay, J. A.—*Among the Thinkers* 6
Medical Axioms, etc . 6
Low's Shorter Surgery .. 6
Nursing and Dis. of Sick Children . 6
Osler's Aequanimitas .. 6
Parkes & Kenwood's Hygiene etc .. 6
Rawling, L. B.—Landmarks & Surface Markings 6
Stepping Stones to Surgery . . 6
Rea's Affections of the Eye 6
Spencer & Cade—Dis. of Tongue 6
Steddart's Mind and Its Disorders 6
Swanzy's Diseases of the Eye 6

Lippincott, J. B., Co.
Adair, F. E.—Cancer 12
Hertzler, A. E.—Surgical Pathology 12
Kirschner, M.—Operative Surgery 12
Lippincott's Quick Reference Book 12
Piersol, G. A.—Human Anatomy 12
Wilson & Cochrane—Fractures, etc. 12

Wright & Sons, Ltd.
Hutchison, R.—Medical Treatment 8
Medical Annual, 1931 8

Livingstone, E. & S.
Anderson, J.—The Nervous System 9
Bourne, G.—Medical History, etc... 9
Campbell, D.—Therapeutics 9
Cochrane, W. A.—Orthopæd. Surg. 9
Conybeare J. J.—Medicine 9
Core, D. E.—Central Nerv. System 9
Currie, J. R.—Textbook of Hygiene 9
Glaister, J.—Medical Jurisprudence 9
Guy & Linklater—Hygiene for Nurses 9
Haultain & Fahmy—Ante-Natal Care 9
Kerr, Ferguson, Young, & Hendry—Obstetrics & Gynæcology 9
Lees, D.—Venereal Diseases 9
McKendrick & Whittaker—X-Ray Atlas 9
Mackie & McCartney—Bacteriology 9
Morley, J.—Abdominal Pain... 9
Muir, R.—Bacteriological Atlas 9
Norman, H. J.—Mental Disorders... 9
Outlines of Dental Science 9
Ross & Fairlie—Anæsthetics 9
Russ, S.—Physics for Med. Students 9
Russell, E. H. & W. K—Actinotherapy 9
Shattock, C. P.—Surgical Diagnosis 9
Stewart & Dunlop—Clin. Chemistry 9
Stroganoff, W.—Treatment of Eclampsia 9
Syme, W. S.—Dis. of the Nose, etc. 9
The Catechism Series 9
Underwood, F. A.—A Manual of Tuberculosis for Nurses..... 9
Watson, A. McL.—Histology 9
Wheeler's Handbook of Medicine .. 9
Whittaker, C. R.—Surg. Anatomy 9
Williamson, B.—Dis. of Children .. 9
Wyatt, B. L.—Chronic Arthritis..... 9

Oxford Medical Publications.
Davies, T. A.—Primary Syphilis in the Female 4
Emslie, M.—Breast-Feeding 4
Heald, C. B.—Injuries & Sport 4
Thomson & Miles' Man. of Surgery 4

Saunders, W. B., Co., Ltd.
Andrews, G. C.—Dis. of the Skin .. 3
Beckman, H.—General Practice 3
Cecil's Text-Book of Medicine 3
Curtis, A. H.—Gynæcology. 3
Foster, N. B.—Exam. of Patients . 3
Garrison, F. H.—History of Med... 3
McLester, J. S.—Nutrition & Diet .. 3

The Practitioner 13

ASSURANCE COMPANIES—
London Medical Protection Society 1
Medical Insurance Agency..... 61,83
Med. Sickness, Annuity, &c. 59

BANKS—
Barclays Bank.. .. .. Cover iii
Westminster Bank 62

BOOTMAKERS, &c.—
Holland & Son—Natureform Shoes 65

BRASS NAME PLATES, &c.—
Cooke's Name Plates *64*
Ford's Name Plates 64
Herd, S. J. & A.—Name Plates 62
Lejeune Ltd.—Name Plates, etc..... 65
Lewis & Co. Ltd.—Name Plates..... 64
Osborne, F. & Co.—Name Plates..... 64

DEBT COLLECTION—
Brit. Med. Protection Society..... 14

HOSPITAL, &c., FURNITURE—
Furniture, &c., Depositories, Ltd.—Second-hand Furniture 63
Lawson Tait—Bedsteads 64
Ward, Ltd.—Invalid Chairs 63

HOUSE AGENTS—
Bedford & Co. 81
Elliott, Son & Boyton 82

MOTOR CARS, TYRES, &c.—
Armstrong Siddeley Motor Cars 63
Garages—Chauffeur's Liveries 61
Second-hand Motors for Sale 82

CHEMISTS, &c.—
Allen & Hanburys Ltd.—'Azoule' Solution A.B.A. 43
Insulin 'A.B.' 56
'Umbrex' 43
Alliance Drug & Chemical Co.—Price List. 57
Anglo-French Drug Co., Ltd.—Bicatol. 46
Bayer Products Ltd.—'Compral' .. 37
Boots Products. 25,28
Bristol-Myers Co.—'Sal Hepatica' 57
British Drug Houses Ltd.—Caprokol 27
Gaster Siccata B.D.H. 29
Insulin 'A.B.' 55
Liver Extract B.D.H. 29
Burroughs Wellcome & Co.—Preparations 45
Clayton Aniline Co. Ltd.—Coagulen-Ciba ..... Cover iii
Coates & Cooper—Idozan. 24
Duncan, Flockhart & Co.—Anæsthetics 32
Fellows' Compound Syrup of Hypophosphites—'Fellows' 27
Hough, Hoseason & Co., Ltd.—Formasal & Arthritone... Cover iii
Kaylene Ltd.—Kaylene-ol 24
Kerol Ltd.—Capsules 54
Laboratoires Lobica—Taxol. 41
Marshall's Lysol 32
Martindale, W.—'Sterules'. 39,53
May & Baker, Ltd.—'Varicane'..... 28
Midgley, Ltd.—Medisoap Therapy ..... Cover i
Newbery & Sons, Ltd.—Agarol 47
Amsol 26
Oppenheimer Products 31
Petrolagar Laboratories Ltd.—Petrolagar 42
Reed & Carnrick—Thyreoids..... 24
Roberts & Co.—Dismenol 53
Saccharin Corporation Ltd.—Novocain & Glancosan 55
Sandoz Chemical Works—Felambe ..... Cover ii
Sharp & Dohme Ltd.—Caprokol..... 27
S.P. Charges Co.—Sulphaqua 58
Staniform Ltd.—Staniform 56
Wander, Ltd.—Alasil 25

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee 53
Battle Creek Food Co.—Lacto-Dextrin & Psylla..... 25
Benger's Food 44
Cadbury's Milk Chocolate 45
Cow & Gate Ltd.—Milk Food..... 35
Fassett & Johnson—Cream of Wheat. 29
Harden Bros. & Lindsay, Ltd.—Doctor's Chine Tea 56
Horlick's Malted Milk..... 30
Nestlé & Anglo-Swiss Con. Milk Co. Lactogen 33
Ryvita Co. Ltd.—Crispbread 25
Savory & Moore—Soluga 31
Sumner's Typhoo Tea 31
Valentine's Meat-Juice..... 33

SURGICAL APPLIANCES—
Bailey & Son—Surgical Apparatus .. 51
Campoirette Ltd.—Camp Supports 14
Davis & Geck—Sutures .. .. .. Cover ii
Dent's 'Ardente' Stethoscope 50
de St. Dalmas & Co. Ltd.—'Dalzo' Self-adhesive Plaster .. 19
Flemings Ltd.—Surgical Equipment 62
Hawksley & Sons, Ltd.—Stethoscopes. 61
Hewlett & Son, Ltd.—Instruments 17
Hilliard's New Absorbent Bags 62
Hoefltcke, C. A.—Ambulatory Extension Treatment 48
Leitz, E.—Leica Camera. 16
Medical Supply Association, Ltd.—'Cellanband' Paste Bandages... 53
Portable Traction Apparatus.... 52
'Varban' Elastic Plaster Band. 53
Medical Surgical Sundries, Ltd.—Inhalers, Inhaling Apparatus..... 82
Norvic Crepe Bandages 52
Salt's Surgical Service..... 49
Short & Mason—Tycos Sphygmomanometer 62
Smith & Son, Ltd.—Instruments... 18
Smith & Nephew Ltd.—Elast c Plaster Bandage .. Cover iv
Spencer Corsets, Ltd.—Corsets 23

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS..... 79

HOSPITAL, &c., VACANCIES—
Aberdeen Royal Hospital 78
Accrington, Victoria Hospital..... 83
Acton Hospital, W.3 75
All Saints' Hospital, S.W.1. 73
Barnsley, Beckett Hospital 82
Bermondsey Med. Miss.on Hospital 83
Birmingham Ear & Throat Hosp .. 84
Birmingham General Hospital 76
Birmingham Hospital for Women 83
Birmingham & Midland Eye Hosp. 83
Blackburn Royal Infirmary 78
Blackpool, Victoria Hospital..... 79
Bolingbroke Hospital, S.W.11 78
Brighouse Borough 77
Brighton, Hove, & Preston Disp.... 82
Brighton, Royal Sussex Co. Hosp .. 84
Cancer Hospital (Free), S.W.3..... 75
Chesterfield & N. Derbys. Roy. Hcs. 84
Chichester, Royal W. Sussex Hosp. 79
Connaught Hospital, E.17 76
Derbyshire Royal Infirmary..... 78
Doncaster Royal Infirmary..... 82
Durham County Council..... 77
Essex County.. 83
Exeter, Royal Devon Hospital 76
Fareham, Knowle Mental Hospital 82
Gloucestershire Royal Infirmary..... 76
Greenock Royal Infirmary..... 84
Hampstead General Hospital..... 76
Hospital for Sick Children, W.C.1... 79
Hove Hospital. 82
Ilford Borough 77
Indian Medical Service 75
Inverness, Royal Northern Infirm .. 84
Ipswich, East Suffolk Hospital..... 77
Kent and Canterbury Hospital..... 84
King's Lynn, W. Norfolk Gen. Hos. 82
Lancaster Royal Infirmary..... 83
Leeds City 83
Leeds, Herzl Moser Hospital..... 82
Leeds Hospital for Women..... 76
Leeds, St. James's Hospital 82
Liverpool, Bootle General Hosp. .. 78
Liverpool Psychotherapeutic Clinic 83
London County Council 74
London Female Lock Hospital..... 78
London Hospital, E.1 76
Lowestoft & N. Suffolk Hospital .. 83
Manchester Babies' Hospital..... 84
Manchester Ear Hospital..... 82
Manchester Royal Children's Hosp. 78
Middlesex County Council 83
Miller General Hospital, S.E.10 84
Nat. Hosp. for Nervous Dis., W.C.1 79
Newcastle, Prin. Mary's Mat. Hosp. 83
Newcastle, Royal Victoria Infirm... 77
Newport, Royal Gwent Hospital..... 76
Nottingham General Hospital. 76
Oldham Royal Infirmary..... 84
Poole, Cornelia & E. Dorset Hosp. 82
Princess Louise Kensington Hosp. 76
Q. Charlottes' Maternity Hospital 78
Queen's Hosp. for Children E.2 78
Rhondda Urban District Council.... 83
Rotherham Hospital 74
Royal Free Hospital, W.C.1. 76
Royal National Orthopædic Hosp .. 78
Royal Northern Hospital 84
St. Mary's Hospital 74
St. Peter's Hosp. for Stone, W.C.2 76
Salford Royal Hospital.. 76
Salvation Army, Mother's Hospital 76
Scunthorpe War Memorial Hospital 82
Seamen's Hospital Society 78
Sheffield Children's Hospital. 76
Sheffield, Jessop Hosp. for Women 78
Sheffield Royal Infirmary.. 83
Shropshire Orthopaedic Hospital .. 78
Southampton County Borough 77
Southampton, Royal S. Hants Hosp. 84
Stafford-hire, Longton Hospital .. 83
Stockport Infirmary 78
Sunderland Children's Hospital 79
Sunderland Royal Infirmary..... 77
Surrey County Council 77
Swansea General & Eye Hospital .. 83
Wallasey, Victoria Central Hosp. .. 78
Warwick County Mental Hospital.. 78
West London Hospital, W.6 79
Western Ophthalmic Hospital 78
Willesden General Hospital 83
Windermere, Ethel Hedley Hosp... 76
Woking & Dist. Victoria Hospital.. 83
Woolwich War Memorial Hospital 82
York, The Retreat..... 76

For completion of Index to Advertisements see page 14.

The Issue of the BRITISH MEDICAL JOURNAL is this week 43,500 copies.

NEW (2nd) EDITION

CECIL'S TEXT-BOOK OF MEDICINE

NEW (2nd) EDITION

READ THIS REVIEW

"The second edition, issued only four years after the first, of this well-known text-book, may almost be described as a new work. It has been re-set throughout, and largely re-written. The first essential in a text-book of modern medicine is that, as a work of reference, it shall contain everything; the next, that sound judgment should be exercised in presenting from the collection of facts a clear picture of the disease under discussion. In these two main features, the success of the authors has been indeed great. While a certain amount of unevenness is unavoidable amongst so many collaborators, some articles being better than others, the general level is extraordinarily high, and to review a work like this by singling out the treatment of any particular disease would savour somewhat of 'cheapness.' Judging the work as a whole, therefore, we have no hesitation in describing it as the best large text-book on medicine that has been produced in the English language for some time past, and in commending it for purchase not only by the student, but by the consultant also. The writers are for the most part teachers in American Universities and the larger hospitals, though contributions from eminent teachers and research workers of other nationalities have been included. The skill with which the separate essays have been combined into a coherent and readable whole excites our admiration. The paper and type are both excellent. Finally, the price is only 40s."—MEDICAL PRESS AND CIRCULAR.

Octavo of 1,592 pages, illustrated. By 135 American authorities. Edited by RUSSELL L. CECIL, M.D., Assistant Professor of Clinical Medicine, Cornell Medical School. Cloth, 40s. net.

TREATMENT IN GENERAL PRACTICE

By HARRY BECKMAN, M.D., Professor of Pharmacology, Marquette University, Milwaukee. Octavo of 899 pages. Cloth, 45s. net.

"This book or its equivalent should be in the hands of every physician, and we have not yet come across its equivalent."—THE LANCET.

NUTRITION AND DIET

By JAMES S. MCLESTER, M.D., Professor of Medicine at the University of Alabama. New (2nd) Edition. Octavo of 891 pages. Cloth, 36s. net.

"Provides an excellent and well-balanced exposition of the subject of Dietetics. In it justice is done to both the theoretical and practical aspects of nutrition and its value as a work of reference is enhanced by the carefully selected bibliographies presented at the end of each chapter."—EDINBURGH MEDICAL JOURNAL.

DISEASES OF THE SKIN

By GEORGE C. ANDREWS, A.B., M.D., Associate Professor of Dermatology, College of Physicians and Surgeons, Columbia University. Octavo of 1,091 pages, with 988 illustrations. Cloth, 55s. net.

"The whole volume is excellently got up, and, considering the amount of matter contained in it, remains moderate in size and easy to handle. We commend it with confidence both to general practitioners and specialists."—BRITISH MEDICAL JOURNAL.

EXAMINATION OF PATIENTS

By NELLIS B. FOSTER, M.D., Associate Professor of Medicine, Cornell University College of Medicine. Octavo of 392 pages, with 83 illustrations. Second Edition. Cloth, 21s. net.

"In this second edition the author has, in response to repeated requests, treated the subject of differential diagnosis in the same concise manner as in his previous description of the methods of examination. The style is attractive and carries the reader pleasantly along. . . . As a whole the work fully justifies its obvious popularity."—BRITISH MEDICAL JOURNAL.

HISTORY OF MEDICINE

By FIELDING H. GARRISON, M.D., Lieutenant-Colonel, Medical Corps, U.S. Army, Surgeon-General's Office, Washington, D.C. Octavo of 996 pages, with numerous portraits and other pictures. Fourth Edition. Cloth, 55s. net.

"The most readable, and in some respects the most valuable of medical histories. The record of progress is enhanced throughout by touches of human interest. The author is never dull. . . . We congratulate him on having produced a fascinating volume, which, while full of solid learning, can, unlike most histories of medicine, be read from end to end without a yawn."—BRITISH MEDICAL JOURNAL.

TEXT-BOOK OF GYNAECOLOGY

By ARTHUR H. CURTIS, M.D., Professor and Head of the Department of Obstetrics and Gynaecology, Northwestern University Medical School. Octavo of 375 pages, with 224 illustrations, 5 in colours. Cloth, 24s. net.

"This delightful book conveys to the reader exactly what is intended, that is, a personal record of personal experience and an exposition of all that the author believes is vital in gynaecology. The illustrations are excellent. I have read with pleasure every page . . . and recommend the appeal and distinction of this volume."—INDIAN MEDICAL GAZETTE.

W. B. SAUNDERS COMPANY Ltd., 9, Henrietta Street, LONDON, W.C.2

OXFORD MEDICAL PUBLICATIONS

Just Published

INJURIES AND SPORT

A General Guide for the Practitioner

By C. B. HEALD, C.B.E., M.A., M.D.(Cantab.), M.R.C.P.(Lond.)

Physician-in-charge of Electro-therapeutic Department, Royal Free Hospital; Physician to the British Red Cross Clinic for Rheumatism; Consulting Physician in Electro-therapy, Royal Air Force

Contents include:—Repair as a repetition of Development—Development and Repair in the various Tissues—Diagnosis of Injury—Immediate Care of Injured Patient—Principles of Splinting and Support in Injury—Electro-Therapeutics—Physio-Therapeutics—Factors modifying Recovery—Complications—Injuries to the Shoulder-girdle—To the Arm and Elbow—To the Forearm and Hand—To the Lower Back and Pelvis—To the Hip, Thigh, and Knee—To the Leg and Foot—To the Head, Neck, and Thorax—Recreational Therapy—Blood Transfusion Service, etc.

Pp. 567. 380 Illustrations 25s. net.

BREAST-FEEDING

By MARGARET EMSLIE, M.B., Ch.B.

Late Senior Assistant Medical Officer for Maternity and Child Welfare, County Borough of Croydon; Formerly Senior Clinical Assistant, Hospital for Sick Children, Great Ormond Street, London; Medical Officer, Southfields Centre

Contents include:—The Preparation for Breast-feeding—Anatomy and Physiology of the Breast—The Establishment of Breast-feeding—The Management of Breast-feeding—The Child on the Breast—Difficulties in Breast-feeding—Weaning—Sore Nipples—Breast Abscess—An Experiment in Breast-feeding—Working-class Mothers' time-table.

Pp. 154. 22 Illustrations 5s. net.

VISIT **No. 31** STAND

At the BRITISH MEDICAL ASSOCIATION EXHIBITION to be held at Eastbourne from the 20th to 24th July, 1931, where we are showing a range of the latest Medical Publications

PRIMARY SYPHILIS IN THE FEMALE

By THOMAS ANWYL DAVIES, M.D.(Lond.)

Director of the Whitechapel (L.C.C.) Clinic, Turner Street, E.1; Late M.O. in Charge, and Late S.M.O. of the Venereal Department at St. Thomas's Hospital, S.E.1

Contents include:—The Incidence of Primary Syphilis—The Symptoms of Primary Syphilis in the Female—The Sex Differences of the Primary Lesion—Sites of the Primary Lesion—Examination of the Patient—The Abnormal Appearances and Lesions of the Vulva—Chancres of the Labia Majora—Chancres of the Labia Minora—Chancres on the Fourchette—Chancres of the Urethra—Chancres of the Clitoris—Chancres of the Vagina—Chancres of the Cervix—The Differential Diagnosis of Cervical Lesions—The Abnormal Appearances and Lesions of the Cervix—Extragenital Chancres—Chancroid—Vulval "Condylomata"—Trichomonas Vaginitis—The Abnormal Appearances and Lesions of the Vagina.

Pp. 120. 25 Plates (17 Natural-colour Photographs) 12s. 6d. net.

A New (Eighth) Edition of THOMSON and MILES' MANUAL of SURGERY

(Volume One—GENERAL SURGERY)

By ALEXANDER MILES, M.D., LL.D., F.R.C.S.(Ed.)
Consulting Surgeon, Royal Infirmary, Edinburgh;
and D. P. D. WILKIE, M.D., F.R.C.S.(Ed. and Eng.)
Professor of Surgery, University of Edinburgh

Contents include:—Repair—Conditions which Interfere with Repair—Inflammation—Suppuration—Ulceration and Ulcers—Gangrene—Bacteria and other Wound Infections—Surgical Manifestations of Tuberculosis—Syphilis—Tumours—Injuries—Methods of Wound Treatment—Constitutional Effects of Injuries—The Blood Vessels—The Lymph Vessels and Glands—The Nerves—Skin and Subcutaneous Tissue—The Muscles, Tendons, and Tendon Sheaths—The Bursae—Diseases of Bone—Diseases of Joints.

Pp. 590. 176 Illustrations 12s. 6d. net.

COMPLETE CATALOGUE SENT ON REQUEST

Oxford University Press

HUMPHREY MILFORD
Telephone: City 2604

Amen House, London, E.C.4
Telegrams: Frowde, Cent., London

BAILLIÈRE, TINDALL & COX'S

RECENT PUBLICATIONS

¶ "This work supplies the needs of the student and practitioner more closely than any other."—*British Medical Journal.*

13TH ED. ROSE & CARLESS' SURGERY 13TH ED.

By CECIL P. G. WAKELEY, F.R.C.S., and JOHN B. HUNTER, F.R.C.S.

Special Contributors:—W. E. CARNEGIE DICKSON; V. E. NEGUS; N. BISHOP HARMAN; EARDLEY HOLLAND; C. F. HADFIELD; Sir FRANK POWELL CONNOR; H. GRAHAM HODGSON.

Size 9½ × 6½. Pp. xiii + 1,592, with 664 Illustrations, 19 Coloured Plates, and a Radiographic Supplement of 43 Radiograms. Price 30s.

¶ "*An exceptionally clear and reliable guide to basic technical procedures.*"—JOURNAL OF PATHOLOGY.

3RD ED. EYRE'S BACTERIOLOGICAL TECHNIQUE 3RD ED.

¶ "*The work has been well and carefully done, and complete reliance may be placed upon it.*"—PUBLIC HEALTH.

By J. W. H. EYRE, M.D., M.S., F.R.S.Edin., Professor of Bacteriology, University of London.

Size 5½ × 8¾. Pp. xii + 619, with 238 Illustrations. Price 21s. Postage 9d.; Abroad 1s.

2ND ED. HADFIELD'S PRACTICAL ANAESTHETICS 2ND ED.

By CHARLES F. HADFIELD, M.B.E., M.A., M.D.Camb., Anaesthetist and Lecturer on Anaesthetics, St. Bartholomew's Hospital.

¶ "*This excellent handbook is eminently suited to the general practitioner. The advice is sound . . . principles inculcated are always clear and logical.*"—LANCET.

Pp. xvi + 304, with 32 Illustrations. Price 7s. 6d. Postage 6d.; Abroad 9d.

4TH ED. JELLETT & MADILL'S MANUAL OF MIDWIFERY 4TH ED.

¶ "*The most exhaustive treatise on Midwifery produced in these Islands.*"—BRITISH MEDICAL JOURNAL.

Size 9½ × 5½. Pp. xii + 1,281, with 570 Illustrations. Price 25s.

This is a practical Dictionary, including Dental, Veterinary, Chemical, Botanical, and other special terms.

11TH ED. STEDMAN'S MEDICAL DICTIONARY 11TH ED.

¶ "*Well-arranged and well-produced. . . . Its popularity may be judged by the constant demand for fresh editions.*"—BRIT. MED. JOURN.

Quarto size. Pp. xii + 1,194, double columns, with 22 Plates and over 400 Illustrations, of which 64 are coloured.

Limp leather, with thumb-cut index. Price 35s. Postage: Inland 1s.

DISEASES OF INFANTS AND CHILDREN

By F. M. B. ALLEN, M.D., Assistant Physician, Belfast Hospital for Sick Children.

¶ "*This book is a sound guide to the practical side of pediatrics.*"—LANCET.

Size 5½ × 8. Pp. viii + 595. Price 15s. Postage 6d.; Abroad 9d.

6TH ED. MAY & WORTH'S DISEASES OF THE EYE 6TH ED.

¶ "*One of the best of the text-books upon diseases of the eye intended for the use of students or practitioners.*"—EDINBURGH MED. JOURN.

Demy 8vo. Pp. viii + 460, with 337 Illustrations, including 23 Coloured Plates. Price 15s. Postage 9d.

PSYCHOPATHOLOGY. A Survey of Modern Approaches

By J. ERNEST NICOLE, L.M.S.S.A., D.P.M.R.C.P. & S. With Foreword by W. H. B. STODDART, M.D., B.S., F.R.C.P.Lond.

¶ "*Dr. J. Ernest Nicole has provided an excellent survey.*"—LANCET. Size 5½ × 8¾. Pp. xii + 203. Price 10s. 6d. Postage 6d.; Abroad 9d.

5TH ED. TREDGOLD'S MENTAL DEFICIENCY 5TH ED.

¶ "*Indispensable as a trustworthy guide . . . should be read and referred to by all who are called into relation with the mentally defective.*"—JOURNAL OF MENTAL SCIENCE.

Size 9 × 6. Pp. xvi + 520, with 35 plates. Price 25s. Postage 9d.; Abroad 1s.

BAILLIÈRE, TINDALL & COX, 7 & 8, Henrietta Street, London, W.C.2

LEWIS'S PUBLICATIONS

RECENTLY PUBLISHED. ENTIRELY RE-WRITTEN. Pp. xvi + 562.
With 49 Coloured Illustrations on 20 Plates and 123 Figures in the Text. Demy 8vo. 35s. net; postage 1s.

DISEASES OF THE TONGUE

Being the third edition of Butlin's "Diseases of the Tongue."
By W. G. SPENCER, M.S., F.R.C.S., Consulting Surgeon, Westminster Hospital; and STANFORD CADE, F.R.C.S., Assist. Surg., Westminster Hospital, Surgeon, Mount Vernon Hospital, etc.
"The directions for detailed treatment are lucid and sufficiently dogmatic . . . must prove of the highest value. . . . An admirable book."—B.M.J.

Love's SHORTER SURGERY. A Practical Manual for Senior Students.
By R. J. McNEILL LOVE, M.S.Lond., F.R.C.S.Eng. Second Edition. With 74 Illustrations. Demy 8vo. 16s net; postage 9d.
". . . the book can be warmly recommended."—GLAS. MED. JOURN.

Rawling's STEPPING STONES TO SURGERY: ANATOMY APPLIED TO SURGERY.
By L. BATHE RAWLING, M.B., B.C.Cantab., F.R.C.S.Eng. With 97 Illustrations. Demy 8vo. 12s. 6d. net; postage 6d.
". . . likely to prove of the greatest practical value."
—BRITISH MEDICAL JOURNAL.

BY THE SAME AUTHOR.

LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY.
Seventh Edition. Thoroughly revised. With new Illustrations. Demy 8vo. 7s. 6d. net; postage 6d.
". . . a household necessity among surgical students."—LANCET.

Parkes and Kenwood's HYGIENE AND PUBLIC HEALTH.
Revised by HENRY R. KENWOOD, C.M.G., M.B., F.R.S.Edin., D.P.H. Lond., and HAROLD KERR, O.B.E., M.A.Dunelm., M.D.Edin., D.P.H. Camb. Eighth Edition. With 2 Plates and 91 Illustrations. Demy 8vo. 21s. net; postage 9d.
". . . a quarry of concise information. . . ."—BRIT. MED. JOURN.

Kenwood's PUBLIC HEALTH LABORATORY WORK (Chemistry).
By HENRY R. KENWOOD, C.M.G., M.B., D.P.H., F.C.S., etc. Eighth Edition. Demy 8vo. 12s. 6d. net; postage 6d. *Lewis's Practical Series.*
". . . probably no other book on laboratory technique has had so large and appreciative an audience."—THE MEDICAL OFFICER.

Stoddart's MIND AND ITS DISORDERS.
By W. H. B. STODDART, M.D., F.R.C.P. Fifth Edition, thoroughly revised and largely re-written. With Plates and other Illustrations. Demy 8vo. 21s. net; postage 9d.
". . . a comprehensive and challenging text-book."
—BRITISH MEDICAL JOURNAL.

JUST PUBLISHED. SECOND EDITION. *With 151 Illus., including 40 Plates.* Demy 8vo. 16s. net; postage 9d.

The PHYSICAL and RADIOLOGICAL EXAMINATION of the LUNGS

With Special Reference to Tuberculosis and Silicosis, including a Chapter on Laryngeal Tuberculosis.
By JAMES CROCKET, M.D., D.P.H., M.R.C.P.E., Lecturer on Tuberculosis, *Glasgow University*; Visiting Physician, Consumption Sanatoria of Scotland, Bridge of Weir, etc.
". . . should be of great value both to the student and to the general practitioner."—QUEEN'S MEDICAL MAGAZINE.

By A. G. TIMBRELL FISHER, *M.C.*, F.R.C.S.Eng.
With 186 Illustrations, included in 93 Plates (1 Coloured) and the Text. Demy 8vo. 25s. net; postage 9d.

CHRONIC (Non-Tuberculous) ARTHRITIS
Pathology and Principles of Modern Treatment.
"Mr. Timbrell Fisher has established the existence of facts hitherto unknown and has made valuable contributions to our knowledge. His book is to be recommended."—BRITISH MEDICAL JOURNAL.
With 79 Illustrations on 40 Plates and 1 Text-figure. Demy 8vo. 12s. 6d. net; postage 6d.

INTERNAL DERANGEMENTS OF THE KNEE-JOINT:
Their Pathology and Treatment by Modern Methods.
"An admirable monograph which may be regarded as a type of what a monograph should be."—THE PRACTITIONER.
With 62 Illustrations. Demy 8vo. 9s. net; postage 6d.

TREATMENT BY MANIPULATION
A Practical Handbook for the Practitioner and Student.
"We can strongly recommend this book to all who have to do with the treatment of injuries. . . . The illustrations are excellent and there is a good index."—ST. BARTHOLOMEW'S HOSPITAL JOURNAL.

Brockbank's CONDUCT OF LIFE ASSURANCE EXAMINATIONS.
By E. M. BROCKBANK, M.D.Vict., F.R.C.P. Demy 8vo. 7s. 6d. net; postage 5d. *[General Practice Series.*

BY THE SAME AUTHOR.

THE DIAGNOSIS AND TREATMENT OF HEART DISEASE.
Sixth Edition, revised and enlarged. 35 Illustrations, including 3 plates. Crown 8vo. 7s. 6d. net; postage 5d.
"Of real value . . . will enjoy an increasing popularity."
—THE PRACTITIONER.

Fitzwilliams' RADIUM AND CANCER (Curietherapy).
By DUNCAN C. L. FITZWILLIAMS, C.M.G., F.R.C.S. 4 Coloured Plates and 68 other Illustrations. Demy 8vo. 12s 6d. net; postage 6d.
". . . the case records give an idea of the success the author has had in many fields with the use of radium."—BRITISH JOURNAL OF SURGERY.

With 111 Illustrations. Demy 8vo. 15s. net; postage 9d.

A TEXT-BOOK on the NURSING and DISEASES of SICK CHILDREN

FOR NURSES AND WELFARE WORKERS
Edited by ALAN MONCRIEFF, M.D., B.S., M.R.C.P.Lond., Medical Registrar and Pathologist to the Hospital for Sick Children, Great Ormond Street; with the assistance of T. TWISTINGTON HIGGINS, F.R.C.S., ERIC I. LLOYD, M.A., F.R.C.S., B. SCHLESINGER, M.A., M.D., M.R.C.P., M. A. FUSSELL, S.R.N.
". . . is clear, detailed, and accurate, and is illustrated where necessary by some *useful diagrams and photographs.*"—BRIT. MED. JOURN.

Rea's AFFECTIONS OF THE EYE IN GENERAL PRACTICE.
By R. LINDSAY REA, M.D., F.R.C.S. With 7 Coloured Plates and 35 other Illustrations. Demy 8vo. 10s. 6d. net; postage 6d.
". . . easily read . . . should prove most helpful."
—GLASGOW MEDICAL JOURNAL.

Forsdike's STERILITY IN WOMEN: Diagnosis and Treatment.
By S. FORSDIKE, M.D., B.S.Lond., F.R.C.S.Eng. and Edin. With 25 Illustrations, including 17 Plates. 9s. net; postage 5d.
". . . easy to read and follow and compels attention."
—WEST LONDON MEDICAL JOURNAL.

Osler's AEQUANIMITAS. With other Addresses to Medical Students, Nurses, and Practitioners of Medicine.
By Sir WILLIAM OSLER, Bart., M.D., F.R.C.S. Second Edition. Ninth Impression. Post 8vo. 7s. 6d. net; postage 6d.
"Written with all the breadth of view and the beauty of style which make Professor Osler's writings so characteristic and so valuable."
—THE LANCET.

Swanzy's DISEASES OF THE EYE AND THEIR TREATMENT.
Revised and Edited by LOUIS WERNER, M.B., F.R.C.S.I., etc. Thirteenth Edition. With 9 Coloured Plates and 278 Text Illustrations. Demy 8vo. 21s. net; postage 9d.
". . . one of the best and most convenient treatises of its kind."
—BRITISH MEDICAL JOURNAL.

Lindsay's AMONG THE THINKERS: Leaves from my Note-Books.
By JAMES A. LINDSAY, M.A., M.D., F.R.C.P., Emeritus Professor of Medicine in the Queen's University of Belfast, &c. Pp. x + 198. Crown 8vo. 5s. net; postage 4d. *Just Published.*
". . . a generous well of worldly wisdom into which one may dip anywhere and bring up a well turned phrase, an acute observation or a profound reflection."—THE LANCET.

BY THE SAME AUTHOR.

MEDICAL AXIOMS, APHORISMS, AND CLINICAL MEMORANDA.
SECOND IMPRESSION. Crown 8vo. 6s. net; postage 4d.
". . . we can imagine no more useful book for practitioners of all ages."—THE LANCET.

*** Complete CATALOGUE of publications post free on application.*

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1
Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

J. & A. CHURCHILL

NOW READY. SEVENTH EDITION. 9 Plates. 389 Illustrations.
21s. Postage 9d.

EDEN & HOLLAND'S MANUAL OF MIDWIFERY

BY

T. W. EDEN, M.D., F.R.C.P., F.R.C.S.Edin., Consulting Obstetric Physician, Charing Cross Hospital, AND EARDLEY HOLLAND, M.D., F.R.C.P., F.R.C.S., Obstetric and Gynaecological Surgeon, The London Hospital.

RECENT ADVANCES IN MICROSCOPY: Biological Applications

Edited by A. PINEY, M.D., F.R.C.P., Director Path. Dept., Cancer Hosp. Contributions by BASIL GRAVES, M.C., E. W. MacBRIDE, F.R.S., H. R. HEWER, M.Sc., and E. C. BARTON-WRIGHT, M.Sc.
83 Illustrations. 12s. 6d. Postage 6d.

ORLA-JENSEN'S DAIRY BACTERIOLOGY

Translated by P. S. ARUP, M.Sc.
SECOND EDITION. 67 Illustrations. 18s. Postage 6d.

A SIMPLE METHOD OF WATER ANALYSIS

With Sections on the Analysis of Sewage Effluents and on the Purification of Water by Means of Chlorine. Especially intended for the Use of Medical Officers of Health, Sewage Works Managers, and Other Sanitary Officials.
By J. C. THRESH, D.Sc., M.D., D.P.H., and J. F. BEALE, M.R.C.S., D.P.H.
TENTH EDITION. 3s. Postage 2d.

THIRD EDITION. 556 Illustrations. 32 Coloured Plates. 35s. Postage 1s.

EDEN & LOCKYER'S GYNAECOLOGY

By T. W. EDEN, M.D., F.R.C.P., and CUTHBERT LOCKYER, M.D., B.S., F.R.C.S., Consulting Physicians, Charing Cross Hospital.

2 Coloured Plates, 181 Text-figures. 25s. Postage 9d.

STONE IN THE URINARY TRACT

By H. P. WINSBURY WHITE, M.B., Ch.B., F.R.C.S., Hon. Assist. Surgeon, St. Paul's Hosp. for Genito-Urinary Diseases.

51 Illustrations. 12s. 6d. Postage 6d.

RECENT ADVANCES IN PLANT PHYSIOLOGY

By E. C. BARTON-WRIGHT, M.Sc.(Lond.), Lecturer in Botany, University of London.
Foreword by Prof. R. RUGGLES GATES, M.A., Professor of Botany, University of London.

SECOND EDITION. 39 Illustrations. 12s. 6d. Postage 6d.

RECENT ADVANCES IN NEUROLOGY

By W. RUSSELL BRAIN, M.A., D.M., M.R.C.P., Assistant Physician to the London Hospital; and E. B. STRAUSS, B.M., B.Ch., M.R.C.P., late Medical Registrar, Hosp. for Epilepsy and Paralysis, Maida Vale.

30 Illustrations. 12s. 6d. Postage 6d.

RECENT ADVANCES IN PREVENTIVE MEDICINE

By J. F. C. HASLAM, M.C., M.D.(Edin.), Assistant Director, Bureau of Hygiene and Tropical Diseases. With chapter on Vitamins, by Prof. S. J. Cowell, M.A., M.B.

CONTENTS—EUGENICS—MATERNAL MORTALITY—WASTAGE OF YOUNG LIFE—CHILDHOOD—MILK—RECENT ADVANCES IN KNOWLEDGE OF VITAMINS—ATMOSPHERIC CONDITIONS—HYGIENE IN INDUSTRY—ACTIVE IMMUNISATION.

SECOND EDITION. 34 Text-figures. 15s. Postage 9d.

RECENT ADVANCES IN THE DISEASES OF CHILDREN

By WILFRED J. PEARSON, D.S.O., Physician, Children's Dept., University College Hospital, and W. G. WYLLIE, M.D., Physician, Out-Patients, Hospital for Sick Children, Great Ormond Street.

THIRD EDITION. 22 Illustrations. 12s. 6d. Postage 6d.

RECENT ADVANCES IN HAEMATOLOGY

By A. PINEY, M.D., Ch.B.(Birm.), M.R.C.P., Director, Path. Dept., Cancer Hospital.

NINTH EDITION. 73 Illustrations. 24s. Postage 9d.

CUSHNY'S PHARMACOLOGY AND THERAPEUTICS, OR THE ACTION OF DRUGS IN HEALTH AND DISEASE

Thoroughly revised by C. W. EDMUNDS, A.B., M.D., Professor of Materia Medica, University of Michigan; and J. A. GUNN, M.D., D.Sc., Professor of Pharmacology, University of Oxford.

14 Plates. 1s. Postage 3d.

THE WATERS AND COASTS OF BRITAIN

A Guide to the Spa and Marine Health Resorts. Reprinted from "The Medical Directory, 1931."
By R. FORTESCUE FOX, M.D., F.R.C.P., F.R.Met.S.

London: 40, Gloucester Place, Portman Square, W.1

From EDWARD ARNOLD & CO.'S List

Two Volumes, Super Royal 8vo. 1,360 Pages with 242 Illustrations. 50s. Net the Set.†

PRINCIPLES OF
BACTERIOLOGY AND IMMUNITY

By W. W. C. TOPLEY, M.A., M.D., M.R.C.S., F.R.C.P., F.R.S., and G. S. WILSON, M.D., B.S., D.P.H., Professors at the London School of Hygiene and Tropical Medicine.

"The manner in which information and suggestive ideas are given in this encyclopaedic work, and the lists of selected references appended to the chapters, will make these volumes an invaluable source of reference to the medical man, and of inspiration to the advanced student and the prospective research worker."—PRACTITIONER.

LECTURES ON DISEASES OF CHILDREN

By ROBERT HUTCHISON, M.D., F.R.C.P., Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street. **Sixth Edition.** viii + 476 pages. 104 Illustrations. 21s. net.

"It is almost enough to say that this edition has all the good qualities of its predecessors. The book is a model of clinical teaching and medical writing."—BRITISH MEDICAL JOURNAL.

A TEXT-BOOK OF SURGICAL DIAGNOSIS

WITH CONTRIBUTIONS BY 33 EMINENT AUTHORS.

Edited by A. J. WALTON, M.S., F.R.C.S., Surgeon to the London Hospital. Two Volumes. xvi + 1,122 pages, 570 Illustrations. 63s. net.†

Garrod, Batten & Thursfield's DISEASES OF CHILDREN

Second Edition, with Contributions by 36 Authors. Edited by HUGH THURSFIELD, D.M., M.A., F.R.C.P., and DONALD PATERSON, M.D., F.R.C.P., Physicians to the Hospital for Sick Children, Great Ormond St. xii + 1,106 pages. 250 Illus. 45s. net.†

"This book has already won its place in the foreground of pediatric literature."—LANCET.

SURGERY OF CHILDHOOD

By JOHN FRASER, M.D., Ch.M., F.R.C.S.Edin., Regius Professor of Surgery in the University of Edinburgh. Two Volumes. xii + 1,154 pages, 598 Original Illustrations. 42s. net.†

INSOMNIA: An Outline for the Practitioner

By H. CRICHTON-MILLER, M.D.(Edin. and Pavia), Hon. Director, Tavistock Square Clinic for Functional Nervous Disorders. xii + 172 pages. 10s. 6d. net.†

This attractively written book includes some account of the various theories of sleep, and its therapeutic advice will be found useful in the treatment of many functional nerve cases.

"The work is to be cordially recommended. It serves as an admirable introduction and up-to-date review of a difficult subject."—LANCET.

†*Prospectuses available*

LONDON: EDWARD ARNOLD & CO., 41-43, MADDOX STREET, W.1

NOTABLE BRITISH TRIALS SERIES

Just Published. Illustrated. Price **10/6** net.

THE TRIAL OF DR. SMETHURST. Edited by LEONARD A. PARRY, M.D.

READY SHORTLY.

THE TRIAL OF ALFRED A. ROUSE. Edited by HELENA NORMANTON, Barrister-at-Law.

RECENT VOLUMES.

DR. NEILL CREAM DR. LAMSON DR. PALMER DR. PRITCHARD DR. CRIPPEN

Descriptive pamphlet free on application.

WILLIAM HODGE & Co. Ltd., 12, Bank Street, EDINBURGH and at LONDON & GLASGOW.

NOW READY. 49th YEAR. With 70 Plain and Coloured Plates and many Text Illustrations. 20s. net. Postage 9d

MEDICAL ANNUAL, 1931

A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX.

A Review of the Year's Progress in Medicine and Surgery, arranged in Alphabetical order.

EDITORS: CAREY F. COOMBS, M.D., F.R.C.P., and A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.

IN CONJUNCTION WITH 29 WELL-KNOWN CONTRIBUTORS.

"There can be few medical publications in the English language that are so widely read as the 'Medical Annual.'"—BRIT. MED. JOURN.

Third Large Impression. Crown 8vo. 168 pp. 7s. 6d. net. Postage 4d.

THE ELEMENTS OF MEDICAL TREATMENT

By ROBERT HUTCHISON, M.D., F.R.C.P., *Physician to the London Hospital and the Hospital for Sick Children, Great Ormond Street.*

"The advice it contains is sound, free from fads, and not overburdened with useless details."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

E. & S. LIVINGSTONE,

MEDICAL PUBLISHERS

16 & 17, TEVIOT PLACE, EDINBURGH

NEW BOOKS AND NEW EDITIONS JUST PUBLISHED

New Books Just Published

ABDOMINAL PAIN
By JOHN MORLEY, Ch.M., F.R.C.S., Hon. Consulting Surgeon, Ancoats Hospital, Manchester; Hon. Assistant Surgeon, Manchester Royal Infirmary, etc.
Demy 8vo, 208 pp. 22 Illustrations. Price 10/6 net. Post. 6d.

CHRONIC ARTHRITIS AND RHEUMATOID AFFECTIONS
By B. L. WYATT, M.D., F.A.C.P., Director, The Wyatt Clinic, Tucson, Arizona, etc.
Demy 8vo, 176 pp. Price 15/- net. Postage 6d.

AN INTRODUCTION TO MEDICAL HISTORY AND CASE-TAKING
By GEOFFREY BOURNE, M.D.(Lond.), F.R.C.P., Demonstrator of Practical Medicine and Assistant Physician, St. Bartholomew's Hospital, etc.
Crown 8vo, 200 pp. Illustrated. Price 6s. net. Postage 5d.

A HANDBOOK OF DISEASES OF CHILDREN
By BRUCE WILLIAMSON, M.D.(Edin.), M.R.C.P.(Lond.), Physician, Royal Northern Hospital, etc. 300 pp. 50 Illustrations. Price 10s. 6d. net. C.O.D. 11s.
Lancet:—"Distinctive features of its own—not a mere excerpt from textbooks—a vade-mecum for practitioners."
St. Mary's Hospital Gazette:—"Of its class it is first-class—as good as it could possibly be."
The Student (Edin.):—"Indispensable to the student for purposes of examination and ordinary reference."

A HANDBOOK OF THERAPEUTICS
By DAVID CAMPBELL, M.A., M.D.(Glas.), Professor of Materia Medica and Therapeutics, University of Aberdeen, etc.
Crown 8vo, 432 pp. 72 Illustrations. Price 12s. 6d. net. Post. 6d.

HYGIENE FOR NURSES
By JOHN GUY, M.D., D.P.H.(Camb.), Medical Officer of Health and Tuberculosis Officer, City of Edinburgh; and G. J. I. LINKLATER, M.D., D.P.H., Assistant Medical Officer and Tuberculosis Officer, City of Edinburgh.
Crown 8vo, 212 pp. 18 Illustrations. Price 5s. net. Postage 5d.

A MANUAL OF TUBERCULOSIS FOR NURSES
By E. ASHWORTH UNDERWOOD, M.A., B.Sc., M.B., D.P.H.(Glas.), Dep. M.O.H. and Tuberculosis Officer, County Borough of Rotherham, etc.
Crown 8vo, 272 pp. 30 Illustrations. Price 6s. 6d. net. Post. 5d.

CLINICAL CHEMISTRY IN PRACTICAL MEDICINE
By C. P. STEWART, Ph.D.(Edin.), M.Sc.(Dunelm.), Senior Biochemist, Royal Infirmary, Edinburgh, etc.; and D. M. DUNLOP, B.A.(Oxon.), M.D.(Edin.), M.R.C.P.E., Physiological Assistant, Department of Therapeutics, University, Edinburgh.
Crown 8vo, 250 pp. 24 Illustrations. Price 7s. 6d. net. Post. 5d.

TEXTBOOK OF HYGIENE
By J. R. CURRIE, M.A.(Oxon.), M.D.(Glas.), M.A., M.R.C.P.(Edin.), Professor of Public Health, University of Glasgow.
Demy 8vo, 900 pp. 111 Illustrations. Price 27s. net. Post. 9d.

THE IMPROVED PROPHYLACTIC METHOD IN THE TREATMENT OF ECLAMPSIA
By Professor W. STROGANOFF, Hon. Fellow of the Obstetrical and Gynaecological Societies of Edinburgh, Belgium, Leningrad and Moscow. *First English Edition.*
Demy 8vo, 168 pp. Price 10s. 6d. net. Inland postage 6d.

New Editions Just Published

A TEXTBOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY
Adopted as a Textbook by H.M. Government
By Prof. JOHN GLAISTER, M.D., D.P.H.(Camb.), F.R.S.E., University of Glasgow; in collaboration with Prof. JOHN GLAISTER, Jun., D.Sc., M.D.(Glas.), University of Egypt, Cairo, etc. *Fifth Edition.*
Demy 8vo, cloth, 970 pp. With 132 Illustrations and 7 Plates. Price 30s. net. Postage 9d.

ANTE-NATAL CARE
Including Abnormalities in Pregnancy, with a Section on Post-Natal Care
By W. F. T. HAULTAIN, M.B.(Camb.), F.R.C.S.E.; and E. CHALMERS FAHMY, M.B.(Edin.), F.R.C.S.E. *Second Edition.*
Crown 8vo, 140 pp. Illustrated. Price 5s. net. Postage 4d.

AN INTRODUCTION TO PRACTICAL BACTERIOLOGY
By Prof. T. J. MACKIE, M.D.(Glas.), D.P.H.(Oxford); and J. E. McCARTNEY, M.D., D.Sc.(Edin.). *Third Edition.*
Crown 8vo, 440 pp. Illustrated with Diagrams. Price 10s. 6d. net. Postage 6d.

PRACTICAL METHODS IN THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES
By DAVID LEES, M.A., M.B., F.R.C.S., Surgeon in Charge of Venereal Diseases, Royal Infirmary, Edinburgh, etc. *Second Ed.*
Crown 8vo, 650 pp. With 87 Illustrations and 8 pp. of Coloured Plates. Price 15s. net. Postage 9d.

Recent Publications

A HANDBOOK OF SURGICAL DIAGNOSIS
By CLEMENT E. SHATTOCK, M.D., M.S.(Lond.), F.R.C.S.
Crown 8vo. 700 pp. Illustrated with 78 X-ray Half-tones. Price 15s net. Inland postage 9d.

HOW TO STAIN THE NERVOUS SYSTEM
By J. ANDERSON, Head Laboratory Assistant, National Hospital for Diseases of the Nervous System, Queen's Square, London.
Crown 8vo. 144 pp. Price 5s. net. Inland postage 4d.

ULTRA-VIOLET RADIATION AND ACTINOTHERAPY
By ELEANOR H. RUSSELL, M.D., etc.; and W. KERR RUSSELL, M.D., etc. *Third Edition.*
Demy 8vo. 648 pp. 259 Illustrations. Price 21s. net. Inland postage 9d.

A HANDBOOK OF HISTOLOGY
By A. McL. WATSON, M.A., Ph.D.
Crown 8vo. 218 pp. 53 Illustrations and Coloured Frontispiece. Price 8s. 6d. net. Postage 6d.

MENTAL DISORDERS. A Handbook for Students and Practitioners
By HUBERT J. NORMAN, M.B., D.P.H.
Crown 8vo. 450 pp. With 57 Illustrations and 3 Coloured Plates. Price 14s. net. Postage 6d.

THE EXAMINATION OF THE CENTRAL NERVOUS SYSTEM
By DONALD E. CORE, M.D., F.R.C.P.
Crown 8vo. 260 pp. Illustrated. Price 8s. 6d. net. Postage 6d.

BACTERIOLOGICAL ATLAS
Arranged by RICHARD MUIR.
Crown 8vo. With 60 Coloured Plates, faced with Descriptive Text. Price 15s. net. Postage 6d.

ORTHOPAEDIC SURGERY
By W. A. COCHRANE, M.B., F.R.C.S.(Edin.).
Demy 8vo, 552 pp. 504 Illustrations. Price 21s. net. Post. 9d.

THE CATECHISM SERIES
61 Parts at 1s. 6d. net per Part. Postage per Part 2d. 15,000 Questions asked and answered. *Full particulars of this series can be obtained post free on application.*

A TEXTBOOK OF MEDICINE
Edited by J. J. CONYBEARE, M.D.(Oxon.), F.R.C.P., Assistant Physician to Guy's Hospital. Assisted by nine Contributors.
Demy 8vo, 992 pp. Illustrated. With an Index of over 5,000 references. Price 22s. 6d. net. Inland postage 9d.

A HANDBOOK OF ANAESTHETICS
By J. STUART ROSS, M.B., F.R.C.S.(Edin.); and H. P. FAIRLIE, M.D. *Third Edition.*
Crown 8vo, 360 pp. 63 Illustrations. Price 8s. 6d. net. Post. 6d.

PHYSICS FOR MEDICAL STUDENTS
By SIDNEY RUSS, D.Sc.(Lond.), F.Inst. P., Joel Professor of Physics, the Middlesex Hospital Medical School.
Demy 8vo, 240 pp. 130 Illus. Price 10s. 6d. net. Inland post. 6d.

A HANDBOOK OF DISEASES OF THE NOSE, THROAT, AND EAR
By W. S. SYME, M.D., F.R.P.S.(Glas.). *Second Edition.*
Crown 8vo. 416 pp. With 25 Text Illustrations, and 16 pp. of Col. Plates and X-ray Photographs. Price 12s. 6d. net. Post. 6d.

AN X-RAY ATLAS OF THE NORMAL AND ABNORMAL STRUCTURES OF THE BODY
By ARCHIBALD McKENDRICK, F.R.C.S., D.P.H.; and CHARLES R. WHITTAKER, F.R.C.S., F.R.S.E. *Second Edition.*
Demy 4to, 256 pp. With 450 half-tone Illustrations of X-ray Subjects, faced by Descriptive Text. Price 30s. net. Postage 9d.

WHEELER'S HANDBOOK OF MEDICINE
By W. R. JACK, M.D., F.R.F.P. & S.(Glas.). *Eighth Edition.*
Crown 8vo, 630 pp. 34 Illus. Price 12s. 6d. net. Postage 6d.

A COMBINED TEXTBOOK OF OBSTETRICS AND GYNAECOLOGY
By Professor KERR, Drs. FERGUSON and YOUNG, and Professor HENDRY. *Re-issue.*
Demy 8vo, 1,026 pp. 474 Illustrations. Price 35s. net. Post. 1s.

MANUAL OF SURGICAL ANATOMY
By CHARLES R. WHITTAKER, F.R.C.S., F.R.S.E. *Fourth Edition.*
Crown 8vo, 492 pp. With 116 Illustrations, many of which are in Colour. Price 15s. net. Postage 6d.

OUTLINES OF DENTAL SCIENCE. A NEW Dental Series
11 Volumes at 7s. 6d. net per vol. 2 Volumes at 8s. 6d. net per vol. All the volumes are fully illustrated. *Full particulars will be sent free on application.*

Our complete 48-page Catalogue will be sent post free on application.

E. & S. LIVINGSTONE, 16-17, Teviot Place, Edinburgh

IN PREPARATION.

ARCHIVES OF DISEASE IN CHILDHOOD

EDITED BY

HUGH THURSFIELD, D.M., F.R.C.P., and REGINALD MILLER, M.D., F.R.C.P.,

WITH THE HELP OF

H. C. CAMERON, M.D., F.R.C.P.
H. A. T. FAIRBANK, D.S.O., M.S., F.R.C.S.
LEONARD FINDLAY, D.SC., M.D.
A. DINGWALL FORDYCE, M.D., F.R.C.P.ED.
C. MAX PAGE, D.S.O., M.S., F.R.C.S.
LEONARD G. PARSONS, M.D., F.R.C.P.
G. F. STILL, M.D., F.R.C.P.
EDITOR OF THE *British Medical Journal*.

Vol. 6. JUNE, 1931. No. 32.

Published by the British Medical Association.

London: British Medical Association House,
Tavistock Square, W.C.1.

Yearly Subscription (6 numbers), 25/-. Single Number, 4/6.

The Journal of Neurology and Psychopathology

EDITED BY

S. A. KINNIER WILSON.

WITH THE ASSISTANCE OF THE FOLLOWING EDITORIAL COMMITTEE:

EDWIN BRAMWELL.
T. GRAHAM BROWN.
A. FEILING.
R. G. GORDON.
J. G. GREENFIELD.
C. C. WORSTER-DROUGHT.
R. FOSTER KENNEDY.
H. G. BAYNES.
WILLIAM BROWN.
HENRY DEVINE.
R. D. GILLESPIE.
BERNARD HART.
C. STANFORD READ.
R. M. STEWART.
C. MACFIE CAMPBELL.

Volume XI. April, 1931. No. 43.

Published Quarterly by the British Medical Association.

London: British Medical Association House,
Tavistock Square, W.C.1.

Subscription 30/ per annum. Single Numbers 8/6 net. Post Free.

CASSELL AND COMPANY, LTD.

NEW WORK. NOW READY.

TREATMENT OF EPILEPSY

By FRITZ B. TALBOT, M.D.,

Clinical Professor of Pediatrics, Harvard University Medical School; Chief of Children's Medical Department, Massachusetts General Hospital.

This work, besides dealing with the general treatment of epilepsy, lucidly expounds the theory and gives full details of the application of the Ketogenic Diet Treatment.

Demy 8vo. 322 pages. With 11 Figures and 29 Tables. 18s. net.

RADIUM THERAPY: PRINCIPLES AND PRACTICE

By G. E. BIRKETT, *M.C.*, B.A.Cantab., M.R.C.S.Eng.,

Late Honorary Radiologist, Manchester and District Radium Institute and Christie Hospital for Cancer.

"The book is well and simply written, there is a good index, and the illustrations are excellent."
—BRITISH MEDICAL JOURNAL.

"Presents concisely and attractively the position that has been reached in this branch of therapeutics."—LANCET.

Royal 8vo. 196 pages. With 6 Colour and 13 Half-tone Plates, and 52 Text-figures. 17s. 6d. net.

SICK CHILDREN: DIAGNOSIS AND TREATMENT

A Manual for Students and Practitioners.

By DONALD PATERSON, B.A.Manitoba, M.D.Edin., F.R.C.P.Lond.

"A concise and well-illustrated volume, in which material of the utmost importance to the student and practitioner is clearly set out and admirably indexed."—BRITISH MEDICAL JOURNAL.

Crown 8vo. 542 pages. With 16 Half-tone Plates and 85 Text-figures. 16s. net.

THE ESSENTIALS OF MEDICAL DIAGNOSIS

A Manual for Students and Practitioners.

By Sir THOMAS HORDER, Bart., K.C.V.O., M.D., F.R.C.P.Lond., and A. E. GOW, M.D., F.R.C.P.Lond.

"Well written and thoroughly practical."—BRITISH MEDICAL JOURNAL.

"Clearly written and well produced, and should prove a useful book of reference and guidance to the practitioner and student."—POST-GRADUATE MEDICAL JOURNAL.

Crown 8vo. 702 pages. With 8 Colour and 11 Black and White Plates, and Figures and Charts in the Text. 16s. net.

HERMAN'S DIFFICULT LABOUR

A Guide for Students and Practitioners.

Revised by CARLTON OLDFIELD, M.D., F.R.C.P.Lond., F.R.C.S.Eng.

"In a class by itself . . . Can be most cordially recommended to practitioners . . . as well as to students, and especially house surgeons."—BRITISH MEDICAL JOURNAL.

SEVENTH EDITION. Crown 8vo. 574 pages. With 8 Radiographic Plates and 197 Text-figures. 16s. net.

ANAESTHESIA AND ANAESTHETICS

By F. S. ROOD, M.B., B.S.Dunelm., and H. N. WEBBER, M.A., B.Chir.Cantab.

"May be recommended not only to them [students], but to the general practitioner who in the course of his work gives an occasional anaesthetic."—BRITISH MEDICAL JOURNAL.

"The teaching is clear and positive. . . . Excellently written and produced."—LANCET.

Demy 8vo. 304 pages. With 4 Half-tone Plates and 56 Text-figures. 14s. net.

CASSELL & CO., LTD., LA BELLE SAUVAGE, LONDON, E.C.4

GYNECOLOGICAL and OBSTETRICAL MONOGRAPHS — 1931 Edition

15 Volumes and Desk Index

Sterility and Conception
C. G. Child, Jr., W. H. Cary, and R. L. Dickinson

Menstruation and its Disorders
E. Novak

Symptoms in Gynecology
I. C. Rubin

Complications of Pregnancy
E. P. Davis

Toxemias of Pregnancy
G. W. Kosmak

Birth Injuries of the Child
H. Ehrenfest

Extra-Uterine Pregnancy
E. A. Schumann

Cesarean Section
F. S. Newell and L. E. Phaneuf

Pelvic Inflammation in Women
J. O. Polak

Each volume represents the actual experience and the methods of leaders of thought in their individual fields of effort. In the new 1931 edition of these monographs, just published, is found the latest authoritative knowledge of all that pertains to child-birth and the diseases of women.

More than 1,000 illustrations add to the value of the text.

British Medical Journal says:
"Deserves the attention of all workers in this branch of medical practice."

15 Volumes and Desk Index

Pelvic Neoplasms
F. W. Lynch and A. F. Maxwell

Gynecological and Obstetrical Tuberculosis C. C. Norris

Gynecological and Obstetrical Pathology R. T. Frank

Diseases of the Vulva
F. J. Taussig

Non-Operative Treatment in Gynecology G. Gellhorn

Surgery of the Female Pelvis
C. Culbertson

Composite Index

£13 : 13 : 0

D. APPLETON & CO., 34, BEDFORD ST., LONDON

LIPPINCOTT BOOKS

OPERATIVE SURGERY
General and Special Considerations

By Dr. MARTIN KIRSCHNER, Professor of Surgery and Director of the Surgical Clinic at the University of Tubingen, Germany.

Authorised translation by I. S. RAVDIN, B.S., M.D. With 746 Illustrations. Mostly Coloured. 50s.
Ready June.

The presentation of the first English edition of Kirschner's work is offered without apologies. A work so skilfully and beautifully illustrated fills a definite need in surgical literature. It is a book that will not only appeal to the surgeon, but also to the practitioner, who must do some of the minor surgery which is shown in this beautiful Colour Surgery.

Monographs on Surgical Pathology.

SURGICAL PATHOLOGY OF THE DISEASES OF BONES

By ARTHUR E. HERTZLER, M.D. 211 Illustrations. 21s.
Other volumes to follow. *Ready June.*

There is no work which treats in a comprehensive manner with the pathology of the diseases of bones, and this book is the result of thirty years of medical teaching by the author.

HUMAN ANATOMY
Including Structure and Development and Practical Considerations

By GEORGE A. PIERSOL, M.D., and others. Ninth Edition. 1,734 Illus., 541 in Colour. 45s.
The Latest, Best, and Most Richly Illustrated Anatomy Published.

CANCER
IN FOUR PARTS

Part I. CANCER IN ITS GENERAL RELATIONS.
Part II. CANCER RESEARCH.
Part III. REGIONAL CANCER.
Part IV. RADIUM AND RONTGEN RAY THERAPY.

International Contributions to the Study of Cancer. In Honour of JAMES EWING.

Edited by FRANK E. ADAIR, M.D., F.A.C.S. 168 Illustrations. 484 pages. Edition limited. 45s.

Fifty-four articles by world authorities on the subjects of Surgery, Radiology, Pathology, and Cancer Research.

FRACTURES AND DISLOCATIONS:
Treatment and After-Care. 2nd Ed. Revised

By PHILIP D. WILSON, M.D., and WILLIAM A. COCHRANE, M.D. 45s.

This modern treatise is illustrated with 1,029 pictures, and presents all the latest developments in treating fractures and dislocations.

"We can safely recommend this book as one of the best and most up-to-date guides for the general practitioner, as well as for the expert surgeon and the student."—BRITISH MEDICAL JOURN.

LIPPINCOTT'S QUICK REFERENCE BOOK for MEDICINE and SURGERY

By GEORGE E. REHBERGER, A.B., M.D. Seventh Edition. 3 Folding Manikins. 33 Coloured Plates. 151 Illustrations. 65s.
Covers the whole field of practical medicine excepting Psychiatry.

Medical Catalogue sent post free on application.

J. B. LIPPINCOTT COMPANY, 16, John Street, Adelphi, London, W.C.2.

THE PRACTITIONER

The June number of THE PRACTITIONER, which is now ready, price 4/- post free, contains, in addition to articles and practical notes on other medical subjects, a symposium on

GYNÆCOLOGY AND OBSTETRICS

Among the articles are the following :—

MALPOSITIONS OF THE UTERUS
By W. FLETCHER SHAW, M.D., F.C.O.G.

RATIONAL METHODS OF TREATMENT OF ASPHYXIA OF THE NEW-BORN
By DAME LOUISE MCILROY, D.B.E., M.D., D.Sc.

THE DIAGNOSIS AND TREATMENT OF CARCINOMA OF THE UTERUS
By VICTOR BONNEY, M.S., M.D., B.Sc., F.R.C.S.

FAILED FORCEPS CASES
By ANDREW M. CLAYE, M.D., F.R.C.S.

OVARIAN AND TESTICULAR CANCERS : THEIR RESPONSE TO X-RAY TREATMENT (70 CASES)
By J. H. DOUGLAS WEBSTER, M.D., F.R.C.P.E.

HEART DISEASE AND PREGNANCY
By MAURICE NEWMAN, M.D., M.R.C.P.

PRACTICAL NOTES.

SPECIAL NUMBER

The July issue will be a greatly enlarged Special Number, price 7/6 post free, on

FRACTURES AND ACCIDENTS

The contributors include :—

Sir ROBERT JONES, Bart., C.B., F.R.C.S.
L. BÖHLER, M.D., Vienna
J. J. MOORHEAD, M.D., New York
E. W. HEY GROVES, M.S., F.R.C.S.
H. GRAHAM HODGSON, C.V.O., M.B., D.M.R.E.
L. R. BROSTER, O.B.E., M.A., M.D., F.R.C.S.
C. P. G. WAKELEY, F.R.C.S.
JULIAN TAYLOR, M.S., F.R.C.S.
E. B. BROCKMAN, M.Ch., F.R.C.S.
E. LAMING EVANS, C.B.E., M.A., M.D., F.R.C.S.
R. WATSON JONES, F.R.C.S.
Sir W. DE C. WHEELER, M.D., F.R.C.S.I.
H. PLATT, M.S., F.R.C.S.
WALTER MERCER, M.B., F.R.C.S.E.
A. ROCYN-JONES, F.R.C.S.
R. R. KERR, F.R.C.S.
S. L. HIGGS, M.A., M.B., F.R.C.S.
R. OLLERENSHAW, M.D., F.R.C.S.
A. J. COKKINIS, F.R.C.S.
C. B. HEALD, C.B.E., M.A., M.D., M.R.C.P.
C. W. MORRIS, O.B.E., M.B.

Orders should be placed early by those who are not already regular Subscribers. The annual subscription (which includes all Special Numbers) is £2 2s. post free.

SUBSCRIPTION FORM

To THE PUBLISHER, THE PRACTITIONER, 6–8 Bouverie Street, London, E.C.4.

I enclose remittance value £2 2s. Please send to me THE PRACTITIONER, post free, for twelve months, beginning with the ..... number.

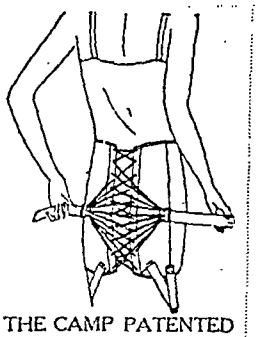
Name .....
(BLOCK LETTERS)

Address .....

.....

CAMP
TRADE MARK
PHYSIOLOGICAL and SURGICAL SUPPORTS
A New and Growing Field of Service
APPROVED by eminent Physicians and Surgeons
CAMPOIRETTE Ltd., 252, REGENT ST., LONDON, W.1

Camp Supports
are widely used in the treatment of
SACRO-ILIAC SPRAIN, PTOSIS, HERNIA, MATERNITY and POST-OPERATIVE SUPPORT
Illustrated CAMP MANUAL *free on request to:—*



THE CAMP PATENTED Adjustment—instantaneous and simple in action.

WITHOUT OFFENCE
The Collection of Overdue Accounts

MEMBERS' STATEMENT:
"We beg to acknowledge receipt of your cheque for £24-0-6, for which please accept our best thanks."
"Re Mrs. N——:—Many thanks for your very tactful letter to her."

DEBTOR'S STATEMENT:
"To tell you that I have sent cheque to-day to Dr. Lewis. I thank you for your kind courtesy in this matter."

Your visiting card marked "B" placed in an envelope will bring our Prospectus.

All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.) Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.

INDEX TO ADVERTISEMENTS—*continued.*

PRINTING & STATIONERY—
Anderson & Son—Account Forms 64
Bridge & Co.—Printing & Station'y 53
Carlyle, G.—Duplicate Books 64
Hamiltons—N.H. Filing Cabinets 64
Sloan, Ltd.—Waterman's Pens 60
Stevens & Son—Bottle Envelopes 18
Taylor's Typewriters 64

TAILORING & UNDERCLOTHING—
Hall, H.—Medical Service Dress 82
Miller & Co. Ltd.—Tailors 62
Regent Dress Co.—Tailors 64
The Irish Linen Mesh Co. Ltd.—Empire Linen Mesh Underwear. 63

TOBACCO & CIGARETTES—
Coen, L. Ltd—Cigarettes 64
Player's Navy Cut 53

VACCINES & CULTURE MEDIA—
Genatosan Ltd.—Vaccines, etc. 40
Heinemann, W.—Vaccine Lymph 64
Laboratories of Path. & Pub. Hlth. 64
Willows, Francis, Butler & Thompson, Ltd.—Pollant n 55

WINES & SPIRITS—
Anderson Dobson & Co., Ltd.—Ackerman-Laurance 54
Gaymer's Cyder 30

X-RAY & ELECTRO-MEDICAL APPARATUS—
British Hanovia Quartz Lamp Co.—Actinotherapy Equipment 21
Gen. Radio. & Surg. Appar. Co—Announcement 17
Newton & Wright Ltd.—X-Ray Equipment 15
Philips—Metalix-Portable 20
Victor X-ray Corporation Ltd.—X-Ray Apparatus 15

HOMES & ASYLUMS—
Bailbrook House, Bath 68
Barnwood House, Gloucester 66
Bethlem Royal Hospital, Kent 67
Bishopstone House, Bedford 68
Boreatton Park, Salop 65
Brunton House, Lancaster 68
Camberwell House, S.E.5 67
Cheadle Royal, Cheshire 66
Chiswick House, Pinner 65
City of London Mental Hospital 68
Clarence Lodge, Clapham Park 65
Coppice, Nottingham 66
Court Hall, Kenton, Exeter 65
Dartmoor Convalescent Home 71
Deganwy, N. Wales 65
Gilgal Hospital, Perth 68
Grange, near Rotherham 65
Grove House, All Stretton 61
Haydock Lodge, Lancashire 66
Highfield Hall, St. Albans 65
Kingsdown House, Box, near Bath 68
Lawn, Lincoln 66
Littleton Hall, Brentwood, Essex 65
Mont House, Tamworth, Staffs 65
Northumberland House, N.A. 67
Old Manor, Salisbury 67
Peckham House, S.E.15 67
Resident Patients 71
St. Andrew's Hosp., Northampton 66
Shaftesbury House, Liverpool 65
Springfield House, near Bedford 65
Stonycrest Nursing Home 66
Stretton House, Shropshire 68
Tykeford Abbey, Newport Pagnell 65
West Haven, Bournemouth 68
Woodlands Park, Great Missenden 65
Wye House, Buxton 68

BATHS, SPAS, &c.—
Bavarian Spas 71
Harrogate Royal Baths 70
La Lechere-Les-Bains, France 68
Mont-Dore 68

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 81

HOTELS & HEALTH RESORTS—
Grand Hotel Harrogate 70
Hotel Majestic, Harrogate 70

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 68
Peebles Hydro 68
Ruthin Castle, North Wales 67
Smedley's Hydro, Matlock 68

INEBRIETY—
Bay Mount, Paignton 65
Caldecote Hall, Nuneaton 65,68
Dalrymple House, Rickmansworth 65
'Old Hall House,' Chislehurst 65

SANATORIA—
Cotswold Sanatorium 71
East Anglian Sanatorium 69
Grampian Sanatorium 69
Montana Hall, Switzerland 68
Mundesley Sanatorium 69
Pendyffryn Hall Sanatorium 69
Ter-na-Dee Sanatorium 69
Vale of Clwyd Sanatorium 63

SCHOOLS, &c.—
Epsom College 74
Marlborough College, Macclesfield 72
Taunton School, Taunton 72

MEDICAL SCHOOLS, &c.—
Cambridge University 74
Charing X Hospital Med. School 72
City of London Maternity Hospital 72
Leeds University 74
London School of Dermatology 72
London School of Hygiene &c. 73
London University 74
Liverpool School of Trop. Medicine 72
Liverpool University 73
N.-E. London Post-Grad. College 71
Salvation Army, Mothers' Hospital 72
West London Hospital 73

TUTORS & LECTURERS—
Exams.—Med. Corresp. College 72
F.R.C.S. Edin. Classes—H. C. Orrin 71
F.R.C.S. Ed. Classes—C. Whittaker 72
Institute of Med. Culture, Varese 72
Manchester Tutorial College 71
St. Mary's Hospital 71
Stammering—Miss E. Behnke 71
Stammering—Mr. E. Miall 71
University Exam. Postal Institution 74

TRANSFER AGENTS—
Borril Medical Agency, Ltd. 93
British Medical Bureau 85,86,87
Lee & Martin, Ltd. 88
Manchester Medical & Schol. Assoc. 84
Med. Practitioners' Union Agency 84
Needes, H. 84
Peacock & Hadley, Ltd. 84
The Medical Agency 83,88
Turner, P., Ltd. 89,89
Western Medical Agency, Bristol 88

ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant 80
Dispensers, Medical Posts, &c. 82,82
Locums Wanted and Vacant 83
Partnerships Wanted and Vacant 80
Practices Wanted and Vacant 81

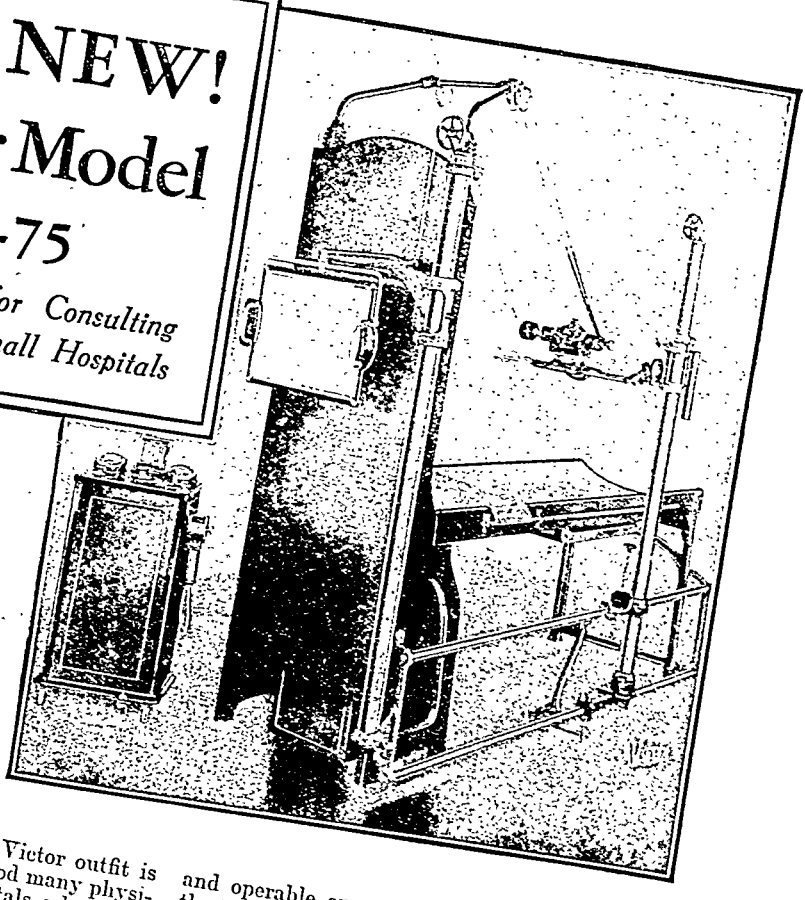
NURSING INSTITUTES—
Cavendish Nurses 84
Nurses' Association 84

MISCELLANEOUS—
Consulting Rooms, &c., to Let 81,82
Frigidaire Ltd.—Refrigeration 22
Income Tax Consultant—Hardy 82
Miscellaneous Sales &c. 82

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

IT'S NEW! Victor Model 17-75

X-ray Unit for Consulting Rooms and Small Hospitals



THIS newly designed Victor outfit is bound to interest a good many physicians and smaller hospitals who want a compact, thoroughly efficient X-ray apparatus, offering a practical range of service, at a price commensurate with the volume of work they will do with it.

This Victor Model 17-75 is, as may be seen in the illustration, a complete and self-contained diagnostic X-ray apparatus, and requires a comparatively small floor space, considering the range of service that it offers.

With this outfit you are prepared to do horizontal radiography, with the curved type Potter-Bucky diaphragm permanently mounted underneath the table top and operable over the entire length of the table; also vertical fluoroscopy at the foot of the table, by simply bringing the tube stand into position along the floor rail.

No overhead wiring to install, as the transformer is mounted on the floor, the high voltage current being conducted through insulated posts to the overhead reels and to the tube.

The ease of operation and refinement of control insure a consistently high quality of radiographs of real diagnostic value. Remember, this outfit bears the Victor trade mark—you know what that implies.

Write for further particulars.

VICTOR X-RAY CORPORATION, Ltd.

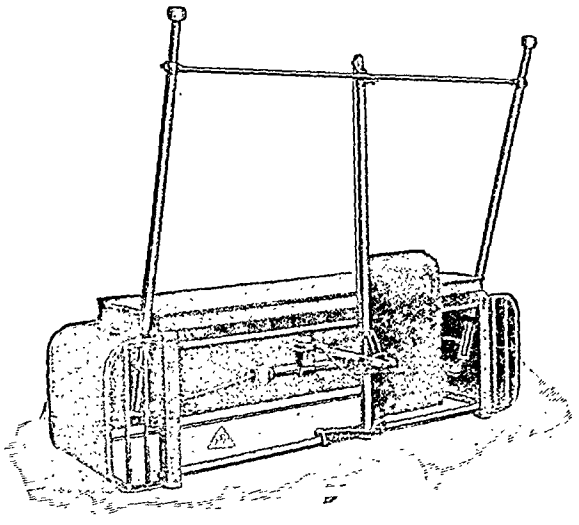
15-19, Cavendish Place (Cavendish Square), London, W.1

Telephone: LANGHAM 4074-5

VICTOR

Telegrams: STABILIZER

X-RAY EQUIPMENT



A Protective Universal Table of novel design.

NEW CATALOGUE

(A/31)

JUST PUBLISHED

Post free on request

New designs of Tables, Screening Stands and Combination Units, etc.

Newton & Wright Ltd

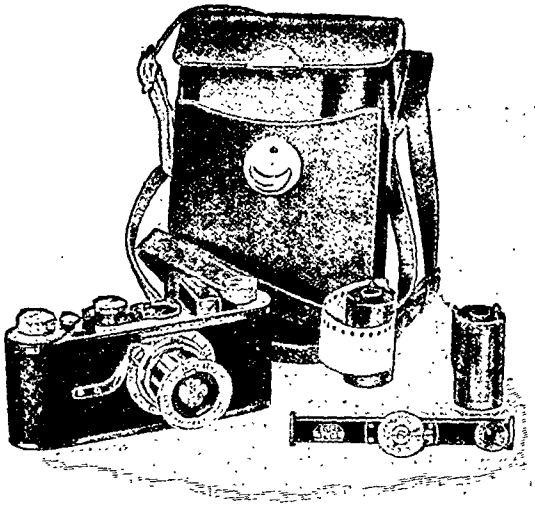
HEAD OFFICE AND WORKS:

471-3 HORNSEY RD., LONDON, N.19

Telephone: Archway 2621 (3 lines)

Leitz

LEICA CAMERA



36 Exposures with one loading.

Ready in an instant, owing to film winding automatically when re-setting shutter. Double exposures impossible.

Capped Focal-Plane Shutter for time and instantaneous exposures to 1/500 sec.

THE CAMERA of DISTINCTION

Small Negatives — Large Pictures.

Leitz "Elmar" *f*/3·5 anastigmatic lens, highly corrected, and giving the sharpest negatives, making enlargements possible to an almost unlimited magnification.

Enormous depth of focus, due to short focal length and special computation of the lens.

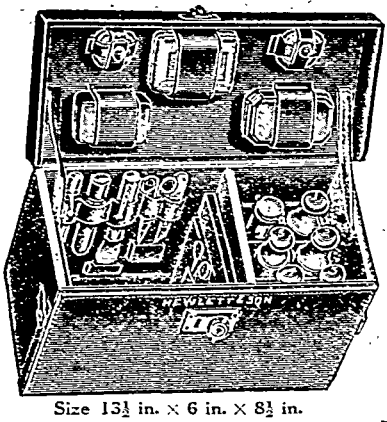
The LEICA is a universal camera, equally suitable for studio, home interiors, landscapes, sports records, clinical photography, etc.

A Doctor writes:—"I have had many cameras, but until I had the LEICA I never took a good photograph. The amazing depth of focus makes the Leica specially suitable for clinical work. . . . I now take my clinical photography with the minimum expenditure of time."

Write for Catalogue 0.11 and "A Pictorial Story" to—

E. LEITZ (London), 20, Mortimer Street, LONDON, W.1

Makers of Microscopes, Colorimeters, Photomicrographic Apparatus, Optical Projection Apparatus, Field Glasses, etc.



Size 13½ in. × 6 in. × 8½ in.

HEWLETT'S

"Complete G.P." Bag

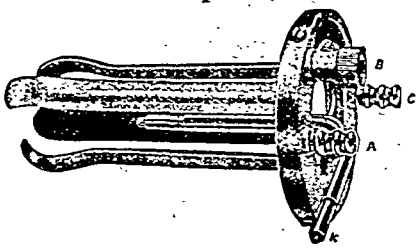
This bag is so arranged that every item is immediately visible and accessible the moment the lid is lifted. The front of the bag need only be let down rarely to get at the compartment holding the emergency dressing, etc. The large central space is to hold a folding stethoscope, and room is left for further instruments such as sphygmomanometer, etc.

PRICE, with Instruments and Fittings, in Black or Brown Cowhide, lined with Rexine £7 0 0
PRICE, in Black Rexine instead of Leather £6 10 0

A fully illustrated pamphlet, with suggested list of drugs for inclusion in the bag, will be sent on application.

BARON'S VAGINASCOPE (Patent No. 330,629)

A Compact Self-retaining and Illuminated Speculum



UNIFORM DILATATION OF VAGINA. By loosening screw-knob 'B' and then placing the thumb in peg 'A' and the forefinger on 'B,' a single grip effects a simultaneous parallel and outward movement of the four blades, resulting in a quick dilatation of the vagina. Sufficient dilatation having been obtained the screw-knob is tightened, thus locking the instrument in the open position as illustrated.

PRICE, in Leatherette Case, with battery and flex, £3 17 6

Illustrated pamphlet giving full particulars sent on application.

Introduced and manufactured only by

C. J. HEWLETT & SON, Ltd., 35-42, Charlotte Street, London, E.C.2

IISA

THIRD INTERNATIONAL CONGRESS OF RADIOLOGY

PARIS—JULY 1931

An Exhibition of Radiological and Electro-Medical Apparatus will be held at The Porte de Versailles, in the Palais des Congrès, from July 26th to August 2nd. A continuous motor-bus service, free of charge, will be available for visitors between the Sorbonne, where the Congress will be held, and the Exhibition.

Radiologists and all interested in X-Ray and Electro-Medical Apparatus are cordially invited to inspect the new apparatus designed by the

SIEMENS COMPANY

for whom we are the Sole Agents for the British Empire.

Our English representatives will demonstrate to you the new High Voltage Self-protected Therapy Tubes, several new SHOCK-PROOF X-RAY UNITS, new Couches and Screening Stands for Specialized Radiography, the new SUPER DEEP THERAPY "STABILIVOLT," an innovation in Diathermy design, U.-V., etc.

Further details sent on request.

The General Radiological & Surgical Apparatus Co. Ltd.

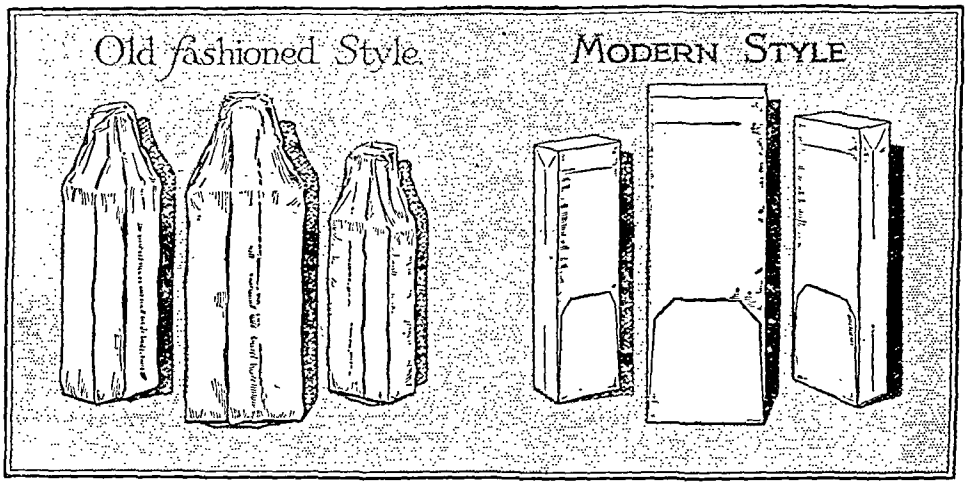
204-206, Great Portland Street, London, W.1

'Grams: Equispital, Wesdo, London.
Phone: Museum 1719 and 8326. Showrooms: FIRST FLOOR.

PRINCIPAL AGENTS: Scotland: The Medical Supply Association, Ltd., 12 & 13, Teviot Place, Edinburgh.
Ireland: The Irish Radiological & Surgical Supply Co., Ltd., 7, Lower Pembroke Street, Dublin.

The Time has Arrived

A QUALITY
4-oz. 15/9 Per 1,000
6-oz. 18/5 Per 1,000
8-oz. 19/9 Per 1,000
CARR. PAID.
REDUCTIONS FOR LARGER QUANTITIES.



B QUALITY
4-oz. 12/10 Per 1,000
6-oz. 14/6 Per 1,000
8-oz. 16/2 Per 1,000
CARR. PAID.
REDUCTIONS FOR LARGER QUANTITIES.

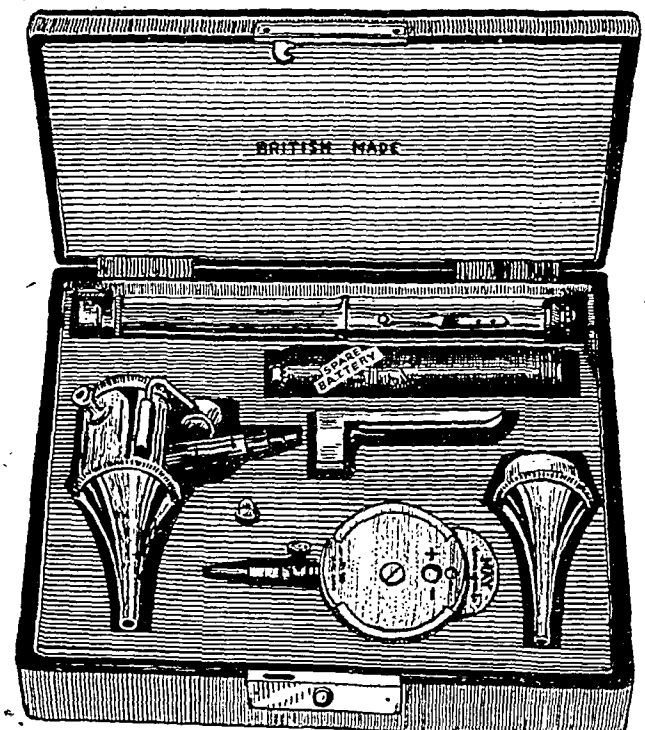
when the old-fashioned wrappers and sealing-wax give place to the New Medicine Bottle Envelopes. This neat and speedy method has been received enthusiastically by medical men and dispensers, and will very soon be in general use throughout the country.

ORDER NOW from— CHARLES STEVENS & SON, 12-14, GREAT CENTRAL ST., LEICESTER. 'Phone 20903.

MAY Electric Ophthalmoscope and Electric Auriscope

With TWO SPECULAE of different apertures, NOZZLE for inflation of the Ear Drum, and TONGUE SPATULA for Throat Examination. Spare Battery and Spare Lamp.

You may have this Set On Approval. Your remittance will be refunded in full if the Instruments are returned within ten days.



THE NEW LOCKLITE MAY DIAGNOSTIC SET

FOR EYE, EAR & THROAT

Price, **78/-**

Complete with Spare Battery and Spare Lamp in Velvet Lined Case.

Appreciations:

Wigtownshire—
"I have found the Diagnostic Set extremely handy and useful."

London—
"I have found it most useful in my practice."

Surrey—
"I find it a great assistance in my work."

FROM ALL SURGICAL INSTRUMENT MAKERS

Trade inquiries invited:

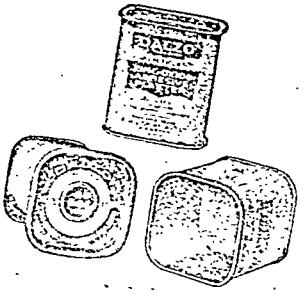
JOHN SMITH & SON (Glasgow) Ltd.

Surgical Instruments and Appliances

26-30, GIBSON STREET, HILLHEAD, GLASGOW, W.2 *Established 1751.*

THE NEW AND PERFECT "DALZO" (Regd.)

ZINC OXIDE SELF-ADHESIVE PLASTER in our SPECIAL CONTAINER.



- Airtight
- Dust-proof
- Damp-proof
- Guaranteed for two years
- Plaster keeps clean
- Easy to remove and replace spool quickly
- Original non-rolling spool

Supplied in all widths, ½ to 3 inches, in 5 and 10 yard lengths.

DALZOFLEX. The new self-adhesive crêpe bandage, invaluable for the treatment of varicose ulcers. Special terms for Medical Men and Hospitals.

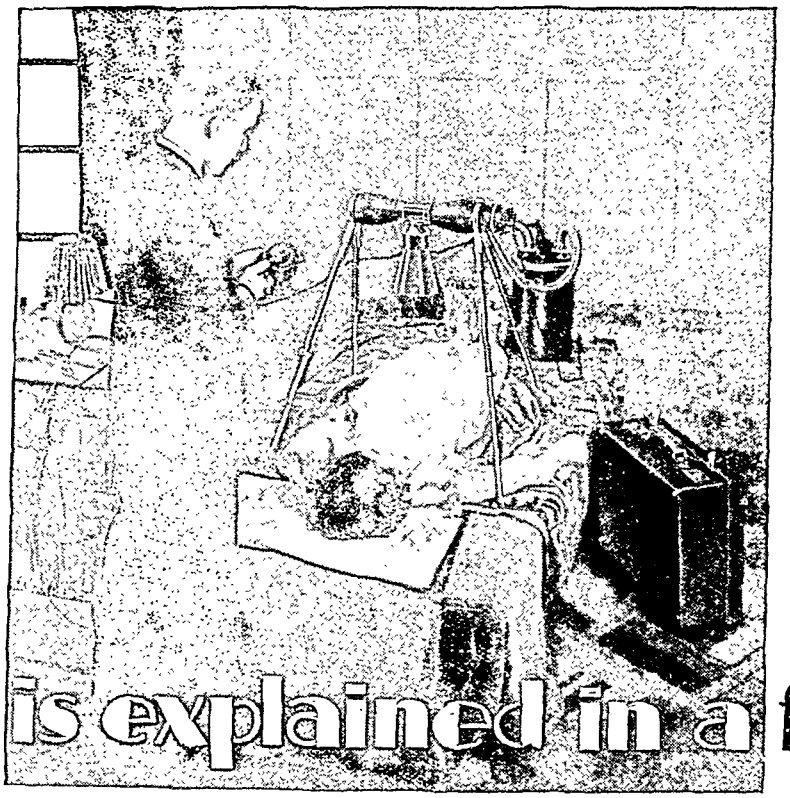
DALZOBAND. Made in accordance with the formula published in the "British Medical Journal," containing zinc oxide, sterilised glue, acacia, glycerine. Excellent for treatment of varicose ulcers.

Supplies may be had from your usual wholesaler.

A. de ST. DALMAS & Co. Ltd.

LEICESTER. LONDON. DUBLIN. LEEDS. BRADFORD.

THE "METALIX-PORTABLE"



is explained in a few words

The illustration shows the "Metalix-Portable" being used in a patient's home to make a radiogram of the pelvis—on a full size (12" × 15") film. The outfit is connected to an electric light socket, the back of the time-switch consulted to obtain the correct exposure time, the button depressed, and an excellent picture assured.

Should the patient touch any part of the outfit during the exposure no harm could possibly result, whilst the doctor is equally well protected against both high tension and unwanted radiation.

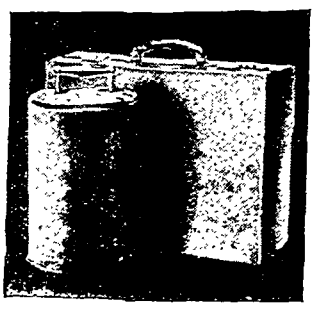
With equal facility and safety, visual screen examinations can be made, the screen image often being sufficient for the purpose of diagnosis.

The "Metalix-Portable" is no longer new; for over two years a steadily increasing number of general practitioners have become "Metalix-Portable" users and enthusiasts. It is now a recognised item of equipment of the progressive medical man.

A publication containing full facts about the "Metalix-Portable," with specimen radiograms and convincing medical testimony, will be sent on request.

Price of complete "Metalix-Portable" outfit for operation on standard A.C. voltages, £138 . 0 . 0. For D.C. voltages £25 . 0 . 0 extra.

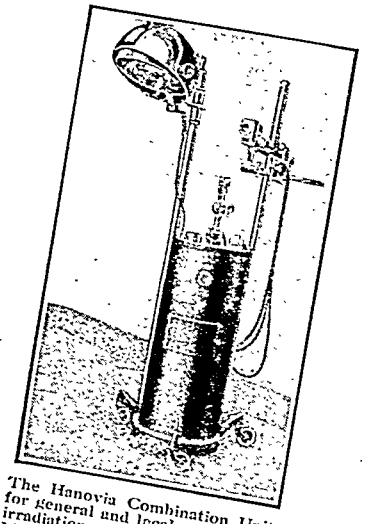
Packed as shown here, the "Metalix-Portable" is carried with the utmost ease.



PHILIPS METALIX-PORTABLE

PHILIPS LAMPS LTD. (X-Ray Dept.), PHILIPS HOUSE, 145, CHARING CROSS ROAD, LONDON, W.C.2.

Technique.—*Mild local irradiation of each nostril, using the Kromayer Lamp with wedge nasal applicator, and increasing with caution and increasing with caution to avoid excessive reaction. Concurrent general body irradiation with the Alpine Sun.*



The Hanovia Combination Unit for general and local ultra-violet irradiation. There is a Hanovia Model for every requirement in actinotherapy.

For Hay Fever— The Kromayer Lamp

An important place in the treatment of Hay Fever and Rhinitis is being taken by Actinotherapy.

Hanovia Quartz Mercury Lamps assure the proper intensity of ultra-violet as well as ease of administration and dosage control.

With more than 170,000 Hanovia Lamps in use by the profession all over the world, a large share of the clinical knowledge and technique of ultra-violet irradiation is associated with equipment developed and manufactured by Hanovia—the leaders in Quartz Mercury Lamps for twenty-five years.

Over 100 reprints on Actinotherapy are available for free distribution to the Medical Profession, also Hanovia's new free prospectus. Write direct to Slough for details, marking your enquiry Dept. 9, or use the coupon below.

HANOVIA
LAMPS
FOR
ACTINOTHERAPY

LONDON OFFICE:
3, Victoria Street, S.W.1.

Equipment and Service also through all electro-medical dealers.

Trade Mark

Please Cut this Coupon

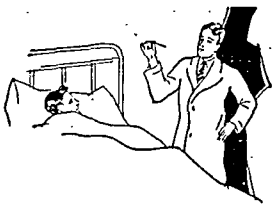
THE BRITISH HANOVIA QUARTZ LAMP CO. LTD., Slough, Bucks. (Dept. 9).
Please send me a copy of Hanovia's new free Prospectus, and a full list of over 100 free reprints on Actinotherapy.

Name .....

Address .....

.....

.....



You're always taking temperatures . . .

but do you ever take the temperature of your own Larder?

JUST try the experiment. Remember that over 50° for your food is just as bad as over 100° for your patient. Over 50°, bacteria multiply in food 400 times faster than at temperatures below. And, apart from the health reasons, wouldn't it be comforting to know that your food was kept cold and appetising and fresh, in a snow-white all-porcelain Frigidaire, shut away from the dirt and flies, *automatically* prevented from "going off"? Perhaps you've been promising yourself a Frigidaire—then send in the coupon to-night and see how little it costs!

Frigidaire incorporates all the conveniences and refinements that you would wish to have in your electric Refrigerator. Here are just a few of them.

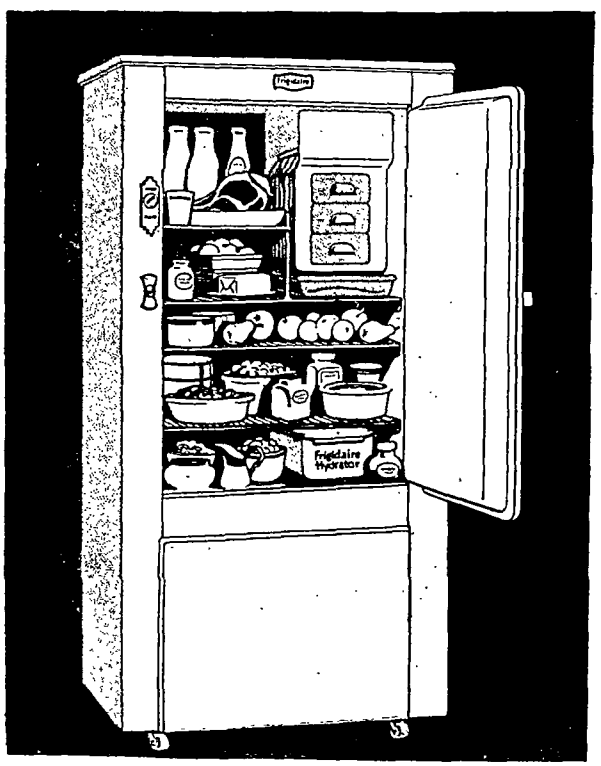
The Quickube Ice Tray, enabling single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the tap. Your cocktail ice is ready at a moment's notice. This is an exclusive Frigidaire feature.

●

The Cold Control, by which the freezing of ice cubes or any frozen delicacy can be accelerated at will.

●

The automatic feature of Frigidaire is invaluable. It cuts out the human element with its forgetfulness and consequent waste. Frigidaire maintains a dry cold that is *always* under 50°—the only safe temperature for food.



Practical flat top, makes a useful shelf.

●

The Hydrator—a *moist* cold compartment, for fresh vegetables, sandwiches, etc. Even wilted vegetables will regain their crispness here in a few hours.

●

Ease of installation. A Frigidaire only needs connection with your electric supply. No plumbing is necessary.

●

The new Frigidaire is quiet—you can't hear it start, stop or run.

Showrooms at 141, New Bond Street, London, W.1, and in all principal towns.

COUPON

FRIGIDAIRE LIMITED (*Incorporated in Canada*), Dept. BG-66, Edgware Road, The Hyde, Hendon, N.W.9

Please give me by return, without any obligation on my part,

(a) Price of Frigidaire cabinet suitable to my particular needs; or

(b) Particulars of your system of convenient deferred payments.

Name .....

Address .....

.....

No. in Family .....

COOL COMFORT IN A SPENCER SUMMER SUPPORT

Sheer—Ventilative—Yet Strong

Fashioned of a specially constructed, strong material that is light in weight and *perforated*, Spencer Summer Corsets provide Firm Support as well as cool comfort for your patients.

Spencer Summer Corsets have the identical *designing* qualities that our other garments possess. Each garment is individually designed and individually made for the one woman who is to wear it. They are firmly but comfortably boned.

Spencer garments are the most economical garments you can prescribe, because they answer a woman's *style* need as well as her doctor's requirements. Thus one garment suffices for all wear. When a woman buys the ordinary kind of Surgical Support she is faced with the necessity of buying another garment for dress wear. This means two garments. Fortunately, the Spencer surgical features are *incorporated in a style garment.* In a Spencer a woman has what she wants—and what the doctor wants, too.

SPENCER

FOUNDATION GARMENTS AND SURGICAL SUPPORTS

Booklets Listed below gladly sent on request.

SPENCER CORSETS, LTD. 94, 96 & 98, Regent St., Piccadilly Circus, LONDON, W.1.
(Northern Assurance Bldg., 86, St. Vincent St., GLASGOW, C.2

SPECIAL LONDON AND GLASGOW SERVICE.

London Telephone: Gerrard 0876. Expert Fitters at your immediate Service. Glasgow Telephone: Central 3232.

Manufactory: SPENCER HOUSE, Britannia Road, BANBURY, Oxon.

Please send me your booklet on the use of Spencer Supports for (check the subjects in which you are interested) Hernia, Sacro-iliac Strain, Enteroptosis and Intestinal Stasis, Movable Kidney, Pregnancy and Postpartum Support. We will gladly send you any or all of them.

Name ..... *Address* .....

Associate Houses: Rock Island, Quebec, Canada; New Haven and New York, U.S.A.

Thyroid Medication

A new preparation of the pioneers in endocrine therapy

The name given to Reed & Carnrick's new thyroid speciality is Thyracoids.
"Thyracoids" consist of iodothyroglobulin, standardised biologically. They can be depended upon to be of uniform strength and to represent the entire activity of desiccated thyroid.
Thyracoids may be used advantageously in all cases where thyroid medication is indicated.

Packings: Bottles of 100 $\frac{1}{12}$, $\frac{1}{4}$, 1 and 2 grain tablets
Plain or enteric coated.

Descriptive literature from Sole Distributing Agents for U.K. and Irish Free State:—

COATES & COOPER, LTD.
41, Great Tower Street, London, E.C.3.

Thyracoids

Manufactured by REED & CARNRICK, Pioneers in Endocrine Therapy, Jersey City, NEW JERSEY.

As a restorative in convalescence and in cases of anaemia

Colloidal Iron Concentrate	83%
Pure Alcohol	6%
Sugar	10%
Flavouring	1%

That is the formula of this tonic preparation, which contains a larger percentage of assimilable iron than has hitherto been provided in either a general or colloidol form. A more rapid response may therefore be anticipated from the administration of this preparation, which is very pleasant to take and well tolerated by all patients.

Idozan has no constipating effect, it does not derange the stomach or discolour the teeth. Though incompatible with alkaline salts, it may be combined with Liq. Arsenicalis and vegetable tinctures. It is therefore very suitable for therapeutic administration, where it is desired to give large doses of iron; both as a restorative after illness and in cases of anaemia it can be prescribed either with or without additional drugs with confidence and freedom. One size only, 8-oz. bottles, 5/-.

IDOZAN HAS BEEN REGULARLY PRESCRIBED BY DOCTORS IN FIFTEEN DIFFERENT COUNTRIES

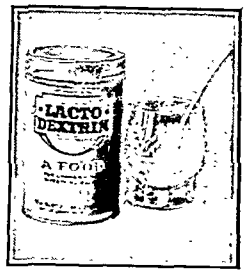
IDOZAN

Samples and literature sent post free on request to Sole Distributing Agents:
COATES & COOPER, LTD.,
41, Great Tower St., London, E.C.3.

Of special service in FISSURE or HAEMORRHOIDS

"PSYLLIUM seeds when immersed in water yield a mucilaginous substance which is able to take up relatively large quantities of water to form a gelatinous mass. They become in this way a useful lubricant, while the emollient character of the mass renders it of special service in fissure or haemorrhoids."—*Lancet*, Jan. 10th, 1931.

Another preparation of importance as a laxative agent is Lacto-Dextrin—a palatable combination of lactose and dextrin for changing the intestinal flora.



Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, Ltd., 41, Great Tower Street, London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA *(Psyllium Seed)*

LACTO-DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidal Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative, "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

M 235

IN

HÆMORRHOIDS

★ ★ ★ ★ ★

Congestion Causes Pain

★ ★ ★ ★ Congestion causes pressure and pressure causes pain. That is what brings the patient to the doctor.

★ ★ ★ ★ Anusol Brand Hæmorrhoidal Suppositories relieve the congestion and thereby relieve pain. No opiate or local anæsthetic to dull the pain perception and obscure the symptoms. Rational, safe, convenient.

★ ★ ★ ★ The treatment of hæmorrhoids should begin in the doctor's consulting room. Let us send you a trial supply for use immediately after examination.

ANUSOL BRAND HÆMORRHOIDAL SUPPOSITORIES

RELIEVE PAIN
REDUCE CONGESTION
CONTROL HÆMORRHAGE

British Distributors:
Francis Newbery & Sons, Ltd., 31-33, Banner Street, London, E.C.1
Manufactured by GOEDECKE & CO., BERLIN

Full size trial sample free to any medical practitioner in British Isles, on application by postcard to BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM

WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG COMPANY LIMITED,
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

CHLOR-SAN

A STABLE SOLUTION of Sodium Hypochlorite in Salt Solution, containing approximately 1% of available Chlorine.

A household antiseptic for personal and domestic use, which, when used in accordance with the directions, is non-caustic and non-poisonous.

Purifies, disinfects, deodorises, is economical in use, keeps indefinitely. An excellent prophylactic against throat and mouth infections.

IDEAL FOR ARTIFICIAL TEETH.

OBTAINABLE FROM

The Boots Chemists

OVER 900 BRANCHES IN GREAT BRITAIN

Modern diets often lack minerals

To-day, authorities are stressing the importance of the essential mineral salts. In addition to building sturdy bones, and blood rich in hemoglobin, these mineral elements aid metabolism and contribute to nervous stability.

Yet many modern diets cannot be depended upon to furnish the proper quota of minerals, and therefore millions of people suffer from the effects of demineralization. Cooking destroys a variable amount of the mineral value of foods—in some instances as high as 76 per cent.

To correct this loss and to remedy demineralization—with its attendant symptoms of nerve fag, neurasthenia, lowered vitality and loss of energy—a tonic rich in mineral salts is needed.

Compound Syrup of Hypophosphites "Fellows" contains the mineral salts of sodium, calcium, potassium, manganese, iron and phosphorus, together with the added metabolic stimulants—strychnine and quinine. Sixty years of clinical experience the world over testify to its value as a tonic.

Suggested dosage: A teaspoonful in half a glassful of water three or four times daily.

Compound Syrup of Hypophosphites

TRADE **"FELLOWS"** MARK

CONTAINS THE ESSENTIAL MINERALS

SAMPLES ON REQUEST

Fellows Medical Manufacturing Company, Inc. 26 Christopher St., New York City

'CAPROKOL'

Brand of Hexyl-Resorcinol

The urinary antiseptic characterised by the following attributes

Powerful germicidal effect in urine of any reaction

Analgesic action upon the urinary mucosa

Non-toxicity

General acceptability—it does not stain

Literature on request

Sole Selling Agents:

THE BRITISH DRUG HOUSES LIMITED

and

SHARP & DOHME LIMITED

LONDON

Cap 141

"VARICANE"

Trade Mark BRAND

Sclerosing Solutions

For the Modern Treatment of Varicose Veins

"VARICANE" SODIUM MORRHUATE is specially noteworthy for its purity and its light colour which allows blood to be readily seen in the syringe when the needle enters the vein. Available in strengths of 5% and 10%

"VARICANE" QUININE HYDROCHLORIDE & URETHANE. The special process of manufacture prevents crystallising out and obviates irritation on injection

"VARICANE" SODIUM SALICYLATE. Available in strengths of 20%, 30%, 40% and 50%

Write for your copy of "The Modern Treatment of Varicose Veins" and clinical trial sample

MAY & BAKER LTD.

BATTERSEA LONDON, S.W.11

Telephone: Battersea, 1813 (6 lines) *Telegrams:* Bismuth, London

BOOTS PRODUCTS

ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS

HEXYL-RESORCINOL (BOOTS)

TESTED by the usual Rideal Walker method, HEXYL-RESORCINOL—BOOTS, is shown to possess a co-efficient 100 times greater than Phenol and therefore very much greater than that of the ordinary organic disinfectants in general use. At the same time, the prescribed dose has no toxic action towards man or animals.

HEXYL-RESORCINOL—BOOTS, is supplied in Enteric-coated Tablets—in bottles of 25 and 100 tablets. Special Gelatin Capsules—in boxes of 24 and 100 capsules—are also available.

WHOLESALE AND EXPORT DEPARTMENT

BOOTS PURE DRUG CO. LTD.

NOTTINGHAM, ENGLAND

TELEPHONE: NOTTINGHAM 45501

TELEGRAMS: "DRUG, NOTTINGHAM"

LIVER EXTRACT B.D.H.

Liver Extract B.D.H. is a freely-running powder; it is made by a process tested and found efficient by the Medical Research Council, each tube containing the haematopoietic principles of half-a-pound of fresh raw liver, the minimum daily dose.

In Pernicious Anaemia

GASTER SICCATA B.D.H.

Gaster Siccata B.D.H. is a fine light powder, odourless, practically fat-free and resembling in taste an ordinary milk food diet; it is made from fresh stomachs obtained in Great Britain from certified healthy animals. It is for use particularly in the treatment of those cases which respond more readily to desiccated stomach than to liver.

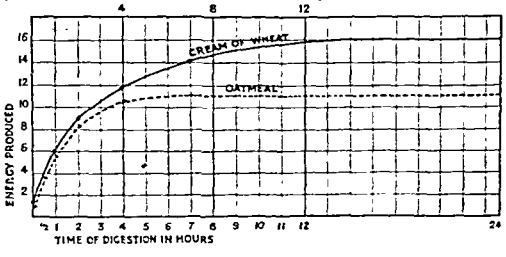
Sample and descriptive literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

LE/GS/23

"Cream of Wheat" is prominent on the diet sheets of leading British pediatrists

Great biochemical institute proves it more digestible than oatmeal and productive of one-and-a-half times as much energy.



When the digestion of "Cream of Wheat" was complete it was found that its sugar yield was 50% greater than that of oatmeal; in other words, that it was productive of 1½ times as much energy. Moreover, it will be seen that for 4 hours after the digestion of oatmeal was almost at a standstill, the digestion of "Cream of Wheat" was continuing at a scarcely diminished rate.

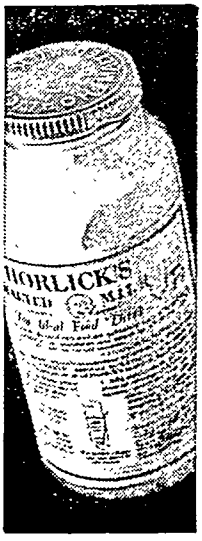
From a study of text-books and monographs on infant feeding published in the past few years, it is evident that "Cream of Wheat" is becoming increasingly popular among pediatrists as a first starch food for infants. This preference, based on clinical experience, has recently been justified by experiments conducted in the laboratories of a leading biochemical institute. These experiments, as the accompanying graph shows, conclusively prove the superiority of "Cream of Wheat" over oatmeal.

Prepared and packed under rigorous inspection and the most hygienic conditions—

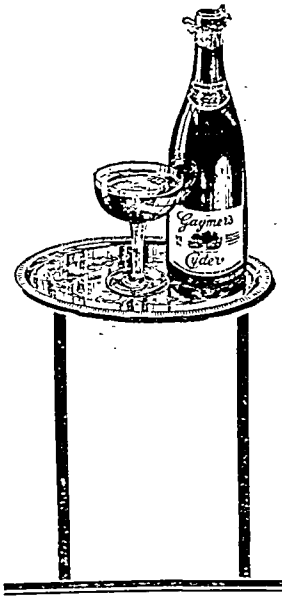
"Cream of Wheat" is made entirely from the granulated endosperm of the best wheat and contains 72% starch.

It is purified and re-purified under intense heat and rigorously inspected at every stage before being finally triple wrapped in cartons. Free from husk, it can be safely given even as early as the third month; it is invaluable wherever there is a tendency to fat intolerance owing to the thorough hydrolysis and metabolization which it renders possible; and is a useful food in the post-operative period. A professional card will bring you fuller details of the above tests, and a sample of this cereal.—Dept. W.5, Fassett & Johnson, Ltd., 86, Clerkenwell Road, London, E.C.1.

HORLICK'S MALTED MILK, a modified milk food, is full-cream cows' milk combined with the nutritive extracts of malted barley and wheat, evaporated to dryness at a low temperature in vacuo by the special HORLICK process. *HORLICK'S MALTED MILK has proved of value in infant feeding, disease of the alimentary canal, myocardial disease, fevers, during pregnancy and lactation, and in all conditions where it is essential that the patient should be given a



palatable and agreeable diet, and one affording a maximum of nourishment with a minimum of digestive effort. *The characteristics of easy digestibility and absorption, and a high degree of assimilation, which have enabled HORLICK'S MALTED MILK to be confidently recommended by the Medical Profession for nearly fifty years, cannot be obtained from a blend of cereals and dried milk. *HORLICK'S MALTED MILK contains no free starch or cane sugar.



FREE SAMPLES WILL GLADLY BE SENT ON RECEIPT OF YOUR PROFESSIONAL CARD QUOTING "B.M.J."

BY APPOINTMENT To H.M. The KING

Gaymer's CYDER

ONCE the Cyder drinker has tasted GAYMER'S he finds he has reached perfection, and no other will satisfy him.

The Very Dry Cyders produced at Attleborough are the original Brands consistently prescribed for many years by the Medical Profession as an antidote to Gout and Rheumatism.

Old and new friends will be welcomed at our Stand at the B.M.A. Exhibition, Eastbourne, July 20/24.

WM. GAYMER & SON, LTD.,
ATTLEBOROUGH NORFOLK.

MADE FROM ENGLISH APPLES IN ENGLAND

INVALUABLE IN CONVALESCENCE——TONIC RESTORATIVE

Concentrated Organic Vitamin Food

SAVORY & MOORE'S
SOLUGA

INDICATIONS

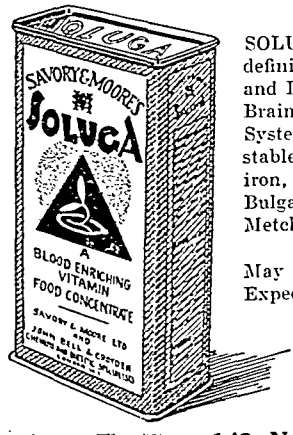
All Vitamin deficiency diseases.

Convalescence.

Over-Fatigue.

Nervous Exhaustion and Similar Conditions.

Specially recommended in cases where conditions indicate the need of a tonic for exhaustion, weakness, depletion of mental or physical activity, etc., when it may be prescribed with safety.



SOLUGA is an Organic Food containing in definite proportions Hormones, Albumins, and Lipoids, derived from the Liver, Heart, Brain, Thymus, and Central Nervous System, with Vitamins A, B, D, & E, in stable form. In addition, biologically active iron, lime, and phosphorus are present, with Bulgarian Yoghurt, recommended by Metchnikoff.

May be safely prescribed for Nursing and Expectant Mothers and for Delicate Children

Large Clinical Sample sent free to Members of the Medical Profession.

Supplied in sealed air-tight tins.

Price 3/- per tin.

SAVORY & MOORE, LTD., *Chemists to The King,* 143, New Bond Street, LONDON, W.1

IMPROVED
DAY AND NIGHT SERVICE
TO
THE MEDICAL PROFESSION
FOR
OPPENHEIMER PRODUCTS

Messrs. OPPENHEIMER SON & Co., Ltd., have pleasure in announcing that a DEPOT (and a complete range of all Oppenheimer Products) has been established at

50, WIGMORE STREET, W.1
(Messrs. John Bell & Croyden)

The well-known DAY AND NIGHT SERVICE of Messrs. John Bell & Croyden will thus become available, and we hope that this arrangement will be appreciated by the Medical Profession, particularly for urgent requirements and SUNDAY AND HOLIDAY SERVICE.

WRITE, 'PHONE or WIRE

John Bell & Croyden, Wigmore Street, W.1 Telephone: WELBECK 5555. Telegrams: INSTRUMENTS, WESDO

OPPENHEIMER SON & Co., Ltd., Handforth Laboratories, CLAPHAM ROAD, S.W.9

ANAESTHETICS

ANAESTHETIC ETHER

(DUNCAN)

S.G. 720

Duncan

Duncan's Anaesthetic Ether is absolutely pure and contains no aldehydes or other oxidation products.

It is the result of many years' experience in the manufacture of anaesthetics and can be used with confidence by the Anaesthetist.

Prices on Application

DUNCAN, FLOCKHART & CO.

EDINBURGH and LONDON

104, Holyrood Road 155, Farringdon Road, E.C.1

THIS NAME—

GUARANTEES SAFETY

The name MARSHALL'S guarantees purity, efficiency, uniformity in every bottle of Lysol you purchase. There are other Lysols to be had, but MARSHALL'S is the only Lysol made to the original formula.

MARSHALL'S is better because it allows a greater margin of safety. In the correct dilution its bactericidal power is certain, yet it is harmless to the most delicate tissue. MARSHALL'S Lysol is the most widely used antiseptic for Obstetrics, Gynaecology, etc., because it is ideal for these purposes.

ONLY THE PUREST INGREDIENTS

All the ingredients of MARSHALL'S Lysol have to conform to the most rigid specification. Every stage of manufacture is subject to strict and constant supervision and analysis to ensure a product worthy of your recommendation.

Doctors, Nurses and Hospitals all over the world put their faith in MARSHALL'S—a faith that has been justified by 40 years of unfailing efficiency and uniformity.

Sample free on request to members of the medical and nursing professions.

LYSOL LTD., Dept. K 18, RAYNES PARK, S.W.20.

Lysol

MARSHALL'S Lysol

royds

Valentine's Meat-Juice

In **Typhoid** and other **Fevers, Extreme Exhaustion, Critical Conditions,** Before and After **Surgical Operations,** when Other Food **Fails** to be **Retained, Valentine's Meat-Juice** demonstrates its **Ease** of **Assimilation** and **Power** to **Restore** and **Strengthen.**

Clinical Reports from Hospitals and General Practitioners of Europe and America posted on application.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
Richmond, Virginia, U. S. A.

JB 98

a Physician writes re....

Over 12,000 Doctors now obtain their own supplies of Ty.phoo tea from us.

DYSPEPSIA AFTER TEA

Copy of M.1190.

"For several months this year I was troubled with dyspepsia, and I found that my habit of drinking about six cups of ordinary tea per diem was responsible for the trouble.

I decided to drink 'Ty.phoo' tea, and since using it I have had absolutely no dyspepsia in spite of the fact that I drink as much, if not more, than I used to."

C——, Esq., M.B., D.P.H.

WE print here one of the many Medical testimonials we are constantly receiving as to the undoubted value to dyspeptics of the pure natural "leaf-edge" tea in which we specialise.

Ask Sumner's Ty.phoo Tea Ltd., Dept. B/MD, Birmingham,

for a free sample of "Ty.phoo" natural leaf-edge tea and full particulars.

TRY "Ty·phoo" TEA in Indigestion.

Kaylene

for the treatment of acute intestinal infections, ptomaine and other forms of food poisoning, and all diarrhoeal conditions. It acts by adsorption and is the true antidote to bacterial toxins and toxalbumins in contaminated food.

The action is speedy and certain.

Kaylene-ol

An emulsoid of the toxin adsorbent Kaylene combined with a highly viscous Liquid Paraffin. The latter counteracts the consolidating effect of the Kaylene. This preparation may be prescribed with confidence for those conditions in which toxaemia is associated with constipation. **It actively prevents the absorption of toxins** and completely puts an end to the fouling of the lymphatics and the blood.

Samples and "adsorption" literature obtainable on request to the Manufacturers:

KAYLENE LIMITED,

Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone— GLADSTONE 1071 (2 lines).

Telegrams— KAYLOIDOL, CRICKLE, LONDON.

Cables— KAYLOIDOL, LONDON.

Code— BENTLEY'S.

Specially indicated for cases of Constipation, Indigestion, Malnutrition, Obesity and Diabetes

Though most physicians realise the general benefit to health which follows the use of Ryvita Crispbread in the place of ordinary bread in the daily dietary, its particular advantages for certain special conditions are not always appreciated. The following notes will therefore be of interest to those who have not yet experienced its use in such circumstances.

CONSTIPATION. Apart from the mechanical action which follows on its freedom from moisture and its retention of the natural roughage of the grain, Ryvita contains all the special laxative properties of Rye, due it is believed largely to its richness in Vitamin B and the salts of lime and iron and phytates. The stimulative effect upon intestinal movements of Vitamin B is confirmed by much recent dietetic research.

MALNUTRITION. Owing to the extreme ease of its digestion, coupled with its high value in proteins and carbohydrates, Ryvita is a great help to the physician in promoting the proper metabolism which alone can end malnutrition. Its delicious and appetising nature is a valued adjunct. Patients should not regard it as a medicated bread but as a better and more nutritive form of bread. They will find it delightful with butter, with marmalade or jam or cheese, or indeed in any fashion in which they have been in the habit of eating ordinary bread.

INDIGESTION. Here again the value of Ryvita is both physical and chemical. Its crisp, dry character compels proper mastication and ensures thorough insalivation. Thus Ryvita, besides being itself easily digested, promotes the digestion of other foods also. As to its chemical nature, its exceedingly high percentage of soluble carbohydrates greatly lightens the burden of starch digestion.

OBESITY. Whereas ordinary bread even of the so-called "wholemeal" variety is marked by a very high percentage of moisture and exceedingly low calorie value, Ryvita contains under 10 per cent. of moisture and a value in calories of some 1,662 calories per lb. Thus Ryvita contains all the value without the disadvantage of excessive bulk. It will be seen, therefore, that for cases of obesity, Ryvita, which the "Lancet" describes as "a concentrated form of food," is very definitely indicated and many cases have been reported where its use brought excellent results.

DIABETES. In many cases of Diabetes, the comparatively small quantity of unconverted starch in Ryvita makes its addition to the diet very valuable. It should, however, be given with regard to the starch tolerance of each particular case, and we shall be glad to supply details of its analysis on request.

RYVITA
CRISPBREAD

N.B.—We shall be pleased to send Free Samples and full particulars to all interested Members of the Profession.

The Ryvita Company Limited,
917, Ryvita House,
96, Southwark St., London, S.E.1

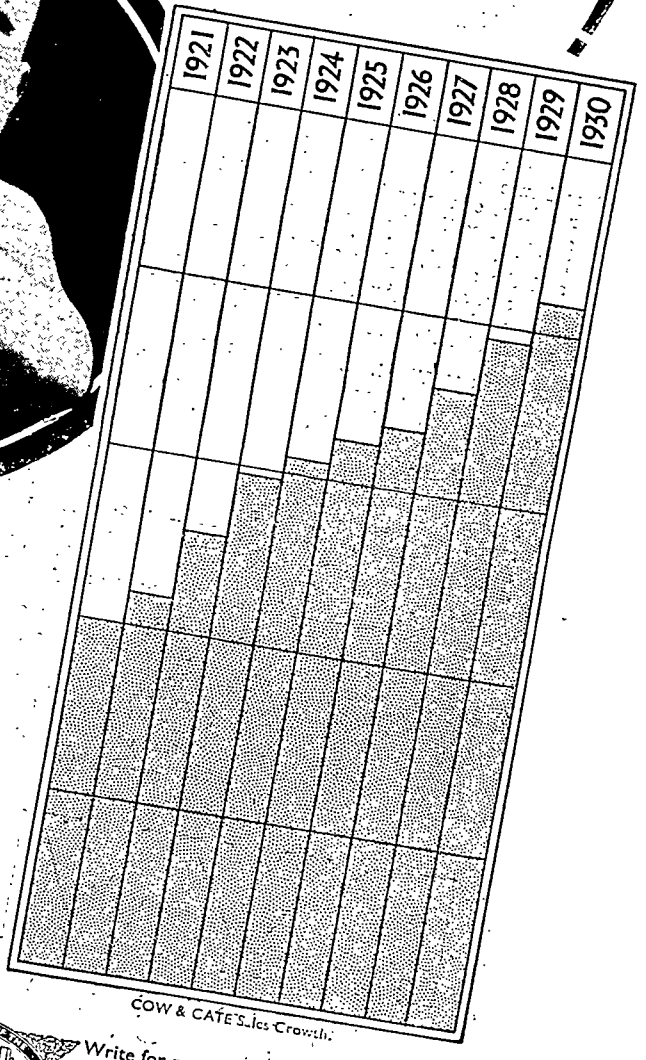
FOR YOUR CONVENIENCE

To the RYVITA CO., LTD., 917, Ryvita House, 96, Southwark Street, London, S.E.1. Please send me sample and full particulars of Ryvita Crispbread.

Name .....

Address .....

Facts WHICH SPEAK for THEMSELVES!



COW & GATE Sales Growth.

COW & GATE Milk Food is now supplied to almost every Hospital and Welfare Centre in this country, and it's certainly not chosen for the sake of cheapness.

We illustrate here a graph showing the COW & GATE sales growth during the last ten years.

THERE MUST BE A REASON FOR THIS EXTRAORDINARY GROWTH!

It is because the Medical Profession has over a long period proved the value of COW & GATE, and insist on having the best!!

Support Home Agriculture. COW & GATE LIMITED is an all English Firm, using only home produced milk.

"The best milk for babies, when natural feeding fails"

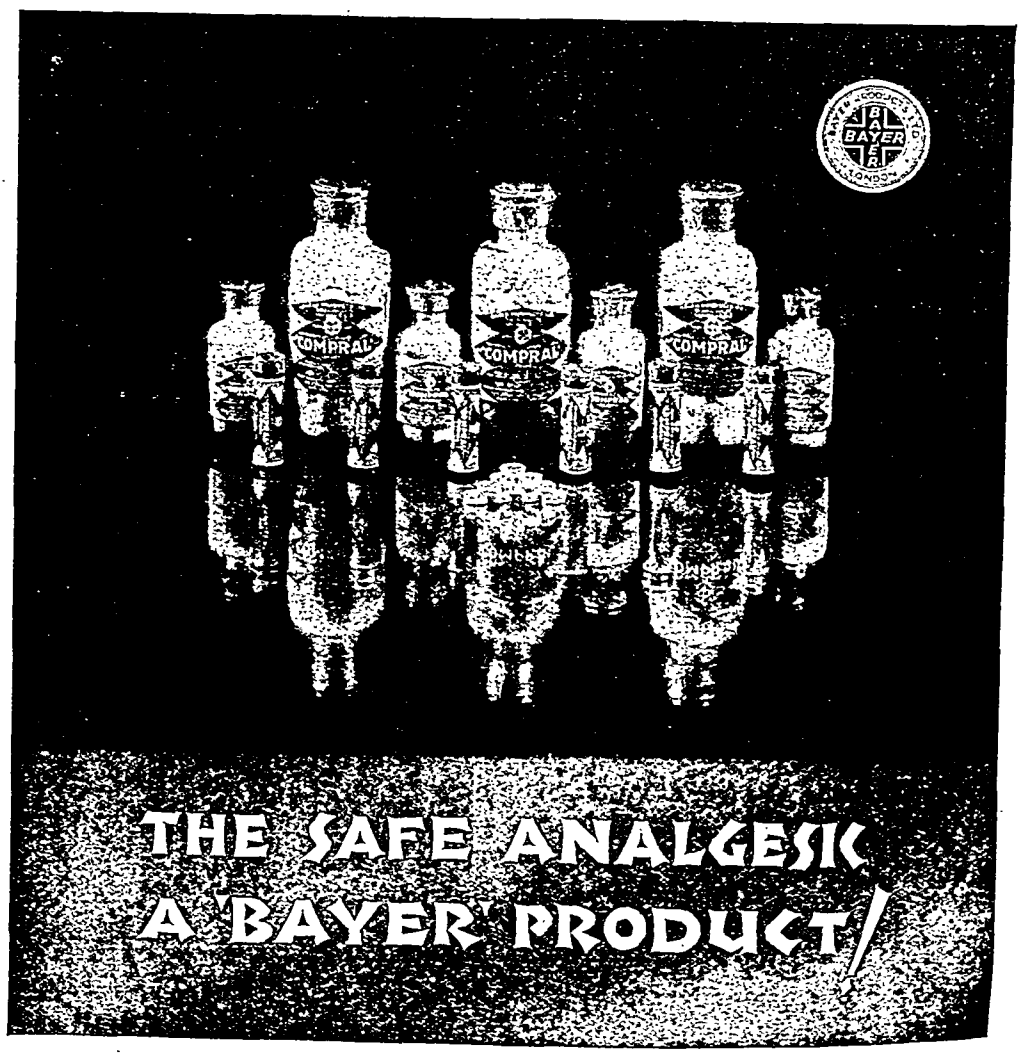
Write for particulars of our special Milk Foods for difficult Infant Cases.

COW & GATE LTD.

GUILDFORD, SURREY

PAIN

OF ANY DESCRIPTION YIELDS TO



BETTER MILK FOR BABIES

FACTS ABOUT
LACTOGEN

Vitamins and Minerals

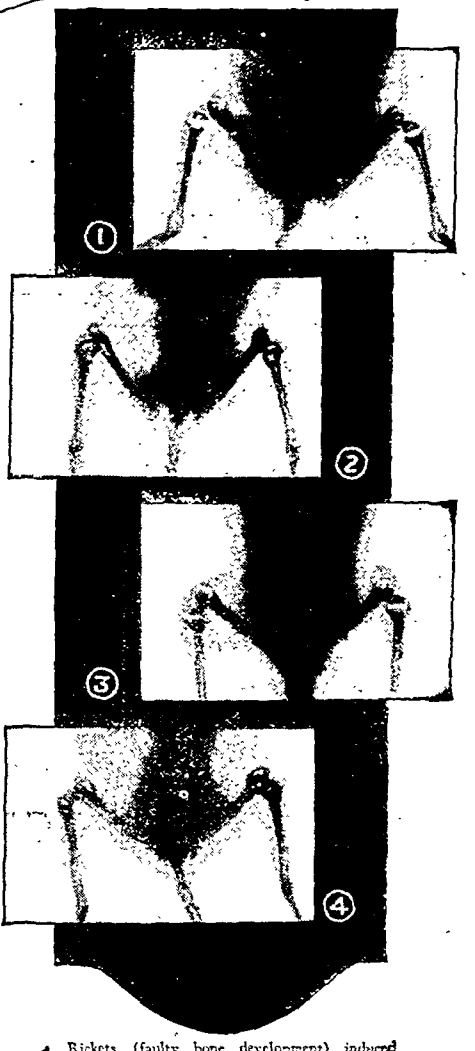
To fulfil the requirements of the rapidly growing child an adequate supply of vitamins and mineral salts must be provided.

Milk furnishes a sufficiency of these essentials, and in Lactogen their complete conservation is effected.

For the final desiccation of the modified fresh milk the roller process is employed. The heat applied is thus reduced to a minimum and the exposure confined to a matter of seconds.

Lactogen provides a full complement of mineral salts in organic combination, together with the adequate vitamin allowance. It is a complete and balanced diet furnishing the infant with every essential necessary for good health and normal development.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.



1 Rickets (faulty bone development) induced by a deficient diet. Rat A.
2 Recovery in the same rat after Lactogen feeding for 14 days. Rat A.
3 Rickets (faulty bone development) induced by a deficient diet. Rat B.
4 Recovery in the same rat after Lactogen feeding for 14 days. Rat B.
—showing that the antirachitic factor is present in Lactogen in full prophylactic amount.

66 LACTOGEN 99
REGD. TRADE MARK
BETTER MILK FOR BABIES

FREE SAMPLES with detailed descriptive literature will be sent to any Member of the Medical Profession, upon request.

Lactogen Bureau (Dept. Z5), Nestlé and Anglo-Swiss Condensed Milk Co., 6 and 8, Eastcheap, London, E.C.3.

"Viodar"

The New Oil

Containing Free Iodine—hence the **Violet** colour.

A penetrating and occlusive Dressing for abrasions and skin affections.

"An Iodine compound which should be valuable for both external and internal use."
—LANCET, April 18/31, 896.

Antiseptic power established by bacteriological experiments.

"VIODAR" DOES NOT IRRITATE OR STAIN THE SKIN, or evolve acrid fumes in use.

"VIODAR" IS ISSUED IN TWO STRENGTHS, 1 in 200 and 1 in 1,000.

Either strength, 4-oz. stoppered bottles, **3/-** each.
„ „ 8-oz. special "Surgery" bottles, **5/-** „

Sodium Fluorescein "Sterules"

For use in conjunction with irradiation in malignant disease
(See B.M.J., April 18/31, 658; May 2/31, 767)

"Sterules" Sodium Fluorescein 20 c.c. 5%, **3/-** each.

Saline Gelatin "Sterules"

For Gelatinothorax

(See B.M.J., April 18/31, 683)

"Sterules" for producing 5 ounces 2% solution, **2/6**; 10 ounces, **3/6** each.

ALSO

"Sterules" Euflavine (powder) 1 grain, used with same, boxes of 6, **3/6** „

Sodium Morrhuate "Sterules"

For Varicose Vein Injections

"Sterules" 2 c.c. 5%, boxes of 10, **7/6.**
„ „ 10%, „ „ **8/6.**

Peptone "Sterules"

For Asthma, Hay Fever

and allied affections.

Graded Series of 10 "Sterules," professional price, 7/6. Continuation Course of 6 "Sterules," professional price, 6/6. For intravenous and intramuscular use. Please state which is desired.

W. MARTINDALE

12, NEW CAVENDISH STREET, W.1

Telegrams: Martindale, Chemist, London. 'Phone: Langham 2441.

HAY FEVER

Detoxicated Anti-Coryza Vaccine (Genatosan) has proved a successful prophylactic with many patients previously subject to annual attacks of hay-fever. As this vaccine is detoxicated, massive doses may be administered with little or no reaction.

In actual treatment, and also for prophylaxis with hypersensitive and nervous patients, local application of Anti-Coryza Spray Vaccine is indicated.

Additional information regarding the above products will gladly be supplied to any Practitioner who writes to The Vaccine Department, Genatosan Ltd., Loughborough, Leicestershire.

PHYSIOLOGICAL TREATMENT OF CONSTIPATION

COMPOSED OF

EXTRACT OF THE INTESTINAL GLANDS

which strengthens the glandular secretions of the organs.

BILIARY EXTRACT

which regulates the secretion of the bile.

AGAR-AGAR

which rehydrates the contents of the intestines.

LACTIC FERMENTS

which reduce bacterial action in the intestines.

IN TABLET FORM.

ITS USE DOES NOT LEAD TO HABIT

LABORATOIRES LOBICA,

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd., 30, Marsham St., London, S.W.1 Victoria 2041.

Taxolabs, Sowest, London.

THERE IS NO SUBSTITUTE FOR 'PETROLAGAR'

Brand Paraffin Emulsion

Years of research have produced this emulsion of paraffin and agar-agar which occupies a pre-eminent place in the treatment of constipation.

'Petrolagar' is manufactured by a new improved pharmaceutical process, by which specially designed equipment the paraffin is atomised by hydraulic pressure and is held in this minutely divided state by the emulsifying properties of agar-agar.

'Petrolagar' contains the large volume of 65% liquid petrolatum, and is deliciously flavoured and pleasant to take.

Prescribe 'Petrolagar' for constipation and allied intestinal disorders.

For all types of Anaemia prescribe 'NEOBOVININE 20,' a new product of animal mineral salts with liver extract. It builds new blood cells and haemoglobin rapidly.

Please send for interesting literature.

PETROLAGAR LABORATORIES LIMITED,

Braydon Road, London, N.16.

"UMBROSE"

(Registered Trade Mark)

(Shadow Meal)

A SPECIALLY PREPARED BARIUM MEAL FOR X-RAY DIAGNOSIS

Its high degree of opacity ensures perfect shadow definition on the X-Ray plate.

Other special features:

Freedom from toxicity, exceptional fineness and palatability. It may be simply and quickly prepared in the X-Ray room.

"Umbrose" (Shadow Meal) is prepared in three sizes as follows

No. 1 contains 2 oz. $BaSO_4$ No. 2 contains 4 oz. $BaSO_4$
No 3 contains 6 ozs. $BaSO_4$

Fully descriptive literature on "Umbrose" will be gladly sent on request.

ALLEN & HANBURYS LTD., LONDON, E.2

Telephone: 3201 Bishopsgate (10 lines) Telegrams: "Greenburys Edo London"

"Azoule" Solution A.B.A.

TRADE MARK

IN PRURITUS ANI

Accumulating experience confirms the remarkable effect of the new local anæsthetic **'Azoule' Solution A.B.A. in Pruritus Ani and Anal Fissure** (see B.M.J., Aug. 30, 1930). Outstanding features of this product are its prolonged local anæsthetic effect which lasts as long as ten days and its non-toxicity.

Wherever prolonged local anæsthesia is required 'Azoule' Solution A.B.A. is the agent of choice.

Other references: B.M.J., June 15, 1929, p. 1073. B.M.J., June 28, 1930.

'Azoule' Solution A.B.A. is supplied in 2 c.c. ampoules. Boxes of 6 and 12 at 5/6 and 10/-

Descriptive literature on request.

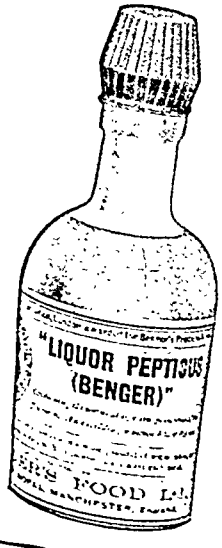
Allen & Hanburys Ltd., London, E.2.

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Edo London."

ESSENCE of RENNET
CONCENTRATED (BENGER).
(Curdling Fluid)

Originally prepared at the request of a prominent physician, this highly concentrated essence is of especial value in Infant and Invalid Feeding. As it is concentrated it is much quicker in its effect than most other preparations of Rennet. Whey prepared with Benger's Essence of Rennet is of the greatest value in the treatment of diarrhœa, vomiting, etc.; it can be employed with confidence and will yield good results. Junket can be made more quickly and at a lower cost by using Benger's Essence of Rennet than by any other method.

In 1/- and 1/9 bottles.
Larger sizes for hospitals, etc., use.



LIQUOR PEPTICUS
(BENGER).

"A digestive agent of extraordinary power."
Sir William Roberts, M.B., F.R.S.

Benger's Liquor Pepticus, is a concentrated and highly active fluid pepsin in acid solution which acts particularly upon meat, eggs and other proteid foods.

The best results from the use of Liquor Pepticus are obtained when it is prescribed alone. Should the prescriber wish to combine medicaments of a tonic nature, it will be recollected that those which are free from astringency and alkalinity should be selected.

In 4, 8 and 16-oz. bottles.
Prices: 3/6, 6/6 and 12/6.

BENGER'S FOOD, LTD., — Otter Works, — — MANCHESTER.
NEW YORK (U.S.A.): 90, Beekman Street.
SYDNEY (N.S.W.): 350, George Street.
CAPE TOWN (S.A.): P.O. Box 573.

BENGER'S Food

PIONEERS AND EMPIRE BUILDERS: No. 598
NINTH PERIOD—circa A.D. 300 to c. 1300

2/1 *per tube of* 25

An Ideal Sedative

TRADE MARK 'TABLOID' BRAND
THREE BROMIDES
EFFERVESCENT

℞
Potassii Bromidi, 0·4 gm. [gr. 6¼ approx.]
Sodii Bromidi, 0·4 gm. [gr. 6¼ approx.]
Ammonii Bromidi, 0·2 gm. [gr. 3 approx.]
Salis Effervescentis, *q.s.*

TRADE MARK 'TABLOID' BRAND
ALKALINE COMPOUND
EFFERVESCENT

℞ Sodii Bicarbonatis, gr. 5 [0·324 gm.]
Calcii Lactophosphatis, gr. 3 [0·194 gm.]
Potassii Bicarbonatis, gr. 1 [0·065 gm.]
Magnesii Sulphatis Anhyd., gr. 1 [0·065 gm.]
Sodii Chloridi, gr. 1 [0·065 gm.]
Salis Effervescentis, *q.s.*

The effervescent salt, on solution, produces
29·4 grains of soluble citrates

Prices to the Medical Profession in London

For use in Acidosis

1/10 *per tube of* 25

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1
Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

CAPITAL BEARING THE MONOGRAM OF THEODORIC THE GOTH, THE EARLIEST OF THE GREAT MEDIÆVAL RULERS AND AN OUTSTANDING TEUTONIC PIONEER.—The letters and edicts of Theodoric the Great reveal the wise and thoughtful spirit of the ruler, who, by welding the Græco-Roman culture and the robust Teuton character of his subjects, produced a long period of settled government in Italy. The following are extracts from his letters: "Italy ought to enjoy her own products and it is monstrous that anything which she produces should be wanting to her own children. Therefore, let no lard be exported to foreign parts, but let it, by God's grace, be all kept for consumption at home." In granting immunity from taxes for districts ravaged by war, he says: "We wish promptly to relieve all the distresses of our subjects and we therefore at once announce to you that the districts ravaged by the incursions of the enemy will not be called upon to pay tribute at the Fourth Indiction (Sept. 510 to Aug. 511 A.D.). The capital here reproduced is from Ravenna where the Ostrogoths exercised considerable artistic influence.

DATE: Theodoric ruler in Italy, A.D. 493–526

COPYRIGHT

Vitamin "D" Potency of CADBURY'S MILK CHOCOLATE

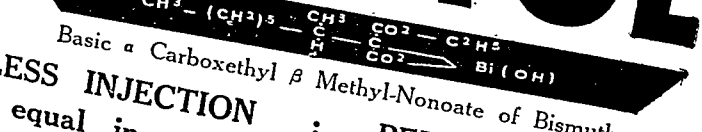
This well-known chocolate contains 1 unit of anti-rachitic activity per gram.

Made in the Factory in a Garden, Bournville.

A distinct advance in the Bismuthic Treatment of Syphilis can be effected by the use of

THE LIPO-SOLUBLE BISMUTH

BIVATOL



Basic α Carboxethyl β Methyl-Nonoate of Bismuth.

PAINLESS INJECTION : PERFECT TOLERATION

Practically equal in effect to the Arsenobenzene Compounds.

References:—Communications to the Societe de Dermatologie et de Syphilographie (July, 1928). *Etude experimentale du Bismuth lipo-soluble*, par M. C. Levaditi en collaboration avec M. V. Sanchis-Bayarri et Mlle. R. Schoen (pour la partie experimentale et histologique), Mlle. Y. Mannin (pour la partie chimico-analytique). *Traitement de la Syphilis par le Bismuth lipo-soluble*, par MM. L. Fournier, L. Guenot, Schwartz and Yovanovitch.

"Les Bismuths Lipo-solubles," par Rene Mignot. *La Presse Medicale*, No. 95 (27th Nov. 1929).

"Therapeutic Evaluation in the Treatment of Syphilis," *British Medical Journal* (21st Feb., 1931).

Ampoules of 2 c.c., Boxes of 12. Manufactured by Le Laboratoire Francais de Chimiotherapie, Paris.

Literature and samples on request from—

THE ANGLO-FRENCH DRUG CO., LTD., 238a, Gray's Inn Road, LONDON, W.C.1.

The Hume Lectures
ON
HAEMOLYTIC ICTERUS *

BY
LORD DAWSON OF PENN, P.C., M.D., D.C.L.
PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON; PHYSICIAN IN ORDINARY TO H.M. THE KING; EXTRA PHYSICIAN TO THE LONDON HOSPITAL

LECTURE II

(With Special Coloured Plates)

COMPLICATIONS AND FATAL CASES

In this series about 40 per cent. of the patients were known to have the biliary tract affected. There were twelve fatal cases in the series, and of these only one followed removal of the spleen; in contrast, there were fourteen patients treated by splenectomy, only one of whom died, and this one from surgical mishap. Of the twelve fatal cases, no fewer than eight died of haemolytic anaemia, two died of cholangitis, complicated in both instances by anaemia, and two of intercurrent disease. Haemolytic anaemia caused death at such varying ages as 3½, 13, 30, 43, 56; the symptoms in some cases appeared unexpectedly and severely, and in others they arose more gradually. The two cases of fatal cholangitis were both complicated by severe anaemia, so that ten out of the twelve deaths were associated with the latter condition. There is, then, a proneness for a severe and destructive anaemia to develop during the life of a patient suffering from acholuric jaundice. A study of the fatal cases in this series makes it clear that most of these deaths were avoidable.

The cases of the Tope children, described in Lecture I, show how haemolytic crises may arise. The cases of Labourne and Bass, also described in Lecture I, show how haemolytic anaemia may recur and finally kill the patients at the ages of 53 and 44, whereas the jaundice of early years may almost have been forgotten.

TREATMENT

The results of splenectomy have been strikingly good; this is an important point. The jaundice disappears quickly, and the red blood count commonly approaches the normal after a short interval. Even with the severe anaemias the recovery is rapid and permanent, and the patients are thenceforth healthy.

The ages of the patients operated on varied, the youngest being 10, and none of the others exceeded 36, except the patient above mentioned who died. There is no reason why splenectomy should not be performed on older patients, though there are obvious advantages in doing it in youth; from the age of 10 upwards children stand the operation well, and adhesions are unlikely to be present. Moreover, the dangers of destructive anaemias are obviated and the complications of the biliary tract are less prevalent. That the latter are real dangers is shown by the fact that seventeen patients in the series had the biliary tract involved, and in two of these biliary infection was the cause of death.

In cases in which both gall-bladder and spleen require operation it is not always wise to deal with them together. When the patient is weakened by a severe anaemia it might be safer to remove the spleen by as rapid an operation as possible and enable the blood to recover; and here may an observer of many such operations say a word in favour of the transverse incision as promoting economy of time and ease in handling.

Preliminary transfusion of blood should not be entertained lightly, certainly not without a pilot dose, for it may be recalled that in two cases of this series (Ford and Bass), although the bloods were most carefully typed, severe jaundice promptly ensued, and aggravated the already serious condition of the patients. In the light of experience the patient Bass would have had a better chance from splenectomy on admission to hospital, despite her grave condition. It is interesting to reflect whether a blood transfusion of this patient *after* splenectomy would have produced the same severe jaundice.

An enlarged spleen in a young patient, even to all appearances well, should prompt watching and repeated observations of the blood. Sometimes a slight jaundice comes and goes; again in some cases it is even absent altogether. Think of B. Tope, aged 10, apart from her family history. She is a bright, merry child of healthy appearance; she has an enlarged spleen; she has never shown any jaundice; her blood picture shows only a slight poverty of red cells. Yet a fragility of 0.6 to 0.4, 13 per cent. reticulocytes, and a positive indirect van den Bergh reaction give the key to the diagnosis, though a superficial examination of the blood would not. There can be no doubt that her spleen should be removed. The justification for not doing splenectomy lies in mildness of the anaemia with low count of reticulocytes and low van den Bergh indirect reaction, all after several investigations under varying conditions. Absence or slightness of jaundice is no justification for *laissez-faire*.

The following case illustrates incompleteness of cure after splenectomy, perhaps caused by undue delay in the performance of the operation. (Reported previously by Campbell.[35])

P. Phil, at the age of 14, was a pale, ill-looking child, with a lemon-tinted skin and an enlarged spleen. Her blood picture was as follows: red blood cells, 1,396,850; haemoglobin, 15 per cent.; colour index, 0.6; white blood cells, 6,000. More than once she had a haemolytic crisis. Nowadays with these findings her spleen would be removed, but in fact it remained till the patient was 29, after she had married, and had given birth to two children. That it was fortunate the delay in splenectomy did not bring her disaster is shown by her family history. One brother "died of spleen" at 1 year old; at the necropsy a very big spleen was found. One brother, alive, aged 5, spleen palpable, was treated, when aged 9 months, at the Evelina Hospital, for "profound anaemia." Mother healthy. A maternal uncle and a maternal aunt have each had their spleens removed. One of the patient's children is yellow. This patient did not completely recover a normal blood count after splenectomy. Thus, on November 19th, 1923, a few months before the operation, red blood cells were 3,750,000, haemoglobin 80 per cent. Splenectomy was performed in 1924, yet, two years after, the blood picture only showed 3,900,000 red blood cells, with haemoglobin 41 per cent., and in 1927, red blood cells 4,400,000, with haemoglobin 54 per cent.

This incompleteness of recovery of the red cell count does sometimes occur (as also in case E. H.), and may be due either to the bone marrow function failing to regain its full powers or to the fact that removal of the spleen is insufficient, and that haemolysis is excessive in other parts of the body, though in P. Phil the fragility was only moderately increased (0.5).

Before leaving this consideration of splenectomy it will be apposite and interesting to set forth the case of "Fordal," on whom the operation was performed as far back as 1887. Spencer Wells did the first splenectomy in England in 1865. His second and third splenectomies he did in 1868 and 1875. All of these were unsuccessful. His fourth splenectomy was performed on this patient when she was 27.

From the age of 9 the patient was troubled with frequent attacks of jaundice. When she was 14 she was growing "so large in front" that her mother was disturbed. At the age of 25 a large abdominal tumour was discovered below the umbilicus and near the centre of the abdomen, and was thought to be a fibroid. After two years' observation the tumour was noted to be larger, and the attacks of jaundice

* Delivered before the Northern Counties and Newcastle-upon-Tyne Medical Society on February 19th and 26th.

more severe, and accompanied by abdominal pain. It was decided, therefore, to remove the tumour. This was in the year 1887, three years before Minkowski first described acholuric jaundice. On opening the abdomen, two to three pints of ascitic fluid escaped, and the tumour was found to be a spleen, which was freely movable. Spencer Wells removed the spleen, which weighed 11 lb. 14 oz. The patient recovered, and her jaundice disappeared for good.

Two reflections suggest themselves: (1) the courage of the operator with the limited resources of his day and with the experience of all his three previous patients having died; (2) how imperfections in asepsis are in some measure counterbalanced by operative skill.

Over forty years have passed, and this patient is for her age enjoying good health. The fragility of her blood was examined a few years ago and was found to be still increased. Her only son developed haemolytic icterus in early childhood, and obstructive jaundice at about the age of 14. Two operations were performed by James Sherren, the first on the gall-bladder, which was full of pigment calculi and mud, and the second for removal of the spleen. The fragility was raised before the operation, and has remained so since—namely, 0.5—the last estimation having been made in 1927. Recovery was complete. This patient served throughout the great war.

The study of this disease illustrates the work of two master minds of the last century—Virchow in 1847, who concluded that bile pigment was formed outside the liver, and Spencer Wells, who in 1887 was the first to effect a cure of the disease by splenectomy.

PATHOLOGY

It is convenient to begin with the reports of the post-mortem examinations of Bass and Labourne. For these I am indebted to Professor Turnbull.

Necropsy Report on Patient Bass

Spleen, enlarged and firm, weighing 16¾ oz., with a swollen, moist, dark red pulp; minute distinct trabeculae and Malpighian bodies; few shallow, ill-defined subcapsular areas of induration and brown pigmentation.

Liver, enlarged (4 lb. 10 oz.), dark brown, with distinct lobular pattern, pale brown centres, and dark brown peripheries; gall-bladder and common bile duct normal.

Kidneys, enlarged (14½ oz.), with oedema, parenchymatous degeneration, and mottled greenish-brown jaundice.

Marrow, very rich and cellular, mottled with dark red in femur, ribs, sternum, and tibia (except for patches of fat in lower third). Jaundice of lymphatic glands, of ascitic fluid, of leptomeninges, of dura, and of ventricular fluid, but not of brain substance.

Necropsy Report on Patient Labourne

Spleen, greatly enlarged (2½ lb.), with fibrous peritoneal adhesions; cut surface showed a rich dark red pulp, with large irregular paler red areas; trabeculae and Malpighian bodies distinct; not enlarged; infarct anterior surface.

Liver, enlarged (5½ lb.), cut surface oedematous, and showing a slight rusty tinge. Liver gives marked free-iron reaction.

Gall-bladder contained about fifty faceted friable pigment calculi. Common bile duct showed no dilatation or stricture, and contained twelve small pigment calculi.

Kidneys gave marked reaction for free iron with Prussian blue test (Fig. 1 on Plate).

Marrow. Right femur, right tibia and humerus, and lumbar spine and sternum were occupied throughout with rich red marrow. Beneath the parietal pleura in the costo-vertebral angles and on the left side of the sixth to tenth thoracic vertebrae were four nodules of ectopic marrow (Fig. 2 on Plate). They were in close contact with bone, and showed a ragged surface where dissected from it. The cut surface of a nodule was red and homogeneous (Fig. 3 on Plate).

Microscopical Findings

I will now pass to the microscopical appearances in Labourne's case; for the demonstration and account of these I am indebted to Dr. W. D. Newcomb.

Spleen.—There is an irregular thickening of the capsule and slight fibrosis of the trabeculae. The Malpighian bodies are small, usually consisting only of a collection of lymphocytes around the eccentric artery. Many show hyaline degeneration, which is also present in the walls of many arteries and veins. The most noticeable change is in the pulp, which is engorged with red blood corpuscles. In the normal spleen pulp red blood cells and nucleated cells are about equal in numbers, whereas here red cells are in considerable excess. The venous sinuses are small and collapsed, containing a little albuminous fluid and a few red cells. Their lining endothelium is greatly swollen. There is no fibrosis or proliferation of reticulum cells in the pulp. A very few phagocytes containing red blood cells are present near some of the Malpighian bodies. Much iron-free pigment (haemofuscin) and a little iron-containing (haemosiderin) is present. In four out of seven blocks of spleen examined, fibrous nodules containing haematoxyphile strands are present. They are nearly all near blood vessels, and some involve the elastic tissue of the arterial wall. The dark staining filaments contain iron salts, as is shown by the Prussian blue test (Fig. 5 on Plate). They are the so-called Gandy-Gamna[40 41] nodules described by Gibson,[42] and have been found in many cases of acholuric jaundice as well as in other conditions.[43]

Liver.—The liver closely resembles that seen in pernicious anaemia. Much brown pigment, mostly haemosiderin, is present in the liver cells. Fatty degeneration of the cells at the centres of the lobules is also present. Fig. 6 on Plate (potassium ferrocyanide and basic fuchsine) shows the liver cells to be peppered with haemosiderin, and especially in the region towards the portal canal. Kupffer cells are also seen to contain red cells and iron-containing pigment.

Kidney shows well-marked haemosiderosis. The pigment is present mainly in the convoluted tubules and ascending limb of Henle's tubules.

Lymph glands are oedematous and their small vessels engorged. The germ centres are small and the lymph sinuses large. Most of the field is taken up by a lymph sinus containing numerous lymphocytes. The endothelium lining the sinuses is swollen, and many cells are free in the sinus. The reticulum cells are also active, and help in the formation of numerous macrophages, which fill both cortex and medulla of the glands. Some of these macrophages contain red blood corpuscles, and a few contain brown pigment, a little of which is haemosiderin.

Heart shows fatty degeneration, with a "tabby-cat" distribution and slight brown atrophy.

THE MARROW

Let us pass now to the minute anatomy of the marrow, in the first instance that of the femur and ectopic nodules belonging to Labourne, whose case represents the terminal stage of the disease, and with these the marrow of the child P. Tope, whose spleen was removed, that of W. G. which represents a milder form, and that of Bass the severe form, of the disease. These marrows have certain features in common. To the naked eye they are rich dark red marrows, with an absence of fat; under the microscope they are haemoblastic more than leucoblastic, and normoblasts are more numerous than megaloblasts; in a well-balanced case like W. G. they are twice as numerous.

Similarly, mitotic figures show a varying prominence in these marrows. In W. G. marrow they were prevalent, while in Bass and the child P. Tope scarce (see figure on opposite page). They were a prominent feature in the ectopic marrow of Labourne. This ectopic marrow (Fig. 7 on Plate) represents in striking fashion a hyperplasia—an endeavour of the blood-forming organ to meet the increasing drain of haemolysis. It is notably erythroblastic and active; mitotic figures are numerous in both myeloblasts and erythroblasts; many endothelial cells and some megakaryocytes are present. Free iron was found in the capsule of the nodule.

Formation of extramedullary marrow has been reported in the literature.[44] Thus Dorsey Brannon[45] reports the case of an infant with splenomegaly and anaemia in which

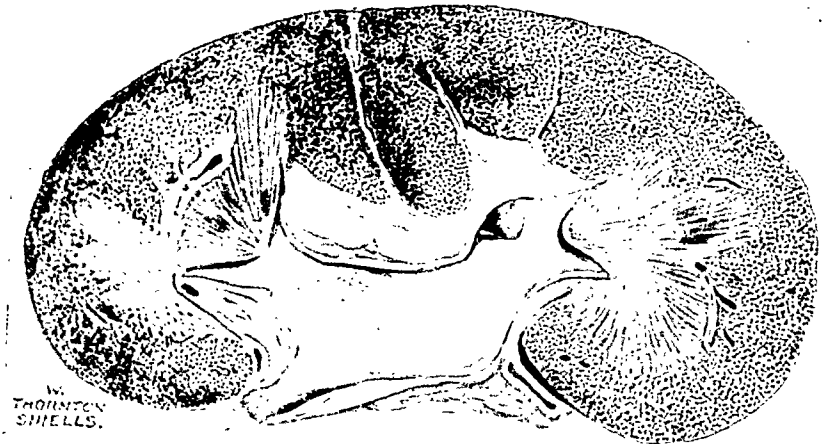


FIG. 1. Cross section of kidney showing Prussian Blue reaction for iron.

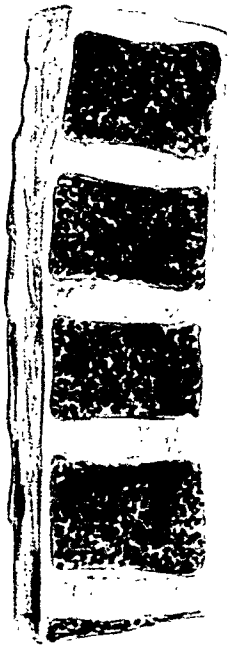


FIG 4. Section of vertebral column showing red hyperplastic marrow.

FIG. 2. Extramedullary marrow shown *in situ* in costo-vertebral angle.

FIG. 3. Extramedullary marrow incised—showing dark red structure.

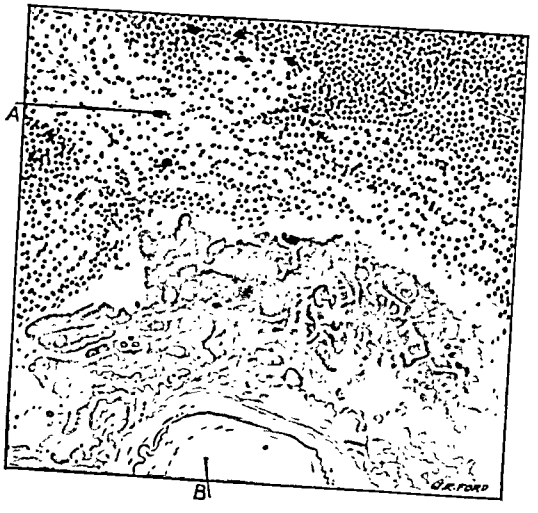


FIG. 5 Spleen showing Gandy-Gamna Nodule
A. Haemofuscin in phagocyte. *B*. Lumen of small artery.

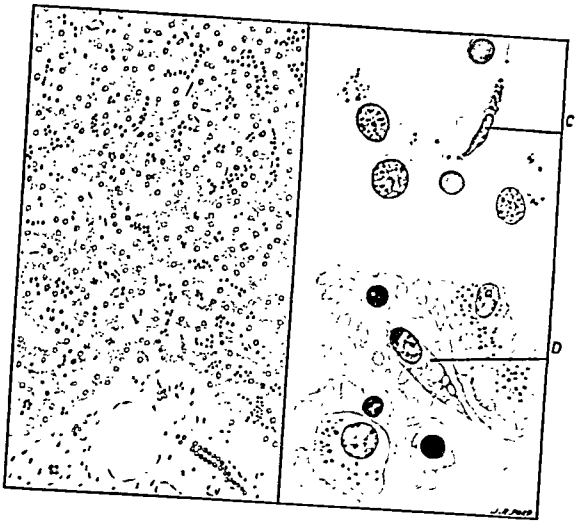


FIG. 6. Liver showing Haemosiderin.
C. Kupffer cell containing haemosiderin. *D*. Kupffer cell with ingested erythrocyte.

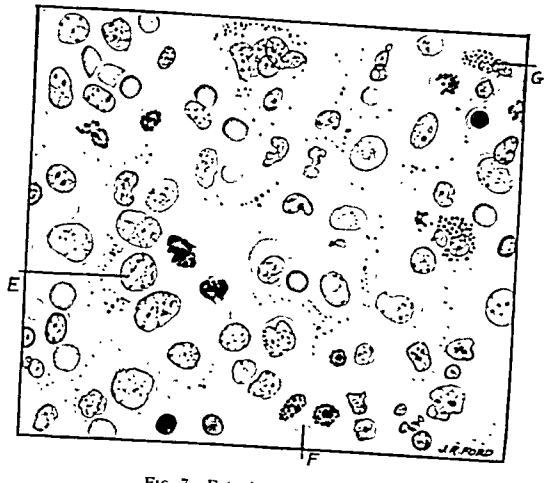


FIG. 7. Ectopic Bone Marrow.
E. Myeloblast. *F*. Dividing Erythroblast. *G*. Eosinophil.

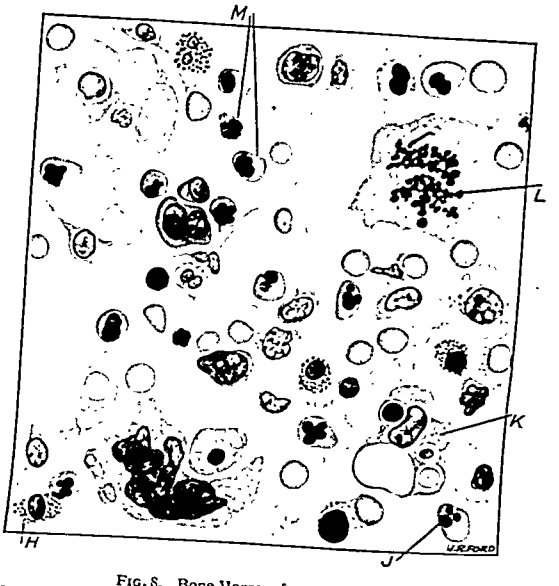


FIG. 8. Bone Marrow from Femur.
H. Eosinophil. *J*. Erythroblast showing karyorrhexis. *K*. Macrophage with three ingested erythrocytes. *L*. Mitosis in megakaryocyte. *M*. Dividing erythroblasts.

the hila of the kidneys were filled with red nodules containing the elements of hyperplastic marrow. Rich[46] has mentioned the occurrence of kidney-sized masses of bone marrow tissue in the thorax of a man who died from haemolytic jaundice.

Reverting to the case of Labourne, side by side with this evidence of a struggle to form new blood we have the evidence of a severe and fatal blood destruction. In the spleen there is evidence of active haemoglobin disintegration, but the amount of iron is not excessive. The haemoglobin is broken up there into bilirubin and iron-containing pigment, but these products pass away in the blood stream, the former in solution and the latter probably within endothelial cells. The pigment is found in large quantities in the liver and kidneys. Recall the section of liver which showed the polygonal cells to be packed with these pigment granules (Fig. 6 on Plate). The kidneys also showed well-marked haemosiderin, much pigment being present in the convoluted and Henle's tubules. The section of the bone marrow of Labourne (Fig. 8 on Plate) shows a more advanced stage, approximately to the marrow found in pernicious anaemia

It follows, therefore, that the naked-eye and microscopical manifestations of active marrow are evidences of endeavour but not of successful performance. A small amount of hyperplastic marrow will give the appearances that are to be seen in the femur, vertebrae, and other bones of Labourne, but these appearances are no measure of the marrow's output.

In acholuric jaundice the increased destruction of red cells is met, and for a time successfully, by increased red cell formation, as evidenced by the presence of reticulocytes and microcytes, with often a low red blood count and with even apparent health and an active normoblastic marrow. As time goes on the haemolysis holds greater sway. The capacity for blood formation declines and the blood picture approximates more to that of pernicious anaemia, in which impaired blood formation is a feature, side by side with blood destruction.[47 48] There remains, however, the essential difference that the marrow in pernicious anaemia is megaloblastic during the relapses and normoblastic during the remissions, whereas in haemolytic icterus it remains normoblastic throughout, though the number of megaloblasts is increased.

Put in another way, the dominant lesion in acholuric jaundice is haemolysis, which in the early stages is met by the overaction of healthy marrow. When the stage of exhaustion appears the marrow becomes more normoblastic, and eventually shows a tendency towards the megaloblastic; whereas in pernicious anaemia the marrow is in an exhausted state from the onset of the disease. In both alike the presence of an active hyperplastic marrow is not evidence that blood formation is winning; it represents striving, but is not a measure of successful achievement; there is a cellular hyperplasia without functional efficiency.

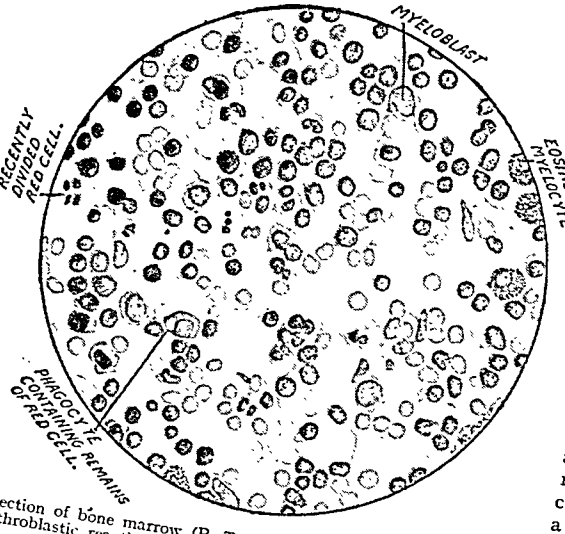
As a contrast to the foregoing it is worth making brief reference to sprue anaemia. Here failure of blood formation is the main feature; here there is no increased van den Bergh reaction, no reticulocytosis, and the marrow is aplastic.[49] It is possible that the generalized atrophy of the intestinal mucous membrane in sprue prevents the absorption of the necessary anti-anaemic factor, and a blood picture resembling pernicious anaemia results.

ACQUIRED HAEMOLYTIC ICTERUS

The more closely haemolytic icterus is studied the more does doubt grow as to whether in the strict sense an acquired form exists. Manifestations early in life can be so slight as to pass unnoticed or be forgotten. Take the case of Labourne. It was only at the end of her life that her attacks of anaemia were found to be associated with increased fragility. It was only after repeated questionings that the jaundice of her early life came back to her memory, and but for that fact she might justly have been thought to have acquired the disease in adult life.

The slightness or absence of one or more of the manifestations makes it easy for the condition to pass unnoticed. It is only when observation becomes stimulated, and then extended to the patient, or the patient's family, or both, that discovery ensues. For instance, a moderately enlarged spleen may be found in a patient of active life. Investigation may disclose a red cell count of, say, 4½ millions, a fragility within the normal, a positive direct van den Bergh with no jaundice. If there is no disturbance of the patient's health, and no discovery of any members of the family affected with more typical forms of the condition, the cause of that splenomegaly remains a mystery. All the while, the marrow has been overtaxed, involved in over-production of red cells to maintain equilibrium. But suppose the marrow fatigues as the result of untoward conditions like hardship or illness (for example, a septic process), or the haemolytic process itself becomes accentuated and jaundice appears, there is the further possibility that the fragility may increase, and this, with an inherited overactive reticulo-endothelial system, may turn the scale, causing the symptoms of haemolytic icterus to appear. It is known that fragility can vary and change in the same patient and in different conditions—for instance, in pernicious anaemia it diminishes, while in blackwater fever, as Creed has shown,[50] it may increase. In the sense that latent defects may be accentuated so as to become clinically manifest, haemolytic icterus can be acquired, but the defects themselves are inborn.

Paschkis,[51] discussing the question, describes the case of a patient who, while being treated for abdominal pain and diarrhoea, was found to have a palpable spleen and an icteric tinge. Investigation showed that there were raised fragility (namely, 0.58 to 0.3), indirect van den Bergh 3 units, and marked urobilinuria. This might have been regarded as an acquired case. It was not, but was a congenital haemolytic icterus then for the first



Section of bone marrow (P. Tope) taken by biopsy; showing erythroblastic reaction with few mitotic figures.

time made manifest. A brother, in excellent health, was found to have an enlarged spleen, a raised fragility, 0.52 to 0.3, and moderate urobilinuria.

I would like to thank Dr. Robert Hutchison, Dr. Otto Leyton, Dr. Theodore Thompson, Dr. Adolphe Abrahams, Dr. Campbell, and Dr. C. S. Atkin for letting me use their cases. One of Dr. Leyton's cases was particularly valuable. I am indebted, also, to Dr. Creed of King's College Hospital for his valuable method of estimating fragility of the blood. I have referred in the text to the reports of Professor Turnbull and Dr. W. D. Newcomb. I gratefully acknowledge the help and criticism of Dr. Mathilde Hunter and Dr. Donald Hunter in the gathering of numerous observations set forth in the text. I have also received valuable aid from Dr. Daniel Davies, and I think it will be admitted that the illustrations by Messrs. Shiells and Ford and Mr. S. A. Sewell are excellent.

REFERENCES

[1] Whipple, G. H., and Hooper: *Journ. Exper. Med.*, 1913, xvii, 593.
[2] Mann, F. C.: *Amer. Journ. Med. Sci.*, 1921, clxi, 37.
[3] Mann, F. C., et al.: *Amer. Journ. Physiol.*, 1924, lxix, 393.
[4] Idem: Ibid., 1925, lxxiv, 497.
[5] Idem: Ibid., 1926, lxxvi, 306 and 577.
[6] Idem: Ibid., 1926, lxxviii, 384 and 658.
[7] Mann, F. C.: *Medicine*, 1927, vi, 419.
[8] Rich, A. R.: *Bull. Johns Hopkins Hosp.*, 1923, xxxiv, 321.
[9] Idem: Ibid., 1925, xxxvi, 4.
[10] Makino, J.: *Ziegl. Beitr.*, 1924, lxxii, 808.
[11] Van den Bergh, H., and Snapper, I.: *Berl. Woch.*, 1915, ii, 1081.
[12] Rich, A. R., and Reinhoff, W. F.: *Bull. Johns Hopkins Hosp.*, 1925, xxxvi, 431.
[13] Virchow, R.: *Arch. f. Path. Anat. u. Physiol.*, 1847, i, 379.
[14] Rich, A. R. and Burnstead, J.: *Bull. Johns Hopkins Hosp.*, 1925, xxxvi, 437.
[15] Lepehne, G.: *Folia Haematol.*, 1930, xxxix, 277.
[16] Rosenthal, F.: *Ergebn. d. inn. Med. u. Kinderh.*, 1928, xxxiii, 63.
[17] Aschoff, L.: *Lectures on Pathology*. 1924. Hoeber, New York.
[18] Cappell, D. F.: *Journ. of Path. and Bact.*, 1929, xxxii, 529; *Glasgow Medical Journal*, 1930, cxiv, 209.
[19] McNee, J. W.: *Journ. of Path. and Bact.*, 1914, xviii, 325.
[20] Rich, A. R.: *Bull. Johns Hopkins Hosp.*, 1924, xxxv, 415.
[21] Idem: Ibid., 1930, xlvii, 338.
[22] Schiff, L.: *Arch. Int. Med.*, 1927, xl, 800.
[23] Adler, A., and Strauss, L.: *Klin. Woch.*, 1922, 1, 2285.
[24] Thannhauser, S. J., and Andersen, E.: *Deut. Arch. f. klin. Med.*, 1921, cxxxvii, 179.
[25] Harrop, G. A., and Barron, E. S. G.: *Trans. Assoc. Amer. Phys.*, 1929, xliv, 143.
[26] Meulengracht, E.: *Deut. Arch. f. klin. Med.*, 1920, cxxxii, 285.
[27] Bernheim, A.: *Journ. Amer. Med. Assoc.*, 1924, lxxxii, 291.
[28] Murphy, W. P.: *Arch. Int. Med.*, 1926, xxxvii, 797.
[29] Gotsky and Isaac: *Folia Haematol.*, 1913, xvii, 128.
[30] Hess, A. F.: *Amer. Journ. Dis. Child.*, 1912, iii, 304.
[31] Gänsslen, M., Zipperlen, E., and Schüz, E.: *Deut. Arch. f. klin. Med.*, Leipzig, 1925, cxlvi, 1.
[32] Creed, E. ff.: Personal communication—about to be published.
[33] Idem: Ibid.
[34] Krumbhaar, E. B.: *Cowdry's Special Cytology*, p. 285, 1928. Hoeber, New York.
[35] Vallery-Radot, P., and L'Heritier: *Comp. Rend. Soc. de Biol.*, 1919, lxxii, 195.
[36] Beer, E.: *Trans. Amer. Surg. Assoc.*, 1928, xlvi, 15.
[37] Weinert, A.: *Zentralbl. f. Chir.*, 1927, iii, 3676.
[38] Campbell, J. M. H., and Warner, E. C.: *Quart. Journ. Med.*, 1926, xix, 350.
[39] Baker, S. L., and Dodds, E. C.: *Brit. Journ. Exp. Path.*, 1925, vi, 247.
[40] Gamna, C.: *Haematologica*, 1923, iv, 129.
[41] Gandy, C.: *Bull. et Mém. Soc. Anat. de Paris*, 1905, vii, 872.
[42] Gibson, A. G.: *Quart. Journ. Med.*, 1913-14, vii, 153.
[43] McNee, J. W.: *Glasgow Medical Journal*, 1929, cxi, 65, 193, and 288.
[44] Saleeby: *Amer. Journ. Path.*, 1925, i, 69.
[45] Brannon, Dorsey: *Bull. Johns Hopkins Hosp.*, 1927, xli, 104.
[46] Rich, A. R.: Quoted by Brannon, 46.
[47] Peabody, F. W.: *Amer. Journ. Path.*, 1927, iii, 179.
[48] Zadek, I.: *Zeit. f. klin. Med.*, 1922, xcv, 66.
[49] Fairley, N. H., and Billimoria, H. S.: *Ind. Journ. Med. Res.*, 1929, xvi, 831.
[50] Creed, E. ff.: Private communication—to be published.
[51] Paschkis, Karl: *Wien. klin. Woch.*, 1930, xliii, 166.

A Lecture
ON
SOME SURGICAL ASPECTS OF FAULTY NUTRITION*

BY
ROBERT McCARRISON, C.I.E., M.D., D.Sc., LL.D., F.R.C.P.
COLONEL, INDIAN MEDICAL SERVICE; HONORARY PHYSICIAN TO THE KING; DIRECTOR, NUTRITIONAL RESEARCH, INDIAN RESEARCH FUND ASSOCIATION

The laboratories of the Indian Research Fund Association, devoted to the study of diseases associated with faulty nutrition, are located at Coonoor in the Blue Mountains (Nilgiris) of Southern India, 6,000 feet above sea-level. Their location is fortunate, for the temperature is equable, never very hot or very cold: the mean winter temperature rarely falls below 50° F., the mean summer temperature rarely reaches 80°. A good deal of rain falls in these hills, Coonoor coming within the range of both the south-western and the north-eastern monsoon: the former brings with it only occasional heavy showers, while the latter may involve us in heavy rainfall during November, December, and January. But it is rare that a day passes without some hours of bright sunshine and clear skies. Conditions are such that no elaborate buildings are required for the animals. Indeed, I have been content with corrugated-iron sheds, roofed with the red tiles of the country, and having floors tiled, sloped, and adequately drained. I am fortunate also in having a large staff of animal attendants, who are now highly skilled in their work. In these favourable circumstances it is possible to ensure ideal conditions of hygiene and exposure of the animals to sunshine practically every day the whole year round. A simple but adequate means of sterilizing the animal cages is adopted, and the hose-pipe and creosol solution are used freely on the tiled floors. The walls are whitewashed frequently. The test of cleanliness is a simple but severe one. In an animal room of some 30 by 15 feet there may be as many as 500 rats. Should the visitor be made aware of their presence by his sense of smell then there is something wrong with the sanitation. I may add that he rarely is.

* The first of two lectures on experimental research at the Pasteur Institute, Coonoor, S. India, delivered before the Royal College of Surgeons of England.

FREEDOM OF WELL-FED ANIMALS FROM DISEASE

In these conditions there live some 1,000 stock albino rats—the source from which the large numbers of young animals required for my work are obtained. For this work I use on the average 1,100 animals a year. The pairs are kept in roomy, netted-wire cages, screened and straw-filled, in which they find the peace and comfort necessary for fruitful breeding. As a rule, five or six litters are taken from each pair, and the older animals are thinned out at the age of 2 years—a life span said to correspond approximately to the first 40 to 50 years of life in man. The average number in each litter is eight, but litters of twelve are frequent, and those of fifteen are not uncommon. The mothers invariably rear the whole of their young.

This stock is fed on a diet similar to that eaten by certain peoples of Northern India, among whom some of the finest physical specimens of mankind are to be found. The diet consists of whole-wheat flour, unleavened bread (*chapattis*) lightly smeared with fresh butter, sprouted Bengal *gram* (legume), fresh raw carrots and cabbage *ad libitum*, unboiled whole milk, a small ration of raw meat with bones once a week, and abundance of water, both for drinking and for washing purposes.

The point of these somewhat lengthy, but necessary, details is this: during the past two and a quarter years there has been no case of illness in this "universe" of albino rats, no deaths from natural causes in the adult stock, and, but for a few accidental deaths, no infantile mortality. During this period I have myself performed complete post-mortem examinations on 1,189

of these rats, ranging in age from the newborn to 2 years. In none have I encountered any macroscopical evidence of disease, with the exception of an occasional cyst in the liver, containing tapeworm larvae. How the animals became infected with tapeworm I do not know, unless it be from the straw bedding which they nibble. Both clinically and at post-mortem examination this stock has been shown to be remarkably free from disease. It may be that some of them have cryptic disease of one kind or another, but, if so, I have failed to find either clinical or macroscopical evidence of it. Disease and death have been excluded, almost completely, by minute attention to three environmental conditions: cleanliness, comfort, and food.

HIGH INCIDENCE OF DISEASE IN ILL-FED ANIMALS

I wish now to turn to my experimentation rooms. Here are the same corrugated-iron huts, the same cages, the same scrupulous cleanliness, if anything more scrupulous than in my stock animal houses; for here there are attendants, armed with forceps and crumb-tray, who pass from one cage to another removing faeces which may occasionally adhere to the half-inch meshes of the screens on which the animals live. There is no coprophagy; it is not allowed. Nor do we meet with the phenomenon of "refection." Here the animals are exposed in the same way to the sun's rays. But they live in separate cages, as do the controls for each experiment—isolated from their fellows; they are thus less contented than their more fortunate kith and kin in the stock animal rooms, and they are more exposed to the effects of chill, since they cannot be given straw bedding, though each evening they are given bedding of clean cotton-waste. The main regard in which they differ from the stock animals is in their food, which is always faulty in some way or another. Further, as my business is to learn, as far as I can, how the foods eaten by the people of India are related to disease, synthetic diets are used comparatively rarely, and then only for special purposes. The materials entering into the various faulty dietaries are usually those in use by the people of India; sometimes actual Indian dietaries are used.

During the last two and a quarter years I have examined 2,243 of these improperly fed rats at post-mortem examination—that is to say, during the same period in which I failed to find disease in the universe of stock rats. The following are the morbid states I have encountered:

Lung diseases: pneumonia, broncho-pneumonia, bronchiectasis, pyothorax, pleurisy, haemothorax.
Diseases of the nose and accessory sinuses: sinusitis.
Diseases of the ear: otitis media or pus in the middle ear.
Diseases of the upper respiratory passages: adenoid growths.
Diseases of the eye: conjunctivitis, corneal ulceration, keratomalacia, panophthalmitis.
Gastro-intestinal diseases: dilated stomach, gastric ulcer, epithelial new growths in the stomach, cancer of the stomach (in two cases only), duodenitis, enteritis, gastro-intestinal dystrophy, stasis.
Diseases of the urinary tract: pyonephrosis, hydronephrosis, pyelitis, renal calculus, ureteral calculus, dilated ureters, vesical calculus, cystitis, incrusted cystitis.
Diseases of the reproductive system: inflammation of the uterus, ovaritis, death of the foetus *in utero*, premature birth, uterine haemorrhage, "hydrops testis."
Diseases of the skin: loss of hair, dermatitis, abscesses, gangrene of the tail, gangrene of the feet, subcutaneous oedema.
Diseases of the blood: anaemia, a "pernicious" type of anaemia, *Bartonella muris* anaemia.
Diseases of lymph and other glands: cysts in the submaxillary glands and accessory glands in the base of the tongue, abscesses in the same, and occasionally also in the inguinal glands, enlarged mesenteric, bronchial, and other lymph glands.
Diseases of the endocrine system: lymphadenoid goitre, enlarged adrenal glands, atrophy of the thymus, and, very occasionally, haemorrhage into the pancreas.
Diseases of the nervous system: polyneuritis.
Diseases of the heart: cardiac atrophy, occasionally cardiac hypertrophy, myocarditis, pericarditis, and hydropericardium.
Oedema.

Not infrequently animals are found to be suffering from more than one of these diseases.

I say nothing of diseases of the bones and teeth, since the diets were not specially designed for their production, and the practice of exposing the animals to sunlight—a practice followed because the average Indian is daily so exposed—probably compensated for any lack of vitamin D in the diets. But mention might be made of crooked spines and distorted vertebrae, and of imperfect teeth, which are encountered not infrequently. The list I have given includes only those morbid states which I have myself seen (there may have been, and no doubt were, others which I failed to see); it is a list prepared from the post-mortem records of the 2,243 imperfectly fed animals.

Here, then, is an experiment on a large scale extending over a period of two and a quarter years. On the one side there is, as controls, a community of hygienically housed rats, fed on a well-balanced diet composed of natural foodstuffs—whole-wheat, pulses, raw milk, butter, fresh vegetables, and fresh meat with fat and bones occasionally, so combined as to provide in proper amount and proportion all elements and complexes necessary for normal nutrition. On the other, there is a community of rats, also hygienically housed, but fed on ill-balanced diets composed mainly of cereal grains or cereal products and vegetable fats with little or no milk, butter, and fresh vegetables. The contrast between these two communities is remarkable; and I claim for this experiment that it proves conclusively that one-sided diets which are disproportionately rich in cereals and poor in animal fats, milk, and *fresh* vegetables are capable of inducing in albino rats a large proportion of the diseases included in our calendar of human ailments. I may add that of all the faulty diets I have used that composed of white bread, margarine, tea, sugar, jam, preserved meat, and scanty overcooked vegetables—a diet in common use by many people in this country—proved to be one of the worst, and most likely to be associated in rats with many of the morbid states I have mentioned, especially diseases of the lungs and of the gastro-intestinal tract.

Rats are not the only animals I use; guinea-pigs, rabbits, pigeons, and monkeys are also employed. In them I have found many of the above-mentioned diseases, and some others besides. Of the latter I may mention the following: prescorbutic states, scurvy, and duodenal ulcer in guinea-pigs, hyperplastic goitre in rabbits, epithelioma contagiosum, polyneuritis, and true beri-beri in pigeons, and ulcerative colitis in monkeys. Two conditions I have not, so far, encountered: gall-stones, observed by Fujimaki (1926), de Langen (1929), and others; and cataract, observed by Eckstein and Szily (1924).

In every species—pigeons, rats, guinea-pigs, rabbits, and monkeys—I have found the same thing: properly fed animals remain remarkably free from disease, improperly fed animals are remarkably subject to it. It is reasonable, therefore, to assume that the human species is no exception to this rule, and that many of the ailments to which man is erroneously supposed to be heir are the outcome of his improper feeding. Some may hold that it is not possible directly to translate to human experience the results of an experiment such as that just described. This may be true, if we seek to do so too rigidly and fail to take sufficient count of other environmental factors to which human beings may be exposed. But, in general, the results of an experiment of this kind do, in my opinion, apply to man, and point the way to a solution of many etiological problems connected with his physical infirmities.

DEFICIENCY IN VITAMIN A

In the above list of diseases there are many of interest to the surgeon. Sinusitis, adenoid growths, otitis media, gastro-duodenal ulcer, gynaecological ailments, certain types of goitre, and urinary calculus are some of them. At first sight it would appear that morbid states so dissimilar as adenoids and stone in the bladder had nothing in common, yet etiologically they are not so far apart. All these surgical conditions were found to have this in common: they occurred in animals whose ill-balanced diets contained little or no vitamin A bearing food materials, such as raw milk, butter, cod-liver oil, carrots, and fresh green vegetables. In my hands these food materials, when suitably combined, have protected my animals from these diseases, and I do not doubt that in the hands of the surgeon they will go far to protect his human patients from them and facilitate their cure and non-recurrence after operation. I lay stress on the food materials themselves rather than on any particular ingredient of them, or any particular quality possessed by them, believing, as I do, that in Nature's laboratory all elements and complexes needed for normal nutrition are combined in a way which we cannot wholly achieve, and that the health-giving properties of food are largely dependent on this combination. For my own part I have been able to devise no synthetic diet which can equal in these properties a mixture of natural food materials such as that on which I feed my stock rats and on which some of the finest physical specimens of mankind are reared. Nevertheless, a principal fault of the diets I have used, and one which is in considerable part responsible for the surgical diseases I have mentioned, is insufficiency of the substance or quality which we speak of nowadays as vitamin A. The effects on the organs and tissues of the body of the insufficient use of vitamin A bearing foods have thus a particular interest for the surgeon.

[Here followed a lantern slide demonstration in which the lecturer showed the typical keratinization of epithelia, the concourse of lymph cells, the secondary inflammatory changes, the ulceration of, and epithelial new growths in, the stomach, and the lymphadenoid goitre occurring in rats fed on diets containing an insufficiency of vitamin A bearing ingredients.]

The sites in which these changes have so far been found in experimental animals are the nares, larynx, trachea, bronchi, submaxillary glands, parotid gland, and the accessory salivary glands of the tongue and pharynx; the pancreatic duct, bladder, ureter, and pelvis of the kidney; the uterus and oviduct; the epididymis, prostate, and seminal vesicles; the conjunctiva, Meibomian gland ducts, cornea, lacrymal gland, Harderian gland, and the extra-orbital (lacrymal) gland; the thymus (Wolbeck and Howe, 1925). To this list I must myself add the thyroid gland. "The distinctive or peculiar gross changes are those due to mechanical factors sequential to the formation and retention of desquamated, keratinized epithelial cells" (Wolbeck and Howe, 1925). Thus cysts, bronchiectasis, hydronephrosis, dilatation of the bladder and ureters may be produced by blockage of ducts or other passages.

These changes occur more readily, and within a shorter time, in young than in older animals—a thing to be expected in the growing animal. They are focal in distribution, and may be confined to narrow or to wide areas, to a few tissues or to many. They vary in their location in different species of animals and in different individuals of the same species. I have, for instance, found the adenoid-like growths in the upper respiratory tract in rats to all appearances normal except for subnormal growth. They are best seen and more widespread in animals fed on synthetic diets devoid of vitamin A; but since man's food is rarely or never wholly lacking in this factor it is of importance to realize that they occur also in animals fed on human dietaries which are by no means devoid of it, though containing it in insufficient quantity. It seems probable that these changes are helped in their occurrence by the existence of other food faults in the diet, such, for instance, as deficiency of suitable protein and mineral elements, and by the condition of semi-starvation into which the animals fall. It seems probable also that other environmental conditions, such as climate, altitude, humidity, may favour or hinder their occurrence. Thus it is universally agreed that the changes in the eye and its neighbourhood are, in rats, the most frequent; but they are not so in the climate of Coonoor; indeed, the eye is often not affected when other tissues are. I mention these matters to illustrate the interplay between nutrition and other environmental conditions (climatic and bacterial) in giving rise to the final morbid state. The worn tyre may travel far along the smooth-surfaced road before encountering a flint; its course along the flinty byway is less secure. So it is with the epithelial treads of the body surfaces when deteriorated by faulty nutrition.

The varying occurrence and location of the changes due to vitamin A deficiency are among the most interesting things about them. Thus in monkeys fed on a diet said to be complete in other regards, but lacking a sufficiency of vitamin A, eye changes, sinusitis, and mastoiditis, so common in rats, are, as Tilden and Miller (1930) have lately shown, conspicuous by their rarity. Twelve years ago (1919) I demonstrated that the colon was of all organs in monkeys the most sensitive to faulty nutrition; and the recent work of Tilden and Miller, while confirming this observation, re-emphasizes the importance of vitamin A deficiency in causing the ulcerative colitis which is so conspicuous a feature in these animals. The monkey's colon is also very sensitive to deficiency of other vitamins (McCarrison, 1919), particularly of vitamin C, "which causes a condition varying from local congestion and thickening of the mucous membrane to one indistinguishable from ulcerating and sloughing dysentery" (Mackie and Chitre, 1928).

In some of these respects man resembles the rat more than the monkey. Thus he is very susceptible to the eye changes resulting from insufficiency of vitamin A bearing foodstuffs in his diet, if one may judge by the prevalence of keratomalacia in the Madras Presidency, and by its amenability to treatment by cod-liver oil (Wright). But I suspect that he resembles the monkey in the sensitiveness of his colon to food deficiency; the number of cases of ulcerative colitis of "unknown" cause (Menon, 1930) occurring in India is sufficient to justify this suspicion. But however the changes vary, either as to extent or location, they are always to be found in animals of all species so far examined—rats, guinea-pigs, pigeons, fowls, and monkeys—and in man himself. Reference has already been made to their occurrence in the eye, and its neighbouring tissues, in Madrassis, and to its proven association with the specific deficiency. But there are few post-mortem studies of pure vitamin A deficiency in man. Fortunately there is one: I take it from a paper by Wolbeck and Howe (1925):

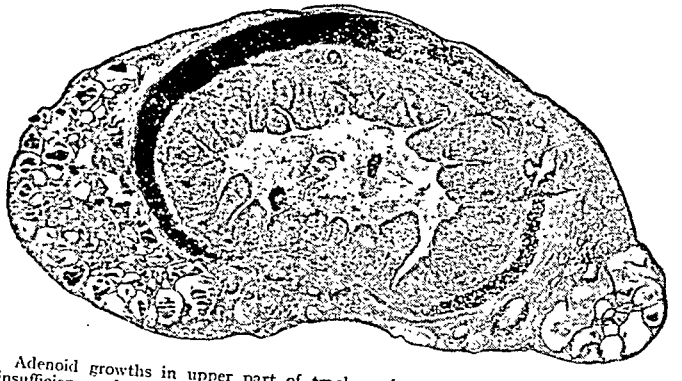
> "*Vitamin A Deficiency in the Human.*—There has been but one pathological description of a fatal human case (Wilson and du Bois). This post-mortem, done in the pathological service of one of us at the Children's Hospital, is adequately recorded. We have recently re-studied the tissues and can add nothing of importance. Keratinization of the epithelium of the renal pelvis and large size of Hassall's corpuscles in the thymus were overlooked. The keratinization of the pancreatic ducts is more striking than any seen by us in the pancreas of rats. In respect to the keratinizing changes in the lungs, uterus, submaxillary gland ducts, and thymus, the picture was identical with that in our experimental rats.

The order of changes in the human case was somewhat different, in that the salivary glands showed only slight changes. The peculiar swollen epithelial cells with nuclear inclusion bodies in the ducts of the parotid and submaxillary glands are unlike any changes seen in rats. The lacrymal gland showed only slight changes and no keratinization. The eyes were not removed for study.

"The importance of this human case is that it did show the epithelial changes which we have produced in rats, and, therefore, contributes irrefutable evidence for an important part of our thesis to the effect that vitamin A deficiency affects epithelial tissues in a specific manner."

The testimony of these experienced observers is of the highest value, and leaves no room for doubt that the tissue changes occurring in the lower animals, consequent on the *insufficient* supply of vitamin A bearing foodstuffs in the diet, occur also in man. I again emphasize the word "insufficient," since, in my own experience, and in that of Tilden and Miller (1930), in monkeys the diets associated with them are not necessarily devoid of vitamin A, though always they are poor in this factor.

These changes are independent of infection, though infection is often superimposed upon them. Indeed, it is because of them that infection becomes possible, since they occur for the most part in "outside" coverings of the body; the respiratory passages, the urinary tract, the reproductive tract, the conjunctiva, the nasal passages, the ear, and the ducts of organs. They are breaches in the walls of the body's defences, through which the invading microbe may enter. In this sense vitamin A is "anti-infective"; but the "anti-infective" quality is shared with other vitamins—C, B, and D—though exhibited by them in other ways.



Adenoid growths in upper part of trachea of rat fed on a diet containing an insufficiency of vitamin A bearing ingredients.

Two points of interest to the surgeon remain to be mentioned: (1) If rats, fed on a diet deficient in vitamin A, be artificially infected with a bacterium, such as the Breslau bacillus (paratyphoid), they usually die from the resultant infection. But some may live, and in them the infection persists in the lymph glands "for a very long time after the general infection has been overcome" (Lassen, 1930). It seems to me probable that chronic enlargement of lymph glands in childhood, due usually to infection of one kind or another, may often be due to such persistence of infection as a result of a vitamin A deficient diet. Further, it seems probable that the focal breakdown of the tissue defences induced by this deficiency may be concerned in the causation of those "septic foci" about which so much is heard nowadays. (2) I have spoken above of breaches in the walls of defence against bacterial invasion consequent on the use of vitamin A deficient diets, and I have mentioned that other vitamins may also exercise an anti-infective action, though exhibiting it in a different way. This way may not need the breaching of the walls, but their scaling. I take the following from an unpublished manuscript which Dr. Lloyd Arnold of the Department of Pathology and Bacteriology, Chicago, has recently sent me:

"McCarrison has repeatedly called attention to the early appearance of digestive disturbances in vitamin deficiency studies. The pathological examination of the dead animals following avitaminosis experiments shows evidence of tissue changes due to infections of various kinds. We have found that one of the first demonstrable changes in avitaminosis is an alteration in the distribution of the bacterial life within the lumen of the intestinal tract. The bacteria ingested by the mouth are not destroyed in the usual manner, but remain viable for many hours within the contents of the whole length of the small intestine. The mixed bacterial flora of the large intestine ascend into the upper levels of the small intestine. There is a gradual and progressive loss of the power of the body surface to control the microbic life existing in contact with it. These findings have been constant, and hold for vitamin A, B, and D deficiencies. By the time the adult animals show a loss in body weight, or the young animals show a stationary weight-curve, there is evidence of bacterial invasion of the mucosa of certain surfaces. These latter observations have been made by numerous investigators. We attribute the early inflammatory changes in the lining membranes of the eye, mouth, throat, alimentary tract, etc., to the loss of power of these body surface coverings to regulate the bacterial flora in contact with their cells. This precedes evidence of invasion of the membranes by bacteria."

This statement, so amply demonstrated by Dr. Lloyd Arnold's investigations, calls to mind the contentions of Sir Arbuthnot Lane and Dr. Nathan Mutch in regard to infection of the upper reaches of the intestine consequent on chronic gastro-intestinal stasis: a condition which, as my own researches (1921) have shown, may be due to the consumption of faulty food from the "first bottle" onwards through life.

The function of vitamin A, so far as it is known at present, is thus to maintain the functional integrity of the cells covering body surfaces, thereby preventing invasion of the organism by microbic agents.

Here, however, I must re-emphasize the position, which I reached more than ten years ago and which all my subsequent work has but strengthened, that, whatever the specific function of any vitamin may be, vitamins are but links in the chain of essential substances requisite for the maintenance and harmonious regulation of the chemical processes in the tissues, and their action must be considered in connexion with metabolism as a whole—that is, in relation to balance of food ingredients in general, to organs of digestion and assimilation, and to endocrine regulation of metabolism. Their deficiency, like that of the other elements and complexes necessary for normal nutrition, leads to depreciation of cellular function; depreciation of cellular function is the foundation upon which disease is built (McCarrison, 1921).

Surgical Diseases which may be Associated with Faulty Nutrition

I find I have left myself little time to discuss specific diseases of surgical interest which may be associated with faulty nutrition. Mention may, however, be made of a few, illustrative of the several departments of surgery, but excluding the ophthalmic surgeon, to whose department some reference has already been made.

Adenoids

In the lantern slide demonstration I showed examples of adenoid growths in the trachea. (See *Fig.*) In rats these growths were the result of faulty feeding. It is no far cry from the trachea to the nasopharynx, where changes similar to those in the trachea of rats are so

commonly found in children. And perhaps I might have found adenoids there also had my serial sections extended up to that situation. In work such as this it is constantly happening that one cannot do everything one wants to do, or that in looking for one thing one overlooks another. So whether or not rats do get "adenoids" as the surgeon understands the term, I do not know, but they certainly get "adenoid-like growths" in a region not far removed from the nasopharynx; and they get them because of faulty nutrition. And if in the trachea of rats, why not in the nasopharynx of children? The more so since Williamson and Pearse, and more recently Wollard (1931), have shown that the pharyngeal entoderm is an anatomical entity which embraces the lymphatic tissue of the nasopharynx and trachea. Evidence provided by the racial distribution of adenoids is not lacking to show that their occurrence may be related to faulty food. Thus Van der Bogert (1927) reports that Labrador Eskimos and those of Baffin Island who have been in contact with Western civilization, and whose food has changed accordingly, develop adenoids, whilst Polar Eskimos, whose diet has remained unchanged for centuries, do not. My own experience in rats would lead me to expect such a sequence of events.

Otitis Media

In rats one of the most common consequences of faulty food deficient in vitamin A is pus in the middle ear; its incidence may reach 60 or even 70 per cent. It is a condition of great frequency among school children in England and Wales, and, although its occurrence, as a sequel of certain diseases of childhood, is well known, the probable nutritional factor in its causation does not appear to me to have received the consideration it deserves. According to Hastings (1925) a high proportion of all cases occur before the fifth year, and many before the first birthday. In 1923 no fewer than 46,000 children had ear trouble; while 90 per cent. of deafness in adults is due to preventable causes in childhood. Ponfick reported that of 100 necropsies in children under 4, who died from various diseases, 91 showed evidence of middle-ear disease, and in only ten of these was the trouble recognized during life. The causes giving rise to middle-ear disease interact with one another: they are squalid poverty—with its accompaniment of malnutrition—neglected catarrh, tonsils and adenoids, mouth-breathing, and the after-effects of measles, scarlet fever, and diphtheria. My rats do not suffer from the three last; but my experience in these animals leads me to believe that the insufficient supply of vitamin A bearing foods may be responsible for middle-ear disease in children to an extent much greater than is generally believed.

Gastro-Duodenal Ulcer

Twelve years ago (1919) I recorded the occurrence of this condition in guinea-pigs fed on a scorbutic diet of crushed oats and autoclaved milk. Recently I have repeated this experiment with the same result; and in this later experience I have found duodenal ulceration at all stages of the process up to perforation (in one case), the resulting abscess being localized. Magee, Anderson, and McCallum (1929) have observed similar conditions in calves fed on food deficient in certain essentials. Gastric and duodenal ulcer are extremely common in Southern India, especially in South Travancore. The suggestion was made to me by Lieut.-Colonel E. W. C. Bradfield, I.M.S., late superintendent of the General Hospital, Madras, and by Dr. T. Somervell of the South Travancore Medical Mission, that the dietaries of the poorer classes, among whom these conditions were most common, might be concerned in their causation; an experiment was accordingly undertaken to put this view to the test.

Albino rats were used; and the experiment was continued for 675 days. Two diets were employed: one, resembling that eaten by the poorer class Madrassi, and containing rice, red pepper (chillies), tamarind, a little fish, and *conjee* (rice water); the other, resembling that of the poorer class Travancorian, and consisting largely of tapioca root, with rice, a little fish, red pepper, and rice water. Both these diets were very deficient, not only in vitamins of the A, B, and C classes, but in other regards also. The diets were prepared and cooked in the same way as by the people using them. It so happened that about the time this experiment matured I had occasion to examine at post-mortem some hundreds of well-fed stock rats who had lived through the same period of 675 days. In none of these was gastric or duodenal ulcer found. Among the rats fed on the Madrassi diet the incidence of gastric ulcer was 11.1 per cent., while the duodenum showed no signs of ulceration; among those fed on the Travancore diet, 27.7 per cent. had gastric ulcer, and in 11.1 per cent. of these the ulcers occurred both in the proximal (squamous) and in the distal (mucous) portion of the organ. No duodenal ulceration was found in animals fed on either diet, although in 11.1 per cent. of those fed on the Travancore diet a marked duodenitis was present. The limitation of the ulceration to the stomach in rats was the more remarkable because the Travancorian diet is especially associated in man with duodenal ulcer. A further point of difference between the two groups was that while in animals fed on the Madrassi diet the ulcers were limited to the squamous portion of the organ, in those fed on the Travancorian diet the ulcers occurred for the most part in the mucous portion.

Here, then, is unequivocal proof that two diets in use by certain people in India are capable of causing peptic ulcer in albino rats. The high incidence of this condition among the human users of these diets may therefore be definitely attributed to this cause. As to the mechanism of ulcer production—that is another matter; the one that concerns me, as an investigator in the service of the Indian people, is that two of the diets used by them do cause peptic ulcer, while a third, on which my stock rats are fed, does not. For them the moral is unmistakable.

The excellent results reported by Harris (1928) in the treatment of gastric and duodenal ulcer by vitamin-rich food are in conformity with the findings in this experiment.

Gynaecological Ailments

The health of the womb and its appendages is dependent in various specific ways on the quality of the food. It is one of the sites in which faulty nutrition implants its seal, as has been shown, not only in the lower animals, but in the human being. The ovary, also, and the oviducts, may be affected in a similar way; while changes brought about in the bony framework of the pelvis may, as is well known (Stoney, 1930), be a fruitful cause of stillbirth and maternal mortality in childbirth. Fertility, the course of pregnancy, labour, resistance to infection following labour, and lactation may all be affected adversely by defects in quality of the food. It is said that "nothing so predisposes to maternal death at confinement as an unhealthy womb" (Pearse and Williamson, 1931), and while imperfectly terminated pregnancies, aborted pregnancies, and other conditions may, and often are, the causes of this unhealth, faulty nutrition may also be concerned in it. Often I have seen deficiently fed rats that die in pregnancy or at term from causes dependent on their faulty nutrition, and often also rats that come to term only to die with five or six foetuses in their wombs. Some of the anaemias of pregnancy so common in India are dietetic in origin—as the recent work of Dr. Lucy Wills has so conclusively shown. I make no claim that in human beings faulty nutrition is invariably a factor in the production of the tragedy of maternal mortality in childbirth, however frequently it may be so in rats. But here, as in other departments of medicine, experience in rats has pointed

surely to means for the relief of suffering in mankind; and it might be well were we to accept this guidance more readily in regard to our women, and urge insistently that the mothers of our race be fed with knowledge and understanding.

Lymphadenoid Goitre and Graves's Disease

A lecture might, by itself, be devoted to this subject, so much is the health of the thyroid gland and its departures from health associated with perfect nutrition on the one hand, and with faulty nutrition on the other. Lymphadenoid goitre, originally described in man by Williamson and Pearse (1925), is "the hypertrophic reaction of a physiologically inefficient organ with which there occurs a preponderance of lymphocytic aggregates, fibrosis, and a peculiar atrophy of the parenchyma." I have produced it under experimental conditions in rats (McCarrison, 1927). In these animals the physiological inefficiency of the gland can be induced by faulty nutrition, but the exciting cause of the goitre is some positive factor which has so far escaped me. One cannot be sure when this type of goitre is going to occur; all that one can be certain of is that it surely will occur, in its own good time, provided the food is of a certain character. It is unrelated in its origin to iodine deficiency. I understand that it is now possible to diagnose this condition clinically in the human subject, and that thyroidectomy has been performed for its relief in not a few cases within recent years in London. Mention of its association with the use of foods deficient in vitamin A recalls the observation of Rabinowitch (1929) that a combination of relatively minute quantities of organic iodine, with a concentrated preparation of fat-soluble vitamins, causes as marked a lowering of the metabolic rate in Graves's disease as larger doses of iodine when not combined with these vitamins. Fraser and Cameron (1929) have made a similar observation, using small amounts of sodium iodide instead of organic iodine. More recently Abelin (1930) has demonstrated the great value of vitamin treatment in Graves's disease.

"The hyperthyroid condition," he writes in his recent book, "is one of the abnormal raising of the metabolic rate, together with a lowering of anabolic processes. This disorder of lowered activity of cells can be successfully combated through nutrition. Among other things, for this purpose, the co-operation of vitamins is necessary. The organ destruction in thyrotoxicosis is caused by a vitamin-poverty in the body. The need for vitamin supply is, therefore, increased in hyperthyroidism. Through plentiful use of vitamin-rich substances—cod-liver oil, egg-yolk, yeast, tomatoes, spinach, etc.—the great destruction of sugars has been reduced or almost completely overcome successfully in animal experiments."

Again, it has lately been shown, in my own laboratory, how important is the balance between fat-soluble vitamins and iodine in the diet. The administration of iodine to rats fed on diets deficient in these vitamins may actually cause goitre (McCarrison, 1930). We have found, also, that the maintenance of an adequate iodine content in the thyroid gland is largely influenced by the content of vitamin C in the food (Sankaran, 1931). Few organs of the body, indeed none with the exception of the suprarenals and thymus, are more profoundly affected by faulty nutrition than the thyroid gland, and few are more sensitive to this influence.

My second lecture will deal with the causation of urinary calculus.

THE TREATMENT OF DYSMENORRHOEA*

BY

B. VENN DUNN, M.D., F.R.C.S.ED.

Recent investigations have facilitated the treatment of dysmenorrhoea on a more rational basis than has been possible in the past. The old classification of dysmenorrhoea into spasmodic and congestive varieties may be discarded for several reasons. In the first place the terms are not relative; "spasmodic" denotes a disorder of function, whereas "congestive" implies a morbid anatomy. Secondly, the two forms cannot be easily differentiated; cases frequently occur each with a different morbid anatomy, all with similar symptoms—those of spasmodic dysmenorrhoea. Thirdly, there is a danger of cases being labelled "spasmodic" without sufficient examination having been made. The importance of a complete investigation of every case of dysmenorrhoea cannot be too greatly stressed.

CLASSIFICATION

The following classification has been found of practical value in the investigation of cases:

1. Psychological.
2. Endocrine.
3. Mechanical.
4. Gross pathological.

The treatment of the patient will vary according to the category to which the case belongs.

THE PSYCHOLOGICAL TYPE

This applies to those patients, often in their teens, but sometimes much older, who have had an unhealthy psychological upbringing. They may, from their earliest years, have had their simplest physiological acts associated with feelings of shame and repugnance. Such an association is bound to make a child magnify any slight discomfort experienced at a time when she is undergoing rapid mental development and in a region she has been told is so important as to be unmentionable. Perhaps, also, too much may have been made of any slight disability the child may have felt in the early months of puberty. The overanxious parent insists on the child lying up when it is more than ever necessary that the circulation in the pelvic area should be encouraged. Gradually a habit of pain becomes formed, the nerve paths for pain become especially sensitive from much use, and, unless a new hygiene is quickly enforced, dysmenorrhoea may continue for the rest of the sexual life.

The treatment of this type of case varies with the age of the patient. The great hope is to catch her young, and before the habit of pain is too well formed. Then we must be ready to spend a good deal of time, first with the patient's parents (either or both) and then with the patient herself. The matter must be talked out. These are the cases which do well under the regime recommended by the Medical Women's Federation, whose leaflet, "Advice regarding menstruation," consists of an exhortation to "business as usual" during the menstrual period. It insists on the necessity of the daily warm bath throughout; it advocates an adequate amount of exercise, while it deprecates "long expeditions and cycle rides or matches or competitions in which there is a strong incentive to exhaust the reserves of strength." The use of a system of physical exercises such as that published a few years ago by Dr. Harold Dearden, under the title of "Exercise and the will," is extremely valuable for these girls. The older patients with this type of dysmenorrhoea are a trouble to their medical advisers as well as a nuisance to themselves. The only people who profit by them are the vendors of patent medicines and the retailers of gin.

* Abstract of a paper read before the Torquay Medical Society on March 19th.

A woman, aged 40, recently presented herself. She had always suffered from violent pain at the periods. There was no apparent abnormality in the pelvis. She had commenced life with a father who idolized her, and a mother who thought she was a nuisance, because the child interfered with her hunting. The sequence of an expensive education, marriage into the Army, childbirth (the child did not survive), colonizing in Africa, and eventually divorce, had failed to subdue the periodic pain. Month by month she retired to bed and subsisted on gin and hot water. After many conversations and much encouragement she is at last beginning to pull herself together and live a more normal life.

ENDOCRINE FACTORS

When we come to discuss the endocrine causes of dysmenorrhoea, the possibilities are numerous, and it is only by keeping strictly to the facts that it is possible to correlate certain definite clinical types with glandular dysfunction. The modern theories of menstruation have recently been well ventilated by Cannon,[1] James Young,[2] Teacher,[3] and others, and it is necessary here to make only a brief survey. The alpha hormone of the anterior pituitary gland stimulates the production of oestrin by the ovary, which in its turn causes congestion of the uterus. This congestion is probably the forerunner of that type of menstruation which occurs without ovulation; it also assists in the more normal type which follows ovulation. The beta hormone of the anterior pituitary stimulates the formation in the ovary of lutein tissue, which governs the preparation in the uterus for nidation and gestation of the fertilized ovum. If fertilization fails to occur the scaffolding is cast off. It is the rhythmic variation in the supply of these hormones which results in menstruation.

Overaction of the anterior pituitary, overproduction of the alpha hormone, and overproduction of oestrin by the ovary may be responsible for that type of dysmenorrhoea which occurs in early developed young women who started to menstruate early and copiously, and who have well-marked secondary sex characters. This class of patient benefits mostly by active elimination during the few days immediately preceding the period. In addition to the exercises and baths recommended in the last section, the administration of magnesium sulphate first thing in the morning for three days prior to the expected period is often productive of very favourable results.

The reverse type to this is the under-developed late-menstruating girl whose flow is scanty and whose interval is prolonged. She has a flat chest and narrow hips, She is good at games and something of a tomboy. There is, we may reasonably suppose, inadequacy of the alpha hormone and shortage of oestrin. We should expect benefit to accrue from the administration of anterior pituitary extract or from oestrin. Three years ago I gave sistomensin in a series of twelve cases of dysmenorrhoea. I was disappointed with the results. Only three out of the twelve showed any definite signs of improvement. I think that may have been because the cases were not definitely selected. Dr. James Young, in a personal communication a few weeks ago, said:

> "With regard to dysmenorrhoea I have been employing sistomensin in the form of two tablets daily for the ten days preceding the onset of the period, and in addition one ampoule hypodermically twice weekly the week before the period. We now have a large number of successful cases so treated."

Interesting in this connexion is the work of Collip and Campbell[4] of Montreal. They have separated the alcoholic extracts of human placenta into three fractions, each having distinctive physiological properties. The second fraction represents 85 per cent. alcohol-soluble material present in the original extract but from which oestrin had been extracted with ether. They call the substance "emmenine," and with it they produced oestrus in immature rats. The action resembled that of the alpha hormone of the anterior pituitary. Applied to the treatment of dysmenorrhoea, twenty-six out of thirty-six cases are said to have been relieved. There has as yet been no opportunity of employing this substance, but the rationale of the treatment is good and its outlook distinctly hopeful in this type of case.

A third endocrine cause of dysmenorrhoea may rest in overaction of the beta hormone with increased lutein action in the ovary. This probably accounts for those cases of dysmenorrhoea described by Beckwith Whitehouse,[5] which he suggested were due to difficulty in disintegration of the surface layers of the endometrium. He believes that the transient exacerbations of pain which are so characteristic are due to the passage of abnormally large flakes of endometrium, and that what is usually called membranous dysmenorrhoea is really just an extreme form of the process which causes pain in the more ordinary cases. The treatment of this type, as in all cases of hyperfunction of the endocrine system, must depend either on drugs or on surgical intervention, and will be dealt with along with mechanically caused cases.

MECHANICAL CONSIDERATIONS

In this group I place cases in which the neuro-muscular mechanism of the uterus is at fault. Now the neuro-muscular mechanism of the uterus displays an interesting property, which has been designated "polarity"—a simple indication that there is a co-ordination of fundal contraction and cervical dilatation. The normal rhythmical contractions are increased in intensity during menstruation; if, then, the cervix fails to follow the lead and dilate sufficiently, the uterus will be thrown into spasm. This is not the only instance in the body where young developing tissue suffers from antagonism in the co-ordination of the neuro-muscular function. An analogy is congenital hypertrophic stenosis, in which there is no actual stenosis of the pyloric canal, and yet the intense spasm of the pylorus refuses to allow the stomach contents to reach the duodenum. In many cases of dysmenorrhoea the uterus is abnormally small, and it has been found that the proportion of muscle to fibrous tissue is low. If, associated with this neuro-muscular deficiency, there is to the outflow from the canal a partial obstruction, due to extreme anteflexion, to contraction of the external os, or to abnormal contents such as blood clot or large shreds of decidua, it is not surprising that the uterus is thrown into painful spasm in its attempt to fulfil its physiological functions.

The difficulty of any cut-and-dried classification is that there is bound to be a certain amount of overlapping, and in this class there are many cases which will benefit from endocrine treatment. In particular, where the faulty mechanism can be associated with other symptoms of thyroid deficiency, I have found that the administration of thyroid in conjunction with other measures has brought about relief. In cases in which the cervix is conical in shape and the os unduly small, dilatation either alone or combined with a plastic operation is the method of choice. To be efficacious dilatation must be sufficient. The cervix should be dilated up to number 14. Further, the patient must be warned that the operation may have to be repeated in three months' time. When operation is refused or is inadvisable, or sometimes as a concomitant to operative treatment, atropine is of considerable value. Commencing two days before the expected onset of the period, 1/200 to 1/100 of a grain should be given three times a day. Symptoms of idiosyncrasy to belladonna must be watched for. The pharmacology of atropine is interesting. Applied to nerve-muscle preparations of the uterus, it increases muscle tone, decreases the amplitude of the contraction, but increases the rate.[6]

Atropine acts on the uterus in the same way that it acts on the intestine—namely, it arrests only certain abnormal violent forms of contraction without interrupting the path of nervous impulses from the spinal cord to the uterus.[7] It therefore aids normal uterine polarity by making the contraction of the fundus more smooth, and at the same time relaxing the spasm of the sphincter muscle at the internal os. In severe cases it is often advisable to combine the antispasmodic with an analgesic and a sedative in the following cachet: luminal 1/2 grain, pyramidon 5 grains, ext. hyoscyamus 1 grain.

In cases where these measures prove unavailing to arrest the complaint there are several others at our disposal. Subtotal hysterectomy must be mentioned only to be condemned as an admission of failure. The recent French work on resection of the presacral nerve is interesting. Binet,[8] in a report on thirty-two cases of pelvic pain, claims that relief is usually secured. He removes the whole of the tissue, including the sympathetic fibres lying between the common iliac arteries. He says it is "a simple operation, easy, and, above all, efficacious." In Germany, Blos[9] has treated dysmenorrhoea by the injection of alcohol. He believes that dysmenorrhoea is due to increased sensitivity of the ganglia governing the uterus. At each side of the cervix is injected 5 c.cm. of 70 per cent. alcohol, containing 5 per cent. novocain. He says that the treatment has given excellent results for ten years, with no harmful effects even on childbearing.

Gross Pathological Conditions

Lastly, there are those cases of dysmenorrhoea which are due to some gross pathological condition. The lesion may be anything from a simple cervical erosion to generalized pelvic cellulitis or new growth. The age of the patient will give no indication whether the pain is due to some functional or endocrine derangement or to organic change. There is only one way in which a correct diagnosis can be made—by a thorough examination of the patient. If the patient is a young woman, often even if she is older, it is necessary to examine her under an anaesthetic. The lithotomy position, and a visual examination of the vaginal vault with speculum and terminal mirror, followed by a careful palpation of the uterus and adnexae, are the minimum necessities. The following case is of interest:

A young woman, aged 15, recently presented herself. She was remarkably developed for her age. The secondary sex characters were those of a well-developed woman. She complained of right iliac pain accompanying her periods; indeed, so definitely was the pain localized that her appendix had already been removed. She first menstruated at 11 years of age, her periods occurring every twenty-one days. The pain began the day before the period; it was spasmodic in character, lasted for two days, and then gradually subsided. On examination under an anaesthetic, the left ovary was found to be replaced by a cyst the size of a cricket ball, while the right ovary was enlarged and prolapsed into the pouch of Douglas. At the operation, the cyst was removed, and the right ovary (which was very congested and more than twice its normal size) was stitched into a pocket in the peritoneum. There has been no return of the disability. I quote this case to illustrate the absurdity of attempting to treat dysmenorrhoea from a symptomatic point of view. The patient had already been treated with an oestrin preparation, though it was quite obvious that she was sexually overmature, and that endocrine treatment could do nothing but harm.

References

1 Cannon: *British Medical Journal*, August 9th, 1930, 201.
2 Young, James: Ibid., December 20th, 1930, 1031.
3 Teacher: Ibid., November 29th, 1930, 896.
4 Collip and Campbell: Ibid., December 27th, 1930, 1080.
5 Beckwith Whitehouse: *Edin. Med. Journ.*, 1927, xxxiv, 139.
6 Fleming, Amy: *Trans. Roy. Soc. Edin.*, lv, 524.
7 Cushny: *Text Book of Pharmacology*, p. 290.
8 Binet: *Bull. Soc. d'Obstet. et de Gynécol.*, October, 1930, 590.
9 Blos, D.: *Münch. med. Woch.*, 1929, lxxvi, 1173.

MINOR SURGERY OF INFANCY*

BY

DAVID LEVI, M.S., F.R.C.S.

ASSISTANT SURGEON TO THE INFANTS HOSPITAL, VINCENT SQUARE, LONDON; SURGICAL REGISTRAR AT THE ORTHOPAEDIC HOSPITAL

As we treat children until the age of 5 years in this hospital the following remarks are only applicable up to that time of life. There are many minor surgical conditions with which one is faced during the period of infancy. I have chosen a few of these conditions, and will describe a simple method of dealing with each.

Herniae

Hernia is very common in infancy. Large numbers of children are born with inguinal and umbilical herniae. The treatment of umbilical herniae has, in the past, usually been carried out by physicians. These learned gentlemen took great pride in strapping halfpennies, suitably covered with lint, over the protuberant umbilici

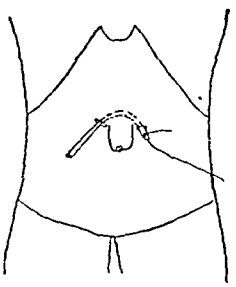


FIG. 1.

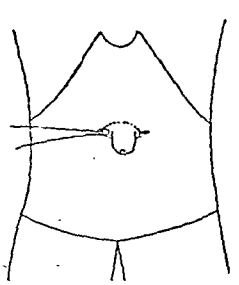


FIG. 2.

FIG. 1.—Aneurysm needle being passed subcutaneously round the neck of the hernia.
FIG. 2.—The ligature in place before it has been tied.

of the stream of infants constantly passing before them in the out-patients' department. Given patience, persistence, and perseverence, this method eventually leads to the disappearance of most umbilical herniae. I have recently ligated the neck of the sac of these umbilical herniae subcutaneously, with the result that the hernia is cured in five minutes instead of the more usual five months. The procedure is simple in the extreme. A local or general anaesthetic is administered and a small stab is made through the skin at the base of the hernia. A blunt aneurysm needle is passed through the stab wound, and, subcutaneously, round the neck of the sac. It is brought out at a diametrically opposite point on the skin through another stab incision. The needle is threaded with a piece of No. 2 catgut and is withdrawn. The needle is inserted through the original stab incision and worked round the base of the sac in the opposite direction, brought out at the second incision, and threaded with the remaining end of the catgut. When the needle is withdrawn a catgut loop surrounds the base of the hernial sac, which is then grasped and squeezed to make certain that it is empty. The ligature is tied. The stab wounds are so small that it is not necessary to stitch them, and they are sealed off with a dressing of Whitehead's varnish. I am indebted to Mr. Boyd for suggesting this method of dealing with these herniae, and I have successfully treated a number of infants by the technique described above.

Inguinal herniae in infants are treated by operative means. The operation for inguinal hernia in an infant, provided that the testicles have descended, is no more than a subcutaneous ligation of the neck of the sac of

* A lecture delivered to post-graduates at the Infants Hospital, Vincent Square, London.

the hernia. The operation is undertaken as soon as the hernia is diagnosed ; the earlier the better. It is performed in the out-patients' department, and the infants are sent home afterwards. Before these infants are operated on, conditions tending to produce increased intra-abdominal tension are remedied. A phimosis or a pinhole meatus is rectified and allowed to heal before the herniotomy is attempted. A temperature, diarrhoea, or rash upon the skin contraindicates operation. The child is neither purged nor starved, but is given an anaesthetic two hours after its last feed. A small incision is made through the skin over the external abdominal ring of the affected side. The coverings of the cord are incised, the sac isolated, and the vas deferens separated from it. This latter procedure requires care, and the vas must not be touched with the forceps. It is often closely adherent to the posterior wall of the sac. When the sac has been isolated it is opened and a probe passed down it into the abdomen. The sac is then twisted, its neck ligated, and the redundant portion removed. The stump drops back from view. The skin incision is closed by means of two silkworm-gut sutures and the wound sealed with gauze and Whitehead's varnish. Only one side is operated on at a time if the child is to be treated as an out-patient.

HYDROCELES

Infants are subject to many types of hydrocele. But in so far as the injection treatment of this abnormality is concerned there are three types: the open hydrocele—that is, one which communicates with the abdomen and which therefore gets larger by night but tends to disappear when recumbency is assumed ; the closed hydrocele—that is, one which does not communicate with the abdomen ; and, lastly, the hydrocele associated with a hernia. The closed hydrocele is the only type suitable for injection treatment. The open hydrocele is not injected on account of the possibility of some of the injection fluid escaping into the abdominal cavity and producing adhesions there. The hydrocele associated with a hernia is dealt with when the herniotomy is performed. Hydroceles in infancy have very thin walls, and the vas deferens is very closely applied to the outside of the hydrocele. If an irritant is injected into the interior of a hydrocele with the object of producing a mild aseptic inflammation, it is not unreasonable to suppose that the inflammation might spread to the closely adjacent vas deferens and produce stenosis or stricture of it. It has therefore been my practice never to inject both hydroceles in bilateral examples of this condition. The procedure is simple. The apparatus consists of a 10 c.cm. syringe with a hypodermic needle, a sterile 1 c.cm. syringe, a sterile 5 per cent. solution of sodium morrhuate, and of swabs and iodine. The 1 c.cm. syringe is filled with sodium morrhuate and the needle attached to the 10 c.cm. syringe. The scrotum is painted with iodine and the needle plunged into the upper and front part of the hydrocele. The contained fluid is aspirated. The 10 c.cm. syringe is detached from the needle and the loaded 1 c.cm. syringe substituted. The sodium morrhuate is injected and the needle withdrawn. No anaesthetic is required, and the operation takes only a couple of minutes. The hydrocele disappears without discomfort or any other noxious effects.

MINOR DISORDERS OF THE FEET

When an infant commences to walk perhaps the most frequent fault found by its mother is that it turns in its toes. This is in itself not a bad sign. When an infant stands it does so on a broad base, with its feet widely separated. The arches of the foot are undeveloped and the toes are pressed firmly downwards on the ground. As the child discovers its balance it brings its feet nearer together, and eventually walks, placing one foot in front of the other. Its weight, which originally was transferred to the ground along the inside of the foot, now passes mainly through the outer side. The child who thus starts walking by stumping along soon develops a spring in its gait and rises on its toes as it takes a step. From the moment the toes are used in this way the internal longitudinal arch of the foot commences to develop.

The minor disorders of the feet in infants are a failure or delay either in the development of the longitudinal arch, the apposition of the feet, or in the presence of a hypermobile foot. When the development of the longitudinal arch is delayed the child walks flat-footed. In its unconscious attempt to throw its weight on the outer side of its feet, it turns in its toes. This in-toeing is a sign that the child is compensating for the tardiness of the development of the arches of its foot, and therefore this should be encouraged. A wedge of one-sixth of an inch should be inserted between the heel and the upper on the inner side of the shoes. The shoe itself should measure at least two sizes larger than the foot, should have a flexible sole, and must have a heel. Wedges and stiffening should not extend into the sole, for the object of treatment is to get the child to rise on its toes in walking and thus develop its longitudinal arch. A stiff sole not only prevents this but tends to throw the child's weight on to the inner border of its foot, thus defeating the objects of the treatment. Most patients react to these simple measures. In severe cases, a valgus insole may be required, together with re-educational exercises. The exercises must not take the form of a ritual to be performed for ten minutes before the child says its prayers each night, but must be directed towards altering a habit. The mental atmosphere created by a skilled masseuse is as important as the physical manifestations of her energies.

Delay in bringing the feet into apposition will result in the development of knock-knee. In these children there is usually an underlying rickety condition which must receive attention. If the knock-knee is mild in degree—that is, if the internal malleoli are one inch or less apart when the internal condyles of the femur are touching, and the legs are extended, then a one-sixth-inch wedge on the inner side of the heel should be prescribed. For more severe degrees of this condition splints suitably applied will usually remedy the fault.

Many infants have hypermobile feet, and this is a potential source of weakness. If an infant's foot can be dorsiflexed so that the dorsum of the foot touches the anterior aspect of its leg, then there will be delay in the development of the normal stance. These infants should have their feet splinted in inversion. A small malleable splint made of one of the light metals and covered is the measure we adopt here. The child should be watched during the period when it is learning to walk, so that supports may be ordered if required.

In older children a mild degree of shortening of the tendo Achillis will often produce a flat-footed gait. A normal foot can be dorsiflexed in the mid-line with the knee straight, so that a plumb-line dropped from the ball of the big toe will pass half an inch or more proximal to the plantar surface of the heel. To carry out this test the foot must be held absolutely median, and allowed neither to go into inversion nor into eversion. If the foot can only be flexed to the right angle there is a mild degree of shortening of the tendo Achillis, and in order to flex the foot further the child everts its fore-foot. This condition of pes valgus may be treated by raising the heel of the shoe half an inch, a measure which takes the strain off the tendon. The tendo Achillis should be passively stretched by the masseuse, and actively by the performance of suitable exercises. It is hardly ever necessary to tenotomize the tendo Achillis for this contracture in infancy. A masseuse can usually stretch the tendon sufficiently to overcome all symptoms.

AN ANAESTHETIC SCREEN, NEEDLE, AND THIMBLE AS "SURGICAL AIDS"

BY

SIR W. I. DE C. WHEELER,

DUBLIN

The anaesthetic screen (Fig. 1) was designed in the first instance for goitre operations. Often when removing the thyroid gland the upper pole is found at a high level, and the orthodox anaesthetic screen comes in the way of the surgeon's wrist and forearm. The screen is useful also in general work when no other anaesthetic screen is available, and in emergency operations (such as tracheotomy) undertaken in a private house. It is adjustable, and fits on to the head. The patient can neither see nor hear, which is an advantage when local anaesthesia is employed.

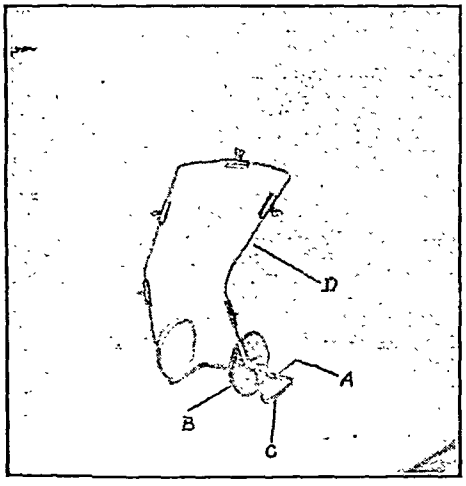


FIG. 1.—A, plate for sandbag; B, circular pads to grasp head about the ears; C, sliding frame; D, wire screen.

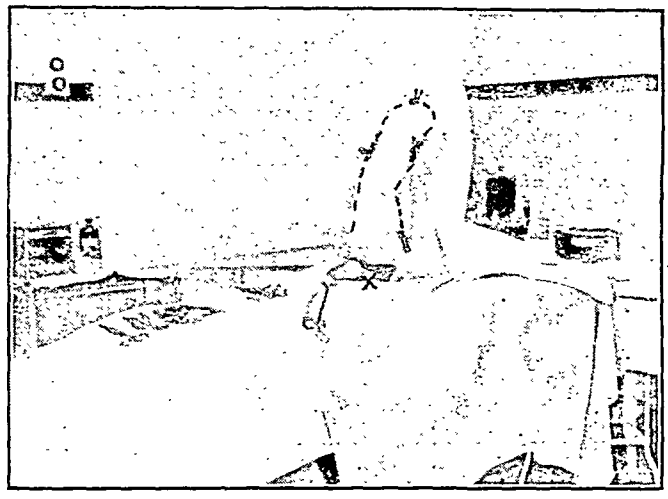


FIG. 2.—Screen in position. X = goitre. The dotted line indicates the wire covered with gauze. A towel is held up for photographic purposes.

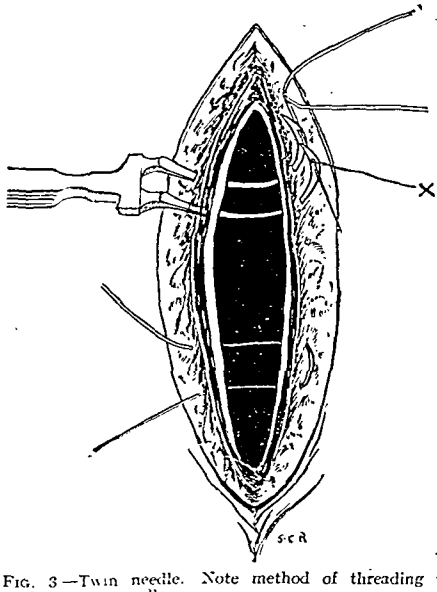


FIG. 3.—Twin needle. Note method of threading with straight sewing needle.

A towel is first wrapped round the head; the padded pieces (B) are placed in position over the towel and adjusted so that the head is grasped firmly. A sliding slot arrangement in connexion with the steel support (C) permits adjustment. A flat piece of metal (A) projects behind, and a sandbag rests on this to secure immobility. The frame (D) acts on a swivel, and can be moved backwards or forwards.

When the screen is in position the patient's head is raised, and two superimposed sterilized sheets are placed under the neck. The superficial sheet is carried round the ear-pieces and the patient's head. The second sheet is brought round the neck in shawl-like fashion and secured to the sheets covering the patient. A gauze "wipe" of double thickness is thrown over the screen and fastened by "paper clips" (Fig. 2).

The screen is very light and portable. It is made by Messrs. Weiss and Co., Oxford Street, London.

Twin Needle

The needle illustrated is of the Doyen variety. The handle carries twin needles. The standard pattern is so designed that a Halsted suture can be quickly introduced through the deeper layers of the abdominal wall in cases where difficulty is experienced in fat subjects or when laxity cannot be obtained. The eyes are sufficiently large to allow the passage of a straight needle for threading purposes (×, *Fig. 3*).

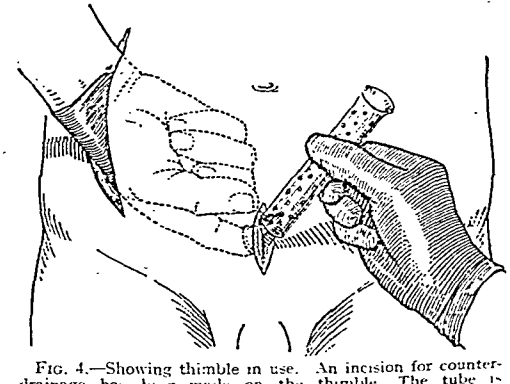


FIG. 4.—Showing thimble in use. An incision for counter-drainage has been made on the thimble. The tube is placed in position and guided to the bottom of the pelvis. (Wheeler's *Operative Surgery*.)

When the catgut is in position the loop between the two eyes should be pulled out several inches before withdrawing the needle. Otherwise withdrawal is difficult, and the catgut may become frayed. Fig. 3 shows one *suture in* position and the needle being threaded for the introduction of a second.

The twin needles are made in several sizes, and with varying spaces between the two. They are supplied by Messrs. Down Bros., London.

Thimble Guide

A thimble on the first finger acts as a guide on which a quick opening may be made for counterdrainage in cases of septic peritonitis (Fig. 4). The model now recommended is made by Weiss. It should fit the finger tightly. When the hand is passed from the main incision within the abdomen towards the suprapubic region the thimble is kept closely applied to the deep aspect of the abdominal wall, so that there is no possibility of a loop of small intestine being pushed forward and injured by the knife. A small incision is rapidly made on the finger guarded by the thimble ; a tube is slipped over the top of the thimble and guided to the bottom of the pelvis by the hand. The illustration depicts a glass tube ; a rubber variety is now more commonly employed. The thimble is of use in many situations (such as the axilla after breast amputation) where counterdrainage is needed.

PERFORATED TYPHOID ULCER

NOTES ON THREE SUCCESSFUL CASES

BY

J. B. G. MUIR, M.B., B.S., F.R.C.S.,

AND

S. C. CHIA, M.B., B.S.

THE KAILAN MINING ADMINISTRATION, TANGSHAN, NORTH CHINA

Perforation of typhoid ulcer occurs as a complication in about 3 per cent. of all cases of the disease, and, according to various authorities, accounts for approximately 30 per cent. of the total mortality. There is but one form of treatment—namely, operation as soon as possible. This is attended by a very high death rate. Harte and Ashhurst,[1] in their classical paper on this subject, based on a large series of cases, quote it as 74 per cent., with decided increases depending upon the twelve-hour periods elapsing between the occurrence and surgical intervention. The rate is distinctly lower in children, being given as 50 per cent. by Jobson and Gitting,[2] and as 36 per cent. by Elsberg.[3]

CAUSES OF HIGH MORTALITY

The factors responsible for this high mortality may be summarized as follows:

1. The catastrophe occurs generally during the second to third week of the disease, when the patient's general condition is at its worst, with severe toxaemia and a weak and dilated heart as contraindications to the necessary shock attending surgical intervention.

2. Occasionally it is very difficult to make a diagnosis of actual perforation, particularly in cases where great abdominal discomfort, pain, and distension have been dominating symptoms from the onset of the disease. (In such cases, however, a leucocytosis will always indicate the onset of peritonitis, and in any event it is probably better to submit even a weak and debilitated patient to the risk of laparotomy than to overlook a perforation until it is too late.)

3. The perforation may be complicated and temporarily masked by the simultaneous occurrence of intestinal haemorrhage from the separation of sloughs.

4. As a general rule, in cases of perforated typhoid ulcer, infection of the general peritoneal cavity by the extravasated intestinal contents is present from the first, with the formation of a watery exudate, and with little attempt at localization, or the formation of adhesions. (This was a feature of Cases I and II, described below.)

5. Difficulty is frequently experienced in suturing the perforation owing to the inflamed and friable condition of the bowel caused by adjacent ulceration. This has led some surgeons to treat the condition by passing an enterostomy tube through the perforation, fixing it *in situ* by a catgut stitch, and contenting themselves by draining the affected loop of bowel. Two successful cases treated in this way have recently been published by Branch.[4]

6. Occasionally perforations may be multiple, two, or even three, being present, and the necessary handling of the intestine during the operation may cause the perforation of adjacent ulcers.

7. Leakage frequently occurs, after apparently successful suture, resulting in the formation of a faecal fistula. These possibilities (Nos. 5, 6, and 7) have caused Roux-Berger,[5] Cadenat,[6] and others to treat the perforated loop of bowel by exteriorization, in addition to suture or enterostomy, but this method does not appear to have lowered the mortality.

8. Pulmonary complications, notably pneumonia, are common sequels of the operation.

THE HIGH DEATH RATE IN CHINA

In China the mortality tends to be still higher, as, in addition to the above considerations, there is the fact that the majority of patients wait until their conditions are literally hopeless before submitting to operation. An interesting point in the local occurrence of the disease has been observed by Loucks,[7] who considers that in some years typhoid infections show a much greater virulence than in others, and that there is then a much higher incidence of perforation. In view of these facts, the first and second cases here described are encouraging in that twenty and forty hours elapsed respectively between perforation and operation, which was successful, and the third case is interesting as illustrating how localization of a typhoid perforation in a hernial sac may simulate a strangulated inguinal hernia.

CASE I (J. B. G. M.)

Perforation of typhoid ulcer, with operation twenty hours after onset: recovery.

L. W., aged 11, daughter of a Chinese merchant, was suffering from a severe attack of typhoid fever (Widal ++). On September 15th, during the third week of the disease, she was suddenly seized with acute pain in the lower abdomen, with vomiting, and became very collapsed. Her medical attendant, Dr. T. J. Hua, saw her half an hour later, when abdominal distension and rigidity were becoming apparent, and diagnosed perforation of a typhoid ulcer, a diagnosis which was subsequently confirmed by two colleagues. Operation was advised, and after considerable discussion consent of the family was obtained ; I was eighty-five miles away when telegraphed for. Unfortunately, owing to infrequent trains, I was unable to arrive before 6.30 the following morning. During this time the patient was kept in the Fowler position, continuous "drip" rectal saline containing 5 per cent. glucose was administered, and 5 minims of tincture of opium was given by the mouth four-hourly. I performed laparotomy, under open ether anaesthesia, at 7 a.m. on September 16th, twenty hours after the perforation had occurred. A large quantity of seropurulent fluid escaped from the abdomen when the peritoneum was opened, but there was surprisingly little congestion or lymphatic exudation on the intestinal coils. A small circular perforation in the base of an ulcer was found, situated on the free border of the ileum, about 8 inches from the caecum, and was closed by invaginating purse-string sutures of chromic catgut. The extravasated fluid was thoroughly mopped up, and the abdomen was closed with a large pelvic drain *in situ*, the whole proceeding occupying only eight minutes. The child suffered from severe shock, and her condition was very grave for about twenty-four hours, when she began to rally, and made

a good recovery. Her convalescence, though protracted, was very satisfactory, despite a small faecal fistula which persisted at the site of the pelvic drainage tube for about a month before closing spontaneously.

CASE II (S. C. C.)

Perforation of typhoid ulcers complicating pregnancy, with operation forty hours after onset: recovery.

L. H. A., aged 28, wife of a Chinese military officer, was admitted to hospital on November 18th, 1930, with the following history. She had been ill for twelve days, suffering from fever, headache, and abdominal discomfort. Following the ingestion of a herbal remedy recommended by a native "medicine man" she was seized with acute abdominal pain on the evening of November 16th. She vomited several times at the onset of the attack, and became very collapsed. The native practitioner treated her with morphine injections, but as her condition was rapidly becoming worse her relatives brought her to hospital at 6 p.m. on November 18th, forty hours after the onset of the acute pain, and, presumably, of the occurrence of perforation. The case was complicated by the fact that the patient was five months pregnant, but as it was obvious that peritonitis was present and that the patient was *in extremis*, I performed immediate laparotomy. On opening the peritoneum a quantity of gas escaped, with a lot of thin seropurulent fluid. The pregnant uterus filled the entire pelvis, and the inflamed and congested intestine, with considerable lymphatic exudation on the surface, appeared to occupy the entire abdomen. Two perforations were found on the free border of a coil of the ileum, about 12 inches from the caecum. They were about 2 inches apart, and were each closed with some difficulty, owing to the extreme friability of the bowel, by purse-string catgut sutures. Thorough irrigation of the entire peritoneal cavity was then carried out, using several pints of warm normal saline, and the abdomen was closed, three large tubes being left *in situ*, draining both flanks and the mid-line. The patient's condition was exceedingly grave for two days following operation, severe abdominal distension being present, but turpentine enemas caused the bowels to act on the second day, with considerable relief of symptoms. Matters were further complicated by the occurrence of a miscarriage on the third day following operation, a five-month foetus being expelled. The patient's condition however, did not seem to be greatly impaired by this mishap. On the eighth day following operation a severe attack of broncho-pneumonia developed, and for several days it was thought that this would prove a fatal complication. After several weeks' illness, however, the patient slowly recovered, and was discharged in good health from hospital eleven weeks after admission.

Consideration of these two histories makes it clear that it is never too late to operate in a case of perforated typhoid ulcer, as even the apparently hopeless patients (vide Case II) may possess amazing recuperative powers. An interesting and common feature to both cases was the thin, watery character of the peritoneal exudate, with flakes of yellowish-white lymph—not nearly so offensive as the exudate in many types of appendicular peritonitis. Unfortunately in Case I no bacteriological examination was made, but in Case II smear and culture showed staphylococci and Gram-negative bacilli.

Harte and Ashhurst,[1] in considering the bacteriology, have pointed out that the prognosis is graver if the streptococcus is the predominating organism, as, in cases in which the typhoid bacillus alone is the infecting cause, the peritonitis is of a relatively low-grade type, with a watery exudation and few adhesions. It is probable, therefore, that the successful results in these two cases were largely influenced by this factor.

CASE III (J. B. G. M.)

A Chinese casual labourer, aged 32, suffered since boyhood from a right inguinal hernia, which had latterly increased considerably in size, but, as he somewhat graphically put it, he could push his bowels back into his stomach when he lay down. On October 2nd, 1930, he was admitted to the Tongshan Base Hospital as a case of strangulated inguinal hernia. The history was that for the preceding fortnight he had been feeling unwell, suffering from headache, some diarrhoea, fever, and swelling of his stomach. Several days before admission he had experienced a good deal of pain in his hernial swelling, and found that it could not be reduced. He used considerable force in attempting reduction on the day of admission, and the pain became exceedingly severe. The inguinal swelling was very tense, with the skin over it very red, and the patient's condition simulated intestinal obstruction due to strangulation of the inguinal hernia. Immediate operation was advised and agreed to. On incising the sac much purulent fluid escaped, and a coil of ileum, about 18 inches in length, was seen to be incarcerated. It was very swollen and congested, but obstructed rather than strangulated. A small round perforation was present on the free border of the coil, through which the extravasation of intestinal contents had occurred, and several ulcers could be palpated along the free border of the bowel. The perforation was closed by an invaginated purse-string suture, the intestinal loop carefully washed with warm saline solution, and the loop of bowel returned to just within the abdominal cavity. A large drainage tube was inserted through the neck of the sac down to the sutured perforation, and the patient returned to bed. A subsequent blood examination gave a strongly positive Widal reaction, and the later course of the case was that of typical typhoid fever. A radical cure was performed for the hernia two months later.

In this case the hernia was undoubtedly rendered irreducible by the inflammatory swelling and infiltration of the Peyer's patches in the herniated bowel, as a consequence of typhoid. It was indeed a lucky coincidence that the perforation occurred in the hernial sac rather than in the general peritoneal cavity, although it is quite probable that perforation was induced by the patient's own attempts at reduction of the inflamed bowel.

REFERENCES

[1] Harte and Ashhurst: *Annals of Surgery*, 1904, xxxix.
[2] Jobson and Gitting: *Amer. Journ. of Med. Science*, November, 1909.
[3] Elsberg: *Annals of Surgery*, July, 1903.
[4] Branch, J. R. B.: Ibid., March, 1928.
[5] Roux-Berger, J. L.: *Bulletin et Mémoires de la Société Nationale (Paris)*, February, 1930, lvi, *et discussion*.
[6] Cadenat: Ibid.
[7] Loucks, H. N.: Personal communication, from Department of Surgery, Peiping Union Medical College, Peiping.

TUBERCULOUS PERITONITIS SIMULATING COELIAC DISEASE

BY

E. C. WARNER, M.D., M.R.C.P.

PHYSICIAN TO THE CHILDREN'S DEPARTMENT, THE MILLER GENERAL HOSPITAL; PHYSICIAN WITH CHARGE OF OUT-PATIENTS, THE DREADNOUGHT HOSPITAL, GREENWICH

In view of the interest aroused in coeliac disease by the excellent review of Leonard Parsons,[1] and by the theory put forward by Ryle[2] that the essential cause is an obstruction of the lacteals by previous inflammation, it seems opportune to record a case recently under my care in the Miller General Hospital, which closely mimicked coeliac disease, and in which extensive tuberculous peritonitis was found at necropsy.

CASE HISTORY

Mary O. was first referred to me by Dr. Rogerson of Bexley Heath, on account of diarrhoea, abdominal enlargement, and wasting. In this family the seven other children were healthy. At birth she was a full-term baby weighing 6 lb., and she was breast-fed. She remained well till two months before I first saw her, when, at the age of 2 years and 4 months, she began to get periodic attacks of diarrhoea with occasional pale stools, associated with loss of weight, feverish turns, whining, abdominal enlargement, and occasionally prolapse of the rectum. At no time was there any

abdominal pain or vomiting. On examination she was evidently small for her age. Her weight at the age of 2½ years was 17½ lb., and her height 30 inches (average normal 33 inches). She was very wasted, the limbs being much more so than the abdomen and face. There was but little subcutaneous fat anywhere; there was marked wasting of the gluteal region, so that the prominence of the buttocks had almost disappeared and the skin hung in folds. There was definite loss of tone in the muscles, producing a dorsal kyphosis. In contrast to this wasting the abdomen was enlarged (girth at umbilicus 18 inches). There were no signs of free fluid, but gaseous distension was so marked that coils of gut could occasionally be seen through the abdominal wall. Palpation did not give the characteristic doughy feel of tuberculous peritonitis, and careful examination did not reveal any enlarged or palpable abdominal glands. Rectal examination was also negative. The sclerotics were of rather light blue colour, with the particularly brilliant reflection from them so often associated with hepatic disorders. The bony skeleton showed some evidence of rickets, as the radial epiphyses were enlarged, the tibiae rather bowed, the head bossed, and there was beading of the ribs. She was also evidently anaemic.

There were anything up to five stools a day, the average being two to three. They were large, bulky, very offensive and pale, with evident excess of fat and some excess of mucus. This was confirmed by microscopical examination, which showed a large excess of split fat to be present. The stools were alkaline (*p*H 8.0). Cultivations showed the presence of *B. coli* and *Streptococcus faecalis* only. *X*-ray examination of the abdomen failed to reveal any opacities suggestive of tuberculous peritonitis. A blood count showed haemoglobin 50 per cent.; red cells, 4,700,000 per c.mm.; colour index 0.5; white cells, 10,800 per c.mm. During the whole of her time in hospital she ran an irregular pyrexia; some days the temperature was normal, while at other times the rectal temperature would rise to 104°. For periods of two to three days, with the larger rises of temperature, she was fretful, the abdominal distension became much more marked, and the stools more offensive, copious, and still more fatty. In between these bouts the condition would settle down to the quiescent phase. She also exhibited the mental characteristics of cases of coeliac disease. During her brighter periods she looked precocious in proportion to her size, and took an intelligent interest in what was being said about her, although saying very little herself. Her appetite was capricious.

She was given a considerably reduced fat diet in accordance with the usual plan in these cases; the protein was increased, and irradiated ergosterol and ultra-violet light were administered. To control the diarrhoea, silver nitrate and, later, kaolin were given. Under this regime the abdomen became smaller, the stools became much less offensive and firmer, and the fat largely disappeared. In spite of this her general condition did not improve. She slowly lost weight, became very anaemic, and continued to get periods of pyrexia. Later, streaks of blood and some pus appeared in the stools, in which starch granules and excess of meat fibres were present. Treatment with pancreatic ferments and bile salts combined with a blood transfusion were unavailing. Towards the end she became drowsy, and marked oedema of her face and legs occurred. When she died at the age of 2 years and 10 months her weight had fallen to 12 lb. 12 oz.

POST-MORTEM FINDINGS

Dr. W. Smith, pathologist to the Miller General Hospital, made the following observations. There was much wasting of the arms and gluteal regions of an emaciated child. Recent adhesions surrounded the whole of the right lung, in which small areas of consolidation were present in all lobes, more marked in the upper lobe; the left lung appeared normal. There were no obviously enlarged glands in the mediastinum; the heart muscle was good, with slight right-sided dilatation; the liver showed some degree of venous engorgement. The intestines were matted together and adherent to a large mass of mesenteric glands involving the whole of the mesentery; caseation was present in many. Section of the glands revealed the typical appearances of tuberculous disease, with areas of caseation and giant cell systems. Similar changes, and also large areas of lymphocytic infiltration, were found on histological examination of the lungs.

COMMENTARY

This case showed all the classical symptoms and signs of coeliac disease. The patient was a girl (Still states that coeliac disease is nearly twice as common in girls as in boys), who developed the disorder at the age of 2 years and 4 months (Still gives the limit of age of onset in his series as 8 to 38 months). There was marked hypotonia and wasting, especially of the glutei—described as typical of coeliac disease by Reginald Miller. The stools were large, bulky, pale, mucoid, and offensive, and consisted largely of split fat in the form of soaps and fatty acids. The abdomen was much distended with gas. The mental state was typical of the coeliac child, and there was a tendency to rickety changes in the bones, a point stressed by Leonard Parsons. A variation in the patient's condition every few days is often found in coeliac disease, as are also the secondary anaemia and the rather low white cell count; and some oedema of the face and extremities is not unusual. An irregular pyrexia is often present in the diarrhoeic form of coeliac disease (R. Miller). The picture seemed complete, as there was no radiological evidence of diseased abdominal glands, yet at necropsy an extensive tuberculous peritonitis was found, without any calcification in the glands. The only points that were in favour of a diagnosis of tuberculous peritonitis in this case were the height of the pyrexia and the rather rapidly fatal termination of the disease.

REFERENCES
[1] Parsons, L. G.: *Lancet*, 1931, i, 61.
[2] Ryle, J. A.: *Ibid.*, 1931, i, 161.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

PERFORATION OF GASTRIC ULCER THREE AND A HALF YEARS AFTER GASTRO-ENTEROSTOMY FOR PERFORATING DUODENAL ULCER

This case seems to me to be of sufficient interest to put on record as an unusual sequel of gastro-enterostomy.

The patient, a male, first came under my care on July 28th, 1927, at which date he was 44 years of age. He had a small perforation of the anterior wall of the duodenum, and gave a six months' history of pain after meals. I sutured the perforation, and performed posterior gastro-enterostomy. Recovery was uneventful.

In reply to a follow-up inquiry in September, 1930, he wrote to the effect that he had been under his doctor recently with gastritis, but that the condition had cleared up.

On January 28th, 1931, he was again admitted to hospital with symptoms of perforation. Laparotomy showed the duodenum apparently normal, the gastro-enterostomy in perfect order, and an indurated ulcer of the lesser curvature of the stomach, proximal to the stoma, which had perforated. I repaired the perforation, removed the appendix, and drained the pelvis. Recovery was again rapid.

X-ray examination of the stomach about three weeks after the second operation showed that food passed very rapidly through the gastro-enterostomy opening.

The patient was a fairly healthy-looking man of spare build. Most of his teeth had been extracted. He was said to have a partiality for alcohol. He told me that he was

free from stomach trouble for nearly three years after the first operation.

The patient was readmitted to hospital in May, 1931, suffering from a subphrenic abscess, to which he succumbed.

In the B.M.A. investigation into the after-history of gastro-enterostomy there were 995 cases in which the operation had been done for duodenal ulcer. In only three of these was there a history of subsequent gastric ulcer, and in none of these did perforation occur.

Northampton. C. C. HOLMAN, M.B., F.R.C.S.

KERATODERMIA BLENNORRHAGICA

The following note may be of interest. In spite of the fact that a gonococcal infection has not been discovered, I believe this to be a case of keratodermia blennorrhagica, which is somewhat rare in women.

Mrs. N. T., aged 30, the wife of a dairyman, was admitted to the Gloucestershire Royal Infirmary on January 23rd, 1930. The history was that for three months she had pain and swelling of the feet, followed by a similar condition in the knees, which had lasted for three weeks. There was a rash, which was most marked on the feet and legs. She had two children, but had experienced no difficulty at her confinements. On admission she appeared very ill, being pale, cachectic, and emaciated. The tongue was dry and dirty, the lower teeth were very septic, and the right tonsil was enlarged and appeared also to be infected. Both knees were swollen and painful. Around the toes of both feet and on the soles were large heaped-up masses of hard irregular horny skin. On the legs the whole area from the knees downwards was covered with (*a*) small pink papules, the largest 1/4 inch in diameter, gradually changing to (*b*) orange-brown papules, and (*c*) papules with scaly horny tops, which as they enlarged became limpet-like and of a grey colour. Some of these were nearly three-quarters of an inch in length; on removal they

did not leave a raw surface. The three types of lesion became less numerous on the thighs, and only a very few hard scaly papules with sharp tops occurred on the abdomen, chest, arms, and palms of hands. The temperature was never above 100.8° F., but the pulse kept in the vicinity of 100 until convalescence was well established. No abnormal physical signs or symptoms were detected in other organs. The Wassermann reaction of the blood was negative. The urine was sterile. A swab from the cervix did not show gonococci, but there were some streptococci and staphylococci. The faeces showed marked increase of the faecal streptococci. From the throat a non-haemolytic streptococcus of the *viridans* type was isolated. From the pus in a few skin lesions the *Staphylococcus aureus* was grown. A history of gonococcal infection could not be obtained.

The early treatment consisted in feeding the patient and giving mercury, iodide, and arsenic, but there was no improvement. A gonococcal vaccine and boric acid starch poultices were then tried, the arsenic being continued. She very rapidly improved, and left hospital on May 3rd with no rash, with increased weight, and good colour. She was, however, unable to walk. To-day she can do this, but she has very flat feet, which are tender; otherwise her health is good.

My thanks are due to Dr. Davey of the Gloucestershire Infirmary for his help in the bacteriological investigation of this case.

D. E. FINLAY, M.B., B.S.,
Gloucester. Physician, Gloucestershire Infirmary and Eye Institution.

Reports of Societies

SENSORY MESSAGES

The Croonian Lecture before the Royal Society was given, on June 4th, by Professor E. D. ADRIAN, F.R.S., who took as his subject the messages in sensory nerve fibres and their interpretation. He said that by amplifying the electric changes which took place in the individual nerve fibres it was possible to record the messages which passed from the sense organs to the central nervous system and from the motor nerve cells to the muscles. It was found that a series of brief potential changes travelled along each nerve fibre; the changes were of fixed intensity and duration, but their frequency varied with the intensity of the excitation. Each potential change represented a nerve impulse of the type made familiar by the classical methods of electrophysiology. Reasons were given for the belief that all nervous communication was carried out by such impulse messages, and that the impulses, like the electric changes which accompanied them, were unaffected by variations in the intensity of the stimulus. The general similarity of motor and sensory messages made it probable that the sensory nerve endings and the synaptic regions of the central nervous system worked on a common plan depending on the fundamental properties of excitable cells. The sensory messages which had been most thoroughly investigated

were those produced by the muscle spindles. Those from the skin receptors, though less easy to analyse, were of greater interest to the physiology of sensation. At present the most definite results had been obtained from the frog. The frog's skin contained receptors which responded to light contact with a brief discharge of impulses travelling in nerve fibres which conducted rapidly. A vibrating stimulus gave a series of impulses with the same frequency as that of the stimulus, but discharges of high frequency and long duration from these receptors did not give rise to pain. Firm pressure at certain points gave a continued discharge of rapid impulses with a declining frequency. The receptors probably differed from those responding to light touch, though both were in the superficial layers of the skin. Stimuli which would be likely to cause continued pain gave rise to impulses of small action potential travelling in fibres, which conducted very slowly (about 1 metre a second). In the mammal, as in the frog, light touch produced a brief discharge of impulses of large potential conducted rapidly, and firm pressure gave a continued discharge. Impulses of smaller potential conducted at slower rates were produced by movement of the skin, and persistent discharges often arose from exposed tissues. At present it appeared that some of these impulses were caused by stimuli which would not necessarily be painful. A comparison of these results with those of Gassa and Erlanger and of Piéton showed that the nerve fibres responsible for pain were not all of the same type, though they were all of smaller diameter than the tactile fibres. The lecturer suggested that the rate of reaction and amount of conveyance in the sensory pathways were important factors in determining the intensity of sensation, since this must depend on a summation of the effects of discontinuous impulses.

MENTAL DISORDER AND PERNICIOUS ANAEMIA

At the quarterly meeting of the Royal Medico-Psychological Association, held on May 21st at B.M.A. House, Tavistock Square, London, under the presidency of Dr. T. SANTY GOOD, Dr. NORMAN R. PHILLIPS read a paper on mental disorders associated with pernicious anaemia.

Dr. Phillips said that Continental observers especially had shown that mental disorder was frequently met with in association with pernicious anaemia. In the milder mental disturbance there might be no more than a modification of character, chiefly shown in irritability and unstable moods. When the mental state was more pronounced, it was usually of the paranoid type, with delusions of persecution and suspicion, directed chiefly against those who were looking after them. Cabot found delirium in 44 per cent. of his cases of pernicious anaemia. At night the patient had terrifying hallucinations, with great agitation and restlessness; his reaction to these was to become grandiose, abusive, aggressive. The mental syndrome resembled that of toxic psychoses, and so it stood that the testamentary capacity of the questioned. The period of the illness change might be evident varied. led as a terminal condition, but it could occur at any stage in known to supervene while the the mental symptoms mia, it was easy to might be labelled anaemia not underlying several cases quoted series figures improvement following liver

Professor G. M. ROBERTSON said that during his career he had seen many cases of chronic mental disorder developing in the course of pernicious anaemia, but recently he saw a case of that disease in which mental symptoms of acute degree developed early. There had been the usual symptoms of general weakness and gastric trouble, with a suspicion that cancer of the stomach might be present. Then the patient began to get rather feeble-minded, with suspicions, and quarrelled with the daughter who looked after him. After he had been in a nursing home several days he developed an acute delirious attack following anxiety. He was certain he would be injured, was noisy and delirious, and so had to be removed. After his transfer to a nursing home for mental cases Professor Robertson thought it might be a case of general paralysis, and later he thought it might be early senility. Then it was found that the patient had pernicious anaemia, obscured by the mental symptoms. The delirious condition passed off quickly after proper nursing and treatment, but he was still disorientated; he did not know where he was, or realize the lapse of time. A marked symptom in him was amnesia; there was considerable want of the power of attention. Later, suspicion gave place to a mild elation, and he became dominating and dictatorial. When it was found that he had pernicious anaemia he was at once put upon liver treatment, and soon began to improve, both mentally and physically, and in six weeks he had left the nursing home quite recovered.

Dr. M. J. NOLAN referred to a similar case which he had seen; the mental symptoms in that case also were acute, and of the kind Professor Robertson mentioned. In a few months' time the liver treatment restored the patient to her duties.

Dr. W. F. MENZIES referred to a new refractometer designed by Dr. Malloy of Cheddleton Mental Hospital, which enabled a differential count to be arrived at from a smear in a very short time. Only four cases of pernicious anaemia associated with mental symptoms had been seen at Cheddleton in the last few years. Two of the patients died. In one of them the anaemia would never have been detected but for the routine examination being very thorough in every new admission, a course which he strongly advocated. The few cases he had seen had not enabled him to correlate definitely the mental with the physical states.

Sir HUBERT BOND referred to the liability of the mental symptoms putting the observer off the underlying physical state. This, incidentally, brought out the supreme importance of making a thorough clinical examination of the patient when admitted to the institution. It would be a matter of heart-searching if it were known how many patients did not have a proper blood examination. There should be a complete examination of patients at least once a year.

Dr. DOUGLAS MCRAE thought that in one of the cases related there was some mental improvement before the liver treatment was begun, and therefore more might have been claimed for the liver course than was its due. Patients showed periodic attacks of pernicious anaemia, which they recovered from, and the disease used to be cured by iron before the liver treatment was discovered.

Dr. J. R. LORD said Dr. Ford Robertson had found that pernicious anaemia was due to some elaborated septic process. With regard to the mental symptoms, he thought it likely that the anaemia depressed the liver function, which might cause the mental effects. On the other hand, the septic matter absorbed into the system might poison the brain and the liver too. Many realized that a vigorously functioning liver was an important factor in preserving a cheerful mentality. In ordinary life it was a common observation that liver sluggishness

was associated with irritability and bad temper. It might not be an unwise habit to take a morning "liver cocktail." Mental cases should not be considered as chronic until the expiration of at least three years, particularly those due to toxaemias and in elderly people whose colons were a perfect laboratory for the cultivation of all kinds of pathogenic organisms dangerous to the nervous system.

Dr. A. G. SHERA said the somatic side of mental disease now seemed full of hope, when compared with the outlook fifteen years ago. He considered, as a result of his experience, that mental symptoms in association with pernicious anaemia must be of rare occurrence. Eve's halometer showed up the megalocytosis of pernicious anaemia, and was valuable in borderline cases, which were a cause of much anxiety. But he would not like to separate out an unknown case with that instrument alone unless it gave a definite reading; it, however, allowed one to do the preliminary sorting, and that only occupied a few moments. In cases of pernicious anaemia he always pressed for a blood transfusion, as it shortened convalescence, and it should have an equally good effect on the mental symptoms in these cases. He had heard it argued that hydrochloric acid was essential to the amelioration of subacute combined degeneration. Streptococcus in the faeces was a characteristic of pernicious anaemia; he did not know whether it was a special strain, or whether it was a question of numerical increase in the streptococci present. If Dr. Phillips had provided another way of tackling mental disease he deserved every congratulation.

Dr. HAMILTON MARR mentioned the similarity of the mental and physical symptoms of these cases to those of myxoedema when untreated. The fresh liver treatment reminded him of the original treatment for myxoedema. If the liver principle could be given in a more assimilable form it would be an advantage.

The PRESIDENT thought it would be beneficial to try and ascertain why a patient with pernicious anaemia should have mental confusion and delusions of persecution. Certainly many patients with pernicious anaemia were lethargic.

THE VOLUNTARY MENTAL PATIENT

At a meeting of the London Association of the Medical Women's Federation, held on May 19th, with the president, Dr. LETITIA FAIRFIELD, in the chair, Dr. MARY BARKAS read a paper on the voluntary mental patient.

Dr. Barkas said that the main thing in the new Act with regard to voluntary patients was that provision for their treatment was not compulsory on the local authority. Even a statutory duty was often neglected by local authorities, so that there was not likely to be any great hurry to take up a permissive activity. Unless someone pushed the local authorities they would do nothing, and it was extremely important for all practitioners to look out for cases requiring such treatment and to see that the local authority made provision for them. Further, the Act now gave the local authority power to spend money on out-patient departments, preventive measures, research, and after-care. Again, it was the duty of practitioners to see that the money was spent. A good deal of the hopelessness often felt about mental patients was due to the fact that they were not treated until the most favourable period for treatment had passed. Those who had worked in institutions where voluntary boarders had been taken for some time had a more optimistic outlook. If the surgeon never saw a cancer case until three years after hope of successful treatment was over, and moreover had to live with those patients until they died, he would not feel he was getting the best chance. The general practitioner should be as ashamed of letting a mental case go beyond the curable stage as of letting a case of cancer become inoperable. How far the proportion of voluntary patients increased in public hospitals depended largely on the general practitioner, who needed a great deal more insight into the personality of mental patients. He was in a unique position for learning all about them, and for catching them in an early stage. Far too many practitioners told their patients to pull themselves together when they needed to be put to bed. "Make an effort, Mrs. Dombey," was the tragedy of many mental patients. All that voluntary patients had to do was to write to the medical superintendent and ask for admission; they could leave on giving three days' notice in writing, thus allowing time for communication with relatives and for making arrangements. The medical superintendent had to see that the patient understood these conditions; often a doctor would send up as "voluntary" a patient who was incapable of appreciating the situation. If the voluntary patient lost volition and remained without it for a month, he must be put on some other footing. In recent years the attitude of the Board of Control had altered very considerably; the Commissioners now wanted a patient to be on a voluntary basis if possible—provided only that he could understand his position. It was surprising to what extent really insane people would come as voluntary patients.

Discussing some types of voluntary patient, Dr. Barkas said that nearly every type of mental illness could be found among them—even acute mania and paranoia. Far more patients with delusions of persecution could be cured if they were taken in time; their delusions developed very slowly, and they did not generally reach a mental hospital for ten or twelve years after their first complaint. They came up for advice about headache or rheumatism, or some other ailment apparently irrelevant to their mental state, and the general practitioner should look out for them by inquiring of patients whether they thought there was any adverse influence affecting their health. The melancholic—the patient who got depressed and felt he was no good—was very suitable as a voluntary patient. Far too often these patients were treated vaguely by the general practitioner and urged to make an effort—until at last they committed suicide—whereas the first thing taught them in a mental hospital was to go to bed at once and stop making an effort as soon as this black cloud of dullness, absence of feeling, and insomnia came down on them. The difficulty was to select those melancholics who were best treated as voluntary patients. Some of them found it very difficult to make up their minds, and a decision to enter a mental hospital and stay there was beyond them. They constantly gave notice and withdrew it, and the ensuing worry prevented them from getting the needed rest. They were depressed, retarded, and full of guilt, and could usually be certified. When the decision was taken out of their hands they settled down and got better. It would have been an advantage, in Dr. Barkas's opinion, if the Act had provided that a voluntary patient, having once signed a request to enter a mental hospital, could be detained for a few months. Another type of possible voluntary patient was the neurotic. Many of these would be seen in the new out-patient departments, and in-patient provision for them was greatly needed. Whereas those in the psychotic group needed all the resources of the mental hospital, at any rate in reserve, the neurotics often needed no more than removal from home and an occasional talk, or a rest in the open air with massage, feeding-up, and, above all, a little understanding affection. Many people resented the idea that these patients should come under the Board of Control, but the smaller homes might be

very unsatisfactory if under no supervision. The neurotic was particularly liable to become the victim of the quack. If general hospitals made suitable provision for voluntary mental patients, neurotic patients would get the advantage of thorough physical investigation. The general hospitals were, however, short of beds, and their help would not go far. An out-patient department was essential for the neurotic and voluntary class of patient.

In reply to questions, Dr. Barkas said that the treatment of early paranoia in institutions depended on the employment of a sufficient staff. Many early cases of schizophrenia and other mental illness were much better treated outside a mental hospital, and some further provision was required for them. They needed both psychological and physical treatment—exercises and massage, for instance—and they tended, when once they got into hospital, to relapse into "just sitting." They might do well with out-patient treatment in their own homes. Some kind of social worker was essential; at least 50 per cent. of the treatment of the patient was treatment of the family.

In the ensuing discussion the PRESIDENT pointed out that the clause relating to temporary patients had been so whittled down in its course through Parliament that it was very difficult to interpret. It was extremely rare for any patient, not hopelessly insane, to remain without volition for a month. Mild and transient psychoses were far more common than was recognized. Lay people still tended to think of mental illness as a thing apart, and took any attempt to deal with it as an insult. Coroners were ready enough to attach blame to the medical profession for any slight error in physical treatment, but never mentioned the gross maltreatment of melancholia; they did not realize how easy it was to recognize early symptoms. One early manifestation sometimes encountered was extreme resistance to treatment of any kind: "I am unworthy of medical attention." The paranoiac, above all other people, could be moved by self-interest, and could be induced to enter a mental hospital if persuaded that it was to his advantage to do so. The public mind must be disabused of the idea that the early mental patient and the voluntary patient were necessarily curable. The voluntary provision was going to be of the utmost benefit and comfort to the chronic and relapsed patient. An out-patient department without in-patient beds was a useless thing. The out-patient department attached to the big general hospital and teaching school would, in her view, prove a delusion. Nor could the work depend on voluntary social service; it was astonishing that the Board of Control had not issued a warning against instituting any treatment without trained social workers.

Dr. MILDRED CREAK emphasized the number of cases of mild melancholia treated devotedly by the practitioner, up to the day of the suicide, as neurasthenia. The practitioner's attempts at distraction were comparable to taking a patient with a broken thigh folk-dancing. She questioned whether the anxiety of the legislator to safeguard personal liberty was really in the interest of the patient.

Dr. BARKAS, in reply, did not agree that an out-patient department without beds was useless. It might be valuable if it had attached to it some kind of occupational centre or hostel and a convalescent home. An apparently genuine neurotic might suddenly slip over into an acutely psychotic phase; it was therefore difficult to draw a hard-and-fast line between those who needed mental hospital treatment and those who could be safely treated outside. A good convalescent villa in a mental hospital was probably the best place to treat them. Every melancholic should be regarded as a potential suicide, and yet at the same time a certain amount of risk must be taken.

Reviews

THE MEDICAL ANNUAL, 1931

The Medical Annual[1] needs no introduction, and the present volume comes up to the high standard set by its predecessors. In the space at our disposal it is only possible to notice a few of the many items which together make up this conspectus of progress. Colonel L. W. Harrison, writing on the diagnosis of syphilis, mentions the important resolutions taken at the eighth International Congress of Dermatologists and Syphilologists in Copenhagen last year. The first was that at least two different sero-diagnostic methods should be used, one of which should be the Wassermann, and the other a reliable precipitation reaction. The second was that pathologists should agree on a uniform plan of reporting the results. It is well known that the sensitivity of the Wassermann reaction can be varied within wide limits by altering the nature of the antigen; too great an increase in sensitivity, however, leads to the occurrence of false positives. The advantage of the more recently elaborated precipitation reactions is that with most of them a considerably higher grade of sensitivity is attainable without the appearance of false positives. In the diagnosis of syphilis, therefore, in conjunction with the well-tried Wassermann reaction, one of the precipitation tests such as the Meinicke clearing or the Müller coagulation test should be employed. These tests are of particular value in following cases of treated syphilis, and in preventing the practitioner from discontinuing treatment as soon as the Wassermann becomes negative. Mr. J. P. Lockhart-Mummery draws attention to Cuthbert Dukes's findings on the mode of spread in carcinoma of the rectum. Starting in the mucous membrane, the growth spreads by direct extension on the surface and by infiltration of the rectal wall; it is not till the perirectal tissues have been penetrated that dissemination by the lymphatics occurs. Before the tumour has been excised and examined microscopically it is impossible to tell whether the perirectal tissues are invaded; in practice it is found that this invasion has occurred in three-quarters of all cases considered operable, and that in one-third of all operable cases there are actual metastases in the lymphatic glands. Treadgold's opinions on the method of estimating cardiac efficiency are referred to by Dr. A. G. Gibson. The physiological bradycardias, with a pulse even as low as 48 per minute, are generally evidence of good cardio-vascular stability; officers selected for the Royal Air Force rarely have a pulse rate above 72. It is considered important to ascertain the minimum blood pressure (diastolic); men with low minimum pressures show a greater tendency to fainting than others. A small pulse pressure, so long as the systolic pressure is not too high, is regarded favourably. In the treatment of rickets Dr. Reginald Miller remarks that there are now so many reliable methods at the disposal of the physician that it is a matter of difficulty in any one case to select the most suitable. One of the difficulties lies in the lack of standardization of such products as irradiated ergosterol, vigantol, and radiostol. For hospitals and welfare centres the most economical and efficient, provided a sample of proved antirachitic value is chosen, is still cod-liver oil. The interesting, but ill-named, subject of renal rickets is discussed by Sir William Wheeler, who illustrates his article by photographs and skiagrams of two cases under his care. The same author, dealing with the treatment

[1] *The Medical Annual*. Edited by F. Carey Coombs, M.D., F.R.C.P., and A. Rendle Short, M.D., B.S., B.Sc., F.R.C.S. Forty-ninth year. Bristol: J. Wright and Sons, Ltd.; London: Simpkin Marshall, Ltd. 1931. (Pp. xcix + 603; 143 figures, 70 plates. 20s. net.)

of burns, issues a warning against the application of tannic acid to the fingers at the tips; the resulting coagulum, he says, forms a very tight tourniquet, and the finger-tips may slough off. Professor Beckwith Whitehouse records the results of the experimental trial made by Professor Crew at Edinburgh of the Zondek-Aschheim test for pregnancy. The value of this test is still *sub judice*, but it appears that during the first few weeks of pregnancy it yields a correct answer in 95 to 98 per cent. of cases. False positives may be due to death of the ovum, incomplete abortion, hydatidiform mole, and chorion-epithelioma. A positive reaction persists for a few days after parturition and complete abortion, and may therefore have a medico-legal application. Mr. Stanford Cade contributes a critical article on the radium treatment of cancer. Public opinion as regards radium, he says, has passed from a state of exaggerated enthusiasm to that of cautious pessimism. Neither of these attitudes is justifiable. Radium holds a unique position in the treatment of malignant disease if the impossible is not expected. Early cancers in accessible situations give good results in a large number of cases, but radium *per se* remains a local remedy and is no weapon for the treatment of dissemination. Teletherapy, or treatment by the so-called "bomb" containing several grams of radium, has not yet achieved the results anticipated on theoretical grounds from massive irradiation. In the treatment of many tumours, such as those of the uterus, rectum, bladder, and buccal cavity, the most satisfactory method is the uniform irradiation of the cancer-bearing area by means of screened radium, so that gamma rays only are used, prolonged over periods of seven to ten days for intestinal, and two to three weeks for surface, treatment.

RADIOLOGY FOR STUDENTS

The elementary textbook of radiology by Dr. PETER KERLEY published in the Recent Advances Series, deals mainly with the correlation of radiological investigations with pathological findings. The title *Recent Advances in Radiology*[2] is just a little misleading, inasmuch as the author in ten chapters describes the radiological appearances, both normal and abnormal, of the various systems of the human body. Apparatus is omitted, and wisely so, for this can be better studied in the numerous catalogues of instrument makers. It is perhaps to be regretted that technique is also banned, for the many recent advances in technique are of interest to radiologists, though not to the general practitioner of medicine. The various chapters include injuries and diseases of bones and joints, the heart, the lungs, the alimentary canal, the biliary tract, the genito-urinary tract, and the uterus. The information given is accurate and well arranged; it is of necessity condensed, but at the end of each chapter a useful bibliography is added. The radiographs which illustrate the text are numerous and of uniformly good quality.

Recent advances in *x*-ray therapy are described in Chapter XI, the author stating that only the most important advances, and the trend of current opinion regarding them, are given. This chapter is not up to the standard of the rest of the book. It is scrappy and inaccurate, and the many dogmatic statements made are misleading, as no qualifying explanation is given. Thus in writing of *x*-ray dosage we find the following:

"Dosage in the earlier days was measured by means of pastilles which changed colour on exposure to *x* rays. The exposed pastille is compared with a standard in a calorimeter, and the dose delivered thus measured. There are three types of pastille in general use—the Sabouraud, the Holzknecht, and the Kienböck. The first two are remarkably accurate, but there are many fallacies in the last, owing to the numerous factors required for the development of the change in colour."

It was just because of the inaccuracy of the pastille method of estimating *x*-ray dosage that radiologists sought for, and obtained from the physicists, a more reliable method. Furthermore, the Kienböck method of estimating dosage is a photographic one, and does not involve the use of a pastille. Again, it is wrong to state that "there are many types of accurate dosimeters in which the dose is measured by a spectrometer or in terms of the ionization which takes place in an ionization chamber exposed to irradiation." A spectrometer is not used to measure the dose, but to determine the wave-length of the radiations. The definition of the international standard *r* is also wrong, and is obviously confused with the Solomon R. It is somewhat perplexing to the student to read on one page that—"the radiologist should not aim at cure by destruction of growth; he should rather aim at restricting the progress of growth, and at the same time raising the patient's resistance"—for on the next page he finds the statement that "550 to 700 *r* is lethal for most malignant cells. With well-chosen fields it is possible to deliver a lethal dose to a growth without causing more than a temporary erythema." The student will quite naturally ask how he is to reconcile these two statements.

In future editions the chapter on *x*-ray treatment should either be thoroughly revised or omitted, and we would suggest that the subject of recent advances in *x*-ray treatment, along with radium treatment, might form a separate volume in the Recent Advances Series. Apart from the chapter on *x*-ray treatment the book is good, and should prove an excellent elementary textbook on radio-diagnosis for students.

PRIMARY SYPHILIS IN THE FEMALE

Dr. ANWYL DAVIES's book, *Primary Syphilis in the Female*,[3] represents his London M.D. thesis, for which he was awarded the gold medal. How many medical practitioners have ever seen a primary chancre on the cervix uteri? Yet the author tells us that this is the commonest site on the female genitalia for a primary lesion—and who can contradict him? Dr. Davies has seized a golden opportunity to study an aspect of syphilis which is little known and which has been much neglected. Many observers have inquired why so little primary, as compared with secondary, syphilis is seen in the female, and here the question is answered; an interesting list of the various sites of primary genital chancres is given on page 10, and another on page 1 gives the occupations of the patients. Chancres in the various situations are considered separately and carefully classified and described; vaginal and extragenital chancres are shown to be much less common than is generally supposed. Differential diagnosis is discussed, and a description given of the various lesions which may simulate primary syphilis. Stress is very properly laid on the necessity for the use of the dark-ground microscope in every suspicious case; this, and this alone, will clinch the diagnosis in the earliest cases.

The coloured plates are beautifully reproduced, and convey a really faithful impression of the appearances of the lesions; some of the uncoloured photographs appear to have been over-developed. There is a good deal of repetition in the text, which might well be reduced by nearly a half. Much of the English is loose, such as

[2] *Recent Advances in Radiology*. By Peter Kerley, M.B., B.Ch., D.M.R.E. London: J. and A. Churchill. 1931. (Pp. viii + 324; 120 figures. 12s. 6d.)

[3] *Primary Syphilis in the Female*. By Thomas Anwyl Davies, M.D. Oxford Medical Publications. London: Milford, Oxford University Press. 1931. (Pp. viii + 111; 24 figures, 11 plates. 12s. 6d. net.)

" the cervix causes no pain " (p. 47) ; " this . . . converts a gonococcal colony into a pinkish-red colour " (p. 85) ; and there are a number of minor errors, such as labia for labium, infra for intra, inoculation for incubation, while on page 30, 27 chancres on the labia minora should read 47. The author is in error with regard to strepto-pneumococci ; they were described many years ago, certainly as far back as 1918. The statement on page 71 that tertiary syphilis of the cervix gives a negative Wassermann reaction in 65 per cent. of cases will be doubted by most syphilologists.

Dr. Davies's little book is the product of a wide experience, unremitting labour, and very careful observation ; it fills a gap in the literature of syphilis, and will be a revelation to many. There is a very complete bibliography.

A SYNOPSIS OF MEDICAL HISTORY

The study of the history of medicine is still somewhat of a luxury, for it needs some general education, leisure, and a desire to know how things came to be as they are. Hitherto the Dominions have been more concerned with the present and the future than with the past. Dr. BERNARD DAWSON'S little synopsis,[4] as the author modestly calls it, is a welcome sign of a change. It is the outcome of a series of lectures delivered to a class of junior medical students in the University of Adelaide, who were so interested that it is stated " all the students attended all the time." Their appetites being thus whetted it would have been well if Dr. Dawson had appended to his history a short list of books in which more detailed accounts of the different periods could be read, books not too abstruse, difficult to read, or expensive, but such as a student might buy for himself or obtain from the university library.

The author, who is a gynaecologist to the Adelaide Hospital, has succeeded in presenting a very complete history of medicine in the short space of 156 pages, beginning with Palaeolithic man and ending with Pasteur and Lister. The story is necessarily brief, but it is well told, and has been made interesting. For the most part it is accurate, and where all is good it may be somewhat ungracious to pick holes, though the holes are so minute that they can easily be darned in any future edition. For instance, on page 55, *rubor*, not *rigor*, is one of the four cardinal signs of inflammation ; on page 90 it is surely wrong to say that Saliceto, living in the thirteenth century, " recognized the venereal origin of syphilis " ; at page 99 St. Bartholomew's Hospital had not the rich founder there attributed to it. Rahere begged the ground on which it stands, and helped to build the original structure with his own hands. It is inaccurate to speak of different *volumes* of the *De Fabrica* of Vesalius, as is done on page 106, because it leads the beginner to think that the great work was issued in separate parts, whilst anyone who has consulted it knows, to his cost, the weight and solidity of the book. The fraternity of surgeons in London never received a charter, as is stated at page 117. The grant of 1492, which is there alluded to, was a grant of arms issued from the Heralds College, while " the writing of Compositions " of the following year was merely a friendly agreement between the Surgeons and the Barbers, which paved the way for their union in 1540.

The book is introduced with a welcome by Dr. H. Woollard, the Elder Professor of Anatomy and Histology in the University of Adelaide. It is illustrated with 31 figures, many of which are taken from the works of Dr. Charles Singer, and there is a satisfactory index.

[4] *The History of Medicine: A Short Synopsis.* By Bernard Dawson, M.D.Lond., F.R.C.S. London: H. K. Lewis and Co., Ltd., 1931. (Pp. xiv + 160 ; 31 figures. 7s. 6d. net.)

BILIARY FUNCTION

In their monograph on the Biliary Functions of the Liver[5] Drs. CHIRAY and THIÉBAUT undertake to consider the whole question of biliary function, and also the tests of hepatic function which may be of clinical application. It is an exasperating book, which might have been very useful if really complete, and it must be admitted that those who are interested in the subject will find Lepehne's monograph a safer guide. The book is ill-balanced, quite undue prominence being given to French work, and important foreign work being often ignored. For example, on page 9, when discussing the question of the origin of urobilin, the authors " are inclined to think " that the intestine is not the sole origin of urobilin, but they omit altogether any reference to the important work of Elman and McMaster (1925–26) in America. With regard to the bile acids, they conclude that " it is now permissible to consider the bile acids as products of oxidation of cholesterol by the liver," but few people will agree that the work of Grigaut in France, or of any other worker, is far enough advanced to justify this conclusion. On page 7, after recitation of the arguments, clinical and experimental, in favour of bile pigments being in large part formed outside of the liver and only excreted by the hepatic cells, Chiray and Thiébaut state as their view that " if the possibility of an extrahepatic formation of bile pigment seems actually demonstrated, its importance in normal conditions seems minimal compared with hepatic pigment formation." This question is still a difficult one, and the evidence provided in recent years is all in favour of the importance of extrahepatic pigment formation, while none has been offered in support of the view held by Chiray and Thiébaut. On the subject of cholesterol metabolism the authors are obviously much influenced by the past work of Grigaut. They point out one fact, too often forgotten by clinicians, that feeding a patient on four eggs a day for a whole week has practically no influence whatever on the cholesterol content of the blood or bile. The authors give a poor view of the functions of the gall-bladder and the modifications undergone by the bile in that organ. There is no reference whatever to the work of Peyton Rous, F. C. Mann, or others in this connexion. They do state that the bile is concentrated " three or four times " in the gall-bladder, but this estimation is now known (Rous) to be much too low, a concentration of ten times being nearer the mark. The remainder of the work calls for little comment, and it is unfortunate that a lack of completeness and balance should have spoiled a useful book.

NOTES ON BOOKS

Some two years ago Professor J. A. GUNN published a small volume[6] into which he had, with great care and discrimination, condensed the essential facts of pharmacology, with the purpose of giving students a short introduction to this subject. The work has evidently met a wide demand, for a second edition has already been required. The shortness of the interval between the two editions has rendered it unnecessary for the author to make many changes. The work has evidently been found of value by a large body of medical students, and thoroughly deserves its popularity, for it provides an excellent introduction to a difficult subject.

The scope and purpose of Dr. OXFORD'S book on the *Concise Anatomy of the Foot*[7] is sufficiently indicated in

[5] *Les Fonctions Hépato-Biliaires.* Par M. Chiray et F. Thiébaut. Paris: Masson et Cie. 1930. (Pp. 170. 24 fr.)

[6] *An Introduction to Pharmacology and Therapeutics.* By J. A. Gunn, M.D., D.Sc.Ed. Second edition. Oxford Medical Publications ; London: Milford, Oxford University Press. 1931. (Pp. viii + 223. 5s. net.)

[7] *A Concise Anatomy of the Foot.* By Arnold Whitaker Oxford, M.D. Cambridge: W. Heffer and Sons, Ltd. 1930. (Pp. 65 ; illustrated. 3s. 6d. net.)

the preface, in which he states that it has been compiled from larger anatomical works for the use of students of the school of chiropody attached to the London Foot Hospital. No doubt it will be found useful by those for whom it is intended. For members of the medical profession it presents in a handy and concise form a statement of what is known about the anatomy of the foot collected from various sources which will be convenient for reference and save the reader the trouble of looking up various sources.

The growing appreciation of the importance of a pure milk supply amply justifies the publication by Mr. A. G. HOUSE of his monograph on the *Bacteriological Control of Milk*,[8] in which a lucid exposition is given of the general and special technique of milk bacteriology. The care and maintenance of glassware and the preparation and standardization of media are fully dealt with. There is an informative note on milk sampling, which precedes a detailed account of the actual tests. The methods of recording results receive proper attention. The book is enhanced by its clear and adequate illustrations, and by the inclusion of an appendix on the furnishing of milk-testing laboratories. We commend it as a reliable guide to the practice of milk bacteriology.

The second edition has been published of the British Red Cross Society's *Cookery and Catering Manual*,[9] edited by Mr. C. H. SENN. The purpose of the manual is to assist members of the Voluntary Aid Detachments who undertake commissariat and kitchen duties, as well as those who act as cooks in hospitals and canteens. Special sections are devoted to invalid and camp cooking, hospital rationing, and the dietetic values of foods.

The ninth edition of Dr. J. COMBY'S Medical Consultations for the Diseases of Children[10] contains details for the treatment of over four hundred maladies. Since the book was first published in 1909 the number of treatments thus described has multiplied fourfold, together with an increase in the popularity and usefulness of the book. Dr. Comby's plan is to give first, in detail, the exact treatment of a disorder, and this is followed by a brief summary of the etiological, diagnostic, and prognostic factors of the disease. The list of subjects is remarkably complete, including many tropical disorders, and the advice given is for the most part thoroughly practical.

Aids to Dispensing,[11] by Staff Sergeant G. ASHTON, is a practical guide which has been adopted at the R.A.M.C. School of Dispensing, Crookham, for the use of students. In compiling it the author has had the help and encouragement of many officers of the Corps. It is divided into four sections, devoted respectively to materia medica, official preparations of the *British Pharmacopoeia*, practical dispensing and pharmacy, and poisons.

[8] *Bacteriological Control of Milk*. By A. G. House. With a foreword by Professor R. Stenhouse Williams, M.B., D.Sc., D.P.H., etc. London: Cambridge University Press. 1931. (Pp. 59; 29 figures. 3s. 6d.)

[9] *British Red Cross Society: Cookery and Catering Manual*. No. 5. Edited by Ch. Herman Senn, O.B.E., F.R.H.S. Second edition. London: Cassell and Co., Ltd. 1930. (Pp. viii + 232. 2s. net.)

[10] *Quatre Cent Consultations Médicales pour les Maladies des Enfants*. Par Dr. Jules Comby. 9e édition. Paris: Masson et Cie. 1930. (Pp. viii + 551. 36 fr.)

[11] *Royal Army Medical Corps Aids to Dispensing*. By G. Ashton, Staff Sergeant R.A.M.C. Aldershot: Gale and Polden, Ltd. 1930. (Pp. ix + 232. 6s. 6d. net.)

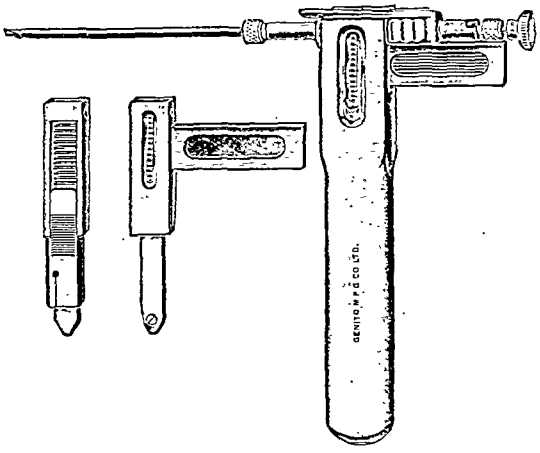
PREPARATIONS AND APPLIANCES

RADON SEED PISTOL

Dr. ROY WARD (Medical Director, Radium Institute, London) writes:

The accompanying illustration shows a radon seed pistol, which has been designed for the Radium Institute by the Genito-Urinary Manufacturing Company, Devonshire Street, W.1.

The handle is made of a hollow aluminium casting, the lower portion of which contains a strong circular spiral spring. The upper third is rectangular in cross section, and forms a chamber which holds the magazine. A slot is cut through the wall on one side, exposing the seeds to view. A sliding lid closes the chamber and keeps the magazine in position. The posterior portion of the lid, which acts as a guide for the stylet, is fitted with a detachable nut to prevent the complete withdrawal of the stylet when the instrument is in use. In alignment with this portion of the lid, and fixed to the handle, is a fitting designed to hold the hollow needles, which are graduated in centimetres. These are clamped to the handle by means of a detachable nut, and may vary in length from 5 to 25 cm. The magazines consist of rectangular metal containers of such dimensions as to fit exactly into the corresponding chamber of the pistol handle. The interior is hollowed out to hold twelve seeds. The upper end is closed, except for a transverse hole, through which the stylet passes. There are two kinds of magazine—one for "permanent"



and one for "removable" seeds. In the magazine for "removable" seeds, the narrow side has a fine slot just wide enough to allow the threads to pass over the thread carrier. This is a thin flat piece of metal attached to the magazine, with a notch at its extreme end, round which the threads are gathered and held in position by a spring cap. A plunger fitted into the seed chamber completes the mechanism. When the magazine is loaded the plunger projects by a distance equal to twelve times the diameter of the twelve seeds, and compresses the spring in the pistol handle by that amount. As one seed after another is pushed out of the magazine, the plunger, forced up by the spring, lifts the seeds into position until all are expelled by the successive to-and-fro action of the stylet.

The instrument has been designed not only for the rapid introduction of radon seeds, but to facilitate their handling and to provide an introducer which may be used for their insertion into any region of the body. For instance, short needles are employed when implanting seeds into the skin, a curved needle for the nasopharynx, and a long needle for the rectum. The handling of these minute radon tubes has always presented difficulties, especially in the case of those fitted with threads. The magazines are loaded in the physics laboratory, thus facilitating their manipulation and reducing exposure risk to a minimum.

ANTIPNEUMOCOCCIC SERUM

Antipneumococcic serum (Felton), Types I and II, refined and concentrated, is now issued by Messrs. Parke, Davis and Company. This product is the result of prolonged researches. Felton devised the method for standardizing the activity of this serum, and also for removing the extraneous proteins. The dosage advised is from 40,000 to 100,000 units in the first twenty-four hours. Early treatment is essential, and Type I infections respond more quickly than do Type II. A dose of 10,000 to 20,000 units is recommended on the second day. Serum reactions can be controlled by giving desensitizing doses and by adrenaline. This serum is attracting general interest at present, because very favourable results have already been reported in the treatment of Type I lobar pneumonia.

THE LÜBECK CATASTROPHE

A GENERAL REVIEW

In the early part of last year there occurred at Lübeck in Germany one of those happily infrequent disasters which have from time to time accompanied the use of prophylactic vaccination. The vaccine used on this occasion was prepared from the B.C.G. strain of tubercle bacillus, which, as is well known, has, as the result of subculture for several years on a glycerin-bile-potato medium, become almost entirely avirulent to man and animals. During a period of two months, stretching from February 24th to April 25th, 1930, this vaccine was administered to 249 newly born infants. Of these many developed acute tuberculosis during the next few weeks and died; others developed subacute lesions, while a considerable proportion remained perfectly well. The total death roll up to January 29th of this year was seventy-five. Inquiry into this catastrophe was rapidly set on foot, and papers have been published, particularly by Professor Ludwig Lange[1 2] of the Reich Health Office, and Professor Bruno Lange[3 4] of the Robert Koch Institute in Berlin, dealing with the results of the investigation. Pending the issue of an official report containing all the findings, it is perhaps worth while summarizing the knowledge which has so far been gained of this most regrettable incident.

PREPARATION AND DISTRIBUTION OF THE VACCINE

On July 27th, 1929, a strain of B.C.G. was sent from the Pasteur Institute in Paris to Dr. Altstaedt of Lübeck, who handed it to Professor Deycke of the General Hospital. Some time after its arrival the culture was inoculated into animals, and apparently proved to be avirulent. According to Calmette[5] the same strain was also sent to Mexico and to Riga, and the following subculture was used for the preparation at the Pasteur Institute of a vaccine which was administered to 3,016 infants without any detrimental result. There is therefore very little doubt that the culture originally sent from Paris was avirulent.

It has been the practice of Calmette and Guérin to keep their B.C.G. strain in the laboratory on a glycerin-bile-potato medium, and for the preparation of vaccine to grow it in Sauton's liquid medium. Deycke, however, after using the potato medium for a short time, subcultured his strain on egg medium, with or without the addition of haematin, and used these solid cultures for the subsequent preparation of his vaccine.

Before the receipt of the B.C.G. strain, Deycke was in possession of a number of cultures of tubercle bacilli, but owing to an accidental rise in the temperature of the incubator in which they were kept these were all killed.

For a time, therefore, the B.C.G. strain was the only culture of tubercle bacilli in the laboratory. In September, 1929, however, a strain, reputed to be of human type, was obtained from Kiel. This strain was isolated in 1927 from a child with hip-joint disease at the Charité Hospital, Berlin, and was handed over in 1928 to the Robert Koch Institute, where it was given the label H29; in April, 1929, a subculture was forwarded to the Hygienic Institute at Kiel. In Deycke's laboratory the B.C.G. strain was kept in an incubator in a small room and was subcultured on a solid medium; the Kiel strain was kept in an incubator in a large room, and was subcultured only on a fluid medium. The actual preparation of the vaccine was entrusted to a woman assistant, who had been with Deycke for seventeen years.

On December 9th, 1929, a preliminary inoculation was made of one child, which had been removed at birth from a mother suffering from open tuberculosis. A second child was vaccinated on December 30th, 1929. The first child developed cervical lymphadenitis, which was attributed to congenital infection, and inoculation of an excised gland into a guinea-pig gave rise to general tuberculosis. The second child remained well, but developed a positive tuberculin reaction. One further preliminary inoculation was made on February 10th; this child subsequently developed mild symptoms of tuberculosis. The main series of vaccinations was commenced on February 24th, 1930, and between this date and April 25th 249 infants, about 50 per cent. of those born in Lübeck during this time, were inoculated, the usual three doses being given in the first ten days of life. Though suspicions were early aroused by the clinical condition of the vaccinated infants, nothing definite occurred till April 17th, when a child, vaccinated thirty-three days previously, died; unfortunately, permission for a necropsy was forbidden. On April 20th a second child died, and was found post mortem to have generalized tuberculosis; since the lesions were most marked in the lungs, it was concluded that the child had been infected by the respiratory tract from its mother, who was suffering from tuberculosis, though not of the open type. It was not till the third and fourth children died, on April 25th and 26th respectively, that the pathogenic nature of the vaccine was fully realized, and further distribution was stopped. At this juncture Professor Deycke, in order to avoid any possible error, destroyed all the remaining vaccine in the laboratory, together with the existing subcultures of the B.C.G. strain. This unfortunate step, which was clearly open to more than one interpretation, added greatly to the difficulties of the subsequent investigation.

TIME DISTRIBUTION OF THE DEATHS

According to Professor Bruno Lange,[4] on October 18th, 1930, the figures were as follows. Of 252 inoculated children 67 had died from tuberculosis; 5 children had died from other causes, but in 2 of them tuberculosis was found; 21 children still living were severely ill, and 87 slightly ill; 72 children were apparently well. According to Professor Calmette,[6] in an article published on January 24th, 1931, the death roll had mounted to 75. One of the remarkable features of the deaths was their peculiar time distribution in relation to the issue of the vaccine. They may be divided into the following periods (see table).

Morbidity and Mortality According to Position on October 18th, 1930

Period	No. of Vaccinated Infants	Died from Other Causes	Remained Well	Slightly Ill	Severely Ill	No. Dying	Percentage Dying
9/12/29 to 10/2/30	3	0	1	2	0	0	0
24/2/30 to 27/3/30	129	1	10	40	17	61	47
28/3/30 to 7/4/30	32	2	20	9	1	0	0
8/4/30 to 10/4/30	21	0	6	10	1	4	19
11/4/30 to 25/4/30	67	2	35	26	2	2	3
Total ...	252	5	72	87	21	67	27

It will be noted that the highest mortality followed the vaccine distributed in the last week of February and the first four weeks of March; subsequently came a period of ten days in which the vaccine was comparatively innocuous; then there was a short period of three days during which it again proved pathogenic; and finally, a period lasting for a fortnight characterized by a marked fall in its virulence. In the cases that proved fatal the time elapsing between administration of the vaccine and

death varied considerably ; figures for the complete series of cases have not been published, but the average period seems to have been about twelve weeks, with a minimum of thirty-three days. As regards sex, the male infants suffered more severely than the female ; thus, of 139 boys vaccinated 38, or 27 per cent., died ; of 110 girls vaccinated only 17, or 15 per cent., died.

CLINICAL AND POST-MORTEM FINDINGS

According to Dr. M. Klotz,[7] director of the Children's Hospital at Lübeck, the early symptoms observed were failure to thrive in spite of breast-feeding, mild febrile attacks, vesicular eruptions, and swelling of the cervical glands. Later, in the more severe cases, the cervical glands enlarged to the size of hen's eggs, and caused interference with respiration and swallowing ; and there developed an extreme degree of anaemia, high intermittent fever, prolonged vomiting, profuse diarrhoea, and very severe meteorism, generally localized to one or two parts of the abdomen, and found at necropsy to result from innumerable strictures of the gut with consequent strangulation through adhesions and enlarged glands. Tubercle bacilli were found without difficulty in the vomit, sputum, and stools.

Post mortem the picture was uniformly that of the type of tuberculosis commonly found after alimentary infection. Besides involvement of the intestine, with numerous ulcers and strictures, and enlargement of the mesenteric glands, the lungs were infiltrated, often one or more lobes being affected, and the infiltrated areas looking like Perlsucht nodules. The glandular enlargement was enormous. Purulent discharge sometimes flowed from the nose, and ulcerating skin rashes were occasionally found. Pleural and peritoneal exudates were not uncommon. But, strangely enough, no meningitis or cerebral tuberculosis was seen. The condition of the bronchial glands is not mentioned.

EXAMINATION OF THE AVAILABLE CULTURES

Considerable difficulty was experienced in obtaining suitable cultures for examination, since the B.C.G. subcultures and the vaccine in Deycke's laboratory had been destroyed ; the following material was ultimately collected, and examined by Professor Bruno Lange.

1. Organs from four infants who had died after vaccination, together with a culture obtained by Deycke from a cervical gland of a sick infant. The organs, when inoculated into guinea-pigs, gave rise to tuberculosis of a type considerably less severe than that normally following the injection of a fully virulent mammalian strain. Three strains recovered from the organs gave rise to a mild, fairly generalized tuberculosis, with a tendency to retrogression in animals injected with small doses. Subcutaneous inoculation of rabbits with organ suspensions led to nothing more than a local lesion. Intravenous inoculation with a pure culture (dose not stated) led in one rabbit killed eight weeks later to moderately extensive lesions in the lungs, and to a few submiliary nodules in the spleen, and in another rabbit killed five months later to several caseous areas in the lungs, up to a bean in size, to numerous miliary caseous tubercles in the liver, and to one large tubercle in the cortex of the right kidney. Culturally the three strains from the organs gave a moist, smeary growth on serum egg medium, typical neither of the human nor of the bovine type, though more closely resembling the former. Lange is unable to come to any definite conclusion as to the type of tubercle bacillus in these cultures. The strain recovered by Deycke behaved similarly to the three organ strains.

2. A culture isolated by Deycke on April 17th, 1930, from a guinea-pig injected on March 6th with a culture of B.C.G. ; this is referred to as the B.C.G. guinea-pig passage strain. According to Deycke four guinea-pigs were inoculated with the B.C.G. strain, and four more with material from a cervical gland of a vaccinated infant. Both sets of animals were injected six weeks later with 0.5 c.cm. of tuberculin, with the result that all of them died. At post-mortem, however, while three of the guinea-pigs inoculated with the glandular material showed generalized tuberculosis, the four guinea-pigs inoculated with B.C.G. showed lesions confined to the great omentum. Examination of the guinea-pig passage strain by Lange proved that it was capable of producing fairly severe progressive tuberculosis in guinea-pigs, while proving avirulent to rabbits. Culturally it resembled the human type.

3. A culture found in the middle of May, 1930, in the laboratory of the Lübeck Hospital, and labelled " B.C.G. 14.3.30." The sister cultures had probably been used about the end of March or beginning of April for the preparation of vaccine. Two subcultures of this strain, which is referred to as B.C.G.143, were also found. On subcutaneous injection of guinea-pigs it gave rise to no more than a local lesion, with some involvement of the regional glands, and even large doses failed to set up progressive generalized tuberculosis. To rabbits injected subcutaneously with 10 mg. and intravenously with 0.01 mg., it was completely avirulent. Culturally, it behaved more or less like a bovine strain, though growing freely on glycerin agar and glycerin broth. Lange concludes that it was probably a B.C.G. strain, though rather more virulent than the B.C.G. strain in the Robert Koch Institute, which was tested for comparison. It is probable, he considers, that not all strains of B.C.G. given out by the Pasteur Institute have been of the same degree of avirulence.

4. The culture received by Deycke from Kiel in September, 1929. This strain, which had come from the Robert Koch Institute in Berlin and was reputed to be of human type, proved to be of attenuated virulence for guinea-pigs, and to be almost avirulent for rabbits. Culturally it was of human type, but Lange considers the pathogenicity experiments to be too ambiguous to enable a definite diagnosis of type to be made.

5. A culture of the same strain as No. 4, but kept in the Robert Koch Institute since 1928. This strain, which was labelled H29, had been isolated in 1927 from a child with hip-joint disease in the children's clinic of the Charité Hospital, Berlin, and had been handed over to the Robert Koch Institute in 1928. In April, 1929, it was sent to Kiel, and in September, 1929, a subculture was forwarded from Kiel to Lübeck. Professor Opitz, who originally isolated it, suspected it of being bovine in type. When tested in 1930, it proved to be of definitely attenuated virulence for guinea-pigs. Rabbit inoculations gave inconstant results ; some rabbits developed tubercles in the lungs, one showed no disease, and one died with numerous tubercles in the lungs, kidneys, and liver. Culturally it resembled the human type, but Lange does not decide whether it was of human or bovine type.

Other material was collected and examined by Professor Ludwig Lange at the Reich Health Office. A full report of his investigations has not yet been published, but according to information given to the press by the Ministry of the Interior in July, 1930,[8] the following material was examined.

1. A strain of B.C.G., which since its arrival at Lübeck from Paris had been kept on a fluid medium. This strain, which was not used for vaccine preparation, proved avirulent to guinea-pigs, behaving, therefore, like a typical B.C.G. strain.

2. Two cultures of B.C.G., one corresponding to a batch of vaccine that gave rise to little disease and no deaths ; and one put up during the second half of April, and never used for vaccine preparation. Both of these cultures proved avirulent to animals.

3. The remains of four batches of vaccine, apparently in the possession of midwives. Two of these batches

corresponded to a high morbidity and mortality. They are still under examination, but according to Neufeld[10] both virulent and avirulent bacilli were recovered.

4. A culture that had been isolated by Deycke from a guinea-pig inoculated on March 6th, 1930, with a presumably pure culture of B.C.G. on a solid medium. This culture, which had been put up in Lübeck on April 17th, was found in the Reich Health Office laboratories to be highly virulent for guinea-pigs and only slightly virulent for rabbits, behaving, therefore, like a human type.

5. A guinea-pig inoculated by Deycke on April 17th with another, presumably pure, culture of the B.C.G. strain, was taken to Berlin, and when killed 109 days after inoculation was found to have extensive tuberculosis.

DISCUSSION

Numerous hypotheses have been put forward by different workers to explain the virulence of the Lübeck vaccine, and it has even been suggested that, in order to increase the immunizing effect of the B.C.G. strain, small doses of virulent tubercle bacilli were intentionally added to the vaccine (Ascoli[9]). The real point at issue is whether another strain of tubercle bacillus became mixed with, or substituted for, the B.C.G. strain in the preparation of the vaccine, or whether the B.C.G. strain actually underwent a spontaneous increase in virulence.

In considering the first possibility it is necessary to remember that in the laboratory at Lübeck, throughout the time at which the vaccine was prepared, there was only one other strain of tubercle bacillus ; that this strain, which was either of attenuated human or attenuated bovine type, was kept in an incubator in a different room ; and that while the strain of B.C.G. used for vaccine preparation was subcultured on a solid medium, this strain was subcultured on a fluid medium. Confusion of the two cultures in these circumstances does not, on *a priori* grounds, seem to be very probable. Professor Bruno Lange, who upholds this hypothesis strongly, appears to be influenced in his judgement chiefly by a strong prejudice against believing in the possibility of a spontaneous reversion to the virulent form of the B.C.G. strain, and partly by the recovery from fatal cases of cultures more or less resembling in virulence the strain of reputed human type received by Deycke from Kiel.

In this connexion it may be remarked that at the outset of the inquiry great hope was entertained of the results of typing the bacilli recovered from the vaccinated cases. The B.C.G. strain was of bovine origin ; the Kiel strain was supposed to be of human type. Clearly, if one or other type was found in the organs of infants who had died after vaccination, it would be reasonable to assume that it was the corresponding type which had been present in the vaccine. Unfortunately, however, this hope was doomed to failure. In the first place it was forgotten that the bacteriological method of typing tubercle bacilli was capable of giving clear-cut results only with strains more or less freshly isolated from the animal body, which had not been accustomed to growth for long periods of time on artificial media. It so happened, however, that both the B.C.G. strain and the Kiel strain were old laboratory cultures, and could not, therefore, be expected, after a single passage through the body, to behave like typical strains. In the second place, it is not by any means certain that the Kiel strain was of the human type. Professor Opitz suspected it of being of bovine type, and Professor Bruno Lange was unable to determine whether it was of human or bovine type. The argument has been put forward that, because this strain was avirulent to rabbits, it must necessarily have been of human type ; but since its virulence for guinea-pigs was attenuated, it is impossible to lay any stress on this point. Many cultures of bovine type, which are becoming attenuated, behave exactly in this manner, losing their virulence for the rabbit before that for the guinea-pig. It is therefore clear that no definite conclusion can be reached whether the strains isolated from the vaccinated infants were identical with the Kiel strain. Professor Bruno Lange regards this as probable, but he is admittedly unable to prove it conclusively. He is supported, however, in his general inference by Professor Neufeld,[10] who believes that the Kiel strain was incorporated in the vaccine.

The other hypothesis, involving the spontaneous reversion of the B.C.G. strain to the virulent state, has been put forward by numerous workers both in Germany and abroad, and is sponsored by no less an authority than Professor E. Friedberger.[11] It is unnecessary to recapitulate here the experimental evidence that has been obtained in various countries in favour of this possibility. Experiments by absolutely independent workers have shown that the virulence of the B.C.G. strain is not fixed, but that under certain cultural conditions, either *in vitro* or *in vivo*, it may be rendered more or less completely virulent to animals.

To assert, as Calmette does, that in all these experiments the culture has become contaminated with another strain of tubercle bacillus is to offer an excuse that becomes increasingly tenuous with each additional piece of evidence brought forward. The fact that when kept on a glycerin-bile-potato medium, and when given to newborn infants, it proves to be avirulent, does not in any way disprove the possibility of its becoming virulent when exposed to other conditions. There is rapidly growing up a mass of careful observations, made on bacteria of different species, which indicate that the cultural appearances, the antigenic structure, and the virulence of an organism may be altered by a number of different environmental factors, and no one who was not completely ignorant of recent work in the field of bacterial variation would dare to maintain that a given culture was of fixed and immutable virulence.

In favour of the second hypothesis it has been pointed out by Friedberger and others that the Lübeck strain of B.C.G. was subcultured, not on glycerin-bile-potato, but on an egg medium ; and these workers have suggested that growth on this medium may have led to an increase in its virulence. So far no experimental evidence has been adduced to support this suggestion, and the few experiments made by Saenz[12] to test it have proved negative. The results obtained by examination of the various cultures at Lübeck can equally well be explained by assuming that the B.C.G. strain had acquired a certain degree of virulence as that it had become mixed with the moderately virulent Kiel strain.

Frankly it is impossible, on the basis of these results, to decide which of the two hypotheses is correct. In the absence of definite evidence it is wise, though unsatisfying, to maintain an open mind as to the real cause of the Lübeck catastrophe. The moral, however, is plain. The preparation of vaccines for large-scale distribution should be undertaken only under the most rigidly controlled conditions in laboratories set aside for this and for no other purpose.

REFERENCES

[1] Lange, Ludwig: *Zeit. f. Tuberk.*, 1930, lvii, 305.
[2] Idem: *Klin. Woch.*, 1930, ix, 1105.
[3] Lange, Bruno: *Deut. med. Woch.*, 1930, lvi, 927.
[4] Idem: *Zeit. f. Tuberk.*, 1930, lix, 1.
[5] Calmette, A.: *Presse Méd.*, 1930, xxxviii, 748.
[6] Idem: *Med. Welt*, 1931, v, 113.
[7] Klotz, M.: Ibid., 1930, iv, 732.
[8] *Deut. med. Woch.*, 1930, lvi, 1625.
[9] Ascoli, A.: Ibid., 1930, lvi, 1160.
[10] Neufeld, F.: Ibid., 1930, lvi, 2056.
[11] Friedberger, E.: Ibid., 1930, lvi, 1300.
[12] Saenz, A.: *C. R. Soc. de Biologie*, 1931, cvi, 156.

British Medical Journal

SATURDAY, JUNE 6th, 1931

HAEMOLYTIC JAUNDICE

The interesting features of this remarkable familial and congenital disease have been prominently brought before our readers in the Hume Lectures delivered at Newcastle-upon-Tyne by the President of the Royal College of Physicians. Lord Dawson's special interest in this group of cases is well known to his fellow physicians in this country, and he has already described to a limited audience, at meetings of the Association of Physicians, some portions of his work. In the present lectures he collects the results of his observations on forty cases, and is thus able to emphasize most of the well-known clinical and pathological features presented, and to give us a very complete picture of the disease and its proper method of investigation and treatment. In the preamble to his first lecture (printed in our last issue) he runs over the facts that have been discovered in the past decade concerning bile-pigment metabolism, without a full knowledge of which the study of haemolytic jaundice is impossible. He seems to adopt as most suitable the recent classification of icterus by Rich into " retention " and " regurgitation " jaundice —a grouping largely founded on the results of the van den Bergh test. But in the opinion of many interested in the subject a classification on so narrow a basis is not to be preferred to other and simpler classifications of jaundice.

The two most characteristic and well-known phenomena of the disease are its familial incidence and the undue fragility of the red blood corpuscles to varying concentrations of sodium chloride in solution, when compared with the red cells of normal individuals. This undue fragility of the red corpuscles, first pointed out by Chauffard of Paris in 1907, is a remarkable phenomenon. Lord Dawson is fortunate in being able to reproduce records of his cases by the graphic method elaborated by E. ff. Creed of King's College Hospital. This method, we are glad to see from the bibliography, is " about to be published." It is a technique already well known by word of mouth to a number of clinical pathologists in London, and a full publication by its author has been long awaited. It is bound to find its way at once, as the accepted standard method, into textbooks of clinical pathology. Lord Dawson rightly points out that undue fragility of red corpuscles is not observed in *all* cases of the disease, though it is found in by far the majority. This is a curious and interesting point, perhaps too apt to be lost sight of ; but all it probably means is that haemolysis of red cells by solutions of sodium chloride is an artificial and arbitrary test of some abnormality of the red corpuscles, the exact nature of which is unknown to us. In cases treated by splenectomy the undue fragility to the saline test seldom disappears altogether ; it may be distinctly modified in the right direction in some cases, but is often quite unchanged. That it may persist unaltered for more than forty years, in a patient cured of the disease by splenectomy, is well shown by the famous case operated on by Sir Spencer Wells, to which we refer again later.

The family groups of cases recorded by Lord Dawson are especially interesting, since in their graphic description he is able to bring out the principal points in the symptomatology and complications of the disease. This is an important section of these lectures for the physician who has to advise on the treatment of the recognized disease. He must know well all the possible complications and their incidence, so that he may put the case for splenectomy fairly and squarely before the patient or the parents. These complications are dealt with in the first part of Lord Dawson's second lecture, printed in our opening pages to-day. In his series of forty cases, twelve fatalities have occurred, only one of these being due to the surgical risk of splenectomy. Eight of the patients died from acute haemolytic anaemia, two from cholangitis complicated by anaemia, and two from intercurrent disease. The eight deaths due to what are sometimes called " acute blood crises " are noteworthy in this series because of their frequency. It must be remembered, however, that this haemolytic disease shows marked periodicity in its intensity. It waxes and wanes, and a period of acute haemolysis, with the blood picture associated with a " crisis," with rapidly increasing jaundice and acute and great splenic enlargement, is often followed by a long period in which all these signs are much modified. The spleen shrinks with great rapidity, the jaundice may disappear, and the anaemia diminishes. It has perhaps not been sufficiently realized in the past how important and how dangerous for life these periods of active haemolysis may be. That biliary complications are apt to ensue is of course due to the greatly increased bile-pigment production during the active periods of haemolysis. Two fatal cases of cholangitis and anaemia are referred to, but the occurrence of pigment (bilirubin) gall-stones and even of acute biliary colic is more commonly described in the literature than the lecturer's personal experience might indicate. All of these complications offer the strongest arguments in favour of splenectomy at an early age, and, if possible, at a time when the patient is relatively well, since they never recur after the spleen has been removed.

Haemolytic jaundice, as seen in elderly people who have suffered from the disease since childhood, presents some particular features of interest, which are very well brought out in these lectures by the histories of two sisters aged 53 and 55. One sister died at 53 from acute anaemia, showing that survival to middle age is no bar to a fatal haemolysis. The other, aged 55, has led, and still leads, an active life, with a red blood cell count now below 3 millions and a haemoglobin percentage of 32. This latter case, indeed, shows how the human body may adapt itself by long practice

to what would ordinarily be considered very adverse conditions. On the face of it, however, the risk of splenectomy in early life must nowadays be considered small in comparison with the continued risks these two sisters have run throughout their lives. One very striking historical case is referred to in detail by Lord Dawson—the patient "Fordal," operated upon in 1887, when aged 27, by Spencer Wells, who successfully removed a spleen weighing over eleven pounds. This patient is still alive, and well for her age, forty years after the operation; it is interesting that her red blood corpuscles are still unduly fragile in the test saline solutions. Her only son, moreover, developed the disease, and has been operated on twice—first for removal of pigment gall-stones, and later for splenectomy, with complete cure resulting.

In his second lecture Lord Dawson gives an account of the morbid anatomy and histology of two fatal cases. Finally, in this lecture he considers the old but none the less interesting question whether there is an acquired form of haemolytic icterus in addition to the common congenital variety. Most workers, after weighing all the recent evidence, will agree fully with Lord Dawson that the more carefully the cases are investigated, both individually and from the family standpoint, the more does the probability of a genuine "acquired" form sink into the background. All our readers will agree that the lecturer is to be congratulated on the important observations he has made on this long series of cases, and we must not omit to mention the excellence of the coloured drawings with which his second lecture is illustrated. The clinical features of haemolytic jaundice are now well known and amply documented. Large monographs (for example, Meulengracht's) have been written upon it from every clinical and pathological angle. The main puzzle remains, the first and so far the only clue to which was given by Chauffard in 1907, when he pointed out that the red blood corpuscles in this disease begin to lake in higher concentrations of salt solution than do normal healthy red corpuscles. Why the increased haemolysis, and why its curious periodicity? These two questions remain unanswered.

THE PREVENTION OF SMALL-POX

We print elsewhere (at page 995) a short précis of the memorandum on small-pox prevention which has just been issued by the Ministry of Health. We hope that this summary will stimulate our readers to peruse the memorandum itself, which is, in our opinion, a masterly document, an example of the way in which a State paper dealing with a very difficult and highly controversial subject should be composed.

The literature of the vaccination controversy is interesting, if not particularly agreeable, reading, and questions once so keenly debated respecting the scientific value of Jenner's own work, and the influence of vaccination upon the epidemiology of small-pox in the first half of the nineteenth century, are only of historical interest. Hardly any men of science now doubt that vaccination is, as the memorandum asserts, an efficient if not infallible prophylactic against taking small-pox if exposed to risk, or against dying from small-pox if attacked. But few epidemiologists believe that the vicissitudes of epidemic small-pox in the last 130 years are mere reflections of variations in the communal or individual resort to vaccination. Further, the experience of the last quarter of a century has done something to shake the conviction that a community such as ours, wherein the proportion of the whole population at any given time who have been recently vaccinated is far short of 25 per cent., is likely to be ravaged by epidemics of malignant small-pox. Most of us might indeed hold that much suffering and some deaths would have been avoided if our people had been as docile as the Germans of the generation of the years immediately prior to the war and had submitted to a system of really compulsory vaccination and revaccination; but it would be foolish to shut one's eyes to the fact that only some revolution of public feeling, leading to a dictatorship like that in Italy, could produce an effective compulsory system of vaccination and revaccination.

We have, indeed, to choose between a sham system of compulsion and an appeal to reason. The memorandum sets out the alternatives judicially. Perhaps we might put the case made for an appeal to reason in this way. Every year the public health services and the medical profession as a whole are persuading the general public to adopt certain habits and to abandon other habits by convincing them that such changes are beneficial. Much is no doubt effected by mere authority. All men and women, even the English, however much they may abuse officials and doctors in the mass, are inclined to do what the individual official or the individual doctor recommends without being very curious as to the reasons for his advice. Something, however, must be allowed to reasonable conviction and hardly anything to legal sanctions. We have little doubt that if the legal sanctions were abolished and small-pox prophylaxis were treated from the educational point of view, as child welfare is now treated, the vaccinal state of the community would not be worse than it is, but better. We do not mean that the organization of an educational campaign will be easy; it will be a difficult undertaking. The cause of vaccination has been far more damaged by the rashness of its advocates than by the skill of its enemies. The tone and temper of this memorandum should be contrasted with that of Simon, issued by the predecessor of the Ministry of Health more than sixty years ago. *This* memorandum, and not the dogmatic rhetoric of our predecessors, should be a model for those who have the duty of educating the public.

We have left little space for reference to the purely scientific aspects of the memorandum. One, however, may be noticed. Evidence is submitted that variola minor, after it has gained a foothold in a community,

increases more or less steadily for five to six years and thereafter declines. It is an interesting question to consider whether the decline is due to a critical level of herd immunity having been reached by means of subclinical infections. There is experimental evidence that in virus diseases the process of immunization is different from that obtaining in at least some bacterial infections; it seems probable that in variola minor natural immunization may be very effective, and the future course of events in districts which have been heavily infected will be worthy of consideration. Both from the point of view of the administrator and from that of the pure epidemiologist this memorandum is a valuable document, which reflects great credit upon its author or authors.

THE EASTBOURNE PROGRAMME

Arrangements are now well advanced for the Annual Meeting of the British Medical Association, to be held at Eastbourne towards the close of next month, under the presidency of Dr. W. G. Willoughby. The occasion is noteworthy for two reasons. In the ninety-nine years since its foundation the Association has never before met within sight of Beachy Head; nor has it had as its President a medical officer of health. The first is perhaps a mere accident of geography; but the second marks a stage in the reintegration of medicine which may signify a good deal to the student of professional history in these islands.

Before the Annual Meeting proper opens, with full ceremony, on the afternoon of Tuesday, July 21st, the Representative Body will have sat in session for four days and worked through a long agenda of medico-political and administrative business based on the Annual Report of Council. On the social side there can be no doubt that Eastbourne will live up to its reputation as a centre of health and hospitality, and a warm welcome is assured from the mayor and corporation, from the local profession, and from the townspeople generally. The provisional time-table for the whole meeting is printed in our *Supplement* this week, together with the programmes of the fourteen Scientific Sections, which meet on July 22nd, 23rd, and 24th. A casual glance through the list of set debates and papers gives the impression that the sectional officers have held a just balance between the claims of every-day clinical work and the desire of the specialist for opportunities to cultivate his own arcana. They have also kept in mind, once again, the advantage of concentration upon a limited number of topics, though, taken as a whole, the fourteen programmes cover a very wide field of medical science and practice. It will be seen that every Section has arranged this year for one or more discussions on matters of direct interest to the general practitioner, and that several of the thirty-six discussions—for example, in the Obstetrical Section on breech labour, and in the Pathological Section on milk-borne diseases—are to take the form of comprehensive reviews in which each principal speaker is allotted one subdivision or one aspect of the subject.

Every member who notifies his desire to visit Eastbourne six weeks hence, and is able to obtain rooms at that busy season, can look forward to an agreeable and interesting time. Some of the most successful Annual Meetings of the British Medical Association have been held at South Coast resorts, and, indeed, there is a quality in sea air that lends invigoration to congress proceedings. London has not this advantage, and it must hope by other means to rise to the great occasion next year, when the Association, after a pious pilgrimage to its birthplace, Worcester, celebrates its centenary in the metropolis of the British Empire under the presidency of Lord Dawson.

RECENT RESEARCH ON VITAMINS

The first edition of *The Vitamins*, by Professor H. C. Sherman and Dr. S. L. Smith, appeared in 1921, and a second edition[1] now follows after an interval of ten years. This interval represents half the present age of the subject, and the opportunity may be taken to consider what general trends are revealed by a comparison of the two editions. The present edition has been almost completely rewritten, but it is interesting to note how many of the facts of outstanding physiological importance were already established in 1921. Only one new vitamin has been discovered since that date—namely, vitamin E—and this is distinctly less important than its associates. Most of the principal physiological actions of the other five vitamins were known in 1921, and the two most significant new facts that have been added are the identification of the anti-pellagra vitamin with the water-soluble vitamin B_2 or G, and the fuller knowledge of the anti-infective action of vitamin A. On the other hand, chemical knowledge of the vitamins has been revolutionized during the last decade. Practically nothing was known in 1921 of the chemistry of the vitamins, and they were regarded as being substances as mysterious and elusive as the bacterial toxins. To-day the chemical nature of three of the vitamins is apprehended with some degree of certainty. We know that vitamin A is elaborated by the body from the plant pigment carotene, and that vitamin D can be produced from ergosterol by irradiation with ultra-violet light either *in vitro* or *in vivo*. Finally, vitamin B_1 has been isolated in crystalline form; its probable chemical structure is known, and attempts have been made to synthesize it. The chemical nature of the other three vitamins is less well understood, but great advances have been made in their concentration and isolation, and the discovery of their constitution can be only a matter of time. The centre of interest in vitamin research has therefore shifted from the physiological to the chemical aspect. During the years prior to 1921 a new field of physiology was rapidly explored and the general physiological actions of the vitamins were established, whereas during the last decade the chemistry of the group has been partly worked out. One of the chief results of the chemical work has been to show that there is little or no chemical relationship between the members of this class, which were grouped together by the physiologists.

[1] *The Vitamins.* By H. C. Sherman and S. L. Smith. Second edition. American Chemical Society Monograph Series. New York: The Chemical Catalog Co., Inc. 1931. (6 dollars.)

There was indeed no reason to expect any close relationship, but the extreme diversity of their chemical structure is rather remarkable. This diversity has, of course, been an embarrassment to Professor Sherman and Dr. Smith, for, as they point out, there is little or no relation between the chemistry of the different members of the class that they discuss, and yet the greater portion of their monograph is occupied with this subject. It seems probable that future monographs will be limited to a single vitamin, although this method will be rendered difficult by what may be called the tendency to fission shown by vitamins. Vitamin B has been divided into two clearly distinct factors, and there is already evidence for the existence of three other subdivisions. The bulk of the literature will, however, automatically impose a limit on the scope of monographs on vitamins. In their 1921 edition the authors brought together 1,000 selected references, and it was felt that the subject was even then in danger of being crushed by the weight of its own literature. The 1931 edition ends with a bibliography of 3,000 references. This occupies 180 pages, and, together with the index, constitutes two-fifths of the volume. The day seems not far distant when the production of a monograph will consist in writing a bibliography and adding the text. Meanwhile, Professor Sherman and Dr. Smith are to be congratulated on the skilful manner in which they have dealt with this unwieldy mass of literature, and have produced a clear and authoritative account of all the chief work done on the subject until the middle of last year.

THE WAKING HOUR IN HOSPITAL

The hour at which patients in hospital are aroused in the morning has been brought before the public more than once during recent months. In 1929 Middlesex Hospital announced its introduction of the 7 o'clock breakfast, with the rule that no patient was to be washed or disturbed beforehand unless for urgent medical reasons. In the spring of last year the Central Bureau of Hospital Information published a memorandum, which was the subject of comment in these columns (May 3rd, 1930, p. 832), summarizing the practice in this respect at sixty-three large provincial hospitals. In forty-five of these institutions the work in the wards began earlier than 6 a.m., and in thirteen others precisely at that hour. More recently a report was presented to the London County Council by its Central Public Health Committee on the subject as it related to former Poor Law hospitals which had newly come under the control of the Council. In ten out of the twenty-eight waking took place before 5 a.m., and in the others, between 5 and 6. It was then laid down that, as far as practicable, in London county hospitals the patients should not be aroused, except in special circumstances, before the hour of 6. King Edward's Hospital Fund for London now publishes the report of a committee, of which Mr. Walter G. Spencer was chairman, summarizing the information received from the Fund's visitors as to the hours of waking in the 141 hospitals in and around the metropolis which the Fund assists. In four of these the earliest hour mentioned by the visitors is 4 to 4.45 a.m. ; in sixty-two it is between 5 and 5.45 ; in forty-four it is 6 ; and in fourteen later than 6. The few remaining hospitals are mostly small institutions for children and babies, where there is no fixed hour. At six out of the twelve teaching hospitals 6 a.m. is the regular hour ; at four it is between 5 and 5.45, and at the other two it is up to 6.45. At the nine maternity hospitals the hour is between 5 and 6. The announcement of these early hours—although in London the hour of waking is, on the whole, later than in provincial hospitals—has been the subject of some indignant comment in London newspapers. We fully agree that it is most undesirable by adherence to arbitrary rules to rob the patient of early morning slumber. Even to the healthy person, with the day's work in front of him, the reactions to the morning call, the toilet, and the breakfast are delicate affairs which may affect the pattern of the day ; much more so in the case of the person made unduly sensitive to small things by physical debility and withdrawal from active life. But the matter is not quite so simple and manageable as some critics of hospital administration suppose. Various processes have to be undertaken in the wards, such as the washing of patients, the making of beds, and the serving of food, and the time occupied differs with the case. A sufficient interval must elapse between breakfast and the light mid-morning lunch. Work in the wards must be completed before the visits of the medical officers, which usually begin at 10 o'clock in London, though an hour as early as 9 is mentioned in the provinces. All these matters are open to fresh adjustment, but a larger consideration is the division of work between the night and day nursing staffs. As it is, the staffs overlap in the morning usually for an hour or an hour and a half. It has been said, in defence of early waking, that hospital patients are a class accustomed to early rising, so that any hardship is minimized. But apart from the fact that it is one thing to rise to a day's labour or a day's play, and quite another thing to awake to a day's quiescence or immobility, we doubt very much whether, now that the factory sirens sound at 8 or after, the hour of rising of working-class people is anything like as early as 6, to say nothing of 5. The exigencies of a great institution have, however, to be borne in mind, and certain definite suggestions are put forward in the King's Fund report for consultation with the hospitals. The committee expresses the view that unless there is some exceptional and adequate reason to the contrary, the most suitable hour is 6 o'clock. It is believed that the adoption of 6 as the waking hour could be effected without material increase of staff or expenditure by hospitals which have been accustomed to rising earlier ; even if a small increase of staff is necessary, the committee think it justifiable in view of the gain to the comfort of the patients. A further suggestion is that breakfast should be served as soon as possible after the hour of waking ; that no patient should be washed before having either breakfast or early morning tea ; that work involving disturbance of the patients before breakfast should be limited to whatever is necessary for their comfort, and that any noise in the ward before 6 o'clock should be avoided. There is nothing mandatory about the suggestions, but no doubt they will receive the careful consideration they deserve, both because of their reasonableness and because of the source from which they come.

SEROLOGICAL AND INTRADERMAL TESTS FOR FILARIASIS

Dr. N. Hamilton Fairley has recently described two new tests for filariasis.[1] An intradermal skin test for *Filaria bancrofti* was described by Taliaferro and Hoffman in 1930, and this has now been confirmed and extended to the diagnosis of *Loa loa* and *Onchocerca volvulus*. The antigen for this test was obtained by Dr. Carmichael Low from Dr. Le Sueur in Borneo, and was made from living *Dirofilaria immitis* worms, which were collected from the right heart of dogs immediately after they had been killed. The worms were chopped up and dried in a desiccator, and ground in a mortar to a fine powder, which was finally sent to England. In addition to the intradermal test, Dr. Fairley now describes a new serological one—namely, a complement-fixation reaction, for the filarial group of diseases. A technique similar to that described for bilharzia cercarial antigen (Fairley, 1930) was employed, and those interested in the details should consult the original paper. Both the intradermal and serological reactions are essentially group reactions, the scope of which probably includes all species of the family *Filariidae*; and the clinical and theoretical aspects of the combined reactions, Dr. Fairley believes, will afford an entirely new and valuable mode of approach to the clinical study of filariasis. They will also furnish a means of differential diagnosis between real filarial diseases and the non-tropical conditions which sometimes simulate them. Again, their application to cases of tropical elephantiasis will be of the greatest value in determining whether or not *Filaria bancrofti* was responsible for the onset of the condition. The discovery opens up a new field of investigation in this interesting group of tropical maladies, and readers will look forward to the larger paper which is in course of preparation, and which will amplify the preliminary observations contained in the present note.

BIOLOGICAL STUDIES OF APICAL INFECTION

With the assistance of a grant from the Medical Research Council Mr. Arthur Bulleid has made a systematic study of the bacteriology of "apical infection"[2]—one of the most important and most debated points of dental pathology. The inquiry was divided into four main subdivisions: apical granulomata, chronic apical osteitis other than apical granulomata, acute alveolar abscess, and cystic new growths. The net result was to confirm the generally held opinion that apical granulomata and apical osteitis are foci of possible infection, to incriminate streptococci as the cause of acute abscess, and to suggest that the dental cyst, throughout the whole course of its existence, carries a residue of the original infection which started its growth. This last is an interesting and rather unexpected finding, since the clinical symptoms of a dental cyst give no hint of persistent infection; it is a point that requires further investigation. In all the subdivisions Mr. Bulleid concludes that the chief causative factor is a streptococcus, though in the case of granulomata it may be accompanied by a staphylococcus. The numbers dealt with, and the careful methods of investigation and recording adopted, fully justify the conclusions presented by the author, and it would seem that they will be difficult to controvert. In general, his meaning is clear, but there are one or two obscure passages. What, in particular, was the special interest of the four live teeth showing absorbed apices in the skiagrams, and where was the primary focus that had healed before the absorption of the apices had taken place (p. 17)? It is interesting to note that the efficacy, or even the advisability, of root-filling is seriously brought into question by the author as one result of his investigations. We congratulate the Medical Research Council on a well-placed grant.

[1] Serological and Intradermal Tests in Filariasis: A Preliminary Report. By N. Hamilton Fairley, O.B.E., D.Sc., M.D., F.R.C.P. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, vol. xxiv, No. 6, April, 1931.

[2] *Bacteriological Studies of Apical Infection*. By Arthur Bulleid, M.R.C.S., L.R.C.P., L.D.S. Reprinted from the *British Dental Journal*. London: J. Bale, Sons and Danielsson, Ltd. 1931.

BATS

The American National Institute of Health is engaged in publishing a series of bulletins which form the third part of the well-known *Index Catalogue of Medical and Veterinary Zoology*. The first two parts dealt with authors and with subjects; the present part deals with hosts. The first five members of this series have listed the parasites and vectors of disease to man; the sixth, which has just been issued, considers the first of the groups of lower animals—the bats.[1] So far as is at present known, the public health importance of this very specialized group of mammals is distinctly limited. At least one species, in the Far East, is eaten as food; in America, however, another group uses man as its food. Vampire bats are well known in literature, but it is not always realized that such animals actually exist. In Trinidad, for example, they are a well-known pest to both man and domestic animals. Planters are put to a considerable expense in some localities in making sheds and stables "bat-proof," while in some of the islands human beings are not infrequently bitten during the night. The bite is painless, but bleeds profusely, and is generally on the foot, where it has been pushed against the mosquito net. The animals are easily kept away by even a small light in the room, and the actual damage done is slight, though the psychological effect may be considerable. The vampires belong to a single family, the Desmodontidae, which is specially adapted for a blood-sucking habit; the so-called "false-vampires," or Vampiridae, are fruit-eating bats, and cannot feed on blood. It is commonly believed that bats are distributors of bed-bugs, but while a species of Cimex actually does infest bats and bat-haunts, it is quite distinct from the human *Cimex lectularius*. The bats cannot play much part in connexion with the transmission of disease to man, but in view of recent investigations into several rodent diseases, like tularaemia and Rocky Mountain spotted fever, it is not safe to dogmatize. Certain human parasites have been transmitted experimentally to them—such as leishmania, trypanosoma, and *Treponema duttoni*—and a number of ecto-parasites which infest man have been reported as occurring naturally on bats—such as various fleas and ticks. On the other hand, many species of bats devour insects, including mosquitoes, and doubtless they form one of the natural factors which serve to control these pests; and it is possible that

[1] United States Government Printing Office, price [illegible] the Superintendent of Documents, Washington, D.C.

they may serve as useful laboratory animals, as some species can be easily tamed and kept in captivity. The bulletin classifies all the animal parasites which have been recovered from bats, as well as the bats themselves. Like its predecessors, it is a model of compactness, and will be invaluable to all who work in medical zoology.

DUTCH TRIBUTE TO SIR ROBERT JONES

On May 21st a small but sympathetic company, consisting among others of the director, Dr. Murk Jansen, Mr. Alan Todd of London, Mr. Harry Platt of Manchester, and the staff of the hospital, assembled in the hall of the Anna Clinic of Leyden, in front of which hung the British flag. The occasion was the unveiling of a bronze plaque, by R. Lubach of Zeist, of Sir Robert Jones, who was present. After the British National Anthem had been sung by the nurses' choir, Dr. Jansen, speaking in the name of the Dutch Society for the Deformed, paid an eloquent tribute, first in English and then in Dutch, to his old friend, extolling his influence as a teacher, his organizing ability, and his kindness of heart. The plaque, he said, had been placed in a prominent position in the hospital to serve as a stimulus to the members of the staff. Sir Robert Jones, in his reply, expressed his deep appreciation of the honour done him, and described Dr. Jansen as a master surgeon and a champion of peace. The ceremony ended by the choir singing the first verse of Psalm 134.

THE DANCE OF DEATH

Most travellers have seen the Dance of Death as it is represented in frescoes in various churches and public buildings both at home and abroad; more often, perhaps, in Germany and Switzerland than in France and England. Beginning as a morality play in the thirteenth and fourteenth centuries it passed gradually into art, for as a *memento mori* it was too valuable an instrument in the hands of the clergy to be allowed to die out completely. Originally grotesque and horrible, successive artists softened its cruder features until Albrecht Dürer idealized it, and Alfred Rethel, in the middle of the last century, made it a poetical dream. Hitherto Mr. Francis Douce, the antiquary, and Dr. Parkes Weber have been the chief authorities to be consulted by those who needed information, but though their facts are correct they have considered the *Danse Macabre* as a whole, and the subject is immense. Dr. Aldred Scott Warthin, professor of pathology in the University of Michigan, has adopted a different method. In *The Physician of the Dance of Death*[1] he has taken a single figure—the physician—and has traced him through the entire series of representations from the early days to the gross caricatures of Rowlandson and Cruikshank. The result is eminently satisfactory. It shows what manner of man the physician was thought to be at different periods, and gives minute details about his dress and habits. On the whole he does not come out very well: covetous, often a quack, overfed, and not too mindful of his patients, in the Middle Ages, but gradually coming into his own as his education improved, until in the latest representations he is shown as the cultivated scientific man of the present day. The work has evidently been a labour of love for Dr. Warthin. He began it in 1893, when he bought Albrecht Dürer's "Ritter, Tod, and Teufel" in a printshop at Nuremberg, and gradually followed it up until he was able to produce a most satisfactory bibliography of 280 items, printed at the end of the present volume, a bibliography which shows that he has not only consulted most of the books written upon the subject, but actually has a large number of them in his own library. *The Physician of the Dance of Death* began as a series of papers contributed to the *Annals of Medical History* in 1930 and 1931. They are now republished with additions, corrections, and more illustrations. The book, therefore, is of outstanding and permanent value, and it is a pity that only 1,000 numbered copies have been printed.

[1] *The Physician of the Dance of Death.* By Aldred Scott Warthin, Ph.D., M.D., LL.D. New York: P. B. Hoeber, Inc. 1931. (7.50 dollars.)

B.C.G.

We publish this week at page 986 an impartial review of the circumstances of the B.C.G. tragedy at Lübeck, so far as these have been brought to light, together with some discussion of the difficulties in the way of any attempt to elucidate the affair. The time seems opportune for such a presentation, because Professor Calmette is visiting London next week, and on the evening of Tuesday, June 9th, he will read a paper before the Royal Society of Medicine on "B.C.G. immunization of infants."

STEPHEN PAGET LECTURE

The annual general meeting of the Research Defence Society will be held at the house of the Medical Society of London, 11, Chandos Street, Cavendish Square, W.1, on Wednesday, June 10th, at 3.30 p.m., with the president, Lord Lamington, in the chair. An address will be delivered by Dr. H. H. Dale, F.R.S., director of the National Institute for Medical Research, on "The effect of research on curative medicine," being the fifth Stephen Paget Memorial Lecture.

Professor D. P. D. Wilkie of Edinburgh University has accepted an invitation to act as Director of the Surgical Professorial Unit at St. Bartholomew's Hospital during the first fortnight in June. He is taking over the duties of the professor of surgery during that period and also lecturing to the students. It will be remembered that on previous occasions Professor Harvey Cushing, Professor Hugh Cabot, Lord Moynihan, and Professor Grey Turner have accepted similar invitations at St. Bartholomew's.

Professor G. Grey Turner of Newcastle-upon-Tyne is paying a visit to Boston, U.S.A., to receive in person the H. J. Bigelow Medal, and to deliver an address on "Some personal experiences in oesophageal surgery."

At a meeting of the Optical Society on June 11th at 8 p.m., in the Imperial College of Science and Technology, South Kensington, the Thomas Young Oration, entitled, "Young's theory of colour vision," will be delivered by Sir John H. Parsons, F.R.C.S., F.R.S.

SMALL-POX PREVENTION AND THE VACCINATION ACTS

We have received from the Ministry of Health a memorandum on the present position regarding small-pox prevention in England and Wales in its relation to the Vaccination Acts.*

At the beginning of the report it is remarked that the prevalence of small-pox has long been considered as eminently preventable and the disease as one which "in view of its nature, and of the prophylactic means which we possess, should be banished from a civilized community which is reasonably organized for the care of the public health. There has been, and in a sense there still is, ample justification for looking at small-pox in this way." It is taken as "beyond the necessity of proof that individuals exposed to small-pox infection, however intense and whatever its type, will escape attack if at the time of the exposure they have already been recently and successfully vaccinated, and that they will in all probability escape attack, or only suffer from a very modified attack, if they can be successfully vaccinated within forty-eight hours following exposure."

Statistics are provided of mortality from small-pox since 1855 and of the practical immunity from small-pox of attendants in small-pox hospitals who have been vaccinated. It is next pointed out that, of recent years, infant vaccination has been decreasingly used and the prevalence of small-pox has increased, but the type of the latter has changed greatly, being manifested, if not as a relatively trivial disease, "at least as one that hardly ever has a fatal result, leaves very little disfigurement, and has few complications."

Reasons are adduced for terming the variety of small-pox mainly prevalent since 1923 variola minor, and its clinical characters are described. This form is probably identical with the variety described as long ago as 1722 by Wagstaffe. Statistics are then presented showing that at present countries may be classified as (1) those wherein the old virulent form of small-pox still prevails—India and the Far East are examples; (2) those wherein at present the prevailing strain is non-virulent—the West Indies, parts of the United States of America and Canada; (3) those wherein both types coexist—England, Brazil, and some of the Southern States of North America. In the next section, current administrative measures of control are described. These have proved eminently successful in the control of major small-pox.

"In a word, subject to consideration of the details referred to above, we have been able, almost since the beginning of the century, to think of major small-pox as a rare, exotic disease which we effectively hold in check and extinguish when it appears. We can complacently contrast our position in this respect with that of any other country in the world, and there is no reason why we should not continue to do so."

In the next section variola minor is considered, and, although the success of the usual administrative measures in many instances seems to have been rendered probable, it is noted that general control has not been attained. Many reasons exist for this failure, such as the difficulty of unrecognized cases and the reluctance of contacts and others to submit to vaccination in view of the mildness of the disease. It is pointed out that deliberately to treat variola minor as in the same category as chicken-pox would lead to internal and international difficulties. An individual patient with an extensive rash may be an unpleasant object, while international obligations with respect to notification must be respected, and some foreign authorities are sceptical as to the difference between the two forms of variola. The memorandum next considers the measures appropriate to the situation when variola minor occurs within a district. It does not seem that, when the disease first appears, any essential change of the present procedure is needed. When the disease has gained a footing, what action should be taken must be a matter for local decision.

"It can, however, be said that, to judge from the reports received from districts in which variola minor has been for some time epidemic, local authorities need not, and should not, carry on the work on the principle that all the procedures which would be applicable in the case of a major small-pox epidemic must necessarily be applied to the minor."

It is a matter for consideration whether patients suffering from variola minor need always be isolated in a hospital admitting no patients suffering from diseases other than small-pox. Co-operation between the public health staff and medical practitioners is of great importance, and the practice of arranging for consultants with special experience is commended. It may prove advisable only to attempt to secure vaccination of direct contacts, and the current practice of tracing contacts might be simplified.

The next section contains a précis of knowledge respecting post-vaccinal encephalitis. In the following section the advantages and disadvantages which local authorities derive from the Vaccination Acts in regard to control of small-pox are considered. Actually the effect of the Acts is limited to vaccination in infancy, and to the extent to which they are complied with result in the conferring of a high degree of immunity upon a section of the population. Under the most favourable conditions this might amount to 15 per cent. of the population, on the average perhaps 9 per cent. Another advantage is the utility of the public vaccinator, who has been available at all times and whose returns to the Government Lymph Establishment have been of great value, while public vaccinators specially appointed have had the duty of instructing medical students in the technique of vaccination. It is suggested that the value of these advantages has diminished under present conditions, and possible alternatives are considered. The essential point is that if the rigidity of the present system were modified and vaccination thought of not as an end in itself but as a measure "which the individual should be advised and assisted to adopt for himself and for his children at several stages of life with the idea of maintaining himself and them at a reasonably high degree of immunity at all times," it might be found expedient to utilize the many opportunities which present themselves to the public health authorities to educate the public.

"It may be claimed that an authority which desired to promote vaccination through its public health department on some such lines would at least succeed in producing a more satisfactory effect as regards protection of its population by systematic vaccination than it could obtain by the strictest application of the obligatory clauses of the Vaccination Acts."

An appendix to the memorandum contains notes on the vaccination requirements of certain European countries.

* Reports on Public Health and Medical Subjects. No. 62. A Review of Certain Present Aspects of Small-pox Prevention in Relation particularly to the Vaccination Acts, 1867-1907. London: H.M. Stationery Office. R.31. (1s. net.)

The German, Austrian, and Hungarian members of the International Society of Surgery, who were excluded in 1920, have recently been reinstated, Professor de Quervain of Berne and Dr. Shoemaker of The Hague acting as intermediaries between the International Society and the German Society of Surgery. The next congress will be held at Madrid in 1932.

MENTAL HOSPITAL ACCOMMODATION

An important circular on mental hospital accommodation was issued on May 30th to local authorities by the Board of Control. The principal points to which the Board draws attention are as follows:

The Mental Treatment Act came into operation on January 1st, 1931, and as the facilities for mental treatment without certification under the Act become more widely known, there may be an increasing demand for treatment under those provisions, which will necessitate a review by local authorities of the accommodation available. At the same time the shortage of mental hospital accommodation generally has become acute, and will oblige many local authorities to consider what steps should be taken if they are to maintain a reasonable standard of efficiency and progress in this service. Though there is no increase in the incidence of mental disorders, the number of persons under care continues to grow because the total population and the average age of the population are both increasing.

There is now practically no margin of accommodation in the public mental hospitals. On January 1st in the present year, there were only twenty-seven hospitals with ten or more vacant beds on the male side, and nineteen with ten or more vacant beds on the female side. There are practically no unoccupied beds, the use of which authorities can obtain by contract with other authorities. Moreover, the practice of taking beds on contract, though useful in special circumstances, is strongly to be deprecated if it involves sending patients so far from their homes as to make visiting by their relatives prohibitive by the expense of travelling.

The standard of accommodation laid down by the Board is a minimum standard based on long experience, and a departure from it would be injurious. Overcrowding is not only bad for the patient's mental and physical condition, but imposes unnecessary strain and may involve danger for the nursing staff. Local authorities will therefore have to consider increasing the accommodation for mental patients, and there are two main ways in which this can be done—either by redistribution of patients among the various types of institutions now under the control of the local authority, or by the provision of new mental hospitals.

As regards redistribution there are four possible alternatives:

1. The utilization of beds in public assistance institutions for the quiet chronic cases or senile cases, whose condition does not necessitate treatment of the kind that can only be given in the relatively more expensive beds of a mental hospital.
2. The removal from mental hospitals of mental defectives, who can be far more economically provided for in Poor Law premises or in mental deficiency colonies.
3. The granting of leave of absence on trial and boarding out, or discharging suitable patients to the care of relatives or friends.
4. The provision in connexion with an existing mental hospital of an admission unit and convalescent villas where these do not already exist.

In this connexion it is pointed out that every mental hospital, whether full or not, should have this accommodation, which has become imperatively necessary in view of the provisions made for the treatment of voluntary and temporary patients under the Mental Treatment Act.

The second main alternative is the construction of new mental hospitals, and the Board points out that there will be some authorities who will find themselves compelled before long to build such institutions. Local authorities who have no right of ownership in any mental hospital, and who, therefore, have to secure by contract beds for patients for whom they are required to provide accommodation, are particularly concerned with this aspect of the question. As the shortage of accommodation generally becomes more acute, notices terminating existing contracts are being given, and some authorities will have no alternative but to make provision themselves. The circular suggests that the problem could best be approached by means of local regional conferences, when consideration might be given to the possibility of uniting for the purpose of providing a joint mental hospital. It is the Board's intention to stimulate the holding of such local conferences for this purpose; and the circular has been issued to assist the local authorities in envisaging the main considerations which should determine the extent and nature of any additional accommodation that may be necessary.

Where new buildings prove to be essential, the expenditure involved is not likely to be serious, and in most cases would represent only a small fraction in the local rates. The provision of accommodation for the insane is, moreover, a statutory obligation which local authorities are bound to meet, and the purpose of the circular is to assist local authorities in framing plans to meet the existing shortage in a manner which will be, in the long run, conducive to the most efficient and economical administration of the service.

Scotland

Mental Defect in Scotland

A conference was held in Glasgow on May 22nd, under the auspices of the Scottish Association for Mental Welfare. Dr. J. Parlane Kinloch, Chief Medical Officer of the Department of Health for Scotland, who presided and delivered the opening address, said that they had to get back to the old Greek ideal of healthy childhood and youth. They had to recognize that for the living child there must be a rhythmic exercise of the mind alternating with a rhythmic exercise of the body. He thought that such an arrangement during school hours would, in the course of four or five years, produce much greater mental efficiency than six hours of steady educational work daily. A paper dealing with mental deficiency was read by Dr. R. D. Clarkson, medical superintendent of the Royal Scottish National Institution, Larbert, who estimated that if the percentage of mental deficiency in Scotland was similar to that in English areas the total number of mental defectives in Scotland was about 40,000. Mental deficiency therefore constituted one of the greatest of social problems, and they should shrink from no measures, however drastic, to prevent it. He believed that injuries to the brain at birth were responsible for a large number of cases. Not all of these cases could be prevented, but much might be accomplished by emphasizing the necessity for ante-natal care and by raising the standard of education of medical men and midwives. Just as the growing body required small quantities of vitamins, whose nature and function were still obscure, so the mind required what had been called "psycho-vitamins," including family affections, moral principles, and religious belief. Recognition of this fact was essential for the success of any campaign of mental hygiene. In discussing the question whether other cases of mental defect could be explained by the action of innate, intrinsic, or hereditary causes, Dr. Clarkson said he did not think that heredity played a large part; it was impossible to imagine that mental defect was a unit character like the colour of the hair or of the eyes. It had been urged that the feeble-minded should be segregated, but they could not afford to segregate 40,000 persons. They did, however, need more boarding schools for defective children and more industrial colonies for adult defectives than they had at present. Dr. R. M. Marshall, consulting neurologist to the Glasgow Education Committee, who gave an address on the ascertainment of mental defect, considered that in determining idiocy the criterion of inability to

guard against common physical dangers was a valid one. In the ascertainment of imbeciles their failure to manage themselves or their affairs was not a very satisfactory guide, the crucial test of trial for a year being always advisable in special classes. In regard to the feeble-minded the criterion should be a purely scholastic one, and the question of social adaptability should be considered only when it was raised by the conduct of the individual. Indications for notification to the Board of Control of feeble-minded persons at the age of 16 should be based upon the educational and intellectual life of the child. Dr. D. Yellowlees, Glasgow, suggested that one of the functions of the association was to recognize that the human mind was living and moving purposefully. The primary force behind it was that of primitive instincts, and healthy mental development meant that these primitive forces and tendencies were being organized, sublimated, and directed towards aims in a real outside world. One of the objects of the association was to create a public conscience regarding the mental influences offered to children, whose selective powers were in process of development. In this connexion he stressed the importance of quality in the provision of cheap reading matter and of cinematograph films.

Scottish Nursing Conference

In opening the conference in connexion with the Scottish nursing, hospital, and health week, held in Edinburgh from May 24th to 30th, Lord Provost Whitson said that it was designed to provide a refresher course for nurses of all departments, and had a special appeal to all engaged in public health activities. Statistics indicated that the nursing profession was a healthy one; it was the only profession in which emoluments were included during education, and it had the further advantage that the knowledge and experience acquired in the course of training was often useful in domestic life. Unlike other professions there was no unemployment if a nurse was physically fit. Dr. J. Parlane Kinloch of the Department of Health for Scotland, in the course of an address on "The future training and organization of nursing," said it was obvious that four great training schools for nurses would in future be associated with the four regional medical schools at Edinburgh, Glasgow, Dundee, and Aberdeen, and that every hospital and clinic in these centres must be orientated towards this training. It was desirable that after leaving school the prospective nurse should engage for a period of eighteen months in acquiring a knowledge of the principles of biology, pathology, chemistry, anatomy, physiology, and dietetics. She would then be ready to enter on a three years' training in hospital, followed perhaps by specialization. He thought that the new organization of the hospital community, devised under the Local Government Act of 1929, would provide a complete training for an adequate health and nursing service. In a paper on "The problem of training the nurse," Dr. John Guy stated that in some places there was an arrangement between the general and fever hospitals by which a three years' preliminary training in a fever hospital was accepted as equivalent to one year's general training. This meant that before certificates in general nursing and fever nursing could be obtained six years must be spent in hospital; if, in addition, a nurse desired a certificate in children's work, a certificate of the Central Midwives Board, and training in mental welfare, she must spend altogether some eight or nine years in work and study. It appeared, therefore, that the time was more than ripe for a co-ordination of training in the various branches of nursing, and that the matter should be considered by a conference of municipalities, which were the largest employers of nurses. He thought that for an all-round training, two years of general medical and surgical work, one year of fevers, six months of tuberculosis, and six months of mental work, would suffice. Dr. James Young, in an address on "The prevention of maternal mortality and disability," said that every year in these islands over 4,000 women died from child-bearing, a ratio of about 5 per 1,000 births, and it had been computed that for every such death at least ten women suffered from ill-health every year by this cause. These cases represented about 50 or 60 per cent. of the patients treated in the gynaecological departments of general hospitals. The factors that contributed to this maternal disability naturally prejudiced the child, and in this connexion it was noteworthy that while recent advances in public health had led to a rapid reduction in the death rate of infants during the first year of life, the death rate among newly born infants remained practically stationary. In his opinion a great part of this annual mortality and impairment of health could be prevented, a fact which was proved by widely varying death rates in different parts of the country. The nine hundred or more ante-natal centres that had been set up throughout the country had failed to reduce the mortality, mainly because the importance of ante-natal care was not sufficiently realized. The necessary rest at home was often unprocurable, and it was gradually coming to be recognized that a national maternity service which would provide every woman with a midwife or doctor and, if need be, the services of a hospital, was essential. Dr. W. M. M'Alister, medical officer in charge of mental health services under the Corporation of Edinburgh, speaking on "Modern methods of treatment in dental disease," said that the ideal of modern treatment was prevention. With this in mind, intensive study of the antecedents of insanity, whether hereditary or environmental, contact with and treatment of abnormal mental tendencies at the earliest possible stage, and the provision of machinery for achieving these two aims, were the necessities of the present time. The make-up of the individual must be carefully studied, along with influences of home and companions, and of the general physical condition. In ascertainment and treatment the psychologist must join hands with the social worker. Psycho-analysis had illuminated the whole range of mental disorders, but in practice it had serious limitations, the most obvious being the necessary co-operation of the patient. Great care had to be taken in choosing cases for psycho-analysis, because mental crises might be precipitated by an attempt to analyse a patient who was not a suitable subject. Very often something less pretentious than formal psycho-analysis gave just as good curative results. He believed that in the prevention of mental disease it was impossible to over-emphasize the importance of examining the mental as well as the physical state of the child, and for this purpose children's clinics should be established in each of the large centres. These centres should also have an out-patient clinic associated with the general hospital, which should devote a certain number of beds for the observation and treatment of mental cases. Dr. A. S. M. Macgregor, medical officer of health for Glasgow, who delivered an address on "Maternity services," said that the scheme for the provision of home helps had been in operation in Glasgow since 1924, and had met a definitely felt want. The Public Health Committee of Glasgow had employed 17 women in this way up to the end of 1925; since then the demand had been increasing, and in 1930, 204 helps were provided for households in which there were children under 5 years of age. The importance of the service of midwives over be gathered from the fact that in Glasgow year on an there were 24,500 births, of which one

institutions and 4,000 were supervised by outdoor maternity services from institutions. Of the remaining 16,500, 9,600 were managed by midwives alone. Thus of the total births, 40 per cent. were conducted by midwives in the homes of the people and 26 per cent. by medical practitioners. It was now coming to be regarded as desirable that midwives should possess a general nursing qualification. The addition of puerperal pyrexia to the list of notifiable diseases had had the effect of increasing the 516 cases of puerperal fever notified in 1929, to 598 notified in 1930, with the addition of 235 cases of puerperal pyrexia. He looked forward to the time when it might be possible to produce a code of precautions which would make puerperal sepsis as rare as severe ophthalmia neonatorum.

Edinburgh University

At a meeting of the University Court of Edinburgh University, on May 25th, Dr. Sydney Smith, professor of forensic medicine, was appointed dean of the Faculty of Medicine in succession to the late Professor Lorrain Smith. Professor Smith was also appointed the University representative on the General Medical Council. At the same meeting it was intimated that Dr. Walter Smith Kay, who died on April 22nd, had bequeathed to the University a sum of £5,000, of which the annual income was to be applied towards aiding research in mental diseases or psychiatry. Dr. Kay graduated M.B. at Edinburgh in 1877, and was formerly medical superintendent of the asylum at Wadsley, Sheffield.

England and Wales

Voluntary Hospital Progress

King Edward's Hospital Fund, which assists 141 hospitals within an eleven-mile radius of St. Paul's, has adopted the method of setting out on coloured charts, which are issued as leaflets, the financial position of the hospitals, the sources of their revenue, and the extent of their services over a period of recent years. All the curves have an upward character, except the one representing revenue from legacies, which fluctuates from year to year. During the five years 1925–29 both the general expenditure and the general income of the hospitals of the metropolis as a whole rose by about half a million. The income from voluntary gifts is still the largest source of hospital revenue, followed closely by payments on account of services rendered. In 1929 a sum of £1,378,000 was received by way of subscriptions and donations, and £1,214,000 by payments for services, of which the greater part was made by patients, either as voluntary payments or through contributory schemes, and the remainder by payments by the public authorities. Interest on investments now represents about 17 per cent. of total income. Hospital finance is more or less a reflection of the charitable resources of the community, but the figures which illustrate the services that hospitals are performing show consistent increase also. Thus the number of beds in the voluntary hospitals of London has increased in five years by about 2,000; the actual number of in-patients treated by nearly 40,000; and the out-patient attendances by 1,150,000. An increase in the number of pay-beds is also shown. There are now 1,425 such beds distributed among 99 of the hospitals on the list of the Fund, and with the developments promised at the West London and other hospitals, this number is likely to be largely increased in the near future. A few words may be added about the Fund itself. Although it bears the name of King Edward, it dates back to the year of Queen Victoria's diamond jubilee, when it distributed £50,000 to 97 hospitals. In 1930 its ordinary distribution was £266,000, and to 141 hospitals, not counting 57 convalescent homes. The hospitals on its list include the 12 teaching hospitals, between 50 and 60 general hospitals, including cottage hospitals, and between 60 and 70 special hospitals. Apart from special efforts, the ordinary annual grants have risen steadily almost year by year, until in 1928 and 1929 they touched a quarter of a million, a figure which in 1930 they surpassed. In addition, in 1929, the Thank-offering Fund for the King's recovery, amounting to £115,000, was distributed.

Cave-dwellers of Derbyshire

Under the auspices of the Warrington Division of the British Medical Association a lantern lecture on the cave-dwellers of Derbyshire was given in the Warrington Infirmary on May 20th by Mr. A. Leslie Armstrong, F.S.A. He dealt with the occupation of Derbyshire caves by man in the earliest prehistoric periods, and pointed out that the caves had been almost consistently occupied from before the great Ice Age onwards. The Marlborough Cave, near Brassington, though not very rich in relics, was a good example, since an examination had revealed an occupation of early Palaeolithic date, and in succession men of the Stone Age, Bronze Age, Iron Age, and Roman period had lived there. It was known to have been the haunt of highwaymen. The most important cave so far explored in Northern England was the Pin Hole Cave at Creswell Crags, on the borders of Derbyshire and Nottinghamshire. The Creswell Gorge was about a quarter of a mile in length, and contained five large caves, four of which were examined and their contents removed over fifty years ago. Fortunately the Pin Hole Cave was left practically intact; it was the only one in the series which could have contained the complete story of occupation during prehistoric times. Mr. Armstrong said that he started work there seven years ago under a joint committee of the British Association and the Royal Anthropological Association, with important results. It was interesting as the most northerly place where traces of Palaeolithic occupation had been found in England. There were two layers of cave earth, with a total thickness of seventeen feet, all of which had been systematically examined, layer by layer. In the cave there were three zones of occupation by men of the Mousterian Era, representing the earliest known traces of humanity in Derbyshire; two dated from a period of time long before the oncoming of the last great Ice Age. In the upper cave earth a series of occupations was revealed by men of late Palaeolithic times, terminating in a cold, wet period which seemed to synchronize with the final cave period of France and Europe, and was often termed the Reindeer Period. Immense quantities of reindeer remains had been excavated from this particular level. The cave has been rich in remains of animals now extinct in Great Britain, including the cave lion, cave hyena, the mammoth, woolly rhinoceros, bison, horse, and several species of deer.

King's College, London

Work has now begun on the new anatomy department of King's College, which is being constructed in two additional stories on the roof of the existing buildings at a cost of over £60,000. Greatly increased laboratory, research, and museum accommodation will be provided. The anatomy department in future will be in close geographical association with the other biological departments of the College, and for their general use a suite of

rooms for animal experimental work is being included in the new building. These extensions represent the first step in execution of the building programme set out in the centenary appeal of the College. The next will be the conversion of the old anatomy department into an extension of the chemistry department. The extension and thorough modernization of the medical department of the College has been undertaken to meet the needs of the large and growing pre-clinical school, which is associated on the clinical side with four of the London teaching hospitals—King's College, Charing Cross, Westminster, and St. George's.

The Sound Film in Medical Education

Recently a party of about ninety-five members of King's College Medical Society, including Professor D. M. Blair, the dean of the Medical Faculty, were entertained to a sound film of a Caesarean section, by the courtesy of the Western Electric Company, Ltd., at their private cinema in Bush House. Mr. F. B. Ransford, on behalf of the company, made a short speech welcoming the society, and explaining the use that such a film could be put to for instructional purposes, not only for medical students, but for practitioners attending refresher courses. He advocated the use of cinemas constructed in hospitals and medical schools, and also facilities for taking sound films of any peculiar cases or operations, so that the latest hospital technique and instruction could be available for all doctors and surgeons throughout the country. At the conclusion of the film the dean spoke a few words, agreeing with Mr. Ransford, and pointing out the special advantages of this film, in that it could take the student away from the operation theatre and explain the subject more lucidly by means of animated diagrams, while none of the actual operation was missed; moreover, the various complications to the operation could be shown as a part of the same film. He also called attention to the method used in the film by Dr. De Lee, the operating surgeon of the Chicago Lying-in Hospital, who, it should be mentioned, used and recommended a local anaesthetic. Mr. J. D. Moore, the president, then proposed a hearty vote of thanks to the Western Electric Company and the honorary secretary of the Medical Society for the trouble taken in arranging the visit.

Coroners' Inquests

Addressing the jury at an inquest held recently by him at Southwark, Dr. Waldo said that the new permissive power given coroners under the Coroners (Amendment) Act, 1926, in cases of sudden death from causes unknown, of merely requesting the family doctor or any other medical man to make a post-mortem examination, and dispensing with a formal inquest, and then reporting to the local registrar the cause of death as suggested by the doctor, cast grave responsibility upon the coroner. Some experienced coroners, both medical and legal, had expressed the opinion that if a necropsy was necessary, a formal inquest, with the witnesses on oath and the relatives present, was equally necessary in the public interest. He (Dr. Waldo) noticed in the Criminal Statistics for 1929, just published, a considerable divergence and want of uniformity in the use of the new power given coroners under Section 21 of the Coroners Amendment Act. For instance, among whole-time coroners one coroner held 632 inquests during 1929, and, in the same year, as many as 604 non-inquest cases with post-mortem examinations only. Meanwhile other whole-time coroners had made no use whatever of Section 21 of the new Act. It would be both interesting and instructive to know the reasons for the diverse procedure of coroners under Section 21 of the new Act.

Ireland

Vital Statistics for Northern Ireland

During the first quarter of the present year 6,427 births were registered in Northern Ireland, and 5,814 deaths, of which 693 were of infants under 1 year of age. The population being estimated provisionally at 1,246,000, the mortality works out at 18.7 per 1,000, as compared with 18.6 in the Irish Free State, and 16.5 in England and Wales. Of the total deaths 1,229 occurred in public institutions, and 482 were uncertified. There was a diminution in all forms of infectious disease notified, especially scarlet fever, with the exception of acute pneumonia. Influenza was prevalent in all parts of Northern Ireland. The epidemic commenced about the second week in January, reached its peak in the first week of March, and then quickly receded. On the whole the epidemic was mild in character. Measles also has been epidemic in Belfast county borough; otherwise the health of the area is stated by the Chief Medical Officer of the Ministry of Home Affairs to have been fairly satisfactory during the quarter. The urban mortality from the principal epidemic diseases was equivalent to 1 per 1,000 of the population, the death rate from these diseases for the remainder of Northern Ireland being 0.3 per 1,000.

Hospital Services in County Armagh

At the last monthly meeting of the Committee of Management of Armagh County Infirmary a letter was read from the Northern Ministry of Home Affairs which had been addressed to the county council in answer to an inquiry if the Ministry had yet prepared a comprehensive scheme for the hospital service of the county. The occasion of the inquiry was the sanctioning of a loan of £40,000 by the Lurgan Board of Guardians for the improvement of hospital buildings in Lurgan and for the reconstruction of the workhouse hospital. The Ministry stated that the Government had not come to any decision with regard to the general reorganization of the local government services, but that it was satisfied that the continued existence of the workhouse infirmary at Lurgan was necessary, and that the present buildings required considerable alteration to make them suitable for their purpose. In the circumstances there appeared to be no alternative but to authorize the board of guardians to proceed with the reconstruction of the premises. A deputation, including members of the council, was appointed to discuss the matter further with the Ministry.

St. Ultain's Hospital

At the annual meeting of St. Ultain's Hospital, held recently, Miss Ffrench Mullen, secretary to the hospital, intimated that, with the prospect of a substantial cheque from the sweepstake scheme, work had already been begun on a new wing; the addition of four wards would help to reduce the waiting list and provide extra accommodation for nurses. In proposing the adoption of the report, Dr. Ella Webb declared that the importance of children's diseases was not sufficiently recognized in examination papers. Professor T. Gillman Moorhead, President of the Royal College of Physicians, stated that, while the infant mortality rate was falling in Ireland, it was still too high. The death rate in the Irish Free State was formerly 90 in every 1,000, but this had now fallen to 70, a figure that compared very favourably with the returns from the British Isles generally. Dr. Horne said that, although 95 per cent. of the sick babies treated were born in sound health, most of them were in a semi-moribund condition when admitted. The value of St. Ultain's Hospital could be realized by the fact that over a hundred of these babies were cured every year on an average, and given a good start in life.

Correspondence

OSTEOPATHY AT HOME AND ABROAD

SIR,—The Bill for the recognition of osteopathy and for conferring upon its exponents approximately the same legal status as is enjoyed by registered practitioners in medicine, which received its first reading just before the Parliamentary recess, has been withdrawn, owing, we are informed, to differences of opinion among the osteopaths themselves. Perhaps this happy consummation has been brought about through the realization, tardy but welcome, by the British osteopaths that their American colleagues in this country were using them to pull chestnuts out of the fire for the American colleges, which are no longer as prosperous as they used to be.

In the debate upon the motion brought forward by me in the House of Commons on February 9th, 1926, asking for "an inquiry into the whole position of irregular practice in medicine and surgery"—under which heading, of course, osteopathy figured prominently—Mr. Neville Chamberlain, the then Minister of Health, made a vitally important official pronouncement, which has served as a very effective check upon efforts on the part of various unqualified practitioners to secure recognition. Thus a few months after that date efforts by the opticians to obtain "registration" were frustrated by the quotation of that pronouncement. Mr. Neville Chamberlain said that "if the osteopaths wanted to have a register of osteopaths in this country, let them set up their own colleges, give their own diplomas, and then they would be forced to do what they had done in America; their curriculum would gradually have to conform to something very nearly approaching the normal curriculum in this country," and, with pointed reference to a claim that diplomas given by American colleges should be recognized in this country, he said that "to ask this country to accept diplomas from another country, into the value of which we really could not pretend to examine, and over the qualifications for which we have no control, is really not a practical proposition." Notwithstanding this warning, the promoters of the Bill which has just been withdrawn included a clause admitting to the proposed register "the holder of certificates granted in a British Dominion *or foreign country*" (the italics are mine), thus clearly foreshadowing the wholesale recognition of American diplomas, expressly deprecated by Mr. Chamberlain. Happily, as I have said, British osteopaths have recognized at last this impudent effort on the part of the American osteopaths to force their diplomas upon the osteopathic practitioners in this country, for that is what would necessarily have eventuated from the Bill. The British School of Osteopathy remains so inadequately equipped from every point of view to teach any branch of medical science that it does not fulfil the requirements mentioned by Mr. Chamberlain, and the Americans, who so largely dominate, and would continue to dominate, any osteopathic association in this country, would see to it that British students would be required to resort to American colleges before they were granted admission to the British Register of Osteopaths. It is doubtless that well-justified apprehension on the part of British osteopathic practitioners that has brought about the present collapse of the Bill.

In order to oppose the Bill more effectively when it should reach its second reading in the Commons, I communicated with the very efficient Bureau of Legal Medicine and Legislation of the American Medical Association, and I have received new information regarding the present position of osteopaths in the United States which may interest your readers. This information offers, I think, an explanation of the present drive by the American osteopaths in this country.

In the United States, the happy hunting ground of quacks of all kinds, osteopathy is only one of very numerous cults "recognized" in varying degree by the legislatures of the various States. It is difficult for us, but important, to realize that in the United States there is no general authority (in America it would be called "Federal"), such as is vested in our General Medical Council, to distinguish qualified from unqualified practitioners of medicine; consequently in every State conditions of admission to practice are peculiar to that State. It is exceedingly difficult, therefore, to form a general view of the measure of recognition offered in the States to osteopaths, but there are certain recent tendencies which are acting in the direction of making osteopaths particularly anxious to assimilate their practice to that of orthodox medicine; indeed, it might be said that the original and demonstrably absurd formula of its founder, Andrew Still, upon which osteopathy pretended to base any claims it has for distinctive medical practice, is now much less rigidly followed by osteopaths than by their imitators the chiropractors, who are also widely recognized in the United States. Mr. Chamberlain's acute prophecy in 1926, that the curriculum of the osteopaths would more and more conform to the curriculum of general medicine, has become justified by the event; thus, in a very illuminating report sent to me by the secretary of the Michigan State Medical Society's legislative department, as the result of an inspection of the Philadelphia College of Osteopathy carried out in 1930 by the secretary of the Michigan State Medical Society, Dr. Warnshuis, it is stated that "the Philadelphia College has been established about thirty-five years, and is accepted by osteopaths as their best college. . . . All branches of medicine were represented, such as the Cardiac Clinic, Eye, Ear, Nose and Throat, Genito-Urinary, Gastro-Enterology, etc.," and the significant note is added that "in connexion with the out-patient department there was a large pharmacy, the shelves being well filled with all types of drugs." Dr. Warnshuis, while conceding that "the approach to the conditions of the orthodox medical colleges made by the Philadelphia School is thus very considerable," and that "the younger element, at any rate, which is rapidly assuming control, would probably welcome a working agreement with the colleges of medicine, and even an absorption by the Association of Medical Colleges if a chair of mechano-therapeutics can be established at those colleges," notes that the weak point in osteopathic training is the poor teaching personnel, especially in the medical sciences and in clinical medicine—a weakness obvious in all the "approved" osteopathic schools.

Another movement acting with the same effect is the increasing insistence in the United States upon a certain level of teaching in what are called the "basic sciences of medicine"—anatomy, physiology, chemistry, bacteriology, pathology (and in some States hygiene)—a level to which any cult aspiring to any kind of medical practice must conform. The passage of laws requiring this level of preliminary scientific education in many States has resulted in reducing enormously the number of osteopathic and other "cult" candidates, and osteopathic schools which have not raised their standards to this level have largely gone out of practice, so that there are now not thirteen, but only six, "approved" osteopathic schools. Some of these competing cults—chiropractic, naturapathy, sanipractic, naprapathy—have trespassed so far upon the domain of osteopathy as to diminish what one of my correspondents calls "the pulling power of osteopathy as a novelty," and it is, of course, the similar

competition in this country that has made osteopaths here so anxious for registration.

That the osteopathic calling in America has felt the draught is obvious from a "message" from the president of the American Osteopathic Association, conveyed in the journal of that association for August, 1930, in which he says: "If osteopathy is to live, our colleges must have more students," and one of the devices which he recommends for attracting students is the exhibition of a picture called "Dan's Decision," in which it is naïvely stated that the American Osteopathic Association "has invested 8,500 dollars," and which it earnestly entreats its members "to exhibit in every town and city." In other words, while the medical schools of the United States are picking and choosing their students from a much larger number of qualified applicants for admission than the schools can accommodate, the osteopathic schools are touting for new recruits by using the methods of the cheapjack. In this situation of a falling home consumption one may perhaps find the explanation of the recent attempt to capture for American osteopaths the British market, an attempt which, for the moment at any rate, has failed.—I am, etc.,

London, W., May 30th. E. GRAHAM-LITTLE.

OPERATION FOR CATARACT

SIR,—In your issue of May 16th (p. 877) a reference is made to cataract and medical practice, which raises points of practical interest.

It is stated that the sight of the one eye is "very good." This raises the question whether an operation for cataract in one eye, when the vision of the other is sufficiently good to enable the patient to carry on his work, is advisable or justifiable. The important point is: Will the patient be benefited?

As Mr. Bishop Harman has pointed out, the patient will continue to use the unoperated eye as he has done before the operation. The late Professor Schmidt-Rimpler of Halle discussed this question fully on the basis of his own personal experience (*Klinische Monatsblätter für Augenheilkunde*, 1911, Bd. 49, S.692). He states definitely: "I therefore advise no one, who has a healthy eye with normal vision, to permit a cataract to be removed from the other eye unless there are special reasons. . . ." This has always been my own practice, and on the several occasions on which I have deviated from it, at the patient's request and after giving due warning, I have always found that the patient was very uncomfortable, even when the vision of the better eye was considerably impaired, so that it was necessary to use an opaque glass before it, or that, alternatively, he did not make use of the operated eye. In one case the patient insisted on using the unoperated eye, although the operated eye, with its cataract lens, had better vision, and it was necessary to remove the immature cataract from the unoperated eye. Fortunately, the intracapsular method successfully overcomes any difficulty in this respect. The question is of interest in as far as patients, and sometimes doctors, have some difficulty in understanding why unilocular cataract cannot simply be removed with restoration of normal vision.

The second question arises from the sentence "Of course he understands that anyhow he will not be able to drive his car." A patient with cataract in one eye who can drive a car before operation can surely drive it afterwards, using either the operated eye with a lens, or the unoperated eye. My experience is that patients can drive cars and shoot pheasants after operation on one eye.

A third point which arises indirectly is: If a patient has had a successful operation on one eye, is any material advantage gained by operating on the other commensurate with the risks involved, especially in old persons, the expense, etc.? This question, again, will be decided differently according to circumstances, but as a general rule the answer is in the negative.—I am, etc.,

Edinburgh, May 26th. H. M. TRAQUAIR.

FRACTURES OF THE NECK OF THE FEMUR

SIR,—In answer to your correspondent C. S. (May 23rd, p. 913) may I say that the typical deformity in fractures of the neck of the femur is adduction? The angle formed between the neck and shaft is less than normal, excepting in rare cases. The greater the shortening the more the adduction; and in old neglected cases with a real shortening of an inch it is not uncommon to have a practical shortening of three inches or more, due to a combination of flexion and adduction.—I am, etc.,

Liverpool, May 26th. ROBERT JONES.

SIR,—Sir Robert Jones, in his article on fractures of the neck of the femur, states that the correct technique of the plaster-of-Paris spica is too often ignored, though this must be mastered for the splint to be comfortable and efficient. Will some one familiar with the approved method describe it in detail in your columns, and will he indicate the best way to remove the splint when it is no longer required?—I am, etc.,

Ludlow, Salop, May 28th. T. H.

TREATMENT OF BRAIN ABSCESS

SIR,—In his interesting and successful case of otitic cerebellar abscess described in the *Journal* of May 23rd, Mr. Courtenay Yorke emphasizes: (1) the use of the hypodermic syringe in the exploration for brain abscess; and (2) the use of a drain of small size and with the object of drainage alongside and not necessarily through the tube. In the *Proceedings* of the Otological Section of the Royal Society of Medicine I have taken the opportunity on more than one occasion to support this view, in fact so far as to express enthusiasm for it.

Syringe and needle exploration appears to be particularly reliable in the discovery of otitic brain abscess either of the cerebellum or of the tempoto-sphenoidal lobe. If the findings are negative then there is either no brain abscess or it is out of reach, or has not been entered by the needle. Lund has emphasized the value of the method, and if a healthy brain be punctured in a negative case no apparent harm results. This writer also favours the small drain, and refers to the work of Lemaître, who has advocated filiforms for the purpose. It is unnecessary to make a greater opening in the dura mater than will suffice to admit the drain.

Success in the treatment of brain abscess may lie with its early recognition, and a reliable method of exploration and drainage will encourage otologists to take action, particularly if the trauma caused may be reduced to the minimum.—I am, etc.,

Liverpool, May 28th. H. V. FORSTER.

PSEUDO-ARGYLL ROBERTSON PUPILS WITH ABSENT TENDON REFLEXES

SIR,—In Dr. W. J. Adie's interesting paper under the above heading (*British Medical Journal*, May 30th, p. 928) no allusion is made to the first account of such cases published in England—namely, that by Dr. C. Markus, "A peculiar pupil phenomenon in cases of partial iridoplegia," in the *Ophthalmological Society's Transactions* (1906, vol. xxvi, p. 50). In Dr. Markus's first patient he mentions that, in addition to absence of knee-jerks, I

found absence of Achilles reflexes. But surely Dr. Adie does not mean to separate cases presenting what might be termed " atypical (generally unilateral) Argyll Robertson *large* pupil with ' hypertonic ' reaction to accomodation," *without abnormality of tendon reflexes,* as of different nature from cases similar in regard to the pupil phenomena, but *with absent tendon reflexes.* Dr. Markus alluded to the question of syphilis, but favoured the view that the condition might be regarded as the result of an " abiotrophy " in Sir William Gowers's sense. Dr. Markus's observations on the relative parts played by accommodation and convergence in producing pupil contraction have apparently not received much attention.

Incidentally, in regard to the insidious onset of the pupil phenomena in many similar cases, I may mention that the subject of Dr. Markus's third observation was a fellow-student with me at Trinity College, Cambridge, where I used to see him almost every day, and can therefore say that he almost certainly did not then have unequal pupils. As to prognosis in such cases, it is interesting that since Dr. Markus's paper this doctor (his third case) overcame a severe attack of typhus exanthematicus, and scientifically has greatly distinguished himself. It seems, therefore, unlikely that, except for the purely local condition, the prognosis can be bad.—I am, etc.,

London, W., May 30th. F. PARKES WEBER.

RUPTURE OF TENDONS

SIR,—In Mr. Harry Platt's interesting paper on rupture of tendons, published in the *Journal* of April 11th, I was struck by the brevity of his reference to the injury popularly described as " rupture of the plantaris tendon." He dismisses it as an incorrect diagnosis for partial rupture at the musculo-tendinous junction of the tendo Achillis. His view is supported by the fact that in cases where he has operated for rupture of the tendo Achillis he has found the plantaris intact.

It would be interesting to know whether a rupture of the plantaris tendon has ever been demonstrated by operation, as the condition sometimes called " tennis leg " has several very distinctive features. First, it is very common—I have met with at least four while playing in tennis tournaments. Secondly, its symptoms are always typical—the patient looks round to see who has struck his calf. Thirdly, though very painful at first, it is quite possible to walk, and even run, if the foot is kept in a position of active plantar flexion, showing that tension on the damaged structure can be relieved by contraction of the muscles attached to the tendo Achillis. Finally, the most rapid cure results from getting the patient to start walking freely the day after the accident. I have suffered from the injury myself, and can vouch for the success of this somewhat painful treatment.

It would be interesting to know whether, in cases of partial rupture of other muscles in the body, relief can be obtained by active contraction of the undamaged portions of the same muscle, and rapid cure effected by its active exercise.—I am, etc.,

C. M. FINNY, F.R.C.S.,
Poona, India, May 14th. Major R.A.M.C.

CONVULSIONS DURING SURGICAL ANAESTHESIA

SIR,—Again the question of convulsions during anaesthesia has been raised in your columns, by Dr. J. Ross Mackenzie (March 14th, p. 440). He attributes the convulsions to two factors, toxaemia and ether, and mentions that in his cases convulsions did not occur for at least fifteen minutes. But cases have occurred with anaesthetics other than ether, and quite a number during induction. One of my own cases occurred during induction by chloroform alone in a dentist's chair. I had no hesitation in continuing the induction, and the patient took it well. He had not previously had fits, nor has he had any since.

I feel fairly confident that the great increase of convulsions under anaesthesia in recent years is due to the lightness of the anaesthesia rather than to the particular anaesthetic used. The proneness to convulsions is, of course, bound up with the greater tendency of some individuals to fits from slight provocation as compared with others, a subject of special importance in relation to epilepsy.—I am, etc.,

Melbourne, April 21st. W. SPALDING LAURIE, M.D., B.S.

ALKALINE THERAPY IN SCARLET FEVER

SIR,—In view of the work which has been done during the past three or four years for the prevention and treatment of albuminuria and nephritis in scarlet fever the following results may prove interesting in support of alkaline therapy. This method of medication, dating back to the end of last century, has received fresh impetus from the researches of Dr. A. A. Osman, and his work has proved so satisfactory that I attempted to adopt his theories in records of my own.

In all, I dealt with 589 cases of proved scarlatinal infection in patients from the age of 5 years and upwards admitted to three wards in Plaistow Fever Hospital, London. Out of that number only 11 developed albuminuria and 9 nephritis. The percentage of albuminurias, therefore, was 1.9, and the percentage of nephritis 1.5. This gives a total incidence of 3.4 per cent. Control cases gave a total incidence of 11.2 per cent., so the marked reduction indicates that alkaline therapy is of value in the prevention of these complications. The statistics of albuminuria were separated from those of nephritis—that is to say, cases with albumin only in the urine were distinguished from those showing blood and albumin.

The mixture used throughout the tests consisted of 40 grains each of potassium citrate and potassium bicarbonate to one ounce of water, and an ounce dose was given night and morning. There has apparently been some difficulty in the past in arriving at a satisfactory dose for administration, and, moreover, doubt has existed as to when the alkaline mixture should be commenced. In order to determine a satisfactory standard of dosage I further examined 63 cases of scarlet fever in the different weeks of illness. In those cases the drug was given in increasing doses until the urine recorded an alkaline reaction, and the transition from acid to alkali was determined more accurately by an estimation of the hydrogen-ion concentration of the urine. It was found as a result of those tests that the average dose of mist. alk. required to give an alkaline urine in first-week cases was 2 drachms three times a day for six doses ; for second-week cases 4 drachms three times a day for six doses ; and for third-week cases 4 drachms three times a day for nine doses. My cases in the fourth week of illness were too few to offer any conclusions, but it appears that the dose required in the fourth week would be 2 drachms three times a day for three doses. I am indebted to Dr. D. MacIntyre, medical superintendent of Plaistow Fever Hospital, for permission to publish my results.

These findings indicate that, as infection progresses, a larger dose of mist. alk. is required to render the urine alkaline ; in other words, that acidosis increases as time goes on. Now the period of maximum acidosis, or maximum alkali tolerance, appears to be in the third week of illness, and it is just at this time that nephritis usually shows, so a positive correlation does seem to exist between those two conditions. I would suggest from those results that, on admission, every case of scarlet fever in the first week—and most cases are admitted during that week—receive 2 drachms of mist. alk. three times

a day for two days; this should be sufficient to combat acidosis in this week. During the second week the dose should be increased to 4 drachms, and this could be maintained during the third week. Only by dealing with acidosis at the very commencement can we hope to prevent the cases of albuminuria and nephritis, which are still in large enough numbers (11.2 per cent. in my series) to cause concern to those responsible for their care.—I am, etc.,

Dewsbury, May 25th. JAMES B. SAMSON, M.D.

THE MODERN CONCEPTION OF EARLY PHTHISIS

SIR,—In reading over Dr. Camac Wilkinson's criticism of Dr. Morlock's observations on early phthisis, in your issue of May 9th (p. 818), I find that Dr. Wilkinson apparently places but small reliance on the *x*-ray appearances, and warns "general practitioners not to accept the teaching that *x*-ray examinations are the 'be-all and end-all' either in diagnosis or in treatment." He states also that: "We dare not trust implicitly to *x*-ray shadows in laying the foundation of a new theory. . . . Certainly *x*-ray shadows should never displace pathological anatomy or a thorough physical examination."

It would seem to me that the radiographic appearances would form an ideal method of studying pathological anatomy, pre-eminently in diseases of the lungs; and that an opinion on the condition of the chest given by a radiologist who is an expert in such examinations, and who at the time when his report is made has no knowledge of the clinical findings, offers a chance of arriving at the correct diagnosis which is not at the moment equalled by any other method. It is understood that at the present time radiographic methods have reached such perfection that the diagnosis is made by actually observing the tubercles in the lung parenchyma. But let the radiologist realize that it is often quite impossible to estimate the degree of activity of the lesion without the aid of serial radiography over a period of months. The diagnosis of phthisis is made by observing the presence of tubercles and certain types of cavity formation, and special care is always taken not to call opacities which do not exhibit these features phthisis. In those rare cases where a positive sputum is discovered and there is an absence of *x*-ray changes in the lung, one finds that the physician will always have further sputum examinations and a second radiographic examination made, to confirm.

We are all working together with a common object in view—the diagnosis of disease—and any method which will lead to the earlier recognition of phthisis should be followed up; but do not let it be thought that there is any doubt about the position of radiology in assisting in the diagnosis of pulmonary disease.—I am, etc.,

London, W.1, May 28th. J. V. SPARKS.

MICROCEPHALY

SIR,—In his very valuable survey of the present knowledge of cortical structure in relation to mental disease, Professor R. J. A. Berry (*British Medical Journal*, May 16th) uses the word "microcephaly" as though, apparently, he regards it as synonymous with the smallness of brain that is common in most aments. I think, from other of his writings, that this is his view. It is, however, usually taught that microcephaly is a very definite condition marking one of the types of mental deficiency, and that its character depends far more on shape than on size of head. If some authorities use the word in the general sense and others in the particular, we are left in confusion, and misunderstanding is the result. How can the difficulty be overcome?—I am, etc.,

London, S.W.17, May 27th. NOEL H. M. BURKE.

PITUITRIN AND OBSTETRIC SHOCK

SIR,—The letter in the *Journal* of May 30th (p. 955) over the signature of Dr. Peter McEwan suggests that so-called pituitary shock may be due to an idiosyncrasy on the part of the patient. It would be interesting to know whether fluids had been withheld from the patient for any considerable time before the pituitary extract was administered, because investigation of one or two similar cases recently has indicated that a depletion of body fluids may be the predisposing factor leading to pituitary shock. If this is the correct explanation it would suggest that posterior pituitary extract, in which the pressor, antidiuretic, and oxytocic principles are all represented, should not be given to a patient in a dehydrated condition, but that pitocin, the separated oxytocic principle, should be employed in preference.

Dr. McEwan uses the word "pituitrin," presumably in a generic sense, but actually "pituitrin" is applied solely to the posterior pituitary extract as first offered to the medical profession by Parke, Davis and Co. The use of the word "pituitrin" to refer to posterior pituitary extracts in general is particularly unfortunate, in view of Dr. McEwan's statement that "pituitrin used to vary notably in strength." For many years prior to the introduction of the Therapeutic Substances Act "pituitrin" was standardized on both its oxytocic and pressor values, and the strength of the solution has always been remarkably constant. In fact, the strength adopted all along for "pituitrin" is precisely the same in respect of oxytocic action as that which is now the obligatory standard in the regulations under the above-mentioned Act, which requires all posterior pituitary extracts to be of uniform potency in respect of oxytocic value only.

It is noted that in the case referred to by your correspondent the pituitary extract was given in doses of 1 c.cm.—a total of 3 c.cm. in five and a half hours. This dose would surely seem to be excessive, because in the light of the work of Bourne and Burn it is now generally agreed that the optimum dose for obstetrics is two to three units (0.2 to 0.3 c.cm.), and this dose should seldom be exceeded. In the treatment of post-partum haemorrhage a dose of 0.5 c.cm. or even 1 c.cm. may be permissible.—We are, etc.,

London, W., June 1st. PARKE, DAVIS AND CO.

EXAMINATION OF MOTORISTS CHARGED WITH DRUNKENNESS

SIR,—Insensibility of a motorist—as in the case referred to by Dr. Brooks Keith in his letter in to-day's *Journal*—one would think was a condition sufficiently serious to justify the police calling in medical aid, even for the following purposes only:

1. To verify that the unconsciousness was in fact due to alcohol and not to other causes—illness, etc.
2. To decide whether the person was physically fit to be detained in a police cell.

These are not such simple matters as can safely be left for a non-medical person to decide. Experience as a police surgeon has afforded me several instances of so-called "obvious drunkenness," which medical examination showed to be due to causes other than alcoholic intoxication. In such cases it is due to the public, as well as to the arrested individual, that the diagnosis should be put beyond a doubt—essentially a doctor's job. Fortunately, in this country the judges at trials do require such medical evidence. Otherwise there might be still more wrongful convictions—to say nothing of the cases of "drunk or dying."—I am, etc.,

London, S.E.11, May 30th. REES PHILLIPS, M.D.

BIRTHDAY HONOURS

The Honours List, issued on June 3rd, on the occasion of His Majesty's birthday, includes the names of the following members of the medical profession.

K.C.V.O.

Major-General Sir S. GUISE-MOORES, K.C.B., C.M.G., House Governor and Medical Superintendent, Osborne Convalescent Home for Officers.

Knights Bachelor

PENDRILL CHARLES VARRIER-JONES, M.A., M.R.C.P., M.R.C.S., Founder and Medical Director of Papworth Village Settlement for the Treatment of Tuberculosis.

Colonel SAMUEL RICKARD CHRISTOPHERS, C.I.E., M.B., F.R.S., I.M.S. (ret.), Director, Central Research Institute, Kasauli.

Lieut.-Colonel HENRY ALBERT JOHN GIDNEY, F.R.C.S.Ed., I.M.S. (ret.).

C.B. (Military)

Surgeon Rear-Admiral ALFRED J. HEWITT, C.B.E.

Major-General WILLIAM R. BLACKWELL, C.M.G. (late R.A.M.C.), K.H.S., Deputy Director-General A.M.S., War Office.

Major-General JAMES D. GRAHAM, C.I.E., M.B., I.M.S., K.H.S., Public Health Commissioner, India.

C.M.G.

WILLIAM N. ROBERTSON, C.B.E., M.B., Vice-Chancellor, University of Queensland.

C.B.E. (Military)

Wing Commander WILLIAM W. SHORTEN, F.R.C.S.Ed., R.A.F.

C.B.E. (Civil)

ALBERT L. HOOPS, M.D., Principal C.M.O., Straits Settlements.

ARTHUR H. NORRIS, *M.C.*, M.R.C.S., L.R.C.P., D.P.H., Chief Inspector of Reformatory and Industrial Schools, Home Office.

O.B.E. (Military)

Lieut.-Colonel CHARLES J. COPPINGER, R.A.M.C.

O.B.E. (Civil)

FREDERICK W. ALEXANDER, M.R.C.S., D.P.H., formerly M.O.H. for Bromley and Poplar Districts.

ERIC DENHOLM PRIDIE, D.S.O., Medical Inspector, Sudan Medical Service.

ALFRED C. NORMAN, M.D., Director of the *X*-ray and Electrical Institute, Baghdad, Iraq.

M.B.E. (Military)

Lieutenant (Senior Assistant Surgeon) A. N. DE GRUYTHER, I.M.D.

Lieutenant (Senior Assistant Surgeon) JAMES BERCHMANS D'SOUZA, I.M.D.

First Class Assistant Surgeon RICHARD C. GALE, I.M.S. (attached Iraq Levies).

M.B.E. (Civil)

SHIVRAM WAMANJI PATIL, medical practitioner, Bombay.

JOCELYN MAINGARD, medical officer, Mauritius, for services in the relief of sufferers from the recent hurricane.

ROGER PILOT, Medical Officer, Mauritius, for services in the relief of sufferers from the recent hurricane.

Honorary M.B.E. (Civil Division)

ZAHI HADDAD, M.O.H., Haifa, Palestine.

Kaisar-i-Hind Medal (Bar)

HENRY T. HOLLAND, C.I.E., M.B., F.R.C.S., C.M.S., Quetta, Baluchistan.

Kaisar-i-Hind Medal (First Class)

Miss HILDA KEANE, M.D., Medical Superintendent, Victoria Zenana Hospital, Delhi.

Miss ADELAIDE WOODIARD, Doctor in Charge, American Presbyterian Memorial Hospital, Fatehgarh, U.P.

IAN ROSS ANDERSON, M.O. in charge, Kalna Mission Hospital of United Scottish Churches Mission, Bengal.

Imperial Service Order (Companions)

Major E. F. HOTTINGER, L.M.S.S.A., I.M.D., Civil Surgeon, Punjab.

LORENS ARTHUR PRINS, Inspecting Medical Officer, Ceylon.

The Order of Merit is conferred upon Sir WILLIAM HENRY BRAGG, K.B.E., F.R.S., in recognition of his eminent services to the advancement of science.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons reassembled on June 2nd, when the third reading of the Representation of the People Bill was taken. Scottish Estimates were put down for the following day, and a Probation of Offenders (Scotland) Bill for June 5th. During the week the House was asked to approve a time-table for the coming debates on the Finance Bill. The House of Lords had no business this week.

On June 2nd Lord Astor addressed the Liberal Parliamentary Party on the grading of milk.

Infant Mortality in India

On June 2nd Mr. BENN, replying to a question, said that figures of the infantile death rate in the cities of Bombay and Madras for 1930 were not available. In 1929 the infantile death rate (under 1 year) in Bombay city was 300.66 per 1,000 registered births. Of the deaths of infants, about 3.3 per cent. were registered as due to small-pox. In the same year in Madras city the infantile death rate was 259.2 per 1,000 registered births. In 1929, 503 deaths from small-pox (about 8.4 per cent. of the total deaths) were registered, but details as to how many were those of infants were not available. The epidemic was the severest since 1905, with the exception of 1924.

Mr. BENN, on June 2nd, informed Mr. Freeman that no exact figure could be given of the average age of mortality in British India. In 1928 (the latest year for which materials for calculating were available) the average age was about 23 years.

Mr. BENN stated that in 1929-30 the gross expenditure of British India (Central and Provincial) on medical and public health services was 6,61,95,450 rupees. This was 2.9 per cent. of the gross revenue for the year.

Universities and Colleges

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated:

SURGERY.—T. F. Davies, O. L. Matthews, C. F. Vieyra, V. M. White.

MEDICINE.—T. F. Davies, B. N. Halder, T. L. O'C. Ryan.

FORENSIC MEDICINE.—G. I. Benjamin, A. N. Coondoo, T. F. Davies, B. N. Halder, A. E. Mathews, S. Ramarao, L. B. Reeves, D. N. Ryalls, H. W. Toussaint, M. R. Tuteur-Samuel.

MIDWIFERY.—M. Belo-Zercovsky, T. F. Davies, W. B. Mattar, T. L. O'C. Ryan, M. R. Tuteur-Samuel, C. F. Williamson.

The diploma of the Society has been granted to Messrs. G. I. Benjamin, T. F. Davies, and A. E. Mathews.

The Services

TERRITORIAL DECORATION

The Territorial Decoration has been conferred upon Lieut.-Colonel G. L. Leathes Lawson, R.A.M.C.(T.F.) (ret.), under the terms of the Royal Warrant of October 13th, 1930.

INDIAN MEDICAL SERVICE DINNER

The annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Wednesday, June 17th. Colonel R. A. Needham, C.I.E., D.S.O., has been invited to take the chair. Tickets and all particulars may be obtained from the joint honorary secretary, Major Sir Thomas Carey Evans, *M.C.*, I.M.S. (ret.), 31, Wimpole Street, W.1.

Obituary

SIR HERBERT WATERHOUSE, M.D., F.R.C.S.

Consulting Surgeon, Charing Cross Hospital; President, Medical Defence Union

As announced in our last issue, Sir Herbert Waterhouse, for many years surgeon to Charing Cross Hospital, died suddenly at his residence in Wimpole Street on May 23rd. About a year ago he had a serious accident, being knocked down by a motor car which mounted the pavement in Harley Street; he was unconscious for several days, but after his recovery continued to take an active part in the work of the Medical Defence Union, of which he was president.

Herbert Fretwell Waterhouse was born in London in 1864, and studied medicine in the University of Edinburgh, where he won the Goodsir Memorial Prize and the Dalgety Travelling Fellowship. He graduated M.B., C.M. with honours in 1887, and was awarded a gold medal for his M.D. thesis in 1888. In 1890 he obtained the Fellowship of the Royal College of Surgeons of England. Before leaving Edinburgh he had held office as president of the Royal Medical Society, and served as resident surgeon at the Royal Infirmary. A period of post-graduate study at Göttingen was followed by appointment as resident surgeon at the Glasgow Royal Infirmary. Then, in 1890, Waterhouse came to London and began his long association with Charing Cross Hospital, to which detailed reference is made below. Later he was appointed surgeon to the Victoria Hospital for Children, Chelsea, to the Osborne Home for Officers, and to the Kensington Children's Hospital. For many years he was examiner in surgery for the Universities of London, Manchester, Birmingham, and Liverpool. He was also a member of the Court of Examiners of the Royal College of Surgeons of England from 1909 to 1919, and served on the Council from 1915 to 1920. He was the author of articles on diseases of the mouth, palate, tongue, tonsils, and pharynx in Treves's *System of Surgery*, and on affections of the nose, larynx, and œsophagus, and other diseases, in Quain's *Dictionary of Medicine*. In recognition of his war services as surgeon-in-chief of the Anglo-Russian Hospitals in Petrograd the honour of knighthood in 1917. Lady Waterhouse died a year or two ago, and he is survived by two daughters.

Sir Herbert Waterhouse was for many years a member of the British Medical Association, and filled the offices of secretary and president respectively of the Section of Diseases of Children when the Association held its Annual Meeting in London in 1895, and in Glasgow in 1909.

Mr. ERIC A. CROOK, dean of the Medical School of Charing Cross Hospital, writes:

The loss of Sir Herbert Waterhouse is one which will be felt by all those who have known him, and most especially by those who have been associated with him at Charing Cross. It was forty-one years ago that he was appointed lecturer in anatomy, joining the hospital after a distinguished student career at Edinburgh University, where he obtained the gold medal in the examination for the degree of Doctor of Medicine, and distinction in that of Master of Surgery. In 1891 he was elected assistant surgeon to Charing Cross Hospital, and in 1903, on the retirement of Mr. Bloxam, he became surgeon to the hospital. He was dean for five years (1901–6), a period of great progress in the Medical School, which was attributable in no small measure to the enthusiasm and zeal that he showed in every sphere of his life. He held the respect and affection of those working under his direction, and was always ready to give help and advice in difficulties that were taken to him. His guidance was always helpful, but his directions had invariably to be put into action without delay. His kindness was best shown by the great personal interest which he took in those students who worked directly under him, and it was his proudest boast that three of his house-surgeons were subsequently elected to the staff of the hospital — Stephen Fenwick, Norman Lake, and Jennings Marshall. As a teacher Sir Herbert's methods were essentially practical, and were dramatically illustrated. He was an advocate of study at the Continental universities as an important part of professional education. During his time as dean of the Medical School, Professor Pavlow, Professor William Welch, and Sir William Macewen were invited to deliver the Huxley Lectures. He was elected a member of the Council of the Royal College of Surgeons in 1915, and served his full term of eight years. He was also an examiner in anatomy and surgery at this time. As an operator and clinician his outstanding abilities are universally known, and need no further comment. In his work outside the hospital, he took very great interest in the Clinical Section of the Royal Society of Medicine, and it will always be remembered how, during his presidency, he raised this Section from its lowest ebb to its present prominent position. Since his retirement from the active staff of Charing Cross Hospital some seven years ago, he has given his valuable services as a member of the council.

Dr. JAMES NEAL, General Secretary of the Medical Defence Union, writes:

By the death of Sir Herbert Waterhouse the Medical Defence Union has sustained a very severe loss. From the time he was elected a member of the Council, in February, 1922, he always took a keen interest in t

work of the Union, and when he became President, in October, 1925, he devoted himself with great enthusiasm to the duties of his office. He was much more than a figurehead; he made it his business to master the details of every difficult case, and spared no effort to safeguard the interests of our members and to repel unjust attacks upon them. Although a busy man, whose time was still largely occupied by professional work, Sir Herbert was always ready to give his close attention to the affairs of the Union. No matter how difficult the problem to be faced, he could always be relied upon to take a broad and statesmanlike view of the available evidence, and his wide experience in medico-legal problems, his sound judgement, and his shrewd common sense greatly assisted the Council to arrive at wise decisions, to the great benefit of our members. His interest in the work never flagged, and by his invariable courtesy, his conspicuous fairness, and his unfailing good temper, he gained the confidence of all he came in contact with, and earned the esteem and affection of his colleagues on the Council. Sir Herbert had the happy knack of combining the *suaviter in modo* with the *fortiter in re*, and he possessed those other personal qualifications which make the ideal president. His valuable services cannot be overestimated, though his work was largely done behind the scenes, and was known only to a few. He will be greatly missed.

[The photograph reproduced is by Thomas Fall, London.]

THE LATE PROFESSOR HALLIBURTON

We are indebted to Sir FREDERICK HOPKINS (President of the Royal Society) for the following appreciation:

To know that Halliburton is with us no more is to feel a sad break with the past, and to be sensible of a gap, no less sad, in one's intellectual environment. Ill-health had kept him out of the arena for some years, but to the last one could reckon on his interest in the things there done. When perforce he went out of the game he remained one of those whose approval makes the continuance of the game worth while. It seemed part of the established order of things that he should be there to approve when approval was earned.

The progress of biochemistry was always dear to Halliburton; we who have been his contemporaries, but have been allowed to outlive him, welcome our younger colleagues, and recognize how much more they know than we knew in our youth; but we sadly miss converse with those who remember past struggles. Halliburton himself began to contribute to knowledge when young enough. He was doing good original work when but little more than twenty, and when his mind was not yet free from the inhibitions wrought by examinations. He took a science degree when eighteen, and qualified at two-and-twenty. Yet in the following year he combined the acquisition of the M.D. with the communication of excellent original work to the Physiological Society. The remarkable industry thus displayed was characteristic of his whole career. One wonders, indeed, if "industry" is quite the right word. He had a *flair* for doing good and continuous work without apparent effort. This was especially evident in his literary activities. It was refreshing, for instance, to note the seeming ease with which he abstracted current literature from the journals—a troublesome task which he often undertook to spare others the trouble. Odd moments, the vacant quarters of an hour, so often wasted, would with him contribute to the production of adequate abstracts from lengthy papers. So with the books he wrote or edited: the work he put into them, always finished at the appointed time, seemed to his friends to be effortless. If, however, Art may conceal Art, there is perhaps an effort which conceals effort. If so, as in the former case, it is genius.

It must always be remembered that Halliburton was, in the fullest sense of the word, a pioneer. It may be that at first he turned to the chemical side of physiology because its manipulations were more possible than those of some other sides for one who could use his right hand but little. Yet he quickly made this branch of science his own, and was the first in this country, by his work and writings, to secure for it general recognition and respect. Like all pioneers, he had at first to be content with poor equipment for the work he wished to do.

To speak of Halliburton without reference to his gifts of true friendship and generous sympathy is impossible. He was wholly free from small motives, and rejoiced in the success of others, whether pupils or friends. I, myself, though in years no younger than he, was a laggard in science. When I started I owed much to the stimulus of his approval. It is sad to feel that I cannot try to win it once more.

DR. ALFRED JOHN SEPTIMUS ROE died at his home in Beverley Road, Hull, on May 16th, after a long and painful illness. He was born at Plymouth in 1864, and, after studying at the School of the Royal College of Surgeons in Ireland, qualified L.R.C.S.I. in 1884 and L.R.C.P.I. in 1886. After a short time in Durham he went to Hull as resident surgeon to the Hull and Sculcoates Dispensary. He was later in general practice at Hull, giving it up about twenty-five years ago to specialize in diseases of the ear, nose, and throat. He was appointed honorary aural surgeon and laryngologist to the Dispensary. The founding of this department of the institution was due to his pioneer efforts. Of a quiet and retiring disposition, Dr. Roe, though keenly interested in national and medical politics, took no active part in them. He was a member of the British Medical Association. His only son died during the war.

Medical News

The summer dinner of the Australian and New Zealand Medical Association in England will be held at the Trocadero Restaurant, Piccadilly, on Friday, June 12th, at 8 p.m., with Mr. T. P. Dunhill, C.M.G., in the chair. Dr. F. N. Kay Menzies will be present as the official guest of the association. All medical visitors from Australia and New Zealand, whether members of the association or not, are invited to be present. The honorary secretaries are Mr. E. T. C. Milligan and Mr. Philip J. Jory, 26, Queen Anne Street, W.1 (Langham 1579).

The opening meeting of the centenary celebrations of the Harveian Society of London will be held at St. Bartholomew's Hospital on Thursday, June 11th, at 3 p.m., with the president, Sir Thomas Horder, in the chair, when Dr. Raymond Crawfurd will deliver an oration. On Friday, June 12th, the Buckston Browne dinner will be held at the Grocers' Hall, Prince's Street, E.C., at 8 p.m., and on Saturday, June 13th, a pilgrimage will be made to Hempstead Church, Essex, where the Bishop of Colchester will deliver an address at 12 noon.

The annual provincial meeting of the Section of Surgery of the Royal Society of Medicine will be held at the Manchester Royal Infirmary on Wednesday, June 10th. The train will leave Euston Station at 10.30 a.m., arriving at Manchester at 2.10 p.m. Operating sessions will be held from 2.30 to 4.30 p.m., and at 4.45 p.m. cases and specimens will be shown. The return journey will be by the train leaving Manchester at 6.20 p.m.

The sixth annual MacAlister Lecture will be delivered before the London Clinical Society at the London Temperance Hospital on Tuesday, June 16th, at 9 p.m., by Major Richard Rigg, chairman of the hospital. The subject is "Medicine and the city guilds." All medical practitioners are invited to be present, and may bring friends (ladies or gentlemen).

The annual meeting of governors of Epsom College will be held at the Royal College of Physicians, Pall Mall East, S.W., on Friday, June 26th, at 4 p.m., when the result of the voting for pensioners, annuitants, and foundation scholars will be announced.

The next meeting of the Medical Society of Individual Psychology will be held at 11, Chandos Street, Cavendish Square, W., on Thursday, June 11th, at 8.30 p.m., for a discussion on "The treatment of sexual impotence by the methods of individual psychology."

The annual general meeting of the Paddington Medical Society will be held on Tuesday, June 9th, at 9 p.m., at the Great Western Royal Hotel, Paddington. The president (Dr. G. de Swietochowski) will deliver an address entitled, "Medical ideals and practice." Non-members will be welcome. The honorary secretary is Dr. J. Cohen, 23, Westbourne Park Road, W.2.

The annual meeting of the Association of Local Government Medical Officers of England and Wales (formerly the Poor Law Medical Officers' Association) will be held on Thursday, June 11th, at 6 p.m., at the Holborn Restaurant, with the president, Sir Arthur Newsholme, in the chair. The meeting will be followed by an informal dinner (morning dress) at 6.30 p.m. Any local government medical officer will be welcome to the meeting and the dinner, the charge for which will be 8s. 6d. Notice of intention to be present should be sent immediately to the honorary treasurer, Mr. Frank Greenwood, Bank Chambers, 159–152, High Street, Stoke Newington, N.16.

At the annual meeting of the Fever Hospitals Medical Service Group of the Society of Medical Officers of Health, to be held at 1, Upper Montague Street, Russell Square, W.C., on Friday, June 12th, at 3.15 p.m., a paper on "State control of therapeutic substances" will be read by Dr. Percival Hartley of the Standards Division, National Institute for Medical Research. Visitors who are interested in this subject will be welcome.

On May 31st a Sunday post-graduate course was started at Charing Cross Hospital. Lectures will be given at 10.45 a.m. and at 11.45 a.m. every Sunday until July 26th. Further information can be obtained from the secretary of the hospital.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found at page 232 of the *Supplement*. The special evening lectures to candidates for the M.R.C.P. are being continued; these are delivered at 11, Chandos Street, Cavendish Square, at 8.30 p.m.; tickets, 10s. 6d. each lecture, may be taken at the lecture hall. A demonstration on radium will be given by Mr. Duncan Fitzwilliams on June 8th at 2 p.m., at the Mount Vernon Hospital, Northwood, and on June 9th, at 5 p.m., Mr. Lowndes Yates will demonstrate cases at the Central London Throat, Nose, and Ear Hospital; there is no fee for attendance at either demonstration. The remaining special courses for June are: diseases of children, at the Children's Clinic and other hospitals; tropical diseases, at the Hospital for Tropical Diseases; medicine, surgery, and the specialties, at the Prince of Wales's Hospital; fractures, at the Royal Albert Dock Hospital; diseases of children, at the St. John's Hospital, Lewisham; proctology, at St. Mark's Hospital; and cardiology, at the National Heart Hospital. Syllabuses and tickets from the Fellowship of Medicine, 1, Wimpole Street, W.1.

The next award of the medal of the Hunterian Society of London will be made in 1932, and is open for competition to all general practitioners of Great Britain, Ireland, and the Channel Islands. The medal will be awarded for the best essay on some medical subject chosen by the writers, and essays must reach the honorary secretaries on or before December 31st, 1931. The president and council have decided that the medal shall be of gold, and not of silver as heretofore. The rules governing the award may be obtained on application to the secretaries, Dr. D. C. Norris, 14, City Road, Finsbury Square, E.C.1, and Mr. Andrew McAllister, 79, Wimpole Street, W.1.

The annual congress of the Rumanian Medical Association will be held at Constantza from June 13th to 15th.

Under the auspices of the Association for Post-Graduate Teaching of the Hospitals of Paris a series of lectures and demonstrations on tonsil surgery will be given from June 15th to 17th at the Necker Hospital for Children. The subjects to be dealt with include the evolution of tonsillar surgery; indications and contraindications from the laryngological standpoint; pre-operative steps; various techniques; post-operative care and the treatment of complications; and the medical point of view. The demonstrations will be conducted in English as well as in French. The fee is 300 francs, and inquiries should be addressed to Dr. Magdelaine, Hôpital Necker-Enfants Malades, 149, Rue de Sèvres, Paris.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Leucoplakia

"G.P." (London) writes: Can any of your readers suggest treatment for a persistent case of leucoplakia of the mouth and tongue? Balsam of Peru and all the usual remedies for stomatitis have already been tried. Apart from this, the patient is in good general health.

Gestation Period in Animals

"Z" writes: Could any of your readers refer me to a book which gives the periods of gestation for animals, and their average weight at birth?

*** Flemming's *Veterinary Obstetrics* (new edition) gives the data for the domestic animals. For non-domestic animals *Tabulae Biologicae* might be consulted. If further information is required our correspondent might write to the Director, Imperial Bureau of Animal Genetics, Edinburgh University, stating a definite query.

Scleroderma with Pernicious Anaemia

Dr. ALEX. PATTON (Widnes) writes: Can any reader enlighten me on the association of brawny, pigmented skin with Addison's disease or the anaemias, particularly as regards etiology? I have a patient whose blood picture is that of pernicious anaemia, with achlorhydria and signs of subacute spinal degeneration. He has also a low blood pressure, marked skin pigmentation, and hard, brawny skin, especially over the legs and fingers. Thirteen years ago he had acute phosgene poisoning, giving the usual chest symptoms. He has also suffered at intervals from dermatitis of the hands. One would be interested to hear of similar cases, evidently toxic, and whether they often arise spontaneously or industrially.

Inflammation at Site of Old Vaccination Scars

Dr. L. J. HARDY (Hull) writes in reply to Dr. W. J. Ledgerwood's enquiry in the *Journal* of May 23rd (p. 919): I would suggest that the lesion is self-inflicted. The age, sex, and site of lesions (left arm) and the fact that they (probably) did

not resemble any straightforward skin disease are in conformity with my suggestion as to their origin. Treatment should be suggestive—that is, paint with brilliant green, and warn the patient that if anything else is applied severe results will follow, even to necessity for amputation! The alternative is strict isolation and observation in hospital.

Income Tax

Professional Residence : Subletting

"LEASEHOLDER" sublets three consulting rooms unfurnished for, say, £1,000. The relative Schedule A assessment is £392. Should the £1,000 be returned for assessment under Schedule D or any other schedule?

*** The judicial decision referred to in a recent answer in this *Journal* was that of the House of Lords in the case of Salisbury House Estate Ltd. *v.* Fry. The facts in that case were, briefly, that the amount of office rents received by the company less the company's annual expenses were in excess of the amount of the Schedule A assessment. The revenue authorities sought to assess the excess under Schedule D, and the company contended that (apart from any profit made directly on the payments for cleaning services, etc.) rents of unfurnished sets of rooms were assessable under Schedule A *only*, and that Schedule D was not applicable. The House of Lords accepted the company's contention, and the Schedule D assessment was quashed. Applying that decision to the facts stated by "Leaseholder," it would appear that the £1,000 cannot be charged under Schedule D, and that to the extent to which it is not covered by the Schedule A assessment it escapes income tax.

Cash Basis

"A. T. V. D." asks, "Are doctors' taxes made up on the actual bookings (less known bad debts), or are they taxed on the actual money earned during the past year?"

*** It is beyond dispute that "the full amount of the balance of the profits or gains"—to quote the words of the statute—on which the tax is chargeable should strictly be calculated by deducting the year's expenses from the year's bookings less a carefully estimated allowance for bad and doubtful debts. The point has not been the subject of a judicial decision, because no one has considered it worth pursuing to the High Court. At the same time the computation of a proper allowance for doubtful debts is so difficult in the case of a medical practitioner that the income tax authorities have for many years accepted returns based on cash receipts less expenses. The reason is that, taking one year with another in a normal practice, the results are the same. Where circumstances are such that this assumption is upset, the authorities refuse, as they are entitled to do, to accept the cash basis—for instance, where a practice is new, or is expanding rapidly, so that the cash profits are lagging behind the true profits.

Sickness Insurance Premiums

"F. B. T." inquires whether these premiums can be treated as professional expenses if, as he understands, the payments for sickness benefit would not be taxable.

*** The position is as "F. B. T." suggests. The payments are not made in the performance of the work of the practice, but rather to provide for someone else being paid to carry it on if the insured is not able to do so. Consequently they cannot be deducted as professional expenses, and, as a natural corollary, the benefit payments resulting from the policy are not professional receipts, and are not liable to income tax.

LETTERS, NOTES, ETC.

Axis-traction Forceps

Dr. R. H. BOTHAM (Darlington) writes: I have been interested in the correspondence relating to Wagstaff's forceps in the *Journal*, and am in agreement with the writers who approve of them. But the chief point of interest in connexion with them is whether their method of achieving axis-traction, or that used in Tarnier's forceps and its modifications, is the correct one. I think this question should be submitted to some expert in mechanics. For myself, I think Wagstaff is right, and that the method used by Tarnier and his imitators is needlessly elaborate, and therefore needlessly expensive. My own forceps, a pair of Assalini forceps with the handles curved back, are made on the same principle, and achieve, I think, an even greater simplicity than Wagstaff's.

Dr. MICHAEL STARK (Wanstead Park, Essex) writes: In 1923 my father, the late Dr. Campbell Stark, published his *Index to General Practice*, in which he strongly advocated the use of Wagstaff's midwifery forceps, and always insisted that, on the ordinary bed, it was much easier to apply the upper blade first. To facilitate this he had his forceps made with the lock reversed. I understand that quite a number of these instruments have been ordered since 1923, but that some practitioners have not found them as easy of application as they were led to suppose. I have recently had a visit from a representative of one of the leading instrument makers, and was surprised to find that they had never supplied these forceps with the reversed lock. In view of the number of these forceps that have been ordered I thought I would seek this means of pointing out a possible explanation of the difficulty that users may have experienced.

Neoplasm following War Service

Dr. RICHARD KERRY (Montreal) writes: A case somewhat similar to that referred to by Mr. Howard Collier in your issue of April 18th (p. 666) came to my notice a couple of years ago. A man who had been gassed twice, on active service, was found to have a large fungating growth in the larynx early in 1927. I took the ground that the lesion had developed in tissue which had been damaged during the war, and that the man was a war casualty. After some argument the Pensions Board granted the man a pension, which, unfortunately, he did not live to enjoy.

Garden Sanitation

Reference has lately been made in these columns to a great teacher and experimenter in the principles of rural sanitation, Dr. George Vivian Poore of University College Hospital, London, who died in 1904. Some of our readers will be glad to know that work is going on near Cheltenham towards a memorial to him—a scheme which was started about a year or more ago. A small estate of ten workmen's houses is to be fitted out with the garden sanitation which Poore advocated; and, later, it is hoped, a small building will be erected in his memory. Professor J. W. Scott of University College, Cardiff, who is supervising the work for the National Homecroft Association, hopes by the end of this summer to be able to show at least two models complete, and perhaps more if funds allow. He will be glad to communicate with readers interested in Poore's work and memory, and any such would be welcomed at a meeting of the committee in charge, which is to be held at 2.30 p.m. on Thursday, June 11th, at Church House, Dean's Yard, Westminster. Dr. F. G. Crookshank will be in the chair, and Professor Scott will present a report.

Medical Golf

The annual summer meeting of the Medical Golfing Society was held on May 28th at Walton Heath. The ninety-six competitors were the guests of Lord Riddell, and greatly enjoyed his hospitality. Results were as follows: *Lancet* Cup (scratch), Dr. W. H. Lamplough, all square. Henry Morris Cup (handicap), Dr. W. H. Lamplough, 2 up. Class 1: First prize—Dr. J. Wallace. Second prize—Dr. W. Gilliatt. The best score for the last 9 holes was returned by Mr. George Dawson. Class 2: First prize—Dr. C. H. Ilott. Second prize—Dr. C. Branwell. The best score for the last 9 holes was returned by Dr. Rolf Creasy. Foursomes: Winners—Mr. Rowley Bristow and Dr. W. H. Lamplough, after a tie with Dr. Galletly and Dr. McGrath. The Knock-out Tournament and Milsom Rees Cup was won this year by Sir Kenneth Goadby, the runner-up being Dr. Bathurst.

A Warning

A London surgeon informs us that a young man, about 25, fair complexion, medium height, who states that his father, now deceased, was a doctor at Purley, and that he is an officer in the Flying Corps, is calling on consultants known to his late father and borrowing small sums of money. Our correspondent has put the matter in the hands of the police, and we advise others to do the same.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 74, 75, 76, 77, 78, 79, 82, 83, and 84 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 80 and 81.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 231.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

543 Benign Acute Pulmonary Tuberculosis

G. G. ORNSTEIN, D. ULMAR, and E. L. DITTLER (*Amer. Rev. Tuberculosis*, March, 1931, p. 223) from an experience of 58 cases describe an acute form of tuberculosis which is sudden in onset, of brief duration, and ends in complete resolution. The symptoms are very mild, following a period of perfect health. They consist of a slight cough with scanty expectoration lasting only a few days; haemoptysis, streaked or copious, was an initial symptom in 43 per cent. of the cases. Such haemoptysis associated with slight cough and expectoration, rapidly disappearing and leaving the patient apparently quite well, suggests the acute benign form of tuberculosis, while a history of recent contact with a case of tuberculosis renders the diagnosis practically certain. The *x*-ray findings are important, extensive dense homogeneous shadows developing rapidly and diminishing gradually, or by irregular absorption, producing an appearance suggestive of cavitation. Tubercle bacilli must be searched for early, since they are generally to be found only within the first few days of the onset. In 22 per cent. of the cases there was a definite history of exposure to tuberculosis, and it is essential for such patients to be protected from the possibility of future contact with tubercle bacilli. Complete rest in bed until all *x*-ray evidence of lesions has disappeared is the only treatment needed, and the entire cycle, from the commencement to the completion of resolution, may not be longer than from six to eight weeks.

544 Relapses in Scarlet Fever

A. LICHTENSTEIN (*Acta Paediatrica*, March 15th, 1931, p. 379) states that a relapse in scarlet fever may be defined as the reappearance during the course of the disease of the typical symptoms, especially the exanthem, in which it is possible to produce an extinction reaction by convalescent or antistreptococcus serum. At the Stockholm Epidemic Hospital, of which Lichtenstein is the director, the frequency of relapses in scarlet fever was formerly 0.5 to 0.6 per cent. Recently, however, there had been a striking increase in their frequency, especially since 1925, when the incidence of relapses was 3.9 per cent., rising in the subsequent four years to 7.2, 7.1, 7.5, and 10 per cent. respectively. The relapses were commonest between the ages of 5 and 10 years, and in the third and fourth weeks of the disease, but might occur from the first to the twelfth. In most cases the symptoms were mild, but 56 out of the 213 cases were sufficiently severe to require serum treatment, and 4 out of 377 cases (1.1 per cent.) were fatal. Relapses were less frequent in cases receiving scarlet fever antitoxin or convalescent serum than in cases not so treated. Lichtenstein regards the recent increase of relapses as connected with the mild character of scarlet fever at the present time.

545 Syphilitic Arthritis

I. H. LLOYD-WILLIAMS (*Urol. and Cut. Rev.*, April, 1931, p. 225) states that syphilis of the joints may occur in either the secondary or the tertiary stage of the acquired disease, and also in the congenital form. The earliest manifestation is arthralgia, which frequently accompanies the roseola, and varies in intensity in different cases, being usually worst at night. In the late secondary or early tertiary stage the large joints such as the knees are most frequently affected, usually on both sides. The joints become swollen and more or less fusiform, and there is a variable thickening of the synovial membrane and surrounding tissues. As in other forms of chronic synovitis, there is apt to be some muscular spasm and wasting. The tertiary stage is characterized by gummatous deposits, usually in the perisynovial tissues, but sometimes in the cancellous tissue of the ends of the bones, whence it may invade the cartilage. In congenital syphilis the usual form encountered is a chronic synovitis similar to that seen in secondary syphilis. Charcot's disease occurs in locomotor ataxy, and as the disease progresses causes complete disorganization of the joint.

546 Encephalitis in Undulant Fever

G. SUÁREZ (*La med. Ibera*, March 14th, 1931, p. 389), who records an illustrative case, states that in contrast with the frequency of bronchitis, arthralgia, myalgia, orchitis, anaemia, splenitis, and other complications, involvement of the cerebro-spinal centres in Malta fever is surprisingly rare, although cases of meningitis have been described by Scherb and one of myelitis by Fernando Sanz. The present patient was a previously healthy youth, aged 19, in whom on the ninth day of an attack of Malta fever, contracted from eating goat's milk and cheese, there suddenly developed violent delirium followed by complete flaccid paralysis and insensibility; coma and loss of sphincter control were followed by death. Slight nuchal rigidity during the last two days of life showed that the meninges were involved. The cerebro-spinal fluid was sterile, and showed a well-marked albumino-cytological dissociation, there being only 0.30 gram albumin with 610 cells to the cubic millimetre. No mention is made of a necropsy.

Surgery

547 Torsion and Volvulus of the Stomach

Total volvulus and complete torsion of the stomach are rare and have only recently been recognized as pathological entities. W. A. MORRISON (*Surg., Gynecol. and Obstet.*, April, 1931, p. 871) records a case of almost complete gastric torsion, remarkable because there was a complete interference, with stoppage of blood to the organ, which caused the patient's death. Becker states that a true volvulus is a rotation of the whole viscus between the pylorus and cardia, while torsion is a rotation about the other axis. The factors commonly associated by different authors with each condition are enumerated. Usually the circulation appears to be more or less resistant to the torsion, and is not greatly disturbed. The usual sequel is perforation of the stomach due to distension, unless treatment is instituted or death supervenes. Pathognomonic symptoms are absent. The onset is sudden, with rapid appearance of acute gastric pain, retching, absence of peristaltic movements, perhaps facial cyanosis, and a quick pulse unassociated with high temperature. According to Pilcher, an immediate diagnosis can be made when there is vomiting which suddenly stops and is followed by an immediate increased distension. Immediate operation is imperative. The treatment of volvulus comprises puncture of the stomach, evacuation of gas and fluid, reduction of the torsion, and gastroenterostomy. In torsion due to a stenosis or other conditions, the pathological lesion should be treated by acceptable methods. The formation of a fistula may be indicated as a complementary operation.

548 Electro-surgical Scalpel in Renal Surgery

W. W. SCOTT (*New York State Journ. Med.*, April 1st, 1931, p. 394) records notes of five cases operated upon for renal calculi. The edge that it was only necessary to reduced the haemorrhagicle in one of them; in this case clamp the vascular pisable to resect a dilated lower calyx, it was considered adme a favourable site for renewed stone lest it should becor emarks that the control of bleeding formation. Scott r

permits quicker and better operative work; with the necessity for fewer sutures there is less loss of renal function, since Moore and Corbett demonstrated in 1911 that the suturing necessary to control haemorrhage decreased the kidney function more than the actual sectioning. By eliminating the possibility of renal injury resulting from compressing or clamping the vascular pedicle a distinct advantage is gained, especially when operating for calculi in a sole remaining kidney of low functional value. Since bleeding is very moderate, necessitating but little suturing for its control, the chances of recovery are increased in proportion to the amount of functional parenchyma preserved. A mattress suture, as described by Deming, was used in one of these cases. A combination of the electro-surgical scalpel with the Deming suture is of great value in operations upon the renal parenchyma. A spark-gap generator developing a current which readily cuts and simultaneously seals severed vessels with the least possible destruction of parenchyma is essential. Since the generators have not yet been properly standardized, each machine must be tested on animals.

549 The Latero-posterior Incision for Appendicectomy

A. L. SORESI (*Amer. Journ. of Surg.*, March, 1931, p. 552) describes a latero-posterior incision for appendicectomy which permits direct access to the base and whole of the appendix, and obviates the disadvantages of the abdominal route. This incision, parallel to the axillary line, begins, according to the thickness of panniculus adiposus, more or less close to the twelfth rib, and extends to the pelvis; it runs about 2 cm. behind the anterior superior iliac spine. This exposes in succession the fascia of the external oblique, that muscle, the internal oblique, and the transversalis. The fibres of these muscles are separated, not incised; the peritoneum is incised parallel to the skin incision, thus exposing the caecum, which is grasped and gently pulled upward to reveal the base of the appendix. This incision is ideal only for appendicectomies and not for exploratory laparotomies. It renders appendicectomy safer when severe complications are present, such as retrocaecal appendix and abscess. It decreases shock, obviates packing and much retraction, allows perfect drainage, and does not cause any post-operative complications, such as adhesions or ventral hernia. The procedure is speedier than any other, and can easily be performed under any form of anaesthesia. Moreover, the patients are more comfortable after such an appendicectomy. Pus in a localized abscess can be evacuated without infecting the general peritoneal cavity. A technique is described and advocated for subserous appendicectomy which renders the operation safer, easier, and quicker even if dense adhesions are present.

Therapeutics

550 Treponeme Therapy in Syphilis

G. VERROTTI (*Rinascenza Med.*, February 1st, 1931, p. 57) reports seven cases of syphilitic superinfection as a possible form of treatment. In one case of malignant syphilis the spontaneous lesions disappeared during the development of the induced lesions, while in another less severe the former disappeared before the development of latter. In both instances specific treatment was after the experimental inoculations, and this cured the superinfected lesions. There were no re- years. In another case with neurological

Dr. R. H. BOTHAM (D. clinical and serological improvement ested in the correspondnstance the infected material for in the *Journal*, and amd by the author from a primary who approve of them. Bu and without the interposition in connexion with them is sted by Hilgermann; it was achieving axis-traction, or that and its modifications, is the cations near the primary question should be submitted to sonway. Although in such For myself, I think Wagstaff is right, lays the greater part, used by Tarnier and his imitators is obtained in every case and therefore needlessly expensive. My indirectly, humoral of Assalini forceps with the handles curv o. The dangers of superinfection suggested by Gougerot seem to be non-existent. The author concludes that his results and those obtained by others seem to justify the possibility of reinforcing in this way the chemotherapeutic treatment of syphilis, thereby obtaining unexpectedly beneficial results in neurological cases also.

551 Administration of Emetine in Amoebic Colitis

A. C. REED (*Amer. Journ. Med. Sci.*, April, 1931, p. 553) considers emetine a powerful, dangerous, and valuable remedy, the complete action of which is at present imperfectly understood. It must therefore be administered with great caution, a careful watch being kept for symptoms of poisoning, which appear in the gastro-intestinal tract, the nervous system, and in the circulatory apparatus. Thus excessive doses in animals cause gastric irritation, with vomiting, melaena, and collapse; in human patients acute diarrhoea may result from rapid overdosage or the cumulative effects of too long continued injections. In the nervous system there may be toxic manifestations, such as peripheral neuritis and oedema of the feet and ankles. Increase of the pulse rate and lowering of the blood pressure are danger signals, as also are dyspnoea on exertion and complaints of weakness. The treatment must therefore be adapted to the individual, but the total amount of emetine given in any one course must not exceed 0.010 gram per kilo of body weight. The injections should extend over ten to twelve weeks, and be started by a series of six daily hypodermic doses of emetine hydrochloride, each of 1 grain (0.065 gram) for adults of medium weight and aged up to 65. These are followed consecutively by six doses each of half a grain, making a total of 9 grains of emetine. Clinical experience points definitely to a maximum safe dosage of 12 grains in a single course. Subsequently arsenic is given by Reed in the form of stovarsol, and then chiniofon (yatren) by mouth and by rectal injections. A week is next devoted to tonic treatment with iron, strychnine, and quinine, and then 1 grain pills of bismuth emetine iodide are given three times a day. When necessary, emetine injections can now be resumed.

552 Oily Solutions of Insulin in Diabetes

H. CHABANIER, C. LOBO-ONEL, and E. LÉLU (*Presse Méd.*, February 14th, 1931, p. 219) report eight cases of severe diabetes where the ordinary aqueous solutions of insulin failed to give satisfactory results or had risen to the limit of safety. By substituting an oily solution excellent results were obtained. Since oily solutions take much longer to be absorbed, they enter the circulation more slowly than the aqueous solutions, and their effect is more continuous, so that a full daily dose in the morning suffices instead of the two or three necessary with aqueous insulin preparations. In some cases it was found possible to reduce the dose to one every other day. The authors do not suggest that oily solutions should replace watery ones in the ordinary case, for with oily solutions much care is necessary in regulating the times of taking food and testing the blood sugar; they reserve them for those cases in which, for one reason or another, it is inadvisable to push aqueous solutions, although the urinary and blood signs are not completely cured.

553 Trypaflavine in Typhoid Fever

M. L. GAWLER (*Thèse de Paris*, 1931, No. 63), who records ten illustrative cases in patients aged from 15 to 28, states that trypaflavine is an eminently bactericidal substance and one of the most powerful antiseptics known. Good results are obtained from its intravenous use in typhoid fever, in which it should be employed in the severest cases which show no tendency to react to other treatment. The administration of trypaflavine should be preceded and followed by estimation of the blood urea content, since the drug is apt to damage the renal cells. The dose injected intravenously should not exceed 0.005 gram for each kilo of body weight. The best dose is 0.2 gram injected every two or three days in a 1 per cent. solution. The most obvious result of the intravenous injection of trypaflavine is the fall of temperature; this is accompanied by improvement in the general symptoms.

Radiology

Ureteral Pyelography

554 A. BOECKEL and A. FRANCK (*Lyon Chir.*, January–February, 1931, p. 5) give their experiences and opinion on the value of examination by pyelography in 575 cases of various lesions of the kidney. Pyelography enables the surgeon, before operation is undertaken, to ascertain the topography and exact anatomical condition of the kidneys. It must not be employed in cases of uraemia, when fever is present, or during a renal haematuria. Before a successful pyelography can be secured the intestines must be evacuated, preferably by an oil purgative, and pulverized animal carbon be given to absorb gas; pituitrin is injected the night before. The opaque solution chosen varies according to the condition suspected, 5 per cent. collargol being used for pyelography of renal lithiasis, 10 per cent. collargol when a large hydronephrosis is diagnosed, and 30 per cent. sodium bromide in the majority of other cases. When sodium bromide is used, not more than 20 c.cm. must be injected into each pelvis; warmed solution is more easily tolerated. A successful pyelogram can also be obtained by means of an injection of air into the ureteral catheter, this method being known as pneumopyelography. The shadows by this means are less clear than with ordinary pyelography, but it has the advantage of being quite painless, and gives more reliable information, particularly in cases of renal lithiasis. Immediately before the pyelogram is to be taken an antispasmodic should be given, and under no circumstances should a general anaesthetic be administered, owing to the danger of over-distension of the pelvis. It is advisable to perform bilateral pyelography, since in cases of small hydronephrosis, of ptosis, and of tumours and their anomalies it is important that a comparison between the two kidneys should be available. Upon the result of the pyelography treatment must be decided, and this form of diagnosis is of special value in cases of renal calculus, nephroptosis, and malformations of the kidneys and ureters.

X-Ray Treatment of Primary Malignant Lymphadenoma

555 P. SCHLANGER and E. W. DE SCHLANGER (*Rev. Sud-Amer. de Méd. et de Chir.*, February, 1931, p. 141) state that in the acute lymphadenomatous type of Hodgkin's disease, seen in young previously healthy subjects, and characterized by the rapid development of large localized tumours and by early cachexia and fever, radiotherapy reduces the size of the tumours but fails to arrest the disease; sero-fibrinous pleurisy appears, indicating the approaching termination. Pleurisy due to mediastinal glandular involvement is not of such grave import, and yields to radiotherapy. In acute lymphadenoma and acute leukaemia, radiotherapy is useless except during an apyrexial period; if fever returns, this treatment should be abandoned. In untreated chronic lymphogranuloma, especially frequent in young subjects, although it may occur at any age, the localized tumours remain apparently stationary, but ultimately all the lymph nodes are involved, with gradual onset of fever and cachexia. Death occurs in from two to seven years. Radiotherapy improves, and sometimes cures, these cases; two patients remained cured after two years. Lymphosarcoma, whether of the spindle-celled or round-celled type, is very sensitive to *x* rays. Complete cure is rare, as the prolonged treatment necessary may cause skin lesions. Treatment should be given at intervals corresponding to the progress of the disease, and even very severe cases may sometimes yield to radiotherapy.

Radiography in Antral (Highmore) Diseases

556 R. G. BROWN (*Journ. College of Surg. of Australasia*, November, 1930, p. 151) believes that *x*-ray examination of the accessory nasal sinuses affords the only means of definitely ascertaining their pathological condition, and that it is an essential procedure in diseases of these cavities, especially when the symptoms are obscure. He deals only with antral conditions, and formulates certain rules for the taking of the plates. Films must be exposed to rays from proper angles and of the correct density; the head, film, and tube must be so fixed that the dense, unrequired structures will fall outside the desired field. Several exposures and positions are necessary; four views and stereoscopic pictures in at least one position should be taken. The patient must be in an upright position, and a Potter-Bucky diaphragm be used. The strength of current employed depends on the individual radiologist. The following four head positions are utilized by Brown: a modified occipito-frontal or postero-anterior, lateral or bitemporal, axial, and an oblique lateral. A series of typical cases illustrating the various conditions encountered in the antra is described. These are divided into two groups: those with alterations in the bony walls, and those with alterations in the antral contents. The former comprise malignant involvement, trauma by penetrating foreign bodies, alteration of the walls and invasion of the cavities by dental and dentigerous cysts, osteitis, osteomas, and conditions following antral operations. The second group includes acute and chronic inflammatory changes, cysts, hydrops, calculi, cholesteatoma, and tumours. In conjunction with D. A. WELSH, Brown also records a microscopical study of several muco-periosteal membranes removed from the antrum.

Obstetrics and Gynaecology

The Ureters and Menstruation

557 By radiography of the ureter after intravenous injection of a substance casting a shadow during its excretion by the urinary tract, O. SAITZ (*Zentralbl. f. Gynäk.*, February 7th, 1931, p. 347) found that two out of every three women showed a dilatation of the ureter during menstruation which was similar to that found in pregnancy. Dysmenorrhoea was reported by all patients showing such dilatation. It was also found in them that drainage of the ureter by a catheter relieved the pains of dysmenorrhoea; these pains returned and disappeared when the ureteral catheter was alternately blocked temporarily and then freed. Saitz is satisfied that in certain patients the sole cause of dysmenorrhoea is ureteral colic, and for such cases uses the term "ureteric dysmenorrhoea."

Etiology of Uterine Haemorrhage

558 C. F. FLUHMANN and DOROTHY L. MORSE (*Amer. Journ. Obstet. and Gynecol.*, April, 1931, p. 455) discuss the relation of uterine haemorrhage to the menstrual cycle and the pathological findings in such cases. Of 1,137 cases of haemorrhage from the uterus, 507 occurred in non-pregnant women, and 630 were associated with pregnancy. In non-pregnant women eight distinct categories were recognized according to the clinical signs. In menorrhagia, with no disturbance of the sequence of events in the menstrual cycle as regards the ovaries and endometrium, the most frequent factor was interference with the contractile power of the uterus, or hyperaemia of the pelvic organs. In the second class there was irregularity in the menstrual time factor, due to ovarian dysfunction, either of a primary endocrine nature or secondary to anatomical lesions. Endometrial proliferation was a third primary cause, possibly associated with infection or hyperplasia of the uterine wall, or with the appearance of submucous fibromyomas and endometrial polyps. Haemorrhage may also occur in the middle of the menstrual cycle at a time corresponding with the rupture of the Graafian follicle, the so-called ovulation bleeding. A type of haemorrhage characterizing hyperplasia of the endometrium is found when the menstrual periods become progressively more profuse or irregular, and end in continuous bleeding. During a period of amenorrhoea in non-pregnant women of child-bearing age haemorrhage may also result from a traumatic or ulcerative lesion of the uterus, following the previous removal or destruction of the ovaries. New growths or inflammation may give rise to bleeding in consequence of trauma

or ulceration of the cervix or endometrium. After the climacteric, irregular haemorrhage may be due to these causes, and in rare cases ovarian new growths may affect the endometrium and thus give rise to loss of blood.

559 Accelerated Growth of Ovarian Tumour after Radiotherapy

G. VOYADZOPOULOS (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, February, 1931, p. 115) quotes a case in demonstration of the fact that insufficient penetration with *x* rays will accelerate the growth of a tumour rather than cause it to shrink. The effect upon the tumour appears to be entirely due to the intensity of the irradiation. Above a certain strength the irradiation is favourable; below, it acts in the opposite way, and appears to excite the epithelial tissue instead of destroying it. The author's patient was a woman, aged 50, who had an inoperable cancerous mass of the right ovary. Ten days after the exploratory operation, her general condition being satisfactory, she was submitted to *x*-ray treatment, being irradiated on twelve occasions for a quarter of an hour at each time, and then discharged. One month afterwards the tumour was found to be considerably larger; in addition, a small tumour had appeared in the left ovary. The patient died one month later. The author considers that the *x*-ray administration certainly accelerated death. Additional confirmation of this view is given in a note by the radiographer, Lehman, who states that while waiting for a new transformer for his apparatus a provisional transformer was installed. The usual apparatus gave a tension of 250 kilovolts, the rays being filtered through 0.8 mm. copper and 1 mm. aluminium. The temporary apparatus gave 150 kilovolts, and the rays were filtered through 0.5 mm. copper and 1 mm. aluminium. The four patients who were treated by the temporary apparatus all presented an aggravation of their lesions at the end of a week, after having received a dose of 4,000 R during this period. The aggravation was most marked in the case in which treatment was least advanced. Lehman considers that treatment applied with a voltage of less than 200,000 excites the growth of a neoplasm.

Pathology

560 Etiology of Disseminated Sclerosis

P. LÉPINE and P. MOLLARET (*Bull. de l'Acad. de Méd.*, March 24th, 1931, p. 512) discuss the morphological and cultural characters of *Spherula insularis*, the micro-organism described by Chevassut as the probable causative agent of disseminated sclerosis. In order to substantiate or refute the findings of this investigator, the present authors conducted a series of experiments on twelve undoubted cases of the disease and six control cases, and also comparative tests of each cerebro-spinal fluid, with either physiological saline solution or artificial cerebro-spinal fluids. Though Chevassut's technique was faithfully followed, Lépine and Mollaret were unable to confirm her findings either by microscopical examination or by a study of the ionic concentration of the culture media. They attribute the microscopical appearances reported (spheres and granules) to flocculation of certain elements of the human serum used in the cultures. No changes were noted in the *p*H of the media which would favour growth of a living virus; such changes as were noted were contrary to this hypothesis.

561 The Intrinsic Carbohydrate Metabolism of the Skin

D. M. PILLSBURY (*Journ. Amer. Med. Assoc.*, February 7th, 1931, p. 426), acting on the evidence that there is an association of a high carbohydrate intake with various disorders of the skin, has undertaken experimental studies on the intrinsic carbohydrate metabolism of the skin. From recent work it would appear that: (1) the skin may serve as a temporary storehouse for large amounts of dextrose; (2) that there is in man a fairly constant ratio between the dextrose content of the skin and of the blood, but that, following ingestion of large amounts of dextrose, this ratio may be disturbed; (3) that the skin contains diastatic and glycolytic enzymes; and (4) that, in common with all other tissues that have been studied, skin cultures *in vitro* give off lactic acid. It has been satisfactorily demonstrated that glycogen is synthesized from blood dextrose in the liver, and probably in the muscles; that lactic acid is formed from muscle glycogen during exercise; and that much of the lactic acid so formed is re-synthesized into glycogen by the muscle and liver. Pillsbury's experiments were directed towards determinations of the lactic acid content of the normal skin of starved and well-fed animals, and study of the formation of lactic acid during the incubation of skin samples. He found that this acid was normally present in the skin, and that its formation *in vitro* was a consistently demonstrable finding in normal skin, except when the skin had been previously frozen. In the presence of dextrose in the incubating medium, especially in phosphate buffer solution, lactic acid formation was increased. The lactic acid level of skin tends, he found, to be low in starved animals and higher in well-fed animals. Decreased oxygen tension has no significant effect on lactic acid formation by the skin *in vitro*. Pillsbury hopes that the value of these experiments lies in the adaptability of the method to the study of the metabolism of the skin in pathological conditions.

562 The Search for B. coli in Water

F. DIENERT and P. ÉTRILLARD (*Ann. de l'Inst. Pasteur*, March, 1931, p. 277) discuss the value of the different methods employed for demonstrating the presence of *B. coli* in a water supply. The usual method in France consists in adding the water to a liquid medium containing 0.1 per cent. phenol. The rationale of this method lies in the assumption that the phenol will inhibit the growth of *B. coli* less than that of other organisms present. The authors consider this assumption doubtful; when other organisms are present in large numbers, and *B. coli* is relatively scarce, then it may be completely overgrown, and its presence not detected. To avoid this disturbing element introduced by the presence in varying numbers of other organisms, they recommend the use of solid media. The organisms in the water are concentrated by the addition of alum, which causes 95 per cent. of them to undergo sedimentation, and the precipitate is then plated out directly, by the pour method, on to a suitable selective medium such as endo or litmus lactose agar. Each organism has then the opportunity to develop, uninfluenced by the activities of other organisms. Besides looking for *B. coli*, the authors strongly recommend the search for organisms of the typhoid-paratyphoid group. For this purpose they use a lead acetate medium, on which *B. coli* produces colourless colonies, and the typhoid-paratyphoid organisms black colonies. These two tests are of considerable value in judging the potability of a given water supply. In practice *B. coli* is often found in contaminated waters in the absence of organisms of the typhoid group, whereas the reverse finding is uncommon. A water that contains neither *B. coli* nor organisms giving black colonies on lead acetate medium they regard as perfectly satisfactory for drinking.

563 Renal Function Tests in Hypertrophy of the Prostate

J. JAKSY (*Bratislavské Lekárske Listy*, March, 1931, p. 122) tested the function of the kidneys in fifty patients with hypertrophy of the prostate, the procedures he employed being: (1) the determination of the blood urea; (2) the estimation of Ambard's constant; and (3) the injection of phenol-sulpho-phthalein. The values obtained were compared with each other and the clinical condition. The author concludes that the most reliable information is obtainable from the phenol-sulpho-phthalein test. Disturbances of the hepatic circulation may retard the elimination of the dye, but any operation is known to be contraindicated in such cases. Prostatectomy was undertaken whenever more than 40 per cent. of the injected phenol-sulpho-phthalein was eliminated within the first seventy minutes, and in no single case did any post-operative renal complications appear.

Measuring Progress by the Therapeutic Yardstick

ANCIENT medicine set great store by "specifics." Paracelsus had his "Specificum Purgans." Cophon relied on mirobolanum or rhubarb in relieving constipation. Suppositories of honey and oxgall had their day in the fifteenth century.

Medicine has since made notable advances toward rationalism. In this day of therapeutic progress Agarol Brand Compound holds the foremost place. An exceptionally fine emulsion of mineral oil and agar-agar with phenolphthalein, it is not merely a laxative, but a remedial measure in the efficient treatment of constipation.

By introducing unabsorbable moisture, Agarol Brand Compound keeps the intestinal contents soft and makes their passage easy and painless. By *gentle stimulation* of peristalsis, it makes the result certain and aids in re-establishing normal bowel function.

One tablespoonful at bedtime —is the adult dose

Final decision on the true worth of Agarol Brand Compound rests with the physician. We will gladly send a liberal quantity with literature, for trial.

AGAROL BRAND COMPOUND *for Constipation*

FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC., *Manufacturing Pharmacists Since 1856.*

RHEUMATOID and OSTEO-ARTHRITIS

Amidst the recognised difficulties in treatment of advanced cases of Rheumatoid and Osteo-Arthritis it is not generally realized that many patients have been restored to active life after being bedridden, suffering great pain for years, by Hoefftcke's Ambulatory Extension Treatment.

Many cases have been described by eminent medical men, some results of which are shown below.

FIG. 1.—December, 1921.

Case of Mrs. H., aet. 35.

FIG. 1.—Shows the knee-joint fixed in a position of partial flexion; patella ankylosed.

FIG. 2. — Shows after an interval of 9 years the improvement which resulted from 3 years' extension treatment—the complete restoration of the tibio-femoral joint which permits of free and painless flexion and extension.

This case was one of exceptional severity. In the average case the Extension Walking Appliance can be discarded in one or two years from the time of its first application.

FIG. 2.—April, 1930.

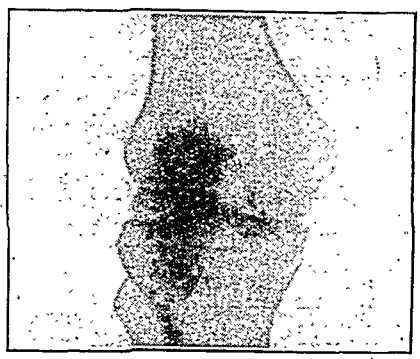


FIG. 3.—December, 1921.

FIG. 3.—Shows the irregularity of the outline of the articular surfaces as seen from before backwards. The interval between the bones is practically obliterated.

FIG. 4.—Shows the joint in an antero-posterior plane. Note the restoration of the outlines of the articular surfaces and the formation of a practically normal interval between the bones.

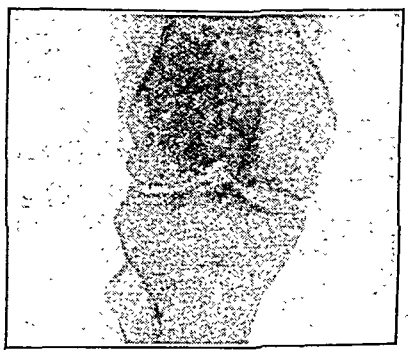


FIG. 4.—April, 1930.

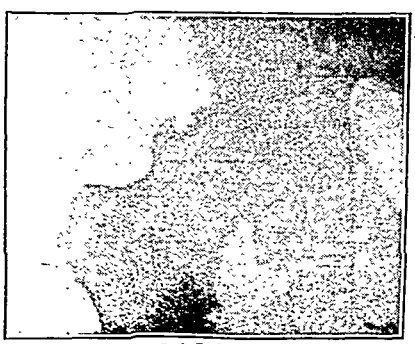


FIG. 5.—July, 1929.

Case of Mr. S., aet. 68.

FIG. 5.—Shows the hip-joint practically ankylosed in the adducted position. Patient hardly able to walk with great pain.

FIG. 6. — Shows spike absorbed; cavity filled in; head of femur covered with new cartilage, resulting in free abduction with full painless movement in the joint.

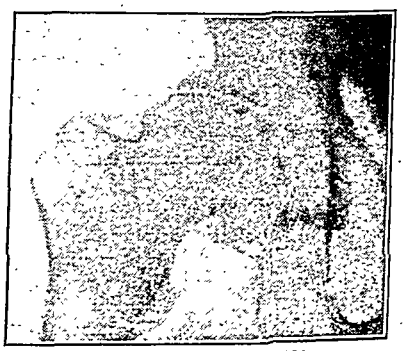


FIG. 6.—February, 1931.

Particulars and illustrations of this treatment will be forwarded on application, and original radiograms of these and other cases can be shown

by

CAREL A. HOEFFTCKE, 7, Harley Street, London, W.1.

SURGICAL SERVICE
SALTAIR

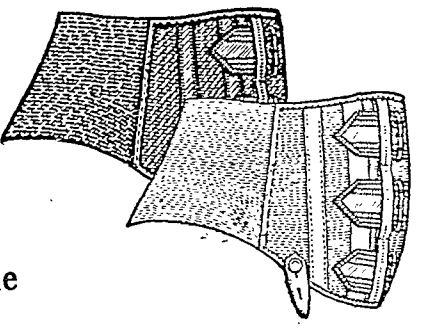
SALTAIR SURGICAL SERVICE

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

Seasonal Changes



The unavoidable restrictions imposed by the ordinary surgical appliances often tempt patients to discard them during the summer months.

SALT'S
Specially Light Summer-time APPLIANCES

overcome all possible objections to the wearing of appliances during warmer weather.

Salt's summer-time appliances are light, comfortable, and afford complete freedom of movement, with the proper and necessary support required.

Patients who value hygiene will appreciate the welcome change from the ordinary appliance, enabling the latter to be released for cleaning and repair.

London Consulting Rooms:
"OAKLEY HOUSE," 14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

'Phone London - Museum 3845.
'Phone Birmingham - Midland 5455.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT

ESTABLISHED 1793

DEAF DOCTORS

AND DEAF PATIENTS

HAVE proved "ARDENTE" a boon—a Heart Specialist whose work is so dependent on his hearing writes: "'Ardente' is a godsend to me"; without "ARDENTE" he is, to all intents and purposes, "stone" deaf; with "ARDENTE" he carries on his work—what better testimony to "ARDENTE" merit?

Mr. Dent makes a Stethoscope specially for deaf Doctors—the only one of its kind, which is widely used and praised. Doctors whose work lies amongst the deaf prefer to prescribe "ARDENTE" because they know that "ARDENTE" is the only individual method in the whole deaf world (no mass production way can ever succeed with human disabilities) and they know what "ARDENTE" service stands for to the deaf. Many who are deaf use "ARDENTE."

"ARDENTE" is entirely different and uncopyable and succeeds in widely-differing cases. A full range covers the needs of those suffering from varying forms and degrees of deafness and tinnitus. Minutely adjusted to the requirements of the case for young, middle-aged, or old, and so sensitive as to have the desired effect even in middle-ear and nerve cases, bringing into action and stimulating the auditory system, enabling it to function naturally and saving atrophy. "ARDENTE" can be used or not at will, and is sold under guarantee.

"ARDENTE" is the choice of Doctor and patient—only after test and hearing, or from prescription or particulars, is "ARDENTE" fitted, toned, adjusted, and supplied.

MI R.H.DENT'S
Ardente
FOR DEAF EARS

309, OXFORD ST., LONDON, W.1

(Midway between Oxford Circus and Bond Street)

Telephone: MAYFAIR 1380/1718.

9, Duke Street, CARDIFF.
118, New Street, BIRMINGHAM.
27, King Street, MANCHESTER.
37, Jameson Street, HULL.
271, High Street, EXETER.
64, Park Street, BRISTOL.
53, Lord Street, LIVERPOOL.
23, Blackett Street, NEWCASTLE.
206, Sauchiehall Street, GLASGOW.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
30, Wellington Place, BELFAST.

Tests and demonstrations given at Doctors', patients' or our addresses, without fee or obligation.

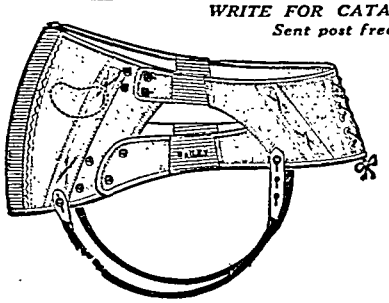
CAREFUL ATTENTION GIVEN TO DOCTORS' INSTRUCTIONS AND PROMPT DISPATCH.

W. H. BAILEY & SON

SPECIALISTS IN ABDOMINAL BELTS, TRUSSES, AND ELASTIC STOCKINGS.

Telephone: GERRARD 3185. 2313. *Telegrams:* BAYLEAF, LONDON.

WRITE FOR CATALOGUE.
Sent post free.



No. 5a. BELT (Bailey's Patent) FOR FLOATING KIDNEY.

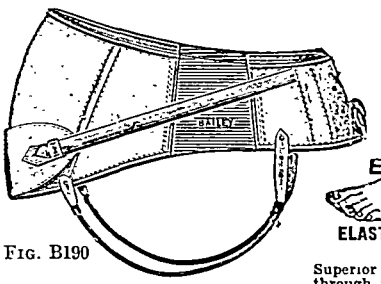
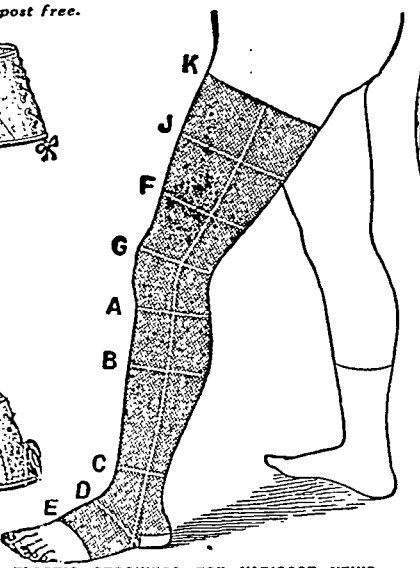


FIG. B190

BELT FOR ENTEROPTOSIS.



ELASTIC STOCKINGS FOR VARICOSE VEINS.
Uniform support maintained throughout.
Superior to any bandage; harm often being caused through unequal pressure in winding round the limb.
97 YEARS' REPUTATION FOR BEST QUALITY AND COMFORT.

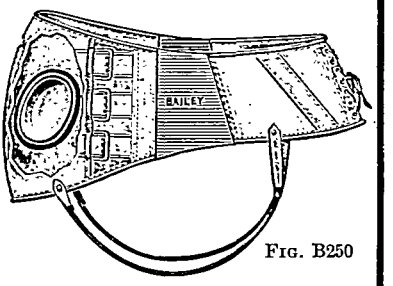
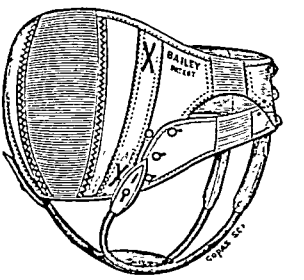


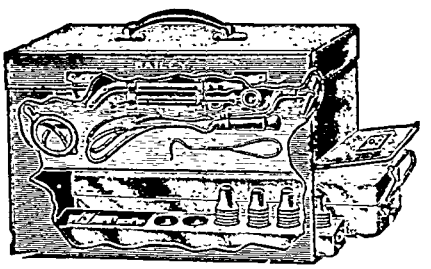
FIG. B250

(Showing Interior of Cup.)
SPECIAL BELT FOR AFTER COLOSTOMY.



No. 3. BELT (Bailey's Patent) FOR PROLAPSUS UTERI.

INSTRUMENT AND APPLIANCE DEPARTMENT.



S.C. 1360.

S.C. 1360.—Bailey's large size Surgeon's Midwifery Case, made in best Cowhide, fitted with Slide Tray, to take six 1-oz bottles in metal cases, and Chloroform Drop Bottle, in separate compartment at side of Sterilizer,

Size 17 × 10 × 7 ... ... £3 15 0

Ditto, fitted with best nickel-plated stamped-out seamless 16-in. Sterilizer (with lamp and tray) ... £5 15 0

Cases fitted complete—Prices on application.

BAILEY'S "BELGRAVE" SPHYGMOMANOMETER

BRITISH MADE THROUGHOUT.

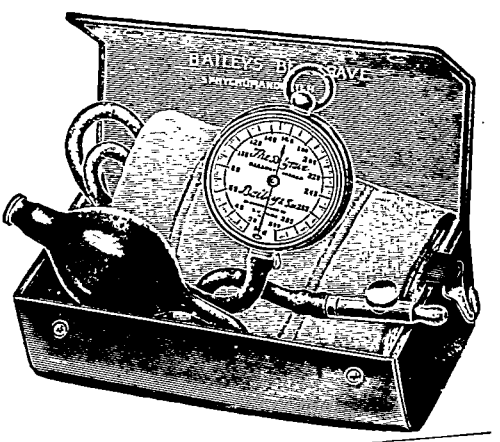
A thoroughly reliable Instrument, accuracy guaranteed. Extremely sensitive. Light and portable.

The Tubes may remain attached to the dial as the interior of the case allows sufficient room to prevent kinking.

An essential apparatus for the General Practitioner.

Price - £2 : 15 : 0

Post free United Kingdom; India and Colonies 2/6 extra.



Surgical Instruments and Appliances - 45, OXFORD STREET,
Hospital and Invalid Furniture - - 2, RATHBONE PLACE, } LONDON, W.1

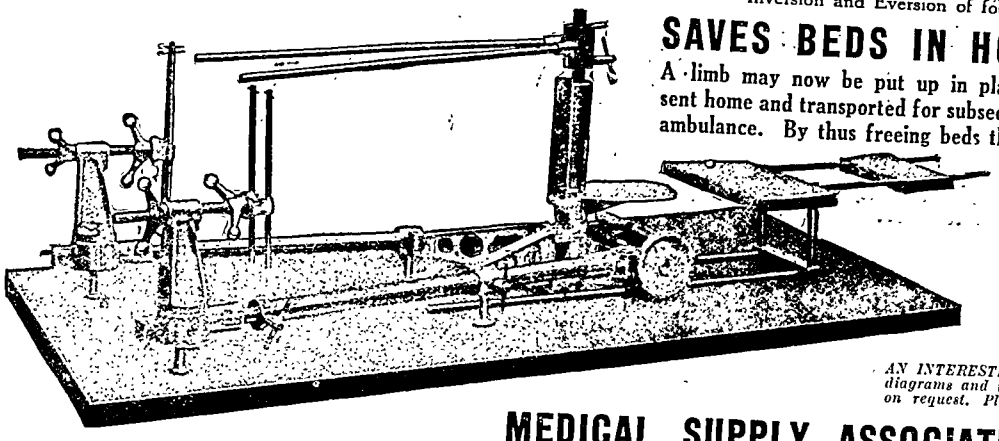
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

AN INTERESTING LEAFLET giving diagrams and instructions, post free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,

London Telephone: Terminus 5432 (6 lines).

167/185, Gray's Inn Road, LONDON, W.C.1. — 12, Holly Street, SHEFFIELD. — 10/13, Teviot Place, EDINBURGH.

NORVIC
Reg'd

CRÊPE
BANDAGES

BRIDGE & Co.

92, Chancery Lane, London, W.C.2

Telephone Nos.: 1118—1119 HOLBORN.

PRINTING . . . of every description at cheap rates. Appointment Forms, Headings, &c., for DOCTORS' USE kept in type. (Samples and prices on application.)

TYPEWRITING—A large staff of experienced Typists kept. MSS. and all classes of work expeditiously and correctly typed.

DUPLICATING—Notices, Agenda, &c., duplicated at short notice. (Write for Price List.)

STATIONERY—of every description at competitive prices.

Your enquiries respectfully solicited.

"VARIBAN"

Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove. Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc. Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SUPPLIED in WIDTHS

2"	2½"	3"	
1/7	1/9	2/-	EACH

When stretched measure six yards (approximately).

SAMPLE 3 in. "VARIBAN" ELASTIC PLASTER BANDAGE sent POST FREE on receipt of P.O. for 2/3.

"CELLANBAND"

PASTE BANDAGES

in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

MESSRS. CUXSON, GERRARD & CO. Ltd. have pleasure in informing the members of the medical profession that they are now manufacturing Paste Bandages—under the descriptive name of "Cellanband"—strictly according to the formula mentioned in the article quoted below.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."
(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.)

SAMPLE BANDAGE 1/- Post Free

Descriptive literature available on request.

Sole Manufacturers:
CUXSON, GERRARD & CO. Ltd. MANUFACTURING CHEMISTS OLDBURY, BIRMINGHAM

Distributors to the Medical Profession:
The MEDICAL SUPPLY ASSOCIATION Ltd.
167-185, Gray's Inn Road, LONDON, W.C.1. 10-13, Teviot Place, EDINBURGH. 6-12, Holly St., SHEFFIELD.

MUCOUS AND OTHER FORMS OF COLITIS

CONDITIONS of Colitis occur at all ages, and lead to much suffering, ill-health and chronic invalidism. They are caused by a great variety of bacteria, which, owing to a loss of resistance on the part of the mucous membrane of the colon, maintain a chronic infection, with inflammation of this portion of the intestinal tract.

Vaccine therapy is frequently tried in this condition with disappointing results, as it is pure chance if the causative organism is isolated from the host of bacteria present.

The rational treatment is obviously to administer an efficient germicide which will attack and destroy *all* the bacteria present. Kerol is the one substance which possesses this power, and its administration has cured many a case of mucous colitis.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

Kerol Capsules

KEROL LTD.
Ravens Lane, Berkhamsted, England.

1578

ACKERMAN-LAURANCE

"Brut-Royal"
and
"Dry-Royal"

"may be recommended with every confidence. By reason of the very low "content of sugar these wines are "specially suitable for persons with a "rheumatic or gouty tendency."

(Vide Report: Institute of Hygiene, Feb. 1927)

Obtainable everywhere

Per bottle	9/-
Per half-bottle	4/9
Per quarter-bottle	2/6

General Agents (Wholesale only) for U.K. and Colonies

ANDERSON DOBSON & CO., LTD.
13, COOPER'S ROW, LONDON, E.C.3

A useful attachment for U.K. Telephone, holding Memo Block, sent post free on application.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.
Does not contain Cocaine, and does not come under the Dangerous Drugs Act.
WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ROYAL LONDON OPHTHALMIC HOSPITAL.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.
THE LONDON HOSPITAL.
WALTHAMSTOW HOSPITAL.
BRADFORD EYE AND EAR HOSPITAL.
BIRKENHEAD GENERAL HOSPITAL.
BURNLEY VICTORIA HOSPITAL.
HARTLEPOOL HOSPITAL.
HUDDERSFIELD INFIRMARY.
HUDDERSFIELD ROYAL HOSPITAL.
KENT COUNTY OPHTHALMIC HOSPITAL, MAIDSTONE.
NEWPORT, ROYAL GWENT HOSPITAL.
NEWCASTLE-ON-TYNE, ROYAL VICTORIA INFIRMARY.
OXFORD EYE HOSPITAL.
ST. PAUL'S EYE HOSPITAL, LIVERPOOL.
SWANSEA GENERAL HOSPITAL.
WESTERN OPHTHALMIC HOSPITAL.
WOLVERHAMPTON EYE INFIRMARY.
SIR C. J. OPHTHALMIC HOSPITAL, BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

HAY FEVER

CAN BE VERY SUCCESSFULLY COMBATED WITH **POLLANTIN**

(A Serum discovered by Prof. Dunbar in 1903)

For literature and prices apply to the distributing Agents

Willows, Francis, Butler & Thompson, Ltd.
73, 75 and 89a, SHACKLEWELL LANE, LONDON, E.8

Purity, Activity and Stability

INSULIN 'A.B.'

TRADE A B MARK

The world-wide supremacy of Insulin 'A.B.' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions.

Supplied in three strengths:

20 units per c.c. Packed in bottles containing:
5 c.c. (100 units or 10 doses) 2/- each
10 c.c. (200 „ 20 „) 4/- „
25 c.c. (500 „ 50 „) 10/- „

40 units per c.c. Packed in bottles containing:
5 c.c. (200 units or 20 doses) 4/- each

80 units per c.c. Packed in bottles containing:
5 c.c. (400 units) 8/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession.

Joint Licensees and Manufacturers:

The British Drug Houses Ltd.
Graham Street, London, N.1

Allen & Hanburys Ltd.
Bethnal Green, London, E.2

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is counter-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A anacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I have treated with 'Staniform' a very bad scald of chest in a child, who had boiling water spilt over her. It healed completely in fourteen days without a scar."

"I have tried 'Staniform' in the Out-patients' Department and both Nursing Staff and myself were amazed at results obtained. Long-standing, non-healing skin wounds healed after few applications."

"This is to certify that 'Staniform' has been used with great success in the Emma-Kliniek (Utrecht, Holland), in cases of bed-sores, in burns of heat and X-rays."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

Priced at 3/- and 3/8 per lb.
A super quality at 4/2 per lb.

THE DOCTOR'S CHINA TEA

WHY IT IS PRESCRIBED FOR GASTRIC PATIENTS.

When ordinary tea is out of the question it is essential that only really good China should be drunk. The Doctor's China Tea has won the enthusiastic approval of practitioners simply because it is a perfect blend of a good China leaf with all excess tannin eliminated. It can therefore be prescribed for invalids and dyspeptics with safety—it has no ill after-effects.

HARDEN BROS. & LINDSAY, LTD.
(Dept. 153), 30/34, Mincing Lane, London, E.C.3.

CYS-8

ALLIANCE DRUG & CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C.3.

Telephone: ROYAL 5885.

Tel. Address: "NALTROF," BILGATE, LONDON.

Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulae as used by the London and other Hospitals.

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/5 lb.
Cinchon. Acid @ 2/6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegæ @ 3/9 lb.
Lassar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Lin. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/3 lb.
Chloroform Pur., 8 lb. @ 5/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero-Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosp. Co., B.P.C., 7 lb. @ 1/- lb.
Prumi Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillae, B.P., 7 lb. @ 8d. lb.
Sennae, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

	Per 1,000.
Blaud's (Sugar-coated), gr. 5	3/10
Nitroglycerini, B.P., gr. 1-50th ...	6/-
Perchloride of Mercury (Coloured)...	15/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000.	
Thyroid Gland, gr. 5	12/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.

	B.P.	Aquos.		B.P.	Aquos.
Belladon.	... 4/3	1/6	Hyoscyam.	... 4/3	2/4
Benzoin Co.	... 4/7	—	Nucis. Vom.	3/10	1/4
Camph. Co.	... 3/-	1/6	Opii ...	... 5/3	4/3
Card. Co.	... 2/6	1/6	Quin. Ammon.	3/3	—
Gentianæ Co.	2/8	1/6	Rhei Co.	... 2/8	1/9

Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichtaniolis, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

*Minimum quantity at these prices: Home Trade 5, Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.

ESTABLISHES REGULAR EVACUATION

It is admitted that the large majority of patients suffer from the direct or indirect effects of constipation. It is often difficult to educate them to combat these evils. Some are ignorant, others apathetic, while many of them dread the griping pains and weakness occasioned by the ordinary laxatives. Sal Hepatica is pleasant to take and both prompt and painless in action. It maintains the biliary secretion in a healthy fluid state, and ensures freedom from congestion and from that subacute inflammation of the gall bladder which is at present so common, especially amongst sedentary workers. Sal Hepatica does not create a condition of tolerance. It is, therefore, the laxative of choice in chronic constipation.

Samples for clinical trial will be forwarded on request to duly qualified members of the medical profession on application to Bristol-Myers Company, 112, Cheapside, London, E.C.2.

Sal Hepatica contains sodium sulphate, sodium phosphate, sodium chloride and lithia citrate in an effervescent medium.

Sal Hepatica

the proved medicinal, saline laxative and cholagogue.

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.

EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel.

SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ¼-doz. SOAP TABLETS.

Samples and Literature on Request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.

"STERULES" *Regd.*

FOR HYPODERMIC, INTRAMUSCULAR AND INTRAVENOUS USE AND FOR INHALATION

AMYL NITRITE "STERULES" are used in Angina Pectoris, and threatened fainting and collapse, with success.

The rights in the Trade Mark "Sterules" are rigidly guarded. *Complete List on request.*

W. MARTINDALE (MANUFACTURING CHEMIST), 12, New Cavendish Street, London, W.1

Telegrams: "MARTINDALE, CHEMIST, LONDON."; Telephone: LANGHAM 2440.

DISMENOL

for instantaneous relief of pain in DYSMENORRHOEA

In spasmodic Dysmenorrhoea the primary call is for the elimination of pain, and the physician has a valuable weapon in Dismenol Tablets, which are entirely *free from narcotics.* This product is a sure and safe sedative in all cases of Dysmenorrhoea, possessing anti-spasmodic properties of a remarkable kind. A feeling of general well-being is substituted for the state of lassitude in the patient.

Please write for samples and literature (also formula) to—

ROBERTS & Co., 76, NEW BOND STREET, LONDON, W.1.

Pharmaciens to H.M. the King.

BANTAM Coffee

Bantam Coffee is prepared from the finest selected Empire grown beans which are powdered and all the waste grounds extracted so that it dissolves instantly and completely when hot water or milk is added. A little Bantam Coffee dropped in a glass of warm milk makes a very palatable beverage. Bantam Coffee is absolutely free from adulterants and has been awarded the certificate of the Institute of Hygiene.

A 2/- tin yields 60 cups of delicious coffee.

Dept. 68. BANTAM PRODUCTS LTD., LEEDS.

Samples for testing will be sent on application.

DON'T TAKE RISKS

Take an All Sickness and Accident Policy and be sure of a cash payment whenever you are ill.

The best All Sickness and Accident Policies for Medical Men are the Permanent Contracts of The Medical Sickness, Annuity, and Life Assurance Society, Ltd.—a Society managed by Medical Men for Medical Men.

Write for full particulars and Leaflet "B.12" to the Manager and Secretary,

The MEDICAL SICKNESS, ANNUITY, & LIFE ASSURANCE SOCIETY, Ltd.

300, HIGH HOLBORN, LONDON, W.C.1.

SPECIAL TERMS FOR RECENTLY QUALIFIED PRACTITIONERS.

For the Doctor.. No. 94

For Lady Doctor or Nurse... Lady Patricia

Medical men will like this new No. 94—the latest in Coloured Waterman's—a pen of ample ink capacity, with large gold nib for smooth and easy writing. Perfectly balanced, light and comfortable to use. "Set-back" top, new-style mounting, position of clip allows pen to be placed low in the pocket. Colours: Agate-brown, Shaded-blue, and Pearl Grey. Price 25/-. Pencil to match 12/6. Set 37/6.

Waterman's "Lady Patricia" Pen was designed expressly for women's use. Not a "cut-down" *man's pen, but a pen of graceful* proportions, neat, slender, colourful, with a chic clasp that holds it securely in the handbag. Five exquisite colours: Emerald, Turquoise, Nacre, Jet, and Onyx. Price 21/-. Pencil 12/6. Set, in attractive case for presentation, 33/6.

Ask your Stationer, Jeweller, or Stores to show you the Waterman range. The New Pen Book Free from

L. G. SLOAN LTD., The Pen Corner, Kingsway, London, W.C.2

Use Waterman's Ink — Best for all pens.

Waterman's

GAMAGES
HOLBORN

OUR HIGH-CLASS LIVERY SECTION ALWAYS OFFERS THE KEENEST VALUES IN TOWN

CHAUFFEURS' DUST COATS

As Illustrated. Made from Alpaca specially selected for its hard-wearing qualities. These are very smart in appearance yet exceptionally light in weight. Stocked in all usual sizes in blue or grey. PRICES **25/6** and 35/-

POST ORDERS.—State height and chest measurement taken loosely over waistcoat.

CHAUFFEURS' BLUE SERGE SUITS

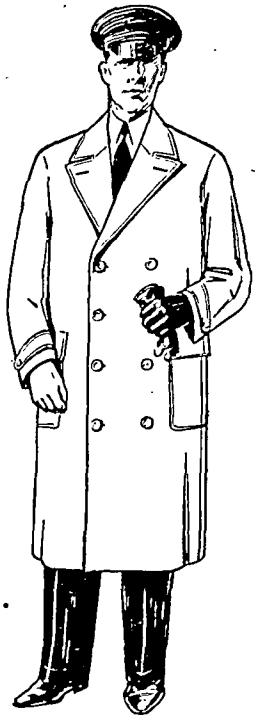
This outstanding example of Gamages Livery Tailoring comprises Double-breasted Jacket, Vest and Trousers made from a good weight Navy Blue Ribbed Serge. This suit combines neatness with style, and can be purchased Ready for Service. PRICES **70/-** 90/- and 110/-

Made to measure if required at same price.

Send for Gamages Livery Booklet and Patterns.

GAMAGES, HOLBORN, LONDON, E.C.1

Telephone: Holborn 8484.



THE
MEDICAL INSURANCE AGENCY
has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the **Insurance of Cars.**

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, Sickness (Permanent Contracts), &c., Insurances
under comprehensive policies, giving full protection.

What the Agency has done for the Profession:

Saved by way of Rebates on Premiums - -	over £44,000
Contributed to the Medical Charities - - -	over £26,000

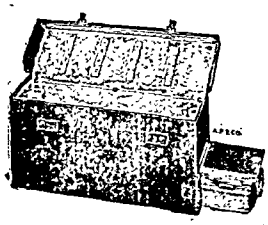
THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1, &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

A. FLEMING & CO. (Dept. "A"), 39, Victoria Street, LONDON, S.W.1. Tel: Victoria 4677.

SURGICAL INSTRUMENTS, FURNITURE, AND APPLIANCES.

BEST QUALITY. LOWEST PRICES.



SURGICAL "ATTACHE" CASE, in black or brown cowhide, overall size 17¾in. x 10¼in. x 5in., with side pocket for 16in. sterilizer as illustrated. Complete with removable lining, with loops for instruments and top compartment for bottles, etc. Price for case only . . . 45/-

SURGICAL "ATTACHE" CASE, in black or brown cowhide, overall size 17¾in. x 10¼in. x 5in., fitted with fall-front, the inside divided into two compartments, bottom portion for 16in. sterilizer, top portion being tray for bottles and sundries. Price for case only . . . 40/-

INSPECTION CORDIALLY INVITED. NO OBLIGATION TO PURCHASE.
COMPLETE PRICE LIST, INCLUDING ENORMOUS RANGE BRAND-NEW GOVERNMENT SURPLUS INSTRUMENTS AND APPLIANCES. POST FREE.

MIDWIFERY OUTFITS.

COMPRISING: MIDWIFERY BAG, ATTACHE CASE PATTERN, brown cowhide, size 17-in. x 10 in. x 8 in., removable washable lining, with loop for instruments, etc. Two separate compartments at side to take bottle rack and sterilizer. Case with bottle rack only . . . . . £2. 12. 6.

STERILIZER FOR BAG, SEAMLESS BOILER, heavily nickel-plated, with folding stand and lamp. Size 16 in. x 4 in. x 3½ in. . . . . £1. 12. 6.

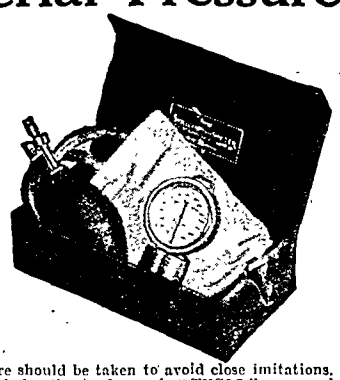
*Axis Traction Forcep, Neville's	35/-	*Uterine Forcep	6/-
*Catheter, Female, Metal	1/-	*Vulsellum Forcep	6/-
*Perforator, Denman's	8/6	*Schimmelbusch Mask	2/6
*Playfair's Probe	1/9	*Pelvimeter, Collins	8/6
*6 x 1 oz. Bottls. in Cases	16/6	*Sound, Sims	2/3
*Uterine Tube, Boozemann's	4/6	*Orum Forceps, Greenhalgh's	7/-
*Blunt Hook and Crochet	3/3	*Perineum Needle	4/9
		*Chloroform Drop Bottle	3/3

THE COMPLETE OUTFIT as described above £9.7.6

**Indicates Foreign Origin. All Items Supplied at Individual Prices as Quoted*

QUOTATIONS FOR BRITISH-MADE GOODS ON APPLICATION.
COMPETITIVE QUOTATIONS GIVEN FOR ALL YOUR NEEDS. VISIT OUR SHOWROOMS AND SELECT YOUR REQUIREMENTS.

Accurate Arterial Pressure Readings



For visiting purposes the TYCOS Portable Sphygmomanometer amply fulfils the Physician's needs. Although one of the most delicate and accurate instruments of the medical man's equipment, the portable type as illustrated can be carried without fear of breakage. There is no glass tubing to break, no mercury to spill, and the readings can be verified at a glance by comparing the relation of the hand to the immovable zero.

Care should be taken to avoid close imitations. Look for the trade mark "TYCOS" engraved on the dial of every genuine instrument.

Obtainable from all reputable Instrument Dealers.

Tycos **SHORT & MASON** LTD.

ANEROID WORKS, WALTHAMSTOW, E.17.
Showrooms: 45/50, HOLBORN VIADUCT, E.C.1.
Publishers of *"Blood Pressure Simplified,"* 4s. 6d. net.

B. MILLER & Co., Ltd.

17 CONDUIT ST. BOND STREET, LONDON, W.1

TAILORS
Estd. 1896

LOUNGE SUITS *from* £8 : 8 : 0

DINNER SUITS Lined Silk *from* £10 : 10 : 0

THE POSTAL ACCOUNT

It is often supposed that to live a long way from the nearest branch of a bank, or to be constantly unable to go to the bank in person, is a handicap to the enjoyment of the full advantages which, it is admitted, a banking account offers. Perhaps it is assumed that to conduct an account by post involves more letter writing, or is costly, or is not welcomed by the Bank. It is the aim of the Westminster Bank to dispel such misconceptions by a leaflet entitled *The Postal Account*, which explains the convenience of the method, and offers some clear suggestions.

The Secretary of the Bank will be pleased to send a copy on application

WESTMINSTER BANK LIMITED
HEAD OFFICE: 41 LOTHBURY, LONDON, E.C.2

FREQUENT MICTURITION.

"YBWET"
NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy necessary. Ease both mind and body. Inunnecessary easily emptied. Special pattern for visible and Aviators. For helpless cases, our Motorists and

"NEW SANITUBE"

patient dry, night and day, keeps bed and nursing attention. Price 70/- without constant nurses, etc., on request: by post. Diagrams Street, Glasgow, C.2

HILLIARD, 125, Doug

NAME PLATES
in BRONZE & ENAMEL—BRASS: also CHROMIUM PLATE. Send details or sketch or leaflet
S. J. & A. ERD,
30, CLERKENWELL ROAD, E.C.1.

Important Sale

THE FURNITURE & FINE ART DEPOSITORIES, LTD.

HAVE RECEIVED INSTRUCTIONS TO DISPOSE OF IMMEDIATELY the entire contents of several Town and County Residences, Flats, etc., removed to their Galleries for convenience of sale, and are offering many important items from the following collections.

SIR FREDERICK CHARLES HOLIDAY (Decd.);
MARY ANNA DUCHESS OF ABERCORN (Decd.);
THE THIRD EARL OF DURHAM (Decd.);
and others.

ON SALE EVERY DAY, 9 till 7.

MAGNIFICENT BEDROOM APPOINTMENTS, comprise Complete Bedroom Suites in Walnut, Mahogany, Silver Ash, Choicely Figured Satinwood, also Lacquer in the Chinese Style, and Figured Oak, ranging from 6 Guineas to 250 Guineas. Bedsteads to match. Bachelor Bedroom Suites in Solid Oak, with Bedsteads to match, offered at the extremely low figure of £4 15s. complete.

GENUINE ANTIQUES, including Four-post Bedsteads, Tallboy and shaped front Chests, Bow-front Wardrobes, Sofa Tables, Corner Washstands, and Toilet Mirrors. Gents' Wardrobes with interior fitments from 4 Guineas each.

SETTEES AND LOUNGE EASY CHAIRS, quantity removed from St. James's Street Club, covered Real Leather, Art Tapestry, Brocade Silk, etc. Several exquisitely spring upholstered, covered in Art Linen, all equal to new. Small Lounge Chairs offered at 21/-. Larger Lounge Chairs £2 17s. 6d. to 12 Guineas. Exceptionally well made and softly sprung Chesterfield Settees 3 Guineas to 25 Guineas.

MAGNIFICENT DINING ROOMS, LOUNGES, AND LIBRARIES, comprising a collection of Cromwellian, Queen Anne, Chippendale, Hepplewhite, Adams, and Sheraton styles. Complete Dining Room Suites in English Oak, with Sideboard, Set of Chairs, and Dining Tables, offered for 10 Guineas the set. More elaborate complete sets ranging from 25 Guineas to 300 Guineas. Most of these exquisite Suites cost over treble the price now asked. Quantity of Cottage Wheelback Chairs 6s. 9d. each, with Cottage Oak Dressers, two-flap Tables, in good condition, at 35s.

CARPETS AND RUGS, including fine Persian, Turkey, Chinese, Aubusson, and Axminster, a large salvage stock being offered at 50% below cost. Quantity of fine Pile Carpet at 2s. 9d. per yard. Several Seamless Squares in various designs and colourings, undamaged and unsoiled, from 21s. each.

PIANOFORTES BY EMINENT MAKERS, ranging from 10 Guineas to 150 Guineas. Old English Chiming Grandfather and Bracket Clocks, collection of Marble and Bronze Statuary, Pictures, Silver and Sheffield Plate, old Cut Glass, Linen, and a quantity of Office Furniture, including Roll-top Desks, Pedestal Desks, Bookcases, Iron Safes, etc.

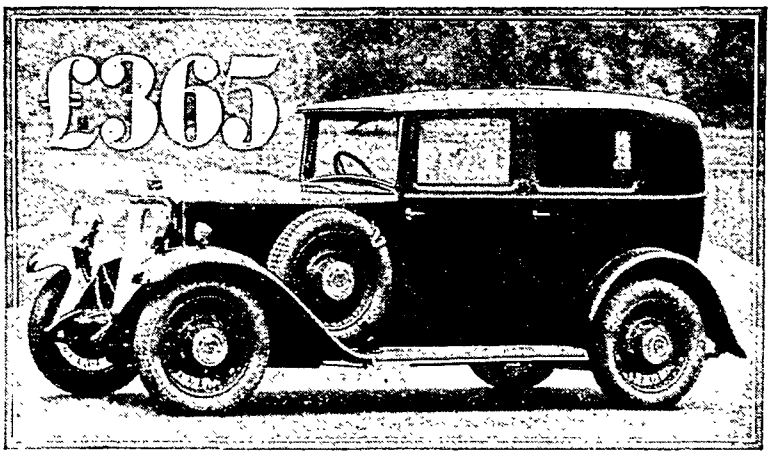
16 h.p. Austin Motor Car, River Punt, and Two Dinghys.

TO AVOID DISAPPOINTMENT EARLY INSPECTION IS INVITED, AS A SPEEDY CLEARANCE IS ANTICIPATED. On Sale every day 9 till 7. Any item may be purchased separately; can remain warehoused free for 12 months, or DELIVERED TO ANY PART OF THE COUNTRY BY OUR OWN LORRIES FREE. Send for **PHOTOGRAPHIC ILLUSTRATED CATALOGUE (F)**
Post Free.

THE FURNITURE & FINE ART DEPOSITORIES, Ltd.

PARK STREET, UPPER STREET, ISLINGTON, LONDON, N.1

Few minutes from Highbury Station, North London Railway. Train fares refunded to all purchasers.
(Within 10 minutes of West End.)
Telephone: North 3580 & 3581.



"... to the busy practitioner who needs to conserve the last ounce of energy, the absence of all effort in gear changing must count a great deal in a busy day's work..." A.J., M.D.

"Your Self-Changing Gear has been a perfect revelation. I now come in from a busy round with no sort of feeling of fatigue as the result of stopping, starting, and changing gear so many times as I needs must do. The relief from this work as compared with the old form of gear change is really rather remarkable."
M.B., Ch.B.

Arrange a Trial Run—Have an Armstrong Siddeley for a round of visits and notice what a difference the self-changing gear makes. It is something you have been waiting for for years.

Prices from £275—All Six Cylinders

ARMSTRONG SIDDELEY

Write for Catalogue BW142
ARMSTRONG SIDDELEY MOTORS LIMITED, COVENTRY
LONDON, 10 OLD BOND STREET, W.1
Manchester: 35 King St. West. Agents everywhere

JOHN WARD LTD

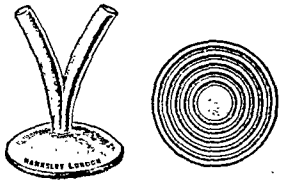
TOTTENHAM COURT ROAD,
LONDON.

Keep fit

Wear EMPIRE LINEN MESH NEXT THE SKIN and have your body always at a normal temperature—it's the way to health in any climate. There's comfort, too, in its glorious touch.

EMPIRE
LINEN MESH UNDERWEAR
Sold by all good Outfitters.
Patterns and particulars post free.
THE IRISH LINEN MESH CO. LTD., Belfast, Northern Ireland.

STETHOSCOPES



NEW
'METALLIQUE' CHEST END
(Pat. app. for)

The specially constructed metal diaphragm is extremely sensitive and magnifies heart sounds without distortion.

Price, chest end only, 10s. 6d.

Obtainable from all Dealers, or from the Makers: Hawksley & Sons Ltd.

Manufacturers and Importers of
APPARATUS FOR BLOOD DIAGNOSIS

Sphygmomanometers, Haemacytometers, Haemoglobinometers, etc.

Microscopes, Microtomes, & Accessories

Psychological, Anthropometrical, & Experimental Apparatus

Lists post free.

HAWKSLEY & SONS Ltd.
83, Wigmore Street, London, W.1
Telephone: Welbeck 3859

Duplicate Prescription Books
INVALUABLE TO ALL DOCTORS

Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.

Send for Sample Book, together with Prices and Styles of Printing,
To G. CARLYLE,
116. DUKE STREET, LIVERPOOL.

BRASS and BRONZE
NAME PLATES
by the Actual Maker. Send for List.
FORD, 37, Palace Rd., Bromley, Kent.

Doctors' A/c Forms a Speciality

Printed in Best Style.
Account Forms. Letterheads. Cards., etc.
Samples Sent
R ANDERSON & SON

Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1, HILL PLACE EDINBURGH

A Gentleman Always Looks Well Dressed In Savile Row Clothes.
[REDUCED PRICES.]
NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.:—DAVIES, LESLEY & ROBERTS, SCHOLTE, &c. LOUNGE, DRESS, SPORTS SUITS, &c. OUR PRICES NOW 3 to 8 Gns.
Alterations on Premises.
REGENT DRESS CO., Piccadilly Mansions, 17, Shaftsbury Avenue, Piccadilly Circus, W.1.
Ladies' Dept. on 1st Floor. (Next Cafe Monico.) GER. 7611

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
27, EASTCASTLE ST., LONDON, W.1

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS
VACCINES
AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

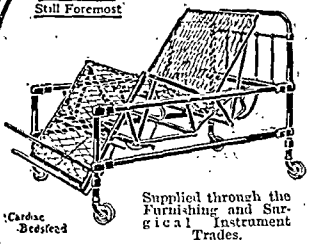
Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

A Bedstead for Every Purpose
LAWSON TAIT
HOSPITAL BEDSTEAD
Permanently Guaranteed.
First in 1881
Still Foremost



Cardiac Bedstead
Supplied through the Furnishing and Surgical Instrument Trades.

NAME PLATES
FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.
Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.
With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE.
COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

SPECIAL OFFER!
N.H. OAK FILING CABINETS
(Also stocked in Belfast).

1 dr.	2 dr.	4 dr.
23/6	35/-	63/-

Send for our samples of the very best Medical Stationery.
HAMILTONS, MEDICAL PRINTERS and ACCOUNT BOOK MAKERS, BURNLEY.

With pure Turkish tobacco and an absorbent linen filter hidden in the mouthpiece, Royal Beauties are one of the nicest and quite the most harmless cigarettes in the world. Free sample to doctors on request
In three sizes.
Turkish 9/6, 10/6, 12/6 a hundred
ROYAL BEAUTIES
CIGARETTES
From leading stores or direct from Louis Coen Ltd., 88, Piccadilly, W1
Tel. Grosvenor 1979.

VACCINE LYMPH
(REBMAN'S PURE ASEPTIC CALF LYMPH)
for reliability and normal reaction.

Prepared under Swiss Government control in accordance with the requirements of the Therapeutic Substances Regulations, 1927. As Supplied to the Bacteriological Department, Guy's Hospital, London.

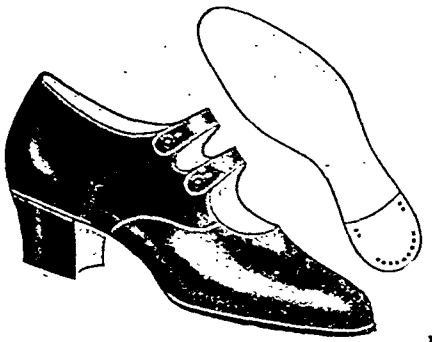
Price: 9d. per small tube
(6 for 3/9).

Sole Agents:
WILLIAM HEINEMANN
(Medical Books), Ltd.,
99, Gt. Russell St., London, W.C.1.
Telephone: MUSEUM 0878. *Telegrams*: SUNLOCKS, LONDON.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines.
Write for Bargain List 52.
'Phone—Holborn 3783.
BUY A BIJOU FOR 5/- per week.
Desks, Tables & Chairs
Est. 1881.

THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.
74, CHANCERY LANE (Holborn End), W.C.2

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers,
136, GOWER STREET, LONDON, W.C.1.



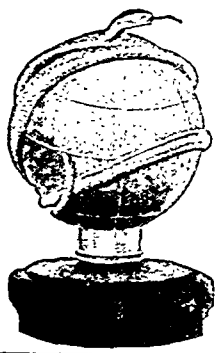
HOLLAND'S *Modified*
Natureform Shoes
are of special interest to the Medical Profession.

Made from new model lasts following the principle of the straight inner side, but all unnecessary room is eliminated—giving freedom of movement for all the bones of the feet—yet they are not ugly. You can recommend these productions to your patients with the assurance that they will enjoy better health and prevent malformation due to cramping of the metatarsal bones. Sample shoes sent for inspection to any member of the medical profession. Shoes specially made for any form of malformation.

Catalogue of "Natureform" Productions and Modified Natureform Shoes sent free on application.

B. M. HOLLAND & SON, 46, South Audley Street, London, W.1.

DOCTORS' MASCOT EMBLEM



A. E. LEJEUNE LTD.
Bronze Mascot Manufacturers
132, Gt. Portland St., LONDON, W.1

NAME PLATES
In BRONZE or BRASS, ENAMELLED or CHROMIUM PLATED
Sketches submitted free

Height 3in., Diam. 2¼in. Globe, Chromium with Red Snake, or vice-versa. Cast in Solid Bronze, well chased.

Price £2 : 2 : 0

Phone: Museum 1733

WOODLANDS PARK
GREAT MISSENDEN BUCKS.

550 feet above sea-level on Southern Chilterns. 90 acres, Gardens, Woods, and Park.

FOR INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and REST AFTER OPERATION or ILLNESS.

FEES FROM 8 GUINEAS.

Telephone: 91 Gt. Missenden. Apply: C. W. J. BRASHER, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.
BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients.

The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY
DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of *alcohol and drug abuse*. Large secluded grounds on the bank of the River Colne. Full-sized *billiards, tennis, croquet, lawn. Golf (Moor Park, Sandy Lodge) close by.* For particulars apply to—F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

SHAFTESBURY HOUSE,
FORMBY-BY-THE-SEA, Nr. LIVERPOOL.

Specially built and licensed for the care and treatment of a *limited number of Ladies and Gentlemen* suffering from Nervous and Mental *breakdown. Voluntary and certified patients received. Ladies also admitted as "Temporary Patients" without certification.* Terms moderate. Apply RESIDENT PHYSICIAN. Tel.: *No. 2 Formby.*

BOREATTON PARK,
BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of *Ladies and Gentlemen mentally afflicted.*

Large gardens, deer park, *private golf links, fishing. Grounds extend to over 200 acres.*

Voluntary Boarders *accepted.*

Apply for particulars *to Dr. SANKEY.*

CLARENCE LODGE,
CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES).

Well-appointed private house. Home comforts and Trained Nursing Staff. Resident Medical Specialist Visiting Physician.

Station: Telephone: [illegible] Clapham Common Tube. Apply Miss [illegible]

ALCOHOLISM & OTHER DRUG HABITS.
THE HARE NURSING HOME.

As founded and established by the late Dr. *FRANCIS HARE, for 20 years Med. Supt. of The* Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

DEGANWY,
Caernarvonshire. "The Grindelwald of Wales!"

REST HOME for tired or Convalescent Gentlepeople. Men and Women. Sea and Mountain air. Dry and sunny. Waters from the Trefriw Chalybeate Wells.

For further particulars apply to:
Mrs. C. HERBERT ROBERTS.
"Tolavon," DEGANWY, North Wales.
Teleg.: "Rest, Deganwy." Tel.: 26 Deganwy.

ALCOHOLISM
DRUG ADDICTION & NEURASTHENIA
CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res Med. Supt., Dr. A. E. CARVER, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, *London*, S.W.1.

In cases of urgency 'phone NUNEATON [illegible]

THE GRANGE,
near ROTHERHAM.

A HOUSE Licensed [illegible] *limited number of Ladies* [illegible] *vous and Mental disorders* [illegible] *voluntary patients received* [illegible] *Temporary Patients*, [illegible] *house, with beautiful* [illegible] *miles from Sheffield*; [illegible] *L. & N.E. Railway*; [illegible] Physician: [illegible] M.R.C.S.

SPRINGFIELD HOUSE,
Near BEDFORD. (Phone 5417)

For Mental Disorders, with or without certificate.

Resident Physician: CEDRIC W. [illegible]

Ordinary Terms: Five Guineas per week.

(Including Separate Bedrooms with [illegible] interviews in London by [illegible]

THE MOAT [illegible]
TAMWORTH [illegible]

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary patients, who are suffering from incipient mental disorders or who wish to prevent recurrent attacks of mental trouble; temporary patients; and certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Diathermy and Foam Baths. Billiards, tennis, etc. Fees from five gns. per week.
Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

ST. ALBANS, HERTS.
(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital.
Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This Registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 2231 GATLEY.

HINDHEAD.
850 feet above sea-level.
STONYCREST NURSING HOME
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

THE LAWN, LINCOLN.

This Registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY and PRIVATE PATIENTS of both sexes for treatment of Mental and Nervous Disorders, including Post-Encephalitic conditions in adults. Special facilities for Psychotherapy in co-operative cases.

All particulars may be obtained from the Resident Medical Superintendent,
Dr. MARY R. BARKAS, M.D., D.P.M.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone*: Springpark 1180—1181.

Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the Medical Superintendent.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone*: RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary Temporary, or Certified Patients may visit, by arrangement, for long or short periods Telephone 51.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury

BAILBROOK HOUSE, BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILTILLAN, O.B.E., M.B., C.M.Edin., Resident Physician. Telephone No.: Bathaston 8189.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most *modern kind is carried out under the personal* direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:*

A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

GILGAL HOSPITAL, PERTH.

Chairman:
THE RT. HON. THE EARL OF MANSFIELD.

For the Treatment of NEUROPATHIC and PSYCHOPATHIC DISORDERS. Certified patients not received. Under the management of James Murray's Royal Mental Hospital. Inclusive rates 3 guineas to 8 guineas weekly. Particulars on application.

Physician-Superintendent: W. D. CHAMBERS, M.D., F.R.C.P.E.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment —rest cures, electrical massage, and ultra-violet light. (Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of *Alcoholism and the Drug Habit. All types of* early Mental and Nervous cases are received without certificates as Voluntary Patients under the provisions of the Mental Treatment Act, 1930. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. 'Phone: 10 P.O., Church Stretton.

KINGSDOWN HOUSE

BOX, near BATH.

For the CARE and TREATMENT of NERVOUS and MENTAL DISORDERS in BOTH SEXES.

Separate accommodation for Voluntary Boarders of the Female Sex. Applications received at the above or at 17, Belmont, Bath, by—

Dr. H. C. MACBRYAN or
Medical Superintendents.

HOME FOR FEEBLE-MINDED, BRUNTON HOUSE, LANCASTER.

This well-appointed private establishment overlooks Morecambe Bay, and possesses extensive gardens and grounds, with tennis and croquet lawns. Varied scholastic and manual instruction. Individual attention given by *experienced staff under Lady Matron.* For terms apply, Dr. W. H. COUPLAND, Med. Supt.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. *Situated 1,200 ft. above sea-level,* facing S. 14 acres of grounds.—For terms, apply to the *Resident Medical Superintendent,* W. W. HORTON, M.D. Nat. Tel. 130.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. *Ten only* received. Apply, Medical Officer or MRS. PEELE. *Telephone*: 2708.

asthma

TREATED AT MONT-DORE

THE FAMOUS FRENCH SPA

40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE, Tavistock House (North), Tavistock Square, LONDON, W.C.1. Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, *Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy,* Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

'Grams: "Smedley's Matlock." 'Phone No. 17. For Prospectus and full information please write MANAGER, M.J.

MATLOCK

The Thermal Springs of La Léchère-les-Bains

Their Value in the Treatment of Varicose Veins, Phlebitis & Arterial Pressure, etc.

The attention of medical men is called to the remarkably successful cures of venous disorders, high blood pressure, rheumatism, sciatica, etc., and kindred ailments, at La Léchère. *This famous spa, 1,300 feet above sea-*level, beautifully placed in the heart of Savoy, possesses radio-active *hot-water springs* with a long established record for curative power. A *critical review of results obtained in actual cases* has been prepared by Dr. Charles Millet, Consulting Physician at La Léchère, and will gladly be sent to medical men, on request, from

THE FEDERATION OF THE HEALTH RESORTS OF FRANCE, Tavistock House (North), Tavistock Square, London, W.C.1.

"RADIANA" Bath Salts

These curative salts of La Léchère are sold at 2/- per carton at the La Léchère Information Bureau at address opposite.

HOTEL TRAVEL INFORMATION

La Léchère is well served by modern hotels, is easily accessible by rail or road, and enjoys an equable climate. Travel and Hotel information for tourists should be addressed to:—

LA LÉCHÈRE INFORMATION BUREAU
Room 220, 329, High Holborn, London, W.C.1.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS, *at a weekly fee of* TWO GUINEAS and upwards.

MONTANA HALL

MONTANA, Switzerland

The only Sanatorium in Switzerland under British ownership and control, and with a full day and night staff of British Trained Nursing Sisters.

Built 1929-30. Opened Oct., 1930.

For the treatment of **Tuberculosis, Diseases of the Chest, Asthma,** and for patients requiring rest in the Alps under strict medical supervision.

Montana (5,000 feet above sea-level) is the sunniest mountain resort in Switzerland.

For prospectus and full particulars kindly apply to the Resident Medical Superintendent, HILARY ROCHE, M.D.(Melb.), M.R.C.S. (London), Tuberculous Dis. Dip. (Wales).

PEEBLES

In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air, beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.

Among the Pine-clad Border Hills.
PEEBLES HYDRO, PEEBLES, SCOTLAND

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency.—Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSTON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

Grove House, All Stretton,

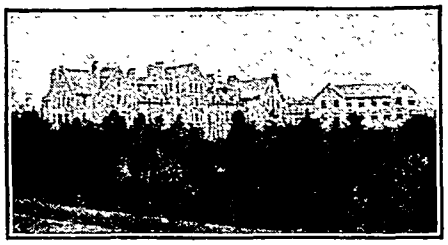
Church Stretton, Shropshire.

A Private Home for the care and treatment of a limited number of ladies mentally afflicted. *Climate healthy and bracing.*

Medical Superintendent: Dr. MCCLINTOCK.

TOR-NA-DEE SANATORIUM

MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

The MUNDESLEY SANATORIUM

The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless headphones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON, M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP, M.B.(Cantab.).
ANDREW MORLAND, M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

EAST ANGLIAN SANATORIUM

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and has an ideal situation facing S.S.E. in a very sunny district. Special treatment by artificial Pneumothorax (X-ray controlled). Ultra-violet Ray treatment is available for suitable cases. Matron and full nursing staff. Nurse on duty all night. Electric lighting throughout, radiators and wireless (headphones) in all rooms.

Dr. Jane Walker, C.H., J.P., Medical Superintendent. Dr. Eleanor Soltau, Assistant Medical Superintendent.
For all information apply: The Secretary, East Anglian Sanatorium, Nayland, near Colchester.
Telephone: NAYLAND 1.

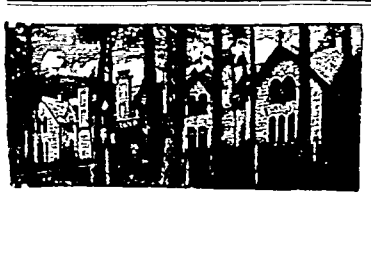
VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt., H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

PENDYFFRYN HALL SANATORIUM

PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), A. C. Armstrong, M.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.
For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)



KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1901. Elevation 860 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray Plant. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms: £4 7s. 6d. to £6 6s. per week inclusive. No extras.

MEDICAL SUPT.: FELIX SAVY, M.D. For particulars apply to the Secretary.

HARROGATE

for the Treatment of
RHEUMATISM,
ARTHRITIS,
FIBROSITIS,
NEURITIS,
Diseases of the
LIVER and GALL BLADDER,
GASTRIC CATARRH
and COLITIS,
SKIN DISEASES,
ANAEMIA and
Convalescence from Acute Illness.

SULPHUR, Saline Iron and Pure Chalybeate waters, together with the presence of large deposits of Volcanic Mud, enable Harrogate to offer every facility for the cure of an unusually wide range of the diseases amenable to Spa Treatment.

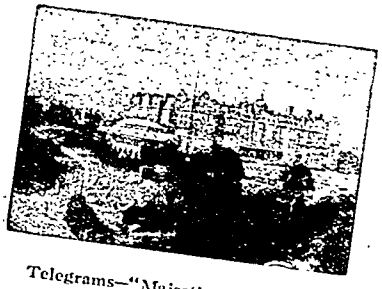
The Harrogate Royal Baths, housed in one of the finest Spa buildings in Europe, are equipped with the most modern apparatus for all forms of Physiotherapy.

THE "CURE" is taken in a holiday environment: three golf courses, putting greens, hard tennis court, swimming baths, beautiful gardens and moorlands encourage sport and exercise. First-class hotels, hydros, boarding houses and private apartments meet all requirements for accommodation.

Harrogate is an ideal holiday centre and is surrounded by some of the most beautiful scenery in England.

Members of the Medical Profession are asked to write for particulars of Complimentary Facilities to:—
F. J. C. BROOME,
General Manager, 3, The Royal Baths, Harrogate.

Pullman and Fast Restaurant Car Trains daily from King's Cross Station, London.



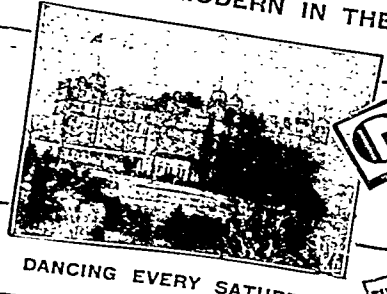
Telegrams—"Majestic, Harrogate."
Telephone—2261.

HOTEL MAJESTIC
HARROGATE
FINEST SPA HOTEL IN THE WORLD
Stands in its own Glorious Grounds of Ten Acres

Overlooking Royal Baths and Pump Room. En-Tout-Cas Tennis Courts. Putting Green. Garage. Beautiful Winter Garden and Ball Room. Saturday Night Dances. Comfortable self-contained Suites. Large number of Bedrooms with Private Bathrooms. Every room fitted with hot and cold running water, central heating and telephone.

Perfect Cuisine and Attentive Service. Write for Illustrated Tariff.

THE MOST MODERN IN THE SPA



GRAND HOTEL
HARROGATE

200 rooms fitted with hot and cold water. 50 suites with private baths and telephones. Hard Tennis Courts and Putting Green. Garage 100 cars.

DANCING EVERY SATURDAY

FINEST CUISINE ABSOLUTE COMFORT

SPLENDID BALLROOM COMBI TAITT BAND

DELIGHTFUL SITUATION OPPOSITE VALLEY GARDENS

Telegrams: "Grand."

Telephone: Harrogate 4631.

BAVARIAN SPAS ARE WORLD FAMOUS

BAD KISSINGEN

INDICATIONS: Gastro-intestinal disturbances, liver disease, disorders of the bile-ducts, heart and vascular troubles, diseases of metabolism, chronic respiratory diseases, diseases peculiar to women, rheumatic troubles, diseased conditions of the blood and tropical diseases.
THERAPEUTICS: Potable Springs: Rakoczy, Pandur, Maxbrunnen, Luitpoldsprudel, Stahlbrunnen. Natural rich carbonic acid and graded brine and hot-spring baths, mineral mud baths, Fango, Hydrotherapy, light, air, sun, steam and hot air baths, inhalations, pneum. chambers (special air breathing), Zander Institute, X-ray treatment.
Prospectus from the "Kurverein." Summer and Winter Cures.
Mineral Waters despatched by the Management.

BAD REICHENHALL

Ideal Climatic Saline Spa in the Bavarian Alps, 1,600 ft. above sea-level.
INDICATIONS: Asthma, emphysema, bronchitis, diseases of the throat, nose, and larynx, heart trouble, diseases of metabolism. Largest installation in the world for pneumatic chambers and inhalation. Beautiful mountain scenery. Strongest saline springs on the Continent. Potable Springs. All modern comfort. All kinds of sports and entertainments. Open all the year round. Information regarding hotel and travel facilities will be gladly given by Thos. Cook & Son, and the "Kurverein Bad Reichenhall" direct.

BAD BRUECKENAU

The Spa for Kidney Trouble—Wernarzer Curative Spring. Highly successful in cases of uric acid diathesis, for gout, kidney, stone, gravel and bladder troubles. Chalybeate spring proved successful for anaemia, women's diseases and diseases of the nerves. Chalybeate and mud baths known to the medical profession for centuries. Hunting and fishing. Spa opens May 1st. Twelve "Kur Halls," Railway Line Hamburg—Munich, local railway from Jossa, also via Bad Kissingen. Fulda and Schlüchtern can be reached by State Route Motor Cars. Information and Prospectus from the "Staatl. Bayerischen Mineralbades Brückenau in Unterfranken."

BAD STEBEN (Therapeutic)

The Chalybeate and Mud Bath in the Frankenwald, 1,906 ft. above sea-level. Proved in cases of anaemia, chlorosis, heart, nerve and women's diseases, gout, rheumatism, sciatica; bathing, drinking and air cures. Park, rest hall, forest environment. Information from the "Staatl. Badeverwaltung" and Travel Bureaux.

Exceptional curative successes. **Best installed Spas.**

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, Medicated Inhalations by means of the Apneu Inhalation Installation, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.
Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.
Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

DARTMOOR CONVALESCENT HOME.

750 FEET ABOVE SEA-LEVEL

Established 1905 for Treatment of Pulmonary and other forms of Tuberculosis. Sheltered Situation on the slopes of the bracing moorland. Radiographic Installation, Electric Light, Central Heating, Separate Bedrooms, Efficient Treatment, combined with individual comfort and minimum restrictions. Illustrated Prospectus on request to the Resident Physician: C. H. BERRY, M.R.C.S, L.R.C.P., Tor House, Chagford, Devonshire. Telephone: 11 CHAGFORD. Telegrams: TOR, CHAGFORD.

DEFECTIVE SPEECH.

Remedial Tuition on modern lines for Stammer, Aphonia, Cleft Palate, Tracheotomy, and Disturbed Co-ordination, by ERIC MIALL, A.L.C.M., who is Speech Instructor at the Middlesex Hospital.
Short courses in elocution, accent, clarity, and public speaking.
39, WELBECK STREET, W.1.
Welbeck 3238.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.
"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times." "Thoroughly physiological principles."—"Lancet." "The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."
STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/8 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

Doctor has a vacancy for a Permanent or Convalescent PATIENT, in a fully equipped and staffed NURSING HOME, in a sheltered locality of the North Cornish Coast. Terms on application. — Address, No. 858, B.M.A. House, Tavistock Square, W.C.1.

INSTITUTE OF PATHOLOGY & THERAPEUTIC RESEARCH

ST. MARY'S HOSPITAL, LONDON, W.2

A Course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the SUMMER SESSION. These Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on TUESDAY AFTERNOONS at 5 p.m. as under:—

	SUBJECT.
JUNE 9th. Prof. J. S. HALDANE, M.D., F.R.S. (Director of the Mining Research Laboratory, University of Birmingham).	"The Problems of Silicosis."
JUNE 16th. Dr. BERNARD HART, M.D., F.R.C.P. (Phys. Psychol. Med., Univ. College Hospital).	"The Causation of Neurotic Disorders."
JUNE 23rd. Prof. HAMILTON HARTRIDGE, M.D., F.R.S. (Prof. of Physiology, St Bartholomew's Medical College).	"The Theory of Hearing."

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

Charing Cross Hospital Medical School

(UNIVERSITY OF LONDON)

SESSIONS commence APRIL and OCTOBER.

The most central of all the Colleges of the University.

Complete Hospital and School arrangements for all departments of Clinical work.

The **Institute of Pathology** includes a series of Laboratories fully equipped for Student, Post-Graduate, and Research work.

The **Students' Union** includes **Common Rooms** and **Restaurant** on the School Premises and a **Sports Ground** of 13 acres at Colindale.

The following Scholarships are offered for competition during the present summer:

(a) **University Scholarship**, value £120, for students of Oxford and Cambridge. Examination on Monday, July 20th, 1931. Subjects: Anatomy and Physiology.

(b) **University Scholarship**, value £120, for students of Oxford and Cambridge. Examination in August. Subject: Pathology or Biochemistry.

(c) **Open Scholarship**, value £75, for candidates from any University. Examination Monday, July 20th, 1931. Subjects: Anatomy and Physiology.

(d) **Two Entrance Scholarships**, value £50 each, for students commencing Medical Studies. For this year only these two Scholarships will be awarded by nomination. Candidates must submit their names, together with a recommendation from their Headmaster, by July 20th, 1931.

Fees 38 Guineas per annum.

For Prospectus and full information apply personally or by letter to the DEAN:—
ERIC A. CROOK, M.A., M.Ch., F.R.C.S., Charing Cross Hospital Medical School, London, W.C.2. Teleph. Nos.: Temple Bar 3903 & 3904.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

F.R.C.S. ENGLAND

PRIMARY and FINAL
November and December 1931 Examinations

You can pass these examinations at the first attempt by enrolling for the unique Courses of Postal and Oral Coaching by Specialist Tutors. Free Guide and all particulars on application.

M.R.C.P. LONDON

Courses are now commencing for the M.R.C.P. London, July and October, 1931, examinations by Tutors acquainted with the special character and features of this examination. Highly successful results.

Write for free booklet, "The M.R.C.P. and How to Obtain It," to the Secretary, Medical Correspondence College, 19, Welbeck Street, W.1.

LONDON SCHOOL OF DERMATOLOGY.

St. John's Hospital for Diseases of the Skin,
Leicester Square, W.C.2.

Conducted by the Honorary Staff of the Hospital, together with the Physicians in charge of the Dermatological Departments of the London Teaching Hospitals. Lectures and Demonstrations every Tuesday and Thursday, at 5 p.m., from October to March, and four times weekly during May. Clinics daily at 2 p.m. and 6 p.m., Saturdays, 2 p.m. only. Pathological Laboratory for Instruction or Research work.

For further particulars, fees, etc., apply to J. E. M. WIGLEY, M.B., Dean.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.G. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in *Tropical Hygiene* on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £2 8s. for 10 lessons.—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925.

Prospectus from Head Master.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at *all abnormal cases*, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

MARLBOROUGH COLLEGE,

Near MACCLESFIELD, CHESHIRE,

Specialises in CAREERS FOR GIRLS, General *Education to Matric.*, etc. Special Terms to Medical Men. Apply: *LADY WARDEN.*

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Institute of Medical Culture,

VARESE, ITALIAN LAKE DISTRICT.

Summer Course on *Modern Therapeutic Tendencies*, July 10th—30th. Oxford Graduate will entertain few medical men in spacious country house. All modern conveniences. Billiards. Bridge. Library. Garden. Lake and mountain views. *2½ to 3½ guineas weekly.*

Write: Santelena, Masnago, Varese.

THE UNIVERSITY OF LIVERPOOL.

FACULTY OF MEDICINE.

THE MEDICAL SCHOOL provides complete courses of instruction for the Examinations of the University of Liverpool, and also meets the requirements of other Universities and Examining Bodies in the United Kingdom.

Other Schools of the Faculty are:—The School of Dental Surgery, the School of Hygiene, the School of Tropical Medicine, and the School of Veterinary Science.

DEGREES AND DIPLOMAS IN THE FACULTY OF MEDICINE.

Bachelor of Medicine & Bachelor of Surgery	M.B., Ch.B.	Master of Veterinary Science	M.V.Sc.
Doctor of Medicine	M.D.	Doctor of Veterinary Science	D.V.Sc.
Master of Surgery	Ch.M.	Doctorate in Philosophy	Ph.D
Master of Hygiene	M.H.	Licence in Dental Surgery	L.D.S.
Master of Orthopaedic Surgery	M.Ch.Orth.	Diploma in Public Health	D.P.H.
Bachelor of Dental Surgery	B.D.S.	Diploma in Tropical Medicine	D.T.M.
Master of Dental Surgery	M.D.S.	Diploma in Tropical Hygiene	D.T.H.
Bachelor of Veterinary Science	B.V.Sc.	Diploma in Veterinary Hygiene	D.V.H.
		Diploma in Medical Radiology & Electrology	D.M.R.E.

Valuable Fellowships, Scholarships, and Prizes are offered for competition each year.

THE CLINICAL SCHOOL consists of FOUR GENERAL HOSPITALS: The Royal Infirmary, the Royal Southern Hospital, the David Lewis Northern Hospital, and the Stanley Hospital; and of FIVE SPECIAL HOSPITALS: The Eye and Ear Infirmary, the Hospital for Women (including the Samaritan Hospital), the Royal Liverpool Children's Hospital, the Liverpool Maternity Hospital, and the St. Paul's Eye Hospital.

These Hospitals contain in all about 1,500 Beds.

The organization of these Hospitals to form one teaching Institution provides the Medical Student and Medical Practitioner with a field for clinical education and study which is unrivalled in extent in the United Kingdom.

Infectious Diseases are studied in the Local and District Hospitals, and Mental Diseases at the County Mental Hospital, Rainhill.

For information on all matters concerning the curriculum application should be made to the Dean of the Faculty of Medicine, the University of Liverpool.

W. J. DILLING, Dean.

LONDON SCHOOL of HYGIENE and TROPICAL MEDICINE

(University of London.)

TROPICAL MEDICINE AND HYGIENE.

The School provides two courses yearly, each of 22 weeks. The Autumn Course commences at the end of September, and the Spring Course in February, 1932. Composition fee, to include hire of microscope, etc., £34 5s.

DIPLOMA IN PUBLIC HEALTH.

The next course of study commences on September 28th, 1931, and covers a period of twelve calendar months (nine calendar months in the case of those who devote the whole of their time to the work). This course qualifies students to sit for the University of London Diploma. The composition fee of 54 guineas includes the cost of the necessary practical work and instruction in infectious diseases, etc.

DIPLOMA IN BACTERIOLOGY.

The course of study, covering one academic year, commences early in October. Composition fee £47 15s.

EPIDEMIOLOGY AND VITAL STATISTICS.

Special Three-monthly Advanced Course. Fee £7 7s.

Applications for prospectuses and for other information should be addressed to the Secretary, Keppel Street (Gower Street), London, W.C.1.

MEMOIR SERIES OF THE LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

No. 3.—Researches in British Guiana, 1926-1928, *by* A. W. GRACE, M.B., *and* F. BERMAN GRACE. (*Published March*, 1931.) *Price in cloth* 10/6, *or in paper cover* 8 - *net, post free.*

No. 4.—Anopheline Mosquitoes in Southern Rhodesia, 1926-1928, *by* H. S. LEESON. (*Published March*, 1931.) *Price in cloth* 10/6, *or in paper cover* 8 - *net, post free.*

Obtainable from the Librarian, London School of Hygiene and Tropical Medicine, Keppel Street (Gower Street), London, W.C.1.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.

THE PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM, and THE NORTH MIDDLESEX HOSPITAL, EDMONTON.

A TWO WEEKS' INTENSIVE COURSE (Mornings and Afternoons) for General Practitioners commences on JUNE 22nd and again on JULY 6th. The subjects include:

Glandular Fever
Diabetes
Cardiac Arrhythmias
Chorea
Colitis
The Common Cold
Pyorrhoea
Rheumatism
Leucorrhoea
Fevers and Mental Cases
Haematuria
Tinnitus
Phlegmasia Alba Dolens
Abdominal Pain in Children
Pyrexia
Minor Surgery of the Hand
Visceroptosis
The Acute Abdomen
Diseases of the Gall-Bladder
Demonstrations of selected cases in all departments
Radiogical Demonstrations and Radium Treatment

A Syllabus will be forwarded on application to the DEAN at the Prince of Wales's Hospital.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.).

POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.), 1901-30 (including 4 Gold Medallists)	22
M.B.,B.S.(Lond.), *Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.), *Primary* 1906-30)	162
Final	161
M.R.C.P.(Lond.), 1914-30	192
D.P.H. (Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.), 1918-30	46
M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.) (Practitioners) 1906-30	38
M.D. Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women. Hints for writing theses.

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1 (Telephone: HOLBORN 6313.)

UNIVERSITY of CAMBRIDGE.

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.

The next Course of Study for the Diploma, which is open only to duly qualified Medical Men and Women, begins on October 5th, 1931, and occupies nine months.

During the first three months instruction in Physics is given in the Cavendish Laboratory, and in Elementary Radiology and Electrology in the Department of Radiology at Cambridge. Arrangements are made by the British Institute of Radiology for a similar Course to be given in London at the same time. These Courses are alternative.

The second three months must be spent in London, where lectures are given at the British Institute of Radiology, and are combined with clinical instruction in the large teaching Hospitals.

The third three months may be spent in recognized Hospitals in London or elsewhere, the student acting as clinical assistant or in similar capacity.

The examinations consist of three parts, viz.:

1. Physics, with examinations in January and April.
2. Radiology and Electrology, with examinations in April and July.
3. The presentation of a Thesis which is entirely the candidate's own work, and is intended to show that he has had practical experience of the subjects.

Further information as to the Courses, together with application forms for admission, may be obtained from:

G. STEAD, M.A., Secretary for the Diploma, Cavendish Laboratory, Cambridge, or,

The General Secretary, British Institute of Radiology, 32, Welbeck Street, London, W.1.

Completed forms of application for admission must reach the Secretaries not later than September 10th.

EPSOM COLLEGE.

(Established in 1855 as a Public School with a Royal Medical Foundation.)

NOTICE is hereby given that the ANNUAL GENERAL MEETING OF GOVERNORS will be held at the offices of the ROYAL COLLEGE OF PHYSICIANS, 12, Pall Mall East, S.W.1, on Friday, the 26th day of June, 1931, at 4 o'clock in the afternoon, when the result of the voting for Pensioners, Annuitants, and Foundation Scholars will be announced.

In accordance with the provisions of the Acts of Parliament, 10 members of the Council will retire at this meeting. It will be proposed that the following be re-elected for a further period of three years: Dr. J. W. CARR, C.B.E., Mr. F. S. FLEURET, LL.B., Dr. ROBERT A. GIBBONS, Mr. RANALD M. HANDFIELD-JONES, *M.C.*, Dr. OWEN LANKESTER, Dr ARNOLD LYNDON, O.B.E., Mr. SAMUEL OSBORN, J.P., and Dr. C. MCMORAN WILSON, *M.C.*; and that Mr. ARTHUR W. ORMOND C.B.E., be elected to fill a vacancy.

The Council will propose (*a*) that SIR FREDERIC G. HALLETT, Colonel NORMAN C. KING, and Mr. P. D. LEAKE be re-appointed Auditors for the ensuing year; and (*b*) that a slight modification in By-law 27 be made, particulars of which can be obtained at the office.

All voting papers must be returned to the office by the night of Saturday, June 20th, at latest, or the votes will be lost.

Notice is hereby given that an Extraordinary General Meeting of the Governors of Epsom College will be held at the offices of the Royal College of Physicians, 12, Pall Mall East, S.W.1, on Friday, the 26th day of June, 1931, at 4.15 o'clock in the afternoon, or so soon thereafter as the Annual General Meeting of the Governors of the College shall be concluded, for the purpose of considering and, if thought fit, passing the following resolution:

"That the Council of Epsom College be and is hereby authorised to promote legislation to amend, extend, and repeal the provisions of the Royal Medical Benevolent College Act, 1855, and the Royal Medical Benevolent College Act, 1894, so far as may be requisite or convenient for the following purposes, that is to say:

1. To effect the abolition of the present method of election of Pensioners, Foundation Scholars, and Annuitants by the Governors of the College, and to substitute therefor election of Pensioners, Foundation Scholars, and Annuitants by a Committee to be appointed by the Council, and to consist of twenty Governors, of whom ten shall be members of the Council and ten shall be Governors (not being members of the Council), whom the Council shall select annually as most adequately representing the varied interests of the Medical Profession.
2. To provide for the extension of the benefits of the charity so as:
   (*a*) To enable Pensions to be provided for Medical Women (but not for their widowers unless such widowers are otherwise eligible) on the same conditions as for Medical Men;
   (*b*) To render the sons of Medical Women eligible for election as Foundation Scholars on the same conditions as the sons of Medical Men; and
   (*c*) To enable Annuities or occasional pecuniary assistance to be provided for Medical Women or their families (but not for their widowers unless such widowers are otherwise eligible) on the same conditions as such annuities and assistance may be provided for Medical Men or their families.

By Order of the Council of Epsom College,
J. BERNARD LAMB, Secretary.

Office of Epsom College,
49, Bedford Square, London, W.C.1.
May 30th, 1931.

County of London.

The LONDON COUNTY COUNCIL invites applications for appointment as SENIOR ASSISTANT MEDICAL OFFICER at the MAUDSLEY HOSPITAL, Denmark Hill, S.E.5 (for Treatment of Incipient Mental Disorder). Candidates must be not more than 40 years of age (unless already in the Council's Mental Hospital Service), and must be registered to practise both in Medicine and Surgery in England. Appointment pensionable under the Asylums Officers Superannuation Act, 1909. Salary (under review) £650 a year, rising by annual increments of £30 to £740 a year. Charges made for board, lodging, etc. (at present £2 9s. weekly), if required to be resident. Application form (which gives full particulars) obtainable from Chief Officer (Ref. M.O.) L.C.C. Mental Hospitals Dept., Artillery House, Artillery Row, S.W.1. Canvassing disqualifies. Applications must be received by Thursday, June 11th.

MONTAGU H. COX,
Clerk of the London County Council.

UNIVERSITY OF LONDON.

EXTERNAL EXAMINERSHIPS, 1932.

The Senate announce the following vacant Examinerships for the year 1932.

For the First Examination for Medical Degrees.
GENERAL BIOLOGY. PHYSICS.

For the Second Examination for Medical Degrees.
PHYSIOLOGY (Two).

For Final and Higher Examinations for Medical Degrees.
FORENSIC MEDICINE AND HYGIENE (Two).
MENTAL DISEASES AND PSYCHOLOGY.
NEUROLOGY. PATHOLOGY.
TROPICAL MEDICINE.

Associate Examiners.

Applications will also be invited for Associate Examiners in Medicine, Obstetric Medicine, Pathology, and Surgery. A separate application form must be used for Associate Examinerships and the word "Associate" must be written on it.

Application form (or forms if more than one Examinership is applied for) and particulars of the remuneration and duties can be obtained from the External Registrar.

Candidates must send in their names to the External Registrar, GEO. F. GOODCHILD, M.A., B.Sc., with any attestation of their qualifications they may think desirable, on or before Monday, July 6th, 1931. (Envelopes should be marked "Examinership.")

The Senate desire that no application of any kind be made to individual members.

If testimonials are submitted one copy only of each is required. In no case should original testimonials be submitted. If more than one Examinership is applied for a separate and complete application must be forwarded in respect of each Examinership. The appointments will be made by the Senate in November. Applicants who desire that the result should be communicated to them are requested to enclose a stamped and addressed envelope with their applications.

University of London, EDWIN DELLER, Principal.
South Kensington, S.W.7.
June, 1931.

University of Leeds.

POST-GRADUATE COURSES IN OBSTETRICS AND ANTE-NATAL WORK AT THE LEEDS MATERNITY HOSPITAL.
(108 Beds.)

Registered Medical Practitioners are admitted to the Hospital Practice, comprising Ante-natal, Labour and Isolation Departments, for periods of 2—4 weeks.

For particulars as to vacancies at the University Obstetrics Students' Hostel, adjoining the Hospital, apply to the DEAN, School of Medicine, Leeds.

June 21st, 1930.

St. Mary's Hospital, Institute OF PATHOLOGY AND RESEARCH.

Principal: Sir ALMROTH E. WRIGHT.

Applications are invited from qualified Medical Practitioners for a RESEARCH STUDENTSHIP. This will be tenable for six months, and may be renewed for a second period of six months.

The Institute comprises the following departments: Anatomy and Embryology, Physiology, Pathology, Chemical Pathology, Clinical Bacteriology, Systematic Bacteriology, and Immunology.

The student, who will receive an honorarium at the rate of £200 per annum, may elect to carry out his researches in any one of these departments, and would be required to work under the direction of the head of the department concerned.

Preference will be given to old St. Mary's Students.

For further particulars apply to the Secretary, Institute of Pathology and Research, St. Mary's Hospital, Paddington, W.2, to whom applications must be sent not later than Tuesday, June 16th.

Rotherham Hospital.
(130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £150, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Rotherham Hospital.
(130 Beds.)

Wanted, SENIOR HOUSE SURGEON (male), qualified. A knowledge of Eye work is desirable. Salary £200, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H.M.'s Indian Medical Service. The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service. In other respects the terms will be as detailed below.

Candidates must be British subjects under 32 years of age at the time of application, and must be registered under the Medical Acts in force in Great Britain and Northern Ireland.

CAREERS.

The Indian Medical Service offers wide opportunities of medical experience, including clinical, preventive, specialist, and research work. At the beginning of his career an officer is employed on the military side, which has medical charge of the Indian Army. Promotion is on a time scale up to the rank of Lieutenant-Colonel, and by selection to the ranks of Colonel and Major-General. An officer may apply after one year's Indian service to have his name registered for transfer to the civil side, from which appointments are made to Civil Surgeoncies, which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes; to specialist (for example, public health and bacteriological) services; to research posts; and to professorships at the Medical Schools.

NOTE.—It is not possible to state at present what, if any, prospects of employment on the civil side will be open to Indian Medical Service Officers under the proposed new constitution for India.

PAY.

The monthly rates of pay for European officers in the Service who have a "non-Asiatic" domicile are as follows:

Rank.	Service in Rank.	Basic Pay.	Overseas Pay.	Years of Total Service.
1	2	3	4	5
		Rs.	Rs.	
Lieut.	—	500	150	1st
			150	2nd
			150	3rd
Capt.	(i) During first 3 years' service as Captain	650	150	4th
			£15	5th
	(ii) With more than 3 and less than 6 yrs.' service as Captain	750	£15	6th
			£25	7th
			£25	8th
	(iii) With more than 6 years' service as Captain	850	£25	9th
			£25	10th
			£25	11th
			£30	12th
Major	(i) During first 3 years' service as Major	950		
	(ii) With more than 3 and less than 6 years' service as Major	1100		
	(iii) With more than 6 years' service as Major	1250		
Lieut.-Col.	(i) Until completion of 23 years' total service	1500	£30	13th and over
	(ii) During 24th and 25th years' service	1600		
	(iii) After completion of 25 years' total service	1700		
	(iv) When selected for increased pay	1850		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service. Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service.

ANTEDATES IN COMMISSION.

Any service rendered by an officer during the war as a medical or combatant officer, or in a position usually filled by an officer, may be counted as service for increments of pay, promotion retirement and retired pay, but not for gratuity.

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only.

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions. Past service in certain hospital appointments may also render candidates eligible for an antedate of one year. Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year. The maximum period of antedate, secondment, or antedate and secondment combined, admissible under this paragraph, is limited to one year.

OUTFIT ALLOWANCE.

Officers on appointment will receive an outfit allowance of £50.

PRIVATE PRACTICE.

With the exception of Administrative Officers, military or civil, and officers holding certain special appointments, officers are not debarred from taking private practice, so long as it does not interfere with their proper duties.

LEAVE.

Leave can be taken at reasonable intervals, and adequate rates of leave pay are provided. Extra leave (known as study leave), which may not exceed 12 months in all during an officer's service, may be granted to officers desirous of pursuing special courses of study of a post-graduate nature. During such leave, study allowance, at present fixed at the rate of 12s. a day in the United Kingdom, £1 a day on the Continent of Europe, and £1 10s. a day in the United States of America, is granted to an officer in addition to ordinary rates of leave pay.

PENSIONS.

The rates of pension are as follows:

	Per annum. £
After 17 years' service for pension	400
,, 18 ,, ,, ,, ...	430
,, 19 ,, ,, ,, ...	460
,, 20 ,, ,, ,, ...	500
,, 21 ,, ,, ,, ...	540
,, 22 ,, ,, ,, ...	580
,, 23 ,, ,, ,, ...	620
,, 24 ,, ,, ,, ...	660
,, 25 ,, ,, ,, ...	700
,, 26 ,, ,, ,, ...	750
,, 27 ,, ,, ,, ...	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent. in all, the revision being undertaken triennially. With effect from July 1st, 1930, a reduction of 5¼ per cent. has been made on this account from the amounts shown.

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments.

PASSAGES.

An officer on appointment is provided with free passage to India. The wives and families of officers who are married prior to the date of the officers' embarkation on first appointment will also be provided with free passage to India, subject to the payment of messing charges.

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service.

INSTRUCTION PRIOR TO EMBARKATION.

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot, lasting approximately six months, prior to their embarkation for India on first appointment.

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London, S.W.1. The Selection Committee will meet at the India Office early in July next, and the selected candidates will be required to join a course of instruction commencing early in August, prior to sailing for India early in 1932. Applications should be submitted as soon as possible.

Salford Royal Hospital.
(263 Beds.)

Applications are invited for the following vacancies, which will occur in the Resident Medical Staff (male), on June 30th next:

HOUSE PHYSICIAN. Salary at the rate of £125 per annum.

HOUSE SURGEON (attached to the Genito-Urinary Department). Salary at the rate of £125 per annum.

The appointments are for a period of six months, with board and residence.

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England, and appointments here are recognised for the English Fellowship (Final).

Forms of application, which may be obtained from the undersigned, must be delivered on or before June 9th.

By Order of the Board,
GEORGE RUDDLE,
General Supt. & Secretary.

Salford Royal Hospital.
May 25th, 1931.

The Children's Hospital,
SHEFFIELD. (107 Beds.)

Applications are invited for the following posts, vacant on July 1st:

HOUSE PHYSICIAN. Salary £100 per annum, with board, residence, and laundry. The appointment is for six months, and afterwards the holder is eligible for the post of Senior House Surgeon (salary at the rate of £120 per annum).

THIRD RESIDENT MEDICAL OFFICER. Salary £80 per annum, with board, residence, and laundry. The appointment is for six months, and afterwards the holder is eligible for the post of House Physician (salary at the rate of £100 per annum).

Candidates (female and unmarried) must be fully qualified and registered. Applications, stating age, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.

T. H. G. GARTLAND,
Secretary.

Hampstead General and North-West London Hospital,
Haverstock Hill, N.W.3.

APPOINTMENT OF HOUSE PHYSICIAN.

Applications are invited from unmarried Medical Men for the appointment of House Physician, vacant on July 1st next. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Application, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on June 20th next.

Hampstead General and North-West London Hospital,
Haverstock Hill, N.W.3.

APPOINTMENT OF HOUSE SURGEON.

Applications are invited from unmarried Medical Men for the appointment of House Surgeon, vacant on July 1st next. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Application, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on June 20th next.

Connaught Hospital
Walthamstow, E.17.
(100 Beds, with three Resident Medical Officers.)

RESIDENT HOUSE PHYSICIAN (male) required. Salary £100 per annum. Appointment for six months from July 1st, with board, residence, and laundry. Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, should be received not later than Friday, June 12th.

KENELM S. ELLISON, Secretary.

Acton Hospital, W.3.

Applications are invited for the appointment of a JUNIOR RESIDENT MEDICAL OFFICER (male, unmarried). Salary £100 per annum, with board, residence, and laundry. Duties to commence July 1st.

Candidates must be fully qualified and registered. Applications, stating age, nationality, and qualifications, together with a copy of three recent testimonials, should reach the Secretary, Acton Hospital, Gunnersbury Lane, W.3, by Friday, June 12th.

St. Peter's Hospital for Stone, ETC.,
Henrietta Street, Covent Garden, W.C.2.

CLINICAL ASSISTANTS are required by the following members of the Honorary Staff, who attend the Out-patient Department as indicated:

Mr. Swift Joly	Mondays 2 to 5 p.m.
Mr. Clifford Morson	Saturdays 2 to 7 p.m.
Mr. Barrington	Tuesdays 2 to 5 p.m. Thursdays 3 to 7 p.m.
Mr. Ogier Ward	Weds. 2.30 to 6 p.m. Fridays 2 to 5 p.m. (Women and Children)
Mr. Alban Andrews	Mondays 5 to 7 p.m. Fridays 5 to 7 p.m.

Appointments are made for six months from July 1st, 1931, a fee of five guineas being payable to the Hospital.

Applications will be received by the undersigned up to the first post on Tuesday, June 16th, 1931.

BEECHEY ROGERS, Secretary.

The Salvation Army,
THE MOTHERS' HOSPITAL,
Lower Clapton Road, Clapton, E.5.

Applications are invited from Medical Women for the posts of SENIOR and JUNIOR RESIDENT MEDICAL OFFICERS. The Senior position, which is for twelve months, becomes vacant on July 1st, the salary being £150 per annum, with board, residence, and laundry. The successful candidate will be expected to carry out the duties of the Junior Resident Medical Officer for the first month.

The Junior post is for six months as from August 1st. Salary £60 per annum, with board, residence, and laundry.

Applications, with testimonials, must be sent to the Secretary on or before June 15th.

EDGAR DIBDEN, Secretary.

The Retreat, York.

Applications are invited for the post of SENIOR ASSISTANT MEDICAL OFFICER (male) at this registered Mental Hospital. Previous Mental Hospital experience essential. Preference will be given to candidates who possess the Diploma in Psychological Medicine. If a candidate without this qualification is appointed, he will be expected to obtain it within two years of appointment. Commencing salary based on experience and qualifications. Minimum £400 per annum for an unmarried Assistant, with full board, residence, and laundry; or £500 per annum for a married Assistant, with house, rent, and rates free.

Applications, with copies of testimonials, to be sent to the Medical Superintendent.

Royal Free Hospital,
EASTMAN DENTAL CLINIC,
Gray's Inn Road, W.C.1.

Applications are invited from duly qualified and registered Medical Practitioners for the post of RESIDENT HOUSE SURGEON. Duties will include care of wards for Tonsil and Adenoid Treatments, attendance in the Ear, Nose, and Throat Department, and administration of Anæsthetics in the Dental and Tonsil Departments.

Intending candidates should submit applications to the undersigned, stating age and qualifications, accompanied by copies of three recent testimonials, on or before Wednesday, June 10th.

REGINALD R. GARRATT, Secretary.

The General Hospital,
BIRMINGHAM.

OPEN APPOINTMENTS.

Applications are invited for the following Resident appointments, vacant immediately:

ANÆSTHETISTS (Two). Salary £120 per annum.

HOUSE SURGEON. Salary £70 per annum.

Applications, giving full details of qualifications, and accompanied by testimonials (if desired), should be sent to the undersigned as soon as possible.

A. H. LEANEY,
House Governor.

London Hospital, E.1.

Applications are invited for the post of MEDICAL FIRST ASSISTANT & REGISTRAR. The appointment is for one year, but is renewable annually, on application, for two further periods of one year. Salary £300 per annum, payable by the Hospital and Medical College jointly.

Candidates must be fully qualified medically.

Applications should arrive at the Hospital not later than by the first post on Saturday, July 11th.

Further particulars may be obtained from the House Governor.

ARTHUR G. ELLIOTT,
House Governor.

Royal Devon and Exeter
HOSPITAL, EXETER.

SENIOR HOUSE SURGEON, HOUSE SURGEON, AND HOUSE SURGEON TO SPECIAL DEPTS.

Applications are invited for the above resident appointments, shortly becoming vacant at this Hospital. The Senior appointment is for twelve months, the Junior posts six months. Candidates are eligible for re-election.

The salary of the Senior House Surgeon is at the rate of £250 per annum, the other posts being £150, with board, apartments, and washing.

Applications, stating age and qualifications, together with certificate of registration and copies of three recent testimonials, should be sent to the undersigned on or before Monday, June 8th.

By Order of the Committee,
S. S. COLE, Secretary & Manager.

May 21st, 1931.

Ethel Hedley Orthopaedic
HOSPITAL FOR CRIPPLED CHILDREN,
WINDERMERE.

An active Surgical Centre, with 50 beds, serving the Counties of Westmorland, Cumberland, and North Lancashire, with attendance at After-Care Clinics in these Areas.

Applications are invited for the post of RESIDENT HOUSE SURGEON. Candidates (female) must be fully qualified and registered, and have held a previous Resident appointment. The appointment is for six months commencing June 23rd, with extension to one year. Salary at the rate of £150 per annum.

Applications, stating age, and with copies of three recent testimonials, should be submitted not later than June 13th to the Medical Director, Ethel Hedley Hospital, Calgarth Park, Windermere.

Princess Louise Kensington
HOSPITAL FOR CHILDREN,
St. Quintin Avenue, North Kensington, W.10.
(50 Beds.)

HOUSE SURGEON (woman) required for six months from July 1st. Salary for first three months at the rate of £100 a year, after which, should she be appointed Senior Resident (of two) the salary would be at the rate of £125 a year; with board, residence, and laundry in each case. It is desirable that applicants should have held a responsible Hospital post.

Applications, with copies of three testimonials, must be submitted on a form to be obtained from the Secretary, and must reach the Secretary not later than first post on Wednesday, June 17th.

The Royal Gwent Hospital,
NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to act as House Surgeon to Out-patients and as House Physician.

Salary £135, with board, lodgings, and laundry. Resident Medical staff 5. Eligible for promotion.

Large Out-patients' Department.

Applications, stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.

Applications from ladies not entertained.

J. K. MILLWARD,
Secretary-Supt.

May 23rd, 1931.

General Hospital, Nottingham.
(397 Beds.)

A CASUALTY OFFICER (male) is required at the above Institution. Appointment for six months. Salary at the rate of £200 a year, with board, residence, and laundry. Applications, stating age, qualifications, and experience, together with copies of testimonials, to be delivered to me not later than June 20th. The appointment will be made on July 1st. Duties to commence on Tuesday, July 14th.

PETER M. MACCOLL,
House Governor & Secretary.

Greenock Royal Infirmary.

Wanted immediately, a HOUSE SURGEON (lady). Salary £100 p.a., including board, residence, and laundry. Other two Residents (ladies) on staff. 150 beds. Good experience. Applications invited, with testimonials, to be sent to the Secretary, 2, Hamilton Street, Greenock.

JAS. A. LOVE, Secretary.

Hospital for Women at Leeds.

HOUSE SURGEON to commence duties immediately. Salary at the rate of £50 per annum, with board, quarters, and laundry. The appointment is for six months. Applications, together with copies of testimonials, should be sent to the undersigned at once.

BRYAN JEAFFRESON,
Hon. Secretary to Faculty.

County Council of Durham.

DISTRICT TUBERCULOSIS MEDICAL OFFICER.

The County Health Committee invite applications for a District Tuberculosis Medical Officer, at a commencing salary of £500 per annum, rising by annual increments of £25 to £700 per annum. Travelling expenses will be paid by the County Council.

The appointment will be held subject to three months' notice on either side, and to the following conditions:

(1) The officer appointed must be a registered Medical Practitioner between the ages of 25 and 45 years, must devote the whole of his time to the duties of the office, and must not engage in private practice.

(2) He should either have held a previous appointment as Tuberculosis Medical Officer, with the approval of the Minister of Health, or

(i) Have had at least three years' experience in the practice of his profession;

ii) Have spent in general clinical work a period of not less than eighteen months, of which not less than six months have been spent in a Hospital as Resident Officer in charge of beds occupied by general medical or surgical cases; and

(iii) Have received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis.

(3) He will be attached to the County Health Department, and will, subject to the directions of the County Medical Officer, be under the control of the Central Tuberculosis Medical Officer.

(4) He will be required to reside in his Dispensary area, or such other centre as required by the Council.

(5) He will be required to carry out the duties of a District Tuberculosis Medical Officer.

(6) He must be prepared, if called upon, to act as Locum Tenens to other members of the Medical Staff of the County Medical Officer.

(7) The holding of a Diploma in Public Health, and practical experience in Bacteriological Laboratory work, will be deemed additional qualifications for the post.

The candidate appointed will be required to pass the County Council's medical examination, and will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications, endorsed "District Tuberculosis Medical Officer," and accompanied by copies of not more than three recent testimonials, must be addressed to the undersigned, and must be received by him not later than June 13th.

Shire Hall, C. FRANKS,
Durham. County Medical Officer.
May 23rd, 1931.

County Borough of Southampton

APPOINTMENT OF MEDICAL OFFICER OF HEALTH.

The Corporation invite applications for the position of Medical Officer of Health, Port Medical Officer, etc., for the County Borough at a salary of £1,250 per annum.

The gentleman appointed must not exceed 45 years of age, and must be experienced in all branches of Municipal Medical Service. He will be required to perform all duties prescribed by statute, and such other duties as the Council may from time to time assign to him.

He must devote the whole of his time to the office, and must not engage in private practice. and all fees or emoluments payable to or received by him must be paid to the Corporation.

The post is designated under the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to undergo a medical examination.

The appointment, which will be terminable by three months' notice on either side, will be subject to the approval of the Minister of Health.

Forms of application can be obtained from the undersigned.

Applications on the proper form, accompanied by copies of not more than three recent testimonials, and endorsed "Medical Officer of Health," must be delivered at my office not later than June 17th.

Canvassing of members of the Council will be regarded as a disqualification.

R. RONALD H. MEGGESON.
Municipal Offices, Town Clerk.
Southampton, May, 1931.

The Royal Infirmary,

SUNDERLAND. (290 Beds.)

Wanted, beginning of June, HOUSE SURGEON (male). Salary £140 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Durham County Council and CHESTER-LE-STREET URBAN DISTRICT COUNCIL.

APPOINTMENT OF DISTRICT TUBERCULOSIS MEDICAL OFFICER AND MEDICAL OFFICER OF HEALTH (Male).

Applications are invited for the above appointments. Candidates must be registered in the Medical Register as holding a Diploma in Sanitary Science, Public Health, or State Medicine, and must have had a satisfactory experience in the diagnosis and treatment of Tuberculosis.

The salary will be £800 per annum, in the proportion of £572 15s. payable by the County Council, and £227 5s. payable by the Chester-le-Street Urban District Council.

The officer appointed must either have held a previous appointment as Tuberculosis Medical Officer, with the approval of the Minister of Health, or

(i) Have had at least three years' experience in the practice of his profession;

(ii) Have spent in general clinical work a period of not less than eighteen months, of which not less than six months have been spent in a Hospital as Resident Officer in charge of beds occupied by general medical and surgical cases; and

(iii) Have received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis.

Travelling and subsistence allowances according to scale will be paid by the County Council in respect of the duties of District Tuberculosis Medical Officer, and the officer will, subject to the directions of the County Medical Officer, be under the control of the Central Tuberculosis Medical Officer.

It will be a condition of the appointment that if either post is terminated, the other post will be automatically vacated.

The appointments will be subject to the approval of the Minister of Health; and the officer will not be permitted to take part in private practice.

The person appointed will be required to live in or near Chester-le-Street.

Applications, endorsed "T.M.O. and M.O.H.," and accompanied by copies of not more than three recent testimonials, must be addressed to the undersigned, and must be received by him not later than June 13th.

Shire Hall, C. FRANKS,
Durham. County Medical Officer.
May 23rd, 1931.

Surrey County Council.

ASSISTANT MEDICAL OFFICER.

Applications are invited for the appointment of an Assistant Medical Officer. Candidates must possess a qualification in Public Health, and have had experience in the Medical Inspection of School Children, Maternity and Child Welfare, and the treatment of Tuberculosis and Venereal Diseases. The officer appointed will be required to undertake such other public health duties as may be allocated to him. He will be on the staff of the County Medical Officer of Health, must reside in the County, and devote his whole time to the work. Salary £600 per annum, rising by annual increments of £20 to £700 per annum. Travelling expenses in accordance with the Council's scale will be allowed.

The appointment will be subject to the approval of the Ministry of Health, to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and to the Standing Orders of the Council, which provide, inter alia, that appointments may be determined at any time by three months' notice.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be made on the prescribed form and sent to the County Medical Officer of Health, County Hall, Kingston-upon-Thames, from whom copies of the application form may be obtained, and to whom any enquiries relating to the appointment should be addressed.

Last day of receipt of applications, Friday, June 19th. Canvassing, directly or indirectly, will disqualify.

County Hall, DUDLEY AUCKLAND,
Kingston-upon-Thames. Clerk of the
May 27th, 1931. County Council.

East Suffolk and Ipswich HOSPITAL, IPSWICH.

(265 Beds—7 Residents.)

Applications are invited for the post of CASUALTY OFFICER. Salary £120 per annum or more according to experience. Board, residence, and laundry.

Applications from British (male) candidates, stating age, qualifications, and experience, accompanied by three recent testimonials, to be sent to the undersigned.

The Hospital, ARTHUR GRIFFITHS,
Ipswich. Secretary.
June 1st, 1931.

Borough of Ilford.

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Corporation invites applications from legally qualified Medical persons of both sexes for the office of Assistant Medical Officer of Health, for duties in connection with Maternity and Child Welfare work, School Medical Inspection, and General Public Health work. Candidates for the appointment must have had special experience in Midwifery and Ante-natal work since qualification, and subject to this, preference will be given to candidates who possess the Diploma of Public Health or similar qualification, and have had definite experience in Children's Diseases.

The commencing salary of the officer will be £600 per annum (no bonus), rising by one annual increment of £50, and two annual increments of £25, to £700 per annum.

The person appointed will be required to devote whole time to the duties of the office, to reside within easy distance of the Corporation's Maternity Home, and to enter into an agreement for the due performance and fulfilment of all the duties and conditions governing the appointment. The appointment will be subject to a satisfactory medical examination, and to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications, which must be made on forms obtainable (with list of duties) from the undersigned, accompanied by copies of three recent testimonials (which will not be returned), endorsed "Assistant Medical Officer of Health," must be received at my office, at the Town Hall, Ilford, not later than Friday, June 12th.

Canvassing members of the Council, directly or indirectly, is prohibited and will disqualify.

Town Hall, By Order,
Ilford. ADAM PARTINGTON,
June, 1931. Town Clerk.

Borough of Brighouse.

HIPPERHOLME URBAN DISTRICT COUNCIL.

HALIFAX RURAL DISTRICT COUNCIL.

BRIGHOUSE JOINT HOSPITAL BOARD.

The above-named Authorities jointly invite applications from qualified Medical Practitioners for the appointment of whole-time MEDICAL OFFICER OF HEALTH and SCHOOL MEDICAL OFFICER OF HEALTH to the Brighouse, MEDICAL OFFICER OF HEALTH to the Hipperholme Urban District Council, MEDICAL OFFICER OF HEALTH to the Halifax Rural District Council, and MEDICAL SUPERINTENDENT to the Brighouse Joint Hospital Board.

The total salary for the combined posts will be £850 per annum. An allowance of £50 per annum will also be made towards the expenses of a motor car.

The appointment will be subject to the Sanitary Officers Order, 1926; the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930; the approval of the Ministry of Health and Board of Education; and will be terminable by three months' notice.

Applications, stating age, previous experience and qualifications, together with copies of not more than three recent testimonials, to be received by the under-signed not later than the first post on Wednesday, June 17th, in an envelope endorsed "Medical Officer of Health."

Town Hall, ERNEST H. CLEGG,
Brighouse. Town Clerk.
May 30th, 1931.

Royal Victoria Infirmary, NEWCASTLE-UPON-TYNE. (576 Beds.)

TWO WHOLE-TIME JUNIOR SURGICAL REGISTRARS.

OPEN APPOINTMENT.

Applications are invited for the posts of Two Whole-time Junior Surgical Registrars.

These appointments are designed for Graduates who desire to gain Surgical experience, and who have already held a post as House Surgeon. Certain duties in the allied Departments of the College of Medicine will offer opportunities of Post-Graduate study.

The appointments will in no case extend beyond three years, and will be for one year in the first instance, renewable for two further periods.

The rate of remuneration is £150 per annum.

Applications, with copies of not more than three recent testimonials, must be lodged on or before Friday, June 19th, with the House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne, from whom further particulars may be obtained.

S. DUNSTAN,
House Governor and Secretary.
June 1st, 1931.

The London Female Lock HOSPITAL,
283, Harrow Road, London, W.9.

The Board of Management invite applications for the post of HOUSE SURGEON (female). Salary at the rate of £150 per annum, with furnished rooms, full board, and washing. *Candidates, who must be doubly qualified and* duly registered, should send in their applications by the first post on June 8th (accompanied by copies of three recent testimonials) to the Secretary, from whom further particulars can be obtained. The appointment is for six months commencing July 1st. Preference will be given to candidates having previous Obstetric experience.

By Order of the Board,
HY. J. EASON,
May, 1931. Secretary.

Royal Manchester Children's HOSPITAL.
Out-patients' Department, Gartside Street, MANCHESTER.

Wanted for the Out-patients' Department, a SENIOR MEDICAL OFFICER (non-resident). Applicants must be doubly qualified and on the Medical Register. Hours: 9 a.m. to 4 p.m. Saturdays noon. Particulars of the duties can be obtained from the Secretary. Salary £300 per annum. The appointment is for one year, with a view to extension for a further period.

Applications, stating age and experience, and accompanied by copies of not more than four testimonials, to be sent to the undersigned at the Hospital, Pendlebury, Manchester, on or before Wednesday, June 10th.

By Order,
W. M. HUMPHRY,
May 21st, 1931. Secretary.

Assistant Resident Surgeon.

The Committee of the ROYAL NATIONAL ORTHOPAEDIC HOSPITAL invite applications for the appointment of Assistant Resident Surgeon (male) at the COUNTRY BRANCH, STANMORE, MIDDLESEX. Appointment for 2 years. £350 a year.

Candidates must be Fellows of the Royal College of Surgeons (England). Applications, with copies of three recent testimonials, to be sent in on or before June 23rd to 234, Great Portland Street, W.1, addressed to the Secretary, from whom further particulars of duties may be obtained.

Derbyshire Royal Infirmary, DERBY.
(General Hospital—346 Beds.)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON.

Candidates must be qualified and registered under the Medical Acts.

The appointment is for twelve months.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with copies of testimonials, to be sent to the undersigned.

WALTER BANKS,
May 29th, 1931. Supt. & Secretary.

The Jessop Hospital for Women, SHEFFIELD. (146 Beds.)
Gynaecological and Maternity Departments.

The Board of Management invite applications for the appointment of Three ASSISTANT HOUSE SURGEONS (male), for a period of six months from a date early in July. Salary £100 per annum, together with board, residence and laundry.

Applications, stating age, together with copies of recent testimonials, should be addressed to the undersigned immediately.

H. B. SHELSWELL, Secretary.

Shropshire Orthopaedic Hospital AND AGNES HUNT SURGICAL HOME, OSWESTRY.

HOUSE SURGEON (male) required on or about July 1st. Appointment for six months, with possibility of extension. Salary at the rate of £200 per annum, with board, residence, and laundry. Two weeks' holiday for each six months' service.

Applications, stating age, with copies of three recent testimonials, should be received by the Secretary-Supt. on or before June 20th.

Stockport Infirmary.

HOUSE SURGEON (male) required. Salary £175 per annum, with board, residence, and laundry.

Applications, stating age, University, qualifications, and experience, should be accompanied by copies of three testimonials, addressed to the undersigned, and delivered here not later than Saturday, June 20th.

Duties to commence July 10th.

EDWIN J. PEARCE,
Secretary-Supt.

The Queen's Hospital for CHILDREN, Hackney Road, London, E.2.

RESIDENT MEDICAL OFFICER required on July 1st.

The appointment is made for six months, and may be extended for further periods of six months, but cannot be held for more than two years

The Resident Medical Staff consists of the Resident Medical Officer as above, three Casualty Officers, two House Physicians, and one House Surgeon.

Salary (inclusive of panel fees) £200 per annum, with board, residence, and washing. Candidates must have held a responsible Resident appointment as a recognised Hospital, and should apply as soon as possible for forms of application, which must be filled in and returned to the undersigned on or before June 18th.

CHARLES H. BESSELL,
May 30th, 1931. Secretary.
Telephone: Bish. 6305 and 2534.

Seamen's Hospital Society, Greenwich.

The Committee invite candidates for the appointment of HOUSE PHYSICIAN at the HOSPITAL FOR TROPICAL DISEASES. Endsleigh Gardens, W.C. Candidates must be doubly qualified and registered. The elected candidate will be required to take up duty on July 1st. Salary at the rate of £150 per annum, with board, residence, and washing. The appointment will be for six months. Applications, stating age, together with copies of not more than three recent testimonials, to be sent in on or before June 22nd to the undersigned, from whom further particulars can be obtained.

Greenwich. R. E. V. BAX,
June 2nd, 1931. Secretary.

Seamen's Hospital Society, Greenwich.

HOUSE PHYSICIAN AND HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich, for six months from July 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male. Applications, with copies of three testimonials, to be sent in by June 9th to the undersigned.

Greenwich. R. E. V. BAX,
May 9th, 1931. Secretary.

Seamen's Hospital Society, Greenwich.

RESIDENT MEDICAL OFFICER required at ALBERT DOCK HOSPITAL, Connaught Road, E.16, for six months from July 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male. Applications, with copies of three testimonials, to be sent in by June 9th to the undersigned.

Greenwich. R. E. V. BAX,
May 9th, 1931. Secretary.

Western Ophthalmic Hospital, Marylebone Road, N.W.1

Applications are invited for the post of JUNIOR NON-RESIDENT HOUSE SURGEON. The salary is at the rate of £100 per annum, and the appointment is for six months. Ophthalmic experience is required. The selected candidate will be required to take up duty at an early date.

Applications, accompanied by copies of not less than three testimonials, should be sent to the undersigned at once.

H. W. BURLEIGH, Honorary Secretary.

Derbyshire Royal Infirmary, DERBY.
(GENERAL HOSPITAL—346 Beds.)

Applications are invited for the post of CASUALTY OFFICER.

Candidates must be qualified and registered under the Medical Acts.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with testimonials (not more than three), to be sent to the undersigned.

WALTER BANKS,
Superintendent and Secretary.
June 5th, 1931.

Queen Charlotte's Maternity HOSPITAL, Marylebone Road, N.W.1.

RESIDENT ANAESTHETIST required to commence duty on July 1st. Applicants must be registered. Appointment for six months. Salary at the rate of £100 per annum, with board, residence, and washing allowance (4/- weekly). Copies (not originals) of not more than three testimonials should be sent to the Secretary by June 15th.

ARTHUR WATTS, Secretary.

All Saints' Hospital (for Genito-URINARY DISEASES).
In-patient Dept.: 91, Finchley Road, N.W.8.
Out-Patient Dept. and Secretary's Office: 49/55, Vauxhall Bridge Road, S.W.1.

HOUSE SURGEON (male) required on July 1st for period of three months as Junior *House Surgeon (non-resident), followed, subject* to the approval of the Board of Management, by a period of three months as Senior House Surgeon (resident). Salary will be at the rate of £150 per annum, with board and laundry during the resident period. The duties of the non-resident House Surgeon consist of attendance at the Out-patient Department every afternoon and three evenings weekly.

Applications, stating age, experience, and qualifications and enclosing copies of recent testimonials, should reach me not later than June 20th.

D. H. EADE, Secretary.

Bolingbroke Hospital
Wandsworth Common, S.W.11.

The Board of Governors invite applications for the newly created post of HONORARY PHYSICIAN for Diseases of Children.

Candidates must be Fellows or Members of the Royal College of Physicians who are engaged solely in the practice of Diseases of Children.

The successful applicant will have charge of cots in the Children's Ward, and will be required to see Out-patients on one session each week.

Candidates will be expected to call on the members of the Honorary Medical Staff.

Applications, stating age and qualifications, and enclosing copies of three recent testimonials, to be forwarded to the undersigned on or before July 8th.

W. S. RANDOLPH BISS,
Secretary-Superintendent.

Warwick County Mental HOSPITAL, HATTON.

A vacancy has arisen for a SECOND ASSISTANT MEDICAL OFFICER. Candidates must have had considerable experience in the treatment of Acute Mental Disorders, and be able and willing to conduct Pathological investigations, etc.

The salary is £450 per annum, rising by £25 per annum to a maximum of £500, together with board, apartments, etc. In addi*tion, £50 per annum is given for a qualification* in Psychological Medicine.

There are no married quarters.

Applications, together with copies of testimonials, should be sent to the Medical Superintendent at the Hospital.

Victoria Central Hospital, WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry, with prospects of appointment to Senior House Surgeon in six months' time, at a salary of £150.

Candidates chosen would be appointed for six months.

Applications, with copies of testimonials, to be sent to the Secretary.

Bootle General Hospital, BOOTLE, near LIVERPOOL. (100 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN for the six months ending December 31st. Salary at the rate of £150 per annum, with board, residence, and laundry.

Duties to commence July 1st.

Applications, stating age and qualifications, with copies of testimonials, to be sent to the undersigned on or before June 15th.

J. A. BEARDSALL,
Secretary-Superintendent.

Royal Infirmary, Blackburn.
(240 Beds—5 Residents.)

FOURTH HOUSE SURGEON (male) required at a salary of £150 per annum, rising to £250, *with board, residence, laundry,* etc. To commence duties early as possible.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, NATHAN A. SMITH
Blackburn. Gen. Supt. & Secretary.

This Institution is recognised for the Surgical practice required for the F.R.C.S. Final Examination.

The Royal Aberdeen Hospital FOR SICK CHILDREN.

Wanted, HONORARY MEDICAL OFFICER to take charge of Skin Department. Applications, along with one copy of testimonials, to be lodged with Mr. A. S. R. BRUCE, Hon. Secretary, 12, Dee Street, Aberdeen, on or before Friday, June 19th.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** (contd.)	**PUBLIC HEALTH** (contd.)
GENERAL POST OFFICE. (*Assistant Medical Officer—Woman.*)	NEATH AND DISTRICT. (*Medical Aid Association.*)	NEWPORT EDUCATION COMMITTEE. (*Assistant School Medical Officer and Medical Inspector of Schools—Male.*)
EBBW VALE, MON. (*Workmen's Medical Society.*)	OAKDALE, MON. (*Medical Officer for Medical Aid Association.*)	PRESTON COUNTY BOROUGH. (*Assistant School Medical Officer—Female.*)
GILFACH GOCH, GLAMORGAN. (*Workmen's Medical Scheme.*)	OGMORE VALLEY, GLAMORGAN. (*Wyndham Colliery Medical Aid Society.*)	(*Resident Medical Officer, Preston Institution, Fulwood.*)
LOWESTOFT MEDICAL INSTITUTE. (*Medical Officer.*)	(*Workmen's Medical Scheme.*)	STAFFS COUNTY MENTAL HOSPITAL, BURNTWOOD. (*Third Assistant Medical Officer.*)
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. (*Workmen's Medical Scheme.*)	**PUBLIC HEALTH.**	WOLVERHAMPTON COUNTY BOROUGH. (*Assistant Medical Officer.*)
MARDY, GLAMORGAN. (*Workmen's Medical Scheme.*)	DEVON COUNTY COUNCIL. (*School Medical Inspector—Male.*)	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. (*Assistant School Medical Officer.*)
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. (*Workmen's Medical Scheme.*)	MIDDLESEX COUNTY COUNCIL. (*Junior Assistant Medical Officer at Napsbury Mental Hospital—Male.*)	

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. (*All Friendly Society Appointments.*)	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Macquarie St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** (*Lodge Appointments.*)	Secretary, South Australian Branch, B.M.A. House, 206, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** (*Contract Practice Appointments.*)	Dr. G. P. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association P.O. Box 1606, Wellington, New Zealand.
QUEENSLAND. (*Brisbane Associated Friendly Societies Institute.*)	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** (*All Institute or Medical Dispensaries.*)	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** (*Contract and Lodge Practices.*)	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St George's Terr., Perth, Western Australia.

June 3rd, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

The Hospital for Sick Children, Great Ormond Street, London, W.C.1.

A PART-TIME JUNIOR CASUALTY OFFICER is required on July 9th, to assist in the Casualty Department, from 10 a.m. to 3 p.m. (Saturdays 10 a.m. to 1 p.m.), under the direction of the Casualty Officer.

The work of this officer includes a large number of Tonsillectomies and other minor operations.

Candidates must be registered Medical Practitioners, and have held a responsible Hospital appointment.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 12 o'clock on Monday, June 29th, accompanied by copies of not more than three testimonials written specially for the purpose.

The appointment is made for six months, and is non-resident. Salary at the rate of £150 per annum, with luncheon.

All candidates must be in attendance to appear before the Joint Committee, if required, at their meeting on Wednesday, July 1st, at 5 p.m. precisely.

Forms of application and copies of the Rules may be obtained from the Secretary, at the Hospital.

By Order of the Board of Management.

June, 1931. JAMES McKAY, Secretary.

The Children's Hospital, SUNDERLAND. (70 Beds.)

Wanted, Two RESIDENT MEDICAL OFFICERS (female)—one middle of June, one middle of July. Candidates must possess double qualifications (registered). Salary £100 per annum, with board, residence, and laundry. The appointments are for six months. Applications, stating age, with copies of three recent testimonials, to be sent to the undersigned.

S. C. FRYERS, House Governor & Secretary.

National Hospital for Diseases of the Nervous System, Queen Square, W.C.1.

HONORARY ASSISTANT RADIOLOGIST.

The Board of Management invite applications from qualified Medical Men for the post of Honorary Assistant Radiologist. Applicants should possess a diploma in Medical Radiology and Electrology, preferably the Cambridge Diploma. Applications should be sent to the undersigned, together with copies of recent testimonials, on or before June 8th.

GODFREY H. HAMILTON, Secretary.

National Hospital, Queen Square, W.C.1.

Victoria Hospital, Blackpool. (132 Beds.)

Applications are invited for the posts of SENIOR and JUNIOR HOUSE SURGEONS, six months, male or female. Salary £250 and £150 respectively, with residence, board, and laundry. Applicants must be duly qualified and registered. Applications, stating age, qualifications, and experience, together with three recent testimonials, endorsed "House Surgeon," must be sent on or before June 3rd to

JOHN HACKING, Hon. Secretary.

Royal West Sussex Hospital, CHICHESTER. (111 Beds.)

The Board of Management invite application for the post of SENIOR HOUSE SURGEON, to commence early in July. Salary £200 per annum, with board, residence, and laundry.

Also for JUNIOR HOUSE SURGEON. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age, with three recent testimonials, should reach the undersigned not later than June 12th.

HERBERT S. AYLMORE, Secretary.

West London Hospital, Hammersmith, W.6. (234 Beds.)

Required, One HOUSE PHYSICIAN (General and Skin), one HOUSE SURGEON (General and Gentle Ultimary), and one AURAL AND OPHTHALMIC HOUSE SURGEON for six months from July 1st next, subject to one month's notice on either side. Salary at the rate of £100 per annum, with board, lodgings, and laundry allowance.

Candidates must be registered under the Medical Act. Applications (which must be made on printed forms obtainable from me) must reach me not later than Thursday, June 18th. Selected candidates will be required to call upon such members of the Medical Staff as directed, to be in attendance at a meeting of the Medical Council on Friday, June 26th, at 4.45 p.m. and the House Committee meeting at 5 p.m. the same day, when the appointments will be made.

H. A. MADGE, Secretary.

The Cancer Hospital (Free) (Incorporated under the Royal Charter), Fulham Road, London, S.W.3.

The Committee are prepared to receive applications for the post of HOUSE SURGEON. Salary at the rate of £100 per annum. The appointment is for six months and subject to one month's notice on either side. Candidates must call upon each member of the Medical Committee not later than Wednesday, June 17th. A copy of the rules, and the names and addresses of the Medical Committee may be obtained from the Secretary. Previous experience as a House Surgeon is indispensable.

Applications, with three (copies only) testimonials, to be sent to the undersigned not later than the first post on Monday, June 15th.

J. CHUTINEA BUCHANAN, Secretary.

(*Appointments continued on p. 82.*)

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted at once, an outdoor ASSISTANT (male), young, active, in a Partnership near Manchester. Regular time off. State nationality, experience, and other essential particulars. — Address, No. 3330, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship with definite view, by Scottish Graduate, 29, single. Experience 2½ years Hospital, H.S., H.P., and Specialties. 2½ years G.P., private and panel.—Address, No. 3517, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistancy by London trained man, aged 36. Four years' experience in private and insured practice. London or Home Counties preferred.—Address, No. 3331, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Male Assistant, indoor, for Country Practice in Cornwall. Early Partnership to suitable man. Must drive car. All sport. Salary £300.—Address, with photo. and full particulars, No. 3538, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship, view Partnership in short period, or early Succession. In or near London. M.B., Ch.B., married, thoroughly capable. Seven years' experience G.P. Protestant. Age 37.—Address, No. 3528, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Male Assistant, good appearance, to take charge Branch Surgery in nice residential district, preferably married. Salary £400, with free house and rates, also garage, etc., for own car.—Address, No. 3315, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, young male Assistant, British, for Practice in Monmouthshire. £300 indoor, or if married £400 and unfurnished house. Motorist. Apply, stating age, quals., and all necessary parties. Usual bond.—No. 3524, B.M.A. House, Tavistock Sq., W.C.1.

Wanted, an Assistant, fully qualified. Would suit young Doctor who wants to follow Post-Graduate Lectures. Premium per agreement. — Address, No. 3527, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship by M.B., Ch.B. (2 distinctions), ex H.S., ex Casualty Officer, aged 28, married. Experienced general practice. Free September.—Address, No. 3532, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, energetic young ASSISTANT, London, E., for private and panel Practice. Salary £360—£400. Rooms and attendance. — Address, No. 3546, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted.—Second Male Assistant, single, for large Practice near Manchester.—Address, with references and recent photograph, No. 3506, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant in S. Wales. English or Welsh, single. £7 weekly. Rooms and board provided. Usual bond. Abstainer. References required.—Add., No. 3502, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Outdoor Assistant, male, for mixed Country Practice in Nortolk. £400 per annum and small house provided. — Particulars, address, No. 3540, B.M.A. House, Tavistock Square, W.C.1.

Wanted in Colliery and Panel Practice, Two ASSISTANTS, one £400 a year, with free house, the other £250 a year, indoor. Either sex.—Address, No. 3523, B.M.A. House, Tavistock Square, W.C.1.

Wanted, a young outdoor ASSISTANT, male or female, for industrial Practice near Nottingham.—Address, No. 3501, B.M.A. House, Tavistock Square, W.C.1.

North Wales.—Wanted a Welsh-speaking outdoor ASSISTANT for general Practice, private and panel. District industrial and rural. Usual bond. References required. —Address, No. 3031, B.M.A. House, Tavistock Square, W.C.1.

Outdoor Assistant wanted for middle of June, salary commencing £400, light work, in good-class Practice in Midlands. British nationality. Ample opportunity for gaining experience in all branches of general practice.—Address, No. 3507, B.M.A. House, Tavistock Square, W.C.1.

Outdoor Assistant, English or Scottish, panel and private Practice, near London. £370 and house. Suit young married man, keen and energetic. Refs. essential. Sole charge occasionally. Good prospects.—Address, No. 3544, B.M.A. House, Tavistock Sq., W.C.1.

Part-time Assistant (male, British) wanted immediately for Evening Surgeries only. London, S.W. Prospects of early Partnership for suitable man.—Address, No. 3530, B.M.A. House, Tavistock Sq., W.C.1.

Part-time Assistant (male) wanted week-ends, London, S.W.—Address, No. 3112, B.M.A. House, Tavistock Sq., W.C.1.

Well-qualified woman, with good Hospital and G.P. experience, desires ASSISTANTSHIP, permanent or part-time. London area. Long Locum considered. Age 29, keen, able drive car. Interview London.—No. 3512, B.M.A. House, Tavistock Sq., W.C.1.

PARTNERSHIPS.

Wanted by Cambridge Man, aet. 50, with wide experience of good-class private practice, a PARTNERSHIP in good non-industrial Country or Country Town Practice. Good house essential. Share £1,000 to £1,500. —No. 3245, B.M.A. House, Tavistock Sq., W.C.1.

Lady Doctor wanted as Partner for Convalescent Home amid delightful surroundings, South Downs. House available, rent or buy. Low expenses. Premium £200 only. — Address, No. 3504, B.M.A. House, Tavistock Square, W.C.1.

Partner wanted for Practice in pleasant country district in North of England, near a good town. Share for disposal equals about £1,200 per annum. Premium 1½ yrs.' pur. Good house. Golf, fishing, hunting. —No. 3550, B.M.A. House, Tavistock Sq., W.C.1.

Partner wanted, preliminary Assistantship at £350, in industrial country Practice in Cornwall. Suit young Graduate.—Address, No. 3319, B.M.A. House, Tavistock Square, W.C.1.

Yorks. — Partnership in good Practice. Receipts £1,600 yearly. Panel 1,500, increasing rapidly. House available. Price one-third share (to commence) £1,000.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

LOCUMS.

FOR LOCUM TENENS APPLY TO PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

HOLIDAY LOCUMS

FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. (*Night Calls*)

Wanted. — Locum for 7—10 days, any date between August 14th and 31st, for a small rural Practice in Norfolk. Would consider hospitality for wife. Bring own car if possible. Easy motoring distance from sea. Work very light. — Address, No. 3509, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Locums (long or short) or ASSISTANTSHIP, by Conjoint man, aet. 29; 3 yrs.' exper. G.P., keen, reliable, well received. Interested anaesth., minor surgery. Excellent references. Free now.—Add., No. 3526, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Experienced Lady LOCUM, cyclist, for easily worked General Practice in Midland town, for three weeks, commencing July 7th. State salary.—Address, No. 3519, B.M.A. House, Tavistock Sq., W.C.1.

Hospitality. — Elderly Practitioner, or one requiring complete rest, wanted two or three weeks from July 4th or 11th. Delightful country. Buxton district. Work normal. No night work or midwifery.—No. 3542, B.M.A. House, Tavistock Sq., W.C.1.

Locum or Assistantship wanted by M.B., B.Ch. (woman). Five years' experience panel and private practice. Engaged first two weeks in July. Now free in London. —Address, No. 3514, B.M.A. House, Tavistock Square, W.C.1.

Locum Pathological Assistant wanted from July 4th to the 19th. One able to dispense as well preferred. — Apply, stating salary asked, to the Secretary, West Suffolk Hospital, Bury St. Edmund's.

Medical Man offers good salmon and sea trout fishing, private water, R. Towy, August, and hospitality, in return for LOCUM; two or three weeks. Work light. Car essential.—Dr. ALEX LINDSAY, Nantgaredig, Carmarthen.

Senior man, experienced G.P., Mental and Nerve Cases, will act L.T. or Assist. view permanency. South or West Country or seaside. Institution preferred, or would go a voyage. Capital available.—Address, No. 3513, B.M.A. House, Tavistock Sq., W.C.1.

Welfare Clinics. — Medical Woman, experienced in this work, could take LOCUMS in London area.—Address, No. 3503, B.M.A. House, Tavistock Sq., W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Children's Nurse required by South London Doctor. Secretarial duties and a little light housework. — Address, No. 3529, B.M.A. House, Tavistock Square, W.C.1.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Lady Dispenser - Bookkeeper (Hall) requires POST with Doctor. London or Bristol. Thoroughly exp. private and panel practice. Also Dressings, Medical Electricity. References. Interview. — "DISPENSER," 23, Sutton Road, Newport, Mon.

M.D.Cantab. (39), free afternoons and evenings PART-TIME EMPLOYMENT, London. — Address, No. 3537, B.M.A. House, Tavistock Square, W.C.1.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

To Medical Man.—Gentlewoman seeks post in London as SECRETARY-RECEPTIONIST; age 36; nine years' reference from last employer. Sunday work if required. —Address, No 3536, B.M.A. House, Tavistock Square W.C.1.

Typewriting and Duplicating undertaken by Expert. Testimonials, Theses, Legal Documents. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD (B), 341, Finchley Road, N.W.3. 'Phone Hampstead 6430 (any hour).

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Potters, Caretakers, etc., without charge to prospective employers.

Typewriting and Duplicating.—Testimonials. Theses, etc., neatly and accurately copied. Scientific work a speciality. —WOMEN'S BUREAU, 3, Upper Woburn Place, London, W.C.1 (adjoining B.M.A. House). 'Phone: Museum 4475.

Woman, 28, intelligent, cultured, reliable, offers SERVICES: Receptionist-housekeeper, good cook, domesticated, attend door phone, generally useful; go anywhere. Ref. from late Med. employer. £26 p.a. —No. 3518, B.M.A. House, Tavistock Sq., W.C.1.

PRACTICES.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district. Country Town or Country. Good house. Income £1,000—£1,500. Strict confid. —No. 3260, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Middle and working-class PRACTICE, about £2,000, with scope and panel. Midlands or South pref. Some capital available. State full particulars, panel, etc.—K. O'S., c/o Redhouse, "The Croft," Baldock, Herts.

Wanted.—Exchange Practice for about 4 weeks, August—Sept., by Doctor, wife and two children. Country Town, 7 miles from mid. South Coast. No midwifery.—Address, No. 3543, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by experienced Practitioner, aged 30, a good-class PRACTICE or PARTNERSHIP. Income £900 to £1,500, with scope. House with garden, preferably to rent. Strict confidence. — Address, No. 3534, B.M.A. House, Tavistock Square, W.C.1.

Doctor (male) practising in London wishes to get in touch with Doctor practising seaside or country with view to EXCHANGE for few weeks during summer, alone or with wife.—Address, No. 3535, B.M.A. House, Tavistock Square, W.C.1.

For Disposal. — Small Practice established 5 years ago in a very charming E. Sussex Village. 55 miles from town. Panel 150, increasing. Freehold commodious house in a delightful old-world garden. Electric light, central heating, perfect water supply, gravity fed to cisterns. Would suit a man of means requiring an easy time. An energetic man would have considerable possibilities. Opposition (nearest 3 miles) not strong. Inspection any time. — Address No. 3549, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—N. Midlands.—House and PRACTICE in rapidly growing district, with several hundred houses in course of erection. Little opposition. Panel 400. Receipts 1928, £250; 1929, £500; 1930, £750. —No. 3522, B.M.A. House, Tavistock Sq., W.C.1.

For Sale, near Gt. Portland St. Sth. Woman Doctor's NUCLEUS. Panel 130. Fees 5/- up. Receipts over £200. Premium 1½ years' purchase or near offer. Good flat to rent.—Address, No. 3547, B.M.A. House, Tavistock Square, W.C.1.

Lancashire.—Old-estab. Practice, country town, residential, agricultural, and industrial. Panel 900. Income £1,700 to £1,900. Good house and garage for 3 cars for sale freehold. Near coast.—Address, No. 3516, B.M.A. House, Tavistock Square, W.C.1.

Lancs Coast.—Residential Practice for Sale. Fees average £1,300. Small panel. Good fees. Mixed class. Delightful house and gardens. Motor house and all other conveniences. Premium 1½ years.—Add., No. 3001, B.M.A. House, Tavistock Sq., W.C.1.

Lancs Town. — Old-established. Receipts £2,500. Panel 1,850. Excellent scope surgery. Appointment £120. Excellent 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Liverpool.—5/6ths of £1,200 for sale. Panel £420. Nice district, middle and good working-class. House to rent. £1,000 guaranteed first 3 years. House to rent. Premium 2 years' purchase, half down. Full personal particulars essential first letter, others not replied to.—No. 3525, B.M.A. House, Tavistock Sq., W.C.1.

Liverpool. — Rapidly growing district. 3 years' NUCLEUS. Woman's good middle-class Practice. Small panel. 90. Intro. given from or before September. Reason for sale, marriage. Freehold house for sale.—No. 3545, B.M.A. House, Tavistock Sq., W.C.1.

Merseyside. — Growing middle and working-class PRACTICE, about £500 p.a., including panel £250. House, with large garden and garage, to rent. Price £650. —Address, No. 3535, B.M.A. House, Tavistock Square, W.C.1.

Midlands. — Old-established PRACTICE. Vendor retiring. Average receipts £2,200 p.a. Panel 1,450. Public appts. Large house, surgery attached, garage. For sale or on lease. Prem. 1½ yrs.' pur. for cash. —No. 3520, B.M.A. House, Tavistock Sq., W.C.1.

North Wales, near Chester.—Industrial, Contract, and Country PRACTICE for Sale. Panel about 2,250. Receipts about £2,500. Suitable for two.—"CHEMICALS," 40, Hamilton Street, Hoole, Chester.

Nucleus, Kent, near boundary, London. New Estate. Receipts £200, panel 143. Ample scope for Resident, now Branch Surgery. Premium £200 for immediate disposal.—Address, No. 3531, B.M.A. House, Tavistock Square, W.C.1.

Nucleus for Sale, established September. Splendid scope Large new London estate. Modern house. Small panel, increasing. Bargain for quick sale. Introduction given. House and garage.—Address, No. 3536, B.M.A. House, Tavistock Square, W.C.1.

Old-established Practice near City. Panel over 1,000. Income over £800. Spacious house and garden, lease. Good scope. Purchase price 1½ years' for quick sale. — Address, No. 3548, B.M.A. House, Tavistock Square, W.C.1.

Popular Resort, South Coast.—Non-dispensing good-class mixed PRACTICE. Aver. cash receipts about £1,600. mc. Good scope. Panel 900. Good house and gard.; Commanding pos. Price £3,200 cash. No. 3521, B.M.A. House, Tavistock Sq., W.C.1.

Scotland. — Growing Medical PRACTICE (with house) for sale in centre of large industrial town in Lanarkshire. The Practice is largely Catholic and the income is from £800—£1,000. Premium 1½ years' purchase. — Address, No. 3505, B.M.A. House, Tavistock Square, W.C.1.

Scotland.—Open suburb of East Coast Town.—PRACTICE, mostly middle-class, with panel of 700. Receipts over £1,000 p.a. Few confinements. Very good modern house to be sold, nice garden and garage. Good introduction. Price for Practice 1½ years' purchase. Vendor retiring.—Address, No. 3515, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

HOUSES, CONSULTING ROOMS.

NORTHWOOD. EMINENTLY SUITABLE FOR DOCTOR OR NURSING HOME. Close Golf Course and facing South-West. Unique Jacobean style Residence containing 5 bedrooms (fitted lav. basins), dressing room, 2 bathrooms, fine lounge hall, cloakroom, dining room, drawing room (34 ft. by 23 ft.). Billiard room. Convenient offices. Garage. About 1 acre of beautiful matured gardens Central heating.—STIMPSON LUCK & VINCE (Tel. 310.)

ESTABLISHED 1660.
Messrs. BEDFORD & CO.
(C. E. BEDFORD, F.S.I., F.A.I.),
Surveyors, Auctioneers, and Estate Agents,
10, WIGMORE STREET,
CAVENDISH SQUARE, W.1.
SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS in Harley Street and leading Medical Positions.
Telephone: Langham 3927 and 3928.

Beautiful and ideally arranged, medium-sized HOUSE, suitable for Doctor. Easily maintained. Four bedrooms, dressing room, bathroom, dining, lounge, billiard rooms; garden, garage, dispensary; separate patients' entrance. Thickly populated district. No doctor near. Good immed. practice. Freehold £1,750. —"Rosedale," Dunstall Road, Wolverhampton.

Cardiff. — For Sale, cheap. — RESIDENCE, suitable for Practitioner, semi-detached, thriving part City suburbs, 9 rooms, commodious accommodation, electric light. — Address, No. 3508, B.M.A. House, Tavistock Square, W.C.1.

Consulting Rooms to Let.—Harley Street and District. Whole and part time. Rents £80 to £300. Lists sent on application. Rooms wanted in Harley Street district.—ELGOOD & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2601.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Exceptionally quiet Bedroom, 16 - weekly; sitting if required. Also, at Shepperton, Riverside Bungalow, furn., 12 gns. month, reduction period; plot land £12 10s. per year, with summerhouse. Would sell the whole £325.—16, Woburn Buildings, W.C.1.

For Sale.—Small Sanatorium for Tuberculosis, near South Coast, with Doctor's residence and 4 acres of land. Moderate price.—Address, No. 3539, B.M.A. House, Tavistock Square, W.C.1.

Harley Street. — Part-time Consulting Room to Let, two afternoons or morning and afternoon, or possibly other hours. With or without plate. Handsome waiting room, attendance, telephone. Appts. made.—Add., No. 3541, B.M.A. House, Tavistock Square, W.C.1.

Harley Street. — Good-size CONSULTING ROOM to be Let. Basin (h. and c.) light, and heating. Good service. Plate. £250 p.a. Room secretary if desired — ELGOOD & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2601.

Important main road.—Corner HOUSE, many years in occupation of Doctor Rent £150. 21 years' lease.—Apply, FLOOD & SONS, 474, Harrow Road, W.9, opposite the property.

Part-time Consulting Room in Harley Street district.—A fine CONSULTING ROOM, with or without plate, is now available in a first-class professional building. Every convenience. Rent £50 p.a.—Address, No. 3328, B.M.A. House, Tavistock Sq., W.C.1.

8, WOBURN SQUARE, W.C.1. Suitable Private Occupation, Dentist, Doctor, or Professional Man.

This desirable, modernised GENTLEMAN'S RESIDENCE, with three reception, seven bedrooms, three bathrooms, up-to-date domestic quarters. Central heating. Newly erected double garage. Rent £180 p.a. Long lease. Moderate premium

ALAWAY & PARTNERS,
20, Bloomsbury Sq., W.C. Museum 0431.

Part-time use of Consulting ROOM, near Harley Street. Bedroom also to Let at same address. — Address, No. 3514, B.M.A. House, Tavistock Square, W.C.1.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1,

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.
Telephone: 3204 MAYFAIR.

Weymouth Bay Estate.—New HOUSE for SALE. Suit retired Doctor or one wishing to start in a growing neighbourhood. 3 reception, 3 beds., bath, etc., garage. —Address, No. 3511, B.M.A. House, Tavistock Square, W.C.1.

Dale.—Will Dr. Dermot Dominic RANDALL DALE of the Junior Army and Navy Club, Horse Guards Avenue, London, please communicate with GUSTAVUS THOMPSON & SONS of Devereux Chambers, Temple, London, W.C.2, Solicitors, at his earliest opportunity.

MISCELLANEOUS SALES, etc.

IMPORTANT NOTICE
to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.
The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.
JACKET & VEST (In black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.
THE Ideal Suit for Professional or Business wear
SUITS & OVERCOATS to measure from £6 6s
SOLID WORSTED SUITS ,, ,, £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from £2 2s
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.
Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.
Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.
Governing Director: HARRY HALL.
"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.
Telephones:
Regent 3024-3025 & 7486. National 8696/7.
Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.
Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX
As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.
HARDY & HARDY
TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659.

Medical Surgical Sundries Ltd.
Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles.
Showroom: 97, Swinderby Road, Wembley.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

APPOINTMENTS.—Contd.

St. James's Hospital, Leeds.

Applications are invited from members of the Medical Profession for the post of HOUSE PHYSICIAN and SURGEON at the above Hospital. Applicants must be fully qualified and registered. The Hospital is one of 1,126 beds, with Special Departments for Radiology, Pathology, Midwifery, and Diseases of Children. The appointment will be for a period of six months, and the successful candidate will be required to act as House Physician and Surgeon under the Medical Superintendent and the Visiting Staff, and to perform such other duties as the Medical Superintendent may direct. Salary will be at the rate of £200 per annum, with board, apartments, and attendance. Applications, stating qualifications, together with copies of three recent testimonials, to be forwarded to me as soon as possible. Selected candidates will receive due notice to attend.
11, South Parade, H. FIELDHOUSE,
Leeds. Public Assistance Officer.
June 1st, 1931.

Hove Hospital (Carr-Burton MEMORIAL), Sackville Road, HOVE.

A RESIDENT MEDICAL OFFICER (male) is required, who must be unmarried and under 40 years of age. The Hospital contains 24 beds.
The appointment affords excellent opportunity for surgical experience and for acquiring knowledge of Radium Treatment.
Salary £150 per annum, with board, apartments, and laundry.
The successful candidate will be expected to take up his duties on July 1st next.
Expenses not exceeding one guinea will be paid to any applicant invited to attend for interview.
Applications must be received by the undersigned not later than June 13th.
H. AUBREY FROGGATT,
General Secretary.

Woolwich and District War MEMORIAL HOSPITAL,
Shooters Hill, London, S.E.18.
(GENERAL HOSPITAL—112 Beds.)

The Board of Management invites applications from suitably qualified candidates for appointment as HOUSE PHYSICIAN, for a period of six months as from July 1st. An honorarium of £100 per annum will be paid in respect of this appointment, plus board, residence, and laundry.
Applications should be addressed to the undersigned, to reach him not later than first post on Wednesday, June 17th, and full particulars of experience, previous appointments, etc., together with copies of not more than three recent testimonials.
EDWIN RADFORD,
Secretary-Superintendent.

West Norfolk and King's Lynn GENERAL HOSPITAL. (75 Beds.)

The Board of Management of the above Hospital invite applications for the post of JUNIOR HOUSE SURGEON (male or female). Duty to commence as early as possible. Salary £125 per annum. To have charge of Medical and Ophthalmic beds. Preference given to candidates with previous experience. Appointment for six months in first instance, and consideration will be given for Senior appointment.
Applications, stating experience and full particulars, together with copies of three recent testimonials, to be sent immediately to
JOSEPH E. SEARJEANT,
House Governor and Secretary.
West Norfolk and King's Lynn Hospital.
June 2nd, 1931.

Cornelia & East Dorset Hospital, POOLE, DORSET. (105 Beds.)

ORTHOPAEDIC SURGEON.

The Committee of Management invite applications for the post of Honorary Orthopaedic Surgeon to be in charge of the Department.
Applications, stating age, experience, and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital by noon on Saturday, June 13th.
E. S. FOLEY, Secretary.

Cornelia & East Dorset Hospital, POOLE, DORSET. (105 Beds.)

ASSISTANT PHYSICIAN.

The Committee of Management invite applications for the post of Honorary Assistant Physician which has become vacant.
Applications, stating age, experience, and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital by noon on Saturday, June 13th.
E. S. FOLEY, Secretary.

Knowle Mental Hospital, FAREHAM, HANTS.

Required, a JUNIOR ASSISTANT MEDICAL OFFICER (male). Preference will be given to candidates who either have or are anxious to obtain a Diploma in Psychological Medicine.
The salary is £350 per annum, rising to £450 by yearly increments of £25, with board, lodging, washing, and attendance, valued at £150 per annum, and an extra £50 per annum will be paid to the selected candidate on obtaining the Diploma.
The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.
Applications, with copies of recent testimonials, should reach the Medical Superintendent by June 17th.

Doncaster Royal Infirmary. (185 Beds.)

HOUSE SURGEON (male) required immediately. Appointment is for six months and offers opportunity to gain good surgical experience. The successful candidate is eligible for reappointment.
Salary £175 per annum, with board, residence, and laundry.
Applications, stating age, experience, and full particulars, together with copies of three testimonials, should reach the undersigned by Thursday, May 28th.
WALTER R. SMITH,
Secretary-Superintendent.

Beckett Hospital & Dispensary, BARNSLEY. (152 Beds.)

Applications are invited for the post of RESIDENT SURGICAL OFFICER (male) at the above Hospital. Fellowship degree of the Royal College of Surgeons, England, Edinburgh, or Dublin, will be deemed a recommendation.
Salary attached to this appointment is at the rate of £300 per annum, together with board, residence, and laundry.
The successful candidate must be prepared to take up duty July 22nd.
Applications, stating age, qualifications, and experience, with copies of testimonials, should be addressed to the undersigned
ARTHUR L. BOURNE,
Secretary-Superintendent.

Brighton, Hove, and Preston DISPENSARY.

Applications are invited from registered Medical Practitioners for the appointment of DISTRICT MEDICAL OFFICER to the above Institution. Salary £70 per annum. Full details regarding area, etc., can be obtained from the General Secretary.
Applications, together with testimonials, should reach the undersigned not later than Saturday, June 13th.
H. AUBREY FROGGATT, Gen. Secretary.

Brighton, Hove, and Preston DISPENSARY AND HOVE HOSPITAL, Sackville Road, HOVE.

Applications are invited from registered Medical Practitioners for the appointment of HONORARY PHYSICIAN to the above Institution at their Ditchling Road Dispensary, Brighton. Applications, together with testimonials, should reach the undersigned not later than Saturday, June 13th.
H. AUBREY FROGGATT, Gen. Secretary.

Manchester Ear Hospital, GROSVENOR SQUARE, ALL SAINTS'.

The Board invite applications for the post of NON-RESIDENT HOUSE SURGEON. 24 beds. Salary at the rate of £150 per annum, with partial board. Candidates must be duly qualified and registered. Applications, with copies of four recent testimonials, to be forwarded to Mr. REGINALD S. MILFORD (Hon. Secretary, Manchester Ear Hospital), c/o Mr. W. J. ELLAM, 33, Brazennose Street, Manchester.

Scunthorpe and District War MEMORIAL HOSPITAL.
(82 Beds—Two Residents.)

Applications are invited for the post of SECOND RESIDENT SURGEON (male or female), with charge of Medical beds, to take up duties as early as possible. Salary at the rate of £150 per annum, with board, residence, and laundry. Candidates, who must possess registered qualifications, should forward applications, stating age, nationality, etc., together with copies of recent testimonials, to
ARTHUR E. MAW, Secretary.

Herzl Moser Hospital, LEOPOLD STREET, LEEDS.

RESIDENT MEDICAL OFFICER required immediately. Salary £100 per annum. Ample time for Post-graduate study. Apply Secretary as above.

City of Leeds.

GATEFORTH SANATORIUM.

Applications are invited from duly qualified and registered Medical Practitioners (male) for the post of RESIDENT MEDICAL OFFICER at the City of Leeds Sanatorium at Gateforth (50 beds). Applicants should have had previous Hospital and Sanatorium experience.

The successful candidate will be attached to the staff of the Tuberculosis Sanatorium at Killingbeck, and will work under the direction of the Medical Superintendent of that institution.

The salary will be at the rate of £450 per annum, rising by biennial increments of £25 to £550, together with board, residence, and laundry. The candidate appointed will be required to pass a medical examination and to contribute to the Superannuation Fund.

Schedule of duties and form of application may be obtained from the Medical Officer of Health, 12, Market Buildings, Vicar Lane, Leeds.

Applications, endorsed "Tuberculosis Officer," together with copies of three recent testimonials, should be delivered at the Town Clerk's Office, 26, Great George Street, Leeds, not later than 10 a.m. on Saturday, June 20th.

THOS. THORNTON,
Town Clerk.

Administrative County of ESSEX.

MALE ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

The County Council of the Administrative County of Essex invite applications for the above post from registered Medical Practitioners holding a Diploma of Public Health, and not over 45 years of age.

The commencing salary attached to the appointment will be from £500 to £600 per annum, according to experience, and will rise by annual increments of £25 to £700 per annum. Travelling expenses will be paid by the Council.

The Local Government and Other Officers Superannuation Act, 1922, has been adopted by the County Council.

Applications on the prescribed form, obtainable from the undersigned, and accompanied by copies of not more than three testimonials, which will not be returned, should be addressed to me and delivered at the Shire Hall, Chelmsford, not later than 10 a.m. on Friday, June 12th.

Shire Hall, JOHN H. GOOLD,
Chelmsford. Clerk of the County Council.
May 23rd, 1931.

Liverpool Psychotherapeutic CLINIC,

56, Bedford Street North, LIVERPOOL.

Applications are invited for the post of Part-time MEDICAL REGISTRAR to the above Out-Patient Clinic, for a period of twelve months at a salary of £150 per annum.

Applicants must be registered Medical Practitioners, and preference will be given to those candidates who intend to specialise in Psychological Medicine.

The person appointed will be required to attend the Clinic for the equivalent of five half-days per week.

Further information may be obtained from the Senior Honorary Physician at the above address, and applications, marked "Medical Registrar," together with copies of recent testimonials, must be forwarded to the undersigned not later than June 25th.

W. O. HUNTER RODWELL,
Honorary Chairman.

Kent and Canterbury Hospital, CANTERBURY.

Applications are invited for the following posts:

HOUSE PHYSICIAN (male).
HOUSE SURGEON (male).

The salary payable in each appointment is at the rate of £125 per annum, plus board, residence, and laundry.

Applications, stating age and particulars of qualifications, and enclosing copies of testimonials, should be forwarded to the undersigned.

W. T. SOUTHWOOD.
Superintendent & Secretary.

The Willesden General Hospital (INCORPORATED), N.W.10.

CLINICAL ASSISTANT to the Surgical Out-patient Department (Monday afternoon).

Applications are invited for the above Honorary appointment for a period of six months from July 1st.

Applications must be received by the Secretary of the Hospital not later than first post on Thursday, June 18th, from whom details of the appointment may be obtained.

May 29th, 1931.

County Council of Middlesex.

RESIDENT ASSISTANT MEDICAL OFFICERS—REDHILL HOSPITAL, EDGWARE, and PARK ROYAL HOSPITAL, WILLESDEN.

The County Council invite applications for the positions of Resident Assistant Medical Officers at the Redhill Hospital, Edgware, and Park Royal Hospital, Willesden.

Candidates must be registered Medical Practitioners who have held resident appointments in a General Hospital. The officers appointed will work under the control of the Medical Superintendents, and will devote their whole time to their official duties.

Salary in the case of each appointment is at the rate of £400 per annum, rising by annual increments of £50 to £600 per annum, together with board, lodging, and laundry.

The successful candidates will be required to pass such medical examination as the County Council may direct, and, unless subject to the Poor Law Officers Superannuation Act, 1896, to contribute to the County Council's Superannuation Fund. The appointments will be held during the pleasure of the Council, and subject to one month's notice on either side.

Applications, stating (1) age, (2) qualifications, and (3) previous experience, together with copies of not more than three recent testimonials, must be received by the undersigned not later than June 20th.

No special application forms are provided. Envelopes must be endorsed "Resident Assistant Medical Officer."

Canvassing, directly or indirectly, will be a disqualification.

N.B.—Redhill Hospital is a modern General Hospital with accommodation for some 200 acute cases, and a similar number of patients at the adjoining Redhill Institution suffering from chronic disease are under the care of the Medical Staff of the Hospital. Park Royal Hospital provides accommodation for over 600 acute and chronic cases.

ERNEST S. W. HART,
Clerk of the County Council.
Middlesex Guildhall, Westminster, S.W.1.
June 2nd, 1931.

Rhondda Urban District COUNCIL.

TEMPORARY ASSISTANT MEDICAL OFFICER.

The above Council invite applications from registered Medical Practitioners to act as whole-time Temporary Assistant Medical Officer of Health and Assistant School Medical Officer, under the direction, supervision, and control of the Council's Medical Officer of Health, at a salary of £500, rising by annual increments of £25 to £700 a year, together with travelling expenses necessarily incurred in the performance of the duties.

Candidates must have had not less than three years' professional experience subsequent to registration, and the possession of a Diploma in Public Health is desirable.

The duties will pertain to both Public Health and School Medical Services, but experience in the work of school clinics, including the examination and certification of defective children, orthopaedic work, X-ray and ultra-violet radiation, and general anaesthesia for dental and throat operations, will be considered to be of special importance.

The appointment, which will be terminable by two calendar months' notice on either side, will be subject to the approval of the Board of Education, and the officer appointed will be required to reside within the Rhondda Urban District, and will not be allowed to engage in private practice.

Applications are to be made on forms obtainable from the Medical Officer of Health, Tydfil House, Llewelyn Street, Pentre, Rhondda, by whom they must be received, endorsed "Temporary Assistant Medical Officer," and accompanied by copies of three recent testimonials, not later than the first post on Tuesday, June 16th.

The Council Offices, D. J. JONES,
Pentre, Rhondda. Clerk of the Council.
June 2nd, 1931.

Swansea General and Eye HOSPITAL. (316 Beds.)

HOUSE PHYSICIAN wanted, gentleman, single. Salary £150 per annum, with board, residence, and laundry. Duties to commence June 17th.

Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary-Superintendent.

The Princess Mary Maternity HOSPITAL.

JUBILEE ROAD, NEWCASTLE-UPON-TYNE.

RESIDENT MEDICAL OFFICER (male) required for six months from July 1st. For details apply House Governor.

Birmingham and Midland Eye HOSPITAL.

Applications are invited from duly qualified Medical Practitioners for the post of RESIDENT SURGICAL OFFICER at the above Hospital. Salary £150 per annum and £10 laundry allowance.

The resident staff also consists of two House Surgeons, and in the event of one of these being promoted applicants should state whether they will be willing to accept appointment as House Surgeon at a salary of £110 per annum.

Applications, with testimonials and evidence of registration, must be received not later than Monday, June 29th.

Church Street, C. A. MASON,
Birmingham, General Superintendent.
June 1st, 1931.

Woking and District Victoria, HOSPITAL.

(General Hospital—50 Beds.)

Female RESIDENT MEDICAL OFFICER (unmarried) required for July 1st. Applicants must be doubly qualified and registered. Salary £100 per annum, with board, residence, and laundry. Appointment for six months, and renewable for further six months.

Applications, stating age, etc., and accompanied by copies of recent testimonials, to be addressed to the undersigned, from whom all particulars may be obtained. They must be received on or before June 15th. Personal canvassing not allowed.

R. MANNING DRIVER, Hon. Secretary.
Woking and District Victoria Hospital.

The Royal Infirmary, SHEFFIELD. (500 Beds.)

The Weekly Board of Management invite applications for the undermentioned posts—HOUSE SURGEON, OPHTHALMIC HOUSE SURGEON, ASSISTANT AURAL AND OPHTHALMIC HOUSE SURGEON.

The appointments will be tenable for six months from July 1st. The salary attached to each post is £80 per annum, rising after six months' service to £100 per annum, together with board and residence. Applications, together with copies of testimonials, should be sent to the undersigned immediately.

JNO. W. BARNES, F.C.I.S.,
General Superintendent and Secretary.
Board Room, June 2nd, 1931.

Victoria Hospital, Accrington.

Applications are invited for the post of ANAESTHETIST on the Honorary Staff of this Hospital. Gentlemen intending to apply must submit their applications, in writing, with a statement of their qualifications, not later than June 8th, to the undersigned.

Town Hall, W. H. WARHURST,
Accrington. Hon. Secretary.

Longton Hospital, Staffordshire.

Applications are invited for the post of LADY HOUSE SURGEON to the above Hospital. Salary £120 per annum, with board, residence, and laundry, plus certain fees.

Applications, with copies of three recent testimonials, should be addressed to the Chairman of Directors, Longton Hospital, Stoke-on-Trent, to arrive not later than June 9th.

Birmingham and Midland HOSPITAL FOR WOMEN.

HOUSE SURGEON (man or woman) wanted for six months from July 1st. Salary to be at the rate of £75 per annum. Applications, with full particulars and copies of testimonials, to be sent to HUGH C. ASTON, 45, Newhall St., not later than June 12th.

Lowestoft and North Suffolk HOSPITAL.

JUNIOR HOUSE SURGEON (man or woman) required. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

Royal Lancaster Infirmary. (106 Beds.)

JUNIOR HOUSE SURGEON (male, British) required immediately. Salary £150 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be addressed to the Hon. Secretary.

Lancaster. May 13th, 1931.

Wanted.—A Medical Woman as RESIDENT HOUSE PHYSICIAN, June 13th or later, at the BERMONDSEY MEDICAL MISSION HOSPITAL, 44, Grange Road, London, S.E.1. Salary £100 per annum with board, residence, and laundry.—Apply to the Secretary.

Chesterfield and North Derby-
SHIRE ROYAL HOSPITAL.
(190 Surgical and Medical Beds.)

CASUALTY OFFICER (DEPUTY RESIDENT SURGICAL OFFICER).

OPEN APPOINTMENT.

Applications are invited from fully qualified men for the above post. The appointment is for six months. Candidates must have held previous Hospital appointments.

Duties include House Surgeon to the Ear, Nose, and Throat Department.

Salary at the rate of £200 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, to be sent to the undersigned.

G. SUNNUCK,
May 19th, 1931. Supt. & Secretary.

Ear and Throat Hospital,
EDMUND STREET, BIRMINGHAM.

HOUSE SURGEON wanted (non-resident), to assist chiefly in Out-patient Department. Must be qualified and with Clinical experience. Duties to commence July 1st. Appointment to September 30th, when one of the other House Surgeon appointments will be vacant. Salary at the rate of £150 per annum, with part board, and an allowance at the rate of £50 per annum in lieu of full board and lodging. Applications and testimonials to be forwarded on or before June 20th to the undersigned.

May, 1931. S. G. GREW, Secretary.

Royal South Hants and
SOUTHAMPTON HOSPITAL,
SOUTHAMPTON.

Applications are invited for the following Resident appointments, which will fall vacant on June 30th next:

One HOUSE SURGEON, £180 per annum, six months' engagement.

Two ASSISTANT HOUSE SURGEONS, £180 per annum, six months' engagement.

All with full board, lodging, and laundry.

Applications, together with not more than three testimonials, should be sent to the undersigned as soon as possible.

HY. TRUSSON, Secretary.

Royal Sussex County Hospital,
BRIGHTON. (238 Beds.)

CASUALTY HOUSE SURGEON (male) required. Salary £120 per annum, with board, residence, and laundry.

Candidates must hold Medical and Surgical qualifications of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of recent testimonials, should be sent immediately to the undersigned.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION,
GLOUCESTER. (155 Beds—Four Residents.)

Applications are invited for the post of HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned. The elected candidate will be required to enter upon his duties at once.

F. J. SYMONS,
April 29th, 1931. Secretary.

Royal Northern Hospital,
Holloway, N.

Applications are invited for the post of HOUSE SURGEON. The appointment is for nine months (six months as House Surgeon and three months as Casualty Officer) from July 15th. Salary at the rate of £70 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be sent by June 15th to the undersigned, from whom forms of applications and rules can be obtained.

GILBERT G. PANTER,
Secretary.

Royal Northern Infirmary,
INVERNESS. (150 Beds.)

HOUSE PHYSICIAN, male, unmarried, wanted to commence duties at once. The appointment is for six months. Salary is at the rate of £100 a year, with board, residence, and laundry.

Applications, stating age, qualifications, etc., with copies of recent testimonials, should be sent immediately to the Hon. Secretary, 20, Church Street, Inverness.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,
MEDICAL TRANSFER AGENCY,
19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. LARGE MIDLAND TOWN.—Old-established PRACTICE, held 34 years by Vendor, now retiring. Receipts £2,300, panel 1,770. Nice house, rent £65. Prem. only £1,600.
2. LONDON SUBURB, E.—Urgent Sale.—Well-established Cash and Panel PRACTICE. Receipts average £630 p.a., panel nearly 600. Good house, long lease. Any reasonable offer considered. Locum in charge.
3. LONDON, S.E. (7 mins. Charing Cross).—Lady Doctor's PRACTICE for sale. Receipts average £550 p.a., panel 150. Nice flat available, rent £60. Premium £600.
4. LONDON, E.—Old-established Cash and Panel PRACTICE. Receipts about £850 p.a., panel 1,100. 10-roomed house on lease. Premium £1,100. Practice has done far more.
5. N. WALES.—Third Share of well-established PRACTICE for disposal. Total receipts £2,000 p.a., panel 1,750. Pleasant district near large town. Suit young active Practitioner. Premium £1,000.
6. ESSEX. — Seaside Town.—Well-established mixed class PRACTICE. Receipts average £560 p.a., including panel 250. Nice house on lease, rent £65 p.a. Premium £700 for quick sale.
7. LONDON, S.W. (near Chelsea).—Old-established Cash and Panel PRACTICE. Receipts £1,500 a year. Nice corner house, rent £150, long lease. Situated in residential part. Premium 2 years' purchase.
8. LONDON, E. (5 mins. Liverpool Street).—Lady Doctor's PRACTICE. Receipts over £4 per week in cash and 270 on panel. Rent of surgery 27/- per week. Premium £200 or near offer.
9. LONDON, E.—Old-established Cash PRACTICE, with small panel. Receipts last year nearly £600. Living accommodation and surgery, rent £85. Vendor retiring. Premium £875. Suit Lady Doctor.

No charge to purchasers or for enquiries.

Miller General Hospital,
Greenwich Road, S.E.10.

Applications are invited for the following posts:

HOUSE PHYSICIAN (male); HOUSE SURGEON (male). Salary in each case at the rate of £125 per annum, with board, residence, and laundry. Candidates must be unmarried.

OUT-PATIENT OFFICER (male), who is required to see Medical and Surgical cases. Attendance daily (except Sunday) from 9 to 1, Tuesdays 9 to 5. Salary £150 per annum and lunch.

The appointments are for six months from July 1st next. There are six Resident Officers.

Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary as soon as possible.

May 12th, 1931.

Manchester Babies' Hospital,
Burnage Lane, LEVENSHULME.

Applications are invited immediately for the post of JUNIOR RESIDENT MEDICAL OFFICER. Appointment is for six months. Salary at the rate of £50 per annum, with laundry.

Applications, together with copies of testimonials, should be sent to the undersigned immediately and marked "J.R.M.O."

Applications are also invited for the post of SENIOR RESIDENT MEDICAL OFFICER. Appointment is for six months from July 1st. Salary at the rate of £125 per annum, with laundry. Only candidates with previous Hospital experience need apply.

Applications, together with copies of testimonials, should be sent to the undersigned marked "R.M.O.," by Saturday, June 13th.

ANGELA LOPEZ, Secretary.

Oldham Royal Infirmary.

HOUSE PHYSICIAN and CASUALTY OFFICER required forthwith. Appointment tenable for a period of six months. Salary at the rate of £175 per annum, with board, residence, and laundry. Successful candidate will be required to assist the Honorary Pathologist, and will be eligible for re-appointment.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

NOTICE.

Mr. Herbert Needes has pleasure in informing his Clients that (owing to expiration of Lease) he will be moving his Offices to and be associated with the well-known Agency of PERCIVAL TURNER, LTD., of 4-5, Adam St., Strand, W.C.2 (Temple Bar 9011), at which address his services will always be at their disposal as from JUNE 15th, 1931.

31, Bedford St., W.C.2.
June, 1931.

Medical Practitioners' Union Agency Limited
56, Russell Square,
LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uflabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,
6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 5932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.

Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

CAVENDISH NURSES (Male and Female)
Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: MANCHESTER: 176, *Oxford Rd.*
GLASGOW: 28, *Windsor Terr.*
DUBLIN: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 531 Ballsbridge. Glasg., 477 Douglas.
TELEGRAMS:
Tactear, London. Surgical, Glasgow.
Tactear, Manchester. Tactear, Dublin.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

LANCS TOWN, near MANCHESTER.—Excellent PRACTICE. Cash receipts £2,844 p.a. Panel 2,860. House, 2 reception, 4 bedrooms. Garage. Rent £60 p.a. Premium—1½ years' purchase, or near offer for quick sale. Ill-health sole cause of relinquishing. —No. 262.

EAST COAST.—PARTNERSHIP in large Town Practice. Income over £10,000 p.a. Panel over 5,000. Good house available, 2 reception, 4 bedrooms. Garden. Premium—1/6 or 1/4 share —1½ years' purchase.,No. 258.

LIVERPOOL (near).—Cheshire Coast Town PRACTICE. Average cash receipts £1,187 p.a. Panel 783. Much scope. Good double-fronted house (freehold), 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100.—No. 248.

MANCHESTER SUBURB. — PARTNERSHIP in old-estab. Practice. View succession 3/5 years. Cash receipts £2,100. Panel 2,155. Semi-detached house available, 2 reception. 3 bedrooms. Rent £45 p.a. Premium 1/3 share £950, part by arrangement.—No. 259.

NORTH STAFFS. — INDUSTRIAL TOWN PRACTICE. Cash receipts last year £1,200. Panel nearly 2,000. Good house. 2 reception, 7 bedrooms. Rent approx. £55 p.a. on long lease. Prem. £2,000 (to include book debts and drugs.—No. 255.

MANCHESTER. — PLEASANT RESIDENTIAL SUBURB.—Old-established PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage, and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purchase. Vendor retiring.—No. 246.

CHESHIRE TOWN, near MANCHESTER.—PRACTICE. Cash receipts last year, £1,033. Panel 650. Good house, 3 bedrooms, Rent £45 p.a. Premium 1½ years' purchase.—No. 263.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. Good house, 2 reception. 5 bedrooms. Garage. Rent £65 p.a. Premium 1½ years' purchase.—No. 251.

SOUTH YORKSHIRE.—Old-established PRACTICE. Cash receipts 1931, £1,273. Panel 1,430. Excellent house, 3 reception, 4 bedrooms. Garage and good garden. Premium 1½ years' purchase. —No. 253.

LIVERPOOL.—PRACTICE OF RADIOLOGIST. Cash receipts £500 p.a. from part-time work only. Excellent rooms in centre of City. Premium (including electric apparatus, fittings, etc.) £550.—No. 265.

NORTH-WEST COAST. — SEASIDE RESORT. — Old-established PRACTICE. Cash receipts about £1,000 p.a. Small panel. Excellent freehold house.—No. 266.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Cash receipts 1930, £1,406. Panel nearly 1,000. Excellent house, 2 reception, 6 bedrooms. Rent £90 p.a. Good Local Hospital. Premium £2,050.—No. 260.

LANCS TOWN.—Old-established PRACTICE. Cash receipts 1930. £1,186. Panel 900. Much scope. Excellent house, 2 reception, 4 bedrooms. Garage. Premium, best offer.—No. 178.

MANCHESTER.—RESIDENTIAL DISTRICT.—Old-established PRACTICE, capable of large increase. Average cash receipts £600. Panel 360. Good house, 2 reception, 4 bedrooms. Rent £50 p.a. Offers invited.—No. 191.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium best offer.—No. 226.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

ISLE OF MAN.—SEASIDE TOWN — Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—any reasonable offer.—No. 173.

CHESHIRE. — COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

LINCOLNSHIRE. — COUNTRY PRACTICE. Cash receipts £990. Panel 777. Excellent detached house, 2 reception, 5 bedrooms. Garage and large garden. Rent £50 p.a. Premium 1½ years' purchase.—No. 195.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No. 234.

CHESHIRE BORDERS. — PARTNERSHIP in Country Practice. Average cash receipts £2,000 p.a. Panel nearly 1,800. Scope. Preliminary Assistantship. Purchaser could live with Vendor. Premium—one-third share—£1,000.—No. 245.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

LANCS TOWN.—Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,460. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch.

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 DEATH VACANCY. — SCOTLAND. — PRACTICE, averaging over £1,750 p.a., including panel (about £520) in county town. Well-situated house (4 bedrooms), garage, and garden, for sale.

2 S. COAST.—Partnership in good-class non-dispensing Practice, over £4,000 p.a., in favourite residential town in seaside resort. No panel and not much midwifery. Pleasantly situated house (4 or more bedrooms) to rent on lease. Incoming Partner should be Oxford, Cambridge or London man (aged about 30), who has held Hospital appointments. One-third share at first at 2 years' purchase.

3 LONDON, W.—Partnership in non-dispensing Practice of £3,000 p.a. in West End of London. Fees one guinea upwards. No midwifery. One-third to one-half share at 2 years' purchase.

4 S. OF ENGLAND.—Partnership in small country town Practice, averaging £3,500 p.a. (including panel between £800/£900). Incoming Partner should be Oxford, Cambridge, or London man (about 30), who has held Hospital appointments. Two-sixths share 2 years' purchase.

5 LONDON, W.—Steadily increasing PRACTICE, doing about £750 p.a., mostly from "Lock-up" Surgery. Panel about 500. Well-situated corner residence (3 bedrooms) to rent. Premium £900.

6 S. OF ENGLAND.—Partnership in Practice, about £2,800 p.a., in favourite seaside resort. Delightful house (5 bedrooms), garage, and nice garden, to rent. Incoming Partner should be a Surgeon (preferably F.R.C.S.). Hospital and appointment on staff. Premium one-fourth share 2 years' pur.

7 MIDLANDS. — Partner required in sound lucrative Practice in residential town close to large city. Small panel. Very good Cottage Hospital. Share of £1,000 p.a. at 2 years' purchase. Applicant should be well up in his work.

8 SURREY. — Very old-established Country PRACTICE of £2,000 p.a. in delightful district. Panel about 700. Fees 2/6 to 21/-. Particularly attractive house (6 bedrooms). Large garden. Price of freehold £2,500. Premium for Practice £2,500.

9 DEVON. — Partnership (with preliminary Assistantship) in old-established Practice about £3,000 p.a. in beautiful part. Good house (5 bedrooms) to rent. Premium one-third share 2 years' purchase.

10 LONDON, S.W. — Partnership in well-established suburban Practice (about £2,400 p.a.), easy access of West End. Premium for one-third share £1,500.

11 S. COAST.—Partnership in non-dispensing Practice in a seaside resort. Good house (6 bedrooms) to rent. Share about £750 p.a. at 2 years' purchase.

12 S. COAST.—Partnership in non-dispensing Practice in seaside resort. Incoming Partner must hold the F.R.C.S. Hospital. Scope for Surgery. Share worth about £1,000 p.a. (after short preliminary Assistantship) at 2 years' purchase.

13 S. OF ENGLAND. — Partnership (with preliminary Assistantship) in Practice averaging over £2,000 p.a. in Cathedral City. Panel 900. Applicant should be aged about 28/30, well qualified, and competent to undertake Obstetrical work and minor operations. Scope for consulting work. Share up to one-half to suitable man at 2 years' purchase.

14 MIDLANDS. — Partnership in Country Town Practice about £3,500 p.a. Panel over 1,500. Small detached house (4 bedrooms) to rent. After short preliminary Assistantship one-fourth share would be sold at 2 years' purchase.

15 LONDON, S.W.—Practice about £500 p.a. in suburban district. Panel 650. No midwifery. Semi-detached corner house (6 bedrooms) for sale. Scope. Premium 1½ years' purchase.

16 W. OF ENGLAND. — Country Practice about £400 p.a. in beautiful district. Small panel. Large and beautiful house, with garden and paddock, for sale. Scope. Premium 1 year's purchase.

17 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwfy. Six-roomed house to rent. Prem. £700.

18 PARTNERSHIP in Eye, Ear, Nose, and Throat Practice in first-rate town. Good house available to rent or purchase. Partners on Hospital staff. Incoming Partner must be experienced more particularly in Eyes. Share worth £1,650 at 2 years' purchase.

19 YORKSHIRE (W.R.). — Compact easily worked Practice of £1,540 p.a. in manufacturing town. Panel over 1,300. Pleasantly situated double-fronted house (4 bedrooms), with garden, for sale. Premium 1½ years' purchase.

20 CO. DURHAM.—Partnership in Country Practice easy distance of coast. Income about £1,650 p.a. Panel 1,550 and Club appointments £700 p.a. Nice house (5 bedrooms), in quarter acre of garden, for sale. Premium for one-half share only £1,000.

21 LONDON, W.—Practice of about £600 p.a. in residential district. Panel 600. Detached double-fronted corner residence (4 bedrooms), garage, and nice garden, for sale. Scope. Premium 1½ years' purchase.

22 KENT.—Practice about £700 p.a., capable of considerable increase, in beautiful country district. Panel 750. Suitable house for sale. Premium £1,000.

23 LONDON, E.—Cash Practice of £850 p.a. in populous neighbourhood. Panel over 1,000. House (3 bedrooms) in main road, to rent. Premium 1½ years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880.)

12, Stratford Place, Oxford Street, W.1.

Telephone: Mayfair (1782 (1783

Tele. Address: Triform, Wesdo—London.

Practices and Partnerships for Disposal (continued).

24 S. COAST.—Small Seaside Place.—Nucleus of PRACTICE, with very good semi-detached house (5 bedrooms). Would suit semi-retired Practitioner who could wait a while as place is developing quickly. Price for freehold house £1,400.

25 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average nearly £950 p.a. (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Prem. to effect quick sale only £800.

26 EAST ANGLIA.—Partnership in Practice over £4,500 p.a. in beautiful country district, easy access of important town. Panel 3,000. Nice detached house (7 bedrooms), garage, etc., garden and grounds of 10 acres, for sale. Sport of most kinds. Considerable scope. Premium two-thirds share 2 years' purchase. Suitable for two to buy together.

27 S. OF ENGLAND.—Partnership in steadily increasing Practice about £6,000 p.a. in small town. Panel 3,300. Suitable house could be purchased. One-eighth share at 2 years' purchase. Preliminary Assistantship. London Graduate preferred.

28 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel about 600. Very good house (5 bed and dressing rooms), garage and excellent garden, for sale. Ample scope. Premium £900.

29 LONDON, N.—Practice about £360 p.a. in Residential Suburban district. Panel 180. Detached corner house (4 bedrooms), with small garden, for sale. Scope. Premium £100.

30 N. OF ENGLAND.—Partnership in lucrative Practice in large city. Panel over 5,000. Small house (3 bedrooms and attics) for sale. Partner must be young and energetic. A share of £1,650 or £2,500 would be sold at 1½ years' purchase.

31 DEVON.—Partnership in Practice averaging £3,000 p.a. in small town. Very good house (7 bedrooms), good garden, etc., for sale. Hunting, shooting, fishing, etc. Premium two-thirds share 2 years' purchase. Hospital.

32 MIDLANDS. — Practice averaging £4,750 p.a in clean manufacturing town. Panel 3,570. Two houses for sale. Practice carried on by two Medical Men, both retiring. Premium 1½ years' purchase.

33 WITHIN 12 MILES OF LONDON.—PARTNERSHIP in rapidly increasing Cash Practice about £1,600 p.a. in developing industrial district. Panel 1,870. Small house available. Large Cottage Hospital. Premium two-fifth share 2 years' purchase.

34 S. MIDLANDS.—Practice of nearly £400 p.a. in delightful country district, easy distance of London. Panel 300. Attractive house (7 bed and dressing rooms) in grounds of 2 acres, with garage, to be sold or let. Very suitable for Resident Patients. Good scope. Premium 1 year's purchase.

35 N. MIDLANDS.—Partnership in Practice over £1,400 p.a. in first-rate city. Panel 1,800. House, with 2 reception rooms and 4 bedrooms, to rent. Premium one-half share £1,100. Preliminary Assistantship entertained.

36 MIDLANDS.—Practice of over £2,100 p.a. in manufacturing town. Panel 820. House (4 bedrooms) to rent, on lease. Premium 1½ years' purchase.

37 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in own grounds, for sale or rent. Premium one-half share 1½ years' purchase. Suit one aged between 40/50.

38 NORTHUMBERLAND. — Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,425.

39 LONDON, E.C.—City Practice. Receipts 1930, over £1,300. Consultations mainly £1 1s., some £1 11s. 6d. and £3 3s. Excellent consulting rooms. Premium 1½ years' purchase.

40 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

41 SURREY.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Premium £300.

42 SURREY. — Partnership in Practice in desirable residential town. Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

43 HANTS. — Small easily worked Practice about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

44 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

45 SUSSEX AND HANTS BORDERS. — Country PRACTICE about £800 p.a. Panel over 600. House (6 bedrooms, etc.), with garden and paddock, to rent. Hunting, shooting, etc. Scope. Premium £1,200.

46 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

47 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 1½ years' purchase.

48 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

49 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

50 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water, main drainage) for sale or rent. Premium £750.

51 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

52 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (5 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

53 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

54 LONDON, W. — Middle-class Practice of £740 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,000.

55 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

56 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

57 MIDLANDS. — Partnership in Practice about £2,000 p.a. in hunting centre. Panel about 1,000. House (5 bed and dressing rooms), electric light, ample water supply, garage and one acre of garden, for sale or rent. Premium one-third share £1,000.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054 & 1034. RIVERSIDE 1254. *(Night Calls.)* *Telegrams:* "REASIDE, TUBERCLE, WESTRAND, LONDON."

MIDDLESEX, WEST.—PARTNERSHIP in rapidly developing residential country district. Receipts approximately £1,500, increasing. Panel 1,282, increasing. Fees 2/6 up. Suitable accommodation available. Premium for 1/3 share, 2 years' purchase. Suitable to young and experienced man, preferably one having held Hospital appointments.

CORNWALL (Coast).—Well-established PRACTICE in charming locality. Receipts nearly £800. Panel 180. Suitable house to rent on lease. Premium for quick sale £800.

ESSEX.—NUCLEUS PRACTICE in residential locality. Excellent scope for young and energetic man. Suitable house available. Receipts £325. Panel 225. Premium £450.

LONDON, E.—NUCLEUS non-panel PRACTICE in thickly populated locality, with excellent scope for panel and further increase. Suitable accommodation for bachelor. Receipts nearly £600 p.a. Fees 2/- up. Rent £55 p.a. Premium £750 or near offer.

KENT (Seaport).—NUCLEUS G.P., situated in growing locality. Good opening for a young and energetic man. Receipts over £300 p.a. Panel 220, growing. One appointment worth £50/60 p.a. Small house to rent. Premium £250 or near offer.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house containing 4 bedrooms, etc. Garage. Small panel. Receipts approx. £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

KENT.—Within easy reach of London.—Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Prem. £1,300 Excellent scope for energetic man.

YORKSHIRE.—Well-established mixed rural PRACTICE. Suitable house available (4 beds). Receipts approximately £1,000. Panel 620. Fees 3/6 up. One appointment. Premium 1½ years' purchase.

LONDON, N.1.—Mixed G.P., with excellent scope for increase. Receipts nearly £700. Panel over 500. Fees 1/6 up. Can be run as lock-up. Premium 1½ years' purchase or near offer.

MIDDLESEX, WEST.—Well-established G.P. in rapidly growing residential locality, with excellent scope for still further increase. Suitable freehold house available (6 beds), £1,450. Receipts £1,200. Panel nearly 900. Premium £2,000. Splendid scope for keen and energetic man.

NORTH-WEST COAST. — PARTNERSHIP in old-established good-class non-panel and non-dispensing Practice. Suitable house available. Receipts approx. £3,600. Fees 10/6 up. One-third share with view to half and possible succession, 1½ years' purchase, cash. Excellent scope for Physician.

BEDFORDSHIRE.—PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

BERKS.—Town PRACTICE, within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery; scope. Suitable house available. Premium 1½ years' purchase.

YORKS.—PARTNERSHIP in busy, rapidly increasing Town Practice. Receipts £2,300. Panel 1,500. Suitable house available. A third share, with view to succession, 2 years' purchase.

LONDON, E.—SUBURBAN Middle-class G.P. Medium-sized house to rent on lease at the low rental of £30 p.a. Fees 2/- up. Average receipts £516. Panel 350. Excellent scope for young man. Premium for Practice and lease £1,050 cash, or near offer.

ESSEX.—NUCLEUS non-panel PRACTICE, suitable to either sex, with excellent scope for panel if desired, and further increase. Medium sized double-fronted house to be rented on lease. Receipts approx. £400 p.a. Premium 1½ years' purchase or near offer, cash.

S.W. COAST.—Well-established General PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

EASTERN COUNTIES. — Cathedral City. — PARTNERSHIP in good-class non-panel Practice. Receipts average £4,450. Excellent opportunity for first-class man on the medical side. Probability of Hospital appointment. Quarter share to commence at 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

THE

WESTERN MEDICAL AGENCY

(Dr. K. H. BENNETT, Dr. W. J. PARAMORE.)

PHOENIX CHAMBERS, 22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. PARTNERSHIP.—Quarter share of £5,400 p.a. in good country town, South England. All private, but new man could start panel. Good house. Further share later. Excellent opportunity. Price £2,000.
2. SOUTH-WEST WALES. — Pleasant seaside town, non-industrial district. Good mixed PRACTICE, returning £1,000 p.a. Good house to buy or rent. Panel over 700. Opposition weak. Easy terms quick sale.
3. HEREFORDSHIRE. — Unopposed Country PRACTICE. Panel 530. Receipts over £1,000. Several appts. Good house. 1½ yrs.
4. SOUTH CORNWALL.—Country Town PRACTICE, aver. £700 p.a. Panel 600. Good house to rent. All sports. Prem. 1 yrs.' pur.
5. WESTERN CITY.—Panel of 465 and club returning about £250 p.a., for sale. Good house to buy or rent.
6. CARDIFF.—Industrial PRACTICE, aver. £600 p.a. Panel 600. Good house. Prem. £600.
7. SANATORIUM.—Western County.—40 beds. Receipts average £10,055 p.a. Particulars on application.
8. CORNWALL. — Unopposed Agricultural PRACTICE, near beautiful N.C. seaside resort. Receipts over £900 p.a. Panel 550. M.O. value £50. Pub. Vac. House for sale £450. Practice, drugs, etc., £1,400.
9. DENBIGHSHIRE. — One-third share of PARTNERSHIP. £850 p.a. net. Mostly panel and contract work. Good house, rent £78 p.a. Premium £950.
10. BEDFORDSHIRE.—Country PRACTICE [illegible] last year £483. Goodwill for [illegible]-third £8. Price £550.
11. SALARIED POST.—Partnership [illegible] option to him a seaside resort. Good house [illegible] Suitable about £750 p.a. at 2 years' purchase. £1,700.
12. SOUTH [illegible] favourite for sale

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700, and progressing. Good house, garage, and garden.
2. LANCASHIRE. — Old-estab. and industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
3. NORTH OF ENGLAND.—Panel, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appointments £350. Good house to rent. Considerable scope for energetic man.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
7. MIDLANDS, COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts av. over £2,700 p.a. Panel recently started and rapidly increasing. Good fees, house, etc.
8. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.

NANCIAL ASSISTANCE afforded to approved licants for the purchase of Practices or nerships on very reasonable terms. Full particulars on application.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT

The

Medical Insurance Agency

(Limited by Guarantee),

BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

To the Medical Profession.

4 and 5, Adam Street,
London, W.C.2.

Dear Sir,

Owing to the steady and rapid increase in my Medical and Dental Agency Business (which I have carried on for over fifty years, with the able assistance during the last twelve years of my Son, Leslie H. Turner), I have found it necessary to secure further competent assistance.

I have much pleasure in announcing that I have been fortunate in securing the co-operation of Mr. Herbert Needes, of 31, Bedford Street, W.C.2, who has successfully carried on for some years the Agency first established by his Father in 1860. During this period I have been intimately acquainted with Mr. Needes, and as from June, 1931, Mr. Needes will remove his offices to 4 and 5, Adam Street, and hopes to meet his clients there whenever they require his services. Mr. Needes' terms of business are identical with mine and are similar to those of all the old-established Agents, and will be found as reasonable as possible, having regard to the best interests of our respective clients. We hope that anyone requiring services that we can render them will not hesitate to consult us as heretofore. I have also been fortunate in securing the services of another experienced Accountant, Mr. A. Hogan, for many years engaged in that capacity in H.M. Service. I might add that our Agency will at all times be conducted in strict confidence.

Yours faithfully,

PERCIVAL TURNER.

THE OLDEST AND LEADING MEDICAL AGENT.

PERCIVAL TURNER,
LTD.
(Established 50 years.)
4 & 5, ADAM ST., STRAND, W.C.2.
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

South Midlands. — Within 40 miles.—£900 p.a. Unopposed. Panel 897. Good appts. Visits 5/- to 10/6. Large house and garden to rent.—No. 8859.

Lancs.—Partly Surgical.—Over £2,000 p.a. Panel 1,365. Visits 3/6 to 10/6. Major ops., 10 to 50 gns. Suitable house.—No. 8858.

Surrey. — Residential Town, near London.—Over £1,200 p.a. No panel, but scope. Good fees. Excellent premises. Flat over if required.—No. 8857.

Staffs Town. — Over £700 and scope. Vendor retiring. Panel £460 p.a. Club £24. House, with 2 recep., 5 bed., surgery, etc., to rent.—No. 8856.

Lancs Town. — Over £1,100 p.a. Panel 1,450. Visit and med., 5/6 and 6/-. House, 3 recep., 5 bed., surgery, etc. For sale at £1,200.—No. 8849.

Midland Town. — Over £2,200 p.a. Panel 820. Appts. £50. Fees 3/6 up. House 2/3 recep., 4 bed., to rent on lease.—No. 8846.

London, S.W. — £800 or more. Panel worth £110. Appts. £25. Large family house, 12 rooms or more, and nice garden. Price £2,200 Practice and lease.—No. 8845.

Kent, Country, near Sea.—Over £1,100 p.a. Panel 380. Appts. £55. Fees 5/- to 21/-. Convenient house, 6 bed., etc., small garden.—No. 8718.

London, S.E. — Woman's Practice. About £550 p.a. Panel 251. Visits 3/6 to 7/6. Small flat at £62 p.a. Premium £750.—No. 8842.

Surrey, Country. — £600 p.a. and scope. Easily worked. Panel over 200. Fees 3/6 to 21/-. Good house in own grounds. For sale.—No. 8841.

Kent, within 25 miles London. —£800 p.a. Panel 470. Fees 3/6 to 21/-. Large house (8 bed.) and garden. For sale.—No. 8840

London, N. — Residential. — About £360 p.a., and ample scope. Fees 3/6 to 10/-. Panel about 200. Excellent house with surgery. House and Practice £1,900.—No. 8839.

West Lothian. — £860 p.a. increasing. Panel 650. Fees 2/6 to 10/-. Villa, 2 recep., 3 bed. etc. House and Practice £1,700 or offer.—No. 8837.

London, E, near City. — Over £800. Panel over 1,000. Mdy. refused, but scope. Visits 3/6 to 5/-. Spacious house and garden to rent.—No. 8836.

South Devon Town. — Average £1,564 p.a. Panel about 2,000. Fees 3/6 to 5/-. Large leasehold house. Practice and lease £2,700 cash.—No. 8816.

Midland Town. — Share worth £800 p.a. Fees 5/- to 21/-. Midwifery 5 to 6 gns. Grad. of Lond., Oxon., or Camb. required.—No. 8815.

Riverside Town.—£300 p.a. and resident patient. £8 8s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8831.

Kent Suburb. — Residential. Non-dispensing. Average £897. Panel 386. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.).—No. 8820.

S.W. Scotland.—Near Coast.—£1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. SOUTH COAST TOWN.—PARTNERSHIP.—A one-third share (with increase later) is offered in a mainly better-class non-panel Practice. Average gross cash receipts for the past three years £4,150. Fees from 10/6. Not much midwifery. Well-situated house, with 3 reception, 8 bedrooms, etc. Can be rented on lease at £135 p.a. Premium 2 years' purchase.
2. MIDDLESEX.—Steadily increasing middle and working-class PRACTICE, producing this year at the rate of £800. Panel of 250. Fees from 5/-. House contains 2 reception, 4 bedrooms, etc. Price for freehold £1,650, part on mortgage. Premium £850.
3. WITHIN 20 MILES OF LONDON (WEST).—Well-established rapidly increasing PRACTICE, in very pleasant growing residential district, offering excellent future prospects. Cash receipts last year £1,700, including small panel of 150. No dispensing. Visits 5/- upwards; mids. from 4 gns., about 40 cases. Good house (3 reception, 5 bedrooms, etc.), in half an acre of garden, with tennis court. Garage. Price, freehold, £1,850. Premium £2,100. Cottage Hospital. Ill health reason for selling.
4. ESSEX.—Very old-established PRACTICE, situated in pleasant country district, in growing area about 30 miles from London, and few miles from the sea. Cash receipts average nearly £900 p.a., including panel of 600. House contains surgery and waiting room, 3 reception, 5 bedrooms, bathroom, etc. Garden. Garage. Gas, but electric light available. Moderate rental. Premium 1½ years' purchase.
5. LONDON, EAST.—Very old-established working-class PRACTICE averaging for past twelve months over £2,300, including panel of over 2,800. Good appts. worth nearly £160. Visits from 2/6. Very low expenses. Suitable house can be rented or purchased. Central surgery can be rented. Premium £4,250.
6. LONDON, WEST.—Old-established good middle-class PRACTICE, averaging over £2,500 p.a. (last year £2,600), medium-sized panel. Visits 5/- to 10/6 and occasionally 21/-. Midwifery discouraged; 2 or 3 cases yearly at 15 to 20 gns. House contains professional accommodation, 2 reception, 5 bedrooms, dressing rooms, etc. Leasehold (23 years to run at nominal ground rent). Price £1,650. Premium £4,475.
7. WEST MIDLANDS.—Old-established PRACTICE, in small country town, in very picturesque surroundings, averaging over £1,200 p.a. (last year £1,500). Panel of about 700. Fees from 5/6. Centrally situated house, with 2 reception, 5 bedrooms, etc. Rent on lease £90 p.a. Good sport and schools. Premium £2,000.
8. NORTH DEVON AND CORNWALL BORDERS.—Very old-established unopposed Country PRACTICE, in beautiful district near the coast. Cash receipts average just over £1,100 p.a., including appt. and panel of 330. Suitable house available. Premium £1,600, to include drugs, etc. Hunting, golf, fishing, tennis, etc.
9. MIDLANDS.—COUNTY TOWN.—PARTNERSHIP.—A one-fourth share is offered in an exceptionally sound good mixed-class Practice, averaging over £6,000 p.a., including panel of 3,400. Lowest fee 4/-. Very little midwifery. If single, purchaser can live in comfortable rooms; otherwise choice of houses for sale, or on rental. Premium 2 years' purchase.
10. PARTNERSHIP.—YORKSHIRE.—LARGE CITY.—A one-third share with succession to the whole Practice in about one year's time, is offered in a rapidly increasing PRACTICE, producing for the last 12 months approximately £2,300, including panel of 1,500. One appt. worth £150. A suitable house will be vacant shortly. Premium £1,200. Large scope for further development.
11. LONDON, N.W. (Kentish Town area).—In a well-populated district a mainly working-class PRACTICE, producing for 12 months ending March last £728, including panel of 260. House contains 10 rooms; small garden; garage. Rent £120 p.a. on lease. Premium £900.
12. LONDON (WEST END).—Old-established non-dispensary and non-panel PRACTICE, averaging over £4,700 p.a. Visits (very few) and consultations from one guinea upwards. No midwifery. Suitable accommodation available on rental. Premium £6,000. Good introduction given. Personal application desired.
13. LANCS.—LARGE TOWN.—PARTNERSHIP.—A one-third or two-fifths share is for disposal in well-established and increasing middle and working-class Practice. Gross cash receipts for immediate past 12 months £3,150. Panel of over 3,000. Appts. worth about £80 p.a. Fees from 2/6. Choice of two houses, both at moderate rentals. Premium only 1½ years' purchase.
14. WITHIN 20 MILES OF LONDON (WEST).—Rapidly developing district.—PARTNERSHIP.—A half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100 and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
15. SURREY.—COUNTRY PRACTICE.—Very old-established, and situated in delightful district. Gross cash receipts for past 12 months £2,000, including panel of about 700. Fees from 2/6 to 21/-. Midwifery 3 to 20 gns. Exceptionally nice house, with 2 reception, 6 bedrooms, and professional rooms. Nearly 2 acres of garden. Price for Practice and house £5,000.
16. CHESHIRE.—NEAR COAST.—Old-established good mixed-class PRACTICE, averaging for the past 3 years nearly £1,600, including panel of 1,283. Very good house in 3 acres of ground, with 2 reception, 4 bedrooms, etc. Rent on lease £85 p.a. Premium £2,300.
17. PARTNERSHIP.—HOME COUNTY.—Within 40 miles.—In a small country town, in very pleasant district, the third share, with increase later, of an old-established mixed-class Practice offering good scope. Cash receipts average over £3,000 p.a., including panel nearly 1,700 and appts. Good house, with 3/4 of an acre of garden, tennis court, etc. Rent on lease £65 p.a. Premium £1,700. Ingoing partner should be about 30, English or Scotch, and pref. married.
18. WITHIN 30 MILES OF LONDON.—In a delightful residential district (well populated and growing rapidly), a small PRACTICE, producing last year £406, including panel of 300, and capable of considerable development. Very good residence (suitable for resident patients) in about 2 acres of ground. Price, freehold, £4,000. Mortgage arranged. Premium £400. Excellent schools, good society, and sport.
19. FAVOURITE COAST TOWN.—Old-established good middle and better-class PRACTICE, producing over £1,800 p.a. Selected panel of under 400. Fees 5/6 to 10/6. Very little midwifery. Commodious house, with 2 reception, 6 bedrooms, etc. large garden. Freehold for sale. Premium £3,000.
20. SOUTH OF ENGLAND.—Pleasant Town near sea coast.—Very old-established PRACTICE (partly Surgical), averaging over £2,400 p.a. (last year £2,516), including panel of 500. Centrally situated house. Price for Practice and house £5,000. Successor should also have some knowledge of Eye, Ear, Nose, and Throat work.
21. HOME COUNTIES.—Within 40 minutes' run of London.—Old-established mixed-class and increasing PRACTICE, situated in small town with pleasant surroundings. Cash receipts average £1,725 p.a., including appt. £70 and panel 1,000. House with good accommodation and small garden. Price for freehold £2,500. Premium 1½ years' purchase. Educational facilities.
22. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.
23. NORTH WALES.—PARTNERSHIP.—A one-third share is offered in a good mixed-class Practice producing over £1,700 p.a., including panel of 470 and appts. of about £100 p.a. Fees 5/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. Premium 2 years' purchase.
24. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.
25. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium only 1 year's purchase. Ill-health reason of sale.
26. LONDON, SOUTH-EAST.—Woman Doctor's PRACTICE, producing £560 immediate past 12 months. Panel of 152. Fees 2/6 to 21/-. Suitable flat can be rented at £60 p.a. Premium £650, or near offer. Very good scope for increase.
27. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 5/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase.
28. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
29. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Spot of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.
30. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE, averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.
31. SOUTH-WESTERN COUNTY. — Hospital Town. — Good mixed-class PRACTICE, averaging £839 p.a., including small panel of 140, and appt. worth £40 p.a. Visits 5/- to 10/6. Not much midwifery. House, with 3 reception, 4 bedrooms, etc. Garden. Garage. Price for freehold £1,600, half on mortgage. Very good schools and sport. Premium £1,300.
32. MIDLANDS.—COUNTY TOWN.—Old-established better-class PRACTICE, averaging £793 p.a. and offering good scope. Panel 500. Fees 5/- upwards. Well situated house with good garden, with 3 reception, 4 bedrooms, etc. Separate Surgery. Rent on lease £111 p.a. Premium 1½ years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

BARCLAYS BANK

LIMITED

Head Office: 54, LOMBARD STREET, LONDON, E.C.3.

Chairman—FREDERICK CRAUFURD GOODENOUGH.

Deputy-Chairman—SIR HERBERT HAMBLING, Bart. *Vice-Chairman*—WILLIAM FAVILL TUKE.

AUTHORISED CAPITAL - - -	£20,000,000
ISSUED AND PAID-UP CAPITAL - -	£15,858,217
RESERVE FUND - - - -	£10,250,000
DEPOSITS, etc. (31st Dec., 1930) - -	£349,273,283

The Bank has over 2,100 Branches in England and Wales.

EXECUTORSHIPS AND TRUSTEESHIPS UNDERTAKEN.

What shall I prescribe?

WHEN CONFRONTED WITH A DIFFICULT CASE OF OSTEO OR RHEUMATOID-ARTHRITIS IT IS INDEED COMFORTING TO KNOW THAT QUICK AND LASTING RELIEF CAN BE OBTAINED FROM THE ADMINISTRATION OF ELIX. FORMASAL AND TAB. ARTHRITONE.

THE POPULARITY OF THESE PREPARATIONS IN RHEUMATIC CONDITIONS IS DUE SOLELY TO THE GOOD RESULTS OBTAINED.

PRACTITIONERS HAVE TAKEN THE TROUBLE TO WRITE AND TELL US OF THE WONDERFUL EFFECTS THAT THESE PREPARATIONS HAVE IN CASES WHERE ALL OTHER FORMS OF MEDICATION HAVE BEEN OF NO AVAIL.

ELIXIR FORMASAL
1 PINT 6/3
SMALLER AND LARGER SIZES ISSUED

TAB. ARTHRITONE
250, 8/2
SMALLER AND LARGER SIZES ISSUED

HOUGH, HOSEASON & CO. LTD.

PHARMACEUTICAL SPECIALISTS TO THE MEDICAL PROFESSION - MANCHESTER.

COAGULEN-CIBA IN HAEMORRHAGE

Five correspondents in *The British Medical Journal*, July 28th, 1928, p. 182, testify to the value of Coagulen-Ciba in Haemophilia.

Reports on the successful administration of Coagulen-Ciba were published in *The Lancet*, October 31st, 1925, p. 918, Intestinal Haemorrhage; *The Lancet*, June 13th, 1925, p. 1238, Haemoptysis treated by Intrapulmonary Injections; *The Lancet*, January 24th, 1925, p. 176, Haemorrhage following Tonsillectomy.

Three cases (two Haemoptysis, one Bowel Haemorrhage) successfully treated with Coagulen-Ciba by the mouth are reported in the *Journal of the Royal Naval Medical Service*, No. 1, Vol. XII, pp. 64-65.

Full particulars and reports to Physicians on request.

THE CLAYTON ANILINE CO., LTD., Pharmaceutical Department, 40, Southwark Street, LONDON, S.E.1.

BRITISH BRITISH

Elastoplast

(Patent 253,527)

THE ORIGINAL & FINEST ELASTIC PLASTER

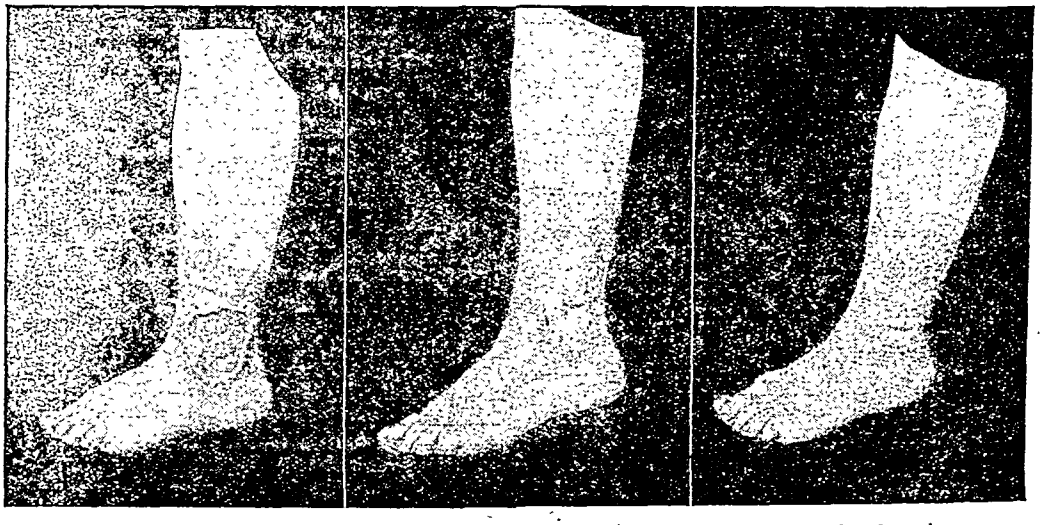
The cure of Varicose Ulcer by means of Elastoplast Bandages is now practised in nearly every Hospital in the British Isles, and 100% cure of cases is achieved.

In certain cases of Varicose Veins where, on account of systemic disease, or the patient's timidity, a curative course of injection cannot be given, then the veins can be kept obliterated by Elastoplast.

Elastoplast is also extensively used for general surgical and orthopaedic work.

As a support for varicose veins, sprains, strains, dislocations, after-treatment of fractures, weak joints, flat or dropped foot, etc., Elastoplast is unequalled.

Manufactured from the finest yarns, Elastoplast is the only Elastic Plaster having the correct degree of elasticity, thus ensuring perfect compression and support.



Woman patient aged 55. After 12 weeks' treatment. After a further 2 weeks.

The only treatment consisted of Elastoplast Bandages, changed weekly at first, and later fortnightly.

Other Elastoplast Specialities include:—Finger Dressings, Wound Squares, Wound Strips, Boil Dressings, Eye Dressings, Vaccination Dressings, etc., all on the pliable Elastoplast base, with medicated pads. Elastoplast will reduce your Dressings Accounts, save you valuable time, increase the efficiency of the injured person, and, moreover, ensure cleanliness. Also—VISCOPASTE BANDAGES (improved Unna's Paste Type), Adhesive Gelatine Bandages.

Literature and cuttings will be sent on application, or a trial set containing full Bandages and a range of Dressings upon receipt of P.O. value 2/6 (Overseas postage extra) by the manufacturers:

T. J. SMITH & NEPHEW, Ltd.

HULL. LONDON. GLASGOW. MANCHESTER.

Enquiries to—Dept. B, 42, Tavistock Square, London, W.C.1.

ELASTOPLAST MAY BE OBTAINED FROM YOUR USUAL SURGICAL SUPPLY HOUSE.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3675 SATURDAY, JUNE 13, 1931 Price 1/3

THE AVOIDANCE OF ACID STATES

Many athletic individuals leading active and, according to the usual standards, healthy lives, yet experience early degeneration of the arterial walls, apparently induced by disturbances of ideal acid-base relations. The very activity of their exercise involves the formation of excess acids, which, if not promptly eliminated, inevitably cause structural injury.

A regular morning draught of Eno's "Fruit Salt" promotes elimination, and lowers the acidity of the urine. This effervescent saline, being composed entirely of alkaline salts and of combinations of fruit acids which, when absorbed, act as alkalinising agents, tends both directly and indirectly to restore the normal blood reaction.

The ENO "Medical Reminders." The Proprietors of ENO'S "Fruit Salt" will appreciate the opportunity of sending, free of charge, to any member of the Medical Profession a copy of any of the following:—

"The Doctor's Pocket Remembrancer"
"The Practitioner's Pocket Book"
"The Panel Doctor's Pocket Book"
"The Doctor's Emergency Reminder"
"Urgent Abdominal Diagnostics"

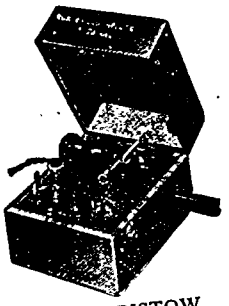
J. C. Eno Ltd., 160, Piccadilly, London, W.1.

ENO'S "FRUIT SALT"

RT 170

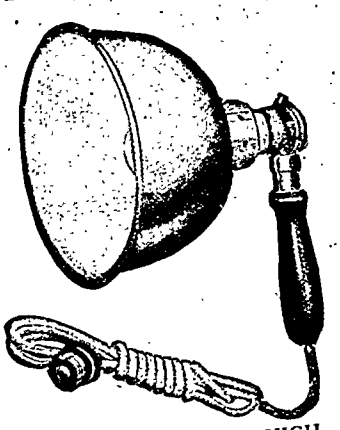
ISSUED WEEKLY] [COPYRIGHT] [REGISTERED AS A NEWSPAPER

FOR THE GENERAL PRACTITIONER

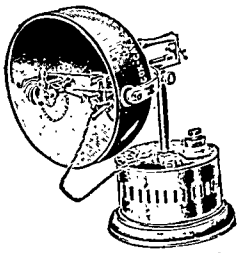


THE BRISTOW RHYTHMIC SURGING FARADIC COIL
for Muscular Re-education.
Price Complete £6 0 0

KINDLY STATE VOLTAGE OF SUPPLY WHEN ORDERING.



THE ADJUSTO-RAY HIGH CANDLE POWER RADIANT HEAT LAMP
for Treatment of Neuritis, Lumbago, etc.
Price Complete - £1 12 6
Adjustable Stand - £1 10 0



THE "MEDISUN" PORTABLE QUARTZ MERCURY VAPOUR LAMP
Highly Efficient and Recommended.
Price for D.C. £15
" " A.C. £18

KINDLY STATE VOLTAGE OF SUPPLY WHEN ORDERING.

Please write for Catalogues fully describing the above, post free.

THE COX-CAVENDISH ELECTRICAL CO. (1924) LTD.
105, GREAT PORTLAND STREET, LONDON, W.1.
'Phone: LANGHAM 1145-6

Trade Mark **Progynon** Brand

Female Sexual Hormone

for

oral and intramuscular administration.

Biologically standardised according to the method Allen and Doisy.

Direct causal effect in almost every gynaecological condition.

Especially indicated in

Disturbances of Menstruation, the Climacterium and Delayed Puberty.

Bottles of 30 and 60 dragées (150 M.U.)
Boxes of 6 × 1 c.c. ampoules (100 M.U.)

A new illustrated brochure gladly sent on request; this reviews concisely and dispassionately the present position of the female sexual hormone.

SCHERING LIMITED, 3, Lloyd's Avenue, London, E.C.3.

Or from the following overseas depôts:

CEYLON— Paul Wm & Co. Ltd., Colombo.

SOUTH AFRICA— Schering-Kahlbaum S. Africa (Proprietary) Ltd., P.O.B 7539, Johannesburg.

BRITISH INDIA— Schering-Kahlbaum (India) Ltd., P.O.B. 2006, Calcutta and P.O.B. 683, Bombay.

EAST AFRICA— The Old East African Trading Co. Ltd., Mombasa.

STRAITS SETTLEMENTS & SIAM— N.V. Handelmaatschappij v h Barmer Export Gesellschaft, Singapore & Bangkok.

AUSTRALIA— Schering-Kahlbaum (Australia) Ltd. P.O.B. 5576S, Sydney.

NEW ZEALAND— F. & N. Suckling, Auckland.

DUTCH INDIES— H.V. v h W. Biedermann & Co., Batavia, N.V. Handelmaatschappij v h Barmer Export Gesellschaft, Medan.

British Medical Journal

CONTENTS

JUNE 13, 1931

ORIGINAL ARTICLES

The Causation of Stone in India. By ROBERT MCCARRISON, M.D., D.Sc., F.R.C.P. (Illustrated).....1009

Taboparesis Treated by Hyperpyrexia Induced by Hot Baths. By C. R. GIBSON, M.B., Ch.B., and R. G. GORDON, M.D., F.R.C.P.Ed. (With Chart)1015

Indications for the Induction of Premature Labour. By H. J. DREW SMYTHE, M.S., F.R.C.S.....1018

Gonococcal Stomatitis. By A. D. FRAZER, M.B., Ch.B., and J. MENTON, L.R.C.P. & S.I.....1020

Torsion of Ovarian Cyst with Bradycardia. By R. FRANCIS MATTERS, M.D., Ch.M., F.R.C.S.Ed. 1022

MEMORANDA

Tuberculosis of the Mammary Gland. By GEORGE JESSEL, M.D. 1023

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE:
Pharmacology 1023

EDINBURGH OBSTETRICAL SOCIETY:
Uterine Prolapse 1025

REVIEWS

Fractures.....1027
Medical Pathology 1027
Examination for Life Assurance 1028
Experimental Physiology.....1028
Disease in Childhood 1029
Notes on Books 1029

UNIVERSITIES AND COLLEGES

University of Cambridge 1032
University of London 10 2
Society of Apothecaries of London 1032

THE SERVICES

Shortage of Medical Officers in the Services: Committee of Inquiry.....1032
Reception at R.A.M. College 1033
Deaths in the Services 1033
(For Naval, Military, and Air Force Appointments see SUPPLEMENT)

MEDICO-LEGAL

Conviction for Pretending to be a Medical Man 1033

LEADING ARTICLES

SURGERY AND DIET 1031
THE PROMISE OF YOUTH 1032

THE WEEK

London's New University Buildings ...1033
Reports of the Pharmacopoeia Commission 1033
Silicosis in South Africa ... .1033
Ophthalmology in Egypt 1034
A Socialist Medical Conference.....1035
The Ross Institute 1035
The History of the Association and the Centenary 1035
The St. Cyres Lecture 1035

CORRESPONDENCE

Radium: Possible Effect in Prophylaxis of Cancer. By Malcolm Donaldson, M.B., F.R.C.S. 1045

Microcephaly. By Richard J. A. Berry, M.D., F.R.C.S.Ed. 1045

Operation for Cataract. By A. F. MacCallan, M.D., F.R.C.S.; and David Hardie, M.B., F.R.C.S.Ed.....1045

Obstetric Shock. By Robert Watson, M.D. 1046

Transfusion and Damaged Kidneys. By John Phillips, M.B., F.R.C.S. 1046

Rupture of Tendons. By Harry Platt, M.S., F.R.C.S. ... .1047

Treatment of Dysmenorrhoea. By A. A. Gemmell, M.D., F.R.C.S.Ed. ...1047

Closed Drainage in the Treatment of Empyema. By A. C. F. Halford, M.D.1047

Acute Massive Collapse following Lipiodol Injection. By W. Camac Wilkinson, M.D., F.R.C.P. 1047

Haemolytic Icterus. By A. G. Auld, M.D. 1048

Maternal Mortality. By Sir George Newman, M.D., F.R.C.P. 1048

Aplastic Anaemia. By W. M. Crofton, M.D. 1048

Nutritional Value of Milk. By R. Stenhouse Williams, D.Sc., M.B. 1048

Treatment of Brain Abscess. By Hugh E. Jones, M.R.C.S. 1049

Injection Treatment of Haemorrhoids. P. Kennedy Murphy, M.D. 1049

A Substitute for Hand Towels 1050

Etiology of Ulcerative Colitis. By J. A. Bargen, M.D. 1051

OBITUARY

A. T. MacConkey, M.B., B.Ch. 1051
Daniel Crowley, M.D.....1051

GENERAL ARTICLES AND NEWS

The Place of Medical Societies in the Progress of Medicine. By RAYMOND CRAWFURD, M.D., F.R.C.P. 1036

Conference on Mental Health. The Human Factor.....1030

MEDICAL EXAMINATION OF IMMIGRANTS TO CANADA 1040

ROYAL MEDICAL BENEVOLENT FUND ...1041

PREPARATIONS AND APPLIANCES 1029

MEDICAL NOTES IN PARLIAMENT:
The Budget: Petrol Tax 1053
Vaccination.. 1054

MEDICAL NEWS 1054

LOCAL NEWS

SCOTLAND—
Health of Scotland 1041
Contributory System for Voluntary Hospitals 1042
Elphinstone Celebration at Aberdeen1043
Glasgow Home for Incurables 1043

ENGLAND AND WALES—
London University New Buildings ...1043
Cancer Research in Yorkshire 1043
Development in relation to Heredity1044
Child Guidance 1044

LETTERS AND ANSWERS

Income Tax 1056
Concurrent Herpes and Varicella.....1056
Warnings 1056
A Wrapping for Medicine Bottles.....1056

VACANCIES 1056
(See also page 243 of SUPPLEMENT)

The SUPPLEMENT contains:

Annual Meeting, Eastbourne: General Arrangements.

CURRENT NOTES:
Recommendations under the Mental Treatment Act.

NOTICES OF MOTION BY DIVISIONS.

GENERAL MEDICAL COUNCIL:
Direct Representation on Council.
Disciplinary Inquiries.

NATIONAL INSURANCE:
London Panel Committee.

SILICOSIS AND ASBESTOSIS.

THE DENTAL BOARD.

Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. Entrance Fee, 10/-

No entrance fee to those joining within 12 months of registration. Assets exceed £55,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the *Articles of Association*) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Baillière, Tindall & Cox.
Irwin, W. K.—Urinary Surgery 3

Cambridge University Press.
Gray, J.—Experimental Cytology .. 3

Churchill, J. & A.
Matthes' Text-Book of Differential Diagnosis of Internal Medicine 3

Faber & Faber, Ltd.
Warwick, W. T.—Varicose Veins... 3

Livingstone, E. & S.
Bourne, G.—Medical History, etc 3
Glaister, J.—Medical Jurisprudence 3
Hamlin & Fahmy—
Ante-Natal Care 3
Lees, D.—Venereal Diseases 3
Mackie & McCartney—Bacteriology 3
Morley, J.—Abdominal Pain.. .. 3
Underwood, E. A.—A Manual of Tuberculosis for Nurses. 3
Williamson, B.—Dis. of Children .. 3

ASSURANCE COMPANIES—
Century Insurance Company 55
Medical Insurance Agency 7

BRASS NAME PLATES, &c.—
Cooke's Name Plates 3
Herd, S. J. & A.—Name Plates 32
Lewis & Co. Ltd.—Name Plates 33
Osborne, F. & Co.—Name Plates..... 32

DEBT COLLECTION—
Brit. Med. Protection Society..... 33

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
'Charkaolin' Granules..... Cover iv
Preparation of Senna 16
American Apothecaries Co.—
'Salvitae' 13
Armour & Co.—Glanoid Products 26
Boots Products..... 19,20
British Drug Houses Ltd.—
Radiostoleum 21
Burroughs Wellcome & Co.—
Preparations 29
Cranbux Ltd.—Odol 19
Cusson, Gerrard & Co. Ltd.—
Regnlol 12
Dimol Laboratories—Dimol..... 17
Eno's Fruit Salt ..... Cover i
Evans Sons Lescher & Webb Ltd.—
Bismuth Carb. 25
Fairchild Bros. & Foster—
'Panopepton' 15
Fox's Glacier Mints..... 34
Gambles & Co. Ltd.—Shampoos 13
Gomenol Laboratories—Gomenol ... 13
Hommel's Haematogen & Drug Co.—
Preparations. 13
Howards & Sons Ltd.—Preparations 31
Kaylene Ltd.—Kaylene-ol 33
Kerol Ltd.—Capsules 32
Laboratoires Lobica—Uralysol 17
Martindale, W.—Sternules 27
May & Baker, Ltd.—'Dimeleos' 20
Mond Staffordshire Refining Co.—
Monsol 14
Newbery & Sons, Ltd.—
Alka-Zane 16
Oppenheimer Products 22
Pearson's Antiseptic Co., Ltd.—
Creolin 23
Peat Products Ltd.—Sphagnol..... 12
Saccharin Corporation Ltd.—
Novocain 23
Schering Ltd.—'Progynon' ...Cover ii
Sharp & Dohme, Ltd.—
M.A.B. Blocks 18
Wyleys Ltd —
Elixir Bromo-Valerian Co..... 12

FOOD PREPARATIONS—
Bemax Laboratories—Bemax 14
Brand's Essences 21
Cow & Gate Ltd.—Milk Food Cover iii
H.A.G. Coffee Co.—Coffee 28
Trufood Ltd.—Humanised Trufood 18
Valentine's Meat-Juice..... 24
Wander, Ltd.—Ovaltine 24

MOTOR CARS, TYRES, &c.—
Lodge Sparking Plugs 6
Offord & Sons Ltd.—Motor Cars .. 22
Second-hand Motors for Sale 54

SURGICAL APPLIANCES—
Aerograph Co. Ltd.—Nose Spray ... 11
Curtis & Son—Supports..... 10
Dent's 'Ardente' Stethoscope 33
de St. Dalmas & Co. Ltd.—
'Dalzo' Self-adhesive Plaster.... 15
Hilliard's New Absorbent Bags 3
Medical Surgical Sundries, Ltd.—
Esseff Inhaling Apparatus..... 54
Millikin & Lawley—
Instruments, Osteology, etc..... 33
Salmon Ody—Surgical Appliances 33
Salt's Surgical Service..... 9
Short & Mason—
Tycos Sphygmomanometer 3
Smith & Nephew Ltd.—
Elastic Plaster Bandage 30

PRINTING & STATIONERY—
Anderson & Son—Account Forms 32
Carlyle, G.—Duplicate Books..... 3
Lewis, H. K., & Co. Ltd.—
Stationery, Books, etc..... 3
Taylor's Typewriters..... 32

TAILORING & UNDERCLOTHING—
Gieves, Ltd.—Tailors, etc..... 32
Hall, H.—Medical Service Dress ... 54
Miller & Co. Ltd.—Tailors 6
The Irish Linen Mesh Co. Ltd.—
Empire Linen Mesh Underwear. 32

TOBACCO & CIGARETTES—
Player's No. 3 4

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 53

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub. Hlth. 34
Willows, Francis, Butler & Thompson, Ltd.—Pollant'n.... 12

X-RAY & ELECTRO-MEDICAL APPARATUS—
Cox-Cavendish Electrical Co.—
Electrical Apparatus ..... Cover ii
Dean & Co.—X-Ray Apparatus 11
Edison Swan Electric Co. Ltd.—
Ediswan Stationary Batteries ... 6
Kodak—'Diaphax' X-Ray Film..... 8
Medical Supply Association, Ltd.—
Diathermy Apparatus..... 10
Thermal Syndicate Ltd.—
Vitreosil Sunshine Lamp 33

BATHS, SPAS, &c.—
Bridge of Allan Spa 39
British Spas Federation..... 40
Italian Health Resorts..... 41
Mont-Dore..... 34
Pistany Spa, Czechoslovakia..... 34
Swiss Spas 41
Wiesbaden..... 39
Wildbad 39

HOTELS & HEALTH RESORTS—
Beau-Rivage Hotels... 41

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 40
Peebles Hydro 40
Ruthin Castle, North Wales..... 36
Smedley's Hydro, Matlock 34

INEBRIETY—
Bay Mount, Paignton 37
Caldecote Hall, Nuneaton 34,37
Dalrymple House, Rickmansworth 37
'Old Hall House,' Chislehurst..... 37
Rendlesham Hall, Woodbridge 37

SANATORIA—
Cotswold Sanatorium 38
East Anglian Sanatorium 38
Grampian Sanatorium..... 38
Linford Sanatorium, Hants..... 38
Montana Hall, Switzerland 40
Mundesley Sanatorium 39
Nordrach-upon-Mendip Sanatorium 38
Pendyffryn Hall Sanatorium..... 38
Tor-na-Dee Sanatorium 39
Victoria Sanatorium, Clavos..... 38

CONTRACT PRACTICE, &c.—
See **OTHER APPOINTMENTS**
IMPORTANT NOTICE—
REAPPOINTMENTS..... 11

HOSPITAL, &c., VACANCIES—
Accrington, Victoria Hospital..... 47
All Saints' Hospital, S.W.1. 49
Bath & Wessex Children's Hospital 49
Birmingham City.. 50
Birmingham Ear & Throat Hosp. 48
Birmingham & Midland Eye Hosp. 49
Birmingham, Queen's Hospital..... 48
Bolingbroke Hospital, S.W.11 49
Bolton Infirmary & Dispensary..... 47
Bradford Royal Eye & Ear Hosp. .. 47
Brighouse Borough 50
Brighton, New Sussex Hospital..... 49
Brighton, Sussex Eye Hospital 48
Bristol City & County..... 51
Bristol General Hospital..... 49
Chesterfield & N. Derbys. Roy. Hos. 48
Derby City Hospital 50
Derbyshire County Council..... 51
Derbyshire Royal Infirmary..... 47
Dorchester, Dorset County Hosp... 49
Dorset County Council 44
Dublin, St. Anne's Hospital 47
Dudley, The Guest Hospital..... 49
Durham County Hospital..... 48
Edinburgh Royal Hospital 47
Elizabeth Garrett Anderson Hosp. 47
Evelina Hospital for Children, S.E. 54
Fareham, Knowle Mental Hospital 55
Gloucestershire Royal Infirmary 49
Hampstead General Hospital 49
Hertford County Hospital..... 54
Hospital for Sick Children, W.C.1... 55
Huddersfield County Borough... 50
Hull Royal Infirmary..... 47
Hull, Victoria Hosp for Children.... 47
Huntingdon County Hospital..... 48
Indian Medical Service..... 45
Ipswich, East Suffolk Hospital..... 51
Kent County Council 44
King's Lynn, W. Norfolk Gen. Hos. 43
Leeds City 46
Liverpool, Bootle General Hosp..... 47
Liverpool Hahnemann Hospital..... 47
Liverpool Stanley Hospital..... 44
Lowestoft & N. Suffolk Hospital... 55
Manchester Ear Hospital..... 48
Manchester Royal Eye Hospital 48
Manchester Royal Infirmary.. ... 47,49
Middlesbrough County Borough.... 44
Middlesex Countr Council 44
Miller General Hospital, S.E.10..... 49
Newcastle City & County 50
Newcastle, Dublin, Peamount San. 50
Newcastle, Prin. Mary's Mat. Hosp. 47
Newcastle, Royal Victoria Infirm... 48
Norwich City..... 50
Nottingham City..... 44
Nottingham City Mental Hospital.. 50
Nottingham General Hospital. 47
Oldham Royal Infirmary..... 49
Paddington Green Children's Hosp. 50
Plymouth Central Hospital 47
Portsmouth City..... 50
Queen's Hosp. for Children, E.2..... 48
Rotherham Hospital 48
Royal Army Medical Corps..... 45
Royal National Orthopaedic Hosp ... 51
Royal Waterloo Hospital, S.E.1.. 47,48
Royal Westminster Ophthal. Hosp. 49
St. Alban's, Herts Mental Hospital 47
St. Alban's & Mid Herts Hospital 50
St. Peter's Hosp. for Stone, W.C.2 51
Salvation Army, Mother's Hospital 51
Samaritan Free Hosp. for Women... 47
Scunthorpe War Memorial Hospital 47
Seamen's Hospital Society..... 51
Sheffield Children's Hospital..... 48
Sheffield, Jessop Hosp. for Women 51
Sheffield Royal Infirmary..... 49
Shropshire Orthopaedic Hospital . 51
Southampton Free Eye Hospital.... 48
Southampton, Royal S.Hants Hosp. 54
South London Hospital for Women 48
Stockport Infirmary..... 51
Stoke, N. Staffs Royal Infirmary..... 54
Stourbridge, Corbett Hospital 50
Sunderland Children's Hospital..... 48
Sunderland Royal Infirmary..... 47
Surrey County Council..... 44
Swansea General & Eye Hospital. 44
Walsall General Hospital..... 47
Warwick County Mental Hospital ... 55
Welsh Nat. School of Medicine 41
West End Hosp. for Nervous Dis 49
West London Hospital, W.6..... 55
W. Suffolk General Hospital..... 47
Willesden General Hospital..... 47
Winchester, Royal Hants Co. Hosp. 47
Wolverhampton Royal Hospital 49
Woolwich War Memorial Hospital 48
York, The Retreat..... 48

MINERAL WATERS—
Ingram & Royle, Ltd.—
Vichy-Celestins 22

HOMES & ASYLUMS—
Barnwood House, Gloucester 35
Bishopstone House, Bedford 37
Boreatton Park, Salop 37
Bowden House, Harrow-on-the-Hill 36
Brooke House, Clapton, E. 40
Camberwell House, S.E.5..... 38
Cheadle Royal, Cheshire..... 35
Chiswick House, Pinner 34
City of London Mental Hospital ... 35
Clarence Lodge, Clapham Park..... 40
Coppice, Nottingham 35
Court Hall, Kenton, Exeter..... 35
Fenstanton, Streatham Hill..... 40
Gilgal Hospital, Perth 40
Grange, near Rotherham 34
Grove House, All Stretton 34
Haydock Lodge, Lancashire..... 35
Highfield Hall, St. Albans 35
Lawn, Lincoln 35
Littleton Hall, Brentwood, Essex... 34
Maudsley Hospital, S.E.5..... 35
Moat House, Tamworth, Staffs 34
Normansfield, Teddington 34
Northumberland House, N.4. 36
Old Manor, Salisbury 38
Peckham House, S.E.15 36
Rookstown House, Basingstoke..... 36
Royal Earlswood Institution 37
St. Andrew's Hosp., Northampton.. 35
Springfield House, near Bedford.... 37
Stonycrest Nursing Home..... 35
Stretton House, Shropshire 37
Tykeford Abbey, Newport Pagnell 35
West Haven, Bournemouth 37
Woodside Nerve Hospital, N.10..... 36
Wye House, Buxton 37

SCHOOLS, &c.—
Marlborough College, Macclesfield 42
Paton—Schools for Boys & Girls..... 42
Taunton School, Taunton 42

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital 44
Clinical Research Association, Ltd. 43
College of Preceptors 43
Dublin University 44
E. London Hospital for Children.. 44
Edinburgh University..... 43
Liverpool School of Trop. Medicine 42
London (Royal Free Hospital). 44
London University 43
N.-E. London Post-Grad. College... 41
Q. Charlotte's Maternity Hospital 43
Salvation Army, Mothers' Hospital 41
Society of Apothecaries 44
West London Hospital 43

TUTORS & LECTURERS—
Exams.—Med. Corresp. College..... 42
F.R.C.S. Edin. Classes—H. C. Orrin 43
F.R.C.S. Ed. Classes—C. Whittaker 41
Institute of Med. Culture, Varese... 41
Manchester Tutorial College 43
St. Mary's Hospital..... 43
Stammering—Miss E. Belmke 43
University Exam. Postal Institution 42

TRANSFER AGENTS—
Bovril Medical Agency, Ltd..... 60
British Medical Bureau 57,58,59
Lee & Martin, Ltd..... 56
Manchester Medical & Schol. Assoc. 56
Med. Practitioners' Union Agency 56
Needes, H..... 56
Peacock & Hadley, Ltd..... 55
The Medical Agency 52,56
Turner, P., Ltd..... 52,55
Western Medical Agency, Bristol... 56

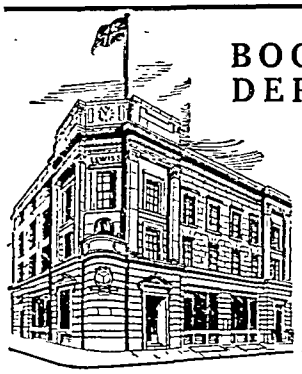
ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant..... 52
Dispensers, Medical Posts, &c. 52,53
Locums Wanted and Vacant 52
Partnerships Wanted and Vacant .. 53
Practices Wanted and Vacant 53

NURSING INSTITUTES—
Cavendish Nurses 55
Nurses' Association 55

MISCELLANEOUS—
British Commercial Gas Assoc. 4
Consulting Rooms, &c., to Let 53,54
Frigidaire Ltd.—Refrigeration 5
Income Tax Consultant—Hardy..... 54
Medical Defence Union. 1
Miscellaneous Sales &c..... 54

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

H. K. LEWIS & Co. Ltd., Publishers and Booksellers.



BOOKSELLING DEPARTMENT } TEXTBOOKS and Works in Medical, Surgical, and General Science. FOREIGN BOOKS.

STATIONERY DEPARTMENT. Special Stock of Medical Stationery, Card Index Systems, Filing Cabinets, Name Plates, etc. Students' Requisites. Note Books, etc.

MODELS DEPARTMENT. Anatomical Models, Charts, Diagrams, etc.

MEDICAL AND SCIENTIFIC CIRCULATING LIBRARY.
Annual Subscription: from One Guinea. Prospectus on application.

SECOND-HAND BOOKS DEPARTMENT, 140 GOWER ST., W.C.1.

London: H. K. LEWIS & CO. LTD., 136 Gower Street and 24 Gower Place, W.C.1
Telegrams: "PUBLICAVIT, EUSROAD, LONDON." Telephone: MUSEUM 7756-7-8.

E. & S. LIVINGSTONE, *Medical Publishers,* 16 & 17, TEVIOT PLACE, EDINBURGH

New Books Just Published (1931)

ABDOMINAL PAIN
By JOHN MORLEY; Ch.M., F.R.C.S., Hon. Consulting Surgeon, Ancoats Hosp., Manchester; Hon. Assist. Surg., Manchester Royal Infirmary, etc. Demy 8vo, 208 pp. 22 Illustrations. Price 10/6 net. Postage 6d.

AN INTRODUCTION TO MEDICAL HISTORY AND CASE-TAKING
By GEOFFREY BOURNE, M.D.(Lond.), F.R.C.P., Demonstrator of Practical Medicine and Assistant Physician, St. Bartholomew's Hospital, etc. Crown 8vo, 200 pp. Illustrated. Price 6s. net. Postage 5d.

A HANDBOOK OF DISEASES OF CHILDREN
By BRUCE WILLIAMSON, M.D.(Edin.), M.R.C.P.(Lond.), Physician, Royal Northern Hosp., etc. 300 pp. 50 Illus. Price 10s. 6d. net. C.O.D. 11s.

A MANUAL OF TUBERCULOSIS FOR NURSES
By E. ASHWORTH UNDERWOOD, M.A., B.Sc., M.B., D.P.H.(Glas.), Dep. M.O.H. and Tuberculosis Officer, County Borough of Rotherham, etc. Crown 8vo, 272 pp. 30 Illustrations. Price 6s. 6d. net. Post. 5d.

New Editions Just Published (1931)

A TEXTBOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY
Adopted as a Textbook by H.M. Government
By Prof. JOHN GLAISTER, M.D., D.P.H.(Camb.), F.R.S.E., University of Glasgow; in collaboration with Prof. JOHN GLAISTER, Jun., D.Sc., M.D. (Glas.), University of Egypt, Cairo, etc. *Fifth Edition.* Demy 8vo, cloth, 970 pp. With 132 Illus. and 7 Plates. Price 30s. net. Post. 9d.

ANTE-NATAL CARE
Including Abnormalities in Pregnancy, with a Section on Post-Natal Care
By W. F. T. HAULTAIN, M.B.(Camb.), F.R.C.S.E.; and E. CHALMERS FAHMY, M.B.(Edin.), F.R.C.S.E. *Second Edition.*
Crown 8vo, 140 pp. Illustrated. Price 5s. net. Postage 4d.

AN INTRODUCTION TO PRACTICAL BACTERIOLOGY
By Prof. T. J. MACKIE, M.D.(Glas.), D.P.H.(Oxford); and J. E. McCARTNEY, M.D., D.Sc.(Edin.). *Third Edition.*
Crown 8vo, 440 pp. Illus. with Diagrams. Price 10s. 6d. net. Post. 6d.

PRACTICAL METHODS IN THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES
By DAVID LEES, M.A., M.B., F.R.C.S., Surgeon in Charge of Venereal Diseases, Royal Infirmary, Edinburgh, etc. *Second Edition.*
Crown 8vo, 650 pp. With 87 Illustrations and 8 pp. of Coloured Plates. Price 15s. net. Postage 9d.

THE RATIONAL TREATMENT OF
VARICOSE VEINS & VARICOCELE
With Notes on the Application of the Obliterative Method of Treatment to Other Conditions
By W. TURNER WARWICK, M.A., M.B.(Cantab.), F.R.C.S.(Eng.)
Just Published. Crown 8vo. 118 pages. Illustrated. 5s. net; postage 3d.
FABER & FABER LTD., 24 Russell Square, London, W.C.1

"Should be in the possession of every medical man."—*Glasgow Medical Journal.*
URINARY SURGERY
A HANDBOOK FOR THE GENERAL PRACTITIONER
By W. K. IRWIN, M.D., F.R.C.S.,
Assistant Surgeon, St. Paul's Hospital for Genito-Urinary Diseases.
¶ "Clearly written . . . furnishes the practitioner with information of great practical value in his everyday work."—*British Medical Journal.*
SECOND EDITION. Revised and Enlarged. Price 10s. 6d. (postage 6d.).
BAILLIÈRE, TINDALL & COX, 7 & 8, Henrietta St., London, W.C.2.

A Text-Book of
EXPERIMENTAL CYTOLOGY
By JAMES GRAY
With 205 Illustrations (1 coloured). Demy 8vo. 25s. net.
In this book an account is given of recent experimental research and an attempt is made to correlate the physical structure of the living cell with its biological properties. A summarised account of protoplasmic structure and of the relationship between the cell and its environment should be of use to workers in many fields of biology.
CAMBRIDGE UNIVERSITY PRESS

176 Illus. (some in Colour). 42s., post. 1s.
Matthes' Text-Book of Differential Diagnosis of Internal Medicine
Translated from the Fourth German Edition, with extensive alterations, by
I. W. HELD, M.D., and M. H. GROSS, M.D.
"It is very readable, and may be recommended to students and practitioners."—PRACTITIONER.
J. & A. CHURCHILL, 40, Gloucester Pl., W.1.

Duplicate Prescription Books
INVALUABLE TO ALL DOCTORS
Books containing 50 Leaves in Duplicate, all Bank Paper. First Leaf Printed Address, etc., and Perforated to tear out. Second Leaf plain and fast as copy. Numbered in Duplicate with Index at front. Complete with Carbon Sheet.
Send for Sample Book, together with Prices and Styles of Printing,
To G. CARLYLE,
116, DUKE STREET, LIVERPOOL

FREQUENT MICTURITION.
"YBWET"
NEW ABSORBENT BAGS.
Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our
"NEW SANITUBE"
keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request:
HILLIARD, 123, Douglas Street, Glasgow, C.2.

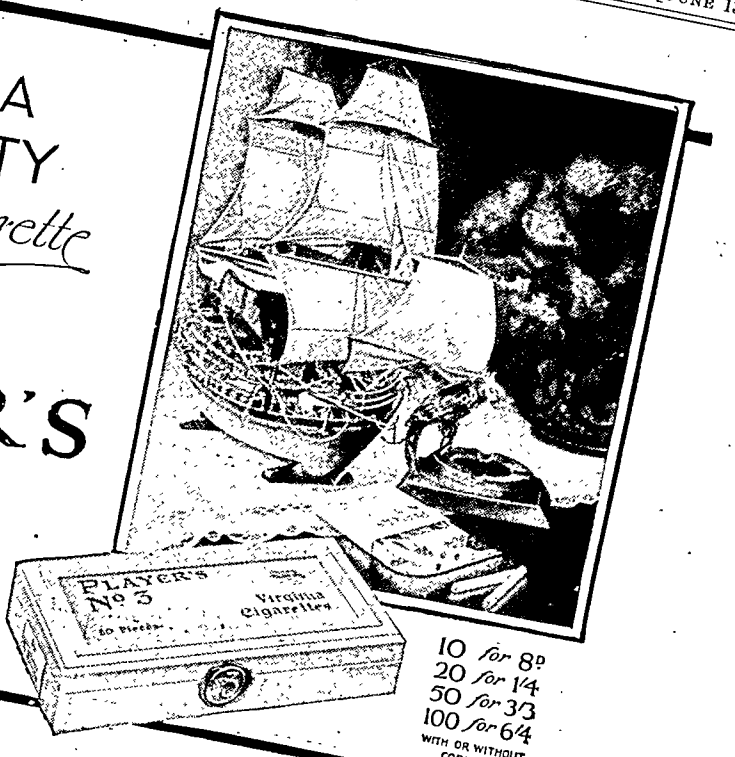
NAME PLATES
FOR THE PROFESSION.
Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.
Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.
With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE.
COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

Tycos MANUFACTURED by SHORT & MASON LTD WALTHAMSTOW LONDON, E.17
SPHYGMOMANOMETERS

The EXTRA QUALITY Cigarette

PLAYER'S No. 3 VIRGINIA CIGARETTES

3.P.5.D



10 for 8p
20 for 1/4
50 for 3/3
100 for 6/4
WITH OR WITHOUT CORK TIPS

FORGING AHEAD

Nearly 10,000,000 consumers in the British Isles regularly use gas.

Scores of thousands of up-to-date new houses are having gas laid on. During 1930 more than 161,000 gas points were fitted in some 29,000 new houses by one gas undertaking alone.

3,000 trades use gas. Birmingham, Sheffield, and Coventry manufacturers alone require more than 7,000,000,000 cubic feet each year.

In 1912 the annual consumption of gas in the British Isles was 210,000,000,000 cubic feet. The 1930 returns show an output of nearly 330,000,000,000 cubic feet.

THE GAS INDUSTRY IS FORGING AHEAD.

The B.C.G.A., representing the British Gas Industry, is at your service for free information and advice on any use of Gas. A letter to the Secretary of this Association will receive prompt and careful attention.

GAS THE FUEL OF THE PRESENT THE FUEL OF THE FUTURE

THE BRITISH COMMERCIAL GAS ASSOCIATION, 28, GROSVENOR GARDENS, LONDON, S.W.1.

How many cases of *food poisoning* will you come across this Summer?

You can cure—but refrigeration would prevent them. And to you and yours, at any rate, refrigeration is available in its most advanced, and most practical form—Frigidaire. For a trifling payment that you would never miss each month, you can assure to yourself and your family the benefits of clean, pure, *fresh* food. Food that actually tastes better—for the simple reason that all its flavour and freshness are kept intact. Why not send in the coupon below and see how little you need pay?

Frigidaire incorporates all the conveniences and refinements that you would wish to have in your electric refrigerator. Here are just a few of them:—

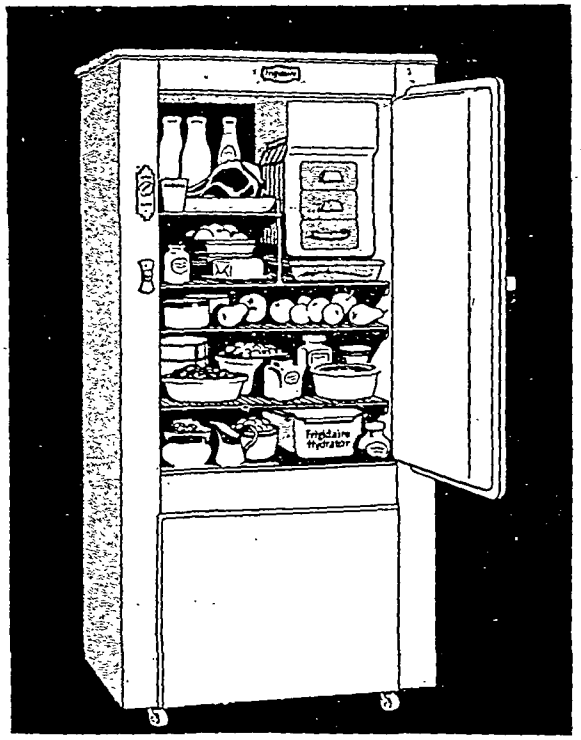
The Quickube Ice Tray, enabling single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the tap. Your cocktail ice is ready at a moment's notice. This is an exclusive Frigidaire feature.

•

The Cold Control, by which the freezing of ice cubes or any other frozen delicacy can be accelerated at will.

•

The automatic feature of Frigidaire is invaluable. The safety of your food does not depend on a maid's vigilance. Frigidaire maintains a dry cold that is *always* under 50°—the only safe temperature for food.



Practical, flat top, makes a useful shelf.

•

The Hydrator—a moist cold compartment for fresh vegetables, sandwiches, etc., etc. Even wilted vegetables will regain their crispness here in a few hours.

•

Ease of installation. A Frigidaire only needs connection with your electric supply. No plumbing is necessary.

•

Frigidaire Cabinets are all white porcelain-on-steel—the finest durable finish it is possible to have. And easily kept clean by just a rub with a damp cloth.

•

The new Frigidaire is quiet—you can't hear it start, stop or run.

SHOWROOMS AT 141, NEW BOND STREET, LONDON, W.1, AND IN ALL PRINCIPAL TOWNS

COUPON

FRIGIDAIRE LIMITED *(Incorporated in Canada)*,
Dept. BG-136, Edgware Road,
The Hyde, Hendon, London, N.W.9.

Please give me by return, without any obligation on my part,

(a) Price of Frigidaire cabinet suitable to my particular needs; or
(b) Particulars of your system of convenient deferred payments.

Name .....

Address .....

.....

No. in Family .....

B. MILLER
& Co., Ltd.
17 CONDUIT ST.
BOND STREET,
LONDON, W.1

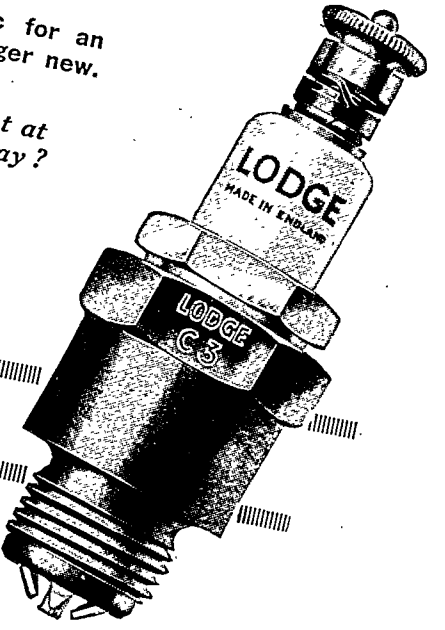
TAILORS
Estd. 1896

LOUNGE SUITS
from
£8 : 8 : 0

DINNER SUITS
Lined Silk
from
£10 : 10 : 0

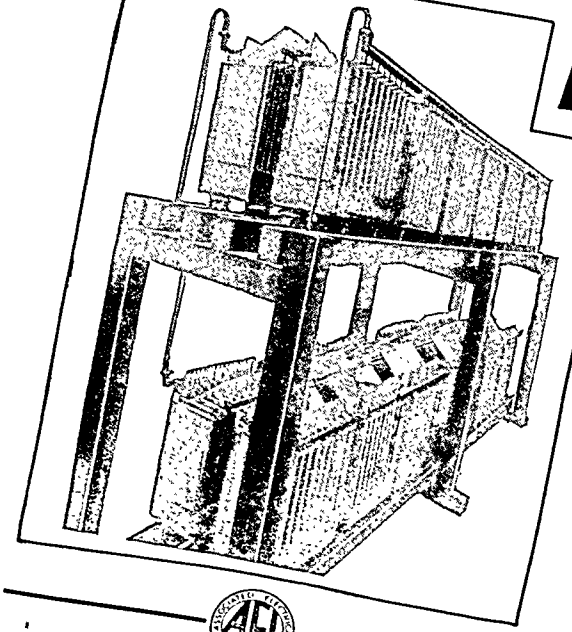
A new set of
LODGE
SPARKING PLUGS
is a wonderful tonic for an engine that is no longer new.

Why not order a set at your garage to-day?



LODGE C3
the plug for most English and Continental engines.
5/-
everywhere
in sealed metal box (red).

LODGE PLUGS LTD., RUGBY



When a life is at stake....

The psychological moment has arrived. Will the operation be successful? . . . Can modern science triumph over such disease? . . . The surgeon bends closer over the table . . . deft fingers touching slender instruments . . . a life is at stake . . . if the lights should fail, plunging the theatre into darkness . . .

Nowhere is reliable light supply more important than in operating theatres. A light failure may have far-reaching consequences. Every hospital should be equipped with Ediswan Stationary Battery. Then if current fails, a switch over to the Ediswan saves the situation and restores light almost immediately.

The Ediswan Stationary Battery for Emergency Lighting is compact and robust. It takes up little space and is sturdily built to give long service. Running costs are almost negligible. Installation costs are low.

May we co-operate with you in evolving a Battery specially to suit your requirements?

THE EDISON SWAN ELECTRIC CO. Ltd.
123/5, Queen Victoria St., London, E.C.4
Branches in all the Principal Towns.

EDISWAN
STATIONARY BATTERIES

B.121

THE
MEDICAL INSURANCE AGENCY
has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the **Insurance of Cars.**

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, Sickness (Permanent Contracts), &c., Insurances under comprehensive policies, giving full protection.

What the Agency has done for the Profession:

Saved by way of Rebates on Premiums - - over £44,000
Contributed to the Medical Charities - - - over £26,000

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

"Eastman Diaphax" X-Ray Film

A matt film of increased sensitivity

Coated with ultra-speed emulsion. No change in development procedure. Has a surface suitable for pencil or pen notes. May be viewed on illuminator or before window. No alteration in price.

Retains all the desirable features of Kodak Emulsion

Kodak Limited, Medical Department, Kingsway, London, W.C.2

SURGICAL SERVICE
SALTAIR

SALTAIR SURGICAL SERVICE

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.

1793 1931

The Years Between

One hundred and thirty-eight years have come and gone since the House of Salt was first established.

During this period Salt's have kept in close co-operation with the Medical Profession, and have been actively interested in the advances of Modern Surgery.

A unique reputation has been established for supplying every type of Surgical Appliance—specially made with absolute precision to each individual case and strictly in accordance with the attending Practitioner's prescription.

It is through these methods that

SALT'S
SURGICAL APPLIANCES

have earned the commendation of numbers of leading Medical Men.

'Phone—
Birmingham—Mid. 5455.

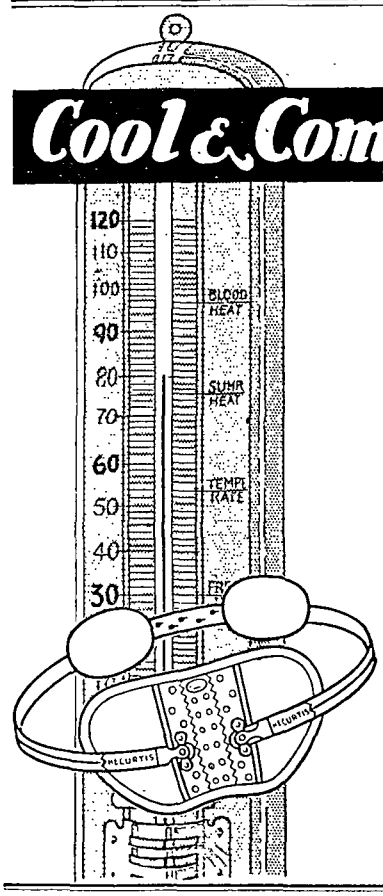
'Phone—
London—Museum 3845.

London Consulting Rooms:
"OAKLEY HOUSE,"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT

ESTABLISHED 1793



Cool & Comfortable in Hot Weather.

AND THE MOST EFFICIENT SUPPORT ON THE MARKET!

The Curtis Abdominal Support Model No. 1 Skeleton type is lighter and more hygienic than any other support on the market, whilst its efficiency is in no way impaired. The average weight for a person with a hip circumference of 32" is only 10 ozs. All covering is detachable and washable, and each appliance is supplied with a spare set of covers at an inclusive charge of £3 : 12 : 0.

CURTIS

SKELETON TYPE

ABDOMINAL SUPPORT

Model No. 1.

Sole Manufacturers of the Curtis Appliances:

H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.

Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

BUY BRITISH AND SAVE 33⅓% IMPORTATION TAX

The field for Diathermy Current applications is rapidly increasing

DIATHERMY

MEDICAL AND SURGICAL

EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available:—

FOR SURGERY

e.g.: Surgical cutting by High Frequency indulations or coagulation.

FOR THE PHYSICIAN

for treatment purposes only.

also

FOR BOTH SURGICAL and MEDICAL.

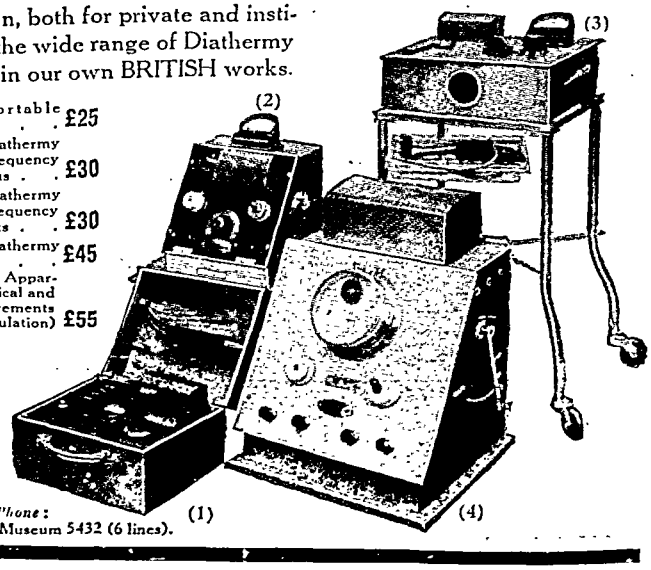
No. 1. "EMESAY" Portable Diathermy £25

No. 2. "AMAZON" Diathermy and High Frequency Current Apparatus . . £30

No. 3. "MERIDIAN" Diathermy and High Frequency Current Apparatus . . £30

No. 4. "EQUATOR" Diathermy Apparatus £45

No. 5. "MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation) £55



Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

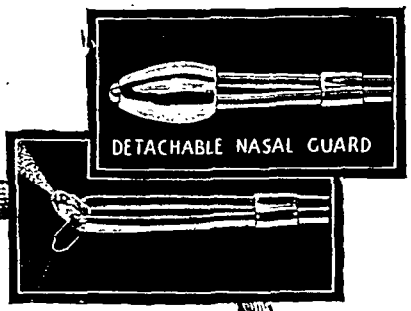
MEDICAL SUPPLY ASSOCIATION, LTD.

167-185, Gray's Inn Road, London, W.C.1.

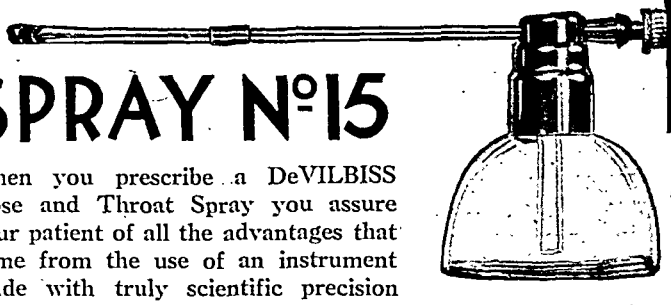
ACTUAL BRITISH MAKERS.

Phone: Museum 5432 (6 lines).

DeVilbiss

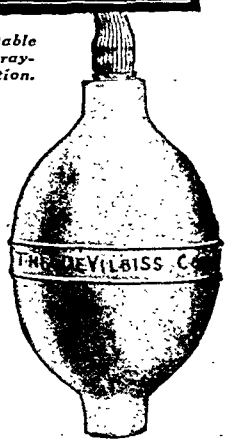


SPRAY No 15



When you prescribe a DeVILBISS Nose and Throat Spray you assure your patient of all the advantages that come from the use of an instrument made with truly scientific precision and in strict conformity with the recommendations of medical science.

Note the adjustable gold tip for spraying in any direction.



The adjustable tip of the DeVILBISS No. 15 Spray permits spraying in any direction—a special advantage in the treatment of the bronchial tubes and post-nasal cavities.

There are also special DeVILBISS models for professional use—fully illustrated catalogue free on request.

AEROGRAPH CO. LTD., 43, Holborn Viaduct, London, E.C.1. Sole Distributors of DeVILBISS Products in the U.K.

CVS—25

DEAN'S

X-RAY INTENSIFYING SCREENS

ARE

RECOMMENDED BY THE LEADING RADIOLOGISTS

FOR THE FINEST CONTRAST

The Price is Moderate for the High Quality

Send a sample order to

A. E. DEAN & CO.

Makers of all types of X-Ray and Electro-Medical Apparatus of the Highest Grade

LEIGH PLACE, BROOKE STREET, HOLBORN, LONDON, E.C.1

Showrooms: 14, BALDWIN'S GARDENS—adjoining

AGENTS FOR MIDLANDS:
WATSON & GLOVER, 2, Easy Row, BIRMINGHAM

NEW ZEALAND AGENTS:
H. COONEY & SON, The Esplanade, Kohimarama, AUCKLAND

PEAT HEALS!

"I have used the sample tin of Sphagnol 10% Ointment you kindly sent me for a case of old-standing and resistant Psoriasis with very excellent results. The Shaving Soap I myself found to be very good—and I shall recommend it to patients with Acne and Sycosis barbae."

Signed ..... *Dr.*

Sphagnol

APPROVED PEAT OINTMENT

FOR FREE SAMPLE WRITE TO PEAT PRODUCTS (SPHAGNOL) LIMITED, (DEPT. B 53), 21, BUSH LANE, LONDON, E.C.4.

HAY FEVER

CAN BE VERY SUCCESSFULLY COMBATED WITH **POLLANTIN**

(A Serum discovered by Prof. Dunbar in 1903)

For literature and prices apply to the distributing Agents

Willows, Francis, Butler & Thompson, Ltd.

73, 75 and 89a, SHACKLEWELL LANE, LONDON, E.8

WYLEYS LIMITED WHOLESALE DRUGGISTS **COVENTRY** *Established 1750.*

ELIXIR BROMO-VALERIAN CO.

Free from any disagreeable taste or odour.

Each fluid drachm (4 c.c.) contains:

Strontii Bromidi	5 gr.	Tinct. Adonis Vernalis	5 m.
Tinct. Valer. Deodorat.	10 m.	Tinct. Visci Alb.	5 m.

Useful for functional nervous affections, particularly in controlling epileptic seizures.

Price 5/- lb.

FULL LISTS ON APPLICATION

The Ideal Laxative

REGULOL

REGD.

IT is a highly palatable Emulsion of Liquid Paraffin with Agar-Agar, possessing all the advantages of the former without its objectionable qualities, and forming probably the best possible remedy for Chronic Constipation in Children and Adults.

"Regulol" is available in two forms: "PLAIN" or "COMPOUND." The latter is a combination with Phenolphthalein 4 grains per oz., and is indicated in more acute forms of Constipation where the simple lubricating effect of Paraffin is insufficient.

SAMPLE 1-lb. JAR FREE ON REQUEST.

Please indicate whether Plain or Compound is required.

(This offer is limited to the British Isles.)

CUXSON, GERRARD & CO. LTD.,

OLDBURY. BIRMINGHAM.

For Hay Fever, Bronchial and Summer Colds

Gomenol nasal ointment (Rhino Gomenol) is a convenient form of administering this powerful antiseptic in cases of hay fever, bronchial and summer colds. The principal constituents of Gomenol are Cineol, Pinene, Terpineol, Citrene. Gomenol is an essential oil of great diffusibility; non-toxic, non-irritant, analgesic.

Full particulars, together with reports of medical authorities and evidence of its therapeutic efficacy, are given in a publication which is sent free to the Medical Profession on request to the sole distributors, Messrs. Coates & Cooper, Ltd., 41, Great Tower Street, London, E.C.3.

TRADE MARK

Gomenol

PREVET BRAND.

Gomenol Laboratories, Prevet, 48, Rue des petites Ecuries, Paris, 10me.

PACKER'S PINE TAR and OLIVE OIL SHAMPOOS

AMONG many medical men and women, Pine Tar is known to be an effective treatment of all parasitic conditions of the skin. Its use is most serviceable, with infants and children, for the prevention of seborrhœa, eczema, and tinea of the scalp. The Medical Faculty will therefore find Packer's preparations of the utmost value in cases of this description. They include:

Liquid Pine Tar Shampoo for Oily Hair.
„ Olive Oil „ „ Dry „
Pine Tar Soap for Dandruff.

Test sizes of each of these preparations are readily available, free of all cost, to all those medical men who will apply for them, enclosing a professional card, to the Sole Distributors:—

J. C. GAMBLES & CO. LTD.,
211-215, Blackfriars Road,
LONDON, S.E.1.

THE PACKER MANUFACTURING Co.

"HOMMEL'S HAEMATOGEN"

A natural organic TONIC associated with nourishing albuminous proteids.

AN EFFICACIOUS REMEDY IN ALL FORMS OF ANAEMIA
associated with constitutional diseases.

Obtainable in Syrup *and* Tablets.

"SEDIN"

Nervinum-Sedativum

Consisting of

Pot. Brom.	0.4 gramme	(grains 6½ approx.)
Sod. „	0.4 „	(grains 6½ approx.)
Ammon. „	0.2 „	(grains 3 approx.)
Salt „	0.1 „	

combined with Vegetable Extract in form of soup tablets. (A disguised dietetic form.)

Samples free and carriage paid on application to—

HOMMEL'S HAEMATOGEN & DRUG CO., 121, Norwood Road, Herne Hill, London, S.E.2

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and metabolism.

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to
COATES & COOPER, LTD.,
41, Gt. Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.
Two sizes, 4/6 and 7/-.

Salvitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co., New York

PUERPERAL SAPRAEMIA

MONSOL LIQUID for dressings, douches, packs, and all sick-room purposes.

MONSOL CAPSULES, keratin-coated, for intestinal disinfection.

MONSOL OINTMENT and MONSOL THROAT PASTILLES.

MONSOL DENTAL CREAM.

MONSOL MEDICATED SOAP.

MONSOL PESSARIES.

IN the treatment of Puerperal Sapraemia as with specific and non-specific cervicitis, douching is sometimes undesirable or inadequate. To meet these cases, and in response to repeated requests from the medical profession, Monsol is now available in the form of Pessaries containing the equivalent of 2½% of Monsol in colloidal form in a glyco-gelatine base. Powerfully germicidal, non-caustic, and possessing all the essential characteristics of Monsol Liquid, these pessaries have proved invaluable in obstetric and venereal work.

MONSOL BRAND PESSARIES

Manufactured by THE MOND STAFFORDSHIRE REFINING CO., LTD., ABBEY HOUSE, LONDON, S.W.1

Vitamin Deficiency?

Put them on BEMAX

THE NATURAL VITAMIN TONIC FOOD

Bemax was prepared to provide a food rich in natural vitamins, which, added to the normal diet, would restore a balanced metabolism, and so create a condition in which remedial measures by the physician would be assured of the fullest success in all ailments due to deficiency of Vitamins A, B and E.

Laboratory reports on Bemax and clinical sample for personal trial will be sent to any medical man on receipt of his professional card.

THE BEMAX LABORATORIES, 23, UPPER MALL, LONDON, W.6.

"DALZO"

THE GUARANTEED SELF-ADHESIVE ZINC-OXIDE PLASTER

BRITISH MADE, WITH BRITISH CAPITAL, BY BRITISH WORKMEN, FOR BRITISH DOCTORS.

- Airtight
- Dust-proof
- Damp-proof
- Guaranteed for two years
- Plaster keeps clean
- Easy to remove and replace spool quickly
- Original non-rolling spool

Supplied in all widths, ½ to 3 inches, on 5 and 10 yard spools.

A. de ST. DALMAS & CO. LTD.,
LEICESTER. LONDON. DUBLIN. LEEDS. BRADFORD.

'PANOPEPTON'

'PANOPEPTON' is the food par excellence for invalids; in all acute diseases, fevers, etc., in convalescence, for the large class of persons who, from feebleness or deranged digestion, or antipathy to ordinary foods, require a fluid, agreeable, and quickly assimilable food.

Supplied in 12-oz. bottles.

For an adult the usual portion should be a desertspoonful to a tablespoonful several times a day and at bedtime.

PEPTOGENIC MILK POWDER

For preparing HUMANISED MILK.

Humanised Milk is easily prepared with Peptogenic Milk Powder, is very palatable, being thin and sweetish like human milk. It very closely approximates to Mother's Milk, both qualitatively and quantitatively, and calls for the same digestive action on the part of the infant as does breast milk.

Supplied in two sizes.

Originated and Manufactured by
Fairchild Bros. & Foster (Inc. N.Y.)
NEW YORK, and 65, Holborn Viaduct, LONDON, E.C.1.

Agents:
Burroughs Wellcome & Co.,
LONDON, SYDNEY, and CAPE TOWN.

In Hyperchlorhydria

A pleasant, effervescent granular preparation composed of carefully selected salts of Sodium, Potassium, Calcium and Magnesium in physiologically correct proportions.

and other conditions of gastric over-acidity, Alka-Zane will afford prompt relief from distressing symptoms and restore normal alkaline balance.

Diuretic and antacid, Alka-Zane is indicated wherever the alkali reserves are unduly depleted, as in intestinal disturbances, rheumatic affections and certain anaphylactic manifestations.

ALKA-ZANE

Literature and samples to physicians on request.

Francis Newbery & Sons, Ltd.,
31-33, Banner Street, London, E.C.1.
Prepared by WILLIAM R. WARNER & CO., INC.,
Manufacturing Pharmacists Since 1856.

The most reliable non-toxic bactericide for all diseases associated with an intestinal focus.

PULVERETTES.	An effective preventive against attacks of Dysentery, Diarrhoea, Enteric Fever, and Stomach Fermentations.
SYRUP.	For administration in liquid form, especially suitable for infants and children.
OINTMENT.	For insect bites, stings, scalds, etc.

Recommended by the Medical Profession for over 10 years.

Supplied to the Admiralty and Australian Navy.

DIMOL LABORATORIES, LTD., 40, LUDGATE HILL, LONDON, E.C.4.

Dimol

TREATMENT
OF THE
RHEUMATIC DIATHESIS
WITH
URALYSOL
Thyminic Acid — Hexamethylene-Tetramine — Lysidin

TABLETS

GRANULES

Prepared by:
LABORATOIRES LOBICA
46, Avenue des Ternes, PARIS (17e)
Distributors in British Isles:
CONTINENTAL LABORATORIES Ltd.
30 MARSHAM St., LONDON, S.W.1.

FOR YOUR NEXT DIFFICULT CASE OF INFANT FEEDING

prescribe

HUMANISED TRUFOOD

NEAREST TO MOTHER'S MILK

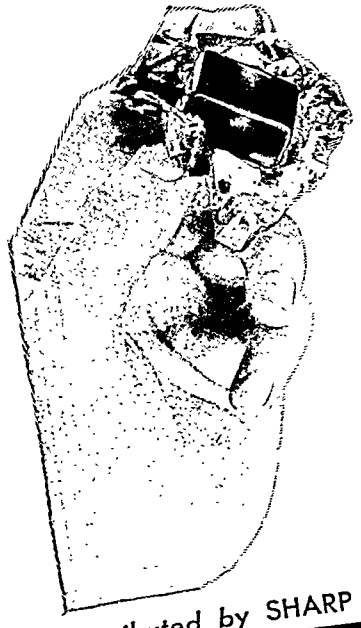
Samples, which we will promptly send on request, will enable you to satisfy yourself, by clinical observation, that Humanised Trufood is the solution to the most troublesome cases of infant feeding.

Trufood Limited, The Creameries, Wrenbury, Nr. Nantwich, Cheshire

TF.53-221

M·A·B Mulford Acidophilus Bacillus Blocks

— Acidophilus in a NEW form



Living acidophilus bacilli in a concentrated mass culture in agar jelly protected against desiccation by a chocolate coating.

Mulford Acidophilus Bacillus Blocks

— contain the high counts necessary for successful therapy

— are palatable and acceptable to the patient even with prolonged use

— are widely prescribed in the treatment of constipation, mucous colitis, intestinal toxemia, etc.

Dosage—3 to 4 blocks daily for a minimum period of 6 to 12 weeks. A fresh supply should be ordered weekly.

MULFORD BIOLOGICAL LABORATORIES
PHILADELPHIA - - BALTIMORE

Distributed by SHARP & DOHME LTD., 252 REGENT STREET, LONDON, W.1

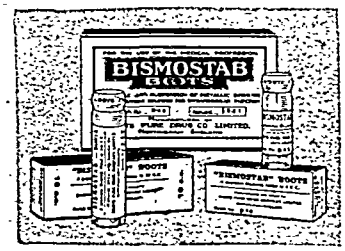
TRADE MARK
BRAND

BISMOSTAB (BOOTS)

METALLIC BISMUTH SUSPENSION

THE Standard Bismuth Preparation for the treatment of Syphilis and other spirochætal diseases (Bismuth having largely replaced Mercury as an adjunct to Arsenobenzol Therapy). Bismostab (Boots), a suspension of specially prepared, finely divided, pure Bismuth metal in 5% Glucose solution is non-irritant, highly concentrated, sterile and ready for use.

BOOTS PRODUCTS
ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS



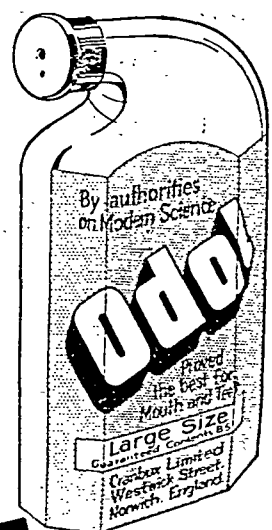
WHOLESALE AND EXPORT DEPARTMENT
BOOTS PURE DRUG CO. LTD.
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

An Efficient Oral Antiseptic Need Not be Disagreeable to the Taste

Too often the use of an oral antiseptic is associated in the patient's mind with a disagreeable taste. That such an antiseptic need lack nothing in efficacy, whilst being pleasant in taste, is most forcibly proved in the instance of Odol Mouthwash.

Experiments and the experiences of medical men in the past with Odol have proved it to be a most efficient bactericide. In addition, it is absolutely harmless and cannot in any way injure the most delicate mucous membrane of the mouth.

In prescribing Odol Mouthwash doctors will obtain the desired results in a way most pleasant to the patient.



Odol

Samples and literature will be gladly sent to members of the Medical Profession on application to

CRANBUX LIMITED of NORWICH

BRITISH MADE BY BRITISH LABOUR FINANCED BY BRITISH CAPITAL

ANTI-ACID NON-CAUSTIC NON-TOXIC

Alduryn

'DMELCOS' Brand VACCINE

Trade Mark

The Specific Treatment of Soft Sore and its complications

The introduction of "Dmelcos" Vaccine marks a distinct advance in the treatment of soft sore and its complications, which clear up rapidly under its influence.

"Dmelcos" is a stabilised atoxic vaccine of Ducrey's bacillus, the special method of preparation of which ensures low toxicity and uniform potency.

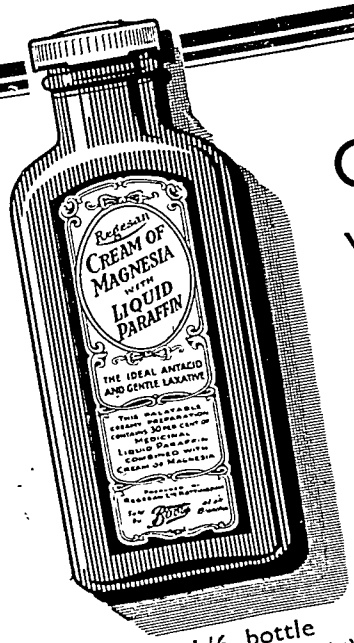
Supplied in boxes of 6 ampoules for progressive dosage at 6|- per box
Also in rubber-capped phials of 25 c.c. at 10|- each

(Descriptive literature on request)

MAY & BAKER LTD.
BATTERSEA LONDON, S.W.11
Telephone: Battersea, 1813 (6 lines) *Telegrams*: Bismuth, London

Regesan

CREAM of MAGNESIA with LIQUID PARAFFIN



(CONTAINS 30% LIQUID PARAFFIN)

A STABLE well-balanced combination containing 30% Liquid Paraffin held in suspension in a finely divided state. Its consistency is such that the tendency to leak exhibited by Liquid Paraffin is eliminated. Regesan Cream of Magnesia with Liquid Paraffin provides suitable treatment for all digestive troubles with which constipation and hæmorrhoids are associated. It is certainly the ideal laxative during pregnancy and lactation, and is suitable for infants and children.

OBTAINABLE FROM

The Boots Chemists

Over 900 Branches in Great Britain.

FULL-SIZE TRIAL PACKAGE FREE TO MEDICAL PRACTITIONERS IN THE BRITISH ISLES ON APPLICATION TO BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM.

Per 1/6 bottle
(Special discount to medical profession).

BOOTS PURE DRUG Co LTD., NOTTINGHAM.

". . . . we must go further back than the antenatal period, and ensure a supply of healthy mothers by watching women from the neonatal period of life to maturity."

The serious mortality among women (8,000 die annually from causes traceable directly or indirectly to childbirth) was dealt with at a recent Ingleby Lecture; it was pointed out that although antenatal treatment is of definite importance the vital point is that "*very often in the antenatal period it is too late to deal effectually with antecedent affections in early life which have seriously handicapped a woman's reproductive capacity*" (*Lancet*, May 30th, 1931, p. 1171).

In other words, it is necessary to take the "long view" by safeguarding the equipment of the child still in embryo, thus ensuring a future generation of healthy mothers.

It was stated further that "*the anti-infective action of Vitamin A and the influence of Vitamin D on the calcium metabolism make it imperative that pregnant women in the antenatal period should be provided with foodstuffs rich in these substances*" in order that, apart from the benefit the mother will derive from the availability of a sufficiency of these essential factors, the growing foetus may have its needs met also for the purposes of its healthy and normal growth and the building up of its resistive power.

Radiostoleum, by providing accurately-standardised amounts of vitamins A and D for the absorption by the foetus during the neonatal period, provides in part a solution of the problem of the mortality of the next generation of mothers.

RADIOSTOLEUM

Literature and clinical sample on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Rstm/115.

ASSIMILATION IS RAPID—EFFORTLESS

with these stimulating essences

UNIQUE, stimulating, and restorative properties combined with rapid and effortless assimilation have made Brand's Essences of Beef or Chicken famous for nearly a century.

Recent scientific tests show these essences can be digested forty minutes quicker than ordinary foods, without formation of residue. They restore vitality with the least possible strain to digestive organs.

In the treatment of specific fevers, in disorders associated with pyrexia, in intestinal disturbances, and before and after operations, 99 out of every 100 doctors interviewed find them indispensable.

Prepared by an exclusive process from finest English meats, non-irritating, deliciously palatable, these essences are particularly suitable for convalescents, especially in cases of anorexia.

Samples will be gladly sent on receipt of a professional card, Dept. F.35, Brand & Co. Ltd., Mayfair Works, South Lambeth Road, London, S.W.8.

BRAND'S ESSENCES OF BEEF OR CHICKEN

In the Treatment of

HAY FEVER

OPPENHEIMER'S

NEBOLINE COMPOUND No. 20

(Eucaine Hydrochlor., gr. 18; Aqua Laurocerasi et Sol. Renaglandin, q.s. ad ℥ iv.)

NEBOLINE COMPOUND No. 20A

(As No. 20, with Ephedrine Hydrochlor. 1%)

These Compounds are specially prepared for use in the AERISER.

Supplied in 1-oz. bottles with labels, free from any indication as to the conditions under which the preparation should be employed.

OPPENHEIMER SON & CO., LTD.

HANDFORTH LABORATORIES, CLAPHAM ROAD, LONDON, S.W.9

The French Natural Mineral Water.

VICHY-CÉLESTINS

And the other State Springs of Vichy.

FERMENTATIVE DYSPEPSIA.

When the secretion is vitiated in quality, and the motricity of the stomach weakens, that organ dilates, and the gastric stagnation allows the micro-organisms of many ferments to develop. Quite a series of acids are then to be met with (butyric, lactic, acetic, etc.), which not only irritate the mucosa, but further, after their passage into the intestine, become absorbed by the lymphatics and swept into the circulation. **Vichy-Célestins,** by its slightly stimulating action, clears out the stomach, and this avoids stagnation and consequent fermentation. As, in addition to doing this, it modifies stomachal metabolism, the secretions return little by little to their normal physiological condition.

CAUTION.—Each bottle from the STATE SPRINGS bears a neck label with the word "VICHY-ETAT" and the name of the SOLE AGENTS:

INGRAM & ROYLE, LTD.

Bangor Wharf, 45, Belvedere Road, London, S.E.1

And at LIVERPOOL and BRISTOL.

Samples free to Members of the Medical Profession.

CREOLIN

(MEDICAL)

Indicated for Use in Varicose Ulcers

CASE REPORTS have shown Creolin to be of marked value as a dressing for varicose ulcers. Whilst displaying adequate germicidal properties Creolin at the same time exerts a powerful stimulating action which induces regeneration of the surrounding tissues. The Creolin dressing is best applied by steeping ordinary surgeon's lint in a dilution of 1 part of Creolin to 300 parts of water. Creolin is a *Liquid Antisepticus* of high germicidal strength combined with low toxicity prepared from highly refined coal tar oils: R.W. co-efficient 18-20.

Testing samples and full particulars sent on application to :—

Pearson's Antiseptic Co., Ltd., 61, Mark Lane, London, E.C.3.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

EPITHELIOMA.

Typical Case.

W. S. W., aged 41 years.

Diagnosis: Epithelioma of the lower lip.

Operation: Block dissection of neck and excision of growth.

Anaesthesia: Local infiltration and cervical block.

Operation: 120 c.c. of a 0.5 per cent. Novocain-Adrenaline solution were used. Anaesthesia was ideal. Transverse incision was made beneath the ramus of the jaw, with the flap dissected well below the cricoid cartilage, and block dissection upward with "V" shaped excision of the lip followed. This patient waited on himself throughout his convalescence and developed no nausea, vomiting, or thirst.

—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 265, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

Valentine's Meat

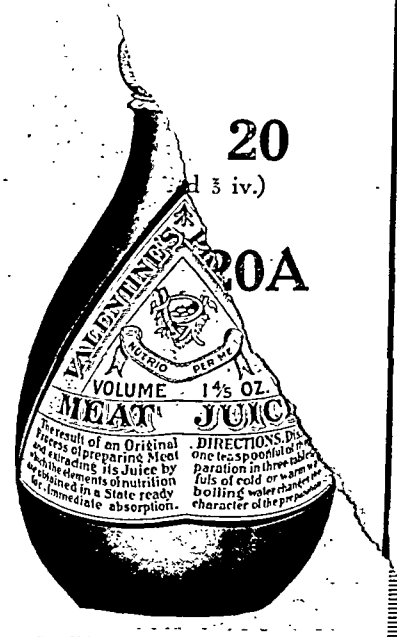
IN the Treatment of Weak Babies, in the Gastric and Enteric Troubles of Infants and in the Wasting and Febrile Diseases of Children, the Ease of Assimilation and Power of Valentine's Meat-Juice to Sustain and Strengthen has been Demonstrated in

Hospitals for Children.

The quickness and power with which Valentine's Meat-Juice acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.



Valentine's Meat-Juice Co., Richmond, Virginia, U.S.A.

JB 95

OVALTINE

FOR THE AGED

"Ovaltine" is delicious sustenance for old people. It sustains life ideally by giving tone to the tissues and promoting the healthy activity of the bodily functions. "Ovaltine" provides complete nourishment in easily assimilable form. Its use greatly increases the nourishing value of other foods. The digestibility of milk, for instance, so largely used in old age, is increased two-fold by adding "Ovaltine" to it, while the starch in the cereals is converted into easily assimilated malt sugar by the enzyme diastase which "Ovaltine" contains in abundance.

"Ovaltine" is purin-free. Its use, therefore, neither aggravates, nor favours the accumulation of uric acid in the system, nor leads to kidney disorder or gout. The tendency to constipation, so common in old age, is avoided by the use of "Ovaltine."

"Ovaltine" replaces to great advantage the usual meal-time beverages, tea and coffee, which are valueless as sources of nourishment and often contraindicated in senility.

A liberal supply for clinical trial sent free on request.

A. WANDER, Ltd., 184, Queen's Gate, S.W.7.

M 246. Works: KING'S LANGLEY, HERTS.

Head of a Priestess of the XVIIIth Dynasty (Egyptian).

Indi
CASE REPO
ulcers.
exerts a pow
The Creolin
of Creolin
combined
Pearso

BISMUTH. CARB

Evans

THE OFFICIAL SALT IN A BETTER FORM.

Produces perfect bismuth mixtures in which slight agitation ensures a thorough and prolonged diffusion. Its minute physical condition renders it remarkably efficient in gastric trouble.

To ensure the use of this brand for their prescriptions, physicians should specify

EVANS'

EVANS SONS LESCHER & WEBB LTD.

Sometimes

a major operation . . .

YOU have many patients in whom coffee-drinking is a habit so consuming and so ingrained that prohibiting it is in the nature of a major operation on the patient's nervous system. Without coffee, their appetite may be diminished, and the temptation to take a cup or two may be well-nigh irresistible.

But now there is a pleasant, sure way to protect your patients from an overdose of caffein without prohibiting coffee . . . good coffee . . . rich coffee . . . satisfying coffee—and that way is to prescribe H.A.G. COFFEE.

And that you may satisfy yourself how fully the effects of caffein have been minimized in H.A.G. Coffee, make the night-test. Send the coupon below for a liberal sample of H.A.G. Coffee. When it arrives, give it this convincing test: drink your first cup of it at night. It won't keep you awake. Next morning you'll know, from actual experience, that patients can enjoy H.A.G. Coffee without fear of caffein effect.

A perfect blend of finest coffees

H.A.G. Coffee is all coffee—nothing but coffee—a delightful blend of the choicest Central and South American coffees. The decaffeinization process takes place before the coffee beans are roasted, leaving undisturbed the spicy flavour, the fragrant aroma—everything that makes coffee "the beloved beverage."

This is scarcely less important than the fact that the effects of caffein have been minimized. For, as you will discover, the delicious flavour of H.A.G. Coffee transforms the order to give up coffee, because of its caffein, from a test of the patient's will-power into a daily delight.

Your grocer stocks H.A.G. Coffee—ground or in the bean and in vacuum tins that preserve its freshness and its fragrance. Or send the coupon below for a liberal sample tin of H.A.G. Coffee. With it we shall be pleased to send a copy of "Some observations of the Action of Caffeine," a more complete discussion of H.A.G. Coffee. Send the coupon now.

H.A.G.
GENUINE-DELICIOUS
COFFEE

WITH THE EFFECTS OF
CAFFEIN MINIMIZED

H.A.G. COFFEE COMPANY,
40 Theobald's Road, W.C.1.

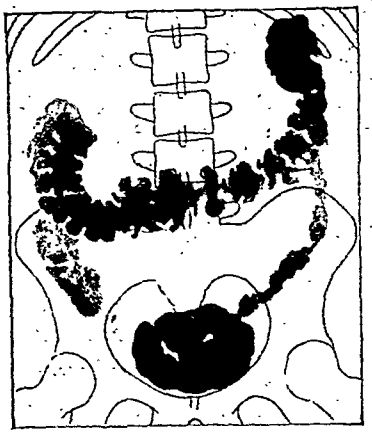
Please send me free of charge a liberal sample of H.A.G. Coffee—also the booklet "Some Observations of the Action of Caffeine."

Name.....

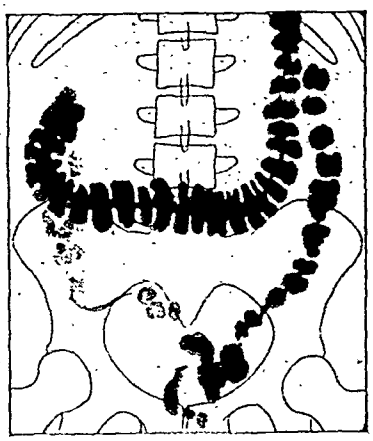
Address.....

B M J. 5 .....

For Radiographic Examination



ATONIC CONSTIPATION. Appearance sixty hours after barium meal



SPASTIC CONSTIPATION. Appearance fifty hours after barium meal

TRADE MARK **'BAROLAC'** BRAND

BARIUM SULPHATE SUSPENSION

A thirty per cent. suspension of 'Wellcome' Brand Barium Sulphate specially adapted to X-ray purposes. So finely divided that no suspending agent is necessary; entirely free from soluble barium salts; tasteless, odourless and neutral.

Price in London to the Medical Profession: Winchester Quarts at 10/- *each*

TRADE MARK **'TABLOID'** BRAND

(CAPSULE)

SODIUM TETRAIODOPHENOLPHTHALEIN

For radiographic examination of the gall bladder. Hard gelatin capsules without coating, each containing 0·5 gramme

Price in London to the Medical Profession: Boxes of 10, *at* 4/6 *per box*

TRADE MARK **'WELLCOME'** BRAND

BARIUM SULPHATE

A neutral product of suitable bulkiness many operations Tasteless; odourless even then of the temp salts ding the sufferer. *Carr* way to the phys *lb.*; 100 *gm.*, 500 *gm.*, 1 *k.* *on application*

CLIMATIC

ent in the DON

ly scant by the But i

BURROUGHS WELLCOME & CO.

Address for communications: SNOW HILL BUILDIN

Exhibition Galleries: 10, Henrietta Street, Cavendish Squar

Associated Houses:

NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRE

H 2850

COPYRIGHT

BRITISH BRITISH

Elastoplast

(Patent 253,527)

THE ORIGINAL & FINEST ELASTIC PLASTER

The cure of Varicose Ulcer by means of Elastoplast Bandages is now practised in nearly every Hospital in the British Isles, and 100% cure of cases is achieved.

In certain cases of Varicose Veins where on account of systemic disease, or the patient's timidity, a curative course of injection cannot be given, then the veins can be kept obliterated by Elastoplast.

Elastoplast is also extensively used for general surgical and orthopaedic work.

As a support for varicose veins, sprains, *strains, dislocations, after-treatment of* fractures, weak joints, flat or dropped foot, etc., Elastoplast is unequalled.

Manufactured from the finest yarns, Elastoplast is the only Elastic Plaster having the correct degree of elasticity, thus ensuring perfect compression and support.

Woman patient aged 55. After 12 weeks' treatment. After a further 2 weeks.

The only treatment consisted of Elastoplast Bandages, changed weekly at first, and later fortnightly.

Other Elastoplast Specialities include:—Finger Dressings, Wound Squares, Wound Strips, Boil Dressings, Eye Dressings, Vaccination Dressings, etc., all on the pliable Elastoplast base, with medicated [illegible] ll reduce your Dressings Accounts, save you valuable time, increa[illegible] njured person, and, moreover, ensure cleanliness. Also—VISCOPAST[illegible] d Unna's Paste Type), Adhesive Gelatine Bandages.

Litera[illegible] sent on application, or a trial set containing full [illegible] of Dressings upon receipt of P.O. value 2/6 postage extra) by the manufacturers:

A.G. [illegible]

INE-DELICIOUS

OFF[illegible] TH & NEPHEW, Ltd.

HULL. LO[illegible]ON. GLASGOW. MANCHESTER.

Enquiries to—Dept. B, 42, Tavistock Square, London, W.C.1.

ELASTOPLAST MAY BE OBTAINED FROM YOUR USUAL SURGICAL SUPPLY HOUSE.

A Lecture
ON
THE CAUSATION OF STONE IN INDIA*

BY
ROBERT McCARRISON, C.I.E., M.D., D.Sc.,
HON. LL.D., F.R.C.P.
HONORARY PHYSICIAN TO THE KING; COLONEL, INDIAN MEDICAL SERVICE; DIRECTOR, NUTRITIONAL RESEARCH, INDIAN RESEARCH FUND ASSOCIATION

Urinary calculus is very prevalent in India. From reports, for which I am indebted to civil surgeons, it appears that, during the years 1926–28, 34,325 persons were found to be suffering from the disease; or 1 in 10,000 of the population. These represent the combined records for three years, and relate only to persons seeking medical relief; but when it is remembered that hospital patients form but a relatively small fraction of the people of India, and that hospitals and dispensaries are but sparsely distributed, it may safely be assumed that the disease is more prevalent than these figures indicate.

The incidence of stone varies greatly in different parts of the peninsula; it is so prevalent in some localities that they are known as "stone-areas," while in others it is rare or unknown. The prevalent belief that India in general *is a land of "stone"* is erroneous: parts are; others are not. Thus, taking the above figures as our index of its prevalence, we find such variations as the following:

Cases per 100,000 of Population

In India generally	10
In Dera Ghazi Khan (Punjab)	438
In Hyderabad (Sind)	266
In Sukkur (Sind)...	156
In Manipur (Assam)	84
In Dera Ismail Khan (N.W.F.P.)	62
In Saharanpur (U.P.)	25
In Ahmednagar (Lower Bombay)	13
In Benares (U.P.)...	5
In Sylhet (Assam)	2.8
In Malabar (Madras)	0.3
In Kolaba (Lower Bombay)	0

Of the 34,325 sufferers from stone, 16,384, or approximately 1 in 20,000 of the population, had their stones removed at operation. I have taken this figure as my index of incidence and prepared the spot map (Fig. 1). Each spot represents one stone removed at operation per 100,000 of the population of the particular district in which the patients lived. This map affords a fair indication of the distribution of the malady. It will be noted that the great "stone-area" of India extends from Sind, the North-West Frontier Province, and the Punjab into the western parts of the United Provinces. As we pass eastward towards Bengal and Assam the prevalence of the disease gradually diminishes; similarly, it diminishes towards the south and south-east until in the southern parts of the Bombay Presidency, Mysore, Hyderabad, and Madras the malady is relatively rare. It is relatively rare also in Burma. No reports were received from the greater part of Baluchistan, which abuts on Sind, and in which there is reason to believe the disease is also common; nor from Kathiawar, nor Travancore in the south. But these lacunae do not influence the general result, which, from the point of view of the investigator, is a significant one. It is that there are local factors which exercise a profound influence on the occurrence or non-occurrence of the malady. These influences may be geological, orographical, climatic, racial, nutritional, or microbic.

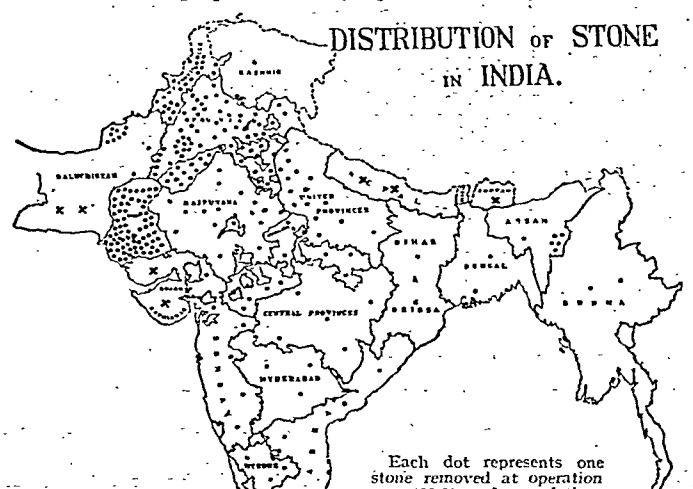


FIG. 1

GEOLOGICAL INFLUENCES

Urinary calculus occurs for the most part on soils of the Post-Tertiary Period; indeed, a map of the geological features of India shows a great post-tertiary band extending eastward from the Kirthar, Sulaiman, and Hindu Khush Mountains on the west and north through the cultivated plains of sub-Himalayan India to Bengal and Assam; and comprising the great plains of the Indus, the Thar or Indian Desert, regions eastward of "the five rivers" (Punjab), and the plains of the Ganges and its tributaries. It is in these plains that the great majority of all urinary calculi occur. At first sight one might be inclined to attribute significance to this association with Post-Tertiary rocks. But closer scrutiny of our data shows that no great importance can be attached to it, since it is in the plains of the Indus, and not in those of the Ganges, that the great majority of calculi occur.

OROGRAPHICAL INFLUENCES

Stone is most common in the plains of Northern India, but by no means confined to them. Far up in the [illegible] ranges of Dardistan, and throughout the Hindu Kush lands it also. In Chitral and Gilgit, in Gilgit, I have, in my early days, performed many operations for the relief of the condition—conscious even of the temporary nature of the relief I was affording. Stone is not related in any conspicuous [illegible] physical features of the country.

CLIMATIC INFLUENCES

It is most frequent in hot, arid, desert plains, where vegetation is relatively scanty; where grazing for cattle is poor, and scorched by the intense heat, or parched because of scanty rainfall. But its incidence is not always greater in these localities than in others more favourably situated. Thus it occurs with great intensity in the cultivated lands, watered by the five rivers of the Punjab and by the numerous Himalayan streams that go to swell the waters of the Ganges. Nor does rainfall appear to be a factor of importance: in Dera Ismail Khan (N.W.F.P. that furnace of the plains—where the rainfall is ra

Vaseline Plaster
THE BANDAGES (impregnated with the efficiency of the
Pasteur Institute, Coonoor, S. India, delivered before the Royal
College of Surgeons of England.

* The second of two lectures on experimental research at the Pasteur Institute, Coonoor, S. India, delivered before the Royal College of Surgeons of England.

more than 5 inches throughout the year, the incidence of stone is 62 per 100,000 of the population, as compared with 84 in Manipur (Assam), where the rainfall is 100 inches, or thereabouts, and vegetation plentiful. One thing the western and eastern areas of the great stone-belt have to some extent in common: a great disparity between summer and winter, and between day and night, temperatures. But here again too much importance can be attached to this fact. It has been suggested that, because of the known effect of hypervitaminosis-D in causing stone in rats, the constant exposure of a large part of the body to the rays of the tropical sun may induce in natives of India a condition of hypervitaminosis-D, conducive to stone formation. Experiments on albino rats have not, in my hands, lent support to this view. Further, the exposure is greater in the loin-clad southerner than in the more completely clad northerner.

RACIAL INFLUENCES

It is stated in certain monographs on "stone" that Mohammedans in India are more subject to it than Hindus; and it has been suggested that this is due to the Mussulman's habit of micturating in the squatting position, which renders complete evacuation of the bladder impossible. I have no data regarding the frequency of this habit in the two communities, though it would seem to be practised by both; but whether it be true or not that the Mussulman is more addicted to it than the Hindu, my data provide no evidence that stone is more common in the one community than in the other. In my series there are 1,024 cases in which particulars are given as to the community of the sufferer: of these, 757, or 73.9 per cent., were Hindus; 235, or 22.9 per cent., were Mohammedans; and 32, or 3.1 per cent., were in other communities.

Hindus form, approximately, 69.5 per cent. of India's 320 million people; Mohammedans 21.3 per cent., and other communities 9.2 per cent.—percentages which, so far as the two main communities are concerned, are practically identical with the percentage distribution of stone. Mohammedans are therefore no more subject to the malady than Hindus. If anything, other communities are more afflicted by it than either. The disease appears to be comparatively rare among Europeans in India; in my series they formed 0.44 per cent. of the whole.

NUTRITIONAL INFLUENCES

It is in the plains of the Indus, and in the sub-Himalayan regions fed by the upper reaches of the Ganges and its tributaries, that wheat is most grown. Here, too, the cultivation of maize is considerable; while in Sind the chief crop is millet. As we pass eastward along the Gangetic plain the cultivation of rice increases, reaching its acme in the Delta; southward, also, through Lower Bombay to Malabar and Madras, and south-eastward to the deltas of the Godaveri and Kistna Rivers, the cultivation of rice increases. In Burma, too, rice is the principal, and often the only, cereal produced. In these places rice is the staple article of diet. The suspicion thus arose in my mind that the gradual decline in the incidence of stone, from regions where wheat is the principal cereal grown to those where rice is the chief crop, might be associated in some way with the cereal forming the staple article of diet of the people. Experiments on animals showed that this was so. Groups of young albino rats were fed on a diet of the same composition but in which the cereal, forming 90 per cent. of the diet, differed. It was found that cereal foods ranged themselves in the following descending order of stone-producing potency: whole-wheat flour, oatmeal, North Indian millet (*bajra*), white flour, rice, and South Indian millet (*cambu*). The result of this experiment provided a partial explanation of the peculiar distribution of stone: its great frequency in the wheat-growing areas of the north-west, and its relative infrequency in the rice-growing areas of the south and east. But this association is not invariable. Thus, stone is as common, even commoner, among the rice-eating Manipuris (Assam) as in the wheat-eaters of Dera Ismail Khan (N.W.F.P.). There is more in the occurrence of stone than the cereal which happens to be the staple food in this or that part of India: other dietetic factors are concerned. What these factors are has been revealed, in some part at least, by experiment on animals.

EXPERIMENTAL PRODUCTION OF STONE

Well-fed albino rats do not suffer, certainly not in Coonoor, from stone; and these animals are very suitable for experimental work on this disease. I have used them throughout my own work. My first experiment was begun early in 1926. It lasted 157 days. Such experiments are tedious; the more so when one's object is to ascertain the faults in Indian dietaries to which "stone" might be attributable. The diet used consisted of oatmeal 53 parts, linseed meal 20 parts, cornflour 25 parts, calcium phosphate 1 part, sodium chloride 1 part, and distilled water *ad libitum*. It may be wondered why I used oatmeal, since it does not enter to any considerable extent into the dietaries of the Indian people. I confess at once that chance determined my use of it—a lucky circumstance such as occasionally comes the way of the investigator, and for which he must ever be on the watch. The original object of the experiment was not to produce stone but to learn the effect on the thyroid gland of an iodine-poor diet such as this one was. But as things turned out the experiment taught me three things: (1) that the so-called iodine-poor diet did not cause thyroid enlargement; (2) that it did cause stone and its sequelae; and (3) that it also caused a very grave form of anaemia, which subsequent investigation in my laboratory by Dr. Lucy Wills showed to be due to *Bartonella muris* carried by the lice with which my rats were infested.

Here I may pause to draw attention to this last, and very instructive, result: an anaemia which is brought about in practically cent. per cent. of rats by removal of the spleen is also brought about by a faulty food deficient in certain vitamins. The intact spleen protects against this anaemia; and the conclusion is irresistible that the faulty food, by its action on the pulp cells of this organ, reduces its protective action against *Bartonella muris*. This is a very noteworthy instance of the effect of faulty nutrition in breaking down the defences of the body against infection.

But to return to stone. The above diet caused the disease in 21 out of 120 animals, an incidence of 17.5 per cent. In my next experiment one group of young rats was fed on the same diet as the above, and another on a diet wherein the oatmeal was replaced by whole-wheat flour. This experiment also lasted for many days, and when at length it was completed it revealed a significant difference in the incidence of stone in the two groups: of the 50 rats fed on the "oatmeal diet" 4, or 8 per cent., had stone and its sequelae; of the 50 fed on the "whole-wheat diet" 11, or 22 per cent., had stone and its sequelae. Whole-wheat flour was thus shown to be more potent to cause calculus than oatmeal. The next problem which naturally occurred to me was whether the other ingredients of the diet were also factors of importance: these ingredients were cornflour and linseed meal. A further tedious series of experiments was undertaken from which the knowledge emerged that neither of these food materials contained any positive or toxic agent which was concerned in stone production. It further emerged that diets composed exclusively of white flour or of white bread, either

with or without added yeast or marmite, were also capable of causing stone, though the stone-producing potency of white flour was markedly less than that of whole-wheat flour; vitamin B deficiency was not concerned in causing stone. Subsequent experiments excluded another factor—deficiency of suitable protein.

Cereal foods thus appeared to vary in their stone-producing potency, and the experiment, mention of which I have made already, was undertaken to determine their relative degrees of potency. This experiment fixed them in the following descending order: whole-wheat flour, millet grown in the north of India, white flour, rice, and millet grown in the south of India. The last did not cause "stone" at all within the 515 days of the experiment. The significance of this observation in regard to the distribution of stone in India has already been referred to. Here another possibility arises: millet grown in one part of India may be stone-producing, while that grown in another may not: soil, manure, and irrigation conditions—which I had already shown to be capable of causing variations in the nutritive quality of food grains (McCarrison, 1926–28)—may thus be concerned in the production of stone. I have not so far been able to investigate this aspect of the matter.

The next step in my investigations was to see whether, by further additions to the stone-producing diet, the malady could be prevented. One group of rats was therefore fed on a diet of known stone-producing potency; another on the same diet to which whole milk was added, the milk being given in the proportion of two-thirds of an ounce per rat per day. Stone and its sequelae—cystitis, hydronephrosis, and pyonephrosis—were completely prevented by this measure. Clearly, therefore, milk contained "something" which counteracted the stone-producing action of the diet. Further experiments of a like kind followed, but in these the substance added was butter or cod-liver oil, the action of which was compared with that of vegetable oils in common use in India. The butter prevented stone, so also did cod-liver oil; the vegetable oils did not. This narrowed the issue down to deficiency of vitamin A bearing ingredients as a chief food fault concerned in stone production.

By this time I had become acquainted with the original observations of Osborne and Mendel (1917), associating urinary calculus with deficiency of vitamin A in rats fed on synthetic diets, and with the latter work of Fujimaki (1926), definitely demonstrating the specificity of vitamin A deficiency in this regard. With this help my work proceeded more rapidly, but along the lines previously followed: the production of stone by means of foods in common use by the people of India.

It was stated in some of the reports which I received from civil surgeons, as well as in textbooks on the subject, that hard waters have something to do with the causation of stone. Accordingly, lime was added to diets deficient, among other things, in vitamin A, with the result that the incidence of calculus, of cystitis, of hydronephrosis, and of pyonephrosis was greatly increased; and it was found that calcium-phosphorus imbalance was a further, and very important, factor concerned in the causation of certain types of urinary calculi.

The types of stones produced in these experiments were four: ammonium-magnesium-phosphate, calcium carbonate, calcium hydroxide, and stones composed of a mixture of calcium carbonate and calcium hydroxide.

My immediate object had thus been attained. It had been shown that certain food materials in common use by the people of India were capable of causing stone in rats when used in quantities disproportionate to certain other food materials that are antagonistic to stone formation.

INDIAN DIETARIES AND STONE

In India stone is a poor man's disease. Throughout the peninsula the staple article of diet of the people is one cereal grain or another. We have seen that these cereals vary in their stone-producing potency, and it may be assumed that all cereals contain, in some degree of concentration, a *positive agent* or agents favourable to stone formation. This assumption is justified by the observation that the stone-producing potency of whole-wheat flour is greater than that of white flour—something favourable to stone production is in part removed from the whole wheat in the process of manufacturing white flour; this "something" can scarcely be vitamin A, while we know it is not any of the other vitamins. (Here it may be suggested that the lesser potency of white flour as a stone-producing agent may be correlated with the gradual diminution of vesical calculus in England during the last fifty years—a period coinciding with the introduction and almost universal use of white flour.) We have seen also that the distribution of stone in India can be correlated with the kind of cereals in use in various parts of India; and we have seen, further, that milk and butter, if used in sufficient quantity, afford complete protection against stone in rats. Now the great fault of all Indian dietaries among the poorer classes, who are the chief victims of stone, is that their diets do not contain anything like enough milk and milk products, and I postulate that according to the kind and quality of the cereal grain they use as the staple of their dietaries, and according to the poverty of these dietaries in milk and the products of milk, so they will be more or less likely to suffer from stone. Milk and the products of milk are among the greatest of India's needs at the present time. I do not contend that this is the whole story; indeed, I know it is not, but it represents certain chapters of it.

DIETETIC FACTORS CAUSING STONE

There appear, therefore, to be two categories of dietetic factors concerned in stone formation: (*a*) *positive factors*, including excess of lime in the diet, and some unknown agent present in whole cereal grains; and (*b*) *negative factors*, including deficiency of vitamin A derived from animal sources, and deficiency of phosphates relative to the amount of lime in the diet. I say "vitamin A derived from animal sources," because millions of people in India are dependent for their supply of this factor—whatever that factor implies—on vegetables; I am not yet certain that the latter source of vitamin A is, from the point of view of stone prevention, as good as the former. I do not think it is, and I notice that de Langen (1929) of the Dutch Indies is of a like opinion.

Here it is necessary to make my position clear in regard to the value of whole-wheat flour and oatmeal as articles of diet. Because I have found that whole-wheat flour and oatmeal, when they compose the major part of an imbalanced diet, are stone-producing, this is not to say that I desire to displace these two most valuable foods from the high place in the dietaries of mankind to which they have attained throughout the centuries. To do so would be to doubt the evidence of one's own eyes, and to fly in the face of reason. Who that has seen the magnificent physique of the Sikh or Pathan would dare to recommend them to change their staple diet of unleavened whole-wheat bread for the white loaf of commerce? And who that has seen the slum children at Miss Margaret McMillan's "Nursery School" at Deptford can doubt that she was right to exercise the care she did in the selection of the oatmeal on which experience had taught her to rely as a constituent of her children's dietaries—children who rarely need the dentist? The truth is that

no single food material is in itself a "complete food"—even milk is not; if it be not faulty in one regard it is faulty in another. The best are those whose faults are least; and in the latter category both whole-wheat flour and oatmeal are to be included. Milk, as an exclusive food, will cause anaemia in rats; onions, anaemia in dogs; cabbage, goitre in rabbits; and oatmeal or atta will cause stone in rats; yet what better food can there be for mankind than a judicious mixture of all four? Animal experimentation has its uses—its great uses—but like every other instrument employed by man the results of its use must be judged by reason and experience.

STONE: A DISEASE OF FAULTY NUTRITION

During the course of my experimental work I have produced stone in 250 animals. The young rats that I

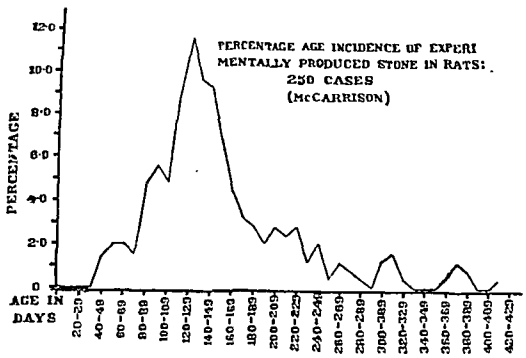


FIG. 2.

have used have always been about a month old at the outset of the experiments: that is to say, of an age at which they are able to fend for themselves, and are no longer dependent on maternal nutriment. They would correspond approximately to children of a year or two old. I have grouped these cases together in the chart which I now show you (Fig. 2). You will observe that in rats "stone" is a disease of early life; that the pinnacle of age incidence is reached when they are about 120 days old, when they have been living on the stone-producing diets for about 90 days. Thereafter the curve of age

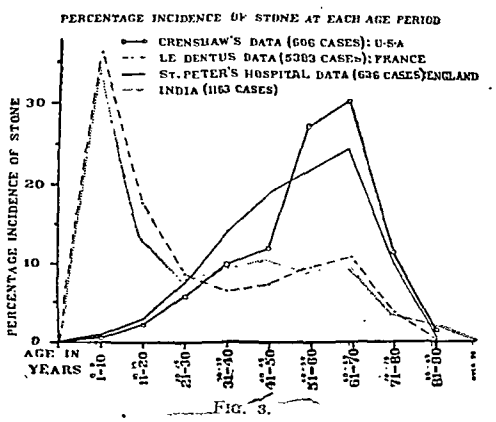


FIG. 3.

incidence declines rapidly and gradually fades away until, at the age of 400 days or over, stone is relatively rare. Now compare this curve, first with that of the age distribution of stone in India (Fig. 3). The same rapid rise will be noticed during its earlier stages, the same rapid fall and its gradual fading away thereafter; the curves in the rat and in the Indian are practically identical. Taking these facts into consideration with those I have already presented the conclusions seem to me to be irresistible that in India urinary calculus is a disease of faulty nutrition, and that the same food faults which produce the malady in rats produce it also in the people of India.

But it is not always so. In my next illustration (Fig. 3) I have set out in the same diagram the percentage incidence of stone at each age period as it is found in India, in France, in the United States of America, and in England. Here the incidence curves are of orders so different as forcibly to suggest that while the chief causes of stone in India and in France are probably the same—nutritional in the main—those in England and the United States of America are in the main different: in the one the high peak of incidence is at the earlier period of life, when nutritional disturbances are most likely to be felt; in the other it is at the other end of life. Many factors may account for stone production in later life: stone formed in early life may be endured to later life; stagnation of urine due to enlarged prostate and the like may cause it, or infection. But it is not my purpose to discuss the causation of stone in later life—a condition relatively rare in India.

SEX INCIDENCE OF STONE

In India stone is much commoner in males than in females: in my series the proportion is as 13.2 to 1. In children under the age of 15 years, 92.5 per cent. of stones occurred in males. My observations in this regard are in conformity with those of Winsbury White (1929)—

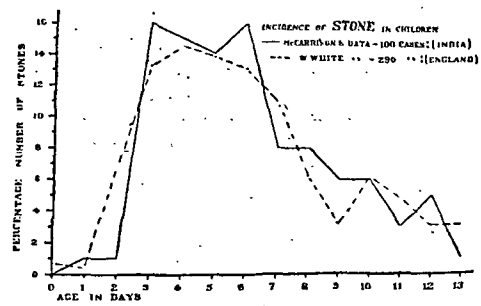


FIG. 4.

in fact his curve and my own are practically identical (Fig. 4); and if I be correct in my contention that in Indian children stone is a disease of faulty nutrition it is very likely to be so also in English children. One point of interest is brought out in this diagram (Fig. 4): the Indian curve shows that very occasionally stone may occur in breast-fed infants.

The greater incidence of stone in males does not apply to experimentally produced stone in rats. In these animals it is slightly more common in females. I have, at present, no explanation to offer of this difference in the two species.

INCIDENCE OF RENAL CALCULUS IN INDIA

In comparison with vesical calculus renal calculus is relatively rare in India (Fig. 5). In a series of 454 cases of stone recently sent to me by surgeons practising in parts of India where the disease is common, there were only 34 renal stones; a proportion of vesical to renal of 13.5 to 1. Whereas vesical calculus is pre-eminently a disease of early life, renal calculus is a disease of middle life (Fig. 5). In the course of my experimental work I have had frequent examples of renal calculus in rats. In my series of 250 experimentally produced stones there were 31 renal calculi; a proportion of vesical to renal of

8 to 1. In albino rats renal stone is equally common in the two sexes. In human beings it is much commoner in males.

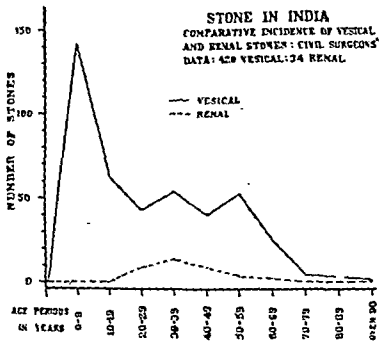


FIG. 5.

INCIDENCE OF URETERAL STONE IN INDIA

Ureteral stone is rare in India, or it is rarely operated upon. Among the 16,384 calculi removed during the years 1926–28 there were only 14 ureteral stones. A diagnosis of stone in the ureter was made in other cases, but the patients refused operation.

In my series of 250 experimentally produced stones in rats there were 21 examples of ureteral calculus: in the majority of these the stone was obviously on its way from the kidney to the bladder, and was not impacted in the ureter. Males had such ureteral stones more often than females (16 to 5).

CYSTITIS, INCRUSTED CYSTITIS, PYONEPHROSIS, ETC.

It is not possible, in the time at my disposal, to do more than mention the morbid states of the urinary tract so often associated with stone in experimental animals: cystitis, incrusted cystitis, hydronephrosis, and pyonephrosis. Any of these may occur without stone formation, though such occurrence is the exception and not the rule. We do not, as yet, know why one animal develops stone while another fed on the same diet develops incrusted cystitis or pyonephrosis without stone. Cystitis is not a necessary precursor of stone, even when the stone is of the ammonium-magnesium-phosphate variety. And cystitis without stone can be produced in rats with considerable certainty by diets deficient in vitamin A but containing an excess of animal protein—a combination of food faults not uncommon in human sufferers from cystitis. Curiously enough the cystitis so produced is commoner in female than in male rats: I believe I am right in saying that in human beings cystitis is also commoner in the female sex.

CHEMICAL COMPOSITION OF HUMAN STONES

During the past three years analyses of 226 human urinary calculi have been made in my laboratory (Newcomb and Ranganathan). The stones may be classified according to their chemical composition as follows:

	Number	Percentage of total number of stones
Pure uric acid	15	6.63
Pure oxalate	13	5.75
Pure phosphate	3	1.32
Phosphate-oxalate	23	10.17
Urate-phosphate	20	8.85
Urate-oxalate	78	34.51
Urate-oxalate-phosphate	74	32.74
Total	226	99.97

According to Kahn (quoted by Kauffmann) (1929), pure uric acid calculi are rare: they formed 6.6 per cent. of the total in our series of 226. Freyer (1908) found that most of the stones containing uric acid or urates occurred in young people. Our data do not confirm this observation. He also found that 64 per cent. of his Indian stones contained either uric acid or urates; our figure is higher: 82 per cent. He noted also that calcium oxalate calculi were commoner in adults than in children: in our series the average age of sufferers from pure oxalate stones was 29 years. Pfister has called attention to the predominance of oxalate stones in Egypt and in India; in our series of 226 there were 13 pure oxalate stones (5.75 per cent.), while 83.17 per cent. contained more or less oxalate.

Our analyses of kidney stones are relatively few, but they show that in India these stones consist mostly of calcium oxalate and not of uric acid or urates: an observation in conformity with that of Benjamin Moore (1911) and of Rosenbloom (1915); and in opposition to that of Stengel and Fox (1927). It would seem from the literature on this subject that renal calculi are generally considered to be composed of uric acid: this is not our experience in India.

Much difference of opinion exists as to the chemical composition of the nuclei of stones. It is not always easy to find the nucleus of a stone, or, when one has found it, to be sure that one is dealing only with the nucleus. One of my assistants (Mr. Ranganathan, 1930) has recently gone into the matter in some detail. He found that uric acid or urates formed the chief constituents of the nuclei, phosphates occurring only in traces; and that the composition of the nuclei did not always run parallel with that of the stones containing them, though an approximate parallelism existed in some cases.

There is a general belief that it is possible, from the physical characters of a stone, to make a good guess at its chemical composition. We do not find that this is so; such guesses are in general very inaccurate (Newcomb and Ranganathan, 1930).

So far as our analyses of human stones go it would seem that no particular kind of stone is more prevalent in one part of India than another. We have not found it possible, from the incomplete dietetic histories of sufferers, to correlate the chemical composition of calculi with that of the diets eaten by the people from whom they were removed: the great majority of their dietaries had, however, one fault in common—insufficiency of vitamin A bearing ingredients.

CHEMICAL COMPOSITIONS OF RAT STONES

As previously stated the stones produced in rats were of four varieties: ammonium-magnesium-phosphate, calcium carbonate, calcium hydroxide, and a mixture of the last two. The essential difference between them and human stones is the complete absence of uric acid or urates. Excluding traces of urates (forming less than 5 per cent. of the total ingredients) uric acid or urates occur in 82 per cent. of all human stones in India. The usual explanation given for the absence of uric acid in rat stones (as well as in those of cattle) is that these animals possess the power to oxidize approximately 80 per cent. of the circulating purines to allantoin. Allantoin is several times more soluble in water than is uric acid, and hence it never forms a constituent either of rat or of cattle stones. Human beings do not possess this power, and in them the degradation of purine bodies stops short at uric acid; and, as uric acid is very sparingly soluble in water, it is almost always found to be a constituent of urinary calculi in man (Swift Joly).

POWER OF THE URINE TO RETAIN URIC ACID IN SOLUTION

Urine varies greatly in its power to dissolve uric acid and retain it in solution. We have recently found that the urine of rats fed on purely vegetable diets retains

much more uric acid in solution than that of animals fed on diets containing large amounts of animal protein. Hindhede has, I believe, made a similar observation in man. The urine of rats fed on a diet of liver was capable of dissolving only a very little uric acid, and this was thrown out of solution after standing for twenty-four hours. The composition of the diet, by influencing the capacity of urine to hold uric acid in solution, may thus have a bearing on stone formation.

CHEMICAL COMPOSITION OF CATTLE STONES

Cattle stones, as we find them in India, are usually small, round, shot-like bodies, having, when fresh, a light or deep golden-yellow sheen. They may occur in large numbers (Fig. 6) in the same animal, and their usual location is the urethra. They are made up of thin layers, like the coats of an onion, all layers being of the

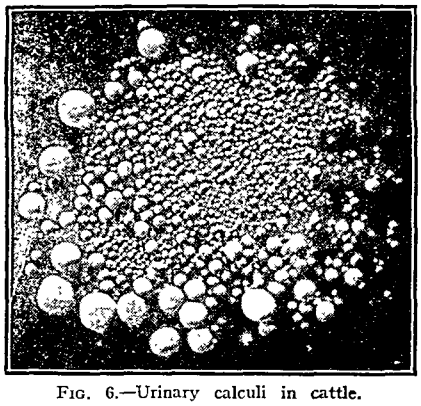


FIG. 6.—Urinary calculi in cattle.

same composition. Stones occurring in the kidney in cattle do not possess these physical characters: they are usually single, larger, of irregular shape, and are devoid of metallic sheen. But whether occurring in the kidney or in other parts of the urinary tract their chemical composition is, with rare exceptions, the same. Analyses have been made of twenty-four cattle stones in my laboratory (Ranganathan, 1931). Their composition has been found to be fairly uniform: calcium carbonate with a little magnesium, the latter presumably also existing as carbonate. In only one of the twenty-four stones was this composition departed from. In this case (a calf) the stone had a relatively high moisture content, a high nitrogen, phosphate, and magnesium content, and a low calcium content; carbonates were not present.

We have been fortunate in being able to reproduce not only the chemical but the physical (excepting the metallic sheen) characters of cattle stones under experimental conditions in albino rats (Figs. 7, 8). Briefly, this is how it was done. The rats were fed on a diet deficient in vitamin A and containing an excess of lime relative to the amount of phosphate in the diet (McCarrison, 1931). By keeping them on this diet for seventy to eighty days, and then supplying the missing vitamin A (in the form of radiostoleum) it was found that of those that survived the process a high percentage had stones of composition and physical characters closely resembling those of cattle stones. Apparently what happens is this. During the first, or vitamin-starvation, period an enormous mass (Fig. 7) of calcium carbonate debris is deposited in the urinary tract. On supplying vitamin A, but allowing the calcium-phosphate imbalance to remain, the whole (if it be small) or part (if it be large) of the calcium carbonate deposited during the first period is redissolved and dispersed. But in some cases parts remain as isolated collections or grains, and during the second period of the experiment, when vitamin A is provided, these act as foreign bodies, and a layer or layers of calcium carbonate is deposited around them. This is at present a working hypothesis; but we hope by hitting off just the right diet to keep the rats alive long enough, and by alternating the periods of vitamin-want and of vitamin-supply with sufficient nicety, while retaining the calcium-phosphate

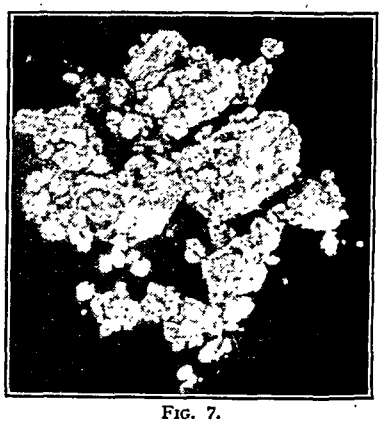


FIG. 7.

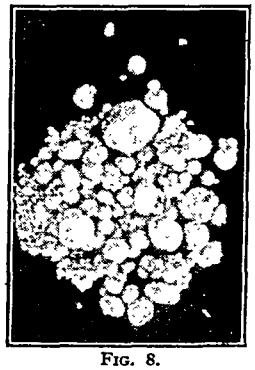


FIG. 8.

FIGS. 7 AND 8.—*Above*: Calcium carbonate concretions weighing 1,530 mg. removed from the kidneys of rat. *Below*: Calcium carbonate stones weighing 715 grams removed from the bladder of rat fed on a diet deficient in vitamin A and phosphate and containing an excess of lime. Compare the latter with the stones removed from the urinary tract of a bullock (Fig. 6).

imbalance, to reproduce these cattle stones with still greater exactitude.

In chemical composition the stones experimentally produced in rats were identical with the calcium carbonate stones found in Indian cattle (McCarrison, 1931).

Through the kindness of Mr. Hilson, Director of Agriculture, Madras, I have been able to secure reliable information regarding the food of the cattle in parts of the Madras Presidency where cattle stone is prevalent. They are fed on maize, millet, or rice straw, the husks of ground-nuts, and the empty pods of legumes. All these fodders are poor in phosphates and disproportionately rich in lime: ground-nut husks, for instance, contain as much as 3.78 per cent. of CaO and only 0.36 per cent. of P_2O_5. After the rains, the cattle obtain much more green fodder, and with it a much-needed supply of vitamin A. Periods of vitamin-want alternate with periods of vitamin-supply, the diet remaining all the while imbalanced with respect to calcium and phosphates. It is notable that the only exception to the rule that cattle stones are composed of calcium carbonate was in a calf, aged six months, which, after weaning, was fed on a diet in which calcium-phosphate imbalance was not marked. Strong support is thus lent to the hypothesis above mentioned as to the manner of calcium carbonate stone formation. Our investigations have shown, further, that in the formation

of these stones the calcium-phosphate imbalance is even more important than the vitamin A deficiency (Ranganathan, 1931). We find that the incidence of such stones can be very greatly reduced in rats by adding to the vitamin-A-poor and lime-rich diet an amount of sodium phosphate sufficient to form, with the excess of lime, insoluble calcium phosphate in the bowel. The further addition of vitamin A completely prevents the disease. I may therefore claim with some reason that the problem of "cattle stone" in India has been solved so far as the laboratory can solve it.

FUNCTION OF VITAMIN A IN THE PREVENTION OF STONE

In my last lecture I referred at some length to the effects of vitamin A deficient diets on epithelial structures throughout the body. No tissue suffers more severely from want of this vitamin than that of the urinary tract. It seems to me very probable that desquamated, keratinized epithelium from this tract may form the nidus round which calculus deposition occurs. It is true that in rats infection, as a rule, rapidly supervenes; and this, no doubt, may be in part responsible for the chemical composition of one variety of rat stone—the ammonium-magnesium-phosphate variety. But although naked-eye evidence of infection is the rule, exceptions occur in which this variety of stone is found without any obvious cystitis. Further, cystitis is no less common in rats suffering from calcium carbonate stones, and in these ammonium-magnesium-phosphate is conspicuous by its absence.

In my experiments I have found that the volume of urine excreted depends to a great extent on the presence or absence of vitamin A bearing ingredients in the diet; when absent or small in amount the volume of urine is low; when present in sufficient quantity it is normal or high. Sodium phosphate has also a very marked effect in this regard, greatly increasing the urinary excretion. It is significant that associated with the addition of vitamin A bearing substances (whole milk, cod-liver oil, or radiostoleum) to stone-producing diets, and of these substances and sodium phosphates to such diets containing an excess of lime, the urinary excretion from being scanty becomes copious, and at the same time stone is prevented.

There is, of course, another direction in which vitamin A acts in the prevention, and its deficiency in the causation, of stone. I refer to its power to prevent infection of the urinary tract, and to the influence of its deficiency in favouring such infection. This brings me to the last of the influences which may determine the occurrence and distribution of stone in India—infection.

INFECTIOUS INFLUENCES

The work of Rosenow and his colleagues of the Mayo Foundation is no doubt familiar: his experimental production of gall-stones in animals by infection with streptococci from cases of cholecystitis in man; and, more recently, his production of urinary calculi by the devitalization and infection of teeth in dogs with streptococci from cases of nephrolithiasis. Rosenow's procedure is, first, to produce "septic foci," using, for the disease he wants to produce, streptococci obtained from a case of the particular disease in man. He finds the coccus to be specific: that from cholecystitis will produce gall-stones; that from nephrolithiasis, urinary calculus. This sequence of events is probably the same in essentials as that occurring in rats: in these, foci of devitalization are produced in the urinary tract by the defective diet, and, in some forms of stone at least, chance infection may do the rest. But the point of special interest to India in Rosenow's work is that a specific kind of infection may, as he and Meisser suggest, be associated with stone, and thus account for the prevalence of the disease in certain localities. Personally, I am quite prepared to believe that this may, to a limited extent, be so; for although I have shown that the distribution of stone in India may, in some part, be accounted for by the kind of cereal used by people whose diets contain an insufficiency of vitamin A bearing ingredients, this is not the whole story, nor does it explain the occurrence of stone in all localities in India or in all individuals. Bilharzia, though a frequent cause of stone in Egypt, does not appear to be so in India; and in infection by bilharzia malnutrition is a potent favouring influence.

MECHANISM OF STONE PRODUCTION

This lecture has dealt with the causation of stone, not with the mechanism of calculus deposition. My researches have been mainly of the practical kind: my business being to tell the people of India how they can themselves avoid stone and prevent it in their cattle. It matters little to them, though it is of great interest to the medical scientist, whether the deposition of stone can be most satisfactorily accounted for by faulty metabolism due to dietetic causes, by infection, or by physico-chemical disturbances in the urinary tract. I have little doubt that both faulty food and infection may induce the physico-chemical disturbances responsible for stone deposition; but I know that a properly constituted diet will go a long way to prevent both infection and physico-chemical disturbances. It seems to me that all three agents—dietetic, infectious, and physico-chemical—play their part in the genesis of stone, and in designing its architecture; on occasion, and in certain individuals or in certain places, the star part may be taken by one or by the other. In India the star part is taken by diet.

The President and Council of the College have signally honoured me by their invitation to tell something of my research activities in India, and I have been deeply conscious of the responsibility this honour has imposed upon me. I have purposely chosen to refer only to those of my activities which I have thought might be of special interest to surgeons. Even with this limitation much has had to be omitted or passed by with but a few words. But if what I have said may serve to indicate directions in which the newer knowledge of nutrition touches upon the Art of Surgery—to indicate lines of investigation which hold out the prospect of the solution of certain surgical problems—then I shall have fulfilled, in some small measure, the duty imposed upon me by the invitation to address this great College.

A CASE OF TABOPARESIS TREATED BY HYPERPYREXIA INDUCED BY HOT BATHS

BY

C. R. GIBSON, M.B., CH.B.GLAS.

AND

R. G. GORDON, M.D.ED., D.SC., F.R.C.P.ED.

The treatment of general paralysis by hyperpyrexia has now become recognized as the most beneficial form of therapy for this disease which is known to us. Of the methods of inducing hyperpyrexia, the introduction of malaria parasites into the patient's blood has so far been found the most reliable and the most effective. This is no new observation, for Sir J. Purves-Stewart quotes a dissertation by Foster, written so long ago as 1848, on the beneficial effects of malaria on insanity.[1] The first systematic use of this treatment in general

paralysis was introduced by Wagner-Jauregg in Vienna in the year 1917.[2] Since then the method has been used with considerable success all over the world. In spite of this success the effects of malaria are less reliable than might be desired. Some patients do not contract the malaria at all, in spite of transmission of plasmodia to their blood, while in other cases the malarial infection fails to persist sufficiently to give the twelve attacks of fever which are regarded as the desirable course of treatment. On the other hand, troublesome relapses of the malaria are found to occur, and a certain number of fatal results from cardiac failure have been recorded. Other chemical (for example, sodium nucleinate) or toxic (for example, tuberculin) methods of producing hyperpyrexia have not proved any more reliable, and have hardly stood the test of time.

General Principles

While on a visit to San Francisco one of us had the good fortune to see the work of Drs. H. G. Mehrtens and P. S. Pouppirt on the treatment of various nervous affections by hot baths. This work has since been published,[3] but hardly does justice to what seemed remarkably striking results in the cases of general paralysis treated. A certain amount of doubt still seems to persist as to whether the results of malarial treatment are due to some specific effect of the plasmodium or its toxins on the progress of general paralysis, or simply to the hyperpyrexia induced. If it can be shown that treatment by hot baths is successful, then this would seem to afford definite proof that the hyperpyrexia is the beneficial agency. Further, there can be no doubt that this purely physical measure, if successful, has undoubted advantages over any other pyretic form of treatment. It does not involve the introduction of foreign toxins; the pyrexia can be accurately and exactly controlled, both as to extent and as to duration; and, provided that certain technical details are observed, the treatment is simple, easily applied, and safe.

The chief danger of this treatment is not so much hyperpyrexia as dehydration; for, as will be seen from the details of this case (confirmed by experiments on normal subjects under the same conditions), there is a very considerable loss of weight during the bath, due to secretion of sweat, which is quickly made up after the bath. This was born out by certain observations of Mehrtens. He found that this hyperpyrexial treatment relieved the gastric crises of tabes, though it did nothing to cure the tabes—a fact which we have confirmed in one case treated by this method. When the vomiting from the crises has been prolonged and severe, the patient is already severely dehydrated, and unless he is given plenty of fluid (preferably by rectum) before he is put into the bath he is apt to undergo the most alarming collapse. In all cases treated by this method, therefore, it is wise to provide means whereby fluid can be at once introduced into the system either by the rectum or subcutaneously. Care should be taken at the commencement of the treatment to determine the reaction of the individual patient to the hot bath, as it sometimes happens that his temperature may continue to rise one to one and a half degrees after he has left the bath; and if his temperature is already 103° F., as frequently happens, this may be undesirable.

We made use of a large reclining bath as described below, and the patient's temperature was recorded by a special self-recording electric thermometer prepared for us by the Cambridge Scientific Instrument Company. This instrument is of great delicacy and accuracy, and enabled us to know exactly what was happening in an initial experiment, and to give a graphic record of the pyrexia induced. We do not consider that such an instrument is essential for carrying out the treatment, so long as care is taken to establish the patient's reactions, since it is expensive and has the disadvantage that short-circuiting is very apt to occur in the lead between the rectal thermometer and the recording apparatus.

Case History

History of Present Illness.—Male, aged 35. In September, 1927, there was "apparent blood poisoning, believed to be due to eating pork. After attending various doctors, who said that he was suffering from digestive trouble and nervous dyspepsia, he showed no sign of improvement. Gradually fits of shaking commenced, which he could not control, and he had a feeling of numbness in his left leg." In 1928 the patient became irritable and depressed, and felt "as if his nerves were in great torment." He became impulsive and seemed to be losing his self-control. Then his memory began to fail. He forgot almost everything he was told and could not remember where he had put things. His work "seemed to be sapping every bit of his mind and strength." Sometimes he would be holding a cup or a glass and would seem to forget that he was doing so until he dropped it, and then the smashing of the glass would pull him together. This happened frequently. Since 1928 he has occasionally had "slight rheumatic pains and numbness in his knees and legs"; but he will not admit to any shooting or stabbing pains. About this time co-ordination became noticeably affected. He began to have difficulty in walking steadily. The numbness of the left leg increased, and his wife noticed that "he was throwing his legs out in a peculiar way when walking." On several occasions "his legs seemed to give out and throw him down on the ground." These tumbling-down episodes became more frequent, being especially marked in the dark or when he tried to turn quickly. In June, 1929, he had an attack of influenza. After this his general shakiness was greatly increased. His speech now showed a marked defect, and was hesitating. He would begin talking at his ordinary speed, then suddenly stop as if he could not get the use of his tongue, and then start off again very rapidly. When reading aloud to his wife he would mix up his sentences and run his words into one another so badly that she could not understand what he said. He began to be morose and unsociable, and shunned the company of other people.

In November, 1929, the patient removed to a house with a back entrance, as he had found that the neighbours in his old district were remarking on his speech and gait. His condition gradually became worse. He had to give up playing cards, one of his favourite recreations, as he could not remember which cards had been played. He became more and more irritable, and this mood alternated with fits of profound depression. He found increasing difficulty with his work in the designing department of a tweed factory; and when he came home at night he would spend the whole evening sitting by the fire without speaking to anyone. He became suspicious of his wife and easily upset by his only child (a girl aged 4 years). Formerly, he was passionately attached to this child, but now he began to be annoyed with everything she said or did. On one occasion he knocked her down a flight of three steps. One day towards the end of December, 1929, the patient's wife was calling on a neighbour and left the child in her husband's care. He became annoyed with something, left the child alone in a room with a fire, and went away, after locking all the doors in the house. When his wife returned she found the child screaming with fear, as she had never been left alone before. Two hours later the patient returned, having suddenly realized that the child was in danger from the fire. When he got into the house he collapsed completely, and for two days was continually shaking and weeping. In January and February, 1930, there was a continued deterioration in the patient's condition. When he spent money he could not remember what he had spent it on. He was becoming markedly emotional. If walking at night he had to be supported by his wife, and fell down frequently. He complained continually about his food, and his wife found that "he could digest

of dy invalid's diet." He was sleeping very badly. Incoordination was affecting him generally, and in kissing his child he would kiss her chest or her shoulder in an attempt to reach her face. Much against his inclination, the patient's wife persuaded him to see another doctor, and he was brought to see us on March 10th, 1930.

History of Past Illnesses.—Apart from the common maladies of childhood, and from several attacks of influenza, the patient did not admit to any previous illness. He would make no admission to syphilitic infection. He said that he was gassed in France in 1916, and at that time had a skin rash, which was treated by inunction with a blue ointment. Pressed further for an admission of the date of a primary syphilitic infection, he still strongly denied it. But when we offered him a loophole he accepted it readily, and said, "Of course I might easily have got it through using other men's towels."

Examination.—On March 10th, 1930, the main feature was a marked general coarse tremor of arms, hands, head, etc. He seemed to be alert, but in answer to questions betrayed marked lack of confidence in himself. He tended to be voluble, and it was difficult to keep his attention fixed on any one subject. His memory for dates and events, even of recent occurrence, was definitely poor. He had a greatly exaggerated opinion of his own importance and of the value he was to his employers; but he had none of the exaltation and delusions of the fully developed general paralytic. Speech was grossly hesitant, and he had a marked stammer. The slurring and clipping of syllables and fusing of words made it difficult to follow much of his conversation. Writing was jerky and of poor quality. The letters were pointed, unevenly spaced, and irregularly formed. There was a coarse tremor of the hands and arms; but, by concentrating his attention on this, the patient was able to control it to a great extent. It was most marked on movement. Tremor of the lips was pronounced, particularly when he was speaking, and there was constant tremor of the tongue. His gait was very unsteady. The feet were thrown out and brought down hard, and he walked on a broad base. Romberg's sign was present, and when turning sharply the patient had to be firmly supported to prevent a fall. The arm movements were unsteady, and the finger-nose test was poorly performed. Sense of position was also impaired. With the legs crossed the patient could not tell which leg, or which part of the leg, was touched, though he could feel the actual touch perfectly well. There did not appear to be any actual loss of power either in arms or in legs. There were no areas of hyperaesthesia. Sensibility to touch, pain, and temperature was unimpaired. Sensibility to vibration was below normal limits, though not entirely absent. The patient has had a slight strabismus for many years. There was neither diplopia nor nystagmus. The pupils were of medium size. The left was slightly larger than the right, and was not quite regular in outline. Reaction to accommodation and light was normal, and there were no pathological changes in the optic fundi. The knee-jerks and ankle-jerks were absent, and other tendon reflexes were normal. Skin reflexes were unchanged, and the plantar responses were flexor.

A blood Wassermann reaction taken on March 25th, 1930, was strongly positive. On April 6th a lumbar puncture was performed. The cerebro-spinal fluid was under considerably increased pressure, but it was quite clear. The following report was received:

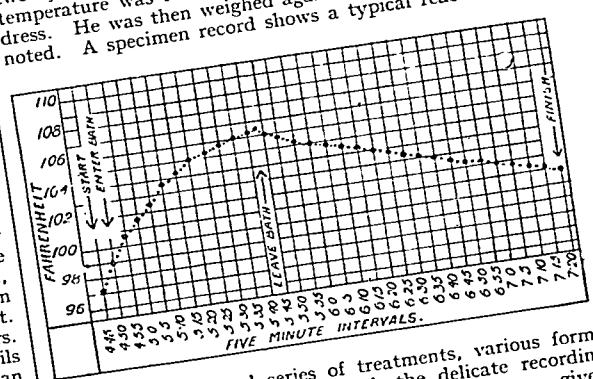
Foam test	Positive.
Globulin test	Positive.
Protein	0.10 per cent.
Cells	15 per c.mm.
Colloidal gold test... ...	0000114433.
Complement-fixation test... ...	Strongly positive.

It was then decided to adopt the experimental hot bath treatment in this case as the symptoms of general paralysis were not yet in an advanced stage. On April 25th, 1930, an injection of sodium nucleinate was given, and a leucocyte response was shown as follows: before injection, 6,600 per c.mm.; after injection, 9,100 per c.mm. This is a wise precaution before beginning hyperpyrexial treatment, since it demonstrates the patient's capacity for reaction.

TREATMENT

On April 29th, 1930, the following procedure was adopted. The patient was weighed (stripped), and after five minutes' rest on a couch the mouth temperature, pulse rate, and respiration rate were recorded. A sensitive recording galvanometer of the moving-coil type (thread recorder; Cambridge Scientific Instrument Company) was used to make a continuous graphic record of the rectal temperature. This apparatus was placed in the dressing-room leading off the patient's bathroom. We could thus watch for any sudden rise or fall in the patient's body temperature, and at the same time observe his general condition as he lay in the bath.

The metal thermometer, containing a delicate thermo-pile, was inserted into the patient's rectum while he was resting on the couch. As soon as the temperature was recording steadily he entered the bath. This was an ordinary reclining bath, and it was filled to the brim with water at a temperature varying in different experiments from 106° to 110°. A waterproof canvas cover was stretched across the bath and tightly bound down, there being a slot for the patient's neck, so that only his head was out of the water. Heat loss from evaporation was thus cut down to a minimum; and an attendant, watching a thermometer in the bath, kept the temperature even by the addition of a little hot water as required. Five minutes after the patient had entered the bath the mouth temperature, pulse rate, and respiration rate were recorded. These readings were repeated five minutes before the patient left the water. The duration of each treatment varied from forty to fifty-three minutes, the majority being about fifty-two or fifty-three minutes. The patient was then wrapped in blankets and made to rest on a couch for one and a half to two hours. The mouth temperature, pulse rate, and respiration rate were recorded twenty minutes after he left the bath; and the rectal temperature was recorded until the patient was ready to dress. He was then weighed again and the loss of weight noted. A specimen record shows a typical reaction.



During the several series of treatments, various forms of trouble were experienced with the delicate recording galvanometer, and a number of the baths were given without the use of this apparatus. On these occasions the mouth temperature, pulse rate, and respiration rate were recorded every ten minutes. In the earlier experiments we started with a high temperature (110° to 108°) and gradually lowered it when the patient showed signs of distress. But later we found that it was more satisfactory to start with a temperature of 106° to 107°, and to retain that level throughout the experiment. By this method we were able to reach and maintain a body temperature equivalent to that of the bath, thus producing a more sustained hyperpyrexia. Pulse rate usually reached a level of 120 to 140, respirations 50 to 65, and body temperature 105° to 107° (frequently 106°).

The patient invariably manifested some degree of distress during the last fifteen to twenty minutes of each session. Breathing became very rapid and shallow, and occasionally there was marked cyanosis. He sometimes complained of singing noises in his ears, of fullness in his head, and frequently of headache. On three occasions he became light-headed, but only twice was it considered necessary to finish the treatment before the expiry of fifty minutes. We found that fifty-three minutes was as

long a period as the patient could reasonably be asked to remain in the water. On almost every occasion distress was marked not later than forty-five minutes after the commencement. The average loss of weight during each bath amounted to 4½ to 5½ lb., the minimum being 3 lb. and the maximum 6 lb. 10 oz. By the next morning this loss had sometimes been more than made up. During the nine months of treatment the patient showed a net gain of 47 oz. (9 st. 11 lb. 13 oz. to 10 st. 12 oz.), and at one time he actually reached 10 st. 7 lb. 1 oz. The treatment did not hinder him from going to his work. He left work at 4 p.m. and started his bath at 4.45 p.m. Then he left for home at 7.30 p.m. (by which time he had cooled down to 100° to 101°), had his supper, and went to bed; by next morning he was fit to resume work.

The results of this experimental treatment have been most striking. Until July there was no definite change in the patient's condition, though there did not seem to be any progression of the disease. The course of eight baths in July, however, produced a very marked improvement. This was noticed particularly by the patient's wife, who said that he was no longer depressed, and only occasionally irritable. His speech was clearer, and his gait was slightly more steady. He was eating much better, and his insomnia had gone. The blood Wassermann reaction at the end of July remained strongly positive. Baths were started again in October, and twelve were given by the middle of November. Steady progress, both mental and physical, was shown. The patient's employers remarked on the improvement in his work, and he felt that he was much less easily tired. We noticed a distinct betterment in co-ordinated movements, and he could get into and out of his bath unaided. Up till that time he had to be assisted on both sides, especially when getting out of the bath.

On November 21st a complete examination of the cerebro-spinal fluid (which was still under fairly high pressure, but not so great as in April) was again made, with the following results:

Clear, colourless, no clot	
Foam test	Positive.
Globulin test	Positive.
Protein	0.09 per cent.
Sugar	0.07 per cent.
Cells	12 per c.mm.
Colloidal gold test... ...	0000421100.
Complement-fixation test... ...	Strongly positive.

Towards the end of January, 1931, we decided to give the patient another series of baths. This series was more prolonged than any of the previous ones, and sixteen baths were given by February 23rd—a total of forty-one. The result of this final series was exceedingly satisfactory. The patient is now a different man, both mentally and physically. In a letter which we recently received from his wife (an intelligent woman) she says:

"At the present time he has double the energy. He rarely gets depressed, never irritable, and he is mentally much sharper. Previously he was irritable beyond all words, and if things did not go just as he wanted he was beyond endurance. He walks faster and stronger, his speech is much clearer, and his writing is greatly improved. He can now digest almost anything, and he sleeps generally from 10 p.m. till 6 or 7 a.m. without wakening."

In conversation with us, she said that all their friends were remarking on the recovery of her husband's memory. He enjoyed playing cards again, and could do so in an intelligent way. He was a different man to live with, and was like the husband of three or four years ago. In walking in the dark she gave him no assistance, but he never fell.

Our examination at the end of February showed that he was alert and much more confident in himself. He still tended to be rather voluble, though much less so than a year ago; and he could now concentrate on the point under discussion. There was a very marked improvement in his memory. Speech was definitely better. It was sometimes slightly hesitant, but the slurring had gone. Writing was more even. The tremor of hands, arms, and lips was completely absent. There was still some tremor of the tongue, though it had greatly decreased. Gait was much steadier. He continued to walk on a broad base, though he did not throw his feet out so far. Romberg's sign was indefinite. When turning sharply there was some unsteadiness, but he could turn quickly without support and did not fall. Condition of arm movements was now good, and his sense of position was more accurate. There were no definite changes in the reflexes.

On April 6th, 1931, lumbar puncture was again performed. The cerebro-spinal fluid was still under pressure. A complete examination showed:

Foam test	Positive.
Globulin test	Positive.
Protein	0.06 per cent.
Sugar	0.08 per cent.
Cells	50 per c.mm.
Gold curve...	4444332000.
Complement-fixation test... ...	Strongly positive.

We have asked the patient's wife to send us a monthly report of her husband's condition. Meanwhile all treatment has been suspended.

COMMENTARY

It is to be noted that only the last gold curve is a true paretic curve. All other symptoms are suggestive of taboparesis. It will be admitted that the symptoms of this patient have improved very materially. His reflexes and Wassermann reaction are so far unaltered. The cerebro-spinal fluid shows signs of approaching a more typical paretic type, though the protein is definitely less and there is a slight diminution in the intensity of the Wassermann reaction. It should be clearly understood that we do not wish to draw any conclusions from this one case, but he has had no antisyphilitic or other sort of treatment than the hot baths. We hope that others who have more clinical material with which to work than ourselves may be induced to try this treatment and prove or disprove its utility. If it should prove successful, we believe it has much to commend it when compared with other methods of inducing hyperpyrexia.

We are indebted to the Bath Spa Committee and to Mr. John Hatton for the facilities allowed us in the bathing establishment, and to the attendants for the assistance given us in carrying out this experiment.

REFERENCES

[1] Purves-Stewart, Sir J.: *Medical Annual*, 1928.
[2] Wagner-Jauregg: *Wien. med. Woch.*, 1921, lxxi, 1105.
[3] Mehrtens and Pouppirt: *Arch. of Neur. and Psych.*, 1929, xxii, 700.

INDICATIONS FOR THE INDUCTION OF PREMATURE LABOUR*

BY

H. J. DREW SMYTHE, M.B., M.S., F.R.C.S.

HONORARY ASSISTANT OBSTETRICIAN AND GYNAECOLOGIST, BRISTOL GENERAL HOSPITAL

Under this title I want to include the indications for the induction of therapeutic abortion as well as the induction of premature labour; for in a large number of cases we may be faced with the problem of whether to evacuate the uterus in the early stages of pregnancy or to allow it to proceed, and, later, to induce premature labour.

NEPHRITIS

The commonest case brought to us for this reason is the chronic nephritic. In these cases one has to consider three things: first, the number of pregnancies; secondly, the term of pregnancy at which signs or symptoms of

* Read before the Bath and Bristol Branch on March 25th, 1931.

the nephritis were first observed; thirdly, the severity of the nephritis. The third, of course, is the most important, and for this the help of the physician and the laboratory is necessary; in fact, the last word in all these cases, whether or not to empty the uterus, should rest with the physician. Clinically, I consider the most important points to observe in these cases are: the quantity of urine passed in the twenty-four hours, the amount of albumin, the blood pressure, and the presence or otherwise of symptoms of impending uraemia, such as persistent vomiting or severe headache. In pregnancy two types of cases are met with. The first is that in which the patient is known to be a nephritic, and who, with or without treatment, shows signs of severe kidney dysfunction early in pregnancy. In this type of case I would advocate early evacuation of the uterus in order to prevent further damage to the kidney, because I do not think it is fair to the mother, unless it is her wish, that pregnancy should be allowed to proceed, with the consequent risk to her life and health, and with the probability of a stillborn premature child at the end. The second is that in which there has been a previous minor lesion of the kidney, which is able to deal adequately with excretion under normal conditions, but which with the added stress of pregnancy eventually breaks down. This type of case usually shows signs of failure much later in pregnancy than the first type, and also, if recognized earlier in pregnancy, responds to treatment. Induction of premature labour rather than therapeutic abortion is indicated. In either of these two types, if it is a first pregnancy, or even a later pregnancy, which is much desired by the parents, the patient may be placed on dietetic and medicinal treatment, and termination of pregnancy postponed until near term, unless danger signals arise. But in all cases of chronic nephritis I consider that induction is indicated between the thirty-sixth and thirty-eighth weeks in order to save the kidney further damage and, in many cases, to save the life of the child. Many of these children die *in utero* towards term.

The true albuminuria of pregnancy manifests itself only during the last month or so of gestation, and is usually amenable to dietetic and medicinal treatment. Induction, however, is indicated when treatment fails to keep the amount of albumin very low or absent, or when pre-eclamptic signs appear, such as persistent frontal headache, vomiting, visual changes, or gradual diminution of the daily output of urine, while the patient is under treatment. If the patient has not been treated, then the effect of treatment on these symptoms should be observed first. A case of pregnancy albuminuria which has reached the thirty-eighth week, and which, in spite of treatment, still shows albuminuria, should be induced, especially in the presence of marked oedema. Induction is performed in all my cases by drawing off a measured quantity of liquor amnii, without an anaesthetic if necessary. From 1/2 to 1 pint is usually removed, depending on the amount of liquor present. The relief of tension by drawing off the liquor amnii seems to have a definite beneficial effect in these cases, and labour usually begins in from twelve to twenty-four hours; occasionally it may be delayed for three days.

PERNICIOUS VOMITING

A large majority of these cases are cases of hysterical vomiting, or of vomiting induced in order to find an excuse for the termination of an unwanted pregnancy. Many of them develop an acidosis from carbohydrate starvation, and may go on from this to definite toxaemic vomiting. The presence of acetone and diacetic acid in the urine is not an indication for inducing abortion; it merely denotes the existence of an acidosis, which will usually clear up under hospital or nursing home treatment. The indications for clearing out the uterus in these cases are progressive loss of weight, bilious vomiting unconnected with the taking of food, scanty and albuminous urine (especially if blood is present), rises of temperature, rapid pulse, and the slightest sign of jaundice. Any one or more of these signs and symptoms may be present, making evacuation of the uterus imperative if the patient's life is to be saved. No pregnancy should be interrupted merely on the patient's statement of intractable vomiting, but only after a reasonable period of observation and treatment. Neither is pernicious vomiting in a previous pregnancy an indication that a present pregnancy should be terminated.

PYELITIS OF PREGNANCY

This condition usually yields readily to treatment, but severe cases are sometimes seen in which the condition does not clear up under treatment, or frequent relapses occur and the patient's general condition becomes progressively worse. In such cases induction is indicated. I have not seen a fatal case of pyelitis of pregnancy, but last year I was shown the kidneys of three patients who had died from this condition. There was in each case not only a pyelitis, but multiple small abscesses in the kidney substance, which I presume is the end-result of a *B. coli* infection.

CARDIAC DISEASE

Patients with compensated heart disease pass through pregnancy and labour usually without ill effect; but labour should be shortened by forceps delivery, or, better still, by an induction about the thirty-eighth week, especially if there is the slightest suspicion of disproportion. It is always of advantage in moderately severe, and necessary in severe, cases of cardiac disease, for them to rest in bed under supervision during the last month of pregnancy. In all cardiac cases the advice of a cardiologist should first be sought as to the advisability of pregnancy at all, and as to whether an accomplished pregnancy should be terminated at an early stage or allowed to go on to maturity. When compensation fails during pregnancy, then labour, whether commencing naturally or induced, is fraught with danger for the mother. Rest in bed and suitable treatment may re-establish compensation, in which case an easy labour should be ensured by induction at a period when the child is likely to survive and yet is small enough to pass through the maternal passage easily—that is, from the thirty-sixth to the thirty-eighth week.

PHTHISIS

Active phthisis is an indication for early evacuation of the uterus. Should pregnancy, however, have gone beyond the fourth month there is nothing to be gained by interrupting its course. During pregnancy there is usually a definite improvement in the patient's general condition, and labour proceeds normally; but in the puerperium the disease becomes rapidly worse in a large number of cases, and I have seen two patients in whom the disease progressed so rapidly, and with such swinging temperatures, as to simulate septicaemia. In my opinion no woman suffering from active phthisis should be allowed to become pregnant, or, if already so, pregnancy should be terminated at the earliest moment. It is useless waiting to see "how she gets on."

EPILEPSY

Cases arise in which the number of fits greatly increases during pregnancy; in fact, they always tend to do so. In some cases the first manifestation of epilepsy may be the occurrence of fits during gestation. Interference with the pregnancy is not necessary unless the fits become

too frequent, or uncontrolled by drugs and endanger the patient's life. Too rapid child-bearing has a bad effect on epileptics, and I consider that the number of children should be limited, both for the sake of the mother and of posterity. I recall one case, especially, of a young woman who had frequent children and more frequent fits, and who was fast losing weight and health. She came to me for her fifth pregnancy five months pregnant and with fits so frequent that she always had to have some one with her. I terminated the pregnancy by doing a subtotal hysterectomy. Now she is healthy, well nourished, improved mentally, and her fits are few and far between.

INSANITY

With the " bad family history of insanity " we are not concerned in this paper ; but we may be asked to evacuate the uterus in these cases. Whether we do so depends on our individual outlook, as we have no legal status in this matter. Puerperal mania, or insanity of lactation, in the previous pregnancy is, in my opinion, a definite indication for the termination of pregnancy.

DISPROPORTION

This is the condition above all others in which induction of labour is indicated. By this means there has been a large saving of maternal and foetal lives, the number of operations for Caesarean section has been decreased enormously, and patients who have previously had prolonged labours, with probably difficult forceps deliveries, have by a judicious induction been given a normal labour without instruments. No definite measurements and no definite term of pregnancy can be laid down as to the exact time when induction should be performed. Each case must be frequently examined, especially from the thirty-fourth week onward, and induction performed directly it is difficult to press the head into the brim ; definite overlapping should not be waited for. Induction should not be advised unless the true conjugate is at least $3\frac{1}{2}$ inches, and unless pregnancy can be allowed to proceed to the thirty-second week. If these conditions are not present, then Caesarean section should be performed in order to deliver a child that is likely to survive.

OCCIPITO-POSTERIOR POSITIONS

Induction of labour is often most successful in this condition. If cases of posterior lie with a normal-sized child and small pelvis, or a large child and a normal pelvis, are allowed to go to term there is either a prolonged labour before the head rotates forward or the occiput is unable to rotate forwards at all owing to the size of the head approximating so closely to the size of the pelvic cavity. This difficulty can be avoided in almost every case by induction of labour at the thirty-eighth week. This allows for a smaller head, which has more room in the pelvic cavity to rotate forwards, and as a result no further intervention is necessary in the majority of cases. At the same time as the induction is performed an attempt may be made to rotate the head and anterior shoulder into an anterior position, which may be maintained by pads and binder. This is by no means always successful, but in every case an attempt is worth while.

BREECH CASES

In some cases of breech presentation where external version has been unsuccessful (and these are generally found to be cases in which the legs are extended) induction at the thirty-eighth week, depending on the size of the child, in indicated. In breech cases another method of induction, other than the one described below, must be carried out. The advantage of induction in these cases is to get a smaller child and so make it more easy for a natural delivery to take place. Unfortunately even after induction it may be necessary to bring down the legs in order that the child may be delivered, but the smaller child makes this manœuvre easier.

METHOD OF INDUCTION

The method of induction which I always employ is a modification of the old method of rupture of the membranes. For this purpose I have had made a double curved silver catheter, similar to a prostatic catheter, with a blunt-ended stylet, which can be protruded at the distal end of the instrument. The vagina and cervix are cleaned up thoroughly with ether soap, and then with surgical spirit. Thorough cleansing of the vagina and cervix is essential in order to prevent any chance of introducing sepsis with the passage of the catheter. A Sims's speculum is introduced, and the cervix may be seized with vulsellum forceps, but this is not necessary unless the cervix is very posterior. No dilatation of the cervix is required. The catheter, with the point of the stylet withdrawn, is passed up the cervical canal until it meets the child's head ; the proximal end is then raised and the point of the catheter is passed behind the head, between the uterine wall and the membranes. When the point of the catheter has passed above the child's head the stylet is pushed home and the proximal end depressed ; by so doing the distal end ruptures the membranes. The eyelets of the catheter are now in the amniotic cavity, and liquor amnii commences to flow through the catheter, and is collected in a measured vessel. From half to one pint is drawn off, depending on the amount of liquor amnii present, and when sufficient has been collected the catheter is withdrawn. After the withdrawal of the catheter there is practically no further escape of liquor, so that when labour commences a definite quantity of amniotic fluid is still present.

The advantages of the method are that the opening in the membranes is made well away from the cervix, so diminishing the chances of septic infection of the liquor, that the bag of membranes is retained, and that there is no foreign body left in the uterus to invite sepsis or damage the uterine wall. The method is extremely simple and safe, both for the mother and for the child. Labour usually commences within twenty-four hours, but may be delayed for three days, or in a few cases for seven days. In spite of this delay I have not had a single case in which the liquor became infected. I can confidently recommend this method of induction of premature labour for all cases in which the foetus presents by the vertex, and I hope shortly to publish the results of its use during the past two years.

GONOCOCCAL STOMATITIS

BY

A. D. FRAZER, M.B., Ch.B.

V.D. MEDICAL OFFICER, COUNTY BOROUGH OF DUDLEY

AND

J. MENTON, L.R.C.P. AND S.I.

BACTERIOLOGIST, COUNTY OF STAFFORD

This condition is rare ; only about forty cases have been recorded since Neisser discovered the gonococcus in 1879. Our findings have an additional interest in view of the recent discussion in the *British Medical Journal* (February 14th, p. 263) on gonococcal infection of the nose.

Mouth infection in the newly born, like ophthalmia neonatorum, occurs during transit of the maternal passages (Rosinski,[1] Leyden,[2] Kast[3]). In adults infection is usually direct, but Chevelle and Georgel[4] have reported a case of metastatic involvement of the buccal cavity. Rosinski[1] gives five to twelve days as the incubation period in infants. In adults, for obvious reasons, it is more difficult to determine, and seems to vary from one day (Petrasie[5]) to seven days (Bronson[6]). The parts most often affected are the soft palate, the pillars of the fauces, the anterior part of the tongue, and the gingival margin

in the anterior part of the mouth (Mead[7]). The mucosa is bluish or rosy red, and the lesion has been described by Mead,[7] Rosinski,[1] and Bronson[6] as a sharply localized whitish or yellowish-white patch surrounded by a reddish zone. The gums are usually inflamed, swollen, and retracted. The breath is offensive, and the mouth movements are extremely painful. Healing occurs without much scarring.

HISTORY OF CASE

In the case we have to record, an unmarried man, aged 23, exposed himself to infection on March 13th, 1931. On the 15th he suffered from nausea, and repeatedly put his fingers down his throat to make himself vomit. Next day he had a discharge from the urethra and from both eyes. On the 17th his gums were swollen, and the following day he noticed a purulent discharge from the mouth. Dysuria had developed by this time, but there was no frequency of micturition. He was admitted to hospital on the 19th. The purulent discharge from the urethra contained gonococci. The usual tests revealed that the infection was limited to the anterior urethra; and the epididymes, spermatic cords, seminal vesicles, and prostate were unaffected. The eyes showed a bilateral purulent ophthalmia; the corneae were unaffected. The buccal mucosa, anterior half of the tongue, the gums, and the tonsils were coated with a greyish adherent membrane. In places the membrane had sloughed off, leaving bright red areas with numerous bleeding points. These superficial ulcers were more numerous in the neighbourhood of the molar teeth than elsewhere. The gums were swollen and retracted. Pain in the mouth was a prominent symptom. He looked seriously ill. His temperature was 101° F.

Diagnosis

On March 21st plates of Thomson's medium were conveyed in a portable incubator from Stafford to Dudley, a distance of 22 miles. The lamp of the instrument was lit before leaving Stafford, so that the medium was warm on arrival at Dudley. This is an important precaution when dealing with a delicate micro-organism like the gonococcus. Swabs were taken from the patient's mouth and were sown on six plates, which were immediately put into the incubator and sent back to Stafford by road. These details are mentioned to show that distance is no impediment with proper equipment and precautions. After forty-eight hours' incubation, four of the plates showed an abundant growth of pneumococci and staphylococci; the remaining two revealed, in the midst of a similar growth, some colonies having the usual appearances of gonococci. These were subcultured until they became habituated to artificial conditions and were then submitted to the usual biochemical tests. They gave the reactions of gonococci, producing acid in glucose, but not in maltose or saccharose. These micro-organisms isolated from the patient's throat will be for convenience designated as "the Dudley strain." They were not agglutinated by the patient's serum which was drawn off within the first week of the disease; and, using them as an antigen, the complement-fixation test on the patient's serum was negative, as it was with the stock laboratory antigen. Considering all the circumstances, these results cannot be regarded as exceptional.

A rabbit was inoculated with a Stoke strain of gonococci obtained some time ago from Dr. McElligott's clinic. The micro-organisms were first killed by formalin. The agglutination reactions of this animal's serum at different periods after inoculation are interesting:

	5th Day	7th Day	10th Day	17th Day
Stoke strain	1 : 125	1 : 500	1 : 250	1 : 50
Dudley strain ...	1 : 125	1 : 250	1 : 250	1 : 50

Adsorption tests showed that the Stoke strain removed all the agglutinins for the Dudley strain, and the Dudley strain rendered the serum negative for the Stoke strain. Both strains were negative to normal horse serum, but were agglutinated in strong dilutions by Types I and II, and by polyvalent antimeningococcal serums; but as these reactions are usual and merely proclaim the close antigenic relationship between the gonococcus and meningococcus they will not be further discussed. The rabbit's serum was submitted to complement-fixation tests. Dr. Price's technique[8] was adopted. Using the Stoke and Dudley strains as antigens, the following results were obtained at the periods stated:

	5th Day	7th Day	10th Day	17th Day
Stoke strain	—	±	+ ±	+
Dudley strain ...	± —	+	+ ±	+

Several direct films made from swabs from the mouth showed Gram-negative intracellular diplococci having the morphological characters of the gonococcus. A differential blood count showed slight eosinophilia up to 4.5 per cent.

Treatment

Treatment was started with urethral irrigations of a 1 in 8,000 solution of potassium permanganate, and an alkaline diuretic was given by the mouth. The eyes were bathed every two hours with a 1 in 5,000 solution of oxycyanide of mercury, and drops of 20 per cent. argyrol were instilled. The mouth was washed out frequently with a 1 in 5,000 solution of potassium permanganate. A detoxicated gonococcal vaccine (starting with 2,500 million organisms) was given alternately with small doses of edwenil (1/2 c.cm.) at two- to three-day intervals. Treatment was started on March 19th, and progress was as follows: March 24th, temperature normal; March 28th, no urethral discharge, and both urines in two-glass test clear; March 30th, the discharge from the eyes, which had been very slight for the last four days, now entirely ceased; April 4th, grey membrane covering mouth completely gone and normal healthy colour reinstated; no swelling of gums and no pain. The patient passed very rigorous tests for cure, and was considered free from infection six weeks after his admission to hospital.

COMMENTARY

The gonococcus must have been carried to the buccal mucosa when the patient attempted to make himself vomit by putting his fingers down his throat. This was two days after exposure to infection and one day before he noticed the urethral discharge—ample time for the gonococcus to multiply in the urethra and produce a highly infective, but not obvious, mucoid secretion. The other possibility here is a metastatic spread. The urethral discharge appeared on March 16th, the gums were swollen on March 17th, and the stomatitis was fully developed on the 18th, so that the time factor alone almost excludes this route. Added to this, the fact that the urethritis remained anterior throughout the whole course of the attack, and the lack of involvement of the prostate and seminal vesicles, allow us to exclude metastatic infection. The case with which the gonococcus was isolated from the superficial exudate in the mouth, and the failure to find complement-fixing factors or agglutinins in the patient's serum after the stomatitis had ensued, further confirm these conclusions. The eosinophilia has no relation to the stomatitis. It is an occasional accompaniment of gonococcal infection (Buchanan,[9] DaCosta[10]).

The lesion in this case is different in some respects from any we have seen described in the literature. Instead of the sharply localized whitish patches surrounded with

a reddish zone which previous observers have noted, the whole of the mouth, tonsils, and anterior half of the tongue were covered with a grey membrane. Before treatment was commenced there were a few patches of superficial ulceration, chiefly around the molar teeth, where the membrane seemed to have been forcibly removed, possibly by the action of food or the tongue. While under treatment the membrane sloughed off in parts, showing red mucosa beneath without ulceration. The redness gradually faded until the normal colour was resumed. The rarity of this complication is striking, and is possibly due to the reaction of the saliva and the nature of the buccal mucosa. The presence of other micro-organisms, as in this instance, may allow the gonococcus to become established. Any unhealthy or septic condition of the mouth may act as a predisposing cause—gingivitis, pyorrhoea, dental ulcers, etc. Klepper[11] describes the case of an old woman who had simple ulcers of the mouth. She took care of a child with gonococcal urethritis, and herself developed a gonococcal stomatitis. In the case under discussion there were no such predisposing causes, and the patient was a healthy young adult. As a last resort, one must think of a specially virulent strain of gonococcus. That such strains occur seems quite definite clinically, although no bacteriological proof is yet forthcoming.

Concerning treatment, most writers advise the application of a solution of silver nitrate, 1/4 to 2 per cent. (Mead,[7] Vines,[12] Rosinski[1]). Petrasie[5] used an alum gargle and cured his case in a week. Janet[13] suggests a mouth-wash of potassium permanganate. As the gonococcus is easily killed by a weak solution of almost any disinfectant (its power lying in its inaccessibility), the choice of a mouth-wash seems unimportant. Potassium permanganate was used in this case, as it has the chief claim to an approach to specificity.

Although we had found by direct film numerous cells filled with Gram-negative diplococci which showed the morphological characters of gonococci, we were not prepared to make a diagnosis on these results alone, for it has been our experience that in the genito-urinary system and elsewhere Gram-negative intracellular diplococci may occasionally be found which are not gonococci. In the mouth numerous Gram-negative cocci frequently occur—for example, *M. catarrhalis*, meningococcus, parameningococcus, *M. pharyngis siccus*, the various types of *M. flavus*, and others. So that, if we had based the diagnosis on unsupported direct films, our findings would be open to serious criticism. We do not, however, wish to create the impression that the direct film is always worthless. A Medical Research Council Report[14] sums up the position thus:

"(*a*) That Gram-positive organisms when taken up and digested by leucocytes may lose their Gram-positive character.

"(*b*) That more than one observer has noted, in cases of chronic gonorrhoea in which the material is such that a satisfactory film is difficult to obtain, that organisms determined by culture to be gonococci retain the violet stain with unusual obstinacy, and appear thus to be Gram-positive.

"(*c*) That the stain as such does not distinguish between gonococci and other Gram-negative, but non-pathogenic, diplococci which may be present in both male and female genito-urinary tracts.

"The Committee are of opinion that these limitations do not seriously affect the diagnosis of the one order of cases in which, in their view, diagnosis by microscopical examination alone gives consistent results—namely, the active acute cases of the disease."

SUMMARY

This is a synopsis of the known facts on gonococcal stomatitis. An actual case is briefly described and an outline given of the measures adopted to place the diagnosis beyond reasonable doubt.

REFERENCES

1. Rosinski: *Zeit. f. Geburtsh. und Gynäk.*, 1891, Fasc. 1 and 2.
2. Leyden, *Zentralbl. f. Gynäk.*, 1893, 185.
3. Kast, J.: Thesis, Bonn. 1894.
4. Chevelle, A., and Georgel, M. G.: *Rev. prat. des maladies des organes genito-urinaires*, 1914, xi, 169.
5. Petrasie: Quoted by Bumstead and Taylor, *Venereal Diseases*, 1879, p. 212.
6. Bronson, F. R.: *Amer. Journ. Urol.*, 1919, xv, 59.
7. Mead, S. V.: *Diseases of the Mouth*, p. 455.
8. Price, I. N. Orpwood: *Journ. of Path. and Bact.*, 1930, ii, 493.
9. Buchanan, R. J. M.: *The Blood in Health and Disease*, 1909, p. 270.
10. DaCosta, J. C.: *Clinical Hematology*, 1905, p. 257.
11. Klepper, C.: *Derm. Woch.*, 1925, xxxix, 1440.
12. Vines, S.: *British Medical Journal*, 1903, i, 425.
13. Janet, J.: *Diagnostic et Traitement de la Blennorragie*, 1929, p. 399.
14. Medical Research Council, Special Report Series No. 19. Reports of the Special Committee upon the Standardization of Pathological Methods.

TORSION OF OVARIAN CYST WITH BRADYCARDIA

BY

R. FRANCIS MATTERS, M.D., CH.M., F.R.C.S.ED.

LECTURER IN HUMAN PHYSIOLOGY AND TUTOR IN OBSTETRICS, UNIVERSITY OF ADELAIDE

Many incidents have been recorded concerning twisted pedicles of ovarian cysts, particularly in children. A perusal of the literature, however, does not elicit any reference to slowing of pulse rate during the torsion, or at any other time. In 1893 Keen[1] recorded a case of ovarian cystoma weighing 111 lb., in a child of 15, but there appear to have been few symptoms and signs other than those due to pressure. Palmer Findley[2] records the case of a girl, also 15 years of age, who had a cyst of 32 lb. without untoward effects. Reuben[3] presents a report containing a reference to a girl, aged 14, who had an ovarian cyst with a twisted pedicle, without very unusual signs. The onset of menstruation at the age of 7 in a child with a large ovarian cyst is mentioned by Keatings.[4] Others, including Chu,[5] Nutt,[6] Pillai,[7] and Stevens[8] have placed on record their findings in cases of ovarian cysts. Nowhere, however, does slowing of the pulse rate appear to be mentioned.

THE ORIGIN OF BRADYCARDIA

Slowing of the heart has been noted in some cases of gastro-duodenal origin, and extrasystoles have been noted in connexion with digestive disorders. Cases of extrasystole in this group are usually found in young adults; they are due to afferent autonomic impulses stimulating the vagus centre. The result of this is that the vagus produces its inhibitory influence upon the cardiac rate, and the cardiac cycle may be so affected at times that the prolonged diastole is of such an interval that the intrinsic ventricular beat becomes manifest, with the production of an extrasystole. The condition is similar to the ventricular escape resulting from continuous vagal stimulation experimentally, in which the ventricle begins its own rhythm, as in cases of complete heart-block.

HISTORY OF A CASE

A girl, aged 20, came to me with a history of having had two attacks of pain on the right side. When I first saw her she was lying with her legs flexed, and was groaning with pain, which was most intense in the lower right abdomen. No actual vomiting had occurred, but she complained of nausea. The temperature was 100.4° F., the pulse rate was 52, and the respiration rate 32. The catamenia was of average type, being a twenty-six-day cycle, with a menstrual flow lasting four days.

The case was obviously an acute abdominal condition, but the slow pulse rate was most unsatisfactory as a guide. The patient looked drawn and ill. The abdominal wall was very rigid, especially in McBurney's area; therefore we first

thought of acute appendicitis. Although the patient was thin, there was no obvious alteration of the contour of the abdominal wall, but a curious thrill was obtained in the lower abdomen, so that torsion of an ovarian cyst was also considered.

Under anaesthesia, the patient was catheterized, but the cystic mass remained. Through a mid-line incision a large mulberry-like mass was encountered; it was connected with the right broad ligament by a pedicle that had rotated five times. The cyst was multilocular and anatomically a parovarian cyst. This purple mass, about the size of a coco-nut, was readily removed, but the ovary which was involved in the pedicle was saved. A very congested appendix was also removed, and the patient made a good recovery.

The pulse rate during the first twenty-four hours was about 60, and became faster and faster, so that in two days it reached 84, at which it has since remained.

COMMENTARY

The bradycardia is the feature of great interest in this case. Was it due to the appendix or the cyst, or might the two have combined to produce this unusual state? The suggestion offered is that the afferent stimuli from the twisted pedicle travelled by the autonomic fibres to the vagal centre, and also to its neighbour, the respiratory centre. The vagal response was a decrease in cardiac rate, or in this case the bundle of His might have been impaired, producing a two to one heart-block. The fact that the pulse rate gradually returned to normal indicates that the vagal inhibition was probably the cause, and the relatively large number of autonomic nerves in the area adds weight to this conception.

In conclusion, it may be pointed out that the above facts do not accord with the usual assumption that the peritoneal irritation necessarily provides all the indications of shock, including increased pulse rate, and that the increased pulse rate is a guide to the diagnosis.

REFERENCES

1 Keen, W. W.: *Med. Review*, 1893, xxviii, 3.
2 Palmer Findley: *Journ. Obstet. and Gynaecol. of the British Empire*, 1921, xxviii, 151.
3 Reuben, M. S.: *Arch. Pediat.*, New York, 1926, xliii, 54.
4 Keatings, G. F.: Ibid., 1926, xxxiii, 653.
5 Chu, J. S.: *National Med. Journ. of China*, 1926, xii, 203.
6 Nutt, J.: *Journ. Amer. Med. Assoc.*, 1927, lxxxviii, 1112.
7 Pillai, M. K.: *Indian Med. Gazette*, 1927, lxii, 88.
8 Stevens, I. H. K.: *British Medical Journal*, 1930, ii, 1083.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

TUBERCULOSIS OF THE MAMMARY GLAND

Tuberculosis of the mammary gland is a comparatively rare condition. Wakeley[1] states that only 212 cases have been recorded. He describes two forms (1) disseminated, (2) confluent, in which a single chronic abscess cavity is formed. The commonest cause of infection is via the blood stream secondary to pulmonary tuberculosis, but infection may occur as a result of direct contact following tuberculosis of rib or sternum. More rarely the source of infection is pleura or axillary lymphatic glands. The following case is of interest, as illustrating the presence of a single chronic tuberculous abscess cavity in the breast tissue, following lupus of face with tuberculous cervical and axillary glands of many years' standing.

A married woman, of coarse, swarthy type, born in 1893, was referred to me at the Tuberculosis Dispensary, Leigh, by her doctor in June, 1917. She was well nourished and had several scars (some scabbed over) on both sides of her neck and under her chin. There was slight discharge here and there, with some enlargement of the cervical and left axillary glands. Scraping was performed at the Manchester Royal Infirmary and she was discharged on July 26th, the lesions being apparently healed. In January, 1918, she had several small glands down the left side of her neck, with many scars and some scrofuloderma; she was doing her housework. After September, 1918, she ceased attendance at the dispensary until January, 1920, when painful swollen glands in the left axilla and lupus of the right cheek were noted. Her condition improved following treatment at the Manchester and Salford Skin Hospital. When she next visited the dispensary in May, 1923, there was extensive lupus of the right side of face and neck, together with a discharging sinus in the left axilla. She again attended the Skin Hospital regularly, and in September, 1926, she had extensive scars from ear to ear, with only a few active spots of lupus. She visited the Leigh Dispensary at intervals, and in January, 1931, she drew attention to her right breast, when a firm swelling was detected in the upper and outer quadrant adherent to the skin, but freely movable on the deeper structures. There were scars of old sinuses in both sides of neck and both axillae, also lupus of the right cheek. There was no evidence of pulmonary tuberculosis.

She was admitted to the Manchester Royal Infirmary, and the tumour, with overlying skin and surrounding tissue, was removed by Mr. A. H. Southam. The following particulars were kindly supplied to me by the surgical registrar (Dr. R. P. Osborne): Section of tumour at the time of the operation proved that it was an abscess. Subsequent pathological examination of the whole of this material resulted in the following report: "Section shows the structure of tuberculosis with caseation and abscess formation." The tumour was thus a tuberculous abscess.

With some intermissions, this patient was under frequent supervision at a tuberculosis dispensary for thirteen and a half years, first of all with tuberculous adenitis of neck and scrofuloderma, and subsequently with lupus of right cheek. The development of the tuberculosis of the mammary gland appears to have been a direct sequela of the foregoing conditions.

GEORGE JESSEL, M.D., D.P.H.,
Consultant Tuberculosis Officer,
Lancashire County Council.

1 *Clinical Journal*, 1928, lvii, 224.

Reports of Societies

PHARMACOLOGY

A meeting of the Pharmacological Section of the Royal Society of Medicine was held in the Pharmacological Laboratory, Cambridge, on May 30th, with the president of the Section, Dr. P. HAMILL, in the chair.

AVERTIN AND THE LIVER

Dr. F. B. PARSONS read a communication on "The action of avertin on the liver," in which he described some preliminary experiments designed to show the effect of avertin (tribromethyl alcohol) upon the liver. For some considerable time it had been known that organic halogen compounds were prone to cause liver damage. More recently Lucas had investigated the effects of certain bromine-containing anaesthetics—namely, bromoform, ethylene bromide, ethyl bromide, and methylene bromide—upon rabbit's liver, and he had concluded that these substances were capable of producing fatty degeneration and necrosis of this organ. Dr. Parsons stated that he had repeated these experiments with avertin. A series of rabbits were given this drug, and after varying periods they were killed and the livers were examined histologically. Technical difficulties in the histology of rabbit's liver made it impossible to draw any definite conclusion, but in all the sections there was a certain amount of fatty degeneration. He proposed to repeat the experiments upon dogs.

Sir FRANCIS SHIPWAY mentioned that he had successfully administered avertin for the performance of cholecystectomy in a case of congenital cystic liver.

Sir WILLIAM WILLCOX pointed out that there were good grounds, *a priori*, for expecting that avertin would produce liver damage. In his opinion, it ought to be used only by experienced anaesthetists, and, by them, with great caution. It was not a substance which should be let loose on the medical profession. It was, for instance, unsafe to use it with morphine, and idiosyncrasy among patients might easily be met with.

Dr. J. BLOMFIELD asked for evidence that avertin was a liver poison. Sir WILLIAM WILLCOX replied that his statement had been made on general grounds. Dr. PARSONS said that the difference between clinical and laboratory experience was probably to be explained by the variations in dosage.

CEREBRAL METABOLISM

Dr. ERIC HOLMES read a paper by himself and Mr. ASHFORD dealing with the metabolism of the central nervous system. He described work which showed that the brain was dependent for its supply of carbohydrate upon sugar carried to it by the blood stream; this carbohydrate was quickly converted to lactic acid, which was, in turn, oxidized. The store of lactic acid precursor in the brain was negligible in amount. The brain was clearly dependent for its normal functioning on its carbohydrate supply, and apparently the conversion of glucose to lactic acid was of importance, for after injections of glucose, but not lactate, animals recovered from hypoglycaemic convulsions. The carbohydrate metabolism of brain tissue differed in important respects from that of muscle, for no phosphate ester formation took place, nor was there resynthesis of carbohydrate from lactic acid. The demands of the brain for oxygen were very great. Analysis showed that nerve cells used oxygen at a far greater rate than nerve fibres, and the oxidative processes in the two tissues were profoundly different. The chemical differences between medullated and non-medullated nerve tissue were very marked.

The PRESIDENT said that the problem was one of great difficulty and complexity, but that work on these lines was a necessary preliminary to an understanding of the pharmacological problems connected with the central nervous system.

DIGITALIS IN TOXAEMIA

Dr. G. N. MYERS, in a paper on the curative action of digitalis in toxaemia, said that his experiments showed consistently that if a reliable tincture of digitalis were given to guinea-pigs, they survived subsequent injections of diphtheria toxin, even if the amount of toxin was approximately three times the minimum lethal dose. The control animals, which had the toxin without the previous digitalis, invariably died. The same effect was obtained when the toxin was injected first, provided that the injection of the digitalis was not too long delayed. It was also found that the glucosides from strophanthin (from *S. kombe*) exerted some life-saving effect, though not to the same extent as that given by digitalis; g-strophanthin had no action of this type. Animals which received ouabain died a little sooner than those which had received the toxin alone. The effect of toxin on the animals which had received digitalis was different from that on normal animals; the former responded by a decided leucocytosis, in the latter the leucocytosis was never a decided feature, and was generally absent. Experimental and clinical evidence showed that diphtheria toxin generally killed by causing circulatory failure associated with enormous dilatation of the splanchnic vessels, and a progressive fall in blood pressure, a condition which was not due to the depletion of the suprarenal glands. It appeared that digitalis was of benefit in these shock conditions because it was retained by the tissues of the vascular system. It seemed as though, when an animal was under digitalis, there was little or no place for absorption of toxin. Digitalis had to be administered for many days before perfect action was obtained, and this fact suggested that the drug occupied some portion of the cardio-vascular structure to which the toxin normally attached itself; at all events, if digitalis were given first and had time to act, the toxin was without effect, but if the toxin were injected first, subsequent digitalization, if delayed, might be too late to be effective. Histological examination of hearts from these animals, stained for fat by means of osmic acid, revealed that the great majority of animals which had received digitalis showed considerably less fat in the myocardium than was seen in the controls. References were also made to special preparations of digitalis and to the effect of digitalis on other forms of toxaemia.

The PRESIDENT said that they had listened to a description of a most important piece of work. The contrast between the actions of the two strophanthins was of interest. It appeared that digitalis was more effective than strophanthus, and *that*, in turn, more effective than digitoxin. He felt that experiments should be done in which digitalis was administered by the mouth.

Professor W. E. DIXON remarked that, whatever the mode of action of digitalis in this case, it seemed to be different from that which they were accustomed to teach their students. It seemed to prevent the toxin from acting by saturating some structure in the heart cells, and so preventing the toxin from reaching them. The explanation, he felt, might be found along physical lines.

Sir WILLIAM WILLCOX asked whether any proprietary preparations of digitalis had been employed. Dr. MYERS replied that the preparation known as "diginutin" had proved quite beneficial, though less effective than the ordinary tincture.

Sir HUMPHRY ROLLESTON recalled that Dr. Jones of Jersey had long ago pointed out the beneficial effect of digitalis in alcoholic delirium. He asked whether the electrocardiograms had shown no effect at all, or whether they indicated the same action as on a normal heart. He also suggested as a possible alternative explanation to that offered by Professor Dixon, that in this case digitalis acted in a manner similar to a bacterial antitoxin. Dr. MYERS recalled the beneficial effects of digitalization in pneumonia obtained by certain American workers.

OESTRIN AND PITUITRIN

Dr. J. HELLER, in presenting a paper by himself and Dr. P. HOLTZ, said that the work had been concerned with the effect of oestrin, the anterior pituitary hormone, and potassium and calcium ions, on the response of the isolated uterus to pituitrin. He recalled the familiar self-sensitizing effect of pituitrin on the isolated uterus, and pointed out that this effect had been eliminated in the present experiments. Bourne and Burn had found that oestrin had a sensitizing effect on the uterus, and they suggested that it might be a natural sensitizing agent. The speaker and Dr. Holtz had confirmed these experiments with oestrin, but oestrin preparations contained protein; with "progyon," a protein-free preparation, and "theelin," prepared from crystalline oestrin, they had failed to obtain the effects, even with enormous doses, and therefore did not agree with the conclusions of Bourne and Burn. They had found that preparations of anterior pituitary hormone had no direct effect, but sensitized the preparation to pituitrin. Changes of the potassium-calcium ratio of the suspension fluid sensitized the uterus to pituitrin if potassium was predominant in amount. A "Burn-Dale" solution containing 25 per cent. less potassium than normal had a marked sensitizing action. He pointed to the parallel which existed between these experiments and the altered potassium-calcium ratio in the blood and in the uterus

of pregnancy. This alteration, of course, leaves potassium predominant.

Professor DIXON recalled the experiments of Dixon and Marshall, which showed that there was an increase in the pituitary content of the cerebro-spinal fluid about the time of parturition. This had been thoroughly confirmed by clinical workers. He was chiefly interested in the present communication because it showed that oestrin had no effect on the uterus. This was in accordance with clinical experience. Oestrin would produce oestrus in a spayed animal, but that was its only known physiological action. It could be obtained from the most diverse sources, and might even be a metabolic product of relatively simple chemical structure.

ACTION OF HISTAMINE

Dr. J. C. HOYLE, in a paper on the action of histamine, pointed out that, although the action of histamine in simulating the condition of "shock" had been widely studied, no thorough investigation of its action on the pulmonary circulation had been made. In collaboration with Professor Dixon he had recently made an experimental investigation of this subject. It was found that the action of the drug varied greatly in different species, and deductions made on the basis of experiments carried out on one species were not valid for others. The initial effects in the dog after intravenous injection of histamine were due to a local action on the heart and pulmonary vessels, and occurred before the drug had acted upon the systemic circulation; they were due to cardiac acceleration and constriction of pulmonary arterioles, and did not occur if the injection was made into a systemic artery. These effects were transient, and were followed by a second phase, in which the amount of blood passing through the lungs was much diminished. The changes were described in detail, and were considered to be due to constriction of the hepatic veins, which were exceedingly sensitive to histamine in the dog. The action of histamine in the cat and rabbit was then dealt with; in the former, coronary dilatation played the dominant part; in the latter, pulmonary arteriolar constriction. The effects produced in the monkey (*Macacus*) had also been investigated, and were found to be intermediate between those in the dog and those in the cat. Coronary dilatation was probably an important factor. The monkey was abnormally sensitive to histamine compared with the dog, cat, or rabbit.

The PRESIDENT said that he had no doubt, from clinical experience, that histamine produced marked constriction of veins. Professor DIXON said that he could not believe that the distension of capillaries produced by histamine was more than a passive effect due to constriction of venules. This was the simplest view of the action of histamine, and it still remained to be disproved.

UTERINE PROLAPSE

A meeting of the Edinburgh Obstetrical Society was held on May 13th, with the president, Dr. H. S. DAVIDSON, in the chair.

A paper on uterine prolapse was read by Miss GERTRUDE HERZFELD and Miss MARGARET C. TOD dealing with an investigation into 227 cases of prolapse operated on between 1922 and 1929, and including a comparison of the pre-operative clinical features with the post-operative results. Of the 227 cases, 132 were traced for periods varying from one to seven years. The following table gives the general idea of the conditions present before operation. It will be noted that the complaint of "something coming down" was not universal, and that a woman with cystocele, rectocele, and cervix at the vaginal orifice may have little local discomfort, but may report on account of discharge or backache. Frequency of micturition was one of the most constant symptoms in all varieties of prolapse, and was present before operation in 70 per cent. of the 227 cases, while every patient with total prolapse had incontinence. Vaginal discharge was complained of in every case where a lacerated cervix was found, and 30 out of 34 such patients also suffered from backache. On the other hand, only 10 out of 39 women with complete prolapse had this symptom. Complications after operation were associated with sepsis, and consisted either of secondary haemorrhage which occasionally occurred after amputation of the cervix or, still more rarely, of sloughing of the wound.

TABLE I.—*Showing Analysis of Symptoms Complained of before Operation*

Condition found at Operation	Total Number	"Something Coming Down"	Frequency of Micturition	Precipitate Micturition and Incontinence on Straining	Vaginal Discharge	Backache	Constipation	Incontinence of Faeces	Pruritus
Cystocele only	22	16	18	10	12	1	2	0	0
Rectocele only... ...	18	2	1	0	14	16	12	5	0
Cystocele and rectocele	89	83	59	32	51	48	14	0	1
Cystocele with hypertrophy of cervix	10	9	8	2	8	4	1	0	0
Cystocele and rectocele with hypertrophy of cervix	17	17	10	6	14	13	4	0	0
Cystocele and rectocele with lacerated cervix	34	32	26	24	34	30	8	0	1
Complete prolapse ...	37	37	37	37	20	10	10	0	2
Totals	227	196	159	111	153	122	51	5	4

The operative technique evolved by Donald and Fothergill of Manchester was followed in practically all cases, and the authors considered that abdominal surgery was never required for the cure of prolapse. The results of operation are shown in Table II. Out of 132 patients

TABLE II.—*Showing Analysis of Results of Operation*

Condition found at Operation	Total Number	Cured; no Symptoms	Uterus, etc., in Good Position, but Urinary Symptoms Present	Prolapse Recurred	No Symptoms; Slight Cystocele found on Examination	Post-operative Pregnancies	
						Norm.	Inst.
Cystocele only ...	11	7	3	1	0	0	0
Rectocele only ...	6	4	2	0	0	1	2
Cystocele and rectocele	55	47	8	0	1	3	0
Cystocele with hypertrophy of cervix	7	5	2	0	0	1	1
Cystocele and rectocele with hypertrophy of cervix	13	12	1	0	0	1	0
Cystocele and rectocele with lacerated cervix	19	17	2	0	0	2	0
Complete prolapse ...	20	17	0	1	2	0	0
Totals	132	109	18	2	3	8	3

127, or 96 per cent., were completely cured, though 18 patients had slight frequency of micturition. In all these the urine was acid, and in the majority a slight *B. coli* infection was present. All symptoms disappeared on the administration of potassium citrate, but in two cases, treated early in the series, there was recurrence.

As a result of these investigations it was concluded that: (1) surgical treatment of uterine prolapse was a safe and satisfactory method of treatment; (2) abdominal surgery was never required in this condition; (3) the

operation resulted in a feeling of well-being often not experienced by the patients for many years previously; (4) pessary treatment, while palliative of symptoms, should be used only in cases where operation was out of the question, or in very young women.

PREGNANCY AND HEART DISEASE

Dr. A. RAE GILCHRIST read a paper on the relation between heart disease and pregnancy. He stated that heart disease was not a common complication of pregnancy, but that when it did occur it might well give rise to some anxiety on account of its relative infrequency in the individual practitioner's experience. That pregnancy threw an additional and progressively increasing burden on the normal heart was well known—a burden which was, as a rule, well borne, though in certain healthy women some dyspnoea on exertion and even slight oedema of the ankles was of common occurrence. Faced with pregnancy in a known cardiac patient, the practitioner's duty was to endeavour to form the most accurate prognosis. This involved the recognition of the possible dangers to the life or health of the mother during the pregnancy or labour, and also indeed in the days or months following delivery. A heart embarrassed by the strain of pregnancy or labour was productive of certain symptoms varying in the milder cases from a sense of exhaustion with slight dyspnoea, to fully developed heart failure in the most severe cases, with orthopnoea, generalized oedema, and increased venous blood pressure. Certain emergencies might arise during pregnancy or labour as a result of the sudden onset of auricular fibrillation with a high heart rate, of multiple infarctions in the lungs, of acute pulmonary oedema, or, finally, of collapse from acute cardiac dilatation. On the other hand, the prolonged additional burden of the pregnancy might make a further inroad into the cardiac reserve, with the result that after labour the response of the heart to exertion would be worse than before. Finally, were it considered desirable to empty the uterus artificially, then the obstetrician should act at the most suitable time and in the most appropriate manner, in order that the intervention in itself might be of minimal risk to a patient recognized as an impaired life.

Four years' experience of these cases at the Royal Maternity Hospital, Edinburgh, had led to the conclusion that no more accurate method of estimating the ability of these cardiac women to go successfully to term was to be obtained than by grading them according to the functional efficiency of the heart. The type of valvular disease, the etiology, and degree of cardiac hypertrophy, were in themselves of practically no help in forming a prognosis. The actual structural change in the heart mattered little. The all-important factor was the functional efficiency of the heart muscle, which could readily be assessed by observing the response of the patient to her everyday activities. In gauging the capacity of the cardiac patient to withstand the strain of pregnancy and labour, the functional classification of heart disease outlined by the New York Heart Association had proved to be of the greatest assistance. At the time of the first examination an attempt ought to be made to classify the patient according to one of the following groups. (1) Those who, though suffering from organic heart disease, were able to perform their habitual physical activities without any unusual distress, fatigue, or dyspnoea. These women were well enough for pregnancy and labour. (2) Those who could follow their usual activities, but had some slight discomfort in so doing. They had slight physical limitation, which showed itself by shortness of breath on climbing stairs, on walking uphill, or after performing household duties. Pregnancy and labour caused but little anxiety in these cases, though the timely use of forceps was indicated if the second stage was prolonged. (3) Those who had a definite limitation of physical activity, and were unable to carry out their usual duties without resting at intervals. Several halts were necessary in climbing a flight of stairs. They had given up attempting the more strenuous household work, and at night the ankles might be a little swollen. Seen before the sixth month with such symptoms, many of these women would require a Caesarean operation at or about term, depending upon the response they made to adequate medical treatment. Others developing such a grade of failure in the later months and with a satisfactory response to treatment would be able to deliver themselves spontaneously and without risk. (4) Those few whose cardiac reserve was minimal. They were unable to make any exertion without discomfort, and could at the most walk only a few yards with difficulty. They had a greater or less degree of congestive heart failure even at rest in bed. Women in this state were almost as certain to die if they went into labour spontaneously as they were if any obstetrical intervention was attempted before circulatory conditions were adequately treated. Heart failure of this extent in the first few months of pregnancy was probably unrelated to the demands of the foetus. A hysterotomy should be performed as soon as the woman was judged fit enough. In the later months this degree of heart failure could be avoided by adequate ante-natal care directed to improving circulatory efficiency. With this degree of failure, and labour imminent, energetic medical measures should at once be instituted. It was an axiom that no women should be exposed to the strain of active obstetrical intervention before every effort had been made to improve the circulation. Left alone, they might deliver themselves successfully and often prematurely; interfered with, they were almost certain to die, if not at the time of intervention then in the early days of the puerperium. Happily such cases were not very common. Of a series of 95 women who were carefully watched through pregnancy, labour, and the puerperium, 92 per cent. survived, and with more adequate supervision it ought to be possible to improve on this figure. The prospects of a woman delivering herself successfully at or about term were illustrated by the following figures: in Group 1, 84.6 per cent. accomplished this, the remainder miscarried; in Group 2, 77 per cent.; in Group 3, 55.6 per cent.; and in Group 4, 18.2 per cent. There were no Caesarean operations in Group 1; in Group 2 there were 7.7 per cent. (and these in the light of present experience had probably been unnecessary); in Group 3 there were 37.8 per cent., and in Group 4 54.6 per cent.

The question of a suitable anaesthetic sometimes arose. Dr. Gilchrist's view was that the anaesthetist was of more importance than the anaesthetic employed. Many of the cases were done under spinal anaesthesia with admirable results, but chloroform combined with oxygen seemed quite safe in skilled hands. Ether was doubly irritating to lungs a trifle congested, and gas, if productive of any cyanosis, embarrassed the heart by the ill effects of anoxaemia.

The Medical Research Council has issued as Report No. 62 of the Industrial Health Research Board, *Two Studies of Absenteeism in Coal Mines* (H.M. Stationery Office, 1s. net). The first of these is by H. M. Vernon, M.D., and T. Bedford, Ph.D., assisted by C. G. Warner, B.Sc. The second, by T. Bedford and C. G. Warner, deals with absenteeism at certain Scottish collieries, and an appendix by Professor E. P. Cathcart, F.R.S., and James Taylor, M.B., records an investigation into the possible causation of varying sickness rates in Scottish mines.

Reviews

FRACTURES

Dr. GEORGE EWART WILSON'S book on *Fractures and their Complications*[1] is the fruit of a wide experience, and is eminently practical in character. Being such, it has the defects of its quality in that it to a great extent ignores methods and theories which, although in favour with others elsewhere, are not approved by the author. Dr. Wilson relies, as a means of retention in position during union, almost entirely upon plaster-of-Paris, in the use of which he is a past-master, employing splints only in a few cases. Indeed, he goes so far as to say that for fractures of the extremities, omitting the Thomas splint, all the great variety of splints which have been used from time to time may be relegated to the scrap-heap. As for fractures of the shaft of the femur, he says that "there is one splint so much better than any other that it is the only one which it is necessary to keep in stock—namely, the Thomas splint." This he uses with weight extension and the Balkan frame. Although not in favour of plating fractures, Dr. Wilson employs ice-tongs for fractures of the femoral condyles, and sutures the patella and the olecranon process with wire or other material.

The subject of fractures has always been an important one—more so than some surgical authorities, too much occupied with other branches of surgery, have until lately realized. The vast increase in late years in the number of non-fatal accidents due to industry, and especially to transport, has tremendously enhanced the gravity of the problems involved, and many surgeons now devote their not inconsiderable ability to the study of the best means of rendering the results of treatment of fractures as nearly functionally perfect as possible. Among these means the *x* rays are of great importance. Surgeons like Dr. Wilson are no longer content to trust to *x*-ray records of the condition before and after setting of a fracture, or a mere fluoroscopic inspection. They insist on the importance of using the fluoroscope to guide their proceedings during the actual manipulations which are to result in the correct apposition of the broken bones. Dr. Wilson writes prophetically on this point:

> "The time is not far distant when it will be just as necessary to set most fractures by the aid of fluoroscopic vision as it is now considered obligatory to confirm the reduction by an *x*-ray."

But until the time when facilities for such vision are at hand in every hospital or clinic it is necessary to inculcate the best way of getting good results without it. This Dr. Wilson sets out to do, and succeeds in doing.

Among complications of fractures of the limbs ischaemic paralysis is one of the most disastrous and startling, both for the patient and for the surgeon, who may find himself adjudged liable to pay heavy damages in respect of an accident for which he is not to blame, simply because juries, and even judges, are found incompetent to estimate the value of pathological evidence. In this connexion Dr. Wilson quotes a rule which ought to be added to the collection of aphorisms in the *Illustrated Primer on Fractures* of the American Medical Association, and which applies to the danger of other conditions as well as ischaemic paralysis. Irremediable damage may be done in as short a space of time as six hours.

> "It is a safe rule that if the patient is not more comfortable after the fracture is set than before, there is something wrong, and it is the duty of the attending physician to find out what it is and to remedy it."

Differing from many previous writers Dr. Wilson holds that fracture of the neck of the femur is seldom the result of indirect violence, but that in the vast majority of cases it is caused by falling upon the trochanter. This is a question not easy of decision by statistical methods, because of absence of evidence as to whether in the process of falling the bone gave way before or after the ground was reached. Fortunately it is not of great practical importance. His prognosis in such cases seems to us more gloomy than is justified by the results of recent methods of treatment in this country. The few particular instances which we have quoted may be taken as evidence to show the general excellence of this book. It is freely illustrated by a large number of photographs, most of which are reproductions of *x*-ray plates and films. Many of these, though no doubt convincing in the originals, do not show up well in photographic blocks, necessarily reduced in size. We would suggest in a future edition the substitution of outlines for photographic reproductions, as more clearly demonstrative of the lessons which the author desires to convey. The index is inadequate. A much fuller one will be required by the student who in the future consults this book, and whom we forewarn that the absence of an entry in the present index by no means implies the absence of discussion of the subject in the text.

[1] *Fractures and their Complications.* By George Ewart Wilson, M.B., F.R.C.S., F.A.C.S. London: Baillière, Tindall and Cox. 1931. (Pp. viii + 415; 306 figures. 35s. net.)

MEDICAL PATHOLOGY

In *The Pathology of Internal Diseases*[2] Professor WILLIAM BOYD has attempted—and, we may say at once, with success—a book on applied pathology for physicians. Until now most pathological works have been "of such a form that the average physician seldom goes to them for assistance," or have been devoted to surgical pathology. This is to some extent due to the fact that whereas anatomy, pure and applied, must always be the basis of surgery, the physician has of late years turned more and more to the physiologist for assistance. That this tendency, if it involves neglect of the study of pathology, is not wholly to the good is readily seen by anyone who cares to read this book. Here the subjects are dealt with in a practical and readable manner, with a paragraph on "the relation of symptoms to lesions" at the end of each section, and the author's aim throughout appears to be the explanation of disease, its causes and symptoms, rather than the bald description of what will be found by the time the organs reach the museum. Though the work in no way pretends to deal with biochemistry or applied physiology, a sufficient discussion of these aspects will always be found where the occasion demands it.

There has evidently been some doubt in the author's mind in determining the exact scope of the work, which, although intended to be a companion to his *Surgical Pathology*, must obviously contain a certain amount of matter of use both to the surgeon and to the physician. It is stated in the preface, moreover, that the infectious fevers and conditions having no known morbid anatomical basis have been omitted, but we should have expected to find chapters on the pathology of bones and joints, and perhaps on intestinal parasites. One of the most notable features of the book is its fearless departure from conventional arrangement and classification wherever modern knowledge seems to indicate it. The sections on pneumonia and on diseases of the thyroid and the kidney perhaps show this to its greatest advantage. In discussing controversial matter the author does not profess to take up a wholly unbiased point of view, and there are therefore some opinions expressed to which all will

[2] *The Pathology of Internal Diseases.* By William Boyd, M.D., M.R.C.P.Ed., Dipl. Psych., F.R.S.C. London: H. Kimpton. 1931. (Pp. xvi + 888; 298 figures. 45s. net.)

not subscribe—for instance, that atheroma of the coronary arteries bears no relation to angina (especially as it is admitted that pain of the same type occurs in coronary thrombosis). In such matters, however, the opposing theories are always stated, and it is made quite clear that the opinion given is a personal one, so that the result is rather one of added interest and individuality which does not detract from the value of the book. Apart from such expressions of opinion, there are also a few statements made which seem to us definitely incorrect; for instance, that the clinical findings in second-stage (subacute) nephritis are identical with those of nephrosis, and that there is no retention of nitrogenous substances (p. 427). These are but a few flaws, however, in a book which on the whole is most commendable. Many of the descriptions of pathological conditions are among the clearest we have read. A textbook of pathology, moreover, which indulges on occasions in touches of real humour is a rare thing, and suggests that the author's own students are indeed favoured.

That the book is thoroughly up to date will at once be appreciated when we state that atelectasis and its relief by carbon dioxide are considered in relation to pneumonia; that peristalsis of the bronchi is mentioned; that tumours of the islet cells with hyperinsulinism are described; and that in the nervous diseases section Bailey and Cushing's work on cerebral tumours is fully discussed, as are also such subjects as post-vaccinal encephalitis and the most recent work on the etiology of multiple sclerosis. A useful bibliography at the end of each chapter contains most of the important literature, without attempting to give a complete list of the less significant papers. This, while no doubt the best selection for a general textbook of this type, is a little unfortunate when it has the effect of leaving out the works of some of the authors mentioned in the text.

EXAMINATION FOR LIFE ASSURANCE

The Conduct of Life Assurance Examinations,[3] by Dr. E. M. BROCKBANK, is divided into two sections: the first dealing with the routine examination and the filling in of the medical report form, while the second is devoted to a brief discussion of the influence of various impairments on the assessment of the risk. As the volume is one of a "General Practice Series" it may be assumed that its chief purpose is to help the practitioner in his duties as a local examiner. This being so, Dr. Brockbank rightly insists on the importance of the medical report being as detailed as possible in any case of impairment, so as to give the head office officials the utmost help in enabling them to arrive at a just estimate of the extra risk. The actual classification by the medical examiner is of secondary importance; the inclusion of all the relevant facts in the report is the touchstone of its value to the assurance company.

On the whole, it may be said that Dr. Brockbank's book will be helpful to the general practitioner chiefly in indicating the point of view required in life assurance work, which is naturally rather different from that of ordinary clinical practice. The text contains, however, various statements which seem difficult of acceptance. Thus, in a case of glycosuria, it is suggested that the subject should be asked to avoid "all carbohydrates and sugar" for twenty-four hours, and then to come up for re-examination. "The urine then tested may be free from sugar; but in a real diabetic case it may contain some, as the sugar is made in these people from proteins of the food and from their own tissues." Surely many diabetics of moderate grade would be sugar-free under these conditions, and their acceptance at ordinary rates, as is implied in the context, would hardly commend itself as sound business. Again, the suggestion, on the strength of an extra mortality of 10 per cent., in an American investigation, that "a blood pressure of 140 mm. is dangerous," pays too great a tribute to the infallibility of statistics, and is contrary to the opinion of most experienced physicians. In connexion with this subject, on page 69 appears the statement: "In the healthy American students in 13 per cent. of the observations the diastolic pressure varied from 40 to 80 mm., with an odd case of 90 mm.; the greatest number was about 45 mm." On page 81 we read: "If the patellar reflex is abnormal or different on two sides general paralysis must be suspected and the foot reflexes examined as well as the pupil." Statements such as these seem to call for amendment in the next edition of the book.

[3] *The Conduct of Life Assurance Examinations*. By E. M. Brockbank, M.D., F.R.C.P. The General Practice Series. London: H. K. Lewis and Co., Ltd. 1931. (Pp. viii + 173. 7s. 6d. net.)

EXPERIMENTAL PHYSIOLOGY

Dr. F. W. LAMB'S *Introduction to Human Experimental Physiology*[4] opportunely appears at a time when the methods of teaching medical students are receiving a good deal of critical attention. The book describes in detail the practical exercises which are carried out in the physiological department of the University of Manchester; these do not deal with the whole of the subject, but only with the blood, circulation, and respiration. The ground covered is therefore not so extensive as that of Douglas and Priestley's well-known *Human Physiology*, but Dr. Lamb's work is more ambitious in character, and the course he outlines could probably only be carried out in its entirety by honours students who can devote an additional year to the study of the subject. Many alternative procedures are considered, and it is presumably left to the discretion of the teacher to select those which are best adapted to the facilities of his laboratory and the capabilities of his students. The practical directions are admirably lucid and complete, and draw attention to the various sources of error which must be avoided. A full list of references is appended to each section, and this should prove of great assistance to the senior "science" student. The descriptions of the exercises are very wisely accompanied by a fairly detailed account of their theoretical implications; for example, a good account is given of the regulation of blood reaction and of van Slyke's work.

Professor A. V. HILL, in his cogent introduction, emphasizes the great importance of human experimental physiology in the training of students of medicine. It is far easier to interest students in physiology when they are working on themselves or their friends, and when such interest has been aroused much better results are obtained than when the practical exercises are regarded as a useless and meaningless drudgery which has to be suffered in order to satisfy unreasonable teachers—as was not infrequently the case with some of the experiments in frog nerve-muscle physiology. Most of the fundamental facts of physiology can be rediscovered and demonstrated on man; the student can learn that his own healthy normal body is one of the most experimentable objects in the world, and by its intensive study he can obtain an idea of the normal, which is so vitally important but often so sadly lacking in those who study disease. We are in hearty agreement with Professor Hill that Dr. Lamb should further increase our indebtedness to him by preparing an equally good second volume, dealing with the special senses, nutrition, and certain aspects of the nervous system.

[4] *An Introduction to Human Experimental Physiology*. By F. W. Lamb, M.D. London: Longmans, Green and Co. (Pp. xii + 335; 59 figures. 12s. 6d.)

DISEASE IN CHILDHOOD

In his *Handbook of Diseases of Infants and Children*[5] Dr. F. M. B. ALLEN has provided a comprehensive but compact survey of the subject. The book is designed for the use of students and practitioners, and should prove equally useful to both; it replaces the original volume in the series by the late Dr. McCaw, and recent advances in paediatrics have made it possible to include much new material. The arrangement is clear and the printing excellent. After an introductory chapter on conditions and diseases of the newborn, Dr. Allen discusses infant feeding at great length, and covers the wide field of modern opinion on this subject with admirable clearness. Chapters on nutritional disorders, deficiency diseases, and alimentary disturbances follow, and a chapter is devoted to diseases of the peritoneum and liver. Affections of the nose, nasopharynx, and larynx are discussed, and diseases of the respiratory system are considered in detail. It is perhaps unsatisfactory that the chapter on rheumatism and chorea should follow, instead of precede, the chapter on diseases of the circulatory system; but this is a minor point of arrangement. The remaining chapters are concerned with genito-urinary diseases, syphilis, diseases of the nervous system, mental deficiency, the myopathies, blood diseases, and general conditions such as achondroplasia and Still's disease. The appendix contains a few useful recipes for preparing food, some observations on diagnostic methods, and tables showing the development of the special senses, average heights and weights at different ages, and dentition ages. A collection of prescriptions is included. Dr. Allen has purposely "avoided theories as far as is compatible with an intelligent understanding of the subject"; although, perhaps, he has avoided too much, as, for example, in his table for the diagnosis of jaundice in the newly born. On the whole, however, he has presented the subject of children's diseases with freshness and without prolixity. In his chapter on alimentary diseases he has perhaps over-emphasized the importance of summer diarrhoea, a condition which is rapidly disappearing in this country. For the treatment of enuresis and habit spasm he puts forward practical suggestions which are not found in the usual textbooks. The absence of illustrations is to be regretted.

NOTES ON BOOKS

The volume of the Practical Medicine Series on *General Surgery*,[6] edited by Dr. EVARTS A. GRAHAM, contains, as in previous years, an excellent account of the progress made in all branches of surgery. The subjects which receive special notice are anaesthesia, attention being drawn to the dangers attending the use of some of the barbituric acid compounds, sympathectomy in circulatory diseases, the surgical applications of therapeutic venous obstruction, hyperparathyroidism, the treatment of empyema, and appendicitis.

The eighth edition of *Bell's Sale of Food and Drugs*,[7] prepared by Mr. R. A. ROBINSON, is much more comprehensive in scope than its predecessors, and will be found a very serviceable guide to the interpretation of the Food and Drugs (Adulteration) Act of 1928, the various Acts dealing with milk and cream, and the numerous Regulations and Orders affecting the quality and composition of food, or prescribing methods of labelling. The statutes are well annotated and arranged in chronological order, and the statutory Regulations and Orders are classified in groups. A convenient summary is given of the powers and duties of local authorities, and much useful information has been gathered together in the appendices, including a bibliography of official publications, a selection of Government circulars, and chemical notes on common forms of adulteration.

The publication of a biography of *Francis Blight, Publisher*,[8] who was chairman and managing director of Messrs. Charles Griffin and Company for nearly thirty years, will give satisfaction not only to his many personal friends, but to those who have followed the work of this firm since it became a company in 1891. The present sketch has been prepared by the Rev. GEORGE HAWKER, and is prefaced by some introductory notes in which Mr. Blight traces his Devonshire ancestry. Much of Mr. Blight's publishing life—from which he retired in 1927—was devoted to the popularization of technical learning, a task for which he was unusually well equipped by his early training as an engineer and surveyor, and by his association with the publishing house of Messrs. J. and A. Churchill. In recognition of his services to technical literature Mr. Blight was elected a Fellow of the Royal Society of Edinburgh in 1918.

Though our profession can claim several poets of the first order, occasional verses by medical men are too often disappointing, and more particularly so when they touch on scenes of medical life. Dr. ALAN MCGLASHAN'S collection of short poems, *St. George and the Dragon*,[9] appears to us to be much above the average, and to hold out promise of future achievement. The author has a sensitive mind and a delicate ear for rhythm. On the whole, his emotion rings true, and he expresses it in language that comes only to the loving student of great poetry. His hospital pieces are uneven: "The Last Visit" is as good as "Post-Mortem" with its forced realism is bad. Among the Hebridean lyrics we would give very high marks to "After the Storm."

[5] *Handbook of Diseases of Infants and Children.* By F. M. B. Allen, M.D., M.R.C.P. London: Baillière, Tindall and Cox. 1930. (Pp. vii + 595. 15s. net.)

[6] *General Surgery.* Edited by Evarts A. Graham, M.D. The Practical Medicine Series, 1930. Chicago: The Year Book Publishers. 1931. (Pp. 848; 204 figures; 64 plates. 3 dols.)

[7] *Bell's Sale of Food and Drugs.* Eighth edition. By R. A. Robinson. London: Butterworth and Co., Ltd., and Shaw and Sons, Ltd. 1931. (Pp. xxvi + 299 + 33. 15s. net.)

[8] *A Biographical Sketch of Francis James Blight, F.R.S.E., Publisher.* By George Hawker. With foreword by J. W. Ewing, M.A., D.D. London: Elliot Stock. 1931. (Pp. xxii + 176; illustrated. 10s. 6d. net.)

[9] *St. George and the Dragon: Poems.* By Alan Fleming McGlashan. London: Selwyn and Blount (1928), Ltd. 1931. (Pp. 78. 3s. 6d. net.)

PREPARATIONS AND APPLIANCES

"SUNSHINE" LAMPS

We have received from the Thermal Syndicate Limited of Wallsend-on-Tyne particulars of their vitreosil "sunshine" lamps, in which an endeavour has been made to approximate to sunshine by balancing the blue-green of the mercury arc with the yellow and red of the gas-filled filament. It is not pretended that the solar spectrum is exactly reproduced, or that the light is suitable for such operations as colour-matching, but it is claimed for the lamp that it gives an effect comparable physiologically with that forthcoming from sunlight. The lamp consists of a quartz mercury vapour burner of vitreosil (pure fused silica), together with two supplementary filament lamps mounted inside a diffusing and filtering globe of the same substance. The bowl filters out the extremely short ultra-violet rays of the mercury vapour, and allows the longer ultra-violet to pass freely, while the supplementary lamps compensate for the unpleasant colour of mercury vapour, and represent the warming and enlivening component of sunshine. The lamps are intended for general use in workrooms and offices, and for the house.

SODIUM MORRHUATE FOR INJECTION OF VARICOSE VEINS

Messrs. Burroughs Wellcome and Co. have introduced "hypoloid" sodium morrhuate as a sclerosing agent for the treatment of varicose veins. The systematic effects of intravenous injections of sodium morrhuate were investigated some years ago, and the remarkable power of the drug to sclerose veins was at once noted. Sodium morrhuate is stated to be innocuous to the subcutaneous tissues, thus reducing the risk of an "injection ulcer" to a minimum; its non-toxicity allows it to be administered in large doses. The drug is supplied in 2 c.cm. ampoules containing a 5 per cent. solution. The treatment recommended is to give a series of injections of 1/2 to 1 c.cm. of the 5 per cent. solution. This treatment can be repeated after a week's interval.

CONFERENCE ON MENTAL HEALTH

THE HUMAN FACTOR VARIOUSLY CONSIDERED

The National Council for Mental Hygiene held its second biennial conference from May 27th to 29th, at the Central Hall, Westminster. About eighty bodies, including the British Medical Association, co-operated. The subject chosen for discussion was about as wide as any subject could be—namely, "The human factor"—which was considered at successive sessions in its relation to international problems, to crime, to industry, to social services, and to education. Speakers, therefore, were tempted to roam over the whole field of human affairs, and some of them took full advantage of the liberty.

The conference was opened by Miss SUSAN LAWRENCE, M.P., Parliamentary Secretary to the Ministry of Health, who mentioned with gratification that since the previous conference the Mental Treatment Act, then foreshadowed by the Minister, had come into being. Previous legislation, she said, had been devoted to preventing the consequences of mental disease, and the idea of the safety of the community and of the patient had been the governing consideration; but now for the first time the emphasis was laid upon the possibilities of treatment and prevention. Miss Lawrence incidentally paid a high tribute to the medical profession. The politician, she said, was rather distrusted, and the press had lost a great deal of its former power, but there was one person—namely, the doctor—to whom the layman listened with respect and attention, and with an implicit belief in what he said. However sceptical the British public might be in other matters, it was extremely docile in accepting the views of medical science, and in that way, she generously declared, it showed its intelligence. The people did believe in science, and were perfectly ready to submit themselves in health matters to the judgement of experts.

The conference then resolved itself into a kind of peace meeting, and discussed the human factor in international problems. Dr. J. R. LORD, a member of the executive council of the International Committee for Mental Hygiene, spoke of the part which mental hygiene—the greatest constructive force in the world, leading, as it did, to an understanding of human nature and behaviour—could play in the avoidance of war. One point he brought out was that the mental hygiene movement, hardly known as an international movement before the war, now embraced some thirty-five societies in different countries. A suggestion made by Dr. Lord was that princes in the succession in monarchical countries should have psychiatrists in attendance, and also, of equal importance, that in democratic countries measures should be taken to ensure the mental health of high officers of State, especially those occupying executive positions.

The meeting was also addressed by Professor A. ZIMMERN, until lately deputy director of the League of Nations Institute of Intellectual Co-operation, and now professor of international relations at Oxford. Dr. Lord had described the League of Nations itself as a vast experiment in mental hygiene, and Professor Zimmern instanced some of the great services of the League from this point of view. Not the least was the fact that it had concentrated in one place the handling of complex and technical international business, and had arranged for open discussion, by which the public of different countries was being educated as to the nature of the issues. Thus the gulf was bridged between romance and reality, which had hitherto so greatly impeded the sober discussion of international problems.

At the session devoted to the human factor in crime, over which Sir HUBERT BOND presided, Dr. W. A. POTTS, psychological expert to the Birmingham justices, spoke of the need of investigation into the history of delinquents and the difficulties and handicaps of their lives. An appreciation of those difficulties was assisted by realizing the interrelation of mind and body, which was so close that physical disorders might often cause abnormal conduct. Mr. CLIFTON ROBERTS of the Howard League for Penal Reform, suggested that perhaps some enlightened member of Parliament might introduce legislation by which, in future, criminals would be described as patients, and prisons as institutions for the scientific treatment of offenders.

A discussion on the human factor in industry was opened by Sir DAVID MUNRO, secretary of the Industrial Health Research Board of the Medical Research Council, who described vocational tests; there was as yet, he said, no reliable test for temperament, the most important feature of the make-up of the human mind, unless the tests by Drs. Culpin and May Smith in their work on "The nervous temperament" proved to have universal application. Mr. C. J. BOND also mentioned experiments in vocational guidance carried out by the National Institute of Industrial Psychology. He believed that vocational guidance on the one hand, and vocational selection on the other, would grow in usefulness as they became more fully developed, and might rank in the future among the important influences helping to restore prosperity and contentment to industrial life.

The DEAN OF ST. PAUL'S presided over the session which discussed the human factor in social services, and made a plea for greater attention to eugenics. Perhaps the greatest problem for the educationist to-day, said Dean Inge, arose out of the very low average level of intelligence. The Americans applied scientific tests to over a million of their recruits in the war, with the disconcerting result that the average mental age of the American citizen was discovered to be 13—and the Dean supposed that on this side of the Atlantic it would not be any higher. In the past the progress of a nation or tribe had depended less on the raising of the average of intelligence than on its variability, whereby a few highly gifted leaders were thrown up. But average ability was now coming to be of greater importance.

Dr. H. CRICHTON-MILLER, honorary director of the Tavistock Square Clinic, discussed with frankness the problem of the marital relation. He said that monogamy, which had been the accepted ideal of Christian civilization for many centuries, and was much older than Christianity, of course, was now threatened in a way which to some of them appeared alarming. The question was how, by taking thought, one could make any difference to the amount of maladjustment which was so evident. In the view of the psychologist, the Church had made the situation more difficult by demanding certain commitments in the name of monogamy which were not psychologically possible. The Church had acted quite naturally and rightly from its own point of view, but it had neglected the fact that while behaviour could be commanded, feelings could not be commanded, and because human beings could not command their feelings they had no right to make them the subject of solemn pledges. Dr. Crichton-Miller, however, thought it a proper line of argument that for this very reason, because emotional feelings could not be pledged beforehand, the relationship should be all the stronger on the behaviouristic side, and conduct must be all the more necessarily pledged. The guiding consideration always should be posterity. All the difficulties of the marital relationship ought to be subordinated entirely to the trusteeship of parenthood. By so doing we should get away from "this froth and bubble about companionate marriages."

Another speaker was Dr. ISABEL G. H. WILSON, Commissioner of the Board of Control, who discussed in a happy way the different types and motives of social workers, calling for sympathy and understanding of all types, even including those who "always wore a halo round their heads." The closing session was a very domestic affair, with a discussion on the bringing up of children, in the course of which the one medical speaker, Dr. F. C. SHRUBSALL, uttered some home truths in child psychology, such as, for example, that a nagging household produced an irritable child, and that it was useless to recommend to a child a course of action which was not practised in the family.

British Medical Journal

SATURDAY, JUNE 13th, 1931

SURGERY AND DIET

For three decades and more surgeons have been applying their art to diseases and disorders which formerly fell within the purview of the physician. Are physicians to turn the tables on surgeons and demonstrate that many—if not most—surgical disorders are preventable? The mass experiments described by Colonel Robert McCarrison in two lectures recently given at the Royal College of Surgeons of England, the second of which appears in our present issue, prove beyond cavil that rats, improperly fed, become liable to many of the surgical diseases and disorders to which human flesh is heir, while the same stock of rats, properly fed, retain perfect health. Coming after the brilliant Hastings Lecture,[1] so recently delivered by Professor Edward Mellanby, the results now published by Colonel McCarrison, based as they are on a quarter of a century of systematic and persistent inquiry, give the surgical mind matter for its most serious consideration. We are passing from a period in which bacteria were held of more surgical importance than diet, to one in which a knowledge of diet is to be regarded as more important than a knowledge of bacteria. It is the physician or dietitian who is leading the way. Who would have thought, ten years ago, that an error in diet would render us liable to such diverse conditions as middle-ear disease, duodenal ulcer, renal calculus, or cystitis? Yet that is what all recent experiments in diet go to prove. It does seem as though the physician is again to come into his own. The surgeon of the future, it now appears, will have to be a master of dietary as well as a skilled operator and diagnostician. A full knowledge of foods may be the key not only to prevention, but also to cure.

Professor Edward Mellanby ascribes to vitamin A, which most of us obtain from the milk, butter, eggs, and green vegetables we consume, the chief role in safeguarding the body from surgical infections; and of this view readers of Colonel McCarrison's lectures will find the strongest confirmation. Historically it would be more just to say that the results now arrived at by Colonel McCarrison are a confirmation of a conviction which was forced on him by experiments he carried out in 1913–14, just before the great war. Sir Frederick Gowland Hopkins had by then demonstrated that certain "accessory food factors" were necessary to growth and to health; McCollum, Davies, Osborne, and Mendel had entered the field of inquiry, and were separating one factor from another. It was while McCarrison was at work on goitre that Casimir Funk gave the name "vitamin" to accessory food factors, and threw out the hint that they might be akin to substances formed in the glands of internal secretion. Just then McCarrison, as a result of ten years of inquiry, had succeeded in producing goitre and cretinism under experimental conditions. Turning aside to ascertain the effect produced on the thyroid by an imperfect dietary, he fed pigeons on milled rice. It was not, however, the effect on the thyroid that impressed him, but the liability of the birds thus fed to become subject to infections. Pigeons given a normal diet, he found, were almost free from infection. The deduction he drew from his early experiments was this: "Appropriate food is thus shown to afford protection against the invasion of the body by—or the growth therein of—certain highly virulent organisms."[2]

Colonel McCarrison was himself the first to demonstrate the extent of the damage wrought in tissues and organs of the bodies of animals which had been fed on deficient dietaries. Resuming his investigations after the war, a spare laboratory was assigned to him in the Pasteur Institute which Lord Curzon had established in the Nilgiris, Southern India, for the treatment of rabies. He equipped his laboratory, trained a native staff of assistants, raised a stock of rats, and proceeded to carry out dietetic experiments on an extensive scale, being still an officer in the Indian Medical Service, attached to the Foreign and Political Department. He was not content merely to note the effects of selected dietaries on the growth of his animals, but undertook a minute and systematic examination of their bodies to find out what had happened to their glands and internal secretions, and to what extent they had become subject to infection. It was while carrying out these examinations that he was struck by the gross changes which had occurred in the lining membrane of the whole alimentary tract; the epithelial lining, especially that concerned in the secretion of mucus, was manifestly in an unhealthy state. The changes he observed were almost identical with those which occur in the human great bowel in cases of chronic colitis and stasis. He found similar changes in the lining membranes of the respiratory, urinary, and genital tracts of animals long subjected to deficient dietaries.[3] From these observations he inferred that devitaminized foods or unbalanced diets broke down the epithelial defences of the body, and thus rendered the animals experimented on liable to infection. Quite independently, Dr. W. Cramer, working in London, observed the profound changes undergone by the intestinal epithelium and lymphoid tissue in rats deprived of certain food factors.[4] The researches of Dr. S. Mori (1922), Drs. Wolbech and Howe (1925), and of Mellanby and Green (1928) proved that a sufficient supply of vitamin A was necessary to maintain the epithelial systems of the body in a state of health. Colonel McCarrison and Dr. Cramer attribute the sole "anti-infective" action of vitamin A to its maintenance in health of the epithelial linings and intestinal tissues of the body. Indeed, Colonel McCarrison, in the lectures just published, goes further,

[1] *British Medical Journal Supplement*, March 21st, 1931, p. 85.

[2] *Indian Journal of Medical Research*, 1919, vi, 275; 1919, vii, 167, 188.

[3] Ibid., 1919, vi, 275; 1919, vii, 167, 188.

[4] *Lancet*, 1923, i, 1046.

and claims that the defensive mechanism of the body may be injured by any improper mode of feeding. To place the living body in the best position to resist the infections to which it is at all times exposed it must be supplied (1) with a due allowance of all accessory food factors ; and (2) with all necessary inorganic ingredients —calcium, phosphorus, iron, and iodine. These must be properly " balanced," not only with each other and with the essential vitamins, but also with the carbohydrate and protein substances included in the dietary. Probably there is an optimum " balance " for each individual human being, which changes with each decade of life.

It is this promising but complex field of research, one which seeks for protection against medical and surgical ailments in a better knowledge of dietetics, that is now being opened up, and to which the lectures just given at the Royal College of Surgeons by Colonel McCarrison make so valuable a contribution. Especially is the work he is doing of the utmost significance for the health of millions of our fellow subjects in India.

THE PROMISE OF YOUTH

The third volume of the remarkable series *Genetic Studies of Genius*[1] has now appeared, and in it Professor Terman and his associates carry a stage further the arduous and fascinating task that they have set themselves. The study originated with the careful selection of 1,000 exceptionally gifted children in California. The children of the gifted group were included well in the top 1 per cent. of school children. Most thorough investigations of all kinds were carried out on these children, including anthropometrical measurements, health data, intelligence, personality, and other psychological tests, studies of heredity and human conditions, and other factors too numerous to mention. The result was the first volume of the series, which was reviewed in our columns four years ago.[2] The second volume recorded the results of the study of the early mental traits of 300 geniuses of all centuries.

The present volume is a sequel to the first, and is largely concerned with a complete re-testing and re-examination, after six years had elapsed, of the gifted children originally studied. In general the earlier promise has been fully realized. For example, boys of the gifted group attending Stanford University reached a scholarship average slightly above that of Stanford freshmen. This is a remarkably good result, because the selection of Stanford students is stated to be so rigorous that the gifted children are competing with students whose level of ability is little lower than their own, and who are nearly two years older on the average. The proportion of the group who have graduated from Stanford " with distinction " or " with great distinction " is more than double the average for Stanford students generally. A repetition of the intelligence tests shows a certain fall in the intelligence quotient, and this fall is quite large in a small proportion of cases. It is particularly interesting that in the cases where a marked fall has occurred no connexion can be found with health, with personality traits—that is, poor balance or undesirable social attitudes—with race, or (most remarkable of all) with environmental conditions. The suggestion is advanced that fluctuations in the intelligence quotient (or I.Q.) are reflections of changes in the rate of mental growth, and are in all probability inborn. It is also shown that the earlier test is the better index of inborn ability. The authors hope to follow up their group at further intervals, and it will be very interesting to observe whether these changes in I.Q. are temporary or permanent. Once again the normality of the gifted children from the point of view of social and personality traits is emphasized. The health history appears to have been good. In the earlier study it was recorded that the gifted group on the average had much more sleep daily than unselected children, and although the difference is now somewhat less they still sleep more than unselected children at all ages up to 17.

The original study was one of unique value and importance as a record of actual data that might replace hazy impressions and prejudices, and the present volume is essential as a further instalment of the original plan. But it possesses in addition a special and human interest that makes it a most attractive volume for the general reader. Selected case histories are given, and it is impossible not to comment on the humanity with which these are written. The cases quoted in the chapter entitled " The conquest of obstacles " form an appealing record. The third part of the volume is a study of literary juvenilia. A tentative scale for assessing their merit is proposed, and the whole section is fascinating. We wish that there were space in which to quote some of the remarkable exploits of these infant prodigies. For example, " Millie," who at the age of 26½ months extracted the greatest enjoyment from reading, and had a reading vocabulary of 700 words. But if we had to pick a favourite we think our choice would fall on " Verda," a girl of strongly marked literary abilities. Her first poem was composed at the age of 2 years and 9 months, and records her reaction to the effects of a double mastoid operation. At the age of 5 Verda composed a remarkable poem, which she printed without any spacing between the words. It is not surprising to learn that her subsequent progress was phenomenal. At the age of 11 years and 7 months her I.Q. was 186, which places her among the foremost members of the gifted group. At the age of 16 years and 4 months her score on the Thorndike test was 109, which is said to be one of the highest scores on this test ever made by a woman. At 17 she entered college, and her college career has been one of unbroken success.

The authors trust that it will be possible to re-examine the group after an interval of another ten or fifteen years. We hope that this will indeed be done. In the meanwhile, the present record is of the greatest interest and value.

[1] *Genetic Studies of Genius.* Vol. iii: *The Promise of Youth.* California: Stanford University Press; London: G. G. Harrap and Co., Ltd. (21s. net.)
[2] *British Medical Journal,* 1927, i, 1113.

LONDON'S NEW UNIVERSITY BUILDINGS

Lord Macmillan, who presides over the Court of the University of London, addressed the Royal Institute of British Architects a few days ago, and in allusion to the imminent development of the Bloomsbury site for university purposes, described it as an interesting adventure, which he was sure would be carried to an outstanding success. The University of London, he said, was embarking upon an architectural scheme which would alter the aspect of the centre of the capital, and he believed that within the time of most of those present there would be completed an architectural group worthy to be named with any of the monuments of antiquity. Lord Macmillan confessed that while he believed in the art of ancient times, he thought each generation was inclined to belittle itself in marvelling at the achievements of the past. He was sure that British architecture of the present day could supply the University of London with a worthy home. A day or two after Lord Macmillan had spoken, the name of the architect chosen by the Court was announced, and further particulars, officially supplied, will be found at page 1044. The work is to be entrusted to a single architect—namely, Mr. Charles Holden of London, who has been responsible for many works of beauty and distinction. The best known is the building which houses the headquarters operations of the Underground Railway at St. James's Park, where Mr. Holden has shown his skill in dealing with a closely surrounded site. At Bloomsbury he will have the advantages of an open site of ten acres, with fine surroundings, including some buildings of a university character. The work is expected to occupy from twenty to thirty years, and to cost between £2,000,000 and £3,000,000, but the architect is to prepare at once a general design for the whole of the site so as to ensure that the work shall proceed upon harmonious lines. It is quite possible, of course, that during the next generation the character and compass of university teaching will be greatly altered, and sufficient margin is to be left for additions and modifications to meet academic needs as yet unforeseen. The site of this great building scheme extends from Montague Place on the south, opposite the north façade of the British Museum, almost to Euston Road on the north. On the west side it extends for the whole length of Malet Street, on which the London School of Hygiene and Tropical Medicine has a frontage, and on the east side the line of the site runs through Russell Square, Upper Montague Street, and Woburn Square. Torrington Square (so miscalled, for it is really a wide avenue) runs through the centre of the site, and there is some idea of keeping this as a garden space, so as to give the enclosure something of the quietness and atmosphere of the Temple or Lincoln's Inn. A plan of the site and an air photograph were reproduced in an article on the future of the University of London, published in these columns four years ago.[1] The house of the British Medical Association, in Tavistock Square, is two or three minutes' walk from the north-east corner of the site, and University College Hospital about the same distance from the north-west corner. The first part of the site to be developed will be the land, already vacant, at the southern end, where the administrative block of the University will be erected, also the University hall and library.

[1] *British Medical Journal*, 1927, i, 975.

REPORTS OF THE PHARMACOPOEIA COMMISSION

Our readers will be aware that a new edition of the *British Pharmacopoeia* is in preparation. The General Medical Council is now publishing reports embodying the conclusions of the subcommittees which have carried out much of the work of revision. The report by the Pharmaceutical Chemistry Subcommittee[2] deals chiefly with the tests for purity of drugs. This is of necessity a highly technical document, but the reliability and accuracy of these tests is of great importance, in the first place for the safeguarding of patients, and secondly, because the *British Pharmacopoeia* is a presumptive legal standard. It is a well-known fact that in many cases in the past the standards adopted by the leading drug firms for certain drugs have been in advance of the standards laid down by the *Pharmacopoeia*, and the medical profession will be glad to learn that it is proposed to formulate official and adequate standards of purity for such drugs as the following: anaesthetic ether, chloroform, nitrous oxide, oxygen, barium sulphate, and carbon tetrachloride. In all these cases a high standard of purity is essential for the safety of the patient. Another report has been issued simultaneously by the "Cod-Liver Oil Colour Test Subcommittee."[3] This subcommittee found that the blue colour test for the vitamin A content of cod-liver oil gave variable results with different workers, and has laid down standard conditions, which will ensure uniform results. It also suggested a suitable lower limit for the vitamin A content in cod-liver oil. The Pharmacopoeia Commission has, however, decided not to impose a test for the vitamin D content of cod-liver oil, because almost all samples contain enough vitamin D for therapeutic purposes, and it considers that the biological test for vitamin D—the only one available—is so expensive and time-consuming that it ought not to be imposed unless absolutely necessary. The commission is, however, considering the official adoption of the unit laid down by the Medical Research Council for vitamin D. The official adoption of this unit would be a great service, for it would encourage uniformity in the description of the vitamin activity of cod-liver oils sold in this country. As was mentioned recently in these columns[2] the Norwegian unit works out at less than half the British unit, and this diversity is unfair to the Empire products.

[2] *British Medical Journal*, May 16th, 1931, p. 853.
[3] *Proceedings of the Pharmaceutical Chemistry Subcommittee*, Vol. X, No. 118. Special Supplement to the *British Medical Journal*, May 16th, 1931. Price 3d. net.

SILICOSIS IN SOUTH AFRICA

An authoritative expression of the South African teaching on silicosis has long been desired, and the admirable account just received[1] will be eagerly welcomed by all workers on the subject. It consists of three papers presented at a meeting of the Transvaal Mine Medical Officers' Association, held in Johannesburg in October last, and published as a special supplement to the *Proceedings* of the association. The first paper, on the histo-pathology of silicosis, is by Dr. F. W. Simson of the Department of Pathology of the South African Institute for Medical Research, Johannesburg.

[1] Published by Authority of the General Medical Council, 44, Hallam Street, W.1. (3s.)
[2] *British Medical Journal*, May 16th, 1931, p. 853.
[3] *Proceedings of the Transvaal Mine Medical Officers' Association*. A Symposium on the Histo-Pathology, Pathological Anatomy, and Radiology of the Disease. Johannesburg, October 23rd, 1930. Issued by the Association, Chamber of Mines Building, Box 809, Johannesburg.

The anatomy and lymphatic apparatus of the lung are first discussed, and the author advances the view, based on the study of lungs from cases of "status lymphaticus," that lymphoid tissue occurs in the lungs only in direct relationship to the air passages and their terminations, and not, as is generally held, in association with blood vessels. A brief account of the fibrosis caused by dusts other than silica is followed by a description of the formation of the specific silicotic lesion—the silicotic islet. The author considers that there is a type of pure silicosis which can be shown by biological tests to be free from any association with tuberculosis. He also recognizes a form of "infective silicosis" in which the infective agent is usually the tubercle bacillus, and describes the mode of origin of the lesions. The second paper, on the pathological anatomy of silicosis, is by Dr. A. Sutherland Strachan. While denying that lymph stasis due to the involvement of the mediastinal lymph nodes is a necessary precursor of pulmonary silicosis, Dr. Strachan draws attention to the importance of silicosis of the thoracic glands, which may secondarily involve the oesophagus and the bronchi. In this paper, again, the importance of infective silicosis is emphasized. The third paper, on the correlation of the pathology, radiology, and symptomatology of silicosis, is by Dr. L. G. Irvine, chairman of the Miners' Phthisis Medical Bureau. Starting with a review of the pathology of the disease as described in the previous papers, Dr. Irvine discusses the clinical manifestations of the various stages of the disease, and the appearances seen in the corresponding radiographs. The classification of the radiographs adopted by the Medical Bureau and their interpretation are dealt with in detail, and the paper concludes with a section on the legal aspect of diagnosis, incidence, and prognosis. The volume contains a beautiful series of thirty-two plates illustrating the morbid anatomy and histology of the disease, and representative radiographs.

OPHTHALMOLOGY IN EGYPT

The fourth annual report of the Giza Memorial Ophthalmic Laboratory in Cairo[1] is a good indication of the type of work which is now being carried on in Egypt. As might be expected, attention is largely focused on the problems of trachoma. During the last year the staff of the laboratory has carried out much patient work on the subject of the etiology of the disease, and while the results have been largely negative, the matter is of such extreme importance to the country that every effort must still be directed towards the elucidation of its special problems. Further observations have been made on the occurrence of lesions simulating trachoma in monkeys. The report states that it is important to note whether the follicles seen on the conjunctivae of these animals rupture spontaneously or require to be expressed, for it is this feature which distinguishes the follicles of trachoma from those of other follicular diseases of the conjunctiva. Three different strains of *Bacillus granulosis* of Noguchi were received from the Rockefeller Institute, New York. These were found to agree in all their reactions with those described by Noguchi. But experimental inoculations, following exactly the technique of this worker, were entirely negative, even after periods extending to six months. Following the inoculation all the animals developed a slight congestive reaction which rapidly disappeared. Nearly all presented one or more scattered translucent follicles, and when the eyes were examined very carefully with the corneal loupe, pinpoint follicles were visible along the upper edge of the tarsus; there was, however, an entire absence of all inflammatory signs. One experiment was made upon a human subject. The conjunctiva of a blind eye, which had traces of healed trachomatous infection, was inoculated with *B. granulosis*. The patient was watched for two months, but no signs of recurrence of the disease appeared. This is in marked contrast with the effects of an accidental infection. A doctor, when expressing trachoma follicles from a patient, received a splash of the material in his eye. Despite the fact that the eye was immediately bathed, there was a slight discharge two days later, and on the fourth day the palpebral conjunctiva was acutely congested. By the eighth day follicles appeared on the upper border of the upper tarsus, and on the eighteenth day they had covered the tarsus. The whole conjunctiva was acutely injected. Despite the fact that active treatment was carried out from the beginning, there was still chronic congestion after ten months. Until now, statistics of the eye conditions of the population of Egypt have usually been compiled from figures obtained from the Government ophthalmic hospitals, from school clinics, and from census returns, but never before has the whole of a village been examined. This year a typical Egyptian village was chosen for investigation. Bahtim has a total population of 3,549, of which 3,058 were investigated. Excluding 139 infants under 1 year, the remainder were found to have trachoma, in one stage or another, except for one marasmic child, aged 1. It was evident that the people became infected with trachoma very early, the largest proportion in the first year of life. There is a great and early tendency for the trachomatous process to cure itself by cicatrization. The active and most infective stages of trachoma are rarely seen in adult life. Complete spontaneous cure without complications is not very common, although it is remarkable to note the early age at which this sometimes occurs. The incidence of acute mucopurulent conjunctivitis was also noted. This was relatively rare after childhood, the probable explanation being that in patients of 10 years of age scar tissue has largely infiltrated and replaced the normal conjunctival mucosa. Of the 139 infants under 1 year only 19 were found to have normal conjunctivae; none were found normal after the second month of life. Nearly 40 per cent. had acute conjunctivitis, and these patients were entirely neglected. Superstition is partly responsible for the neglect; this emphasizes the great need for education, without which no real improvement can be expected. Trichiasis was found in 21 per cent. of the inhabitants as the result of trachoma; 5.59 per cent. were blind in one eye, and 1.05 per cent. in both eyes. The standard was severe—namely, inability to count fingers at a distance of one metre. Acute ophthalmias and their effects accounted for 75 per cent. of the blindness. The report accentuates the fact that the findings of the

[1] Schindler's Press, Cairo. 1930. (Pp. 138; 16 plates.)

examination of this village are of more than local interest. The village is typical of the greater part of Egypt, and it is stated that what was found in that small place is true for the whole country. The inevitable conclusion is that a great amount of the blindness in Egypt may be, and can be, prevented if treatment is sought early. There are some interesting reports of investigations into novel forms of treatment of trachoma. Intravenous injections of copper salts were tried, but their effects were uncertain. There was possibly some beneficial effect on the acute signs, but the more chronic symptoms were not relieved. In one case there was improvement in one eye, but there was a recurrence in the other during the treatment. Phenolaine, for which startling claims have been made, was not found to possess any definite advantages over such remedies as yellow oxide of mercury and dionine in clearing corneal nebulae. Further, the method is laborious, and is sometimes followed by unpleasant after-effects which are otherwise never seen. Consideration is given to the possible explanation of these divergent findings. One source of fallacy is the testimony of the patient himself. He may fancy his vision has been improved by the treatment, despite the fact that a careful record of his original state and of the condition at the close of the treatment may show no changes in objective signs and no improvement in visual responses.

A SOCIALIST MEDICAL CONFERENCE

During the last week-end of May a Socialist medical conference was held in Carlsbad, Czechoslovakia. Nearly two hundred doctors were gathered together from different parts of Europe as representatives of some ten national Socialist medical associations. The British section consisted of Mr. Somerville Hastings, M.P., and Dr. W. Rutherford, both of London. They were representatives of one of the smaller sections, because the British Socialist Medical Association has only been in existence a few months, and numbers not more than a hundred members. The German and Austrian sections, however, are much larger; each has over a thousand members, and publishes a monthly paper. The chief business of the conference was the formation of an international association, and the drawing up of its constitution. Affiliation to this will in no way affect the policy or organization of a national section. The central bureau of the association is, for the present, located in Berlin, with Dr. Ewald Fabian as secretary. An executive consisting of one or two members from each of the ten countries represented was formed, and instructed to work out the constitution in further detail, and determine the place of meeting and agenda for the next annual conference. London was one of the places proposed. Perhaps the most elegant speech of the conference was made by Engelbert Graf, Member of the German Reichstag, who dealt with the effects of the present economic world crisis on the public health. It was pointed out that in many countries the health of the children, especially those of unemployed men, was being definitely lowered, and that in the younger unemployed men nervous disorder and crime were increasing. A resolution was carried in favour of larger allowances for the unemployed, raising the school-leaving age to 16, shorter hours of labour, and the building of more houses for the people. The resolution concluded with a declaration that crises like the present will only be permanently abolished when the economic order of society becomes socialistic.

THE ROSS INSTITUTE

The annual report for 1930 of the Ross Institute and Hospital for Tropical Diseases is of special interest in view of the considerable attention paid in it to malaria, particular reference being made to the economic damage done by this disease, and the preventive policy which is advocated by the Ross Institute. Sir Malcolm Watson has prepared a memorandum covering the past history of the fight against malaria and defining the present position; this is published as an appendix to the report. The progress of the antimalarial campaign in the Federated Malay States is discussed in detail, and the value of expending money and thought on health measures is clearly indicated. An Indian branch of the Ross Institute came into active being last August; it is designed to assist industries in the prevention of malaria among their staff and to conduct further researches in this respect. Dr. G. C. Ramsay, who is in charge of the branch, has been making a careful investigation of the malaria problem in Assam. An illustrated booklet has been published in this connexion, showing how a successful biological control of mosquito multiplication can be obtained by planting swamps and slow-running streams with certain plants which grow quickly and completely shut off the sunlight from the water.

THE HISTORY OF THE ASSOCIATION AND THE CENTENARY

In an annotation published in our issue of November 17th, 1928 (p. 905) we gave notice that on the occasion of the centennial meeting next year it was proposed to publish in volume form a *History of the British Medical Association*. For this purpose information as to the foundation of Branches was particularly desired, such as is not accessible in the medical journals, for it was felt that in the minute-books of the older Branches and the records of local medical societies there might be much of interest to us to-day. Any information in any way bearing on the history of the Provincial Medical and Surgical Association or the British Medical Association will be thankfully acknowledged by the Medical Secretary.

THE ST. CYRES LECTURE

We much regret that by inadvertence Sir Thomas Lewis was not sent a proof of the full report of his St. Cyres Lecture which appeared in our issue of May 30th, page 941, under the heading "Ischaemia of Muscle as a Cause of Anginal Pain." Through that oversight Sir Thomas Lewis had no opportunity of correcting a number of mistakes; and he must therefore not be held responsible for the abstract of his lecture as published in these columns.

Mr. N. Bishop Harman has been elected an honorary member of the International Association for Prevention of Blindness, in recognition of his initiation of the myope (or sight-saving) classes for children in London in 1908.

We regret to announce the death, on June 6th, of Colonel Sir Robert H. Firth, K.B.E., C.B., F.R.C.S., late A.M.S.

THE PLACE OF MEDICAL SOCIETIES IN THE PROGRESS OF MEDICINE*

BY

RAYMOND CRAWFURD, M.D.OXON., F.R.C.P.

We are gathered here to-day to celebrate the centenary of the Harveian Society of London, and we are honoured by the presence of representatives of the sister society of Edinburgh, founded in 1782, and of that of New York, founded in 1905. The occasion may be not inopportune for considering some features of the life-history of medical societies in Great Britain.

THE THREE HARVEIAN SOCIETIES

Human activity, in so far as it is enduringly fertile, is not the chance product of a few creative minds, but is conditioned by its antecedents and environment, and tends to express the dominant tendencies of the time. Thus the Harveian Society of Edinburgh was born of a demand that found expression in various ways in the last quarter of the eighteenth century for the democratization of medical knowledge. Phoenix-like it arose out of the ashes of an older Aesculapian Society, membership of which had been exclusive and limited to Fellows of the Royal Colleges of Physicians and Surgeons. The Harveian Society opened wide its doors, not only to these Fellows, but also to medical graduates, neighbouring practitioners, and the naval and military medical services as well. The Scottish genius for conviviality seems to have asserted itself in the constitution of this society, as it kept in the forefront of its programme the cherishing of friendliness among members of the profession, and the degrees conferred by it included "Doctor of Mirth and Social Joy" and "Doctor of Merriment." So this society was true to Harvey's injunction as to the importance of cherishing actively the spirit of good-fellowship as an assurance of usefulness and stability.

The Harveian Society of London was launched on its career of enduring prosperity at a time when educational reform was alive and active in every branch of intellectual activity. In London, in little more than a decade, University College, King's College, and the University of London came into being. Medical societies had already spread from their first metropolitan homes in Edinburgh and London to the provinces, and in 1819 a further tendency to decentralization within the growing metropolis had declared itself in the foundation of the Hunterian Society, for the benefit of the medical profession in the East End of London. The purpose of this Harveian Society at its birth was to do the same for the West of London, for it should be remembered that in 1831 the centre of medical activity was not, as now, in Harley Street, but in the district adjacent to the British Museum.

One important function of medical societies has been to provide a medium for the conveyance of fresh knowledge from the centre to the periphery of the profession. Scientific discoveries tend to be minted in minds concentrated at the centre, but it is by the minds of the multitude of practitioners scattered throughout the country that the golden coins gain extensive currency. The flow of fresh knowledge has thus been mainly centrifugal, and very little in the reverse direction, for the country practitioner is more directly concerned with the art of medicine, which is individual and incommunicable, while the science of medicine is catholic and susceptible of ready transmission. A notable exception, however, to the general rule was Jenner's work on vaccination, a piece of scientific work that was readily practicable only in the milieu of a rural practice; while, later still, from the genius of Manson, Ross, and others, we at home have learned that the highest scientific achievements may be compassed in the outposts of our far-flung Empire. At its foundation this society declared its purpose to be "to promote a free communication and, whenever practicable, a demonstration of facts and inferences relating to all departments of medicine, regarded both as a science and an art." Here, then, was a common meeting ground for the exponents of both the art and the science of medicine, and this throughout its hundred years of existence has been its peculiar cachet.

The Harveian Society of New York was founded in 1905. Its avowed purpose was to convey to the medical profession generally, by means of lectures delivered by experts in different branches of medical science, knowledge gained by experimental investigation in the laboratory. It was felt that such knowledge was liable to be buried in specialized publications that were not readily accessible to the general practitioner. Anyone who is familiar with the annual volumes in which these lectures are published cannot fail to recognize the great measure of success that has attended this high endeavour. This society, then, is the natural corollary of the rapid growth of experimental research that has been an outstanding feature of twentieth-century medicine.

FUNCTIONS OF MEDICAL SOCIETIES

This brief outline of the activities of these three Harveian Societies affords some indication of the various ways in which medical societies have aided in the diffusion of knowledge by the agency of discussions, papers, lectures, exhibition of patients and specimens, demonstrations, and the printing of proceedings, but it does not cover the whole ground, for some societies have enlarged the scope of their transactions so as to include reviews of books and abstracts of articles of scientific value, the usefulness of which to medical men can hardly be overrated, while others have added the manifold amenities of a well-organized library.

The *diffusion* of knowledge has been the primary, but by no means the exclusive, purpose of medical societies, for the methods adopted for the active diffusion of knowledge cannot fail to have some share both in the *acquisition* of existing knowledge and in the *creation* of new knowledge: the larger and more affluent medical societies have indeed lent themselves to the acquisition of knowledge only in a less degree to its diffusion. In the acquisition of knowledge books and periodicals necessarily play an important part, and to this end not a few societies have provided their members with libraries, the most highly systematized of which have already attained a very high degree of utility and excellence.

The creation of new knowledge can in the nature of things form only a very limited part of the activities of a medical society as such. It is true that the intercourse of fertile minds does give birth to new conceptions, and these in turn engender others, and this constitutes a creative act; but the experimenter who would commune with nature must needs enter his chamber and be still, and his chamber is the laboratory, not the meeting house. So, too, fruitful observation postulates the presence of the objects to be observed in a suitable milieu, and in the case of morbid material, living or dead, that milieu is the hospital or its clinical equivalent.

If we trace back the development of medical societies to its source, we find that the earliest were concerned at

* An address to the Harveian Society of London at its Centenary Celebration on June 11th, 1931, at St. Bartholomew's Hospital.

least as much with the acquisition and creation as with the diffusion of medical knowledge: the more restricted function has been gradually evolved. Both Bacon and Harvey have left us a picture of the constitution and scope of the society to which they would have entrusted the future of medical science. Each of these men was a typical product of the spirit of an age that had its roots in the Reformation; each was a champion of the scientific scepticism that, with the emancipation of the human mind from the tyranny of authority and dogma, sought by means of observation and experiment to find a rational basis for the interpretation of physical phenomena.

BACON'S HOUSE OF SALOMON

Bacon believed that science might be immensely advanced if the whole civilized world could be linked up into one scientific federation for the creation and dissemination of knowledge, and his allegorical picture of Salomon's House in the ideal commonwealth of Bensalem represents the organization by which he would make his idea effective. His college was to consist of thirty-six Fellows, half of whom were to be engaged in the acquisition and recording of all existing knowledge of discoveries and inventions from every conceivable source in all parts of the world; the other half, in six groups of three each, was to be engaged in the devising, directing, executing, and recording of new experiments. Such was to be the guiding personnel of his visionary College, of which the equipment was to be on the most lavish scale. If to-day some master mind were to fashion a scheme by which all scientific societies, covering every branch of science, should be amalgamated into one colossal institute, if he were to give each professor a free hand to construct, equip, and staff his department on the most lavish scale the professorial mind could conceive, with the addition of an unlimited secretariat and foreign correspondency, the whole directed by an all-wise and all-embracing research council, we should still have but a pale exemplar of *Bacon's House of Salomon*.

It might appear that Salomon's House has but a slender claim to figure in the lineage of the medical society of to-day, but such is not the case, for there is indisputable evidence that it had a direct and important influence in promoting the foundation of the Royal Society, and further evidence that the earliest purely medical societies did consciously adopt as their model certain features that had been tried and approved in the constitution and procedure of the Royal Society. Bacon did not even differentiate medical science from the general corpus of natural philosophy; nevertheless he did include it, and made abundant provision for the acquisition and creation of new knowledge, while leaving the discoveries to be their own advertisement. Though Bacon, and not Harvey, *is thus the true progenitor of our Royal Society*, that great corporation has flourished not in the leading-strings of Bacon, but by the free and independent pursuit of the method and practice of Harvey. That its birth was delayed until Bacon had been dead thirty-six years and Harvey was in his grave, was again an accident of the times, brought about by the disintegrating influence of years of civil commotion.

Other influences than Bacon's large-scale plan contributed to the foundation of the Royal Society. Evelyn was one of its founders, and his letter to Boyle in 1659, indicating his willingness to endow at his own expense a college, the members of which "would resign themselves to live profitably and sweetly together after the manner of the Carthusian Convent in Paris," shows that the example of the monasteries survived their demolition: his college was to do for science what the monasteries had done for religion.

HARVEY'S CONTRIBUTION TO THE DEVELOPMENT OF MEDICAL SOCIETIES

Due recognition has not been accorded to Harvey's place in the life-history of the medical society, though it is plain for all to see in the indenture by which he conveyed to the College of Physicians his patrimonial estate of Burmarsh. Harvey was not the man to weave from his imagination the insubstantial fabric of a dream, as Bacon had done; he sought to build on foundations that lay ready to receive his superstructure in his beloved College of Physicians; in his mind, as in Bacon's, the organization of the medical society had not emerged from the collegiate stage. In this indenture, after providing for an annual feast within the College, he ends with an exhortation "to search and study out the secrets of Nature by way of experiment; and also for the honour of the profession to continue in mutual love and affection among themselves, ever remembering that *Concordiâ res parvae crescunt, discordiâ magnae dilabuntur.*" In these words Harvey lays down the very lines on which medical societies have subsequently developed, their educational purpose being supplemented by a bond of good-fellowship and conviviality. Harvey had only too good reason to appreciate the value of mutual friendliness to the advancement of medical knowledge. The acerbity and antagonism with which many of his professional brethren had greeted his proof of the circulation of the blood had seared the inmost recesses of his soul, and he is recorded as saying that *the stoniest soil of all was in the minds of men over* 40 years of age. He, too, had reason to stress the importance of the social bond. All his life he had been a solitary worker, tireless, as John Hunter after him, in the practical study of comparative anatomy. Only once do we catch a glimpse of him in active collaboration with a fellow worker, comparing notes of his embryological studies with George Bathurst of Trinity College, Oxford, who kept a sitting hen in his rooms to incubate eggs, which he examined day by day to observe the stages of development of the embryonic chick. That Nathaniel Highmore was also independently at work at the same inquiry in the same College need not lead us to assume that the College eggs were peculiar in suggesting compellingly the study of embryology, but rather, as John Hunter has naïvely said of the development of birds in eggs, "It would almost appear that this mode of propagation was intended for investigation."

One more feature of many medical societies is forestalled in Harvey's will, devising a sum of money for a librarian and for the upkeep of the library he had already presented to the College, so that medical men might have ready access to the contributions that others had already made to the sum of medical knowledge; and for the diffusion of knowledge, were there not in existence endowed lectures, in which he himself had already achieved immortality by first setting forth in his Lumleian Lectures his proofs of the circulation of the blood? Viewed, then, as a whole there is little in the constitution of the medical societies of to-day on which Harvey has not long since pronounced substantial benediction. Perhaps, therefore, our three societies have done well to adopt his patronymic, for the circulation of medical knowledge is as vital to the higher professional life as is the circulation of the blood to higher animal life.

The contrast of Bacon and Harvey is well expressed in some lines of Browning in "A Grammarian's Funeral":

> The low man seeks a little thing to do,
> Sees it and does it;
> This high man, with a great thing to pursue,
> Dies ere he knows it.
> That low man goes on adding one to one,
> His hundred's soon hit:
> This high man aiming at a million
> Misses an unit.

GROWTH OF THE ROYAL SOCIETY

Time does not permit me to retell the familiar story of the growth of the Royal Society out of the union of those two groups of gifted amateurs known as the Invisible College of Boyle and the Philosophical Society of Oxford, or to insist on their indebtedness to the pioneer effort of Sir Thomas Gresham in the foundation of his College in 1575. The transition from a group to a society is something more than the passage from a coterie without a name to a coterie with a name: it is the first step towards the transference of an exclusive possession of the few to the participation of the many. The history of British Medicine is punctuated with informal groupings of fellow workers, such as those of William Gilbert, Glisson, and Erasmus Darwin, for the tendency to cohere is an instinct of the human herd. Such groupings become a society in name when they adopt a formal constitution, but they do not become a society in spirit until the evangelist spirit animates and inspires them to propagate knowledge beyond the narrow confines of their own community or to enlarge the confines by an extension of membership. This evangelist spirit was dominant in the early years of the Royal Society, side by side with its primary purpose of stimulating the creation of new discoveries. At first the work of the meetings consisted mainly in the exhibition of experiments by members and the reproduction of experiments already made by other scientific workers, together with the reading of papers. Besides discussion of experiments shown, a feature was the devising of fresh experiments to be carried out elsewhere. Great pains were bestowed on keeping in touch with work in other countries by an organized system of correspondence with foreign scientific workers, whose letters were duly communicated to the society. Abstracts of important articles in foreign journals were made and read, so that the purview of the society was international. Further, the society took care, by the publication of transactions, to communicate its own work to other countries, as the French *Journal des Scavans* had begun to do for Colbert's scientific coterie three months previously; and in taking upon itself the publication of treatises the society was willing to assume the paternity of Newton's *Principia*. Medicine, or rather the embryo sciences out of which medical science was to arise, received generous treatment at the hands of the society, for two of its eight constituent committees, the anatomical and the chemical, were entirely in the hands of physicians, who enjoyed there facilities not to be found in the College of Physicians.

So the Royal Society led the way in Great Britain in promoting the exchange of views among its members by means of discussion and in the publication of transactions which, both in what they received and in what they gave, looked beyond the narrow confines of their own country, and both these features have figured in many of their descendant medical societies.

THE FIRST MEDICAL SOCIETIES IN EDINBURGH AND LONDON

So far as corporate action for the progress of medicine went, the Royal Society and the Royal College of Physicians held the field until 1731. In that year there came into existence in Edinburgh the first exclusively medical society in the modern sense. The preface to the first volume of its *Transactions* leaves no doubt as to the reasons for its foundation, for these are explicitly stated to have been that the constitution of the Royal Society did not allow it to insert in its *Transactions* several things that a plan calculated for the improvement of physic would easily admit, and, further, the belief is expressed that a collection of observations wholly relative to medicine would be the most effectual way of improving physic. It was not that medicine had been found to be a bad stable companion, but only that she could go better in single harness. The change was momentous, for it involved not only the segregation of medicine from the general body of science, but the handing over of its future to those who were not primarily concerned with scientific research; and the consequence of this was inevitable, that the diffusion of knowledge, and not its creation, became the prime purpose of medical societies. That Scotland should have led the way in the development of the modern medical society is due to the fact that it was the first—inspired by the example of the Dutch—to organize, in 1725, a medical school of practical clinical teaching, and the founders of this society were those teachers of the school who desired that their voices should be heard beyond the four walls of the Edinburgh School of Medicine. The sole purpose of this society was the publication of medical papers, and there was no provision for reading or discussing them before the society.

In 1752 London followed suit in constituting its first medical society, and here again we must admit direct Scottish influence, for Fothergill, its founder, though a Yorkshireman, had received his academic training in medicine in Edinburgh, and had been a member of its second medical society. The London society limited itself to the publication of papers, and like its Scottish prototype rested on a narrow basis of membership of a few hospital physicians and surgeons. Each society was short-lived in its original form, for the Scottish society, by reversing the process of evolution, became first the Philosophical Society of Edinburgh by the inclusion of philosophy and literature, and later, in 1783, the Royal Society of Edinburgh. In this very same year the English society died a natural death, that not even the quickening influence of an annual banquet could stave off, for it had not been granted the faculty of making the dry bones of medicine live, without the vivifying guidance of Fothergill and William Hunter, who had been its mainstays. Maybe, too, its proclaimed purpose of excluding "whatever has rather a tendency to display the parts and erudition of the writer than to advance medical knowledge," led to a dearth of papers. This society, by its example, stimulated a group of Fellows of the College of Physicians in 1767, under the leadership of Heberden, to meet and read papers, which they issued in the form of *Medical Transactions*; but this effort to project the College along the lines laid down for it by Harvey flickered out with the publication of the last volume in 1820. One admirable suggestion in the preface to the first volume may still be practised with advantage: "It is to be wished," says the author, "that writers would not confine themselves to relate only their successful practice. A physician of great experience might write a very useful paper, if he would have the courage to give an account of such methods of cure only as he had found to be ineffectual or hurtful." This hushing up of mistakes and failures unhappily extends beyond writers, and is an almost universal feature of hospital teaching, to the very great impediment of the growth of clinical knowledge.

THE ROYAL MEDICAL SOCIETY OF EDINBURGH

In tracing the expansion of the functions of medical societies, we must again look north to Edinburgh, where in 1734 a few students had banded themselves together for mutual assistance in their studies; Fothergill joined them in 1735. By 1737 they had formally organized themselves into a society, which, growing from strength to strength, built itself a hall, and in 1778 became the Royal Medical Society of Edinburgh. This society marked a definite advance on its predecessor, for it had formal meetings, at which papers were read and discussed, but it

maintained at first the tradition of exclusive membership. Being at the outset a students' medical society, it gives Scotland the claim to have anticipated by many years the formation of the first students' society in London, the Physical Society of Guy's; that was not born till 1771.

THE MEDICAL SOCIETY OF LONDON

For the first far-reaching democratization of medical societies we must look to the foundation of the Medical Society of London by Lettsom in 1773. To Lettsom is due the credit of giving actuality to an idea, but beyond all question the society was the natural product of the professional circumstances of the time. Both Fothergill and Lettsom were licentiates of the Royal College of Physicians, and each had winced under the stigma of exclusion from the Fellowship, which was the virtual monopoly of Oxford and Cambridge graduates who were members of the Church of England. Fothergill had taken an active part in the struggle that was fought out between the College and its licentiates, not only in the law courts, but with a show of violence on the floor of the College itself. Now Lettsom sought to sap the very foundations of the citadel of exclusivenesss by setting up beside it a rival institution, as similar as he could make it in constitution, and as dissimilar in its professional spirit. One cannot fail to see, in its president, treasurer, registrar, librarian, council, library, and museum; in the language and ceremonial mode of admission of Fellows; in the annual oration, and much else, where Lettsom looked for his model. From the beginning this society possessed a meeting house furnished with a library, which Lettsom enriched greatly at his death. But there the resemblance ended, for Lettsom saw to it from the first that his society was broad-based on the enfranchisement of general practitioners on the same footing as physicians and surgeons. Lettsom's foundation seems to have served his purpose, for in 1782 a scheme was mooted for the foundation of a rival College of Physicians, to which the Royal College responded two years later by relaxing so far as to admit two rebel licentiates to its Fellowship.

THE MEDICAL AND CHIRURGICAL SOCIETY

With this democratic society in the field, it may be a matter of surprise that the Medical and Chirurgical Society should have come into existence in 1805. It is commonly alleged that this society was founded owing to dissatisfaction with the protracted presidency of James Sims over the Medical Society. I find it hard to believe that our robust ancestors of one hundred and thirty years ago were unequal to the task of unseating a senile president, and I find a far more convincing explanation in the professional circumstances of the time. The fact was that a young cuckoo had been hatched and had already become too large for the parent nest—namely, modern scientific surgery, brought to birth by John Hunter. The very change of name from "Medical" to "Medical and Chirurgical" tells its own tale, and the chief figure of the surgery of the day, Sir Astley Cooper, figures prominently among the seceders. A ripple had already appeared on the surface of the water in 1783, when John Hunter had established "A Society for the Improvement of Medical and Chirurgical Knowledge," the membership of which never exceeded twelve. Such an exclusive body was bound to go under in competition with its new democratic rival, and it died of inanition in 1818. Moreover, we must not forget that the Royal College of Surgeons had come into being five years previously, in 1800.

So if the birth of the first medical society in 1731 marks the severance of medicine from natural philosophy, and the birth of the Medical Society in 1773 marks the full democratization of medical societies, we may recognize in the birth of the Medical and Chirurgical Society in 1805 the emancipation of surgery from the mortmain of medicine.

MEDICAL SOCIETIES IN THE PROVINCES

Meantime another notable advance had been taking place in the spread of societies from their metropolitan homes to the provinces. Warrington had a medical society as early as 1770, but no provincial society of that century was so famous as the Gloucestershire Society, founded by Edward Jenner in 1788. The minute books of the Gloucestershire Society, in the handwriting of Jenner, are a treasured possession of the Royal College of Physicians, bequeathed to them by Sir William Osler, than whom no one in the whole history of medical societies did more to cement the social bond, by the charm of his personality, the catholicity of his friendship, and the inspiration of his enthusiasm as a crusader. In these manuscript pages may be found a living picture of a rural medical society of the day, but time forbids me to do more than reveal one gem from this treasure house. Rule XIII reads:

> "That as a principal part of the view of the Society is the mutual communication of knowledge, without fear, reserve or any other authority than that of Truth, no new member shall be admitted for these seven years to come whose age exceeds 40 years."

EVOLUTION OF MEDICAL SOCIETIES IN THE NINETEENTH CENTURY

I could have wished for time in which to unravel the tangled skein of fission and fusion by which the Medical and Chirurgical Society has become transformed into the Royal Society of Medicine, for therein lies a typical record of the evolution of medical societies in the nineteenth century; I must restrict myself to a few outstanding features. The first quarter of the century, indeed almost the first half, was a period of static equilibrium, for surgery had now come into its own, and was intent more on its own internal development than on its external relations; the process of decentralization within the metropolis, which gave birth to the Harveian Society, showed, however, that animation was only in suspense. In the second half of the century we find the growth of medicine and surgery asserting itself in an orgy of fission, out of which arose a succession of specialized societies, each engaged in the pursuit of its own limited ideal: the Medico-Psychological Association seems to have struck the first note in England in 1841. But though fission was the dominant note, fusion never passed entirely out of sight. Time and again we find overtures for reunion of the Medical with the Royal Medical and Chirurgical Society, and efforts of young seceders to re-establish relations with the parent body; it remained, however, for the twentieth century to reconcile these antagonistic tendencies by a comprehensive scheme of federation. Of these specialist secessions, two are of particular interest. In 1846 the Pathological Society gave expression by its foundation to the feeling that existing societies paid inadequate attention to pathological subjects. It was indeed the case that until its foundation, in a period when the intensive study of morbid anatomy had become a central feature of medicine, provision for the exhibition of morbid specimens existed only in name; and in 1850, when the Pathological Society was seeking shelter beneath the roof it had recently deserted, the reply of the council of the parent society was that the exhibition of many recent specimens would probably create a nuisance.

So again, in 1867, the Clinical Society came into being as a result of the belief that the parent society cultivated too little the practical aspects of medicine and surgery, but expected its members to extract nutriment from a dry diet of papers. Yet this young society was content for a decade to talk about cases instead of exhibiting them, and it was not till 1879 that it formulated regulations for the exhibition of living cases, and these seem to have borne no fruit until 1882. A lesson might have been learned from the Medical Society, which was showing cases at its meetings as early as 1861.

CONTRIBUTION OF MEDICAL SOCIETIES TO MEDICAL KNOWLEDGE

In the contribution of medical societies to the advancement of medical knowledge we must look for no harvest of great discoveries; their function is rather to afford a meeting place for the mutual exchange of everyday ideas. They do afford the opportunity of advancing or of receiving new ideas, of submitting them to criticism and correction, and of purging thereby the dross from the ore, and in this intercourse of fertile minds new conceptions will certainly be engendered. They do provide facilities for intercommunication to every type of practitioner, and one lesson of Jenner's life seems to be that even in the isolation of a country practice, amid the hourly demands of a toilsome calling, it is possible, with the aid of societies and interchange of ideas with those more fortunately situated, as John Hunter was, to keep the mind alive to every new source of information, and even to carry out original investigations in many branches of medicine, biology, and natural history. The modern development of libraries has brought wide facilities at a trifling cost to every practitioner's door, and, along with the medical journals, has rendered easy communion with the great minds of the present as well as of the past, both in this country and beyond the sea. Societies, too, have been important agents in promoting among medical men that feeling of good-fellowship that is essential for fruitful co-operation; men's minds are massaged by rubbing against each other, and they rub off their angles by mutual attrition. In this, conviviality has played its part, however humiliating it may be to reflect that the tiger in man needs ever to be appeased by the prospect or retrospect of a meal. La Rochefoucauld has said that nothing is so bad as we imagine it to be, and he might well have added "nobody." Few of us but are aware of some personal prejudice, founded on no better grounds than gossip or misunderstanding, melting like snow in the warmth of personal intercourse.

DANGER OF STAGNATION

Anyone who studies the domestic history of medical societies cannot fail to be struck with one circumstance. Time and again a new need has arisen, but the dead hand of inertia has prevailed, and no step is taken to meet the new need; then fission takes place, and a fresh society emerges—often out of the very vitals of the parent society and to its detriment. Why is it that societies tend to lose responsiveness to their environment? Is it that their official administration has in the past been far too much in the hands of the older members? Were Harvey and Jenner and Osler right in believing that 40 years is apt to be quite as critical an age in the lives of men as it is alleged to be in women's valuation of *their* lives? If so, would it not be well that every society should have a regulation that at least one-half of its governing body should be under 40 years of age? That is a question to which I leave each one to make his own answer.

MEDICAL EXAMINATION OF IMMIGRANTS TO CANADA

We have received from Dr. J. D. Pagé, Chief of the Immigration Medical Service of Canada, advance copies of the following paragraphs, which his Department proposes to include in its *Instructions to Medical Officers*. They are addressed particularly to medical practitioners in the British Isles, who, under a roster scheme, examine prospective Canada-bound emigrants.

INFORMATION FOR ROSTER DOCTORS

With a few exceptions, medical examination of immigrants to Canada prior to embarkation was made compulsory in February, 1928. The term "immigrant" includes all persons who are travelling to Canada to settle there, regardless of the class of travel. Transmigrants, bona fide tourists, visitors for business or pleasure, Canadian residents or citizens by birth or domicile, *do not* require medical examination. This examination is primarily to advise the Department of Immigration as to the physical and mental fitness of the applicant, and, secondarily, to protect the interests of the intending immigrant as well as to protect the travelling public and the new community.

In enlisting the services of the local medical practitioner in the examination of prospective British immigrants to Canada, the Canadian Government feels that the Dominion's interests will be served best when the British examiner best serves the interests of his patient, who in this instance will also be the prospective migrant. Years of experience and observation have convinced medical officers of the Canadian Department of National Health that it is altogether unfair and unkind to precipitate into either the general labour market or the pioneering life of this new country individuals from the comparatively sheltered life in the British Isles who are constitutionally below a high average with regard to either physical or mental reserve power.

Perhaps not greatly in any one instance, but certainly in the sum total, such conditions as indicated below constitute serious difficulties for all newcomers during their first few months in Canada, and in some cases prove to be insurmountable—for example, marked change in climate, including, by comparison, extremes in temperature, excessive amount of sunshine, high altitude, thin, dry atmosphere, all of which are trying on the nervous system. Comparative isolation in outlying districts, change in money standard, food, cooking, and dwellings. Complete change in local interests and details regarding social life and activities. Considerable difference in customs and routine methods of doing work and business generally, all tending to a period of home-sickness of such severity as to be really disabling.

Disappointment may arise, too, from the erroneous idea that less work will produce a better living in the new country, when as a matter of fact Canada offers better returns only in exchange for more, and often harder, work than is available in the Mother Country. Moreover, the release from the restrictions of a crowded community afford an apparent freedom, and the release from the restraining influences of the home environment is often too much for those persons lacking in self-control or moral responsibility.

It is of particular importance, therefore, in examining prospective emigrants to detect not only the obvious physical or mental defective, but also those cases on the borderline between sanity and insanity—individuals who possess defective judgement, instability of the nervous system, or who are emotionally hypersensitive; also those who at some time previous have been insane. As well, too, those who suffer from epilepsy, latent syphilis, chronic or recurrent conditions such as tuberculosis, rheumatism, bronchitis, renal, gastric, or arterial disease, skin diseases producing either disability or loathsome appearance.

Certain of the conditions mentioned may produce very few signs or symptoms, and fail to attract attention while

the individual is living a normal routine life in his native environment. Too often, however, these conditions prove to be the undoing of the new settler when subjected to the stress and strain of accommodating himself to an entirely different environment.

On account of the sparsity of Canada's population compared to her vast area, and the tremendous cost *per capita* of developing and maintaining public utilities and institutions, the immigration laws have provided for the rejection, at port of landing, of physically or mentally defective persons seeking admission to the country, or, if landed, the deportation to his native land of any immigrant who before qualifying for full citizenship becomes a charge upon public funds. The position of such a deportee upon returning to his homeland is usually far less satisfactory than before going abroad, for in all probability he will have no immediate employment and no home, and his physical, mental, and financial resources will be lessened, to say the least. Much of such hardship is preventable by means of careful and conscientious medical examination of prospective migrants before giving up their employment or disposing of their homes.

The Canadian Government feels that a close and friendly co-operation between the British medical man making the actual examination of British subjects and the Canadian medical officer specially trained in immigration medical work, will, on the one hand, mitigate suffering and hardship on the part of the immigrant, so far as is humanly possible ; and, on the other hand, relieve the financial burden on Canadian public funds resulting from the physical or mental collapse of new settlers. In such co-operative scheme the British practitioner's responsibility is purely medical ; that is, a careful examination of the prospective emigrant's physical and mental condition, together with an investigation of his medical history ; the submission of a report of the medical examiner's findings, with an expression of opinion as to diagnosis and prognosis regarding any abnormalities noted, having in mind that the patient is planning to migrate to a new country. With such a pen picture of the patient as above indicated before him, the Canadian medical officer, with his knowledge of Canadian conditions and special training in immigration work, would be in a position to express a reliable and intelligent opinion, from a medical viewpoint, as to the advisability of the applicant's migration to Canada.

ROYAL MEDICAL BENEVOLENT FUND

At a recent meeting of the committee of the Royal Medical Benevolent Fund, fifty-nine grants were made, amounting to £1,341. The following are particulars of a few of the cases helped.

Dr. X, aged 65, married. At the special request of the honorary secretary of the local British Medical Association Division, an emergency grant of £10 was given, also an annual grant of £40, payable in four instalments. Owing to being crippled with rheumatism, the applicant has been unable to carry out his professional duties, and he and his wife were known to be nearly destitute, and suffering from lack of food.

Widow, aged 78, of M.R.C.S. When her husband died in 1911 the widow went to live with her only son, who had a dental practice. When the son married ten years ago his mother continued to live with him, as she had no home of her own nor the means to support one. The son died three weeks ago, and the applicant was absolutely stranded ; the furniture and little else went to his widow. The applicant suffers much from chronic asthma, and at her age it is impossible for her to follow any remunerative occupation. A month ago the applicant was living comfortably with her son and daughter-in-law, enjoying the ordinary benefits of home life ; now she has to face the difficult problem of fending for herself on an income of under £50. The Fund voted an annual grant of £26, and is endeavouring to obtain further help from other societies for this very sad case.

Widow, aged 70, of M.R.C.S. The applicant has maintained herself since 1899 by working as a companion-housekeeper. Her employer died in August, 1930. She is now too old to obtain other employment, and her income consists of the old age pension of £26 and a grant of £25 from the Indigent Gentlewomen's Society, making £51. The applicant is an educated and cultured woman, feeling her position very acutely. It was only with a very great deal of persuasion that she would consent to an application being made to the committee. Fund voted £26.

Daughters, aged 76 and 69, of M.R.C.S. These two sisters, who, on the death of their father in 1871, were left comfortably off, now, through the reduction of dividends, were found to be sharing a total income of £89 a year, out of which they have to pay rates of £12. Fund voted annual grant of £20 to each sister.

Dr. Z, aged 75, married. Applicant gave up practice in 1927 to undergo a serious abdominal operation, from which he made a good recovery. Since then he has been doing locumtenent work from time to time. His last employment was for thirteen months, which ended in September, 1930. Since then he has been unable to find work, and has been drawing on his capital, which is now reduced to £45. His wife was trying to find employment, but recently met with an accident, and is in hospital. Fund voted £40.

Subscriptions and donations are very urgently needed in order that the activities of the Fund may be continued and the applicants given the help they need. Cheques should be forwarded to the Honorary Treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, London, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, Tavistock House (North), Tavistock Square, W.C.1.

Scotland

HEALTH OF SCOTLAND

The second annual report of the Department of Health for Scotland,[1] dealing with the year 1930, draws attention to the fact that the period under review was a particularly difficult one, owing to the continuance of unemployment and the great changes introduced in local government. In consequence of the Unemployment Insurance Act, 1930, the number of able-bodied unemployed chargeable to Poor Law authorities was reduced by about 50 per cent. ; the number on May 15th, 1930, being 181,759 (37 per 1,000 of population) compared with 210,956 at the same date in the previous year. Despite extension in the few schemes available for training and work the Department considers that there is urgent need to amend the Scottish Poor Law in order to provide for an alternative to unconditional relief in money. As far as the medical services are concerned, the year has been one of adjustment rather than of development, the local authorities having been occupied largely with problems of organization. Various suggestions are made in the report as to the lines on which future progress of a unified health service might be carried out.

Sanitation and Food Supply

A questionary was issued by the Department in August requesting particulars of water supplies in burghs and districts. The replies indicated that in many districts there was no adequate margin for future extension, while in some areas no provision had been made for filtering water obtained from cultivated land. A Reservoir (Safety Provisions) Act was passed during the year with respect to liability for damage caused by escape of water ; periodical inspections of reservoirs will take place at intervals of not more than ten years. Towards the end of the year the Department received the first report of the Scottish Advisory Committee on the prevention of river pollution, dealing with the River Tweed and its tributaries. The committee recommended the provision of sewage purification works for treating domestic sewage and trade wastes at various towns situated near the river, and the Department is urging the local authorities to take the necessary

[1] Cmd. 3860. Edinburgh: H.M. Stationery Office. (6s. 6d. net.)

action. The committee now proposes to direct its attention to the River Leven (Fife). Last year the Department investigated a complaint regarding mosquitos in the Trossachs district. These were found to be culicine mosquitos, incapable of conveying malaria, but becoming a nuisance in the summer months owing to their large numbers; the Department recommended that the area of their propagation should be drained.

In regard to food supply, attention is drawn to the fact that during 1930 two events gave a great impetus to public interest in the value of milk. One was the passing of the Education (Scotland) Act, 1930, which conferred power on education authorities to supply certified milk to school children, and the other was the investigation into the effect on growth of a daily ration of milk. This experiment was conducted in sixty-seven Lanarkshire schools upon 20,000 children, of whom 10,000 received three-quarters of a pint of Grade A milk for four months, 10,000 acting as controls. The conclusion was reached that no other food product possessed the intrinsic value of milk as a growth factor in nutrition. Improvement is recorded in the condition of town byres, and there is evidence of a continued transfer of milk production to landward areas. The Department decided that if veterinary inspection was to achieve its purpose, three inspections a year in landward areas and four inspections in burghs should be provided by local authorities. The figures obtained from the examination of 264,355 dairy cattle during 1929 showed that 0.35 per cent. were tuberculous, but it is believed that with more frequent inspection, a higher rate of tuberculosis would be disclosed. The report states that the proportion of tuberculous cows endangering the milk supply is slightly over 1 per cent., and urges that an increased demand by the public for tubercle-free milk would help towards the eradication of tuberculosis from dairy herds by producers themselves. There are now sixty-four certified herds and seventy-six Grade A (tuberculin-tested) herds licensed by local authorities under the Milk Order (Scotland), 1930, the number of animals in these herds being about 5,800.

Maternity Service and Child Welfare

The local authorities in Scotland for maternity service and child welfare are now the town and county councils. At the end of 1930 these employed 122 whole-time health visitors and 478 part-time visitors, of whom the greater number were district nurses. The maternal mortality rate in Scotland during 1930 was 7.0 per 1,000 births, of which 2.3 per 1,000 were attributed to puerperal sepsis. These rates have in recent years shown on the whole a tendency to increase. Attention is drawn to the reports issued in 1930 from the health departments of Glasgow and Aberdeen dealing with this subject, and the necessity is emphasized for further investigation as to its causes. During 1929, of the total births in Scotland, about one-half were attended by doctors, one-third by midwives, and one-sixth were supervised in maternity institutions. The proportion of expectant mothers who sought ante-natal advice at clinics amounted in Aberdeen to 40 per cent., in Edinburgh to 50 per cent., and in Glasgow to 60 per cent. The number of practising midwives in Scotland at March 31st, 1931, was approximately 4,900, representing an increase of 150 on the number at the same date in the previous year. The proportion of births attended by midwives has shown a tendency to decrease in recent years—for example, in 1922 midwives attended 37 per cent. of births, while in 1929 the proportion was 33 per cent. The supply of midwives in Scotland is regarded as more than adequate, but the Department is endeavouring by means of grants to ensure a higher standard of skill by encouraging trained nurses to undertake midwifery training. Infant mortality continues to decrease; the number of children under 1 year who died in Scotland represented a mortality rate of 83.0 per 1,000 births—the lowest yet recorded except in 1923, when the rate was 78.9. Reports of medical officers of health for 1929 revealed that in areas where child welfare schemes were in operation, 80 per cent. of the children born during the year were visited by health workers. The number of deaths among children between the ages of 1 and 5 represented a mortality rate of 10 per 1,000, as compared with 11.9 in the preceding year. Of the children in this age group, about a quarter come under health supervision provided by child welfare schemes. This proportion is not regarded as satisfactory, and the Department has emphasized the necessity for an improved service of health supervision for the pre-school child in circulars addressed to local authorities. The suggestions are made that parents should be educated in regard to the need for regular health supervision, that existing services for visitation, maternity, and child welfare centres should be extended, and that the school medical service should provide for medical inspection of pre-school children.

School Health Administration

Prior to the operation of the Local Government (Scotland) Act, 1929, arrangements existed in twenty-two counties whereby the public health and school medical services were co-ordinated, but now, for the first time, school health administration has become part of the general public health administration by local authorities. The medical personnel employed in this service at present includes 36 school medical officers, 67 assistant school medical officers, about 50 part-time local practitioners engaged in inspection and treatment, 44 whole-time and 39 part-time school dentists, 72 part-time specialists for the eye, nose, throat, skin, etc., and 694 nurses, including 176 engaged in whole-time work. The system of medical inspection is based upon a careful and detailed examination of generally three age groups. Children aged 5, 9, and 12 years respectively are examined in the primary schools, also children aged 16 years in the secondary schools. This work entails much more than systematic medical inspection, because it involves, for example, the provision of clothing for necessitous children, and the selection of suitable cases for convalescent and holiday institutions. Parents, it is stated, should be encouraged to attend the medical inspection of their children in the schools. The number of children of the selected age groups medically examined during the year was 263,334, while re-examinations amounted to 82,634, and special examinations to 146,332, making a total of 492,300 out of 741,801 children in average attendance at school. Details are given in the report of the percentages of children found defective in various respects; 2.3 per cent. had anaemia, 9.3 per cent. had enlarged cervical glands, 56.9 per cent. were found with one to four teeth decayed, 14.3 per cent. had enlarged tonsils, 5.4 per cent. bad vision, and the nutrition of 5.9 per cent. was below the average. According to the statistical data for these defects there appears to be a general and steady improvement. The report concludes that provision for the treatment of the common ailments of children is satisfactory in populous areas, but that more extensive arrangements must be made in rural districts, especially for dental treatment. Attention is directed to the special classes or schools for children with ringworm and allied conditions that have been established in Edinburgh and Aberdeen. Further reference to the report will be made in a later issue.

Contributory System for Voluntary Hospitals

An address on the future of voluntary hospitals was delivered by Sir Robert Bolam on May 29th in the City Chambers, Edinburgh, under the presidency of Lord Provost Whitson. Sir Robert indicated that the voluntary

hospitals had now come to serve about 80 per cent. of the community belonging to the working class, but that only about 4 per cent. of their patients belonged to the Poor Law class, for which the voluntary hospitals had originally been instituted. While the class of the self-employer in small individual businesses provided some 4 per cent. of their patients, those who in a financial sense constituted the upper and middle classes, amounting to about 12 per cent. of the community, were not provided for by the hospitals. A point had been reached where middle-class people could not command medical treatment outside hospitals which was equal to that provided in hospitals organized on a system of team work with specialists in different departments who could assist one another, and provided with expensive equipment for diagnosis and treatment. On the other hand, hospitals were greatly handicapped at present by the necessity of applying part of the revenue of their capital for current expenditure. He suggested that in the Edinburgh area, with a population of some 1,200,000, there were approximately 400,000 persons insured under the National Health Insurance Act, who, by subscribing 1d. per £ of their weekly wage, could provide some £200,000 yearly to finance the hospitals. Under such a contributory scheme the particular hospital in which a member was treated would be reimbursed for the work done. He instanced the experiment that was being conducted at Newcastle along these lines by which anyone with an income of less than £250 a year could have the benefit of a hospital service at 3 guineas per week. An important point in this connexion was that the medical profession could not afford to go on giving hospital service continuously on the present gratuitous system. The financial recognition need not be much so far as the individual patient was concerned; out of the charge of 3 guineas, 2s. daily was allotted to medical treatment and 7s. daily for the maintenance of the patient in hospital.

Elphinstone Celebration at Aberdeen

A four days' celebration of the five-hundredth anniversary of the birth of Bishop Elphinstone began on June 4th at Aberdeen. William Elphinstone, who was Bishop of Aberdeen and Chancellor of Scotland, founded King's College in the town of Old Aberdeen in the year 1494, the College being completed in 1505. It is noteworthy that one of the teaching staff from the beginning was a mediciner. This was the first university recognition of medicine in Great Britain, the appointment of the mediciner at Aberdeen preceding the appointment of a professor of medicine at Oxford and Cambridge by a generation. The leading part in the ceremonies at the dedication of the monument to Bishop Elphinstone and the opening of the Elphinstone Hall was taken by Lord Meston, Chancellor of the University. The memorial consists of a life-size recumbent figure of Bishop Elphinstone, executed in bronze and placed on a massive base of black marble. In his address Lord Meston gave a historical account of the period in which Bishop Elphinstone lived, and intimated that the cost of the memorial hall had been approximately £35,000.

Glasgow Home for Incurables

The Dowager Duchess of Montrose on May 30th opened a new annexe at the Glasgow Home for Incurables, Broomhill. The new building, which is of three stories, contains a recreation room, a new women's ward, and an electrical treatment room with dressing-rooms and dispensary. Mr. James Macfarlane, LL.D., presided at the opening ceremony, and recalled how the Duchess of Montrose had organized a bazaar in aid of this home during the war, the proceeds of which had amounted to £40,000. After the ceremony, there was an exhibition of handicraft work made by the patients.

England and Wales

London University New Buildings

The Court of the University of London has appointed Mr. Charles Holden, F.R.I.B.A., senior partner of the firm of Messrs. Adams, Holden, and Pearson, to be the architect of the new buildings which the University proposes to erect on its site in Bloomsbury, on the north side of the British Museum. The choice of Mr. Holden has been made after careful deliberation and exhaustive inquiries, and the procedure followed by the Court has included visits to various parts of the country to inspect the outstanding works of architects whose names were to be considered. Mr. Holden has had experience of buildings of a university character, among which may be mentioned the new buildings of King's College of Household and Social Science on Campden Hill. Probably his best-known work of recent years is the new Underground building at St. James's Park, for which he was awarded, by the Royal Institute of British Architects, the London architectural medal for 1929. The Court believes that its appointment of Mr. Holden as the architect of the University's new buildings will meet with the approval both of members of the architectural profession and of the general public. Mr. Holden's task will be a large one. When building operations begin the site will be an island one of over ten acres, bounded on the south by Montague Place, on the west by Malet Street, on the east by Russell Square and Woburn Square, and on the north by Gordon Square and Byng Place. Among the first buildings to be erected will be the Administrative Offices, the University Hall, and the University Library, premises for the Officers' Training Corps, and buildings for the Institute of Historical Research and the Courtauld Institute of Art. To these will in all probability be added the London Day Training College, and the Court's programme provisionally includes accommodation for Birkbeck College, the School of Oriental Studies, and the University Students' Union. Space will also be reserved for other purposes, among which residential accommodation for students, a faculty club, and residential chambers for staff will be considered. This building programme will of necessity have to be undertaken in stages, and will take many years to complete, but, with a view to ensuring that, when the work is ended, all the buildings will form part of a dignified and harmonious scheme, Mr. Holden is being asked to prepare at once a design for the whole of the site.

Cancer Research in Yorkshire

The fifth annual report of the Yorkshire Council of the British Empire Cancer Campaign covers the twelve months ending March 31st, and reveals the contributions made to progress in this respect by that county. Special attention is drawn to the researches conducted at the Universities of Leeds and Sheffield. Professor R. D. Passey, discussing the work done at Leeds by Dr. Young on experimental hyperplasia, mentions that evidence has been obtained that the onset of epithelial hyperplasia conforms to the same principles of physical chemistry as those which regulate the precipitation of negatively charged colloids. Such precipitation would appear to be an essential phase in the sequence of biological changes which culminate in cell division, preceding, indeed, the earliest alteration which can be recognized microscopically—namely, swelling of the cells. Dr. Berenblum has advanced further with his study of the anticarcinogenic action of dichlorodiethyl sulphide (mustard gas). His experiments fail to support the suggestion that mechanical irritation normally plays an important part in the production of tar tumours, and Dr. Bonser, following lines

parallel with those of Dr. Berenblum, has shown that four Scottish blast-furnace tars, and one English tar, possess carcinogenic properties, though not in so high a degree as one would expect to find in ordinary gas tar. The question of heredity is still being investigated, and there seems to be a certain correlation between the date of appearance of warts in parent and offspring. The cancer-producing powers of radium are being tested experimentally, and so far no support has been obtained for the view that radium has growth-promoting properties dissociated from concomitant injuries. At Sheffield Professor E. Mellanby has continued the observation of the metabolic changes of cancerous growth, and especially the lactic acid production, which is generally regarded as indicative of the main energy changes of such tissues. It has been found that phosphatase, unlike diastase, does not influence the lactic acid production of cancer, a fact which is in accordance with the view that phosphates play no part in cancer glycolysis. It has become increasingly clear that the problem of cancer, in so far as it is related to nutrition, is quite different from the problem of many pathological conditions which are influenced by nutritional factors. Certain foods are known which prevent in specific ways the development of hyperplastic changes in growing tissues. These foods do not inhibit the growth of cancer in animals, however, but actually, in many cases, increase the rate of growth when the specific carcinogenic agent is present. So far there is no evidence that suitably selected food will prevent cancerous growths from developing when the specific stimulus is present. Propaganda lectures to medical practitioners, the public, and, for the first time, to nurses, have been given in Yorkshire during the year under review, and literature has been circulated.

Development in Relation to Heredity

The Cavendish Lecture, delivered to the West London Medico-Chirurgical Society at Kensington Town Hall on June 5th by Professor Julian Huxley, was a fascinating discourse on biological problems. Professor Huxley began by pointing out the apparent anomaly that the minute particles, so to speak, which constitute the hereditary outfit and determine the shape of the head, the colour of the eyes, and so forth, were scattered in a mosaic, without relation to one another; while, on the other hand, development was always an extremely orderly process, following a unity of its own. How did the unconnected units of hereditary endowment become translated into an orderly process of development? All recent work, both on fossil forms and on closely allied species or sub-species, said Professor Huxley, showed that while the original conception that evolution consisted of very gradual steps, obeying definite laws, was correct, yet, coincidently with this, there were changes which took place in jumps. All the higher organisms began as a single fertilized egg; and it was now known that in the early stages, with the division of the egg into a number of cells, each one of the cells got the same outfit of chromosomes. How, then, did differentiation occur during development? The explanation appeared to be that the factors which elicited the difference between different regions of the body were, in the first instance, always outside the egg itself. Bilateral symmetry, for example, was determined by an agent outside the egg—namely, the entry of the sperm. An external agency imposed the primary axis of symmetry on the egg, and once this axis of symmetry was imposed there seemed to be a physiological gradient. Professor Huxley, with the aid of lantern slides, illustrated some recent and older work in experimental embryology, such as that in which the immersion of the embryo in slightly toxic solutions had caused the development of monstrosities. One illustration concerned the gills of the salamander larvae, which evidenced a compensatory adjustment to oxygen in the environment; with excess of oxygen the gills shrank almost to nothing, and with deficiency of it they expanded to a very great extent, so as to present as wide a surface to the available oxygen as possible. The stresses and strains to which the organism was subject during development accounted for much differentiation in structure and function. One did not need to ascribe to natural selection or heredity, for example, the adjustment of the tendons to the weight and stress they had to carry. The ductless glands Professor Huxley described as a great labour-saving device from the point of view of heredity, because one quantitative change in one ductless gland could produce a great many complicated changes all over the body. Professor Huxley also discussed different physical types in human beings—the asthenic, the athletic, and so on—in relation to temperament. How unthinkable was Dr. Johnson's physical endowment with the fanatical mentality of Calvin. No one could imagine Don Quixote as fat or Sancho Panza as thin. The lecturer went on to show how differences of proportion were due in the long run to differential growth rates. He instanced the claw of the fiddler crab, which grew at a rate greatly in excess of the body, the enormous jaw of the male stag-beetle, and the antlers of forest deer. Graded effects were represented by the beautiful involuted shell of the nautilus, and the spiral horn of the rhinoceros and other mammals, due entirely to the fact that the rate of growth on one side was different from what it was on the other, otherwise the horn would be a mere cone. It was this graded change which had transformed a creature originally something like an ox into the giraffe. Professor Huxley concluded by saying that the biologist to-day was able to link up different aspects of his subject and to provide food for further thought by those who were studying the development of the finished product in the human organism. Biology hitherto had proceeded in watertight compartments—comparative anatomy, physiology, a study of heredity, and development, and so on—but the time was now coming when these various studies were beginning to be linked up in the same way as the different branches of physical and chemical science began to link up at the end of last century.

Child Guidance

The second report of the children's clinic at "The Quest," 85, Clarendon Road, W.11, indicates the progress made during the twelve months to September 30th, 1930, in restoring to mental and physical health children suffering from neuroses, by enabling them to face their own difficulties and work out within themselves the solution of their conflicts. The first report was referred to in the *Journal* of January 25th, 1930 (p. 167). In spite of inadequate income the work of the clinic grew apace in the second year, and during the last six months there was built up an administrative machinery and a system of recording and analysing the results. A scheme of medico-sociological research is being devised for tracing the causes of neurosis in children. Lack of accommodation has prevented children from being received on more than two afternoons a week; even so, much difficulty has been encountered in providing suitable conditions for the clinical investigations and treatment. The Child Guidance Council has lent one of its social psychiatric workers to help on the social side of the clinic, and a formal training course has now been brought into being. A unified method of handling each case is set out, full scope being allowed for individual differences. The course covers one year of three terms; students are accepted who have already passed some

standard test in any recognized branch of training in medicine, teaching, social work, or welfare work. Practical work in psychology is supervised by the director of the clinic, the cases are summarized, and lectures and demonstrations are provided. The fee is 21 guineas for the year, payable 7 guineas a term in advance. Further particulars of this training course, as well as other information about the clinic, may be obtained from the secretary.

Correspondence

RADIUM: POSSIBLE EFFECT IN PROPHYLAXIS OF CANCER

SIR,—At the present time there are a considerable number of patients treated for small fibroids and menorrhagia at the menopause by means of radium. The radium is generally placed in the cervix and body of the uterus, and it will be of considerable interest to watch these cases and see if they all remain free from malignant disease of the uterus in after-life. It will, of course, require many years, and a great many cases, before any statistics worthy of the name can be collected. I would, however, ask through your columns that all practitioners take careful notes of any of their patients in whom this treatment has been carried out, so that at a later date large statistics may be available. If it should prove a prophylactic for carcinoma of the cervix it will be a very big step forward.—I am, etc.,

London, W.1, June 6th. MALCOLM DONALDSON.

MICROCEPHALY

SIR,—In his letter on microcephaly (*British Medical Journal*, June 6th) and its kindly reference to myself, Dr. Noel H. M. Burke correctly reflects my views on the association of microcephaly with amentia, and points to my departure from the hitherto more usual practice of regarding microcephaly as only one of several types of mental deficiency. The reasons for my conversion are, very briefly, as follows.

I know of no satisfactory methods by which a definite shape of head can be proved to be associated with either amentia or dementia. Circumferential tape measurements and the cephalic index have both been tried and found wanting, and there does not seem to be any satisfactory instrument which will do for the living head what the dioptrograph does for the skull. I am therefore unable to accept previous teaching that microcephaly as one of the types of mental deficiency depends far more on shape than on size.

On the other hand, size of head as recorded in accordance with the recommendations of the Anthropometric Committee of the British Association for the Advancement of Science, from which can be calculated the cubic capacity of brain and the results compared with the now known and well-established percentile figures for both sexes and all ages, is a new departure which gives positive and illuminating results, and even enables us at times to form some notion of the probable state of development of the individual's pyramidal and fusiform cortical cell layers.

In an examination of 1,391 unselected mentally deficient patients from a large Victorian Children's Hospital in Melbourne, I found that 62.2 per cent. were definitely microcephalic, whereas a check experiment on 8,533 normal public and State school children revealed only 19.5 per cent. to be of similar microcephalic dimensions.

Of 131 adult female defectives now under examination at Stoke Park Colony, all over 16 years old, with a mental ratio of not less than seven years and all feeble-minded, 88 cases, or more than 67 per cent., are at definitely microcephalic levels, and of these, 49 are so microcephalic as actually to fall below the zero percentile for their age and sex.

But macrocephaly is also associated with amentia, though to nothing like the same degree as microcephaly; but as it is impossible to enter here into this larger field I may content myself with a sentence from my report on mental deficiency in the State of Victoria (1929), which is confirmed by later experiences amongst English defectives. "This dispersal of the abnormal (mentally defective) cases away from the true means is also shown by the greater readings of the standard deviations, and thus both tables (that is, the mathematical true means and the percentiles) prove once more that the mentally abnormal tend to have abnormal heads, and the generalization is applicable to both sexes."

I have therefore been compelled to the conclusion that there is no particular shape of head associated with mental deficiency. But that two-thirds of all defectives are so small-headed as to be microcephalic, while another 25 per cent. are at abnormal macrocephalic levels, appears to me to be both true and proved.—I am, etc.,

Stoke Park Colony, June 8th. RICHARD J. A. BERRY.

OPERATION FOR CATARACT

SIR,—In your issue of June 6th (p. 1001) Dr. Traquair raises the question whether an operation for cataract in one eye, when the vision of the other is sufficiently good to enable the patient to carry on his work, is advisable or justifiable. In my opinion, when the sight of the cataractous eye is so defective as to be useless for ordinary visual purposes, but in the opinion of the surgeon is operable, the cataract should be removed by operation if the better eye shows that cataractous changes have already begun. My reason for this is that opacification of the lens of the better eye will probably increase, and it is advisable to prepare the more definitely cataractous eye for visual purposes in advance, and not to wait until the patient is reduced to a condition of visual impotency.

The designation of some cataracts as immature is frequently a misnomer. When the opacity is situated in the posterior cortex of the lens, leaving the rest of the lens almost clear, the cataract is often styled immature. Such a cataract interferes very greatly with visual acuity. It may, however, be removed entire by any of the various methods of operation without the slightest difficulty.

The question of driving a car after cataract operation depends not only on the visual acuity obtained with the cataract glasses, but also on the individual psychology of the patient.

Dr. Traquair's third point is: If a patient has had a successful operation performed on one eye, is any material advantage to be gained by operating on the other commensurate with the risks involved? In my opinion, if the cataract in the other eye is operable, there is very great advantage to be gained by successful operation. In most cases the patient regains binocular vision, and, what is of very great importance, restoration of his visual field. Even in cases of monocular cataract resulting from traumatism I am accustomed to advise operation in order to restore, as far as possible, the normal visual field, a matter of great importance to motorists.

There is little doubt in my mind that the most important cause of cataract is the long-continued presence of some form of focal sepsis. The careful search for such a focus, and its elimination, have often, in my hands, delayed the further development of such cataractous changes in the lenses as are likely to interfere with

vision (see *Westminster Hospital Reports*, vol. xx, 1929). The failure to look for possible sources of sepsis, which may be the roots of previously extracted teeth in an edentulous patient, is responsible for many unsuccessful cataract extractions. By carrying out this procedure and employing modern methods of local anaesthesia, the risks of a cataract operation, of which Dr. Traquair speaks, have been greatly diminished during the last few years.—I am, etc.,

London, W.1, June 8th. A. F. MACCALLAN.

SIR,—The letter by Dr. H. M. Traquair in your issue of June 6th in reference to the above is of considerable interest, and I think brings out the point that each case must be decided on its own merits, and that no hard-and-fast rule can be laid down as to the advisability of operation in cases of cataract where there is still useful vision in the other eye.

The patient, of course, generally expects to recover full single binocular vision after removal of the cataract. This, unfortunately, is an impossibility, as one can readily understand from a brief study of the optical principles involved; so that if one does remove a cataract from one eye whilst the other eye has 6/18 vision or more, the patient is then faced with the choice of using either the "sound" eye or the operated eye with a correcting lens. He cannot use both together (if he wears his cataract lens) without getting diplopia, owing to the difference in the size of the retinal images. He will generally, as Dr. Traquair says, prefer to use the unoperated eye even though the other with a correcting lens may have the better vision.

One practical point, of great advantage in these days of fast-moving traffic, which I think should be considered when deciding for or against operation in cases of cataract where there is still useful vision on one side, is that while it cannot restore single binocular vision it does restore the normal field of vision for moving objects—thus enabling the patient to walk with much less risk in traffic.

I think the same point arises when one is considering whether to remove a cataract from the second eye subsequent to a successful operation on the first. If the patient is active and able to walk about, I think his chances of avoiding accident in the street are much increased by removing the second cataract. In this connexion I have heard it stated that there is more risk, other things being equal, in operating on the second eye than on the first, and I would be glad to know if this is a general experience, as it is contrary to my own.—I am, etc.,

Bournemouth, June 6th. DAVID HARDIE.

OBSTETRIC SHOCK

SIR,—The paper on obstetric shock by Professor Miles H. Phillips in the *Journal* of May 16th was so admirable and well reasoned that I hesitated to point out what to me appears a tiny flaw in it—the inconsistency of his opening assumption that "a fatal case of shock following a labour is a rare experience for any individual medical practitioner" with his conclusion as to "the grave danger caused by the use of chloroform." The latter phrase, torn from its context, does not quite represent the meaning of the paper; but if chloroform were as active in the production of shock as Professor Phillips, on theoretical grounds, insists, obstetrical shock would be an occurrence familiar to most of us. In general practice the drug is still widely used.

What leads me into this discussion now is a desire to amplify certain factors which may bear upon the tragedies cited in detail by Professor Phillips (p. 837) and Dr. Peter McEwan (p. 955)—protracted labours, both, in which death took place hours after delivery, with the placenta still *in utero*—emotional shock or pituitrin being blamed or suspected as cause. Dr. F. G. Crookshank (p. 912) emphasizes the psychological aspect which modern obstetrics, for all its preoccupation with the affairs of expectant mothers, tends to ignore. The majority of women are obsessed with the idea that they will die in labour. Women have always felt so, and generally they are silent about it; but their dread cannot nowadays be diminished by the publicity given to facts and figures concerning maternal mortality, the vivid definition of the risks of motherhood. For months they live under sentence; but things reach a crisis in labour; the woman is tortured with apprehension as well as racked with pain. Mental excitement and physical effort exhaust her nerve centres. If labour goes briskly forward she hopes again, but delays make her alert to every look and whisper—and modern obstetrics is, too often, a matter of "masterly inactivity" and looks and whispers. Professor Phillips says that the onset of shock is predisposed to by the use of chloroform "on two or more occasions during a labour—for example, for the induction of labour, or for a thorough examination in the earlier stages, and later on for the actual delivery or for repairs of lacerations"—and his words conjure up the disappointments and protraction of too many modern labours. Even when she awakes from the anaesthetic a woman may be disappointed. Consciousness that the placenta has not come away will engender dread. I am not advocating reckless intervention, but there is such a thing as reckless inaction, and a woman may easily reach exhaustion in efforts, hour after hour, alone or aided only by doses of pituitrin, to accomplish the impossible or the next-to-impossible. When she awakes from the anaesthetic the realization that her task is quite accomplished is one great antidote to obstetrical shock. Another, as Professor Phillips hints, is the support of a firm binder.—I am, etc.,

Belfast, June 1st. ROBERT WATSON.

BLOOD TRANSFUSION AND DAMAGED KIDNEYS

SIR,—I would like to express my appreciation of Dr. Arnold Osman's timely warning against blood transfusion when the kidneys are known to be damaged.[1] I have had to deal with a number of cases of blackwater fever, and the profound and progressive anaemia associated with haemoglobinuria tempts one to seek the aid of blood transfusion. My early impressions of this remedy would have persuaded me to hail it with enthusiasm, but further experience has brought enough wisdom to curtail my ardour. In a series of cases I have realized that the earlier in the disease the transfusion was given, the worse were the results. In the early acute stage, when there may be suppression of urine and jaundice, and marked toxaemia, I have found blood transfusion to be an utterly useless remedy—in fact, I am inclined to think it has made things worse. The anaemia becomes complete, the toxaemia more marked, the pulse weaker, the heart dilates rapidly, and death soon closes the scene. This is the type of case in which the renal damage is definite and extreme, and blood transfusion does exactly what it did for Dr. Osman's nephritis case.

On the other hand, given a blackwater case in which the albuminuria has disappeared, urine with little or no albumin is passed in normal quantity, jaundice has disappeared, and the patient is left with a rapid pulse, a very grave anaemia, a low red cell count, and a high remittent temperature—all the features of post-haemoglobinuric fever—then, and only then, may we turn to blood transfusion as a valuable remedy. The stage of marked renal

[1] *British Medical Journal*, 1930, ii, 268.

damage has passed, and I have seen magical results from blood transfusion. The anaemia disappears, the temperature falls almost immediately, and the patient ceases to be a problem. The best result I have seen occurred in such a case where there was an interval of three weeks between the disappearance of the albuminuria and the transfusion. Patience is required in these cases; if the transfusion is hastened, disaster invariably threatens. I remember very vividly the case of a young man who was in this stage of post-haemoglobinuric fever with grave and progressive anaemia. His albuminuria had cleared, and five days afterwards I transfused 600 c.cm. of citrated blood. In about twelve hours the left ventricle margin had come out a full inch, there was complete anuria, and he succumbed rapidly.

I have had personal experience, and have known of cases in the experience of others, where blood transfusion has been urged and given as the remedy for that stage of blackwater fever in which are found grave toxaemia, jaundice, vomiting, and complete suppression of urine. Every patient without exception has died.

Dr. Osman draws attention to the possibilities of prophylactic alkalinization. If he tries this I am sure he will be disappointed. I have never given a blood transfusion in blackwater fever without it, and so my opinions are based on its routine use. Blood transfusion has a place in the treatment of blackwater fever. Out of its proper place it is destined to failure and disrepute.—I am, etc.,

Luanshya, Northern Rhodesia. JOHN PHILLIPS, M.B.Lond. F.R.C.S.Eng.

RUPTURE OF TENDONS

SIR,—Major C. M. Finny asks whether a rupture of the plantaris tendon has ever been demonstrated at operation. Since the publication of my paper in the *Journal* of April 11th, I have operated on a professional footballer who had sustained a complete rupture of the plantaris tendon at the same level. This combination of lesions I regard as exceptional.

Owing to the exigencies of space my paper contained merely a passing reference to that common lesion, partial rupture of the gastrocnemius or soleus, with its characteristic clinical picture so graphically described by Major Finny in his letter. The ambulatory treatment of this injury adopted by Major Finny is the correct one, and a similar regime is applicable in all partial muscle ruptures—namely, firm compression of the injured area by strapping or bandage, contractions of the muscle belly (induced if necessary by the faradic coil), and the avoidance of overstretching until sound healing has taken place.—I am, etc.,

Manchester, June 8th. HARRY PLATT.

TREATMENT OF DYSMENORRHOEA

SIR,—I have read with great interest Mr. Venn Dunn's paper on the treatment of dysmenorrhoea in the *Journal* of June 6th. Everyone will agree with him that the advances made in endocrinology call for a revision of the old classification into spasmodic and congestive types. There are, however, two statements in his paper which appear to call for modification.

He says that "In many cases of dysmenorrhoea the uterus is abnormally small." This statement should surely be modified to read: "In many cases of dysmenorrhoea the uterus *feels* abnormally small." From an experience of a large number of cases I have frequently been struck by the fact that the uterus feels small; but the passage of a uterine sound, and the measurement of its total length thereby, practically never reveals any shortening; on the contrary, the length of the cavity is often greater than 2½ inches.

In dealing with dilatation as a treatment for dysmenorrhoea, he states that "to be efficacious, dilatation must be sufficient. The cervix should be dilated up to No. 14. Further, the patient must be warned that the operation may have to be repeated in three months' time." With the first sentence of this paragraph I am in thorough agreement. The repetition of dilatation in three months' time is, in my experience, rarely necessary, provided that the dilatation in the first place is carried out far enough to secure paresis of the internal os.

Mr. Venn Dunn does not tell us what type of dilators he employs. I use Hawkins Ambler's pattern, and find that the highest number used to secure paresis varies greatly. It is rarely less than No. 26 of this pattern, and yet No. 36 may sometimes have to be used. To ensure that this amount of dilatation is carried out in safety it is wisest to divide the fibres of the internal os posteriorly, before any tearing takes place.—I am, etc.,

Liverpool, June 8th. A. A. GEMMELL.

CLOSED DRAINAGE IN THE TREATMENT OF EMPYEMA

SIR,—The description of his method by Dr. J. D. McEachern, given in the *Journal* of March 7th, and the question of priority in using the closed method in treating empyema raised by Dr. William Mitchell in a letter published on March 21st, clearly indicate the modern drift in the surgical treatment of abscessed conditions. Apart from that question, I would like to say at once that, to my way of thinking, Dr. McEachern does not make any claim to priority, and no doubt he will take an early opportunity to say so. Apart from the claim of others in this matter, we must not omit to mention Dieulafoy's method of intermittent drainage. The fact that modern practice has gone back to these primitive surgical times for ideas amazes me. The beautiful results which Lister obtained by open drainage, and his regard for that great principle in surgery that pus once discovered should be evacuated without delay, may be learned by the perusal of his addresses on the subject in the *Collected Papers*, and more particularly in a model clinical lecture published in the *Lancet* (1879, ii, 901). If anyone wants a swift, sure, and simple way of treating empyema, one within the limits of the most inexperienced surgeon, he will find it in the clinical lecture quoted above. A greater good will be done to surgery if we copy Lister's method rather than deliver panegyrics about him. Harvey's observations and experiments have been reproduced; why not Lister's? He is no more a back number than Harvey.—I am, etc.,

Brisbane, Queensland, April 28th. A. C. F. HALFORD, M.D.Melb., F.R.A.C.S.

ACUTE MASSIVE COLLAPSE FOLLOWING LIPIODOL INJECTION

SIR,—As an old-fashioned physician I still think that in the diagnosis of pulmonary disease, whether acute or chronic, we cannot dispense with a careful and full examination of the chest for direct physical signs. These signs are more varied and trustworthy than the signs, or rather shadows, obtained by means of *x* rays. *X* rays cannot show us the exact pathological condition or the exact import of any lesion. Over-confidence in *x*-ray diagnosis may lead to mistakes in diagnosis and treatment. The easy way to knowledge is not always the best or safest.

In criticizing the joint article of Dr. Scott Pinchin and Mr. Morlock it is my duty to say that a pain in the side of a healthy-looking young man of 18 (the site, intensity, and character of the pain being ignored), without cough or expectoration, and with "no physical signs except feeble breath sounds," hardly justifies a surgical operation under an anaesthetic, even though there was some suspicion of "fibrosis with bronchiectasis," in spite of the absence of any evidence, either in the history of the patient or by physical signs, to suggest such a possibility. I do not wonder, therefore, that "many hundreds of lipiodol examinations for many varying pulmonary conditions" have been made at the Victoria Park Chest Hospital.

Neither in the brief report of the state of the patient before the lipiodol injection, nor during the subsequent period, can I find any convincing evidence of acute massive "collapse of the lung on one side." We read: "At the time of the collapse the patient showed only slight respiratory distress." This condition developed in three minutes after the operation. There was "diminished movement, slight impairment of percussion note, and a considerable diminution of the air entry over the affected side of the chest" (rather a contradiction of signs). Verily a scanty array of phenomena upon which to base the diagnosis of acute massive collapse of the lung. There is no mention of altered breath sounds, bronchial, tubular, or of increased tussive resonance, and, strangest of all, no mention of displacement of organs, especially of the heart, towards the affected side.

To me it is hardly conceivable that acute massive collapse of the lung on one side could occur in three minutes without causing severe symptoms and disturbance of the heart's position and action. I should like to know the subsequent history. My own provisional diagnosis in this case would have been localized pleurisy—perhaps interlobar—perhaps mediastinal—perhaps diaphragmatic; or even a lesion in a subpleural gland. In any event a single intracutaneous injection of tuberculin might have excluded tuberculosis. Certainly lipiodol injections could not help in the diagnosis of localized pleurisy.—I am, etc.,

London, W., June 4th. W. CAMAC WILKINSON.

HAEMOLYTIC ICTERUS

SIR,—May I be allowed to make a note on Lord Dawson's first lecture on haemolytic icterus (published on May 30th), where he describes the origin of bile pigment? It is stated that "the origin of bile pigment is extrahepatic," as it had been shown by Whipple and Hooper in 1913 that bile pigment accumulated in the blood, followed by jaundice, "in dogs in which the liver had been isolated from the general circulation." After other observations it is stated to be "clear that the marrow and spleen are sites for the formation of bilirubin."

A paper on "haematogenous jaundice" was communicated by me to the Annual Meeting of the British Medical Association in 1895, and appeared in the *Journal* of January 18th, 1896 (p. 137). It was pointed out that up to that time the existence of such a form of jaundice was considered inadmissible. By treating rabbits with phenylhydrazin assisted by metaphenylendiamin, I showed that the bilirubin was formed in the spleen and carried to the liver, kidneys, etc., and that a haematogenous jaundice was not to be discarded. The work took me many months, but a full account will be found in the *Journal* referred to.—I am, etc.,

London, W.1, June 8th. A. G. AULD.

MATERNAL MORTALITY

A Disclaimer

SIR,—While some papers correctly, though briefly, reported an address which I gave before the College of Nursing post-graduate course at the London School of Hygiene on May 18th, others did not, and serious misstatements were included in certain reports. My official position normally precludes me from attempting to correct any perversion of my addresses or papers by communicating with the press. In the present instance, however, I fear that serious misunderstanding may arise from the incorrect attribution to me of a statement that if I had the supervision of maternity cases I could guarantee a reduction of three-quarters of the present average mortality. What I did say was that if effective medical and midwife supervision of maternity cases began early enough and was properly maintained up to and after childbirth, ultimately the maternal mortality rate might well be reduced by as much as three-quarters. This is indicated by the excellent results already secured in existing practice, which are recorded on page 106 of the interim report of the Departmental Committee on Maternal Mortality for 1930.—I am, etc.,

Ministry of Health, S.W.1, June 9th. GEORGE NEWMAN.

APLASTIC ANAEMIA

SIR,—In the paper by Drs. Fenton and Taylor in your issue of May 30th the case of aplastic anaemia does not seem from their account to have been investigated bacteriologically. Until such cases are, their etiology must remain a mystery. If cultures are made from the urine I have always been able to find a minute Gram-negative bacillus which I have not so far been able to put into any particular category; nor do I know whether there is a specific organism, or whether more than one organism can produce these conditions. One thing that is quite certain is the wonderful response pernicious anaemia—plastic and aplastic—makes to immunization with these microbes. I am writing in the hope that the urines of cases will be sent to me for investigation, so that my views as to etiology may be proved or disproved.—I am, etc.,

University College, Dublin, June 2nd. W. M. CROFTON.

NUTRITIONAL VALUE OF MILK

SIR,—The *Journal* of May 30th, 1931, contains a leading article on the Ministry of Health's recent memorandum on bovine tuberculosis in man. The article concludes with the following words: "Meanwhile, under careful methods of operation and scientific control, pasteurization can ensure a milk supply which is not only perfectly safe for consumption, but which retains its food value practically unimpaired by the heat to which it is subjected." This statement is a quotation from the memorandum, and is based solely upon a report on the pasteurization of milk which was issued by the Ministry of Health in 1923. In view of the great advances that have been made in our knowledge of nutrition during the past ten years it is astonishing that the Ministry of Health should have been content to rely upon an opinion which was expressed eight years ago.

The extensive experiments that have now been carried out for several years upon school children in Great Britain have made it clear that the addition of milk, even separated milk, to their ordinary diets has had a wonderful effect upon their health. These results demonstrate two things: first, that milk in any form is a wonderful foodstuff, and secondly, that the ordinary diets of the children

concerned were not adequate to produce the highest physical standard. Had that been the case, the great increases in height and weight within the time limits of the experiments could not have occurred. The truth of this probability is further confirmed by J. B. Orr and M. L. Clark's studies of the diets of 607 families in Scotland, from which they conclude that "the great majority were incapable of supporting the optimum rate of growth." The facts which have been related show that the study of the true nutritional values of the foodstuffs of the nation, and among them milk, is one of primary importance. This work has not yet been adequately carried out, but evidence is accumulating which indicates its urgent necessity.

The most recent experiment upon the effect of the addition of milk to the home diets of school children was carried out in Lanarkshire. In this experiment, which only lasted for about four months, 5,000 school children received daily three-quarters of a pint of raw Grade "A" (tuberculin-tested) milk, and 5,000 were given the same quantity of the same milk after pasteurization in accordance with the requirements of the Ministry of Health. In the report which Gerald Leighton and Peter McKinlay issued upon the results they state that "in so far as the conditions of this investigation are concerned, the effects of raw and pasteurized milk on growth in weight and height are, so far as we can judge, equal." These conclusions have been criticized by S. Bartlett, and R. A. Fisher and S. Bartlett. The latter state that:

"It seems evident that the conclusion should have been that the growth response in height to raw milk is significantly greater than that to pasteurized . . . . These results are put on record to avoid the danger that, from a superficial examination of the report, the conclusion should be drawn that this extensive experiment demonstrates the equivalence of pasteurized and raw milk. In reality the reverse is the case; and the very marked difference in response to two materials, which in their gross nutritional contents are so closely equivalent, raises a problem of very great interest, which can probably only be cleared up by more deliberate experimentation."

They further point out that the boys appeared to obtain much greater relative benefit than the girls, a conclusion which is confirmed by the work of E. C. V. Mattick and J. Golding, who fed generations of rats on raw, pasteurized, and sterilized milk, and found that the weights of the bucks were much more rapidly affected by the different types of milk than those of the does.

In America, also, the work of A. L. Daniels and G. Stearns; of M. Ladd, H. W. Evarts, and L. W. Franks; and of M. S. Lewis, upon the feeding of infants up to 12 months of age, appears to demonstrate that there is a real difference in the nutritional values of fresh milk and milk that has been treated by heat. Those who study the chemistry of milk know well its extreme complexity and the very delicate state of balance in which its constituents exist, a balance which cannot be replaced easily if it is once altered.

The influence of nutrition upon the incidence of disease is undoubtedly great. This has long been recognized by those who have studied the effects of war or famine upon the health of nations, but it is improbable that we have appreciated its importance in our daily lives sufficiently. Recent work, however, as for example that of R. McCarrison, and of J. B. Orr, J. J. R. Macleod, and T. J. Mackie, is bringing home to us the necessity for its more complete study.

These facts are set out because of their importance to the nation and to the milk industry, since recent publications indicate that many people desire the compulsory pasteurization of practically the whole of the milk supplies of our great centres of population. This procedure has hitherto led to the almost entire extinction of fresh milk in the cities of those countries which have adopted it. The question whether we shall or shall not follow in their footsteps is one of very great gravity, which should only be decided after most careful consideration of all the issues involved.

Those who are within the milk industry know well the very great advances it has made within the last ten years under a voluntary system of licensing which has only been in existence for a short time. They realize the vast improvements that have taken place in the supplies of pasteurized and other forms of treated milk which are sold in our cities, and along with them the increasing production of fresh milk from cows which do not react to the tuberculin test, and its sale at a reasonable price in provincial towns, and even in districts like Bermondsey in London. In Reading, for example, Grade "A" (tuberculin-tested) milk amounts to about one-fifth or one-sixth of the total milk supply, and there is no reason why this should not be the case in other towns in England.

The greatest credit is due to the milk industry for the work which is being accomplished, and it would be a great pity if any action were taken which hindered its progress.—I am, etc.,

R. STENHOUSE WILLIAMS.

National Institute for Research in Dairying, Reading, June 1st.

TREATMENT OF BRAIN ABSCESS

SIR,—Mr. Courtenay Yorke, in his account of an acute cerebellar abscess following closely on acute mastoid infection, states that a knife was inserted into the cerebellum to a depth of one inch in different directions, but without result. A Record syringe with a stout needle was then tried, and at a depth of one and a half inches one drachm of pus was withdrawn. On the strength of this success Mr. Yorke appears to advocate the use of the hypodermic syringe as a searcher. Surely it was the depth to which the searcher penetrated, and its direction, which determined failure or success. Then Mr. H. V. Forster, in a letter, proclaims his "enthusiasm" for the hypodermic syringe method, and rather naïvely remarks: "If the findings are negative, then there is either no brain abscess or it is out of reach, or has not been entered by the needle." What Mr. Punch would call "Another glimpse of the obvious"!

It is rather surprising to find aural surgeons of the stamp of Mr. Yorke and Mr. Forster advocating finicking and "rest and be thankful" methods of operating on otitic brain abscesses. It is true that some abscesses recover by whatever method they are opened and drained, but there are many that do not, and it is to the treatment of this type of case on true surgical lines that the attention of otologists should be directed.—I am, etc.,

Upper Bangor, June 7th. HUGH E. JONES.

INJECTION TREATMENT OF HAEMORRHOIDS

SIR,—The report in the *Journal* (May 23rd, p. 898) of the discussion on the injection treatment of piles at the Royal Society of Medicine makes it appear that I was condemning the interstitial carbolic-glycerin method, whilst praising by comparison not only other injection methods, but also surgical operation. My remarks should have conveyed almost the opposite meaning. The inaccuracy of the report may have been partly my fault in not making my meaning clear, as I am an unpractised speaker.

I stated that an extensive practical experience of over fourteen years had confirmed me in my opinion of the efficacy of injection, which I considered the treatment of choice for suitable cases, but thought its scope more

limited than was formerly my opinion. My remarks were principally a plea that the injection method which gave such " excellent " results in skilled hands should not be exposed to the risk of discredit by extravagant statements claiming for it almost universal applicability. For this reason I confined my comments to the factors which should determine the type of case suitable for treatment and the correct technique and solution of choice. My definition of " uncomplicated " haemorrhoids from the point of view of injection as " piles which contained little fibrous tissue and in which the veins were not much fibrosed " explains, I stated, the type of case suitable, and also accounts for success or failure with injections. In skilled hands injection cured this type of case rapidly and painlessly, but here we had the limitations of injection treatment as a safe and permanently effective method.

I did not suggest that ligature was the best and injection the next best method. Ligature was best for " complicated " cases, especially as the technique affected only an area less than the size of the pile ; on an average less than an inch of mucous membrane was involved. The injection method which approximated most to this was best. The interstitial carbolic-glycerin method which I advised (it was first advocated by my teachers, Mr. Swinford Edwards and Mr. Lockhart-Mummery) was therefore ideal, as the small dosage necessary (3 minims to at most 10) was injected into the pile alone. Injection cured solely by its action on the veins, causing thrombosis leading to sclerosis and shrinkage ; thus haemorrhage and prolapse were cured. No injections (not merely carbolic and glycerin, as the report suggests) could get rid of fibrous tissue unless excessive strength of dosage was used, causing painful sloughing and proctitis, which may last several weeks, with possibly dangerous haemorrhage. This condition is worse than can result from operation ; for such cases ligature under local anaesthesia was simpler, safer, and comparatively painless, and a combination of injection and ligature for the same case was frequently best. I told the meeting I had seen such cases in the hands of those who had recorded them without understanding the cause. The ligature operation was, however, as unnecessary and drastic for " uncomplicated " piles as injection was unsuitable for the other variety ; there is an extensive field within which each is the method of choice.

As to the injection technique of choice, the meeting was asked to decide between the *interstitial* glycerin-carbolic method and the *submucous* carbolized oil method. The greater part of my remarks were devoted to this point. I condemned the out-of-date but rediscovered submucous carbolized oil method advocated by several speakers, as I had previously done (*Journal*, September 20th, 1930, p. 498), as retrograde, dangerous, and unnecessary. My reasons were that the large dosage employed (some advised 10 to 15 c.cm.) had to be injected " to a height until the mucous membrane ceased to be loose, beyond Houston's valves if necessary," to procure a generalized inflammation sufficient to make the mucous membrane adhere permanently to the rectal muscle and thus effect cure, " but the haemorrhoids still remained uncured unless injections were also made down to their level." With this technique, therefore, more than half the rectum was involved even in average cases, the mucous membrane becoming " hard as parchment." When, however, the reaction is excessive the whole rectum becomes acutely affected, and a dangerous and painful condition results. I said I had seen such cases, and the literature records numerous instances. It seemed to me unnecessarily drastic treatment to damage the whole rectum in order to cure a few piles in the lowest inch of the bowel ; it was difficult to see how its sponsors could call it an " improved technique." I assured the meeting that if permanent adherence occurred " patients would be damaged for life, as the rectal mucous membrane was normally loose and should be left so, its free movement on the rectal muscle being necessary during defaecation." This alone was sufficient to condemn the submucous oil method (or any submucous method), which is simply a bludgeoning attempt by some who are ignorant of the rationale of the treatment (that is, who deny that cure is effected by thrombosis) to cure every type of pile, whether suitable or not, by injection. The eminent proctologists who introduced injection treatment to this country, and who still advise the interstitial method, never claimed almost universal applicability, but were careful to indicate the limitations of injection whilst extolling its merits.

I was alone in condemning the submucous oil method, and described a pitiful case I had seen in which pyrexia, rigors, and generalized proctitis occurred ; the patient was completely disabled for two months. I was also the only speaker who considered it necessary to give reasons, anatomical and pathological, for the approval or disapproval of the methods advocated. During many years past, when those who are now advising the submucous carbolized oil method were advocating large doses with the interstitial method (as much as 40 minims of the 20 per cent. carbolic-glycerin solution, instead of the 10 minims which I advised as a maximum), I warned the general practitioner that this procedure was dangerous, and that sloughing, ulceration, and proctitis would be liable to result, due to excessive thrombosis. (Their disastrous technique was founded on their erroneous belief that thrombosis seldom or never occurred with injection, whereas pathologists have demonstrated that it almost invariably occurs.) I again warn the profession that if this oil method becomes widely practised, especially if it is " forced " in an effort to cure unsuitable types of haemorrhoids, disasters will be increased manifold ; I have seen them, and the literature records many instances. These points should be made known to the general practitioner, and I was the only one to do so. Mr. Perrin and Mr. Turner Warwick, whose contributions were such an instructive feature of the discussion, were good enough *to say that they agreed with my opinions, and in fairness* to your readers the disadvantages and dangers of this alleged " new and improved " method of treatment should be indicated.—I am, etc.,

London W., June 3rd. P. KENNEDY MURPHY.

A SUBSTITUTE FOR HAND TOWELS

SIR,—When in Paris recently I was amused to see at the Gare St. Lazare a new method of " drying " one's hands after washing. After washing my hands with the ordinary French powder soap I searched hopelessly for a towel, until somebody indicated a foot pedal in the corner. This started a motor which blew hot air through the outlets of two pipes, about a foot apart, one delivering upwards, the other downwards. One's hands placed between the pipes became dry in a few seconds. This machine may be familiar to some of your readers, but it was new to me. Hygienically, it seems an improvement on the communal English roller towel, the impossibly expensive single towel for each person, or the uncomfortable American sheets of crinkled paper. What the cost of the machine or its maintenance is I do not know. I made a note of the address on it: *Sogenex, 80, Rue F.* St. Denis.—I am, etc.,

June 2nd. D.P.H.

ETIOLOGY OF ULCERATIVE COLITIS

SIR,—In the article by Dr. Arthur F. Hurst, which appeared in your issue of April 25th, the following sentence appears: "Several American physicians have told me that they have been quite unable to confirm Bargen's enthusiastic reports about vaccination with his organism, which has not been accepted by any other American workers as the cause of ulcerative colitis." I would like to point out that the final clause gives scarcely an accurate impression. The enclosed list of articles is only a portion of a number that have appeared, in which our work has been confirmed.—I am, etc.,

Mayo Clinic, Rochester, Minnesota, May 22nd. J. A. BARGEN.

*** The following is the list of references sent by Dr. Bargen:—

1. Soper, H. W.: Chronic Ulcerative Colitis, *Ann. Int. Med.*, November, 1927, i, No. 5, 313.
2. Fradkin, W., and Gray, I.: Chronic Ulcerative Colitis (Report of Vaccine Therapy), *Journ. Amer. Med. Assoc.*, 1930, lxxxiv, 849.
3. Streicher, M. H., and Kaplan, B.: Chronic Ulcerative Colitis, ibid., January 4th, 1930, xciv, 10.
4. Lynch, Jerome: Discussion, *Trans. Amer. Gast. Assoc.*, May 4th and 5th, 1930.
5. Portis, S.: Diagnosis and Treatment of Non-specific Ulcerative Colitis, *Illinois Med. Journ.*, February, 1927, li, 111.
6. Rouse, M. O.: Chronic Ulcerative Colitis, *Texas State Journ. of Med.*, January, 1931, xxvi, 649.
7. Kracke, R. R.: Chronic Ulcerative Colitis: Etiology, *Southern Med. Journ.*, September, 1930, xxiii, No. 9, 785.
8. Muniz, J. R.: La Endoscopia Recto-colica en la Disenteria Amebiana Cronica, *Vida Nueva*, August 15th, 1929.
9. Chisholm, A. J.: Symptomatology and Treatment in Chronic Ulcerative Colitis, *Colorado Med. Journ.*, January, 1928, xxv, 28.
10. Horgan, Edmund, and Horgan, Joseph: Chronic Ulcerative Colitis: Results of Treatment with Vaccine in Five Cases, *Journ. Amer. Med. Assoc.*, July, 1929, xciii, 263.

Obituary

A. T. MACCONKEY, M.B., B.CH., D.P.H.

Late Bacteriologist in Charge, Serum Department, Lister Institute

The death of Dr. Alfred T. MacConkey, on May 17th, at the age of 70, recalls to bacteriologists his early researches connected with the bacteriology of sewage and water supplies. It was his work for the Royal Commission on Sewage Disposal which led him to devise the culture media known by his name. The most distinctive feature of the liquid and solid MacConkey media was the use of bile salts in order to inhibit the growth of bacteria not derived from the intestine, and so to recognize those of faecal origin. He also incorporated glucose or lactose with the bile salt in the nutritive media. Later the commonly used "MacConkey agar" always contained not glucose, but lactose and neutral red, so that not only were the characteristic intestinal bacteria given an advantage over other forms, but also colonies of various pathogenic bacteria in faeces which did not ferment lactose were made conspicuous and differentiated from the non-pathogenic *B. coli*. In spite of the many other prescriptions for media intended to fulfil the same purpose, "MacConkey agar" is still used in this country and in other parts of the world in preference to its many rivals, especially by British workers, on account of its simplicity and effectiveness. When MacConkey began to work for the Royal Commission in 1899 the knowledge of the great variety of bacteria present in faeces and their differentiation from others commonly found in water was very elementary. The task in this field of work must have appeared overwhelming. MacConkey became intensely interested in the important problems involved, and by his enthusiastic and persistent work added considerably to our knowledge of the most useful means of distinguishing the bacteria, generically called *B. coli*, which were of recent intestinal origin from others associated with cultivated and uncultivated soils, and he helped to investigate the distribution in nature of the various somewhat similar bacteria, especially *B. lactis aerogenes*. Between 1900 and 1909 he published several papers on aspects of the same subject.

Alfred Theodore MacConkey began his medical studies at Cambridge, where he took an honours degree in Natural Science. After subsequent work at Guy's Hospital he graduated M.B., B.Ch. in 1889, and then served as house-surgeon at that hospital. He was in practice for some years at Beckenham, but illness following influenza determined his retirement from practice and devotion to bacteriology. In 1901 he joined the staff of the Lister Institute at Chelsea, and very soon was transferred to the serum department of the Institute at Elstree. In 1906, when Dr. George Dean retired, Dr. MacConkey succeeded him as bacteriologist in charge of the serum department, and thenceforward his interests lay in the technique of preparing serums. He devoted himself with characteristic attention to detail to the production of toxins and other antigens, the care and inoculation of the animals, and the management of the laboratories and farm. He took great personal interest in the individual horses, showing much kindly feeling for them. His work in producing therapeutic and prophylactic serums he looked on as a form of public service The enthusiasm with which he rapidly enlarged the stables and laboratory accommodation during the war in order to make greatly increased supplies of serum for the Expeditionary Forces was for him an expression of his desire to be of use to the country. He was especially interested in antitetanic serum, and published several papers on its value and in exposition of his belief that it should be used more actively as a therapeutic agent. He was always ready to give help and the benefit of his experience to visitors from other serum institutes and to those starting to make medicinal serums in various parts of the Empire. His kindly advice, and hints warning beginners against avoidable difficulties, must have proved of great value to many who sought his assistance.

Dr. and Mrs. MacConkey delighted to entertain visitors from all over the world and to display his remarkably successful garden, in which he spent so much of his leisure. After 1926, when he retired from his post at Elstree, he lived at Blindley Heath in Surrey, and continued to gratify his love for the culture of flowers, especially roses.

J. A. A.

There recently died in a Dublin hospital Daniel Crowly, formerly a student of Queen's College, Cork, who graduated M.D. in 1888 at the old Queen's University. Until quite lately he carried on a large practice in the town of Loughrea and the surrounding part of County Galway, and was much esteemed. He recently resigned the coronership of the County Galway (Southern Division), and at that time he was probably the last survivor of those who had been elected to the office by vote of all the electors on the parliamentary franchise of the county; it speaks much for the charm of his personality and character that he should have been elected by popular vote in a county where clannishness was such a dominant factor. Dr. Crowly is greatly regretted by his colleagues, who could always rely on his helpful kindliness and consideration. They offer their sympathy to his widow and son, Albert Crowly, who is also a member of the medical profession.

J. M.

The following well-known foreign medical men have recently died: Dr. JEAN DUMONT, secretary of the *Presse Médicale*, aged 63; Professor AXEL HOLST, the eminent bacteriologist and hygienist of Oslo, aged 71; and Dr. J. WAGENHAUSER, formerly professor of otology at Tübingen, aged 81.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

At a congregation held on June 6th the following medical degrees were conferred:

M.D.—R. M. B. MacKenna, C. C. R. Downing, J. P. Marsden, M. E. Lampard.

M.B.—H. L. Hoffman.

B.CHIR.—C. O. Barnes.

Sir Humphry Rolleston, Bt., Regius Professor of Physic, has been appointed to represent the University at the celebration of the 250th anniversary of the Royal College of Physicians, Edinburgh, from November 29th to December 1st, next.

Presentation to John Lane

The completion of fifty years' service by John Lane, chief assistant at the Anatomy School, was celebrated in the large lecture theatre of the Anatomy School on June 2nd, when Mr. Lane was presented with a gold watch and chain and a cheque for 105 guineas. The Vice-Chancellor of the University honoured the occasion with his presence, and Professor Wilson presided over a large and enthusiastic gathering. Miss Macalister represented the family of the late Professor Macalister. Letters expressing regret for absence were read from Sir Donald MacAlister and Professor E. Barclay Smith. Before making the presentation, Professor Wilson called upon the senior members of the presentation committee to report on their proceedings. In response, Dr. Duckworth and Mr. Hopkinson recounted the progress of their appeal, and illustrated its success by reference to the large number (1,066) of those who had contributed. Particular reference was made to the co-operation of Cambridge men now holding prominent positions on the staffs of the principal London hospitals. Thanks to their devoted efforts, the presentation had been brought to the notice of a large number of medical graduates and of students who, having left Cambridge, were now engaged in clinical work in London. Warm acknowledgement was also made of the assistance rendered by the committee and college representatives of the University Medical Students' Society, whose president was a member of the presentation committee. Professor Wilson then made the presentation, and Mr. John Lane made a brief but effectively appropriate and grateful reply. The inscription inside the cover of the watch was as follows:

"1881–1931. The presentation of this watch marks the completion of John Lane's 50th year of service in the Anatomy School, and assures him of the warm appreciation of that service by those who have combined to make the gift."

UNIVERSITY OF LONDON

The following have been recognized as teachers of the University at the medical schools indicated. Westminster Hospital Medical School: Mr. E. P. Brockman (orthopaedic surgery), Mr. C. P. Thomas (surgery), Mr. Reginald Worth (mental diseases); London Hospital Medical College: Mr. Victor W. Dix (surgery), Mr. W. S. Herman (dental surgery), Mr. E. P. Stibbe (anatomy); Charing Cross Hospital Medical School: Dr. C. W. Hutt (hygiene).

Regulations for Examinations

The regulations for the M.D. and M.S. examinations for internal students have been amended by the addition of the following sentence at the end of the first paragraph on page 219, and the last paragraph but one on page 224 of the Red Book, 1930–31:

In the pass list a mark of distinction will also be placed against the names of all candidates who, in the opinion of the examiners, have qualified for the award of a University medal, irrespective of whether the medal is awarded to them or not.

The regulations for the M.D. and M.S. examinations for external students (Blue Book, September 30th, 1930, pp. 271 and 276) have been similarly amended.

It has been decided that in and after 1932 the regulations for the academic diploma in public health be amended by the substitution of the following for the last paragraph on page 468 and the first paragraph on page 469 (Red Book, 1930–31):

(1) Part I of the examination will be held twice a year, beginning on the first Monday in April, or, if that be a bank holiday, on the second Monday in April; and on the Monday of the week prior to the first Tuesday in July.

(2) Part II of the examination will be held twice a year, beginning on the Monday in the week following that in which the June–July examination for Part I is held; and on the fourth Monday in September.

It was also decided that in 1931 Part II of the examination shall begin on the Monday in the week following that in which the September examination for Part I is held, and not on the Tuesday in that week, as provided in the existing regulations.

Mickle Fellowship

Applications for the William Julius Mickle Fellowship must reach the Principal of the University by October 1st. It is of the value of at least £200, and is awarded annually to the man or woman who, being resident in London and a graduate of the University, "has, in the opinion of the Senate, done most to advance medical art or science within the preceding five years, and has therein shown conspicuous merit. Full particulars can be obtained on application to the Academic Registrar, University of London, S.W.7.

The following candidates have been approved at the examination indicated:

THIRD M.B., B.S.—§*H. W. Howell, §*L. H. Howells, §*Alison F. Z. Judd, §†Muriel H. E. Long, §‡‖P. V. Reading, §‖T. F. Todd, §‖Marion E. Townsend, R. M. Alderton, Gwendolen E. Austin, F. Back, E. E. Barnett, A. L. Basham, J. E. L. Bendor-Samuel, C. C. Beresford, Ilma B. S. Bingemann, Helen B. Burt, Joan Butterworth, A. C. Byles, P. H. Charlton, D. O. Clark, A. R. Clarke, R. D. Darley, H. L. G. Davies, S. D. Elliott, W. J. Ferguson, L. P. Friedman, R. J. Furlong, A. P. Gaston, J. B. George, S. J. Golden, Rebecca Goldstein, R. T. S. Goodchild, P. R. Graves, S. R. Gunewardene, F. R. Gusterson, R. L. H. Harris, Ruth M. Harris, W. H. Harris, W. Hogg, S. W. Holmes, H. R. Hovsha, D. T. Ishmael, E. Jones, H. W. Jordan, J. D. Kershaw, A. T. L. Kingdon, N. Kramer, F. P. L. Lander, E. S. Lee, P. A. T. Lowden, M. Luckeenarain, R. Machray, W. McKissock, Henrietta M. Macleod, K. M. Masani, J. H. G. Mason, Bertha I. Meyer, T. W. Mimpriss, J. Mindline, I. More, Kathleen J. Mulvany, Lois M. Munro, W. L. Neustätter, G. H. Newns, J. E. A. O'Connell, A. P. M. Page, D. N. Parfitt, F. L. L. Patrick, A. L. Pereira, J. H. Pierre, N. S. Plummer, D. C. Price, Helen M. M. Reid, T. S. Rodgers, K. M. Ross, S. Scher, V. E. P. Senewiratne, G. C. Sheldon, Helana Sidarous, S. K. Squires, Eileen M. G. Stevenson, R. G. Thomas, J. A. White, I. G. Williams, F. W. Willway, W. Young. *Group I:* W. Aukin, H. B. Barker, H. W. Benham, A. I. P. Brown, A. Burkhardt, E. H. Capel, A. F. H. Coke, H. E. B. Curjel, J. O. F. Davies, S. B. Dimson, P. G. Dowdell, E. H. Evans, Phyllis M. Fraser, J. B. Great Rex, Hilary S. M. Hadaway, D. W. James, E. G. M. Jones, B. W. Knight, G. A. M. Lintott, W. F. McGladdery, Dorothy Makepeace, S. F. Marshall, Gwendolen E. M. Meyer, J. E. Morton, D. D. Payne, R. N. C. Smith, B. Southwell, T. Standring, F. L. Wheaton, S. J. Wheeler, E. L. Williams. *Group II:* I. S. Acres, K. C. Buck, Margaret E. Cope, D. F. L. Groft, J. R. Crumbie, E. B. Grogono, J. M. Harker, B. T. W. Harvey, K. L. James, S. Lefcovitch, K. S. May, E. R. R. Mellon, H. S. Morton, D. K. Mulvany, C. F. Price, W. M. Priest, J. M. Robertson, R. W. Scarff, M. R. Thomas, W. J. Tindall, R. S. Wale, G. Wells.

§Honours. *Distinguished in Medicine. †Distinguished in Forensic Medicine. ‡Distinguished in Surgery. ‖Distinguished in Midwifery.

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have been approved at the examination indicated:

MASTER OF MIDWIFERY.—A. V. Clemmey, B.M., B.Ch.Oxf., A. Gardiner, M.B., B.Ch.Glas., Greta Hartley, M.B., B.S.Lond., Eva J. Newton, M.B., B.S.Lond.

The Services

SHORTAGE OF MEDICAL OFFICERS IN THE SERVICES

COMMITTEE OF INQUIRY

A committee, constituted as follows, has been appointed by the Prime Minister to investigate the causes of the shortage of officers and nurses in the medical and dental branches of the three defence Services, and to recommend by what means the situation can be remedied: Sir Warren Fisher, Permanent Secretary to H.M. Treasury (chairman); Mr. C. L. Bullock, Secretary of the Air Ministry; Sir Herbert Creedy, Permanent Under Secretary of State for War; Mr. H. E. Fass, Principal Assistant Secretary to the Treasury; Lieut.-General Sir Harold Fawcus, Director-General Army Medical Services; Professor G. E. Gask, Director of the Surgical Unit, St. Bartholomew's Hospital; Surgeon Vice-Admiral Sir Arthur Gaskell, Medical Director-General Royal Navy; Dr. A. M. H. Gray, Dean of University College Hospital Medical School; Air Commodore J. McIntyre, Director of Medical Services Royal Air Force; Sir Oswyn Murray, Secretary of the Admiralty; and Sir S. Findlater Stewart, Permanent Under Secretary of State for India. The secretary of the committee is Mr. W. Lindsay Scott of the Air Ministry.

RECEPTION AT R.A.M. COLLEGE

The officers of the Royal Army Medical Corps held a reception at their headquarters mess at Millbank on the evening of Thursday, June 4th. The guests were received by Lieut.-General Sir Harold Fawcus (Director-General, Army Medical Services) and Lady Fawcus, and the large company present included the President of the General Medical Council, the Presidents of the Royal Colleges of Physicians and Surgeons, leading representatives of the metropolitan medical schools, and many other members of the profession in London. The laboratories and lecture rooms of the Royal Army Medical College were on view during the evening.

DEATHS IN THE SERVICES

Surgeon Rear-Admiral John Hutton Stenhouse, R.N. (ret.), died in a nursing home in Edinburgh, on April 4th, aged 65. He was educated at Aberdeen University, where he graduated as M.B. and C.M. in 1886, and, entering the Navy soon after, attained the rank of rear-admiral on July 3rd, 1920. He served through the war of 1914–18, receiving the medals.

Surgeon Captain William Kenneth Dudoit Breton, R.N. (ret.), died on April 4th. He was educated at St. Mary's; took the M.R.C.S. and L.R.C.P.Lond. in 1902, and after holding the posts of resident medical officer at St. Mary's and house-surgeon and dental house-surgeon at the West London Hospital, entered the Navy. He attained the rank of surgeon commander on January 1st, 1917, and retired, with an honorary step as surgeon captain, on August 10th, 1925. He served throughout the war of 1914–18, receiving the medals.

Major Douglas Noel MacLeod, R.A.M.C., died in the Cambridge Military Hospital at Aldershot on May 9th, aged 44. He was born on December 25th, 1886, the younger son of the late Dr. Neil MacLeod of Shanghai, and was educated at Cambridge, where he graduated B.A. with honours in the Natural Science Tripos in 1907, and at Birmingham, where he graduated B.Ch. in 1911, and M.D. in 1913. After filling the posts of house-surgeon and house-physician in the Queen's Hospital, Birmingham, he joined the R.A.M.C. when the war began, as a lieutenant in the Special Reserve, before the end of 1914, took a permanent commission as lieutenant on January 1st, 1917, and became major on November 25th, 1926. He served throughout the war of 1914–18, and was mentioned in dispatches in the *London Gazette* of May 29th, 1917. He had only recently returned to England from Cairo.

Medico-Legal

CONVICTION FOR FALSELY PRETENDING TO BE A MEDICAL MAN

At Warrington police court on May 29th, D. Tindall, or Richard Tindall, of Warrington, was summoned by the Medical Defence Union on four charges—two of falsely pretending to be a bachelor of medicine, another of falsely using that title, and a fourth of pretending to be a general practitioner in medicine. He was fined £5 on each of the four summonses—£20 in all—with the alternative of one month's imprisonment on each summons.

Mr. T. S. Steel, solicitor, who conducted the prosecution, said that Tindall was an undertaker and certified embalmer. He had claimed to be a fully qualified medical man, holding the degrees of M.B., Ch.B. (which was printed on his visiting cards), and stated that he was a member of the Royal College of Surgeons, had issued prescriptions which were made up by local chemists, and had presumed to treat professionally people suffering from various diseases. He claimed to have acted as an anaesthetist to three prominent Manchester practitioners, to have made application for the post of anaesthetist at Warrington Infirmary, and to have interviewed the clerk of the local insurance committee with a view to starting an insurance practice in Warrington.

Mr. George Sturgess, solicitor for the defence, said that Tindall served in the R.A.M.C. during the war, and his duties in that capacity created in him a desire to be a medical practitioner. He failed to pass matriculation, but he had a library of medical books, and had studied the subject. He was the victim of a pathetic ambition.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons was in committee on the Finance Bill for four days this week.

On June 9th the House of Lords gave second readings to the Housing (Rural Workers) Amendment Bill and the Merchant Shipping (Safety and Load Line) Bill. The Widows', Orphans', and Old Age Contributory Pensions Bill passed through committee.

The Parliamentary Medical Committee and other members of the House of Commons were addressed by Sir Leonard Hill on June 9th, his subject being the ventilation of the House of Commons. Dr. Salter presided. Sir Leonard Hill said he objected to the present system, whereby air entered the House through the floor. He proposed the admission of a stream of cool air at the level of the gallery, to descend on the heads of members. If desired, hot-water pipes could be installed under the feet. Comfort was best secured when the air was cool but the walls warm. He suggested that the Chamber and other rooms of the House should be heated at night and then flushed out with cool air. Tests made in the Chamber had shown that the present upward current carried away infectious spray from the mouth. There was more danger of infection when members talked and coughed in the division lobbies.

A discussion followed Sir Leonard Hill's address. Speakers agreed that the improvement of ventilation was not only desirable in the Chamber but in the committee rooms and the library. Mr. Lansbury suggested that there should be a further inquiry into the ventilation of the whole building.

The Budget: Petrol Tax

On June 8th the House of Commons began consideration of the Finance Bill in committee. Clause 1 increases the Customs duty on hydrocarbon oils from 4d. to 6d. a gallon.

Dr. Fremantle and other members had put down amendments to exempt from the duty petrol used by medical practitioners and veterinary surgeons in carrying on their medical and veterinary practices, and petrol used in hospital ambulance work.

During the debate on the motion that Clause 1 should stand part of the Bill, Dr. FREMANTLE said under the guillotine resolution they were compelled to pass over a number of amendments to the clause which were of definite importance. As illustrations, he mentioned two amendments, in which he was particularly interested—amendments which suggested exemption in the case of ambulances attached to hospitals and in the case of medical and veterinary practitioners. There were precedents for these proposals, and he only spoke of them as illustrating the damage which could be done by imposing a general duty of this sort without giving time for the consideration of exemptions. In the Finance Act, 1910, which originally imposed the motor spirit duty, medical men were given a rebate of half the duty in respect of motor cars owned and used by them in carrying out the duties of their practices. As regarded ambulances, there was also a definite precedent; at present, lifeboats were exempt. Why, then, should ambulances of hospitals be taxed? They were required more than ever to-day, because of the increasing number of road accidents. The cost of those accidents was not paid by the Government, and was not, to any large extent, borne even by the people who suffered. To a large extent they were borne by the voluntary hospitals, the ambulance services, and the St. John Ambulance Association. A very small proportion was paid by the people who had the benefit of these services. He knew that in theory the Government proposed to their Socialist supporters that there should be Socialistic services of this kind and that all those things should be run by the State. On the other hand, they came to the House of Commons and said, "We have to take things as they are." Then they put even greater burdens on the people who

already had to bear the handicaps of this service. They said that they were compelled to do so pending the nationalization of those services. There might one day be the nationalized medical service proposed by Mr. Hastings, but it would be a long time before it came. It would be the acid test of the theory, because people would then have an opportunity of realizing the rights and wrongs, the advantages and disadvantages, of a mechanical system. This clause would add considerably to the cost of running ambulances and to the expenses of the country doctor. He reckoned that to the ordinary country doctor who covered 20,000 miles a year, and whose car did twenty miles to the gallon, the extra 2d. would cost an extra £10 a year. Therefore the clause would place an additional burden of £10 a year on the country doctor who used his car in order that he might get more quickly about his district and attend the people under his care. There was a definite case which the Government ought to face.

The clause was agreed to.

Vaccination

Mr. FREEMAN put a question, on June 4th, concerning a boy aged 7, who (he alleged) had lost the sight of his right eye as a result of vaccination by the public vaccinator at Dagenham in October, 1930, while under treatment at the same time for a septic knee. Mr. GREENWOOD said his attention had been drawn to the case. The vaccination had been performed with the consent of the parents, and the public vaccinator found no physical reason why the boy should not be vaccinated, nor did he observe any evidence of an affection of the eye when he inspected the vaccination on November 4th. It was not until thirty-six days after the date of vaccination that the boy was taken to the school clinic at Barking on account of eye trouble. Mr. Greenwood was advised that the course of events was not consistent with the suggestions which had been made that the affection of the eye was the result of the vaccination, or that vaccine entered the eye at the time of vaccination. Mr. FREEMAN asked whether the Minister knew that the parents of the child were not present at the vaccination, and whether any medical examination of the child took place to show that he was in a fit state to stand the result of the operation, Mr. GREENWOOD said the public vaccinator was himself a medical man and he should accept his report. The Minister could not say without notice whether an inspection of the child was made or whether the public vaccinator found that there was a septic condition at the time. It was very difficult to say that medical evidence, or an examination of the child, could prove vaccination was the cause of the blindness, when the additional disability was discovered well after a month from the vaccination.

Replying to Mr. Freeman, on June 4th, Mr. GREENWOOD said the circumstances of the death at South Wigston, near Leicester, of twin children, both considered to be in good health, who were vaccinated on May 14th and died on May 29th and 30th respectively, had been inquired into by a medical officer of his department, and pathological investigations were now in progress. He would communicate with Mr. Freeman when the results were available. He could not say without notice whether Government lymph was used in this case, or whether public vaccination had now ceased in that district.

Small-pox

Miss LAWRENCE, on June 2nd, stated that there were 11,839 cases of small-pox among the civilian population notified in England and Wales (including port sanitary districts) during the fifty-three weeks ended January 3rd, 1931. Of the total deaths registered in England and Wales during 1930, 28 were classified to small-pox.

Committee on Food Standards

On June 4th, in reply to Mr. R. J. Russell, Mr. GREENWOOD stated that a Committee on Food Standards had been set up to inquire into the working of the law as to the composition and description of articles of food other than milk, and to report what alterations, if any, in the law or its administration appeared to be desirable. The members of the committee were Sir Frederick Willis (chairman), Mrs. J. L. Adamson, Mr. W. Barratt, Mrs. E. Beck, Mr. J. N. Beckett, Mr. G. A. Birse, Mr. H. F. Carlill, Mrs. M. E. Cottrell, Mr. A. T. A. Dobson, Mr. H. E. Goodby, Dr. J. M. Hamill, Mrs. Jean Roberts, Mr. R. A. Robinson, Mr. H. Shaw, and Mr. G. Stubbs.

Sale of Butter

Replying to Captain P. Macdonald, on June 2nd, Miss LAWRENCE said that an examination was made of butter imported into Great Britain for sale. Butter exposed for sale might be seized and destroyed if found to be unfit for human consumption. Samples were taken by officers of local authorities under the Food and Drugs (Adulteration) Act and the Sale of Butter Regulations, and the vendor was liable to prosecution if there was evidence of adulteration. Answering Colonel Ruggles-Brise, Miss LAWRENCE said that samples of recent consignments of Russian butter had been found on analysis to be genuine. She was having further samples examined bacteriologically.

Supervision of Nursing Homes.—Mr. GREENWOOD told Mr. West Russell, on June 4th, that under the Nursing Homes Registration Act, 1927, the London County Council was the local supervising authority for private nursing homes in the metropolitan area outside the City of London, and a complete statment of the present position would be included in the Council's report for 1930, which was now in preparation.

Indian Hospitals and Dispensaries.—Mr. BENN, in reply to Mr. Freeman on June 4th, said that in 1928 there were 552 State-public hospitals and dispensaries in British India, 3,713 local fund institutions of the same character, and 306 privately aided institutions. During that year 888,651 indoor and 49,229,903 outdoor patients were treated at these institutions.

Tuberculosis in H.M.S. Warspite.—On June 8th, Mr. G. HALL told Sir B. Falle that the number of cases of tuberculosis which had occurred in H.M.S. *Warspite* since she recommissioned on January 23rd, 1929, was thirteen, of which eleven had been invalided and two had died in hospital. Sir B. FALLE asked Mr. Hall specially to inquire into this matter and ascertain why there had been so many cases, and how many of these men had been pensioned. Mr. HALL replied that eight were pensioned out of thirteen. An inquiry had already been held, but unfortunately they were not able to ascertain the actual cause of the very high percentage of cases in 1929.

Veterinary Medical Research.—Dr. ADDISON told Mr. C. Williams, on June 8th, that he could not say at present whether it would be necessary for him to ask the House to pass a supplementary estimate to carry out the scheme now being prepared for the development of veterinary medical research.

Medical News

In the list of medical men included in the Birthday Honours, published last week at page 1004, we accidentally omitted the name of Lieut.-Colonel Thomas Reginald St. Johnston, C.M.G., Governor and Commander-in-Chief of the Leeward Islands, who receives the K.C.M.G.

On the afternoon of Tuesday, June 30th, H.R.H. The Duchess of York, President of St. Mary's Hospital, will lay the foundation stones of the new medical school and pathological institute, and the Right Hon. Stanley Baldwin will give a short address. The operating suites, wards, and laboratories of the hospital will be open for the inspection of visitors.

The next meeting of the Biochemical Society will be held at the Marine Biological Station, Plymouth, to-day (Saturday, June 13th), at 3.30 p.m.

Sir W. R. Morris, Bt., will distribute the prizes at St. Thomas's Hospital Medical School on Wednesday, June 24th, at 3 p.m. The whole hospital will be open for inspection during the afternoon.

Lord Macmillan, chairman of the University Court of the University of London, will distribute the prizes at the London Hospital Medical College on Wednesday, June 24th, at 3 p.m.

Sir Robert Horne will be the principal speaker at the dinner to be held by the British Science Guild at the Hyde Park Hotel on Friday, June 19th, with Sir Samuel Hoare in the chair.

The Home Secretary, Mr. J. R. Clynes, will speak at the annual meeting of the National Institute for the Deaf, to be held at the Church House, Westminster, to-day (Friday, June 12th), at 3.30 p.m., when Dr. F. E. Fremantle, M.P., will preside. The meeting is a public one, and those who are interested in deafness and the welfare of those suffering from it are invited to attend.

The annual meeting of the Incorporated Lancashire and Cheshire Society for the Permanent Care of the Feeble-Minded will be held at the Sandlebridge Institution, Alderley Edge, on Wednesday, June 17th; the Lord Mayor of Manchester will take the chair at 3.15 p.m. The Thomasson and Sam Gamble Day School will be open for inspection at 2.30 p.m., and tea will be served at Warford Hall at 4 p.m.

Particulars of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found at page 244 of the *Supplement*. The special evening lectures to candidates for the M.R.C.P. are being continued. Syllabuses and tickets for all the courses may be had from the Fellowship of Medicine, 1, Wimpole Street, W.1.

The secretary-general asks us to state that the second International Congress for Light will be held in Copenhagen in *1932* and not this year. A detailed programme will be issued in the autumn of this year.

The first International Neurological Congress, the foundation of which was suggested by the late Professor Hermann Oppenheim in 1912, will be held in Berne from August 31st to September 6th under the presidency of Dr. B. Sachs of New York. The four official languages will be English, French, German, and Italian.

On Sunday, June 7th, H.R.H. Princess Victoria visited Gerrard's Cross, and in the parish church unveiled a tablet which has been placed there to the memory of the late John Llewelyn-Jones, M.D.Lond., J.P., well known in South Bucks, who died in February, 1930. A short address was given by Mr. D. Cotes-Preedy, K.C., Recorder of Smethwick, himself a member of the medical profession and an old friend of the deceased. A large congregation testified to the esteem in which—to quote the words on the tablet—"a beloved physician and steadfast friend" was held.

At a special meeting of the Royal Society of Medicine, held on May 19th, a resolution was adopted abolishing the Sections of Balneology and Climatology and of Electro-Therapeutics. It was also decided to establish in substitution thereof a Section of Physical Medicine, which shall have for its object the study of balneology, climatology, and electrology, and ancillary subjects, and also a Section of Radiology for the study of radiology and subjects relating thereto.

Commemoration Day at Livingstone College, Leyton, was held on June 4th, when the chair was taken by Mr. W. McAdam Eccles, F.R.C.S., the visitors including many representatives of missionary organizations. The chairman recalled that some thirty-nine years ago Dr. Harford, Dr. Guinness, and himself worked out, in a very small way, the great desire that they had that men and women going to the mission field might be so instructed as to be able to take care of their own health. In those days there was terrible mortality among British and American folk going to unhealthy climates. Personal experiences, testifying to the great practical value of the courses of instruction at Livingstone College, were given by the Rev. F. Hart of the Regions Beyond Missionary Union, Congo, and the Rev. *Geoffrey Holmes*, Church Missionary Society, Ruanda, *East Africa*. Mr. R. L. Barclay, the treasurer, spoke as to the financial position of the College; he appealed for £100 in order to close the financial year without an overdraft at the bank, and for a further £250 to £300 for urgent necessary repairs. The principal, Dr. Tom Jays, made a short statement with regard to the work of the College, and a vote of thanks to the chairman was accorded on the motion of Dr. L. E. Wigram.

A new series of conducted tours has been arranged in aid of King Edward's Hospital Fund for London. On June 18th there is to be a river trip to Tilbury Docks, including inspection of s.s. *Orontes*, with buffet lunch on board, by invitation of the Orient Steam Navigation Co., Ltd. The party will leave Westminster Pier at 9.30 a.m. On July 2nd a visit will be paid to Somerset House, where the party will meet in the quadrangle (off the Strand) at 4.30 p.m. The assistant Registrar-General, Mr. W. L. Rind, will receive the visitors and tell them something of the history of Somerset House. The last visit will be to the Air Port of London on July 14th, a private omnibus leaving Charing Cross underground station, Victoria Embankment, for Croydon at 2 p.m. As the number of each party is limited, application for tickets (price 25s. for the first tour, and 7s. 6d. for each of the others) should be made without delay to the secretary, King Edward's Hospital Fund, 7, Walbrook, E.C.4.

The twenty-fourth Voyage d'Etudes Médicales to the watering places of France will take place this year in the Western Pyrenees during the second and third week of September, under the leadership of Professors Paul Carnot and Maurice Villaret. The party will assemble on September 8th, at Capvern. The principal places to be visited are Bagnères-de-Bigorre, Le Cirque de Gavarnie, Cauterets, Lourdes, Argelès, Pau, St. Jean-de-Luz, Biarritz, Hossegor, Dax, Arcachon, Bordeaux (Faculty of Medicine and the hospitals), continuing along the coast to Royan, where the tour ends on September 20th. Further information can be obtained from Madame Juppé-Blaise, Federation of the Health Resorts of France, Tavistock House (North), Tavistock Square, W.C.1.

The issue of *La Medicina Ibera* for May 23rd contains an illustrated account of the first Hispano-Portuguese Congress of Obstetrics and Gynaecology, held at Madrid from April 28th to May 4th.

A general account, by Dr. P. Hefferman, of the trans-atlantic tuberculosis tour of 1930 has been published in the April issue of *Public Health*. It contains some comparative statistics of tuberculosis in England and Wales and Canada, a description of the work at Ninette Sanatorium, Manitoba, and a general evaluation of British and Canadian sanatorium methods. Dr. Heffernan also contributed to the January number of *Tubercle* some notes on pneumonoconiosis, in which he referred to silicosis in Canada, and mentioned the adoption by the Government of Ontario of the Bulmer air mask, which is thought by some to have gone far towards solving the problem of the dust risk in the mining industry.

The jubilee issue of the *Journal de Médecine de Paris*, the official organ of the Paris medical societies, contains the history of the journal, which was founded by Auguste Lutaud in 1880.

A bronze bust of the late Professor Clemens Pirquet was unveiled in the garden of the New General Hospital of Vienna on May 12th, when addresses were delivered by Professors Argt, Hamburger, and Noeggerath, and Miss Harriette Chick of the Lister Institute.

Dr. H. I. Daggett, on the occasion of his retirement after over thirty-eight years' practice at Boroughbridge, Yorks, has been presented by his friends and patients with an inscribed wallet, containing a cheque for £161, as a mark of their esteem and appreciation of his services.

Professor Raffaele Bastianelli has been nominated director of the Institute for the Study and Treatment of Cancer at Rome.

According to the Japanese Red Cross the average duration of life in Japan is 42 years for men and 43 years for women, as compared with 55 and 59 years in England, and 50 and 53 years in the United States.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62350 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

"Naturkultur"

"X. X. X." (London, W.C.) writes: One of my patients is anxious to try naturkultur. Can any of your readers tell me of any centres in Germany or elsewhere where this is practised under medical supervision?

Catarrh of Upper Respiratory Tract

"S. S." writes: Can any reader suggest a remedy for catarrh in a suffering colleague? The condition—chiefly laryngeal and tracheal, but sometimes also post-nasal—is such that life has become a burden. The sufferer has had pulmonary tuberculosis (arrested some years ago). The larynx appears normal. All the usual remedies have been tried in vain, and vaccines have only aggravated the condition.

Income Tax

Appointment : Qualification Expenses

"G. C." holds an appointment at an institution which has been taken over by a county authority. If he wishes to continue to hold the appointment after the expiration of the original three years' contract he will have to take an additional qualification. Can he deduct as a professional expense the amount of the examination fee?

*** We do not think so, though the circumstances are admittedly unusual. The fee is incurred in adding to his qualifications for an indefinite future period, and would probably be regarded by the courts as capital outlay. In Simpson *v.* Tate, Rowlatt, J., distinguished between the expense of qualifying for an office and the (allowable) expense of performing it, and in that case even the cost of annual subscriptions was refused.

Changes in Partnership : Cash Basis

"R" has been affected by the following partnership changes: M, R, and B were in partnership until September, 1929, when B died and F entered the firm. The practice was treated as continuing for income tax purposes. R is retiring on July 1st next, and X is coming in as a partner. The firm's accounts have been made up to December 31st, and in 1930 R received £321 from book debts of the old firm M, R, and B, and £1,047 (net after deduction of the usual expenses) from the new firm M, R, and F. The inspector of taxes claims that for 1931–32 R must pay tax on the £321 plus one-quarter of £1,047, leaving the new partner to pay on three-quarters of £1,047, in respect of the nine months from July, 1931, to April, 1932; further, that for 1932–33 and 1933–34 R will be liable to assessment on the amount of cash paid to him in respect of collected book debts.

*** We are in disagreement with the inspector's suggestion. It cannot be too strongly emphasized that the amount of the cash receipts is merely a convenient method of calculating the earnings of a practice for a year—admittedly liable to variation from the amount of the true profit in any one year, but near enough in the long run if the practice is not substantially altering in volume. Having ascertained the "cash basis" profit of the whole practice for, say, 1930, that amount is deemed to be the "income" of the firm, as a firm, for the financial year commencing April 5th, 1931, and, for purposes of fixing the amount of tax to be borne by each partner individually, should be regarded as split up between the partners according to the arrangements in force for the taxation year. For instance, suppose that the profits of the practice, reckoned on a cash basis, for 1930 are £3,600, and that throughout the partners have taken one-third shares, then R will have to account, as for the financial year commencing April 5th, 1931, on one-quarter of one-third of £3,600—that is, on £300 only. The amount of cash paid to him out of the firm's account is not relevant. There is no real hardship on the new partner paying tax on unrealized earnings, or if there is, it is shared by every tradesman who finds his profits being locked up in stock and book debts.

LETTERS, NOTES, ETC.

Concurrent Herpes and Varicella

Dr. J. SPEARS (London, S.W.19) writes: On May 15th I was consulted by a female patient, aged 46, and found her to be suffering from a typical attack of herpes of the forehead and scalp on the left side, which had commenced on the previous day. It was accompanied by much pain. On May 18th I was called in to see her again on account of the pain, and found her affected also by an attack of varicella affecting the chest, arms, and back. The eruption came out in successive crops during the next three days. She thinks she had an attack of varicella in infancy. Probably it is rather rare to see the two eruptions simultaneously.

Warnings

"J. R. H." writes: The young man referred to by "A London Surgeon" in the *Journal* of June 6th (p. 1008) has, I regret to say, been extending his operations into the West of England. He has paid me two successful visits, and has traded upon my regard for his father, who served in the same unit in France with me. Unfortunately, also, he did not hesitate to appeal to my sympathy on the ground that his mother was away from home and unable to help him, having been called to the bedside of his younger brother at school, who was suffering from meningitis and seriously ill.

Dr. ROBERT HUTCHISON writes: I should like to warn doctors in the Harley Street neighbourhood against a seedy-looking, rat-faced individual who may call to make an appointment for a lady alleged to be living in Bournemouth, and who wishes to come up to London with a view to entering a nursing home. From my experience the appointment will not be kept, and some article of value will probably be missed after the caller has gone.

A Wrapping for Medicine Bottles

Medical practitioners who do their own dispensing, or keep dispensers, may be glad to know of a new device, which we are informed has already been well received. This is a neat paper bag or envelope, with gummed flap, to take 4, 6, or 8 ounce medicine bottles, and it appears to be a great improvement over the loose sheets of paper and sealing wax generally used. One of the main advantages of the new method is the speed with which bottles can be packed, for the whole operation takes only a fraction of the time required for wrapping in the old way. The prices range from 12s. 3d. to 17s. per 1,000, according to the size of the bag and the quantity ordered at one time. These bags are obtainable from Messrs. Charles Stevens and Son, 12–14, Great Central Street, Leicester, who will send samples to any medical man or dispenser on request.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 44, 45, 46, 47, 48, 49, 50, 51, 54, and 55 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 52 and 53.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 243.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

564 Agranulocytosis

W. DAMESHEK and M. INGALL (*Amer. Journ. Med. Sci.*, April, 1931, p. 502) report 9 cases of agranulocytosis (termed malignant neutropenia), of which 4 were typical of the angina agranulocytica of Schultz. Two were infantile cases, which is rare; two patients recovered. In one case arsphenamine injections were a probable etiological factor. Six patients were in the fourth decade of life. Though the disease is said to be more frequent in women, in this series the sexes were equally divided. The onset was usually with fever, chill, and sore throat; the high fever and marked prostration were at times out of all proportion to the very few physical signs. The outstanding laboratory finding was marked leucopenia; in severe cases the leucocytes may be so few as to be practically uncountable. As the disease progresses, not only does depression of the granulocytic tissue occur, but also marked depression of lymphoid and reticulo-endothelial tissue, so that the numbers of lymphocytes and monocytes become much reduced. In atypical cases without angina the differential diagnosis from blood dyscrasias may be difficult. Recoveries, if they occur, are spontaneous. Rational treatments are repeated transfusions, foreign protein therapy, and irradiation over the long bones. Numerous theories of the pathogenesis of the disease have been advanced; the present authors agree with Stocké that it is not a special disease but an abnormal reaction to sepsis. On the other hand, C. W. BALDRIDGE and R. J. NEEDLES (ibid., p. 533), from a study of four cases, conclude that the neutropenia was primary and the infection secondary. They emphasize the similarity between aplastic anaemia, aleukaemic leukaemia, and idiopathic neutropenia, and discuss the similarities which the latter condition bears to anaphylaxis and the Schwartzman reaction.

565 Choleriform Syndrome in Infantile Diphtheria

A. M. CROSS-LEBOURLIER (*Thèse de Paris*, 1931, No. 28) records eleven illustrative cases in infants aged from 17 days to 5 months, and states that diphtheria plays a very important part in the causation of the choleriform syndrome in infants which is characterized by sudden onset of choleriform diarrhoea, apyrexia, and rapid improvement after the injection of diphtheria antitoxin. Complete recovery, however, ensues only in cases due to the Klebs-Loeffler bacillus alone. The choleriform syndrome may be due to a mixed infection of the diphtheria bacillus and staphylococcus, either simultaneously or successively. In such cases, after improvement following diphtheria antitoxin, death follows from complications (probably due to the staphylococcus) such as suppuration or a recurrence of the choleriform syndrome. Congenital syphilis, evidence of which may be found during life or only at the necropsy, seems to predispose to the occurrence of the choleriform syndrome.

566 Herpes Zoster with Varicella

R. R. MCCORMICK (*Journ. Amer. Med. Assoc.*, March 7th, 1931, p. 766) records four cases of herpes zoster among persons in contact with one another during an epidemic of varicella. In the case of a man aged 23, a generalized vesicular eruption closely resembling varicella, and involving the skin of the entire body and the extremities, developed on the twelfth day of herpes zoster. Death ensued on the nineteenth day from general sepsis. No cases of varicella resulted from contact with this patient during the period of the generalized eruption. Post-mortem examination showed severe inflammatory and gangrenous lesions in all the layers of the skin, and a posterior poliomyelitis involving the posterior root ganglia, which were very friable and haemorrhagic, and the posterior half of the spinal cord.

567 Oxycephaly with other Malformations

H. SAETHRE (*Norsk Mag. f. Laegevid.*, April, 1931, p. 393) records a case of oxycephaly in a woman, aged 32, associated with a giant hairy naevus on the back, bone defects in the bodies of the cervical vertebrae and sacrum, and signs of increased cerebral pressure as shown by *x*-ray examination and lumbar puncture. Migraine with a retarded physical and mental development, as well as with a tendency to severe hallucinatory depression, was regarded by Saethre as connected directly or indirectly with the cranial deformity. The patient's mother and half-sister had oxycephaly, homologous syndactylism, and crooked fingers. The author has also seen a case of oxycephaly associated with malformation of the eyelids in a family where the father and three children (one daughter and two sons) had these deformities, while the mother was normal, as well as an isolated case of a woman in whom oxycephaly was associated with ptosis, syndactylism, and dystrophic hands and fingers. The combination of oxycephaly with other malformations is attributed to early embryonic disturbances. Similar malformations have been produced experimentally by treating the mouse embryo by *x* rays.

Surgery

568 Litholapaxy

J. R. CAULK (*Annals of Surgery*, April, 1931, p. 891) discusses the advantages and disadvantages of the suprapubic removal of stone from the bladder, as compared with litholapaxy. He considers that the latter is the ideal procedure for simple uncomplicated stones in the bladder, and that it may be employed even when a good number of stones are associated with other conditions. In 225 patients with vesical calculi the average age was 56.6 years; 197 cases occurred in males and 28 in females. The largest number of stones was found in patients between the ages of 60 and 70. About 25 per cent. of cases had an association of upper urinary calculus. Associated prostatic enlargement was present in 116 cases, and obstruction in some form or other in 55.8 per cent. of all cases. Out of the 196 operations performed, litholapaxy was employed in 112 cases, and vesical diverticulum, carcinoma of the bladder, and severe cystitis were not considered to be contraindications; many cases showing one or other of these complications were successfully treated by litholapaxy. The size of the stone, within reasonable limits, offers no difficulty to this form of treatment, and often the larger the stone the softer and easier it was to crush. In simple cases a local urethral anaesthetic is sufficient, but in the majority of cases caudal and twilight anaesthesia have been found to be the most satisfactory. Repeated litholapaxies, at intervals of about a week, have been more successful than a one-stage operation, and post-operative instillations of *B. bulgaricus* have given good results. Where repeated crushings are required an indwelling catheter is used, and careful attention given to the bladder. In 112 cases of litholapaxy, there was only one death and very few cases of post-operative complications. The average duration of stay in hospital was ten days, simple cases being dischargeable in two or three days. There was recurrence in 7.1 per cent. of cases.

569 Gastric and Duodenal Ulcer

M. WEINSTEIN and J. P. MCHUGH (*New York State Journ. Med.*, April 1st, 1931, p. 391) summarizes the records of 50 cases of acute ulcers of the stomach and duodenum admitted to the St. John's Long Island City Hospital during the past two and a half years. The youngest patient was aged 19 and the oldest 72; 88 per cent. of the patients gave a history of indigestion. Spinal

anaesthetic is considered by the authors to be the anaesthetic of choice; it was employed in ten of the cases, and only one death occurred, the patient being an emaciated old woman in whom perforation had ensued 22 hours before operation. In one instance, with recovery, the interval between perforation and operation was 29 hours. Simple closure of the perforation was adopted in 46 (92 per cent.) of the cases, and in the majority the omentum was sewn over the suture line for reinforcement. Gastro-enterostomy at the time of closure was performed in only one case, in which the suture of a large perforation considerably narrowed the duodenal lumen. Most patients remained free from a recurrence of symptoms, provided that a restricted diet was adhered to; early cure results from simple suture if the proper post-operative medical treatment is followed. In the event of the condition progressing a secondary gastro-enterostomy can be performed later. In the opinion of the authors gastric resection is too radical to be consistent with a low primary mortality.

570 Tenodesis in Paralysis of the High Adductors

TAVERNIER (*Lyon Chir.*, March–April, 1931, p. 177) records the case of a girl, aged 8, who suffered from serious loss of power in the left leg as the result of infantile paralysis. The thigh, owing to paralysis of the adductors, was in abduction and marked flexion; the position of the pelvis, assumed to overcome this abduction, had caused a high degree of scoliosis. Though the hip and knee were stabilized by preliminary operations, the muscular paralysis persisted. The age of the child prohibiting arthrodesis, and her growth necessitating constant change of apparatus, Tavernier decided to replace the paralysed great adductor by an inhibiting tendon, employing the tendon of a stillborn calf, which had been preserved in alcohol; such material had given excellent results in previous tendon restorations. The operation is described. The marked improvement which followed has lasted for four months. As a rule, the more stable bony grafts are preferred to tendinous ones owing to the progressive relaxation of the latter. However, Tavernier hopes that the improvement will be maintained, since the antagonist adductors were partially paralysed and had lost their normal power. Should the tendon lengthen more than the growing femur it can be shortened, and arthrodesis or arthrorisis performed when the age and ossification of the hip permit. The result in this case conforms to the conclusions of Nageotte as to the functional value of heterogeneous tendons.

Therapeutics

571 Antigangrene Serum in Scarlet Fever

A. STROË, D. HORTOPAN, and J. BAZGAN (*Rev. franç. de pédiat.*, 1931, No. 1, p. 23) state that since the war scarlet fever has been endemic in Bucarest, more than 1,500 cases having been admitted annually to the Children's Hospital. The increasing severity of the disease is shown by the fact that, whereas up to September, 1929, necrotic angina occurred in only about 2 per cent. of the cases, during last year its frequency had been as high as 7 per cent. Local treatment was not only useless, but might even prove dangerous, owing to its liability to aggravate the lesions and to spread the infection to the Eustachian tube and middle ear. The Dicks' scarlatinal antitoxin also proved inefficacious. Owing to the success obtained by injection of antigangrene serum in a case in which the bacteriological examination of cervical adenitis accompanied by gaseous oedema showed the presence of *B. perfringens*, the authors were encouraged to make use of antigangrene serum in cases of necrotic angina; they found that the results were more likely to be successful when the injections were given early and in large doses. The serum employed was polyvalent, and was composed of four different serums mixed in the following proportions: anti-*perfringens*, 40 per cent.; anti-*vibrion septique*, 30 per cent.; anti-*oedematiens*, 20 per cent.; and anti-*histolyticum*, 10 per cent. Of 70 patients, 39 being seriously ill, treated by antigangrene serum, 61 recovered and 9 died—a result which may be regarded as remarkably favourable in view of the fact that the usual mortality of severe necrotic angina is 80 per cent. Records are given of 15 illustrative cases in children aged from 2 to 15 years.

572 Sanocrysin in Pulmonary Tuberculosis

STUB-CHRISTENSEN (*Ugeskrift for Laeger*, April 2nd, 1931, p. 353) reports from the Silkeborg Sanatorium in Denmark observations on 438 cases of pulmonary tuberculosis in which treatment with sanocrysin had been completed by April, 1930. In 54 of these cases this treatment had been supplemented by other measures such as artificial pneumothorax. In the remaining 384 cases the only supplement to the injections of sanocrysin was ordinary sanatorium treatment. The cases were classified according as they belonged to the first sanocrysin period, with as a rule large doses, or the second period, with comparatively small doses. The results in the first period were not so good as in the second, the percentage of patients becoming sputum-negative being 55 as compared with 70 in the second period. Stub-Christensen does not trace this improvement in the percentage of successful results unreservedly to the reduction in dosage; he is more inclined to associate this improvement with a more discriminating selection of patients for this treatment in the second period. In the first period albuminuria occurred in 84 per cent., in the second period in only 13 per cent. Intestinal complications were reduced from 43 to 3 per cent., and the incidence of a rash from 39 to 10 per cent. The class of case found to be most suitable for sanocrysin treatment was the early case without cavity formation. Next, in order of their suitability, came early cases with cavities, mixed cases, and fibro-cavernous cases. There were twelve deaths among the 438 patients, and in two cases the sanocrysin was certainly responsible. The dosage in the earlier period usually began with 0.25 to 0.5 gram, succeeding doses of 1 gram, at intervals of three to five days, being injected until a total of 5 to 7 grams had been given. In the second period the initial dosage was 0.05 to 0.1 gram. The amount was then gradually increased to a final dose of 0.5 gram, and, in the last 75 cases, only to 0.3 gram. No injection was repeated till any reaction it might have caused had passed off. Three clear days were allowed between the first and second injections if the former had caused no reaction, and four clear days between the subsequent injections. The total dosage in most of the cases in the second period was 4 to 5 grams.

573 The General Therapeutic Value of Ergotamine

Besides the action of ergotamine and related substances on the uterus, an effect is produced on various parts of the sympathetic nervous system, and particularly a depressing or paralysing influence on the motor elements of that system which are stimulated by adrenaline. J. B. YOUMANS, W. H. TRIMBLE, and HELEN FRANK (*Arch. Int. Med.*, April, 1931, p. 612) describe a series of experimental and clinical studies devised to determine the action of ergotamine on the basal metabolism, circulation, and blood sugar content of normal persons, and of patients suffering from thyrotoxicosis. They report that in single subcutaneous doses of 0.5 mg. ergotamine had no significant effect on the basal metabolic rate or the fasting blood sugar level of normal human subjects, but the pulse rate was slowed and the diastolic pressure was slightly, but definitely, raised. The administration of 1 mg. by mouth, three times daily, for several days, also failed to modify the basal metabolic rate. In patients with thyrotoxicosis the action on the pulse rate and blood pressure was generally greater, and a rather higher individual variation was noted than in normal subjects. It is concluded that many of the reported instances of lowered heat production, slowing of the pulse rate, and alteration in the blood pressure following the administration of ergotamine should not be attributed to the action of this drug, but to failure to secure a true basal condition at the beginning of the experiment. The slowing of the pulse is not to be attributed to depression or paralysis of the accelerator nerves of the heart, but to a stimulating or sensitizing action on the vagus.

Ophthalmology

574 The Operative Treatment of Glaucoma

E. DE GRÓSZ (*Arch. of Ophthalmol.*, March, 1931, p. 327) reviews the history of glaucoma and its treatment. In attempting to compare the efficacy of the various operations, the issue is somewhat clouded by the nebulous state of the classification of the disease. The present author adopts Graefe's nomenclature: (1) inflammatory or congestive glaucoma (prodromal, acute, chronic, absolute, degenerative; (2) simple glaucoma; and (3) juvenile glaucoma. Discussing the various operations, de Grósz states that trephining gives good results in 83 per cent. of chronic congestive, and in 68 per cent. of absolute glaucoma. Cyclodialysis is beneficial in 48 per cent. of absolute (18 per cent. five years after); in 78 per cent. of chronic congestive (55 per cent. five years after); and in 88 per cent. of simple glaucoma (75 per cent. five years later). Iridosclerotomy proved effective in 94 per cent. of simple glaucoma (76 per cent. after some years). Cyclodialysis, causing the least disturbance, may be repeated several times, and if after several attempts the tension is not reduced trephining should be tried. Iridosclerectomy is only performed in simple cases which are controllable with pilocarpine. Iridectomy is employed for prodromal and acute congestive glaucoma, anterior sclerectomy for the juvenile form, and enucleation for degenerative cases. Though glaucoma has been kept in check for thirty-five years with myotics, operation is practically always required, and is still the best treatment.

575 Argyrosis of the Cornea

B. FRIEDMAN and A. RÖTTH (*Amer. Journ. Ophthalmol.*, December, 1930, p. 1050) report that in ten out of twelve cases of conjunctival argyrosis slit-lamp examination reveals the presence of the same condition in the cornea. In countries where trachoma is prevalent, argyrosis of the conjunctiva is so frequent that, perhaps for this reason, a concomitant argyrosis of the cornea is overlooked. This condition is most marked at the limbus, and diminishes towards the centre; it becomes a little more pronounced again at the upper limbus. The colour variation between the strongest and weakest cases may be brown, yellowish gold, yellowish green, greenish blue, and ultramarine. The pigment layer appears in most cases to be finely stippled; it lies at the posterior surface of the optical section, and probably between Descemet's membrane and the endothelium. In severe cases, in both cornea and lens, the precipitate between the cell layer and glass membrane seems to pile up from the cell layer towards the glass membrane. In some cases there is also argyrosis of the lens, which appears as a yellowish reflex from the anterior capsule, and as a diffuse yellowish colouring of the posterior cortex. In nearly all cases the scleral conjunctiva is tinged with gold. One patient, aged 41, had had bilateral trachoma for seven years. He had been using silver nitrate, two drops in each eye, almost daily. With the slit-lamp the conjunctiva of each eye showed argyrotic changes. The golden colour of the bulbar conjunctiva was visible by retro-illumination as a homogeneous tint. In the lower third of each cornea the deepest layers were stained deep gold, more pronouncedly near the limbus. The pigmentation was homogeneous. The anterior capsule of each lens threw a very marked golden reflex, more intense in the lower part of its periphery. No opacities were present. The iris, vitreous, and fundi were negative.

576 Ocular Hypertensive Conditions

Ocular hypertension secondary to arterial hypertension is usually attributed to glaucoma, but P. BAILLIART (*La Médicine*, January, 1931, p. 24) denies this, holding that there is only a very indirect relation between the two. In generalized hypertension there is usually no ocular increase; there may even be ocular hypotension. On the other hand, all glaucomatous subjects are not hypertensive. One cause of failing vision in glaucoma is an elevation of the tension of the ocular media above that of the retinal arteries, thus arresting their circulation; the extent of this arrest determines whether the ensuing blindness shall be partial or total. The lowest retinal arterial pressure is half that of the vitreous; if this equilibrium is disturbed the retina is imperilled. In acute glaucoma, measures which lower the pressure, such as venesection or brisk purgation, tend to aggravate this want of equilibrium. Bailliart believes that the ocular complications of arterial hypertension must be studied in the retina, and he discusses the production of retinal changes such as haemorrhages, papillary oedema and stasis, and venous thromboses. The appearance of retinal, as of cerebral, lesions is of grave prognosis in hypertension. The aspect of hypertensive retinitis is analogous to that of the albuminuric form; arterial hypertension is the basis of each, and the first symptom in both is a vaso-dilatation of the vessels of the optic nerve and retina. The former will assume the albuminuric type if renal insufficiency is present. However, the second can exist without, or be only slowly manifested by, signs of albuminuric retinitis. Therefore, in all cases of retinal hypertensive lesions, attention should be paid immediately to the kidney.

Obstetrics and Gynaecology

577 Lower Caesarean Section

V. B. GREEN-ARMYTAGE (*Indian Med. Gazette*, April, 1931, p. 184) commends the operation of Caesarean section of the lower uterine segment, since it preserves the life of the mother and child and is attended with a far lower mortality rate than is craniotomy. In 104 craniotomies in the Eden Hospital, Calcutta, the maternal mortality rate was 32.69 per cent., whereas in 75 cases of lower Caesarean section, clinically comparable, there were only eleven deaths (14.66 per cent.). The author uses de Lee's vertical incision through the lower uterine segment, and sometimes the transverse incision of Hendry. He remarks that this operation can be performed late in labour, and after the unsuccessful application of forceps, provided that the foetal heart sounds are audible and over 100 per minute. The incision heals better than in the classical Caesarean operation because it does not involve a contractile portion of the uterus. It is fully covered over by the peritoneum, which is an important barrier against infection, and the catgut stitches need not be pulled tightly, because they are only used for the approximation of the wound edges, and not for haemostasis, as in the classical incision. There is very little post-operative haemorrhage and no shock, the whole procedure lasting less than half an hour. There is hardly any risk of secondary rupture of the scar—a sharp contrast with the usual 4 per cent. incidence after the classical operation. In many cases, when the liquor amnii was decomposing, it was possible to drain successfully the operation area with a tube introduced subrapubically into each lateral sulcus of the lower part of the abdomen. The patients do not suffer from the distension, vomiting, and exhaustion which so frequently follow the classical operation. According to the author the maternal mortality with this operation in Chicago has fallen below 2 per cent., and he believes that his own statistics will improve when better conditions are established for the patients as regards early treatment of the labours on hygienic lines and the prevention of any septic infection.

578 L. E. PHANEUF (*Amer. Journ. Obstet. and Gynecol.*, April, 1931, p. 498) states that cervical Caesarean section in America is gradually replacing the classical forur. He reports an investigation of 418 cervical sections, of which in 198 the incision was transverse, in 160 longitudinal, in 58 transperitoneal, and in 2 extraperitoneal. He agrees that this operation provides protection against septic peritonitis, better healing of the incision, and an easier convalescence. The uncorrected maternal mortality in his series was 5 per cent., and the best maternal mortality statistics were obtained in the 198 consecutive transverse sections, where it was 3 per cent.

Pulmonary embolism was responsible for 1.19 per cent. of the deaths. This complication is frequently associated with any form of Caesarean section, and has to be borne in mind when an abdominal delivery is contemplated. The cervical procedure is easily repeated, if required; the highest number performed on one woman was six.

579 Ovarian Cancer

P. MOULONGUET and L. MALLET (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, March, 1931, p. 151) do not consider malignant ovarian tumours varieties of the same type of neoplasm; they maintain that these differ entirely from one another in their histogenesis, clinical nature, and evolution. They are classified as follows: seminoma; folliculoma; malignant vegetating papilloma; endodermoid epithelioma; degenerated teratoma (often containing chorion-epithelioma); fuso-cellular sarcoma; lympho-sarcoma; carcinoma secondary to a Krükenberg tumour; and exceptional types, such as pavement-celled epithelioma and ganglioneuroma. Some of these (the seminoma, folliculoma, etc.) are radio-sensitive; others, as the vegetating papilloma, are radio-resistant; the results of irradiation in any case will depend, therefore, on the type of tumour. Five cases, with the results following radiotherapy in each, are recorded. These indicate that in certain types radiotherapy is most valuable, and should be employed; it must be commenced early, and be applied over all the parts capable of being invaded through the peritoneum or lymphatics. Patients tolerate these extensive irradiations very well, and no ill effects due to anaemia or massive resorption have been recorded. Metastases, whatever their seat or number, should be similarly treated. A. BÉCLÈRE (ibid., p. 160) cites further cases illustrating the efficacy of x rays in ovarian cancer. Among other conclusions he states that the rays employed should be very penetrating, highly filtered, and emitted at a great distance; also that the fractional method by doses at suitable intervals is preferable to intensive treatment by massive doses in a short time.

580 Anaesthetization of the Lumbo-aortic Plexus

E. ABUREL (*La Gynécol.*, March, 1931, p. 163) describes the technique of injection of the lumbo-aortic plexus with novocain or percaine. The plexus, lying on the front of the fifth lumbar vertebra near the aorta, is reached by insertion of a long needle half-way between the last rib and the iliac crest on the left. In spontaneous labours pain is much diminished in the abdomen, loins, and thighs, without being affected in the perineum and sacrum. In obstetrical operations the cervix is rendered insensible to dilatation, and the corpus uteri to intrauterine manœuvres. According to the same author (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, January, 1931, p. 35), this mode of local anaesthesia may be supplemented during the expulsive stage of labour by epidural injection, or by bilateral infiltration of the perineum from the coccyx to the external abdominal rings. Two cases are recorded (ibid., p. 34) of severe hyperemesis gravidarum which yielded to two anaesthetic injections of the lumbo-aortic plexus; the effect is ascribed to severance of the utero-gastric reflex path.

Pathology

581 The Mode of Action of Vitamin D

L. J. HARRIS and J. R. M. INNES (*Biochem. Journ.*, 1931, XXV, No. 1, p. 367) record experiments on rats undertaken to elucidate the mechanism of production of hypervitaminosis D. It is known that an excessive amount of irradiated ergosterol may lead to undue calcification in bones and arteries, and to an increased quantity of calcium in unstriated muscle. The present work indicates that vitamin D exerts a profound effect on the metabolism of calcium and phosphorus. The ingestion of abnormal quantities of vitamin D gives rise to an increased titre in the blood of calcium and phosphorus, with a tendency to deposition of calcium in certain sites. Vitamin D deficiency, on the other hand, such as occurs in rickets, leads to a fall in the calcium and phosphorus in the blood, and to a consequent failure in the normal degree of calcification of the bones. In hypervitaminosis D the increased calcium in the blood is derived both from the calcium in the food, owing to greater absorption from the gut, and from that in the bony stores; the relative importance of these two sources of supply is determined by the available calcium in the diet, and by the degree of vitamin D excess. To compensate for the increased blood calcium and phosphorus the kidney responds by an abnormal urinary excretion of these two substances. The authors believe that vitamin D can act independently of the parathyroid, for that hormone seems to raise the blood calcium solely by withdrawing it from the bones, and without increasing the net absorption from the gut.

582 The Causal Organisms of B. coli Pyuria

M. FRANK (*Arch. f. Kinderheilk.*, February 23rd, 1931, p. 254) has investigated 31 cases of pyuria in children, 26 being infants and 5 older children. Catheter specimens were collected and cultivated on media. The resulting colonies were tested as to fermentation with the customary sugars—hexose, saccharose, maltose, mannite, and lactose; in addition, rhaminose, dulcite, adonite, sorbite, inosite, and arabinose were used, and some glucosides. For further differentiation Frank used the salicin, æsculin, and phloridzin tests, and estimated the capacity for indol formation and haemolysis. Fifteen different types of *B. coli* were found. The most frequent was one which behaved like *B. neapolitanus;* the next was *B. coli communior*, then *B. coli commune*, and finally a type which differed from *B. neapolitanus* in not fermenting dulcite. The other types were found only in single cases. Swabs were then taken from the vagina of some healthy babies; on culture a number of *B. coli* groups were found, and on further testing they proved to be identical with those causing pyuria. A similar investigation of the genital mucous membrane in male infants showed only scanty *B. coli*; to this fact may be due the relative infrequency of *B. coli* pyuria in male children. In examining the faeces of children fed on different diets it was found that the *B. coli* strains which fermented sugar were most numerous where the diet was rich in starches, and less frequent where it was richer in fats. The strains appearing most often in pyuria were found also particularly common in the intestines of artificially fed infants, most of them being also present in the vagina and intestines of healthy children of the same age.

583 Etiology of Encephalitis in Childhood

H. KNAUER and P. A. JAENSCH (*Jahrb. f. Kinderheilk.*, February, 1931, p. 265) report that by inoculation of the cerebro-spinal fluid containing the virus of encephalitis on to the cornea of a rabbit by Grüter's method a slight reaction was produced resembling superficial keratitis punctata; it was only visible with a powerful corneal microscope and a slit-lamp. Serial investigations showed that the virus of encephalitis was much more frequently found in the cerebro-spinal fluid than had hitherto been supposed. Positive reactions were obtained in all the cases of encephalitis examined, including those following influenza, whooping-cough, measles, and vaccination. The virus can be found in the spinal cord in cases of chronic encephalitis many years after the onset, and even in patients who have recovered. That the substance is a living virus and not a toxin is shown by its successful passage through animals. The virus is extremely resistant to cold, and can survive for months in the ice chest. Healthy persons can harbour the virus without becoming ill themselves, but are able to infect others. Well-known organisms such as staphylococci, streptococci, influenza bacilli, meningococci, and tubercle bacilli and their toxins can never produce keratitis punctata in the rabbit's eye, and if these organisms are present at the same time as the virus of encephalitis they generally disappear in the course of the disease. Inoculation of the measles virus does not give rise to keratitis punctata. The conclusion therefore appears justified that in post-infective encephalitis the virus of true encephalitis is still the cause of the condition.

FINEST BRITISH PRODUCTS.

For

ANAESTHESIA

Howards' STANDARD ETHER

Recognised as an Anaesthetic as near to perfection in freedom from every possible impurity and in regularity of physical constants as is produced in the world.

For

URIC ACID ELIMINATION

Howards' AGOTAN Brand

(Phenyl Cinchoninic Acid)

A powerful eliminant of Uric Acid in RHEUMATISM, GOUT, LUMBAGO, SCIATICA, NEURITIS, etc.

In tablets, powder, and ointment.

For

INFLUENZA & COLDS

QUINISAN (Howards)

(Quinine Bisalicylosalicylate)

A New Quinine Salt of remarkable efficacy, according to clinical reports, in COLDS, INFLUENZA, TONSILLITIS, etc.

In tablets and powder.

For

PNEUMONIA

Howards' OPTOCHIN Base

Excellent results have been obtained in PNEUMONIA with OPTOCHIN Base (Howards), a synthetic derivative of Quinine with a definite bactericidal action to all types of pneumococcus.

In 2-grain tablets and in powder.

Literature will be sent on request to the Manufacturers

HOWARDS & SONS LTD. (Est. 1797), ILFORD, LONDON.

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.

KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.

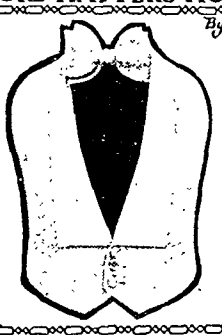
Telephone: GLADSTONE 1071 (2 lines). *Telegrams*: KAYLOIDOL, CRICKLE, LONDON.

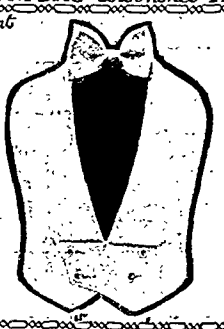
TAILORS HATTERS HOSIERS By Appointment

Gieves LIMITED

21 OLD BOND STREET
31 BURLINGTON ARCADE
LONDON W.1.

OUTFITTERS Established 1785 By Appointment





Members of the Medical Profession are cordially invited to pay an early visit to "Gieves" and inspect their latest collection of Summer Suitings and Holiday wear.

"Gieves" have catered for men since 1785, and closely studied the necessity of making shopping easy and speedy for them. With all their needs collected under one roof, they can shop in comfort and obtain every attention from highly experienced Salesmen in each department.

BRANCHES:
PORTSMOUTH SOUTHAMPTON LIVERPOOL EDINBURGH MALTA PLYMOUTH WEYMOUTH SOUTHSEA CHATHAM.GIBRALTAR

The Doctor's Car

NEW CARS of all the best makes for Immediate Delivery. Fairest allowances for old cars.

USED CARS properly overhauled, fully guaranteed. Special 14 days' Trial Scheme. List of over 70 cars on request.

HIRE PURCHASE on special terms up to Three Years. Strictly confidential, no outside Finance Company employed.

SERVICE after purchase of new and used Cars on most comprehensive basis. We aim to make your motoring economical and free from trouble.

REPAIRS of every kind, mechanical, coachwork or electrical, quickly executed to guaranteed delivery times. Good cars for use while your own is out of commission.

GARAGE convenient to Harley Street and West End consulting rooms. Leave your car and instruct your patient to come to us and avoid all parking troubles and risks. Low prices, courteous attention, every requirement.

OFFORD & SONS LTD Established more than a Century

67, GEORGE STREET, PORTMAN SQUARE, W.1.

Welbeck 6899. (Private Exchange.)

'Grams: "Droffo, London."

Recommended by the medical profession as being the natural protection against colds, rheumatism, — and skin diseases. —

Keeps the body at an even temperature.

EMPIRE LINEN MESH UNDERWEAR

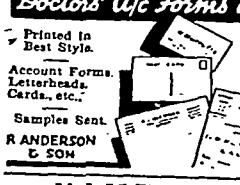
Sold by all good Outfitters.

Patterns and particulars post free.

THE IRISH LINEN MESH CO. LTD.
BELFAST — NORTHERN IRELAND

BRONZE NAME PLATES
Cream enamelled lettering, no cleaning required
BRASS NAME PLATES
Museum 2264. *Send for Book* 18.
F. OSBORNE & Co., Ltd.
27, EASTCASTLE ST., LONDON, W.1

Doctors' A/c Forms a Speciality



Printed in Best Style.
Account Forms. Letterheads. Cards., etc.,
Samples Sent.
R ANDERSON & SON
Also Testimonials, Applications, and Qualifications for Medical Posts.
Samples Sent.
1 HILL PLACE EDINBURGH

NAME PLATES
in BRONZE & ENAMEL—BRASS: also CHROMIUM PLATE. Send details for sketch or leaflet
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

POCKET MONEY ADDING MACHINES 15/- post free
TAYLOR'S TYPEWRITERS
SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines.
Write for Bargain List 32.
'Phone—Holborn 3793.
BUY A BIJOU FOR 5/- per week.
Desks, Tables & Chairs
Est. 1884.
THE BIJOU
The best portable Writer Complete in Travelling Case, from £9 9s.
74, CHANCERY LANE (Holborn End), W.C.2.

KEROL CAPSULES

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.

Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS
arranged for Doctors and Patients.
Medical Prescriptions made up to the minutest detail.

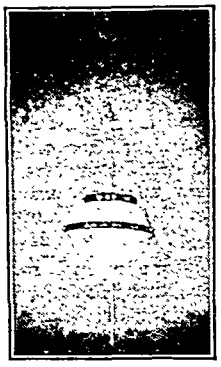
MEDICAL REPORTS.

Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

MR R.H.DENT'S
Ardente
FOR DEAF EARS

309, OXFORD ST., LONDON, W.1.
Tel.: Mayfair 1380/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.
53, Lord Street, LIVERPOOL
200, Sauchiehall Street, GLASGOW.
25, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.
30, Wellington Place, BELFAST.



The VITREOSIL Sunshine Lamp

here illustrated is designed to give a light which is the equivalent of Sunshine in its effects. - - - - -

Careful records show that in offices where it is in use time lost through colds and similar ailments is very much reduced.

Write for descriptive booklet (post free) to the Sole Manufacturers:

THE THERMAL SYNDICATE LTD.
(Established over a Quarter of a Century)
Vitreosil Works - WALLSEND-ON-TYNE
London Depot: Thermal House, Old Pye Street, S.W.1.

The Collection of Overdue Accounts

WITHOUT OFFENCE

Your visiting card marked "B" in an envelope will bring our Prospectus.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.) Established 1891.
26, Langham Street, Portland Place, London, W.1
Telephones: Langham 1411-1412. Secretary: N. Rutherford Watson.

MEMBER'S STATEMENT:

—, *Wimpole Street, W.1.*

Dear Mr. Rutherford Watson,

I am much obliged for your cheque for £100 sent me in respect of one special debt you have recovered amongst others. I would like to take the opportunity of expressing my great satisfaction with what you have been able to do for me.

To judge by letters received accompanying remittances sent directly to me in response to your appeals, all has been done without the slightest offence and my pleasant relations with the clients remain unaltered.

The work of the B.M.P.S. should be particularly appreciated by those who, like myself, are subject to limitations in respect of recovery by judicial process.

Very truly yours,

———M.D., F.R.C.P.

If you have a difficult case of Hernia send your patient to be properly fitted with a
SALMON ODY BALL & SOCKET TRUSS Perfect support Perfect resiliency Perfect freedom of movement.
The most scientific truss ever devised.

SALMON ODY
LTD.
Highly recommended by the Medical Profession
7, NEW OXFORD STREET, LONDON, W.C.1
Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS
The best Medical authorities are agreed that rigid plates are injurious and are prescribing these supports for foot trouble—tired, aching feet, weak insteps, or rheumatic pains. 15/6 per pair. Metatarsal 18/6 per pair. State size of footwear when ordering.

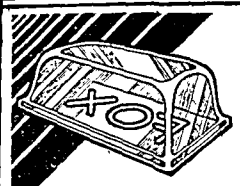
Estab. 12[illegible] years.

CATALOGUE OF SECOND-HAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE. Telephone: Temple Bar 2206

Half Set of Osteology, Articulated Skeletons and Disarticulated Skulls, Anatomical Models and Diagrams, Microscopes and Accessories.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C.2

NAME PLATES
In BRONZE or BRASS.
Estimates and Sketches sent free.
H. K. LEWIS & Co. Ltd.,
Medical and Scientific Stationers
136, GOWER STREET, LONDON, W.C.1.



In many hospitals patients enjoy the delicious flavour and stimulating effect of

FOX'S GLACIER MINTS REG.

Samples gladly sent on request.
FOX'S GLACIER MINTS LTD., LEICESTER.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

asthma

TREATED AT MONT-DORE

THE FAMOUS FRENCH SPA

40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE Tavistock House (North), Tavistock Square, LONDON, W.C.1. Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).

THE TREATMENT OF **GOUT**

PISTANY

RADIO-ACTIVE MUD PACKS

PISTANY SPA REPRESENTATION, 38, Sackville Street, W.1. Tel. Regent 2638.

Pistany (Czechoslovakia) offers the most effective treatment for the cure of gout.

Special provision is made for the diet of gouty patients in the hotels.

In mild cases a few weeks suffice to relieve the condition but the need for prolonged intermittent treatment often makes a course with Pistany Mud Cubes or Compresses at home, under the patient's own doctor's supervision indispensable for a complete cure.

The method of application is safe and inexpensive for Pistany's sulphur Mud is inert and sterile of mineral content and keeps indefinitely.

Send for interesting Medical and Tourist literature.

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

'Grams: "Smedley's Matlock." 'Phone. No. 17. For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

MATLOCK

NORMANSFIELD

For Mental Defectives of all ages.

Under private management.

Apply to Dr. Langdon-Down,

Normansfield, Teddington.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant: *Telephone:* Tamworth 108.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES.

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent:* A. E. CARVER, M.D., D.P.M. Telephone: Nuneaton 241.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

Grove House, All Stretton,

Church Stretton, Shropshire

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.

Medical Superintendent: Dr. McCLINTOCK.

The MAUDSLEY HOSPITAL

DENMARK HILL, S.E.5.

Telephone: RODNEY 4841—2.

A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED.

OUT-PATIENTS—2 p.m.: MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays.

IN-PATIENTS: (a) 189 beds (both sexes) in wards or separate rooms. (b) 13 private rooms (for ladies) with special sitting rooms, garden, and dietary.

TERMS

(a) **£5 a week, but in case of patients with a legal settlement in the County of London a less sum may be charged according to means.**

(b) **£6 6s. a week.**

Terms include (with rare exceptions) all forms of treatment, for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital. Inquiries of EDWARD MAPOTHER, M.D., F.R.C.P., F.R.C.S., Medical Superintendent.

BARNWOOD HOUSE,

GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

HINDHEAD.

850 feet above sea-level.

STONYCREST NURSING HOME

(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

THE LAWN, LINCOLN.

This Registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY and PRIVATE PATIENTS of both sexes for treatment of Mental and Nervous Disorders, including Post-Encephalitic conditions in adults. Special facilities for Psychotherapy in co-operative cases.

All particulars may be obtained from the Resident Medical Superintendent,
Dr. MARY R. BARKAS, M.D., D.P.M.

CHEADLE ROYAL,

CHEADLE, CHESHIRE.

This Registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 2231 GATLEY.

ST. ALBANS, HERTS.

(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital.
Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS, at a weekly fee of TWO GUINEAS and upwards.

ST. ANDREW'S HOSPITAL

FOR MENTAL DISORDERS,

NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary patients, who are suffering from incipient mental disorders or who wish to prevent recurrent attacks of mental trouble; temporary patients; and certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

THE COPPICE, NOTTINGHAM.

HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent.*

TYKEFORD ABBEY, NEWPORT PAGNELL,

BUCKS.

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Diathermy and Foam Baths. Billiards, tennis, etc. Fees from five gns. per week.

Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

COURT HALL, KENTON, EXETER,

SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

HAYDOCK LODGE,

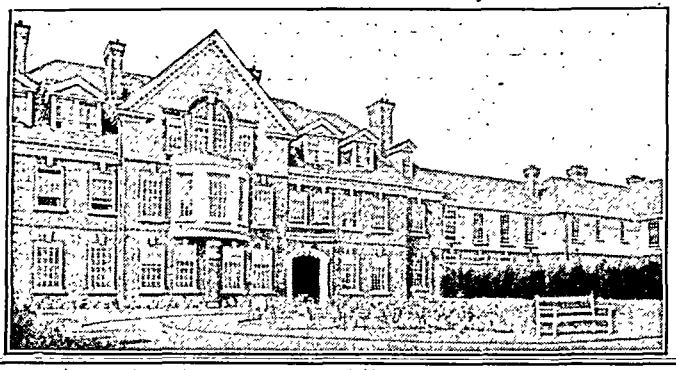
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and garden, in which patients are encouraged to occupy themselves. Every facility for indoor and out-door recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

ROOKSDOWN HOUSE, NEAR BASINGSTOKE, HANTS



FOR THE RECEPTION AND TREATMENT OF NERVOUS AND MENTAL ILLNESS.

A Superior, Modern, and Attractive Building, situated in a charming and bracing locality, 400 ft. above sea-level.

Extensive pleasure grounds, with croquet, tennis, bowling, and putting greens.

Occupational, Light, and Hydro Therapy.

ONE HOUR RAIL JOURNEY FROM LONDON.

Ladies and Gentlemen can be received as private patients on a voluntary basis or with certificates; written application alone is required for the former.

FEES, including all necessaries except clothing, from THREE to FIVE GUINEAS A WEEK.

Brochure and information may be obtained from the MEDICAL SUPERINTENDENT.

Telephone: 157 Basingstoke.

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

BOWDEN HOUSE,

HARROW-ON-THE-HILL.

A NURSING HOME OPENED IN 1911 FOR THE INVESTIGATION AND TREATMENT OF FUNCTIONAL NERVOUS DISORDERS OF ALL TYPES.

No cases under certificate. Thorough clinical and pathological examinations. Psychotherapeutic treatment, occupation, and recreation as suited to the individual case.

PARTICULARS FROM THE MEDICAL SUPERINTENDENT. *Telephone and Telegrams*: HARROW 0545.

WOODSIDE NERVE HOSPITAL

WOODSIDE AVENUE, MUSWELL HILL, LONDON, N.10

Chairman: THE RIGHT HON. LORD BLANESBURGH, G.B.E. Opened November 8th, 1930.

Fully equipped with every modern appliance for the diagnosis and treatment of

FUNCTIONAL NERVOUS DISORDERS

Private Rooms, Broad Verandahs, Electrotherapy and Hydrotherapy, X-ray and Dental departments, Laboratories for investigation and research. For terms and particulars apply to the Physician in charge at the Hospital. Telephone: Tudor 4211.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone*: NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the Medical Superintendent.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.

Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

(Postal Address)—**WOODBRIDGE, SUFFOLK.**

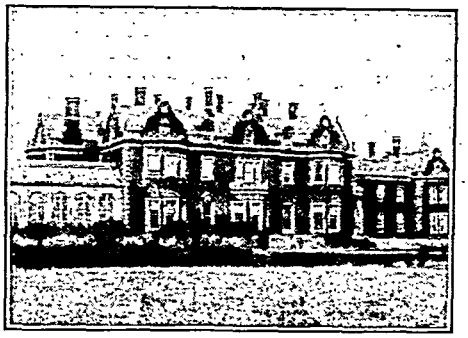
Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium. Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house. Each patient has all the privileges of a guest consistent with the prescribed medical treatment.

Rendlesham Hall has 45 bedrooms, and about 450 acres of gardens and park. It has also a private nine-hole golf course, tennis and croquet lawns, and bowling green.

Illustrated booklet, giving particulars as to terms, etc., can be had on application to the

RESIDENT MEDICAL SUPERINTENDENT.

Telegrams and Telephone: Wickham Market 16.
(Toll Call from London.)



RENDLESHAM HALL.

To those desiring to be near London—

The Mansion, Beckenham Park, Beckenham,

as carried on for the last twenty years, is available. Booklets and particulars from the Resident Medical Superintendent.

Telephone: BECKENHAM 1648. *Telegrams:* NOROTORIUM, BECKENHAM.

Proprietors: **The Norwood Sanatorium, Limited.**

THE ROYAL EARLSWOOD INSTITUTION

FOR MENTAL DEFECTIVES, REDHILL, SURREY.

(Formerly the EARLSWOOD ASYLUM.)

FOR THOSE REQUIRING CONTROL with EXPERT SUPERVISION and needing SPECIAL TRAINING in useful occupations. *SCHOOLS, FARMING, and various TRADE WORKSHOPS.* Inclusive fees from £110 p.a. *THOSE UNABLE TO PAY* admitted by votes of subscribers, with part payment towards cost.

RECREATIONS: ALL outdoor games, EXCELLENT BAND by Male Staff, for Concerts, Dancing, etc.

Apply, THE MEDICAL SUPERINTENDENT, Earlswood, Redhill, Surrey, or to the Secretary, Mr. H. STEPHENS, 14-16, Ludgate Hill, E.C.4.

Telephone: REDHILL 344. *Telephone*: CENTRAL 5297.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of *many years' experience, and besides removing all craving* for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—

F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. CARLEN, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone*: 2708.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the *reception of a limited number* of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres. Voluntary Boarders accepted.

Apply for particulars to Dr. SANKEY

SPRINGFIELD HOUSE,

Near BEDFORD. *(Phone 3417.)*

For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
Bedrooms where suitable.)
(including Separate Interviews in London by appointment.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).

Phone: Chislehurst 451. *Telegrams*: "Masters," Chislehurst.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. *All types* of early Mental and Nervous cases are received without certificates as Voluntary Patients under the provisions of the Mental Treatment Act, 1930. Bracing Hill country. *See Medical Directory*, p. 2138.—Apply to *Medical Superintendent*. 'Phone: 10 P.O., Church Stretton.

WYE HOUSE, BUXTON.

For the treatment of *Ladies and Gentlemen* mentally afflicted. Voluntary Boarders received. *Situated* 1,200 ft. above sea level, facing S. 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HOLTON, *M.D.* Nat. Tel. 130.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury Telephone 51.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone:* RODNEY 4751—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

LINFORD SANATORIUM,

RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

NORDRACH-UPON-MENDIP SANATORIUM

FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians: ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams*: Nordrach, Blagdon. *Telephone*: Blagdon 23.

PENDYFFRYN HALL SANATORIUM

PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), J. A. Hennessy, M.B., Ch.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

EAST ANGLIAN SANATORIUM

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and has an ideal situation facing S.S.E. in a very sunny district. Special treatment by artificial Pneumothorax (X-ray controlled). Ultra-violet Ray treatment is available for suitable cases. Matron and full nursing staff. Nurse on duty all night. Electric lighting throughout, radiators and wireless (headphones) in all rooms.

Dr. Jane Walker, C.H., J.P., Medical Superintendent. Dr. Eleanor Soltau, Assistant Medical Superintendent.

For all information apply: The Secretary, East Anglian Sanatorium, Nayland, near Colchester.

Telephone: NAYLAND 1.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, Medicated Inhalations by means of the Apneu Inhalation Installation, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

VICTORIA SANATORIUM : : DAVOS

SWITZERLAND

(BRITISH SANATORIUM), 5,200 feet above sea-level.

ALTERED AND MODERNISED IN SUMMER 1930.

Terms from £5 . 12 . 0 per week.

Medical Supt.: BERNARD HUDSON, M.D.Cantab., M.R.C.P.Lond., Swiss Federal Diploma.

GRAMPIAN SANATORIUM,

KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 ft. above sea-level. Sheltered situation in pine wood. Graduated walks. Electric light throughout building and in shelters. Central heating. Fully equipped X-ray Plant. Inoculation Treatment available for patients.—24 beds. Trained Nurse on duty all night. Terms £4 7s. 6d. to £5 6s. p.w. inclusive. No extras. Med. Supt.—FELIX SAVY, M.D.

For particulars apply to the Secretary.

The MUNDESLEY SANATORIUM

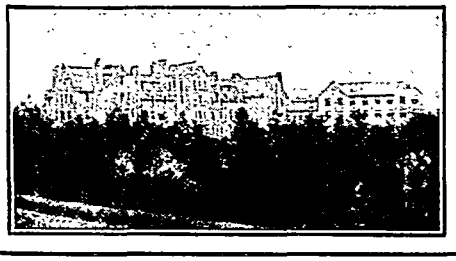
The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless headphones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON,
M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP,
M.B.(Cantab.).
ANDREW MORLAND,
M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



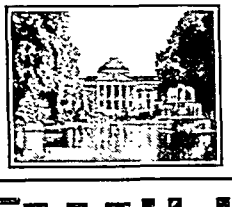
Medical Director: David Lawson, M.D., F.R.S.E.
FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.
Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.
Full particulars and Prospectus on application to the Secretary.
Inclusive Terms: SEVEN GUINEAS A WEEK.

BRIDGE OF ALLAN
Stirlingshire

The rich Calcium Bromine and Iodine content of the Saline Waters renders them peculiarly beneficial in General Debility and Convalescence.

Their high curative value in Rheumatic affections, Gastric and Bronchial Catarrh, Asthma, etc., is beyond question.

The Allan Water and Spa Hotel has covered communication with the Spa.
For full particulars apply SPA DIRECTOR



THE WORLD SPA **WIESBADEN** On the Romantic Rhine

Germany's greatest Medical Baths. Notable Performances in the Kurhaus and State Theatres. WORLD FAMOUS THERMAL SALT SPRINGS AT 150°. Cure: RHEUMATISM, GOUT, metabolic diseases, nervous disorders, diseases of the respiratory and digestive organs. Wiesbaden Cure diet. Station of Rhine Steamers at Wiesbaden-Biebrich.

SALTS AND PASTILLES FOR EXPORT

Good accommodation at moderate prices. Hotel lists (8,000 beds) from the Municipal Information Office and all Travel Bureaux.

Wildbad—
in the Black Forest

GERMANY, 1,400 to 2,500 feet above sea-level.

CURATIVE SPRINGS, 93—99° F., for hundreds of years proved beneficial for gout, rheumatism, sciatica, nerve troubles, etc. Rejuvenation; all modern curative methods. Sport. Midget Golf Course. Mountain Railway. Beautiful Woods. Anglican Divine Service. Information from the "Badverwaltung" or the "Kurverein" Wildbad in the Black Forest, and all tourist agencies.

Excellent Trout Fishing

BRITISH SPAS
ARE BEST

and membership of the British Spas Federation is a guarantee of efficiency

AT British Spas, treatment is only given (except in a few minor cases) upon medical prescription.

At British Spas the staffs are educated and properly trained and, in some cases, medically trained and medically certificated.

Equipment and administration are thoroughly up to date and scientific. Every new treatment is tested and reported upon before being adopted.

British Spas are also remarkably fortunate as regards situation, scenic beauty and pure air. These factors, combined with the social amenities of a home town, aid the cure considerably.

BATH Hot Springs (120° F.) Radio-active. Royal Baths extensions now open.

BRIDGE OF ALLAN Saline Water. Rich Calcium Bromide and Iodine Content.

BUXTON Radio-active Mineral Water. New Natural Baths. 3 Guineas Course.

CHELTENHAM Five Natural Waters. Modern Baths.

DROITWICH The Brine Baths Spa in charming Worcestershire.

HARROGATE 88 Waters. 100 Treatments. Medically certificated staff.

LEAMINGTON Advanced Spa Treatment. Saline Springs.

LLANDRINDOD WELLS The Modern Welsh Spa.

TREFRIW WELLS Rich Sulphate Chalybeate Waters.

WOODHALL SPA Bromo-Iodine Waters. Pinewoods. Restful Air.

A New Medical Handbook is being published, specially prepared for the use of the medical profession. A copy will gladly be sent you if you will write to the Hon. Secretary, Box 1, British Spas Federation, Pump Room, Leamington Spa, or to the Managers of any of the Spas here mentioned.

ANNOUNCEMENT BY BRITISH SPAS FEDERATION

MONTANA HALL
MONTANA, Switzerland

The only Sanatorium in Switzerland under British ownership and control, and with a full day and night staff of British Trained Nursing Sisters.

Built 1929-30. Opened Oct., 1930.

For the treatment of Tuberculosis, Diseases of the Chest, Asthma, and for patients requiring rest in the Alps under strict medical supervision.

Montana (5,000 feet above sea-level) is the sunniest mountain resort in Switzerland.

For prospectus and full particulars kindly apply to the Resident Medical Superintendent, HILARY ROCHE, M.D.(Melb.), M.R.C.P., (London), Tuberculosis Dis. Dip. (Wales).

GILGAL HOSPITAL,
PERTH.

Chairman:
THE RT. HON. THE EARL OF MANSFIELD.

For the Treatment of NEUROPATHIC and PSYCHOPATHIC DISORDERS. Certified patients not received. Under the management of James Murray's Royal Mental Hospital. Inclusive rates 3 guineas to 8 guineas weekly. Particulars on application.

Physician-Superintendent: W. D. CHAMBERS, M.D., F.R.C.P.E.

FENSTANTON,
CHRISTCHURCH ROAD,
STREATHAM HILL, S.W.2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders. Separate accommodation for Voluntary Patients. Large Mansion with 12 acres of ground. (See *Medical Directory*, p. 2234.) Apply J. H. EARLS, M.D., Resident Physician. Telephone: Streatham 8430.

BROOKE HOUSE,
CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

CLARENCE LODGE,
CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES).

Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: *Telephone*: Brixton 0494. Clapham Common Tube. Apply, Miss THWAITES.

PEEBLES

In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air, beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.

Among the Pine-clad Border Hills.
PEEBLES HYDRO, PEEBLES, SCOTLAND

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSTON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

SWISS SPAS

BADEN.

On the main line Zürich-Basle and Zürich-Berne. The hot springs of Baden were already known to the Romans. 17 radio-active wells at a temperature of 118.4°F. They contain sulphur and sodium chloride. The baths are obtainable in the hotels themselves. Treatments: warm baths, shower baths, massage, electric baths, inhalation, drinking cure, diagnostic-therapeutic institute, mechanotherapy. Recommended for metabolic diseases, rheumatism, gout, sciatica, diseases of the muscles, bones, and joints, retarded convalescence after injuries and operations.
Season: April 1st to November 1st.
For information apply to: Spa Director, Baden, Switzerland.

LOÈCHE-LES-BAINS.

One hour by electric railway from Loèche (main station on the Simplon route). Mild alpine climate. The baths were already known to the Gauls and Romans. The radio-active springs contain chiefly sulphate of lime. Two swimming pools. Every hotel has its own bathing installation. Treatments: warm baths, douche-massage, injections, air and sun baths. Recommended for: gout, rheumatism, sciatica, anaemia, post-operational conditions, convalescence, gynaecological diseases, circulatory disturbances, skin diseases.
Season: May to October.
For information apply to: Hotel Association, Loèche-les-Bains, Switzerland.

PASSUGG.

Near Chur. Situated on a picturesque plateau. Mild sub-alpine climate. Vast forests.
Treatments: The Ulricus spring (alcaline-muriatic), Belvedra spring (chalybeate), Fortunatus spring (alcaline-muriatic with iodine), Helen spring (mildly alcaline and acid), Theopnil spring. All varieties of accessory treatment. Dietetic treatment. Indications: Diseases of the digestive organs, diseases of the liver and bile ducts, kidney and bladder diseases, diseases of nutrition and metabolic diseases, especially diabetes, arterio-sclerosis, diseases of the blood and tropical diseases.
Season: May to October.
For information apply to: Spa Director, Passugg, Switzerland.

RHEINFELDEN.

10 miles from Basle, on the railway line Zürich-Basle. Famous for its vigorous brine, containing 31% salt, and for its "Kapuziner" spring, a highly diuretic calcium and boric acid well, and for its "Magdalena" spring, containing sulphates of calcium, sodium, and magnesium. 8 bath establishments with up-to-date installations. Treatments: brine baths, carbonic acid brine baths, drinking, mud-packs, "Mutterlauge" packs, inhalation, massage, gymnastics, all varieties of electric treatment, dietetic treatment. Recommended for: gout, rheumatism, arthritis, women's diseases, sterility, obesity, children's diseases, arterial hypertension, diseases of the heart, affections of muscles, bones, and joints, convalescence.
Any information and detailed booklet gladly supplied by: Enquiry Office, Rheinfelden, Switzerland.

SCHINZNACH.

Railway connections: Basle-Brugg-Zürich, and Berne-Brugg-Zürich. The hot springs of Schinznach were in use in Roman times and belong to the strongest radio-active sulphur wells on the Continent. Newly equipped, comfortable baths and inhalation rooms. Treatments: baths, drinking, sulphur-mud and sulphur-water packs, irrigations, inhalatorium, massage, X-rays. Recommended for: gout, rheumatism, affections of bones and joints, non-tuberculous catarrhs of the air passages, arterio-sclerosis, diseases of the skin, diseases of women, children's diseases.
Season: May to October.
For information apply to: Spa Director, Schinznach Bad, Switzerland.

TARASP-SCHULS-VULPERA.

The chief spa of the Lower Engadine. Glauber salts wells. The advantage of this spa lies in the combination of the curative properties of the waters with the alpine air and sun.
10 mineral springs of various composition. Up-to-date equipment for drinking and baths, air and sun baths, swimming baths, Zander-hall, X-ray institute, diet. Recommended for: affections of the digestive organs, metabolic ailments, nervous troubles, affections of the organs of circulation, of the organs of respiration, of the genito-urinary system, malaria.
Information supplied by: General Manager, Kurhaus Tarasp.

The introduction of special dietary tables for diseases of the digestive organs and the kidneys, as well as for diabetes, permits the physician to treat to the fullest extent each patient individually.

For information and the booklet "Swiss Spas and their Mineral Springs" (sent gratis), please apply to the Office of the Swiss Federal Railways, 11b, Regent Street, London, S.W.1.

ITALIAN HEALTH RESORTS

IN SUMMER AND AUTUMN. The greater part of Italy is more pleasant in Summer than at any other Season of the year. There are HUNDREDS of DELIGHTFUL ALPINE, DOLOMITE, LAKE and SEA-SIDE RESORTS.

IN WINTER AND EARLY SPRING there are, in Italy, more SUNNY and WARM RESORTS and SPAS than in any other country in Europe. Many of them have the best all-round climatic conditions to be found in Europe.

THE SPAS OF ITALY are world famous for their 'cures,' and besides those having seasons in the Spring, Summer, and Autumn there are many that have a pleasant Winter climate.

ALL THE YEAR ROUND

INTERLAKEN BEAU-RIVAGE GRAND HOTEL

On the Riverside. Park; Rest-Terrace. Very much in favour with English families. Inclusive from 13s.

M. SCHUBIGER, Managing Proprietor.

LUCERNE

The PEARL of Switzerland.
Fine Lido Beach. Golf and all Sports. Rest and Recreation.

THE BEAU-RIVAGE HOTEL (1st class)

offers best accommodation. English patronage. Incl. from 13s.
Apply for Prospectus N-11. C. GIGER, Managing Proprietor.

POST-GRADUATE MIDWIFERY.
Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5** for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

F.R.C.S.(Edin.).
CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Institute of Medical Culture,
VARESE, ITALIAN LAKE DISTRICT.
Summer Course on Modern Therapeutic Tendencies, July 10th—30th. Oxford Graduate will entertain few medical men in spacious country house. All modern conveniences. Billiards, Bridge. Library. Garden. Lake and mountain views. 2½ to 3½ guineas weekly.
Write: Santolena, Masnago, Varese.

DIPLOMA IN PUBLIC HEALTH

London School of Hygiene and Tropical Medicine

(University of London)

The 1931-32 course of study, which qualifies students to sit for the University of London Diploma, covers a period of nine calendar months in the case of those who devote the whole of their time to the work.

The course will commence on September 28th, 1931.

The inclusive fee of 54 guineas will cover the cost, not only of the ordinary lectures and demonstrations, but also of the necessary practical work in public health departments and instructions in infectious diseases, etc.

Enquiries should be addressed to the Secretary, London School of Hygiene and Tropical Medicine, Keppel St., Gower St., London, W.C.1.

DIPLOMA IN BACTERIOLOGY

(University of London)

Applications for admission to the Course of Study for the DIPLOMA IN BACTERIOLOGY at the LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE for the academic year 1931-32, commencing in October next, should be addressed without delay to the

SECRETARY OF THE SCHOOL,
KEPPEL STREET, GOWER STREET, LONDON, W.C.1.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

CONJOINT BOARD EXAMINATIONS

Candidates taking the First, Second, or Final Conjoint Examinations should make sure of passing at the first attempt by enrolling for the short intensive Revision Courses of the College.

POSTAL, ORAL, PRACTICAL, CLINICAL COURSES.

MICROSCOPE AND MUSEUM WORK.

Highly qualified Tutors with accurate knowledge of the special features of these examinations.

Write at once for booklet, "How to Pass the Conjoint Board Examinations." Sent free on application.

Address: The Secretary,
MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, London, W.1.

UNIVERSITY OF LONDON.

EXTERNAL EXAMINERSHIPS, 1932.

The Senate announce the following vacant Examinerships for the year 1932.

For the First Examination for Medical Degrees.
GENERAL BIOLOGY. PHYSICS.

For the Second Examination for Medical Degrees.
PHYSIOLOGY (Two).

For Final and Higher Examinations for Medical Degrees.
FORENSIC MEDICINE AND HYGIENE (Two).
MENTAL DISEASES AND PSYCHOLOGY.
NEUROLOGY. PATHOLOGY.
TROPICAL MEDICINE.

Associate Examiners.

Applications will also be invited for Associate Examiners in Medicine, Obstetric Medicine, Pathology, and Surgery. A separate application form must be used for Associate Examinerships and the word "Associate" must be written on it.

Application form (or forms if more than one Examinership is applied for) and particulars of the remuneration and duties can be obtained from the External Registrar.

Candidates must send in their names to the External Registrar, GEO. F. GOODCHILD, M.A., B.Sc., with any attestation of their qualifications they may think desirable, on or before Monday, July 6th, 1931. (Envelopes should be marked "Examinership.")

The Senate desire that no application of any kind be made to individual members.

If testimonials are submitted one copy only of each is required. In no case should original testimonials be submitted. If more than one Examinership is applied for a separate and complete application must be forwarded in respect of each Examinership. The appointments will be made by the Senate in November. Applicants who desire that the result should be communicated to them are requested to enclose a stamped and addressed envelope with their applications.

University of London, South Kensington, S.W.7. June, 1931.

EDWIN DELLER, Principal.

MARLBOROUGH COLLEGE,

Near MACCLESFIELD, CHESHIRE.

Specialises in CAREERS FOR GIRLS. General Education to Matric., etc. Special Terms to Medical Men. Apply: *LADY WARDEN.*

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.).

POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.),	1901-30 (including 4 Gold Medallists)	22
M.B.,B.S.(Lond.),	*Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.),	*Primary* 1906-30	162
	Final 1906-30	161
M.R.C.P.(Lond.),	1914-30	192
D.P.H.	(Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.),	1918-30	46
M.R.C.S.,L.R.C.P.	*Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.)	(Practitioners) 1906-30	38
M.D.	Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B.; B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations. Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women. Hints for writing theses.

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs. J. & J. PATON, having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred, and rough idea of fees should be given.

J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel.: Mansion House 5053.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

EDINBURGH POST-GRADUATE COURSES IN MEDICINE

IN CONNECTION WITH THE UNIVERSITY AND ROYAL COLLEGES, 1931.

The POST-GRADUATE COURSES to be held this year comprise:

(1) A GENERAL PRACTITIONERS' COURSE from August 10th to September 5th.

(2) A GENERAL SURGICAL COURSE from August 10th to September 5th.

The composite fee for each Course will be £10 10s. for the four weeks, or £6 6s. for either the first or second fortnight.

(3) A COURSE IN OBSTETRICS AND GYNAECOLOGY AND DISEASES OF CHILDREN, from July 13th to Aug. 8th. Fee £10 10s.

In addition to the above, the following *Special Courses* have been arranged:

SUMMER TERM.

SURGICAL PATHOLOGY.—Mr. Wade, F.R.C.S.Ed., and others. May 12th. Fee: £4 4s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. May 4th. 12 Meetings, thrice weekly. Fee: £5 5s. Minimum number 5.
CLINICAL MEDICINE.—Medical Staff of Royal Infirmary. During May. Fee: £3 3s.

SUMMER, AUTUMN, AND SPRING TERMS.

CLINICAL SURGERY (including Radiology).—Surgical Staff of Royal Infirmary. Fee: £4 4s.
DISEASES OF EAR, NOSE, AND THROAT.—Staff of Ear, Nose, and Throat Department, Royal Infirmary. Minimum number 5. Fee: £10 10s.
VENEREAL DISEASES.—Mr. Lees, F.R.C.S.Ed., Ward 5a, Royal Infirmary. Minimum number 5. Fee: £10 10s.
DISEASES OF EAR, NOSE, AND THROAT.—Dr. Douglas Guthrie. This Class will meet twice weekly at the Ear and Throat Dispensary, Cambridge [Street. Fee: £4 4s.

DURING THE PERIOD OF THE GENERAL COURSES. (AUGUST-SEPTEMBER).

PATHOLOGY OF THE NERVOUS SYSTEM.—Drs. F. E. Reynolds and James K. Slater. Minimum number 6. Fee: £3 3s.
DISEASES OF THE BLOOD.—Dr. Alex. Goodall. Fee: £3 3s. VACCINE THERAPY.—Dr. A. Nimmo Smith. Fee: £3 3s.
MODERN DIAGNOSTIC METHODS.—Drs. D. M. Dunlop, A. R. Gilchrist, and C. P. Stewart. Fee: £4 4s. Minimum number 6.
X-RAY PHYSICS AND ELECTRO-TECHNICS.—Mr. C. Norman Kemp, B.Sc., A.I.C. Fee: £3 3s.
ULTRA-VIOLET RADIATIONS AND THEIR USES.—Dr. Robert Aitken. Fee £3 3s.
OPHTHALMOSCOPY.—Drs. Graham, Ligertwood, and Paterson. Fee: £5 5s. Minimum number 5.

Further particulars may be had on application to the Hon. Secretary, Post-Graduate Courses in Medicine, University New Buildings, Edinburgh.

THE CLINICAL RESEARCH ASSOCIATION, LTD.

WATERGATE HOUSE, ADELPHI, W.C.2. (*Close to Charing Cross Station.*)

A COMPLETE LABORATORY SERVICE.

The Consulting Rooms and Laboratories of this Association (established in 1894) are available for all Medical Practitioners desiring Laboratory assistance in the investigation and diagnosis of cases under their care. All necessary apparatus and full instructions for collecting pathogenic material, or for the personal attendance of Patients at the Consulting Rooms of the Association, will be forwarded immediately on application.

CARDIOGRAPHIC AND X-RAY EXAMINATIONS, ALSO NURSING HOME ACCOMMODATION ARRANGED.

Telephone: TEMPLE BAR 8993 (3 Lines). Telegrams: "TUBERCLE, WESTRAND, LONDON." W. J. CURRY, Secretary.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.

THE PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM, and THE NORTH MIDDLESEX HOSPITAL, EDMONTON.

A TWO WEEKS' INTENSIVE COURSE (Mornings and Afternoons) for General Practitioners commences on JUNE 22nd and again on JULY 6th. The subjects include:

Glandular Fever
Diabetes
Cardiac Arrhythmias
Chorea
Colitis
The Common Cold.
Pyorrhoea
Rheumatism
Leucorrhoea
Fevers and Mental Cases
Haematuria
Tinnitus
Phlegmasia Alba Dolens
Abdominal Pain in Children
Pyrexia
Minor Surgery of the Hand
Visceroptosis
The Acute Abdomen
Diseases of the Gall-Bladder
Demonstrations of selected cases in all departments
Radiological Demonstrations and Radium Treatment

A Syllabus will be forwarded on application to the DEAN at the Prince of Wales's Hospital.

INSTITUTE OF PATHOLOGY & THERAPEUTIC RESEARCH

ST. MARY'S HOSPITAL, LONDON, W.2

A Course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the SUMMER SESSION. These Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on TUESDAY AFTERNOONS at 5 p.m. as under:—

JUNE 16th. SUBJECT.
Dr. BERNARD HART, M.D., F.R.C.P. (Phys. Psychol. Med., Univ. College Hospital). "The Causation of Neurotic Disorders."

JUNE 23rd.
Prof. HAMILTON HARTRIDGE, M.D., F.R.S. (Prof. of Physiology, St Bartholomew's Medical College). "The Theory of Hearing."

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,300 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatmen of stammering and other speech defects."—"Times."
"Thoroughly physiological principles."—"Lancet."
"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/6 of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

UNIVERSITY OF DUBLIN.

TRINITY COLLEGE, SCHOOL OF PHYSIC.

The usual Three Weeks' POST-GRADUATE COURSE for General Practitioners will be given this Autumn from Sept. 14th to October 3rd. The Course will include clinical instruction in Surgery, Medicine, Obstetrics, Orthopaedics, Laryngology, Ophthalmology, and Diseases of the Skin. Laboratory instruction will be given each afternoon in the Medical School in Anatomy, Physiology, Pathology, and Bacteriology. There will also be demonstrations on the use of the Electrocardiograph and the use of Radium, and lectures on Medicine and Therapeutics.

As far as possible arrangements are made to enable those members of the class who so desire to live in College rooms and dine on Commons.

For further particulars apply to—

A. FRANCIS DIXON,
School of Physic, Trinity College, Dublin.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital *practice, with operative Midwifery, and Obstetrical complications.* Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly *Nurses in accordance with C.M.G. regulations.*

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

London (Royal Free Hospital)

SCHOOL OF MEDICINE FOR WOMEN (UNIVERSITY OF LONDON),
Hunter Street, Brunswick Square, W.C.1.

Full Courses are arranged for the London M.B., B.S. Degrees, and the Examinations of other qualifying bodies. Arrangements for Dental Students' (Degree and Diploma) Clinical Instruction is given at the Royal Free Hospital. Arrangements are also made for students to attend the Hospital for Sick Children, Great Ormond Street, the National, Cancer, Moorfields, Elizabeth Garrett Anderson, and South London *Hospitals.*

Appointments at Hospital and Medical School are open to students after qualification.

Scholarships, Bursaries, and Prizes awarded annually.

Residence arrangements for students.

Prospectus and full information can be obtained from the Warden & Secretary, Miss L. M. BROOKS.

ELIZABETH BOLTON, M.D., B.S.,
Dean.

Society of Apothecaries of LONDON.

MASTERY OF MIDWIFERY.

Examinations will be held beginning Monday, November 16th, 1931, and Monday, May 16th, 1932.

For regulations, apply to the Registrar, Water Lane, E.C.4.

East London Hospital for CHILDREN, Shadwell, E.1.

There will be a DEMONSTRATION of CLINICAL CASES on Wednesday, June 17th, at 4.30 p.m., to which you are cordially invited. Tea at 4 p.m.

Coaching in Anatomy and SURGERY for all examinations.

Terms moderate.—Address, No. 3686, B.M.A. House, Tavistock Square, W.C.1.

Liverpool Stanley Hospital,

Stanley Road, LIVERPOOL.

There will be a vacancy for a GYNAECOLOGICAL HOUSE SURGEON *(female) on July* 1st next. The appointment will be for three months. Salary at rate of £100 per annum, with board, laundry, etc. Candidates must be fully qualified, and applications, with copies of three recent testimonials, must be received by June 19th.

E. W. OSBORN, Secretary.

Swansea General and Eye HOSPITAL. (316 Beds.)

HOUSE PHYSICIAN wanted, gentleman, single. Salary £150 per annum, with board, residence, and laundry. Duties to commence June 17th.

Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary-Superintendent.

County Council of Middlesex.

RESIDENT ASSISTANT MEDICAL OFFICERS—REDHILL HOSPITAL, EDGWARE, and PARK ROYAL HOSPITAL, WILLESDEN.

The County Council invite applications for the positions of Resident Assistant Medical Officers at the Redhill Hospital, Edgware, and Park Royal Hospital, Willesden.

Candidates must be registered Medical Practitioners who have held resident appointments in a General Hospital. The officers appointed *will work under the control of the Medical* Superintendents, and will devote their whole time to their official duties.

Salary in the case of each appointment is at the rate of £400 per annum, rising by annual increments of £50 to £600 per annum, together with board, lodging, and laundry.

The successful candidates will be required to pass such medical examination as the County Council may direct, and, unless subject to the Poor Law Officers Superannuation Act, 1896, to contribute to the County Council's Superannuation Fund. The appointments will be held *during the pleasure of the Council, and subject* to one month's notice on either side.

Applications, stating (1) age, (2) qualifications, and (3) *previous experience, together* with copies of not more than three recent testimonials, must be received by the undersigned not later than June 20th.

No special application forms are provided. Envelopes must be endorsed "Resident Assistant Medical Officer."

Canvassing, directly or indirectly, will be a disqualification.

N.B.—Redhill Hospital is a modern General Hospital with accommodation for some 200 acute cases, and a similar number of patients at the adjoining Redhill Institution suffering from chronic disease are under the care of the Medical Staff of the Hospital. Park Royal Hospital provides accommodation for over 600 *acute and chronic cases.*

ERNEST S. W. HART,
Clerk of the County Council.

Middlesex Guildhall, Westminster, S.W.1.
June 2nd, 1931.

City of Nottingham.

CITY INFIRMARY.

The Health Committee invite applications from duly qualified Medical Practitioners for *the post of FOURTH RESIDENT MEDICAL* OFFICER (male) at the above Infirmary. The Hospital contains 875 beds for the treatment of all classes of sick persons. It is a recognised Training School for Nurses, and is equipped with all modern requirements.

Candidates must have held the post of House *Physician and House Surgeon in a General Hospital*, and preference will be given to those having had experience in a Poor Law Institution. Experience in the administration of Anaesthetics is also desirable.

The salary will be £350 per annum, rising by annual increments of £25 to £450, with rations and furnished apartments. Quarters for married men are not available. The successful candidate will be required to contribute to the Corporation Superannuation Fund.

Forms of application, together with particulars of duties, may be had from the undersigned, *to whom applications, with copies of not more* than three recent testimonials, and endorsed "Medical Officer," should be forwarded not later than June 20th.

Guildhall, W. J. BOARD,
Nottingham. Town Clerk.
June 2nd, 1931.

The Welsh National School of MEDICINE.

LABORATORY ASSISTANT wanted for the Medical Unit Laboratories, to commence duties on October 1st. *Must be a smart, active* man, fully trained and experienced in all Bacteriological and Pathological methods and *modern Laboratory technique.* Wages £5 per week.

Applicants must state their age and give full particulars of their training and experience in the various branches of laboratory work.

Applications, accompanied by not more than four testimonials, should be sent on or before *June 22nd to D. BRYNMOR ANTHONY, University* Registry, Cathays Park, Cardiff.

Dorset County Council.

EDUCATION COMMITTEE.

APPOINTMENT OF SCHOOL DENTIST.

Fully qualified School Dentist required. Salary £450 per annum, rising to £600, *with* further discretionary merit advances to £650 per annum. Application form and terms of appointment may be obtained on receipt of *stamped addressed envelope, from Director of* Education, County Education Office, Dorchester, to whom the applications must be sent not later than June 23rd.

Surrey County Council.

ASSISTANT MEDICAL OFFICER.

Applications are invited for the appointment of an Assistant Medical Officer. Candidates must possess a qualification in Public Health, and have had experience in the Medical Inspection of School Children, Maternity and Child Welfare, and the treatment of Tuberculosis and Venereal Diseases. The officer appointed will be required to undertake such other public health duties as may be *allocated to him. He will be* on the staff of the County Medical Officer of Health, must reside in the County, and devote his whole time to the work. Salary £600 per *annum, rising by annual increments of £20 to* £700 per annum. Travelling expenses in accordance with the Council's scale will be *allowed.*

The appointment will be subject to the approval of the Ministry of Health, to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and to the Standing Orders of the Council, which provide, inter alia, that appointments may be determined at any time by three months' notice.

Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be made on the prescribed form and sent to the County Medical Officer of Health, County Hall, Kingston-upon-Thames, from whom copies of the application form may be obtained, and to whom any enquiries relating *to the appointment should be addressed.*

Last day of receipt of applications, Friday, June 19th. Canvassing, directly or indirectly, will disqualify.

County Hall, *DUDLEY AUKLAND,*
Kingston-upon-Thames. Clerk of the
May 27th, 1931. County Council.

City of Leeds.

GATEFORTH SANATORIUM.

Applications are invited from duly qualified and registered Medical *Practitioners (male) for* the post of RESIDENT MEDICAL OFFICER at the City of Leeds Sanatorium at Gateforth (*50 beds*). *Applicants should have had pre*vious Hospital and Sanatorium experience.

The successful candidate will be attached to *the staff of the Tuberculosis Sanatorium at* Killingbeck, and will work under the direction of the Medical Superintendent of that institution.

The salary will be *at the rate of £450 per* annum, rising by biennial increments of £25 to £550, together with board, residence, and laundry. The candidate appointed will be required to pass a medical examination and to contribute to the Superannuation Fund.

Schedule of duties and form of application *may be obtained from the Medical Officer of* Health, 12, Market Buildings, Vicar Lane, Leeds.

Applications, endorsed "*Tuberculosis Officer*," together with copies of three recent testimonials, should be delivered at the Town Clerk's Office, 26, *Great George Street*, Leeds, not later than 10 a.m. on Saturday, June 20th.

THOS. THORNTON,
Town Clerk.

County Borough of Middlesbrough.

MUNICIPAL HOSPITAL (273 Beds), and BROOMLANDS CHILDREN'S HOSPITAL (55 Beds).

Applications are invited for the post of a JUNIOR RESIDENT *MEDICAL OFFICER.* The appointment will be for six months, with a possible continuation for a second six months. Salary at the *rate of £160* per annum for the first six months, and £170 per annum for the second six months, with board, residence, and *laundry.*

The appointment affords good opportunities for gaining experience, as the Hospital is equipped for modern X-Ray, Electrical, Medical, and Operative treatment.

Applications, stating age and qualifications, together with copies of three recent testimonials, must be forwarded to the undersigned not later than June 20th.

PRESTON KITCHEN, Town Clerk.
Municipal Buildings, Middlesbrough.
June 8th, 1931.

Kent County Council.

Wanted, LOCUM TENENS, with Sanatorium or Hospital experience, for eight weeks' commencing July 6th, to act as Assistant Medical Officer at the County Sanatorium, Lenham. 165 beds.

Salary seven *guineas per week*, in addition to board, lodging, and washing.

Applications, stating age and experience, to be sent to the undersigned.

ALFRED GREENWOOD, M.D.,
County Medical Officer.

Sessions House, Maidstone.
June 8th, 1931.

ROYAL ARMY MEDICAL CORPS.

TWENTY-FIVE permanent COMMISSIONS in the ROYAL ARMY MEDICAL CORPS will be offered in July, 1931. Applications should reach the War Office not later than July 20th, 1931.

Candidates will be selected for Commissions without competitive examination, and will be required to present themselves in London for interview and medical examination towards the end of July. They must be under 28 years of age on August 1st, 1931, and registered under the Medical Acts.

Officers of the R.A.M.C. are liable to serve in any part of the world where British Troops are quartered.

Ample opportunities exist in the Army for clinical professional work, both Medical and Surgical, as well as for the study and practice of Hygiene, Pathology, and all the special branches.

The cost of Post-Graduate study, which is compulsory, is met from Army Funds.

Pay and Allowances.—From £488 to £2,000 a year according to rank and length of service.

Candidates who have held a full-time house appointment in a recognised civil hospital before appointment to a permanent Commission in the R.A.M.C. may, subject to certain conditions, be allowed to count the period of service in such an appointment, up to a maximum of 12 months, as Army service for promotion and increase of pay.

Gratuities on Retirement.—After 7 years' service £1,000.
„ 15 „ „ £2,800.
„ 18 „ „ £3,500.

Current rates of retired pay range from £364 10s. per annum normally earned by a Major after 20 years' service, to £920 per annum, the maximum for which a Major-General is eligible. The rates of pay and retired pay are subject to periodical variation consequent on fluctuation in the cost of living.

Outfit Grant.—An officer on joining receives £50 as outfit allowance.

Marriage Allowance.—Officers of 30 years of age and over who are married are entitled to draw special rates of allowances.

A Voluntary Widows' and Orphans' Fund exists for officers of the Corps.

A certain number of temporary Commissions will be offered at the same time under the same conditions as regards age and qualifications as those required of candidates for permanent Commissions.

All particulars may be obtained by application, in writing or personally, to the Under Secretary of State, The War Office (A.M.D.I.), Whitehall, London, S.W.1.

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H.M.'s Indian Medical Service. The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service. In other respects the terms will be as detailed below.

Candidates must be British subjects under 32 years of age at the time of application, and must be registered under the Medical Acts in force in Great Britain and Northern Ireland.

CAREERS.

The Indian Medical Service offers wide opportunities of medical experience, including clinical, preventive, specialist, and research work. At the beginning of his career an officer is employed on the military side, which has medical charge of the Indian Army. Promotion is on a time scale up to the rank of Lieutenant-Colonel, and by selection to the ranks of Colonel and Major-General. An officer may apply after one year's Indian service to have his name registered for transfer to the civil side, from which appointments are made to Civil Surgeoncies, which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes; to specialist (for example, public health and bacteriological) services; to research posts; and to professorships at the Medical Schools.

NOTE.—It is not possible to state at present what, if any, prospects of employment on the civil side will be open to Indian Medical Service Officers under the proposed new constitution for India.

PAY.

The monthly rates of pay for European officers in the Service who have a "non-Asiatic" domicile are as follows:

Rank.	Service in Rank.	Basic Pay.	Overseas Pay.	Years of Total Service.
1	2	3	4	5
		Rs.	Rs.	
Lieut.	—	500	150	1st
			150	2nd
			150	3rd
Capt.	(i) During first 3 years' service as Captain	650	150	4th
			£15	5th
			£15	6th
	(ii) With more than 3 and less than 6 yrs.' service as Captain	750	£25	7th
			£25	8th
			£25	9th
	(iii) With more than 6 years' service as Captain	850	£25	10th
			£25	11th
			£30	12th
Major	(i) During first 3 years' service as Major	950		
	(ii) With more than 3 and less than 6 years' service as Major	1100		
	(iii) With more than 6 years' service as Major	1250		
Lieut. Col.	(i) Until completion of 23 years' total service	1500	£30	13th and over
	(ii) During 24th and 25th years' service	1600		
	(iii) After completion of 25 years' total service	1700		
	(iv) When selected for increased pay	1850		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service. Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service.

ANTEDATES IN COMMISSION.

Any service rendered by an officer during the war as a medical or combatant officer, or in a position usually filled by an officer, may be counted as service for increments of pay, promotion retirement and retired pay, but not for gratuity.

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only.

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions. Past service in certain hospital appointments may also render candidates eligible for an antedate of one year. Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year. The maximum period of antedate, secondment, or antedate and secondment combined, admissible under this paragraph, is limited to one year.

OUTFIT ALLOWANCE.

Officers on appointment will receive an outfit allowance of £50.

PRIVATE PRACTICE.

With the exception of Administrative Officers, military or civil, and officers holding certain special appointments, officers are not debarred from taking private practice, so long as it does not interfere with their proper duties.

LEAVE.

Leave can be taken at reasonable intervals, and adequate rates of leave pay are provided. Extra leave (known as study leave), which may not exceed 12 months in all during an officer's service, may be granted to officers desirous of pursuing special courses of study of a post-graduate nature. During such leave, study allowance, at present fixed at the rate of 12s. a day in the United Kingdom, £1 a day on the Continent of Europe, and £1 10s. a day in the United States of America, is granted to an officer in addition to ordinary rates of leave pay.

PENSIONS.

The rates of pension are as follows:

	Per annum.
	£
After 17 years' service for pension	400
,, 18 ,, ,, ,, ...	430
,, 19 ,, ,, ,, ...	460
,, 20 ,, ,, ,, ...	500
,, 21 ,, ,, ,, ...	540
,, 22 ,, ,, ,, ...	580
,, 23 ,, ,, ,, ...	620
,, 24 ,, ,, ,, ...	660
,, 25 ,, ,, ,, ...	700
,, 26 ,, ,, ,, ...	750
,, 27 ,, ,, ,, ...	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent. in all, the revision being undertaken triennially. With effect from July 1st, 1930, a reduction of 5¼ per cent. has been made on this account from the amounts shown.

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments.

PASSAGES.

An officer on appointment is provided with free passage to India. The wives and families of officers who are married prior to the date of the officers' embarkation on first appointment will also be provided with free passage to India, subject to the payment of messing charges.

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service.

INSTRUCTION PRIOR TO EMBARKATION.

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot, lasting approximately six months, prior to their embarkation for India on first appointment.

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London, S.W.1. The Selection Committee will meet at the India Office early in July next, and the selected candidates will be required to join a course of instruction commencing early in August, prior to sailing for India early in 1932. Applications should be submitted as soon as possible.

Manchester Royal Infirmary.

CENTRAL BRANCH, Roby Street, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment. Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for nine months, commencing forthwith, three months as Junior at £100 per annum, three months as Assistant at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their application and testimonials to the undersigned by 9 a.m. on Thursday, June 25th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

Bolton Infirmary & Dispensary.

(301 Beds, including Two Auxiliary Hospitals.)

Applications are invited from ladies having a registered Medical and Surgical qualification for the posts of Two HOUSE SURGEONS. Salary £150 per annum each, with board, residence, and attendance.

Applications, stating age, nationality, and previous experience, together with copies of testimonials, should be forwarded to the undersigned not later than Monday, June 22nd.

ALBERT E. BRISCOE,
Secretary.

Derbyshire Royal Infirmary,

DERBY.

(GENERAL HOSPITAL—346 Beds.)

Applications are invited for the post of CASUALTY OFFICER.

Candidates must be qualified and registered under the Medical Acts.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with testimonials (not more than three), to be sent to the undersigned.

WALTER BANKS,
Superintendent and Secretary.

June 5th, 1931.

Derbyshire Royal Infirmary,

DERBY.

(General Hospital—346 Beds.)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON.

Candidates must be qualified and registered under the Medical Acts.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with copies of testimonials, to be sent to the undersigned.

WALTER BANKS,
Supt. & Secretary.

June 5th, 1931.

General Hospital, Nottingham.

(397 Beds.)

A HOUSE SURGEON is required at the above Institution. The appointment is for six months, with salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to me not later than Wednesday, July 1st. The appointment will made on Wednesday, July 8th.

Duties to commence on Saturday, July 18th.

P. M. MACCOLL,
House Governor & Secretary.

Central Hospital, Plymouth.

(50 Beds. Situated near the Hoe.)

Applications are invited for a HOUSE SURGEON (male or female). The appointment is for six months, eligible for re-election. Duties commence July 1st. Salary £150 per annum, with furnished apartments, board, and laundry.

Applications, stating age, qualifications, nationality, accompanied by copies of three recent testimonials, to be sent not later than June 24th to the undersigned.

WM. W. URELL, Secretary.

Hull Royal Infirmary.

(270 Beds.)

Applications are invited for the post of THIRD HOUSE SURGEON (male), now vacant. The appointment will be for six months in the first instance, determinable on either side by one month's notice. Salary at the rate of £150 per annum, plus board, residence, and laundry.

Applications, together with copies of testimonials, should be sent to the undersigned.

R. J. CARLESS,
House Governor.

June 1st, 1931.

ST. ANNE'S HOSPITAL,

NORTHBROOK ROAD, DUBLIN.

RESIDENT HOUSE SURGEON (LADY) REQUIRED.

Applications and Testimonials to be sent to:—MOTHER SUPERIOR, before June 16th, 1931.

Liverpool Hahnemann Hospital,

HOPE STREET.

Applications are invited for the post of RESIDENT MEDICAL OFFICER to the above Hospital, which is now vacant. Only one R.M.O. kept.

Duties include occasional Anaesthetics, and assisting at operations, General, Gynaecological, Ophthalmic, and Aural.

Appointment is for six months, renewable. Salary at the rate of £100 per annum. Knowledge of Homoeopathy desirable but not essential.

Apply, stating age, sex, nationality, and experience, and enclosing copies of testimonials, to the Registrar.

Royal Hampshire County

HOSPITAL, WINCHESTER.

(158 Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post, to take up duties on July 1st next. Six months' appointment. Salary £150 per annum, with board, residence, and laundry. Candidates, who must be of British nationality, to make application at once to the undersigned, enclosing copies of three testimonials.

HERBERT MASLEN,
Secretary.

Elizabeth Garrett Anderson

HOSPITAL, Euston Road.

Wanted, fully qualified Medical Women for the following posts:

SECOND HOUSE SURGEON and OBSTETRIC ASSISTANT.

Appointments for six months from July 1st next. Salary at the rate of £50 per annum, with board, residence, and laundry. Applications, with copies of three testimonials, should be sent to the Secretary by Thursday, June 25th.

JEAN R. MURRAY, Secretary.

Elizabeth Garrett Anderson

HOSPITAL, Euston Road.

Wanted, fully qualified Medical Woman to act as ASSISTANT RADIOLOGIST in the X-Ray Department. Duties to commence October 1st next. Honorarium £100 per annum. Applications, with testimonials, should be sent to the Secretary, from whom particulars of the post may be obtained, by Friday, June 26th.

JEAN R. MURRAY, Secretary.

Samaritan Free Hospital for

WOMEN, Marylebone Road, N.W.1.

Applications are invited for the post of REGISTRAR for a period of 12 months. Salary at the rate of £130 per annum.

Applications, stating age, accompanied by copies only of testimonials, must reach the Secretary at the Hospital on or before Wednesday noon, July 1st.

G. H. HAWKINS, Secretary.

The Royal Eye and Ear Hospital,

BRADFORD.

Wanted, JUNIOR HOUSE SURGEON (male). Salary £150, with board, residence, and laundry. Applications, stating qualifications, age, etc., with copies of recent testimonials, to be forwarded to the undersigned on or before June 30th.

F. BRIGGS,
Secretary-Superintendent.

Royal Edinburgh Hospital for

MENTAL AND NERVOUS DISORDERS.

ASSISTANT PHYSICIAN wanted. Salary £400 per annum, with board and lodging. Applications, with particulars of experience, etc., addressed to Professor ROBERTSON, Physician-Superintendent, Royal Hospital, Morningside, Edinburgh.

The Princess Mary Maternity

HOSPITAL,
JUBILEE ROAD, NEWCASTLE-UPON-TYNE.

RESIDENT MEDICAL OFFICER (male) required for six months from July 1st. For details apply House Governor.

Walsall General Hospital.

The Committee invite applications from men or women for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months.

The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, should be forwarded to the undersigned by June 16th.

WALTER FRANCOMBE, Secretary.

West Suffolk General Hospital,

BURY ST. EDMUND'S. (108 Beds.)

Wanted, HOUSE PHYSICIAN and OBSTETRIC OFFICER. Post vacant the end of first week in July. Salary £150 per annum, with board, residence, and laundry. Applicants must be fully qualified and registered.

Applications, with copies of three recent testimonials, to be sent to the Secretary.

E. E. HARDWICKE,
Secretary.

June 4th, 1931.

The Royal Waterloo Hospital

FOR CHILDREN AND WOMEN,
Waterloo Road, S.E.1.

Applications are invited from qualified male Practitioners for the post of CASUALTY OFFICER, vacant on July 1st, to work in the Out-patient Department on week days, at £200 per annum; lunch and tea provided.

Applications, with copies of testimonials, should be forwarded not later than Tuesday morning, June 23rd, to the Secretary at the Hospital, from whom further particulars can be obtained.

The Willesden General Hospital

(INCORPORATED), N.W.10.

CLINICAL ASSISTANT to the Surgical Out-patient Department (Monday afternoon).

Applications are invited for the above Honorary appointment for a period of six months from July 1st.

Applications must be received by the Secretary of the Hospital not later than first post on Thursday, June 18th, from whom details of the appointment may be obtained.

May 29th, 1931.

Victoria Hospital, Accrington.

The Governing Body of this Hospital invites applications for the post of HOUSE SURGEON. Candidates must be duly qualified and registered. Number of beds 50. Salary £150 per annum, with board and lodging.

Conditions of appointment and particulars of duties may be obtained from the undersigned, to whom applications, with copies only of testimonials, should be sent on or before June 15th.

Town Hall,
Accrington.

W. H. WARBURST,
Hon. Secretary.

Bootle General Hospital,

BOOTLE, near LIVERPOOL. (100 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN for the six months ending December 31st. Salary at the rate of £150 per annum, with board, residence, and laundry.

Duties to commence July 1st.

Applications, stating age and qualifications, with copies of testimonials, to be sent to the undersigned on or before June 15th.

J. A. BEARDSALL,
Secretary-Superintendent.

The Royal Infirmary,

SUNDERLAND. (290 Beds.)

Wanted, beginning of June, HOUSE SURGEON (male). Salary £140 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Victoria Hospital for Sick

CHILDREN, HULL.

RESIDENT HOUSE PHYSICIAN (lady) required. Salary £30 per annum, with board, residence, and laundry. Applications (with copies of recent testimonials), stating age, qualifications, and other particulars, to be sent to the Secretary not later than Friday, June 19th.

Herts County Mental Hospital,

HILL END, ST. ALBANS.

LOCUM TENENS MEDICAL OFFICER (male) required for about three months from July 1st. £7 7s. per week, plus board, etc. Apply to the Medical Superintendent.

Royal Victoria Infirmary, NEWCASTLE-UPON-TYNE. (576 Beds.)

The House Committee invite applications for the office of HONORARY ASSISTANT SURGEON. According to statutory provision every candidate must be a registered Graduate in Surgery of any University recognised by the General Council of Medical Education and Registration of the United Kingdom, or a registered Fellow, Member, or Licentiate of one the Royal Colleges of Surgeons of the United Kingdom, provided that he is practising as a Surgeon and not as a General Practitioner.

Applications must be sent to the House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne (from whom further particulars may be obtained), not later than Saturday, June 27th.

The appointment will be made on Thursday, July 2nd.

Personal canvassing will be considered a disqualification for office. Candidates may, if they so desire, forward a copy of their application and testimonials to each member of the House Committee.

S. DUNSTAN,
House Governor and Secretary.

June 8th, 1931.

Queen's Hospital, Birmingham.

There is a vacancy for an HONORARY PHYSICIAN to the Queen's Hospital.

Physicians to this Hospital must be Graduates in Medicine of a University of the United Kingdom, and be Fellows or Members of the Royal College of Physicians of London.

Candidates are required to send in their applications, stating date of birth and full particulars of qualifications, accompanied by testimonials and certificate of registration, to the undersigned (from whom all further information can be obtained) not later than July 18th.

The Senior Honorary Physician for Out-patients is a candidate for the post, and if appointed a vacancy will occur for an Honorary Physician for Out-patients, which will be advertised later.

G. HURFORD,
House Governor.

Birmingham.
June 8th, 1931.

The Queen's Hospital for CHILDREN, Hackney Road, London, E.2.

RESIDENT MEDICAL OFFICER (male) required on July 1st.

The appointment is made for six months, and may be extended for further periods of six months, but cannot be held for more than two years.

The Resident Medical Staff consists of the Resident Medical Officer as above, three Casualty Officers, two House Physicians, and one House Surgeon.

Salary (inclusive of panel fees) £200 per annum, with board, residence, and washing.

Candidates must have held a responsible Resident appointment at a recognised Hospital, and should apply as soon as possible for forms of application, which must be filled in and returned to the undersigned on or before June 18th.

CHARLES H. BESSELL,
Secretary.

May 30th, 1931.
Telephone: Bish. 6305 and 2837.

The Queen's Hospital for CHILDREN, Hackney Road, London, E.2.

Two ANAESTHETISTS required, each to attend on two half-days each week. Honorarium £25 per annum. Certain additional paid appointments are open to holders.

Applications, with testimonials, should be sent to the undersigned as soon as possible.

CHARLES H. BESSELL,
Secretary.

June 5th, 1931.
Tel.: Bishopsgate 6305 and 2837.

Ear and Throat Hospital, EDMUND STREET, BIRMINGHAM.

HOUSE SURGEON wanted (non-resident), to assist chiefly in Out-patient Department. Must be qualified and with Clinical experience. Duties to commence July 1st. Appointment to September 30th, when one of the other House Surgeon appointments will be vacant.

Salary at the rate of £150 per annum, with part board, and an allowance at the rate of £50 per annum in lieu of full board and lodging.

Applications and testimonials to be forwarded on or before June 20th to the undersigned.

S. G. GREW, Secretary.

May, 1931.

Free Eye Hospital, SOUTHAMPTON.

The Committee require the services of a duly qualified HOUSE SURGEON to enter on duties immediately. Salary £150 per annum, with board, residence, and laundry. Applicants must have had Post-graduate experience in Ophthalmic Surgery. Applications, with three recent testimonials, to reach the Secretary by Saturday, June 20th.

Sussex Eye Hospital, Brighton.

HONORARY CLINICAL ASSISTANT Required.

The Committee of Management hereby give notice that a meeting of the Committee will be held on June 18th for the purpose of appointing an Honorary Clinical Assistant only on Tuesdays and Fridays at 12.30. The appointment to be for two years. The successful candidate to be eligible for re-appointment at the end of that period.

Applications, in writing, for the vacancy, with testimonials, must be sent to the Hospital, addressed to the Assistant Secretary, on or before Wednesday, June 17th. Candidates must be registered under the Medical Acts.

No candidate can hold the appointment unless he resides in Brighton or Hove.

Board Room, A. F. GRAVES,
Queen's Road, Assistant Secretary.
Brighton. June 5th, 1931.

West Norfolk and King's Lynn GENERAL HOSPITAL. (75 Beds.)

The Board of Management of the above Hospital invite applications for the post of JUNIOR HOUSE SURGEON (male or female).

Duty to commence June 27th. Salary £125 per annum. To have charge of Medical and Ophthalmic beds. Preference given to candidates with previous experience. Appointment for six months in first instance, and considerations will be given for Senior appointment.

Applications, stating experience and full particulars, together with copies of three recent testimonials, to be received by June 25th, and sent to—

JOSEPH E. SEARJEANT,
House Governor and Secretary.
West Norfolk and King's Lynn Hospital.

June 9th, 1931.

The Retreat, York.

Applications are invited for the post of SENIOR ASSISTANT MEDICAL OFFICER (male) at this registered Mental Hospital.

Previous Mental Hospital experience essential. Preference will be given to candidates who possess the Diploma in Psychological Medicine.

If a candidate without this qualification is appointed, he will be expected to obtain it within two years of appointment. Commencing salary based on experience and qualifications. Minimum £400 per annum for an unmarried Assistant, with full board, residence, and laundry; or £500 per annum for a married Assistant, with house, rent, and rates free.

Applications, with copies of testimonials, to be sent to the Medical Superintendent.

The Children's Hospital, SHEFFIELD. (107 Beds.)

Applications are invited for the following post, vacant on July 1st.:

THIRD RESIDENT MEDICAL OFFICER.

Salary £80 per annum, with board, residence, and laundry. The appointment is for six months, and afterwards the holder is eligible for the post of House Physician (salary at the rate of £100 per annum).

Candidates (female and unmarried) must be fully qualified and registered. Applications, stating age, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.

T. H. G. GARTLAND,
Secretary.

The Children's Hospital, SUNDERLAND. (70 Beds.)

Wanted, Two RESIDENT MEDICAL OFFICERS (female)—one middle of June, one middle of July. Candidates must possess double qualifications (registered). Salary £100 per annum, with board, residence, and laundry. The appointments are for six months. Applications, stating age and when at liberty, to be sent to Wm. H. WILSON, Secretary, 79, Saddler Street, Durham.

Durham County Hospital, (75 Beds.)

HOUSE SURGEON required immediately (two kept). Salary £150 per annum, with board and lodging.

Applications, with copies only of testimonials, stating age, with copies of three recent testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Manchester Royal Eye Hospital.

JUNIOR HOUSE SURGEON required. Salary £120 per annum, with residence, board, etc.

Applications (with copies of testimonials), endorsed "House Surgeon," to be addressed to the Chairman of the Board of Management.

The vacancy occurs on June 20th.

H. R. NORTH, Secretary.

Woolwich and District War MEMORIAL HOSPITAL, Shooters Hill, London, S.E.18. (GENERAL HOSPITAL—112 Beds.)

The Board of Management invites applications from suitably qualified male candidates for appointment as HOUSE PHYSICIAN, for a period of six months as from July 1st. An honorarium of £100 per annum will be paid in respect of this appointment, plus board, residence, and laundry.

Applications should be addressed to the undersigned, to reach him not later than first post on Wednesday, June 17th, and full particulars of experience, previous appointments, etc., together with copies of not more than three recent testimonials.

EDWIN RADFORD,
Secretary-Superintendent.

Chesterfield and North Derbyshire ROYAL HOSPITAL. (190 Surgical and Medical Beds.)

CASUALTY OFFICER (DEPUTY RESIDENT SURGICAL OFFICER).

OPEN APPOINTMENT.

Applications are invited from fully qualified men for the above post. The appointment is for six months. Candidates must have held previous Hospital appointments.

Duties include House Surgeon to the Ear, Nose, and Throat Department.

Salary at the rate of £200 per annum, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, to be sent to the undersigned.

G. SUNNUCK,
Supt. & Secretary.

June 9th, 1931.

Royal Waterloo Hospital for CHILDREN AND WOMEN, Waterloo Road, S.E.1.

There will be a vacancy on July 1st for a HOUSE SURGEON (male) at the above Hospital.

The appointment is in the first instance for a period of six months. Salary at the rate of £100 per annum, with board and residence.

Application, with copies of testimonials, should be forwarded not later than Tuesday morning, June 23rd, to the Secretary at the above address, from whom further particulars can be obtained.

South London Hospital for WOMEN, Clapham Common, S.W.4.

The Board of Management invite applications from fully qualified Medical Women for the undermentioned appointments:

Two HOUSE SURGEONS. Each for a period of six months from August 1st.

Salary at the rate of £100 per annum, with board, residence, and laundry. Candidates are required to call on Members of the Hon. Medical Staff before Saturday, June 27th, by which date applications and copies of testimonials must reach the Secretary at the Hospital.

Oldham Royal Infirmary.

HOUSE PHYSICIAN and CASUALTY OFFICER required forthwith. Appointment tenable for a period of six months. Salary at the rate of £175 per annum, with board, residence, and laundry. Successful candidate will be required to assist the Honorary Pathologist, and will be eligible for re-appointment.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Manchester Ear Hospital, GROSVENOR SQUARE, ALL SAINTS'.

The Board invite applications for the post of NON-RESIDENT HOUSE SURGEON. 24 beds. Salary at the rate of £150 per annum, with partial board. Candidates must be duly qualified and registered. Applications, with copies of four recent testimonials, to be forwarded to Mr. REGINALD S. MILFORD (Hon. Secretary, Manchester Ear Hospital), c/o Mr. W. J. ELLAM, 33, Brazennose Street, Manchester.

Rotherham Hospital. (130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £150, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

Huntingdon County Hospital.

HOUSE SURGEON needed. Salary £120 per annum, and laundry. Testimonials, etc., to Dr. GROVE, County Hospital, Huntingdon.

Bristol General Hospital.

The Committee invites applications for the following appointments which become vacant on August 1st next:

Two HOUSE PHYSICIANS; Two HOUSE SURGEONS; RESIDENT OBSTETRIC OFFICER; HOUSE SURGEON to the Special Departments; and a CASUALTY HOUSE SURGEON.

The appointments will be for six months at salaries at the rate of £80 per annum and at the rate of £100 per annum for the Casualty House Surgeon, and, in the event of second appointments being held, at the rate of £100 per annum in each case, with board, residence, etc., provided in the Hospital.

Candidates must be registered under the Medical Acts and produce testimonials of good personal character and ability, and must have recent experience in the administration of Anæsthetics.

Forms of application, etc., to be obtained from the Secretary, must be returned completed with copies of testimonials, addressed to the undersigned, on or before Monday, July 6th, from whom further particulars may be obtained.

THOMAS W. GREGG, Secretary.

Manchester Royal Infirmary.

RESIDENT SURGICAL REGISTRAR TO OUT-PATIENTS.

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment, vacant on August 1st. Applicants (men only) must be registered and hold a Medical and Surgical qualification and have held a Hospital appointment. The appointment is for six months, renewable for further periods of six months, subject to the provisions of the By-laws as to notice, etc. Salary £150 per annum, with board, residence, and allowance for laundry.

Further particulars of the post may be obtained on application to the Chairman of the Medical Board.

Letters of application, with testimonials, to be sent in not later than June 24th.

By Order,

F. G. HAZELL, Gen. Supt. & Sec.

June 8th, 1931.

All Saints' Hospital (for Genito-Urinary Diseases).

In-patient Dept.: 91, Finchley Road, N.W.8. Out-Patient Dept. and Secretary's Office: 49, 55, Vauxhall Bridge Road, S.W.1.

HOUSE SURGEON (male) required on July 1st for period of three months as Junior House Surgeon (non-resident), followed, subject to the approval of the Board of Management, by a period of three months as Senior House Surgeon (resident). Salary will be at the rate of £150 per annum, with board and laundry during the resident period. The duties of the non-resident House Surgeon consist of attendance at the Out-patient Department every afternoon and three evenings weekly.

Applications, stating age, experience, and qualifications and enclosing copies of recent testimonials, should reach me not later than June 20th.

D. H. EADE, Secretary.

The Royal Hospital,

WOLVERHAMPTON.

(Incorporated under Charter.) (300 Beds.)

Owing to the sudden and lamented death of Mr. Anthony Blackstock, F.R.C.S.Eng., there is a vacancy on the Honorary Staff for a Fracture and Orthopædic SURGEON.

Applicants should possess special qualifications and experience in the treatment of fractures as well as orthopædic surgery. The Surgeon appointed will be expected to devote considerable time daily to his hospital work, and he will be paid a substantial annual honorarium for doing so. He will be at liberty to practise privately as an Orthopædic Surgeon, for which there is a good opening in the large and populous district served by the Hospital.

Further particulars may be obtained from the undersigned.

W. H. HARPER, House Governor.

Wolverhampton.

June, 1931.

West End Hospital for Nervous Diseases.

(In-patient Dept., Gloucester Gate, Regent's Park, N.W.1.

The Committee of Management invites applications from British male candidates for the vacancy of JUNIOR HOUSE PHYSICIAN, to start duty July 1st. Salary £100, with board, residence, and laundry. Appointment in first instance for six months. Applications, with copies of three testimonials, must be received by the undersigned as soon as possible, and in any case not later than June 23rd.

J. P. WETENHALL, Secretary.

73, Welbeck St., W.1.

Miller General Hospital,

Greenwich Road, S.E.10.

Applications are invited for the following posts:

HOUSE PHYSICIAN (male); HOUSE SURGEON (male). Salary in each case at the rate of £125 per annum, with board, residence, and laundry. Candidates must be unmarried.

OUT-PATIENT OFFICER (male), who is required to see Medical and Surgical cases. Attendance daily (except Sunday) from 9 to 1, Tuesdays 9 to 5. Salary £150 per annum and lunch.

The appointments are for six months from July 1st next. There are six Resident Officers.

Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary as soon as possible.

May 12th, 1931.

New Sussex Hospital for Women and Children, Brighton (Incorporated). (50 Beds.)

The Council of Management invites applications from qualified Medical Women for the following posts:

(1) HOUSE PHYSICIAN to take up duty on July 1st.

(2) HOUSE SURGEON to take up duty on July 1st.

(3) HONORARY ASSISTANT OPHTHALMIC SURGEON to attend each Friday afternoon.

Honorarium for (1) and (2) at the rate of £50 per annum, with board, residence, and allowance for laundry.

Applications, with copies of three recent testimonials, to reach the Secretary on or before June 24th.

M. F. LOCKWOOD, Secretary.

Royal Westminster Ophthalmic Hospital (Incorporated by Royal Charter), Broad Street, Holborn, W.C.2.

REFRACTION ASSISTANTS.

The Committee of Management is prepared to receive applications for the appointment of Refraction Assistants, to commence on August 1st, for duty twice a week, except that in one appointment duty will be for once a week only.

The appointments are tenable for six months. Salary at the rate of £100 per annum and £50 per annum respectively.

Candidates must be duly qualified Medical Practitioners and have had experience in Refraction work.

Applications, with copies of testimonials, to be sent to the Secretary (from whom further particulars can be obtained) not later than Saturday, July 4th.

The Royal Infirmary, SHEFFIELD. (500 Beds.)

The Weekly Board of Management invite applications for the undermentioned posts—HOUSE SURGEON, OPHTHALMIC HOUSE SURGEON, ASSISTANT AURAL AND OPHTHALMIC HOUSE SURGEON.

The appointments will be tenable for six months from July 1st. The salary attached to each post is £80 per annum, rising after six months' service to £100 per annum, together with board and residence. Applications, together with copies of testimonials, should be sent to the undersigned immediately.

JNO. W. BARNES, F.C.I.S., General Superintendent and Secretary.

Board Room. June 2nd, 1931.

Scunthorpe and District War Memorial Hospital.

(82 Beds—Two Residents.)

Applications are invited for the post of SECOND RESIDENT SURGEON (male or female), with charge of Medical beds, to take up duties as early as possible. Salary at the rate of £150 per annum, with board, residence, and laundry. Candidates, who must possess registered qualifications, should forward applications, stating age, nationality, etc., together with copies of recent testimonials, to

ARTHUR E. MAW, Secretary.

The Gloucestershire Royal Infirmary and Eye Institution, Gloucester. (155 Beds—Four Residents.)

Applications are invited for the post of HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned. The elected candidate will be required to enter upon his duties at once.

F. J. SYMONS, Secretary.

April 29th, 1931.

Dorset County Hospital, DORCHESTER.

APPOINTMENT OF HOUSE SURGEON.

The Committee of Management are open to receive applications for the position of House Surgeon, to take up his duties on or about July 4th.

Every candidate must be unmarried and possess a registered qualification to practise Medicine and Surgery from some recognised body in Great Britain or Ireland. Salary £160 per annum, with board and lodging. The appointment is for a period of not less than six months. All applications, accompanied by copies of three recent testimonials, should be sent to the Secretary, Dorset County Hospital, on or before June 26th.

Candidates must be of British nationality.

Bolingbroke Hospital Wandsworth Common, S.W.11.

The Board of Governors invite applications for the newly created post of HONORARY PHYSICIAN for Diseases of Children.

Candidates must be Fellows or Members of the Royal College of Physicians who are engaged solely in the practice of Diseases of Children.

The successful applicant will have charge of cots in the Children's Ward, and will be required to see Out-patients on one session each week.

Candidates will be expected to call on the members of the Honorary Medical Staff.

Applications, stating age and qualifications, and enclosing copies of three recent testimonials, to be forwarded to the undersigned on or before July 8th.

W. S. RANDOLPH BISS, Secretary-Superintendent.

Birmingham and Midland Eye Hospital.

Applications are invited from duly qualified Medical Practitioners for the post of RESIDENT SURGICAL OFFICER at the above Hospital. Salary £150 per annum and £10 laundry allowance.

The resident staff also consists of two House Surgeons, and in the event of one of these being promoted applicants should state whether they will be willing to accept appointment as House Surgeon at a salary of £110 per annum.

Applications, with testimonials and evidence of registration, must be received not later than Monday, June 29th.

Church Street, Birmingham. C. A MASON, General Superintendent.

June 1st, 1931.

Hampstead General and North-West London Hospital, Haverstock Hill, N.W.3.

APPOINTMENT OF HOUSE PHYSICIAN.

Applications are invited from unmarried Medical Men for the appointment of House Physician, vacant on July 1st next. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Application, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on June 20th next.

Hampstead General and North-West London Hospital, Haverstock Hill, N.W.3.

APPOINTMENT OF HOUSE SURGEON.

Applications are invited from unmarried Medical Men for the appointment of House Surgeon, vacant on July 1st next. The salary will be at the rate of £100 per annum, together with board, residence, etc., and the term will be for six months.

Application, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials, should reach the Secretary not later than noon on June 20th next.

Bath and Wessex Children's Orthopaedic Hospital, COMBE PARK, BATH.

HOUSE SURGEON required, to commence duty middle of July.

The appointment will be for six months, with salary at the rate of £120 per annum, together with quarters, board, and laundry.

Candidates must have had special experience in administering anæsthetics.

Applications, with copies of three recent testimonials, should be forwarded at once to the undersigned.

HAROLD J. FRICKER, Secretary.

June, 1931.

Borough of Brighouse.

HIPPERHOLME URBAN DISTRICT COUNCIL.

HALIFAX RURAL DISTRICT COUNCIL.

BRIGHOUSE JOINT HOSPITAL BOARD.

The above-named Authorities jointly invite applications from qualified Medical Practitioners for the appointment of whole-time MEDICAL OFFICER OF HEALTH and SCHOOL MEDICAL OFFICER for the Borough of Brighouse, MEDICAL OFFICER OF HEALTH to the Hipperholme Urban District Council, MEDICAL OFFICER OF HEALTH to the Halifax Rural District Council, and MEDICAL SUPERINTENDENT to the Brighouse Joint Hospital Board.

The total salary for the combined posts will be £850 per annum. An allowance of £50 per annum will also be made towards the expenses of a motor car.

The appointment will be subject to the Sanitary Officers Order, 1926; the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930; the approval of the Ministry of Health and Board of Education; and will be terminable by three months' notice.

Applications, stating age, previous experience and qualifications, together with copies of not more than three recent testimonials, to be received by the undersigned not later than the first post on Wednesday, June 17th, in an envelope endorsed "Medical Officer of Health."

Town Hall, ERNEST H. CLEGG,
Brighouse. Town Clerk.
May 30th, 1931.

County Borough of Huddersfield.

PUBLIC HEALTH DEPARTMENT.

BRADLEY WOOD SANATORIUM FOR PULMONARY & SURGICAL TUBERCULOSIS.

RESIDENT MEDICAL OFFICER AND ASSISTANT MEDICAL OFFICER OF HEALTH.

Applications are invited for the above appointment from registered Medical Practitioners who have had special experience in the diagnosis and treatment of Tuberculosis. A good knowledge of X-ray work is essential. Board and residence are provided and a salary of £500 increasing to £600 per annum. The Local Government and Other Officers Superannuation Act, 1922, applies to the officer holding this position, and a deduction at the rate of five per cent. per annum will be made from the salary.

The engagement will be terminable on three months' notice from either side. Applications should be accompanied by copies of not more than three testimonials, and addressed to JOHN M. GIBSON, B.A., M.D., D.P.H., Medical Superintendent of Hospitals and Medical Officer of Health, so as to reach him not later than June 18th.

Forms of application are not provided.

Town Hall SAMUEL PROCTER,
Huddersfield. Town Clerk.
May 30th, 1931.

City of Birmingham.

CITY BABIES' HOSPITAL. (85 Beds.)

A SECOND RESIDENT MEDICAL OFFICER is required immediately for a period of six months. Applications are invited from ladies with previous experience as House Physician, preferably in a Children's Hospital. Salary £100 per annum, with board and laundry.

Applications, giving all particulars of qualifications, age, and experience, should be sent to the Medical Officer of Health, Council House, Birmingham, on or before June 23rd.

St. Albans and Mid Herts

HOSPITAL AND DISPENSARY,
Church Crescent, ST. ALBANS.

Applications are invited for the post of Male or Female RESIDENT HOUSE SURGEON. Salary £150 per annum, with board, residence, and laundry.

Applications to be sent to the Secretary, St. Albans and Mid Herts Hospital, No. 38, St. Peter's Street, St. Albans.
June 4th, 1931.

Paddington Green Children's

HOSPITAL (Incorporated), London, W.2.

Applications are invited for the post of an additional HONORARY SURGEON to the Ear, Nose, and Throat Department. Candidates must be Fellows of the Royal College of Surgeons, England.

Applications, stating age and qualifications, accompanied by copies of three testimonials, should reach the undersigned not later than Saturday, July 4th.

JAMES A. HAMLIN, Secretary.

City of Norwich.

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER. Salary £500, rising to £700 per annum by annual increments of £25; any other fees obtained must be refunded to the Council. The person appointed will be required to devote his whole time to the services of the Council, and must not engage in private practice either within or without the Council's time, and he must be prepared to undertake any Medical duties of the Department, including occasional duty and/or residence at the Isolation Hospital, and work under the School Medical Service and Maternity and Child Welfare and Tuberculosis Schemes. Candidates must possess a Diploma in Public Health. Age not to exceed 40.

The officer selected will be under the direction and supervision of the Medical Officer of Health, who is also the School Medical Officer. The place of residence of the person appointed must be approved. The appointment will be subject to the terms and conditions of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to furnish a medical certificate of fitness.

Applications, stating age, qualifications, experience, and when at liberty, accompanied by copies of not more than three recent testimonials, must reach the undersigned on or before June 25th.

Canvassing, directly or indirectly, is prohibited and will disqualify.

V. E. SOOTHILL, M.O.H. & S.M.O.
Public Health Department,
68, St. Giles' Street, Norwich.

City of Portsmouth.

THIRD ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited for the appointment of a Third Assistant Resident Medical Officer for the ST. MARY'S HOSPITAL, ST. MARY'S INSTITUTION, and CHILDREN'S HOME.

The appointment will be limited to a term not exceeding one year, and will be subject to one month's notice on either side. Salary at the rate of £250 per annum, with furnished apartments, rations, and other allowances.

Candidates must be single, and duly registered. Preference will be given to those having a knowledge of the treatment of mental diseases, and who have experience in surgical work. A Resident Medical Superintendent is in attendance.

Applications on forms to be obtained at this office, accompanied by not more than three recent testimonials, and a description of the diplomas, certificates of degrees, licences, and other instruments held by the candidates, to be forwarded to me, endorsed "First Assistant Resident Medical Officer," by Tuesday, June 23rd.

The Guildhall, F. J. SPARKS,
Portsmouth. Town Clerk.
June 3rd, 1931.

Peamount Sanatorium, Newcastle

CO. DUBLIN.

ASSISTANT RESIDENT MEDICAL SUPERINTENDENT.

The Committee of Management of Peamount Sanatorium invite applications for the position of Assistant Resident Medical Superintendent at Peamount. Salary £300 per annum, rising by yearly increments of £10 to £350, plus apartments, fire, and light. Agreement to six months' probation, one month's notice on either side to terminate the agreement. Further particulars to be obtained from the Hon. Secretary, 9, Ely Place, Dublin.

City Mental Hospital,

NOTTINGHAM.

Wanted, JUNIOR ASSISTANT MEDICAL OFFICER (male), preferably with some post-graduate General Hospital experience. Salary £350, rising by annual increments of £25 to £450 per annum, all found, with an additional £50 per annum on obtaining the D.P.M. The Hospital has a well-equipped Laboratory. Applications, with fullest particulars, should be sent to the Medical Superintendent forthwith.

Corbett Hospital, Stourbridge.

RESIDENT HOUSE SURGEON required to commence duties on July 12th next. Appointment for not less than six months. Salary at the rate of £200 per annum, with board, apartments, and laundry.

Applications, with copies of testimonials, to be sent to the undersigned not later than Tuesday, June 30th.

F. PERCIVAL EVERS,
113, High Street, Secretary.
Stourbridge.

City and County of Newcastle-upon-Tyne.

CITY HOSPITAL FOR INFECTIOUS DISEASES.

RESIDENT MEDICAL ASSISTANT (Male).

Wanted immediately, a Resident Medical Assistant (male), who holds a registrable qualification in Medicine and Surgery, and possesses a practical knowledge of Bacteriology. The holding of a previous resident appointment and some experience of general practice will be considered a recommendation.

Salary £350 per annum, with board, lodging, etc.

The appointment is for the period of one year only.

Applications, stating age, qualifications, and previous experience, to be forwarded, with copies of not more than three recent testimonials, to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne.
June 8th, 1931.

City and County of Newcastle-upon-Tyne.

NEWCASTLE GENERAL HOSPITAL.

Applications are invited from duly qualified and registered Medical Practitioners for the post of PATHOLOGIST (part-time) to the above Hospital. The salary payable is £150 per annum.

Further particulars may be obtained from the Medical Officer of Health, Health Department, Town Hall, Newcastle-upon-Tyne, to whom all applications, accompanied by not more than three recent testimonials, should be sent.
June 9th, 1931.

City and County of Newcastle-upon-Tyne.

NEWCASTLE GENERAL HOSPITAL.

TWO HOUSE PHYSICIANS AND THREE HOUSE SURGEONS. (Male or Female.)

Applications are invited for the above posts. The salary in respect of each of the appointments, which are tenable for six months, is at the rate of £100 per annum, with board, lodging, etc.

Applications, which should be delivered by June 30th, stating age and qualifications, together with copies of not more than three recent testimonials, to be addressed to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne.
June 9th, 1931.

Derby City Hospital.

SENIOR ASSISTANT MEDICAL OFFICER (Resident).

A vacancy as Senior Assistant Medical Officer (male) will occur at the above Hospital of 300 beds for the treatment of general cases, on September 1st next, and applications are invited *for the post.*

Candidates, who must be registered in Medicine and in Surgery, and have held resident appointments in a General Hospital, must not exceed 40 years of age. The officer appointed will work under the control of the Medical Superintendent, and will devote his whole time to the official duties.

Salary at the rate of £350 per annum, rising by annual increments of £25 to £450, with board and residence.

The appointment (determinable by two months' notice on *either side) is subject to the* provisions of the Local Government and Other Officers Superannuation Act, 1922, and the successful candidate will be required to pass a medical examination.

Applications, stating age, qualifications, and previous experience, and accompanied by copies of three recent testimonials, should be sent to the undersigned not later than Wednesday, June 24th.

GORDON LILICO,
Medical Officer of Health.
Public Health Department,
Ford Street, Derby.

The Guest Hospital, Dudley.

(General Hospital—107 Beds.)

Two HOUSE SURGEONS required, one to commence duties July 15th and one August 23rd. Salary £160–£170 per annum, according to experience, with furnished apartments, board, and laundry. *Candidates must be fully qualified* and registered. Applications, stating age, qualifications, and experience, and accompanied by copies of testimonials, to be sent to the under signed

H. RAYMOND HURST,
The Guest Hospital, House Governor &
Dudley. Secretary.
June 9th, 1931.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District.	Town or District.
GENERAL POST OFFICE. *(Assistant Medical Officer—Woman.)*	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH** *(contd.)*
CONTRACT PRACTICE.	NEATH AND DISTRICT. *(Medical Aid Association.)*	NEWPORT EDUCATION COMMITTEE. *(Assistant School Medical Officer and Medical Inspector of Schools—Male.)*
EBBW VALE, MON. *(Workmen's Medical Society.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	PRESTON COUNTY BOROUGH. *(Assistant School Medical Officer—Female.)* *(Resident Medical Officer, Preston Institution, Fulwood.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	STAFFS COUNTY MENTAL HOSPITAL, BURNTWOOD. *(Third Assistant Medical Officer.)*
LOWESTOFT MEDICAL INSTITUTE. *(Medical Officer.)*	**PUBLIC HEALTH.**	SURREY COUNTY COUNCIL. *(Assistant Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	DEVON COUNTY COUNCIL. *(School Medical Inspector—Male.)*	WOLVERHAMPTON COUNTY BOROUGH. *(Assistant Medical Officer.)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*	MIDDLESEX COUNTY COUNCIL. *(Junior Assistant Medical Officer at Napsbur Mental Hospital—Male.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*		

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments.)*	Dr. J. G. HUNTER (Medical Secretary, New South Wales Branch), 135, Macquarie St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, B.M.A. House, 206, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch), British Medical Association, P.O. Box 156, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. MAJOR (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

June 10th, 1931. By Order of the Council. ALFRED COX, Medical Secretary.

East Suffolk and Ipswich HOSPITAL, IPSWICH.
(265 Beds—7 Residents.)

Applications are invited for the post of CASUALTY OFFICER. Salary £120 per annum or more according to experience. Board, residence, and laundry.

Applications from British (male) candidates, stating age, qualifications, and experience, accompanied by three recent testimonials, to be sent to the undersigned.

The Hospital, Ipswich. ARTHUR GRIFFITHS, Secretary.

June 1st, 1931.

Assistant Resident Surgeon.

The Committee of the ROYAL NATIONAL ORTHOPAEDIC HOSPITAL invite applications for the appointment of Assistant Resident Surgeon (male) at the COUNTRY BRANCH, STANMORE, MIDDLESEX. Appointment for 2 years. £350 a year.

Candidates must be Fellows of the Royal College of Surgeons (England). Applications, with copies of three recent testimonials, to be sent in on or before June 23rd to 234, Great Portland Street, W.1, addressed to the Secretary, from whom further particulars of duties may be obtained.

The Jessop Hospital for Women, SHEFFIELD. (146 Beds.)
Gynaecological and Maternity Departments.

The Board of Management invite applications for the appointment of Three ASSISTANT HOUSE SURGEONS (male), for a period of six months from a date early in July. Salary £100 per annum, together with board, residence and laundry.

Applications, stating age, together with copies of recent testimonials, should be addressed to the undersigned immediately.

H. B. SHELSWELL, Secretary.

Seamen's Hospital Society, Greenwich.

The Committee invite candidates for the appointment of HOUSE PHYSICIAN at the HOSPITAL FOR TROPICAL DISEASES, Endsleigh Gardens, W.C. Candidates must be doubly qualified and registered. The elected candidate will be required to take up duty on July 1st. Salary at the rate of £150 per annum, with board, residence, and washing. The appointment will be for six months. Applications, stating age, together with copies of not more than three recent testimonials, to be sent in on or before June 22nd to the undersigned, from whom further particulars can be obtained.

Greenwich. R. E. V. BAX.
June 2nd, 1931. Secretary.

Shropshire Orthopaedic Hospital AND AGNES HUNT SURGICAL HOME, OSWESTRY.

HOUSE SURGEON (male) required on or about July 1st. Appointment for six months, with possibility of extension. Salary at the rate of £200 per annum, with board, residence, and laundry. Two weeks' holiday for each six months' service.

Applications, stating age, with copies of three recent testimonials, should be received by the Secretary-Supt. on or before June 20th.

Stockport Infirmary.

HOUSE SURGEON (male) required. Salary £175 per annum, with board, residence, and laundry.

Applications, stating age, University, qualifications, and experience, should be accompanied by copies of three testimonials, addressed to the undersigned, and delivered here not later than Saturday, June 20th.

Duties to commence July 10th.

EDWIN J. PEARCE, Secretary-Supt.

St. Peter's Hospital for Stone, ETC., Henrietta Street, Covent Garden, W.C.2.

CLINICAL ASSISTANTS are required by the following members of the Honorary Staff, who attend the Out-patient Department as indicated:

Mr. Swift Joly	Mondays 2 to 5 p.m.
Mr. Clifford Morson	Saturdays 2 to 7 p.m.
Mr. Barrington	Tuesdays 2 to 5 p.m. Thursdays 3 to 7 p.m.
Mr. Ogier Ward	Weds. 2.30 to 6 p.m. Fridays 2 to 5 p.m. (Women and Children)
Mr. Alban Andrews	Mondays 5 to 7 p.m. Fridays 5 to 7 p.m.

Appointments are made for six months from July 1st, 1931, a fee of five guineas being payable to the Hospital.

Applications will be received by the undersigned up to the first post on Tuesday, June 16th, 1931.

BEECHEY ROGERS, Secretary.

The Salvation Army, THE MOTHERS' HOSPITAL, Lower Clapton Road, Clapton, E.5.

Applications are invited from Medical Women for the posts of SENIOR and JUNIOR RESIDENT MEDICAL OFFICERS. The Senior position, which is for twelve months, becomes vacant on July 1st, the salary being £150 per annum, with board, residence, and laundry. The successful candidate will be expected to carry out the duties of the Junior Resident Medical Officer for the first month.

The Junior post is for six months as from August 1st. Salary £60 per annum, with board, residence, and laundry.

Applications, with testimonials, must be sent to the Secretary on or before June 15th.

EDGAR DIBDEN, Secretary.

(Appointments continued on p. 54)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted, July 1st, young energetic ASSISTANT, outdoor, male, single, for country hospital town Partnership Practice. Recently qualified preferred. Must be keen on Anaesthetics and Midwifery. Good opport. for obtaining extensive exper. in general practice and surg. Salary starting at £250 p.a. (board and lodging found). Essen. partics. and tests.—No. 3610, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistant (indoor), male, panel and private Practice in University town near London. July 1st. Able to dispense, cycle, and drive car (if possible). Salary to commence £260. Work light.—Add., No. 3612, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Well-qualified unmarried gentleman as ASSISTANT, with definite view to Partnership in good-class country Practice. Sport of all kinds. Salary £500 p.a.—Address, No. 3693, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, male, with Hospital and general experience. £350 p.a. (indoor) Usual bond. State particulars, age, height, etc. Photo (returnable).—Address, No. 3683, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant, with view to early Partnership, in large three-man industrial Practice in the Midlands. Share for disposal 2/9, about £1,200 per annum gross.—Address, stating all necessary particulars, No. 3608, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, single, male ASSISTANT, South Coast Resort. Panel and private. Work light. Dispenser kept. Able drive car. Usual bond. Send photo. Reasonable salary.—Address, No. 3619, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant, male, young, unmarried. Near Liverpool. Able to drive car. Usual bond. Salary £350. Some experience preferable. Full particulars. —Address, No. 3681, B.M.A. House, Tavistock Square, W.C.1.

Wanted, in London, Part-time lady ASSISTANT, duties nominal, about three hours per week. Suit recently qualified studying for D.P.H. Prospect of Partnership later. State age, quals., and previous exper.—No. 3623. B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Second Male Assistant, single, for large Practice near Manchester.—Address, with references and recent photograph, No. 3506, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Assistant, male, indoor, private and panel Practice. State full particulars. References. — Address, No. 3629, B.M.A. House, Tavistock Square, W.C.1.

Medical Assistant, male, to live in, required for Suburban Practice near Glasgow. Salary £250, all found.—Apply to CRAWFORD, HIGGON & CAMERON, Writers, 257, West George Street, Glasgow, C.2.

North Wales.—Wanted a Welsh-speaking outdoor ASSISTANT for general Practice, private and panel. District industrial and rural. Usual bond. References required. —Address, No. 3031, B.M.A. House, Tavistock Square, W.C.1.

Outdoor Assistant wanted for middle of June, salary commencing £400, light work, in good-class Practice in Midlands. British nationality. Ample opportunity for gaining experience in all branches of general practice.—Address, No. 3507, B.M.A. House, Tavistock Square, W.C.1.

Pathological and Bacteriological LABORATORY ASSISTANTS ASSOCIATION.—Pathologists and Bacteriologists requiring SKILLED CERTIFICATED LABORATORY ASSISTANTS are invited to communicate with H. GOODING, Hon. Sec., "Moelfre," 10, Holbeck Grove, Victoria Park, Manchester. No fees.

Well-qualified woman, with good Hospital and G.P. experience, desires ASSISTANTSHIP, permanent or part-time, London area. Long Locum considered. Age 29, keen, able drive car. Interview London.—No. 3512, B.M.A. House, Tavistock Sq., W.C.1.

LOCUMS.

FOR LOCUM TENENS APPLY TO
PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Wanted. — Locums by Medical Woman, L.R.C.P. & S., L.M., D.P.H. Accustomed sole charge and dispensing. 5 yrs.' experience. Free in town June 22nd, now in Sussex. Will go anywhere.—Address, No. 3687, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Locums by M.R.C.S., L.R.C.P. (woman). Ex H.S. Experience G.P. locums. Own car. Now free in London.—Address, No. 3682, B.M.A. House, Tavistock Square, W.C.1.

Doctor experienced in Hospital and General Practice, disengaged after June 24th. LOCUM TENENS. Testimonials if required.—Address, Dr. CHILDS, c/o Westminster Bank, Pavilion Buildings, Brighton.

Experienced Practitioner is prepared to undertake LOCUM WORK, July or August, in country or country town where work is light. Hospitality for wife and moderate fees in a pleasant district.—Address, No. 3611, B.M.A. House, Tavistock Square, W.C.1.

General Medical Practitioner (retired) undertakes LOCUM TENENS work. Large experience in London and country. Where work is light 6 gns. charged. —Address, No. 3625, B.M.A. House, Tavistock Square, W.C.1.

General Practitioner, age 43, is willing to undertake LOCUMS or deputize in Bristol district. Own car and house.—Dr. E. FARAKER, 85, Coldharbour-Rd., Westbury Park, Bristol.

Hospitality Locum needed, pretty Cotswold Town. Small Practice, no midwifery, night work, or Sunday surgery, nor Wednesday evening. Golf, tennis, and boating. Suit man and wife. Fees 3 gns. weekly, for 3 weeks in July. — Write, BM/BCSW., Monomark House, High Holborn, W.C.1.

July Locum supply in Eastern Counties or Cambridge or London area. Panel small preferably. M.B., Ch.B., experienced. Ex H.S. and H.P. Abstainer. London references. — Apply, MEDICUS, 64, Bothwell Street, Glasgow, C.2.

Lady Locum Assistant wanted, 4 weeks, starting August 1st. 5 gns., indoor. No responsibility.—Address, No. 3607, B.M.A. House, Tavistock Square, W.C.1.

Locum. — Lady Doctor wanted from July 9th, for three or four weeks. Midland town. Very light work. Motor. Terms £5 5s. a week and train fares.—Address, No. 3680. B.M.A. House, Tavistock Square, W.C.1.

Locum wanted, having own car or motor-cycle, for 7 to 10 days from June 21st. Country Practice near Cambridge. Work very light.—Address, No. 3627, B.M.A. House, Tavistock Square, W.C.1.

HOLIDAY LOCUMS

FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. *(Night Calls)*

Locums wanted for a London Borough—(a) Tuberculosis Officer during July; (b) for general Public Health and Maternity and Child Welfare work during July and August. D.P.H. desirable. B.M.A. fees paid.—Write Box YS86, Willings, 86, Strand, W.C.2

Medical Man offers good salmon and sea trout fishing, private water, R. Towy, August, and hospitality, in return for LOCUM; two or three weeks. Work light. Car essential.—Dr. ALEX LINDSAY, Nantgaredig, Carmarthen.

Medical Woman (senior) experienced in G.P. and Sanatorium work, open to undertake LIGHT LOCUM WORK, no midwifery. Free end of June.—Address, No. 3690, B.M.A. House, Tavistock Square, W.C.1.

Senior man, experienced G.P., Mental and Nerve Cases, will act L.T. or Assist. view permanency. South or West Country or seaside. Institution preferred, or would go a voyage. Capital available.—Address, No. 3513, B.M.A. House, Tavistock Sq., W.C.1.

Woman G.P., experienced in Pediatrics, available as LOCUM for afternoon Welfare Clinics throughout summer, in London or Home Counties.—Address, No. 3624, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

Wanted. — Resident Medical SUPERINTENDENT for small Private Mental Home. Would suit retired Practitioner. —Address, No. 3605, B.M.A. House, Tavistock Square, W.C.1.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctor recommends capable lady as SECRETARY-RECEPTIONIST or HOUSEKEEPER-RECEPTIONIST. Widow who has studied Medicine four years at University. Can drive car. Temporary or permanent post. —'Phone, Fulham 6327, or address No. 3684, B.M.A. House, Tavistock Square, W.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Lady Dispenser (Hall) desires POST. London or Southern England preferred. 6 years' experience. Excellent references.—"FROLLIOTT," Cheriton, Castle Road, Torquay.

Lady desires post as Secretary to Doctor. Excellent medical and commercial references. Expert shorthand-typist. Tall, good appearance, well educated. Liverpool district.—Miss L., 154, Queen's Drive, Mossley Hill, Liverpool.

Laryngologist, young, experienced, seeks POSITION anywhere. Capable, enthusiastic. Combine general work if necessary. Urgent.—"G. W. M.," c/o Hugh Cairns, F.R.C.S., London Hospital, E.1.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Liverpool.—Medical Man willing to do EVENING SURGERIES and WEEK-END WORK in return for Hospitality.—Address, No. 3628, B.M.A. House, Tavistock Square, W.C.1.

Medical Man required, preferably Oxford or Cambridge Graduate, to act as RESIDENT FAMILY PHYSICIAN in country house in the Midlands. Some experience of Mental Disorders essential.—Address, No. 3689, B.M.A. House, Tavistock Sq., W.C.1.

Southend and district. — Part-time EMPLOYMENT wanted. M.B., B.S. 2—4 evenings or week-ends.—Address, No. 3606, B.M.A. House, Tavistock Square, W.C.1.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY McFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

Typewriting and Duplicating undertaken by Expert. Testimonials, Theses, Legal Documents. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD (B), 341, Finchley Road, N.W.3. 'Phone Hampstead 6430 (any hour).

Typewriting and Duplicating.—Testimonials, Theses, etc., neatly and accurately copied. Scientific work a specialty.—WOBURN BUREAU, 3, Upper Woburn Place, London, W.C.1 (adjoining B.M.A. House). 'Phone: Museum 4475.

Woman M.B., B.S. (29), ex H.S., H.P., and C.O., desires PART-TIME WORK in London, indoor or outdoor, from July 1st.—Address, No. 3518, B.M.A. House, Tavistock Square, W.C.1.

PARTNERSHIPS.

Wanted by Cambridge Man, aet. 50, with wide experience of good-class private practice, a PARTNERSHIP in good non-industrial Country or County Town Practice. Good house essential. Share £1,000 to £1,500.—No. 3245, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by Bachelor (28), holding Hospital appointment, PARTNERSHIP. Panel or mixed. Preferably South Yorkshire. Moderate capital. Suitable offers elsewhere considered. — Address, No. 3626, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Half Partnership in suburban or country town mixed Practice Northern Counties. Good panel. Approximate receipts £2,500. Fully experienced.—Apply, c/o F.W.C., 31, Daresbury Road, Chorlton-cum-Hardy, Manchester.

For Sale. — Half share in good PRACTICE in country town. No panel. Total receipts over £3,500.—Address, No. 3617, B.M.A. House, Tavistock Square, W.C.1.

Manchester residential suburb.—HALF SHARE PARTNERSHIP, with view to early succession. Receipts £1,800, with much scope for increase. House available. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Partnership with Succession (within 3 years) desired by experienced Medical Woman, a keen Physician. Non-panel, non-dispensing; good-class. Provinces or Scotland.—Address, No. 3632, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES.

Wanted.—London and District. —The Medical Agency has a large clientele seeking suitable INVESTMENTS in the London area, with incomes of £800 to £4,000, with and without panel. Ample capital available. Representative sent, without obligation, on receipt of card.—THE MEDICAL AGENCY, Watergate House, Adelphi W.C.2.

Wanted by experienced Practitioner, middle and better-class PRACTICE, moderate panel, in residential non-industrial district Country Town or Country. Good house. Income £1,000—£1,500. Strict confid.—No. 3250, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by experienced Practitioner, middle and working-class PRACTICE in fair sized town. Income £2,000—£3,000 p.a. Good panel essential. Ample capital.—Address, No. 3613, B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced Practitioner, mixed-class PRACTICE with some panel, in country town or country, with scope. Income £900 upwards. Strict confidence.—Address, No. 3621, B.M.A. House, Tavistock Square, W.C.1.

Wanted, London and district, working and middle-class private and panel PRACTICE, with income about £1,500. Strict confidence. No agents.—Address, No. 3601, B.M.A. House Tavistock Square, W.C.1.

Wanted.—Middle or better-class PRACTICE in pleasant district near London. by M.D., aged 32. Income required £1,000 upwards. Cash available.—Address, No. 3620, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — General Practice, about £1,500 up, half from panel. Suitable small house. Capital available. Strictly confidential.—HOUGH, HOSEASON & Co., LTD., Manchester.

Australia. — For Sale, Venereal Disease PRACTICE, averaging £5,000 p.a., increasing. Price one year's purchase. 6—12 months' introduction. 7-roomed residential and consulting suite on lease, low rental. Wonderful opportunity for young Graduate desiring comfortable Practice in Empire's most beautiful city. Population 1¼ million. No special experience necessary, but surgical or pathological ability desirable. Possibility hospital appointment. Enquiries welcomed from London agencies. Vendor's name available from Editor "B.M.J." Would consider Partnership, but Vendor desirous of proceeding to America, 1932.—Write or cable, Box 3688, G.P.O., Sydney.

Eastern Suburb.—Old-established cash and panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1,250, part by instalments.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

E. Cowes, I.W.—Nucleus £260 p.a., price £300. Fine house, grounds, and garage, rent £75, or sell freehold, £1,500. Scope. — Address, No. 3603, B.M.A. House, Tavistock Square, W.C.1.

For Disposal. — Small Practice established 5 years ago in a very charming E. Sussex Village. 55 miles from town. Panel 150, increasing. Freehold commodious house in a delightful old-world garden. Electric light, central heating, perfect water supply, gravity fed to cisterns. Would suit a man of means requiring an easy time. An energetic man would have considerable possibilities. Opposition (nearest 3 miles) not strong. Inspection any time. — Address, No. 3549, B.M.A. House, Tavistock Square, W.C.1.

For Sale in important seaside South-Western town, an easily worked small PRACTICE, capable of development as no midwifery has been done for some years. Easy panel, about £300 per annum. Mild climate. Good educational facilities. Also golf, sailing, and other sports. Good house for sale or short lease. Favourable terms for cash. No agents.—No. 3622, B.M.A. House, Tavistock Sq., W.C.1.

For Sale. — Increasing Practice in West of England City. Receipts past year £450. Panel 580. Suitable house, with electric light, garage, and garden. Plenty of scope. Premium £450 for prompt disposal.—No. 3688, B.M.A. House, Tavistock Sq., W.C.1.

Lancs Town.—Old-established.—Good house, garage, garden; rent £60. Excellent scope, growing district. Receipts £1,200. Panel 900, increasing. Price 1 year's purchase for quick sale, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Liverpool. — Rapidly growing district. 3 years' NUCLEUS. Woman's good middle-class Practice. Small panel, 90. Intro. given from or before September. Reason for sale, marriage. Freehold house for sale.—No 3545, B.M.A. House, Tavistock Sq., W.C.1.

London Suburb, E. — Urgent Sale. — Well-established cash and panel PRACTICE. Receipts average £630 p.a., panel nearly 600. Good house, long lease. Any reasonable offer considered. Locum in charge.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

London, S.W. — Old-established PRACTICE. Receipts average £750, including panel 400. Nice prominent house, rent £115. Long lease. Good scope for increase. Premium £1,000.—Apply, PEACOCK & HADLEY, LTD., 19, Craven Street, Strand, W.C.2.

Medical. — Lady Doctor's Practice in industrial area of Glasgow for sale; gross earnings £300; moderate premium.—Apply, CRAWFORD, HERRON & CAMERON, Writers, 257, West George Street, Glasgow, C.2.

Midlands, outskirts large city, middle and working-class PRACTICE, over £1,000. Panel 900. Excellent detached house, main road, 6 bedrooms, separate surgery entrance. Large garden, tennis court, garage. Price, Practice and freehold, £3,300.—Add., No. 3685, B.M.A. House, Tavistock Sq., W.C.1.

Non-panel Practice in North-East Port.—Residential district. Good house and garden. Rent £55 p.a. Average receipts £813 p.a. Premium £800. Good introduction.—Apply, 2612, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

Nucleus for Sale to Medical Woman, industrial town 30 miles from London. Receipts £300, panel 200. House available.—Address, No. 3630, B.M.A. House, Tavistock Square, W.C.1.

Practice wanted in Birmingham by experienced Practitioner, good panel, within radius of three miles from General Hospital. State full particulars. — Address, No. 3614, B.M.A. House, Tavistock Square, W.C.1.

Scotland. — Growing Medical PRACTICE (with house) for sale in centre of large industrial town in Lanarkshire. The Practice is largely Catholic and the income is from £800—£1,000. Premium 1½ years' purchase. — Address, No. 3505, B.M.A. House, Tavistock Square, W.C.1.

Scotland.—Open suburb of East Coast Town.—PRACTICE, mostly middle-class, with panel of 700. Receipts over £1,000 p.a. Few confinements. Very good modern house to be sold, nice garden and garage. Good introduction. Price for Practice 1½ years' purchase, Vendor retiring.—Address, No. 3515, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PUNCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2.—Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

West Riding area. — Old-established PRACTICE. Average receipts £1,339 p.a. Panel 880. Premium 1½ years' purchase. Good freehold house £1,300.—Apply, 2617, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

West Riding Town. — Good middle and working-class PRACTICE for sale in healthy suburb. Panel 1,400 Average annual receipts for the last 3 years £2,000. Premium about 1½ years' purchase. Good educational facilities. Comfortable freehold house in excellent condition for sale, which may be rented for 2 years.—Apply, 2604, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

West Yorkshire. — Near large town.—Old-established PRACTICE. Receipts £1,033. Panel 890. Premium 1½ years' purchase. House can be rented, £64 p.a.—Apply, 2614, REYNOLDS & BRANSON, LTD., Medical Transfer Agents, 13, Briggate, Leeds.

HOUSES. CONSULTING ROOMS.

Wanted. — Harley Street or Wimpole Street. Sept. 1st. UNFURN. FLAT, with service, 1 bed., 1 rec., 1 bath., etc., and Part-time CONSULTING ROOM same house, with doorplate. Rent inel., max. £250.—No. 3691, B.M.A. House, Tavistock Sq., W.C.1.

Wanted by Masseuse, neighbourhood of Portland Place, W.1, ROOM suitable for treating patients. Must have electric main, hot and cold water.—Address, stating rent, etc., No. 3609, B.M.A. House, Tavistock Square, W.C.1.

Consulting Rooms to Let.—Harley Street and District. Whole and part-time. Rents £80 to £300. Lists sent on application. Rooms wanted in Harley Street district.—ETGOOD & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2601.

Weymouth Bay Estate.—New HOUSE for SALE. Suit retired Doctor or one wishing to start in a growing neighbourhood. 3 reception, 3 beds., bath, etc., garage.—Address, No. 3511, B.M.A. House, Tavistock Square, W.C.1.

Dentist requires professional ACCOMMODATION (1 room sufficient), with Doctor, with large panel Practice where ASSISTANCE for general Anaesthetics is available. London or suburbs.—Address, No. 3615, B.M.A. House, Tavistock Square, W.C.1.

Devon. — Exceptionally good QUARTERS. 700 feet above sea-level, very bracing. Large airy rooms, good living, ideal garden, croquet, badminton. 10—15 minutes from golf, tennis, fishing, swimming baths, bowling green, station, and town. Specially recommended by Doctors. — 'Phone: Garage, Brandize House, Okehampton.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

Harley St. — To Let for some months, PART-TIME CONSULTING ROOM, good waiting room and attendance. Appointments made.—Address, No. 3616, B.M.A. House, Tavistock Square, W.C.1.

House for Sale.—Splendid opportunity for Professional Man. House specially built for Doctor. Rapidly growing district, N. London. Owing special circs., extremely low price asked. Only wants seeing. Principals only.—Full partics., BOLLERELL & ROCHE, Solicitors, 24, St. Mary's Axe, E.C.

London, North. — Corner Residence, suitable Doctor or Dentist, nearly opp. Metro station, in rapidly developing suburb. Six rooms, usual offices, nice garden, room for garage. Cash required about £400. Good opportunity for establishing Practice. No goodwill asked. — Address, No. 3692, B.M.A. House, Tavistock Square, W.C.1.

Manchester, near.—Grand Opening for Medical Man, rapidly growing residential district. Detached HOUSE, 3 ent., kit., scull., pantry, 4 beds., bathroom; 3 entrances. Price £1,200.—JOHN C. EDWARDS, 23, Brazennose Street, Manchester.

Occupier of suitable house in rapidly growing district (Home County) *could give ACCOMMODATION to Lady Doctor* wishing establish PRACTICE. Very moderate rental.—Address, No. 3631, B.M.A. House, Tavistock Square, W.C.1.

Part-time Consulting Room in Harley Street district.—A fine CONSULTING ROOM, with or without plate, is now available in a first-class professional building. Every convenience. Rent £50 p.a.—Address, No. 3328, B.M.A. House, Tavistock Sq., W.C.1.

RENT ONLY £85 p.a.

Sanderstead. — Close to Station and shops, main road position. Seven bed., bath., three recep. Modern. Suit Dentist. —Apply, DICKINS, 4, George Street, Croydon.

To Semi-retired Men.—Beautiful unspoiled village, West Surrey. Quaint old HOUSE, oak beams, 3 reception, 3 bedrooms, bathroom and w.c., large garage and outhouses. 1¼ acres with orchard. Modern septic-tank drainage, company's water, gas. No Doctor in village. Excellent social amenities; hunting, shooting, and golf in immediate neighbourhood. —For particulars address No. 3604, B.M.A. House, Tavistock Square, W.C.1.

Winchmore Hill, London.—For Sale, FREEHOLD HOUSE, 3 recep. and 5 bedrooms. Eminently suitable for Doctor or Dentist Corner house, detached. Central heating. Excellent condition. Garage. Good garden. Good-class district, rapidly growing.—EKINS, Ridgemount, Eversley Park Road, N.12. 'Phone: Palmers Green 1819. No agents.

Worcester Park. — In rapidly growing district, near station. New 4-bedroomed Corner HOUSE, eminently suitable for Doctor. Consult. room separate from house. 2 gar. Nice gard. Freehold £1,650.—Apply, F. J. FARRELL, *Builder*, Worcester Park, Surrey.

MISCELLANEOUS SALES, etc.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY
TAXATION CONSULTANTS.
49, Chancery Lane, London, W.C.2.
'Phone: Holborn 6659.

IMPORTANT NOTICE
to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 *Expert Cutters and Fitters is always at your* disposal.

SPECIAL OFFER.

JACKET & VEST (In black or grey), **£5 5s.**
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

SUITS & OVERCOATS to measure from **£6 6s**
SOLID WORSTED SUITS **£7 7s**
DINNER SUITS fr. **£8 8s.** **DRESS SUITS** fr. **£10 10s**
PLUS FOUR SUITS ... ... from **£6 6s**

THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES ... from **£2 2s**
RIDING HABITS fr. **£10 10s.** **COSTUMES** fr. **£6 6s**

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:
Regent 3024-3025 & 7486. National 8696/7.

Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

Medical Surgical Sundries Ltd.

Supply Instruments, etc. "Esseff" Inhaling Apparatus, price £12 10s. (can be hired, particulars on application). Write for price list of Tablets and Government surplus articles. *Showroom*: 97, Swinderby Road, Wembley.

For Sale. — Lock-up Surgery, 21 years' lease. 100 yards from District Station in thickly populated Western Suburb. About 400 panel; with furniture, etc. Three rooms, ground floor, newly decorated. Good scope for priv. prac. £500 cash for quick sale. —S. PARKES & Co., 162, High St., Acton, W.3.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

TENDER.

Wandsworth Borough Council.

The Wandsworth Borough Council invite *TENDERS for the supply of the undermentioned* furniture and equipment for the Borough Maternity Home at Grove Road, Balham, as follows, viz.:

1. BEDDING, etc.
2. CROCKERY.
3. FURNITURE.
4. HARDWARE.
5. HOSPITAL EQUIPMENT.
6. LINEN.
7. STERILIZING APPARATUS.
8. WATERPROOF SHEETING.
9. MISCELLANEOUS ARTICLES, ELECTRIC TABLE LAMPS, TIMEPIECES, etc.

Schedules containing quantities of the articles required and forms of tender and contract may be obtained on payment of 1/- per schedule on application to the undersigned, and no tender will be entertained unless it is made upon one of such forms and delivered at the Council House, East Hill, Wandsworth, S.W.18, not later than 10 a.m. on Friday, June 19th.

Where possible all articles must be of British manufacture. Any goods of foreign manufacture must be *specified in the form of tender.*

Council House, D. A. NICHOLL,
Wandsworth, S.W.18. Town Clerk.
June 1st, 1931.

APPOINTMENTS.—Contd.

City and County of Bristol.

NORTHAM COLONY FOR MENTAL DEFECTIVES.

Applications are invited for the following posts:

MATRON. Salary £200 to £250 per annum, together with residential emoluments. Must be *general trained and hold the Medico-*Psychological certificate.

STEWARD. Salary £400 to £500 per annum, non-resident. Must have experience of the administration of the Mental Deficiency Acts.

ENGINEER. Salary £300 per annum, non-resident. Board of Trade certificate (with motor endorsement), or similar qualification necessary.

Applicants for these posts must not be over 40 years of age.

Forms of application, with further particulars, can be obtained from and must be delivered to the undersigned at the address below not later than June 30th.

The Council House, JOSIAH GREEN,
Bristol. Town Clerk.

Derbyshire County Council.

LOCUM FOR SANATORIUM.

Applications are invited for the post of Locum Resident Assistant Medical Officer at WALTON SANATORIUM, near CHESTERFIELD (130 beds), for a period of twelve weeks commencing June 29th. Salary at the rate of £350 per annum, with board, lodging, etc. Experience in Artificial Pneumothorax desirable.

Applications, together with copies of two recent testimonials, to be sent to the undersigned on or before June 20th.

New County Offices, W. M. *ASH*,
St. Mary's Gate, County Medical
Derby. Officer.
June 9th, 1931.

Royal South Hants and SOUTHAMPTON HOSPITAL, SOUTHAMPTON.

Applications are invited for the following resident appointments, which will fall vacant on June 30th next:

One HOUSE PHYSICIAN, £180 per annum. Six months' engagement.
One CASUALTY OFFICER, £180 per annum. Six months' engagement.
All with full board, lodging, and laundry.

Applications, together with not more than three testimonials, should be sent to the undersigned as soon as possible.

HY. TRUSSON, Secretary.

North Staffordshire Royal INFIRMARY, STOKE-ON-TRENT. (350 Beds.)

ASSISTANT HOUSE PHYSICIAN.

The Committee invite applications for the post of Assistant House Physician.

Salary at the rate of £125 per annum, with board, residence, and laundry. Previous Hospital experience necessary.

Applications, stating age, sex, and *experience*, accompanied by copies of two recent testimonials, to be submitted to the undersigned immediately.

By Order,
W. STEVENSON,
Secretary & House Governor.
June 8th, 1931.

Evelina Hospital for Children, Southwark, S.E.

Applications are invited for the post of CASUALTY AND OUT-PATIENT OFFICER (male) for six months from July 1st. Salary at the rate of £120 per annum, with board *and residence*. Hours of duty from 9.30 a.m. to 5.30 p.m. from Monday to Friday inclusive, Saturday until 2 p.m.; no Sunday duty.

Applications, stating age, experience, and qualifications, accompanied by copies of four testimonials, to be sent at once to the undersigned, *from whom rules and other particulars* can be obtained.

By Order of the Committee of Management,
W. H. SIDNELL,
June 8th 1931. Secretary-Supt.

Hertford County Hospital.

Applications are invited for the post of HOUSE SURGEON (male). Salary £200 per annum, with board, residence, and laundry. The appointment is for six months in the first instance.

Applications, with copies of three recent testimonials, should be sent to the undersigned.

PERCY G. BROOKS, Secretary.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A PART-TIME JUNIOR CASUALTY OFFICER is required on July 9th, to assist in the Casualty Department, from 10 a.m. to 3 p.m. (Saturdays 10 a.m. to 1 p.m.), under the direction of the Casualty Officer.

The work of this officer includes a large number of Tonsillectomies and other minor operations.

Candidates must be registered Medical Practitioners, and have held a responsible Hospital appointment.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 12 o'clock on Monday, June 29th, accompanied by copies of not more than three testimonials written specially for the purpose.

The appointment is made for six months, and is non-resident. Salary at the rate of £150 per annum, with luncheon.

All candidates must be in attendance to appear before the Joint Committee, if required, at their meeting on Wednesday, July 1st, at 5 p.m. precisely.

Forms of application and copies of the Rules may be obtained from the Secretary, at the Hospital.

By Order of the Board of Management,

June, 1931. JAMES MCKAY, Secretary.

West London Hospital,
Hammersmith, W.6. (234 Beds.)

Required, One HOUSE PHYSICIAN (General and Skin), one HOUSE SURGEON (General and Genito-Urinary), and one AURAL AND OPHTHALMIC HOUSE SURGEON for six months from July 1st next, subject to one month's notice on either side. Salary at the rate of £100 per annum, with board, lodgings, and laundry allowance.

Candidates must be registered under the Medical Act. Applications (which must be made on printed forms obtainable from me) must reach me not later than Thursday, June 18th. Selected candidates will be required to call upon such members of the Medical Staff as directed, to be in attendance at a meeting of the Medical Council on Friday, June 26th, at 4 p.m., and the House Committee meeting at 4.45 p.m. the same day, when the appointments will be made.

H. A. MADGE, Secretary.

Warwick County Mental
HOSPITAL, HATTON.

A vacancy has arisen for a SECOND ASSISTANT MEDICAL OFFICER. Candidates must have had considerable experience in the treatment of Acute Mental Disorders, and be able and willing to conduct Pathological investigations, etc.

The salary is £450 per annum, rising by £25 per annum to a maximum of £500, together with board, apartments, etc. In addition, £50 per annum is given for a qualification in Psychological Medicine.

There are no married quarters.

Applications, together with copies of testimonials, should be sent to the Medical Superintendent at the Hospital.

Knowle Mental Hospital,
FAREHAM, HANTS.

Required, a JUNIOR ASSISTANT MEDICAL OFFICER (male). Preference will be given to candidates who either have or are anxious to obtain a Diploma in Psychological Medicine.

The salary is £350 per annum, rising to £450 by yearly increments of £25, with board, lodging, washing, and attendance, valued at £150 per annum, and an extra £50 per annum will be paid to the selected candidate on obtaining the Diploma.

The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, with copies of recent testimonials, should reach the Medical Superintendent by June 17th.

Lowestoft and North Suffolk
HOSPITAL.

JUNIOR HOUSE SURGEON (man or woman) required. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd.,
The oldest Medical Agency in Manchester,

6, BROWN STREET.

Telegraphic Address: "STUDENT, MANCHESTER."
Telephone: 5932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

PERCIVAL TURNER,
ESTABLISHED 1860. LTD.

4 & 5, ADAM ST., STRAND, W.C.2.

(Incorporating the well-known Agency and personal assistance of Mr. HERBERT NEEDES.)
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

Urgent Sale. — South Wales. — £1,500 p.a., mostly derived from contract work and panel. Not much opposition. Premium £1,500, part by instalments.—No. 8865.

London Sub., W.—About £600. Panel about £600. Fees average 5/-. Detached corner house, 6 bed., etc., large garden. Prem. 14 years' purchase.—No. 8864.

South Coast. — £1,800, steadily increasing. 1/3 share now and succession shortly. Panel 864. Appts. about £200. Fees 4/- to 10, 6. Rooms and houses available.—No. 8863.

South Midlands. — Within 40 miles.—£900 p.a. Unopposed. Panel 897. Good appts. Visits 5/- to 10/6. Large house and garden to rent.—No. 8859.

Lancs.—Partly Surgical.—Over £2,000 p.a. Panel 1,355. Visits 3/6 to 10/6. Major ops., 10 to 50 gns. Suitable house.—No. 8858.

Surrey. — Partnership with Succession.—Residential Town, near London. Over £1,250 p.a. No panel, but scope. Good fees. Excellent premises. Flat over if required. —No. 8857.

Staffs Town. — Over £700 and scope. Vendor retiring. Panel £460 p.a. Club £24. House, with 2 recep., 5 bed., surgery, etc., to rent.—No. 8856.

Lancs Town. — Over £1,100 p.a. Panel 1,450. Visit and med., 5/6 and 6/- House, 3 recep., 5 bed., surgery, etc. For sale at £1,200.—No. 8849.

Midland Town. — Over £2,200 p.a. Panel 820. Appts. £50. Fees 3/6 up. House 2/3 recep., 4 bed., to rent on lease. —No. 8846.

London, S.W. — £800 or more. Panel worth £110. Appts. £25. Large family house, 12 rooms or more; nice garden. Price £2,200 Practice and lease.—No. 8845.

London, S.E. — Woman's Practice. About £550 p.a. Panel 251. Visits 3/6 to 7/6. Small flat at £62 p.a. Premium £750.—No. 8842.

Surrey, Country. — £600 p.a. and scope. Easily worked. Panel over 200. Fees 3/6 to 21/-. Good house. For sale.— No. 8841.

Kent, within 25 miles London. —£800 p.a. Panel 470. Fees 3/6 to 21/-. Large house (8 bed.) and garden. For sale.—No. 8840

West Lothian. — £860 p.a. increasing. Panel 650. Fees 2/6 to 10/-. Villa, 2 recep., 3 bed. etc. House and Practice £1,700 or offer.—No. 8837.

London, E, near City. — Over £800. Panel over 1,000. Midy. refused, but scope. Visits 3/6 to 5/-. Spacious house and garden to rent.—No. 8836.

South Devon Town. — Average £1,564 p.a. Panel about 2,000. Fees 3/6 to 5/-. Large leasehold house. Practice and lease £2,700 cash.—No. 8816.

Midland Town. — Share worth £800 p.a. Fees 5/- to 21/-. Midwifery 5 to 6 gns. Grad. of Lond., Oxon., or Camb. required.—No. 8815.

Riverside Town.—£300 p.a. and resident patient. £8 8s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8831.

Kent Suburb. — Residential. Non dispensing. Average £897. Panel 386. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.) to rent or buy.— No. 8820.

S. W. Scotland.—Near Coast.— £1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

CAVENDISH NURSES (Male and Female)

Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER*: 170, *Oxford Rd.* *GLASGOW*: 28, *Windsor Terr.* *DUBLIN*: 23, *Upper Baggot St.*
TELEPHONES:
London, 1277 Welbeck (Two Lines).
Manchester, 3152 Ardwick.
Dub., 551 Ballsbridge. Glasg., 477 Douglas.
TELEGRAMS:
Tactear, London. Surgical, Glasgow:
Tactear, Manchester. Tactear, Dublin.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES
MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary.*

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.,
MEDICAL TRANSFER AGENCY,
19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.
Telephone: Central 2680.

This old-established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application. No charge unless sale be effected. LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

THE CENTURY INSURANCE COMPANY LTD.,
7, LEADENHALL STREET, LONDON, E.C.3.
18, CHARLOTTE SQUARE, EDINBURGH.

ASSISTS DOCTORS TO PURCHASE A PRACTICE OR PARTNERSHIP

NO GUARANTORS REQUIRED.
REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS, WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE.

PLEASE WRITE FOR PARTICULARS.

MENTION B.M.J.

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054 & 1034. RIVERSIDE 1254. *(Night Calls.)*

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

LONDON, N.—Middle and working-class PRACTICE. Medium-sized house to rent or purchase. Average receipts approx. £575. Panel 385. Fees 2/6 up. Premium £750 cash

LONDON, N.11.—DEATH VACANCY.—Old-established middle-class PRACTICE. Corner house to rent at £90 p.a. Average receipts £750. Panel 600. Fees 3/- up. One appointment. Premium £800 cash.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. 10-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for Surgery. Premium one-third share, with view to larger share, £1,300.

BLACKPOOL (Near).—Well-established middle and working-class PRACTICE. Suitable 8-roomed house available, with garden, garage, etc. Receipts nearly £1,200. Panel about 250. Premium for house and Practice £3,250.

BERKS.—PARTNERSHIP.—Country Town Practice in sporting district. Receipts average nearly £1,150. Panel nearly 600. Fees 2/6 up. Short preliminary Assistantship. 1/3 share to 1/2 share for disposal at 1½ years' purchase. Suitable to experienced man, British, aged 27 upwards.

LONDON, W.—PARTNERSHIP in old-established growing Practice, situated in residential locality. Receipts nearly £4,000. Panel 2,300 approx. Premium for 1/2 share 2 years' purchase.

MIDDLESEX, WEST.—PARTNERSHIP in rapidly developing residential country district. Receipts approximately £1,500, increasing. Panel 1,282, increasing. Fees 2/6 up. Suitable accommodation available. Premium for 1/3 share, 2 years' purchase. Suitable to young and experienced man, preferably one having held Hospital appointments.

CORNWALL (Coast).—Well-established PRACTICE in charming locality. Receipts nearly £800. Panel 180. Suitable house to rent on lease. Premium for quick sale £800.

LONDON, E.—NUCLEUS non-panel PRACTICE in thickly populated locality, with excellent scope for panel and further increase. Suitable accommodation for bachelor. Receipts nearly £600 p.a. Fees 2/- up. Rent £55 p.a. Premium £750 or near offer.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house containing 4 bedrooms, etc. Garage. Small panel. Receipts approx. £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

KENT.—Within easy reach of London.—Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Prem. £1,300 Excellent scope for energetic man.

YORKSHIRE.—Well-established mixed rural PRACTICE. Suitable house available (4 beds). Receipts approximately £1,000. Panel 620. Fees 3/6 up. One appointment. Premium 1½ years' purchase.

LONDON, N.1.—Mixed G.P., with excellent scope for increase. Receipts nearly £700. Panel over 500. Fees 1/6 up. Can be run as lock-up. Premium 1½ years' purchase or near offer.

MIDDLESEX, WEST.—Well-established G.P. in rapidly growing residential locality, with excellent scope for still further increase. Suitable freehold house available (6 beds), £1,450. Receipts £1,200. Panel nearly 900. Premium £2,000. Splendid scope for keen and energetic man.

NORTH-WEST COAST. — PARTNERSHIP in old-established good-class non-panel and non-dispensing Practice. Suitable house available. Receipts approx. £3,600. Fees 10/6 up. One-third share with view to half and possible succession, 1½ years' purchase, cash. Excellent scope for Physician.

BEDFORDSHIRE.—PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

YORKS.—PARTNERSHIP in busy, rapidly increasing Town Practice. Receipts £2,300. Panel 1,500. Suitable house available. A third share, with view to succession, 2 years' purchase.

S.W. COAST.—Well-established General PRACTICE. Excellent house, with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

THE

WESTERN MEDICAL AGENCY

(DR. K. H. BENNETT, DR. W. J. PARAMORE.)

PHOENIX CHAMBERS,
22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. SALARIED PARTNER.—Western City, with option to buy half share. £500 p.a. net. Panel 2,120. Suitable house. Great scope. Total receipts £1,700. Price £1,000.
2. SOUTH DEVON.—Averaging £2,400 p.a. in favourite town. Panel 1,500. Large house for sale or rent. Seaside.
3. PARTNERSHIP.—Quarter share of £5,400 p.a. in good country town, South England. All private, but new man could start panel. Good house. Further share later. Excellent opportunity. Price £2,000.
4. SOUTH-WEST WALES. — Pleasant seaside town, non-industrial district. Good mixed PRACTICE, returning £1,000 p.a. Good house to buy or rent. Panel over 700. Opposition weak. Easy terms for quick sale.
5. SOUTH CORNWALL.—Country Town PRACTICE, aver. £700 p.a. Panel 600. Good house to rent. All sports. Prem. 1 yrs.' pur.
6. CHESHIRE BORDERS.—One-third share of PARTNERSHIP aver. £2,000 p.a. Pleasant country district. Panel over 1,700. Plenty of scope. Premium £1,000.
7. WESTERN CITY.—Panel of 465 and club returning about £250 p.a., for sale. Good house to buy.
8. CARDIFF.—Industrial PRACTICE, aver. £600 p.a. Panel 600. Good house. Prem. £600.
9. CORNWALL. — Unopposed Agricultural PRACTICE, near beautiful N.C. seaside resort. Receipts over £900 p.a. Panel 550. M.O. value £50. Pub. Vac. House for sale £450. Practice, drugs, etc., £1,400.
10. BEDFORDSHIRE.—Country PRACTICE, last year £483. Good house to rent £68. Price £350.
11. SANATORIUM.—Western County.—40 beds. Receipts average £10,055 p.a. Particulars on application.
12. DENBIGHSHIRE. — One-third share of PARTNERSHIP. £630 p.a. net. Mostly panel and contract work. Good house, rent £78 p.a. Premium £950.

NOTICE.

Mr. Herbert Needes has pleasure in informing his Clients that (owing to expiration of Lease) he will be moving his Offices to and be associated with the well-known Agency of PERCIVAL TURNER, LTD., of 4-5, Adam St., Strand, W.C.2 (Temple Bar 9011), at which address his services will always be at their disposal as from JUNE 15th, 1931.

31, Bedford St., W.C.2.
June, 1931.

Medical Practitioners' Union Agency Limited

56, Russell Square,
LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uflabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency,
71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700, and progressing. Good house, garage, and garden.
2. LANCASHIRE. — Old-estab. and industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
3. NORTH OF ENGLAND.—Panel, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appointments £350. Good house to rent. Considerable scope for energetic man.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
7. MIDLANDS, COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts av. over £2,700 p.a. Panel recently started and rapidly increasing. Good fees, house, etc.
8. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. {MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

NORTH STAFFS.—INDUSTRIAL TOWN PRACTICE. Cash receipts last year £1,200. Panel nearly 2,000. Good house, 2 reception, 7 bedrooms. Rent approx. £55 p.a. on long lease. Premium £2,000 (to include book debts and drugs).—No. 255.

LARGE LANCS TOWN.—Old-established PRACTICE. Average cash receipts £1,546 p.a. Panel 1,052. Excellent detached house, 3 reception, 4 bedrooms. Garage and garden. Rent £74 10s. p.a. Premium 1½ years' purchase. Vendor retiring.—No. 267.

MANCHESTER SUBURB.—Middle-class PRACTICE. Average cash receipts £1,500 p.a. Small panel. Good house, 2 reception, 5 bedrooms. Garage and garden. Rent £65 p.a. Premium for quick sale £1,250.—No. 261.

YORKSHIRE (W.R.). — Excellent Country PRACTICE. Cash receipts last year £1,421. Panel 880. Good freehold detached house with nice garden. 4 bedrooms, 2 reception rooms. Premium—Practice—£2,175. —No. 271.

LIVERPOOL (near).—Cheshire Coast Town PRACTICE. Average cash receipts £1,187 p.a. Panel 783. Much scope. Good double-fronted house (freehold), 3 reception, 4 bedrooms, garage. Premium—Practice—£1,100. —No. 248.

LANCS TOWN PRACTICE with good scope. Cash receipts last year £628. Panel 903. Good house, 4 bedrooms. Premium — Practice and house—£1,250.—No. 269.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Cash receipts 1930, £1,406. Panel nearly 1,000. Excellent house, 2 reception, 6 bedrooms. Rent £90 p.a. Good Local Hospital. Premium £2,050.—No. 260.

LIVERPOOL.—PRACTICE OF RADIOLOGIST. Cash receipts £500 p.a. from part-time work only. Excellent rooms in centre of City. Premium (including electric apparatus, fittings, etc.) £550.—No. 265.

CHESHIRE TOWN, near MANCHESTER.—PRACTICE. Cash receipts last year, £1,033. Panel 650. Good house, 3 bedrooms, Rent £45 p.a. Premium 1½ years' purchase.—No. 263.

LANCS TOWN. — Old-established PRACTICE. Cash receipts 1930, £1,186. Panel 900. Much scope. Excellent house, 2 reception, 4 bedrooms. Garage. Premium, best offer. —No. 178.

CHESHIRE. — COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

LANCS TOWN. — Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,460. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

EAST COAST.—PARTNERSHIP in large Town Practice. Income over £10,000 p.a. Panel over 5,000. Good house available, 2 reception, 4 bedrooms. Garden. Premium—1/6 or 1/4 share —1½ years' purchase.—No. 258.

SOUTH YORKSHIRE.—Old-established PRACTICE. Cash receipts 1931, £1,273. Panel 1,430. Excellent house, 3 reception, 4 bedrooms. Garage and good garden. Premium 1½ years' purchase. —No. 253.

MANCHESTER SUBURB. — PARTNERSHIP in old-established Practice. View succession 3/5 years. Cash receipts £2,100. Panel 2,155. Semi-detached house available, 2 reception, 3 bedrooms. Rent £45 p.a. Premium 1/3 share £950, part by arrangement.—No. 259.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. Good house, 2 reception, 5 bedrooms. Garage. Rent £65 p.a. Premium 1½ years' purchase.—No. 251.

NORTH-WEST COAST. — SEASIDE RESORT. — Old-established PRACTICE. Cash receipts about £1,000 p.a. Small panel. Excellent freehold house.—No. 266.

MANCHESTER.—PLEASANT RESIDENTIAL SUBURB.—Old-estab. PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage, and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purchase. Vendor retiring.—No. 246.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No. 234.

SHEFFIELD.—Excellent old-established PRACTICE. Average cash receipts £1,800 p.a. Panel 1,861. Good house, 2 reception, bedrooms. Garage and large garden. Premium 1½ years' purchase. —No. 270.

LANCS TOWN.—PRACTICE.—Average cash receipts £751. Panel 430. Much scope. Good house to rent, 6 bedrooms. Garage and large garden. Premium £500 for quick sale.—No. 216.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium best offer.—No. 226.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

Tele. Address: Triform, Wesdo—London.

12, Stratford Place,
Oxford Street, W.1.

Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal.

Full particulars sent free.

1 DEATH VACANCY. — N. DEVON. — Country PRACTICE of nearly £1,650 p.a. in beautiful part. Panel over 600. House (6 bedrooms) for sale.

2 DEATH VACANCY. — SCOTLAND. — PRACTICE, averaging over £1,750 p.a., including panel (about £520) in county town. Well-situated house (4 bedrooms), garage, and garden, for sale.

3 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 670. Semi-detached house (5 bedrooms), garage, for sale. Good scope. Premium £450.

4 WITHIN 120 MILES OF LONDON.—Important City.—PARTNERSHIP in non-dispensing Practice over £3,600 p.a. No panel. Partner should be aged about 30 and hold the F.R.C.S. Excellent prospects of getting on Hospital Staff. One-third share at first. Premium 2 years' purchase.

5 LONDON, S.E.—Practice averaging nearly £1,250 p.a. in one of the pleasantest outlying suburbs. Panel under 500. Attractive semi-detached house (6 bedrooms), garage, and very nice garden, to rent. Premium 1½ years' purchase.

6 SUSSEX. — Country Practice about £800 p.a., within easy distance of coast. Panel 730. Detached house (5 bedrooms, no bathroom) in good position, with nice garden and meadow, to rent. Premium £1,200.

7 S. OF ENGLAND. — Partnership in good middle-class non-panel Town Practice over £5,300 p.a. Suitable house to purchase. Premium one-fourth share £2,000. Preliminary Assistantship.

8 S. COAST.—Partnership in good-class non-dispensing Practice, over £4,000 p.a., in favourite residential town in seaside resort. No panel and not much midwifery. Pleasantly situated house (4 or more bedrooms) to rent on lease. Incoming Partner should be Oxford, Cambridge or London man (aged about 30), who has held Hospital appointments. One-third share at first at 2 years' purchase.

9 LONDON, W.—Partnership in non-dispensing Practice of £3,000 p.a. in West End of London. Fees one guinea upwards. No midwifery. One-third to one-half share at 2 years' purchase.

10 LONDON, W.—Steadily increasing PRACTICE, doing about £750 p.a., mostly from "Lock-up" Surgery. Panel about 500. Well-situated corner residence (3 bedrooms) to rent. Premium £900.

11 S. OF ENGLAND.—Partnership in Practice, about £2,800 p.a., in favourite seaside resort. Delightful house (5 bedrooms), garage, and nice garden, to rent. Incoming Partner should be a Surgeon (preferably F.R.C.S.). Hospital and appointment on staff. Premium one-fourth share 2 years' pur.

12 MIDLANDS. — Partner required in sound lucrative Practice in residential town close to large city. Small panel. Very good Cottage Hospital. Share of £1,000 p.a. at 2 years' purchase. Applicant should be well up in his work.

13 SURREY. — Very old-established Country PRACTICE of £2,000 p.a. in delightful district. Panel about 700. Fees 2/6 to 21/-. Particularly attractive house (6 bedrooms). Large garden. Price of freehold £2,500. Premium for Practice £2,500.

14 DEVON. — Partnership (with preliminary Assistantship) in old-established Practice about £3,000 p.a. in beautiful part. Good house (5 bedrooms) to rent. Premium one-third share 2 years' purchase.

15 LONDON, S.W. — Partnership in well-established suburban Practice (about £2,400 p.a.), easy access of West End. Premium for one-third share £1,500.

16 S. COAST.—Partnership in non-dispensing Practice in a seaside resort. Good house (6 bedrooms) to rent. Share about £750 p.a. at 2 years' purchase.

17 S. COAST.—Partnership in non-dispensing Practice in seaside resort. Incoming Partner must hold the F.R.C.S. Hospital. Scope for Surgery. Share worth about £1,000 p.a. (after short preliminary Assistantship) at 2 years' purchase.

18 S. OF ENGLAND. — Partnership (with preliminary Assistantship) in Practice averaging over £2,000 p.a. in Cathedral City. Panel 900. Applicant should be aged about 28/30, well qualified, and competent to undertake Obstetrical work and minor operations. Scope for consulting work. Share up to one-half to suitable man at 2 years' purchase.

19 MIDLANDS. — Partnership in Country Town Practice about £3,500 p.a. Panel over 1,500. Small detached house (4 bedrooms) to rent. After short preliminary Assistantship one fourth share would be sold at 2 years' purchase.

20 LONDON, S.W.—Practice about £500 p.a. in suburban district. Panel 650. No midwifery. Semi-detached corner house (6 bedrooms) for sale. Scope. Premium 1½ years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 1783

Practices and Partnerships for Disposal (continued).

21 W. OF ENGLAND. — Country Practice about £600 p.a. in beautiful district. Small panel. Large and beautiful house, with garden and paddock, for sale. Scope. Premium 1 year's purchase.

22 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwfy. Six-roomed house to rent. Prem. £700.

23 PARTNERSHIP in Eye, Ear, Nose, and Throat Practice in first-rate town. Good house available to rent or purchase. Partners on Hospital staff. Incoming Partner must be experienced more particularly in Eyes. Share worth £1,650 at 2 years' purchase.

24 YORKSHIRE (W.R.). — Compact easily worked Practice of £1,540 p.a. in manufacturing town. Panel over 1,300. Pleasantly situated double-fronted house (4 bedrooms), with garden, for sale. Premium 1½ years' purchase.

25 CO. DURHAM.—Partnership in Country Practice easy distance of coast. Income about £1,650 p.a. Panel 1,550 and Club appointments £700 p.a. Nice house (5 bedrooms), in quarter acre of garden, for sale. Premium for one-half share only £1,000.

26 LONDON, W.—Practice of about £600 p.a. in residential district. Panel 600. Detached double-fronted corner residence (4 bedrooms), garage, and nice garden, for sale. Scope. Premium 1½ years' purchase.

27 LONDON, E.—Cash Practice of £850 p.a. in populous neighbourhood. Panel over 1,000. House (3 bedrooms) in main road, to rent. Premium 1½ years' purchase.

28 S. COAST.—Small Seaside Place.—Nucleus of PRACTICE, with very good semi-detached house (3 bedrooms). Would suit semi-retired Practitioner who could wait a while as place is developing quickly. Price for freehold house £1,400.

29 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average nearly £950 p.a. (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Prem. to effect quick sale only £800.

30 EAST ANGLIA.—Partnership in Practice over £4,500 p.a. in beautiful country district, easy access of important town. Panel 3,000. Nice detached house (7 bedrooms), garage, etc., garden and grounds of 10 acres, for sale. Sport of most kinds. Considerable scope. Premium two-thirds share 2 years' purchase. Suitable for two to buy together.

31 S. OF ENGLAND.—Partnership in steadily increasing Practice about £6,000 p.a. in small town. Panel 3,300. Suitable house could be purchased. One-eighth share at 2 years' purchase. Preliminary Assistantship. London Graduate preferred.

32 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel about 600. Very good house (5 bed and dressing rooms), garage and excellent garden, for sale. Ample scope. Premium £900.

33 LONDON, N.—Practice about £360 p.a. in Residential Suburban district. Panel 180. Detached corner house (4 bedrooms), with small garden, for sale. Scope. Premium £100.

34 N. OF ENGLAND.—Partnership in lucrative Practice in large city. Panel over 5,000. Small house (3 bedrooms and attics) for sale. Partner must be young and energetic. A share of £1,650 or £2,500 would be sold at 1½ years' purchase.

35 DEVON.—Partnership in Practice averaging £3,000 p.a. in small town. Very good house (7 bedrooms), good garden, etc., for sale. Hunting, shooting, fishing, etc. Premium two-thirds share 2 years' purchase. Hospital.

36 MIDLANDS. — Practice averaging £4,750 p.a. in clean manufacturing town. Panel 3,570. Two houses for sale. Practice carried on by two Medical Men, both retiring. Premium 1½ years' purchase.

37 WITHIN 12 MILES OF LONDON.—PARTNERSHIP in rapidly increasing Cash Practice about £1,600 p.a. in developing indust. district. Panel 1,870. Small house available. Large Cottage Hospital. Prem. two-fifth share 2 years' purchase.

38 S. MIDLANDS.—Practice of nearly £400 p.a. in delightful country district, easy distance of London. Panel 500. Attractive house (7 bed and dressing rooms) in grounds of 2 acres, with garage, to be sold or let. Very suitable for Resident Patients. Good scope. Premium 1 year's purchase.

39 N. MIDLANDS.—Partnership in Practice over £1,400 p.a. in first-rate city. Panel 1,800. House, with 2 reception rooms and 4 bedrooms, to rent. Premium one-half share £1,100. Preliminary Assistantship entertained.

40 MIDLANDS.—Practice of over £2,100 p.a. in manufacturing town. Panel 820. House (4 bedrooms) to rent, on lease. Premium 1½ years' purchase.

41 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in own grounds, for sale or rent. Premium one-half share 1½ years' purchase. Suit one aged between 40/50.

42 NORTHUMBERLAND. — Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,425.

43 SURREY.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Premium £300.

44 SURREY. — Partnership in Practice in desirable residential town Small select panel. Partner should be well qualified, keen on medicine, and aged about 30. Share of £800—£1,000 at 2 years' purchase.

45 HANTS. — Small easily worked Practice about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

46 OPHTHALMIC Practice in flourishing Town within easy distance of London. Receipts over £450 (one day's attendance per week). Fees mainly £1 1s. Rent £60. Good Hospital. Premium £800.

47 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

48 LONDON, N.W.—Practice worth between £1,500/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 1½ years' purchase.

49 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

50 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

51 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

52 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one-half share 2 years' purchase.

53 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one-half share 2 years' purchase.

54 LONDON, W. — Middle-class Practice of £740 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,000.

55 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

56 S.E. ENGLAND. — Small Practice about £500 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). *Post free* 12/6.

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. EASTERN COUNTIES.—PARTNERSHIP.—A one-third share, with increase later, is offered in a very good mixed-class Practice, situated in pleasant town near sea. Average gross cash receipts nearly £4,500, including panel of about 3,000. Visits 2/6 to 30/-, with medicine extra. Very nice house, in large garden, containing 3 reception, 5 bedrooms, etc. Price for freehold £2,000. Premium 2 years' pur.
2. FAVOURITE SOUTH COAST TOWN.—PARTNERSHIP.—A share representing about £750 a year (with increase later) is offered in a good mixed-class non-dispensing Practice, held by the Vendor for 7 years. Panel of 900. Gross cash receipts nearly £1,700. Fees from 3/6. Centrally situated house, with 3 reception, 6 bedrooms, etc. Net rent, on lease, £90 p.a. Premium 2 years' purchase.
3. SOUTH COAST TOWN.—PARTNERSHIP.—A one-third share (with increase later) is offered in a mainly better-class non-panel Practice. Average gross cash receipts for the past three years £4,150. Fees from 10/6. Not much midwifery. Well-situated house, with 3 reception, 8 bedrooms, etc. Can be rented on lease at £135 p.a. Premium 2 years' purchase.
4. MIDDLESEX.—Steadily increasing middle and working-class PRACTICE, producing this year at the rate of £800. Panel of 250. Fees from 3/-. House contains 2 reception, 4 bedrooms, etc. Price for freehold £1,650, part on mortgage. Premium £850.
5. WITHIN 20 MILES OF LONDON (WEST).—Well-established rapidly increasing PRACTICE, in very pleasant growing residential district, offering excellent future prospects. Cash receipts last year £1,700, including small panel of 150. No dispensing. Visits 5/- upwards; mids. from 4 gns., about 40 cases. Good house (3 reception, 5 bedrooms, etc.), in half an acre of garden, with tennis court. Garage. Price, freehold, £1,850. Premium £2,100. Cottage Hospital. Ill health reason for selling.
6. ESSEX.—Very old-established PRACTICE, situated in pleasant country district, in growing area about 30 miles from London; and few miles from the sea. Cash receipts average nearly £900 p.a., including panel of 600. House contains surgery and waiting room, 3 reception, 5 bedrooms, bathroom, etc. Garden. Garage. Gas, but electric light available. Moderate rental. Premium 1½ years' purchase.
7. LONDON, EAST.—Very old-established working-class PRACTICE averaging for past twelve months over £2,300, including panel of over 2,800. Good appts. worth nearly £160. Visits from 2/6. Very low expenses. Suitable house can be rented or purchased. Central surgery can be rented. Premium £4,250.
8. LONDON, WEST.—Old-established good middle-class PRACTICE, averaging over £2,500 p.a. (last year £2,600), medium-sized panel. Visits 5/- to 10/6 and occasionally 21/-. Midwifery discouraged; 2 or 3 cases yearly at 15 to 20 gns. House contains professional accommodation, 2 reception, 5 bedrooms, dressing rooms, etc. Leasehold (23 years to run at nominal ground rent). Price £1,650. Premium £4,475.
9. WEST MIDLANDS.—Old-established PRACTICE, in small country town, in very picturesque surroundings, averaging over £1,200 p.a. (last year £1,500). Panel of about 700. Fees from 3/6. Centrally situated house, with 2 reception, 5 bedrooms, etc. Rent on lease £90 p.a. Good sport and schools. Premium £2,000.
10. NORTH DEVON AND CORNWALL BORDERS.—Very old-established unopposed Country PRACTICE, in beautiful district near the coast. Cash receipts average just over £1,100 p.a., including appt. and panel of 350. Suitable house available. Premium £1,600, to include drugs, etc. Hunting, golf, fishing, tennis, etc.
11. MIDLANDS.—COUNTY TOWN.—PARTNERSHIP.—A one-fourth share is offered in an exceptionally sound good mixed-class Practice, averaging over £6,000 p.a., including panel of 3,400. Lowest fee 4/-. Very little midwifery. If single, purchaser can live in comfortable rooms; otherwise choice of houses for sale, or on rental. Premium 2 years' purchase.
12. PARTNERSHIP.—YORKSHIRE.—LARGE CITY.—A one-third share with succession to the whole Practice in about one year's time, is offered in a rapidly increasing PRACTICE, producing for the last 12 months approximately £2,500, including panel of 1,500. One appt. worth £150. A suitable house will be vacant shortly. Premium £1,200. Large scope for further development.
13. LONDON, N.W. (Kentish Town area).—In a well-populated district a mainly working-class PRACTICE, producing for 12 months ending March last £728, including panel of 260. House contains 10 rooms; small garden; garage. Rent £120 p.a. on lease. Premium £900.
14. LONDON (WEST END).—Old-established non-dispensing and non-panel PRACTICE, averaging over £4,700 p.a. Visits (very few) and consultations from one guinea upwards. No midwifery. Suitable accommodation available on rental. Premium £6,000. Good introduction given. Personal application desired.
15. LANCS.—LARGE TOWN.—PARTNERSHIP.—A one-third or two-fifths share is for disposal in well-established and increasing middle and working-class Practice. Gross cash receipts for immediate past 12 months £3,150. Panel of over 3,000. Appts. worth about £80 p.a. Fees from 2/5. Choice of two houses, both at moderate rentals. Premium only 1½ years' purchase.
16. WITHIN 20 MILES OF LONDON (WEST).—Rapidly developing district.—PARTNERSHIP.—A half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100 and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
17. SURREY.—COUNTRY PRACTICE.—Very old-established, and situated in delightful district. Gross cash receipts for past 12 months £2,000, including panel of about 700. Fees from 2/6 to 21/-. Midwifery 3 to 20 gns. Exceptionally nice house, with 2 reception, 6 bedrooms, and professional rooms. Nearly 2 acres of garden. Price for Practice and house £5,000.
18. CHESHIRE.—NEAR COAST.—Old-established good mixed-class PRACTICE, averaging for the past 3 years nearly £1,600, including panel of 1,280. Very good house in 3 acres of ground, with 2 reception, 4 bedrooms, etc. Rent on lease £85 p.a. Premium £2,300.
19. PARTNERSHIP.—HOME COUNTY.—Within 40 miles.—In a small country town, in very pleasant district, the third share, with increase later, of an old-established mixed-class Practice offering good scope. Cash receipts average over £3,000 p.a., including panel nearly 1,700 and appts. Good house, with 3/4 of an acre of garden, tennis court, etc. Rent on lease £65 p.a. Premium £1,700. Ingoing partner should be about 30, English or Scotch, and pref. married.
20. WITHIN 30 MILES OF LONDON.—In a delightful residential district (well populated and growing rapidly), a small PRACTICE, producing last year £406, including panel of 300, and capable of considerable development. Very good residence (suitable for resident patients) in about 2 acres of ground. Price, freehold, £4,000. Mortgage arranged. Premium £400. Excellent schools, good society, and sport.
21. FAVOURITE COAST TOWN.—Old-established good middle and better-class PRACTICE, producing over £1,800 p.a. Selected panel of under 400. Fees 3/6 to 10/6. Very little midwifery. Commodious house, with 2 reception, 6 bedrooms, etc. large garden. Freehold for sale. Premium £3,000.
22. SOUTH OF ENGLAND.—Pleasant Town near sea coast.—Very old-established PRACTICE (partly Surgical), averaging over £2,400 p.a. (last year £2,516), including panel of 500. Centrally situated house. Price for Practice and house £5,000. Successor should also have some knowledge of Eye, Ear, Nose, and Throat work.
23. HOME COUNTIES.—Within 40 minutes' run of London.—Old-established mixed-class and increasing PRACTICE, situated in small town with pleasant surroundings. Cash receipts average £1,725 p.a., including appt. £70 and panel 1,000. House with good accommodation and small garden. Price for freehold £2,500. Premium 1½ years' purchase. Educational facilities.
24. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.
25. NORTH WALES.—PARTNERSHIP.—A one-third share is offered in a good mixed-class Practice producing over £1,700 p.a., including panel of 470 and appts. of about £100 p.a. Fees 3/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. Premium 2 years' purchase.
26. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.
27. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium only 1 year's purchase. Ill-health reason of sale.
28. LONDON, SOUTH-EAST.—Woman Doctor's PRACTICE, producing £560 immediate past 12 months. Panel of 152. Fees 2/6 to 21/-. Suitable flat can be rented at £60 p.a. Premium £650, or near offer. Very good scope for increase.
29. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase
30. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.
31. NEAR HEREFORDSHIRE BORDER.—A one-third to one-half share in a well-established good-class non-dispensing PRACTICE, producing about £1,800 p.a. Panel of over 500. Good house can be rented at £60 p.a. Sport of all kinds. Premium 1½ years' purchase, part by instalments. Welsh not necessary.
32. CHESHIRE.—COAST TOWN, within reach of Liverpool.—Well-established PRACTICE, averaging over £1,200 p.a., including panel of 720. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price for freehold £1,200, £800 on mortgage. Premium £1,100 for quick sale.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

THE TUBERCULOSIS DANGER!

It has been stated in Parliament that *over two thousand children die every year through tuberculous milk.* How many children who survive grow up weaklings through the taint of bovine tuberculosis? This hardly bears thinking about. Cow & Gate Milk Food is guaranteed absolutely free from tuberculosis and other pathogenic organisms.

Read the following extract from the Presidential Address at the Royal Sanitary Institute Congress at Margate, it is of vital significance to the medical and nursing professions:

'The loss on the agricultural and veterinary side of 52,222 bovines during the three years 1926, 1927, 1928, slaughtered under the Tuberculosis Order of 1925, and at least twice that number not reported but otherwise disposed of, the estimate that 40 per cent. of the cows of our dairy herds producing milk for human consumption are tuberculous, are circumstances in themselves that demand immediate attention. But when to this is added the fact that in England 31.5 per cent. of tuberculosis in children up to 15 years is of bovine origin, and deaths from tuberculosis in children up to 5 years is 29.5 per cent. of bovine origin, that 57 per cent. of cervical adenitis in the same ages is of bovine origin, that 33 per cent. of bone and joint tuberculosis in children under 5 years and 24 per cent. in children from 5 to 10 years is of bovine origin, that in Scotland it is recorded that in certain hospitals in Edinburgh as much as 90.3 per cent. of cervical adenitis and 61.2 per cent. of bone and joint tuberculosis in children up to 12 years is of bovine origin, it is high time that this grave condition and this very serious menace to public health should be mended and ended. It is no credit to us as scientists and protectors of public health that such a state of affairs should be permitted to continue, or even to exist.'

-IS SAFE!

Another remark made at the meeting was as follows:

'It would be better to have no milk supplied at all than to feed children on diseased milk as is being done at present.'

MANUFACTURERS OF THE Cow & Gate Milk Food PREPARED BY COW & GATE LTD. GUILDFORD

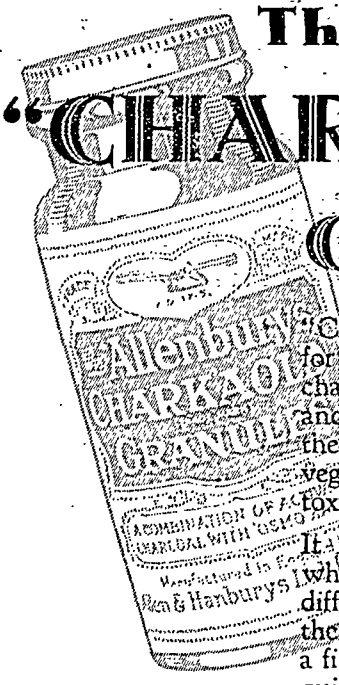
"The best milk for babies, when natural feeding fails."

COW & GATE MILK FOOD

is prepared by our Special Improved Roller Process employing a short heat treatment which destroys all disease organisms but leaves the natural vitamins unimpaired. It is a basic milk food which can be modified by the profession as they desire to suit each and every case.

WRITE FOR PARTICULARS OF OUR SPECIAL MILK FOODS FOR DIFFICULT INFANT CASES

Dept. 20 COW & GATE LTD., GUILDFORD, SURREY B.M.J., June 13/31.



The "Allenburys"

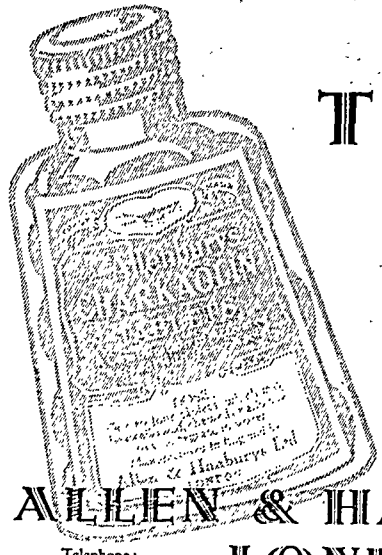
"CHARKAOLIN"

GRANULES

"Charkaolin" is a highly efficient agent for the treatment of intestinal infections characterized by abnormal fermentation and the formation of toxins. It combines the absorbent properties of highly activated vegetable charcoal with the well-known toxin-adsorbing qualities of "Osmo" Kaolin.

It is in the form of fine, clean granules which disintegrate rapidly in water and diffuse their ingredients evenly throughout the liquid. "Charkaolin" is tasteless, forms a fine suspension in water and is, therefore, quite easy to take.

In bottles at 2/6 each.



TABLETS

The "Allenburys" "Charkaolin" Tablets provide a convenient alternative method of administering "Charkaolin." Particularly suitable when travelling. Tasteless and disintegrate readily

In bottles:
40 tablets - 1/6
80 tablets - 2/6

ALLEN & HANBURYS LTD.

Telephone: Bishopsgate 3201 (10 lines)

LONDON, E. 2

Telegrams: "Greenburys Edo London"

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The

British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3676 SATURDAY, JUNE 20, 1931 Price 1/3

THEELIN

Ovarian Follicular Hormone in Crystalline Form.

THEELIN is the name given to the ovarian follicular hormone first isolated in crystalline form by Dr. E. A. Doisy, Professor of Biochemistry at the University of St. Louis, who has entrusted Parke, Davis & Co. with its manufacture. Each batch is tested and approved by the Biochemical Laboratory of St. Louis University before being released for sale.

Theelin is a complex alcohol which does not contain nitrogen and is, therefore, not protein in nature. 1 milligramme of Theelin is equivalent to at least 3000 Doisy rat units.

Theelin is indicated in the treatment of functional amenorrhœa, in the subjective disturbance of either artificial or natural menopause, in delayed puberty, and in all those conditions in which less purified ovarian extracts have been used. It has the great advantage that it is free from certain side reactions which may be caused by the impurities present in varying amounts in the crude ovarian and follicular products.

Theelin is issued in aqueous solution in 1 c.c. ampoules, each c.c. representing 50 Doisy rat units. Supplied in boxes of 6 ampoules. Literature will be sent on request.

PARKE, DAVIS & CO., 50 BEAK STREET, LONDON, W.1.

Laboratories: Hounslow, Middlesex. :: Inc. U.S.A., Liability Ltd.

ISSUED WEEKLY] [COPYRIGHT] [REGISTERED AS A NEWSPAPER

EDWENIL: A POLYVALENT NATURAL ANTIBODY

FOR BACTERIAL INVASIONS
OF AN ENDOTOXIC NATURE

in FURUNCULOSIS

Whether there be a single boil or a multiplicity of furuncles, subcutaneous injections of Edwenil will produce a prompt response.

If treated in the early stages, the boil or furuncle disappears without coming to maturity. In more mature lesions the growths quickly come to a head, burst, and there follows a rapid recovery.

The time required for the complete resolving of even an extensive carbuncle is interestingly short.

Similar results have been obtained in long-standing cases of acne, where other forms of treatment, including X-Ray and Ultra-Violet Ray, had failed.

FOR PROMPT RESULTS IN COLDS AND HAY FEVER USE EDWENIL.

Obtainable in 25 and 12½ c.c. Bottles.

MADE ONLY IN THE LABORATORY OF

E. H. SPICER & CO., LTD.,

WATFORD, HERTS.

Telephones: WATFORD 5284-5285.

British Medical Journal

JUNE 20, 1931

CONTENTS

ORIGINAL ARTICLES

Some Ante-natal Problems. Lecture by Sir EWEN J. MACLEAN, M.D., D.Sc., F.R.C.P. 1057

Treatment of "Pernicious Anaemia of Pregnancy" and "Tropical Anaemia." By LUCY WILLS, M.A., M.B., B.S. (With Charts) 1059

The Diagnosis of Uraemia. By A. ARNOLD OSMAN, M.R.C.P., and HAROLD G. CLOSE, M.B., B.S. 1064

Two Cases of Haemorrhagic Para-typhoid Fever. By R. M. WILLIAMS, M.B., B.S. 1067

Contact Glass or Crossed Cylinders for High Astigmatism. By J. H. BEAUMONT, M.B., Ch.B. (Illustrated) 1068

MEMORANDA

Interlobar Empyema. By WALTER BROADBENT, M.D., F.R.C.P. 1069

Subarachnoid Haemorrhage in a Child. By MABEL L. RAMSAY, M.D. 1070

Ovarian Pregnancy. By T. MACCARTHY, M.R.C.S., L.R.C.P. 1070

REPORTS OF SOCIETIES

ROYAL SOCIETY OF MEDICINE:
B.C.G. Immunization of Infants 1070

SOCIETY OF MEDICAL OFFICERS OF HEALTH:
State Control of Therapeutic Substances 1072

REVIEWS

Piersol's Textbook of Anatomy 1073
Anatomico-Clinical Diagnosis of Diseases of the Breast 1073
Examination of the Lungs 1073
Pharmacology of Quinine 1074
The V.A.D. in the War 1074
Crippled Children 1074
Elements of Physiology 1075
Notes on Books 1075

UNIVERSITIES AND COLLEGES

University of Oxford 1096
University of Cambridge 1096
University of London 1096
Victoria University of Manchester 1097
University of Bristol 1097
Royal College of Surgeons of England 1097
Royal College of Physicians of Ireland 1097

THE SERVICES

Florence Nightingale Medal 1097
Deaths in the Services 1097
(For Naval, Military, and Air Force Appointments see SUPPLEMENT)

LEADING ARTICLES

INSURANCE SICKNESS CLAIMS 1078
THE VALUE OF B.C.G. VACCINATION 1080

THE WEEK

National Collection of Type Cultures 1081
The Cassel Hospital 1081
Psychology and the Worker 1082
William Stewart Halsted 1082
International Congress of History of Science 1083
Pathological Museum, Eastbourne 1083
Royal Society of Medicine 1083

CORRESPONDENCE

The Harvey Tower. By Herbert R. Spencer, M.D., F.R.C.P. 1090
International League against Rheumatism. By R. Fortescue Fox, M.D., F.R.C.P. 1090
Pseudo-Argyll Robertson Pupils with Absent Tendon Reflexes. By W. J. Adie, M.D., F.R.C.P. 1091
European Women and Children in the Tropics. By H. W. Toms, M.B. 1091
Operation for Cataract. By W. Barrie Brownlie, M.D., F.R.C.S.Ed. 1092
Treatment of Dysmenorrhoea. By J. Curtis Webb, M.B. 1092
Keratodermia Blennorrhagica. By Norman Burgess, M.D. 1092
Gonococcal Rhinitis. By Robert V. Storer, M.R.C.S. 1093
Fracture of the Neck of the Femur. By Meurice Sinclair, M.B. 1093
Treatment of Tabo paresis by Hyperpyrexia induced by Hot Baths. By M. B. Ray, M.D. 1093
Minor Surgery of Infancy. By James Crooks, M.B., F.R.C.S. 1094
"Streptococci in Scarlet Fever": A Tropical View-point. By J. Tertius Clarke, M.R.C.S. 1094
Prevention of Renal Complications in Scarlet Fever. By B. A. Peters, M.D. 1094
Avertin Anaesthesia. By Sir Francis E. Shipway, M.D. 1095
Convulsions during General Anaesthesia. By J. Blomfield, M.D.; and Bellamy Gardner, M.R.C.S. 1095
African Tick Fever. By David Nabarro, M.D., F.R.C.P. 1095

OBITUARY

Sir Robert H. Firth, F.R.C.S. 1096
Anthony Blackstock, M.B., F.R.C.S. 1096
Evan J. Griffiths, M.B. 1095
J. Haydn Timothy, M.R.C.S. 1095
William Llewelyn Jones, M.D. 1095

GENERAL ARTICLES AND NEWS

The Effect of Research on Curative Medicine. Stephen Paget Memorial Lecture by H. H. DALE, M.D., F.R.S. 1076

Harveian Society's Centenary 1084

Nova et Vetera:
Doctors' Bills 1085
John Haygarth of Chester 1086

MEDICAL NOTES IN PARLIAMENT 1088

MEDICAL NEWS 1099

LOCAL NEWS

AUSTRALIA—
The Royal Australasian College of Surgeons 1086
An Association of Physicians 1086
Sydney University 1086

SCOTLAND—
The Blind in Scotland 1087
Gilgal Hospital, Perth 1083
Selkirk Hospital 1083
Dundee Royal Infirmary 1088
Dr. William Muir 1088

IRELAND—
Health Services in Northern Ireland 1088
Drumcondra Hospital 1088
Extension of Sunshine Home 1088
Sligo Mental Hospital 1089

INDIA—
Stillbirth and Neo-natal Death 1089
Cholera Outbreak in Bombay 1089
Forecasting Epidemics 1090

LETTERS AND ANSWERS

Income Tax 1100
Rupture of the Tendons 1100
Chromium Plating 1100
Cave-dwellers of Derbyshire 1100
Sight Test for Motorists 1100
Medical Golf 1100
A Disclaimer 1100
Surgery and Diet 1100

VACANCIES 1100
(See also page 259 of SUPPLEMENT)

The SUPPLEMENT contains:

BRITISH MEDICAL ASSOCIATION:
Proceedings of Council.

CURRENT NOTES:
Propriety of Inserting Addresses of Medical Officers in Hospital Reports.
Reduced Railway Fares to Eastbourne.
Academic Dress at the Annual Meeting.

GENERAL MEDICAL COUNCIL:
The Teaching of Obstetrics.
Preventive Medicine in the Medical Curriculum.
The New D.P.H. Rules.
Disciplinary Cases.

NATIONAL INSURANCE:
Increased Claims for Sickness Benefit.

Association Notices; Vacancies and Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL

THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

VICTORY HOUSE, LEICESTER SQUARE, LONDON, W.C.2.

President: Sir JOHN ROSE BRADFORD, Bart., K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S.

OBJECTS.—To protect, support, and safeguard the characters and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional characters and interests. UNLIMITED INDEMNITY is provided for Members (subject to the Articles of Association) against the costs of actions undertaken for them by the Society, and against adverse costs and damages awarded against them in such actions.

SUBSCRIPTION £1 per annum. ENTRANCE FEE 10/-.

Those who join within one year of Registration are exempt from Entrance Fee.

Telephone: GERRARD 4814.

INDEX TO ADVERTISEMENTS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Allen & Unwin, Ltd.
Hollander, B.—Brain, Mind, etc. ... 4

Bale, Sons & Danielsson, Ltd.
Beeston, G. N.—
'The Conjoint Finals' ... 4
Cope, C.—Robert and Clive ... 4
Cosens, W. B.—
Your Servant the Doctor ... 4
Garry, T. G.—Egypt ... 4
Hunter, R. H.—Anatomy ... 4
Placzek, Dr.—Sexual Life of Man ... 4
Storer, R. V.—Sex and Disease ... 4

British Medical Association.
Archives of Disease in Childhood ... 5

Churchill, J. & A.
Hale-White's Materia Medica ... 3
Rowlands & Turner's Operations of Surgery ... 3
Taylor & Poulton's Practice of Med. 3

Constable & Co. Ltd.
Bennett, T. I.—Diabetes ... 4

Lewis, H. K., & Co. Ltd.
Clinical Journal ... 3

Thacker, Spink & Co.
Indian Journal of Med. Research ... 3

Wright & Sons, Ltd.
Huchison, R.—Medical Treatment. 3
Medical Annual, 1931 ... 3

Hopewell-Ash, E. L.—
Medical Hypnosis & Suggestion 3

ASSURANCE COMPANIES—
London Medical Protection Society 1
Medical Insurance Agency ... 37,61

BOOTMAKERS, &c.—
Dowie & Marshall—Bootmakers ... 40

BRASS NAME PLATES, &c.—
Cooke's Name Plates ... 4
Ford's Name Plates ... 41
Herd, S. J. & A.—Name Plates ... 41
Lewis & Co. Ltd.—Name Plates ... 3
Osborne, F. & Co.—Name Plates ... 4

DEBT COLLECTION—
Brit. Med. Protection Society ... 40

DISPENSING BOTTLES, &c.—
United Glass Bottle Manufrs. Ltd.—
Sterilized Bottles ... 6

FOOD PREPARATIONS—
Bantam Products Ltd.—Coffee ... 40
Battle Creek Food Co.—
Lacto-Dextrin & Pyrlla ... 12
Benger's Food ... 23
Cow & Gate Ltd.—Milk Food Cover iii
Harden Bros. & Lindsay, Ltd.—
Doctor's China Tea ... 22
Nestlé & Anglo-Swiss Con. Milk Co.
Lactogen ... 27
Ryvita Co. Ltd.—Crispbread ... 23
Valentine's Meat-Juice ... 17

SURGICAL APPLIANCES—
Academic Depot—
Rubberless Stockings ... 41
Arnold & Sons—Surg. Appliances ... 10
Dent's 'Ardente' Stethoscope ... 40
Hawksley & Sons, Ltd.—
Stethoscopes ... 38
Hilliard's New Absorbent Bags ... 4
Medical Supply Association, Ltd.—
'Cellanband' Paste Bandages ... 10
Portable Traction Apparatus ... 11
'Veriban' Elastic Plaster Band. 10
Salt's Surgical Service ... 8,9
Short & Mason—
Tycos Sphygmomanometer ... 4

HOSPITAL, &c., FURNITURE—
Furniture, &c., Depositories, Ltd.—
Second-hand Furniture ... 38

HOUSE AGENTS—
Bedford & Co. ... 60
Elliott, Son & Boyton ... 59

TAILORING & UNDERCLOTHING—
Hall, H.—Medical Service Dress ... 60
Miller & Co. Ltd.—Tailors ... 38
Regent Dress Co.—Tailors ... 4
The Irish Linen Mesh Co. Ltd.—
Empire Linen Mesh Underwear. 41

CHEMISTS, &c.—
Allen & Hanburys Ltd.—
Beef Juice ... 21
Castor Oil ... 40
'Eucortone' ... 24
Insul n 'A.B.' ... 20
Alliance Drug & Chemical Co.—
Price List ... 39
Boots Products ... 16,18
British Drug Houses Ltd.—
Caprokol ... 19
Insulin 'A.B.' ... 20
Medicinal Glucose B.D.H. ... 15
Burroughs Wellcome & Co.—
'Kepler' Malt Extract ... 33
Clayton Aniline Co. Ltd.—
Preparations ... Cover iv
Continental Labs. Ltd—Botol ... 14
Cranbux Ltd.—Odol ... 35
Denver Chemical Mfg. Co.—
Antiphlogistine ... 25
Dimesford & Co. Ltd.—Magnesia ... 18
Duncan, Flockhart & Co.—
Anaesthetics ... 15
Evans Sons Lescher & Webb Ltd.—
Infundibulin ... 30
Feen-a-mint Products Ltd.—
Feen-a-mint Chewing Laxative ... 12
Fellows' Compound Syrup of Hypophosphites—'Fellows' ... 14
Ferris & Co., Ltd.—Preparations ... 16
Hewlett & Son, Ltd.—Preparations 32
Kayiene *Ltd.*—Kaylene-ol ... 26
Kerol Ltd.—Capsules ... 22
Laboratoires de l'Opocalcium—
Opocalcium ... 13
Marshall's Lysol ... 17
Martindale, W.—'Sternles' ... 29
May & Baker, Ltd.—'Varicane' ... 13
Midgley, Ltd.—Medisoap Therapy ... 19
Newbery & Sons, Ltd.—Agarol ... 34
Oppenheimer Products ... 20
Parke, Davis & Co.—Theelin ... Cover i
Saccharin Corporation Ltd.—
Novocain & Glaucosan ... 39
Santal Midy ... 39
Sharp & *Dohme Ltd.*—Caprokol ... 19
S.P. Charges Co.—Sulphaqua ... 41
Spicer & Co., Ltd.—Edwenil ... Cover ii
Staniform Ltd.—Staniform ... 26
Wander, A., Ltd.—Alasil & Alcool ... 21
Wright, Layman & Umney, Ltd.—
Coal Tar Preparations ... 5

MOTOR CARS, TYRES, &c.—
Garages—Chauffeur's Liveries ... 36
Second-hand Motors for Sale ... 60

PRINTING & STATIONERY—
Anderson & Son—Account Forms 41
Hamiltons—Medical Printers ... 41
Stevens & Son—Bottle Envelopes ... 11
Taylor's Typewriters ... 4

TOBACCO & CIGARETTES—
Coen, L., Ltd.—Cigarettes ... 41
'du Maurier' Virginia Cigarettes ... 7
Player's Navy Cut ... 36

VACCINES & CULTURE MEDIA—
Allen & Hanburys Ltd.—
Vaccines and Sera ... 31
Laboratories of Path. & Pub. Hlth. 4

BATHS, SPAS, &c.—
Bavarian Spas ... 46
Harrogate Royal Baths ... 47
Mont-Dore ... 48
Vichy, France ... 46

HOTELS & HEALTH RESORTS—
Beau-Rivage Hotels ... 45
Grand Hotel Harrogate ... 47
Hotel Majestic, Harrrogate ... 47

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro ... 48
Peebles Hydro ... 48
Ruthin Castle, North Wales ... 44
Smedley's Hydro, Matlock ... 48

INEBRIETY—
Bay Mount, Paignton ... 42
Caldecote Hall, Nuneaton ... 42
Dalrymple House, Rickmansworth 42
'Old Hill House,' Chislehurst ... 42

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—
RE APPOINTMENTS ... 17

HOSPITAL, &c., VACANCIES—
Aberdeen County ... 56
All Saints' Hospital, S.W.1 ... 56
Barnsley, Beckett Hospital ... 52
Birmingham City ... 55
Birmingham General Hospital ... 52
Birmingham, Midland Hospital ... 52
Birmingham & Midland Eye Hosp. 52
Blackburn Royal Infirmary ... 60
Bolingbroke Hospital, S.W.11 ... 53
Bolton Infirmary & Dispensary ... 53
Bradford Royal Eye & Ear Hosp. ... 57
Brighton County Borough ... 55
Brighton, New Sussex Hospital ... 57
Bristol City & County ... 50
Bristol General Hospital ... 57
Brookfield Orthopædic Hospital ... 54
Central London Ophthalmic Hosp. 57
Cen. London Throat & Nose Hosp. 55
Chichester, Royal W. Sussex Hosp. 54
Child Guidance Clinic ... 55
Connaught Hospital, E.17 ... 53
Coventry & Warwickshire Hospital 54
Derby City Hospital ... 57
Derbyshire Royal Infirmary ... 54
Doncaster Royal Infirmary ... 53
Dudley, The Guest Hospital ... 57
Durham County Hospital ... 53
Eastbourne, Prin. Alice Mem. Hos. 53
Eccles & Patricroft Hospital ... 54
Elizabeth Garrett Anderson Hosp. 52
Exeter, Royal Devon Hospital ... 54
Folkestone, Royal Victoria Hosp. ... 52
Glasgow Royal Maternity Hospital 53
Gloucestershire Royal Infirmary ... 54
Grimsby & District Hospital ... 53
Grosvenor Hospital for Women ... 56
Hertford County Hospital ... 61
Hospital for Sick Children, W.C.1 ... 61
Hospital for Women, W.1 ... 52
Hove Hospital ... 54
Hull Royal Infirmary ... 52
Huntingdon County Hospital ... 60
Indian Medical Service ... 51
Inverness, Royal Northern Infirm .. 60
Ipswich, East Suffolk Hospital ... 52
Ipswich Mental Hospital ... 54
Kent & Canterbury Hospital ... 56
King's College Hospital ... 52
King's Lynn, W. Norfolk Gen. Hos. 53
Lancashire County Council ... 55
Leeds, Herzl Moser Hospital ... 53
Liverpool City ... 50
London County Council ... 55
London Hospital, E.1 ... 53
London Jewish Hospital, E.1 ... 52
Lowestoft & N. Suffolk Hospital ... 54
Manchester Royal Infirmary ... 53
Marie Curie Hospital ... 54
Mildmay Mission Hospital ... 54
National Hospital, W.C.1 ... 52
Nat. Hospital for Dis. of the Heart 60
Newcastle City & County ... 56
Newcastle, Royal Victoria Infirm ... 53
Newport, Royal Gwent Hospital ... 54
Norwich City ... 55
Nottingham City Mental Hospital ... 57
Nottingham General Hospital ... 53,56
Oldham Royal Infirmary ... 52
Paddington Green Children's Hosp. 54
Plymouth Central Hospital ... 53
Portsmouth City ... 56
Queen's Hosp. for Children, E.2 .. 55,61
Queen Mary's Hospital, E.15 ... 54
Reading, Royal Berkshire Hospital 54
Rochester, St. Bartholomew's Hosp. 53
Rotherham County Borough ... 55
Rotherham Hospital ... 52
Royal Free Hospital, W.C.1 ... 54
Royal National Orthopaedic Hosp . 53
Royal Waterloo Hospital, S.E.1 .. 53,54
St. Leonards, Buchanan Hospital ... 55
St. Mary's Hosp. Med. School, W.2 50
St. Paul's Hospital, W.C.2 ... 55
St. Thomas's Hospital ... 60
Samaritan Free Hosp. for Women ... 53
Sheffield Children's Hospital ... 52
Sheffield City ... 56
Sheffield Royal Infirmary ... 52
S.E. Counties of Scotland Joint San. 55
Staffordshire, Longton Hospital ... 55
Stourbridge, Corbett Hospital ... 53
Swansea General & Eye Hospitals ... 55
Sunderland Children's Hospital ... 52
Sunderland Royal Infirmary ... 53
Wallasey, Victoria Central Hosp. ... 61
Walsall General Hospital ... 54
Welsh Nat. School of Medicine ... 55
West End Hosp. for Nervous Dis. ... 52
Westmorland Sanatorium ... 54
W. Suffolk General Hospital ... 51
Wolverhampton County Borough ... 56
Wolverhampton Royal Hospital ... 60
Woolwich War Memorial Hospital 60

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. ... 59

HOMES & ASYLUMS—
Bailbrook House, Bath ... 4
Barnwood House, Gloucester ... 4
Bethlem Royal Hospital, Kent ... 4
Bishopstone House, Bedford ... 4
Boreatton Park, Salop ... 4
Brooke House, Clapton, E. ... 4
Camberwell House, S.E.5 ... 4
Cheadle Royal, Cheshire ... 4
Chiswick House, Pinner ... 4
City of London Mental Hospital ... 4
Clarence Lodge, Clapham Park ... 4
Coppice, Nottingham ... 4
Court Hall, Kenton, Exeter ... 4
Dartmoor Convalescent Home ... 4
Gilgal Hospital, Perth ... 4
Grange, near Rotherham ... 4
Grove House, All Stretton ... 4
Haydock Lodge, Lancashire ... 4
Highfield Hall, St. Albans ... 4
K. Edward VII Convalescent Home 4
Lawn, Lincoln ... 4
Littleton Hall, Brentwood, Essex ... 4
Log House, Klosters ... 4
Mont House, Tamworth, Staffs ... 4
Northumberland House, N.4 ... 4
Old Manor, Salisbury ... 4
Peckham House, S.E.15 ... 4
Resident Patients ... 4
St. Andrew's Hosp., Northampton ... 4
Shaftesbury House, Liverpool ... 4
Springfield House, near Bedford ... 4
Stanborough, Watford, Herts ... 4
Stonycrest Nursing Home ... 4
Stretton House, Shropshire ... 4
Tykeford Abbey, Newport Pagnell 4
West Haven, Bournemouth ... 4
Woodlands Park, Great Missenden 4
Wye House, Buxton ... 4

SANATORIA—
Cotswold Sanatorium ... 4
East Anglian Sanatorium ... 4
Grampian Sanatorium ... 4
Montana Hall, Switzerland ... 4
Mundesley Sanatorium ... 4
Pendyffryn Hall Sanatorium ... 4
Tor-na-Dee Sanatorium ... 4
Vale of Clwyd Sanatorium ... 4

SCHOOLS, &c.—
Colthurst House School, Warford ... 4
Marlborough College, Macclesfield 5
Taunton School, Taunton ... 5

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital 5
Liverpool School of Trop. Medicine 5
London University ... 4,5
Nat. Post-Grad. Sch. of Radiotherapy 4
N.-E. London Post-Grad. College ... 4
Q. Charlotte's Maternity Hospital 4
St. Mary's Hosp. Med. School, W.2 5
Salvation Army Mothers' Hospital 5
West London Hospital ... 4

TUTORS & LECTURERS—
Birmingham University ... 5
Exams.—Med. Corresp. College ... 4
F.R.C.S. Edin. Classes—H. C. Orrin 4
F.R.C.S. Ed. Classes—C. Whittaker 5
Fellowship of Medicine ... 4
Institute of Med. Culture, Vyrose ... 5
Manchester Tutorial College ... 4
St. Mary's Hospital ... 4
Stammering—Miss E. Behnke ... 5
University Exam. Postal Institution 4

TRANSFER AGENTS—
Borril Medical Agency, Ltd. ... 6
British Medical Bureau ... 63,64,6
Lee & Martin, Ltd. ... 6
Manchester Medical & Schol. Assoc. 6
Med. Practitioners' Union Agency 6
Needes, H. ... 6
Peacock & Hadley, Ltd. ... 6
The Medical Agency ... 58,6
Turner, P., Ltd. ... 58,6
Western Medical Agency, Bristol ... 6

ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant ... 5
Dispensers, Medical Posts, &c. ... 58,5
Locums Wanted and Vacant ... 5
Partnerships Wanted and Vacant ... 5
Practices Wanted and Vacant ... 5

NURSING INSTITUTES—
Carendish Nurses ... 6
Nurses' *Association* ... 6

MISCELLANEOUS—
Consulting Rooms, &c., to Let ... 59,6
Income Tax Consultant—Hardy ... 6
Miscellaneous Sales &c. ... 6

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

J. & A. CHURCHILL

SEVENTH EDITION. 2 Vols. 900 Illustrations (43 in Colour). 70s., postage 1s. 3d.

ROWLANDS & TURNER'S OPERATIONS OF SURGERY

"This is probably the most important modern textbook on Operative Surgery published by British Surgeons.
"The volumes are not only safe as a book of reference, but of the greatest value to the general surgeon. The searching and detailed revision which has been carried out in the last edition does great credit to the ability and industry of the authors."—PRACTITIONER.

FOURTEENTH EDITION. 64 Plates, 12 Coloured, and 103 Text-figures. 25s., postage 1s.

25s. **TAYLOR & POULTON'S PRACTICE OF MEDICINE** 25s.

Edited by E. P. POULTON, with the Assistance of C. P. SYMONDS, H. W. BARBER, and R. D. GILLESPIE.
"The cost of this valuable book has been actually reduced. The amount of work must have been enormous, and the result is certainly most successful."—BRITISH MEDICAL JOURNAL.

TWENTIETH EDITION. 10s. 6d., postage 5d.

HALE-WHITE'S MATERIA MEDICA

Revised by A. H. DOUTHWAITE, M.D., F.R.C.P., Assistant Physician, Guy's Hospital.

London: J. & A. Churchill, 40, Gloucester Place, Portman Square, W.1

NOW READY. 49th YEAR. With 70 Plain and Coloured Plates and many Text Illustrations. 20s. net. Postage 9d

MEDICAL ANNUAL, 1931

A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX.

A Review of the Year's Progress in Medicine and Surgery, arranged in Alphabetical order.

EDITORS: CAREY F. COOMBS, M.D., F.R.C.P., and A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.
IN CONJUNCTION WITH 29 WELL-KNOWN CONTRIBUTORS.

"There can be few medical publications in the English language that are so widely read as the 'Medical Annual.'"—BRIT. MED. JOURN.

Third Large Impression. Crown 8vo. 168 pp. 7s. 6d. net. Postage 4d.

THE ELEMENTS OF MEDICAL TREATMENT

By ROBERT HUTCHISON, M.D., F.R.C.P., *Physician to the London Hospital and the Hospital for Sick Children, Great Ormond Street.*
"The advice it contains is sound, free from fads, and not overburdened with useless details."—LANCET.

Bristol: JOHN WRIGHT & SONS Ltd. [Illustrated Catalogue free.] London: SIMPKIN MARSHALL Ltd.

Subscription in India and abroad Rupees 16 per annum. Post free. Payable in advance.

THE INDIAN

JOURNAL OF MEDICAL RESEARCH

Edited by THE DIRECTOR-GENERAL, INDIAN MEDICAL SERVICE, THE PUBLIC HEALTH COMMISSIONER WITH THE GOVERNMENT OF INDIA, *and* THE DIRECTOR, CENTRAL RESEARCH INSTITUTE, *in collaboration with* LEADING AUTHORITIES ON TROPICAL MEDICINE

The Indian Journal of Medical Research is published quarterly. Each number contains about 200 pages and is illustrated with Plates in Colour and Half-tone and with Diagrams and Charts, and is the only medium publishing the results of the best medical research work being carried on by leading scientific medical men in India and the East.

THACKER, SPINK & CO. (P.O. BOX 54) CALCUTTA

LONDON AGENTS: W. Thacker & Co., 2, Creed Lane, E.C.4

THE CLINICAL JOURNAL.

6d. **An Illustrated Weekly Record of CLINICAL MEDICINE and SURGERY.** 6d.

Including a Section on MEDICAL PROGRESS dealing concisely with the most important advances.

". . . my weekly perusal of the 'Clinical Journal' was a very important factor in my medical education."
** Special Leaflet, with selected list of articles and other details, on application. —SIR THOMAS HORDER.

ANNUAL SUBSCRIPTION (commencing at any date), 26s.; Six Months, 13s. 6d.; Three Months, 7s., post free.

London: H. K. LEWIS & CO. Ltd., 136, Gower Street, and 24, Gower Place, W.C.1.

MEDICAL HYPNOSIS AND SUGGESTION

The following recent publications by EDWIN L. HOPEWELL-ASH, M.D., are now obtainable from BM/ELHA, London, W.C.1.

(1) THERAPY OF PERSONAL INFLUENCE: An ABC of Treatment by Personal Influence, Suggestion, Medical Hypnosis, and Psychomagnetic Methods. 2/9 postfree. Includes notes of 114 successful cases.
(2) AN ABC OF MEDICAL HYPNOSIS. 2/2 post free. Outlines simple methods—essentially practical.
(3) PSYCHOMAGNETISM AND PERSONAL INFLUENCE IN TREATMENT. A B.M.A. Address reprint; complimentary to Medical Practitioners.

NAME PLATES

In BRONZE or BRASS.

Estimates and Sketches sent free.

H. K. LEWIS & Co. Ltd., Medical and Scientific Stationers, 136, GOWER STREET, LONDON, W.C.1.

JOHN BALE, SONS & DANIELSSON, Ltd.

ROBERT AND CLIVE. "The Story of a Surgeon." By CLAIR COPE. 6s. net, post free 6s. 6d.

YOUR SERVANT THE DOCTOR. By "G. P." (W. B. Cosens). 7s. 6d. net; post free 8s.

Without a word on potions and pills,
Just a few home truths, without any frills.

EGYPT: The Home of the Occult Sciences. With special reference to IMHOTEP, the Mysterious Wise Man and Egyptian God of Medicine. By T. GERALD GARRY, M.D., M.Ch., M.A.O., M.B.E. 7s. 6d. net; post free 8s.

SEX AND DISEASE. A Contribution to Sex Education and the Prevention of Venereal Diseases. By ROBERT V. STORER, M.R.C.S. (Eng.), L.R.C.P. (Lond.). With Introduction by J. S. PURDY, D.S.O., M.D., C.M. (Aberd.), D.P.H. (Camb.), F.R.S. (Edin.), F.R.S.I. Revised popular edition. Fourth edition. 4s. 6d.; post free 5s. 0d.

"We are greatly impressed with the value of this book which gives a really simple and yet thoroughly accurate account of Venereal Disease from every point of view. Medical men will find this a thoroughly reliable guide."—MEDICAL WORLD.

"THE CONJOINT FINALS." Being a Reproduction of all the Questions set in Medicine, Surgery, and Midwifery from 1911 to 1929 classified under the various systems and arranged in the date-order of their occurrence. By GERALD N. BEESTON, M.R.C.S.(Eng.), L.R.C.P. (Lond.). 6s. net; post free inland 6s. 6d.; abroad 6s. 9d.

"The book is intended to provide a sound scheme for general revision, and all students approaching that great crisis in their careers, the Finals, would do well to get hold of a copy."
—CHARING CROSS HOSPITAL GAZETTE.

A SHORT HISTORY OF ANATOMY. By RICHARD H. HUNTER, Ph.D., M.D., M.Ch. 2nd enlarged edition. 3s. 6d. net; post free 3s. 9d.

THE SEXUAL LIFE OF MAN. An Outline for Students, Doctors and Lawyers. By DR. PLACZEK, Neurologist in Berlin. Second edition, considerably changed and enlarged. Translated by Leslie Stuart Morgan, M.R.C.S., L.R.C.P. 12s. 6d. net; post free, 13s. inland, 13s. 3d. abroad.

"If the practitioner's library does not contain one of the older works on this subject, then we strongly advise him to accord a place to this very excellent translation."—
JOURNAL OF CLINICAL RESEARCH.

83-91, GREAT TITCHFIELD STREET, LONDON, W.1.

6s. net. *The Practical Treatment of* 6s. net.

DIABETES

by

T. IZOD BENNETT, M.D.(Lond.), F.R.C.P.(Lond.)

A complete practical description of the modern treatment of diabetes, intelligible not only to the medical practitioner, but also to the educated patient. The volume includes all the practical details of diet-calculations, urine testing, and insulin administration.

Send for a prospectus from

CONSTABLE & CO. LTD. 10 & 12 Orange St. Leicester Sq. LONDON WC2

BRAIN, MIND, AND THE EXTERNAL SIGNS OF INTELLIGENCE

By BERNARD HOLLANDER, M.D.

The author, writing with the knowledge derived from a life-long study of the brain, makes a critical survey of modern research in this domain. He shows that the brain is primarily an organ of the instincts and emotions, only that part which is essentially characteristic of humanity being connected with the intellectual abilities which exclusively pertain to man. He makes valuable suggestions for the conquest of certain forms of insanity. *Profusely Illustrated.* 12s. 6d.

GEORGE ALLEN & UNWIN, LTD., 40, MUSEUM STREET, LONDON, W.C.1

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.

LABORATORY PRODUCTS:

VACCINES

AUTOGENOUS AND STOCK.

Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS

Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS

Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA

Issued in tube and in bulk.

Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

FREQUENT MICTURITION.

"YBWET"

NEW ABSORBENT BAGS.

Day pattern 35/-; for day and night use 70/-; by post. Our Absorbent Bags (new principle) catch all leakage, but allow natural micturition without disturbing clothing; lavatory privacy unnecessary. Ease both mind and body. Invisible and easily emptied. Special pattern for Motorists and Aviators. For helpless cases, our

"NEW SANITUBE"

keeps bed and patient dry, night and day, without constant nursing attention. Price 70/- by post. Diagrams, etc., on request: HILLIARD, 123, Douglas Street, Glasgow, C.2.

A Gentleman Always Looks Well Dressed In Savile Row Clothes.

[REDUCED PRICES.]

NEW MISFITS (receipts produced) direct from all the eminent tailors, viz.:—DAVIES, LESLEY & ROBERTS, SCHOLTE, &c. LOUNGE, DRESS, SPORTS SUITS, &c. OUR PRICES NOW 3 to 8 Gns.

Alterations on Premises.

REGENT DRESS CO., Piccadilly Mansions, 17, Shaftsbury Avenue, Piccadilly Circus, W.1. Ladies' Dept. on 1st Floor. (Next Cafe Monico.) GER. 7611

Tycos MANUFACTURED by SHORT & MASON LTD WALTHAMSTOW LONDON, E.17.

SPHYGMOMANOMETERS

NAME PLATES

FOR THE PROFESSION.

Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.

Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.

With fastenings ready for fixing.

SEND FOR ILLUSTRATED CATALOGUE.

COOKE'S (Finsbury) Ltd. Signs Dept. FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

POCKET MONEY ADDING MACHINES 15/- post free

TAYLOR'S TYPEWRITERS

SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY & REPAIR ALL MAKES of Typewriters, Duplicators, and Calculating Machines. *Write for Bargain List 52.* 'Phone—Holborn 3783.

Desks, Tables & Chairs

Est. 1881.

THE BIJOU

The best portable Writer Complete in Travelling Case, from £9 9s.

BUY A BIJOU FOR 5/- per week.

74, CHANCERY LANE (Holborn End), W.C.2

BRONZE NAME PLATES

Cream enamelled lettering, no cleaning required

BRASS NAME PLATES

Museum 2264. *Send for Book* 18.

F. OSBORNE & Co., Ltd. 27, EASTCASTLE ST., LONDON, W.1

ARCHIVES OF DISEASE IN CHILDHOOD

EDITED BY

HUGH THURSFIELD, D.M., F.R.C.P., and REGINALD MILLER, M.D., F.R.C.P.,

WITH THE HELP OF

H. C. CAMERON, M.D., F.R.C.P.
H. A. T. FAIRBANK, D.S.O., M.S., F.R.C.S.
LEONARD FINDLAY, D.SC., M.D.
A. DINGWALL FORDYCE, M.D., F.R.C.P.ED.
C. MAX PAGE, D.S.O., M.S., F.R.C.S.
LEONARD G. PARSONS, M.D., F.R.C.P.
G. F. STILL, M.D., F.R.C.P.
EDITOR OF THE *British Medical Journal*.

Vol. 6. JUNE, 1931. No. 32.

Published by the British Medical Association.

London: British Medical Association House, Tavistock Square, W.C.1.

Yearly Subscription (6 numbers), 25/-. Single Number, 4/6.

The Medical Profession when prescribing "Liquor Carbonis Detergens" SHOULD ADD THE WORD

Wright's

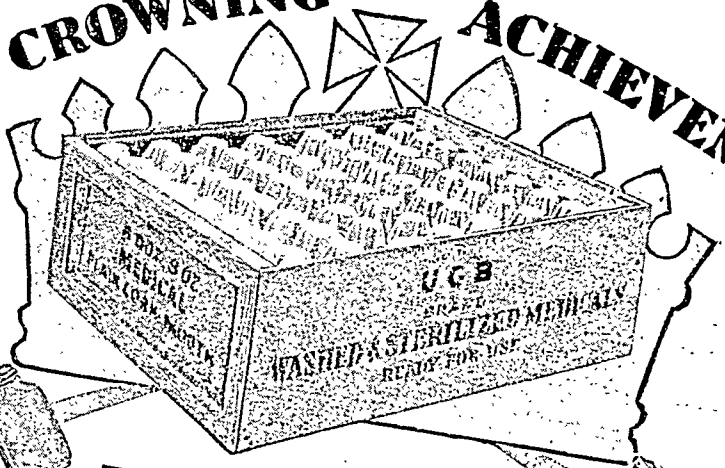
On receipt of your professional card, a package will be sent containing a sample of each of the following—

Wright's Coal Tar Soap.
Wright's Coal Tar Ointment.
Wright's Lysol.
Wright's Liquor Carbonis Detergens.

Although there is no secrecy as to the composition of Liquor Carbonis Detergens (it is described as "an alcoholic solution of coal tar"), the method of manufacture is unique. Imitations will be found to be produced by simple digestion, usually accompanied by some primitive, perfunctory, and inadequate stirring; whereas, in the case of the genuine product, the intimate contact required, for the complete extraction of all the soluble antiseptic constituents, is attained by a series of complicated processes, involving the use of highly specialized machinery.

WRIGHT, LAYMAN & UMNEY LTD., 66, Park Street, Southwark, S.E.1

THE CROWNING ACHIEVEMENT



U.G.B. MEDICAL BOTTLE *Service*

DURING the past ten years at tremendous expense, a very wide range of automatic machine mould equipment has been built up by the U.G.B. to cater for practically every bottle requirement of the Chemist and Dispenser. New and attractive shapes are now being added from time to time.

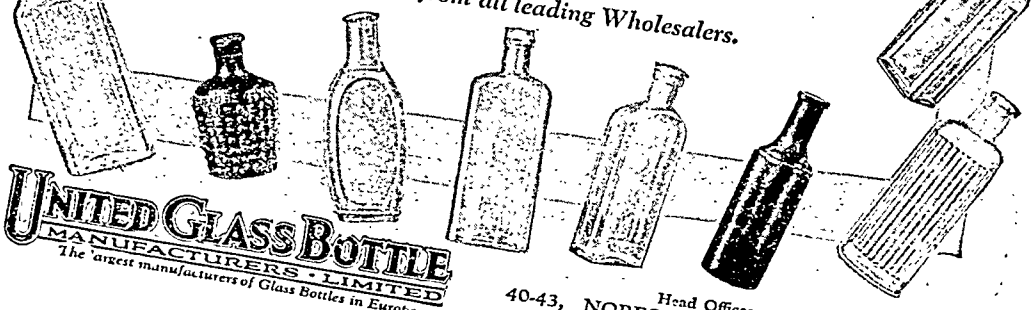
The Crowning Achievement was the introduction of the "Washed and Sterilised Ready-to-Use Package" which is daily growing in demand.

Only a small percentage of the actual cost of this service is passed on to the customer.

Supplied either for corks or complete with Rustless White Enamelled Screw Caps.

Once you have experienced the value and convenience of this U.G.B. Service you will use nothing else. Try it NOW and be prepared for the WINTER.

Obtainable from all leading Wholesalers.



UNITED GLASS BOTTLE MANUFACTURERS · LIMITED
The largest manufacturers of Glass Bottles in Europe.

Head Offices:
40-43, NORFOLK STREET, STRAND,
LONDON, W.C.2.
'Phone: Temple Bar 6680. 'Grams: 'Unglaboman, Estrand, London.'

A New Departure in Cigarette Manufacture

du Maurier

VIRGINIA

with the exclusive filter-tip

The Ministry of Health (Memorandum to Local Authorities, 8th Series). "No evidence has been adduced to support the contention that the mere inhalation and exhalation of tobacco smoke is of importance, although two possible causes of 'irritation' are *heat* and the *products of combustion.*"

The Claims of the Manufacturer

I. The filter-tip is selective in its action and while permitting the full passage of all the desirable constituents, shows a high capacity for retaining both the pyridine bases and non-volatile bodies, which undoubtedly form the principal source of throat irritation.

II. Unfiltered smoke is as dangerous as unfiltered water and as irritating as dust-laden air. The filter-tip effectively purifies tobacco smoke from harmful irritant and acrid substances which are inevitably formed when tobacco leaf, even of the finest quality, is burned.

III. By the introduction of the filter-tip the palate loses nothing, but the voice and throat gain immeasurably as the irritants are held in check without impairing the flavour or delicate character of the smoke. This is the central advantage to be gained from the filter-tip

IV. Cigarettes containing this filter-tip will be welcomed both by the medical profession and the public as a valuable means of preventing "smoker's cough" and other adverse effects on the pharynx, larynx or general health, traceable either directly or indirectly to the irritants and acrids in tobacco smoke.

V. They constitute the only safe form of smoking for those predisposed to, or suffering from, pharyngitis, laryngitis, or any form of bronchial or respiratory affection. They are invaluable in cases of gastric trouble due to tobacco tar.

A Selection from many Authoritative Endorsements

The aim of *this ingenious filter* is to trap the irritating pyridine derivatives and other non-volatile bodies, while permitting free passage of the agreeable volatile constituents of tobacco smoke.

The British Medical Journal, April 18th, 1931. p. 692.

A filter-tip must not only be efficient as a filter to irritating and noxious products, but must not affect the flavour . . . pyridine, the most offensive constituent of tobacco smoke, and other non-volatile irritant substances are retained by the ingenious filter-tip which is used in du Maurier cigarettes. From a personal trial we can testify to the *pleasant flavour and aroma* and to the *distinct lack of irritation* experienced in smoking these cigarettes.

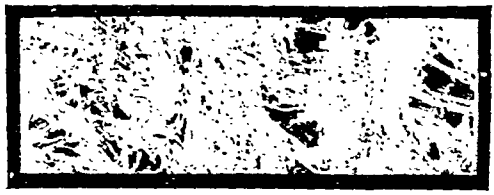
The Practitioner, May, 1931. p. 584.

We have tested these cigarettes and find them to be *cooler* and *less irritating* to the mucous membrane than ordinary cigarettes of good quality without the filter-tip.

The filter-tip . . . retains bodies which are generally held to be the principal cause of throat irritation. Additional advantages of the filter-tip comprise *protection of the lips, teeth and fingers from unsightly stain*, and prevention of fragments of tobacco from getting into the mouth.

The du Maurier cigarettes may be regarded in every way as satisfactory, and they constitute a distinct and hygienic advance in the marketing of cigarettes.

The Lancet, January 24th, 1931. p. 194.



Magnified view of cellulose fibre (contained in the filter-tip). BEFORE SMOKING.

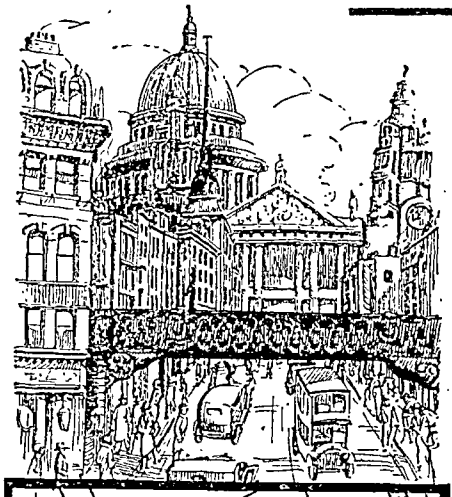
Magnified view of cellulose fibre (contained in the filter-tip). AFTER SMOKING.

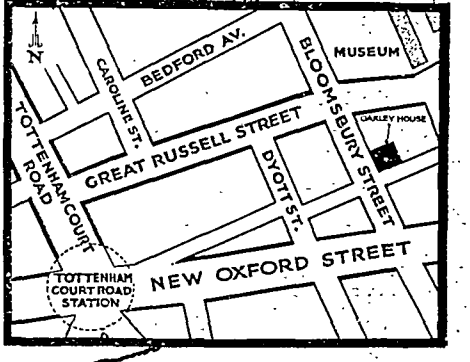
'du Maurier' Virginia Cigarettes at 20 for 1/-, 50 for 2/6, can be obtained from Peter Jackson, 217, Piccadilly, London, W.1, but we would prefer you to buy them from your tobacconist.

Peter Jackson (Tobacco Manufacturer) Ltd.

SALTAIR

For The Convenience of London Practitioners





'PHONE
MUSEUM 3845

The special attention of London Medical Men is drawn to the easy accessibility of our London Branch at

OAKLEY HOUSE,
14/18, Bloomsbury Street, W.C.
(Underground Station—Tottenham Court Road)

where qualified female Fitters are always in attendance and the services of an Orthopaedic Mechanist are available each Wednesday. Appointments should always be made.

It is hardly necessary to emphasize the advantages of being able to send a patient to be fitted by Surgical Experts for the exact type of appliance prescribed.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT.

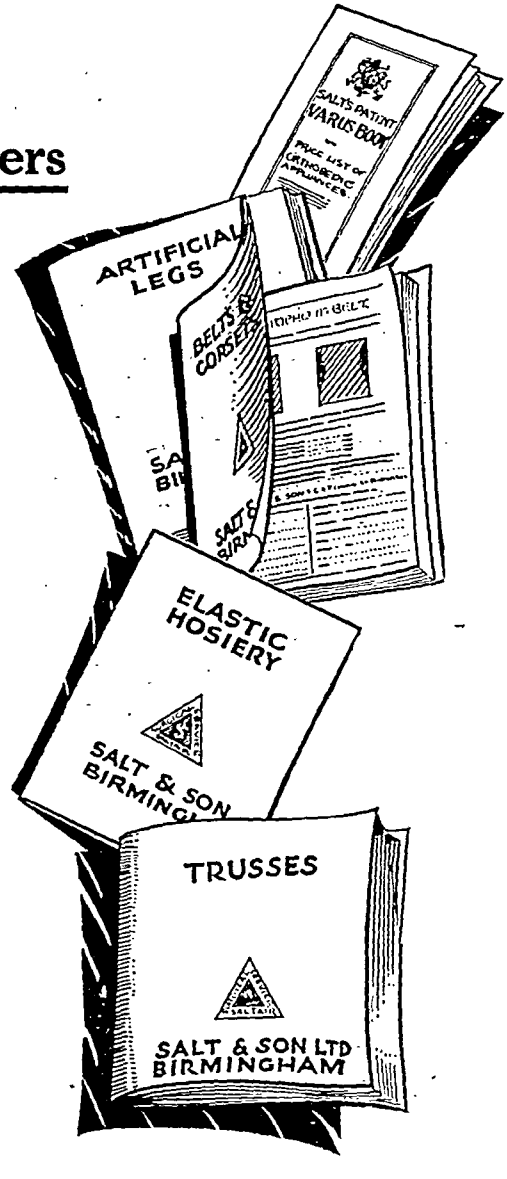
SERVICE

For The Convenience of ALL Practitioners

Books of Reference containing Simple Order Forms sent free to Medical Men, on request. It is sufficient to fill up the Form—WE take full responsibility for the appliance sent.

Provincial Visits are made periodically by qualified male and female Fitters to the following centres:

BRISTOL	STOKE-ON-TRENT
CHELTENHAM	WORCESTER
GLOUCESTER	WOLVERHAMPTON
LEAMINGTON	WALSALL
NORTHAMPTON	BURTON-ON-TRENT
SHREWSBURY	DERBY



'PHONE
Birmingham
MIDLAND 5455

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

ESTABLISHED 1793.

"VARIBAN"
Elastic Plaster BANDAGE

MADE from a specially woven selvedge material, possessing very elastic properties, evenly spread with an Antiseptic Zinc Oxide Paste. Self-adhesive, readily conforming to the shape of the limb, and when carefully applied forms an even surface dressing which will not crease or slip. Firm support. Easy to remove. Extensively used in many well-known hospitals for the treatment of VARICOSE ULCERS, VARICOSE VEINS, SURGICAL and ORTHOPAEDIC CASES, etc. Their application for treatment of Varicose Ulcers, etc., does not necessitate the patient lying-up; in fact, permits the continuance of light duties. Ensures rapid healing.

SUPPLIED in WIDTHS

2"	2½"	3"	
1/7	1/9	2/-	EACH

When stretched measure six yards (approximately).

SAMPLE 3 in. "VARIBAN" ELASTIC PLASTER BANDAGE sent POST FREE on receipt of P.O. for 2/3.

Sole Manufacturers:
CUXSON, GERRARD & CO. Ltd. MANUFACTURING CHEMISTS — OLDBURY, BIRMINGHAM

"CELLANBAND"
PASTE BANDAGES
in the Treatment of VARICOSE ULCERATION, PHLEBITIS, etc.

MESSRS. CUXSON, GERRARD & CO. Ltd. have pleasure in informing the members of the medical profession that they are now manufacturing Paste Bandages—under the descriptive name of "Cellanband"—strictly according to the formula mentioned in the article quoted below.

"The paste-bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained."
(Vide article on page 560, "B.M.J.," Oct. 4th, 1930.)

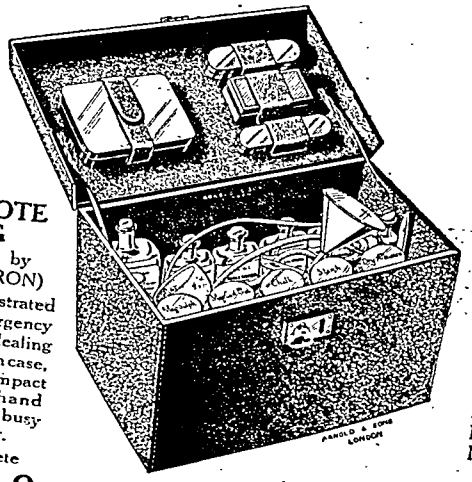
SAMPLE BANDAGE 1/- Post Free
Descriptive literature available on request.

Distributors to the Medical Profession:
The MEDICAL SUPPLY ASSOCIATION Ltd.
167-185, Gray's Inn Road, LONDON, W.C.1. 10-13, Teviot Place, EDINBURGH. 6-12, Holly St., SHEFFIELD.

LONDON MAKE

SURGEONS' BAGS AND CASES

REAL COWHIDE



A popular selection of Surgeons' Bags offered by Arnold & Sons.

Any Bag may be modified to meet individual needs.

No. 1931.	Attache Case Pattern	fitted from	55/6
No. 1932.	Dome Top Bag	"	67/6
No. 1933.	Attache Case, fall front, fitted	"	85/6
No. 1934.	Attache Case, double opening	"	52/6
No. 1935.	Brief Pattern	"	33/9
No. 1936.	Attache Case, top opening	"	79/6
No. 1937.	Kit-shape Bag	"	60/-
No. 1938.	Brief Bag (large) fitted	"	96/3
No. 1939.	Attache Case, 4 drawers	"	75/-
No. 1940.	Brief Pattern and opening	"	63/-
No. 1941.	Attache Case, with lining	"	42/-
No. 1942.	Kit-shape, 2 compartments, fitted	"	87/-
No. 1943.	Attache Case, 3 drawers, fitted	"	64/6
No. 1944.	Attache Case, plywood base	"	81/-

In Black or Brown Cowhide.
Illustrated List sent on request.

ANTIDOTE BAG
(Designed by Dr. E. BARON)
The Outfit illustrated contains emergency supplies for dealing with any poison case, forming a compact ready to hand outfit for the busy Practitioner.
Price Complete
£3 : 3 : 0

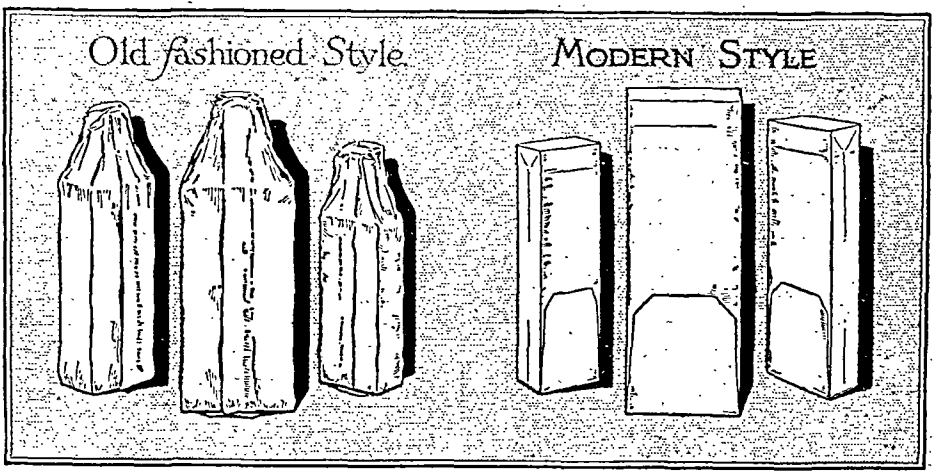
Telephone— WELBECK 5555 (12 lines).

Arnold & Sons (JOHN BELL & CROYDEN)
50-52, WIGMORE STREET, LONDON, W.1

Telegrams— INSTRUMENTS, WESDO, LONDON.

The Birth of an Idea

A QUALITY
4-oz. **15/9** Per 1,000
6-oz. **18/5** Per 1,000
8-oz. **19/9** Per 1,000
CARR. PAID.
REDUCTIONS FOR LARGER QUANTITIES.



B QUALITY
4-oz. **12/10** Per 1,000
6-oz. **14/6** Per 1,000
8-oz. **16/2** Per 1,000
CARR. PAID.
REDUCTIONS FOR LARGER QUANTITIES.

The *necessity* of replacing the old wrappers and sealing-wax was the *mother* of the *invention* of the new Medicine Bottle Envelopes. This neat and speedy method has been received enthusiastically by medical men and dispensers, an will very soon be in general use throughout the country.

ORDER NOW from— CHARLES STEVENS & SON,
12-14, GREAT CENTRAL ST.,
LEICESTER. 'Phone 20903.

SAMPLES UPON APPLICATION.

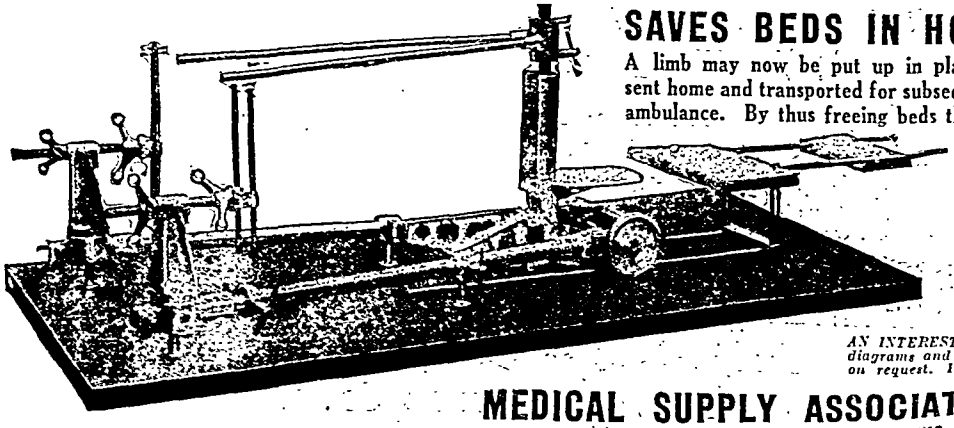
An IMPROVED and MODIFIED

Portable Traction Apparatus

An exceedingly efficient and convenient apparatus for putting up in plaster the lower limbs or trunk; also when applying bone plates or Parham and Martin's Bands to long bones of the lower extremity. Provides the more essential movements of expensive and bulky Orthopaedic tables at a fraction of the cost.

Quickly adaptable for the following positions:

Extension of whole lower limbs.
Movements about hip-joint:
Abduction to any degree—
Hyperextension—Flexion—
Internal and External Rotation.
Flexion of knee-joint.
Inversion and Eversion of foot.



SAVES BEDS IN HOSPITALS

A limb may now be put up in plaster, the patient sent home and transported for subsequent treatment by ambulance. By thus freeing beds this new apparatus saves its cost many times over.

Folds compactly for storage or transit in plywood case 35 in. × 15 in. × 11 in.

AN INTERESTING LEAFLET, giving diagrams and instructions, sent free on request. Please ask for a copy.

MEDICAL SUPPLY ASSOCIATION Ltd.,
167/185, Gray's Inn Road, LONDON, W.C.1.
12, Holly Street, SHEFFIELD.
10/13, Teviot Place, EDINBURGH.

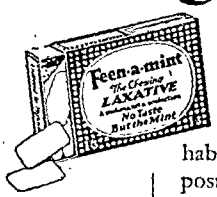
London Telephone: Terminus 5432 (6 lines).

REGD. TRADE MARK

Feen-a-mint

The Chewing Laxative

Peristaltic Promotion



Feen-a-mint definitely promotes peristalsis without griping, and without irritation to the intestinal or reno-vesical mucosa. Its marked activity is due to the minute state of sub-division of its active principle (phenolphthalein) which is incorporated into a resinous gum base. Mastication assists further its division—thus a maximum therapeutic effect is exhibited.

Definite Defaecation

Feen-a-mint is valuable at all ages. It is a beneficial aid in 'difficult' and intractable cases—especially those due to habit-forming drugs, pregnancy, neglect and post-operative stasis. It has no secondary effects, and is not incompatible with any concurrent treatment. Pleasant to take, bland, yet certain in result, and non-habit-forming, Feen-a-mint is free from all objection to the patient.

Feen-a-mint is of marked assistance in
CONSTIPATION OF ALL TYPES

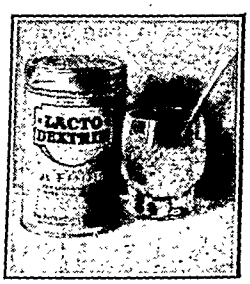
✠ FREE *of all charge or obligation, a clinical sample will be sent on request.*

FEEN-A-MINT PRODUCTS LTD., 1, BUSH HOUSE,
LONDON, W.C.2

Of special service in
FISSURE or HAEMORRHOIDS

"PSYLLIUM seeds when immersed in water yield a mucilaginous substance which is able to take up relatively large quantities of water to form a gelatinous mass. They become in this way a useful lubricant, while the emollient character of the mass renders it of special service in fissure or haemorrhoids."—*Lancet*, Jan. 10th, 1931.

Another preparation of importance as a laxative agent is Lacto-Dextrin—a palatable combination of lactose and dextrin for changing the intestinal flora.



Samples and literature of both these intestinal products will be sent to members of the Medical Profession on request to Coates & Cooper, Ltd., 41, Great Tower Street, London, E.C.3, Sole Distributing Agents for the United Kingdom and Irish Free State.

PSYLLA
(Psyllium Seed)

LACTO-
DEXTRIN

Products of the BATTLE CREEK FOOD CO., Mich., U.S.A.

"VARICANE"
Trade Mark BRAND

Sclerosing Solutions

For the Modern Treatment of Varicose Veins

"VARICANE" SODIUM MORRHUATE is specially noteworthy for its purity and its light colour which allows blood to be readily seen in the syringe when the needle enters the vein. Available in strengths of 5% and 10%

"VARICANE" QUININE HYDROCHLORIDE & URETHANE. The special process of manufacture prevents crystallising out and obviates irritation on injection

"VARICANE" SODIUM SALICYLATE. Available in strengths of 20%, 30%, 40% and 50%

Write for your copy of "The Modern Treatment of Varicose Veins" and clinical trial sample

MAY & BAKER LTD.
BATTERSEA LONDON, S.W.11
Telephone: Battersea, 1813 (6 lines) *Telegrams:* Bismuth, London

REMINERALISATION
POLYOPOTHERAPY

The oldest and most active of recalcifying agents in endocrino-mineral combination

—•—

OPOCALCIUM

In Tablets and Granules

—•—

Manufacturers
LABORATOIRES de l'OPOCALCIUM
121, Avenue Gambetta
PARIS

Distributors
CONTINENTAL LABORATORIES Ltd.
30, Marsham St., London, S.W.1
TAXOLABS, SOWEST, LONDON VICTORIA 2041

BOTOL

LARYNGEAL NARCOTIC

Larger packings of BOTOL are now available at the following prices:—

100 Tablets - - - -	11/6
250 Tablets - - - -	27/6

less professional discount.

Special quotations to Hospitals.

CONTINENTAL LABORATORIES, LTD.

30, MARSHAM STREET, LONDON, S.W.1

TELEGRAMS: TAXOLABS SOWEST LONDON. TELEPHONE: VICTORIA 2041.

Modern diets often lack minerals

To-day, authorities are stressing the importance of the essential mineral salts. In addition to building sturdy bones, and blood rich in hemoglobin, these mineral elements aid metabolism and contribute to nervous stability.

Yet many modern diets cannot be depended upon to furnish the proper quota of minerals, and therefore *millions of people suffer from the effects of demineralization*. Cooking destroys a variable amount of the mineral value of foods—in some instances as high as 76 per cent.

To correct this loss and to remedy demineralization—with its attendant symptoms of nerve fag, neurasthenia, lowered vitality and loss of energy—a tonic rich in mineral salts is needed.

Compound Syrup of Hypophosphites "Fellows" contains the mineral salts of sodium, calcium, potassium, manganese, iron and phosphorus, together with the added metabolic stimulants—strychnine and quinine. Sixty years of clinical experience the world over testify to its value as a tonic.

Suggested dosage: A teaspoonful in half a glassful of water three or four times daily.

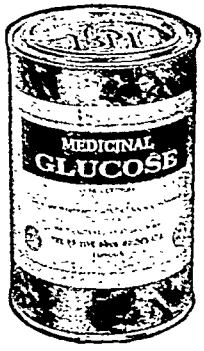
Compound Syrup of Hypophosphites

TRADE "FELLOWS" MARK

CONTAINS THE ESSENTIAL MINERALS

SAMPLES ON REQUEST

Fellows Medical Manufacturing Company, Inc. 26 Christopher St., New York City



For the Emotional Child

'. . . . it is now well established . . . . that not only cyclical vomiting and its varieties, anticipatory and otherwise, but night terrors, certain headaches often of migrainous type, some crises of collapse, some insomnias, certain cases of enuresis, and many cases of fatigue, belong to a group with the same metabolic fault behind them.'

It is suggested (*B.M.J.*, November 15th, 1930, p. 807) that the remarkable value of Glucose in correcting the above conditions is traceable to its action in building up the glycogen reserve of the liver, on which reserve in a child that is emotionally unstable there is presumably an abnormal demand.

Medicinal Glucose B.D.H. is a pure chemical substance designed for administration to emotional children in all those conditions, indicated above, which may be classified under the heading of acidosis.

MEDICINAL GLUCOSE B.D.H.

Sample and literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

Glu15

ANAESTHETICS

ANAESTHETIC ETHER

(DUNCAN)

S.G. 720

Duncan's Anaesthetic Ether is absolutely pure and contains no aldehydes or other oxidation products.

It is the result of many years' experience in the manufacture of anaesthetics and can be used with confidence by the Anaesthetist.

Prices on Application

DUNCAN, FLOCKHART & CO.

EDINBURGH and LONDON

104, Holyrood Road 155, Farringdon Road, E.C.1

Full size trial sample free to any medical practitioner in British Isles, on application by postcard to BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM

WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG COMPANY LIMITED,
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 4550
TELEGRAMS: "DRUG, NOTTINGHAM"

Regesan
FRUIT SALINE

AN agreeable effervescent preparation containing the fruit acid of the grape and antacids which correct minor disturbances of the stomach, liver and bowels.

Regesan Fruit Saline has been found to be of considerable value when the promotion of increased peristalsis has been desirable. Free from sugar, it may be prescribed for Diabetics and others who cannot tolerate sugar in any form

OBTAINABLE FROM

The Boots Chemists

OVER 900 BRANCHES IN GREAT BRITAIN

UNG. SEDRESOL (Ferris).

A Valuable Sedative Antiseptic and Healing Ointment.

UNG. SEDRESOL is a combination of the products obtained by the destructive distillation of the wood and bark of the *Betula alba* in combination with Oxide of Zinc and Antiseptics.

UNG. SEDRESOL is supplied to the Medical Profession at the following prices:—
¼-lb. Jars, 1/8 each; ½-lb. Jars, 3/- each; 1-lb. Jars, 5/9 each; 2-lb. Jars, 11/- each; 4-lb. Jars, 21/- each. *(Empty Jars allowed for on return.)*

SEDRESOL DRY DRESSING (Ferris).

A useful surgical dusting powder for cases in which it is not desirable to apply ointments. Sedative, healing, analgesic, stimulating.
Price: 4-oz. tins, 1/6 each; ½-lb. tins, 2/4 each; 1-lb. tins, 4/- each.

SEDRESOL SOAP (Ferris).

A pure superfatted soap for the skin containing the same medication as Ung. Sedresol.
Price: 10d. per tablet, 8/- per dozen.

(The word "Sedresol" is registered under the Trade Marks Act and is the sole property of Ferris & Co., Ltd.)

FERRIS & COMPANY, Ltd.
BRISTOL
Wholesale and Export Druggists and Manufacturing Chemists.

THE ONLY LYSOL MADE TO THE ORIGINAL FORMULA, MARSHALL'S is relied upon by the greatest hospitals throughout the world. For your next case specify— MARSHALL'S LYSOL.
Sample free on request to members of the medical and nursing professions.
LYSOL LTD., Dept. K 19a, RAYNES PARK, S.W.20.

THIS
IS YOUR SAFEGUARD

The name MARSHALL'S on a Lysol bottle is an assurance that the doctor and nurse can place implicit confidence in its germicidal and antiseptic efficiency.

There are cheaper Lysols than MARSHALL'S, but the standard of quality set by the original product has never been equalled. There are preparations claimed to be "just as good," but MARSHALL'S LYSOL can be relied upon in every type of case as no other preparation on the market to-day. Its emollient action makes it safe to use for the most delicate purposes, and in the correct dilution it will not roughen the hands or corrode instruments.

The germicidal activity of MARSHALL'S Lysol is not impaired by the presence of organic matter, so it is efficient under all conditions.

MARSHALL'S
Lysol

Valentine's Meat-Juice

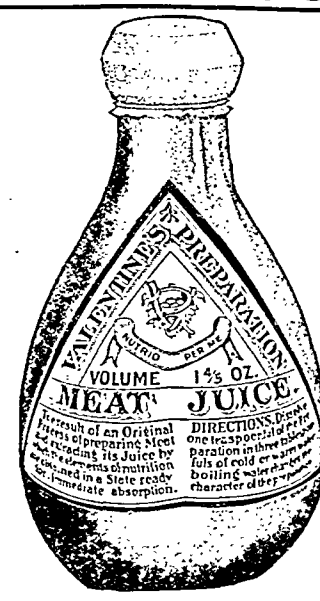
IN Vomiting of Pregnancy, in the Exhaustion following Haemorrhage or Prolonged Labour, and before and after Abdominal Operations, the Ease of Assimilation and Power of Valentine's Meat-Juice to Restore and Strengthen has been Demonstrated in

Hospitals for Women.

The quickness and power with which Valentine's Meat-Juice acts, the manner in which it adapts itself to and quiets the irritable stomach, its agreeable taste, ease of administration and entire assimilation recommend it to physician and patient.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.



Valentine's Meat-Juice Co., Richmond, Vir., U.S.A.

JB'96

INSULIN (BOOTS)

INSULIN (BOOTS) is prepared in the Laboratories of Boots Pure Drug Company Ltd., under Licence No. 19 (Therapeutic Substances Act, 1925) of the Ministry of Health.

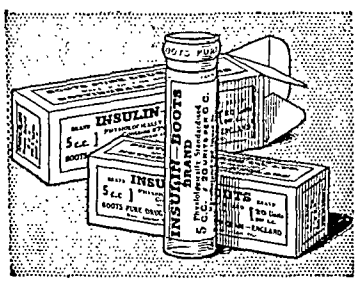
It is made from selected ox pancreas which is subject to the strictest examination before use.

The company possesses specially equipped Analytical, Pharmacological and Bacteriological Laboratories in which all the tests required by the Therapeutic Substances Act are carried out.

Each batch of Insulin (Boots) is tested for potency against the International Standard Insulin and also for sterility—these tests being carried out both before and after filling into ampoules. A sample of each batch, together with a report on the potency and bacteriological tests made, are submitted to the British Medical Research Council whose certificate of correct strength and of sterility is obtained before the batch is issued.

BOOTS PRODUCTS

ARE OBTAINABLE THROUGH ALL BRANCHES of BOOTS The CHEMISTS



WHOLESALE AND EXPORT DEPARTMENT

BOOTS PURE DRUG CO. LTD.

NOTTINGHAM, ENGLAND

TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

A safe and simple antacid which is also a gentle laxative must necessarily be of great value to medical practitioners when administering to ladies and children and all who are constitutionally delicate.

May we, therefore, venture to remind you of

DINNEFORD'S PURE FLUID MAGNESIA

which has been extensively prescribed and used by the Medical Profession for a Century, and is still the best and safest means of administering Magnesia.

When prescribed for the nursery, too, Dinneford's Magnesia has always proved immensely useful as a corrective, and when mixed with infant's food it prevents many of the troubles which are due to acidity, flatulence, etc.

We are confident that you will find in Dinneford's Fluid Magnesia a reliable and safe solution which may be freely used for many ailments, and we would request your kind consideration of its use as occasion offers.

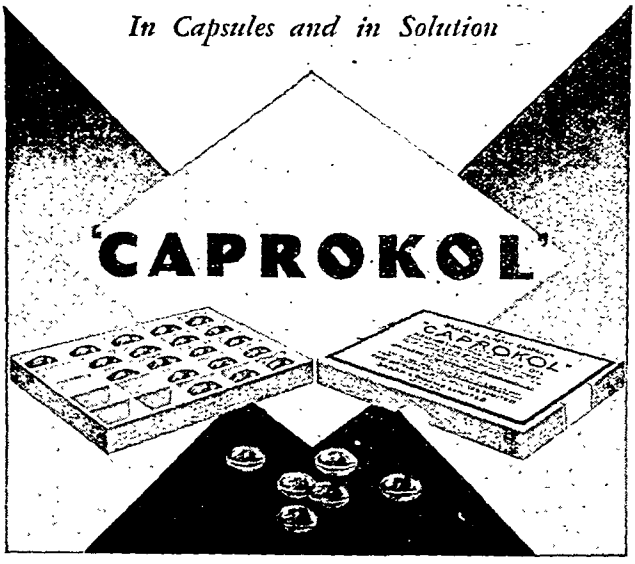
Dinneford's Pure Fluid Magnesia possesses antacid and laxative qualities which are incomparably better than those of any of the various preparations of Magnesia, in powder, now being introduced.

It cannot harm the most delicate constitution and is at all times a safe and effective laxative.

Manufactured in London for the past 100 years.

DINNEFORD & Co. LTD.

In Capsules and in Solution



In Genito-Urinary Infections

'Caprokol' is at once a soothing anodyne and a powerful bactericide. 'Caprokol' is administered orally, and is excreted by the kidneys practically unchanged; it produces a comforting analgesic action upon the mucosa of the urinary tract as well as a destructive effect upon the invading organisms.

These results of its administration, together with the fact that it does not stain, make 'Caprokol' the ideal antiseptic for use in genito-urinary infections.

'CAPROKOL'

Literature on request

Sole Selling Agents:

THE BRITISH DRUG HOUSES LIMITED
and
SHARP & DOHME LIMITED
LONDON

Cap./42

Medisoap

MIDGLEY'S MEDICATED SOAP Regd

The word Medisoap is a registered trade-mark indicating the pure soap base made and scientifically medicated by CHARLES MIDGLEY, LTD., according to published formulae. This method of skin medication has been brought into favour by the ease with which applications can be made and the certainty of absorption through regularity of use by the patient.

A PRESCRIBER'S INDEX

relative to the comprehensive range of Medisoaps is available to members of the medical profession on application to EVANS' BIOLOGICAL INSTITUTE, RUNCORN.

Medisoap Depots all over the country.

PSORIASIS

In the treatment of Psoriasis the use of a suitable Medisoap is generally very useful. The following are recommended:—

MEDISOAP No. 74, containing Ichthamol 5% and Lanolin q.s.

MEDISOAP No. 15, containing Ichthamol 5% and Pix Liquida 5%.

MEDISOAP No. 19, containing Sulphur Praecip. 5%, Camphora 5%, and Balsamum Peru 3%.

MEDISOAP No. 11, containing Ol. betulae alb. 5% and Sulphur Praecip. 10%, especially recommended in Psoriasis Pistoria.

For further particulars see *"Prescriber's Index."*

Sole Makers:

CHARLES MIDGLEY, LTD. *Medicated Soap Specialists* MANCHESTER

Associated with EVANS SONS LESCHER & WEBB, LTD., Liverpool, London, and Dublin.

Purity, Activity and Stability

INSULIN "A.B."

TRADE A B MARK **Brand**

The world-wide supremacy of Insulin 'A.B.' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions.

20 units per c.c. Packed in bottles containing:

5 c.c. (100 units or 10 doses)	**2/-**	each
10 c.c. (200 „ 20 „)	**4/-**	„
25 c.c. (500 „ 50 „)	**10/-**	„

40 units per c.c. Packed in bottles containing:

5 c.c. (200 units or 20 doses)	**4/-**	each

Full particulars and the latest literature will be sent free to members of the Medical Profession.

Joint Licencees and Manufacturers:

The British Drug Houses Ltd. Graham Street, London, N.1

Allen & Hanburys Ltd. Bethnal Green, London, E.2

In the Treatment of

HAY FEVER

OPPENHEIMER'S

NEBOLINE COMPOUND No. 20

(Eucaine Hydrochlor., gr. 18; Aqua Laurocerasi et Sol. Renaglandin, q.s. ad ℥ iv.)

NEBOLINE COMPOUND No. 20A

(As No. 20, with Ephedrine Hydrochlor. 1%)

These Compounds are specially prepared for use in the AERISER.

Supplied in 1-oz. bottles with labels, free from any indication as to the conditions under which the preparation should be employed.

OPPENHEIMER SON & CO., LTD.

HANDFORTH LABORATORIES, CLAPHAM ROAD, LONDON, S.W.9

ALOCOL

Colloidal Hydroxide of Aluminium

For Chronic Irritations of the Gastric Mucosa

WHEN alkaline therapy is indicated "Alocol" is the preferred form of treatment. Its advantages over the usual oxides and alkalis are manifest. Whilst the preparations in common use give momentary relief to painful symptoms they aggravate the morbid condition. Consequently such remedies are contraindicated, especially in stubborn, chronic cases.

The action of "Alocol" is superior in every way, because it does not merely confine itself to combating the symptoms of the trouble, but attacks the origin itself.

"Alocol" fixes the acid, not by neutralization, but by adsorption. It relieves pain, is slightly astringent, and limits the acid secretions. "Alocol" is always well borne; no harmful secondary action follows its administration, and its therapeutic effect is not diminished with prolonged use.

Complete chemical history of "Alocol," with convincing clinics reports and supply for trial, sent free to physicians on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.
Works: KING'S LANGLEY, HERTFORDSHIRE.

M.230

A Distinct Advance Over Preparations of Acetyl-Salicylic Acid

Acetyl-salicylic acid possesses a notable disadvantage. Physicians have proved that it cannot be tolerated by patients suffering with a delicate stomach. Consequently, the value of this medicament in the wide field in which it is indicated is very seriously reduced.

"Alasil" completely overcomes this objection. By combining calcium acetyl-salicylate with "Alocol," unfavourable secondary action upon the stomach is prevented. This beneficial influence is undoubtedly due to the presence of "Alocol" (Colloidol Hydroxide of Aluminium), which preparation has brilliantly stood the test of practice in the treatment of hyperacidity and other ill conditions of the gastric tract. "Alasil" is therefore a triumph over acetyl-salicylic acid. It enables higher doses to be administered and maintains the patient's system under its influence for a greater length of time. Analgesic, Antipyretic, and Sedative, "Alasil" is indicated in all cases where acetyl-salicylic acid has been used heretofore.

A supply for clinical trial with full descriptive literature sent free on request.

A. WANDER, Ltd., Manufacturing Chemists,
184, Queen's Gate, London, S.W.7.

Alasil

M 233

HYPERPIESIS

HYPERPIESIS is described as "a malady in which blood pressure rises excessively, a malady having a course of its own and deserving the name of a disease."

A writer in *The Lancet* described cases of this condition, and ascribes its causation to toxic substances of the nature of which he is uncertain, but which he believes to be extrarenal in origin and to be distributed by the bloodstream.

It seems highly probable that these substances are the "pressor" substances, such as epinephrine, which are developed by putrefactive bacteria in the intestine. Assuming the truth of this likely hypothesis, the treatment in part should obviously consist in adequate intestinal disinfection

Certain compounds of the coal-tar series, having high germicidal value and little solubility in the alimentary tract, pre-eminently possess this disinfecting power and form the active constituents of Kerol, which may be given in a palatable form by means of keratin-coated capsules which ensure disinfection of the alimentary tract without deleterious effect.

For intestinal disinfection, use KEROL CAPSULES (keratin-coated); they contain 3 minims of Kerol. One to three capsules may be given three or four times a day after meals.

Intestinal Disinfection

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession.

KEROL LTD.
Ravens Lane
Berkhamsted
England.

Kerol Capsules

Priced at 3/- and 3/8 per lb.
A super quality at 4/2 per lb.

THE DOCTOR'S CHINA TEA

FOR ALL CASES OF GASTRIC TROUBLE.

It is definitely not safe to allow any tea but China tea to be used when there is the slightest tendency to gastric trouble. The Doctor's China Tea has no excess of Tannin whatever—it is a really good blend of China tea—it is therefore ideal as a delicious and healthful drink for all who enjoy a good cup of tea and especially for those of your patients who suffer from any form of indigestion.

HARDEN BROS. & LINDSAY, LTD.
(Dept. 153), 30/34, Mincing Lane, London, E.C.3.

For Patients with frail appetites

ONE of the great advantages of Ryvita Crispbread is that it is essentially palatable. The difficulty of getting a patient to eat is solved with Ryvita. Its crisp scrunchiness has an appeal only too often lacking with other articles of the dietary of corresponding value.

That Ryvita is a very valuable addition to the diet established beyond doubt. The richness of the rye grain in the salts of iron, phosphorus and calcium, its high vitamin B content, and its well-balanced protein-carbohydrates ratio, all make Ryvita of extreme benefit in maintaining bodily energy, while its retention of the natural roughage of the grain greatly assists in the process of elimination.

Yet at times its appetising nature alone would indicate Ryvita as an essential item of the sickroom diet.

We shall be very pleased to send a free carton, full analysis, and other particulars to all interested Members of the Profession.

RYVITA

CRISPBREAD

The Ryvita Company Limited,
941, Ryvita House,
96, Southwark St., London, S.E.1

FOR YOUR CONVENIENCE

To the RYVITA CO., LTD., 941, Ryvita House, 96, Southwark Street, London, S.E.1. Please send me sample and full particulars of Ryvita Crispbread.

Name .....

Address .....

"Eucortone"

(Cortical Extract of Suprarenal)

In the treatment of

Addison's Disease

Prepared by the method of Swingle and Pfiffner, it is highly successful in the treatment of Addison's Disease. It is believed to contain the cortical hormone in an active state, and to have an action in the crisis of the disease analogous to the action of Insulin in diabetic coma. It restores appetite, weight, strength, and feeling of well-being.

Dosage: About 10 to 20 c.cm. daily, intravenously or subcutaneously in divided doses.
In rubber capped bottles of 25 c.cm.

Further particulars on application.

Allen & Hanburys Ltd., London, E.2.

Telephone: 3201 Bishopsgate (10 lines) *Telegrams*: "Greenburys Beth London"

Made entirely from English Beef

The 'Allenburys' Beef Juice is prepared from prime, lean beef by a special process which conserves all the nutritive constituents and the vitamins in a natural, unaltered and assimilable form. The juice of the fresh beef is extracted under pressure and concentrated in vacuo, a low temperature being maintained throughout the process to ensure that the albumens of the beef are not coagulated.

Literature and clinical sample will be sent on application to members of the medical profession.

Price 3/- per bottle.

Allen & Hanburys Ltd., London, E.2

Telephone: Bishopsgate 3201 (10 lines). Telegrams: "Greenburys Beth London."

Suppurative Wounds

NUMEROUS applications have been used in the treatment of suppurative wounds, but recent investigations have disclosed the fact that the application of chemically pure glycerine is of definite value in diminishing the volume of exudate, inhibiting the spread of lymphangitis and reducing the swelling usually present about these wounds.

Antiphlogistine

dressings, due to their high glycerine content and to their antiseptic and osmotic properties, are of definite value in diminishing the volume of exudate and of reducing the swelling, while the changing of these dressings is not painful.

THE DENVER CHEMICAL MANUFACTURING COMPANY
(Inc. U.S.A. Liability Ltd.)
LONDON, E.3.

Please send me sample and literature

Name.....

Address.....

.....

Kaylene

for the treatment of acute intestinal infections, ptomaine and other forms of food poisoning, and all diarrhoeal conditions. It acts by adsorption and is the true antidote to bacterial toxins and toxalbumins in contaminated food.

The action is speedy and certain.

Kaylene-ol

An emulsoid of the toxin adsorbent Kaylene combined with a highly viscous Liquid Paraffin. The latter counteracts the consolidating effect of the Kaylene. This preparation may be prescribed with confidence for those conditions in which toxaemia is associated with constipation. It actively prevents the absorption of toxins and completely puts an end to the fouling of the lymphatics and the blood.

Samples and "adsorption" literature obtainable on request to the Manufacturers:

KAYLENE LIMITED,

Waterloo Road (North Circular Road), Cricklewood, N.W.2

Telephone— GLADSTONE 1071 (2 lines). *Cables*— KAYLOIDOL, LONDON. *Telegrams*— KAYLOIDOL, CRICKLE, LONDON. *Code*— BENTLEY'S.

STANIFORM

Regd. BRAND. Trade Mark.

METHYL STANNIC IODIDE

OINTMENT Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER For application where a greasy substance is contra-indicated.

LINIMENT Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION A panacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"After using 'Staniform' Ointment in cases of Impétigo and other septic conditions of the skin, I was much impressed by the rapid response to treatment. Also herpes on the lip quickly disappeared after application of 'Staniform' Ointment."

"Festering wound on left heel—when first seen was about the size of a shilling, with a good deal of pus...Foot much swollen—dressed with 'Staniform' Ointment—healed splendidly in four days."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well-known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

BETTER MILK FOR BABIES

FACTS ABOUT
LACTOGEN

Carbohydrates

Compared with maternal milk the carbohydrate content of cows' milk is considerably deficient, but in Lactogen—by suitable modification—this deficiency has been rectified.

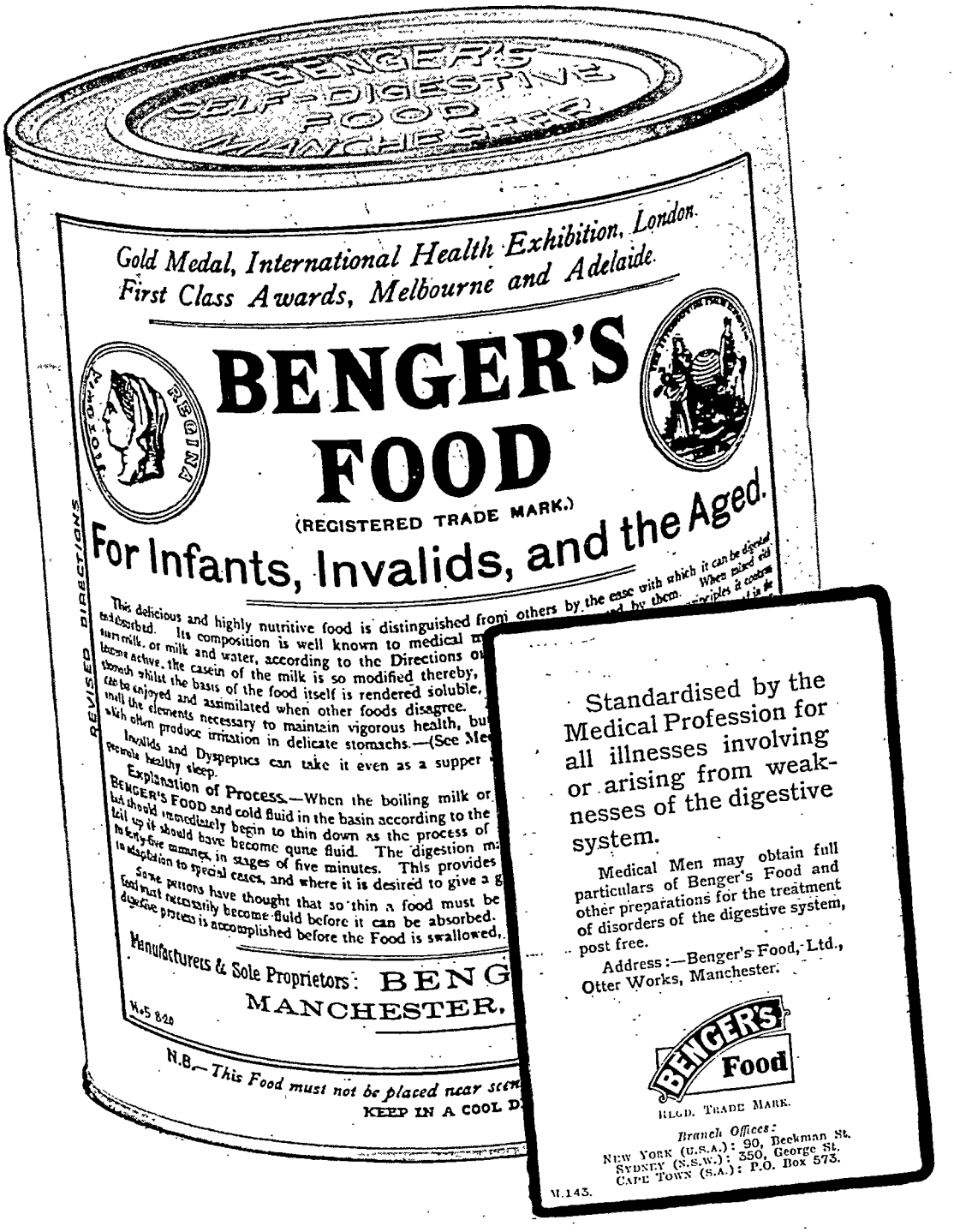
Unlike ordinary dried milks, in which the carbohydrate is in the same proportion as in the raw milk, LACTOGEN CONTAINS PRACTICALLY THE SAME AMOUNT OF CARBOHYDRATE AS WOULD BE FURNISHED BY HUMAN MILK.

Lactogen is neither a new nor untried product. First introduced in Australia, it has for many years enjoyed a large sale in overseas countries.

Lactogen is prepared in England by Nestlé's—famous for more than fifty years for the purity of their milk products—from the pure, fresh milk of specially selected herds, grazing on picked English farms.

"LACTOGEN"
REG. TRADE MARK
BETTER MILK FOR BABIES

FREE SAMPLES with detailed descriptive literature will be sent to any Member of the Medical Profession, upon request. Lactogen Bureau (Dept Z6), Nestlé and Anglo-Swiss Condensed Milk Co., 6 & 8, Eastcheap, London, E.C.3.


BENGER'S
SELF-DIGESTIVE
FOOD
MANCHESTER
Gold Medal, International Health Exhibition, London.
First Class Awards, Melbourne and Adelaide.
BENGER'S
FOOD
(REGISTERED TRADE MARK.)
For Infants, Invalids, and the Aged.
REVISED DIRECTIONS
This delicious and highly nutritive food is distinguished from others by the ease with which it can be digested and absorbed.
Manufacturers & Sole Proprietors: BENG
MANCHESTER.
N.B.—This Food must not be placed near steam
KEEP IN A COOL D
Standardised by the Medical Profession for all illnesses involving or arising from weaknesses of the digestive system.
Medical Men may obtain full particulars of Benger's Food and other preparations for the treatment of disorders of the digestive system, post free.
Address:—Benger's Food, Ltd., Otter Works, Manchester.
BENGER'S Food
RLGD. TRADE MARK.
Branch Offices:
NEW YORK (U.S.A.): 90, Beekman St.
SYDNEY (N.S.W.): 350, George St.
CAPE TOWN (S.A.): P.O. Box 573.
M.143.

PEPTONE "STERULES"

FOR

ASTHMA, HAY FEVER

AND ALLIED CONDITIONS.

CLINICAL reports from all over the world testify that Peptone treatment of Asthma and allied conditions is of undoubted therapeutic value. We were pioneers in its introduction, having since 1917 consistently brought the method of desensitisation to the notice of the Profession.

For either intramuscular or intravenous injections (please state which is required).

Graded Series of 10 "Sterules," professional price, 7/6.
Continuation Course of 6 "Sterules," professional price, 6/6.

Leaflet sent on application.

W. MARTINDALE,

MANUFACTURING CHEMIST,

12 New Cavendish Street, London, W.1

Telegrams: "Martindale, Chemist, London." Telephone: Langham 2441.

(*Æsculapius*).

VALUE OF POSTERIOR LOBE OF PITUITARY

Of all animal extracts, that of the posterior lobe of the pituitary gland offers to the medical profession an agent, at once definite in its effect and universal in its applicability.

Its employment is not empirical, but based on a definite knowledge of its effects. It is non-toxic and powerful, and offers to the obstetrician an invaluable aid to the conduct of his work, to the surgeon a useful haemostatic and general stimulant of involuntary muscle, and to the physician an effective means of raising blood pressure when required.

EVANS'

INFUNDIBULIN

This is the extract of the posterior lobe of pituitary prepared and standardised at Evans' Biological Institute so that 1 c.c. contains 10 International units. Great care is taken not only in its manufacture, but also regarding the suitability of the glass of the ampoules in which it is contained; it is therefore a remarkably stable solution.

Infundibulin is issued in ampoules of 0.5 c.c. and 1 c.c.

Brochure and sample may be had on application to:

EVANS' BIOLOGICAL INSTITUTE, RUNCORN.

Evans Sons Lescher & Webb Ltd.

Manufacturers of Fine Chemicals, Pharmaceutical and Biological Products

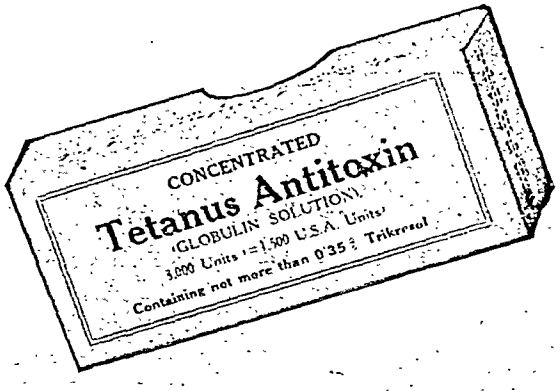
Liverpool
56 Hanover Street

London
50 Bartholomew Close, E.C.1

The Lister Institute
OF PREVENTIVE MEDICINE

Therapeutic Substances Act, 1925
Manufacturing Licence No. 9

Vaccines and Sera



Concentrated Tetanus Antitoxin In phials of 1,000 to 40,000 units (=500 to 20,000 U.S.A. units).
Anti-Meningococcus Serum In phials of 10, 15 and 30 c.c.
Compound Catarrhal Vaccine In phials containing 235, 470, 940 and 1,880 million organisms per c.c.
Concentrated Diphtheria Antitoxin In phials of 500 to 10,000 units.
Compound Influenza Vaccine In phials containing 330 and 660 million organisms per c.c.
Micrococcus Catarrhalis Vaccine In phials containing 25, 50, 100 and 250 million organisms per c.c.
Anti-Streptococcus Serum In phials of 10 and 25 c.c.
Vaccine Lymph

A descriptive pamphlet, issued under the Authority of the Governing Body of the Lister Institute, will be sent on request.

Sole Agents:

Allen & Hanburys Ltd., London

Telephone: Mayfair 2216 (three lines)
Telegrams: "Vereburys, Wesdo, London."

HEWLETT'S
ORIGINAL PREPARATIONS.

ANTISEPTIC CREAM

(Cremor Antisepticus)

(HEWLETT'S)

A delicate antiseptic emollient healing Cream, instantly relieving the itching and burning sensation of the skin in cutaneous diseases. Its healing and soothing properties are widely recognized in the treatment of Wounds.

Price, in Collapsible Tubes 18/- per doz., or 5, 10, 22, 40, and 90-oz. Jars, 5/6 per lb.

GARGAR. FORMALIN CO.

(HEWLETT'S)

A most economical, efficient, and pleasant gargle and mouth wash, containing Formalin, Glyc. Acid Carbolic, Tinct. Pyrethri, etc., suitably flavoured. It is highly concentrated, one fluid drachm being sufficient for an eight ounce bottle.

PRICE 5/6 PER LB.

"Please supply us with a two pound bottle of Gargarisma Formalin Co. We have tried a small quantity and find our patients like it."—L.D.S.Eng.

HORMONIGEN

(HEWLETT'S)

Hormonigen Tablets (Hewlett's) contain the hormones of the thyroid, pituitary, ovary, and testes.

Useful in Neurasthenia and all asthenic conditions, obesity, chronic cardiac cases, aplasias of the pluriglandular system, and in anæmia. In Amenorrhœa, Dysmenorrhœa, and at the Menopause, Hormonigen is particularly effective, and even in chlorosis.

If there is high blood pressure, Hormonigen Sine Pituitary is indicated.

PRICE: HORMONIGEN, OR HORMONIGEN SINE PITUITARY,

3/3 PER 100; 30/- PER 1,000.

MIST. SENECIO CO.

(HEWLETT'S)

An elegant and effective combination of Senecio, Hydrastis, Pulsatilla, and aromatics which has proved very efficient in Amenorrhœa, Dysmenorrhœa, and Menorrhagia. The compound has a most beneficial effect in Dysmenorrhœa, relieving the pain and regulating the flow. In acting more particularly on the uterine nerves, it is of special value in the non-inflammatory form of Dysmenorrhœa. When anæmia and chlorosis are present, iron is an essential part of the treatment; but MIST. SENECIO CO. is useful as a general uterine and nervine tonic.

PRICE 12/6 PER LB.

In 5-oz., 10-oz., 22-oz., 40-oz., and 90-oz. Bottles.

UNG. IODERMIOL

An ointment of IODERMIOL that contains about 5 per cent. of Iodine, and is, therefore, stronger than the B.P. Ointment, whilst it does not harden or discolour the skin.

It has been found most useful for Enlarged Glands, Rheumatic and Gouty Affections, Lumbago, Sciatica, Swollen and Stiff Joints, Skin Diseases, Ringworm, etc. Ung. Iodermiol has also been used in cases of burns and scalds, and in the treatment of Chronic Lymphadenitis, Simple Bronchocele, and Atrophic Rhinitis, and in Purulent Ulcerative Otitis.

PRICE 6/- PER LB.

UNGUENTUM IODERMIOL et METHYL SALICYL. (HEWLETT'S)

Useful in the treatment of Enlarged Joints, Synovitis, Rheumatoid Affections, etc.

PRICE 7/6 PER LB.

VERONIGEN

(HEWLETT'S)

A liquid Preparation of this prompt and reliable HYPNOTIC has long been desired as a useful means of procuring sleep. When given in reasonable doses it is claimed that it does not produce any toxic symptoms whatever, and in ordinary cases of insomnia one fluid drachm of Veronigen (Hewlett's) is quite sufficient dose for an adult.

Dose for Adults.—One fluid drachm diluted, about one hour before going to bed.

For Nervous Sleeplessness in Children.—10 to 20 minims diluted.

VERONIGEN, 10/6 PER LB.

C. J. HEWLETT & SON, LTD., 35 to 42, Charlotte Street, LONDON, E.C.2.

Telegraphic Address: "PEPSINE, BETH, LONDON."

[ESTAB. 1832.]

Telephones: BISHOPSGATE 1172 and 1173.

Reduced facsimile

PIONEERS AND EMPIRE BUILDERS: No. 599
NINTH PERIOD—circa A.D. 300 to c. 1300

Vitamin B
Diastase
Maltose

TRADE 'KEPLER' MARK
MALT EXTRACT

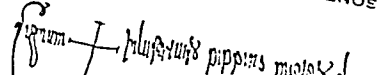
The reputation of this product is due to the fact that it has always been prepared from the finest English Malted Barley.

Not only does it provide a rich content of Vitamin B and diastase, but a means of administering a definite amount of sugar (maltose) daily.

Prices to the Medical Profession in London: 2,6 *and* 4/7 *per bottle*

BURROUGHS WELLCOME & CO., LONDON
Address for communications: SNOW HILL BUILDINGS, E.C.1
Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1
Associated Houses: NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

SIGNATURE OF PÉPIN LE BREF, THE FATHER OF CHARLEMAGNE.—To Pépin le Bref—or Pippin—is due much of the credit for the great things accomplished by his celebrated son. Pépin, as it were, mapped out the course which led to the success and splendour of the reign which played so important a part in the making of modern Europe. His shrewdness discovered the weak spots in the Frankish Empire. By vigorous campaigns he drove the Islamic Arabs beyond the Pyrenees. Aquitaine itself was seen by Pippin to be a menace to the peaceful development of the Empire and this province he added to the Frankish crown. A third danger was presented by the marauding Saxons,



upon whom he kept a strong hand and insisted that they should allow his missionaries (they were still Pagans) to live and work among them. Pippin the Short also took a momentous step in another direction: he formed a close alliance between the Church and the Empire of the Franks which led to a remarkable political development in Charlemagne's reign and influenced all Europe for centuries.

DATE: A.D. 741–768

COPYRIGHT

—THAT ENDS WELL

YOUR patient begins with a tablespoonful continues with a teaspoonful and finally stops it altogether Surely, there is no clearer way to demonstrate the therapeutic value of AGAROL in the treatment of constipation.

Besides, Agarol Brand Compound is so easy to take. No oiliness, no artificial flavouring to get used to. It can be mixed with water, fruit juices, milk, with semi-solid food, used as a salad dressing in place of mayonnaise. Serves you better—serves your patient better.

AGAROL Brand Compound is the original mineral oil and agar-agar emulsion with phenolphthalein. It softens the intestinal contents and gently stimulates peristalsis.

A supply gladly sent for trial.

AGAROL *for Constipation*

BRAND COMPOUND

FRANCIS NEWBERY & SONS, LTD., 31-33, Banner Street, London, E.C.1.

Prepared by WILLIAM R. WARNER & CO., INC., *Manufacturing Pharmacists since 1856.*

A British Medical Association Lecture

ON

SOME ANTE-NATAL PROBLEMS*

BY

SIR EWEN J. MACLEAN, M.D., D.Sc., F.R.C.P.

PROFESSOR OF OBSTETRICS AND GYNAECOLOGY, WELSH NATIONAL MEDICAL SCHOOL; VICE-PRESIDENT, BRITISH MEDICAL ASSOCIATION

A perusal of the now vast literature on ante-natal care, including tomes and textbooks, propaganda pamphlets and handbills, might lead the undiscerning to surmise that it was not until within recent years, or even months, that the general practitioner engaging in midwifery practice had become aware of the possible existence of, for example, contracted pelvis; of the significance of albuminuria in pregnancy, or of heart disease, or of tumour complications. Indeed, some of the less responsible of such publications, short, it is true, of actual delineation, would appear to imply a ludicrous picture of the general practitioner who, having casually accepted the responsibility of attendance, arrives all too late, bearing a small bag—usually faded black in exterior and indescribable in content—and is surprised and distressed to find the contracted pelvis case exhibiting the classical signs of ruptured uterus; or an albuminuria case in the throes of eclampsia; or the cardiac *in articulo mortis*. Let us extend to him, poor fellow, our heartfelt sympathy, for he has further to bear the reproachful demeanour of the ideal midwife and the fraternal greetings of the junior consultant, for whom, let us hasten to add, by way of giving a touch of colour to the unhappy scene, the enterprising local authority has provided a not unreasonable fee.

I have exaggerated this picture with the set purpose of saying that, whilst wise propaganda is undeniably essential to the much-needed wider submission of pregnant women to ante-natal examination, the kind of propaganda directed to undermining confidence in the general practitioner is as unwise as many or most of the allegations to that end are, emphatically, untrue. It is not thus that Ballantyne, perhaps the earliest and certainly one of the most distinguished of the pioneers in urging the necessity of ante-natal care in this country, initiated his mission, and it is assuredly not the manner in which he would have had it supported.

The truth is that as yet the sum total of knowledge concerning the causes of many of the ante-natal conditions which give us anxiety is limited, and that more effective lines of treatment can only be the product of further knowledge and of more experience in its application. This observation notably applies to the toxaemias of pregnancy, which afford, as a whole, a very complex biochemical problem, toward whose solution much intensive effort is now being directed. I was deeply interested to hear, for instance, in the course of a lecture recently delivered by Sir Frederick Gowland Hopkins, the distinguished President of the Royal Society, before the Cardiff Medical Society, that there is some hope of the identification of a certain vitamin which may be proved to play an important part in the toxaemias, and in the capacity of resistance to infection. But some of the day-to-day ante-natal problems lie much nearer to the surface than these biochemical delvings, hopeful and imperative though they be.

MINOR DEGREES OF PELVIC CONTRACTION

Let us take an illustrative case. A primigravida comes early in pregnancy to engage a medical man for her confinement. She presents none of the obvious signs of rickets, the urine is normal, and the general health good. But with the thumbs on the anterior superior spines and the first and second fingers of each hand on the widest parts of the iliac crests, he gains the impression that there is less than the usual one inch of difference between the intercristal and the interspinous diameters. There is, of course, nothing new in this preliminary thumb and finger estimate, but I constantly impress upon students, undergraduate and post-graduate, the importance and value of practising it whenever possible and on all kinds of cases, so that the individual examiner comes to establish a very helpful confidence in his initial impressions of the type of pelvis he has to deal with, and as to the further investigations which may be indicated.

In the case we are advancing for consideration he will check his impressions by the pelvimeter—preferably of the simpler type—and will find that the interspinous diameter is, let us say, 10½ inches, the intercristal 11 inches, and the external conjugate 7 inches instead of the normal 7½. The transverse of the outlet may be rather more than the usual 4 inches. The key diameter is, of course, the true conjugate, and in order to estimate it the diagonal conjugate must in due course be measured. In the early months of pregnancy, and especially in primigravidae, this is by no means an easy matter, even under an anaesthetic, and without it the necessary manipulation is difficult and painful. A simple vaginal examination at this stage, however, will serve to reveal the comparative roominess of the pelvic cavity and the absence of any considerable forward encroachment by the sacrum. Should the sacrum be easily felt in the course of such an examination it would signify a degree of contraction considerably in excess of what we are now contemplating in our illustrative case, which no doubt has been recognized, so far as we have gone, as one, probably, of simple flat pelvis.

Beyond reminding ourselves that about the fourth month the possibility of incarceration of the gravid uterus, due mainly to the degree of overhang of the promontory of the sacrum, has to be guarded against, let us leave our case to develop, so to speak, toward the later months, and consider for a moment pelvimetry.

Value of Pelvimetry

The measurement of the pelvis is one of the most important factors in ante-natal examination, and especially in that of primigravidae. How often it is that in taking the history of obstetrical and gynaecological cases the first labour is quoted as the beginning of the troubles when intervention became a matter of emergency instead of election, with its implied previous examination.

It is not my purpose to go into details of methods and measurements, but I am convinced that the value of pelvimetry to the individual practitioner as a guide to the management and treatment of a given case depends upon the sense of perspective and judgement which aggregated examinations have established in his own mind, confirmed or corrected in the only effective way, by the "follow through" of his cases into the natal and post-natal phases. I advocate strongly this continuity in the interests of the practitioner and of his patients. Any scheme which fails to provide for its observance where possible will by so much—and it is a great deal—come short of success. In many areas where ante-natal *clinics* exist, otherwise doing good work, this *virtual severance* from the subsequent phases has, admittedly, *minimized* their value for the patient and their *help to those in* charge of the labour and puerperium. *Poorly paid and* anxious though much of *midwifery practice may be, I* would urge general *practitioners, in view of the inevitable* developments in the *near future, to maintain a lively* interest in ante-natal work *in their own practices, and to*

* Delivered to the Leicester and Rutland Division of the British Medical Association, March 6th, 1931.

keep in touch with clinics where they exist. Many of these clinics are attractive in facilities for examination and are well staffed, but the great bulk of the women confined in this country have never been near them.

It is, I am sure, the experience of all here that the essentials of ante-natal examination are readily carried out in the patient's home or in the consulting room:

A simple form of pelvimeter—I personally use Baudelocque's, though there are others equally good—will give the principal external diameters; and of the internal measurements, the diagonal conjugate from promontory to subpubic angle, which by deducting half an inch gives the available true conjugate, is of dominant importance. As regards other internal measurements, the results obtained by the use of the more or less complicated pelvimeters are rarely of much practical value and may even be misleading. Such, anyhow, has been my experience, and where in asymmetrical pelves, for instance, the deformity is marked, the occasion for and the kind of intervention required are usually indicated by other and simpler means.

Management of Later Stages

To continue the running commentary on our primigravida with a minor degree of simple flat pelvis, now in the later months of pregnancy, say, the thirty-sixth week—a month from term. The preparatory redundancy and softening of the tissues has permitted a more accurate estimate of the diagonal conjugate and the deduction therefrom that the true conjugate is not less than 3½ inches—possibly 3¾ inches. Abdominal palpation portrays a first vertex with the head rather above the brim, and with an inclination towards the left iliac fossa. Such cases are far too often marked down in ante-natal clinics as likely to become transverse presentations, for which Caesarean section should be indicated, or, at all events, considered. The usual happening, however, is that with the onset of labour at term the faulty lie is corrected and the head becomes accommodated to the brim. It is worth remarking, also, that too much importance may be attached to the fact that in the minor degrees of this type of pelvis the head may not descend into the pelvis in the last two weeks, as it normally does in first pregnancies.

We have now, at the thirty-sixth week, to decide whether induction should be performed. The answer to that is concerned with the size of the child, and, in particular, whether the head is depressible into the brim with firm pressure. With a foetus of normal stage development it *should* be—the rather flattened pelvis notwithstanding. Assuming normality in all else than the pelvis as described, the prospect is that, given time and patience on the part of everyone concerned, delivery at term will be spontaneous, and that the prognosis for the mother and child is good—a plea for the natural forces of labour being given a fair chance.

I have purposely presented a marginal case with the focus of clinical interest on a form of pelvis which is not infrequently met with, and which has too often been regarded as, in itself, an indication for induction or even Caesarean delivery. It is an illustration, therefore, of how the beneficent purposes of ante-natal examination may be abused and lead to meddlesome midwifery.

ALBUMINURIA OF PREGNANCY

In some of the pamphlets, and even in some of the recognized textbooks, it is stated or implied that if this condition is discovered ante-natally in a woman who subsequently dies of eclampsia it is a disgrace to the practitioner or to the institution concerned; that, with all we now know of the toxaemias and their evil companion-conditions, the item eclampsia should be caused to disappear from the list of factors contributing to the total of maternal mortality. Now this is just exaggerated propaganda. It is a welcome fact that by careful observation and treatment a much larger proportion of our albuminuria cases do not so terminate, but, as I tried to show before, so long as our knowledge of the nature of the toxaemias remains so limited, eclampsias will still be with us. The contrasts and surprises they afford render them profoundly interesting.

A few weeks ago I had under my care a young primigravida who had been admitted to the Maternity Hospital in a profoundly comatose state, having had several eclamptic seizures before and during a long ambulance journey from the country. She was cyanosed, the temperature about 102° F., the pulse of wretched quality and almost uncountable; the urine scanty and coffee-coloured, and giving a practically solid albumin reaction, with other derivatives of acidosis. The blood pressure approached 200 mm. She delivered herself of a dead-born child some hours after admission. At intervals the eclamptic fits continued. So far as was possible routine treatment was given, including colon wash-outs and moderate doses of morphine. I demonstrated this case to the students as one with hopeless prognosis. In a few days, however, we met again at her bedside, and the clinical picture was a very different one. Some mental hebetude remained, but was rapidly clearing. The pulse, temperature, and blood pressure were much reduced. The urine was of fair quantity, and the albumin reaction much less marked. Thence onward recovery was uninterrupted.

In contrast to this was a previous case, another young primigravida sent in from the ante-natal clinic when about five months pregnant, with albuminuria—no previous history of scarlet fever or other illness likely to have caused nephritis. There was no oedema, no headache, no dimness of vision. Temperature and pulse were normal. The albumin reaction was moderate, and was the only abnormality detected in the urine; under low diet, aperients, and diuretics this cleared up, and the patient was allowed to return home and to report at the clinic. She was readmitted two months or so later with a recurrent albuminuria, and again responded, though not so completely, to similar treatment. In the course of a week or so adverse symptoms appeared, and developed in number and degree until she presented the typical picture of pre-eclamptic toxaemia. Induction was effected with no specially untoward incident; but, notwithstanding the employment of anti-eclamptic treatment and regimen in full measure, with skilled nursing, the dreaded seizures supervened and continued in increasingly rapid sequence until the patient died.

What may be the essential difference between cases, so similar clinically and so different in their outcome, we may hope that one day the biochemists will tell us.

HEART DISEASE AND PREGNANCY

The fact that normally slight dilatation and hypertrophy of the heart occur during pregnancy is sufficient indication that where the association exists with a damaged heart some anxiety must necessarily be felt. While it is happily true that the majority of the cases, with care, win through, there are others in which the closest observance of careful treatment is essential before, during, and after labour. The order of gravity of cardiac default associated with pregnancy is commonly accepted to be as follows: rheumatic myocarditis, aortic regurgitation, mitral stenosis, and mitral regurgitation. The most critical phases of test are the acme of labour pains; the profound circulatory adjustment called for on the delivery of the child, and the completion of the third stage; and the more steady strain of the early puerperium. The case I refer to under this heading especially illustrated the difficulty, so often experienced, of deciding as to the advisability of inducing labour.

The patient was a primigravida, aged 27, giving a history of having had chorea when she was 12 years old and pneumonia when 23. On admission she was four months

pregnant, and complained of breathlessness on exertion, such as walking upstairs, during the previous four weeks. She had unmistakable mitral stenosis, with a few extrasystoles, but no fibrillation—the pulse 120 and of indifferent volume and tension—no oedema, and no liver enlargement. She responded satisfactorily to treatment, which included complete rest, light diet, aperients, 10 minim doses of tinct. digitalis, sometimes combined with 5 grains of sodium bromide, and was allowed, after six weeks in hospital, to return home with strict injunctions as to rest and suitable regimen.

She returned to hospital in her thirty-fourth week. The general condition was fair—pulse 94, no auricular fibrillation; but there was some oedema of the legs, and she also complained of a recurrence of the breathlessness on even slight exertion. Under similar treatment, including 10 minims of tinct. digitalis every six hours, the oedema cleared up in a few days and, all things considered, her condition once more became satisfactory.

Although there was no indication for it from the pelvic side, I decided to induce labour mainly for two reasons: to take advantage of a favourable phase, and to avoid the possibility of a prolonged strenuous labour. Watson's medical method failing, as it so often does, bougies were introduced under general anaesthesia. The reaction was very unfavourable, and in the course of twenty-four to thirty-six hours most of the signs and symptoms of cardiac distress appeared —pulse 120, fibrillation, precordial pain, oedema, cyanosis, dyspnoea. But labour pains came on and were accelerated by small doses of pituitrin. Large doses of digitalis again controlled the pulse, reducing it to 80 a minute. The head being now well into the pelvis, forceps delivery under anaesthesia was effected, and was followed by a rather prolonged third stage, but with no undue haemorrhage. The 5 lb. infant survived, and the mother achieved a remarkable rally in three days, with a pulse of 92 and a sense of comparative well-being. A relapse followed, and again a still more marked recovery, only to be followed by a further relapse on all points, to which, on the eighth day, she succumbed.

The problem is, would this patient have had a better chance of pulling through if I had decided to allow her to go to term? In such a case it is, at best, a question of chances either way, but my impression is that the question should be answered in the affirmative.

TUMOURS COMPLICATING PREGNANCY

My final problem case is concerned with tumour conditions complicating pregnancy.

A farmer's wife, accustomed to the strenuous duties of her outdoor occupation, and pregnant for the first time at the age of 40, was sent to me by a country practitioner with the statement that the pregnancy was advanced to about the sixth month, and appeared to be complicated by a multinodulated fibroid condition of the uterus; that the patient and her husband were very anxious to have a living child; and that, if deemed to be indicated, they would agree to the performance of Caesarean section at term.

I concurred in the tentative diagnosis. There had been no menorrhagia before the onset of pregnancy, but that is not uncommon where the multinodular variety of fibroid is predominant. The abdomen was very large, and occupied by many irregularly shaped lumps. The patient had habitually enjoyed good health. Her main trouble had always been constipation, the bowels being copiously evacuated at weekly or longer intervals.

I agreed also to the line of treatment suggested, particularly as per vaginam one or two of the nodules could be felt in the pelvic cavity with the cervix partly raised above them, a condition which could effectively block the transit of the foetus. I explained, however, that it was possible that as the pregnancy advanced to the later months the enlarging uterus might pull these nodules upward out of the pelvis, even to the extent of rendering a Caesarean operation unnecessary. I had no further opportunity of checking the diagnosis because, although the patient promised to come later for another examination, she did not do so, and the next I heard of the case was over the telephone after midnight from the doctor, to the effect that labour was well on its course and that, moreover, the patient was already on her way by transport to the nursing home. I arrived at the home just in time to supervise the completion of a normal breech delivery. As was to be expected the abdominal masses were post-natally much less in evidence.

The puerperium was normal, excepting that when on the third day the action of the bowels had, in addition to aperients, to be solicited by enemata, the nurse reported that the copious result per anum was supplemented by some faecal matter coming per vaginam. Much concerned, I made a most careful examination, and could find no trace of vaginal fistula communicating with the bowel. With that temptation to complacency to which clinicians sometimes yield, I expressed the view that the nurse must have been mistaken. She, being a competent and well-trained person, said no more, but no doubt held to her opinion, although the phenomenon did not again occur.

Some months later the patient came to see me complaining that the abdominal lumps were causing her much discomfort, and that she wanted them removed. Examination showed that though altered in shape and dimensions they were still present, and in due course I performed a laparotomy, and the nature of the problem was revealed. An enormous megacolon extended almost from flank to flank and from the pelvis to well above the level of the umbilicus. A well-involuted uterus with appendages complete was *in situ*, and most of the small intestines were packed away towards the left hypochondrium. The "tumours" were partly consolidated scybala and stercoliths—one of the latter was so large and hard that I deemed it proper to remove it by excision through the colonic wall—an analogue of Caesarean section to save the poor lady the pangs of its delivery *per vias naturales*.

A very interesting case; and though it may only be in the form of a postscript to its record, I think it is due to that nurse to say that her observation was surely correct, because the patient on further inquiry recalled that one of her early childish troubles was that fluid faecal matter in small quantities occasionally came per vaginam. A rare complication of this variety of megacolon is the persistence of a communication between the bowel and the cervical canal. The conditions obtaining in the early days of the puerperium would tend to increase its patency, and so permit of the passage of some of the fluid or semifluid contents of the bowel into the genital passage. The anatomical position of the opening would account for its non-discovery by ordinary vaginal examination.

TREATMENT OF "PERNICIOUS ANAEMIA OF PREGNANCY" AND "TROPICAL ANAEMIA"

WITH SPECIAL REFERENCE TO YEAST EXTRACT AS A CURATIVE AGENT*

BY

LUCY WILLS, M.A.CANTAB., M.B., B.S.LOND.

MATERNAL MORTALITY INQUIRY, INDIAN RESEARCH FUND ASSOCIATION

(From the Haffkine Institute, Parel, Bombay)

The anaemias mentioned in the heading of this paper might well be described under the common title of tropical macrocytic anaemia; as, except for the accident of pregnancy, they are indistinguishable from one another, but can be separated from the numerous other anaemias occurring in the Tropics by the large size of the red cells, and by the presence, at some stage of the disease, of megaloblasts. In fact, these anaemias have the blood picture of Addison's or true pernicious anaemia, but differ from this condition in that the typical blood

* A full report of this work, and of the experimental work done in connexion with it, will appear in the *Indian Journal of Medical Research*.

picture is not associated with the other symptom-complexes which are so constant a feature of pernicious anaemia.[1] It is suggested, therefore, that in future these two anaemias be described together as tropical macrocytic anaemia.

TROPICAL MACROCYTIC ANAEMIA

This anaemia occurs in India as a distinct disease, frequently associated with pregnancy, and complicating, or complicated by, malaria, hookworm disease, and sprue. In an earlier paper[1] I dealt only with the idiopathic form, but further experience has led to the inclusion of the other types, as they all respond to the same treatment. They must, however, be distinguished from the severe small-celled secondary anaemias which frequently occur in the above-mentioned conditions, but which do not respond to the same treatment as the macrocytic type. The treatment of macrocytic anaemia is of considerable interest, and throws some light on the etiology of the condition. It is generally recognized that iron and arsenic, in whatever form they are given, are valueless—Chart VI shows the result of such treatment; there is no increase in the haemoglobin or in the red cell count. This is the common experience of all workers in India who recognize this form of anaemia; they also find that other lines of treatment, successful in secondary anaemias, are equally useless.

LIVER TREATMENT

The discovery of the efficacy of liver in the treatment of pernicious anaemia suggested a new line of treatment, which has proved very successful for macrocytic anaemia. The pregnant cases respond more slowly than the others, but apart from this the results in the two conditions are identical. As in true pernicious anaemia, the presence of severe sepsis inhibits the stimulating effect of liver. After considerable experience in treating pregnant cases, I am of the opinion that, where the condition is severe, with a haemoglobin value under 20 per cent., it is essential to give large doses of liver extract (up to as much as the equivalent of 600 grams of fresh liver daily) if a rapid response is to be obtained; the need of this is urgent, as such patients are likely to go into premature labour and die of heart failure. The first five days of treatment, during which a response cannot be hoped for, are thus always a time of great anxiety, and the death rate is likely to remain high until the women learn to report in the earlier stages of the disease. Even without the added strain of labour, many patients are admitted only to die of heart failure in the first twenty-four to forty-eight hours; the immediate prognosis in cases with difficult breathing is very bad. Once delivery is over and the next two days are safely passed, the majority of patients will go into a natural remission without any treatment, so that in such cases it is very difficult to gauge the efficacy of any cure. Once a good response has been obtained, the dose of liver extract can be reduced, and, later, replaced by liver meat if the patient will take it.

As stated above, the reaction to liver extract seems exactly the same as in true pernicious anaemia, but the conditions in women's hospitals are such that it is generally impossible to follow the cases through as in other countries. Indian women of the hospital class are uneducated, very frightened, and suspicious. Few remain long enough for a cure, and many leave in a pitiful condition. The demands of their homes are very pressing, and neither they nor their relatives realize the importance of treatment; if a woman can crawl she must attend to her home duties. Hence the records are frequently incomplete; but in such cases as have been followed up, a typical reticulocyte response, of the same order as in pernicious anaemia, is obtained, and the same rapid return to a normal blood count and picture occurs.

VITAMIN TREATMENT

The results of liver therapy, though not easily brought into accordance with the previously expressed suggestion that a deficiency of vitamins A and C is causally related to the anaemia,[1] support the view that this is essentially a deficiency disease. However, it was decided to give a trial treatment with a concentrate of vitamin A (generously provided by Messrs. Lever Brothers), associated with a diet rich in vitamin C. At the same time experiments with monkeys were arranged along the same dietetic lines.

The treatment of patients with vitamins A and C proved a complete failure, and the animal experiments showed that a deficiency of these two vitamins was not concerned in the production of such macrocytic anaemias. The latter experiments did, however, strongly suggest that some deficiency in the vitamin B complex was significant as a causative factor, and that vitamin B had curative properties. Experiments with patients were therefore begun, and marmite, a form of yeast extract, was selected as the most suitable preparation. The extract was supplied in bulk by the Marmite Food Extract Company, and a sample was very kindly tested by Dr. Harriette Chick of the Lister Institute. She reported it to be rich in both the antineuritic vitamin B_1 and the antidermatitis vitamin B_2, and comparable with yeast itself; a dose of 0.2 gram (dry weight 0.139 gram) was found to be sufficient for a rat's daily ration. The extract was given to the patients in drachm (1 drachm = 4 grams) doses, two, three, or even four times a day, the larger doses being used for pregnant women. It was found to cause nausea in a few of the very severe cases. This was overcome by giving it iced, and with the addition of crushed peppercorns; it was always taken cold, as the patients preferred it so. In the report given below it will be seen that the marmite was as active as liver extract in causing regeneration of red blood cells.

Before the case histories are given, it must be noted that only female patients were treated, as the author was working in women's hospitals; but similar anaemias occur in men, and this treatment is now being tried out on them also. The following histories cannot be taken at their face value, as the women do not give reliable information. A history of fever may mean nothing, as patients will assure you that they have fever when their temperature is consistently normal or subnormal. The mean red cell count for my series of healthy women of the hospital class in Bombay is 4.06 millions and the haemoglobin 69 per cent. (100 per cent. = 13.8 grams); these values indicate the degree of recovery which can be expected.

CASES TREATED WITH LIVER EXTRACT

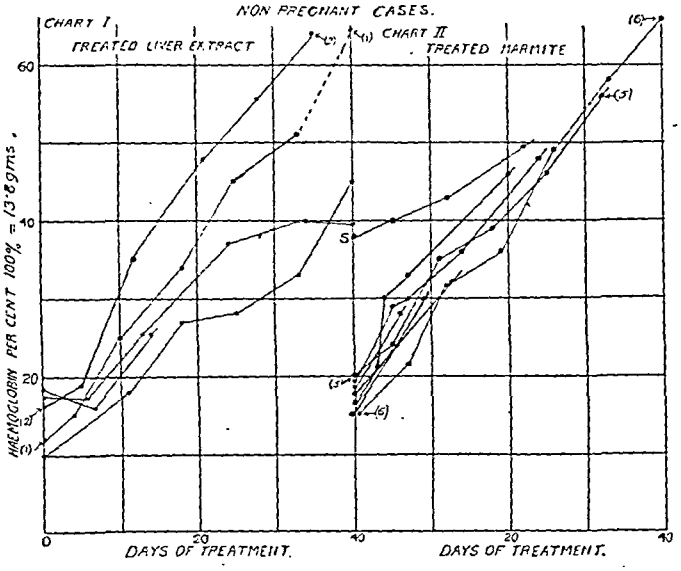
CASE I

Married woman, aged 27, 3-para, Hindu, strict vegetarian. Patient was confined five months ago; for fifteen days before delivery she had fever and swelling of the extremities; she improved for two months, but since then has had fever, increasing weakness, pallor, and oedema of the limbs. On admission she was semi-conscious, with a temperature swinging between 99° and 102° F. The extremities were oedematous; there was no diarrhoea; the urine contained a faint trace of albumin; the Wassermann reaction was negative; no ova were seen in the stools; and later, a test meal showed the presence of free hydrochloric acid.

The blood count showed: red blood cells 450,000 per c.mm., haemoglobin 12 per cent., white blood cells 900 per c.mm.; there was anisocytosis, with very large cells, and some poikilocytosis; megaloblasts were present. A reticulocyte count gave a percentage of under 1.

Treatment consisted of digitalis for the first week only, and liver extract (*hepatopson*) in doses equivalent to 250 grams of fresh liver daily. Clinical improvement was obvious in five days, and thereafter the patient made an uninterrupted recovery. Daily reticulocyte counts were not made, the

maximum response observed being 12 per cent. on the eleventh day. A blood count, after thirty-three days' treatment, showed: red blood cells 3,020,000 per c.mm., haemoglobin 55 per cent., and white blood cells 9,100 per c.mm., and the blood picture was normal; twenty-nine days later the red blood cells were 3,700,000 per c.mm. (Chart I, (1)).



CASE II

Married woman, aged 27, 1-para, Hindu, vegetarian. The patient was delivered five years ago; since then not pregnant. For four months she has suffered from fever associated with vomiting and oedema. On admission the patient was extremely ill, with a temperature of from 100° to 103° F. for the first six days; she also had a sore mouth, severe vomiting, a feeble rapid pulse, and a dilated heart, and she was very restless. The urine contained no albumin; there was very slight oedema. Later examination gave a negative Kahn reaction; ova were absent from the stools, and there was free acid in the gastric contents. A blood count taken on admission showed: red blood cells 820,000 per c.mm., haemoglobin 17 per cent., and white blood cells 5,000 per c.mm.; there was anisocytosis, poikilocytosis, and some polychromatophilia. Megaloblasts were present; very few reticulocytes were seen in the whole slide.

Treatment consisted of liver extract (hepatopson), equivalent to 250 grams of fresh liver daily, and later of Lilly's extract, equivalent to 300 grams fresh liver daily. Stimulants and glucose per rectum were given for the first few days. The temperature fell after six days, the vomiting ceased, and thereafter the patient made a rapid and uninterrupted recovery. After thirty-five days' treatment the blood count was: red blood cells 3,520,000 per c.mm., haemoglobin 64 per cent., and white blood cells 8,600 per c.mm.; the blood picture was normal. Daily reticulocyte counts were not done; and the maximum response observed was 8 per cent. on the twelfth day (Chart I, (2)).

The above two cases are typical of a series of non-pregnant cases treated with liver extract; further examples are shown on the same chart.

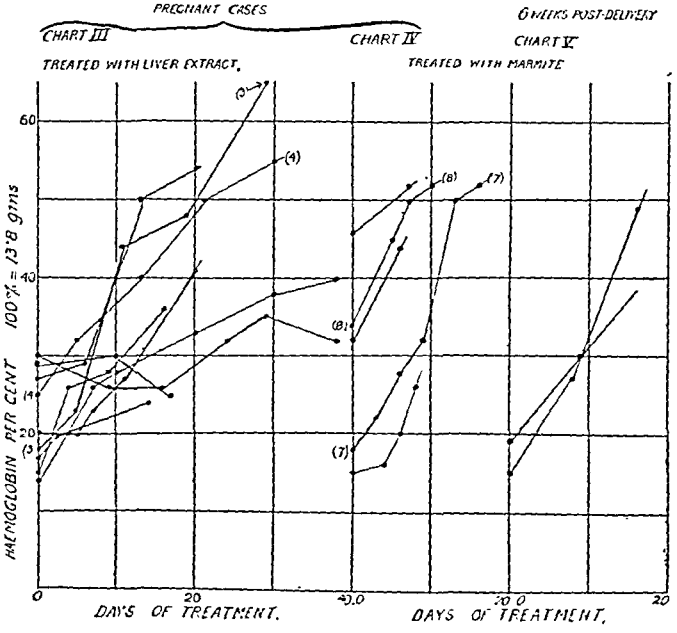
CASE III

Married woman, aged 21, primipara, six and a half months pregnant, Christian, and meat-eater. Patient gave a history of recurrent attacks of fever, probably malaria, since childhood; otherwise healthy, except for severe vomiting in the early months of pregnancy. For the last month there had been increasing weakness and fever. On admission she had severe anaemia, associated with great weakness, breathlessness, and moderate oedema of the extremities. She was very constipated; temperature was 99° F. The spleen was enlarged and hard. The urine contained no albumin; the Wassermann reaction was negative, and a few hookworm ova were found in the stools. The blood count showed: red blood cells 998,000 per c.mm., haemoglobin 18 per cent., white blood cells 11,200 per c.mm.; there was marked anisocytosis, a few megaloblasts, and a very few reticulocytes.

The treatment consisted of liver extract B.D.H. fluid extract) in doses equivalent to 700 grams daily, for nine days, and after that of half a pound of liver meat daily. Digitalis, 5 minims three times daily, was taken for the first few days. The result was an uninterrupted recovery. Thymol for hookworm was given after the red cell count had passed 2 millions. The maximum reticulocyte response was 39 per cent. on the ninth day. The final blood count on the thirty-third day of treatment showed: red blood cells 3,680,000 per c.mm., haemoglobin 66 per cent., and white blood cells 7,800 per c.mm. The blood picture was normal (Chart III, (3)).

CASE IV

Married woman, aged 28, 5-para, eight months pregnant, Hindu, vegetarian. The patient gave a history of one month's fever, weakness, and sore mouth. She was admitted with severe anaemia, great weakness, slight oedema, and a temperature of 100° F. The urine showed a trace of albumin. The Kahn reaction was negative. No ova were found in the stools. The test meal was negative for free acid, but the neutral chlorides were high. A blood count showed: red blood cells 1,080,000 per c.mm., haemoglobin 25 per cent., white blood cells 8,200 per c.mm., and the usual blood picture.



The treatment was carried out with liver extract alone (B.D.H. fluid extract) in doses equivalent to 250 grams daily. The temperature fell after fourteen days; the patient improved steadily, and was delivered at term of a healthy child. The maximum reticulocyte count observed was 12 per cent on the fifteenth day, but the count was not taken daily. The final

blood count before delivery, after thirty-three days' treatment, showed: red blood cells 3,250,000 per c.mm., haemoglobin 55 per cent., and white blood cells 6.500 per c.mm. The blood picture was normal. After delivery, on the fifty-second day of treatment, the red cells had risen to 3,420,000 and the haemoglobin to 60 per cent. (Chart III, (4)).

Cases III and IV are typical of those complicated by pregnancy which responded well to treatment; but, as Chart III shows, there were others in which recovery was slower. At the time when the majority of patients were treated, the dose of liver extract given (for various reasons, partly that of expense) did not exceed the equivalent of half a pound of fresh liver daily. In my opinion this is not enough to produce a prompt rise in the count in all cases; and it is probable that many of them would have done better on the larger doses now used. It is also possible that minor degrees of sepsis or other complications which inhibit the response to liver were missed.

CASES TREATED WITH MARMITE

The number of cases of tropical macrocytic anaemia treated with marmite was not large, in all twenty-two, many of which could be followed up only for a short time. The results of the treatment were, however, so striking that I feel justified in reporting them—more especially as I am leaving India, and shall not be able to continue the work. Further, it is hoped that other workers will be encouraged to give the treatment a trial.

This series consisted of eight non-pregnant women, seven pregnant, two puerperal, and five who were delivered during treatment. The non-pregnant patients, with the exception of one who had a severe *B. coli* cystitis, with much pus in the urine and acute bronchitis as well (Chart II, s), were uncomplicated by sepsis; all responded rapidly and well to treatment (Chart II). The clinical improvement was as marked as the changes in the blood. Two cases are reported in detail below.

The seven uncomplicated cases, treated ante-natally, were unfortunately followed up only for a short time, the longest period being eighteen days; but the improvement in four of them with severe anaemia was amazing; clinical improvement (less oedema, easier breathing, return of appetite) was apparent on the third day, and improvement in the blood on the fourth day (Chart IV). Two of these are reported in detail below. Two others, both with red cell counts under a million, died undelivered on the second and fourth day of treatment. One died suddenly and unexpectedly, after showing signs of improvement; but the other, a patient with general anasarca and vomiting, had little prospect of recovery from the beginning, as she could not sleep for breathlessness or retain any nourishment.

The two puerperal patients, delivered six and eight weeks before admission, had been going downhill ever since. Both were admitted with red cell counts below a million and haemoglobin values below 20 per cent.; and both had severe diarrhoea. The one had a temperature swinging between 100° and 105°, for which no cause could be found other than the anaemia and associated diarrhoea. On marmite alone (one drachm four times daily) this patient made an uninterrupted and rapid recovery, showing a reticulocyte count of 39 per cent. on the eighth day of treatment. The other patient had a *B. coli* cystitis and recovered more slowly, the maximum reticulocyte response being only 15 per cent. on the eighth day of treatment—an example of the inhibiting effect of any septic focus.

The five cases delivered during treatment were less suitable for a trial of a new remedy; and, with the exception of one, they were all complicated and responded slowly. In spite of this, four showed a typical reticulocyte reaction.

CASE V

Married woman, aged 25, 2-para, non-pregnant, Brahmin, strict vegetarian. The patient gave a history of two or three months' intermittent fever and increasing weakness. On admission her temperature was 99.8° F., and pulse rate 124; she was very anaemic, breathless, and had slight oedema of the face and extremities. The heart was dilated; there was a systolic murmur. The mouth was clean. The liver was enlarged to one fingerbreadth below the costal margin, and was tender. The temperature persisted for the first twelve days of treatment. The urine contained a trace of albumin, which cleared later; no ova were found in the stools, and the Wassermann reaction was negative. There was no free acid in the gastric juice, but so much bile that the test was useless. A blood count showed: red blood cells 917,000 per c.mm., haemoglobin 20 per cent., white blood cells 5,100 per c.mm.; and there was marked anisocytosis with large cells; only a few reticulocytes were seen. The patient was very ill, and the condition of her heart caused much anxiety.

The treatment consisted of marmite, one drachm twice daily, for the first twenty days, and then three times a day to help the appetite. Stimulants, digitalis, and camphor were given when necessary during the first four days. After this the patient improved remarkably, but the temperature did not fall to normal till the twelfth day, after which she made an uninterrupted recovery. The maximum reticulocyte count was 18 per cent. on the twelfth day. The final blood count, on the thirty-third day of treatment, showed: red blood cells 3,333,000 per c.mm., haemoglobin 56 per cent., and white blood cells 4,700 per c.mm. The blood picture was normal (Chart II, (5)).

CASE VI

Widow, aged 25, nullipara, non-pregnant, Brahmin, strict vegetarian. Patient stated that she had been healthy till four months before, when she had an attack of fever lasting fifteen days, followed by intermittent fever. She had complained of pain and distension for the last month, and vomiting for the last eight days. On admission the temperature was normal and the pulse rate 120. She was very ill, with extreme anaemia, oedema of the face and extremities, and a rapid and feeble heart beat. She was constipated, the tongue was coated, and she vomited several times. The liver was enlarged four fingerbreadths below the costal margin, and was tender. The spleen was not palpable. The urine contained a trace of albumin, which cleared later; no ova were seen in the stools, and the Wassermann reaction was negative. In a single test meal there was no free acid in the gastric contents. The blood count showed: red blood cells 812,000 per c.mm., haemoglobin 15 per cent., and white blood cells 5,600 per c.mm.; anisocytosis and poikilocytosis were present, megaloblasts were seen, and there were 0.3 per cent. reticulocytes.

One drachm of marmite was given twice daily, and stimulants and digitalis for the first week. The temperature remained normal after the first two days, but the rapid pulse and abdominal pain remained for some little time. On the eighteenth day of treatment, after the blood had shown a good response, both red cells and haemoglobin having doubled their original value, the patient had a rigor and rise of temperature, and malignant malaria parasites were found in the blood film. Whether this attack was a relapse or was due to an infection in the ward it was impossible to say, but after two injections of 5 grains of quinine the patient had no further attacks while in hospital, and made a good recovery. The maximum reticulocyte count was 35 per cent. on the sixth day of treatment. The liver remained enlarged. A final blood count on the fortieth day of treatment showed: red blood cells 3,544,000 per c.mm., haemoglobin 66 per cent., and white blood cells 5,200, and the blood picture was normal (Chart II, (6)).

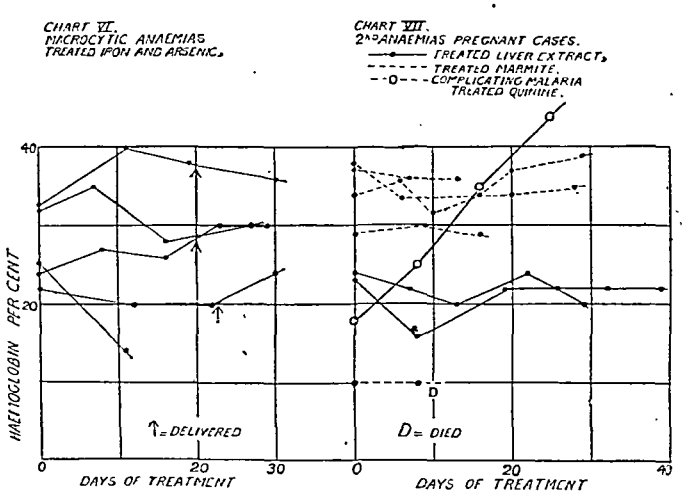
The two cases reported below represent two types complicated by pregnancy, the one typical of Bombay, with severe anaemia but only the moderate oedema associated with many severe anaemias, and the other of a type seen more frequently in Madras, with generalized anasarca as well as extreme anaemia. The latter variety is very

grave, and, admitted as they are in the last stages of the disease, the cases have a high mortality rate; the prognosis is particularly bad when a certain type of forced breathing is present.

CASE VII

Married woman, aged 20, first pregnancy, Hindu, but not a vegetarian. Patient gave a history of an attack of fever a year ago. She was six months pregnant, and had had diarrhoea for a short time. She was admitted with severe anaemia, marked breathlessness, oedema of the face and extremities, a rapid pulse, heart sounds poor with systolic murmur, dirty tongue, pyorrhoea, and severe diarrhoea, but no temperature. The spleen was enlarged; the urine contained no albumin; whip-worm ova were found in the stool. A blood count showed: red blood cells 990,000 per c.mm., haemoglobin 18 per cent., and white blood cells 8,200 per c.mm. Anisocytosis was marked, with very large cells; megaloblasts were present; very few reticulocytes were seen.

Digitalis, 10 minims thrice daily, was given for the first ten days, and, on admission, three powders, consisting of bismuth subnitrate 30 grains, salol 20 grains, and Dover's powder 15 grains. Marmite was given in doses of one drachm four times a day. For the first two days the patient was in a critical state, which was soon succeeded by a rapid and striking improvement. The diarrhoea stopped after five days, and the oedema cleared rapidly. The reticuloctye response was 56 per cent. on the fifth day. On the thirteenth day of treatment the blood count showed: red blood cells, 2,490,000 per c.mm., haemoglobin 50 per cent., and white blood cells 6,900 per c.mm.—an amazing response for a pregnant case. By the sixteenth day the haemoglobin was 55 per cent., and the patient feeling "perfectly well." (Chart IV, (7)).



CASE VIII

Married woman, aged 20, first pregnancy, sixth month, Hindu, but not a vegetarian. Patient was a coolie woman, and the only history she gave was of feeling ill and weak for seven days. On admission the most striking feature, other than the anaemia, was the generalized oedema; the whole body was swollen, and the labia stretched till they looked like tissue paper; there was free fluid in the abdomen, and moist sounds all over the chest. The patient was very breathless; the pulse rate was 64, and missing beats. There was marked pyorrhoea. The urine contained no albumin. Roundworm ova were found in the stool. The blood count was: red blood cells 1,300,000 per c.mm., haemoglobin 34 per cent., and white blood cells 8,100 per c.mm. Anisocytosis was marked, the cells being very large. A reticulocyte count gave a figure of 6 per cent.

The treatment consisted of marmite, one drachm four times a day, and nothing else. After two days of this the oedema was strikingly less; by the seventh day there was only a slight puffiness of the feet, and by the tenth day there was none. There was a reticulocyte response of 41 per cent. on the sixth day. On the tenth day the blood count showed: red blood cells 2,560,000 per c.mm., haemoglobin 52 per cent., and white blood cells 6,600 per c.mm. The cells were still large, and 5 per cent. of the reds were reticulocytes. Probably part of the initial rise in the blood count was due to the rapid decrease in oedema; but after all signs of this had cleared, the haemoglobin rose in two days from 45 to 50 per cent. (Chart IV, (8)).

DISCUSSION

The results recorded above suggest that in marmite we have a curative agent as potent as liver extract for the treatment of tropical macrocytic anaemia. The response of this disease to treatment with marmite is in all ways comparable with that produced by suitable doses of liver extract in the same condition or in true pernicious anaemia. Both extracts are active in this condition, even when it is complicated by malaria or hookworm, and without the treatment of the associated disease. This is in marked contrast with their complete inactivity in the secondary small-celled anaemia that so frequently complicates these infections (Chart VII). The fact that the two extracts are active in macrocytic anaemia raises the question of their etiological significance. The condition, both in its clinical manifestations and in its distribution, resembles a deficiency disease. The frequency and severity in pregnancy, the marked improvement that follows delivery (as in the case of deficiency osteomalacia), together with the frequent association of the disease with others that already lay a strain on the haematopoietic system, all suggest that some deficiency is the underlying cause. The geographical distribution is also suggestive, the regions chiefly affected being India, the Malay States, China, and the West Coast of Africa; the possibility of a infective agent cannot, however, be ignored.

If one considers the two extracts, the question of the nature of any common constituent factor at once arises. The work of Cohen,[2] Castle,[3] and their co-workers suggests that in liver extract it is a protein breakdown product that is active, and that in true pernicious anaemia it is some defect in the gastric function which leads to a failure of absorption of this product. In the tropical anaemia there is apparently no failure in gastric function.[4] It is possible, however, that the Indian diets, which are so markedly deficient in protein, especially animal protein,[4] may be deficient in this essential product or its precursor, and that the protein of yeast, known to be of good biological value, or its breakdown products, in the marmite supplies this want. The fact that the condition is so frequent among the better-to-do classes and among Mohammedans,[5] who are meat-eaters, would suggest that a protein deficiency is not the underlying defect.

Marmite is, however, known to be a rich source of the B vitamins, and so is fresh liver meat; commercial liver extract is also a very potent source of vitamin B_2, but it contains very much less of vitamin B_1. For a rat the minimum doses of liver extract for the two vitamins stand in the relation of even less than 1 to 10 (Chick, verbal communication); liver extract cannot therefore be called a rich source of vitamin B_1. The cases of anaemia seen in Bombay have no symptoms suggesting any marked deficiency of B vitamins, and beri-beri is practically unknown in the town. In Madras beri-beri occurs in all the rice-eating districts of the south and east coast, and endemic dropsy is also found in certain districts.

The frequent association of extreme oedema with the severe anaemia, and the fact that both respond so readily to treatment with marmite, are undoubtedly important. The question must, however, remain unsettled until further work can decide the common factor in the two extracts which is active. At present it is only possible to state that in marmite, and probably in other yeast extracts, there appears to be a curative agent for this dread disease which equals liver extract in potency, and has the advantage in India of being comparatively cheap and of vegetable origin.

In conclusion, it is a pleasure to acknowledge the help given by the staffs of the Cama and Albless Hospital, Bombay, and the Caste and Goosha Hospital, the Government Maternity Hospital, the Raja Sir Ramaswami Mudeliar Lying-in Hospital, and the Christina Rainy Hospital, Madras, who allowed me all facilities and showed the greatest interest in the work. The work was carried on as part of the Maternal Mortality Inquiry of the Indian Research Fund Association, which defrayed the expenses.

REFERENCES

[1] Wills, L., and Mehta, M. M.: *Indian Journ. Med. Research*, 1930, xvii, 777.
[2] Cohen, E. J., Minot, G. R., Allen, G. A., and Salter, W. J.: *Journ. Biol. Chem.*, 1928, lxxvii, 325.
[3] Castle, W. B., Townsend, W. C., and Heath, C. W.: *Amer. Journ. Med. Sci.*, 1930, cliii, 305.
[4] Wills, L., and Talpade, S. N.: *Indian Journ. Med. Research*, 1930, xviii, 283.
[5] Balfour, M. I.: *Indian Med. Gazette*, 1927, lxii, 489.

THE DIAGNOSIS OF URAEMIA

BY

A. ARNOLD OSMAN, D.S.C., M.R.C.P.

PHYSICIAN TO QUEEN MARY'S HOSPITAL; CONSULTING PHYSICIAN TO ST. ALFEGE'S HOSPITAL (L.C.C.)

AND

HAROLD G. CLOSE, M.B., B.S.

CLINICAL ASSISTANT, QUEEN MARY'S HOSPITAL; GRIFFITHS DEMONSTRATOR OF PATHOLOGY, GUY'S HOSPITAL

There is perhaps no condition in medicine which so frequently gives rise to difficulties and mistakes in diagnosis as that known as uraemia. This is partly due to loose definition and partly also to the fact that the manifestations included under the term, even when it is used in its strictest sense, are so varied as to simulate from time to time many other diseases. During the past twelve months, for example, cases have been seen in which, on clinical grounds, the following diagnoses were made: encephalitis lethargica, cerebral tumour, Addison's disease, pernicious anaemia, septicaemia, and leukaemia. A subsequent estimation of the blood urea, however, showed the true nature of the condition, which was confirmed at necropsy.

Now although many cases of chronic renal disease give no definite history of onset, and remain undetected for many years, all those mentioned above had had at least slight albuminuria; and uraemia, if considered at all, had been excluded on account of the absence of certain signs and symptoms generally considered necessary for this diagnosis. The absence, for example, of such symptoms as a high blood pressure, a hypertrophied heart, retinitis, foul tongue, the comparative youth of the patient, or even the small amount of albumin in the urine, had been regarded as making a diagnosis of uraemia due to chronic nephritis unlikely to be correct. The object of this paper is to point out the advantages of using the term uraemia in a more restricted sense than is usual; to emphasize certain clinical features which are of importance in the diagnosis, and which experience has shown are not sufficiently appreciated; and to bring forward a method of determining the blood urea which can be readily applied by anyone without laboratory experience or facilities.

DEFINITION OF URAEMIA

Strictly, the term uraemia should be applied only to those signs and symptoms which arise from, or at least are invariably associated with, defective elimination on the part of the kidneys; whether this be due to primary disease of these organs, a disturbance of their function secondary to disease elsewhere in the body, or to mechanical obstruction to the flow of urine—in fact, to those symptoms arising from an insufficient depuration of the blood by the kidneys. The word urinaemia is sometimes used to describe the results of mechanical obstruction to the urinary flow, but as the symptoms of this condition are identical with those of true uraemia as defined above it will not be employed here. It is true that none of the actual products of urinary retention has been proved to be the cause of the symptoms, but it is equally true that the accumulation of some or all of them in the blood generally leads to a definite train of symptoms to which alone the term uraemia is strictly applicable. Uraemia, therefore, can and does occur quite apart from Bright's disease. The term as commonly used includes many symptoms of this latter disease which are not always or necessarily associated with renal failure, as shown by nitrogen or dye retention or by diminished concentrating power of the kidneys. Particularly is this the case with regard to the symptoms of high blood pressure and cardio-vascular disease. These are often erroneously included under the term uraemia; but, as pointed out by Strauss, Ascoli, Widal, Volhard, Fishberg, and others, it is of great practical importance to differentiate clearly between those symptoms of pseudo-uraemia and those of true uraemia. As defined above, uraemia is seen in its most typical form in cases with mechanical obstruction to the flow of urine and in cases of chronic nephritis in the young; for although uraemia, as shown by nitrogen retention, etc., is frequently present in older subjects, death in these cases more often results from accompanying cardio-vascular disease.

SIGNS AND SYMPTOMS OF URAEMIA

The chief signs and symptoms of uraemia may be conveniently considered under the headings of the main systems of the body involved. The onset is usually insidious, but may be comparatively rapid, especially in acute nephritis, mechanical obstruction of the urinary tract, and in cases of chronic nephritis complicated by intercurrent infection, by bilious attacks, and following general anaesthesia. The initial symptoms vary, but physical and mental exhaustion, anorexia, vomiting, dyspnoea on exertion without signs of cardiac failure, marked anaemia, and progressive loss of weight are all common.

Nervous System

Mental apathy and drowsiness, quite apart from coma, are frequently present, and may be the only prominent symptoms for many weeks. They may be so marked as to lead to a diagnosis of encephalitis lethargica. If, in addition, there is some choking of the discs with a normal or only slightly raised blood pressure, as sometimes happens, cerebral tumour may be diagnosed. In some cases, on the other hand, there is intense mental activity, worry, and inability to concentrate, sometimes accompanied by a vague but insuperable feeling of alarm. Insomnia may be intractable, despite marked physical weakness and sense of exhaustion. Muscular weakness is often extreme. In one case seen recently it was the first symptom noted, and it increased in intensity for nine months before any other symptoms occurred, when anorexia was complained of. The blood urea was then 220 mg. per 100 c.cm. If at the same time the blood pressure is low or not much raised Addison's disease may be simulated. Most

of the various psychoses met with in these cases are probably due to cardio-vascular disease of the brain and not to uraemia. Muscular twitchings, especially of the extremities, are a frequent and important sign. They vary from fine fibrillary twitchings, confined to a few muscle groups, to comparatively coarse, jerky movements, often of the extensor muscles, occurring at fairly frequent intervals. Some patients complain bitterly of these twitchings and jumpings.

A healthy-looking man, aged 39, noticed that for the past six months he had been nervy and jumpy when doors were banged, etc. He was known to have had a trace of albumin in the urine for some years, but no casts had ever been found. Examination of the heart, blood pressure, and retinae showed nothing abnormal. While the pulse was being felt, however, an occasional slight involuntary jerking of the wrist and fingers was noticed. Because of this, a specimen of blood was taken, and the blood urea was found to be 190 mg. per 100 c.cm.

Muscular twitchings, then, are often a valuable clinical sign. Headaches are not a prominent symptom of true uraemia. They are often absent entirely, but when present are rarely of the intense variety met with in hypertension and vascular disease of the brain. The pupils may be contracted but exhibit no constant variation from the normal. Finally, it should be noted that vertigo, amaurosis, retinitis, transient pareses, hemiplegia, and, most important of all, convulsions, are none of them necessarily manifestations of true uraemia, but are probably symptoms of coexisting hypertension and vascular disease. In uncomplicated uraemia, in fact, they are generally absent.

Cardio-vascular System

It cannot be too strongly emphasized that a raised blood pressure is not an essential sign of uraemia. It does not generally occur as a result of urinary obstruction, and is frequently absent in cases of chronic glomerular nephritis (chronic interstitial nephritis or secondary contracted kidney) in young persons, and in chronic ascending nephritis or pyelonephritis in older people. Absence of cardiac hypertrophy at necropsy confirms these statements in many cases. Again, in cases of uraemia associated with chronic nephritis in which the blood pressure has previously been raised, a terminal fall of the pressure, not obviously due to heart failure, often occurs. This decrease in the pressure may take place days, weeks, or even months before death, and is often an ominous sign. It is important, therefore, to remember that an increased blood pressure is not always present in uraemia, even when due to chronic nephritis; and, in our experience, the diagnosis may be missed and the blood urea not estimated, "because the blood pressure is not raised." The only cardio-vascular disorders which might possibly be attributed to uraemic toxaemia are heart failure and perhaps pericarditis. Cardiac failure will, of course, accentuate or precipitate a fatal uraemia in patients in whom the kidneys are already damaged. One of us (A. A. O.) has often observed dropped beats, pulsus alternans, and sudden cardiac death, sometimes in cases of prolonged anuria due to various causes in patients in whom there was no reason to suspect previous cardiac disease. These cases, in fact, strongly suggested a toxic myocarditis, possibly caused by retained urinary products.

Alimentary System

Far too much importance is generally paid to the appearance of the tongue. It is described by some as dry, red, cracked, and glazed; by others, as covered by a brown or greyish exudate. Even taken into consideration with other symptoms, the appearance of this organ as an aid to the diagnosis of uraemia is practically without value. Only recently a case was seen at necropsy in which no blood urea estimation had been performed (a few hours after death the blood urea was 400 mg. per 100 c.cm.) and the diagnosis was missed although albumin had been found in the urine. The tongue looked normal, and it was thought that the patient, a girl of 16, was too young to have chronic interstitial nephritis. The kidneys were very small and granular.

A urinous or ammoniacal odour of the breath and stomatitis occur so late in the disease as to be without practical diagnostic importance. Bleeding of the gums and loosening of the teeth are also late manifestations, but are sometimes of diagnostic significance. Gradual loss of appetite over a period of weeks or months may sometimes be uraemic in origin. Nausea and vomiting frequently occur and may be persistent, leading to marked thirst and serious dehydration, very large quantities of fluid being lost in this way. Vomiting, with or without abdominal pain, may be the first symptom, and the chief difficulty arises in diagnosing this from the vomiting of high intestinal obstruction. In both, the blood urea may be very high, and the diagnosis turns chiefly on other tests. In uraemic vomiting, for example, the high blood urea is associated with a low plasma bicarbonate and a diminished concentration of urea in the urine. In the uraemia of intestinal obstruction the plasma bicarbonate tends to be increased (alkalosis) and the urinary urea output normal. Either constipation or diarrhoea may be present, but neither is of diagnostic importance.

Respiratory System

The respiratory symptoms of uraemia are not sufficiently distinctive to be of much value in diagnosis. Kussmaul breathing may occur, but differs in no way from that found in other diseases in which a terminal acidosis is the rule. The hissing respiration said to be characteristic of uraemia is a comparatively rare phenomenon, but is of some diagnostic value in the differential diagnosis of coma due to cerebral haemorrhage in which dyspnoea, if present, is accompanied by stertor. Increasing dyspnoea, especially on exertion, may be the earliest symptom, even in cases without heart failure or marked anaemia. Persistent hiccup is also a late manifestation, though not very common.

The Blood

Profound anaemia is sometimes the earliest manifestation of chronic progressive uraemia, and may lead to a tentative diagnosis of pernicious anaemia, leukaemia, or, when accompanied by fever and purpura, septicaemia. The anaemia is of the secondary type, and extremely low figures for red cells and haemoglobin may be encountered. Purpura is not an uncommon sign, though, in our experience, it only occurs late in the disease, and generally when the blood urea is at least 150 to 200 mg. per 100 c.cm. The platelet count is usually normal. Purpura and bleeding gums in an adult with even a trace of albumin in the urine should always suggest the possibility of uraemia.

The Skin

Occasionally a peculiar yellowish-brown waxy appearance of the skin gives rise to suspicion of uraemia. If there is also some puffiness of the eyelids a diagnosis of pernicious anaemia or myxoedema may be made, but in the majority of cases there is no characteristic tint or colour of the skin and no rash or eruption occurring often enough to be of diagnostic value. Pruritus may occur, but is not characteristic.

Progressive loss of weight not due to other ascertainable causes should excite suspicion and call for an investigation of the blood.

AGE INCIDENCE OF URAEMIA IN CHRONIC NEPHRITIS

It is not generally realized that fatal uraemia due to renal insufficiency (for practical purposes due to chronic nephritis) occurs chiefly in the young, and not in the elderly, a point which experience has shown to be a frequent stumbling-block in diagnosis.

Thus, of the last nine patients seen and diagnosed in hospital as chronic glomerular or chronic interstitial nephritis, and in whom small granular kidneys were found at necropsy, only three were over 25 years of age. The ages in these cases at death were 25, 25, 46, 19, 13, 20, 32, 37, and 20 years. Again, the average age at death of fourteen patients with chronic glomerular nephritis in whom the diagnosis was confirmed at necropsy, and who had during life a high blood urea (over 100 mg. per 100 c.cm.) but a systolic blood pressure under 150 mm. Hg, was found to be 27 years. In a further group of fourteen cases of chronic glomerular nephritis, confirmed at necropsy, with a comparatively low blood urea (under 100 mg. per 100 c.cm.) but with a systolic blood pressure of over 150 mm. Hg, the average age at death was found to be 47 years. Using the same criteria—namely, a blood urea of over or under 100 mg. per 100 c.cm., and a systolic blood pressure of over or under 150 mm. Hg—we analysed 100 consecutive post-mortem records from Queen Mary's, St. Alfege's, and Guy's Hospitals, of cases of chronic interstitial nephritis (primary and secondary contracted kidneys). These were divided into three groups.

(*a*) Uraemia=blood urea over 100 mg. per cent., and blood pressure under 150 mm. Hg.
(*b*) Hypertension=blood urea under 100 mg. per cent., and blood pressure over 150 mm. Hg.
(*c*) Mixed cases.

There were 20 cases in Group (*a*), 32 in Group (*b*), and 48 in Group (*c*). Of the 20 cases in the uraemic group the average age at death was 29 years, whilst the average age at death of the 32 cases in the hypertensive group was 47.5 years. Of the 20 subjects in the uraemic group, 12 were under 25 years of age, and of the 32 cases in the hypertensive group only 2 were under 25 years of age.

Clearly, in chronic glomerular nephritis death from true uraemia occurs more often in the young, the elderly succumbing chiefly to hypertension and cardio-vascular disorders. In the majority of cases, of course, some degree of renal insufficiency, hypertension, and cardio-vascular disease are all present. Incidentally it is worthy of note that of the nine cases referred to above only three were known to have suffered previously from renal disease of any kind, the other cases giving a history of weakness and malaise of a few weeks' duration only.

ESTIMATION OF BLOOD UREA

From what has been said above regarding the diversity of the clinical signs and symptoms of uraemia, and from our own experience of considerable numbers of such cases, we have been forced to the conclusion that, on the whole, laboratory methods are of more value in the diagnosis of this condition than the most extensive clinical experience, though a combination of both is the ideal. Reliance on purely clinical evidence alone, which, of course, includes a qualitative examination of the urine, will only lead to a correct diagnosis of uraemia in a proportion of cases. This in no way diminishes the importance of the most thorough clinical examination in every case. While uraemia due to true renal insufficiency is, as pointed out later, not necessarily present in every case in which a raised blood urea is found in association with albumin in the urine, a blood urea determination is, nevertheless, by far the most useful single test as an aid to diagnosis, and, taken in conjunction with the clinical features, will suffice in the majority of cases, though other laboratory tests may be necessary in special instances. This being so, and the condition itself being by no means uncommon, it is desirable that every practitioner should be able to estimate the blood urea for himself. In fact, this simple procedure should be regarded as just as essential to a medical man as the measurement of the blood pressure, a retinoscopic examination, or doing a blood count; the latter two, incidentally, requiring greater skill in execution and experience in interpretation than a simple estimation of the blood urea.

For these reasons we have devised a method, or rather a modification of the well-known method of Twort and Archer,[1] which is suitable for general use, and does not necessitate the use of elaborate apparatus and laboratory accommodation. The principle of the method is the conversion of urea to ammonia by the action of urease on the urea. Trichloracetic acid has been substituted for the tungstic acid used in the original method. An important feature is that venepuncture is avoided, as the estimation can be carried out on a single drop (0.1 c.cm.) *of blood obtained by pricking the lobe of the ear or the* finger. The estimation, which is performed by colour comparisons with standard colour solutions (thus avoiding the necessity for titrations, colorimeters, and calculations), can be carried out at the bedside, or the blood can be transported and the test performed at leisure. To carry out the complete estimation requires about forty minutes in all, but the operation may be interrupted, if necessary; at various stages. The degree of accuracy obtained is quite sufficient for all practical purposes, and can be increased by a simple alteration in the concentration of the solutions used. For most purposes it is only necessary to ascertain whether the blood urea is normal, or, say, twice or three times the normal. There is no point in knowing, for example, whether a given specimen of blood contains 80 or 85 mg. of urea per 100 c.cm.; it is sufficient to know that it is approximately twice the normal. With concentrations of urea over 200 mg. per 100 c.cm., a reddish precipitate appears, which makes it difficult to obtain accurate readings. This, however, is not of great practical importance, as the prognosis is uniformly grave with values of this magnitude and over. The method has been designed for use in general practice and for routine and emergency work in hospitals, but not for research purposes, for which the original method quoted above is more suitable.*

DETAILS OF THE METHOD

By pricking the finger or the lobe of the ear by means of the blood pipette 0.1 c.cm. of blood is obtained and added to 1 c.cm. of water in a test tube. A urease tablet is crushed and added to the contents of the test tube, which is then immersed in water in a water bath at 50° C. for fifteen minutes. To this 0.2 c.cm. of 20 per cent. trichloracetic acid is then added, and the mixture allowed to stand for ten minutes. It is then diluted with 3 c.cm. of water, and filtered through a piece of filter paper, previously well washed with water, into another test tube, until the volume of the filtrate is 5 c.cm. To three other test tubes 0.4, 1, and 1.5 c.cm. of the standard ammonia solution are then added, and the volumes made up to 5 c.cm. with water. To each of the four test tubes 1 c.cm. of Nessler's solution is then added, the contents are stirred, and are allowed to stand for two minutes. The resulting colour in the solution under test is then matched against a white background with the colours of the other tubes, which correspond to 40, 100, and 150 mg. of urea per 100 c.cm. of blood. Tap water is used throughout.

INTERPRETATION OF BLOOD UREA VALUES

The normal blood urea is generally given as 20 to 40 mg. per 100 c.cm. Values lower than this are often

* The necessary apparatus, etc., is contained in a convenient form in the "B.D.H. Ureamometer" made by British Drug Houses Ltd.

met with, especially in young fasting subjects. Low figures are also the rule in normal pregnancy (de Wesselow[2]). In elderly subjects the upper limit of the normal may be a little higher, and values of 50 or 60 mg. per 100 c.cm. are not necessarily to be regarded as pathological. Dehydration too, as after profuse sweating or residence in hot climates, may give rather higher values than normal. The protein content of the diet influences the concentration of urea in the blood to a considerable extent. Patients with chronic nephritis treated with a low protein diet may have a comparatively low or even normal blood urea. In spite of this, they may die from uraemia because the kidneys, although grossly disorganized, are able to deal for a time with a minimum load of urea, but not perhaps with other urinary constituents which are retained and may cause death. Generally such patients die from cardio-vascular accidents. It is important, however, to consider the diet when interpreting a blood urea value, from the point of view of either diagnosis or prognosis.

NON-RENAL CAUSES OF HIGH BLOOD UREA

A high blood urea, though indicative of uraemia, is not necessarily the result of disease of the kidneys, even if albumin is present in the urine. In heart failure, for example, the blood urea is often considerably raised and albuminuria is present; but other tests, such as the urea concentration test, show that the kidneys are functioning normally in respect of urea clearance. A high blood urea is also often encountered in fevers of various kinds, in septic conditions, and in the dehydration following severe diarrhoea. The intractable vomiting and dehydration of high intestinal obstruction are often, as mentioned previously, associated with a high blood urea.

It is not sufficiently realized that many general anaesthetics cause a distinct increase in the blood urea, which may last for some time. In this connexion we are kindly permitted to refer to some recent but unpublished work of our friend Dr. J. W. Shackle. Estimations of the blood urea before, and, at intervals, after, various forms of general anaesthesia, but particularly chloroform and ether and C. and E. mixtures, showed that quite frequently a normal urea content was doubled, and often took several days to return to normal. Moreover, the older the subject and the higher the blood urea before operation the more pronounced were these effects. In our experience, general anaesthesia given to elderly subjects, without a careful preliminary examination to exclude latent renal disease, is a not infrequent cause of unexpected death, following even the most trivial surgical procedures. In fact, we have been so impressed by this as to consider it justifiable to assert that no general anaesthetic should be given to a person over 45 years of age, except in emergency, without a preliminary estimation of the blood urea; especially if there is even a faint trace of albumin in the urine.

The value of blood urea estimations as a guide in the treatment of surgical affections of the kidneys and prostate, etc., is too well known to need discussion here.

We wish to acknowledge our indebtedness to the authorities at Queen Mary's, St. Alfege's, and Guy's Hospitals for permission to make use of their records and post-mortem material, and to the physicians at these hospitals for those cases not under our own care. Our thanks are also due to Professor R. Donaldson and Dr. Arthur Davies, directors of the pathological departments at Guy's and Queen Mary's Hospitals, for laboratory facilities; to the Medical Research Council for a grant for work of which this investigation forms a part; and to British Drug Houses Ltd. for the care and trouble they have taken in carrying out our wishes.

REFERENCES

1 Twort, F. W., and Archer, H. E.: *Lancet*, 1923, i, 1102.
2 De Wesselow, O. L. V.: *Journ. Obstet. and Gynaecol. British Empire*, 1922, xxix, 21.

TWO CASES OF HAEMORRHAGIC PARATYPHOID FEVER

BY

R. M. WILLIAMS, M.B., B.S.LOND.

TEMPORARY ASSISTANT MEDICAL OFFICER, EASTERN HOSPITAL, L.C.C.

Early in February of this year paratyphoid fever broke out in Epping and its neighbourhood, and, at the suggestion of Dr. Shaw of the Ministry of Health, the London County Council decided to admit patients with this disease into some of its isolation hospitals. In all, some 240 cases were distributed throughout these hospitals. The origin of the epidemic was at first attributed to a contaminated milk supply. The history of the earliest cases, as far as can be ascertained from the case reports, dates back to December, 1930, and the age incidence varied from 2 to 78 years, the sexes being about equal in number. Examination of the stools and urine was performed two or three times on every patient admitted, and in every case showed the absence of the paratyphoid or typhoid organisms. The type of the disease, as evidenced by the temperature and the clinical symptoms, was very mild. The following is an account of the two deaths which occurred in the series.

HISTORY OF THE CASES

The two patients were brothers, William and Samuel, aged 11 and 13.

Past History.—Father dead. Mother resident in a mental hospital. Neither patient had any history of previous disease.

History of Present Illness.—Onset of the disease in both patients was on or about January 29th, 1931, with feelings of malaise in both about February 5th. Vomiting occurred on the following day in the case of William. Rose-red spots were present in both about February 7th. Samuel had haemorrhage per rectum on the 9th, previous to which he had had diarrhoea. Both boys were admitted together on February 11th in a delirious and febrile condition.

The point of interest in these two brothers was that they developed, practically at the same time, haemorrhages into the skin of the chest and abdomen.

CASE I

William, aged 11, was, on admission, an emaciated boy with sunken eyes. His colour was poor, pulse dicrotic, and temperature 99° to 104° F. Tongue was very dry and brown; throat injected and clean; sordes on lips and teeth; stomatitis present. Chest sounds were normal. The spleen was not palpable, and there were two rose-red spots on the abdomen. He was doubly incontinent, and, at intervals, delirious.

Course of Disease.—Low, muttering delirium; at times very restless; gradual weakening of pulse and heart sounds. On February 20th definite haemorrhages were present under the skin of the chest, and, to a slight extent, of the abdomen. He became extremely ill and was delirious; pulse was rapid and thready; hurried respirations indicated some degree of lung congestion. Temperature was remittent. On the following day the congestion had extended; the heart sounds became weaker (the first sound was almost inaudible), and the extremities cold. The petechial haemorrhages had not extended, but were very definite on the front of the chest and upper part of the abdomen. A blood count was done by Dr. Mair of the North-Eastern Laboratory at 3 p.m. on February 21st: white blood cells, 2,400 per c.mm.; differential count—lymphocytes 50 per cent., polymorphonuclears 18 per cent., immature cells 32 per cent. Most of the polymorphonuclears showed a myelocytic type of nucleus, and platelets appeared to be present in the usual numbers. Death occurred three hours later.

Post-mortem Examination

Post-mortem report on February 23rd—forty-eight hours after death—by Dr. Mair of the North-Eastern Laboratory. Subject emaciated, petechial haemorrhages present over the chest and upper abdomen. Abdomen: No peritonitis. Nothing abnormal about the mesenteric glands. Congestion of glands

and vessels in the great, and also in the gastro-splenic, omentum. Stomach, suprarenals, pancreas, kidneys, and upper intestine appear fairly normal on macroscopic examination. Lower intestine: Acute congestion of the ileum. No ulcers. No swelling of Peyer's patches. Acute congestion of ileum opening into the caecum. Some little congestion of the ascending colon. Transverse, descending, and pelvic colon normal. Lungs: Left—broncho-pneumonia of both lobes, the lower more marked. Right—lower lobe consolidated, marked broncho-pneumonia; upper lobe partly consolidated and in same condition. Culture from gall-bladder contents grew a pure growth of *Bacillus paratyphosus* B Widal; serum agglutinates *B. paratyphosus* B in dilution of 1 in 2,500; *B. typhosus, nil.*

Microscopical Sections.—Lungs: Marked broncho-pneumonia; all the blood vessels are congested, many of the alveoli are filled with red blood corpuscles, and there is a good deal of blood pigment; other alveoli are filled with catarrhal cells and leucocytes, which appear to be chiefly mononuclear. The lumen of one of the smaller bronchi is filled with a catarrhal exudate. The vessels in the wall of this bronchus are congested and the connective tissue is very cellular, showing marked proliferation of the fixed tissue cells. Gram-positive cocci could be demonstrated in the exudate, but no Gram-negative bacilli. Spleen: The lymphoid follicles are smaller than normal, but are very cellular. They give the impression that there has been active proliferation followed by exhaustion. The spleen pulp is congested and cellular. Kidneys: The vessels are congested; the glomeruli are swollen and cellular; and there is some degeneration of the epithelium of the convoluted tubules.

It will be noted that in this case the post-mortem examination by itself would not have led to the true cause of death—namely, paratyphoid fever. The serum was markedly positive, and a pure growth of *B. paratyphosus* B was obtained from the contents of the gall-bladder.

CASE II

Samuel, aged 13, was admitted on February 11th and died on February 20th, 1931. On admission he was thin and dehydrated. Tongue furred; throat was slightly injected, but clean. Abdomen: Nothing abnormal. Heart sounds were normal, but weak. Lungs: No adventitious sounds. Faint, brownish, lenticular spots were present over the abdomen and legs. The patient appeared extremely ill and toxic. He was delirious and at times restless. Pulse was dicrotic, colour was very poor, and eyes were sunken.

Course of Disease.—Swinging temperature, with marked remissions (from 99° to 104.8°). Low muttering delirium, with intervals of great restlessness. The rash faded about February 16th; later, definite *subsultus tendinum* and carphology were present. There was some degree of cough. On February 20th, at 10 a.m., there was a very profuse epistaxis, and petechial haemorrhages were present over the chest, abdomen, and back, but not on the face, arms, or legs. Over the pressure points (sacrum, trochanters, and back of the chest) the punctate haemorrhages amounted to definite ecchymoses. The general colour of the affected area was a fairly bright scarlet. Condition of the patient became rapidly worse—typhoid facies, delirium, running pulse, etc.—and death occurred suddenly at 4.20 p.m.

Post-mortem Examination

A very emaciated subject. Petechial haemorrhages general over the chest, abdomen, and back; over the pressure points (sacrum, great trochanters, etc.) there were definite purpuric patches, some as large as a five-shilling piece. Lungs: Early broncho-pneumonia; haemorrhages present in the lung substance. Abdominal viscera: No peritonitis. Definite congestion of the lower eighteen inches of the ileum. In the caecum, and round about the base of the appendix, a fairly large ulcer was seen with intense injection around. Smaller ulcers were present in the ascending colon (size varied from a shilling to a five-shilling piece).

Sections (report by Dr. Mair).—Intestine: Section of ulcer at lower end of ileum; the mucosa shows marked inflammatory change as indicated by proliferation of connective tissue cells and infiltration with lymphocytes; over two areas in the section the epithelium has completely disappeared. Section of ileo-caecal valve: The mucosa shows similar changes; over a considerable area the epithelium has almost completely disappeared. Spleen: The lymphoid follicles are ill defined, and there is an increase in the number of lymphocytes in the sinuses. Kidneys: The glomeruli are swollen and cellular, with congested vessels; some of the convoluted tubules show cloudy swelling, and necrosis of the epithelium. Liver: The portal tracts show an increase in the number of the lymphocytes present, and in the centre of the lobules there is some atrophy of the liver cells. Lungs: The smaller bronchioles are filled with polymorphonuclear and catarrhal cells; the vessels are everywhere engorged with blood; there are areas with haemorrhages into the alveoli; and some alveoli also contain catarrhal cells and polymorphs. Numerous Gram-positive diplococci and streptococci are seen. No Gram-negative bacilli were found. The condition is one of early broncho-pneumonia.

COMMENTARY

Eruption of purpuric rashes in the typhoid group is considered very rare. The late occurrence of such rashes is referred to by Dr. E. W. Goodall. The differential diagnosis of this condition from the purpuras is simplified by the history, the high Widal, the facies, the extreme degree of toxicity, and, finally, by the fact that the blood platelets were present in the usual numbers.

The blood reactions and examination of stools and urine were carried out at the Northern Group Laboratory, North-Eastern Hospital. My thanks are due to Dr. Pereira, the medical superintendent, and to Dr. Mair, for their kind help and permission to publish these cases.

BIBLIOGRAPHY

Osler and McCrae: *The Principles and Practice of Medicine*, tenth edition, p. 30.
Taylor: *Practice of Medicine*, thirteenth edition, p. 87.
Rolleston, J. D.: *Acute Infectious Diseases*, second edition, p. 141.
Goodall, E. W.: *Text-Book of Infectious Diseases*, third edition, p. 301.
Ker: *Manual of Fevers*, second edition, p. 292.
Topley, W. W. C., and Wilson, G. S.: *The Principles of Bacteriology and Immunity*, p. 1002.

CONTACT GLASS OR CROSSED CYLINDERS FOR HIGH ASTIGMATISM

BY

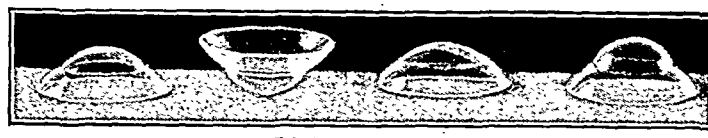
J. H. BEAUMONT, M.B., CH.B.NEW ZEALAND, D.O.M.S.

SENIOR CLINICAL ASSISTANT AND REFRACTIONIST, ROYAL WESTMINSTER OPHTHALMIC HOSPITAL; OUT-PATIENT OFFICER, ROYAL LONDON OPHTHALMIC HOSPITAL

Contact glasses are glass shells worn on the eyeball to replace an irregularly refracting surface of the cornea by the regular curve of the glass. They are not so uncomfortable as one might imagine. They are applied by the surgeon using a rubber sucker attached to the glass shell, the concavity of which contains saline or Locke's fluid. Holocaine 2 per cent. may be used as a local anaesthetic. The patient's head is bent forward, the eyelids separated, and the contact glass is fitted on to the eyeball, care being taken to avoid air bubbles. Contact glasses have a scleral curve, and also a corneal curve of shorter radius, so that the glass is in contact with the sclera but is separated from the cornea by a layer of saline. At first they should be worn only for about an hour a day. Enthusiastic patients soon learn to fit them on themselves. Professor Heine of Kiel uses the contact glass grounded by Zeiss. In Vienna they say that for some cases the older contact glasses blown by Müller are better tolerated, as they do not fit so tightly. Contact glasses should not be worn at night, because when the eyes turn up during sleep the cornea may become abraded. They are practically invisible, and do not interfere with movements of the eyes.

These glasses may be used for cases of conical cornea, irregular corneal opacities, high astigmatism, high myopia,

and high hypermetropia, and in cataract cases after operation. They are of great value in certain corneal conditions in enabling the patient to have useful vision. But they may also be employed for any refractive error, and there are possibilities for contact glasses even in the realm of sport. I know of a Canadian who wears them while flying in an aeroplane. They may even be worn in place of ordinary glasses by actresses or people not wishing to wear spectacles. It has been claimed that their temporary application has been followed by permanent loss of small degrees of astigmatism. They have also been suggested in cases of muscle imbalance, and in other cases where difficulty is experienced with ordinary glasses. They cost about £5 each wholesale. In Vienna I saw six hospital patients wearing them with satisfaction. They were prescribed even in cases of chronic ulceration of the cornea which had just healed. Instead of irritating the cornea, as one would have expected, they actually protected it from recurrence of ulceration.



Zeiss's contact glasses.

Müller's contact glasses. They have no corneo-scleral shoulder, and are blown by handiwork

CROSSED CYLINDERS

The crossed cylinders to which I am referring are two cylindrical lenses at right angles instead of the ordinary combination of sphere and cylinder. If a +8 D. cylinder at 90 degrees is combined with a −8 D. cylinder at 180 degrees the effect is that of a +16 D. cylinder at 90 degrees combined with a −8 sphere. In the following case the ordinary sphere and cylinder combination could only bring the vision from counting fingers to 6/36, while the crossed cylinders brought the vision to 6/6; this indicates the possibilities of this method. While admitting the improvement, I would condemn their continuous wear, as they cause so much distortion, except in a very limited central field. On the other hand, they may be of great assistance in investigating other cases.

History of Case

L. T., male, aged 42, salesman. This man was injured in a molten metal accident in 1912. Owing to failing sight he had to give up his work ten years ago. The right eye showed extensive lens changes with much thickening of the anterior lens capsule, but the cataract was not mature. The vision of the right eye was 6/18 (not improved with lenses) and J. 12 with difficulty. The left eye had a corneal opacity covering the nasal half of the pupil. There was pseudopterygium with two strands of adhesion of the conjunction of the lower lid to the globe. The high astigmatism had evidently been caused by the contraction of scar tissue. His left vision was reduced to counting fingers, and was not improved by a mydriatic. The retinoscopy of the left eye was:

$$+9 \quad +-9,$$

and with two crossed cylinders +8 D. cylinder at 10 and −10.5 D. cylinder at 100 the left vision was brought up to 6/9 and J. 1. But owing to distortion he was unable to recognize me with this correction at the other end of the room. With a contact glass, 9 mm. corneal curve and 12 mm. scleral curve, he read 6/6 and J. 1, with a 7 D. sphere. All his astigmatism had disappeared, and he had much more useful vision.

I am indebted to Sir Richard Cruise for his permission to publish this case.

BIBLIOGRAPHY

Fick, A. E.: Eine Contactbrille, *Arch. f. Augenheilkunde*, 1888, xviii, 279.
Von Rohr, M., and Stock, W.: Über eine Methode zur subjektiven Prüfung von Brillenwirkungen, *Arch. f. Ophthalmologie*, 1912, lxxxiii, 189.
Rugg-Gunn, A.: *Lancet*, 1930, ii, 1067.
Heine, H.: Ibid., 1931, i, 631.

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

INTERLOBAR EMPYEMA

Empyema between the middle and lower lobes on the right side is not very common.

The patient in this case was a woman of 40, admitted to hospital. She had, a month before, begun a pneumonia which involved the whole of the right lung and the base of the left. Her temperature, which was 103° F. at first, had come slowly down to 100°, but was never below that at night, and occasionally was higher. She looked very ill. There was an enlarged vein on the right side of the abdomen. The liver could be felt two fingerbreadths below the costal margin.

The right side of the chest moved very little. Resonance was diminished at the apex, and was less every interspace. From the fourth rib down there was complete dullness. Breath sounds were bronchial over the right upper lobe, bronchial with fine crepitations from the second to the fourth space, bronchial and less loud, with no crepitations, in the fifth and sixth spaces, weak, with a few crepitations, below that. Vocal resonance was increased in the third and fourth spaces, but absent below the fifth rib. The right back was dull from the spine of the scapula downwards. Fine crepitations and weak bronchial breathing could be heard from the spine of the scapula right down to the base. In the left chest there was rather puerile breathing, and some crepitations for three inches at the base. The heart's apex was only about half an inch outside normal.

I had a needle put into the fifth space about an inch outside the nipple line in the area where there was still fairly loud bronchial breathing, but vocal resonance had gone. Thick pus was withdrawn. At the operation next day quite a pint of pus was found between the middle and lower lobes of the lung.

Previous cases of this interlobar empyema that I have diagnosed have had very similar physical signs—a compressed middle lobe, with bronchial breathing, fine crepitations, and increased vocal resonance. In the fifth and sixth spaces external to the nipple line, where the empyema is nearest to the surface, and where the needle will strike pus, there is still quite loud bronchial breathing, but an absence of vocal resonance. At the back of the lung, crepitations can be heard down to the base. A rather deceptive point is that the heart is very little displaced, if at all, to the left, though the same amount of pus free in the pleura would displace it considerably. If undiagnosed this empyema may, with luck, open into the general pleural cavity, but more often it bursts into

a bronchus, in which case the patient may die of exhaustion from coughing up pus, or may develop a bronchiectatic condition, or, as in one case, a septic embolus may cause an abscess in the brain.

When operating it is as well to put in a long tube going up towards the hilum of the lung, as there is a considerable tendency for the lobes of the lung to come together and leave a pocket of pus near the hilum.

WALTER BROADBENT, M.A., M.D., F.R.C.P.
Senior Physician to the Royal Sussex County Hospital, Brighton.

SUBARACHNOID HAEMORRHAGE IN A CHILD

Children so often stand on their heads that one regards it as a normal exercise of childhood. The following case illustrates an unusual result. The mother of a girl, aged 10, gave me the following history.

For some time the child had not looked well, but had no definite illness. One morning she was very excited at the prospect of a party in the afternoon. As she has often done previously she stood on her head in an armchair. There was no history of any blow or knock on the head. On arrival at the party she played one game of "musical bumps" and then complained of feeling sick. She was sent upstairs to lie down, and vomited. She took no food at the party. On return home the vomiting continued. The sickness persisted all next day, and at the end of fifty-four hours I was asked to see the child. I found her in bed, complaining of sickness, with severe pain and aches in her back, and especially at the bottom of the spine. Also she had severe headache.

She is "an adenoid child" (tonsils and adenoids had been previously removed), and at this time she had some nasal catarrh. Her intelligence was good, and she was able to describe her symptoms very exactly. I provisionally diagnosed a meningeal type of influenza, and ordered a salicylate mixture. Next day I noted slight head retraction and a slight Kernig sign. There was some photophobia, and vomiting of a distinctly cerebral type. Intelligence good. Pain in back the same. Temperature not above 99° F.

On the third day after commencement of my attendance the head retraction became marked, also Kernig's sign and the photophobia. Pain in back less, but headache severe. No blurring of intelligence. Examinations of optic discs and ears were negative. I decided that it was time to perform lumbar puncture, and before doing so asked Dr. Lister to see the child. He agreed with me as to the need for a lumbar puncture, and she was removed to a nursing home. The provisional diagnosis was now probably onset of tubercular meningitis; but the very intelligent way in which the child described her symptoms made me reluctant to accept this diagnosis; I preferred to think the standing on the head had something to do with her condition. In the afternoon the lumbar puncture was done by Dr. Lister. The cerebro-spinal fluid showed blood uniformly, and we were able to make a diagnosis of subarachnoid haemorrhage of base of brain. Dr. Wordley examined the fluid and found no organisms, only blood distributed uniformly throughout it.

The progress to recovery was rapid. The patient had two severe attacks of nose-bleeding on two subsequent days. Headache and photophobia disappeared within two days, and all head retraction by the end of the third day. Within a week she was able to return home completely recovered, and there have been no after-effects.

MABEL L. RAMSAY, M.D., F.R.C.S.ED.,
Consulting Surgeon Gynaecologist, City Hospital and Public Dispensary, Plymouth.

OVARIAN PREGNANCY

On April 4th, 1931, a woman, aged 35, married for twelve years, who had never been pregnant, was seized with abdominal pain at 10 p.m. She was seen at her cottage in the country an hour later and found to have severe pain over the lower half of the abdomen, but was more tender and rigid in the left flank and iliac fossa. Her temperature was normal, pulse 78. She was brought into hospital forthwith and given one-third of a grain of morphine. Her condition being good and the diagnosis not clear, it was decided to watch her; the tentative diagnosis was either twisted ovarian cyst or ruptured ectopic pregnancy. Next morning her condition was good, temperature normal, pulse still 78; moderate tenderness and rigidity on left side as before. Examination showed an area of shifting dullness on the left side. Vaginal examination showed that there was no discharge, but the left fornix was full, and somewhat tender.

Menstruation had been quite regular all her married life, but her last period, which had come on a fortnight previously, was one week late; otherwise it was normal, lasting a week and clearing off a week before the attack of pain.

On the diagnosis of ruptured ectopic gestation, she was opened. The abdomen was half full of blood, the uterus was slightly enlarged, and both tubes were normal; but the left ovary was a good deal enlarged, congested, and had a ragged rent about one and a quarter inches long. The specimen was sent to Professor Tanner Hewlett, who reported as follows:

"The greater part of the ovary is occupied by a cyst the size of a walnut. . . . At the 'tube' end of ovary a haemorrhagic area is present, and sections show fibrous tissue and haemorrhages, together with large degenerate cells. These, I think, are decidual cells, and the condition therefore is one of ovarian pregnancy."

Two years ago I had a very similar case in which the signs and symptoms of early pregnancy were present, and the sudden onset of pain with acute abdominal symptoms, combined with the discharge of blood from the cervix, compelled the diagnosis of ruptured ectopic gestation. At operation the abdomen was full of blood, the uterus somewhat enlarged, both tubes normal, but one ovary was much enlarged, with a ragged bleeding tear in it leading to a cavity the size of a small walnut. It seemed obvious to my colleagues and myself that this was a ruptured ovarian pregnancy, but on mentioning the case at a discussion following a paper read at a Branch meeting, I was informed by a gynaecologist from a London teaching hospital that ovarian pregnancy was such a rarely recorded condition that this case could not be accepted as such in the absence of a microscopical examination. I regret this was not made, but I was ignorant of the rarity of the condition.

Neither patient gave a moment's anxiety after the operation.

Sherborne, Dorset. T. MACCARTHY, M.R.C.S., L.R.C.P.

Reports of Societies

B.C.G. IMMUNIZATION OF INFANTS

At a meeting of the Section for the Study of Disease in Children of the Royal Society of Medicine on June 9th, with Dr. HUGH THURSFIELD in the chair, Professor A. CALMETTE of Paris spoke on the immunization of infants with B.C.G. In introducing Professor Calmette, the Chairman said that the honour which he had done the Section in coming to give his address was a very great one. Professor Calmette then accepted a diploma of honorary membership to the Section.

Up to the present, Professor Calmette said, physicians in Great Britain had maintained a conservative attitude towards the use of B.C.G. To-day he hoped to convince his hearers that it lay in their power to suppress the mortality due to tuberculosis among children by means of a safe protective measure. In France B.C.G. vaccine

was distributed freely by the Pasteur Institute, and cultures were readily supplied to foreign laboratories. Since the discovery of the tubercle bacillus by Koch fifty years ago much research had been carried out on the various strains. Most people were spontaneously vaccinated against tuberculosis in early youth by means of frequent exposures to small doses of infection. Children might encounter the tubercle bacillus in their mother's milk, in food, or in dust infected by the secretions of persons suffering from active disease. Happily these repeated infections were usually sufficiently small, and occurred at long enough intervals of time, to permit of the development of resistance, so that the child underwent a process of auto-vaccination. The aim of Professor Calmette and of his veterinary colleague, M. C. Guérin, had been to secure, by artificial means, this sort of immunity, characterized by resistance to superinfections of tuberculosis. For this purpose it was useless to employ tubercle bacilli killed by heat, or bacillary extracts, since neither exhibited immunizing power. Nor was it possible to use spontaneously attenuated cultures, because of their tendency to recover virulence. Nevertheless, it was fully appreciated that only living bacilli would be efficacious in producing a lasting immunity, and it was in an attempt to isolate a strain of hereditarily and fixedly avirulent tubercle bacilli that Professor Calmette and M. Guérin had begun their researches nearly thirty years ago. Such a strain, they realized, would have to be comparable with Pasteur's anthrax vaccines, the bacilli producing tuberculin in artificial culture media, and having lost none of their antigenic properties in spite of their avirulence.

They had begun, Professor Calmette said, by injecting calves intravenously with attenuated cultures of the human type of bacillus, but it was found that when these calves later became milch cows a certain number of bacilli were secreted in the milk, constituting a possible source of danger to children. An attempt was also made to isolate a suitable strain by using the types of tubercle bacillus affecting birds, and even cold-blooded animals such as snakes and tortoises; but none of these was satisfactory. Eventually, by 230 passages on a highly alkaline lipoid-containing culture medium prepared with pure ox-bile, a strain was obtained which could be harmlessly used on cows, either as an inoculation or as an injection. After inoculation the animals showed resistance to the injection of virulent tubercle bacilli. This strain was known to-day as bacillus Calmette-Guérin, or B.C.G. The war had interrupted their researches, but when peace was declared they had been able to resume them. It was found that if newly born calves belonging to a herd of cattle infected with tuberculosis were inoculated with B.C.G., they could then mix with the herd without danger of contracting the disease. Professor Calmette and M. Guérin had then transferred their attention to monkeys —animals which are particularly liable to tuberculosis. The experimental monkeys were divided into three groups, of which those in the first group were inoculated with B.C.G., those in the second were infected with virulent tuberculosis, and those in the third group were left unmolested. All the animals were kept in the same cage. At the end of two years all those in the first group were alive and well; all those in the second group were dead and had been replaced by other infected monkeys; and of those in the third group four had contracted tuberculosis, and only one had escaped infection. Now convinced that B.C.G. was harmless to monkeys, the experimenters had wished to transfer their investigations to a human subject. An opportunity had arisen when a child came under their observation whose mother had died of tuberculosis two hours after the child was born; the grandmother, who was also infected, had charge of the baby. Although convinced that B.C.G. was safe, it was not without misgivings that they had undertaken the immunization of this child, but they had been finally brought to a decision by the thought that in such an environment the chances of its survival were otherwise negligible. Immunization was actually begun within a few days of birth, and now, after ten years, the child was alive and healthy: the grandmother had succumbed to tuberculosis two years previously. After making this first experiment Professor Calmette and his colleagues had realized that it was practicable to vaccinate children against tuberculosis by exposing them to an inoffensive infection as early as possible after birth, before they had been attacked by a virulent organism. Between 1921 and 1924 a small group of children, numbering 317, most of them born into tuberculous or suspected families, were vaccinated, with such encouraging results that in July, 1924, the Pasteur Institute had decided to put the B.C.G. strain at the disposal of any laboratory or physician desiring to study its effects. Since then research work involving the vaccination both of calves and of infants had been undertaken in many countries. The perfect innocuousness of B.C.G. had been established everywhere. A few authors, including Petroff, Watson, and Dreyer, had expressed doubts of the complete harmlessness and fixity of the strain, but a vast amount of experimental research work in laboratories throughout the world had proved that such doubts were founded on technical errors. It must be remembered that all vaccines made from dead organisms were mild and feeble, and the immunity they produced fleeting and brief. Only vaccines made from living organisms were efficacious. In a consideration of B.C.G., not only its innocuousness, but its efficacy, must be taken into account. During an examination of the effects of vaccination with B.C.G. carried out on a large number of children both of healthy and of tuberculous parents, it was found (*a*) that the infantile death rate due to tuberculosis among those vaccinated fell almost to zero, and (*b*) that the general mortality of vaccinated children notably diminished. It was not true to suggest that the vaccinated children were better fed or more carefully supervised than those who had not been vaccinated; analysis of the results by an impartial statistician had shown that no such error was operative. The fall in the general mortality suggested that the vaccinated children resisted disease better than the non-vaccinated, and possibly indicated the development of a non-specific immunity. In learning to resist B.C.G. the mesenteric glands had possibly developed their power of dealing with other organisms. In France 336,000 children had been inoculated up to May 1st, 1931, and there were now more than a million vaccinated children in the world: no accidents had occurred. The method produced the same resistance against virulent infections as a small fortuitous virulent infection, but without the same danger. The adoption of B.C.G. vaccination in all countries was desirable as a social measure against tuberculosis. The Pasteur Institute had put B.C.G. cultures gratuitously at the disposal of all the sanitary services in the world, thus enabling such services to prepare the vaccine, to distribute it free of cost, and to control its use. Professor Calmette hoped very earnestly to see English physicians become partisans of B.C.G.

In proposing a vote of thanks to Professor Calmette, Dr. ROBERT HUTCHISON said that conservatism had been carried too far in England in allowing the B.C.G. method of immunization to go so long without trial. The meeting had been sincerely impressed by Professor Calmette's clear and brilliant address, and he trusted that the method would now receive the attention in this country which it deserved. The vote of thanks was seconded by Sir W. DALRYMPLE-CHAMPNEYS.

STATE CONTROL OF THERAPEUTIC SUBSTANCES

At the annual meeting of the Fever Hospitals Medical Service Group of the Society of Medical Officers of Health, on June 12th, with Dr. SUTHERLAND in the chair, a paper was read by Mr. PERCIVAL HARTLEY, D.Sc., of the Standards Department, National Institute for Medical Research, on State control of therapeutic substances.

Dr. Hartley described the various therapeutic substances which came under the Therapeutic Substances Act, 1925, and pointed out that nearly all of them had certain properties and characteristics in common. The substances were markedly and sharply specific ; many of them were potentially very dangerous if improperly prepared, inaccurately standardized, or administered in an inexpert way, and, further, if the full benefit of their use was to be secured, the dosage must be precise, the practitioner must be able to adjust the dose to the condition of his patient and apply quantitative methods in his practice. In the short history of diphtheria prophylactic quite a series of misfortunes had been recorded in other countries, *some of them due to errors in manufacture, others to* mishandling of the product after it had been made. This country had benefited by the unfortunate experience of others, and he believed, thanks to the co-operation of many manufacturers, and to a certain extent to the application of the Therapeutic Substances Act, the possibility of accident from diphtheria prophylactic had now been reduced to vanishing-point. At an early stage in the study of these agents, it was clear that the amount of a particular substance must be accurately measured, otherwise there were no means of comparing the results of study in different laboratories, much less in different countries. It had proved possible to establish systems of measurement in this field of therapeutics. Practically all these substances had some specific distinguishing biological property. The laboratory worker found that definite quantities of these substances produced definite effects, and these were quantitative, some of them very sharply so. On this basis it had been possible to establish biological standards serving the same purpose as similar standards in physical science. A unit of biological measurement could be defined as the specific activity contained in a certain weight of the standard preparation. Standards, units, and systems of measurement had now been evolved for a great many of the therapeutic substances under discussion, and slowly their number was being increased. These standards were not merely national ; thanks to the League of Nations, international agreement had been secured in many cases.

The Therapeutic Substances Act was administered by regulations, the framing of which was carried out with very great care. First the regulations in countries where State control had been in existence were critically examined and adapted to British needs. The best expert opinion was sought on every point of importance. After three years' experience it was thought that some alterations might be necessary, and all the licensees under the Act were circularized and invited to make criticisms, but on no really large or prominent point was any modification asked for, showing that the first drafting of these important regulations had been well done. The licensing authority under the Act was charged with many important functions. If products of home manufacture alone had to be dealt with the problem would have been greatly simplified, and a supply of material of unimpeachable quality and purity would have been ensured by simpler methods. To ensure a uniform standard for the products of other countries presented no little difficulty, but a way of solving the problem had been found. In England the importing agent, not the foreign manufacturer, was licensed, and was made responsible for the foreign manufacturer's compliance with the regulations. This involved a good deal of inspection abroad and testing of foreign products at home. During the past year several import licences had been cancelled because of failure to satisfy the regulations in the matter of quality. A very important part of the licensing authority's duty was the inspection of premises and the examination of the finished product. It was impossible to examine samples of every therapeutic substance which went into circulation in this country ; regional medical officers, therefore, were asked to make a collection of a particular kind of material which the authority thought should be examined. This material was examined, as to labelling at the Ministry, and for potency, sterility, and so forth at the control laboratory. Last year 555 collected specimens were examined, covering practically all standardizable materials distributed under the Act. With regard to diphtheria antitoxin, fourteen samples were found below strength or otherwise not complying with the regulations, and as a result two foreign licences were withdrawn. Vaccine lymph needed careful control. As prepared for sale in this country, it must be free from gas-producing anaerobes and from haemolytic streptococci, it must contain less than a stated number of living visible micro-organisms, and must pass a test for potency. It was found last year that seven samples of vaccine lymph on one or other ground failed to reach the standard required. Appropriate action was taken, and in another case less drastic action was taken, the manufacturer being allowed to go on with the production of the substance, but required to submit samples of each batch to the Ministry before distribution. Two samples of pituitary extract failed to reach the standard, but these cases were dealt with short of withdrawal of licence. With regard to sterilized surgical ligatures, it was decided after long discussion that sterilized catgut should be controlled under the Act. A number of unfortunate happenings had occurred, chiefly in Scotland, owing to contaminated catgut, and the need for control was recognized. The manufacturers themselves agreed. Last year 138 varieties of catgut available for use by surgeons in this country before the Act became operative in respect to this subject were examined, and 42 were found to be contaminated. Nine applications were received for manufacturers' licences in England, and after tests and examinations of premises, only six were granted, and there were seven applications for import licences, of which five were granted.

Dr. R. A. O'BRIEN said that the prospect of the Act was at first somewhat alarming to those connected with production, but in operation it had proved welcome, and the Government staff deputed to carry out its provisions had been helpful in every way. He hoped that the Act would eventually deliver the industry from irresponsible standards. It was very disconcerting to find, with a certain substance alleged to have a standard value, that the people responsible for the standardization had altered the value of their original standards. The Act had also discouraged a certain specious accuracy. People had been too ready to talk of " units," and to imagine that that magical word meant that a standard of accuracy had been already attained.

Dr. E. W. GOODALL, Dr. J. D. ROLLESTON, and Dr. A. JOE added a few comments, all in commendation of what had been effected under the Act, and Dr. HARTLEY, in reply, paid a tribute to the people in this country who, prior to the Act, were working on this subject in the producing laboratories. One reason for legislation was that the superstructure which they had erected in England ought not to be jeopardized by the possible introduction of therapeutic substances of inferior quality.

Reviews

PIERSOL'S TEXTBOOK OF ANATOMY

Piersol's Human Anatomy[1] was first published twenty-four years ago, under the editorship of Professor G. A. Piersol of the University of Pennsylvania, with the help of half a dozen collaborators. Of the latter, only one now survives—as emeritus professor. The work of the original editor and his collaborators has been well rewarded by a popularity which has led to the production of successive editions. Now the ninth edition has appeared, under the supervision of Professor HUBER of the University of Michigan. One of the chief points of difference between this new edition and its predecessors is the consistent adoption of the B.N.A. nomenclature. The abandonment of what is usually called the "old nomenclature" in anatomy has become inevitable, in spite of the protestations—now growing less audible—of the older British anatomists. But we may perhaps, in passing, express the opinion that it is now time to revise the B.N.A. nomenclature in order to replace some of the cumbrous and misleading terms which are to be found therein. A few changes have been made in the revision of parts dealing with the histogenesis of the blood elements and the embryological development of certain systems concerning which views have changed during recent years. In the section devoted to the central nervous system the supervisor has had the invaluable assistance of Miss Crossby. This investigator has in the last few years completed a vast amount of detailed and laborious study on the comparative anatomy of the brain in vertebrates, and her work has been published in a number of voluminous papers in American journals. The reader may be certain, therefore, that the details of neurological anatomy in Piersol's textbook are dealt with in an accurate and comprehensive manner.

Of the text generally we have no criticism to offer. Perhaps it may be considered rather too long for the purpose of the average medical student (it runs into over 2,000 pages), and the volume certainly reaches the utmost limit in bulk for convenient use. The illustrations, we think, are not in keeping with the high standard of the text. They often lack the precision and clear simplicity which are so necessary for the production of successful anatomical figures. This is evidently due in part to the printing, as is apparent especially in the case of the coloured illustrations. It is unlikely that Piersol's *Anatomy* will be a competitor with Gray and Cunningham for the favour of medical students in this country. On the other hand, its comprehensive treatment of the subject in general, and the authoritative accounts given in sections such as that on the nervous system, render it an invaluable reference book to all those who may be primarily or secondarily interested in the science of human anatomy.

ANATOMICO-CLINICAL DIAGNOSIS OF DISEASES OF THE BREAST

The pupils of the late Professor Paul Lecène have dutifully arranged to bring out in a series of five monographs the material which their chief had for ten years been preparing for his *Les Diagnostics Anatomo-Cliniques*,[2] the first volume of which deals with general principles and diseases of the breast, by Dr. P. PAVIE and Dr. P. MOULONGUET respectively. It begins with a reproduction of some ten pages of Lecène's original manuscript of the preface. In discussing what the surgeon ought to learn from laboratory investigations, Dr. Pavie points out that Lecène regarded clinical, operative, and careful naked-eye examination as being supplemented by microscopical examination, which should be regarded as the fourth in the process of scientific investigation. In the section on the method of biopsy, stress is laid on the importance of sending to the laboratory with the specimen adequate clinical and anatomical details, and it is stated that without some information of this kind a conscientious morbid histologist should decline to give a report.

Nearly three-quarters of this finely illustrated volume is devoted to diseases of the breast, in which acute and chronic infections, dystrophies (such as hypertrophy), multiple cystic disease and adeno-lipoma, innocent and malignant new growths, and fat necrosis are described. The section on tuberculosis of the mamma points out the various aspects which this infection may present, the form simulating a galactocele being figured; Lecène never met with the non-suppurating sclerosing form which imitates cancer, but elsewhere an illustration of the combination of the two is given. Galactocele is included under the infections, as Lecène and Chifoliau showed a quarter of a century ago that it is due to subacute or chronic inflammation of the mamma. Lecène never saw an example of tertiary syphilis or of actinomycosis of the breast; but, as shown in a figure elsewhere, a necrotic carcinoma may simulate a gumma of the mamma. "Paget's disease of the breast," is preferable to the title "Paget's disease of the nipple," because, in Lecène's experience, the skin changes are always accompanied by lesions in the ducts in the substance of the breast, and further, as Lenthal Cheatle has shown, these changes in the ducts may occur without any alteration in the nipple. Fat necrosis, well shown in two coloured plates, is relatively frequent in fat women after injury, and, as it forms an ill-defined hard lump, adherent to the skin, may give rise to difficulty in diagnosis from malignant disease. This article, for which Dr. P. Moulonguet is responsible, is full of interesting information.

EXAMINATION OF THE LUNGS

The chapters in *The Physical and Radiological Examination of the Lungs*[3] embody the teaching given by Dr. CROCKET to his students at Glasgow University. It is nine years since the first edition was published, and the second is to a large extent a new book. Even the title has been altered. Two new methods of examination have been described and advocated in the intervening years—bronchography and bronchoscopy. The technique and results of the former are well described and illustrated. The latter is not dealt with, but its value is scarcely recognized in this country.

The various other methods of examination are described in detail, and stress is laid on the value of inspection of the patient, an important part of the routine examination so often neglected. The section on radiology is admirably illustrated by numerous radiograms. A chapter on the methods of examining a case gives to the student a systematic routine procedure for dealing with any patient presenting pulmonary symptoms. This will obviate the likelihood of anything important being missed when endeavouring to form an opinion and make a diagnosis. The author has wisely again included a well-illustrated chapter on the examination of the larynx.

---

[1] *Piersol's Human Anatomy*. Ninth edition, revised under the supervision of G. Carl Huber, M.D., Sc.D. London: J. B. Lippincott Co. 1931. (Pp. xx + 2,104; 1,734 figures. 45s. net.)

[2] *Les Diagnostics Anatomo-Cliniques de Paul Lecène*. Recueillis par ses élèves. (i) Généralités, par P. Pavie; (ii) Lésions du sein, par P. Moulonguet. Paris: Masson et Cie. 1930. (Pp. xi + 189; 92 figures, 2 plates. 45 fr.)

[3] *The Physical and Radiological Examination of the Lungs*. By James Crocket, M.D., D.P.H., F.R.C.P.Ed. Second edition. London: H. K. Lewis and Co., Ltd. 1931. (Pp. x + 286, 151 figures, including 40 plates. 16s.)

Without such an examination an investigation of the chest cannot be regarded as complete, particularly if pulmonary tuberculosis is suspected. The larynx is so intimately associated with the respiratory apparatus in its functions and its diseases that the omission of such a chapter would have been a mistake. An unusual feature is the thirteen-page glossary of terms and signs used in the physical examination of the lungs, which forms an appendix. It is usually difficult to find definitions of terms used in medical literature generally, and in connexion with diseases of the lungs in particular. It is a pity that so many signs and areas should still bear the names of the men who first described them. Such names as Troisier's sign (enlargement of the supraclavicular lymph glands), Burns's space (suprasternal), Damoisseau's sign and Ellis's line (the curved upper limit of a pleural effusion), and Mohrenheim's fossa (infraclavicular) are unnecessary and confusing, and might well disappear from modern textbooks.

By a curious convention the author has written this book "with special reference to tuberculosis and silicosis," and chapters are devoted to these diseases, while other important pulmonary diseases such as pneumonia, pleural effusion, bronchitis, and pulmonary neoplasm are scarcely mentioned. Since the book is primarily intended as a manual on the examination of the lungs for students, it is perhaps a little unfortunate that the author has allowed himself to particularize in this way, despite the great importance of the two diseases he has picked out.

PHARMACOLOGY OF QUININE

Quinine in general practice with regard to pharmacological knowledge,[4] by Dr. F. JOHANNESSOHN, is a monograph of 232 pages published by the Amsterdam Bureau for the Encouragement of the Use of Quinine. The author describes shortly the history, mode of preparation, and chemistry of quinine, but most of the volume is occupied by a discussion of the pharmacological actions and therapeutic uses of quinine and of quinidine. He explains in the preface that his purpose is to give an account of the actions exerted by quinine on the body as a whole, rather than an account of its specific action on the malarial parasite. In accordance with this intention he has provided a full description of the pharmacology and therapeutic uses of quinine and quinidine, and there is also a useful bibliography. Relatively little is said regarding the action of quinine in malaria, for this subject occupies only eight pages; moreover, in the section on quinine poisoning only two pages are given to blackwater fever. The book provides a full account of our knowledge of the general pharmacological actions of quinine, a subject that is often unduly neglected on account of the dominating interest of the problems relating to its specific action in malaria.

THE V.A.D. IN THE WAR

Four Years Out of Life[5] is an interesting account of the experiences of a V.A.D. worker during the war. It is an eminently human document, written in a light and entertaining fashion, without a single dull page. Its easy, clear descriptions contain much of a thoughtful nature beneath their bright exterior. Of the various combatant and non-combatant services, none emerged from the crucial test of war with a higher credit than the Volunteer Aid Detachments. Many of the girls who composed these units were brought up to regard tennis and garden parties as the important things of this life. Yet when the war broke out they realized what was at stake, and rose magnificently to the occasion. Less instructed and less practised than their sisters in the nursing services, they were none the less willing. Many had led careful, sheltered lives, which were a poor preparation for the stern realities of war. They were ready to perform any menial and unpleasant duty and to fill any subordinate position without hesitation and complaint. By their high endeavour and achievement they earned for themselves an honourable place among the forces of the Crown. These things are not insisted upon in the breezy pages of LESLEY SMITH'S most readable book: they are taken as a matter of course. She describes with a sure touch the routine of duty in a base hospital, the arrival of convoys of wounded and sick, the activities of the operating teams, and the hard, grinding toil of the sisters, whether trained or untrained. The vicissitudes of the weather, the unpleasant attentions of the German bombers, the cold and wet and the sad sameness of the mess-room meals, are all set down. In her constant subdued protest against the matron type of official, she reveals herself a rebel at heart. This does not appear to have affected her efficiency as a nurse or to have lessened her interest in her work. Soldiers who spent most of the war up the line, remote from hospitals, may be permitted to indulge a faint surprise at the wealth of lurid language those ministering angels are described as using. Is this, on the authority of Lesley Smith, to be accepted as correct? One wonders if it has not been perhaps too much dwelt upon in the pages of an otherwise thoroughly readable book, which shows unusual faculties of observation and powers of description.

CRIPPLED CHILDREN

Dr. EARL D. MCBRIDE of Oklahoma has prepared a guide for the help of nurses, masseuses, and other non-medical persons who may have the care of cripples. Nothing can take the place of first-hand practical instruction and demonstration by the orthopaedic surgeon, but such a vade mecum as *Crippled Children*[6] should be of considerable use for reference, or to refresh the memory. Although the treatment of deformities by operation is beyond the scope of nurses and social workers, some knowledge of the nature of operative proceedings improves the intelligent carrying out of post-operative measures and enhances interest in progress. Dr. McBride includes harelip and cleft palate in the crippling deformities of children, and gives indications of the operations needed for their relief. In discussing spastic paralysis he does not, in our opinion, give enough credit to Stoffel's operation, which many surgeons have found so useful when judiciously planned and performed. Royle's operation is not yet established in the position of a practical means of treatment. More might have been said, when discussing infantile paralysis, of the frequency and importance of paralysis of the muscles of the abdomen and trunk. The condition of the abdominal muscles is apt to escape detection when interest is centred on the more striking palsy of the lower limbs. The hints as to the fitting, application, and care of the Thomas knee splint are of practical value, and should be taken to heart by all who have to do with it. The chapter on plaster-of-Paris technique should also be useful.

[4] *Chinin in der Allgemeinpraxis.* Von Dr. med. Fritz Johannessohn. Amsterdam-W.: Bureau Tot Bevordering van Het Kinine-Gebruik. 1930. (Pp. 232; 3 plates. Sent, free of charge, to medical men, on request.)

[5] *Four Years Out of Life.* By Lesley Smith. London: P. Allan. 1931. (Pp. 302; illustrated. 12s. 6d. net.)

[6] *Crippled Children.* By Earl D. McBride, B.S., M.D., F.A.C.S. London: H. Kimpton. 1931. (Pp. 280; 159 figures. 15s. net.)

ELEMENTS OF PHYSIOLOGY

Professors SCARTH and LLOYD, who hold chairs of botany in McGill University, have written a very interesting *Elementary Course in General Physiology*.[1] The book is divided into two parts, the first dealing with principles and theory, the second giving laboratory exercises. It is hoped that the work will serve as an introduction to the analysis of physiological processes in terms of physical and colloidal chemistry; it is especially intended for the use of students of medicine, biology, and plant physiology. The general plan adopted is to discuss the various processes in purely physical systems and then to consider their possible application to living cells. After an introductory chapter on the structure of the cell, various surface phenomena are discussed, and their importance is brought out prominently by the statement that there are 30,000 square metres of internal surface in the body. Surface tension is carefully dealt with—its cause, its relation to shape of cells, to protoplasmic movements, to ingestion and excretion by unicellular organisms, and the light it throws on the phenomena of leucocytosis; absorption is considered equally fully, and reference is made to the action of narcotics, to catalysis, and to post-mortem and vital staining. Chapters follow on osmosis and diffusion (in which problems of cell permeability are gone into), on H-ion concentration, on bioelectric potentials and currents, colloids, and enzymes. Throughout great pains are taken to make clear how the physico-chemical processes under discussion illuminate physiological problems.

This book will well repay careful study, especially by those who have not received a thorough grounding in physical chemistry. A good deal of the material dealt with and the exercises described might with advantage be brought into the regular medical curriculum. This would be a more useful branch of study than much of the inorganic and organic chemistry which is so widely taught at present, and could very well replace it to a large extent.

NOTES ON BOOKS

In writing *A Survey of Physics*[2] Professor FREDERICK A. SAUNDERS of Harvard University has endeavoured to steer a middle course between the popular presentation and the textbook for advanced students. His aim is to encourage "a thoughtful consideration of the subject by a choice of problems dealing with common things, but often in such a way that they cannot be solved by mere substitution in a formula." He uses elementary mathematics where necessary, but all the trigonometry needed for this book is summarized in a page and a half at the end. The letterpress is clearly written and clearly printed, and the illustrations are well chosen.

Having assumed personal responsibility for the first nineteen editions of his *Materia Medica, Pharmacy, Pharmacology and Therapeutics*,[3] Sir WILLIAM HALE-WHITE handed over the task of revision to Dr. A. H. DOUTHWAITE, and we now welcome the appearance of the twentieth edition of this deservedly popular handbook, whose features are too well known to need description. The general arrangement and style have been preserved, and brief additional notes inserted in order to bring the work into line with present-day knowledge. Among the new paragraphs in this edition are notes on ephedrine, quinidine, novarsurol, avertin, treatment by liver and gastric tissue, lipiodol, sodium tetraiodophenolphthalein and urosolectan, and Collip's parathormone. The vitamins also receive brief mention.

It is scarcely two years since we noticed the third edition of ASHHURST'S *Surgery, its Principles and Practice*, and now a fourth has been published,[10] testifying to the popularity of this general surgical textbook among students and practitioners in America. There is evidence of careful revision throughout the letterpress, and a good deal of new matter has been added at various places, including a number of new illustrations. Dr. Ashhurst's work as professor of clinical surgery in the University of Philadelphia has made him familiar with the everyday needs of his pupils and with the paramount necessity for broad foundations in the teaching of surgery. Among the subjects treated more fully in this new edition of an excellent book are rectal and spinal anaesthesia, injection treatment of varicose veins, hyperthyroidism, peptic ulcers, and tumours of the sympathetic nervous system; but it seems curious in a volume of nearly 1,200 pages to find only a paragraph of twelve lines on the therapeutic use of radium.

The thirty-fifth supplement[11] of *Acta Medica Scandinavica* consists of an essay by Dr. ALEXANDER JAROTZKY, professor of clinical medicine at Moscow University, on the dietetic treatment of gastric and duodenal ulcer based on the work of the Russian School of Physiology. The author holds that the principle in the rational treatment of hypersecretion and peptic ulcer is the avoidance of mixtures of fat and albuminous substances of animal origin. Several illustrative cases are recorded, and the details of suitable diet for subjects of peptic ulcer are given. An extensive bibliography is appended.

In his work on the *Social Control of Sex Expression*,[12] which is appropriately dedicated to Professor Edward Westermark, Mr. GEOFFREY MAY has made an interesting study of the control exercised by Anglo-American law over voluntary sex expression. The work is divided into three parts. In the first the author successively considers sexual repression among primitive peoples, the ancient Hebrews, and the early Christians. The second part, which is devoted to the periods from the Anglo-Saxon in English law, covers the periods from the Anglo-Saxon times down to the present day, special attention being given to the Puritan era and the Restoration. The last part deals with the doctrine in Anglo-American law in pre-revolutionary America and at the present day. A useful bibliography is appended. The author comes to the conclusion that while the methods of legal control of sex expression have varied widely throughout American history, the doctrine of sexual morality itself has not varied at all.

The eighth volume of *Proceedings of the University of Otago Medical School*[13] reproduces six papers published in medical and scientific journals between July, 1928, and October, 1930. The editor is Professor D. W. CARMALT JONES.

To the medical man, already overburdened with the terminology of his own profession, the *Illustrated Encyclopaedia of Motorcar Parts and Technical Terms*[14] will be welcome. It is the "Pocket Gray" of the car.

---

[1] *An Elementary Course in General Physiology*. By G. W. Scarth; Part I: Principle and Theory. By G. W. Scarth; Part II: Laboratory Exercises. By F. E. Lloyd and G. W. Scarth. New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd. (Pp. xxi + 258; 66 figures. 12s. 6d. net.)

[2] *A Survey of Physics*. By Frederick A. Saunders. London: G. Bell and Sons, Ltd.; New York: H. Holt and Co. 1931. (Pp. x + 635; illustrated. 14s. net.)

[3] *Materia Medica, Pharmacy, Pharmacology and Therapeutics*. By William Hale-White, K.B.E., M.D., LL.D.Ed. Twentieth edition, revised by A. H. Douthwaite, M.D., F.R.C.P. London: J. and A. Churchill. 1931. (Pp. viii + 712. 10s. 6d.)

[10] *Surgery, its Principles and Practice*. By Astley Paston Cooper Ashhurst, M.D., F.A.C.S. Fourth edition, thoroughly revised. London: H. Kimpton. 1931. (Pp. xi + 1,189; 1,063 figures, 15 plates. 45s. net.)

[11] *Diätetische Behandlung des runden Geschwürs des Magens und des Duodenums*. Von Dr. Alexander Jarotzky. *Acta Medica Scandinavica*, Supplementum xxxv. Stockholm: Aftonbladets Tryckeri. 1930. (Pp. 114.)

[12] *Social Control of Sex Expression*. By Geoffrey May. London: George Allen and Unwin, Ltd. 1930. (Pp. xi + 245. 12s. 6d. net.)

[13] *Proceedings of the University of Otago Medical School*. No. 8. 1931. Edited by D. W. Carmalt Jones, M.D., F.R.C.P. Dunedin, N.Z.

[14] *Illustrated Encyclopaedia of Motorcar Parts and Technical Terms*. London: *The Motor*. 1931. (Pp. 24; illustrated. 6d.)

THE EFFECT OF RESEARCH ON CURATIVE MEDICINE

STEPHEN PAGET MEMORIAL LECTURE BY DR. H. H. DALE

At the annual meeting of the Research Defence Society on June 10th, with Lord LAMINGTON in the chair, the fifth Stephen Paget Memorial Lecture was delivered by Dr. H. H. DALE, F.R.S., whose subject was "The effect of research on curative medicine."

THERAPEUTICS AND EXPERIMENT

After an eloquent tribute to Stephen Paget, Dr. Dale said that, looking back over the comparatively short period of some thirty years which had elapsed since his own student days, he got the impression of a remarkable change in medicine. At the close of the last century the new knowledge that experiment had given was only beginning to make its way into the therapeutic aspects of medicine. Treatment then still largely depended on the administration of drugs, the use of which was based on tradition and empirical observation. He would not, for that reason, include them all in a hasty or general disparagement. Some of the old remedies held their own to-day, and with increasing value as experiment had shown the manner of their action and provided a rational basis for their use. There were many others, however, which were given without any real conviction of their value; the most that a weary scepticism expected of them was that they would not obstruct a tendency to cure by natural process. In striking contrast to this pessimism with regard to much of the older therapeutics was the clear conviction concerning the value of the few remedial agents which had already then come into general medicine through the work of the research laboratories. The physician who had known myxoedema as an incurable condition before Horsley's work and Murray's application of it did not give thyroid gland to such a case now with a feeling that it might do good and that it would in any case be harmless, but gave it with a knowledge of its practically certain efficacy. The physician in the isolation hospital who had had the heartbreaking experience of trying to cope with diphtheria in the days before antitoxin did not now give antitoxin with a feeling that it was at least harmless; he gave it with the knowledge that, if the case came early under treatment, the antitoxin would almost certainly effect cure.

Those were examples of therapeutic agents the remedial action of which had not been discovered by chance observation, like that of the older medicines, but had been arrived at by the logical process of experiment. Since those days the number had grown steadily. The example of insulin was already almost too familiar, but it had become so because of the dramatic change it had effected in the outlook of the sufferer from diabetes. Dr. Dale took another chemical substance produced by artificial synthesis, and chosen after laborious trial of many, as the one supremely efficient in attacking the infective microbe of syphilis. Its discovery would have been unthinkable without experiment on animals artificially infected. All the modern effort to control this scourge of human folly and to save the innocent from the danger of its contact would be crippled if salvarsan and its derivatives were no longer available.

He could multiply examples of the new potent remedies which the experimental method had given to medicine, but what he wanted to emphasize was the effect of research not only in producing new remedies, but in putting old ones to their proper use. He gave the example of ipecacuanha, the value of which had been enormously enhanced by experimental research. To anyone who knew the facts it was unthinkable that, without experiments on animals, there would have been obtained the clear knowledge now available concerning the parasites causing the different dysenteries. At the proper stage this method of experiment was essential. In due course, however, it led to a process of cultivating the dysentery amoeba artificially outside the human or animal body. His colleagues Dobell and Laidlaw, at the National Institute for Medical Research, had so perfected the process that this artificial growth of the amoeba on a dead medium could be continued indefinitely. The efficacy of ipecacuanha alkaloids in stopping the growth of this cause of tropical dysentery could now be demonstrated in a test tube. He begged his audience to think what that might mean for further progress. New substances likely to have a curative action on amoebic dysentery could now be given a first trial without the use of experimental animals, other than the amoeba itself. Let them compare the position which had thus developed under the intelligent use of experiment with that in which a really valuable drug, ipecacuanha, was for centuries used indiscriminately to treat a group of human diseases, on only one of which it had any effect, and was in the end deprived of its only valuable constituents to avoid a minor inconvenience of their action. Could anyone seriously face the possibility that some valuable new remedy might similarly find its true use only after centuries of confusion and misapplication, at an uncounted cost of human pain and sickness unrelieved or aggravated?

STANDARDIZATION OF REMEDIES

Dr. Dale went on to call attention to a particular need for the method of direct experiment in giving precision and safety to the use of many active remedies. In the case of potent vegetable drugs it was often possible, when once the active constituent had been identified, to determine the activity of a sample by an ordinary chemical analysis. When the methods were first found, however, of producing Nature's own remedies against certain infections by rendering a horse artificially immune against the corresponding bacterial poison, and separating from its blood the serum containing the natural antidote, a new problem of standardization presented itself. Such an antidotal substance could not be chemically distinguished from the constituents of an ordinary serum; it could only be recognized and estimated by its power of combining with the bacterial poisons so as to render it harmless; and this neutralization, again, could only be demonstrated by injecting the mixture into a susceptible small animal. On these lines, methods had developed by which the activity of some of these important new remedies could be measured as accurately as some of the older drugs could be measured by chemical analysis. The first of these natural antidotes to which such biological methods of measurement and standardization were successfully applied were the antitoxins against diphtheria and tetanus. Doses of these remedies came to be indicated, not in minims, ounces, or pounds, but in units of accurately measured activity. A new system of dosage, necessitating animal experiment for its indication, thus came into being with the advent of a new class of remedies, and the success of their application had depended very much upon it. As soon as a method had become available for thus measuring the activity of a serum with accuracy it gave rise to a new order of therapeutic usefulness. There were still cases in which the antidotal power of serum could not yet be measured with any approach to accuracy. For want of such methods of measurement the practical value of a serum was seriously compromised. Each new clinical use of an unstandardized remedy was not merely an experiment on man, it was a bad experiment, without adequate data, the result of which would make little contribution to

the general body of life-saving knowledge. Where accurate methods for biologically measuring the activity of one of these natural antidotes already existed, it was a duty, imperative on those concerned in its production, to see that the methods were regularly applied with skill and care; where adequate methods had not yet been found, it was equally the duty of those with opportunity to press on with research whereby such methods might result.

THE EXAMPLE OF INSULIN

Turning again to insulin, Dr. Dale said that there could not be a more striking example of the necessity for animal experiment in the direct biological measurement and standardization of activity of a naturally potent remedy. Without animal experiments the existence of insulin would not have been known; without animal experiments it could not have been, and could not yet be, prepared and tested so as to be safely and effectively used in the treatment of human diabetes. There was no other remedy with which such absolute precision in dosage was needed. The sufferer from diabetes, owing to lack of natural insulin in his system, had excess of sugar in his blood. The exactly right dose of insulin, repeated at proper intervals, would bring the sugar to within normal limits. Too small a dose would leave him with symptoms of diabetes; too large a dose would so empty his blood of its sugar as to produce alarming and even dangerous symptoms of a different kind. Far too little was still known about the chemical nature of insulin to be able to measure it or even detect it by a chemical test; the only way of indicating the strength of an insulin solution was in physiologically determined units. When the strength had thus been correctly determined and indicated, the doctor could adjust the dose to the particular patient's needs with remarkable accuracy, and the patient could go on, day after day, for long periods, taking the same dose. What would happen if these animal tests were omitted or inadequately done? The question had been answered by an actual experience. The obligation to standardize by animal tests was not adequately carried out in the case of a particular make of foreign insulin which appeared for a short time in this country. Reports immediately came in of patients who had relapsed into diabetes because one batch was too weak, or had suffered from dangerous symptoms because another batch was too strong. Samples were immediately tested at the National Institute, and were found to be in the one case weaker and in the other case stronger than the indications on the respective labels. Fortunately, the controlling authority had power to deal with the situation, and no more of such inadequately standardized insulin had been distributed. He asked again whether anybody was so confident in his opinions, so firm in his prejudice, that he was willing to say that regular tests on animals should be abandoned, and to put this forward as a practical proposal to the sufferers from diabetes or their relatives and friends. He added, however, that one kind of improvement which researchers always had in view was the discovery of a test for any of these substances which would enable the activity to be measured without the use of living animals at all. The researchers would much rather use chemical indicators in test tubes, always provided that these would give an equally good guarantee of the safety and effectiveness of a remedy which was to be used in treating the human patient. They would gladly spare the lives of mice, but not at the expense of the lives of men.

RESEARCH AT THE NATIONAL INSTITUTE

In conclusion, Dr. Dale gave some account of the work of the National Institute for Medical Research, and especially referred to the work on ultra-microscopic filter-passing viruses. It was hoped that new methods of study would bring about the result in respect to these viruses that the methods elaborated by Pasteur and Koch had done in respect of the visible bacteria. The discovery of such methods claimed all the patience, ingenuity, scientific experience, and discipline that distinguished investigators could bring to it in all parts of the world. The roll of honour of those who had fallen victims in the quest was a sadly long one, but on the success of such work depended real advance of knowledge concerning diseases as familiar as measles, mumps, chicken-pox, small-pox, so-called sleepy sickness, yellow fever, influenza, and even the common cold, as well as many diseases of domestic animals—foot-and-mouth disease, cattle plague, dog distemper, hydrophobia, and several others. Since the viruses causing these diseases could neither be seen with a microscope nor cultivated outside the living body, to prevent their study and investigation by the method of experiment on living animals would be to prevent their study altogether. The presence of such a virus could only be demonstrated, the quantity of it could only be measured, by experimental inoculation into a living animal. The hope of everybody concerned in such work, and the principal object of their investigations, was the discovery of methods for displaying the virus by some use of the microscope, and for cultivating it on some kind of lifeless medium, so that its nature might be brought under closer scrutiny without recourse at every stage to animal experiment. Hopeful progress in that direction was being made, and at an increasing rate in recent years. At present, however, the abandonment of experiments on animals would mean the practically complete cessation of the study of these deadly diseases, with all that it might afford of life-saving knowledge for men and for the animals themselves. Man's fruitful, conservative, and purposeful experiments would cease, but Nature's vast and destructive ones would continue.

A PERSONAL EXPERIENCE

Following the lecture Dr. R. D. LAWRENCE, who had suffered seriously from diabetes and was now healthy and vigorous after being treated with insulin, gave his personal experience with the remedy. The adult sufferer from the disease had, he said, before the discovery of insulin, the prospect of a living death for, at the most, four years; the average young patient died within two years of the disease being diagnosed, while infants died within two or three weeks of its being discovered, and this despite the best treatment which in those days the profession could offer. As one who had suffered from diabetes, which had once compelled him to give up his work and live for a time on a starvation diet, he was now able to say that he was mentally and physically strong, could work fourteen hours daily, and walk and climb as much as he desired. He felt so strongly about the people who opposed the testing and issuing of insulin that no other term than "well-meaning murderers" was applicable to them, and in that remark he believed he had the support of thousands of fellow subjects of the disease—they could scarcely be called sufferers now.

THE YEAR'S WORK

Viscount KNUTSFORD proposed a cordial vote of thanks to Dr. Dale, which was carried by acclamation. At the business meeting which followed, the annual report of the Research Defence Society was adopted. The society h. exercised itself during the year in securing opposition the Bill which sought to prohibit the expenditure of pu money on research, in the promotion of the standa tion and testing of drugs. Reference was made need for continual vigilance and activity, as in districts of the country an insidious campaign agai advancement of medicine by research was being on without opposition.

British Medical Journal

SATURDAY, JUNE 20th, 1931

INSURANCE SICKNESS CLAIMS

In the *Journal* of May 17th, 1930 (p. 914), there was an article on sickness benefit claims, based on a report (summarized in the *Supplement* of May 10th, 1930) by the Government Actuary on the sickness and disablement experience of a group of approved societies for the years 1921 to 1927. In that article the results set out in the report were described as "somewhat remarkable and disquieting," and it was stated that "some further investigation in certain directions is necessary and is being undertaken." This further investigation has now resulted in a very important memorandum on certification of incapacity for work (Memo. 329/I.C.), issued by the Ministry of Health and the Department of Health for Scotland to insurance practitioners, and a corresponding circular (A.S. 278) issued to approved societies. These publications demand the early and close attention of all bodies and persons concerned with medical certification under the National Health Insurance Acts. It is much to be regretted, however, that the Ministry, before drawing any final conclusions from its investigations, did not submit the facts disclosed to the Insurance Acts Committee for its observations. Previously the Ministry had invited the committee to co-operate in discussing the problems raised by the increase in sickness benefit claims, and the committee had suggested to the Ministry action which it might be useful to take with reference to any possible laxity of certification on the part of insurance practitioners. The committee had every right to expect that this co-operation would continue, and that it would be brought into consultation before any public pronouncement on the subject was made. The Ministry has, unfortunately, preferred to take independent action without reference to those with whom it was supposed to be associated in the consideration of a very difficult matter. Its inferences from the facts may well be disputed, and have far less authority than if they had been agreed findings.

As to the facts themselves there is no dispute. Since the issue of the Government Actuary's report referred to above, it has been common knowledge that between the years 1921 and 1927 there was an extraordinary rise in sickness and disablement claims. The actual figures are worth repeating. As regards sickness benefit the claims of men rose by 41 per cent., those of unmarried women by 60 per cent., those of married women by 106 per cent. As regards disablement benefit the percentage rises were 85, 100, and 159 respectively. The increase was shown to be in the proportion of members claiming, and not in the duration of claims, and to be most pronounced in short illnesses. There was some improvement in the year 1928, but the position in 1929 was substantially the same as in 1927. In 1930 there was again some improvement. Two further inquiries have been undertaken. The first of these was a careful scrutiny of the results of references to the regional medical staff during 1929; the second was an inquiry into the actual physical condition of a representative sample of insured persons in receipt of benefit on May 5th, 1930. The former investigation showed that 58.5 per cent. of those referred ceased to receive benefit as the result of the reference, the proportion among women being much higher than among men, and the proportion for short illnesses much higher than for those of longer duration. The latter investigation showed that the number of final certificates issued on the two days before receipt of notice of reference was 359, while the number issued on the day of notice and the following day was 749. The broad conclusions drawn by the Departments from all these inquiries are that a substantial proportion of insured persons claim benefit who are not strictly "incapable of work" as understood in the insurance scheme; that the proportion is greater in lower age groups than in higher, and in illnesses normally of short duration; that the proportion is greatest in the case of married women within child-bearing age, higher for married women than for the unmarried, and higher for unmarried women than for men.

The checks upon improper claims for sickness and disablement benefit are: (1) medical certification, and (2) supervision by societies. Under the latter are included prompt scrutiny, effective sickness visiting, correct record keeping, with periodical analysis of expenditure among classified groups of members, and adequate and judicious use of the regional medical service. These are all duly emphasized in the circular issued to approved societies, and they should be recognized as collectively of the first importance in checking improper claims. It is interesting to note that the Ministry and the Scottish Department once more call the attention of societies to the facts that "improper statements made by local agents and visitors regarding a member's right to benefit embarrass medical practitioners in dealing with insured persons"; and that "notwithstanding repeated warnings, cases still arise of requests being made to doctors for the issue of certificates on particular days of the week; also cases in which doctors have been requested, at the instance of societies or their representatives, to alter the dates on certificates." "The Departments look to societies to see that effective steps are taken to ensure that their representatives are warned against these practices."

The memorandum to insurance practitioners is concerned with the other check upon improper claims; and the conclusion is that "the main factor in the general increase has been an increase in payments to persons who were not incapable of work," and that "responsibility for this must be put, in the first place, on medical certification." This is a serious conclusion, and must be faced. It might be true, as stated, if it read "a main factor"; for the facts upon which it is based, and the logical process by which it is reached, are clearly and moderately set out

in the memorandum, and weight has been given to some of the considerations, which must be borne in mind in drawing inferences from available relevant statistics. Yet the extent to which "the main factor" is as stated, and the relative degree of "responsibility" to be assigned to imperfect medical certification, may well be in question. Others will not be as confident as the Departments that certain explanations of the situation have been eliminated, and it is quite possible that greater importance ought to be attached to certain factors which the memorandum rules out of account.

The memorandum states three possible explanations of the increase of claims for benefit since 1921—namely, "(*a*) a great increase in incapacitating sickness, (*b*) a tendency of persons incapable of work who would not have claimed in earlier years, to claim under present conditions, and (*c*) an increase in the number of admitted claims by persons who are not incapable of work." It may be agreed that (*a*) can be dismissed. It is said that "(*b*), although doubtless true to a limited extent, is quite inadequate as an explanation of the great increase that has been observed." Again, it may be agreed that this is not a complete explanation, but it should be given far greater weight than is assigned to it. The memorandum states: "That there are such cases is, of course, a matter of common knowledge, but it has never been suggested that they are sufficiently numerous to have a substantial effect in producing the observed differences in payment of benefit." On the contrary, this *has* been suggested, and it is here and now suggested, as producing a substantial effect, and even as being a "main factor" in the situation. It must be remembered that the initiative with regard to certification lies not with the doctor, but with the insured person. The first certificate and intermediate certificates are, by rule, to be given "if so desired by the insured person," or "if the insured person so requests," provided that there is "incapacity." It is true that in a great many cases the doctor has to advise, even insist on, absence from work; but though it may be true, as the memorandum puts it, that "patients cannot be held responsible for the estimates of their own incapacity except in the rare cases in which they seek to deceive," nevertheless these estimates often have to be taken into consideration, and may form a very important factor in arriving at a judgement in cases where gross physical signs of disease are not present. Whatever the reason, there can be no doubt that this exercise of the rights of an insured person, this initiating of a claim, has occurred in a far larger proportion of cases of "incapacity" since the year 1921 than before; and this has been the case precisely in short illnesses, and mainly with the younger generation of insured persons.

Again, it is probable that the memorandum does not attach due weight to the number of those "who, though really unfit for work, prefer to forgo the benefit which they might otherwise continue to receive rather than undergo medical examination" by a referee. Of course, every effort should be made to remove unreasonable apprehensions, but experience seems to show that the proportion of such patients to those who are actually summoned to attend referee sessions may be as high as 4 or 5 per cent.—a proportion "sufficiently large appreciably to affect the inferences that could otherwise be drawn from the facts." Such persons often do not seek a final certificate and resume work at once; rather they tend to return to work after a longer or shorter interval without receiving a final certificate at all. Nevertheless, it may still be true that "a substantial proportion of those who at any particular time are receiving sickness or disablement benefit are persons who are not incapable of work," and that in a proportion of these cases a requisite check has been inadequate in that "a number of certificates of incapacity have been issued which were not justified by the condition of the patient at the time of issue." This inference is fortified in the memorandum by two circumstances, in addition to facts such as those already cited. These are "the comparative study of the results of references of patients of different practitioners"; and the reasons given by practitioners when asked for explanations of their certification. There may easily, however, be fallacies in the former comparison, for even within such a centre as Birmingham or Manchester there may be many varieties of practice. As to the reasons given, some doctors admitted being governed by purely humanitarian considerations, while "a substantial proportion of the practitioners interviewed stated that they found themselves unable to certify strictly for fear of losing patients." The general body of practitioners may have some sympathy with these feelings in particular cases, but the attitude of mind indicated cannot be tolerated by the profession. It is clear that there is room for instruction among such practitioners, both as to the principles on which insurance schemes are based, and as to the conduct which is to be expected from a doctor even when his financial interests are involved. The Ministry and the societies are entitled to ask for firm action on the part of the medical profession, especially when it is recognized, as the memorandum says, that "the standard by which many are judged to have failed in their issue of certificates is that afforded by comparison of the results of their work with that of a large number of their colleagues," and even though "a considerable proportion of errors in certification are not due to such failings as lead also to errors of treatment."

The Departments concerned propose to take action in appropriate cases in accordance with the new Regulation recently made on the initiative of the Insurance Acts Committee. Such action includes investigation of the facts in individual cases by the regional medical officers and reference to Panel Committees of cases that appear to call for this. The recent action by the Minister of Health, taken in spite of the protest of the medical profession, in altering the freedom of an insured person to change his doctor, is not referred to in this connexion. It is obviously futile with regard to those cases for which the alteration was ostensibly made. If

a doctor is induced to be lax in his certification by the fear that he will lose his patient, he is not likely to be reformed merely because the loss may occur in six weeks instead of two. It is to be hoped that this new arrangement will speedily be abandoned.

The whole matter will be considered by the Insurance Acts Committee at its next meeting on July 2nd.

THE VALUE OF B.C.G. VACCINATION

On the occasion of his recent visit to lecture at the Royal Society of Medicine, on "Preventive vaccination against tuberculosis with B.C.G." (of which a report appears at page 1070), Professor Calmette left no doubt in the minds of his audience of the seriousness with which he regards the conservative attitude of the medical profession in this country. It is noteworthy and significant that the majority of those present at his lecture had come to hear the man; those who were well acquainted with his work mostly stayed away. This circumstance really affords the key to the present attitude of British workers towards B.C.G. Professor Calmette has failed by his animal experiments to convince the bacteriologists, and by his human experiments to convince the statisticians. His logic is excellent, but his premisses are unproven. Not until he or other workers can bring more convincing evidence in favour of his particular method of vaccination is there likely to be any general movement to adopt his methods in this country.

Let us consider the question in as dispassionate a manner as possible, leaving aside all reference to minor issues. For the sake of convenience we may deal with three main questions in turn. First of all, "Is it possible to produce by artificial methods a significant degree of immunity to tuberculosis?" There are certain diseases, of which the most important belong to the filterable virus group, which leave behind them a comparatively solid immunity. Second attacks of small-pox, measles, poliomyelitis, or distemper, for example, are uncommon, and against certain of these diseases it has proved possible to prepare a vaccine which can give rise to a definite and fairly lasting increase in the resistance of normal subjects. The immunity conferred by vaccination is rarely as sound as that resulting from a natural attack of the disease, and is by no means absolute. Vaccination against small-pox, for example, unless recently performed, does not afford certain protection against infection, though it diminishes the severity of the attack and lowers the case-mortality rate. On the other hand, there are diseases, of which tuberculosis and syphilis are outstanding examples, which leave behind them only a very slight degree of immunity. Second attacks of clinical tuberculosis are not only not uncommon, but they are, in fact, very frequent. That is to say, infection with the fully virulent bacilli may fail to produce anything but a slight and transitory increase in resistance. Is it likely, therefore, that vaccination with an attenuated virus is going to be any more successful? The direct evidence that is available on this point—namely, the prophylactic effect of living human bacilli on cattle—indicates that the immunity resulting from infection with virulent bacilli is better than that resulting from vaccination with avirulent bacilli. On purely *a priori* grounds, we may conclude, therefore, that no form of artificial immunization against tuberculosis is ever likely to produce a higher degree of immunity than that which can be produced under the most favourable natural conditions. Anyone who sets out to do more than this is, to borrow the words of Professor Neufeld,[1] chasing a phantom.

Secondly, "Has it in fact proved possible to produce an immunity to tuberculosis?" According to Calmette more than a million children have been vaccinated with B.C.G. in the last seven years or so. One would have imagined that during this period sufficient evidence might have been collected to answer this question definitively, yet it is clear from the work of Greenwood[2] in this country, of Wolff[3] in Germany, and of Rosenfeld[4] in Austria, that the statistical results are unconvincing. The fallacies in the French figures cannot be considered here in detail; suffice it to say that the groups of vaccinated and of non-vaccinated infants have not been comparable, and that the estimate of mortality which would have occurred in the vaccinated group, if vaccination had not been performed, has been based on assumptions for which there is insufficient justification. No simple criterion for assessing the value of the vaccine is available. Reduction of the death rate from tuberculosis during the first year of life among the general population is too crude a measure to employ; for, as Wolff points out, tuberculosis now contributes such a small proportion of the total deaths, that if every single death from tuberculosis in the 0-1 year age group in Berlin could be prevented, the infantile mortality rate would drop only from 78 to 76.4 per 1,000. A fall in the infantile mortality rate from all causes, which Calmette asserts to be one of the main benefits of B.C.G. vaccination, is difficult to interpret for the same reason. Moreover, if B.C.G. is so effective in this respect, why is it, Berghaus[5] asks, that the infantile mortality in France has risen during the past two or three years? If a definitive answer is to be obtained, we venture to assert that nothing short of a direct *ad hoc* investigation, with the most careful control of all factors, will suffice.

Thirdly, "Even if it should be firmly established that B.C.G. was capable of producing an appreciable degree of immunity, would it be wise to advocate its general adoption?" Professor Neufeld[6] is speaking for most students of tuberculosis when he says that the whole epidemiology of this disease, as well as the course of particular cases of tuberculosis, is determined far more by the natural constitutional resistance of the individual than by the acquisition of specific immunity, as taught by von Behring and Römer. It is surely for

[1] Neufeld, F.: *Zeit. f. Tuberk.*, 1921, xxxiv, Ergänzungsheft, 615.
[2] Greenwood, M.: *British Medical Journal*, 1928, i, 793.
[3] Wolff, G.: *Zeit. f. Tuberk.*, 1930, lvii, 1; *Deut. med. Woch.*, 1930, lvi, 1644; Ibid., 1931, lvii, 933.
[4] Rosenfeld, S.: *Wien. klin. Woch.*, 1928, xli, 809.
[5] Berghaus, W.: *Deut. med. Woch.*, 1931, lvii, 95.
[6] Neufeld, F.: Ibid., 1930, lvi, 1599.

this reason that, in the absence of all measures designed to increase specific immunity, the mortality rate from tuberculosis in this country in the 0–1 year age group fell during the thirty years 1898–1927 by no less than 86 per cent. (Dow and Lloyd[1]). Improved housing, economic and nutritional conditions, together with the gradual improvement and increasing pasteurization of the milk supply, have probably all played a part in this reduction. In 1929 only 1.4 per cent. of the infantile mortality was due to tuberculosis, and the chances against dying from tuberculosis during the first year of life were about 1,000 to 1. In the face of such highly successful measures is there any justification for advising the vaccination of every infant with B.C.G.? When it is considered that whatever protective effect B.C.G. may have probably wears off in the course of a year or two—Professor Calmette is now recommending revaccination at 3, 7, and 15 years—and that for a month or longer after vaccination the infant must be carefully isolated from every possible source of tuberculous contamination, it will probably be agreed by most workers that any general adoption of vaccination would be highly inexpedient. The case with infants who are born of tuberculous parents, and who must unavoidably be exposed to frequent and often heavy infection during the first few months of life, is on a different footing. We are strangely ignorant of the real risk incurred by such children, but it is legitimate to assume that it will be greater than that of children reared by healthy parents. The prophylactic vaccination of such infants might conceivably convey sufficient immunity to turn the balance in favour of the child, and it is for such a class that vaccination should be reserved. Even then it should be employed only *faute de mieux*; the correct way to deal with these infants is to remove them to a healthy environment, as is being carried out under the highly successful Grancher system in France.

If it should be considered desirable, under these limited conditions, to give B.C.G. a trial, it is of the first importance that it should be made on a definitely experimental basis. The indiscriminate use of the vaccine by isolated practitioners will never enable us to assess its worth correctly. To judge the value of a therapeutic measure on clinical grounds alone is sufficiently difficult; to judge the value of a prophylactic measure on clinical grounds alone is well-nigh impossible. The advantage conferred by vaccination is not likely to be great, and the only way of assessing the 5, 10, or 20 per cent. increase in resistance which it may produce is to perform the experiment in such a way that the resulting figures are really suitable for statistical analysis. If an experiment was to be conducted on cattle by the Ministry of Agriculture, and on children by the Ministry of Health or the Medical Research Council, the details of the experiment being determined by a committee appointed by these bodies comprising one or more bacteriologists, statisticians, tuberculosis and children's specialists, and veterinarians, it might be possible in the course of five or ten years to reach some conclusion as to the real value of B.C.G. vaccination. Nothing short of this is likely to extricate the problem from the welter of confusing statements which at present surrounds it.

[1] Dow, D. J., and Lloyd, W. E.: *Tuberculosis Mortality in Children*. 1930. Chaucer Press, Bungay, Suffolk.

NATIONAL COLLECTION OF TYPE CULTURES

The establishment of the National Collection of Type Cultures of Bacteria and the issue of the first catalogue in 1922 marked an important step in the development of bacteriology in this country. Before that date there was no official repository for bacterial cultures. Individual bacteriologists kept their own collections, but there was no organization for the permanent preservation of pure cultures and for the supply of correctly labelled cultures to laboratory workers who required different species of bacteria for teaching purposes or for comparison with recently isolated strains. Since this work was undertaken at the Lister Institute under the supervision of Professor Ledingham and Dr. St. John-Brooks the museum has grown to such proportions that it now contains more than three thousand different strains of micro-organisms. The demand for the cultures has increased to such an extent that more than five thousand cultures are being distributed to workers throughout the world each year. The latest catalogue[1] is an enlarged and revised edition of the list published in 1925. The different strains are catalogued alphabetically, each entry giving details of the type, group, or variety of the strain, the name of the person and institution supplying the strain, and in some cases particulars of the source from which the micro-organism was isolated. An attempt has been made to reduce the numbers of organisms appearing under the general heading of "bacterium" or "bacillus" by segregating some of the more natural groups and entering these as separate genera. This arrangement imposes a little inconvenience on those who are still accustomed to refer to bacteria by their old-fashioned names. For instance, *B. typhosus* must now be looked for as *Salmonella typhi*, and *B. tuberculosis* as *Mycobacterium tuberculosis*. In all such cases, however, ample cross-references are given for the benefit of those more familiar with the older system. The Medical Research Council expresses the hope that this new edition of the catalogue will tend to direct the attention of bacteriologists in this and other countries to the continued need for the deposition of strains of bacteria and fungi for maintenance and reference in this collection.

[1] Medical Research Council. Special Report Series. No. 64 (revised). 2s.

THE CASSEL HOSPITAL

The report[2] of the director of the Cassel Hospital for the year ending December 31st, 1930, deals as usual only with patients who have been discharged for at least one year. A very interesting feature of the present record is the unusual proportion of successes in the treatment of obsessive-compulsive conditions. Of seven patients suffering from a condition of this kind, three are now well, after six and ten months' treatment respectively, while two improved considerably. This

[2] The Cassel Hospital for Functional Nervous Disorders, Swaylands, Penshurst, Kent. Ninth Annual Report to the Committee from the Medical Director.

is so much better than the previous experience of the director or anyone else with this type of patient, that it would be unwise to regard it in the meantime as of definitely good omen in a condition that has hitherto, in the vast majority of instances in adults, borne a poor prognosis ; but it does point to a hope of more frequently successful psychotherapy in skilled hands than in the past. It is notable also that the two patients who did not improve were much older than the others, being 45 and 56 respectively, which are rather advanced years for the intensive psychotherapy of any kind of neurosis. Of the patients with anxiety psychoneuroses, two are singled out for brief description. One of them was a medical student, and the point of interest is that the treatment was largely indirect, by way of teaching him the principles of psychopathology, illustrated as far as possible from his own life, since his attitude rendered a more usual technique impossible. He made a good recovery, although his symptoms were unusually severe. It is the experience of at least one authority that medical students and doctors as a class give better results with psychotherapy than patients in any other occupation. It would be interesting to know why. The student in question was unusually intelligent ; but this is not the only factor in such cases, since it is not always present. Turning to another part of the report we note that after three years of freedom from incidents of the kind, there have been several suicides and genuine suicidal attempts. Those which occurred in patients with phobias and anxieties are of special theoretical interest. It is perhaps not very helpful to speak of them as having had a " concealed psychosis." There has, however, been a tendency for the Cassel Hospital to be put in the position of receiving more and more difficult cases as time goes on, and for those who send patients to forget that this hospital was intended primarily for the treatment of psychoneuroses. The difficulty resides partly in the length of the waiting list, which means a most undesirable delay, during which time the less seriously ill become worse, or go elsewhere, or recover spontaneously. The waiting list tends to accumulate patients who should not go to the Cassel Hospital at all. Thus, the 178 patients mentioned in the report included 14 with psychotic depressions and 12 cases of schizophrenias, the great majority of whom should not, on any consideration, have been sent there. The report continues to fill a unique position, in this country at least, as a detailed record and follow-up of results in the psychological treatment of psychoneuroses.

PSYCHOLOGY AND THE WORKER

The National Institute of Industrial Psychology opened its doors at Aldwych House the other day to a company of guests who were permitted an inspection of the various works which Dr. C. S. Myers and his staff are carrying out. To those who recall the early days of the institute, with its modest ventures into industrial psychology (such as an inquiry as to why cups get broken in teashops), it was surprising to find how large a field it now covers, and how far it has gone towards the complete " psychography " of the worker. Demonstrations were given in different rooms of the ideal lay-out and production-planning of a factory from the psychological standpoint ; of the methods for increasing the output of those engaged in repetitive tasks ; of research into the mental abilities and processes involved in the operation of assembling ; of the effects of ventilation and lighting conditions on the worker ; of the part which awareness of rhythm plays in certain tasks, and its association with muscular skill (showing, for example, how the typist, with an uncanny number of words a minute to her credit, drops into error or slowness when the syllabic rhythm disappears and she is confronted with some unaccustomed juxaposition of letters) ; of the tests required for the selection of shorthand-typists, telephonists, sorters, packers, and of others whose avocations demand great manual dexterity ; and, finally, of the degree of difficulty in changing from one activity to another. It was also shown how tests are employed for such things as colour discrimination, and how unconscious emotional reactions can be recorded by changes in the electrical conductivity of the body as shown by a psychogalvanometer. In one room a very interesting demonstration was given of tests for motor-driving. The subject sat in a dummy car with all the controls—accelerator, steering wheel, and brake—at his hand and foot. Everything, including the noise, was as in a car, except that it was not the car but the landscape which moved. The room was darkened, a little table with miniature trees and other objects was made to revolve, and this cast a shadow on a paper screen in front of the driver, so that he got an illusion of roads opening out and dividing in front of him. It was stated that this realistic device afforded a means of measuring the reaction time and the judgement of distance. It occurred to us that those unfortunate people whose driving licence is suspended might get all the thrill and pleasure they want from some such expedient, without being inconvenienced by police or by cars coming the other way. Perhaps the greatest service which the institute is rendering is in respect to vocational guidance. Dr. Angus Macrae showed a number of case-studies of secondary school boys, each boy's characteristics being indicated in the form of a " psychographic profile." The institute, financed by grants by the Carnegie United Kingdom Trust, has recently carried out an experiment in the vocational guidance of six hundred elementary school children. In addition, last year over four hundred private fee-paying persons were examined and advised as to future occupation. Among cases which it has been possible to follow up after three years, it has been found that 85 per cent. have justified the institute's predictions, either by making good in the occupation which it advised, or by comparative failure in some other occupation which the institute said was unsuitable.

WILLIAM STEWART HALSTED

Dr. W. G. MacCallum has paid a handsome and ungrudging tribute[1] to the merits of that distinguished surgical investigator and operator who, in the words of Dr. W. H. Welch, was the creator of a Halsted school of surgery at Johns Hopkins University in Baltimore. William Stewart Halsted was one of the group of four—the others being Osler, Welch, and Kelly—who, when

[1] *William Stewart Halstead, Surgeon.* By W. G. MacCallum. Introduction by Dr. W. H. Welch. Baltimore: The Johns Hopkins Press ; London: Milford, Oxford University Press. (12s. 6d. net.)

it was decided to complete Johns Hopkins University by the addition of a medical school and hospital, were charged with the duty of organizing it. Their success is world-known, and the valuable investigations carried out in the laboratories of the school have conferred lustre upon it and its staff. Before he joined Dr. Welch at Baltimore in 1886, Halsted had had a successful and strenuous career in New York, where he not only operated at five hospitals, but conducted a most successful surgical class, which attracted students in such numbers that the authorities of the hospital schools of New York were seriously perturbed. Such sustained and almost feverish activity had its consequences, and Halsted fell a victim to cocaine, then newly discovered. He not only investigated its properties and devised the method of infiltration anaesthesia, but he unfortunately became an addict. The dangers of cocaine were then little known, and it is no shame on Halsted that he succumbed, but rather a great tribute to his strength of character that he ultimately succeeded in curing himself of the habit. The struggle was hard and prolonged, involving more than one sojourn in an institution for such cases. Halsted is best known in this country for his operative work on cancer of the breast, hernia, and goitre, but his greatest interest was in the laboratory rather than in the operating theatre. The process of union in wounds, and the circumstances which hindered or promoted primary union, were subjects of repeated experiments on animals, from which he learnt valuable lessons, one of the chief of which was that undamaged tissue, such as normal peritoneum, can dispose of pathogenic micro-organisms which would set up a virulent growth in the presence of damaged or dead tissue. Unlike Osler, Halsted does not seem to have been distinguished by geniality. His wit was caustic; Dr. MacCallum frankly admits that "no one was ever at his ease with him except his close friends," and in another passage refers to his indulgence in *Schadenfreude*. Evidently his personality was a complex one; he was so fastidious as to send his shirts from Baltimore to Paris to be laundered, but he frequented prize fights in Baltimore at a time when such exhibitions were anything but refined. These were perhaps the eccentricities of genius, and it is beyond question that Halsted was a great surgeon and surgical pathologist.

INTERNATIONAL CONGRESS OF HISTORY OF SCIENCE

The second International Congress of the History of Science and Technology, of which previous announcements appeared in our issues of January 31st and May 9th, will be opened by Mr. Lees-Smith, the President of the Board of Education, on Monday, June 29th, at the Science Museum, South Kensington, which will be the headquarters of the congress during the week. A reception will be given by the president, Dr. Charles Singer, and Mrs. Singer, at 9 p.m., at the Royal Society of Medicine. On Tuesday, Mr. G. N. Clark of Oxford, late editor of the *English Historical Review*, will open a discussion on the sciences as an integral part of general historical study, and a discussion, under the chairmanship of Dr. Welch of Johns Hopkins University, will be held the same morning on the teaching of the history of science. On Wednesday there will be an excursion to Cambridge. On Thursday a discussion will be held on the historical and contemporary interrelationship of the physical and biological sciences, introduced by Professor Baas Becking of Leyden and Dr. Joseph Needham, and the final discussion will be held on Friday, on the interdependence of pure and applied science. There will be a banquet in the evening at the May Fair Hotel. On Saturday an excursion will be made to Oxford, and the Provost of University College, London, will entertain members at an Independence Day luncheon, when the American Ambassador, General Dawes, has promised to be present. Special visits will also be made to the Royal Botanic Gardens, Kew, and the Royal Observatory, Greenwich, to Barbers' Hall, and to the Royal College of Physicians. Further information can be obtained from the honorary secretary, Mr. H. W. Dickinson, Science Museum, South Kensington, S.W.7.

PATHOLOGICAL MUSEUM, EASTBOURNE

Members who wish to send exhibits to the Pathological Museum in connexion with the Annual Meeting of the British Medical Association at Eastbourne should forward their particulars to Dr. E. A. Fiddian, Avenue House, The Avenue, Eastbourne, without delay, as these are necessary for the catalogues, and cannot be included in them unless they reach the Honorary Secretaries by June 30th at the latest. Acceptable material falls under the following heads: (1) exhibits bearing on discussions and papers to the various Sections (as set out in the *Supplement* of June 6th); (2) specimens and illustrations relating to any recent research work; (3) instruments relating to clinical diagnosis and pathological investigation; (4) individual specimens of special interest, or a series illustrating some special subject.

ROYAL SOCIETY OF MEDICINE

In accordance with the will of the late Dr. Robert Thomas Nichols, the Royal Society of Medicine offers, every three years, a prize for the most valuable contribution by a British subject towards the discovery of the causes and the prevention of death in childbirth from septicaemia. At the last meeting of the council of the society the Nichols prize was awarded to Dr. John Smith of Aberdeen, and to Dr. R. R. Armstrong and Mr. H. Burt-White (a conjoint contribution) of St. Bartholomew's Hospital. At the same meeting the Jenner medal was awarded to Dr. T. H. C. Stevenson of Somerset House. This medal is awarded to persons whose work has been pre-eminent in the prevention and control of epidemic disease.

We regret to announce the death of Baron Shibasaburo Kitisato, one of the pioneers of bacteriology in Japan, and founder of the Governmental and Kitisato institutes for infectious diseases in Tokio.

The council of Epsom College will shortly elect a girl to a St. Anne's Scholarship of £120 a year. Candidates must be not less than 9 years of age on July 29th next, and must be orphan daughters of medical men who have been for not less than five years in independent practice in England or Wales. Application must be made by July 2nd, on a form to be obtained from the secretary of the College at 49, Bedford Square, W.C.1.

HARVEIAN SOCIETY'S CENTENARY

CELEBRATION AT ST. BARTHOLOMEW'S

The celebration of the centenary of the Harveian Society of London began with a largely attended meeting at St. Bartholomew's Hospital on the afternoon of June 11th, when Dr. RAYMOND CRAWFURD delivered the address on "The place of medical societies in the progress of medicine" which was printed in our last issue (p. 1036). Sir THOMAS HORDER, president of the society, was in the chair, supported, in addition to those whose names appear below, by Lord Dawson of Penn, Sir StClair Thomson, Sir William Hale-White, Sir John Rose Bradford, Dr. Herbert Spencer, and Dr. G. de Bec Turtle.

Sir HUMPHRY ROLLESTON, in proposing a vote of thanks to Dr. Crawfurd, said that there could hardly be a more fitting setting for the centenary celebration than St. Bartholomew's Hospital, where Harvey was a physician. Harvey had tried to knit together the Royal College of Physicians and the hospital beyond any chance of severance, and to this day no one was appointed physician to the hospital unless nomination had been made by the Royal College. One of Dr. Crawfurd's predecessors as registrar of the Royal College of Physicians, Sir George Elliott, about the year 1650 went to pay his respects to Harvey, then in retirement, and found that Harvey had written a book. After much hesitation on Harvey's part, Elliott obtained permission to publish this monograph, and went away like Jason carrying the Golden Fleece. Elliott remarked that the more Harvey's books were read and admired the more reluctant he seemed to have them published, in strong contrast with some who made a great display of their work.

Sir THOMAS HORDER then presented medals specially struck for the centenary to Dr. D. Elliot Dickson, representing the Harveian Society of Edinburgh, and Dr. W. H. Welch, Professor of the History of Medicine at Johns Hopkins, representing the Harveian Society of New York.

Dr. ELLIOT DICKSON, in returning thanks, said that he was proud to represent the Edinburgh society, and also proud as a Scotsman to have heard Dr. Crawfurd's reference to the Royal Medical Society of Edinburgh.

Professor W. H. WELCH said that all members of the New York society would heartily appreciate the generous words in which Dr. Crawfurd had referred to its activities. The principal function of that society was in its lectureships, perhaps six or eight lectures being delivered during the year in the general field of scientific medicine, and it was obvious that there was no name in history which could be more appropriately used as the sponsor of such a society than that of William Harvey. Dr. Welch handed to the president an illuminated scroll on behalf of the New York Harveian Society, inscribed with cordial greetings on the occasion of the hundredth anniversary, and expressing appreciation of the significance of continuous corporate existence for so long a period:

"An achievement so signal bears witness to the serviceableness to its members of any association. In medicine it bears evidence, furthermore, to the success of its function in the maintenance of a high standard of scholarship and its usefulness in the dissemination of learning."

Before the company separated a number of Harvey relics, displayed in the hall, were indicated and described by Mr. Geoffrey Keynes.

CENTENARY DINNER

The society's centenary dinner, given by Mr. George Buckston Browne was held on the evening of June 12th in the magnificent hall of the Grocers' Company in the City of London. Among those beside the president, Sir Thomas Horder, were H.R.H. Prince Arthur of Connaught, Professor W. H. Welch of Johns Hopkins University, Lord Dawson, President of the Royal College of Physicians, the Master of the Grocers' Company and the Master of the Society of Apothecaries, Dr. Elliot Dickson, president of the Edinburgh Harveian Society, Sir Farquhar Buzzard, Regius Professor of Medicine at Oxford, Mr. J. F. Cameron, Master of Caius College, Professor Blair Bell, President of the British College of Obstetricians and Gynaecologists, Surgeon Vice-Admiral Sir Arthur Gaskell, Dr. H. B. Brackenbury, Chairman of Council of the British Medical Association, The Rev. T. P. Conyers Barker, Vicar of Hempstead, Sir D'Arcy Power, Dr. Henry S. Wellcome, and the presidents of kindred medical societies.

After the loyal toasts had been honoured, the PRESIDENT welcomed Prince Arthur of Connaught as a newly admitted honorary member of the society, and presented to him a commemorative bronze medal. HIS ROYAL HIGHNESS then proposed the toast of "Prosperity to the Harveian Society of London." He felt it a great—though perhaps an "irregular"—honour to be admitted to membership of the society, in company with Professor Welch, the doyen of the medical profession of the United States. As chairman of the Middlesex Hospital he welcomed the opportunity of being present to congratulate the society on its centenary, and recalled that he was an honorary freeman of the Grocers' Company, which had many links with medical science. The PRESIDENT, in replying to the toast, thanked Prince Arthur for the compliment he had paid the society, which was appreciated all the more because of his intimate association with medical progress as the working head of a great hospital. In expressing gratitude to the Master and Wardens of the Grocers' Company for the loan of their beautiful hall for that dinner, he mentioned that three of Harvey's brothers were Grocers. The arrangements for the centenary had been most admirably carried out by the indefatigable treasurer, Dr. Turtle, and the honorary secretaries, Mr. Wakeley and Dr. Cove-Smith, and all were indebted to Mr. Buckston Browne for his generous hospitality that evening. Sir Thomas Horder recalled the names of some of his famous predecessors in the presidential chair, and ended with an eloquent tribute to the work and inspiration of William Harvey.

"It is always difficult for us to speak of William Harvey in anything like moderate language. He is so easily the central figure in our annals, and the founder of scientific medicine in this country. As Caesar appeared to Cassius in relation to the Roman Republic, so Harvey appears to us in relation to British medicine, but without the stigma imputed to the great Roman by his lean and hungry conspirator: '. . . he doth bestride the narrow world like a Colossus, and we petty men walk under his huge legs and peep about and find ourselves dishonourable graves.' Harvey did a much greater thing for medicine than to establish beyond all doubt the physiological principles governing the circulation of the blood. He introduced rational and scientific methods into the chaos of empiricism, speculation, and wild hypothesis. This reference to a principle does not detract from the momentous value of Harvey's great discovery: it rather enhances it, in that this discovery exists for all time as a model of what may be achieved along the lines, and following the principles, which Harvey laid down."

The health of the visitors was proposed with graceful references to individual guests by Sir STCLAIR THOMSON. This feast, he said, gave an opportunity for the mingling of men of different occupations, as well as of men working in different branches of the same profession. Harvey, a man of wide humanity and culture, would have welcomed this occasion, for had he not exhorted his brethren to "dwell together in loving friendship"? Professor WELCH, in response, made a charming and spirited speech of appreciation for the way in which "such things are done in London." He regarded

centenary celebrations as very valuable and interesting things, which appealed to him particularly as contributions to the history of medicine. Lord DAWSON, who also replied, spoke of Professor Welch as a citizen of the world, exemplifying the unity of purpose of the English-speaking medical profession. He himself, during his visit to Canada and the United States last year to attend the Annual Meeting of the British Medical Association in Winnipeg, had observed the inexhaustible energy and enthusiasm of their octogenarian guest. On behalf of the Royal College of Physicians, with its long and intimate associations with Harvey, Lord Dawson congratulated the society on attaining its hundredth year.

PILGRIMAGE TO THE HARVEY TOMB

The final event of the celebrations took the form of a pilgrimage to the tomb of William Harvey at Hempstead Church in Essex, near Saffron Walden. A party of about sixty, headed by Sir Thomas Horder, Sir D'Arcy Power, Sir StClair Thomson, Dr. Herbert Spencer, and Professor Welch, journeyed by road from London on the morning of Saturday, June 13th. At Hempstead Church a brief service was held, and the Bishop of Colchester gave an address. Harvey, he said, was a man of whom any age and country would have been justifiably proud. The more a good life and good work was made known, and the more a brotherhood such as the Harveian Society grew, the better for humanity. In that church lay the mortal remains of the great doctor, and a suitable monument had been erected there in honour of one whose fame was world-wide. He thanked the society for presenting to the church, in commemoration of the present occasion, a beautiful silver platen, to be used with the Elizabethan chalice belonging to the church, the original platen which went with it having been lost. The new platen bore the crest of the Harveian Society and the date of its foundation and of the gift. It was also good news to Hempstead that the Harveian Society proposed to undertake the reconditioning and rehanging of the church bells when the tower was rebuilt, and to give a new bell to celebrate the event. The old bells, now in a bell-shed in the churchyard, were dated, one of them 1520 and the other 1575. For the rebuilding of the tower the sum of £2,700 was in hand or promised, and a further £3,000 was required. Donations were still coming in, and those responsible for the church were more indebted than they could express to the medical profession, who had shown that it was a labour of love to do all they could for the preservation of the temple which contained the Harvey shrine. Finally, said the bishop, they had assembled that day, not merely to praise famous men of old, who rested in peace and whose works followed them, but also to thank God for the work of the medical profession. Doctors of to-day went about doing good to the bodies and minds and souls of men. In every age they were among the world's best philanthropists and most sacrificing missionaries. Very few men had more opportunities of service to their kind. The healing and relief of suffering was a godlike task, and he trusted that there would never be wanting in this dear land physicians of like spirit to William Harvey, who employed heart and brain in the service of their fellow creatures and for the glory of God.

After the address Sir Thomas Horder, president of the society, accompanied by Dr. de Bec Turtle, Mr. Cecil Wakeley, and Dr. R. Cove-Smith, brought the platen to the altar, where it was dedicated by the Bishop. Subsequently the visitors inspected the Harvey Chapel and other objects of interest in the church, and even descended into the vault, where rest the coffins of various members of the Harvey family. The pilgrims were entertained to lunch in the vicarage garden, and on the return journey a halt was made at Rolls Manor, Epping Forest, where seven generations of Harveys lived, and which is now in the possession of Lady Lloyd, widow of General Sir Francis Lloyd, the Lloyds about a hundred years ago becoming related to the Harveys by marriage. In a room specially built for the purpose are shown the Harvey portraits, including William Harvey, with his father, six brothers, and sister or sister-in-law. Sir D'Arcy Power gave a brief account of the Harvey family. Harvey, he said, was known elsewhere as an acute thinker and able administrator, but here in the home of his family he was revealed in a domestic role—for singularly strong bonds of affection united the Harvey family—and also as a connoisseur and collector of objects of art. Some of the Harveys made fortunes in business, and others, notably Admiral Sir Eliab Harvey, gained distinction in the national service. Before the party returned to London Sir Thomas Horder expressed the thanks of everybody for the charming hospitality of Lady Lloyd.

Nova et Vetera

DOCTORS' BILLS

Mr. N. F. Ticehurst, F.R.C.S. (St. Leonards-on-Sea), writes:

With reference to the notes on ancient doctors' bills under "Nova et Vetera" in the *Journal* of October 4th, 1930, it occurs to me that you might like to print the accompanying account. I found it a year or two ago while going through the miscellaneous documents in the parish chest at Sedlescombe, near here, to sort and calendar them for the present churchwardens. The date is slightly anterior to any you quote, and, though not written in full, the year is 1689, as the writing corresponds with other documents of that period in the collection, and John Huckstep was overseer at that time. Of John Martin I can learn nothing, but perhaps you have records that might reveal something of him. I should hazard a guess that he lived at Battle, on which town Sedlescombe has always been dependent for its medical services. Martin has always been a well-known name there.

	li.	s.	d.
Aprill ye 11th: 89			
A Clister for ye Maide...			
A Paralytic deobstructiue gargle ye boy ...	00	00	08
Bleeding him under the tongue ...	00	01	06
A Blister for ye Maides necke	00	01	00
A Cordiall Coroberateing Apozem for them... ...	00	00	08
A Cordiall Cephalic Julepe for them... ...	00	02	08
A strenghteninge Restringent Electuary ye Maide	00	01	06
Four Narcotic pills	0	01	06
A Paralytic Electuary ye boy	0	00	06
Twelue Hypnoctic pills	0	01	06
Cordiall strenghteninge Ingredients for 3 quarts of Liquor	0	01	00
More of the same	0	01	06
A strenghtening Aperitiue Electuary ...	0	01	06
A Cathartic Electuary ye girle for seuerall doses	0	01	08
	0	01	06
flor Care and visites	0	18	08
Totall sume	00	06	00
May ye 6th: 89.	1	04	08

Then receed of Jon Huckstepe Ouerseare The sume of one pound four shillings and eight pence being in full of this Bill for Phisicke administred to Ann Blatcher and Jon Henlly of the parrish of Sedlescombe: Receed p me Jon Martin 1li. 4s. 8d.

This bill, discovered by Mr. Ticehurst, is of interest as carrying further back than did that of Fairclough (*British Medical Journal*, 1930, ii, p. 576) the evidence of expenditure on the medical care of the poor under the Poor Law of Elizabeth. The bill is typical of the pharmacy of the time, and needs no comment except some explanation of the term "Apozem." This, according to the *New English Dictionary*, is an obsolete word meaning a decoction or infusion. Mr. Ticehurst is to be congratulated on his find, and our readers are much indebted to him.

JOHN HAYGARTH OF CHESTER

Dr. George H. Weaver of Chicago[1] has recalled to his *colleagues of the Society of Medical History of that city* the name and fame of Dr. John Haygarth of Chester (1740–1827), who has not been forgotten in the land of his birth and death.

The late Dr. John Elliott of Chester contributed to our pages in 1913 (vol. i, p. 235) an excellent sketch of Haygarth's career, illustrated with eight illustrations, and a succinct account of him is also to be found in the *Dictionary of National Biography*. Even those recognitions of Haygarth's importance as a pioneer in public health, epidemiology, and medicine leave something to be desired in publicity, and we welcome, therefore, the fuller account of him, of which Dr. Weaver has sent us a reprint.

Dr. Weaver quotes from Dr. Elliott's "Nova et Vetera" article, and agrees with his expression of opinion that the work of Haygarth had not yet received adequate recognition. He was, as Dr. Elliott said, a medical pioneer who explored more than one path of advance in medical science. His work on inoculation for small-pox was eclipsed by Jenner's discovery of vaccination, but in other directions he made notable advances. His career is particularly interesting to Americans because of his correspondence with Benjamin Franklin and with physicians in the United States.

His well-known "Letter to Dr. Percival on the Infectious Fevers," and his address to the College of Physicians on the American Pestilence, seem to have irritated the thin skin of one Dr. Charles Caldwell, who wrote "Vindicating the Right which the Faculty of the United States have to Think and Decide for themselves respecting the Diseases of their own Country, Uninfluenced by the Notions of Physicians in Europe." But it was not only in America, in 1802 and later, that medical controversy was disfigured by irrational violence.

Australia

[FROM OUR CORRESPONDENT IN SYDNEY]

The Royal Australasian College of Surgeons

The fourth annual meeting of the College of Surgeons of Australasia (which includes New Zealand) was held in Sydney during the four days ending April 2nd, 1931. The period was fully occupied with business, lectures, and demonstrations, no time being allotted officially for social functions. There was a good attendance of members. Perhaps the most important business was the announcement that a Royal Charter had been granted to the College, which will henceforth be known as the Royal Australasian College of Surgeons. The adoption of this name will preclude the possibility of confusion with the Colleges of the United Kingdom and of the United States. The journal of the College, which has hitherto been known as *The Journal of the College of Surgeons of Australasia*, will in future bear the title *The Australian and New Zealand Journal of Surgery*. For a young College this journal is a very creditable production; its general appearance and style have already evoked favourable comment from overseas. Possibly the granting of the Royal Charter will assist in the firmer establishment of an *esprit de corps* and a jealous pride in the reputation of the College which will be reflected in the work of the Fellows and their writings, with further improvement in the journal. The College is so young that it has barely had time to develop an individuality of its own, the influence of the British and American Colleges being still apparent. No doubt in the course of a few years the Royal Australasian College of Surgeons will be as typical of the Dominions as other Australian and New Zealand institutions; in common with these it will, of course, bear the marks of the influence of older Colleges, especially those of the United Kingdom.

An Association of Physicians

An event of some importance during the year 1930 was the formation of the Association of Physicians of Australasia (including New Zealand). The founders set out with the object of moulding the association on the lines of the Association of Physicians of Great Britain and Ireland. The stated purpose of the Association is "the advancement of internal medicine and the promotion of friendship among physicians." Meetings will be held twice a year in one or other of the capital cities. At these meetings members and visitors will contribute scientific communications on various subjects. An express rule of the association is that no papers shall be read at the meetings, and no reports of the proceedings shall be given either to the lay or to the medical press. In regard to qualifications for membership the following rules are laid down in the constitution. The association "shall consist of ordinary members, not more than ten associate members resident in New Zealand, and honorary members. It shall at first contain not more than seventy ordinary members, who shall be physicians actively engaged in the teaching of medicine, men of distinction in medicine and the allied sciences, and physicians recognized by the council as eligible."

Sir Henry Maudsley and Dr. R. Scot Skirving have been elected honorary life members of the association as a tribute to their services to medicine in Australia. The president of the association is Sir Richard Stawell, the honorary secretary Dr. S. V. Sewell, and the honorary treasurer Dr. S. O. Owen. The following have been elected members of the council: Drs. C. B. Blackburn, E. W. Fairfax, A. W. Holmes à Court, H. H. Turnbull, K. Hiller, S. A. Smith, H. J. Ritchie, L. S. Latham, M. D. Silderberg, C. H. Kellaway, S. F. Hone, C. T. Ch. de Crespigny.

Sydney University

The opening of university activities this year marks the commencement of a new era in the teaching of medicine at Sydney. The whole curriculum for the teaching of students of the fourth, fifth, and sixth years has been revolutionized, and a system has been evolved which is unique in Australia and probably in the world. The system is in accordance with the scheme outlined by Professor C. G. Lambie, the recently appointed Bosch Professor of Medicine, in an address which he delivered in October, 1930 (published in the *Medical Journal of Australia* of January 31st, 1931). It is at present in operation, and gives every prospect of success. One of the most important objects is the correlation of the various arts, crafts, and sciences which go to make up the science of medicine, so that these may be moulded into one and presented to the student as a whole. The watertight compartments of the various branches of medicine are eliminated, and the special subjects are presented, not by means of a series of lectures over a given period, but by lectures delivered at such times as best fit in with the general scheme. For example, in his fourth year the student receives instruction in the pathology of the organs of respiration; at the same time lecturers in medicine and surgery discuss disturbances of function of these organs, the oto-rhino-laryngologist the upper respiratory passages; the general therapeutics of the diseases of the organs of respiration are dealt with, and instruction is given in the materia medica and the prescription of the drugs

[1] *John Haygarth, Clinician, Investigator, Apostle of Sanitation.* By George H. Weaver, M.D.Chicago. Reprinted from the *Bulletin of the Society of Medical History of Chicago*, 1930, iv, 156.

employed. During the fourth year students have lectures from the dermatologist on the general examination of the skin, and during the fifth year lectures on specific diseases of the skin, the dermatological manifestations of systemic diseases being studied at the appropriate time. The dermatologist assists in the combined attack on the subject of syphilis, by paediatrician, physician, surgeon, and neurologist, and deals with allergic skin manifestations when the lecturers in medicine are discussing allergy. A good illustration of correlation of subject-matter is that instruction concerning infection is given by the bacteriologist, while the pathologist discusses inflammation and repair, the surgeon wounds and sepsis, the physician pain and fever, and the pharmacologist antiseptics and analgesics. All teaching in medicine and surgery is given from a clinical standpoint. Lectures in the fourth and fifth years, save those in pathology and bacteriology, are delivered at the Royal Prince Alfred Hospital, the Children's Hospital, or the Coast Hospital. With the patients before him the lecturer not only illustrates the points of his argument, but also demonstrates how by a consideration of the abnormal individual and by the study of pathology, a knowledge of disease is achieved and increased, provided there is as a basis an understanding of physiology and anatomy. The fourth year is devoted to the teaching of pathology and bacteriology, general semeiology, and general therapeutics; in the fifth year nosography, special semeiology, and specific therapy are dealt with; in the sixth year chief emphasis is laid on a consideration of differential diagnosis and prognosis. Although no lectures in pathology are given after the end of the fourth year, it is intended to appoint from among the students pathological clerks whose duty it will be to make necessary pathological investigations of patients in the wards of the hospitals. The student will thus be forced to realize that pathology cannot be divorced from a study of medicine. In the final year the teaching is entirely devoted to work in the wards. Throughout the three years the students are given ample opportunity for clinical work, their clinical teaching being facilitated by the formation of smaller classes. The sequence of the various courses of instruction throughout the curriculum during these last three years follows a definite and carefully thought-out plan. Disturbances of all functions are dealt with system by system during the fourth year, with the exception of those of the genito-urinary system, which is studied in the fifth year, when instruction is given in gynaecology followed by obstetrics. In the fifth year, as soon as the lectures on infectious diseases have concluded the study of preventive medicine is commenced. Medical jurisprudence and medical ethics are dealt with in their natural place at the end of this year.

The adoption of the new system has necessitated the appointment of new lecturers and tutors. The subjects of therapeutics and materia medica have been brought into the department of medicine, and the first assistant to the professor of medicine lectures on general therapeutics and applied pharmacology. A building which will contain the various departments concerned with the work of the fourth and fifth years, and in which all lectures will be given, is to be erected in close proximity to the Royal Prince Alfred Hospital. Thus clinical material will always be readily available. An important feature in the design of the building is the nearness of the lecture theatre to the pathological museum. Large laboratories, fully-equipped for research in every branch of medicine and surgery, will be provided. When the suggestion was made for the erection of this structure and for the institution of the new system of teaching, the fear was expressed that the clinical schools at Sydney and St. Vincent's Hospital might be abolished, but this is not contemplated.

Scotland

The Blind in Scotland

The annual report of the Royal Blind Asylum and School, Edinburgh, shows that upwards of 2,000 blind persons have been educated or employed by the institution since its foundation. Although the industrial department has felt the prevailing trade depression, this has to a certain extent been met by the introduction of new employments for the blind. The accommodation for the technical training branch has been extended during the year by the transfer of the administrative department to a new building at Gillespie Crescent, Edinburgh. There are now twenty-two blind persons under training in the workshops of West Craigmillar, and ninety in those at Gillespie Crescent. During the year under review the sales of material manufactured by beneficiaries amounted to £34,483. During the year £440 had been expended on grants to blind persons in various parts of the country, while a sum of £500 had been set aside for this purpose in the current year. The income from ordinary subscriptions had been £7,608, as compared with £8,097 in the preceding year. The Scottish National Institution for Blinded Sailors and Soldiers had admitted three additional men for training during the year, and had now seven men under training at Newington House. In the Newington House workshops thirty-seven ex-service men were employed, and in a workshop in Glasgow twenty-two were now resident in Men trained at these institutions were supervised by the various parts of the country, and were supervised by the institution. All these men received an allowance from the institution of not less than 10s. per week in addition to their pensions.

The Scottish National Federation for the Welfare of the Blind held its meeting on June 11th and 12th in Dundee. Mr. James Balfour, who presided, said that the facilities which were now available for blind people in this country were in advance of those in any other country. There were roughly 9,000 blind people in Scotland, of whom approximately two-thirds were over 50 years of age. Dr. W. G. Sym (Edinburgh) read a paper on the myopic child. In order to educate such a child without doing further harm to the eyes, he said that the first point was that the child must wear proper glasses constantly. He did not agree with the plan of associating the myopia class with the blind school; he was convinced that the training for myopics should stand by itself. A paper was contributed by Mr. William Stone, superintendent of the Royal Blind Asylum, Edinburgh, dealing with the welfare of the blind under the Local Government Act, 1929. He referred to the fact that infantile blindness was decreasing, and it might be that in the course of a generation a baby blind from birth would be a rarity. Technical training for the blind was a costly process; and it was unfortunate that so many of them could not be trained for anything. It had always been considered that the natural outlet for the capacities of the blind lay in the use of their hands, but this was not really true; only a small number of blind people were really gifted as craftsmen. Others might become good craftsmen by dint of hard work and patient teaching, but people who worked with blind children saw their difficulties in dressing, etc. It was generally supposed that the blind had a delicate sense of touch, but the sense of touch in the average blind person was rather less acute than in those who saw well. In the future, when these facts were better known, more would be done for the blind by putting them into commercial life rather than condemning them to handwork, which was the least suitable kind of

work for them. In this direction much more had been successfully done in the United States than in this country.

Gilgal Hospital, Perth

This hospital, which has been designed and erected by the directors of James Murray's Royal Asylum, Perth, is a self-contained block of forty beds on an adjacent site. It is intended solely for voluntary patients, especially for those whose malady is slight or of short duration, and who may be apprehensive of possibly harmful or painful contacts with invalids of a more confirmed or different type. The property (Gilgal), on which the new hospital has been built, extends to about ten acres. It is situated on the slopes of Kinnoull Hill about 200 feet above sea-level, and is about one mile from Perth, on the east side of the river. The private rooms, verandas, and garden face south and west, and it commands to the north a magnificent view of the valley of the Tay and the mountains beyond. The hospital consists of two wards and a central admission block, the latter containing on the ground floor a medical office, reception room, surgery and dental room, electrical treatment room, dispensary, and laboratory, all connecting with the main entrance hall. The electrical treatment room is fitted with an ultra-violet projector, radiant heat lamps, and apparatus for faradic, galvanic, and Schnee baths.

Cooking is done by gas, oil fuel being used for both the central heating and the supply of domestic hot water. Rooms are heated by a panel system which dispenses with cumbrous radiators, prevents convection air currents and dust, and ensures an adequate supply of radiant heat. Each ward unit comprises a dormitory with eight to eleven beds, a day-room or lounge and dining-room, six private bedrooms, three observation private bedrooms, two bathrooms, a clinical treatment room, and a veranda. The south side of each dormitory consists of three sheets of glass with controlled opening. Floors throughout are of oak, the doors and other fittings are of Lagos mahogany, and all metal parts are chromium-plated. The cost of the hospital, including the laying out of new roads, grounds, etc., is approximately £21,500.

Selkirk Hospital

The annual meeting of the Selkirk Cottage Hospital Association, which manages Viewfield Nursing Home, was held on June 4th under the presidency of Provost Ballantyne, who intimated that the endowment fund of the hospital has been increased by £900 during the past year, and now amounted to over £9,300. The committee recommended that subscribers to the hospital should be charged at the rate of £3 per week in maternity cases, and that for private rooms they should pay £1 less than non-subscribers. In the course of the year, 197 patients were treated under this scheme of payments, including 157 from the burgh of Selkirk and 40 from the county.

Dundee Royal Infirmary

The annual meeting of Dundee Royal Infirmary was held on June 8th. Mr. Athole F. Stewart, who presided, said that he did not think the majority of people realized the acute nature of the financial problem with which the directors of the hospital were faced. On its present basis the cost of running the institution for a week amounted to approximately £1,000, while the revenue for the corresponding period was about £600. There had been a deficiency of practically £23,000 in the past year. This meant that if the expenditure were to be kept below the income, 4,500 people who needed attention within the infirmary would have to be turned away annually. The reserve fund was now practically exhausted, and the directors appealed to the citizens of Dundee and to the inhabitants of the neighbouring counties to evolve some scheme which would ensure that the efficiency and usefulness of the Royal Infirmary would not be impaired for lack of funds. It was agreed that a sum of £24,583 should be withdrawn from the reserve fund and applied to the extinction of the deficit on the accounts of the infirmary and convalescent home. It was also agreed that a sum of £10,000 should be expended for the provision of a new pathological department and mortuary.

Dr. William Muir

The sum of £581, collected during his illness by the patients of the late Dr. William Muir, who died in March, has been presented to his family as a testimony to the work he had done in the Davidson's Mains district (near Edinburgh) for over thirty-five years. Dr. Muir graduated M.B. at Glasgow in 1888, and, in spite of a busy practice, took a keen interest in public affairs, being chairman for some time of the local school board.

Ireland

Health Services in Northern Ireland

In the Northern House of Commons Professor R. J. Johnstone, M.D. (Queen's University), has expressed disappointment with the Home Office because he expected it would have tackled the problem of local government long ago and would have effected a great many definite improvements. Most of the patients who came to the dispensary were not paupers; they were very often respectable working people, and it was a great mistake in these days that the taint of the Poor Law should hang over that important medical service. He hoped that the Government would use the farm at Richhill as an epileptic colony. At the present time epileptics, unless their relatives or friends could look after them at home, were segregated in a workhouse. If a colony were established they could be placed out in the open air, and the workhouses would be relieved of an unnecessary population.

Drumcondra Hospital, Dublin

The annual meeting of the Drumcondra Hospital was held recently under the presidency of the Lord Mayor of Dublin. According to the report for 1930 the work of the hospital was well maintained, and further improvement had been effected in the financial position. The outstanding event of the year was the institution of the new outdoor annexe—the Santry Shelter—for the accommodation of patients whose complaints responded to open-air treatment. In appealing for further financial support the committee considers that in view of the rapid development of the neighbourhood, the work of the hospital is bound to become heavier. It states that the Drumcondra Hospital did not participate in the sweepstakes scheme, but relied, as in the past, on the material help of those who realized that the relief of suffering was a responsibility and a privilege for each individual member of the community. The report of the medical board recorded that 494 patients had been treated in the hospital wards, of whom 477 had been admitted during the year; while the extern dispensaries had been attended by over 3,000 persons. Deaths numbered 19, a mortality of 3.8 per cent.

Extension of Sunshine Home

In the annual report of the Sunshine Home, Stillorgan, County Dublin, it was stated that the new wing would cost £1,200, a sum which was in hand. Funds were urgently needed, however, for the maintenance of the new beds. During the year 1930-31 the number of cases dealt with and the number of children discharged cured was larger than in the previous year, and as the large number of

cases awaiting admission continued to grow, the committee had decided to extend the institution. Dr. Angela Russell said that the Home prevented and cured the diseases of infancy. Every child in the Home had a chance to become a healthy and useful citizen. The Sunshine Home helped to undo the harm which the slums had done. The report was adopted unanimously.

County Sligo Mental Hospital

In the annual report on the Sligo and Leitrim Mental Hospital, Dr. J. Dunne, resident medical superintendent, states that the treatment in the majority of instances, where definite causes cannot be assigned, is symptomatic. There were only a few types of mental disease to which a definite form could be assigned—for example, general paralysis of the insane, encephalitis lethargica, and confusional insanity. The hospital was lacking in two respects—namely, it was seriously overcrowded, and, instead of wards being bright, cheerful, and well ventilated, they were dark and stuffy, which was necessarily depressing, and was bound to defer seriously the chances of recovery.

India

Stillbirth and Neo-natal Death

With the aid, and under the auspices, of the Lady Irwin Research Fund, Dr. Christine J. Thomson has completed a preliminary inquiry into stillbirth and neo-natal death in India. Her report has now been published by Messrs. H. K. Lewis and Co., Ltd., price 1s. 6d. net. The work began in 1929 at the Haffkine Institute, Bombay, as part of a wider inquiry into maternal and infantile mortality being conducted by Margaret I. Balfour and her colleagues under the Indian Research Fund Association. It was subsequently continued in Madras, where a larger amount of post-mortem material was available. The inquiry was originally planned to last for one year, and it was hoped to base the pathological findings on the examination of at least 300 cases, but, owing to various religious customs interfering with necropsies, the series comprised only 200 cases. It was then decided to issue an all-India questionary, with a view to obtaining information from the obstetrical registers of the various women's hospitals or special wards regarding the main factors leading to stillbirth and neo-natal death throughout the country. These data, relating to more than 3,700 cases, were classified according to the approximate primary causes of death, and served as a useful check upon the findings of the post-mortem series.

In her report Dr. Thomson deals with the special conditions in India which lower the resistance to disease, and particularly the purdah system; the widespread employment of untrained native midwives; the conservatism in obtaining hospital treatment, even for complicated cases; and the administrative difficulties of providing adequate medical aid for a large rural population. A special effort was made to estimate the occurrence of syphilis as a factor in stillbirth and neo-natal disease; it appeared to play a much smaller part as a primary cause than has been imagined hitherto. Each necropsy included a comprehensive search for this infection, while several series of blood tests were performed in Bombay, Calcutta, and Madras, with the co-operation of various Government laboratories; the positive results ranged from 12.5 to 13.6 per cent. In the post-mortem series the incidence of undoubted syphilis was 14.5 per cent., while a further 4 per cent. were classified as "probable," or "possible," cases of this disease. The actual deaths primarily due to syphilis amounted to 16.5 per cent. No fewer than 83.7 per cent. of the syphilitic foetuses were macerated, but of the total macerated foetuses in the whole series only 36.4 per cent. were syphilitic, a figure in close accordance with findings in Western countries. The complications of labour accounted for a larger percentage of stillbirths and neo-natal deaths in the majority of cities or districts of India investigated than in Great Britain, though for Bombay, Calcutta, and Madras the figures were approximately the same. Ante-partum haemorrhage showed a somewhat lower figure than in the West, but the foetal or neo-natal mortality was relatively high. There was a marked variation in the geographical distribution of eclampsia, and its severity appeared to vary considerably in different localities, the maternal mortality in Calcutta—owing to various factors—being extremely high. A much higher proportion of the deaths was attributable to "acute maternal disease" than is the case in the West. The incidence of malaria was low, but this would necessarily be higher in epidemic regions. The "anaemias of pregnancy," while a potent factor in maternal mortality, did not play a large part in the causation of foetal or neo-natal death as a whole. Margaret Balfour assessed 35.6 of the maternal deaths in India as a whole as due to this cause, but in the present series it was incriminated in only 2 per cent. of the foetal deaths. Dr. Thomson considers that this figure is probably an underestimate of the true occurrence of the disease, but believes that it was undoubtedly much less concerned with the foetal and neo-natal deaths than were labour complications. There was, however, an exceptionally high mortality from this cause in certain parts of India—for example, in Shikarpur in Sind. Congenital malformations were not more common in India than elsewhere, but higher percentages of malformations, and diseases of the urinary system, were found than hitherto reported in Great Britain. The incidence of placental disease was similar to that in the West, and leucocytosis was present in more than 10 per cent. of placentas examined. Prematurity is essentially an important factor in neo-natal death in the East, though no scientific data are yet available regarding its actual occurrence as a primary cause of stillbirth and neo-natal death.

Cholera Outbreak in Bombay

In 1928 Bombay experienced an unusually high death rate, and the figure rose further in 1929 owing to a heavy increase of epidemic diseases in the presidency, with a serious incidence of cholera and malaria in Sind. From 1918 to 1922 there was a steady improvement as regards the total mortality figures, but this was followed by a rise, 1929 being the worst year in this respect during the last decade. The cholera epidemic in 1929, as in previous years, entered Sind from the Punjab, and was spread along the canals and by human infection. The people in several areas became panic-stricken and scattered in all directions, thus contributing to the wide extension of the disease throughout the province. Energetic preventive measures were adopted, and most of the local authorities arranged for the sterilization of all drinking water, and the maintenance of stocks of potassium permanganate powder and pills. A large number of inoculations were performed, and educational activities were intensified. There is reason to believe that in 1930 the cholera incidence was much less. The control of the various religious fairs during 1929 was good, and in many cases there were no outbreaks of disease of any kind. The wells were treated systematically with permanganate solution; river beds were guarded day and night, in order to avoid contamination of the water used by the pilgrims for drinking and bathing; chlorinated water was provided and used; and the segregation was successfully arranged of infected persons and their contacts attending these fairs.

Forecasting Epidemics

Sir Leonard Rogers has for many years been endeavouring to trace a connexion between the incidence of cholera, small-pox, and plague and meteorological conditions. In the *Indian Medical Gazette* of April, 1930, he gave a forecast of the probable incidence of these conditions during that year, and in the issue of the *Gazette* for last Feburary he shows how the event proved him to be substantially correct, especially as regards cholera and plague. He submits also in this later issue a forecast of the probable variations of these three diseases in India during 1931, based on the meteorological observations of the previous year. Once again in 1930 the south-west monsoon rains were very regularly distributed and approximately normal in amount over the greater part of India, thus rendering the incidence of epidemic disease rather difficult to foretell. Sir Leonard Rogers believed that no very serious epidemic of cholera was likely to occur during 1931, or, in the case of Assam, Bengal, and South-East Madras, during the usual cholera season of those areas from November, 1930, onwards. No very severe small-pox epidemic is probable anywhere during the current year, though the incidence of this disease is likely to be above the average of 1930 in the Punjab and North-West Frontier Provinces. In the Central Provinces there will probably be fewer outbreaks than in 1930. A low plague incidence is expected in Bihar and Orissa, the United Provinces, and the South Deccan ; about the average figure for the Central Provinces and North Deccan ; and some slight excess over the recent prevalence in the Punjab. Sir Leonard Rogers received in London the information on which his conclusions are based in the form of data supplied by the Director-General of *Observations in India*.

Correspondence

THE HARVEY TOWER

SIR,—We have to-day completed a delightful three-day celebration of the centenary of the Harveian Society of London. The celebration has been most admirably arranged, and reflects great credit on the society's officers. The address by Dr. Raymond Crawfurd at St. Bartholomew's Hospital, the dinner at the Grocers' Hall, the address by the Bishop of Colchester at Hempstead Church, and the reception by Lady Lloyd were all excellent. The doyen of the American physicians, the venerable but ever-youthful Dr. Welch, attended all these celebrations, coming, like Catullus to his brother's tomb, *multas per gentes et multa per aequora vectus*. Replying for the guests at the dinner, he said he found it hard for an American in the beautiful surroundings of the Grocers' Hall to express his feelings adequately ; that he found that the British surpassed all other nations in conducting these festivals : "*You do these things well.*" To-day, Sir, he visited Hempstead Church and the Harvey tomb and monument, inspected the brasses, including those to the memory of the Huntingtons (1498), the ancestors of the American family of that name, inspected the fallen bells, and viewed the rubble heaps in the churchyard—the remains of the Harvey Tower. When I think of the way Americans treat *their* heroes, of the home of Washington and the memorial to Lincoln, I cannot help feeling that the Americans would not have left the ruined tower of Harvey's church unbuilt for half a century.

Next year will be celebrated another centenary—that of the British Medical Association—under the presidency of Lord Dawson, the President of the Royal College of Physicians. The distinguished foreigners who will attend it will wish to visit Harvey's church at Hempstead. The committee of the Harvey Church Tower Memorial Fund has collected about £2,500 ; the Harveian Society of London has collected about £200 for reconditioning the bells. These are about half the sums required. If each member of the Association who has not already subscribed to the Harvey Memorial Fund will send 5s. to the honorary secretary, Dr. Arnold Stott (58, Harley Street, W.1), the tower will be rebuilt and the bells rehung by the date of the Association's centenary. Is it too much to ask?—I am, etc.,

London, W., June 13th. HERBERT R. SPENCER.

INTERNATIONAL LEAGUE AGAINST RHEUMATISM

SIR,—Will you allow me to call the attention of your readers to a matter connected with the International League against Rheumatism, which I think is deserving of their serious consideration? This league was founded some six years ago in order to bring together the many scattered workers (groups and individuals) who were seeking to grapple with rheumatic diseases in different countries ; to arouse interest in the large and vital medical and economic problems which these diseases present ; and by mutual international studies and discussions to clarify the confusion and uncertainties existing in nomenclature, etiology, diagnosis, and treatment.

The chief activities of the league have been: the formation of a number of national committees in Europe and America, many of these now flourishing and valuable medico-industrial organizations ; the establishment of a central information bureau and library in Amsterdam, with a card index of literature on rheumatic diseases ; the holding of periodical international congresses ; and the production of an international organ (the *Acta Rheumatologica*), of which the ninth number has just been published. Keen and fruitful discussions have already taken place at Amsterdam, Budapest, and last year at Liége and Brussels, the next being arranged for Rome in 1932.

It is obvious that such a league, inspiring and co-ordinating the work of other bodies, cannot be conducted without a reasonable expenditure. Owing to the amount of ungrudging voluntary service given, especially by its honorary secretary Dr. van Breemen, these expenses are very low compared with the bulk of work achieved. The small income is derived from contributions from Government funds, national committees, public bodies, and private friends, also from the sale of the journal. The audited statement of accounts for last year shows a considerable deficit, and I understand that the chairman of the Finance Committee, Professor Prusik of Prague, is making some appeal to various Continental committees, and some time ago also approached the British Red Cross Society in England.

I write to ask whether the medical profession in this country will not make some personal contribution to this important work. In England we have benefited in recent years not a little from the work of the league, having owed to it, in the first instance, an awakened public interest and the actual materialization of a "Campaign against Rheumatism." And yet, apart from three or four individual donations, nothing has been sent from our country towards the expenses of the league. As an Englishman (and incidentally as president of the league) I cannot but feel this position to be unworthy. Committees and individuals from far poorer countries than our own give regular annual grants, and one would like to see a fund of at least £200 a year subscribed from our own country. There is no nation in the world so deeply concerned in the solution of the problem of the suffering and economic loss brought about by the rheumatic diseases as Great Britain, and I hope that

some of my medical colleagues will come forward and give a generous lead in this matter.

Cheques can be sent to the honorary treasurers of the Ligue Internationale contre le Rhumatisme, at their bank, Ontvang-en Betaalkas, Doelenstraat, Amsterdam, or to me. Full information is always obtainable from the central office, Keizersgracht 489, Amsterdam.—I am, etc.,

R. FORTESCUE FOX.

36, Devonshire Place, W.1, June 8th.

PSEUDO-ARGYLL ROBERTSON PUPILS WITH ABSENT TENDON REFLEXES

SIR,—The avowed object of my paper under this title was to make it known that pupils conforming to the prevailing loose definition of the Argyll Robertson sign may be associated with absence of the tendon jerks in patients free from syphilis; and that the distinction from syphilis may be made with certainty by observing the behaviour of the pupils during the act of accommodation.

The wording of Dr. Parkes Weber's letter in your issue of June 6th (p. 1001) might be taken to mean that this twofold message was not a new contribution to our knowledge. He writes that "no allusion is made to the first account of such cases published in England—namely, that by Dr. C. Markus." This author did not give "an account of such cases"; he described an isolated case in a paper on "A peculiar pupil phenomenon in cases of partial iridoplegia." In this case, with a myotonic pupil and absent knee- and ankle-jerks, and in almost all the others that have been described—I have found about a dozen isolated examples in ophthalmological journals—a diagnosis of syphilis of the nervous system was either made outright or seriously entertained. It is interesting to recall that Dr. Markus, while admitting that the signs in his case were suggestive of congenital syphilis, was "inclined to take a less serious view." To-day we do not incline to a certain view when confronted with these signs; we know that they have no relation to syphilis.

Dr. Parkes Weber asks if I mean to separate cases with myotonic pupils alone from those with myotonic pupils and absent tendon jerks. I said in my paper that it was *more than probable that some of the cases* with abnormal pupils only were examples of a milder form of the same disorder as that in which the tendon jerks were also abnormal. I would now amplify this by substituting the words *certain that most of the cases,* for those in italics above.

A study of the published cases has caused me to form the opinion that the group with myotonic pupils alone is almost, but not quite, homogeneous etiologically; the group I have described with myotonic pupils and absent tendon jerks is certainly homogeneous, and constitutes a harmless disorder *sui generis* of unknown origin.—I am, etc.,

London, W., June 6th. W. J. ADIE.

EUROPEAN WOMEN AND CHILDREN IN THE TROPICS

SIR,—In the *Journal* of February 14th you report an interesting discussion on the above subject which took place at a meeting of the Royal Society of Medicine. The subject is of great interest to us out in the East, and one on which an interchange of views is always helpful.

I myself have practised nine years in the Tropics, but my professional experience has been limited to the lowlands of Siam. Here, however, we have a climate which is a severe test to all, and conditions of life which are difficult to many. The temperature rarely exceeds 100° in the shade, but it is a damp heat, and continues throughout the year, the cool season, so called, being often of very short duration and never really cold. Life is monotonous, as geographically we are in a backwater, and we feel rather "out of the world" as compared with big shipping centres, like Singapore and Hong-Kong. Home conditions are as good as one can expect, owing to excellent electric light and fan service, good water supply, good cold storage, and fairly good housing accommodation—all, also, at a very good expensive price. But a house in the East is never the same as an English home, and Chinese servants, excellent for undiscriminating bachelors, can drive a conscientious housewife to the verge of a nervous breakdown.

Adaptability, an equable temperament, moderation, and a determination to get the best out of life, are four great assets for life in the East, and unfortunately few women possess them all. Life is admittedly more difficult for them, as they have not sufficient to do or think about; and so the small things of life—the bites of mosquitos, the plague of flying animals of every description that come with the rain, the feeling of discomfort in wet clothes, the petty thefts of the cook, the effort of explaining to servants who understand little English and whose language is not easy to master—all these things thrust themselves on the conscious mind, out of all proportion to their importance. Many seek relief from domestic troubles by virtually giving up home life; they try to avoid monotony by over-indulgence in games, bridge, dinner parties, with their train of late nights, excitement, and excessive alcohol. These women are hardly ever in their homes, and seem to have an obsession to be always out and about doing things, trying to forget, and trying to make the time pass till the next leave comes, or nervous exhaustion drives them home. Others may go to the other extreme, give up their games, shun all social engagements and responsibilities, and become "housebound." These, if they have not the absorbing interest of a hobby, or an outlet for their emotions in the care of a baby, soon get depressed and neurasthenic.

The woman who does best here is the woman who takes a real interest in her house and garden, her baby—and she should have one, if she can—and last, but not least, her husband. She should be able to combine these interests with a modicum of healthy exercise and entertaining, and she should, above all, be able to preserve her sense of humour and of the relative proportion of things that matter. She will find a working knowledge of the language of the country a great help, and, if she can develop an interest in a hobby, or some social work, such as the organization of the local library or musical society, etc., she will find the time pass more happily.

Babies are a godsend to many a woman in the East, and should be encouraged. They do very well up to about 2 years, keep fairly well up to 6 years, but should go home not later than that age. Mentally they develop rapidly, but they become nervous, anaemic, and debilitated if kept out longer. European nurses are a gamble; they may be excellent, but in a small station, where there may be few of their own class, they are apt to get lonely and discontented; and in a house staffed entirely by Eastern servants they occupy a difficult position in the home. Many Chinese amahs are excellent. They should be carefully examined medically, of course, and, like all Eastern servants, require constant supervision.

I must express surprise at Dr. Aldo Castellani's statement that very few European women in the Tropics could nurse their babies for more than a few weeks. On analysis of my cases I find that approximately 90 per cent. have fed their babies for five months, and a number have done it longer. Natural feeding is still the best form of nourishment, particularly in the Tropics, where fresh, clean cow's milk is almost unobtainable, and

it can be done ; only the mother has to concentrate on it. She has to settle down to a placid existence for the few extra months, she has to go to bed early, give up her games, and take extra nourishment. It is hard, after the weary months of pregnancy, and it is not conducive to a quick return to the prematernity figure, but most mothers realize that it is worth it.

I must apologize for bringing up this discussion some months after it has appeared in your columns, but that is partly because of the necessary delay in the post.—I am, etc.,

Bangkok, Siam, April 15th. H. W. TOMS.

OPERATION FOR CATARACT

SIR,—The letter by Dr. H. M. Traquair, in your issue of June 6th, is important from a practical point of view. There is no doubt that his experience of dissatisfied patients after operation for removal of monocular cataract is that of most ophthalmic surgeons. Further, I agree that where the operation is done at all, one is usually persuaded to do it by the patient, even though the uncomfortable post-operative condition has been carefully explained beforehand. The two chief arguments in favour of removal of monocular cataract are, where the other eye possesses good vision, improvement in the visual field, and improvement in the appearance of the pupil. While the former is certainly an advantage in these days of fast-moving traffic, the latter appeals particularly to the female sex, where the milky appearance of the pupil is a source of inquiry and annoyance to the patient. I have found this type of patient much more appreciative than any other, after operation, especially where an iridectomy has not been done at all, or, if done, is of the small peripheral type. Dr. Traquair's experience that patients can shoot pheasants after operation as well as before the development of cataract is as it should be. The resulting improvement in the visual field after operation is all-important in game shooting. The act of game shooting is a beautifully co-ordinated movement of the whole body, and, even when the vision is only fair, can be carried out satisfactorily provided that the correct movements of stance, swing, and anticipation are employed. Most first-class game shots shoot with both eyes open, in contrast with rifle shooting. Again, the loss of accommodation after the removal of the lens is no handicap to game shooting.—I am, etc.,

Blackpool, June 13th. W. BARRIE BROWNLIE.

TREATMENT OF DYSMENORRHOEA

SIR,—I have read with much interest Mr. Venn Dunn's paper on the treatment of dysmenorrhoea in your issue of June 6th, and it is a most remarkable fact that, in a communication professing to give advice on the most effective methods of alleviating, and, if possible, curing this most painful concomitant of a normal process, no mention is made of the benefits of diathermy applied from front to back through the pelvis.

It is so frequently young unmarried girls who are the sufferers from dysmenorrhoea. Such patients may be questioned and examined per rectum, but a routine per vaginam examination is out of the question in general practice, and more often than not the result of such examination as can be made is negative. What is to be done?

We may classify such patients into the psychological or endocrine type. But are we much further on? It is not every medical man who has the time or the personality to practise psychotherapy—the successful administration of which is only given to a small proportion of busy practitioners ; and, as means of treatment, it is little more certain than endocrine therapy, which, at present, is in a state of nebulous chaos.

More than thirty years ago Dr. Betton Massey of Philadelphia advocated treating dysmenorrhoea by through-and-through galvanism—this was long before diathermy was discovered—and I have used this older method with success. Anyone *au courant* with modern therapeutics as practised on the Continent and in America would certainly give diathermy pride of place in the treatment of dysmenorrhoea of doubtful origin. When this remedy fails, then, and not till then, is it necessary to submit virgins to vaginal examination. In the case of those who are not virgins the position is different ; but even here, when no definite cause can be found, diathermy will usually effect a cure ; and, where diathermy is not available, galvanism is a very good second.

It is common knowledge that the action of diathermy is to cause a dilatation of the blood vessels, and so it increases the blood supply and also, in a less understood manner, it regulates neuro-muscular function. Are not these two qualities exactly what is wanted in the treatment of simple dysmenorrhoea ; and, if treatment is to be administered, is not success more likely to be obtained by these methods than by a reliance on analgesics and the advertised claims of makers of so-called endocrine preparations, or by submitting the patient to dilatation " which may have to be repeated in three months' time " or other surgical procedure which may or may not be successful?

The lamentable want of knowledge of the field of usefulness of electrotherapy is daily brought home to those of us who practise this most useful specialty, and one is forced to conclude that the lack of appreciation of its efficacy in certain conditions must be traditional in this country.—I am, etc.,

Cheltenham, June 9th. J. CURTIS WEBB.

KERATODERMIA BLENNORRHAGICA

SIR,—The above diagnosis in the case described under this title in the *British Medical Journal* of June 6th (p. 979) does not appear to have been established, either on clinical or bacteriological grounds, and would seem to be unwarranted, as there was no history of gonorrhoea nor was any evidence of this disease discovered. The diagnosis was apparently made because a keratotic eruption cleared up after treatment, among other remedies, by a gonococcal vaccine.

Barrett (*Arch. Derm. and Syph.*, 1930, xxii, 627) has stated that in order to establish a diagnosis of keratodermia blennorrhagica three things are essential—namely, (1) a gonorrhoeal infection of the uro-genital tract ; (2) a keratotic eruption ; and (3) a gonorrhoeal arthritis. Of eight cases recently published six conformed to these requirements (as did two cases which I have had the opportunity of observing), while of the other two, one described by Louste and Lévy Franckel (*Bull. Soc. Franç. de Derm. et de Syph.*, 1930, xxxvii, 378) was a rare case in a child, 5 years of age, with gonorrhoeal vulvitis but no arthritis, and the other had a history suggestive of recent gonorrhoeal epididymitis but no active lesions ; this case, however, was complicated, as the patient also had a syphilitic infection.

Adamson (*Brit. Journ. Derm. and Syph.*, 1920, xxxii, 183) has pointed out that there is a striking similarity sometimes between arthropathic psoriasis and keratodermia blennorrhagica.

In view of the findings in this case it would seem more probable that the condition was associated with the abundant streptococcal infection proved to be present, rather than with a hypothetical infection with the gonococcus which could not be demonstrated.—I am, etc.,

Clifton, Bristol, June 9th. NORMAN BURGESS, M.A., M.D.Camb., M.R.C.P.

GONOCOCCAL RHINITIS

SIR,—It is very gratifying to note the interest evoked by the article by Dr. Kirkland and myself on gonococcal rhinitis in an infant, published in the *Journal* of February 14th. The case was reported, not for scientific record, but to provoke discussion on a very important but much neglected subject. Admittedly the diagnosis was not complete, because no culture was made and the gonococcal complement-fixation reaction of the baby's serum was not determined. Nevertheless, my thesis is that typical gonococci cannot be mistaken by one experienced in recognizing these organisms.

I agree with Dr. A. Scott, who points out in the *Journal* of March 28th that it is very difficult to culture the gonococcus in the presence of other hardier organisms. I should like to hear from Dr. Assinder his method of culturing the gonococcus in mixed infections, and how he identifies them by fermentation tests in the possible presence of *Micrococcus catarrhalis*. Quite often have I been able to identify the gonococcus in a smear of prostatic fluid stained by methylene blue, yet have not been able to identify them in culture owing to the medium being overgrown by staphylococci and diphtheroids. Media rich in trephones, such as Hirschfeld's testicular and Pelouse's calf-brain agar, have all been tried, but without much success. I contend that in a case of mixed infection the identification of an organism from the nose by fermentation tests (as suggested by Dr. Assinder in the *Journal* of February 28th) is not practicable. I should be glad to know of any medium which would inhibit the growth of other organisms and yet promote the growth of the gonococcus. I suggest that such a medium is urgently required, and research devoted to its isolation should be encouraged in every way possible.

The complement-fixation reaction of the baby's serum should have been determined, but it is probable that, as is the case in other early acute gonococcal infections, it would have been negative.

Dr. Orpwood Price raises a very important controversial point. In the absence of positive blood reaction and the isolation of the gonococcus by culture, is it justifiable to regard a chronic non-symptomatic prostatitis in the male adult as gonococcal infection merely because the prostatic fluid contains pus? Where there's smoke there's fire! I maintain, therefore, that where there is a history of antecedent gonorrhoea it is safer to treat the patient as suffering from an uncured gonococcal focus than to assure him that he has "nothing to worry about" as is so commonly done, with tragic sequelae. The "certain" diagnosis of chronic latent gonorrhoea presents very great difficulties, especially in married persons where the symptoms are slight or even absent. "Gonococcosis d'emblée" is, in my opinion, far commoner than suspected.

In conclusion, I suggest that when there is naked-eye or microscopical evidence of gonococcal infection, medical men should be extremely cautious of pronouncing a patient cured merely because the cultural and serological results are negative. Recently, at the instigation of the author, a Laboratory of Neisserian Research has been established in Sydney, the main object of which is to secure a higher standard of cure in gonorrhoea than has been demanded by the medical profession in the past. In view of the extreme prevalence of latent gonorrhoea (10 per cent. of the adult population) it is lamentable to observe the apathy of the medical profession towards this tremendously important problem. Especially is this so in Australia. Here there are no lectureships in venereology at any of the universities; there are no opportunities for post-graduate work in the modern diagnosis and treatment of gonorrhoea and syphilis; and there is no section of the British Medical Association for the study of venereal diseases.—I am, etc.,

Sydney, New South Wales, May 7th. ROBERT V. STORER.

FRACTURE OF THE NECK OF THE FEMUR

SIR,—In recent numbers of the *Journal* attention has been drawn to the important question of fractures of the neck of the femur. As regards treatment, I must confess that I have never had any success with the Whitman type of plaster-of-Paris spica, nor can I fully concur in its underlying principles. To my mind the essentials in treatment are extension with abduction; then, correction of the excessive external rotation of the foot. These can surely be best obtained by skeletal traction in such a splint as the Thomas knee splint. With faithful attention to detail there is absolutely no reason why full and adequate reduction should not be secured; and if it is maintained and the patient is transferred to a walking calliper splint after some weeks, a good result will be obtained, but not under three years in the case of the "intracapsular" variety. In the near future a book will be published by Constable and Co. which will contain the details of the methods I advocate. I should be only too pleased to let any reader know particulars earlier, if he so requires.—I am, etc.,

London, W., June 9th. MEURICE SINCLAIR, Major R.A.M.C. (ret.).

TREATMENT OF TABOPARESIS BY HYPERPYREXIA INDUCED BY HOT BATHS

SIR,—The article by Drs. Gibson and Gordon in the *Journal* of June 13th would appear to be worthy of special notice for the clarity of its presentation, its freedom from irrelevant matter, and more especially for directing attention to the therapeutic possibilities of hot water. It is somewhat strange that a method of treatment which demands no special apparatus beyond that contained in the average household should not be more generally resorted to. Although the induction of hyperpyrexia by hot bathing is a well-known hydrological measure, most of the literature dealing with such a procedure is contained in publications devoted to the study of the subject. References in general medical literature are comparatively few. The employment of water in its different forms and in various circumstances, both internally and externally, as a therapeutic agent, although recognized for centuries, has to some extent been regarded by the rank and file of the profession as a more or less specialized kind of treatment, and not to be naturally included in the resources of the ordinary practitioner. The reason is not far to seek.

The teaching of medical hydrology forms a very small part of the curriculum of the medical student. Prejudices die hard, and the teachers of to-day no doubt retain subconscious memories of the scant courtesy with which the "water doctors" of their day were treated. This was doubtless due to the fact that in those times practitioners of medicine ranged themselves under distinctive banners indicative of their individual school of thought and teaching. In the days when the value of a prescription was assessed by the number of its ingredients, it is not to be wondered at that the employment of water alone was not seriously considered.

Happily all this is changed, and although adequate provision for the teaching of medical hydrology is largely wanting, the profession as a whole is beginning to realize its importance. Not only are teaching facilities at present utterly inadequate, but the opportunities for research are greatly lacking. It would be ungenerous not to mention the pioneer work that has been done by Dr. Fortescue Fox in his constant efforts to obtain better facilities for the study and teaching of hydrological methods of treatment.

The study of medical hydrology is intimately bound up with the study of climatology. The two subjects go hand in hand, and while the first is neglected the second is to all intents and purposes ignored. In spite of this

a day rarely passes in the life of the ordinary practitioner when he does not have to answer some question as to the suitability of this or that locality for one or other of his patients.

I venture to suggest that the time is now ripe for the appointment of a Reader in Hydrology and Climatology at each of our medical schools. I would also suggest that the matter be taken up by the British Medical Association. It will no doubt be urged that the medical curriculum is already overloaded, and that medical students will take no interest in subjects they are not likely to be examined upon. The first objection could be met by dropping some less essential subject or part of a subject, and the second by setting an occasional question in either hydrology or climatology at the final examination. If this were done, the Reader would have no cause for complaint with regard to the paucity in the number of those attending his lectures.—I am, etc.,

London, W.1, June 15th. M. B. RAY.

MINOR SURGERY OF INFANCY

SIR,—Mr. David Levi, in his description of the operation for umbilical hernia in infants, by subcutaneous ligature, in the *Journal* of June 6th, is apparently ignorant of the practice of Mr. John Fraser, whom I saw perform this operation in 1922 in Edinburgh. That the operation has not found general favour is due to the obvious danger of including in the ligature the tail of omentum that frequently lies in these herniae, and to the fact that most of them disappear spontaneously, whether treated by strapping and halfpennies or not.

Mr. Levi, in recommending the injection of closed hydroceles of infants with sodium morrhuate to effect aseptic inflammation and cure, says: "It is not unreasonable to suppose that the inflammation might spread to the closely adjacent vas deferens and produce stenosis or stricture of it. It has therefore been my practice never to inject both hydroceles in bilateral examples of this condition." Surely to risk producing stricture of one vas deferens is a surgical error, when the simple alternative of masterly inactivity will cure the great majority of infant hydroceles. The minority would be better treated by open operation, which would not jeopardize neighbouring important structures.—I am, etc.,

London, W.1, June 8th. JAMES CROOKS.

"STREPTOCOCCI IN SCARLET FEVER": A TROPICAL VIEW-POINT

SIR,—Your review in the *Journal* dated May 30th of the sixth volume of the *Annals of the Pickett-Thomson Research Laboratory*, on "The Role of the Streptococci in Scarlet Fever," states that "the authors consider that the chief mode of spread [of scarlet fever] is by droplet infection from the respiratory tract." This, in the opinion of many, is the chief mode of infection, not only of scarlet fever, but of other diseases, such as diphtheria and rheumatic fever—except in so far as infection may take place through contaminated articles. This makes the human being the only origin and almost the only reservoir of this disease, and suggests that every new case must arise from a previous clinical case or from a carrier. It is a possible, but not an entirely, satisfactory explanation, as so much seems to depend on environmental conditions.

Something might be learned of the cause both of scarlet fever and of rheumatic fever from a study of the geographical distribution of these diseases. It may be said that neither of them occur in the Tropics. Occasional cases of scarlet fever are said to be imported into those latitudes, but the disease does not spread, and occasional cases of rheumatic fever apparently occur in the Tropics, but the cases are so rare as usually to throw doubt on the diagnosis.

Dr. William Fletcher[1] says that "in the Dutch East Indies, where scarlet fever does not occur, the bulk of the children give positive Dick reactions. With increasing age the number of negatives becomes equal to that found in countries where scarlet fever is endemic. Thus an immunity is obtained in spite of the absence of scarlet fever." This illustrates the fact that "an infection may be widespread in a population with but few, if any, cases of the disease showing themselves." There is something in the Tropics which leads to a Dick-negative reaction in the population, but something also is present, or may be absent, which prevents scarlet fever from showing itself in its normal form, and this leads to the supposition that there are two factors necessary for the production of the disease.

Dr. Coburn[2] writes that the number of haemolytic streptococci found in the throats of rheumatic fever cases in New York diminishes very greatly when these cases are removed to Porto Rico, which is 5 degrees inside the Tropics; that is to say, we have the contradictory position that the streptococci of the one disease, rheumatic fever, tends to disappear in the Tropics, whereas the, apparently, similar organism of scarlet fever must, on the evidence of the Dick test, be endemic in the (tropical) Dutch East Indies, where scarlet fever does not occur. Neither of these diseases is found in the Tropics except very, very occasionally.

Coburn suggests that in New York there is an environmental condition favourable to the growth of the streptococcus of rheumatic fever which is absent or almost so in Porto Rico. This apparently should also apply to the streptococcus of scarlet fever; there can hardly be a climate condition which prevents a bacillus of rheumatic fever from thriving in the throat in the Tropics, though it can thrive in the same throat in New York. It would seem, rather, that in the absence of frequent reinfections the patient can clear himself of an organism, as in Porto Rico, but that when an environment such as there is in New York keeps up a more constant supply, the organism cannot be thrown off.

Seeing that in the big "public" schools, where throat infections account for about 80 per cent. of the total invalidity, there is hardly any rheumatic fever, and that Dr. Stalybrass says that school infection is not of importance in scarlet fever, it seems probable that the environmental condition in question is one of bad sanitation rather than of the propinquity of infected throats. Dr. Coburn suggests that the bacterial agent is not the only factor responsible for the rheumatic state. The same may apply to scarlet fever. In some ways scarlet fever and rheumatic fever behave similarly with regard to the Tropics, and it appears that if there are two factors responsible for the rheumatic state the same may be true of scarlet fever.—I am, etc.,

J. TERTIUS CLARKE,
Late Medical Officer and Health Officer, Perak, F.M.S.

Harrow, June 8th.

PREVENTION OF RENAL COMPLICATIONS IN SCARLET FEVER

SIR,—In reference to Dr. Samson's letter in your issue of June 6th, we have devised a method for prevention of renal complications after scarlet fever in the last 600 cases admitted to this hospital, which is giving even better results. We administer alkalis (sodii bicarb., 25 grains, pot. bicarb., 5 grains, four-hourly) until the urine is alkaline to litmus. This takes three to four days. This brief administration of alkalis has no effect on the renal complication rate, but it reduces the alkali reserve to normal, and thereafter no test we have applied shows that there is any reduced reserve throughout the attack.

[1] *British Medical Journal*, 1928, i, 448.
[2] *The Factor of Infection in the Rheumatic State.*

The success of Dr. Samson's method is evidently not due to abolition of "acidosis." It has been shown that dogs which have received a lethal dose of $HgCl_2$ can be saved from death by administering to them large doses of salts. This is apparently due to the excess of salt turning out the + -charged Hg ion from its combination with the body proteins. I have suggested elsewhere[1] that true toxins behave like polyvalent + -charged metallic ions causing colloid flocculation in the blood and tissues, and that a good part of the pathology of the toxins is possibly explicable on that theory. The success of Dr. Samson's method is confirmatory of this.

Acting on this theory we are now giving tr. iodi mit., 20 minims in milk four-hourly, and thyroid, 4 grains, once per day for a fortnight after admission (in addition to the short alkaline treatment), as suggested by McDonagh's work. Gortner has shown that iodine as KI is the most potent agent in peptizing the colloids of wheat flour—a very suggestive experiment in this connexion. In our last 600 cases of scarlet fever, four cases have had a trace of albumin for four days only, and three had nephritis in the fourth week, which all cleared up completely in three weeks on repeating the thyroid and iodine until the urine was clear of albumin, and alkalis until the urine was alkaline again. This gives a percentage of just over 1 (one-third of Dr. Samson's rate with alkalis only), compared with a control group of 1,080 cases which showed a percentage of 10.7 with renal complications (a figure almost identical with Dr. Samson's control group of 11 per cent.).

It would be interesting to try this method on a case of acute nephritis, as the three cases treated in this way cleared up in half the usual time, which is usually about six weeks in scarlatinal nephritis.—I am, etc.,

Haim Green Hospital and Sanatorium, Pill, near Bristol, June 8th. B. A. PETERS, M.D.

AVERTIN ANAESTHESIA

SIR,—The report of the meeting of the Pharmacological Section of the Royal Society of Medicine in your issue of June 13th gives a rather misleading impression of what I said. My remarks were not confined to the mention of a successful administration of avertin for the performance of cholecystectomy in a case of congenital cystic liver. I stated that I had given this drug in 435 cases, many of the patients being young children and old people, and twelve of the operations being for removal of the gall-bladder. In no instance had ill effects been observed, and I was satisfied that in avertin the anaesthetist has a drug of immense value. I was not convinced by the experimental evidence brought forward by Dr. Parsons as the result of an investigation on five rabbits. Dr. Parsons himself, as your report states, admitted that the evidence was inconclusive, and as he proposes to repeat the experiments upon dogs his attention might be directed to the recent work of Bolliger and Maddox (*Current Researches in Anaesthesia and Analgesia*, 1931, x), which confirms the work of Wesley Bourne, Bruger, and Dreyer. Bolliger and Maddox state that "normal dogs, after repeated and potent doses of avertin, yielded no evidence of recent acute hepatic damage, as is easily obtained by chloroform anaesthesia."

It is difficult to agree with Sir William Willcox that avertin should be used with great caution. Provided it is given in accordance with the principles and instructions which have been clearly laid down, it can be used with complete safety. His remark that it is not a substance which should be let loose on the medical profession would apply with more justification to chloroform.—I am, etc.,

London, N.W.1, June 15th. FRANCIS E. SHIPWAY.

[1] *Medical Officer*, January 24th, 1931.

CONVULSIONS DURING GENERAL ANAESTHESIA

SIR,—Whatever may be the cause of convulsions during surgical anaesthesia it is not, as your correspondent suggests, "lightness of anaesthesia." If he will investigate the reported instances of ether convulsions he will find that in almost every one it is either expressly stated that the patient was deeply under, or else it is plain that this was so from the context. In fact, if one were asked to select one common factor in attempting to define the causation of this very puzzling phenomenon, one would, I think, state that deep narcosis was the condition most often present.—I am, etc.,

London, W.1, June 11th. J. BLOMFIELD.

SIR,—I agree with Dr. W. S. Laurie (June 6th, p. 1002) that it is certainly possible for an attack of epileptic spasms to appear during anaesthesia. I have twice witnessed their onset, though they passed off during the surgical stage and were only faintly observable during recovery. Apart from the event of slight clonic movements in the presence of slight degrees of anoxaemia, there is also a very common appearance of clonic muscular movements at the moment of the application of dental forceps in children under the influence of gas and oxygen, so that reflex effects must be ruled out in making a diagnosis of true epilepsy.—I am, etc.,

London, N.W.1, June 10th. BELLAMY GARDNER.

AFRICAN TICK FEVER

SIR,—I have just received vol. viii of the *System of Bacteriology*, which is in process of being issued by the Medical Research Council, and would like to congratulate the editors and everyone concerned on the excellence of the work. Nevertheless, in an authoritative work of this kind it is desirable that the facts stated should be accurate, and that as far as possible justice should be done to the various observers who have worked at any given disease. One is reminded of the controversy which took place about twenty-seven years ago as to the relative parts played by Castellani, Bruce, and myself in the elucidation of the causation and the mode of transmission of sleeping sickness. I have no desire to revive this controversy, but should like to point out that in August, 1903, when examining the blood of a suspected sleeping sickness patient, I discovered the spirochaetes of relapsing fever on several occasions in the patient's blood. I showed the films to Colonel (now Sir David) Bruce, and his comment was that they probably came from the distilled water which had been used in staining the blood film, and that they were not in the patient's blood. I pointed out to him, however, that I had stained twenty or more films from other human beings and animals that same day, and this was the only one which showed the spirochaetes. The case is fairly fully described in Part V of the reports of the Sleeping Sickness Commission, which was dated Entebbe, November 20th, 1903. This report, for some unknown reason, was withheld from publication until July, 1905, by which time Drs. Cook and Ross and Milne, all of Uganda, had rediscovered this spirochaete and obtained the credit for the discovery. In the history of African relapsing fever on page 169 of vol. viii of the *System of Bacteriology* no mention is made of my original discovery in 1903, though this fact is mentioned by Castellani and Chalmers in their *Manual of Tropical Medicine*, the first edition of which was published in 1910. As Dr. Hindle, the writer of the article in question, refers to Castellani and Chalmer's manual, I am surprised that he did not include this reference to my original observation in his historical account of African tick fever.—I am, etc.,

London, W.1, June 10th. DAVID NABARRO.

Obituary

SIR ROBERT H. FIRTH, K.B.E., C.B., F.R.C.S.

Colonel A.M.S. (Ret.)

As announced in our last issue Colonel Sir Robert Hammill Firth, K.B.E., C.B., late R.A.M.C., died in London on June 5th, aged 72. He was born in Byculla, Bombay, on December 1st, 1858, was educated at Oxford and at University College, London, and qualified as M.R.C.S. in 1879. He obtained the F.R.C.S.Eng. in 1882, and later the D.P.H. of the English Colleges in 1891.

Entering the Army as surgeon on August 4th, 1883, he attained the rank of colonel on November 13th, 1912, and retired on December 25th, 1917, when holding the post of Deputy Director of Medical Services. He served in the Tirah campaign on the North-West Frontier of India in 1897-98, receiving the medal with two clasps, and throughout the war of 1914-18, when he was twice mentioned in dispatches—in the *London Gazette* of January 1st, 1916, and on December 24th, 1917. He was assistant professor of hygiene at the Army Medical School, Netley, from 1892 to 1897, and professor of military hygiene at Netley, and later at the Royal Army College at Millbank, after the school was transferred from Netley, from 1900 to 1906. During the four years from February, 1906, to February, 1910, he was in charge of the School of Army Sanitation at Aldershot.

He collaborated with the late Colonel Notter in the production of Notter's *Theory and Practice of Hygiene*, and largely rewrote the material ten years afterwards. As he explained in his preface, "Notter and Firth" was, strictly speaking, the third edition of the book which Colonel Notter and he brought out in 1896, based upon the well-known work of Dr. Edmund A. Parkes, and the extent of the changes made in the text were such as to render the edition of 1908 practically a new work. The ninth edition appeared in 1921. Colonel Firth was also author of other books on the same subject—*Hygiene and Practical Domestic Hygiene*, and a manual of sanitation for soldiers entitled *Military Hygiene*—and in 1919 he published *Musings of an Idle Man*.

He gained the Alexander Memorial prize and medal in 1888, and again in 1891; and the Parkes Memorial prize and medal in 1889, and again in 1892. He received the C.B. in 1918, and the K.B.E. on June 2nd, 1919. He was for many years a member of council and examiner at the Royal Sanitary Institute, a member of council of the Royal Institute of Public Health, and a Fellow of the Society of Medical Officers of Health. He was also a member of the Société de Médecine Militaire Française. At the Annual Meeting of the British Medical Association at Swansea in 1903 he held office as vice-president of the Section of State Medicine. In 1884 he married Mary, daughter of William Knight of Appledore, Devon, and leaves a daughter.

Mr. ANTHONY BLACKSTOCK, F.R.C.S., orthopaedic surgeon to the Royal Hospital, Wolverhampton, and to the Guest Hospital, Dudley, who died suddenly on June 2nd, was very well known in the district in which he practised. His untimely death came as a great shock to the neighbourhood, as he had been at his usual work in the morning. Mr. Blackstock obtained the M.R.C.S., L.R.C.P. diplomas in 1917, and became M.B., B.S. in 1923, and F.R.C.S. in 1924. For some time he was surgical registrar and out-patient surgical officer to King's College Hospital. He was also a Fellow of the Royal Society of Medicine. Of a quiet and unassuming disposition, he thought and read deeply in science and philosophy, applying his knowledge to his profession with great success. He was especially noted for his kindness to the poor of the hospitals at which he worked. He leaves a widow and three children.

Dr. EVAN J. GRIFFITHS, who died at Porthcawl on June 5th, aged 58, was a native of the Swansea district. He received his medical education at the University of Edinburgh, where he graduated M.B., Ch.B. in *1904*; he obtained the *D.P.H.* Wales in *1910*. After graduating he became assistant to Dr. Jones of Penrhiwceiber, and was subsequently appointed medical officer of health for Pontypridd, which office he retained for eighteen years, retiring to Porthcawl some four years ago. During the war Dr. Griffiths served in East Africa, and also accompanied an expedition to North Russia. He leaves a widow and two children. The funeral at Glyn Taff Cemetery was attended by a large and representative gathering.

Dr. J. HAYDN TIMOTHY died on May 27th, after only three days' illness, at the age of 53. Educated at Llandovery College, Cardiff Medical School, and University College Hospital, London, he obtained the diplomas of M.R.C.S. and L.R.C.P. in 1903. After a period as resident medical officer at Fulham Infirmary, he took up practice at Nantgaredig, Carmarthenshire, where he remained until 1919, when he removed to Gwaun-cae-Gurwen, Glamorgan. He was a member of the British Medical Association, and had served on the Glamorgan Panel Committee for many years. Dr. Timothy's genial disposition assured him a large circle of friends among patients and colleagues in the area. He was buried at Nantgaredig on May 29th, and the large gathering at the funeral, both at Gwaun-cae-Gurwen and at Nantgaredig, testified to the esteem felt for him in both areas in which he had practised. He leaves a widow, one son, and two daughters.

Dr. WILLIAM LLEWELYN JONES, J.P., died at Merthyr on May 20th at the age of 58. He studied medicine at Glasgow University, where he graduated M.B., C.M. in 1893, and M.D. in 1900; he obtained the F.R.C.S.Ed. in 1901. After spending about twelve months in the East as a ship surgeon in a P. and O. boat, he went into practice with his eldest brother at Blaenavon. He finally settled down in practice in Merthyr, where he was surgeon to the Merthyr General Hospital. He had not been in good health since the death of his wife, about six years ago, and of his son, aged 9, who died some time later. He is survived by two daughters.

Universities and Colleges

UNIVERSITY OF OXFORD

Sir Wilmot Herringham, K.C.M.G., D.M., consulting physician to St. Bartholomew's Hospital, has been elected an honorary Fellow of Keble College.

UNIVERSITY OF CAMBRIDGE

At a congregation held on June 12th the following medical degrees were conferred:

M.D.—*S. M. Hattersley, *S. R. Prall.
M.B., B.CHIR.—G. L. Ormerod, N. H. L. Ridley.
M.B.—C. Arthur.
B.CHIR.—A. Barnsley.

*By proxy.

UNIVERSITY OF LONDON

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The next series of eight lectures and demonstrations on tropical hygiene, which are intended for men and women outside the medical profession proceeding to the tropics, will be given by Lieut.-Colonel G. E. F. Stammers from July 6th to 10th next. These courses of instruction, in addition to providing simple rules for guidance in regard to preparation for life in the Tropics and personal hygiene, will also embrace a short account of some of the more common diseases, with advice in regard to measures of protection and some guidance in simple methods of self-treatment. The synopsis and other particulars can be obtained from the secretary, London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1.

VICTORIA UNIVERSITY OF MANCHESTER

Dr. Stephen Leonard Baker has been appointed Procter Professor of Pathology and Pathological Anatomy, in succession to Professor J. Shaw Dunn; he will take up his new duties on September 29th.

UNIVERSITY OF BRISTOL

The following candidates have been approved at the examinations indicated:

M.D.—S. Datta.

FINAL M.B., CH.B.—*(Part I)*: H. M. F. Finzel (with distinction in Materia Medica, Pharmacy, Pharmacology and Therapeutics, and Forensic Medicine and Toxicology), J. J. Kempton, R. L. Marks. *(Part II)*: Elizabeth S. G. Owen (second-class honours), L. P. Ashton (distinction in Surgery and Obstetrics), J. E. Brown, L. R. Jordan (distinction in Medicine), R. H. Moore. *Group II (Completing Examination)*: Evelyn M. D. M. Collinson, Rowena M. Hickman. *Group I only*: W. A. F. Taylor. *Group II only*: O. J. P. Bollon.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

An ordinary Council meeting was held on June 11th, when the President, Lord Moynihan, was in the chair.

Presentation of Gold Medal

Mr. G. Buckston Browne was introduced, and the President presented him with the Honorary Gold Medal of the College, together with a document declaratory of its award to him, in recognition of his valuable contributions to surgery and of his great liberality in the endowment of an Institution for Surgical Research.

The late Sir Herbert Waterhouse

The secretary reported the death, on May 23rd, of Sir Herbert Furnivall Waterhouse, past member of the Council and of the Court of Examiners. A resolution of condolence was passed by the Council.

Fellowship

Diplomas of Fellowship were granted to the following forty-five candidates:

S. Riddiough, Edith M. Hall, R. G. Maliphant, J. Gabe, V. M. Albuquerque, G. N. Golden, A. W. Kendall, R. A. King, B. M. Sundaravadanan, A. J. W. Chamings, M. Coleman, T. R. Stevens, A. J. Watson, W. J. Wilkin, S. M. Cohen, J. M. Gibson, Beatrice M. Willmott, A. R. Banham, R. K. Bowes, G. Herbert, M. A. E. Anous, S. Ahmad, B. C. Rennie, C. B. Melville, Joyce R. Woods, B. Willis, A. H. Lendon, J. A. R. O'Regan, M. Backwell, G. H. Brandis, K. B. Bridge, H. A. Brittain, E. L. Button, I. A. Hamilton, H. D. Isaacs, J. Kelly, M. L. Kennedy, A. L. Kerr, S. N. Lytle, G. A. Mason, J. H. O'Donnell, C. M. Smithies, G. G. Talbot, T. Thornton, W. K. Welsh.

Primary Fellowship Examination

The following fifty-six candidates, out of 169 entries, were approved at the recent Primary Examination for the Fellowship:

F. W. Allinson, S. O. Aylett, J. E. M. Ayoub, P. S. Bassalvi, Diana J. K. Beck, D. L. C. Bingham, E. W. Bintcliffe, Edith J. R. Browne, K. L. Buxton, W. G. Campbell, S. G. Clayton, Gladys E. Clyne, E. A. Danino, G. B. Davis, Rosalind M. S. Derham, K. C. Eden, G. C. Ferguson, W. J. L. Francis, P. E. Glynn, W. H. Graham, T. F. R. Griffin, J. O. Harrison, H. E. James, E. C. Janes, E. J. Javeri, J. H. Kellgren, H. Kelson, C. A. Keogh, B. Kettle, S. Krantz, A. F. Lasrado, N. J. Logie, C. J. Lord, D. McMillan, C. P. Malley, J. A. Martinez, W. Merrington, S. N. Mistri, G. A. G. Mitchell, A. J. Moffett, K. G. Munsif, F. D. Murphy, R. P. Osborne, B. H. Page, C. G. Patel, E. E. Price, R. S. Richmond, N. W. Roberts, G. S. Robinson, M. D. Sheppard, M. A. H. Siddiqi, C. B. Singh, U. P. Sinha, E. C. N. Strong, W. D. Walker, Maureen D. Willmott Evans.

Membership

Diplomas of Membership were granted to the following candidates, who have now complied with the regulations:

P. Chandra, Hilary S. M. Hadaway, T. Standring.

Examiners

Mr R. M. Vick was elected a member of the Court of Examiners in the vacancy occasioned by the retirement of Mr. Rawling.

The following examiners were elected for the ensuing year:

Dental Surgery (Surgical Section): L. B. Rawling, H. S. Clogg, Russell J. Howard, Gwynne E. O. Williams, John Murray, C. E. Shattock, C. P. G. Wakeley.

Fellowship (Anatomy): P. N. Blake Odgers, *William Wright, J. E. S. Frazer, J. Basil Hume. *(Physiology)*: C. A. Lovatt Evans, R. J. S. McDowall, John Mellanby, *G. A. Buckmaster.

Under Conjoint Board:

Elementary Biology: J. P. Hill, T. J. Evans, G. P. Mudge, C. C. Hentschel. *Anatomy*: R. B. Green, W. E. Le Gros Clark, H. A. Harris. *Physiology*: E. B. Verney, H. Hartridge. *Midwifery*: T. B. Davies, A. W. Bourne, S. Forsdike, L. C. Rivett. *Pathology*: C. H. Fagge, C. E. Shattock, W. Bulloch, R. G. Canti. *Diploma in Public Health (Part I)*: J. W. H. Eyre. *(Part II)*: C. W. Hutt. *Diploma in Tropical Medicine and Hygiene (Part I)*: D. S. Harvey. *(Tropical Medicine and Tropical Hygiene)*: G. Carmichael Low. *Diploma in Ophthalmic Medicine and Surgery (Part I)*: W. S. Duke-Elder, C. B. Goulden. *Diploma in Laryngology and Otology (Part I)*: W. G. Howarth. *(Part II)*: R. Affleck Greeves. *Diploma in Psychological Medicine: Diploma in Gynaecology and Obstetrics*: J. D. Barris. J. G. Greenfield. *Diploma in Laryngology and Otology (Part II)*: W. M. Mollison, Norman Patterson.

Examiners for Australia and Canada.

The Macloghlin Scholarship

Ten candidates were nominated to compete at the pre-medical examination in chemistry and physics beginning on June 30th for the Macloghlin Scholarship.

The Buckston Browne Surgical Research Farm

The ceremonial laying of the foundation stone of the Buckston Browne Surgical Research Farm at Downe, Kent, will take place on July 8th.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

At the monthly business meeting of the College held on June 5th, the following successful candidates were duly admitted Licentiates and Members of the College: A. J. P. Alexander, A. G. Thompson, H. L. Chopra.

The representative of the College on the Irish Medical Council reported on the recent proceedings of the Council.

A letter was read from the presidents and trustees of Lakeside Hospital, Cleveland, U.S.A., inviting the College to be represented at the dedication of the hospital on June 17th.

The Services

On June 8th Surgeon Rear-Admiral Reginald Bond, C.B., had the honour of being received by His Majesty at Buckingham Palace upon his appointment as Medical Director-General of the Navy.

FLORENCE NIGHTINGALE MEDAL

On the afternoon of June 29th, at Bedford College, Sir Arthur Stanley, chairman of the British Red Cross Society, will present to Dame Anne Beadsmore Smith, D.B.E., R.R.C., the International Red Cross Committee's Florence Nightingale Medal. This is awarded annually to the six most deserving nurses selected by the International Red Cross Societies. Dame Anne Beadsmore Smith, who has been matron-in-chief of the Territorial Nursing Service since 1925, served with the Forces throughout the South African war, and was principal matron in France and Malta in Queen Alexandra's Imperial Military Nursing Service from 1914 to 1917, and matron-in-chief of the Q.A.I.M.N.S. at the War Office from 1917 to 1924.

DEATHS IN THE SERVICES

Major Ulick Joseph Bourke, Indian Medical Service, died at Gaya on May 7th, aged 45. He was born on May 12th, 1885, the elder son of Lieut.-Colonel U. J. Bourke, R.A.M.C. (ret.), was educated at Glasgow University and the London Hospital, and took the Scottish triple qualification in 1910. He joined the R.A.M.C. as a temporary lieutenant on January 21st, 1915, took a permanent commission in the I.M.S. on May 30th, 1916, and became major on January 21st, 1927. During the war he served in France and Belgium in 1914-15. In Iraq 1917-18, and in Macedonia in 1918. For the last two years he had held the post of superintendent of Gaya Central Jail.

Lieut.-Colonel Edward Reginald Johnson, Bengal Medical Service (ret.), died in Kensington on May 15th, aged 85. He was born on January 23rd, 1846, the son of William Johnson, Esq., land surveyor, of Stretford. Manchester, was educated at Bart's, and took the M.R.C.S. in 1867 and the L.R.C.P.Ed. and L.S.A. in 1868. Entering the I.M.S. as assistant surgeon on October 1st, 1868, he became surgeon-major after twelve years' service, and brigade surgeon and lieutenant-colonel on October 1st, 1893, and retired in 1894. He served on the North East Frontier of India in the Lushai campaign of 1871-72, when he was mentioned in dispatches, and received the frontier medal with clasp, and in the Akha campaign of 1883-84, when he was again mentioned in dispatches, but no medal was given for that campaign.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons was occupied this week with the Committee Stage of the Finance Bill. Mr. Snowden promised to put down for the Report Stage an amendment exempting from the Land Values Tax all lands owned or occupied by charities for the purpose of the charity or held by them to provide funds for the same purpose. Charities so exempted would include those for the advancement of education and for other purposes beneficial to the community. It will be remembered that the Finance Bill as introduced proposed to exempt the sites of hospitals, but not other property owned by them.

No progress has been made in the Commons with the Pharmacy and Poisons Bill or the Proprietary Medicines Bill.

The House of Lords has read the Representation of the People Bill a second time.

In the House of Lords, on June 16th, Lord Ponsonby moved the second reading of the Bethlem Hospital (Amendment) Bill. He said that the Bill was necessary to enable Bethlem Hospital to be used for the Imperial War Museum. It was proposed to use the centre part of the building, which contained the dome, as the war museum. The rest of the site would remain in the hands of the London County Council as a garden and open space. The Bill was read a second time.

National Insurance Pharmacists

On June 9th Colonel HOWARD-BURY asked if the Government had come to a decision on the proposal to introduce legislation to repeal the section which prohibited insurance chemists from giving an insured person an inducement by gift or otherwise in consideration of his presenting an order for drugs or appliances on a national health insurance form. Miss LAWRENCE replied that legislation was not necessary to deal with this point, but an appeal had been made against a recent decision of the Courts in the matter. Until that appeal had been heard, the Minister of Health could not properly make any statement.

Post-Vaccinal Encephalitis

Mr. GREENWOOD, on June 9th, informed Mr. Freeman that an antivaccinal serum had been made available and had been employed by the medical attendant in those cases of suspected post-vaccinal encephalitis which had been reported since the second report of the Rolleston Committee, and of which sufficiently early information had been received.

Juvenile Mental Defectives in Scotland

Mr. WESTWOOD, replying to Mr. Sinkinson, on June 16th, said that the duty imposed on educational authorities in Scotland by the Mental Deficiency and Lunacy (Scotland) Act, 1913, to ascertain what children residing within their areas were mentally defective within the meaning of the Act and to make provision for the education of those who were capable of receiving benefit from special instruction, extended only to children between 5 and 16 years of age. According to the last return made by education authorities, the number of children between these ages who were ascertained by them to be mentally defective was 4,910, of whom 3,993 were ascertained to be educable, and 917 uneducable. The number of educable mentally defective children receiving instruction in schools and institutions was 3,938. Between the ages of 5 and 18, there were 192 educable and 696 uneducable mental defectives certified under the Act and in residence in certified institutions, and 110 uneducable mental defectives under guardianship in private dwellings. No mental defectives under 18 were in residence at the State institution.

Medical Referees: Workmen's Compensation Act

Mr. SHORT, on June 16th, informed Mr. Stephen that the total number of medical referees appointed under the Workmen's Compensation Act was 272. The preparation of a statement giving their names and the number of cases referred to each would involve considerable labour, which the Home Secretary, on the information before him, did not think would be justified. There were no records in the Home Office showing the number of cases which each medical referee certified as fit for light or ordinary work. Dr. FREMANTLE, on a point of order, suggested that to give the details which Mr. Stephen asked concerning medical referees would not be in the public interest.

Dental Benefit Schemes for Women.—In reply to Mr. Lovat Fraser, on June 10th, Miss LAWRENCE said the number of insured women members of approved societies and branches in England having schemes of dental benefit following the second valuation was approximately 4,250,000. The complete results of the third valuation were not yet available, but from the results already received it was evident that there would be a considerable reduction in the number of women entitled to dental benefit.

Dental and Ophthalmic Treatment.—Mr. GREENWOOD told Mr. John, on June 11th, that there was at present no proposal in contemplation to make dental and ophthalmic treatment statutory benefits for all members of approved societies under the National Health Insurance Acts.

Solitary Confinement.—Replying, on June 11th, to Mr. Freeman, Mr. CLYNES said solitary confinement in prisons had been abolished. The period of employment in separation was done away with altogether by his Prison Rules of April last. For breaches of prison discipline, prisoners were liable to be punished by close confinement, but after the first day on promise of good behaviour were allowed one hour's exercise daily and to attend chapel on Sundays. The modern tendency was to substitute loss of privileges for close confinement.

The Factory Inspectorate.—Replying, on June 11th, to Major Colville, Mr. CLYNES said that following the Departmental Committee's report on the Factory Inspectorate, the Government had decided to increase the general inspection staff from 180 to 243, the medical staff from 5 to 8, the electrical staff from 5 to 12, and the engineering staff from 6 to 10, these increases to be spread over a period of five years.

Imported Meat.—In reply to Sir Charles Cayzer, on June 11th, Mr. GREENWOOD said he had no information with regard to the amount of carton meat at present imported into this country. He had received representations with regard to this meat, and was considering them with certain other questions relating to the control of imported meat under the Public Health (Imported Food) Regulations.

Pensions.—Mr. ROBERTS, on June 15th, informed Mr. Jowett that of the 1,465 applications made under the over-seven-years' limit arrangement recognized for medical treatment or pension or pecuniary grant, in about 950 cases pension, or some addition to an existing pension, was granted, at an estimated cost of about £1,000 a week. The number of cases in which medical treatment only was found necessary was 39.

An All-in Insurance Scheme.—On June 15th Miss LAWRENCE told Sir G. Penny that the possibility of an all-in insurance scheme, including unemployment and health benefits and pensions, to be applicable to a large section of the population was considered by the Cabinet Committee set up to make a general survey of the national insurance and pensions schemes. The subject was dealt with in the committee's report, which was still under the consideration of the Government.

Statistics of Unidentified Bodies.—On June 16th Mr. CLYNES told Mr. Somerville Hastings that 1927 was the most recent year for which figures on the number of unidentified bodies taken to the mortuaries in London were available. Seventy-nine bodies of newly born infants and 74 other bodies found in that year remained unidentified two months after the end of the year. Those numbers fairly represented the yearly average.

Regulations for Patients in Military Hospitals.—Mr. SHAW states that only in exceptional circumstances are patients in military hospitals allowed to leave the grounds of the hospital. The number of ex-soldier patients from the war in military hospitals is practically negligible, and there is no sufficient reason for altering the existing rules as regards soldier patients.

Medical News

The annual dinner of the West London Medico-Chirurgical Society will be held at the Trocadero Restaurant on Wednesday, July 1st, at 7.30 for 7.45 p.m.

The annual dinner of the Cambridge Graduates' Medical Club will be held in Downing College on Friday, July 3rd, at 7.45 p.m., with Sir Humphry Rolleston, Bt., president of the club, in the chair. The annual meeting will precede the dinner at 7.15 o'clock. The honorary secretaries are Mr. Reginald Vick and Dr. F. G. Chandler.

At a meeting of the Society for the Study of Inebriety, to be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, July 14th, at 4 p.m., Sir Malcolm Delevingne, K.C.B., Deputy Permanent Under-Secretary of State for the Home Office, will deliver an address on drug addiction as an international problem.

The annual general meeting of the Medico-Legal Society will be held at 11, Chandos Street, W.1, on Thursday, June 25th, at 8.15 p.m. This will be followed by an ordinary meeting, when Dr. T. H. Blench will read a paper on "Crime investigation in Paris," to be followed by a discussion.

At the next meeting of the Optical Society, to be held at the Imperial College of Science and Technology, South Kensington, on Thursday, June 25th, at 7.30 p.m., a demonstration will be given by Messrs. H. H. Emsley and E. F. Fincham on the anumbra prism ophthalmoscope.

The Royal Free Hospital, whose two most pressing needs at present are funds to complete the nurses' home and contributions to the general maintenance scheme, is much indebted to the generosity of Miss Ruth Draper in giving, at the Vaudeville Theatre, an extra matinée, with a special programme, for the hospital on June 30th, at 2.45 p.m.

The summer meeting of the Institution of Heating and Ventilating Engineers will be held at Harrogate from June 22nd to 24th. The agenda includes a paper by Mr. A. F. Dufton entitled, "Radiant heat: A contribution to the study of the heating of school buildings."

The forty-second Congress of the Royal Sanitary Institute will be held in Glasgow from July 4th to 11th; Sir Henry Mechan, the founder of the Chair of Public Health in the University of Glasgow, will preside. The subjects to be discussed in the Sections and conference cover a wide field, and include the role of the hospital relative to the development of preventive medicine, and the proposals of the British Medical Association for a general medical service. Dr. Walter Elliot, M.P., will deliver a lecture on "A continuous health policy" on Friday, July 10th. Over 920 delegates have been appointed from Government departments, the colonies, and some foreign nations, as well as 500 municipal authorities, societies, and universities. A health exhibition will also be open during the meeting.

Detailed information about the lectures and demonstrations arranged for next week by the Fellowship of Medicine and Post-Graduate Medical Association will be found at page 260 of the *Supplement*. The special evening lectures to candidates for the M.R.C.P. are being continued. Syllabuses and tickets for all the courses may be had from the Fellowship of Medicine, 1, Wimpole Street, W.1.

A series of weekly lectures on proctology has been arranged by the staff of St. Mark's Hospital, City Road, E.C.1. On Thursday, July 9th, Mr. Lockhart-Mummery will discuss perineal excision of the rectum, with cinematograph demonstration. Sir Charles Gordon-Watson will lecture on carcinoma of the colon on Thursday, July 16th. The injection treatment of piles will be the subject of a lecture by Mr. E. T. C. Milligan on Thursday, July 23rd, and Mr. W. B. Gabriel will speak on anal fissure on Tuesday, July 28th. The lectures commence at 4.30 p.m., and are open to registered medical practitioners free of charge.

The German medical authorities have recently established a wireless coastal station known as "Elbe-Weser-Radio," through which any ship can obtain medical advice, such calls for assistance being connected directly through the new station to the National Hospital at Cuxhaven.

A feature of the International Rotary Conference which is about to be held in Vienna will be a vocational meeting of Rotarian members of the medical profession from all parts of the world to be held in the house of the Gesellschaft der Aerzte. At this meeting Professor Wagner-Jauregg will give a twenty-minute lecture on the treatment of general paralysis by infection with malaria parasites. The lecture has been printed in three languages, and is to be distributed in advance to medical members of the conference.

The international exhibition of hygiene at Dresden has been reopened from May 15th until September 30th.

A statue of the celebrated histologist Professor Ramon y Cayal was recently unveiled in the courtyard of the Madrid Faculty of Medicine.

Professor Fritz Lange of Munich has been made an honorary member of the British Orthopaedic Association.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9861, 9862, 9863, and 9864 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS

Pyrexia after Confinement

"J. D." writes: A young woman has been running a temperature nightly of 101° to 103° F. since her confinement a month ago. A consultant surgeon has diagnosed mild endometritis and advised quinine and iron, but the patient gets weaker. Can anyone suggest what should be done either to make an exact diagnosis or by way of treatment?

Urticaria

"PRACTITIONER" (Scotland) writes: Can any reader suggest a remedy for urticaria in a very nervous woman, aged 44; duration about two years? Apart from her nervous symptoms, menopausal changes, and haemorrhoids, she is a healthy woman. She has been treated in hospital and in nursing homes (under skin specialists) with everything worth trying—for example, calcium by every method and preparation, adrenaline, pituitrin, bowel irrigation, streptococcal vaccines, etc. The vaccine at first seemed to help a little. Diet has no effect. The urticaria affects arms, body, and face, and to a slight extent the buccal mucous membrane, and recurs every two or three days.

Diabetic Diet on Holiday

Dr. R. H. BLACKBURN (Preston) writes: I wonder if any reader could tell me where a diabetic (a working man) could spend a holiday without the worry of providing his own dietary? The ordinary boarding establishment does not welcome, or cater for, the diabetic, and this man has his holiday spoiled by having to plan and provide his meals. In a strange place, too, it is especially difficult.

Scleroderma with Pernicious Anaemia

Dr. J. BARCROFT ANDERSON writes with reference to the query under this heading (June 6th, p. 1007): Dr. Alex. Patton has omitted to state whether he has excluded pellagra as a possible cause of his patient's illness, and whether he has detected excessive sugar tolerance.

Income Tax

New Practice—Basis of Assessment

"H. C." bought his practice as from April, 1930, and has made his declaration of the profits for 1930-31 on the basis of his cash receipts less expenses. The inspector claims to charge tax on the amount of the bookings, leaving the question of bad debts over until next year. Prior to April, 1930, "H. C." was doing locumtenent work, and used an M.C. 2-seater. He sold that car for £55 and bought a saloon for £290. What should he claim?

*** Income tax is charged on full profits, and not merely on that portion of the profits which has been realized. The cash basis, therefore, cannot be claimed as a right, and in the first year of a practice is unfair to the Revenue, because a full year's expenses are thereby charged against something less than a full year's income. On the other hand, some allowance should be made for probable loss by bad debts. "H. C." should prepare a careful statement setting out a list of the outstanding debts as at April, 1931, and indicate against appropriate items the probable loss through non-payment in each case. The total of these deductions should then be claimed as a set-off from the gross bookings as a specific reserve for bad and doubtful debts. With regard to the car, we consider that "H. C." should be allowed 15 or 20 per cent. of the £290 in respect of depreciation. Such an allowance excludes a renewal claim, but, as the saloon car was purchased in connexion with the new practice, it is doubtful if a renewal or obsolescence claim could properly be made, especially as there was a change in the category of assessment—namely, from assistant to principal.

Proportion of Household Expenses

"C. F. E." explains that he occupies a two-story house in a provincial town, and keeps two maids. The rooms used professionally—on the first floor—are consulting room, secretary's filing room and waiting room, and combined waiting room and dining room, and garage.

*** It is, of course, impossible to do otherwise than try to arrive at a fair approximation—precise calculations are impossible. We think that on the facts stated "C. F. E." should be reasonably satisfied with a compromise on the basis of one-half the Schedule A assessment, rates and repairs, one-third of the cost of lighting and heating, and cost of board, wages, and laundry of one maid,

LETTERS, NOTES, ETC.

Rupture of the Tendons

Mr. HARRY PLATT, M.S., F.R.C.S., writes: May I remedy an omission in my letter in last week's *Journal*? Lines 4 and 5 should read: "I have operated on a professional footballer who had sustained *a complete rupture of the Achilles tendon accompanied by a complete rupture of the plantaris. . . .*"

Chromium Plating

Mr. FRANK MASON, A.M.I.E.E. (managing director of Stainless Plating, Ltd., Sheffield), sends the following note arising out of the correspondence on chromium plating published in our issues of May 9th and 16th: Since the elimination of such culture grounds as are provided by polishing pastes, etc., in crevices is of special interest to both physician and surgeon, the installation of properly chromium-plated metal parts would appear to be of the greatest importance, and incidentally would save much time and money. No polishing whatever is required, and the mere wiping off of all extraneous matter, as one would from a dinner plate or a glass window, is all that is required. Further, because of its extreme hardness, no fear need be entertained of the chromium wearing through by hard rubbing, as in the case of nickel or silver plating. Unfortunately, all processes and operators do not produce the same results. Nevertheless, chrome-plated articles, when properly made and treated with reasonable care, whether they be taps and rails, or sterilizers and the like, will retain their original beauty of colour and polish almost indefinitely. Examples can be seen in many hospitals and similar institutions, as well as in private practice, where fittings have been installed for more than five years and are as good to-day as when fixed. At the Middlesex Hospital some of the chrome-plated fittings have been in use for over two years; they range from the largest sterilizer to the humble screw.

Cave-dwellers of Derbyshire

Dr. J. S. MANSON (Warrington) writes: The excellent summary of Mr. A. Leslie Armstrong's lecture to the Warrington Division in your issue of June 6th (p. 998) omits reference to the most important discovery yet made by him in the exploration of the Pin Hole Cave. This was a portion of a rib of a reindeer, on which was engraved a human figure representing a man with a mask in a dancing posture. This find is unique in English archaeology, and as an example of Aurignacian culture brings this cave into line with the classic caves of Aurignac in France and Altmira in Spain. Readers of the summary not yet aware of this discovery will appreciate, I am sure, the significance of this specimen of Upper Palaeolithic culture in England. There is a slight error in the eighth line of the summary: "Marlborough" should be "Harborough."

Sight Test for Motorists

We are informed that the Automobile Association is appealing against the recent decision of the Divisional Court concerning motorists who are unable to read a number plate at twenty-five yards. The Divisional Court decided that there was no right of appeal against the refusal of the licensing authority to grant a driving licence. It is the contention of the A.A. that, under Section 5 (Subsection 5) of the Road Traffic Act, motorists have a general right of appeal, and the present action is being taken in the interests of motorists who, though unable to read the letters or figures on a number plate at twenty-five yards, have driven for long periods without accident or infraction of the law.

Medical Golf

At the summer meeting of the Shropshire Medical Golf Association, held on May 31st at Church Stretton, deep regret was expressed at the recent death of Dr. George Higginson, who had not missed a meeting since the association was founded in 1919. The winner of the association's Challenge Bowl was Dr. Harker of Oswestry, whose score was 67 net (77–10). The Foursomes versus Bogey Competition resulted in a tie between Drs. Beckett and Richardson and Dr. J. C. Davies and Mr. A. Lavelle (1 up). Arrangements were made for holding the next meeting at the Wrekin Golf Club on the second Sunday in October.

The spring meeting of the Sussex Medical (B.M.A.) Golfing Society was held at the new course of the West Sussex Golf Club at Storrington. Twenty-four members were present. On the morning round the Challenge Cup was won by Dr. A. E. Drynan (78 net). In the afternoon Drs. F. Heckford and J. K. Raymond won the four-ball foursome against bogey (2 up).

A Disclaimer

Dr. W. ANNANDALE TROUP writes: It has been brought to my notice that a large number of booklets containing my views on the titanium alloy arc, accompanied by an advertisement of a certain apparatus, have been circulated widely among the profession. I would like it to be made perfectly clear that this was done without my knowledge and without my consent.

Surgery and Diet

We regret that the name of Professor S. B. Wolbach of Harvard was wrongly spelt in Colonel McCarrison's first lecture (published on June 6th, p. 966), and in our leading article on June 13th (p. 1031).

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 50, 51, 52, 53, 54, 55, 56, 57, 60, and 61 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 58 and 59.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 259.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

584 Dissecting Aortic Aneurysm Simulating Pulmonary Neoplasm

A. CLERC, P. N. DESCHAMPS, and R. SCHWOB (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, March 2nd, 1931, p. 280) describe the case of a woman, aged 53, who had experienced for two months stabbing pains in the left side of the chest. The patient was cachectic and moderately dyspnoeic. Examination revealed dullness, diminished fremitus, and weak breath sounds over the left base, and extending up to the mid-scapular region. No physical signs were found in the cardio-vascular system. Radioscopy showed a concise rounded shadow almost filling the left side of the chest and separated from the clavicle and the diaphragm by narrow zones of normal density. Exploratory puncture produced a brownish haemorrhagic fluid, and a diagnosis of pulmonary neoplasm was made. During succeeding months the signs became more marked, and a horizontal zone of tenderness extended across the left breast and axilla. A further puncture withdrew sero-fibrinous fluid. Following an acute onset of respiratory symptoms with fever, death ensued ten months after the beginning of the illness. At the necropsy there was found a small purulent effusion in the left pleural cavity. The left lung was flattened, and formed a thin layer surrounding a large mass which appeared to extend from the mediastinum, and which contained degenerated blood clot. The aorta, arising from a small heart, was widened and atheromatous, and extended only as far as the transverse arch, where it merged with the mass, which was evidently a dissecting aneurysm. The authors remark that while in this case the signs justified a diagnosis of pulmonary neoplasm, it occasionally happens that a lesion having all the appearances characteristic of aneurysm is found at necropsy to be a new growth. Absence of pulsation on screening a mediastinal mass is in favour of the existence of aneurysm rather than a contraindication of it.

585 Anal Chancre

A. A. LANDSMAN (*Med. Journ. and Record*, April 1st, 1931, p. 328) believes that anal chancre occurs more frequently than has been stated by various authorities, and records three cases. The diagnosis has to be made from simple fissure—an acutely painful but clean surgical lesion, except when local infection occurs. A fissure is single, and is situated usually in the posterior median line; ulceration, excoriation, and discharge are rare unless there has been previous rectal disease. On the other hand, chancre has a less acute onset, and its course is more chronic. There may be multiple lesions which are not in the median line, with dermatitis, superficial anal ulceration, and a peculiarly fetid serous discharge. Spirochaetes may be found on dark field examination. The inguinal glands are enlarged and tender. The Wassermann reaction may be negative until secondary symptoms occur. Landsman failed to find any induration of the base of the chancre, such as occurs in the genital chancre, or condylomata. The serious nature of chancre and the possibility of syphilis being communicated to others render the differential diagnosis and subsequent treatment of the utmost importance.

586 Direct Transmission of Herpes Labialis

Despite the numerous observations and experiments of recent years on the infective nature of herpes simplex, there is as yet no evidence that in the human subject it is normally spread by direct contagion, though in the case of herpes labialis opportunities for such spread must be very frequent. K. SCHEER (*Münch. med. Woch.*, April 10th, 1931, p. 613) records that, of his own two children, the boy suffered from periodic attacks of herpes labialis, usually on the lower lip, while the girl had never suffered from herpes. In December, 1926, she had typical bilateral herpes zoster on the back, and two days afterwards the boy developed varicella. There was thought to be an association between the two conditions, but fourteen days later still the girl, whose herpes had now healed, also developed varicella. In May, 1930, the boy, who was suffering from one of his periodic attacks of herpes labialis, bit his sister on the chest in the course of a bedtime scuffle. The teeth marks were definite, and pigmentation of the area was still present when, eighteen days later, a typical herpetic eruption developed at the site of the bitten skin. The author comments that the incubation period here was longer than that which has been recorded in the experimental transmission of herpes.

587 A Confirmatory Physical Sign in Ascites

As a confirmatory diagnostic sign of ascites, J. T. WITHERSPOON (*Journ. Amer. Med. Assoc.*, March 21st, 1931, p. 944) suggests that in such cases, when one side of the abdomen is tapped with the finger and the other side is auscultated, two sounds similar in timing to normal heart sounds are heard. The first is caused by transmission of the sound wave through the fluid; the second is the result of the fluid wave crossing the abdomen and striking the auscultated side. This sign was present in 18 cases of ascites examined, and was confirmed by abdominal aspiration, operation, or necropsy. It was not present in cases in which the usual physical signs were absent, nor in abdomens markedly distended with gas.

588 Ocular Manifestations of Syphilitic Serous Meningitis

J. ROLLET and PAUFIQUE (*Journ. de Méd. de Lyon*, March 20th, 1931, p. 193) state that syphilitic serous meningitis occurs mainly in young infants, in the congenital, and in the secondary or tertiary stage of acquired syphilis. Records of the pathology are few, since most cases are cured, but there may be an ependymitis or internal hydrocephalus, a diffuse serous meningitis, a mixture of these, or a localized cortical or basal meningitis. Prodromal symptoms include headaches, nausea, constipation, buzzing in the ears, and pseudo-migrainous attacks; these are followed by violent headaches, vomiting, obstinate constipation, and a slow pulse, with no great change in the general condition, no meningeal symptoms, and no pyrexia. The ocular signs which dominate the clinical picture, and are diagnostic, are papilloedema (the measurement of which is of no diagnostic importance), indications of intracranal hypertension, shown by hypertension in the central retinal artery, bilateral mydriasis, and paresis of the sixth cranial nerve. The visual acuity long remains normal, a change in the fields indicating an intracranial tumour. There may be associated syphilitic ocular lesions, or general signs of the disease. The cerebro-spinal fluid is under pressure without cytological modification. The prognosis is good with early diagnosis, and the treatment should include frequent lumbar puncture, the exhibition of hypertonic solutions, and the administration of antisyphilitic remedies.

589 Measles Encephalitis

E. C. BENN (*Brit. Journ. Child. Dis.*, January–March, 1931, p. 22) reports two fatal cases of measles encephalitis. The first, which occurred in a previously healthy girl, aged 8, with no history of fits or convulsions, was unusual in that the symptoms of encephalitis appeared on the third day of measles, within twenty-four hours of the eruption, and after an apparently normal onset of the disease. Death ensued within twenty-four hours of the first sign of cerebral involvement. The second patient was a boy, aged 5, who had had no previous illnesses. On the eighth day of an ordinary attack of measles, when he was already convalescent, he developed symptoms of cerebral

involvement, and death followed in twenty-five hours. Both patients showed symptoms of severe and widespread cerebral damage, and the prognosis was hopeless from the first. Post-mortem examination in both instances revealed *acute congestion of the brain on naked-eye examination*, and the typical histological appearances of post-infective encephalitis.

590 Streptococcal Myositis

F. E. BICHARA (*Thèse de Paris*, 1931, No. 10), who records 19 illustrative cases in patients aged from 9 to 68, 13 of which were fatal, states that the most typical form of streptococcal myositis is characterized by a sudden onset, a very grave general condition from the first, and a rapidly fatal course. The only clinical manifestation of the septicaemia is myositis involving one or more muscles, and manifested by a considerable but variable swelling. The muscle is infiltrated with serous fluid swarming with streptococci, and the histological lesions are those of degenerative myositis. In addition to the hyperacute form of streptococcal myositis, there is a variety found in the course of well-defined streptococcal infections such as erysipelas, puerperal fever, ulcerative endocarditis, and Osler's disease. Abortive and curable forms may occur in which the infection of the muscle is due to a special form of streptococcus.

591 The Lungs after Measles

J. L. KOHN and H. KOIRANSKY (*Amer. Journ. Dis. Child.*, March, 1931, p. 501) had previously found that skiagrams of the chest taken during measles in 130 children showed shadows suggesting pulmonary infiltration in 62.4 per cent. of those under 4 years old and in 42.2 per cent. above that age. They now report their observations on re-examination of these children from six to ten months after measles. The results were as follows. Little or no residual changes were found at the site of previous pulmonary infiltrations, even when they had been extensive and of long duration. On the other hand, the evidence of pleural involvement during measles was striking. In 18 children, most of whom had been in good health on discharge from hospital, pleural thickening not present during measles was now seen at the site of the interlobar fissure between the upper and middle lobes of the right lung, or in some other portion of the pleura. The pleurisy often occurred in cases regarded clinically as mild.

Surgery

592 Ankylosis of the Temporo-maxillary Joint

M. COELST (*Rev. de Chir. Plast.*, April, 1931, p. 63) describes a case of temporo-maxillary ankylosis on the right side which occurred in a young woman, aged 22. Various methods of treatment which had been tried for three years had failed, and at the time of the surgical intervention it was impossible for the patient to separate the molar teeth even to a slight degree; this made the taking of sufficient nourishment extremely difficult. On the right side, a little in front of the temporo-maxillary articulation, there were numerous scars of fistulae resulting from the arthritis which was the original cause of the lesion. The operation was conducted under general anaesthesia; a V-shaped incision was made, the point of which reached up to the level of the ear, care being taken to avoid the facial nerve. The outer surface of the joint was exposed and freed. A gouge was then used for hollowing out a thin section of bone at the site of the original articular surface. A true resection of bone was not performed, but the articular surfaces were shaped by means of a file. At the end of the operation the patient could open and close the jaws like a normal subject. An apparatus was fitted a few days later to enable the movements of the jaws to be carried out passively daily, and to prevent any risk of a return of the ankylosis. Three months later the scar was practically invisible; the general condition of the patient was much improved, and the mouth could be opened normally.

593 Lingual Tuberculosis

According to CH. DU BOIS (*Rev. Méd. de la Suisse Romande*, April 25th, 1931, p. 257) the symptomatology of the chief forms of tuberculosis of the tongue corresponds almost exactly to that of the different cutaneous types. Lingual lupus and tuberculous gummata are rare; both evolve very slowly, and are generally found on the dorsum. The former is usually associated with lupus in other parts of the mouth, and rarely ulcerates. The late ulceration of tuberculous gummata distinguishes them from the syphilitic forms, though serological tests are often necessary for diagnosis. Spontaneous primary and secondary ulcerations are the commonest of the lingual types; exceptional in infancy and old age, they occur more frequently in men than in women. Primary ulcerations are of two varieties, one being caused by accidental infection in a subject free from tuberculosis, and the other being due to auto-infection in a tuberculous patient. Secondary ulcerations arise without any previous traumatism or gummatous formation. Both types usually occur on the tip or edges of the tongue. At their onset these ulcerations cannot be distinguished from simple erosions, their general starting-point, but any failure to heal after removal of the cause of injury, such as a jagged tooth, is rather indicative of tuberculosis. Lingual tuberculosis must be differentiated from syphilis and cancer; a case is recorded which illustrates the difficulty of diagnosis. The treatment employed by Du Bois is the application of caustics and x rays. Excision of small areas, as in cutaneous tuberculosis, may prove efficacious. Prophylactic measures consist chiefly in maintaining the integrity of the organ.

594 Fatal Thyroid Crisis following Injection of a Varicose Vein

E. I. GREENE and J. M. GREENE (*Journ. Amer. Med. Assoc.*, February 21st, 1931, p. 611) report the case of a man, aged 40, who had had the typical signs of Graves's disease for eight months. In the region of the left ankle there was a small ulcer, with a number of small veins at its upper margin. On account of pain in the ulcer he asked to have the veins injected. This was refused, but he was advised to enter hospital for treatment for his thyrotoxicosis, and, incidentally, for his ulcer. He persuaded another physician to perform the injection, but within a few hours severe pain developed at its site, and later there ensued restlessness, profuse sweating, vomiting, and diarrhoea. Two days later he was delirious, with marked exophthalmos and hyperpyrexia, and there was extravasation of the injected material at the upper border of the ulcer. In spite of treatment with the compound solution of iodine through a stomach tube, sodium iodide, intravenous injections of 1 per cent. dextrose in normal saline solution, and morphine in 1/4 grain doses, the patient died. The authors comment on the vital necessity of refraining from all operative procedures in such cases until the thyroidism has been brought under control.

595 Carcinoid Tumours of the Small Intestine

H. H. COOKE (*Arch. of Surg.*, April, 1931, p. 568) records eleven cases of carcinoid tumours of the small intestine, and, as metastasis was present in three cases, the series is divided into a malignant and a benign group. Carcinoid tumours of the small intestine usually appear as small circumscribed firm nodules, which project into the lumen and are often multiple. Their size varies from 3 mm. to 1 cm. or more in diameter, the larger nodules being yellow to greyish-white in colour. Their free surfaces are usually covered by normal mucosa, but there may be superficial erosions or ulcerations. The primary nodules have the consistency of a hard fibroma. Carcinoid tumours may occur anywhere in the gastro-intestinal tract, but are most common in the appendix and small intestines. Their origin has been assigned to the principal epithelial cells of the crypts of Lieberkühn, to Paneth's cells, and to the basal granular cells. In the eleven cases under review intestinal obstruction was caused in three of the malignant and in one of the benign cases. Five of

the patients were in the seventh decade of life. The primary lesion was a single circumscribed nodule in seven cases, multiple nodules in three cases, and an annular constriction in one case; it was situated in the jejunum in two cases, and in the ileum in 9 cases, the size of the lesion varying from 0.2 cm. to 2 cm. in diameter. The only treatment for carcinoid tumours is surgical removal, the prognosis being favourable in the absence of metastasis.

596 Spina Bifida Treated by Operation

C. LASSERRE and P. LÉONARD (*Bordeaux Chir.*, April, 1931, p. 169) report a case of spina bifida which was treated surgically ten hours after the birth of the infant. The father was under treatment for syphilis; when it was recognized that the mother was pregnant she received injections of bismuth and also of acetylarsan. After a normal but slightly premature confinement a male child was born which showed signs of a prominent forehead and had a reddened zone in the lumbar region. This increased in size as the child moved and cried, until it was as large as a small orange, and revealed through a thin covering of skin that it was filled with a clear liquid. There were no signs of hydrocephalus or club-foot, and no contraindications to operation. This was immediately performed, and consisted in opening the sac, evacuating the fluid, and reducing the nerve elements. The sac was dissected out and sutured over the nerves, and the skin and underlying tissues were sutured over the opening in four layers. During the operation the child was laid prone on his abdomen. There were no post-operative complications, but antisyphilitic treatment was given. On the eighth day signs of hydrocephalus were evident, but were not progressive.

Therapeutics

597 Trichlorethylene in Trigeminal Neuralgia

It was noted during the war that workers with trichlorethylene developed symptoms of acute poisoning—namely, bilateral loss of sensation definitely confined to the trigeminal distribution of the face. Plessner and Oppenheim were therefore led to try the efficacy of the drug in trigeminal neuralgia, using the inhalation method. M. A. GLASER (*Journ. Amer. Med. Assoc.*, March 21st, 1931, p. 916) now records the results obtained in 15 cases; 13.3 per cent. were partially relieved, contrasting with Seelert's claim that 74 per cent. of his patients improved. Though later reports do not fulfil the earlier expectations for this treatment, Glaser considers that trichlorethylene, which is non-toxic, is an extremely valuable adjunct in the treatment of trigeminal neuralgia, and should be tried in all cases before resorting to alcohol injections or surgery. It is ideal when effective, since the pain is relieved without anaesthesia resulting. Its action is unknown. The drug should be inhaled three or four times daily; twenty to twenty-five drops are placed on a piece of gauze, and the inhalation is continued till the odour has entirely disappeared. This procedure should be continued for four to six weeks, but after the pain has been relieved daily inhalations are unnecessary. As a prophylactic, the drug may be inhaled every two or three months for three consecutive days. As trichlorethylene occasionally produces vertigo, sleep, and drowsiness, it should be inhaled in a recumbent posture. It also occasionally causes tingling in the extremities, but this passes off rapidly.

598 Treatment of Malaria

H. WILLOUGHBY and E. ASLETT (*Journ. Royal Naval Med. Service*, April, 1931, p. 95) insist that the optimum maximum oral dosage of quinine in quartan infections is 10 grains three times daily, and the same quantity twice a day in subtertian cases; any excess is liable to induce toxic symptoms, especially in debilitated patients. The maximum effect on the parasites is obtained with these smaller doses, and the patient gains nothing by increasing them. Plasmoquine administration should be associated with glucose, thus decreasing the tendency to toxic symptoms, and for the first two courses the patient should remain in bed. The appearance of cyanosis should be taken as an indication to decrease the dose, but it should be remembered that patients who develop this sign are nearly always completely cured eventually. The plasmoquine compound with quinine is not recommended in cardiac disease, but it has a special value in cases resistant to quinine alone, when blackwater fever is indicated or present, in pregnant or puerperal women, and in children. The authors doubt whether salvarsan has any specific action on the malaria parasite. At the start of blackwater fever the threatened haemoglobinuria may be averted by rapid alkalinization of the urine, gradual desensitization with the plasmoquine compound, and the treatment of constipation by calomel in one or two doses, and not by the repeated subminimal dosing which causes acute colic. The authors favour the intravenous administration of 150 grains of sodium bicarbonate in one pint of 5 per cent. glucose solution, when acidosis has to be prevented or the blood pressure raised. They doubt whether there is any risk of the formation of carbonates in the blood stream by this method, but give details of the special precautions which should be observed. Caffeine citrate has a useful diuretic effect when suppression of urine is threatened. Blood transfusion is not advisable during the haemoglobinuric process, but is of value subsequently.

599 Intraspinal Magnesium Sulphate for Intolerable Pain

A. GORDON (*Med. Journ. and Record*, April 15th, 1931, p. 399) advocates intraspinal injections of magnesium sulphate for the relief of intolerable pain, and records satisfactory results in twelve cases (four of tabes, seven of radiculitis, and one of fibroblastoma of the cord). Based upon sound physiological deductions and experimentation, it is claimed that in certain cases of root pain, due to organic involvement of the central nervous system, relief can be obtained and existence rendered tolerable thereby. Success depends largely upon wise discrimination as to dosage, frequency, and length of intervals in treatment. The minimum adult dose is 2 c.cm. of a 25 per cent. solution of magnesium sulphate, but in long-standing cases, when the patients are exhausted by pain and want of sleep, 4 c.cm. may be given. The spinal puncture should be below the second lumbar vertebra, preferably between the third and fourth or the fourth and fifth vertebrae. Immediately following the withdrawal of 5 c.cm. of spinal fluid, the solution should be introduced while the needle is in position; the patient is kept quiet in bed for several hours in a lateral position. Even in cases where a dry tap results, owing to blocking of the subarachnoid space, the injection should still be made. In one of the author's cases considerable relief was obtained though several dry punctures were made. In all the cases prior to the trial of the intraspinal method sedatives had failed to give any relief. One tabetic patient was completely relieved of severe lumbar pain and girdle sensation after three 2 c.cm. injections at weekly intervals, and the pain in the legs became better. There was also noticeable improvement in gait, ataxia, and bladder control.

600 The Administration of Salicylates

G. H. W. LUCAS and V. E. HENDERSON (*Canadian Med. Assoc. Journ.*, April, 1931, p. 541) suggest a way of giving large and repeated doses of the salicylates without causing gastric irritation. The acidity which is induced by these salts has been attributed to the liberation in the stomach of salicylic acid, and attempts have been made to neutralize it by administering simultaneously sodium bicarbonate: Since a mixture of sodium bicarbonate and salicylate has an unpleasant taste, it has usually been prescribed in capsule form, or in powder rapidly washed down by a little water; the salts are liberated from the capsule in the stomach in a concentrated form, and the tendency to gastric irritation is thus accentuated. The authors therefore prefer to employ calcium carbonate or magnesia with salicylates in solution; the consequent colour changes in the fluid are prevented by small doses

of sodium thiosulphate. The mixture is made more palatable by the addition of the compound syrup of sarsaparilla (*United States Pharmacopoeia*), or of syrup and aqua menthae piperitae.

601 Bismuth Arsphenamine in Early Syphilis

J. H. STOKES, T. H. MILLER, and H. BEERMAN (*Arch. Derm. and Syph.*, April, 1931, p. 624) report their conclusions derived from several years of exhibiting in various forms of syphilis an arsphenamine synthetic of bismuth known as bismarsen. This preparation has an arsenical content of 12 to 15 per cent., and 23 to 25 per cent. of bismuth. It is injected intramuscularly in doses of 0.1 to 0.2 gram in adult patients at intervals of once in two to once in seven days; the drug is dissolved in water containing butyn, which acts as a local anaesthetic. Courses range from eight injections in a series to as many as forty; toxicity is low, but the individual degrees of reactivity vary. In 2 per cent. of the authors' cases there was local stiffness with slight pain, yielding to massage and hot applications. In 11 per cent. of patients there were mild systemic reactions in the form of nitritoid crises, gastro-intestinal disturbances, and cutaneous symptoms. Three cases of jaundice have been reported so far, but there have been no cerebral manifestations. In early syphilis two injections a week are advised; the effect on the Wassermann reaction is excellent and lasting, and the proportion of relapse was 12 per cent., as compared with 20 to 40 per cent. in a carefully studied series of cases treated otherwise. The authors obtained evidence that intermittent administration was less effective than continuous treatment; marked tonic effects were usual. Fair results followed the use of bismarsen in cardio-vascular syphilis, and there appeared to be no need to associate it with iodides and mercury. Little or no alteration occurred in the paretic formula of the cerebro-spinal fluid, and it was concluded that the most favourable field for bismarsen was that of early syphilis.

Anaesthetics

602 Fatal Colitis Caused by Avertin

I. WYMER (*Schmerz Narkose-Anaesthesie*, April, 1931, p. 19) records the case of a man who was anaesthetized with avertin introduced into the rectum for the removal of a vesical calculus; 0.16 gram of avertin for each kilo of body weight was given in a 2 per cent. solution. The patient was restless during the operation, and ether had to be administered. After the operation the rectum was washed out with saline solution, but the patient never recovered consciousness, and died in forty-eight hours. At the post-mortem examination a severe necrosing phlegmonous inflammation of the ascending colon was found. Discussing the case, the author states that mucus and blood in the stools, indicating the presence of colitis, is not uncommon after avertin. There was no question in this case of chemical changes having taken place through overheating, but it is possible that the avertin was injected too far; having reached the ascending colon its action was prolonged owing to its being uninfluenced by the saline lavage. The dose was also larger than that used in most clinics. To indicate further the toxic effects of avertin, Wymer also produced necrosis of the skin and subcutaneous tissues in animals by hypodermic injection.

603 Neocaine as a Spinal Anaesthetic

E. E. ARNHEIM and S. MAGE (*Annals of Surgery*, April, 1931, p. 929) record a series of 497 cases in which spinal anaesthesia was employed, usually a single dose of 120 mg. of neocaine in crystalline form dissolved in the spinal fluid, and comment on the importance of selecting suitable cases—namely, those in which a general anaesthetic is contraindicated, or those in which the operative procedure, usually abdominal, is of some magnitude. In most cases the surgeon acted as anaesthetist; the lumbar puncture was performed with the patient sitting up, or in the lateral position, this being altered immediately afterwards to a slight Trendelenburg posture. Morphine and atropine were administered before the injection in 345 cases, codeine and atropine in 13, and ephedrine in 145. The usual dose of ephedrine was 50 mg. In 8 cases (1.6 per cent.) no anaesthesia ensued, and in 163 (32.8 per cent.) general anaesthesia had to be induced. The authors remark that they have found that the need for such supplementary anaesthesia is reduced by using larger doses of the neocaine. The occurrence of shock on the operating table was usually confined to patients of advanced age and with arterio-sclerosis and myocardial disease, or to cases of cachexia or of intoxication resulting from some debilitating disease. Patients with hypertension may develop suppression of urine as a result of untreated fall in the blood pressure. There was a relatively high incidence of post-operative pneumonia (21 cases, or 4.2 per cent.). There was one toxic anaesthetic death, the other two deaths being due to errors in technique which are considered to be avoidable.

604 Ether Hyperglycaemia

Hyperglycaemia during and following ether anaesthesia is a striking manifestation of the effect of that drug on carbohydrate metabolism. A. CANTAROW and A. M. GEHRET (*Journ. Amer. Med. Assoc.*, March 21st, 1931, p. 939) discuss this condition with especial reference to hepatic disease, and record a series of observations made at intervals during operations under ether on 8 patients with biliary tract disease and 4 with other conditions. Two theories have been advanced to explain this hyperglycaemia. One, not generally accepted, is that it is due to depression of the pancreatic internal secretory function (hypo-insulinism); the other, which the present authors approve, ascribe it to increased hepatic glycogenolysis, due either to the direct action of the anaesthetic or to the increased hydrogen-ion concentration associated with ether anaesthesia. Before their operations all the present patients received a diet high in carbohydrates with supplementary dextrose therapy. The average rise in blood sugar for each ounce of ether administered was 2.9 mg. per 100 c.cm. in patients with frank icterus, as compared with 7.6 mg. in those with biliary tract disease without jaundice. All the patients made good recoveries with the exception of one who, receiving 14 ounces of ether, failed to show any appreciable rise in the blood sugar content, and died 18 hours after the operation. The necropsy revealed extensive acute necrosis of the liver, which was not present at the operation. Pre-operative liver function tests had not differed from those in the other jaundiced patients. The authors conclude that all patients with biliary tract disease should be regarded as having hepatic damage, whether or not hepatic insufficiency is demonstrable.

Obstetrics and Gynaecology

605 Treatment of Placenta Praevia

P. A. MCLEOD (*Canadian Med. Assoc. Journ.*, April, 1931, p. 508) emphasizes the importance of losing no chance of prophylactic treatment when the existence of placenta praevia is suspected. Should slight bleeding occur during the last few months of pregnancy, unaccompanied by pain, it is unwise to make a digital examination to confirm the probable diagnosis until preparations have been completed for dealing effectively with the consequent intensification of the haemorrhage, since it is easy to dislodge a blood clot or open up a new sinus. Such an examination should be conducted, therefore, in a fully equipped delivery room, with bags and sterile solution ready; if possible, blood transfusion facilities should be available. Shock should be anticipated, by transfusion if serious bleeding has occurred, even though there are as yet no serious symptoms. As an emergency measure, the intravenous injection of a 6 per cent. solution of gum acacia and 20 per cent. glucose will sustain the blood pressure longer, and the fluid will be absorbed more slowly, than

if the gum is omitted. From 400 to 1,000 c.cm. of this solution at a temperature of 105° is administered at a rate of 4 to 6 c.cm. a minute. In the management of the more severe marginal type of placenta praevia, and of the less severe partial form, McLeod prefers to introduce the Voorhees bag; this, being cone-shaped and filled with fluid, forms a true hydrostatic wedge, fits the cervix, accomplishes a fairly rapid dilatation, and acts simultaneously as a tampon to control the bleeding. He finds that its insertion in the cervix beneath the placenta is usually quite satisfactory, but the fluid should be injected slowly so as not to stretch the lower uterine segment too rapidly. The subsequent delivery should be brought about by version and extraction, it being remembered that slow extraction will complete the dilatation of the cervix, and will leave it so open as not to obstruct the after-coming head. Hasty extraction may tear a soft and friable cervix to which the placenta has been attached, and the resulting haemorrhage from ruptured sinuses may be serious. Details are given of the treatment recommended at the different stages, and the author discusses the indications for Caesarean section.

606 Carcinoma of the Vagina

E. LÖVEGREN (*Acta Paediatrica*, March 15th, 1931, p. 371) records a case of primary carcinoma of the vagina which proved fatal at the age of 1 year and 10 months, six months after the onset. The symptoms were blood in the urine, haemorrhage apart from micturition, debility, and anaemia. Curetting and radium treatment caused a temporary improvement in the general condition. During the last two months, however, a rapid loss of nutrition set in, and metastases appeared in the lower part of the abdomen. There was no necropsy, but histological examination of scrapings of the tumours showed that it was a papillary epithelioma. Lövegren has found only one other case of carcinoma of the vagina in an infant, which was described by Aschheim in a child, aged 6 months, who had an adenocarcinoma on the anterior vaginal wall, with the ovaries converted into cystic tumours. In contrast with carcinoma, sarcoma of the vagina is not so rare in children, since there are about two dozen cases on record.

607 I. DE BÜBEN (*Surg., Gynecol. and Obstet.*, April, 1931, p. 884) states that vaginal carcinoma is the most malignant, the most difficult to cure, and the most dangerous variety of cancers of the female genitalia. The patients are usually past the climacteric, and little is known as to the etiology. The growth is situated as a rule in the upper third of the posterior vaginal wall, the place most exposed to trauma. Histologically the neoplasm presents the appearance of a squamous-celled cancer or, exceptionally, of an adenocarcinoma. The results obtained by operation or radiotherapy (irradiation of the growth locally with radium and of the infiltrated lymphatic glands with *x* rays) are far from satisfactory. Radiotherapy has a wider range of applicability than surgery, and in most cases has only a temporary palliative effect. The Wertheim method, or total extirpation, combined with resection of the rectum in cases with the growth in the posterior vaginal wall, is considered to result in recovery more often than other procedures.

608 Uterine Hypertony in Successive Labours

P. BALARD (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, March, 1931, p. 181) reports two cases, in each of which extreme uterine contraction occurred in two successive labours. Uterine hypertony, except in primiparae, is relatively rare, and such a repetition as is recorded by Balard is most exceptional. Both patients were 2-paras. In the first, both labours were associated with premature rupture of the membranes, the breech presenting on the first occasion, and the head on the second. In the second case, the first labour only was associated with premature rupture of the membranes, and both presentations were of the usual cephalic type. In both cases there was no hydramnios, and the pelvis was normal. Amniotic infection was present in both patients; in the first one, this occurred before the contraction in both labours; in the second patient, the contraction developed well before the infection in the first labour, and in the second the embryo was intact and pyrexia was absent. Besides the factors usually considered as the causes of uterine hypertony, Balard suggests that this condition may be due to a peculiar irritability of the uterine fibres. Low Caesarean section is recommended in such cases provided that the clinical signs show that the infant will not suffer thereby; it was performed in both of Balard's cases.

609 Cancer of the Cervix after Subtotal Hysterectomy

According to R. MONOD (*La Gynécol.*, February, 1931, p. 106) 138 cases of cancer in the cervical remnant after subtotal hysterectomy were treated in anticancer clinics in Paris during the past ten years; the condition is less rare than has been reported. Some of the intracervical cancers which are detected within a few months or years after hysterectomy were present before the operation; some of the growths, usually of squamous-cell type, found many years after operation, may be regarded as provoked by it. Cancer of the cervical stump occurs most frequently after an operation for fibroma, and Polak among nine hundred fibromata found in 2 per cent. a cervical cancer which a subtotal operation would have permitted to evolve. Monod advises that the subtotal kind should be abandoned in favour of total hysterectomy. After the former operation has been performed in exceptional cases, it is advisable to open and examine the operation specimen before the abdomen is closed, and to examine the patient periodically after her apparent cure. Surgical treatment of cervical carcinoma is unusually difficult after hysterectomy; as a rule radium therapy is preferable, but the prognosis is bad.

610 Foetal Ascites

N. GUPTA and P. CHANDRA DAS (*Indian Med. Gazette*, April, 1931, p. 186) record two cases of foetal ascites in view of the rarity and clinical importance of this condition. They remark that it is found most commonly in the form of a general foetal dropsy, associated with hydrothorax, and sometimes with maternal dropsy. Nearly all the cases are premature, mostly between seven and eight months, and dystocia from this cause is infrequent; when it does occur the true nature of the obstacle is likely to be overlooked. Dystocia was absent in both cases recorded by the present authors. The labour is generally premature and the presentation vertex; uterine pains are usually weak from over-distension of the maternal abdomen. Though difficulty is encountered in the delivery of the child, owing to its abdominal distension, yet the foetuses are often born spontaneously owing to their prematurity and compressibility. Rupture of the uterus is extremely rare. In the two cases recorded there were no malformations of the urinary apparatus, congenital syphilis, or portal obstruction. There was some evidence of an inflammatory process of the peritoneum in both cases, but its cause was obscure.

Pathology

611 Experimental Transmission of the Common Cold

P. H. LONG, J. A. DOULL, JANET M. BOURN, and EMILY MCCOMB (*Journ. Exper. Med.*, April, 1931, p. 447) have succeeded in transmitting the common cold to human volunteers by nasal instillation of bacteria-free filtrates of nasopharyngeal washings obtained from persons suffering from natural infection. The experiments, which were made on healthy young women, were carried out during the months of June and July, when there was a low incidence of respiratory infection among the normal population. The volunteers were kept in strict quarantine, and were observed for from two to six days before inoculation. During this time they received nasal instillations of filtered yeast infusion broth in order to prevent them from knowing the time of inoculation. The actual inoculations with infective material were made by instilling 0.5 to 1 c.cm. of a Seitz or Berkefeld W filtrate into each nostril,

the subject being in the supine position with the head tipped back; the mucous membranes of the anterior nares and the posterior pharyngeal wall were then lightly rubbed with swabs soaked in the filtrate. Each subject received from one to three inoculations within a period of twenty-four hours. The filtrates were found to be free not only from the ordinary bacteria, but also from the tiny Gram-negative anaerobic organisms which can pass through a Berkefeld V candle. Altogether 20 inoculations were made from nine subjects with natural colds into nineteen volunteers; eleven of these inoculations were successful in setting up colds. Serial passages through two and four volunteers were successfully accomplished. The incubation period was 20 to 70 hours; no cold developed after three days. The authors conclude that the common cold is due to infection with a filterable virus.

612 Sugar Tolerance in Infants

T. G. H. DRAKE and C. E. SNELLING (*Canadian Med. Assoc. Journ.*, April, 1931, p. 511) from their investigations upon sugar tolerance curves in acute intestinal intoxications in infants confirm the findings of Tisdall, Drake, and Brown, who showed that in such cases the ability to utilize glucose injected into the blood stream is lessened, since it disappeared less rapidly than in the case of normal infants, the rate of removal being inversely proportional to the degree of toxaemia. The present report shows an absolute correlation between the intensity of the intoxication and the increase in height and width of the sugar tolerance curve. In the investigation 10 c.cm. per pound of body weight of a 10 per cent. glucose solution was injected into the superior longitudinal sinus; blood sugar determinations by Folin's method were made before the injection, and half an hour, one hour, two hours, and three hours afterwards. This was repeated every second or third day. In normal infants the average blood sugar is 0.09 mg. per 100 c.cm.; half an hour after an injection of this amount of glucose solution it rises to 0.285 mg. per 100 c.cm., returning to the 0.09 mg. level one hour later. In cases of acute intestinal intoxication the blood sugar rose to 0.375 mg. in half an hour, and did not return to the 0.09 mg. level until three hours had elapsed.

613 Jaundice and Iron Metabolism

T. BRÜGSCH (*Med. Klin.*, April 10th, 1931, p. 536) has shown that after the daily oral administration of large doses of reduced iron, the iron content of the urine is not significantly increased. Applying the test to a series of cases of jaundice, he demonstrated that in icterus due to hepatic toxaemia, in mechanical jaundice, and in biliary cirrhosis the iron content of the urine is never significantly raised above the limit of health. In hepatic disease accompanied by jaundice the formation of bilirubin and iron from the colouring matter of the blood occurs in the liver; the bilirubin passes out into the tissue fluids and causes the icteric colouring, the iron remaining for the most part in the liver. The deposit of iron in the liver in jaundice does not lead to its increased excretion in the urine or in the bile. Whether the iron in the liver is, during convalescence, gradually excreted by the bowel, or is retained in the body to be used in the reconstruction of haemoglobin, is not known. Although the liver is the chief originating source of jaundice, it is also probable that it may arise in the skin. It is pointed out that the [illegible] subcutation evoked by the intradermal injection of [illegible] injection. [illegible]ricyanide is not a certain indication of severe [illegible]ith jaundice, since the effect may be pro-

603 Neocain[illegible]dation of excess of bilirubin in the skin.

E. E. ARNHEIM and [illegible] 1931, p. 929) record a **Estimation of Living and Dead** anaesthesia was emp**ercle Bacilli in Sputum** 120 mg. of neocaine [illegible] (*Zeit. f. Tuberkulose*, April, 1931, spinal fluid, and comr[illegible] method for ascertaining the number suitable cases—namely[illegible]d tubercle bacilli in sputum. The thetic is contraindicate[illegible] 1 to 2 grams are weighed out, 4 per procedure, usually abdo[illegible]dium hydrate is added, and the most cases the surgeon ac[illegible]with a glass rod till it is rendered puncture was performed w[illegible]henolphthalein as an indicator, the alkali is neutralized with normal hydrochloric acid; the resulting neutral digested sputum serves as the material from which dilutions for counting are made. The total number of tubercle bacilli is determined by mixing the suspension with yeast cells, making and staining a film, and determining the number of bacilli and yeast cells in 25 to 50 fields. The yeast suspension is counted in an ordinary Thoma-Zeiss chamber. Knowing the relation of bacilli to yeast cells, and knowing the number of yeast cells per c.cm., it is easy to calculate the total number of bacilli per cubic centimetre of homogenized sputum. The count of living tubercle bacilli is made by streaking a normal loopful of the original suspension and of varying dilutions on to tubes of Lubenau's egg medium, incubating for three to four weeks, and counting the number of colonies which have developed. As an illustration of this method, the author quotes an instance in which there were 37 million tubercle bacilli per c.cm., of which 29 per cent. were alive and 71 per cent. dead.

615 Gall-bladder Disease and Carbohydrate Metabolism

The relatively frequent occurrence of gall-bladder disease in diabetic patients suggests that diabetes may often be a secondary condition, the primary disturbance being in the gall-bladder. Investigation of a series of cases of cholelithiasis and cholecystitis has convinced H. STRAUSS (*Dtsch. med. Woch.*, March 27th, 1931, p. 530), however, that both hyperglycaemia and alimentary glycosuria are of relatively rare occurrence in these diseases, and that while disturbances of the external secretion of the pancreas are fairly common, there is probably no direct relation between cholecystitis and disorders of carbohydrate metabolism. The frequency with which diabetes is found to have followed infective disease of one kind or another indicates rather that cholecystitis predisposes to diabetes merely by virtue of its infective nature.

616 Apparent Specificity among Streptococci

J. C. WALKER (*Journ. Lab. and Clin. Med.*, March, 1931, p. 539) states that there is a variation from year to year among the varieties of streptococci present in the sputum of asthmatic patients, of patients with uncomplicated chest colds, and of those with chest colds complicated by asthma; there is, moreover, variability in the prevalence of the same streptococcus in the same year in the case of the three conditions named. A mixed vaccine comprising the more prevalent varieties of streptococci for a given period has considerable value, both as a preventive and as a curative in chest colds and asthma. Failure of this vaccine in some cases was due to the presence of an insufficient quantity of the particular causative streptococcus, and relief followed the administration of an autogenous vaccine in which larger amounts of the causative microbe were present than in the mixed. In other cases failure of the mixed vaccine was due to the fact that the illness was caused by one or more of the less prevalent strains of streptococci being absent from the vaccine. The results of treatment in 89 patients, here presented, contraindicate any non-specific effect of vaccines, and support their specificity. In many cases vaccine treatment was undoubtedly specific, and showed a specificity among the common streptococci.

617 The Basal Metabolism in Pulmonary Tuberculosis

S. P. VELOSO (*La Med. Ibera*, March 28th, 1931, p. 461), who records 24 cases in patients aged from 19 to 62, illustrating the behaviour of the basal metabolism in pulmonary tuberculosis, comes to the following conclusions. (1) The basal metabolic rate varies even on the same day and in the same subject. (2) The basal metabolic rate is closely related to the severity of the infective process; a careful study of the rate will throw light on the course of the disease. (3) A rise in the basal metabolism may be due to activity of the tuberculous process. (4) A gradual or sudden rise is an unfavourable prognostic, while a fall is a favourable sign. (5) Examination of the basal metabolism is therefore a valuable guide to prognosis and treatment in pulmonary tuberculosis.

An Efficient Oral Antiseptic Need Not be Disagreeable to the Taste

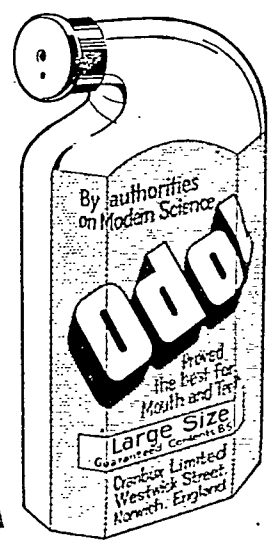
Too often the use of an oral antiseptic is associated in the patient's mind with a disagreeable taste. That such an antiseptic need lack nothing in efficacy, whilst being pleasant in taste, is most forcibly proved in the instance of Odol Mouthwash.

Experiments and the experiences of medical men in the past with Odol have proved it to be a most efficient bactericide. In addition, it is absolutely harmless and cannot in any way injure the most delicate mucous membrane of the mouth.

In prescribing Odol Mouthwash doctors will obtain the desired results in a way most pleasant to the patient.

Odol

BRITISH MADE BY BRITISH LABOUR FINANCED BY BRITISH CAPITAL

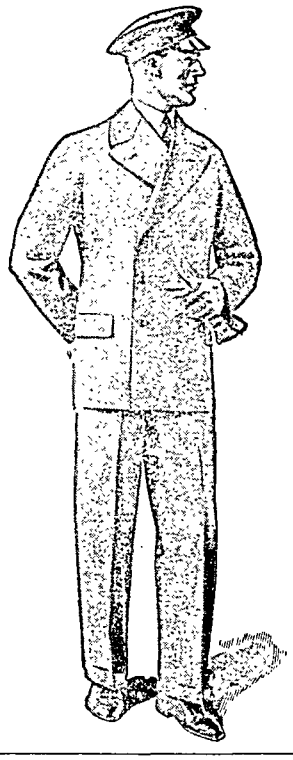


Samples and literature will be gladly sent to members of the Medical Profession on request to

CRANBUX LIMITED of NORWICH

ANTI-ACID NON-CAUSTIC NON-TOXIC

Aldwych



At GAMAGES

THIS HIGH-GRADE CHAUFFEUR'S SUIT COSTS ONLY 70/-

The appreciable difference in the price of Gamages high-grade liveries is due to the enormous buying resources of this great organisation. Gamages secure advantageous discounts on the bulk purchase of cloths, the market prices of which are already the lowest for seventeen years. The combination of these favourable circumstances enable Gamages to offer quality Liveries at the lowest prices in town.

THE SUIT COMPRISES Double-breasted Jacket, Vest and Trousers made from a good weight Navy Blue Ribbed Serge. This suit combines neatness with style, and can be purchased Ready for Service.
PRICE 70/-, better qualities 90/-, 110/-.

CHAUFFEURS' DUST COATS

Made from Alpaca specially selected for its hard-wearing qualities. These are very smart in appearance yet exceptionally light in weight. Stocked in all usual sizes in blue or grey. PRICES **25/6** and 35/-

POST ORDERS.—State height and chest measurement taken loosely over waistcoat.

Post Orders. The Gamage simplified self-measurement chart has been compiled from years of experience, and will be sent free with patterns on request. Alternatively, customer may prefer to send an old livery for pattern, in which case we pay postage one way.

GAMAGES - HOLBORN

LONDON, E.C.1

Telephone: *Holborn* 8484.

Players always Please

Smokers find a World of satisfaction in

PLAYER'S

Quality and Quantity

10 for 6^{D} 20 for 11½^{D} N.C.C.51^{D}

THE
MEDICAL INSURANCE AGENCY
has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the **Insurance of Cars.**

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, Sickness (Permanent Contracts), &c., Insurances
under comprehensive policies, giving full protection.

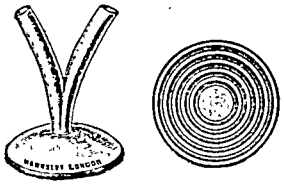
What the Agency has done for the Profession:

Saved by way of Rebates on Premiums - -	over £44,000
Contributed to the Medical Charities - - -	over £26,000

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

STETHOSCOPES



NEW
'METALLIQUE' CHEST END
(Pat. app. for)

The specially constructed metal diaphragm is extremely sensitive and magnifies heart sounds without distortion.

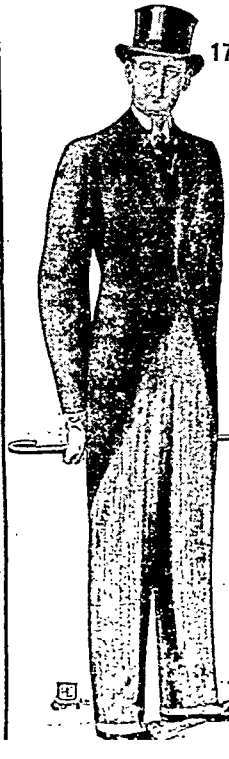
Price, chest end only, 10s. 6d.

Obtainable from all Dealers, or from the Makers: Hawksley & Sons Ltd.

Manufacturers and Importers of
APPARATUS FOR BLOOD DIAGNOSIS
Sphygmomanometers, Haemacytometers, Haemoglobinometers, etc.
Microscopes, Microtomes, & Accessories
Psychological, Anthropometrical, & Experimental Apparatus
Lists post free.

HAWKSLEY & SONS Ltd.
83, Wigmore Street, London, W.1
Telephone: Welbeck 3859

B. MILLER
& Co., Ltd.
17 CONDUIT ST.
BOND STREET,
LONDON, W.1



TAILORS
Estd. 1896

LOUNGE SUITS
from
£8 : 8 : 0

DINNER SUITS
Lined Silk
from
£10 : 10 : 0

ALLIANCE DRUG & CHEMICAL CO.
10, Beer Lane, Gt. Tower St., E.C.3.
Telephone: ROYAL 5885.
Tel. Address: "NALTROF," BILGATE, LONDON.
Established 1812 — Reorganized 1902.

The Company specializes in providing the Medical Profession at THE LOWEST POSSIBLE inclusive prices (no charge for Bottles, etc., or Cases, etc.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved formulae as used by the London and other Hospitals.
We append a few sample prices for guidance of the great saving that can be effected.
NOTE.—For terms see detailed list. Orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

WRITE FOR DETAILED PRICE LIST.

INFUSIONS CONCENTRATED.
1-7 in 6-lb. Bottles.

Aurant. @ 2/4 lb.
Aurant. Co. @ 2/2 lb.
Columbæ @ 1/3 lb.
Cinchon. Acid @ 2/6 lb.
Gentianæ @ 1/6 lb.
Rhei @ 2/6 lb.
Senegae @ 3/9 lb.
Lassar's Paste, 14 lb. @ 1/2 lb.; 1 lb. @ 1/4 lb.
*Lin. Belladon. Meth., 5 lb. @ 2/1 lb.; 1 lb. @ 2/4.
*Liq. Æther Nitros. (Sp. Æther Nit. Substitute), 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7), 6 lb. @ 1/- lb.
" " Aromat., 6 lb. @ 1/- lb.
Petroleum Jelly Flav., B.P., 7 lb. @ 7½d. lb.
Bismuth Carb., 3 lb. @ 8/3 lb.
Chloroform Pur., 8 lb. @ 3/2 lb.
Pot. Bromide, 7 lb. @ 1/10 lb.
Quinine Sulph., 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED.

Potass. Iodid., B.P., 3 lb. @ 18/6 lb.
Sod. Sulph. Feathery cryst., 7 lb. @ 3d. lb.
Sp. Æther Nit., B.P., 4½ lb. @ 4/6 lb.; 1 lb. 4/10
Sp. Ammon. Aromat., B.P., 5 lb. @ 3/6 lb.
Syr. Cascara Aromat., B.P., 6 lb. @ 2/9 lb.
" Glycero-Phosp. Co., 6 lb. @ 1/9 lb.

SYRUPS.

Aurant., B.P., 7 lb. @ 1/10 lb.
Easton's, B.P., 7 lb. @ 1/4 lb.
Ferri Iodid., B.P., 7 lb. @ 1/10 lb.
Ferri Phosp. Co. 7 lb. @ 8d. lb.
Hypophosp. Co., B.P.C., 7 lb. @ 1/- lb.
Pruni Virg., B.P., 7 lb. @ 1/- lb.
Rhamni, 7 lb. @ 1/2 lb.
Rhei, B.P., 7 lb. @ 1/1 lb.
Scillae, B.P., 7 lb. @ 8d. lb.
Sennae, B.P., 7 lb. @ 1/2 lb.
Tolut., B.P., 7 lb. @ 10½d. lb.

TABLETS COMPRESSED.

We can supply smaller quantities at slightly increased rates.

Per 1,000.
Blaud's (Sugar-coated), gr. 5... ... ... 3/10
Nitroglycerini, B.P., gr. 1-50th 5/-
Perchloride of Mercury (Coloured)... ...15/-
One Tablet in 1 pint of water is equivalent to 1 in 1,000.
Thyroid Gland, gr. 5 ... ... 12/6
We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.
In 5-lb. Bottles.

	B.P. Aquos.		B.P. Aquos.
Belladon.	... 4/3	1/6	Hyoscyam. ... 4/3 2/4
Benzoin Co.	... 4/7	—	Nucis. Vom. 3/10 1/4
Camph. Co.	... 3/-	1/6	Opii 5/3 4/3
Card. Co.	... 2/6	1/6	Quin. Ammon. 3/3 —
Gentianæ Co.	2/8	1/6	Rhei Co. ... 2/8 1/9

Ung. Acid Boric., B.P., 28 lb. pail @ 11d. lb.
" Hydrarg., B.P., 7 lb. @ 4/2 lb.
" " Ammon., 7 lb. @ 1/11 lb.
" Ichtamolis, B.P.C., 7 lb. @ 1/10 lb.
" Zinci Ox., Benz., 28 lb. @ 1/- lb.

*Minimum quantity at these prices:—Home Trade 3, Export 12 Winchester Quarts assorted.

FURNITURE

AN ENORMOUS COLLECTION OF HIGH-CLASS MODERN and GENUINE ANTIQUES

THE ENTIRE CONTENTS OF MANY TOWN AND COUNTRY RESIDENCES, INCLUDING ITEMS RECENTLY PURCHASED FROM SEVERAL IMPORTANT COLLECTIONS.

BEDROOM SUITES in English Walnut, Mahogany, Oak, &c., ranging in price from £4 15s. to £250. These suites are in condition equal to new, and in many cases cost double the price now asked. A special offer of Oak Club Suites, including Bedsteads, £4 10s. set.

ALL GOODS DELIVERED IN PERFECT CONDITION.

TALLBOY and OTHER CHESTS, 5 gns. Bow Front Wardrobes, £10. Oak fitted Gent's Wardrobes, £4 4s. Sofa Tables, £9 9s. Toilet Mirrors, Dressing Tables, Corner Washstands, &c.

DELIVERY FREE, TOWN OR COUNTRY.

DINING ROOM SUITES, in designs of all periods, including Suites in Solid Oak, comprising Sideboard, Set of Chairs, Dining Table, 10 guineas. Suites in carved Walnut, Mahogany, and Old English Oak, from £25 to £300. Refectory Tables, £8 10s. Court Cupboards, £10. Rug Boxes, £6 10s. A quantity of Wheelback Chairs at 6s. 9d., with cottage oak dressers, 2 flap tables in good condition at 35s. In many cases these items are offered at 50 per cent. under their present retail value to ensure immediate disposal.

SETTEES and EASY CHAIRS in coverings of every description, including several 3-Piece Suites of latest design, in Silk, Damask, Art Tapestries and Leather, 10 guineas. Large Easy Chairs, well sprung, in perfect condition, from 21s. to 12 gns. Softly upholstered Chesterfield Settees, 3 gns., with loose cushion backs and seats. Many cane side and carved frame Suites in Walnut, Mahogany, and Oak, from 19 guineas to £125.

GOODS PURCHASED WAREHOUSED FREE 12 MONTHS.

CARPETS and RUGS of every description, including the complete stock of a large Carpet Importer, to be sold regardless of cost. A quantity of Pile Carpet at 2s. 9d. per yard, and a number of squares in various designs from 21s. each.

PIANOFORTES by eminent makers, from 10 guineas to 150 guineas, including Grand by Bluthner, Erard, Steinway, &c., &c.

OFFICE FURNITURE, including Iron Safes, Desks, Cabinets, &c., Grandfather and Bracket Clocks, Linen, China, Pictures, Cut Glass, &c., &c., offered at bargain prices.

FULLY PRICED AND ILLUSTRATED CATALOGUE (F), POST FREE ON APPLICATION.

Having no West End expenses enables us to offer fine quality goods at lowest prices.

Daily 9 till 7.

FURNITURE AND FINE ART DEPOSITORIES, Ltd.,
PARK STREET, UPPER STREET,
ISLINGTON, LONDON, N.1
(Within 10 minutes of West End.)
Telephone: North 3580.
'Buses 4, 19, 30, and 43 pass the door.

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

The Safest Local Anaesthetic for all Surgical Cases.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

WRITE FOR LITERATURE.

GLAUCOSAN

For the treatment of GLAUCOMA according to Dr. Carl Hamburger (Berlin).

GLAUCOSAN.
LAEVO GLAUCOSAN.
AMINO GLAUCOSAN.
} In Sterilized Ampoules.

The following are a few of the Hospitals where "Glaucosan" is used:

ROYAL LONDON OPHTHALMIC HOSPITAL.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.
THE LONDON HOSPITAL.
WALTHAMSTOW HOSPITAL.
BRADFORD EYE AND EAR HOSPITAL.
BIRKENHEAD GENERAL HOSPITAL.
BURNLEY VICTORIA HOSPITAL.
HARTLEPOOL HOSPITAL.
HUDDERSFIELD ROYAL INFIRMARY.
HUDDERSFIELD ROYAL HOSPITAL.
KENT COUNTY OPHTHALMIC HOSPITAL, MAIDSTONE.
NEWPORT, ROYAL GWENT HOSPITAL.
NEWCASTLE-ON-TYNE, ROYAL VICTORIA INFIRMARY.
OXFORD EYE HOSPITAL.
ST. PAUL'S EYE HOSPITAL, LIVERPOOL.
SWANSEA GENERAL HOSPITAL.
WESTERN OPHTHALMIC HOSPITAL.
WOLVERHAMPTON EYE INFIRMARY.
SIR C. J. OPHTHALMIC HOSPITAL, BOMBAY.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
501, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
128, Wakefield Street, Wellington.

FOR INTERNAL TREATMENT OF GONORRHOEA, URETHRITIS, AND OTHER AFFECTIONS OF THE GENITO-URINARY TRACT

SANTAL MIDY CAPSULES have been prescribed with uniform success for over thirty years. Distilled from carefully selected Mysore Sandal Wood, the oil is bland and remarkably

FREE FROM THE IRRITANT AND NAUSEATING EFFECTS

which are provoked by many preparations.
There is marked absence of gastric and other disturbances, diarrhoea and skin eruptions. Its mild chemotactic properties permits its administration in relatively large doses without fear of too violent reaction or tolerance.

SANTAL MIDY CAPSULES may be prescribed and relied upon in all stages of Gonorrhoea and in other forms of Urethritis and affections of the Genito-Urinary tract.
The Capsules contain 5 drops, and usually 10 to 12 are given daily in divided doses.

Prepared in the Laboratoire de Pharmacologie Générale, 8, Rue Virienne, Paris, and sold by most Chemists and Wholesale Druggists throughout the World.
U.K. Agents: WILCOX, JOZEAU & Co., 15, Gt. St. Andrew St., W.C.2

SANTAL MIDY

A·K

SURGICAL & SPECIALLY FITTED FOOTWEAR

We have had more than 100 years' experience in carrying out intelligently the instructions of the Medical Profession.

The fitting of Boots and Shoes for Weak Ankles and Flat Feet is also a speciality.

SELECTIONS OF CHILDREN'S SHOES SENT ON APPROVAL IF OUTLINE OF FEET IS SUPPLIED.

DOWIE & MARSHALL Ltd.
Bespoke Shoemakers since 1824.
16, GARRICK STREET, LONDON, W.C.2.
(Opposite the Garrick Club).
Telephone: Temple Bar 5587.

PERFECT FOOTWEAR IS COMFORT GUARANTEED TO EVERY CUSTOMER.

FOR DEAFNESS

Doctors prefer "ARDENTE" because—

"ARDENTE" STETHOSCOPE.
Mr. R. H. Dent makes a Stethoscope specially for members of the medical profession suffering from deafness. Many are in use, and excellent results are reported on the latest, as evidenced by the interest shown at the last B.M.A. Meeting

1. It is individually fitted to suit the case for young, middle-aged, or old.
2. It is simple and true-to-tone, and leaves the hands free.
3. It removes strain, thus relieving head noises, giving inconspicuous hearing.
4. It conveys sounds from varying ranges and angles.
5. It is entirely different, uncopyable, and carries a guarantee and service system.
6. It is suitable for "hard of hearing" or acutely deaf through various causes.
7. It is helpful for conversation, music, talkies, wireless, home, office, public work, and sports.

FREE HOME TESTS
arranged for Doctors and Patients.
Medical Prescriptions made up to the minutest detail.

MEDICAL REPORTS.
Commended by all leading medical journals.—Mr. Dent will be happy to send full particulars and reprints on request.

Mr R. H. DENT'S
Ardente
FOR DEAF EARS
309, OXFORD ST., LONDON, W.1.
Tel.: Mayfair 1380/1718.

9, Duke Street, CARDIFF.
27, King Street, MANCHESTER.
118, New Street, BIRMINGHAM.
37, Jameson Street, HULL.
64, Park Street, BRISTOL.
53, Lord Street, LIVERPOOL.
206, Sauchiehall Street, GLASGOW.
23, Blackett Street, NEWCASTLE.
111, Princes Street, EDINBURGH.
97, Grafton Street, DUBLIN.
271, High Street, EXETER.
30, Wellington Place, BELFAST.

WITHOUT OFFENCE The Collection of Overdue Accounts

MEMBER'S STATEMENT:

"Thanking you for your past efforts on my behalf, which have saved me a deal of trouble and have been most successful. I enclose a further small list of accounts for collection."

DEBTOR'S STATEMENT:

"Had your member availed himself of your extremely courteous and diplomatic service when the dispute first arose, instead of the offensive method he adopted, this claim would have been settled long ago."

Your visiting card marked "B" placed in an envelope will bring our Prospectus.

All Medical Institutions and Nursing Homes are included in our scope.

THE BRITISH MEDICAL PROTECTION SOCIETY
(B.M.P.S. Ltd.) Established 1891.
26, Langham Street, Portland Place, London, W.1

Telephones: Langham 1411-1412.
Secretary: N. Rutherford Watson.

THE 'ALLENBURYS' CASTOR OIL
Is Tasteless and is the Standard of Quality
Supplied in bottles at 8d., 1/3, 2/3 and 4/- each

BANTAM Coffee

Bantam Coffee is prepared from the finest selected Empire grown beans which are powdered and all the waste grounds extracted so that it dissolves instantly and completely when hot water or milk is added. A little Bantam Coffee dropped in a glass of warm milk makes a very palatable beverage. Bantam Coffee is absolutely free from adulterants and has been awarded the certificate of the Institute of Hygiene.
A 2/- tin yields 50 cups of delicious coffee.

Dept. 68. BANTAM PRODUCTS LTD., LEEDS.
Samples for testing will be sent on application

SUCCESSFULLY PRESCRIBED FOR MANY YEARS

SULPHAQUA

IN THE TREATMENT OF

Skin Diseases, Rheumatism, Gout, Neurasthenic : : Conditions in Arthritic Subjects, Etc. : :

And as a valuable addition to the Inunction TREATMENT OF SYPHILIS with Mercury.

EMPLOYED IN BATH AND TOILET BASIN.

Possesses powerful Antiseptic, Antiparasitic, and Antalgic properties. RELIEVES PAIN AND INTENSE ITCHING. Soothing and Sedative in effect. WITHOUT OBJECTIONABLE ODOUR, and does not blacken the bath enamel.

SULPHAQUA SOAP Recommended for the Skin and Hair. Especially useful in the treatment of Acne and Seborrhoea of the Scalp. Largely used in dermatological practice.

In Boxes of ½-doz. and 1-doz. BATH CHARGES, 2-doz. TOILET CHARGES, and ¼-doz. SOAP TABLETS.

Samples and Literature on Request. *Advertised only to the Profession.*

THE S. P. CHARGES CO., Manufacturing Chemists, St. Helens, Lancs.

"SULPHAQUA" is stocked by the leading Wholesale Houses in Canada, Australia, New Zealand, South Africa, India, U.S.A.

When Patients will smoke!

Make them try Royal Beauties Turkish Cigarettes that contain no dope, and only half as much nicotine as Virginias, plus absorbent linen filters concealed in the mouthpiece. Over 40 years of success amongst smokers' throat patients make them worth a trial. Free sample to doctors on application. Turkish (in three sizes) 9/6, 10/6, 12/6 a hundred

ROYAL BEAUTIES

CIGARETTES

From leading stores or direct from Louis Coen Ltd, 88 Piccadilly, W1 Telephone: Grosvenor 1979

Stuarts

DO YOU KNOW?

That we manufacture all Stationery requirements of the Medical Profession.

Ask for our latest samples of the very best Stationery.

All Styles of Account Books.

HAMILTONS, Medical Printers, BURNLEY, LANCS.

PERMANENT RELIEF for

VARICOSE VEINS

Is ensured by the world famous

"Academic" RUBBERLESS STOCKING

Claimed as the best and most effective means for relieving Varicose Veins and other leg ailments, and preventing the formation of new varicose veins

PERFECT COMFORT

STRONG SUPPORT

LEGS ALWAYS SLIM & SHAPELY

The patented heel increases longitudinal pull, never curls, always retains its position, and there is no discomfort or damage to silk hose.

HYGIENIC, WASHABLE & INVISIBLE under the finest silk hose.

From D. H. Evans, Harrods, Army & Navy, Selfridge's, all branches of Boots The Chemists, and all the leading London and Provincial stores.

Doctors are cordially invited to write for further details.

ACADEMIC DEPOT, 158, Oxford St., W.1.

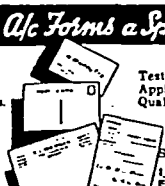
Doctors' A/c Forms a Speciality

Printed in Best Style.

Account Forms, Letterheads, Cards, etc.

Samples Sent.

R. ANDERSON & SON



Also Testimonials, Applications, and Qualifications for Medical Posts.

Samples Sent.

1 HILL PLACE EDINBURGH

LINEN MESH protects the body and keeps it warm, but it also throws off heat and stimulates the body to engender more, as required to meet prevailing conditions of temperature. Therefore it is the essential underwear for any climate.

THERE'S HEALTH and COMFORT IN

EMPIRE LINEN MESH UNDERWEAR

Sold by all good Outfitters. Patterns and particulars post free.

THE IRISH LINEN MESH CO. LTD. BELFAST, NORTHERN IRELAND

NAME PLATES

in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet

S. J. & A. HERD, 30, CLERKENWELL ROAD, E.C.1.

BRASS and BRONZE

NAME PLATES

by the Actual Maker. Send for List.

FORD, 37, Palace Rd., Bromley, Kent.

BOREATTON PARK, BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.

Voluntary Boarders accepted.

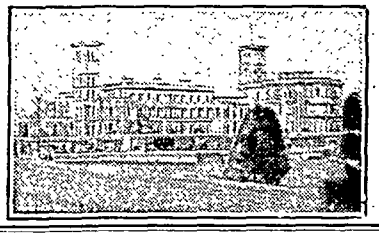
Apply for particulars to Dr. SANKEY.

WYE HOUSE, BUXTON.

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level, facing S. 14 acres of grounds.—For terms, apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Tel. 150. Nat.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Two only received. Apply, Medical Officer or Mrs. PEPPER. Tele. Letter: 2768



King Edward VII Convalescent Home for Officers of the Navy, Royal Marines, Army, and Air Force.

Massage.
All forms of Electricity.
Ultra-Violet Rays.
Special Dieting.
Golf Course in the Grounds.

TERMS:
4/6 to 6/- per day,
inclusive.

Hard Tennis Court.
Squash Racquets.
Badminton.
Sailing.
Bathing, etc.

Officers on the Active List are eligible to travel by rail at Government expense.
For Booklet apply—HOUSE GOVERNOR, OSBORNE HOUSE, EAST COWES, ISLE OF WIGHT.

DARTMOOR CONVALESCENT HOME.

750 FEET ABOVE SEA-LEVEL

Established 1903 for Treatment of Pulmonary and other forms of Tuberculosis. Sheltered Situation on the slopes of the bracing moorland. Radiographic Installation, Electric Light, Central Heating, Separate Bedrooms, Efficient Treatment, combined with individual comfort and minimum restrictions. Illustrated Prospectus on request to the Resident Physician: C. H. BERRY, M.R.C.S, L.R.C.P., Torr House, Chagford, Devonshire. Telephone: 11 CHAGFORD. Telegrams: TORR, CHAGFORD.

WOODLANDS PARK

GREAT MISSENDEN BUCKS.

550 feet above sea-level on Southern Chilterns. 90 acres, Gardens, Woods, and Park.

FOR INSOMNIA, NEURASTHENIA, other FUNCTIONAL NERVOUS DISORDERS, and REST AFTER OPERATION or ILLNESS.

FEES FROM 8 GUINEAS.

Telephone: 91 Gt. Missenden. Apply: C. W. J. BRASHER, M.D.

ALCOHOLISM, DRUG HABIT, NEURASTHENIA, etc.

BAY MOUNT, PAIGNTON.

ESTABLISHED 1922. *'Phone*: PAIGNTON 5110.

A comfortable private HOME, charmingly situated, overlooking Torbay, near Torquay. Main line 3½ hours from Paddington. Both Ladies and Gentlemen admitted as voluntary patients. The treatment is the outcome of many years' experience, and besides removing all craving for drink or drugs, it has a tonic action on the system, and the general health is improved. Alcohol and drugs reduced gradually, without suffering.

FUNCTIONAL NERVOUS DISEASES AND NEURASTHENIA are also treated with excellent results. Cases with insomnia, depression, etc., do especially well.

Exceptionally good climate and ample and varied amusement. Moderate, inclusive terms. Prospectus, etc., from STANFORD PARK, M.B., Ch.B., Res. Med. Supt., Bay Mount, Paignton.

INEBRIETY

DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of GENTLEMEN under the Act and privately. Estab. 1883 by an Association of prominent medical men and others for the study and treatment of alcohol and drug abuse. Large secluded grounds on the bank of the River Colne. Full-sized billiards, tennis, croquet, bowls. Golf (Moor Park, Sandy Lodge) close by. For particulars apply to—
F. S. D. HOGG, M.R.C.S., &c., Resident Medical Supt. Telephone: 16 RICKMANSWORTH.

SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA, Nr. LIVERPOOL.

Specially built and licensed for the care and treatment of a limited number of Ladies and Gentlemen suffering from Nervous and Mental breakdown. Voluntary and certified patients received. Ladies also admitted as "Temporary Patients" without certification. Terms moderate. Apply RESIDENT PHYSICIAN. Tel.: No. 8 Formby.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion Residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res Med. Supt., Dr. A. E. CARVER, M.D., D.P.M. Fees moderate. Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1. In cases of urgency 'phone NUNEATON 241.

The Stanboroughs,

WATFORD HERTS.

Specially equipped for treating cases of functional nervous disorders, alcoholism, and drug addiction. Fees moderate. Extensive park. Inspection invited.

S. MCCLEMENTS, M.R.C.S., L.R.C.P., Medical Superintendent.
Phone: WATFORD 1751.

SPRINGFIELD HOUSE,

Near BEDFORD. (Phone 3417.)

For Mental Disorders, with or without certificates.
Resident Physician: CEDRIC W. BOWER.
Ordinary Terms: Five Guineas per week.
(Including Separate Bedrooms where suitable.)
Interviews in London by appointment.

Tel. & Telegrams: "Haynes, Brentwood, 45."

Littleton Hall, Brentwood, Essex.

Large grounds, 400 ft. above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield 1 mile. Liverp'l St. 26 min.—Apply, Dr. HAYNES

FUNCTIONAL NERVOUS DISORDERS.

CALDECOTE HALL, NUNEATON.

RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate. *Full particulars from the Resident Medical Superintendent*:
A. E. CARVER, M.D., D.P.M.
Telephone: Nuneaton 241.

THE GRANGE,

near ROTHERHAM.

A HOUSE Licensed for the reception of a limited number of Ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. Approved for Temporary Patients. This is a large country house, with beautiful grounds and park, five miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield. Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

BROOKE HOUSE

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

HOME FOR DELICATE CHILDREN.

"THE LOG HOUSE," KLOSTERS

GRISONS, SWITZERLAND. 4,000 ft. above sea-level
Inclusive terms from five guineas weekly.
No Infectious cases taken. All particulars from Mrs. or Dr. B. HUDSON (above address).

CHISWICK HOUSE.

A Private Mental Hospital for the Treatment and Care of Mental and Nervous Disorders in both sexes.

Now removed to:

CHISWICK HOUSE, PINNER, MIDDLESEX.

Telephone: PINNER 234.

A modern country house, 12 miles from Marble Arch, in beautiful and secluded grounds.

Fees from 10 guineas per week.

Voluntary Patients received for treatment.

Special provision for "Temporary" patients under the new Mental Treatment Act.

DOUGLAS MACAULAY, M.D., D.P.M.

ALCOHOLISM & OTHER DRUG HABITS.

THE HARE NURSING HOME.

As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium, and author of "Alcoholism," etc.; for the treatment of ALCOHOLISM, other Drug Habits, Insomnia, Neurasthenia, Functional Nervous Disorders.

"THE OLD HILL HOUSE," CHISLEHURST, KENT.

Fees 5—10 guineas. Ample amusements. 25 bedrooms. Annexe for mild cases. Quiet and pleasant situation.

Ladies and gentlemen admitted for treatment. For Prospectus, etc., write or 'phone: WALTER E. MASTERS, M.D., M.R.C.S., D.P.H., Barrister-at-Law (Resident Medical Superintendent).
Telegrams: *Phone*:
Chislehurst 451. "Masters," Chislehurst.

BOURNEMOUTH.

West Haven, Chine Crescent Road.

FUNCTIONAL NERVOUS DISORDERS,

MEDICAL AND CONVALESCENT CASES.

The Home is situated on the West Cliff in large secluded gardens. Most modern treatment—rest cures, electrical massage, and ultra-violet light. [Established 1922.

Apply to Secretary, or Resident Physician, Dr. TAYLOR STYLES. Tel.: 1599.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES).

Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: *Telephone*: Brixton 0494.
Clapham Common Tube. Apply, Miss THWAITES.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to the Resident Medical Attendant. Telephone: Tamworth 108.

BARNWOOD HOUSE,
GLOUCESTER.

A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—
ARTHUR TOWNSEND, M.D., Medical Supt.
Telephone: No. 7 Barnwood.

ST. ALBANS, HERTS.
(20 miles from London.)

Ladies suffering from all forms of MENTAL ILLNESS received for treatment at the Herts County Mental Hospital, Hill End. Convalescent and mild cases can be treated in a delightful country mansion, with extensive grounds, known as

"HIGHFIELD HALL,"

situate about a mile away from the Hospital.
Fees 2 and 3 guineas weekly.
Particulars from the MEDICAL SUPT.

CHEADLE ROYAL,
CHEADLE, CHESHIRE.

This Registered Hospital for MENTAL DISEASES, with the seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary, Temporary, and Certified Patients received.

For terms, etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone: 2231 GATLEY.

THE LAWN, LINCOLN.

This Registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY and PRIVATE PATIENTS of both sexes for treatment of Mental and Nervous Disorders, including Post-Encephalitic conditions in adults. *Special facilities for Psychotherapy* in co-operative cases.

All particulars may be obtained from the Resident Medical Superintendent,
Dr. MARY R. BARKAS, M.D., D.P.M.

HINDHEAD.
850 feet above sea-level.
STONYCREST NURSING HOME
(Registered)

For MEDICAL, SURGICAL AND CONVALESCENT CASES.

RESIDENT MASSEUSE.

Apply, Miss OLIVER. Tel.: Hindhead 27.

GILGAL HOSPITAL,
PERTH.

Chairman:
THE RT. HON. THE EARL OF MANSFIELD.

For the Treatment of NEUROPATHIC and PSYCHOPATHIC DISORDERS. Certified patients not received. Under the management of James Murray's Royal Mental Hospital. Inclusive rates 5 guineas to 8 guineas weekly. Particulars on application.

Physician-Superintendent: W. D. CHAMBERS, M.D., F.R.C.P.E.

BAILBROOK HOUSE,
BATH.

A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.

Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory*, page 2134).

For terms apply to SAMUEL J. GILFILLAN, O.B.E., M.B., C.M.Edin., Resident Physician.
Telephone No.: Batheaston 8189.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

Ladies and Gentlemen received for treatment under certificates, and without certification as either VOLUNTARY or TEMPORARY PATIENTS, at a weekly fee of TWO GUINEAS and upwards.

ST. ANDREW'S HOSPITAL
FOR MENTAL DISORDERS,
NORTHAMPTON.

FOR THE UPPER AND MIDDLE CLASSES ONLY.

President: THE MOST HON. THE MARQUESS OF EXETER, C.M.G., A.D.C.

Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

This registered Hospital is situated in 120 acres of park and pleasure grounds. Voluntary patients, who are suffering from incipient mental disorders or who wish to prevent recurrent attacks of mental trouble; temporary patients; and certified patients of both sexes, are received for treatment. Careful clinical, biochemical, bacteriological, and pathological examinations. Private rooms with special nurses, male or female, in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

WANTAGE HOUSE.

This is a Reception Hospital in detached grounds, with a separate entrance, to which patients can be admitted. It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders. It contains special departments for hydrotherapy by various methods, including Turkish and Russian baths, the prolonged immersion bath, Vichy Douche, Scotch Douche, Electrical bath, Plombières treatment, etc. There is an Operating Theatre, a Dental Surgery, an X-ray Room, an Ultra-violet Apparatus, and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for biochemical, bacteriological, and pathological research.

MOULTON PARK.

Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

BRYN-Y-NEUADD HALL.

The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North-West side of the Estate a mile of sea coast forms the boundary. Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

At all the branches of the Hospital there are cricket grounds, football and hockey grounds, lawn tennis courts (grass and hard courts), croquet grounds, golf courses, and bowling greens. Ladies and gentlemen have their own gardens, and facilities are provided for handicrafts, such as carpentry, etc.

For terms and further particulars apply to the Medical Superintendent (Telephone No. 56, Northampton), who can be seen in London by appointment.

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone: 11 Ashton-in Makerfield.

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition.

Situated in park and grounds of 400 acres. Self-supported by its own farm and gardens, in which patients are encouraged to occupy themselves. Every facility for indoor and outdoor recreation. For terms, prospectus, etc., apply MEDICAL SUPERINTENDENT.

COURT HALL, KENTON, EXETER,
SOUTH DEVON.

For the care and treatment of Ladies suffering from Mental Diseases. Limited to eight patients. Telephone: Starcross 19.

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases. Cliffden is a large well-appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres. The gardens are very attractive, and there is a private road to the beach.

Resident Physicians: BERTHA M. MULES, M.D., B.S.; ANNIE S. MULES, M.R.C.S., L.R.C.P.
Telephone: Teignmouth 289.

TYKEFORD ABBEY, NEWPORT PAGNELL,
BUCKS.
FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

An approved Nursing Home for reception of Female Cases under the Mental Treatment Act.

The Home is a Mansion of Historical interest, standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton, and 12 miles from Bedford on the main London to Northampton Road, fifty miles from London. Both sexes are accommodated. Psycho-Therapeutic Treatment is used extensively in suitable cases. Radiant Heat, X-Ray, and Ultra-violet Light. Diathermy and Foam Baths. Billiards, tennis, etc. Fees from five gns. per week.
Apply, Dr. D. E. M. DOUGLAS-MORRIS. *Telephone*: Newport, Pagnell 121.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary and Temporary Patients received.

Tel.: 64117. *For terms, etc., apply to the Medical Superintendent*

RUTHIN CASTLE

(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

Telegrams: Castle Ruthin. Telephone: 66, Ruthin. Ruthin Castle, North Wales.

BETHLEM ROYAL HOSPITAL, for Nervous and Mental Disorders,

Monks Orchard, Monks Orchard Road, Eden Park, Beckenham, Kent.

Reg. Tel. Address: Bethlem, Beckenham. *Telephone:* Springpark 1180—1181.
Station: Eden Park (Southern Railway).

President: LORD WAKEFIELD OF HYTHE, C.B.E., LL.D.
Treasurer: SIR LIONEL FAUDEL-PHILLIPS, Bart.
Physician-Supt.: J. G. PORTER-PHILLIPS, M.D., F.R.C.P.

This Registered Hospital is now situated at Monks Orchard, in some 250 acres of park, pleasure, and farm grounds.
Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.
With a view to early treatment voluntary or uncertified patients are admitted.
Patients who can contribute 5 guineas weekly towards the cost of treatment and maintenance may be received as vacancies arise. The Committee will also consider applications for admission at lower rates, and in certain cases will be prepared to admit patients free of charge.
Every facility for specialized investigation and treatment is provided in the Lord Wakefield Science and Treatment Unit. In this Unit is found the X-ray and Dental Departments and the Bio-Chemical, Pathological, and Psychological Laboratories.
Furthermore, provision is made for Electro-Therapy and Hydro-Therapy to be carried out in all their forms.
In addition to the Resident Medical Staff, Consultants in special branches of Medicine and Surgery are available whenever required.
The comfort of sensitive patients is greatly enhanced by the fact that the majority are given single bedrooms.
For forms and further particulars apply to the Physician-Superintendent at the Hospital.

CAMBERWELL HOUSE, 33, Peckham Road, London, S.E.5.

Telegrams: "PSYCHOLIA, LONDON." FOR THE TREATMENT OF MENTAL DISORDERS. *Telephone:* RODNEY 4731—4732.

Also completely detached Villas for mild cases, with private suites if desired. Voluntary Patients received. Twenty acres of grounds. Hard and Grass Tennis Courts, Bowls, Croquet, Squash Racquets, and all indoor amusements, including Wireless and other Concerts. Occupational Therapy, Physical Drill, and Dancing Classes. X-ray and Actino-therapy, Prolonged Immersion Baths. Operating Theatre, Dental Surgery, and Ophthalmic Dept. Chapel. Senior Physician: Dr. Hubert James Norman, assisted by three Medical Officers, also resident, and Visiting Pathologist. An illustrated Prospectus may be obtained upon application to the Secretary.

HOVE VILLA, BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE.

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N.4.

Telegrams: "SUBSIDIARY, LONDON." *Telephone:* NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross. Easy access from all parts.
Six acres of ground, highly situated, facing Finsbury Park.
Private Suites. Voluntary Patients and Temporary Patients received without certification.
Convalescent Home, Kearsney Court, Dover. For further particulars, apply to the Medical Superintendent.

PECKHAM HOUSE, 112, Peckham Road, London, S.E.15.

Telegrams: "Alleviated, London." Telephone: Rodney 4741—4742.

The above House, which was established in 1826, is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders. Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution. There is a seaside branch, Kearsney Court, near Dover, to which patients may be sent for treatment or on holiday. Motor and carriage exercise is provided as required. Patients can avail themselves of a course of physical drill. Tennis courts. Entertainments, dances, and indoor amusements held throughout the year.
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent.

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS.

Extensive grounds. Detached Villas. Chapel. Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds, with tennis courts, etc., which Voluntary, Temporary, or Certified Patients may visit, by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent, The Old Manor, Salisbury Telephone 51.

The MUNDESLEY SANATORIUM

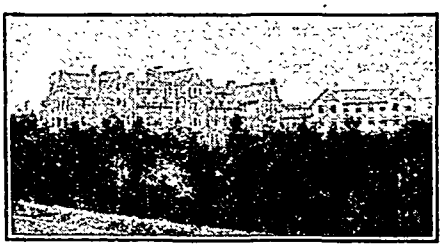
The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light, and wireless head-phones. The new public rooms are spacious and comfortable.

Resident Physicians:
S. VERE PEARSON,
M.D.(Cantab.), M.R.C.P.(Lond.).
L. WHITTAKER SHARP,
M.B.(Cantab.).
ANDREW MORLAND,
M.D., M.R.C.P.(Lond.).

For all information apply:
THE SANATORIUM, MUNDESLEY, NORFOLK.
(Telephone: Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind, and there is a day and night nursing staff.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: David Lawson, M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR.

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills, with sea and mountain views. Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4¼ hours from London. Resident Physicians: Dennison Pickering, M.D.(Cantab.), J. A. Hennessy, M.B., Ch.B.; Matron: Miss S. A. Eddy, S.R.N., Late Sister-in-Charge, Royal Hospital Annexe, Sheffield.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. ('Phone, 20.)

EAST ANGLIAN SANATORIUM

This Sanatorium was specially built for the treatment of Pulmonary and other forms of Tuberculosis, and has an ideal situation facing S.S.E. in a very sunny district. Special treatment by artificial Pneumothorax (X-ray controlled). Ultra-violet Ray treatment is available for suitable cases. Matron and full nursing staff. Nurse on duty all night. Electric lighting throughout, radiators and wireless (headphones) in all rooms.

Dr. Jane Walker, C.H., J.P., Medical Superintendent. Dr. Eleanor Soltau, Assistant Medical Superintendent.

For all information apply: The Secretary, East Anglian Sanatorium, Nayland, near Colchester.

Telephone: NAYLAND 1.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, Medicated Inhalations by means of the Apneu Inhalation Installation, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone:* 41 WITCOMBE. *Telegrams:* "HOFFMAN, BIRDLIP."

KINGUSSIE, N.B.
THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire. One of the highest inhabited districts in Britain—"The Switzerland of the British Isles." Bracing and dry mountain climate. Well sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis, and in part in 1931. Elevation 860 ft. above sea-level. Electric light throughout. Buildings and all forms of treatment available. shelters. Central heating. Fully equipped X-ray Plant. All forms of surgical cases of Tuberculosis including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases. No extras.

Terms: £4 7s. 6d. to £6 6s. per week inclusive. For particulars apply to the Secretary.

MEDICAL SUPT.: FELIX SAVY, M.D.

BAVARIAN SPAS ARE WORLD FAMOUS

BAD KISSINGEN

INDICATIONS: Gastro-intestinal disturbances, liver disease, disorders of the bile-ducts, heart and vascular troubles, diseases of metabolism, chronic respiratory diseases, diseases peculiar to women, rheumatic troubles, diseased conditions of the blood and tropical diseases.
THERAPEUTICS: Potable Springs: Rakoczy, Pandur, Maxbrunnen, Luitpoldsprudel, Stahlbrunnen. Natural rich carbonic acid and graded brine and hot-spring baths, mineral mud baths, Fango, Hydrotherapy, light, air, sun, steam and hot air baths, inhalations, pneum. chambers (special air breathing), Zander Institute, X-ray treatment.
Prospectus from the "Kurverein." Summer and Winter Cures.
Mineral Waters despatched by the Management.

BAD REICHENHALL

Ideal Climatic Saline Spa in the Bavarian Alps, 1,600 ft. above sea-level.
INDICATIONS: Asthma, emphysema, bronchitis, diseases of the throat, nose, and larynx, heart trouble, diseases of metabolism. Largest installation in the world for pneumatic chambers and inhalation. Beautiful mountain scenery. Strongest saline springs on the Continent. Potable Springs. All modern comfort. All kinds of sports and entertainments. Open all the year round. Information regarding hotel and travel facilities will be gladly given by Thos. Cook & Son, and the "Kurverein Bad Reichenhall" direct.

BAD BRUECKENAU

The Spa for Kidney Trouble—Wernarzer Curative Spring. Highly successful in cases of uric acid diathesis, for gout, kidney, stone, gravel and bladder troubles. Chalybeate spring proved successful for anaemia, women's diseases and diseases of the nerves. Chalybeate and mud baths known to the medical profession for centuries. Hunting and fishing. Spa opens May 1st. Twelve "Kur Halls," Railway Line Hamburg—Munich, local railway from Jossa, also via Bad Kissingen. Fulda and Schlüchtern can be reached by State Route Motor Cars. Information and Prospectus from the "Staatl. Bayerischen Mineralbades Brückenau in Unterfranken."

BAD STEBEN (Therapeutic)

The Chalybeate and Mud Bath in the Frankenwald, 1,906 ft. above sea-level. Proved in cases of anaemia, chlorosis, heart, nerve and women's diseases, gout, rheumatism, sciatica; bathing, drinking and air cures. Park, rest hall, forest environment. Information from the "Staatl. Badeverwaltung" and Travel Bureaux.

Exceptional curative successes. **Best installed Spas.**

VICHY FRANCE

The waters of Vichy belong to the sodium bicarbonate group. They are generally gaseous, clear, and colourless. They are nearly all similar in composition and contain, approximately, a total of 7.5 grammes of mineral matter which includes, notably, bicarbonates of sodium, potassium, calcium chloride and sulphate of sodium, free carbonic acid, and those rare gases: argon, krypton, xenon, helium, neon, etc. At their source, the springs present differences in temperature which give a variety of physiological actions due to their peculiar vitality.

The Thermal Establishment is justly considered as a model of its kind, and every care is taken that the latest discoveries in physiotherapy may be utilised under the best possible conditions for allowing the specific action of the waters to give the most beneficial results.

The cost of a stay at Vichy is surprisingly moderate. Hotels are numerous and comfortable and range from the most luxurious to the modest pension.

Detailed information concerning the treatment at Vichy may be had by addressing the Compagnie Fermière de Vichy, 24, Boulevard des Capucines, Paris.

LUCERNE *The PEARL of Switzerland.*

Fine Lido-Beach. Golf and all Sports. Rest and Recreation.

THE BEAU-RIVAGE HOTEL (1st class)

offers best accommodation. English patronage. Incl. from 13s.
Apply for Prospectus N-11. C. GIGER, Managing Proprietor.

INTERLAKEN BEAU-RIVAGE GRAND HOTEL

On the Riverside. Park; Rest-Terrace. Very much in favour with English families. Inclusive from 13s.
M. SCHUBIGER, Managing Proprietor.

MONTANA HALL

MONTANA, Switzerland

The only Sanatorium in Switzerland under British ownership and control, and with a full day and night staff of British Trained Nursing Sisters.

Built 1929-30. Opened Oct., 1930.

For the treatment of Tuberculosis, Diseases of the Chest, Asthma, and for patients requiring rest in the Alps under strict medical supervision.

Montana (5,000 feet above sea-level) is the sunniest mountain resort in Switzerland.

For prospectus and full particulars kindly apply to the Resident Medical Superintendent, HILARY ROCHE, M.D. (Melb.), M.R.C.P., (London), Tuberculous Dis. Dip. (Wales).

HARROGATE

for the Treatment of
RHEUMATISM,
ARTHRITIS,
FIBROSITIS,
NEURITIS,
ARTERIO-SCLEROSIS and
HYPERPIESIS,
Diseases of the
LIVER and GALL BLADDER, GASTRIC CATARRH and COLITIS,
SKIN DISEASES,
ANAEMIA and
Convalescence from Acute Illness.

SULPHUR, Saline Iron and Pure Chalybeate waters, together with the presence of large deposits of Volcanic Mud, enable Harrogate to offer every facility for the cure of an unusually wide range of the diseases amenable to Spa Treatment.

The Harrogate Royal Baths, housed in one of the finest Spa buildings in Europe, are equipped with the most modern apparatus for all forms of Physiotherapy.

THE "CURE" is taken in a holiday environment: three golf courses, putting greens, hard tennis court, swimming baths, beautiful gardens and moorlands encourage sport and exercise.

First-class hotels, hydros, boarding houses and private apartments meet all requirements for accommodation.

Harrogate is an ideal holiday centre and is surrounded by some of the most beautiful scenery in England.

Members of the Medical Profession are asked to write for particulars of Complimentary Facilities to :—
F. J. C. BROOME,
General Manager, 3, The Royal Baths, Harrogate.

Pullman and Fast Restaurant Car Trains daily from King's Cross Station, London.

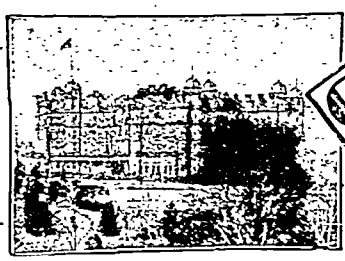
Telegrams—"Majestic, Harrogate."
Telephone—2261.

HOTEL MAJESTIC
HARROGATE
FINEST SPA HOTEL IN THE WORLD
Stands in its own Glorious Grounds of Ten Acres

Overlooking Royal Baths and Pump Room. En-Tout-Cas Tennis Courts. Putting Green. Garage. Beautiful Winter Garden and Ball Room. Saturday Night Dances. Comfortable self-contained Suites. Large number of Bedrooms with Private Bathrooms. Every room fitted with hot and cold running water, central heating and telephone.

Perfect Cuisine and Attentive Service. Write for Illustrated Tariff.

THE MOST MODERN IN THE SPA



DANCING EVERY SATURDAY

GRAND HOTEL
HARROGATE

200 rooms fitted with hot and cold water. 50 suites with private baths and telephones. Hard Tennis Courts and Putting Green. Garage 100 cars.

FINEST CUISINE ABSOLUTE COMFORT

SPLENDID BALLROOM CONSTANT BAND

DELIGHTFUL SITUATION OPPOSITE VALLEY GARDENS

Telegrams: "Grand." *Telephone: Harrogate 4631.*

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park-land at a height of 450 feet above sea-level on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Medical Superintendent, H. Morriston Davies, M.D., M.Ch.Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.

asthma

TREATED AT MONT-DORE

THE FAMOUS FRENCH SPA

40 inhalation rooms unique in the world

MEDICAL LITERATURE | FEDERATION OF THE HEALTH RESORTS OF FRANCE
Tavistock House (North), Tavistock Square, LONDON, W.C.1.
Cie DU MONT-DORE, 19, Rue Auber, PARIS (9E).

SMEDLEY'S

GREAT BRITAIN'S GREATEST HYDRO

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Plombières Treatment, an Electric Installation for Baths and other Medical purposes, Dowsing Radiant Heat D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (R.U.I.), R. MACLELLAND, M.D., C.M.(Edin.).

'Grams: "Smedley's Matlock."
'Phone No. 17.
For Prospectus and full information please write MANAGER, M.J.

MATLOCK

PEEBLES

In the winter garden of Scotland, facing the sun, 600 feet up. Tonic air, beauty in every landscape from sheltered balconies. Dancing, winter garden, swimming bath, tennis, badminton, golf, fishing. Fully licensed. Modern baths installation. Physio-therapeutic, massage, electrical treatment, ultra-violet radiation. Physician in attendance. Write for prospectus.

Among the Pine-clad Border Hills.
PEEBLES HYDRO, PEEBLES, SCOTLAND

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plombière Lavage.
Every kind of Massage. Ultra-violet Light.
Every kind of Electricity. Diathermy.
Every kind of Diet.
High Frequency. Electric Lift.
Prospectus from Secretary. *Tele.* 341.

Resident Physicians: W. JOHNSTON SMYTH, M.D. L. T. ROSE-HUTCHINSON, M.D.

STRETTON HOUSE,

Church Stretton, Shropshire.

A PRIVATE HOME for the treatment of Gentlemen suffering from Mental or Nervous Illness, including the allied disorders of Alcoholism and the Drug Habit. All types of early Mental and Nervous cases are received without certificates as Voluntary Patients under the provisions of the Mental Treatment Act, 1930. Bracing Hill country. See *Medical Directory*, p. 2138.—Apply to Medical Superintendent. 'Phone: 10 P.O., Church Stretton.

Grove House, All Stretton,

Church Stretton, Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent: Dr. MCCLINTOCK.

EPILEPSY.

Attendance at school is a necessary part of the satisfactory treatment of Epilepsy in Children.

COLTHURST HOUSE SCHOOL

meets all the requirements of children of middle-class parentage. Extensions made necessary by the success of the school have created several vacancies.

Only bright and intelligent boys and girls are eligible for admission.

Apply to the Medical Supt., Colthurst House School, Warford, Alderley Edge.

Select Home for Elderly People offered. Individual attention, only two taken. House facing sea, tonic air. Recommended by Medical Profession and others.—(Mrs.) FLORENCE COWEN, 22, The Terrace, Roker, Sunderland.

Wanted. — Doctor or trained Nurse to take delicate boy (7) as RESIDENT PATIENT. South Coast. Able to be up. Sunshine and general care chief requirements. Full particulars. — Address, No. 3827, B.M.A. House, Tavistock Square, W.C.1.

Resident Patient can be received in Medical Woman's quiet house. Healthy district, 12 miles from London.—Address, No. 3833, B.M.A. House, Tavistock Square, W.C.1.

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London. £8 8s. for 10 lessons.—Address, No. 123, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL CORRESPONDENCE COLLEGE,

19, Welbeck Street, London, W.1.

M.D. THESIS

All Universities.

Skilled coaching, guidance, and advice, by specialist tutors.

Recent successes include Gold Medals at M.D. Edinburgh, 1929 and 1930, and at M.D. Belfast, 1930, and many "High Commendations" and "Commendations" at other Universities.

Write for free booklet "How to Write a Thesis for the M.D. degree."

M.D. LONDON

Courses by skilled tutors for each branch of the M.D. London.

Oral, clinical, and practical work arranged.

Special courses, postal, oral, and clinical, for all higher medical examinations, M.R.C.P. London, Edinburgh, F.R.F.P.S. Glasgow. Many successes.

Write for free booklet, "Guide to the M.D. London," to the Secretary, Medical Correspondence College, 19, Welbeck Street, London, W.1.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London, W.1.

Dean - Sir CUTHBERT WALLACE, K.C.M.G., C.B., F.R.C.S.

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above School, commencing Monday, October 5th, 1931.

The Course will be repeated on subsequent dates.

Copy of the syllabus and full particulars may be obtained on application.

In addition, periods of hospital practice can also be arranged.

The Dean will be glad to see prospective entrants by appointment.

THOS. A. GARNER, Secretary.

POST-GRADUATES.

FORTHCOMING COURSES: Diseases of Children (2), Tropical Medicine, Fractures, Medicine and Surgery (2), Cardiology and Proctology. M.R.C.P. Evening Course. V.D. for Women Graduates only.

Apply for detailed syllabuses to

THE FELLOWSHIP OF MEDICINE, 1, Wimpole Street, London, W.1.

Telephone: LANGHAM 4266.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE.

THE PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM, and THE NORTH MIDDLESEX HOSPITAL, EDMONTON.

A TWO WEEKS' INTENSIVE COURSE (Mornings and Afternoons) for General Practitioners commences on JUNE 22nd and again on JULY 6th. The subjects include:

Glandular Fever
Diabetes
Cardiac Arrhythmias
Chorea
Colitis
The Common Cold
Pyorrhoea
Rheumatism
Leucorrhoea
Fevers and Mental Cases
Haematuria
Tinnitus
Phlegmasia Alba Dolens
Abdominal Pain in Children
Pyrexia
Minor Surgery of the Hand
Visceroptosis
The Acute Abdomen
Diseases of the Gall-Bladder
Demonstrations of selected cases in all departments
Radiological Demonstrations and Radium Treatment

A Syllabus will be forwarded on application to the DEAN at the Prince of Wales's Hospital.

DIPLOMA IN PUBLIC HEALTH

London School of Hygiene and Tropical Medicine
(University of London)

The 1931-32 course of study, which qualifies students to sit for the University of London Diploma, covers a period of nine calendar months in the case of those who devote the whole of their time to the work.

The course will commence on September 28th, 1931.

The inclusive fee of 54 guineas will cover the cost, not only of the ordinary lectures and demonstrations, but also of the necessary practical work in public health departments and instructions in infectious diseases, etc.

Enquiries should be addressed to the Secretary, London School of Hygiene and Tropical Medicine, Keppel St., Gower St., London, W.C.1.

INSTITUTE OF PATHOLOGY & THERAPEUTIC RESEARCH

ST. MARY'S HOSPITAL, LONDON, W.2

A Course of Lectures on PATHOLOGICAL RESEARCH IN ITS RELATION TO MEDICINE has been arranged for the SUMMER SESSION. These Lectures will be given in the Lecture Room of the Bacteriological Department of the Institute on TUESDAY AFTERNOONS at 5 p.m. as under:—

JUNE 23rd. Prof. HAMILTON HARTRIDGE, M.D., F.R.S. (Prof. of Physiology, St Bartholomew's Medical College). SUBJECT. "The Theory of Hearing."

These Lectures are open to all Members of the Medical Profession and to all Students in Medical Schools without fee.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,400 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

F.R.C.S.(Edin.).

CLASSES or POSTAL TUITION. Full preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Sept. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.

(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.).

POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.), 1901-30 (9 Gold Medallists during 1913-30)	336
M.S.(Lond.), 1901-30 (including 4 Gold Medallists)	22
M.B.,B.S.(Lond.), *Final* 1906-30 (Completed Exam.)	269
F.R.C.S.(Eng.), *Primary* 1906-30)	162
Final	161
M.R.C.P.(Lond.), 1914-30	192
D.P.H. (Various) 1906-30 (Completed Exam.)	300
F.R.C.S.(Edin.), 1918-30	46
M.R.C.S.,L.R.C.P. *Final* 1910-30 (Completed Exam.)	467
M.D.(Dur.) (Practitioners) 1906-30	38
M.D. Various. By Thesis. Numerous successes.	

Preparation for the above and also for Medical Preliminary, and for all examinations leading up to M.R.C.S., L.R.C.P., or M.B. of various Universities; also for D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Examinations. Suggestions for the Special Examinations. Suggestions for the Diploma Examinations. Hints for writing with list of things for Women. Hints for viva. Testimonials; Medical prospectus gratis to the first Lion 2d.; on application to Mr. E. S. Weymouth, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6213.) Tutors, etc.

UNIVERSITY OF LONDON.

EXTERNAL EXAMINERSHIPS, 1932.

The Senate announce the following vacant Examinerships for the year 1932:

For the First Examination for Medical Degrees.
GENERAL BIOLOGY. PHYSICS.

For the Second Examination for Medical Degrees.
PHYSIOLOGY (Two).

For Final and Higher Examinations for Medical Degrees.
FORENSIC MEDICINE AND HYGIENE (Two).
MENTAL DISEASES AND PSYCHOLOGY.
NEUROLOGY. PATHOLOGY.
TROPICAL MEDICINE.

Associate Examiners.

Applications will also be invited for Associate Examiners in Medicine, Obstetric Medicine, Pathology, and Surgery. A separate application form must be used for Associate Examinerships and the word "Associate" must be written on it.

Application form (or forms if more than one Examinership is applied for) and particulars of the remuneration and duties can be obtained from the External Registrar.

Candidates must send in their names to the External Registrar, GEO. F. GOODCHILD, M.A., B.Sc., with any attestation of their qualifications they may think desirable, on or before Monday, July 6th, 1931. (Envelopes should be marked "Examinership.")

The Senate desire that no application of any kind be made to individual members.

If testimonials are submitted one copy only of each is required. In no case should original testimonials be submitted. If more than one Examinership is applied for a separate and complete application must be forwarded in respect of each Examinership. The appointments will be made by the Senate in November. Applicants who desire that the result should be communicated to them are requested to enclose a stamped and addressed envelope with their applications.

University of London, South Kensington, S.W.7. EDWIN DELLER, Principal.

June, 1931.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatmen of stammering and other speech defects."—"Times."
"Thoroughly physiological principles."—"Lancet."
"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING, 3/8
of Miss BEHNKE, 39, Earl's Court, Sq., S.W.5.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to
The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5
for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics, and antenatal clinics. For further particulars, fees, etc., apply to EDGAR DIBDEN, the Secretary.

F.R.C.S.(Edin.).

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

University of Birmingham.

WALTER MYERS TRAVELLING STUDENTSHIP.
(For Research in any branch of Pathology approved by the Selection Committee.)

The Walter Myers Travelling Studentship is of the value of £300 for one year and is tenable at a University or Hospital not in Great Britain or Ireland approved of by the Selection Committee.

The Studentship is available for year 1931-32.

Candidates, who must be under 30 years of age, may be of either sex, and must be Graduates of the University of Birmingham or of some other University in Great Britain or Ireland. In the case of Graduates of other Universities, candidates must have been students of the Birmingham Medical School for three years immediately preceding their application for the Studentship.

The holder of the Studentship will be required to devote his or her whole time to Research.

Further information may be obtained from the Dean of the Medical Faculty, University, Edmund Street, Birmingham. Applications must be lodged with the Dean not later than September 1st, 1931.

C. G. BURTON, Secretary.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London.)

The WINTER SESSION will begin on Thursday, October 1st, 1931.

The Medical School provides courses in Preliminary, Intermediate, and Final Subjects, and Students can join at once after matriculation.

SITUATION.—Between a large population, providing clinical material, and one of the best residential districts, thus enabling students to live in close proximity to their work.

CLINICAL UNITS IN MEDICINE AND SURGERY.—Certain members of the Medical and Surgical staff devote their whole time to teaching and research.

NEARLY 1,000 beds available for teaching, additional clinical material being provided by affiliation to an Infirmary and other Institutions.

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1,400 are awarded annually.

APPOINTMENTS, varying in value up to £750 per annum, open to students after qualification.

For further particulars and illustrated prospectus, apply to the School Secretary.

C. M. WILSON (*M.C.*), M.D., F.R.C.P., *Dean.*

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London.)

PRIMARY F.R.C.S. COURSE.

A Course of Instruction for the December Examination will begin on Tuesday, September 1st, 1931, in the following subjects:

ANATOMY AND EMBRYOLOGY;
PHYSIOLOGY AND HISTOLOGY (with Practical Classes).

The classes are conducted by the Professors and Demonstrators in the respective subjects.

Fee for the Course £16 16s., or £9 9s. for either section separately. This fee includes membership of the Students' Club during the period covered by the Course.

For further particulars apply to the School Secretary.

St. Mary's Hospital Medical SCHOOL, W.2.

ASSISTANT DIRECTOR TO SURGICAL UNIT.

Applications are invited for the above post on or before June 30th.

Candidates must hold the Diploma of F.R.C.S. (Eng.), and be prepared to enter upon their duties on September 1st next.

Conditions of the post may be obtained on application to the School Secretary.

C. M. WILSON, *M.C.*, M.D., F.R.C.P., Dean.

Institute of Medical Culture, VARESE, ITALIAN LAKE DISTRICT.

Summer Course on Modern Therapeutic Tendencies, July 10th—30th. Oxford Graduate will entertain few medical men in spacious country house. All modern conveniences. Billiards. Bridge. Library. Garden. Lake and mountain views. 2½ to 3½ guineas weekly.

Write: Santelena, Masnago, Varese.

Home School for delicate Children, CRANS-SUR-SIERRE, SWITZERLAND, 5,000 ft. above Rhone Valley. Headmaster, M.A.Cantab., M.R.C.S., L.R.C.P., lately M.O. large English Pub. Sch. Health, tuition, sports. No infectious case taken. 5 gns. p.w. —No. 3842, B.M.A. House, Tavistock Sq., W.C.1.

City and County of Bristol.

HORTHAM COLONY FOR MENTAL DEFECTIVES.

Applications are invited for the following posts:

MATRON. Salary £200 to £250 per annum, together with residential emoluments. Must be general trained and hold the Medico-Psychological certificate.

STEWARD. Salary £400 to £500 per annum, non-resident. Must have experience of the administration of the Mental Deficiency Acts.

ENGINEER. Salary £300 per annum, non-resident. Board of Trade certificate (with motor endorsement), or similar qualification necessary.

Applicants for these posts must not be over 40 years of age.

Forms of application, with further particulars, can be obtained from and must be delivered to the undersigned at the address below not later than June 30th.

The Council House, Bristol. JOSIAH GREEN, Town Clerk.

TAUNTON SCHOOL, TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examinations, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1925. Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on January 6th and October 1st, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

CITY OF LONDON MATERNITY HOSPITAL, CITY ROAD, E.C.1.

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice, with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.G. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

MARLBOROUGH COLLEGE, Near MACCLESFIELD, CHESHIRE,

Specialises in CAREERS FOR GIRLS, General Education to Matric., etc. Special Terms to Medical Men. Apply: *LADY WARDEN.*

City of Liverpool.

SENIOR ASSISTANT RESIDENT MEDICAL OFFICER (Male).

Applications are invited for the above appointment at the ALDER HEY CHILDREN'S HOSPITAL, West Derby, Liverpool (900 beds). Candidates must be single, fully qualified and registered, have had at least two years' continuous Hospital experience since qualification, and possess a good knowledge of Children's Diseases.

Salary at the rate of £400 per annum, increasing by two annual increments of £25 to a maximum of £450 per annum, together with the usual residential allowances. All fees received in connection with the appointment to be handed over to the City Council.

In the absence of the Medical Superintendent, the officer appointed will be required to assume responsibility for the Medical work of the Hospital.

The appointment will be made in accordance with the Standing Orders of the City Council, and will be determinable by three calendar months' notice on either side.

Canvassing, either directly or indirectly, will be deemed a disqualification.

Applications, stating age, qualifications, etc., with copies of three recent testimonials, to be received by the undersigned not later than July 4th.

Brougham Terrace, Liverpool. WALTER MOON, Town Clerk.

June 15th, 1931.

City of Liverpool.

RESIDENT ASSISTANT MEDICAL OFFICER.

Applications are invited for the appointment of Resident Assistant Medical Officer at the SMITHDOWN ROAD HOSPITAL (1,100 beds), Liverpool, for a period of one year. Salary at the rate of £200 per annum, together with the usual residential allowances. All fees received in connection with the appointment to be handed over to the City Council.

The appointment will be made in accordance with the Standing Orders of the City Council, and canvassing will be deemed a disqualification. Candidates must be single, fully qualified, and registered.

Applications, stating age, qualifications, etc., with copies of three recent testimonials, to be received by the undersigned not later than June 29th.

Brougham Terrace, Liverpool. WALTER MOON, Town Clerk.

June 15th, 1931.

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H.M.'s Indian Medical Service. The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service. In other respects the terms will be as detailed below.

Candidates must be British subjects under 32 years of age at the time of application, and must be registered under the Medical Acts in force in Great Britain and Northern Ireland.

CAREERS.

The Indian Medical Service offers wide opportunities of medical experience, including clinical, preventive, specialist, and research work. At the beginning of his career an officer is employed on the military side, which has medical charge of the Indian Army. Promotion is on a time scale up to the rank of Lieutenant-Colonel, and by selection to the ranks of Colonel and Major-General. An officer may apply after one year's Indian service to have his name registered for transfer to the civil side, from which appointments are made to Civil Surgeoncies, which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes; to specialist (for example, public health and bacteriological) services; to research posts; and to professorships at the Medical Schools.

NOTE.—It is not possible to state at present what, if any, prospects of employment on the civil side will be open to Indian Medical Service Officers under the proposed new constitution for India.

PAY.

The monthly rates of pay for European officers in the Service who have a "non-Asiatic" domicile are as follows:

Rank.	Service in Rank.	Basic Pay.	Overseas Pay.	Years of Total Service.
1	2	3	4	5
		Rs.	Rs.	
			150	1st
Lieut.	—	500	150	2nd
			150	3rd
Capt.	(i) During first 3 years' service as Captain	650	150	4th
			£15	5th
			£15	6th
	(ii) With more than 3 and less than 6 yrs.' service as Captain	750	£25	7th
			£25	8th
			£25	9th
	(iii) With more than 6 years' service as Captain	850	£25	10th
			£30	11th
				12th
Major	(i) During first 3 years' service as Major	950		
	(ii) With more than 3 and less than 6 years' service as Major	1100		
	(iii) With more than 6 years' service as Major	1250		
Lieut.-Col.	(i) Until completion of 23 years' total service	1500	£30	13th and over
	(ii) During 24th and 25th years' service	1600		
	(iii) After completion of 25 years' total service	1700		
	(iv) When selected for increased pay	1850		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service. Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service.

ANTEDATES IN COMMISSION.

Any service rendered by an officer during the war as a medical or combatant officer, or in a position usually filled by an officer, may be counted as service for increments of pay, promotion retirement and retired pay, but not for gratuity.

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only.

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions. Past service in certain hospital appointments may also render candidates eligible for an antedate of one year. Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year. The maximum period of antedate, secondment, or antedate and secondment combined, admissible under this paragraph, is limited to one year.

OUTFIT ALLOWANCE.

Officers on appointment will receive an outfit allowance of £50.

PRIVATE PRACTICE.

With the exception of Administrative Officers, military or civil, and officers holding certain special appointments, officers are not debarred from taking private practice, so long as it does not interfere with their proper duties.

LEAVE.

Leave can be taken at reasonable intervals, and adequate rates of leave pay are provided. Extra leave (known as study leave), which may not exceed 12 months in all during an officer's service, may be granted to officers desirous of pursuing special courses of study of a post-graduate nature. During such leave, study allowance, at present fixed at the rate of 12s. a day in the United Kingdom, £1 a day on the Continent of Europe, and £1 10s. a day in the United States of America, is granted to an officer in addition to ordinary rates of leave pay.

PENSIONS.

The rates of pension are as follows:

	Per annum. £
After 17 years' service for pension ...	400
„ 18 „ „ „ ...	430
„ 19 „ „ „ ...	460
„ 20 „ „ „ ...	500
„ 21 „ „ „ ...	540
„ 22 „ „ „ ...	580
„ 23 „ „ „ ...	620
„ 24 „ „ „ ...	660
„ 25 „ „ „ ...	700
„ 26 „ „ „ ...	750
„ 27 „ „ „ ...	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent. in all, the revision being undertaken triennially. With effect from July 1st, 1930, a reduction of 5½ per cent. has been made on this account from the amounts shown.

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments.

PASSAGES.

An officer on appointment is provided with free passage to India. The wives and families of officers who are married prior to the date of the officers' embarkation on first appointment will also be provided with free passage to India, subject to the payment of messing charges.

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service.

INSTRUCTION PRIOR TO EMBARKATION.

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot, lasting approximately six months, prior to their embarkation for India on first appointment.

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London, S.W.1. The Selection Committee will meet at the India Office early in July next, and the selected candidates will be required to join a course of instruction early in August, prior to sailing for India early in 1932. Applications should be submitted as soon as possible.

The Royal Victoria Hospital, FOLKESTONE.

The Committee of Management invite applications for the posts of RESIDENT MEDICAL OFFICERS, Senior and Junior (female), to commence duty on August 1st.

The salaries attached to the posts are—Senior £125, and Junior £100 per annum, with board and residence.

The appointments are for six months, subject to one month's notice on either side. The present Junior Medical Officer is a candidate for the senior post. Applications, which should state if applicants are willing to serve in the Junior post, together with copies of recent testimonials, should be addressed to the Secretary-Superintendent, Royal Victoria Hospital, Folkestone, Kent, not later than Monday, July 6th.

Third-class return fare from London allowed.

R. W. REED, Capt.,
June 16th, 1931. Secretary-Supt.

Birmingham and Midland Eye HOSPITAL.

Applications are invited from duly qualified Medical Practitioners for the post of RESIDENT SURGICAL OFFICER at the above Hospital. Salary £150 per annum and £10 laundry allowance.

The resident staff also consists of two House Surgeons, and in the event of one of these being promoted applicants should state whether they will be willing to accept appointment as House Surgeon at a salary of £110 per annum.

Applications, with testimonials and evidence of registration, must be received not later than Monday, June 29th.

Church Street, Birmingham. C. A MASON, General Superintendent.
June 1st, 1931.

The Children's Hospital, SHEFFIELD. (107 Beds.)

Applications are invited for the following post, vacant on July 1st.:

THIRD RESIDENT MEDICAL OFFICER. Salary £80 per annum, with board, residence, and laundry. The appointment is for six months, and afterwards the holder is eligible for the post of House Physician (salary at the rate of £100 per annum).

Candidates (female and unmarried) must be fully qualified and registered. Applications, stating age, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.

T. H. G. GARTLAND,
Secretary.

The Children's Hospital, SHEFFIELD. (107 Beds.)

Applications are invited for the post of WHOLE-TIME REGISTRAR-PATHOLOGIST (non-resident). The appointment is for one year, but is renewable annually. Salary £350 per annum. Candidates must be fully qualified medically. Applications, with copies of testimonials, to be sent at once to the undersigned.

T. H. G. GARTLAND, Secretary.

The Children's Hospital, SUNDERLAND. (70 Beds.)

Wanted, Two RESIDENT MEDICAL OFFICERS (female)—one middle of June, one middle of July. Candidates must possess double qualifications (registered). Salary £100 per annum, with board, residence, and laundry. The appointments are for six months. Applications, stating age, with copies of three recent testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

The Hospital for Women, *Soho Square, London, W.1.*

Applications are invited for the post of HONORARY PHYSICIAN to the In-Patient Department. Candidates must be Members of one of the Royal Colleges of Physicians of the United Kingdom.

Applications should reach the undersigned, from whom further information can be obtained, not later than July 1st.

J. P. HEMING, Secretary.

This appointment is advertised to comply with the By-laws of the Hospital.

Hull Royal Infirmary. (270 Beds.)

Applications are invited for the post of THIRD HOUSE SURGEON (male), now vacant. The appointment will be for six months in the first instance, determinable on either side by one month's notice. Salary at the rate of £150 per annum, plus board, residence, and laundry.

Applications, together with copies of testimonials, should be sent to the undersigned.

R. J. CARLESS,
June 1st, 1931. House Governor.

The Royal Infirmary, SHEFFIELD. (500 Beds.)

The Weekly Board of Management invite applications for the undermentioned posts—HOUSE SURGEON, OPHTHALMIC HOUSE SURGEON, ASSISTANT AURAL AND OPHTHALMIC HOUSE SURGEON.

The appointments will be tenable for six months from July 1st. The salary attached to each post is £80 per annum, rising after six months' service to £100 per annum, together with board and residence. Applications, together with copies of testimonials, should be sent to the undersigned immediately.

JNO. W. BARNES, F.C.I.S.,
General Superintendent and Secretary.
Board Room. June 2nd, 1931.

Beckett Hospital & Dispensary, BARNSLEY. (152 Beds.)

The Committee invite applications for the post of HOUSE PHYSICIAN. Applicants must be registered and hold a Medical and Surgical qualification. Preference will be given to applicants who have held a previous Hospital post and having Pathological experience.

Duties to commence July 1st.

Salary £200 per annum, with board, residence, and laundry.

Applications, together with testimonials, should be sent to the undersigned immediately.

ARTHUR L. BOURNE,
Secretary-Supt.

National Hospital, Queen Square, W.C.1.

RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Resident Medical Officer, and should be sent to the undersigned, accompanied by three recent testimonials, not later than Monday, July 6th. The salary is £200 per annum, with board and lodging. Applicants should state if they are willing to accept a post of House Physician (salary £150).

GODFREY H. HAMILTON,
Secretary.

National Hospital, Queen Square, W.C.1.

The Board of Management invite applications from qualified Medical Men for the post of HONORARY ASSISTANT RADIOLOGIST.

Applicants should possess a diploma in Medical Radiology and Electrology, preferably the Cambridge Diploma. Applications should be *sent to the undersigned*, together with copies of recent testimonials, on or before July 6th.

GODFREY H. HAMILTON,
Secretary.

National Hospital, Queen Square, W.C.1.

REGISTRAR.

Applications are invited for the post of Registrar. The salary is £200 a year. Applications, with recent testimonials, should reach the undersigned, from whom any further particulars may be obtained, on or before July 6th.

GODFREY H. HAMILTON,
Secretary.

London Jewish Hospital, Stepney Green, E.1. (General Hospital—108 Beds.)

The Council of Management invite applications for the post of ASSISTANT GYNAECOLOGIST. Candidates must be Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland, or Masters of Surgery of London, Oxford, or Cambridge University. Candidates must send 20 copies of their application, with copies of three recent testimonials, to the Secretary at the Hospital before Friday, July 3rd.

King's College Hospital.

The Committee of Management invite applications for the post of JUNIOR OPHTHALMIC SURGEON. Applicants, who must be Fellows of the Royal College of Surgeons of England, should send their applications, with copies of three testimonials, before July 7th, to the House Governor, King's College Hospital, Denmark Hill, S.E.5, from whom particulars of the duties may be obtained.

Rotherham Hospital. (130 Beds.)

Wanted, CASUALTY HOUSE SURGEON (male), qualified. Salary £150, with board, residence, and laundry.

Applications, with copies of recent testimonials, to be sent to the Secretary, G. W. ROBERTS, 8, Moorgate Street, Rotherham.

West End Hospital for Nervous DISEASES.

(In-patient Dept., Gloucester Gate, Regent's Park, N.W.1.

The Committee of Management invites applications from British male candidates for the vacancy of JUNIOR HOUSE PHYSICIAN, to start duty July 1st. Salary £100, with board, residence, and laundry. Appointment in first instance for six months. Applications, with copies of three testimonials, must be received by the undersigned as soon as possible, and in any case not later than June 23rd.

73, Welbeck St., W.1. J. P. WETENHALL, Secretary.

The General Hospital, BIRMINGHAM.

OPEN APPOINTMENTS.

Applications are invited for the following Resident appointments, vacant immediately:

ANAESTHETISTS (Two). Salary £120 per annum.

HOUSE SURGEON. Salary £70 per annum.

Applications, giving full details of qualifications, and accompanied by testimonials (if desired), should be sent to the undersigned as soon as possible.

A. H. LEANEY,
House Governor.

Elizabeth Garrett Anderson HOSPITAL, Euston Road.

Wanted, fully qualified Medical Women for the following posts:

SECOND HOUSE SURGEON and OBSTETRIC ASSISTANT.

Appointments for six months from July 1st next. Salary at the rate of £50 per annum, with board, residence, and laundry. Applications, with copies of three testimonials, should be sent to the Secretary by Thursday, June 25th.

JEAN R. MURRAY, Secretary.

Elizabeth Garrett Anderson HOSPITAL, Euston Road.

Wanted, fully qualified Medical Woman to act as ASSISTANT RADIOLOGIST in the X-Ray *Department*. Duties to commence October 1st next. Honorarium £100 per annum. Applications, with testimonials, should be sent to the Secretary, from whom particulars of the post may be obtained, by Friday, June 26th.

JEAN R. MURRAY, *Secretary*.

Midland Hospital, Easy Row, BIRMINGHAM.

A vacancy will occur for post of HOUSE SURGEON, lady or gentleman, at the above Hospital, on August 9th. Salary £150 per annum, with board, residence, and laundry.

The work includes Surgery, Gynaecology, Dermatology, etc.

Applications, stating age and qualifications, accompanied by recent testimonials, should be forwarded at once to—

JAMES O. AYRES, Secretary.

Oldham Royal Infirmary.

HOUSE PHYSICIAN and CASUALTY OFFICER required forthwith. Appointment tenable for a period of six months. Salary at the rate of £175 per annum, with board, residence, and laundry. Successful candidate will be required to assist the Honorary Pathologist, and will be *eligible for re-appointment*.

Applications to be *submitted forthwith*, together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

East Suffolk and Ipswich HOSPITAL, IPSWICH. (265 Beds—7 Residents.)

Applications are invited for the post of CASUALTY OFFICER. Salary £120 per annum or more according to experience. Board, residence, and laundry.

Applications from British (male) candidates, stating age, qualifications, and experience, accompanied by three recent testimonials, to be sent to the undersigned.

The Hospital, Ipswich. ARTHUR GRIFFITHS, Secretary.
June 1st, 1931.

Durham County Hospital, (75 Beds.)

HOUSE SURGEON required immediately (two kept). Salary £150 per annum, with board and lodging.

Applications, with copies only of testimonials, stating age and when at liberty, to be sent to WM. R. WILSON, Secretary, 79, Saddler Street, Durham.

Manchester Royal Infirmary.

CENTRAL BRANCH, Roby Street, MANCHESTER.

HOUSE SURGEON (Lady).

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment. Applicants must be registered and hold a Medical and Surgical qualification.

The appointment is tenable for nine months, commencing forthwith, three months as Junior at £100 per annum, three months as Assistant at £100 per annum, and three months as Senior at £200 per annum, together with board and allowance for laundry.

Applicants must state age and qualifications, and send twelve copies of their application and testimonials to the undersigned by 9 a.m. on Thursday, June 25th.

By Order,
FRANK G. HAZELL,
Gen. Supt. & Secretary.

Manchester Royal Infirmary.

RESIDENT SURGICAL REGISTRAR TO OUT-PATIENTS.

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment, vacant on August 1st. Applicants (men only) must be registered and hold a Medical and Surgical qualification and have held a Hospital appointment. The appointment is for six months, renewable for further periods of six months, subject to the provisions of the By-laws as to notice, etc. Salary £150 per annum, with board, residence, and allowance for laundry.

Further particulars of the post may be obtained on application to the Chairman of the Medical Board.

Letters of application, with testimonials, to be sent in not later than June 24th.

By Order,
F. G. HAZELL,
June 8th, 1931. Gen. Supt. & Sec.

Eastbourne. — Princess Alice

MEMORIAL HOSPITAL (110 Beds).

Applications are invited for the post of HOUSE SURGEON (male). Salary at the rate of £150 per annum, with board, lodging, and laundry. There are two residents, and the appointment is for six months commencing not later than August 1st. Candidates must be unmarried, fully qualified, and registered.

Applications, stating age, qualifications, etc., are required by copies of not more than three testimonials (one of which should be from Medical School), should be sent to the Secretary to reach him not later than June 30th.

Royal Victoria Infirmary,

NEWCASTLE-UPON-TYNE.
(602 Beds.)

Applications are invited for Two RESIDENT ANAESTHETISTS at a salary of £300 per annum each, with board and residence.

The term of appointment is for six months and may be renewed for further periods.

Candidates must be registered in Medicine and in Surgery.

Applications, stating age, experience, and accompanied by two recent testimonials, should be addressed to the undersigned.

S. DUNSTAN,
June 13th, 1931. House Governor & Sec.

London Hospital, E.1.

Applications are invited for the post of FIRST ASSISTANT and REGISTRAR to the Children's Department.

The appointment is for one year, but it is renewable annually, on application, for two further periods of one year.

Salary £300 per annum.

Candidates must be fully qualified medically.

Applications should arrive at the Hospital not later than by the first post on July 11th.

Further particulars may be obtained from the House Governor.

ARTHUR G. ELLIOTT,
House Governor.

Connaught Hospital,

Walthamstow, E.17.
(100 Beds with Three Resident Medical Officers.)

RESIDENT HOUSE PHYSICIAN (male) required. Salary £100 per annum. Appointment for six months from July 1st, with board, residence, and laundry. Early applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, are invited.

KENELM S. ELLISON, Secretary.

The Glasgow Royal Maternity

AND WOMEN'S HOSPITAL.

The Directors invite applications for the post of One HOUSE SURGEON.

The post will be vacant on July 10th, and will be for a period of six months from that date. The post is open to both men and women graduates.

Twenty copies of the application (stating previous Hospital experience) and twenty copies of four recent testimonials from Visiting Surgeons or Physicians under whom applicants have served either as Dressers, Clinical Clerks, or House Physicians or Surgeons, must be lodged with the Subscriber on or before June 26th. Canvassing is forbidden.

Information as to this appointment may be had by making application in writing to JOHN McKECHNIE, Secretary.

146, Buchanan Street, Glasgow.
June 13th, 1931.

St. Bartholomew's Hospital,

ROCHESTER. (126 Beds.)
Rochester, Chatham, Gillingham, and District.

The House and Finance Committee invite applications for the post of HOUSE PHYSICIAN, vacant on August 1st.

Candidates must be unmarried, qualified, and registered Medical Men. The appointment is for six months, and the salary is at the rate of £175 *per annum, with board, residence, and* laundry. The officer appointed will have charge of the medical beds. Some knowledge of Ophthalmic work is desirable.

Applications, stating age, qualifications, and experience, accompanied by copies of three recent testimonials, to be sent to the Secretary not later than July 2nd.

Canvassing the Honorary Staff will disqualify.

Doncaster Royal Infirmary.

(185 Beds.)

HOUSE SURGEON (male) required immediately. Appointment is for six months and offers opportunity to gain good surgical experience. The successful candidate is eligible for re-appointment.

Salary £175 per annum with board, residence, and laundry.

Applications, stating age, experience, and full particulars, together with copies of three testimonials, should be sent immediately.

WALTER R. SMITH,
Secretary-Superintendent.

General Hospital, Nottingham.

(397 Beds.)

A HOUSE SURGEON is required at the above Institution. The appointment is for six months, with salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to me not later than Wednesday, July 1st. The appointment will made on Wednesday, July 8th.

Duties to commence on Saturday, July 18th.

P. M. MACCOLL,
House Governor & Secretary.

Central Hospital, Plymouth.

(50 Beds. Situated near the Hoe.)

Applications are invited for a HOUSE SURGEON (male or female). The appointment is for six months, eligible for re-election. Duties commence July 1st. Salary £150 per annum, with furnished apartments, board, and laundry.

Applications, stating age, qualifications, nationality, accompanied by copies of three recent testimonials, to be sent not later than June 24th to the undersigned.

WM. W. CRELL, Secretary.

Corbett Hospital, Stourbridge.

RESIDENT HOUSE SURGEON required to commence duties on July 12th next. Appointment for not less than six months. Salary at the rate of £200 per annum, with board, apartments, and laundry.

Applications, with copies of testimonials, to be sent to the undersigned not later than Tuesday, June 30th.

F. PERCIVAL EVERS,
118, High Street, Secretary.
Stourbridge.

Samaritan Free Hospital for

WOMEN, Marylebone Road, N.W.1.

Applications are invited for the post of REGISTRAR for a period of 12 months. Salary at the rate of £130 per annum.

Applications, stating age, accompanied by copies only of testimonials, must reach the Secretary at the Hospital on or before Wednesday noon, July 1st.

G. H. HAWKINS, *Secretary.*

West Norfolk and King's Lynn

GENERAL HOSPITAL. (75 Beds.)

The Board of Management of the above Hospital invite applications for the post of HOUSE PHYSICIAN (male or female). Duty to commence as soon as possible. To have charge of Medical and Ophthalmic beds, also to act as Casualty Officer and Resident Anaesthetist. The post, which is for six months in the first instance, offers valuable experience in both In-patient and Out-patient work. Salary £125 per annum.

Applications, stating experience and full particulars, to be sent as early as possible to—

JOSEPH E. SEARJEANT,
House Governor & Secretary.

Bolingbroke Hospital,

Wandsworth Common, S.W.11.
(121 Beds.)

HOUSE PHYSICIAN (male) required. The appointment is for six months, commencing on August 1st. Salary £120 per annum, with board, residence, and laundry.

Candidates must be fully qualified and registered.

Applications, stating age, qualifications, and experience, with copies of not more than three recent testimonials, should be sent to the undersigned on or before July 8th.

W. S. RANDOLPH BISS,
Secretary-Superintendent.

Bolton Infirmary & Dispensary.

(301 Beds, including Two Auxiliary Hospitals.)

Applications are invited from ladies having a registered Medical and Surgical qualification for the posts of Two HOUSE SURGEONS. Salary £150 per annum each, with board, residence, and attendance.

Applications, stating age, nationality, and previous experience, together with copies of testimonials, should be forwarded to the undersigned not later than Monday, June 22nd.

ALBERT E. BRISCOE,
Secretary.

Assistant Resident Surgeon.

The Committee of the ROYAL NATIONAL ORTHOPAEDIC HOSPITAL invite applications for the appointment of Assistant Resident Surgeon (male) at the COUNTRY BRANCH, STANMORE, MIDDLESEX. Appointment for 2 years. £350 a year.

Candidates must be Fellows of the Royal College of Surgeons (England). Applications, with copies of three recent testimonials, to be sent in on or before June 23rd to 234, Great Portland Street, W.1, addressed to the Secretary, from whom further particulars of duties may be obtained.

Royal Waterloo Hospital for

CHILDREN AND WOMEN,
Waterloo Road, S.E.1.

There will be a vacancy on July 1st for a HOUSE SURGEON (male) at the above Hospital. The appointment is in the first instance for a period of six months. Salary at the rate of £100 per annum, with board and residence. Application, with copies of testimonials, should be forwarded not later than Tuesday morning, June 23rd, to the Secretary at the above address, from whom further particulars can be obtained.

Grimsby and District Hospital.

Applications are invited for the post of RESIDENT MEDICAL OFFICER. Salary £200 per annum, with board, residence, and laundry. Applicants must be registered and hold a Medical and Surgical qualification. Previous Hospital appointment experience desirable. Duties to commence on or before July 6th.

Applications, stating age, qualifications, and enclosing copies of not more than three recent testimonials, to be forwarded at once to the Secretary-Superintendent.

The Royal Infirmary, Sunderland

(290 Beds—Six Residents.)

Wanted, HOUSE SURGEON (male), HOUSE PHYSICIAN (male). Salary £140 per annum, with board, residence, and laundry. Applications, stating age, qualifications, and accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

Required immediately, Resident MEDICAL OFFICER. Salary £200 per annum. Ample time for Postgraduate study.—Apply Secretary, HERZL MUSEUM HOSPITAL, LEEDS.

Hove Hospital (Carr-Burton MEMORIAL), Sackville Road, HOVE.

A RESIDENT MEDICAL OFFICER (male) is required, who must be unmaried and under 40 years of age. The Hospital contains 24 beds.

The appointment affords excellent opportunity for Surgical experience and for acquiring knowledge of Radium Treatment.

Salary £150 per annum, with board, apartments, and laundry.

The successful candidate will be expected to take up his duties on July 8th next.

Expenses not exceeding one guinea will be paid to any applicant invited to attend for interview.

Applications must be received by the undersigned not later than June 27th.

H. AUBREY FROGGATT,
General Secretary.

Mildmay Mission Hospital, Austin Street, Bethnal Green, L.2.

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male), which becomes vacant on August 1st. Salary £100 per annum, with board, residence, and laundry. The appointment is for six months.

Candidates must be registered under the Medical Acts, and the Mildmay Council is anxious that they should be fully in sympathy with the religious work of the Hospital.

Applications, with copies of recent testimonials, should be sent to the Medical Superintendent before July 14th.

The Royal Gwent Hospital, NEWPORT, MON. (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to act as House Surgeon to Out-patients and as House Physician.

Salary £135, with board, lodgings, and laundry. Resident Medical Staff 5. Eligible for promotion. Large Out-patients' Department.

Applications, stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.

Applications from ladies not entertained.

J. K. MILLWARD.
June 9th, 1931. Secretary-Supt.

The Royal Waterloo Hospital FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.

Applications are invited from qualified male Practitioners for the post of CASUALTY OFFICER, vacant on July 1st, to work in the Out-patient Department on week days, at £200 per annum; lunch and tea provided. Applications, with copies of testimonials, should be forwarded not later than Tuesday morning, June 23rd, to the Secretary at the Hospital, from whom further particulars can be obtained.

Brookfield Orthopaedic Hospital, HALE END, WOODFORD GREEN.

Applications are invited for the post of HONORARY ANAESTHETIST. The gentleman appointed will be required to give Anaesthetics about once a week, generally, but not always, on Tuesday or Wednesday morning. Applications, with full details of qualifications for this post, to be sent as soon as possible to the Hon. Secretary, Brookfield Orthopaedic Hospital, Education Offices, High St., Walthamstow, E.17.

June 15th, 1931.

Royal West Sussex Hospital, CHICHESTER. (111 Beds.)

The Board of Management invite application for the post of ASSISTANT HOUSE SURGEON, to commence early in July.

Salary £150 per annum, with board, residence, and laundry.

Applications, stating age, with three recent testimonials, should reach the undersigned not later than June 26th.

HERBERT S. AYLMORE, Secretary.

Lowestoft and North Suffolk HOSPITAL.

JUNIOR HOUSE SURGEON (man or woman) required. Salary £120 per annum, with board, residence, and laundry. Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

Applications for the post of ANAESTHETIST to the MARIE CURIE HOSPITAL are invited from qualified Medical Women. Statements of past experience and careers of applicants, with copies of recent testimonials, to be sent in before June 30th to the Secretary, 2, Fitzjohn's Avenue, N.W.3.

Royal Devon and Exeter HOSPITAL, EXETER. (225 Beds.)

HOUSE SURGEON to SPECIAL DEPARTMENTS.

Applications are invited for the post of House Surgeon to the Ear, Throat, and Nose, X-ray, and Casualty Departments at this Hospital, shortly becoming vacant. The appointment is for six months, and candidates are eligible for re-election.

Salary at the rate of £150 per annum, with board, apartments, and washing.

Applications, giving particulars as to age and qualifications, together with copies of recent testimonials, should be sent to the undersigned on or before Monday, 29th inst.

By Order of the Committee,
S. S. COLE,
June 15th, 1931. Secretary & Manager.

Royal Devon and Exeter HOSPITAL, EXETER. (225 Beds.)

HOUSE PHYSICIAN (Male).

Applications are invited for the post of House Physician at this Hospital, shortly becoming vacant. The appointment is for six months, but candidates are eligible for re-election.

Salary at the rate of £150 per annum, with board, apartments, and washing.

Applications, giving particulars as to age and qualifications, together with copies of three recent testimonials, should be sent to the undersigned on or before Monday, 29th inst.

By Order of the Committee,
S. S. COLE,
Secretary and Manager.
June 13th, 1931.

Paddington Green Children's HOSPITAL (Incorporated), London, W.2.

Applications are invited for the post of an additional HONORARY SURGEON to the Ear, Nose, and Throat Department. Candidates must be Fellows of the Royal College of Surgeons, England.

Applications, stating age and qualifications, accompanied by copies of three testimonials, should reach the undersigned not later than Saturday, July 4th.

JAMES A. HAMLIN, Secretary.

Royal Berkshire Hospital, READING. (243 Beds.)

One HOUSE PHYSICIAN and One RESIDENT ANAESTHETIST (male) wanted on July 6th for six months. Candidates must be fully qualified and registered. Remuneration at the rate of £150 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be sent to the undersigned on or before June 27th.

F. A. LYON, Secretary.

Walsall General Hospital.

The Committee invite applications from men or women for the post of HOUSE SURGEON. Salary £150 per annum. Candidates, who must be registered under the Medical Acts, must produce three recent testimonials.

The appointment will be for six months. The Hospital contains 100 beds, and is equipped in all Special Departments.

Applications, stating age, qualifications, and nationality, should be forwarded to the undersigned by June 23rd.

WALTER FRANCOMBE, Secretary.

Royal Free Hospital, Gray's Inn Road, W.C.1.

Applications are invited from duly qualified and experienced registered candidates for the post of UNIT ANAESTHETIST. Salary at the rate of £150 per annum, with board and residence. Duties to commence forthwith. Candidates must submit applications, stating age, and accompanied by copies of three recent testimonials, to the undersigned on or before July 6th.

REGINALD R. GARRATT,
Secretary.

Royal Free Hospital, Gray's Inn Road, W.C.1.

Applications are invited from duly qualified candidates for CLINICAL ASSISTANTSHIPS in the Medical, Surgical, and all Special Departments. Intending candidates should submit applications, stating age and qualifications, to the undersigned on or before July 6th.

REGINALD R. GARRATT,
Secretary.

Queen Mary's Hospital for the EAST END, E.15.
Telephone: Maryland 2516.

Applications are invited from fully qualified and registered Medical Men (only) for the following posts:

HOUSE PHYSICIAN. Salary £120 p.a.
HOUSE SURGEON. Salary £120 p.a.
HOUSE PHYSICIAN and RESIDENT ANAESTHETIST (2). Salary £120 p.a.

The Hospital contains 217 Beds, including 47 Maternity Beds, and other Special Depts.

Candidates, who should previously have held Hospital appointments, must send applications, accompanied by testimonials, to the undersigned, not later than Wednesday, June 24th. The appointments will date from July 1st, and will be for six months.

RAPHAEL JACKSON (Major),
Secretary.

The Gloucestershire Royal INFIRMARY AND EYE INSTITUTION, GLOUCESTER. (155 Beds—Four Residents.)

Applications are invited for the post of HOUSE SURGEON (male). Salary at the rate of £120 per annum. Six months' appointment, with board, residence, and laundry.

Applications, stating age, qualifications, and nationality, with copies of three recent testimonials, to be sent to the undersigned. The elected candidate will be required to enter upon his duties at once.

F. J. SYMONS,
April 29th, 1931. Secretary.

Coventry and Warwickshire HOSPITAL. (307 Beds.)

RESIDENT CASUALTY OFFICER (male) wanted. Salary £125 per annum. Board, laundry, and attendance provided. Candidates must be duly qualified and registered.

Applications, stating age, and enclosing copies of recent testimonials, should be sent to the undersigned on or before Wednesday, July 1st.

(Miss) R. HOOPER, Secretary.
June 15th, 1931.

Derbyshire Royal Infirmary, DERBY. (General Hospital—346 Beds.)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON.

Candidates must be qualified and registered under the Medical Acts.

Salary will be £150 per annum, with apartments, board, etc.

Applications, with copies of testimonials, to be sent to the undersigned.

WALTER BANKS,
June 5th, 1931. Supt. & Secretary.

Westmorland Sanatorium, GRANGE-OVER-SANDS.

ASSISTANT MEDICAL OFFICER (male) required. Salary £350 per annum, with board, residence, and laundry. Previous Sanatorium experience desirable.

Applications, giving full particulars, and copies of not more than three testimonials, to be forwarded to the undersigned on or before June 30th.

J. MUNRO CAMPBELL,
Medical Superintendent.

West Suffolk General Hospital, BURY ST. EDMUND'S. (108 Beds.)

Wanted, HOUSE PHYSICIAN and OBSTETRIC OFFICER. Post vacant the end of first week in July. Salary £150 per annum, with board, residence, and laundry. Applicants must be fully qualified and registered. Applications, with copies of three recent testimonials, to be sent to the Secretary.

E. E. HARDWICKE,
June 4th, 1931. Secretary.

Eccles and Patricroft Hospital, near MANCHESTER.

RESIDENT HOUSE SURGEON required. General Hospital, 62 beds. Salary at rate of £150 per annum, with board, etc. Application, with three recent testimonials, to be sent to the Secretary.

Ipswich Mental Hospital.

LOCUM TENENS MEDICAL OFFICER (male) required for about ten weeks from July 6th. Seven guineas per week, plus board, etc. Apply to Medical Superintendent.

County Borough of Brighton.

PUBLIC ASSISTANCE COMMITTEE.

POOR LAW INSTITUTION.

The Public Assistance Committee require the services of the following officers at the Poor Law Institution, viz.:

(a) MEDICAL OFFICER (WHOLE-TIME, RESIDENT). Candidates must be registered Medical Practitioners, and preference will be given to those who have held appointments of House Physician and House Surgeon in a General Hospital, and who have had experience in the administrative control of a General Hospital or a Poor Law Hospital. The Medical Officer of the Poor Law Institution is also the Medical Officer of the Warren Farm Poor Law Schools, situated about 2 miles from the Poor Law Institution. Salary £850 per annum, together with residential allowances valued for the purposes of the Poor Law Officers Superannuation Act, 1896, at £150 per annum. A residence (unfurnished) will be provided, but until such time as he is able to take up residence the officer appointed will be paid a monetary allowance at the rate of £150 per annum in lieu of residential allowances.

(b) SENIOR RESIDENT ASSISTANT MEDICAL OFFICER. Candidates must be single men and preference will be given to those holding a F.R.C.S. degree and who have held the appointment of House Surgeon in a General Hospital, as the appointment is primarily for Surgical work, although not entirely so. The appointment is for one year only, but the person appointed will be eligible for further appointment from year to year. Salary £400 per annum, together with residential allowances valued for the purposes of the Poor Law Officers Superannuation Act, 1896, at £150 per annum. Residential accommodation is provided.

(c) VISITING SURGICAL SPECIALIST. Candidates must be registered Medical Practitioners and Fellows of a Royal College of Surgeons. The gentleman appointed shall have his residence within the Parliamentary Borough of Brighton. The appointment is in the first instance for one year, but the person appointed will be eligible for re-appointment. Salary £325 per annum, the person appointed to preside at his own expense a duly qualified Surgeon to act as his deputy.

Unless the officers appointed are transferred officers under the Local Government Act, 1929, the Poor Law Officers Superannuation Act, 1896, will not apply. The Local Government and other Officers Superannuation Act, 1922, is not in force in the County Borough of Brighton.

Forms of application, conditions of appointment, and lists of duties may be obtained from the Public Assistance Officer, Public Assistance Offices, Prince's Street, Brighton, which forms, duly filled up in the candidate's own handwriting and accompanied by copies of testimonials and a description of the diplomas, certificates of degrees, licences, and other instruments held by the candidate, must be returned to the Public Assistance Officer by 12 noon on Wednesday, July 1st.

Canvassing the Committee, either personally or by letter, will be considered a disqualification for appointment.

The Council of the County Borough of Brighton has adopted the Memorandum of Agreement as to Salaries of Whole-time Public Health Medical Officers.

By Order,
JAS. H. ROTHWELL,
Town Clerk &
Clerk to the
Public Assistance
Committee.

Public Assistance Offices,
Prince's Street,
Brighton.
June 8th, 1931.

St. Paul's Hospital for Diseases (INCLUDING CANCER) OF THE GENITO-URINARY ORGANS AND SKIN,

Endell Street, Holborn, W.C.2.

Applications are invited for the undermentioned position:

HOUSE SURGEON (vacant August 1st) Candidates must be doubly qualified and registered. Salary at the rate of £150 per annum, with board and residence. The appointment is for a period of six months, on the termination of which the holder is eligible for the position of Resident Medical Officer, in which capacity he will have charge of the Surgical beds. During his appointment as House Surgeon the duties will involve work in the Surgical Wards and in the out-patient Department for Venereal Diseases.

Applications, with copies of recent testimonials to be sent on or before July 6th to the Chairman of the Medical Committee.

City of Norwich.

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER.

Salary £500, rising to £700 per annum by annual increments of £25; any other fees obtained must be refunded to the Council.

The person appointed will be required to devote his whole time to the services of the Council, and must not engage in private practice either within or without the Council's time, and he must be prepared to undertake any Medical duties of the Department, including occasional duty and/or residence at the Isolation Hospital, and work under the School Medical Service and Maternity and Child Welfare and Tuberculosis Schemes. Candidates must possess a Diploma in Public Health. Age not to exceed 40.

The officer selected will be under the direction and supervision of the Medical Officer of Health, who is also the School Medical Officer. The place of residence of the person appointed must be approved. The appointment will be subject to the terms and conditions of the Local Government and Other Officers' Superannuation Act, 1922, and the successful candidate will be required to furnish a medical certificate of fitness.

Applications, stating age, qualifications, experience, and when at liberty, accompanied by copies of not more than three recent testimonials, must reach the undersigned on or before June 25th.

Canvassing, directly or indirectly, is prohibited and will disqualify.

V. E. SOOTHILL, M.O.H. & S.M.O.
Public Health Department,
68, St. Giles' Street, Norwich.

County Borough of Rotherham.

OAKWOOD HALL SANATORIUM (100 Beds).

Applications are invited from duly qualified Practitioners for the post of ASSISTANT MEDICAL OFFICER (male) at the above Sanatorium.

Salary £300 per annum, with board and laundry. Rooms will be provided outside the Sanatorium.

Candidates must be under 35 years of age, unmarried, and of British nationality. They must have held resident Hospital appointments (general) and experience in the diagnosis and treatment of Tuberculosis, while not essential, will be an additional qualification.

The additional qualification. The appointment will be a whole-time official, and while mostly concerned with Tuberculosis will be available for any departmental emergencies. The appointment is terminable by two months' notice on either side and is for one year.

Applications, stating name, age, qualifications, and experience, together with copies of not more than three recent testimonials, should be sent to the undersigned on or before Tuesday, June 23rd.

CHAS. L. DES FORGES,
Town Clerk.
Municipal Offices,
Howard Street,
Rotherham.

The Welsh National School of Medicine.

The Council of the Welsh National School of Medicine invites applications for the post of JUNIOR ASSISTANT in the Medical Unit. The appointment is a temporary one for a period not exceeding two years. The successful applicant will be expected to take up duties on September 1st, and will be required to devote his whole time to the duties of the office.

Further particulars may be obtained from the undersigned, by whom applications, accompanied by not more than four testimonials, must be received on or before July 8th.

Thirty typewritten copies of applications and testimonials are required.

D. BRYNMOR ANTHONY,
University Registry,
Cathays Park, Cardiff.
Acting Secretary.

City of Sheffield.

ASSISTANT MEDICAL OFFICER (MATERNITY).

Wanted, a female Assistant Medical Officer (maternity) to reside at NETHER EDGE HOSPITAL and to devote the whole of her time between the Nether Edge Hospital and the Ante-Natal Clinic.

Salary £350 per annum, rising by annual increments of £25 to £450, with board, residence, and laundry.

The office has been designated as an established post under the Local Government and Other Officers' Superannuation Act, 1922.

Applications, stating age, qualifications, experience, with copies of three recent testimonials, to be sent on or before June 29th, to the Medical Officer of Health, Town Hall, Sheffield.

Administrative County of LONDON.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners (men only) for appointment to the undermentioned position. The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent of the Hospital, and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council. The successful candidate will be required to live in the Hospital.

ST. JAMES'S HOSPITAL, Balham, S.W.12.
48, Vanbrugh Hill, Greenwich, S.E.10.

ASSISTANT MEDICAL OFFICER, Salary £250 a year, together with board, lodging, and laundry. Candidates must have held a resident appointment in a General or Maternity Hospital. The appointment will be for six months in the first instance. The duties will include the administration of Anæsthetics in Maternity cases.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by July 3rd. Canvassing disqualifies. Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the Hospital.

MONTAGU H. COX,
Clerk of London County Council.

Administrative County of LONDON.

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications for appointment to the undermentioned position. The person appointed will be required to carry out such duties as may be assigned by the Medical Officer of Islington Institution and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council. The successful candidate will be required to reside within the district.

ISLINGTON INSTITUTION,
St. John's Road, N.19.

TEMPORARY ASSISTANT MEDICAL OFFICER (non-resident). Salary £600 a year. Candidates must be qualified Medical Practitioners of at least one year's standing, and have held a resident appointment in a General Hospital for at least six months. Experience in Midwifery is desirable.

The appointment will be for six months only.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Div. 4a). The County Hall, Westminster Bridge, S.E.1, and must be returned by July 10th. Canvassing disqualifies. Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Officer of the Institution.

MONTAGU H. COX,
Clerk of the London County Council.

Lancashire County Council.

BIDDULPH GRANGE ORTHOPAEDIC HOSPITAL.

Applications are invited for the post of JUNIOR HOUSE SURGEON (Woman) at the above Hospital, which contains 87 beds. Salary at the rate of £150 a year, together with board, residence, and laundry.

The appointment will be for a period of six months in the first instance, and for a further period of six months at the option of the Council, but will not be renewable after that time.

Candidates must be duly qualified and registered. Preference will be given to candidates who have held resident Hospital appointments, and who are competent anæsthetists.

Applications, with copies of two recent testimonials, should be sent not later than July 1st to Dr. J. J. BUTTERWORTH, School Medical and Child Welfare Department, County Offices, Preston.

Duties to commence August 1st.

GEORGE ETHERTON,
Clerk of the County Council.
County Offices,
Preston.
June 15th, 1931.

Applications are invited for the post of JUNIOR HOUSE SURGEON (female) at the BUCHANAN HOSPITALS, LEONARDS-ON-SEA, at a salary of £125 per annum. (110 beds.) Duties to commence on August 1st. Possibility of permanent post after six months' probation. Apply at once, stating age, etc., to the Secretary, Buchanan Hospital, St. Leonards-on-Sea.

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted. — A Junior Assistant, with a view to Partnership. Experience not necessary. Male, English or Scotch. Keen on work and games. Live in and everything provided. Five guineas per week. Car provided. Old-established Practice near S.E. coast. Mixed Practice with over 1,000 panel. Young newly qualified man preferred. — Address, No. 3811, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant for mixed Practice North-East Coast town. Commencing salary £400, rising to £450 at the end of one year. Junior Partnership on easy terms to suitable man at end of two years. Ex H.S. or H.P. with some experience of general practice. Catholic preferred but not essential. —Address, No. 3826, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately, experienced ASSISTANT, pref. married, with own car, in large Kentish town 30 miles Lond. Salary £400 p.a., with free residence and rates, rising by £100 p.a. Partnership offered after 3 years.—Address, with photo, testimonials, etc., No. 3816, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship by Woman M.B., B.S. Qualified 1925. Good hospital, private, and panel exper. and tests. Aged 29. Keen. Interview London desired, or arranged. Locums consid. Able drive car.— No. 3839, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Well-qualified unmarried gentleman as ASSISTANT, with definite view to Partnership in good-class country Practice. Sport of all kinds. Salary £500 p.a.—Address, No. 3693, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately in large old established Practice in N.E. London, energetic ASSISTANT with view to Partnership. Commencing £400. Must be keen Temperance man. — Address, No. 3848, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship or LOCUMS by Woman M.B., B.Ch., aged 32. Good experience panel and private. Free in London now. Interview desired.—Address, No. 3834, B.M.A. House Tavistock Sq., W.C.1.

Wanted. — Assistant, near Swansea. State full particulars, references, etc. Terms 7 guineas weekly, with all found. Usual bond.—Address, No. 3841, B.M.A. House, Tavistock Square, W.C.1.

North Wales.—Wanted a Welsh-speaking outdoor ASSISTANT for general Practice, private and panel. District industrial and rural. Usual bond. References required. —Address, No. 3824, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—A Male Assistant in a Practice, with three partners, in a Country Town within 40 miles North of London. Salary £350 and motor allowances. Please reply, giving full particulars as to experience, etc., and enclosing photo.—Address, No. 3849, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS for Town and Country Practices, with and without view. Good salaries. State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Assistantship with view, by M.D. (T.C.D.), 29, single. Six years' experience. H.S., A.R.M.O., and G.P.—Address, No. 3830, B.M.A. House, Tavistock Square, W.C.1.

LOCUMS.

FOR LOCUM TENENS APPLY TO PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 50 years has supplied substitutes at short notice without fee to principals.
4, ADAM ST., Strand, London, W.C.2.
Teleg.: "Epsomian, Lond." 'Phone: Temple Bar 9011.
After Office Hours: Epsom 9142.

Wanted. — Locum, thoroughly reliable, prolonged period, Home County, near London. Present duties light. Five gns. p.w., with board, residence, and percentage takings. References.—Address, No. 3837, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Locum (male) from July 23rd to August 14th, for panel and working-class Practice in S.E. London.—Address, No. 3835, B.M.A. House, Tavistock Sq., W.C.1.

As Locum Tenens. — St. Bart's man, qualified 1907, experience G.P. and panel, recent refs., free for ENGAGEMENTS from July 5th next.—Apply, "LOCUM," c/o Dr. Milne, 38, Eversfield Place, St. Leonards-on-Sea.

Doctor, age 28, M.B., M.R.C.S., free to do LOCUM, 2—3 weeks from July 1st. Reliable clinician and accoucheur. Hospitality Locum in pleasant district entertained at very moderate fee, self and wife.—Address, No. 3831, B.M.A. House, Tavistock Sq., W.C.1.

Hospitality Locum wanted, August 12th to Sept. 2nd. Charming district, near Cardiff. Work light. Own car essential. Terms—hospitality for wife, three guineas and petrol.—Dr. BEVERIDGE, Glen View, Dinas Powis, Glam.

Hospitality. — Cornwall Coast (mid. S.).—Work of compact Nucleus (1½ yrs. est.). July to Sept. Large, safe, sandy beach—¼ mile. Five bedrooms. No service. 4 gns. weekly. Advertiser available for Locum work. — DOCTOR, Par Station, Par, Cornwall.

Locum Tenens (July 21st to August 25th). 3 small P.H. appointments, panel 250, four visits daily. Country town. Suit retired man. 6 gns. week. — BOULTON, D.P.H., Horncastle.

M.B., B.S., 14 years' experience Tropics, 6 years' England, desires LOCUM for next 4 or 5 weeks where some knowledge of Tropical Diseases is desirable.—Address, No. 3845, B.M.A. House, Tavistock Sq., W.C.1.

Reliable Locums wanted; also Indoor and Outdoor ASSISTANTS.—GRIFFITHS' MEDICAL AGENCY, Tredegar Chambers, Newport, Mon.

Well-qualified Woman, good Hospital and G.P. experience, desires LOCUM or ASSISTANTSHIP. Age 33. Own car available. London area preferred, but not essential. References.—Address, No. 3832, B.M.A. House, Tavistock Square, W.C.1.

HOLIDAY LOCUMS

FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
(WILLIAM GRANT.)
WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2. *Tel.* { TEMPLE BAR 1054. RIVERSIDE 1254. *(Night Calls)*

MEDICAL POSTS, DISPENSERS, etc.

Wanted. — Resident Medical SUPERINTENDENT for small Private Mental Home. Would suit retired Practitioner. —Address, No. 3605, B.M.A. House, Tavistock Square, W.C.1.

Wanted by Harley Street Practitioner, Insurance or other transferable APPOINTMENT. Premium offered. — Address, No. 3843, B.M.A. House, Tavistock Sq., W.C.1.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations. — Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Birmingham. — Experienced general Practitioner, aged 40, not practising, wants PART-TIME WORK—evenings week-ends. Own car, telephone. — Address, No. 3820, B.M.A. House, Tavistock Square, W.C.1.

Coborn School for Girls, 29, 31, and 33, Bow Road, E.3.

Required from the beginning of the Autumn Term, 1931, a LADY DOCTOR to attend from 9.30 to 11, or 2 to 3.30 approximately, one day a week (preferably Friday) during School Terms. Some experience of work in a secondary school a recommendation. Salary £50 per annum.
Applications should reach the Headmistress by June 29th.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary-Dispensers, Nurse-Dispensers, and Chauffeuse-Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Experienced Graduate, studying experience. PART-TIME WORK. Assistor suitable ASSISTANTSHIP in London. Starting October.—Address, No. 3838, B.M.A. House, Tavistock Square, W.C.1.

Educated Lady desires post as RECEPTIONIST-SECRETARY or SECRETARY to Doctor or Dentist. Knowledge French and Spanish. Previous experience. Good references. — Address, No. 3846, B.M.A. House, Tavistock Square, W.C.1.

Lady Graduate, M.A., B.Sc., age 25, now completing 3rd year medical course, Scots Univer., desires permanent post as SECRETARY to Medical Man or Lab. Assist.; London preferred. Languages; typing; clinical clerking exper. £175 p.a. Free now or later. —No. 3850, B.M.A. House, Tavistock Sq., W.C.1.

Lady Doctor's Daughter, age 33 years, wishes for useful EMPLOYMENT with Doctor, secretarial or otherwise.—Address, No. 3832, B.M.A. House, Tavistock Sq., W.C.1.

M.B., M.R.C.P. (30), large experience, PART-TIME WORK. Assistancy in good Practice, or working of Branch considered. London or near. — Address, No. 3840, B.M.A. House, Tavistock Square, W.C.1.

Secretary Accountant, with expert knowledge of Income Tax matters, seeks Whole or Part-time POST. Shorthand-typing, etc. Willing to assist in driving car if desired.—Address, No. 3836, B.M.A. House, Tavistock Square, W.C.1.

The Royal Army Medical Corps ASSOCIATION, 85, Eccleston Square, S.W.1 (Telephone Victoria 2722), supplies qualified Dispensers, Bookkeepers, Laboratory Assistants, Male Nurses, Mental Attendants, Sanitary Assistants, Male Nurses, Mental and Special Treatment Orderlies, Dental Clerk Orderlies, Porters, Caretakers, etc., without charge to prospective employers.

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6; 50, 2/6; 100, 4/-.—Miss NANCY MCFARLANE (B.M.J.), 44, Elderton Road, Westcliff-on-Sea.

Typewriting carefully and accurately done. All kinds of Medical work. Theses for degrees, etc., a speciality. Highly recommended by doctors, etc. — Miss GARDNER, 80, Alexandra Mansions, Hastings Street, St. Pancras, W.C.1.

Typewriting and Duplicating undertaken by Expert. Testimonials, Theses, Legal Documents. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD (B), 341, Finchley Road, N.W.3. 'Phone Hampstead 6430 (any hour).

Typewriting and Duplicating.—Testimonials, Theses, etc., neatly and accurately copied. Scientific work a speciality.—WOBURN BUREAU, 3, Upper Woburn Place, London, W.C.1 (adjoining B.M.A. House). 'Phone: Museum 4475.

Woman M.B., B.S. (29), ex H.S., H.P., and C.O., desires PART-TIME WORK in London, indoor or outdoor, from August 14th.—Address, No. 3618, B.M.A. House, Tavistock Square, W.C.1.

PARTNERSHIPS.

Wanted, London, by experienced Practitioner, own provincial Practice, who is desirous of moving for personal reasons, a PARTNERSHIP or PRACTICE in London or suburbs. Income £1,500—£2,000. Panel and good house essen. Strictly confid.—No. 3890, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Well-qualified man, with view to Partnership in mixed Practice. Midland manufacturing town. Scope for surgery. F.R.C.S. preferred. One-third share available. Practice about £4,000 p.a.—No. 3809, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Partnership, with or without preliminary Assistantship, by Medical Woman, Scottish Graduate, 1923. Industrial area preferred. — Address, No. 3829, B.M.A. House, Tavistock Square, W.C.1.

For Disposal at end of year, a THIRD and later a HALF SHARE in old-established Partnership in small country town, near South Coast. Receipts average £3,500. Premium 2 years' purchase. Charming house and garden available. Incoming partner should be about 30, preferably a Public School Boy, and must have held resident appointments.—Address, No. 3805, B.M.A. House, Tavistock Sq., W.C.1.

For Sale.—Partnership in a very old-estab. unopposed Practice, situated in a small town, with pleasant surroundings, in the Home Counties, within 30 miles of London. Three years' cash receipts average £3,400, including panel and appointments £2,200. Purchaser should be well qualified and from 30-40. Premium for half share £3,500.—Address, No. 3806, B.M.A. House, Tavistock Square, W.C.1.

For Sale. — One-third Share in pleasant N.W. town. Panel and private. Average receipts £3,200. Price 1 year's purchase. House for sale or to let.—Address, No. 3817, B.M.A. House, Tavistock Square, W.C.1.

Yorks. — Partnership in good Practice. Receipts £1,600 yearly. Panel 1,500, increasing rapidly. House available. Price one third share (to commence) £1,000.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street.

Partner wanted in a general and panel Practice, City, Western County. Share for disposal about £1,000 per annum. Premium £2,000. Large freehold house must be purchased; mortgage arranged.—Address, No. 3801, B.M.A. House, Tavistock Square, W.C.1.

Partnerships.—We have several Partnerships suitable to young and energetic men of experience on offer. Incomes of £500 up. Full details on request.—THE MEDICAL AGENCY, Watergate House, Adelphi, W.C.2.

Third Partner wanted.—Rapidly increasing Practice in beautiful city. Income £5,000 to £6,000 (receipts first quarter 1931, £1,485), of which £1,700 is from panel. No clubs. Expenses low. Certified accounts. Midwifery 20 cases yearly. Night work negligible. Excellent educational facilities. All sports. Ample scope. Proficiency minor surgery, T's and A's. Midwifery desirable. Assistantship now offered with early view to purchase, at 2 years, of share producing £1,000—£1,200 per annum. Further share by agreement.—No. 3847, B.M.A. House, Tavistock Sq., W.C.1.

PRACTICES.

Wanted. — Country Practice, moderate panel, West or South England preferred. About £1,000—£1,500. Must have good detached house and gard.n. Strict confidence. — Address, No. 3807, B.M.A. House, Tavistock Square, W.C.1.

Wanted to purchase, Panel PracTICE in industrial or middle-class district in town or country, North or Midland preferred. Receipts about £1,250 up, with scope (half from panel).—Apply, HY. WHITTAKER, 44, Ainsworth Street, Blackburn.

Wanted.—South Coast, Bournemouth and district preferably, PRACTICE or PARTNERSHIP, any size, by Practitioner, M.B., Ch.B., aged 30, excellent appearance, adequate capital. — Address, No. 3814, B.M.A. House, Tavistock Square, W.C.1.

Wanted, London and district, working and middle-class private and panel PRACTICE, with income about £1,500. Strict confidence. No agents.—Address, No. 3601, B.M.A. House Tavistock Square, W.C.1.

Wanted. — Practice or Partnership at or near seaside. House to rent. Capital available.—Address, No. 3891, B.M.A. House, Tavistock Square, W.C.1.

Australia. — For Sale, Venereal Disease PRACTICE, averaging £5,000 p.a., increasing. Price one year's purchase. 6—12 months' introduction. 7-roomed residential and consulting suite on lease, low rental. Wonderful opportunity for young Graduate desiring comfortable Practice in Empire's most beautiful city. Population 1¼ million. No special experience necessary, but surgical or pathological ability desirable. Possibility hospital appointment. Enquiries welcomed from London agencies. Vendor's name available from Editor "B.M.J." Would consider Partnership, but Vendor desirous of proceeding to America, 1932.—Write or cable, Box 3688, G.P.O., Sydney.

For Disposal. — Small Practice established 5 years ago in a very charming E. Sussex Village, 55 miles from town. Panel 150, increasing. Freehold commodious house in a delightful old-world garden. Electric light, central heating, perfect water supply, gravity fed to cisterns. Would suit a man of means requiring an easy time. An energetic man would have considerable possibilities. Opposition (nearest 3 miles) not strong. Inspection any time.—Address, No. 3549, B.M.A. House, Tavistock Square, W.C.1.

For immediate Disposal.—Mixed-class General PRACTICE; panel 900. Near centre of West of England city. Income about £850. Every facility. — Address, No. 3821, B.M.A. House, Tavistock Square, W.C.1.

For Sale in densely populated district of Manchester.—Old-estab. PRACTICE, doing £1,000 p.a. Scope for increased panel. Good house, with separate surgery and waiting room. Garden, garage, elect. light, etc. Splendid prosp. 14 yrs. purch for quick sale.—No. 3815, B.M.A. House, Tavistock Sq., W.C.1.

For Sale.—N. Midlands.—House and PRACTICE in rapidly growing district, with several hundred houses in course of erection. Little opposition. Panel 400. Receipts 1928, £250; 1929, £500; 1930, £750. No. 3812, B.M.A. House, Tavistock Sq., W.C.1.

For Sale. — Contract Practice, South Wales; good hospital; aver. income last 3 years over £1,500 p.a.; panel 1,250. Good small det. house and garage. Surgery separate. Price, Practice and house, £2,300 cash. —No. 3818, B.M.A. House, Tavistock Sq., W.C.1.

High-class seaside resort in Lancashire.—Residential good-class PRACTICE, long established. Income over £5,000, audited. Excellent house. Suitable for two friends. — Address, No. 3804, B.M.A. House, Tavistock Square, W.C.1.

London Doctor would like to EXCHANGE his good-class private Practice for one at seaside, for 2 or 3 weeks in August or September. — Address, No. 3844, B.M.A. House, Tavistock Square, W.C.1.

Manchester.—Old-established.—Nice house, gardens, £50. Receipts (including panel £1135) over £600. Price £1,000 or near offer (to include fittings, drugs, linoleum coverings, and good scope. Great debts £600), part deferred. — MANCHESTER (including MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

Old-established Country Practice for Sale in Aberdeenshire.—For full particulars, address No. 3819, B.M.A. House, Tavistock Square, W.C.1.

Ophthalmic Practice for Sale, very good residential class, good fees, South of England. Purchaser must be fully experienced and not too young.—Address, No. 3810, B.M.A. House, Tavistock Square W.C.1.

Practice for Sale in Matlock; 600 on panel, average receipts £1,000 per year.—For details, address No. 3822, B.M.A. House, Tavistock Square, W.C.1.

Scotland.—Open suburb of East Coast Town.—PRACTICE, mostly middle-class, with panel of 700. Receipts over £1,000 p.a. Few confinements. Very good modern house to be sold, nice garden and garage. Good introduction. Price for Practice 1½ years' purchase. Vendor retiring.—Address, No. 3515, B.M.A. House, Tavistock Square, W.C.1.

To Purchasers. — Do not buy without expert assistance. With 50 yrs.' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. — Telephone: Temple Bar 9011. Telegrams: "Epsomian, London."

HOUSES. CONSULTING ROOMS.

ESTABLISHED 1845.

ELLIOTT, SON & BOYTON

(H. H. Holt, H. E. Allpress, H. C. Rowe),

6, VERE STREET, CAVENDISH SQUARE, W.1,

Estate Agents, Auctioneers, and Surveyors,

are the BEST LOCAL AGENTS for HOUSES and CONSULTING ROOMS in the Harley, Wimpole, Queen Anne, and other Streets in the Cavendish Square district. Valuations for all purposes.

Telephone: 3204 MAYFAIR.

Beautiful and ideally arranged medium-sized HOUSE, suitable for Doctor. Easily maintained. Four bedrooms, dressing room, bathroom, dining, lounge, billiard room, garden, garage, dispensary; separate patients' entrance. Thickly populated district. No doctor near. Good immed. practice. Freehold £1,750. —"Rosedale," Dunstall Road, Wolverhampton.

Consulting Room and Flat to Let in best part of consulting area. Well-appointed house, excellent attendance, use of waiting room and telephone. Garage available. —Address, No. 3813, B.M.A. House, Tavistock Square, W.C.1.

Consulting Rooms to Let.—Harley Street and District. Whole and part time. Rents £80 to £500. Lists sent on application. Rooms wanted in Harley Street district.—ERCOMB & Co., 10, Henrietta Street, Cavendish Square, W.1. Langham 2991.

Doctor's widow in North London having large house, garden, car, good staff, would like some PAYING GUESTS. Terms moderate. — Address, No. 371, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Small Sanatorium for Tuberculosis, near South Coast, with Doctor's residence and 4 acres of land. Practically all beds occupied. Moderate price.—Address, No. 3892, B.M.A. House, Tavistock Square, W.C.1.

Harley Street. — Part-time CONSULTING ROOM to Let. Times (short or long) by arrangement. With or without plate. Handsome waiting room, attendance, telephone. Appointments made.—Address, No. 3825, B.M.A. House, Tavistock Square, W.C.1.

House for Sale.—Splendid opportunity for Professional Man. House specially built for Doctor. Rapidly growing district, N. London. Owing special circs., extremely low price asked. Only wants seeing. Principals only.—Full partics., BOLLERELL & ROCHE, Solicitors, 24, St. Mary's Axe, E.C.

IDEAL FOR DOCTOR OR OTHER PROFESSIONAL MAN.

Leytonstone.—No. 9, Vernon Rd. Super. Corner RESIDENCE, all on two floors, with fine brick-built stabling or garage, together with over half acre of additional garden ground at rear Dining and drawing rooms, handsome conservatory, 28 ft. long, 4 bed., dressing, and bathrooms, and ground-floor offices. Vacant. For sale privately or by Auction June 18th.—PETTY, SON & PRESTWICH, Auctioneers, Leytonstone.

London suburb, E.—Good scope for Woman Practitioner.—LOCK-UP SURGERY to let in excellent position; worked part-time only at present. Moderate premium. —Address, No. 3828, B.M.A. House, Tavistock Square, W.C.1.

Margate.—Gentleman's 12 rooms FREEHOLD RESIDENCE, situated in well-secluded garden, near sea. Eminently suitable for Doctor or Private Nursing Home.—Particulars of A. GRAVES, Esq., 27, Percy Street, Tottenham Ct. Rd., W.1. (Phone: Museum 1611.)

Part-time Consulting Room.— Large room with beautiful view, close Harley Street. Well furnished, and equipped Electrical apparatus. Might suit lady Doctor. Cert. Masseuse on premises. Good waiting room and attendance. Moderate rental. — Address, No. 3808, B.M.A. House, Tavistock Square, W.C.1.

Part-time Consulting Room in Harley Street district.—A fine CONSULTING ROOM, with or without plate, is now available in a first-class professional building. Every convenience. Rent £50 p.a.—Address, No. 3328, B.M.A. House, Tavistock Sq., W.C.1.

Part-time Consulting Room to be LET in Welbeck Street. Use of waiting room, full service, hot and cold water. Particulars on application.—Address, No. 3823, B.M.A. House, Tavistock Square, W.C.1.

Worcester Park. — In rapidly growing district near station. New 4-bedroomed Corner HOUSE, eminently suitable for Doctor. Consult. room separate from house. 2 gar. Nice gard. Freehold £1,650.—Apply, F. J. FARRELL, Builder, Worcester Park, Surrey.

ESTABLISHED 1860.

Messrs. BEDFORD & CO.

(C. E. BEDFORD, F.S.I., F.A.I.),

Surveyors, Auctioneers, and Estate Agents,

10, WIGMORE STREET, CAVENDISH SQUARE, W.1.

SPECIALISTS IN PROFESSIONAL HOUSES AND CONSULTING ROOMS in Harley Street and leading Medical Positions.

Telephone: Langham 3927 and 3928.

MISCELLANEOUS SALES, etc.

An Electro-Medical Apparatus business (including small Optical Dept.) in the West End of London for sale. Excellent professional connection. Turnover £2,800. Low expenses. Good prospects. Chartered Accountant's figures available.—Write Box 144, c/o JUDDS, 47, Gresham Street, E.C.2.

IMPORTANT NOTICE

to MEMBERS of the MEDICAL PROFESSION

CLOTHES of DISTINCTION for MEN of DISCRIMINATING TASTE. Specially Cut, Fitted, and Moulded to each individual figure, made from Finest Quality Materials and in the Best Possible Style, cost no more than mass production ready made clothes.

The Invaluable Practical Experience of our 14 Expert Cutters and Fitters is always at your disposal.

SPECIAL OFFER.

JACKET & VEST (In black or grey), £5 5s.
SOLID FANCY WORSTED TROUSERS, £2 2s.

THE Ideal Suit for Professional or Business wear

SUITS & OVERCOATS to measure from £6 6s
SOLID WORSTED SUITS ... £7 7s
DINNER SUITS fr. £8 8s. DRESS SUITS fr. £10 10s
PLUS FOUR SUITS ... ... from £6 6s

THE IDEAL Suit for ALL Sporting Purposes.

GOLD MEDAL RIDING BREECHES ... from £2 2s
RIDING HABITS fr. £10 10s. COSTUMES fr. £6 6s

UNSOLICITED APPRECIATION.

"I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd., as all the clothes I have had from them during 30 years have been perfect in Fit, Cut, and Finish." (Signed) S.J.A., M.A., M.B., F.R.C.P.S.

PATTERNS POST FREE.

Perfect Fit Guaranteed from Simple Self-measurement Form or Pattern Garments.

Visitors to London can order and fit same day, or leave record measures.

HARRY HALL Ltd.

Governing Director: HARRY HALL.

"THE" Coat, Breeches, Habit, & Costume Specialists
181, OXFORD ST., W.1. 149, CHEAPSIDE, E.C.2.

Telephones:

Regent 3024-3025 & 7486. National 8696/7.

Makers of Finest quality Civil, Sporting, and Hunting Clothes for Ladies and Gentlemen.

Highest Awards. 12 Gold Medals. Est. over 35 years.

INCOME TAX

As a result of our unique experience over many years, we obtain all reliefs and concessions for our numerous medical clients.

HARDY & HARDY

TAXATION CONSULTANTS.

49, Chancery Lane, London, W.C.2.

'Phone: Holborn 6659.

Radium.—Owner wishes to dispose of 100 milligrammes of RADIUM, distributed in 0.6, 2, and 3 milligramme platinum needles, with original certificates of measurement and purity.—Write, Box 333, c/o SMITH'S, 10, High Holborn, W.C.1.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements. This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

Widow of Doctor in high-class Practice wishes dispose of CONSULTING ROOM FURNITURE (some antique) and Surgical Instruments, including fitted midwifery bag. —WILSON, Moorings, Kew Gardens, Surrey. Tel.: Richmond 0601.

X-Rays. — London Radiologist desiring change would be prepared to INSTALL NEW MODERN PLANT, preferably in coast town, population not less than 50,000, and would be pleased to hear from local Practitioners who are interested.—Address, No. 3803, B.M.A. House, Tavistock Square, W.C.1.

APPOINTMENTS.—Contd.

Huntingdon County Hospital.

HOUSE SURGEON needed. Salary £120 per annum, and laundry. Testimonials, etc., to Dr. GROVE, County Hospital, Huntingdon

The Royal Hospital, WOLVERHAMPTON. (Incorporated under Charter.)

HOUSE SURGEON required. The Hospital contains 240 beds, includes the usual Special Departments, and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice.

Candidates must be registered under the Medical Acts, and unmarried.

The appointment is for six months. Salary at the rate of £100 per annum. Board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded immediately to the undersigned.

W. H. HARPER, Wolverhampton. House Governor.

June 16th, 1931.

Woolwich and District War MEMORIAL HOSPITAL, Shooters Hill, London, S.E.18. (GENERAL HOSPITAL—112 Beds.)

The Board of Management invites applications from suitably qualified male candidates for appointment as HOUSE PHYSICIAN, for a period of six months as from July 1st. An honorarium of £100 per annum will be paid in respect of this appointment, plus board, residence, and laundry.

Applications should be addressed to the undersigned, to reach him not later than first post on Monday, June 22nd, and full particulars of experience, previous appointments, etc., together with copies of not more than three recent testimonials.

EDWIN RADFORD, Secretary-Superintendent.

Royal Infirmary, Blackburn. (240 Beds—5 Residents.)

FOURTH HOUSE SURGEON (male) required at a salary of £150 per annum, rising to £250, with board, residence, laundry, etc. To commence duties early as possible.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, NATHAN A. SMITH, Blackburn. Gen. Supt. & Secretary.

This Institution is recognised for the Surgical practice required for the F.R.C.S. Final Examination.

National Hospital for Diseases OF THE HEART, Westmorland Street, W.1.

The Committee of Management invite applications for the post of PATHOLOGIST. Applicants, who must be duly registered Medical Practitioners, will be required to commence duties on September 1st, and to attend for a minimum of two hours daily on five afternoons weekly—Mondays to Fridays. Salary £250 per annum. Applications, with copies of not more than three recent testimonials, to be sent to the undersigned, at the Hospital, not later than July 11th.

ROBERT G. E. WHITNEY, Secretary.

Royal Northern Infirmary, INVERNESS. (150 Beds.)

Wanted, Two HOUSE SURGEONS (male) to commence duties on August 1st. The appointments are for six months. Salaries are at the rate of £100 a year, with board, residence, and laundry.

Applications, stating age, qualifications, etc., with copies of recent testimonials, should be sent not later than July 15th to

20, Church Street, ROBERT GILBERT, Inverness. Hon. Secretary.

St. Thomas's Hospital.

VACANCY.

DEPARTMENT OF PSYCHOLOGICAL MEDICINE.

One of the two CHIEF ASSISTANTSHIPS is vacant. Applications from gentlemen with experience of Psychological Medicine should be forwarded, with full *academical records*, etc., to the Secretary and Clerk to the Governors, St. Thomas's Hospital, S.E.1, by June 30th.

St. Thomas's Hospital.

VACANCIES. SURGICAL REGISTRARS.

There are vacancies for Two Surgical Registrars. Applications, with full details of Academic career, to be addressed to Lt.-Col. A. P. B. IRWIN, D.S.O., M.A.Cantab., Secretary and Clerk to the Governors, on or before June 30th.

The Hospital for Sick Children, Great Ormond Street, London, W.C.1.

A PART-TIME JUNIOR CASUALTY OFFICER is required on July 9th, to assist in the Casualty Department, from 10 a.m. to 3 p.m. (Saturdays 10 a.m. to 1 p.m.), under the direction of the Casualty Officer.

The work of this officer includes a large number of Tonsillectomies and other minor operations.

Candidates must be registered Medical Practitioners, and have held a responsible Hospital appointment.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 12 o'clock on Monday, June 29th, accompanied by copies of not more than three testimonials written specially for the purpose.

The appointment is made for six months, and is non-resident. Salary at the rate of £150 per annum, with luncheon.

All candidates must be in attendance to appear before the Joint Committee, if required, at their meeting on Wednesday, July 1st, at 5 p.m. precisely.

Forms of application and copies of the Rules may be obtained from the Secretary, at the Hospital.

By Order of the Board of Management,
JAMES McKAY, Secretary.

June, 1931.

Victoria Central Hospital, WALLASEY.

Applications are invited for the position of JUNIOR HOUSE SURGEON (male). Salary at the rate of £100 per annum, with board, residence, and laundry, with prospects of appointment to Senior House Surgeon in six months' time, at a salary of £150.

Candidates chosen would be appointed for six months.

Applications, with copies of testimonials, to be sent to the Secretary.

The Queen's Hospital for CHILDREN, Hackney Road, London, E.2.

Two ANAESTHETISTS required, each to attend on two half-days each week. Honorarium £25 per annum. Certain additional paid appointments are open to holders.

Applications, with testimonials, should be sent to the undersigned as soon as possible.

June 5th, 1931. CHARLES H. BESSELL, Secretary.
Tel.: Bishopsgate 6305 and 2837.

Hertford County Hospital.

Applications are invited for the post of HOUSE SURGEON (male). Salary £200 per annum, with board, residence, and laundry. The appointment is for six months in the first instance.

Applications, with copies of three recent testimonials, should be sent to the undersigned.

PERCY G. BROOKS, Secretary.

CAVENDISH NURSES (Male and Female)

Head Office: 54, BEAUMONT ST., LONDON, W.1.
Branches: *MANCHESTER*: 176, *Oxford Rd.* *GLASGOW*: 28, *Windsor Terr.* *DUBLIN*: 23, *Upper Baggot St.*
TELEPHONES: London, 1277 Welbeck (Two Lines). Manchester, 5152 Ardwick. Dub., 531 Ballsbridge. Glasg., 477 Douglas.
TELEGRAMS: Tactear, London. Surgical, Glasgow. Tactear, Manchester. Tactear, Dublin.

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN., Ltd., 6, BROWN STREET.

The oldest Medical Agency in Manchester.

Telegraphic Address: "STUDENT, MANCHESTER." *Telephone*: 5932 CITY.

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c., undertaken. ASSISTANTS & LOCUM TENENS SUPPLIED. PRACTICES for Sale. Particulars on application.

MR. HERBERT NEEDES, 4 & 5, Adam Street, Strand, W.C.2

Late of 31, Bedford Street, Strand, W.C.2.
(Temple Bar 9011.) (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

PERCIVAL TURNER,

ESTABLISHED 1860.
4 & 5, ADAM ST., STRAND, W.C.2. LTD.
(Incorporating the well-known Agency and personal assistance of Mr. HERBERT NEEDES.)
Telegrams: "EPSOMIAN, LONDON."
Telephone: TEMPLE BAR 9011.
After Office Hours: EPSOM 9142.

Terms post free on application.

London, N.—Average £1,230 p.a. Panel 1,200. Fees 2/6, 3/6, etc. Lock-up premises, but limited accommodation. Good lease.—No. 8866.

Leics.—Half share of £2,000 p.a. Country, near Town. Visits 5/- up. Panel 1,600. Roomy house to buy, others to let.—No. 8855.

Urgent Sale. — South Wales. — £1,500 p.a., mostly derived from contract work and panel. Not much opposition. Premium £1,500, part by instalments.—No. 8865.

London Sub., W.—About £600. Panel about £600. Fees average 5/-. Detached corner house, 6 bed., etc., large garden. Prem. 14 years' purchase.—No. 8864.

South Coast. — £1,800, steadily increasing. 1/3 share now and succession shortly. Panel 864. Appts. about £200. Fees 4/- to 10/6. Rooms and houses available.—No. 8863.

South Midlands. — Within 40 miles.—£900 p.a. Unopposed. Panel 897. Good appts. Visits 5/- to 10/6. Large house and garden to rent.—No. 8859.

Lancs.—Partly Surgical.—Over £2,000 p.a. Panel 1,365. Visits 3/6 to 10/6. Major ops., 10 to 50 gns. Suitable house.—No. 8858.

Surrey. — Partnership with Succession.—Residential Town, near London. Over £1,250 p.a. No panel, but scope. Good fees. Excellent premises. Flat over if required. —No. 8857.

Staffs Town. — Over £700 and scope. Vendor retiring. Panel £460 p.a. Club £24. House, with 2 recep., 5 bed., surgery, etc., to rent.—No. 8856.

Lancs Town. — Over £1,100 p.a. Panel 1,450. Visit and med., 5/6 and 6/-. Premium £1,600 on terms. House, 3 recep., 5 bed., surgery, etc. For sale at £1,200. —No. 8849.

Midland Town. — Over £2,200 p.a. Panel 820. Appts. £50. Fees 3/6 up. House 2/3 recep., 4 bed., to rent on lease. —No. 8846.

London, S.W. — £800 or more. Panel worth £110. Appts. £26. Large family house, 12 rooms or more; nice garden. Price £2,200 Practice and lease.—No. 8845.

London, S.E. — Woman's Practice. About £550 p.a. Panel 251. Visits 3/6 to 7/6. Small flat at £62 p.a. Premium £750.—No. 8842.

Surrey, Country. — £600 p.a. and scope. Easily worked. Panel over 200. Fees 3/6 to 21/-. Good house. For sale.— No. 8841.

London, E, near City. — Over £800. Panel over 1,000. Midy. refused, but scope. Visits 3/6 to 5/-. Spacious house and garden to rent.—No. 8836.

South Devon Town. — Average £1,564 p.a. Panel about 2,000. Fees 3/6 to 5/-. Large leasehold house. Practice and lease £2,700 cash.—No. 8816.

Midland Town. — Share worth £800 p.a. Fees 5/- to 21/-. Midwifery 5 to 6 gns. Grad. of Lond., Oxon., or Camb. required.—No. 8815.

Riverside Town.—£300 p.a. and resident patient. £8 8s. p.w. Panel 300. Visits 5/- up. Good house, 7 bed., etc. Price, house and Practice, £1,400.—No. 8820.

Kent Suburb. — Residential. Non-dispensing. Aver. £897. Panel 366. Appts. £72. Fees mostly 7/6 and 10/6. Large house (7 bed., etc.) to rent or buy.—No. 8810.

S. W. Scotland.—Near Coast.— £1,200—£1,500 p.a., increasing. Panel over 500. Opposition slight. Visits 3/6 to 21/-. House, 5 bed., etc., about £650, or to rent.—No. 8810.

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr. Percival Turner.

Medical Practitioners' Union Agency Limited

56, Russell Square,
LONDON, W.C.1.

TRANSFER DEPARTMENT

Telephone: Museum 5197 & 6161.
Telegrams: "Uflabrini, Westcent, London."

PRACTICES & PARTNERSHIPS for sale.
ASSISTANTS & LOCUM TENENS supplied.
INVESTIGATIONS & VALUATIONS undertaken.

List of Practices, etc., in the "Medical World" each Friday.

Telephone: WELBECK 2728.
Telegrams: "ASSISTIAMO, LONDON."

NURSES

MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls Day or Night.

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES' ASSOCIATION),
29, York St., Baker St., London, W.1.
Mrs. MILLICENT HICKS, *Supt.*
W. J. HICKS, *Secretary*

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

HIS LIFE
HIS HEALTH
HIS HOME
HIS PRACTICE
AND
HIS CAR

FOR ALL THESE CONSULT

The
Medical Insurance Agency
(Limited by Guarantee),
BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQUARE, W.C.1.

WE CAN ALSO ARRANGE ADDITIONAL CAPITAL FOR THE PURCHASE OF A PRACTICE OR PARTNERSHIP

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

Telephone { TEMPLE BAR 1054 & 1034. RIVERSIDE 1254. (*Night Calls.*)

Telegrams: "REASIDE, TUBERCLE, WESTRAND, LONDON."

MIDDLESEX.—PARTNERSHIP in rapidly developing district, situated within 12 miles of London. Receipts about £1,600 p.a. Panel nearly *1,900. Suitable small house available. Cottage Hospital.* Excellent scope. Premium for 2/5 share, with view to 1/2, 2 years' purchase.

LONDON, E.2.—Mixed Cash and Panel PRACTICE, situated in thickly populated locality. House to rent on lease (10 rooms), part sub-let. Average receipts (approx.) £853. Panel 1,018. Premium 1½ years' purchase.

LONDON, N.—Middle and working-class PRACTICE. Medium-sized house to rent or purchase. Average receipts approx. £575. Panel 385. Fees 2/6 up. Premium £750 cash

LONDON, N.11.—DEATH VACANCY.—Old-established middle-class PRACTICE. Corner house to rent at £90 p.a. Average receipts £750. Panel 600. Fees 3/- up. One appointment. Premium £800 cash.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. 10-roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for Surgery. Premium one-third share, with view to larger share, £1,300.

BLACKPOOL (Near).—Well-established middle and working-class PRACTICE. *Suitable 8-roomed house available, with garden, garage, etc.* Receipts nearly £1,200. Panel about 250. Premium for house and Practice £3,250.

BERKS.—PARTNERSHIP.—Country Rural Practice in sporting district. Receipts average nearly £1,150. Panel nearly 600. Fees 2/6 up. Short preliminary Assistantship. 1/3 share to 1/2 share for disposal at 1½ years' purchase. Suitable to experienced man, British, aged 27 upwards.

MIDDLESEX, WEST.—PARTNERSHIP in rapidly developing residential country district. Receipts approximately £1,500, increasing. Panel 1,282, increasing. Fees 2/6 up. Suitable accommodation available. Premium for 1/3 share, 2 years' purchase. Suitable to young and experienced man, preferably one having held Hospital appointments.

CORNWALL (Coast).—Well-established PRACTICE in charming locality. Receipts nearly £800. Panel 180. Suitable house to rent on lease. Premium for quick sale £800.

LONDON, E.—NUCLEUS non-panel PRACTICE in thickly populated locality, with excellent scope for panel and further increase. Suitable accommodation for bachelor. Receipts nearly £600 p.a. Fees 2/- up. Rent £55 p.a. Premium £750 or near offer.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house containing 4 bedrooms, etc. Garage. Small panel. Receipts approx. £500 p.a. Fees 3/6 up. One appointment worth £150. Mids. 5 gns. Premium open to reasonable offer.

KENT.—Within easy reach of London.—Well-established PRACTICE, situated in growing locality, with ample scope for development. Receipts nearly £900. Panel over 300. Suitable residence to let. Alternative accommodation available. Fees 2/6 up. Prem. £1,300 Excellent scope for energetic man.

YORKSHIRE.—Well-established mixed rural PRACTICE. Suitable house available (4 *beds). Receipts approximately £1,000. Panel 620.* Fees 3/6 up. One appointment. Premium 1½ years' purchase.

LONDON, N.1.—Mixed G.P., with excellent scope for increase. Receipts nearly £700. Panel over 500. Fees 1/6 up. Can be run as lock-up. Premium 1½ years' purchase or near offer.

MIDDLESEX, WEST.—Well-established G.P. in rapidly growing residential locality, with excellent scope for still further increase. Suitable free hold house available (6 beds), £1,450. Receipts £1,200. Panel nearly 900. Premium £2,000. Splendid scope for keen and energetic man.

NORTH-WEST COAST. — PARTNERSHIP in old-established good-class non-panel and non-dispensing Practice. Suitable house available. Receipts approx. £3,600. Fees 10/6 up. One-third share with view to half and possible succession, 1½ years' purchase, cash. Excellent scope for Physician.

BEDFORDSHIRE.—PARTNERSHIP in old-established mixed Practice. Receipts between £1,800 and £2,000. Panel 1,500. Fees 2/6 up. Excellent scope for young man. Suitable accommodation available. Premium 2 years' purchase for 1/3 or 1/2 share. Short preliminary Assistantship desired.

YORKS.—PARTNERSHIP in busy, rapidly increasing Town Practice. Receipts £2,300. Panel 1,500. Suitable house available. A third share, with view to succession, 2 years' purchase.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT.

THE

WESTERN MEDICAL AGENCY

(DR. K. H. BENNETT, DR. W. J. PARAMORE.)

PHOENIX CHAMBERS,

22, CLARE STREET, BRISTOL.

Teleg.: "Medgen, Bristol." *Tel.*: Bristol 4689.

NO CHARGE TO PRINCIPALS FOR SUPPLYING LOCUMS AND ASSISTANTS.

PRACTICES AND PARTNERSHIPS NEGOTIATED ON REASONABLE TERMS.

1. GLOUCESTERSHIRE. — Third share in *rapidly growing country town.* Last year £1,777. Panel 1,250. Choice of house. Premium £1,200, including drugs, etc.
2. KENT.—Seaside Town.—Receipts average £400 p.a., including club of £61. Panel 260. Great scope. Small house to rent. Premium £250.
3. SANATORIUM.—Western County.—40 beds. Receipts average £10,055 p.a. Particulars on application.
4. BEDFORDSHIRE.—Country PRACTICE, last year £483. Good house to rent £68. Price £350.
5. CORNWALL. — Unopposed Agricultural PRACTICE, near beautiful N.C. seaside resort. Receipts over £900 p.a. Panel 550. M.O. value £50. Pub. Vac. House for sale £450. Practice, drugs, etc., £1,400.
6. CARDIFF.—Industrial PRACTICE, aver. £600 p.a. Panel 600. Good house. Prem. £600.
7. WESTERN CITY.—Panel of 465 and club returning about £250 p.a., for sale. Good house to buy.
8. SOUTH CORNWALL.—Country Town PRACTICE, aver. £700 p.a. Panel 600. Good house to rent. All sports. Prem. 1 yrs.' pur.
9. SOUTH-WEST WALES. — Pleasant seaside town, non-industrial district. Good mixed PRACTICE, returning £1,000 p.a. *Good* house to buy or rent. Panel over 700. Opposition weak. Easy terms for quick sale.
10. PARTNERSHIP.—Quarter share of £5,400 p.a. in good country town, South England. All private, but new man could start panel. Good house. Further share later. Excellent opportunity. Price £2,000.
11. SOUTH DEVON.—Averaging £2,400 p.a. in favourite town. Panel 1,500. Large house for sale or rent. Seaside.
12. SALARIED PARTNER.—Western City, with option to buy half share. £500 p.a. net. Panel 2,120. Suitable house. Great scope. Total receipts £1,700. Price £1,000.

ESTABLISHED 1877.

LEE & MARTIN, LTD.,

The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM.

Telegrams: "Locum, Birmingham." *Telephone*: 5963 Midland, B'ham.

Transfers of Practices and Partnerships arranged.

ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED.

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS.

FOR DISPOSAL.

1. MIDLANDS.—Country Town.—Panel and Private PRACTICE. Receipts over £700, and progressing. Good house, garden, and garage.
2. LANCASHIRE. — Old-estab. and industrial PRACTICE. Receipts £2,242, and increasing. Panel 1,450. Appointments worth about £95. Good house to rent.
3. NORTH OF ENGLAND.—Panel, Colliery, and Club PRACTICE. Receipts average £800 p.a. Panel 550. Appointments £350. Good house to rent. Considerable scope for energetic man.
4. LANCASHIRE (Large Town).—Non-dispensing, non-panel, largely Surgical PRACTICE. Estab. over 4 years. Receipts average £1,179 p.a. and unlimited scope. Good house, etc.
5. MIDLANDS.—Panel and Private PRACTICE. Estab. over 5 years. Receipts over £700; panel over 600, both rapidly incr. Appts. worth about £70. House to rent. Garage, etc.
6. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988; panel 900, both increasing. Appt. £30 p.a., transfer. Good house, garage, and all conven.
7. MIDLANDS, COUNTY BOROUGH. — Well-estab. better middle-class PRACTICE. Receipts av. over £2,700 p.a. Panel recently started and rapidly increasing. Good fees, house, etc.
8. BERKS (Country Town).—PARTNERSHIP. 2/5 share, with short prelim. Assistantship and ultimate Succession. Receipts about £1,146 p.a. Panel 550, good scope. Appts. worth about £250. Good fees and house.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

ESTABLISHED 1868.

PEACOCK & HADLEY, Ltd.

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C.2.

Telegrams: Herbaria, Westrand, London.

Telephone: Central 2680.

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

FOR SALE.

1. RIVERSIDE SUBURB.—DEATH VACANCY.—Old-established PRACTICE, held 23 years by late Vendor. Receipts average £1,044 p.a., panel about 600. Nice house to be sold. Premium for Practice 1½ years' purch.
2. LONDON, S.W.—Old-established PRACTICE. Receipts average £750, including panel 400. Nice prominent house, rent £115. Long lease. Good scope for increase. Premium £1,000.
3. EASTERN SUBURB. — Well-established PRACTICE to be sold at very small premium. Receipts stated £600 p.a., including panel 600. House available, rent £75. Excellent Locum in charge.
4. *LONDON, E.—Old-established Cash and Panel* PRACTICE. Receipts about £850 p.a., panel nearly 1,100. 10-roomed house on lease. Prem. £1,100. Practice has done more.
5. LONDON, S.E. (7 mins. Charing Cross).—Lady Doctor's PRACTICE for sale. Receipts average £550 p.a., panel 150. Nice flat available, rent £60. *Premium £600.*
6. LONDON, N. (10 mins. Clerkenwell).—Well-established Cash and Panel PRACTICE. Receipts average £650 p.a., including panel 570. Suitable premises available. Premium 1½ years' purchase.
7. N. WALES.—Third Share of well-established PRACTICE for disposal. Total receipts £2,000 p.a., panel 1,750. Pleasant district near large town. Suit young active Practitioner. Premium £1,000.
8. SCOTLAND.—LARGE TOWN.—Well-established PRACTICE. Receipts £2,000 p.a., panel 1,816. Very good house, rent £78 p.a. Premium 1½ years' purchase, part payable by instalments.
9. EASTERN SUBURB.—Old-established Cash and Panel PRACTICE. Receipts average £880 p.a. Nice house to rent, £75 p.a. Premium £1,250, part by instalments.

No charge to purchasers or for enquiries.

NORTHERN BRANCH

BRITISH MEDICAL BUREAU

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION, LIMITED)

33, Cross Street, MANCHESTER

Telephones: {MANCHESTER-CENTRAL 3925. {MANCHESTER-RUSHOLME 2549 (Night calls).

Telegrams: "LOCUM, MANCHESTER."

Recommended with every confidence to the profession by the BRITISH MEDICAL ASSOCIATION as a thoroughly trustworthy medium for the transaction of all Medical Agency business.

TRANSFER OF PRACTICES & PARTNERSHIPS.
INTRODUCTION OF RELIABLE ASSISTANTS & LOCUMTENENTS.
VALUATION AND INVESTIGATION OF PRACTICES, ETC.

Practices & Partnerships Wanted. **Large List of Bona-fide Purchasers with Ample Capital Available.**

FOR DISPOSAL.

Full Particulars Free on Request.

SHEFFIELD.—Excellent old-established PRACTICE. Average cash receipts £1,800 p.a. Panel 1,861. Good house, 2 reception, bedrooms. Garage and large garden. Premium 1½ years' purchase.—No. 270.

MANCHESTER SUBURB. — PARTNERSHIP in old-established Practice. View succession 3/5 years. Cash receipts £2,100. Panel 2,155. Semi-detached house available, 2 reception, 3 bedrooms. Rent £45 p.a. Premium 1/3 share £950, part by arrangement.—No. 259.

CO. DURHAM.—BRANCH PRACTICE in COUNTRY. Practically unopposed. Cash receipts last year £1,280. Panel 1,320. Large house, garden and garage, rent £36 p.a. Premium £1,000. Preliminary Assistantship if desired.—No. 273.

LARGE LANCS TOWN. — Old-established PRACTICE. Average cash receipts £1,546 p.a. Panel 1,052. Excellent detached house, 3 reception, 4 bedrooms. Garage and garden. Rent £74 10s. p.a. Premium 1½ years' purchase. Vendor retiring.—No. 267.

LIVERPOOL (near).—Cheshire Coast Town PRACTICE. Average cash receipts £1,187 p.a. Panel 783. Much scope. Good double-fronted house (freehold). 3 reception. 4 bedrooms, garage. Premium—Practice—£1,100.—No. 248.

NORTH STAFFS. — INDUSTRIAL TOWN PRACTICE. Cash receipts last year £1,200. Panel nearly 2,000. Good house, 2 reception, 7 bedrooms. Rent approx. £65 p.a. on long lease. Premium £2,000 (to include book debts and drugs).—No. 255.

SOUTH YORKSHIRE.—Old-established PRACTICE. Cash receipts 1931, £1,275. Panel 1,450. Excellent house, 3 reception, 4 bedrooms. Garage and good garden. Premium 1½ years' purchase.—No. 253.

MANCHESTER SUBURB.—Middle-class PRACTICE. Average cash receipts £1,500 p.a. Small panel. Good house, 2 reception, 5 bedrooms. Garage and garden. Rent £65 p.a. Premium for quick sale £1,250.—No. 261.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Average cash receipts £2,400 p.a. Panel 2,000. Good house, 2 reception, 5 bedrooms. Garage. Rent £65 p.a. Premium 1½ years' purchase.—No. 251.

YORKSHIRE (W.R.).—Excellent Country PRACTICE. Cash receipts last year £1,421. Panel 880. Good freehold detached house with nice garden. 4 bedrooms, 2 reception rooms. Premium—Practice—£2,175.—No. 271.

EAST COAST.—PARTNERSHIP in large Town Practice. Income over £10,000 p.a. Panel over 5,000. Good house available, 2 reception, 4 bedrooms Garden. Premium—1/6 or 1/4 share —1½ years' purchase.—No. 258.

LANCS TOWN PRACTICE with good scope. Cash receipts last year £628 Panel 933 Good house, 4 bedrooms. Premium—Practice and house—£1,250.—No. 269.

ISLE OF MAN.—SEASIDE TOWN PRACTICE.—Average cash receipts £946 p.a. (£350 from panel). Nice house, 3 reception, 4 bedrooms, garden. Good schools. Premium, any reasonable offer.—No. 173.

MANCHESTER.—PLEASANT RESIDENTIAL SUBURB.—Old-estab. PRACTICE. Average cash receipts £685 p.a. Panel over 600. Much scope. Excellent house, 2 reception, 4 bedrooms, garage, and good garden, to be sold, or may be rented for a period on lease. Premium 1 year's purchase. Vendor retiring.—No. 246.

NORTH-WEST COAST. — SEASIDE RESORT. — Old-established PRACTICE. Cash receipts about £1,000 p.a. Small panel. Excellent freehold house.—No. 266.

LANCS TOWN. — Old-established PRACTICE. Average cash receipts £1,175 p.a. Panel 1,460. Excellent house, 3 reception, 5 bedrooms. Garage and garden. For sale or to rent for a period. Premium 1½ years' purchase.—No. 232.

CHESHIRE TOWN, near MANCHESTER.—PRACTICE. Cash receipts last year, £1,033. Panel 650. Good house, 3 bedrooms. Rent £45 p.a. Prem. 1½ years' purchase.—No. 263.

MANCHESTER SUBURB.—Good-class PRACTICE. Average cash receipts £662 p.a. Small panel. Scope. House, 2 reception, 5 bedrooms. Garage and garden. Rent £70 p.a. Premium, best offer.—No. 226.

LANCS TOWN. — Old-established PRACTICE. Cash receipts £1,186 Panel 900. Much scope. Excellent house, 2 reception, 4 bedrooms. Garage. Premium, best offer.—No. 178.

CHESHIRE.—COAST TOWN.—Near LIVERPOOL.—Old-established PRACTICE. Cash receipts last year, £1,134. Good scope. Excellent house may be rented, 3 reception, 6 bedrooms. Garage and garden. Premium 1½ years' purchase. Vendor retiring.—No. 189.

NEAR MANCHESTER.—PLEASANT TOWN, largely residential.—Old-established PRACTICE. Average cash receipts £995 p.a. Panel 902. Appointments not included £100 p.a. Great scope. Excellent detached house (freehold), 3 reception, 5 bedrooms. Garage and garden and tennis court. Premium—Practice—1½ years' purchase.—No. 234.

LANCS TOWN, near MANCHESTER.—Old-established PRACTICE. Cash receipts 1930, £1,406. Panel nearly 1,000. Excellent house, 2 reception, 6 bedrooms. Rent £90 p.a. Good Local Hospital. Premium £2,050.—No. 260.

WANTED IMMEDIATELY.—INDOOR AND OUTDOOR ASSISTANTS FOR TOWN AND COUNTRY PRACTICES, WITH OR WITHOUT VIEW. Good salaries offered. State full particulars.

LOCUMTENENTS (male and female) SHOULD REGISTER AT ONCE FOR IMMEDIATE ENGAGEMENTS.

SPECIAL NOTICE.

For the convenience of Practitioners, Branch Offices have been opened as under:—

LIVERPOOL & DISTRICT.
28, Exchange Street East, Liverpool.
(Tel.: Central 1970. 'Grams: "Legal, Liverpool.")

YORKSHIRE.
Phoenix Chambers, South Parade, Leeds.
(Tel.: 26771.)

NORTHERN IRELAND.
72, High Street, Belfast.
(Tel.: 7636/7. 'Grams: "Vouch, Belfast.")

All communications to be addressed to the Branch Manager, BRITISH MEDICAL BUREAU, 33, CROSS ST., MANCHESTER.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

Tele. Address: Triform, Wesdo—London.

12, Stratford Place, Oxford Street, W.1.

Telephone: Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch.

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.

Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal.

Full particulars sent free.

1 DEATH VACANCY.—Practice in favourite town on the Thames. Income just over £1,000 p.a. (including £250 from panel). House, with 6 bedrooms, etc., garage and nice garden, for sale.

2 NORTHUMBERLAND. — Practice averaging nearly £1,100 p.a. in small seaside resort. Panel 750. Semi-detached villa residence, in central position, for sale. Scope. Premium £1,100.

3 S. COAST.—Partnership in Practice about £5,000 p.a. in residential town and health resort. Panel 3,400. Incoming Partner should be aged about 30 and well qualified. Premium one-fourth share 2 years' purchase.

4 LONDON, W.—Partnership in sound non-dispensing Practice of nearly £2,300 p.a., close to West End. No panel and very little night work. Partner should be aged about 35 and used to good-class Practice. One-third share 2 years' purchase.

5 MIDLANDS.—Partnership in easily worked good-class non-dispensing Practice over £4,000 p.a., in beautifully situated county town. Panel about 1,600. Hospital in town, and incoming Partner must be a good Surgeon. One-fifth share at first at 2 years' purchase.

6 S. COAST.—Partnership (after preliminary Assistantship) in Practice in seaside resort. A share worth £1,000 p.a. to suitable man who, for preference, should be single. Premium £1,600. Considerable scope.

7 EASTERN COUNTIES. — Partnership in Practice nearly £1,950 p.a. in country town. Panel 785. Share up to one-half 2 years' purchase. Up-to-date Cottage Hospital.

8 HIGH-CLASS NURSING HOME (held by Medical Man) in delightful country district within 35 miles of London. Receipts over £5,000 p.a. Net profits between £1,000—£1,200 p.a. Beautiful house, with extensive grounds, etc., to rent. Premium for goodwill £1,500.

9 DEATH VACANCY. — N. DEVON. — Country PRACTICE of over £1,600 p.a. in beautiful part. Panel over 600. House (6 bedrooms), garage, and good garden, for sale.

10 W. OF ENGLAND.—Steadily increasing PRACTICE in Cathedral City. Receipts past 12 months £450. Panel 570. Semi-detached house (5 bedrooms), garage and garden, for sale. Good scope. Premium £450.

11 WITHIN 120 MILES OF LONDON.—Important City.—PARTNERSHIP in non-dispensing Practice over £3,500 p.a. No panel. Partner should be aged about 30 and hold the F.R.C.S. Excellent prospects of Hospital appt. One-third share 2 years' purchase.

12 LONDON, S.E.—Practice averaging nearly £1,250 p.a. in one of the pleasantest outlying suburbs. Panel under 500. Attractive semi-detached house (6 bedrooms), garage, and very nice garden, to rent. Premium 1½ years' purchase.

13 S. OF ENGLAND. — Partnership in good middle-class non-panel Town Practice over £5,300 p.a. Suitable house to purchase. Premium one-fourth share £2,000. Preliminary Assistantship.

14 S. COAST.—Partnership in good-class non-dispensing Practice, over £4,000 p.a., in favourite residential town in seaside resort. No panel and not much midwifery. Pleasantly situated house (4 or more bedrooms) to rent on lease. Incoming Partner should be Oxford, Cambridge or London man (aged about 30), who has held Hospital appointments. One-third share at first at 2 years' purchase.

15 LONDON, W.—Steadily increasing PRACTICE, doing about £750 p.a., mostly from "Lock-up" Surgery. Panel about 500. Well-situated corner residence (5 bedrooms) to rent. Premium £900.

16 S. OF ENGLAND.—Partnership in Practice, about £2,800 p.a., in favourite seaside resort. Delightful house (5 bedrooms), garage, and nice garden, to rent. Incoming Partner should be a Surgeon (preferably F.R.C.S.). Hospital and appointment on staff. Premium one-fourth share 2 years' pur.

17 MIDLANDS. — Partner required in sound lucrative Practice in residential town close to large city. Small panel. Very good Cottage Hospital. Share of £1,000 p.a. at 2 years' purchase. Applicant should be well up in his work.

18 SURREY. — Very old-established Country PRACTICE of £2,000 p.a. in delightful district. Panel about 700. Fees 2/6 to 21/-. Particularly attractive house (6 bedrooms). Large garden. Price of freehold £2,500. Premium for Practice £2,500.

19 DEVON. — Partnership (with preliminary Assistantship) in old-established Practice about £3,000 p.a. in beautiful part. Good house (5 bedrooms) to rent. Premium one-third share 2 years' purchase.

20 LONDON, S.W. — Partnership in well-established suburban Practice (about £2,400 p.a.), easy access of West End. Premium for one-third share £1,500.

21 S. COAST.—Partnership in non-dispensing Practice in a seaside resort. Good house (6 bedrooms) to rent. Share about £750 p.a. at 2 years' purchase.

22 S. COAST.—Partnership in non-dispensing Practice in seaside resort. Incoming Partner must hold the F.R.C.S. Hospital. Scope for Surgery. Share worth about £1,000 p.a. (after short preliminary Assistantship) at 2 years' purchase.

23 MIDLANDS. — Partnership in Country Town Practice about £3,500 p.a. Panel over 1,500. Small detached house (4 bedrooms) to rent. After short preliminary Assistantship one-fourth share would be sold at 2 years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

Tele. Address: Triform, Wesdo—London.

12, Stratford Place, Oxford Street, W.1.

Telephone: Mayfair {1782 / 1783

Practices and Partnerships for Disposal (continued).

24 LONDON, S.W.—Practice about £500 p.a. in suburban district. Panel 650. No midwifery. Semi-detached corner house (6 bedrooms) for sale. Scope. Premium 1½ years' purchase.

25 W. OF ENGLAND. — Country Practice about £600 p.a. in beautiful district. Small panel. Large and beautiful house, with garden and paddock, for sale. Scope. Premium 1 year's purchase.

26 WEST HAM. — Practice (carried on by Medical Woman) in populous area. Receipts last year £580 p.a. Small panel. No midwfy. Six-roomed house to rent. Prem. £700.

27 PARTNERSHIP in Eye, Ear, Nose, and Throat Practice in first-rate town. Good house available to rent or purchase. Partners on Hospital staff. Incoming Partner must be experienced more particularly in Eyes. Share worth £1,650 at 2 years' purchase.

28 YORKSHIRE (W.R.). — Compact easily worked Practice of £1,540 p.a. in manufacturing town. Panel over 1,300. Pleasantly situated double-fronted house (4 bedrooms), with garden, for sale. Premium 1½ years' purchase.

29 CO. DURHAM.—Partnership in Country Practice easy distance of coast. Income about £1,650 p.a. Panel 1,550 and Club appointments £700 p.a. Nice house (5 bedrooms), in quarter acre of garden, for sale. Premium for one-half share only £1,000.

30 LONDON, W.—Practice of about £600 p.a. in residential district. Panel 600. Detached double-fronted corner residence (6 bedrooms), garage, and nice garden, for sale. Scope. Premium 1½ years' purchase.

31 LONDON, E.—Cash Practice of £850 p.a. in populous neighbourhood. Panel over 1,000. House (3 bedrooms) in main road, to rent. Premium 1½ years' purchase.

32 S. COAST.—Small Seaside Place.—Nucleus of PRACTICE, with very good semi-detached house (3 bedrooms). Would suit semi-retired Practitioner who could wait a while as place is developing quickly. Price for freehold house £1,400.

33 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average nearly £950 p.a. (including £350 from panel). Nice compact house (5 bedrooms), with garden, for sale. Sport. Prem. to effect quick sale only £800.

34 EAST ANGLIA.—Partnership in Practice over £4,500 p.a. in beautiful country district, easy access of important town. Panel 3,000. Nice detached house (7 bedrooms), garage, etc., garden and grounds of 10 acres, for sale. Sport of most kinds. Considerable scope. Premium two-thirds share 2 years' purchase. Suitable for two to buy together.

35 S. OF ENGLAND.—Partnership in steadily increasing Practice about £6,000 p.a. in small town. Panel 3,300. Suitable house could be purchased. One-seventh share at 2 years' purchase. Preliminary Assistantship. London Graduate preferred.

36 MIDDLESEX.—Steadily increasing PRACTICE about £800 p.a. in growing district. Panel about 600. Very good house (5 bed and dressing rooms), garage and excellent garden, for sale. Ample scope. Premium £900.

37 LONDON, N.—Practice about £360 p.a. in Residential Suburban district. Panel 180. Detached corner house (4 bedrooms), with small garden, for sale. Scope. Premium £100.

38 N. OF ENGLAND.—Partnership in lucrative Practice in large city. Panel over 5,000. Small house (3 bedrooms and attics) for sale. Partner must be young and energetic. A share of £1,650 or £2,500 would be sold at 1½ years' purchase.

39 DEVON.—Partnership in Practice averaging £3,000 p.a. in small town. Very good house (7 bedrooms), good garden, etc., for sale. Hunting, shooting, fishing, etc. Premium two thirds share 2 years' purchase. Hospital.

40 MIDLANDS. — Practice averaging £4,750 p.a. in clean manufacturing town. Panel 3,570. Two houses for sale. Practice carried on by two Medical Men, both retiring. Premium 1½ years' purchase.

41 WITHIN 12 MILES OF LONDON.—Partnership in rapidly increasing Cash Practice about £1,600 p.a. in developing indust. district. Panel 1,870. Small house available. Large Cottage Hospital. Prem. two-fifth share 2 years' purchase.

42 S. MIDLANDS.—Practice of nearly £400 p.a. in delightful country district, easy distance of London. Panel 300. Attractive house (7 bed and dressing rooms) in grounds of 2 acres, with garage, to be sold or let. Very suitable for Resident Patients. Good scope. Premium 1 year's purchase.

43 N. MIDLANDS.—Partnership in Practice over £1,400 p.a. in first-rate city. Panel 1,800. House, with 2 reception rooms and 4 bedrooms, to rent. Premium one-half share £1,100. Preliminary Assistantship entertained.

44 MIDLANDS.—Practice of over £2,100 p.a. in manufacturing town. Panel 820. House (4 bedrooms) to rent, on lease. Premium 1½ years' purchase.

45 SURREY. — Partnership in Practice of £1,500 p.a. in small country town. Panel 1,050. Detached house (4 bedrooms) in own grounds, for sale or rent. Premium one-half share 1½ years' purchase. Suit one aged between 40/50.

46 SURREY.—Ophthalmic Practice of about £300 p.a. in desirable town within 15 miles of London. Fees mostly £3 3s. Good detached house (4 bedrooms, etc.) for sale. Plenty of scope to one devoting whole time. Premium £300.

47 HANTS. — Small easily worked Practice about £400 p.a. in beautiful country district about 50 miles from London. Select panel 50. Detached house (5 bedrooms), with good garden, for sale. Scope. Premium £400.

48 STAFFS. — Partnership in Practice over £2,000 p.a. in an industrial town. Panel 3,000. Suitable house (5 bedrooms) to rent. Ample scope. Premium one-half share 1½ years' purchase.

49 LONDON, N.W.—Practice worth between £1,600/£1,600 p.a. Panel about 1,230. Private residence contains 4 bedrooms, etc., and is for sale. Rent of Branch Surgery £50 p.a. Premium 1½ years' purchase.

50 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house, with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase, or even slightly less.

51 CHESHIRE.—Practice of nearly £500 p.a. in residential town. Panel 100. New semi-detached double-fronted house (4 bedrooms) for sale. Scope for considerable increase. Premium £500.

52 CHESHIRE. — Partnership in increasing better-class non-panel Practice, over £4,500 p.a., in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

53 MIDDLESEX. — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium one half share 2 years' purchase.

54 HOME COUNTIES. — Partnership in middle and working-class Practice of £3,440 p.a. in industrial town within 25 miles of London. Panel 1,830. Detached double-fronted house (5 bedrooms), garage and garden, for sale. Premium one half share 2 years' purchase.

55 LONDON, W. — Middle-class Practice of £740 p.a. in outlying residential suburb. No panel. House (4 bedrooms), with fair-sized garden, to rent. Good scope. Premium £1,000.

56 MIDLANDS.—Practice over £800 p.a. in first-rate town. Panel 500. Large detached house, with garage and garden, to rent. Premium one and a quarter years' purchase.

57 S.E. ENGLAND. — Small Practice about £300 p.a. in seaport town. Panel 220. Small house to rent. Good scope. Premium £250 or near offer.

"PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKER). Post free 12/6.

MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS

All communications to be addressed to Mr. A. V. STOREY, General Manager.

BOVRIL MEDICAL AGENCY, Ltd.

ALDINE HOUSE,

10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. LINCS.—PLEASANT MARKET TOWN.—PARTNERSHIP.—A half share, with possible succession in two years' time. Average income for past three years £1,900, including appointments and panel producing £500. Advice and medicine 3/- upwards; visits from 5/-. Very few midwiferies from 2 to 3 guineas. Large house with garden and garage. Price freehold only £1,200. Sport of all kinds, and excellent schools for boys and girls. Premium 2 years' purchase, payable £1,000 down, remainder by arrangement.
2. PARTNERSHIP.—WITHIN 70 MILES OF LONDON.—A fourth share (to commence) of old-established rapidly increasing mixed-class Practice, situated in very pleasant country town. Cash receipts last year nearly £4,000, including appointment £200 and panel over 2,000. Good house available, by purchase or rental. Premium £2,000. Incomer should be experienced and about 30 years of age.
3. WITHIN 10 MILES WEST OF LONDON.—Well-established mixed-class Practice, situated in pleasant rapidly increasing and developing district, offering considerable scope and future prospects. Receipts £1,200, including panel of 900. Good modern house (6 bedrooms, etc.) with nice garden, etc. Price freehold £1,450, £1,100 on mortgage. Premium £1,800.
4. EASTERN COUNTIES.—PARTNERSHIP.—A one-third share, with increase later, is offered in a very good mixed-class Practice, situated in pleasant town near sea. Average gross cash receipts nearly £4,500, including panel of about 3,000. Visits 2/6 to 30/-, with medicine extra. Very nice house, in large garden, containing 3 reception, 5 bedrooms, etc. Price for freehold £2,000. Premium 2 years' pur.
5. FAVOURITE SOUTH COAST TOWN.—PARTNERSHIP.—A share representing about £750 a year (with increase later) is offered in a good mixed-class non-dispensing Practice, held by the Vendor for 7 years. Panel of 900. Gross cash receipts nearly £1,700. Fees from 3/6. Centrally situated house, with 3 reception, 6 bedrooms, etc. Net rent, on lease, £90 p.a. Premium 2 years' purchase.
6. SOUTH COAST TOWN.—PARTNERSHIP.—A one-third share (with increase later) is offered in a mainly better-class non-panel Practice. Average gross cash receipts for the past three years £4,150. Fees from 10/6. Not much midwifery. Well-situated house, with 3 reception, 8 bedrooms, etc. Can be rented on lease at £135 p.a. Premium 2 years' purchase.
7. MIDDLESEX.—Steadily increasing middle and working-class PRACTICE, producing this year at the rate of £800. Panel of 250. Fees from 5/-. House contains 2 reception, 4 bedrooms, etc. Price for freehold £1,650, part on mortgage. Premium £850.
8. WITHIN 20 MILES OF LONDON (WEST).—Well-established rapidly increasing PRACTICE, in very pleasant growing residential district, offering excellent future prospects. Cash receipts last year £1,700, including small panel of 150. No dispensing. Visits 5/- upwards; mids. from 4 gns., about 40 cases. Good house (3 reception, 5 bedrooms, etc.), in half an acre of garden, with tennis court. Garage. Price, freehold, £1,850. Premium £2,100. Cottage Hospital. Ill health reason for selling.
9. ESSEX.—Very old-established PRACTICE, situated in pleasant country district, in growing area about 30 miles from London, and few miles from the sea. Cash receipts average nearly £900 p.a., including panel of 600. House contains surgery and waiting room, 3 reception, 5 bedrooms, bathroom, etc. Garden. Garage. Gas, but electric light available. Moderate rental. Premium 1½ years' purchase.
10. LONDON, EAST.—Very old-established working-class PRACTICE, averaging for past twelve months over £2,300, including panel of over 2,800. Good appts. worth nearly £160. Visits from 2/6. Very low expenses. Suitable house can be rented or purchased. Central surgery can be rented. Premium £4,250.
11. LONDON, WEST.—Old-established good middle-class PRACTICE, averaging over £2,500 p.a. (last year £2,600), medium-sized panel. Visits 5/- to 10/6 and occasionally 21/-. Midwifery discouraged; 2 or 3 cases yearly at 15 to 20 gns. House contains professional accommodation, 2 reception, 5 bedrooms, dressing rooms, etc. Leasehold (23 years to run at nominal ground rent). Price £1,650. Premium £4,475.
12. NORTH DEVON AND CORNWALL BORDERS.—Very old-established unopposed Country PRACTICE, in beautiful district near the coast. Cash receipts average just over £1,100 p.a., including appt. and panel of 330. Suitable house available. Premium £1,600, to include drugs, etc. Hunting, golf, fishing, tennis, etc.
13. MIDLANDS.—COUNTY TOWN.—PARTNERSHIP.—A one-fourth share is offered in an exceptionally sound good mixed-class Practice, averaging over £6,000 p.a., including panel of 3,400. Lowest fee 4/-. Very little midwifery. If single, purchaser can live in comfortable rooms; otherwise choice of houses for sale, or on rental. Premium 2 years' purchase.
14. PARTNERSHIP.—YORKSHIRE.—LARGE CITY.—A one-third share with succession to the whole Practice in about one year's time, is offered in a rapidly increasing PRACTICE, producing for the last 12 months approximately £2,300, including panel of 1,500. One appt. worth £150. A suitable house will be vacant shortly. Premium £1,200. Large scope for further development.
15. LONDON, N.W. (Kentish Town area).—In a well-populated district a mainly working-class PRACTICE, producing for 12 months ending March last £728, including panel of 260. House contains 10 rooms; small garden; garage. Rent £120 p.a. on lease. Premium £900.
16. LONDON (WEST END).—Old-established non-dispensing and non-panel PRACTICE, averaging over £4,700 p.a. Visits (very few) and consultations from one guinea upwards. No midwifery. Suitable accommodation available on rental. Premium £6,000. Good introduction given. Personal application desired.
17. WITHIN 20 MILES OF LONDON (WEST).—Rapidly developing district.—PARTNERSHIP.—A half share in a well-established good middle-class Practice, averaging over £3,500 p.a. Panel of 1,100 and appts. worth £100 p.a. Fees 3/6 to 21/-. Good corner house, with 3 reception, 6 bedrooms, etc. Garden. Price for freehold £2,100. Premium 2 years' purchase.
18. SURREY.—COUNTRY PRACTICE.—Very old-established, and situated in delightful district. Gross cash receipts for past 12 months £2,000, including panel of about 700. Fees from 2/6 to 21/-. Midwifery 3 to 20 gns. Exceptionally nice house, with 2 reception, 6 bedrooms, and professional rooms. Nearly 2 acres of garden. Price for Practice and house £5,000.
19. CHESHIRE.—NEAR COAST.—Old-established good mixed-class PRACTICE, averaging for the past 3 years nearly £1,600, including panel of 1,280. Very good house in 3 acres of ground, with 2 reception, 4 bedrooms, etc. Rent on lease £85 p.a. Premium £2,300.
20. PARTNERSHIP.—HOME COUNTY.—Within 40 miles.—In a small country town, in very pleasant district, the third share, with increase later, of an old-established mixed-class Practice offering good scope. Cash receipts average over £3,000 p.a., including panel nearly 1,700 and appts. Good house, with 3/4 of an acre of garden, tennis court, etc. Rent on lease £65 p.a. Premium £1,700. Ingoing partner should be about 30, English or Scotch, and pref. married.
21. WITHIN 30 MILES OF LONDON.—In a delightful residential district (well populated and growing rapidly), a small PRACTICE, producing last year £406, including panel of 300, and capable of considerable development. Very good residence (suitable for resident patients) in about 2 acres of ground. Price, freehold, £4,000. Mortgage arranged. Premium £400. Excellent schools, good society, and sport.
22. FAVOURITE COAST TOWN.—Old-established good middle and better-class PRACTICE, producing over £1,800 p.a. Selected panel of under 400. Fees 3/6 to 10/6. Very little midwifery. Commodious house, with 2 reception, 6 bedrooms, etc. large garden. Freehold for sale. Premium £3,000.
23. SOUTH OF ENGLAND.—Pleasant Town near sea coast.—Very old-established PRACTICE (partly Surgical), averaging over £2,400 p.a. (last year £2,516), including panel of 500. Centrally situated house. Price for Practice and house £5,000. Successor should also have some knowledge of Eye, Ear, Nose, and Throat work.
24. HOME COUNTIES.—Within 40 minutes' run of London.—Old-established mixed-class and increasing PRACTICE, situated in small town with pleasant surroundings. Cash receipts average £1,725 p.a., including appt. £70 and panel 1,000. House with good accommodation and small garden. Price for freehold £2,500. Premium 1½ years' purchase. Educational facilities.
25. SOUTH AFRICA.—Within 8 hours of Durban.—Rapidly increasing PRACTICE in very pretty township near sea coast, producing last financial year over £1,700, including appt. £120. Practically all fees, which are good, are paid in cash. Opposition negligible. Bungalow residence in about one acre of ground. Rent £84 on lease. Premium £1,500, to include furniture, drugs, instruments, and motor car (£1,325 without latter), payable £1,000 down and balance by easy instalments. Excellent climate and sport.
26. NORTH WALES.—PARTNERSHIP.—A one-third share is offered in a good mixed-class Practice producing over £1,700 p.a., including panel of 470 and appts. of about £100 p.a. Fees 3/6 to 21/-. Purchaser, if bachelor, could reside with Vendor. Good sport and schools. Premium 2 years' purchase.
27. SURREY.—Increasing residential district, with good train service to town.—Well-established good general PRACTICE, offering Surgical scope. Gross cash receipts for last 12 months nearly £3,200, with panel of about 900. Visits 5/- to 21/-. Suitable house, with 3 reception, 7 bedrooms, etc. Can be bought or rented on lease. Premium 1½ years' purchase.
28. SOUTH CORNWALL.—Near Sea.—Well-established PRACTICE producing about £700 p.a., including panel of over 600. Fees 5/- to 21/-. Suitable house, with 3 reception, 5 bedrooms, etc. Rent on lease £50 p.a. Good sport and mild climate. Premium only 1 year's purchase. Ill-health reason of sale.
29. LONDON, SOUTH-EAST. — Woman Doctor's PRACTICE, producing £560 immediate past 12 months. Panel of 152. Fees 2/6 to 21/-. Suitable flat can be rented at £60 p.a. Premium £650, or near offer. Very good scope for increase.
30. NORTH LINCS.—COAST TOWN.—Old-established PRACTICE, producing last year nearly £2,900 p.a., including panel of 1,700. Fees 3/6 to 21/-. Practically unopposed. Good modern house, with special professional rooms. Nice garden. Garage. Freehold for sale, part on mortgage. Good sport and schools within reach. Premium 1½ years' purchase
31. NORTH OF ENGLAND.—GOOD TOWN.—A one-third share is offered in a very sound PRACTICE averaging about £5,000 p.a. Ingoing partner must be well qualified, not over 35, and interested in medicine. Suitable house available. Premium 2 years' purchase.

Full Schedule of Terms and Conditions will be forwarded on application.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

MILK POWDER *for* SAFETY!

The following extracts from *The Lancet*, and the Presidential Address at the Royal Sanitary Institute Congress at Margate, show the risk run in feeding raw milk to infants:

'There can therefore be no doubt that a fair proportion of cases of ordinary adult phthisis in Scotland are due to the bovine bacillus .....'—*The Lancet*

.... 'But when to this is added the fact that in England 31.5 per cent. of tuberculosis in children up to 15 years of age is of bovine origin, and deaths from tuberculosis in children up to 5 years is 29.5 per cent. of bovine origin, that 57 per cent. of cervical adenitis in the same ages is of bovine origin, that 33 per cent. of bone and joint tuberculosis in children under 5 years and 24 per cent. in children from 5 to 10 years is of bovine origin, that in Scotland it is recorded that in certain hospitals in Edinburgh as much as 90.3 per cent. of cervical adenitis and 61.2 per cent. of bone and joint tuberculosis in children up to 12 years is of bovine origin, it is high time that this grave condition and this very serious menace to public health should be mended and ended.'

Extract from Presidential Address, Royal Sanitary Institute Congress, Margate.

Extract from the Annual Report for 1928 of the Medical Officer of Health for———

INFANTILE DIARRHŒA

"Until the methods of farmers and others concerned in the milk industry have been revolutionised, and consumers have been provided with facilities for storage and education in the handling of milk, *I am definitely of the opinion that liquid milk should be banished from the dietary of infants.*"

Many such extracts show that the opinion of the Medical profession is rapidly turning to the use of specially prepared Milk Foods in infant feeding as the only safe and suitable substitute for breast milk.

Cow & Gate Milk Food

"The best milk for babies, when natural feeding fails."

COW & GATE MILK FOOD

is prepared by our Special Improved Roller Process employing a short heat treatment which destroys all disease organisms but leaves the natural vitamins and minerals unimpaired. *It is a basic milk food which can be modified by the profession as they desire to suit all and every case.*

WRITE FOR PARTICULARS OF OUR SPECIAL MILK FOODS FOR DIFFICULT INFANT CASES

©

Dept. 20, COW & GATE LTD., GUILDFORD, SURREY.

The SPECIFIC OVARIAN HORMONE

which normally controls and activates the menstrual cycle

SISTOMENSIN

Standardised physiologically

dysmenorrhœa, menorrhagia, hæmorrhages of puberty and menopause, hypoplasia of the uterus, disturbances subsequent to menopause or oöphorectomy.

Tablets Ampoules

PROKLIMAN

(Sistomensin Compound)

Association of ovarian hormone with therapeutic agents for the prompt relief of the most pronounced troubles of menopause: cardiovascular and nervous troubles, hot flushes, headache, etc.

Tablets

Hydrosoluble Ovarian Substance

AGOMENSIN

causes hyperæmia of the female genital organs. Stimulates the function of the genital glands and menstruation.

Functional amenorrhœa, oligomenorrhœa, sterility, vomiting during pregnancy, etc.

Tablets Ampoules

Samples and Clinical Reports to Physicians on request.

THE CLAYTON ANILINE Co Ltd., 40 SOUTHWARK STREET, LONDON S.E.1

Telephones: Hop 6954, 6955 Pharmaceutical Department Telegrams: Cibadyes Borah London.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

The British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

Including an Epitome of Current Medical Literature

WITH SUPPLEMENT

No. 3677 SATURDAY, JUNE 27, 1931 Price 1/3

Specially selected for Medical Men—and fully guaranteed—worthwhile offers of slightly used Cars

MORRIS OXFORD, 1930 Series, Coachbuilt Saloon-Coupe (5-seater), sunshine roof; triplex. Reduced price ... £185

AUSTIN, 1929 Series, 16 h.p. 6-cyl. Coach-built Saloon; leather upholstery; carefully used £195

HUMBER, 1930 Series, 16/50 h.p. Coachbuilt Saloon; blue and blue leather; very nice order throughout... ... ... £310

DAIMLER, 1931 Series, 16/20 h.p. l.w.b. chassis, with self-changing gear and fluid clutch; special M.E. 5-seater Coupe; 2,000 miles only; cost £910. Special bargain price £655

SUNBEAM, 1931 Series, 20 h.p. Coachbuilt Saloon; 1,500 miles; literally as brand new; cost £795. Special price £675

AUSTIN, 1930 Series, 16 h.p. 6-cyl. Coach-built Saloon; leather upholstery; exceptional order £240

ARMSTRONG SIDDELEY, 1930 Series, 20 h.p. Coachbuilt 4-door Saloon; leather upholstery; self-changing gear; as new £375

M.G., 1931 Series, Midget Coupe; black and green; 3,000 miles; as new; cost £250... ... ... £210

The Officially Appointed Consulting Engineers to the Medical Insurance Agency

MANN EGERTON & Co LTD

156, New Bond Street, W.1.

Telephone: GERRARD 9060.

Super Service Works: CHURCH ST., EDGWARE ROAD, N.W.8 (Padd. 9011)

We loan Cars from 10/- per day whilst we repair yours.

DEPOTS ALSO AT NORWICH - IPSWICH - LOWESTOFT - BURY ST. EDMUNDS

Specially arranged and strictly private deferred terms for Medical Men

ISSUED WEEKLY]

[COPYRIGHT]

[REGISTERED AS A NEWSPAPER

BRITISH BRITISH

Elastoplast

(Patent 253,527)

THE ORIGINAL & FINEST ELASTIC PLASTER

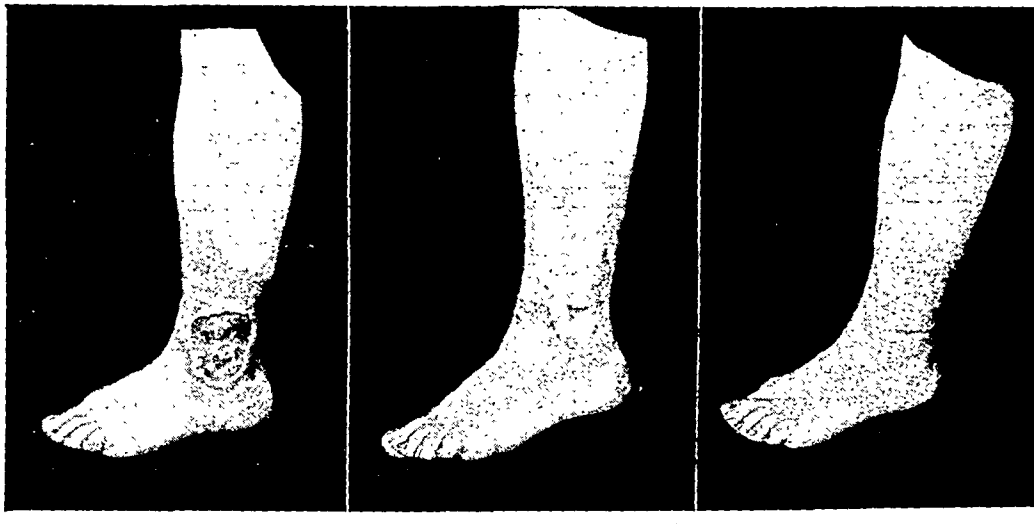
The cure of Varicose Ulcer by means of Elastoplast Bandages is now practised in nearly every Hospital in the British Isles, and 100% cure of cases is achieved.

In certain cases of Varicose Veins where on account of systemic disease, or the patient's timidity, a curative course of injection cannot be given, then the veins can be kept obliterated by Elastoplast.

Elastoplast is also extensively used for general surgical and orthopaedic work.

As a support for varicose veins, sprains, strains, dislocations, after-treatment of fractures, weak joints, flat or dropped foot, etc., Elastoplast is unequalled.

Manufactured from the finest yarns, Elastoplast is the only Elastic Plaster having the correct degree of elasticity, thus ensuring perfect compression and support.



Woman patient aged 55. After 12 weeks' treatment. After a further 2 weeks.

The only treatment consisted of Elastoplast Bandages, changed weekly at first, and later fortnightly.

Other Elastoplast Specialities include:—Finger Dressings, Wound Squares, Wound Strips, Boil Dressings, Eye Dressings, Vaccination Dressings, etc., all on the pliable Elastoplast base, with medicated pads. Elastoplast will reduce your Dressings Accounts, save you valuable time, increase the efficiency of the injured person, and, moreover, ensure cleanliness. Also—VISCOPASTE BANDAGES (improved Unna's Paste Type), Adhesive Gelatine Bandages.

Literature and cuttings will be sent on application, or a trial set containing full Bandages and a range of Dressings upon receipt of P.O. value 2/6 (Overseas postage extra) by the manufacturers:

T. J. SMITH & NEPHEW, Ltd.

HULL. LONDON. GLASGOW. MANCHESTER.

Enquiries to—Dept. B, 42, Tavistock Square, London, W.C.1.

ELASTOPLAST MAY BE OBTAINED FROM YOUR USUAL SURGICAL SUPPLY HOUSE.

British Medical Journal

JUNE 27, 1931

CONTENTS

ORIGINAL ARTICLES

A Cerebro-Spinal Fever Outbreak in the Royal Air Force. By H. E. Whittingham, M.B., F.R.C.P.Ed., J. M. Kilpatrick, M.B., B.Ch., and E. W. B. Griffiths, M.B., Ch.B. (With Charts) 1101

Spondylitis Deformans. By Charles W. Buckley, M.D., M.R.C.P. (With Plate) 1108

Two Cases of Syphilitic Spondylitis. By Christine Abernethy, M.B., Ch.B. 1112

A Case of Pulmonary Asbestosis. By H. E. Seiler, M.D., and Mary D. Gilmour, M.B., Ch.B. (With Plate) 1112

Routine Radiograms for Investigation of Intestinal Obstruction. By E. T. C. Milligan, M.D., F.R.C.S., and George Simon, M.B. (With Plate) 1114

Case of Acute Bronchiolectasis. By H. Hilton Stewart, M.D., M.R.C.P., and J. H. Biggart, M.B., B.Ch. (With Plate) 1115

MEMORANDA

Treatment of Hay Fever by Intranasal Zinc Ionization. By Philip Franklin, F.R.C.S. (Illustrated) 1115

REPORTS OF SOCIETIES

The Royal Society: Recent Advances in Chemistry of the Vitamins 1116

Medical Society of Individual Psychology: Treatment of Impotence ... 1117

REVIEWS

Psychopathology 1118
Venereal Diseases 1118
Hereditary Optic Atrophy 1118
The Smethurst Case 1119
Medical Diagnosis 1119
Notes on Books 1120
..... 1121

UNIVERSITIES AND COLLEGES

University of Cambridge 1142
University of London 1142
University of Glasgow 1142
University of Liverpool 1142
Society of Apothecaries of London ... 1142

LEADING ARTICLES

Welfare of the Blind 1122
Aspects of the Cancer Problem 1123

THE WEEK

Kitasato 1123
The Wassermann Reaction 1123
National Physical Laboratory 1124
Limitation of Dangerous Drugs 1124
A Survey of Disease in Sierra Leone ... 1125
Manson House 1125
South African Medical Congress 1126
International Society of Surgery 1126

GENERAL ARTICLES AND NEWS

Sir Charles Hastings Memorial Fund: First List of Subscribers 1127

Diet and Disease in Native Races in the Tropics. By Col. R. McCarrison 1130

Mortality from Tuberculosis. Report by the Health Section of the League 1127

The Lister Institute. Annual Report 1129

King Edward's Hospital Fund 1130

Medical Notes in Parliament: National Health Insurance Benefits 1142
Foot-and-Mouth Disease 1142

Medical News 1144

LOCAL NEWS

Scotland—
Health of Scotland 1131
Edinburgh Hospital for Sick Children 1132
Aberdeen Nurses' Home 1133

Ireland—
Royal Medico-Psychological Association in Dublin 1133
Royal Victoria Hospital, Belfast 1133
Lurgan Hospital Reconstruction 1133
Health of Kildare School Children ... 1133

England and Wales—
Home Ambulance Service 1134
Presentation to Dr. Griffith of Hove 1134
Bio-Physical Assistants the Guests of the Apothecaries 1134

OBITUARY

Baron Shibasaburo Kitasato. (With Portrait) 1141

THE SERVICES

Indian Medical Service 1143
Deaths in the Services 1144
(*For Naval, Military, and Air Force Appointments see* Supplement)

CORRESPONDENCE

Treatment of Dysmenorrhoea. By Alice E. Sanderson Clow, M.D. 1135
Significance of Haemoptysis. By L. S. T. Burrell, M.D., F.R.C.P. 1135
Pseudo-Argyll Robertson Pupils with Absent Tendon Reflexes. By F. Parkes Weber, M.D., F.R.C.P. 1135
Operation for Cataract. By R. H. Elliot, M.D., F.R.C.S.; F. J. Allen, M.D.; and H. M. Traquair, M.D. 1135
Nutritional Value of Milk. By D. L. Tucker, M.R.C.S., D.P.H. 1136
The Causation of Stone in India. By Sir James Barr, M.D., F.R.C.P. 1137
Diet and Disease. By Vaughan Pendred, M.D., F.R.C.S. 1133
Treatment of Brain Abscess. By H. V. Forster, M.B., M.Sc. 1139
Refresher Courses for Ship Surgeons. 1139
Gonococcal Infection. By I. N. Orpwood Price, M.R.C.S. 1139
Treatment of Asthma by Minute Doses of Tuberculin. By A. Tennyson Smith, M.D. 1140
Schistosome Worms and Schistosome Monsters. By Marjorie Hutchins ... 1140
African Tick Fever. By Edward Hindle, Sc.D. 1140

LETTERS AND ANSWERS

Scleroderma with Pernicious Anaemia 1145
Urticaria 1145
Income Tax 1145
A Simple Method of Measuring Noise ... 1145
A Substitute for Hand Towels 1146
Femoral Thrombosis in Pneumonia ... 1146
Definition of "Cancer" 1146
A Cocoa and Chocolate Centenary ... 1146
Medical Golf 1146
The Children's Clinic 1146
..... 1146
Vacancies 1146
(*See also page* 275 *of* Supplement)

The Supplement contains:

British Medical Association: Supplementary Report of Council, 1930-31.

Medical Patents: Letter by Dr. H. H. Dale, F.R.S.

Dr. F. W. Goodbody's Presidential Address to the Metropolitan Counties Branch.

Essex Public Medical Service.

Correspondence: Benedict's Solution for Insured Persons.

Books Added to the Library.

Association Notices; National Insurance; Vacancies and Appointments; Diary.

An epitome of current medical literature will be found at the end of the Journal

THE MEDICAL DEFENCE UNION

Annual Subscription, £1. Entrance Fee, 10/-.

No entrance fee to those joining within 12 months of registration. Assets exceed £55,000.

In addition to the ordinary benefits of membership, each Member is provided with unlimited indemnity (subject to the provisions of the Articles of Association) against damages and costs awarded in any case which is undertaken by the Union on his behalf.

Full particulars, and forms of application for membership, can be obtained from the Secretary, 49, Bedford Square, W.C.1.

INDEX TO ADVERTISERS.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated.

PUBLISHERS.

Churchill, J. & A.
Beaumont & Dodds—Recent Advances in Medicine 3
Bourne, A. W.—Recent Advances in Obstetrics & Gynæcology 3
Piney, A.—Recent Advances in Microscopy 3
Q Charlotte's Pract. of Obstetrics 3
Thresh & Beale's Simple Method of Water Analysis 3

Lewis, H. K., & Co. Ltd.
Elliot, R. H.—Couching for Cataract 4
Glaucoma 4

Longmans, Green & Co. Ltd.
Bainbridge, F. A.—Physiol. of Muscular Exercise 4

Oxford Medical Publications.
Elliot, R. H.—A Treatise on Glaucoma 4
The Care of the Eyes 4
Tropical Ophthalmology 4

Oxford University Press.
Price, F. W.—Dis. of the Heart 3

Straker Bros., Ltd.
Lloyd, W.—Hay Fever, etc. 4

ASSURANCE COMPANIES—
Century Insurance Company 51
Medical Insurance Agency 7

BRASS NAME PLATES, &c.—
Cooke's Name Plates 4
Herd, S. J. & A.—Name Plates 4
Lewis & Co. Ltd.—Name Plates 30
Osborne, F. & Co.—Name Plates 30

DEBT COLLECTION—
Brit. Med. Protection Society 31

FOOD PREPARATIONS—
Brand's Essences 17
Cow & Gate Ltd.—Peptalac Cover iii
Fassett & Johnson—Cream of Wheat 20
Glaxo Laboratories—Sunshine Glaxo 29
Soya Flour Manufacturing Co.—Soyolk 22
Trufood Ltd.—Humanised Trufood 16
Valentine's Meat-Juice 14
Wander, Ltd.—Ovaltine 21

HOSPITAL, &c., FURNITURE—
Lawson Tait—Bedsteads 30

MOTOR CARS, TYRES, &c.—
Lodge Sparking Plugs 4
Mann Egerton & Co. Ltd.—Motors Cover i
Offord & Sons Ltd.—Motor Cars 10
Second-hand Motors for Sale 50

PRINTING & STATIONERY—
Anderson & Son—Account Forms 30
Lewis's Card Index System 3
Taylor's Typewriters 30

TAILORING & UNDERCLOTHING—
Gieves, Ltd.—Tailors, etc. 11
Hall, H.—Medical Service Dress 50
Miller & Co. Ltd.—Tailors 4
The Irish Linen Mesh Co. Ltd.—Empire Linen Mesh Underwear 30

VACCINES & CULTURE MEDIA—
Laboratories of Path. & Pub. Hlth. 4

X-RAY & ELECTRO-MEDICAL APPARATUS—
Edison Swan Electric Co. Ltd.—Ediswan Stationary Batteries 6
Kodak—Metal X-Ray Cassette 9
Medical Supply Association, Ltd.—Diathermy Apparatus 29
Thermal Syndicate Ltd.—Vitreosil Sunshine Lamp 10

CHEMISTS, &c.—
Allen & Hanburys Ltd.—Allenburys' Diet 26
Tablets 'B.S.C.' 19
American Apothecaries Co.—'Salvitae' 17
Boots Products 18,23
British Drug Houses Ltd.—Acriflavine 21
Burroughs Wellcome & Co.—Preparations 27
Cranbux Ltd.—Odol 28
Curson, Gerrard & Co. Ltd.—Regulol 30
Dimol Laboratories—Dimol 20
Evans Sons Lescher & Webb Ltd.—Hepatex 24,25
Gibbs Dentifrice 17
Hoffmann-La Roche Chem. Works—'Omnopon' 15
Kaylene Ltd.—Kaylene-ol 13
Kerol Ltd.—Capsules 4
Laboratoires Lobica—Lactobyl 22
Martindale, W.—'Sterules' 30
May & Baker, Ltd.—'Gardenal' 19
Mond Staffordshire Refining Co.—Monsol 16
Newbery & Sons, Ltd.—Anusol 18
Oppenheimer Products 14
Peat Products Ltd.—Sphagnol 12
Roberts & Co.—*Dismenol* 12
Saccharin Corporation Ltd.—Novocain 13
Sandoz Chemical Works—Calcium-Sandoz Cover iv
Thomson, R.—Cod-Liver Oil Cream 15
Wyleys Ltd.—Elixir Bromo-Valerian Co 13

SURGICAL APPLIANCES—
Bailey & Son—Surgical Belts 31
British Drug Houses Ltd.—Ureamometer Outfit 23
Curtis & Son—Supports 11
Dent's 'Ardente' Stethoscope 30
Fleming & Co.—Surgical Equipment 11
Hilliard's New Absorbent Rags 4
Medical Surgical Sundries, Ltd.—Esseff Inhaling Apparatus 50
Millikin & Lawley—*Instruments, Osteology, etc.* 30
Salmon, Odv.—Surgical Appliances 3
Salt's Surgical Service 8
Short & Mason—Tycos Sphygmomanometer 4
Smith & Nephew Ltd.—Elastic Plaster Bandage Cover ii

TOBACCO & CIGARETTES—
Player's No. 3 6

TRANSLATIONS, TYPEWRITING—
Radford, B.—Typewriting, &c. 49

BATHS, SPAS, &c.—
Bridge of Allan Spa 38
British Spas Federation 37
Swiss Spas 38
Trefriw Chalybeate Wells 33
Vichy, France 38
Wildbad 39

HYDROS & PRIVATE HOSPITALS—
Bournemouth Hydro 37
Peebles Hydro 37
Ruthin Castle, North Wales 33
Smedley's Hydro, Matlock 35

INEBRIETY—
Bay Mount, Paignton 32
Caldecote Hall, Nuneaton 32,35
Dairymple House, Rickmansworth 32
'Old Mill House,' Chislehurst 32
Rendlesham Hall, Woodbridge 32

SANATORIA—
Brompton & Frimley Sanatorium 35
Cotswold Sanatorium 36
East Anglian Sanatorium 35
Grampian Sanatorium 35
Lyford Sanatorium, Hants 37
Monenna Hall, Switzerland 37
Mundesley Sanatorium 35
Nordrach-upon-Mendip Sanatorium 36
Tor-ra-Dee Sanatorium 36
Victoria Sanatorium, Davos 35

CONTRACT PRACTICE & OTHER APPOINTMENTS—
IMPORTANT NOTICE—RE APPOINTMENTS 47

HOSPITAL, &c., VACANCIES—
Accrington, Victoria Hospital 43
Ashford Hospital, Kent 42
Barking Town Urban District 43
Barnsley, Beckett Hosp'tal 41
Bath, Royal United Hospital 45
Birmingham City 45
Birmingham & Midland Eye Hosp. 44
Birmingham, Midland Hospital 45
Bolingbroke Hospital, S.W.11 44
Bolton Infirmary & Dispensary 45
Bradford Royal Eye & Ear Hosp. 43
Bridgwater General Hospital 41
Brighton County Borough 42
Burslem Haywood & Tunstall Hos. 42
Bury Infirmary 46
Cambridge, Addenbrooke's Hosp. 45
Central London Ophthalmic Hosp. 47
Cen. London Throat & Nose Hosp. 47
Chichester, Royal W. Sussex Hosp. 50
City of London Hospital, E.2 46
Connaught Hospital, E.17 43
County Armagh Mental Hospital 43
Coventry & Warwickshire Hospital 44
Dudley, The Guest Hospital 46
Durham County Hospital 44,45
E. London Hosp. for Children, E.1 45
Eccles & Patricroft Hospital 44
Edinburgh Royal Hospital 44
Exeter, Royal Devon Hospital 51
Gloucestershire Royal Infirmary 43
Grosvenor Hospital for Women 45
Harrogate General Hospital 44
Harrogate Infirmary 44
Hull Royal Infirmary 45
Hull, Victoria Hospital 40
Hospital for Consumption, S.W.3 46
Indian Medical Service 41
Inverness, Royal Northern Infirm. 46
Ipswich, East Suffolk Hospital 44
Kent & Canterbury Hospital 46
King's College Hospital 44
King's Lynn, W. Norfolk Gen. Hos. 44
Lancashire County Council 43
Leicestershire County Council 45
Liverpool, Bootle General Hosp 44
Liverpool, David Lewis Hospital 44
London County Council 42,45
London Hospital, E.1 44,46
London (Royal Free Hospital) 42
London Jewish Hospital, E.1 47
Manchester Hosp. for Consumption 50
Manchester Royal Children's Hosp. 45
Manchester Royal Eye Hospital 43
Middlesex Hospital Medical School 42
National Hospital, W.C.1 51
Nat. Hospital for Dis. of the Heart 47
Nelson Hospital, S.W.20 43
Newcastle, Royal Victoria Infirm 43
Newport, Royal Gwent Hospital 46
Nottingham General Hospital 47
Oldham Royal Infirmary 47
Orkney County Council 45
Portsmouth City 42
Queen's Hosp. for Children, E.2 41
Queen Mary's Hospital, E.15 50
Radium Institute, W.1 43
Rochester, St. Bartholomew's Hosp. 45
Rotherham Hospital 45
Royal Free Hospital, W.C.1 44,46
Royal Waterloo Hospital, S.E.1 45
Samaritan Free Hosp. for Women 44
Sheffield Children's Hospital 47
Sheffield City 43,45
Sheffield Royal Infirmary 44
Southampton Free Eye Hospital 50
Southampton, Royal S. Hants Hos. 43
South Shields, Ingham Infirmary 46
Stockton & Thornaby Hospital 43
Swansea General & Eye Hospital 46
Sunderland Children's Hospital 46
Sunderland Royal Infirmary 45
Wallasey, Victoria Central Hosp. 43
Walsall County Borough 43
Walsall General Hospital 51
Westmorland Sanatorium 45
Willesden General Hospital 44
Wolverhampton County Borough 42
Wolverhampton Royal Hospital 45
Worcester General Infirmary 45

SCHOOLS, &c.—
Marlborough College, Macclesfield 40
Eton—Schools for Boys & Girls 39
Taunton School, Taunton 39

HOMES & ASYLUMS—
Barnwood House, Gloucester 34
Bishopstone House, Bedford 32
Boreatton Park, Salop 37
Brooke House, Clapton, E. 35
Camberwell House, S.E.5 33
Cheadle Royal, Cheshire 35
Chiswick House, Pinner 34
City of London Mental Hospital 32
Clarence Lodge, Clapham Park 35
Coppice, Nottingham 34
Court Hall, Kenton, Exeter 34
David Lewis Colony, Warford 34
Fenstanton, Streatham Hill 34
Gilgal Hospital, Perth 32
Grange, near Rotherham 35
Grove House, All Stretton 35
Haydock Lodge, Lancashire 34
Highfield Hall, St. Albans 35
Lawn, Lincoln 35
Littleton Hall, Brentwood, Essex 32
Maudsley Hospital, S.E.5 34
Moat House, Tamworth, Staffs 37
Normansfield, Teddington 35
Northumberland House, N.4 33
Northwoods, Bristol 32
Old Manor, Salisbury 33
Oxher Grove, Middlesex 33
Peckham House, S.E.15 33
St. Andrew's Hosp., Northampton 34
Springfield House, near Bedford 37
Stonycrest Nursing Home 35
Stretton House, Shropshire 35
Trkeford Abbey, Newport Pagnell 34
Woodlands Park, Great Missenden 32
Woodside Nerve Hospital, N.10 33
Wye House, Buxton 37

HOTELS & HEALTH RESORTS—
Beau-Rivage Hotels 35

MEDICAL SCHOOLS, &c.—
City of London Maternity Hospital 39
College of Preceptors 40
Glasgow Post-Graduate Med. Assoc. 39
Liverpool School of Trop. Medicine 39
London University 41
London School of Hygiene &c. 39
Middlesex Hospital Medical School 39
Nat. Post-Grad. Sch. of Radiotherapy 49
N.-E. London Post-Grad. College 39
Salvation Army, Mothers' Hospital 40
Society of Apothecaries 39
West London Hospital 39

TUTORS & LECTURERS—
Birmingham University 40
Exams.—Med. Corresp. College 49
F.R.C.S. Edin. Classes—H. C. Orrin 39
F.R.C.S. Ed. Classes—C. Whittaker 47
Manchester Tutorial College 39
Stammering—Miss E. Behnke 40
Stammering—Mr. E. Miall 40
University Exam. Postal Institution 40

TRANSFER AGENTS—
Borril Medical Agency, Ltd. 56
British Medical Bureau 53,54,55
Lee & Martin, Ltd. 53
Manchester Medical & Schol. Assoc. 52
Med. Practitioners' Union Agency 53
Needes, H. 51
Peacock & Hadley, Ltd. 48,52
The Medical Agency 43,51
Turner, P., Ltd. 52
Western Medical Agency, Bristol 52

ASSISTANTS, PRACTICES, &c.—
Assistancies Wanted and Vacant 49
Dispensers, Medical Posts, &c. 49
Locums Wanted and Vacant 49
Partnerships Wanted and Vacant 43,49
Practices Wanted and Vacant 49

NURSING INSTITUTES—
Cavendish Nurses 51
New Mental Nurses Co-operation 51
Nurses' Association 51

MISCELLANEOUS—
Consulting Rooms, &c., to Let 50
Frigidaire Ltd.—Refrigeration 5
Frigidaire Ltd.—Refrigeration 50
Income Tax Consultant—Hardy 1
Medical Defence Union 50
Miscellaneous Sales &c. 51
Union-Castle Line—South Africa 31

It must be understood that the acceptance by the British Medical Association of an Advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.

The Issue of the BRITISH MEDICAL JOURNAL is this week 39,000 copies.

J. & A. CHURCHILL

Six Editions in Seven Years.

RECENT ADVANCES IN MEDICINE

By G. E. BEAUMONT, D.M., Physician, Middlesex Hospital, and E. C. DODDS, M.V.O., M.D., Prof. of Biochemistry, Univ. of London.

Sixth Edition. 51 Illustrations. 12s. 6d. Postage 9d.

THRESH & BEALE'S SIMPLE METHOD OF WATER ANALYSIS

Tenth Edition. 3s. Postage 2d.

25th Volume of the "RECENT ADVANCES" SERIES.

RECENT ADVANCES IN MICROSCOPY: Biological Applications

By A. PINEY, M.D., Director Pathological Department, Cancer Hospital.

CONTENTS: Medical—by A. PINEY, M.D.; Microscopy of the Living Eye—by BASIL GRAVES, M.C., D.O.M.S.; Zoological—by E. W. MacBRIDE, F.R.S., and H. R. HEWER, A.R.C.S., D.I.C.; Botanical—by E. C. BARTON-WRIGHT, M.Sc.

83 Illustrations. 12s. 6d. Postage 6d.

BOURNE'S RECENT ADVANCES IN OBSTETRICS & GYNAECOLOGY

Second Edition. 67 Illustrations. 12s. 6d. Postage 6d.

By A. W. BOURNE, F.R.C.S., Obstetric Surgeon, St. Mary's and Queen Charlotte Hospitals.

"... useful and readable, and Mr. Bourne will receive the thanks of many of his colleagues for the work which he has put into it."—BRITISH MEDICAL JOURNAL.

THE QUEEN CHARLOTTE'S PRACTICE OF OBSTETRICS

Second Edition. 4 Coloured Plates, 274 Text-figures. 18s. Postage 9d.

By the following members of the Hospital Staff: J. BRIGHT BANISTER, ALECK W. BOURNE, T. B. DAVIES, C. S. LANE-ROBERTS, L. G. PHILLIPS, L. C. RIVETT.

London: J. & A. CHURCHILL, 40, Gloucester Place, Portman Square, W.1

DISEASES OF THE HEART

THEIR DIAGNOSIS, PROGNOSIS, AND TREATMENT BY MODERN METHODS.

With chapters on the Ink Polygraph, Clinical Electro-Cardiography, X-Ray Examination, and Anaesthesia in Relation to Cardio-Vascular Affections.

By FREDERICK W. PRICE, M.D., F.R.S.(Edin.), Senior Physician to the National Hospital for Diseases of the Heart; Consulting Physician to the Royal Northern Hospital, London.

Demy 8vo. Pp. 534. With 249 text figures, including 32 sphygmograms, 92 polygraphic tracings, and 87 electro-cardiograms.

NEW SECOND EDITION, 21s. net.

"By great care and by the use of an amazing amount of material, he has accomplished what many readers have been waiting for, giving us a complete account of the diagnosis, prognosis, and treatment of heart diseases by modern methods in association with all the invaluable teaching bequeathed to us by the older masters of clinical observations."—LANCET.

"The most valuable guide to the study of Cardiology with which we are acquainted."—NEW YORK MEDICAL JOURNAL AND RECORD.

"We think that most of our readers engaged in general practice will find this work extremely useful."—THE JOURNAL OF CLINICAL RESEARCH.

"In our opinion the book is indisputably the most authoritative contribution to cardiology of our time."—FRANCO-BRITISH MEDICAL REVIEW.

"A book which we believe is destined to remain the standard work on Cardiology for many years to come."—AMERICAN MEDICINE.

"The second edition of this popular work on heart disease bears evidence of thorough revision, while the essentially clinical standpoint of the writer is maintained."—EDINBURGH MEDICAL JOURNAL.

"It may be said at once that the book adequately fulfils the purpose it has in view, and is a perfectly sound, lucid, and reliable guide."—NEWCASTLE MEDICAL JOURNAL.

"Well-written, concise, and complete, containing a wealth of practical information. Obviously based upon the author's own experience and investigative work."—SURGERY, GYNECOLOGY, AND OBSTETRICS (Official Journal of the American College of Surgeons).

"Dr. Price is to be congratulated again on the reappearance in its second edition of his distinguished contribution to the increasingly important subject of Cardiology."—THE CANADIAN JOURNAL OF MEDICINE AND SURGERY.

OXFORD UNIVERSITY PRESS, Amen House, Warwick Square, London, E.C.4.

ARE YOU SATISFIED with YOUR BOOK-KEEPING SYSTEM?

LEWIS'S CARD INDEX SYSTEM is the simplest and most practical.

It is an efficient and increasingly popular one.

Sample Cards and Particulars sent post free on application.

H. K. LEWIS & CO. LTD. (MEDICAL STATIONERY DEPT.), 136, Gower Street, London, W.C.1

If you have a difficult case of Hernia send your patient to be properly fitted with a SALMON ODY BALL & SOCKET TRUSS Perfect support. Perfect resiliency. Perfect freedom of movement. The most scientific truss ever devised.

SALMON ODY

LTD.

Highly recommended by the Medical Profession

7, NEW OXFORD STREET, LONDON, W.C.1

Telephone - - - Holborn 3805

THE SALMON ODY SPIRAL SPRING ARCH SUPPORTS

The best Medical authorities are agreed that rigid plates are injurious and are prescribing these supports for foot troubles—tired, aching feet, weak insteps, or rheumatic pains. 15s per pair. Metatarsal 18 6 per pair. State size of to tweer when ordering.

Estab. 121 years.

By Lt.-Col. ROBERT HENRY ELLIOT, M.D., B.S.Lond., F.R.C.S.Eng., I.M.S.(rtd.).

A TREATISE ON GLAUCOMA.
Second Edition. Revised and Enlarged, 1922. With 215 Illustrations, 30s. net.

TROPICAL OPHTHALMOLOGY
7 Plates and 117 Illus. 31s. 6d. net. Spanish and French Eds., 1922. Full German Abstract.

THE CARE OF EYE CASES
FOR NURSES, PRACTITIONERS & STUDENTS. With 135 Illustrations. 12s. 6d. net. Chinese Edition.
THE OXFORD MEDICAL PUBLICATIONS.

GLAUCOMA:
FOR THE GENERAL PRACTITIONER. With 23 Illustrations. 4s. net.

COUCHING FOR CATARACT.
With 45 Illustrations. 7s. 6d. net.
H. K. LEWIS & CO., LTD.

THE PHYSIOLOGY OF MUSCULAR EXERCISE
By F. A. BAINBRIDGE, F.R.S.,
Late Professor of Physiology, Univ. of London.
Third Edition. Rewritten by A. V. BOCK, M.D., Ph.D.; and D. B. DILL, Ph.D.
With Diagrams. 8vo. 15s. net.
LONGMANS, GREEN & CO. LTD., 39, Paternoster Row, London, E.C.4

Just Published.
Third Edition. 132 pages. 5/- net.
HAY FEVER HAY ASTHMA
By WILLIAM LLOYD.
STRAKER BROTHERS, LTD., 194-200, Bishopsgate, London, E.C.2

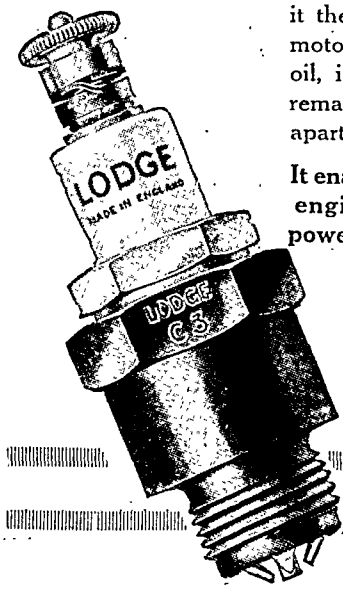
FREQUENT MICTURITION.
"YBWET" ABSORBENT BAGS
Male day pattern 35/-.
New Model Female day pattern 42/-.
"DUPLEX" BAGS
Male or Female, day and night, 70/-.
"SANITUBE"
For helpless, bedridden patients, 70/-.
Our bags catch all leakage, easing mind and body. Invisible under clothing and easily emptied. Now worn world wide. Special patterns for motorists and aviators.
Diagrams, etc., on request from:
HILLIARD, 123, Douglas Street, Glasgow, C.2.

NAME PLATES
FOR THE PROFESSION.
Brass Plates, deeply engraved, letters filled with black wax, mounted on mahogany blocks.
Bronze Plates, letters filled with vitreous cream enamel, mounted on oak blocks.
With fastenings ready for fixing.
SEND FOR ILLUSTRATED CATALOGUE.
COOKE'S (Finsbury) Ltd. Signs Dept.
FINSBURY PAVEMENT HOUSE, MOORGATE, LONDON, E.C.2. Tel.: Metropolitan 5704.

Tycos MANUFACTURED by SHORT & MASON LTD WALTHAMSTOW LONDON, E.17
SPHYGMOMANOMETERS

NAME PLATES
in BRONZE & ENAMEL—BRASS; also CHROMIUM PLATE. Send details for sketch or leaflet
S. J. & A. HERD,
30, CLERKENWELL ROAD, E.C.1.

THE
LODGE
SPARKING PLUG



possesses just those qualities that make it the finest plug in the world for all motor cars. It is unaffected by soot or oil, its powers of heat resistance are remarkable, while it can be readily taken apart should cleaning be necessary.

It enables the modern high-efficiency engine to develop its maximum power under all running conditions.

LODGE C3
the plug for nearly all English and Continental engines.
5/-
everywhere
in sealed metal box (red).

LODGE PLUGS LTD., RUGBY.

B. MILLER
& Co., Ltd.
17 CONDUIT ST.
BOND STREET,
LONDON, W.1

TAILORS
Estd. 1896

LOUNGE SUITS
from
£8 : 8 : 0

DINNER SUITS
Lined Silk
from
£10 : 10 : 0

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH.
LABORATORY PRODUCTS
VACCINES
AUTOGENOUS AND STOCK.
Prepared under licence of the Ministry of Health; issued in ampoule and bottle, for prophylaxis or therapeusis.

ANTIVIRUS
Prepared under licence of the Ministry of Health; issued in eight varieties, for the treatment of Staphylococcal and Streptococcal infections of skin and mucous membranes.

B. ACIDOPHILUS INTESTINALIS
Live cultures for the treatment of constipation, intestinal putrefaction, etc.

CULTURE MEDIA
Issued in tube and in bulk.
Address enquiries to the Secretary, 6, HARLEY STREET, LONDON, W.1.

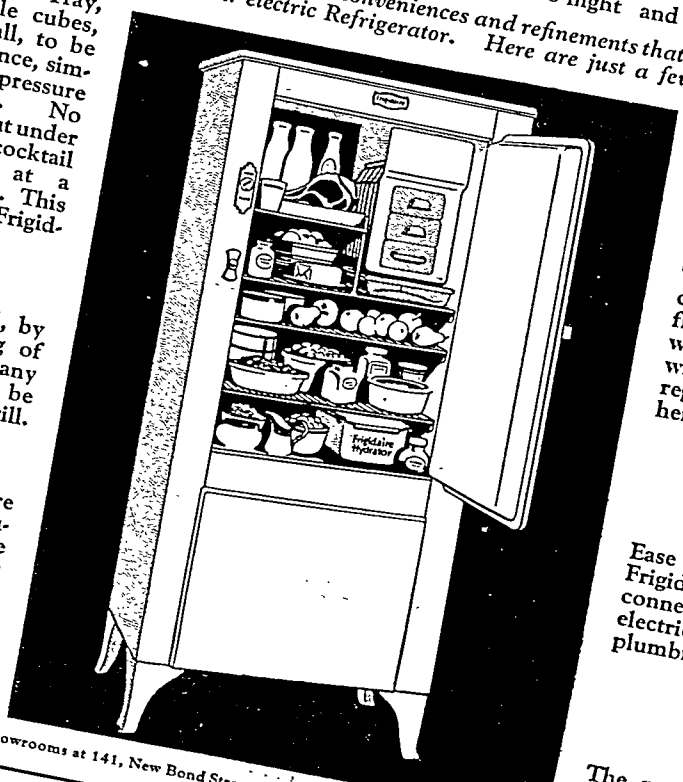
KEROL CAPSULES

You're always taking temperatures . . . but do you ever take the temperature of your own Larder?

JUST try the experiment. Remember that over 50° for your food is just as bad as over 100° for your patient. Over 50°, bacteria multiply in food 400 times faster than at temperatures below. And, apart from the health reasons, wouldn't it be comforting to know that your food was kept cold and appetising and fresh, in a snow-white all-porcelain Frigidaire, shut away from the dirt and flies, *automatically* prevented from "going off"? Perhaps you've been promising yourself a Frigidaire—then send in the coupon to-night and see how little it costs!

Frigidaire incorporates all the conveniences and refinements that you would wish to have in your electric Refrigerator. Here are just a few of them.

The Quickube Ice Tray, enabling single cubes, or many, or all, to be extracted at once, simply by a light pressure of the finger. No melting them out under the tap. Your cocktail ice is ready at a moment's notice. This is an exclusive Frigidaire feature.



Practical flat top, makes a useful shelf.

The Hydrator—a *moist* cold compartment, for fresh vegetables, sandwiches, etc. Even wilted vegetables will regain their crispness here in a few hours.

The Cold Control, by which the freezing of ice cubes or any frozen delicacy can be accelerated at will.

The automatic feature of Frigidaire is invaluable. It cuts out the human element with its forgetfulness and consequent waste. Frigidaire maintains a dry cold that is *always* under 50°—the only safe temperature for food.

Ease of installation. A Frigidaire only needs connection with your electric supply. No plumbing is necessary.

The new Frigidaire is quiet—you can't hear it start, stop or run.

Showrooms at 141, New Bond Street, London, W.1, and in all principal towns.

FRIGIDAIRE LIMITED (*Incorporated in Canada*), Dept. BG 276 Edgware Road, The Hyde, Hendon, N.W.9

COUPON

Please give me by return, without any obligation on my part,

(*a*) Price of Frigidaire cabinet suitable to my particular needs; or

(*b*) Particulars of your system of convenient deferred payments.

Name .....

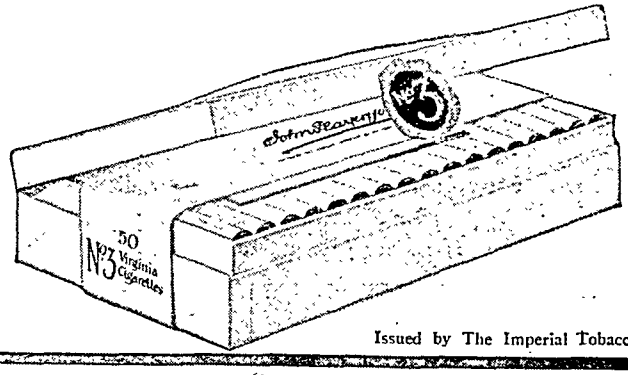
Address .....

.....

No. in Family .....

PLAYER'S No. 3

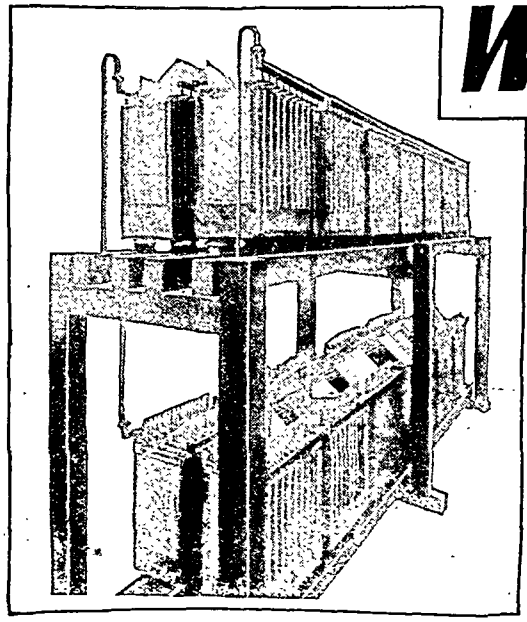
Made from a delightful blend of specially selected fine Old Virginia Tobacco



10 *for* 8D
20 *for* 1/4
50 *for* 3/3
100 *for* 6/4
WITH OR WITHOUT CORK TIPS

EXTRA QUALITY VIRGINIA

Issued by The Imperial Tobacco Company (of Great Britain and Ireland), Ltd. 3P38



When a life is at stake.....

The psychological moment has arrived. Will the operation be successful? . . . Can modern science triumph over such disease? . . . The surgeon bends closer over the table . . . deft fingers touching slender instruments . . . a life is at stake . . . if the lights should fail, plunging the theatre into darkness . . .

Nowhere is reliable light supply more important than in operating theatres. A light failure may have far-reaching consequences. Every hospital should be equipped with Ediswan Stationary Battery. Then if current fails, a switch over to the Ediswan saves the situation and restores light almost immediately.

The Ediswan Stationary Battery for Emergency Lighting is compact and robust. It takes up little space and is sturdily built to give long service. Running costs are almost negligible. Installation costs are low.

May we co-operate with you in evolving a Battery specially to suit your requirements?

THE EDISON SWAN ELECTRIC CO. Ltd.
123/5, Queen Victoria St., London, E.C.4
Branches in all the Principal Towns.

EDISWAN STATIONARY BATTERIES

B.121

THE
MEDICAL INSURANCE AGENCY
has arranged

LIFE and ENDOWMENT, EDUCATIONAL ENDOWMENTS, CHILDREN'S DEFERRED ASSURANCES, &c., on behalf of members of the profession for Sums Assured totalling over

TWO MILLION POUNDS

If you are contemplating effecting any policy write the Agency, which will be pleased to give you a considered opinion.

The Agency has also arranged the

"Doctor's Special Policy"

(Underwritten at Lloyd's)

for the **Insurance of Cars.**

Comprehensive "Cover." Moderate Premiums. Security.

SPECIAL RATES FOR MORRIS CARS.
BONUSES FOR NO-CLAIMS ALLOWED ON TRANSFER.
SPECIAL COMPENSATION CLAUSE. AGREED VALUES WHERE DESIRED.

Write for a prospectus, stating Make of Car, Horse-power, Date of Manufacture, and Present Value, when a quotation will be sent you.

Household, Fire, Accident, Sickness (Permanent Contracts), &c., Insurances under comprehensive policies, giving full protection.

What the Agency has done for the Profession:

Saved by way of Rebates on Premiums - - over £44,000
Contributed to the Medical Charities - - - over £26,000

THE MEDICAL INSURANCE AGENCY
(LIMITED BY GUARANTEE)
c/o B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1, &
c/o B.M.A. HOUSE, 7, DRUMSHEUGH GARDENS, EDINBURGH

WHICH EXISTS TO PROTECT YOUR INTERESTS AND SAVE YOUR MONEY.

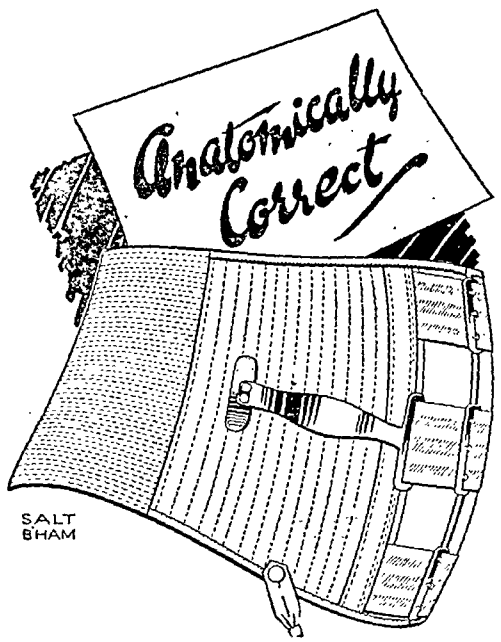
SURGICAL SERVICE
SALTAIR

SALTAIR SURGICAL SERVICE

Guarantee

"We guarantee to alter, exchange, or accept the return of any appliance without cost, ordered by the Medical Profession, if not found suitable within fourteen days from date of supply."

Salt and Son Ltd.



SALTS Patent KIDNEY BELT

A Belt which has been designed in conjunction with eminent Medical Men and which has carried the warmest commendation everywhere on account of its efficiency.

¶ **Note**
Retains kidneys in normal position and affords general abdominal support.

¶ ¶ **And** ———
It can be supplied in materials and styles to suit the means of every patient.

✱ Made . . . as in the case of ALL Saltair Appliances, under the terms of our special Guarantee.

'Phone London - Museum 3845.
'Phone B'ham - Midland 5455.

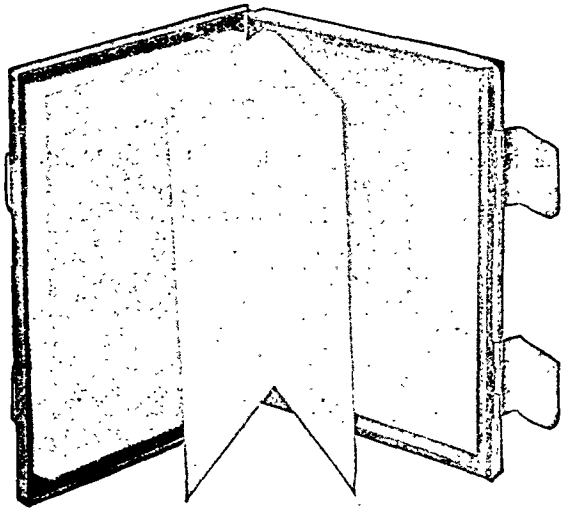
London Consulting Rooms:
"OAKLEY HOUSE,"
14-18, Bloomsbury Street, W.C.1.
Female Fitters in attendance Monday to Friday.
Orthopaedic Mechanician Wednesdays only.
By Appointment.

SALT AND SON LTD.
7, CHERRY ST., BIRMINGHAM.

COPYRIGHT

ESTABLISHED 1793

"Kodak"
Metal X-Ray Cassette

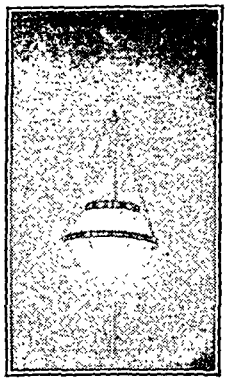


Simple and efficient.

The convenient book-form and absence of heavy back spring makes loading and unloading exceedingly simple.

Effective contact is ensured.

Kodak Limited, (Medical Dept.)
Kodak House, Kingsway,
London, W.C.2.



The VITREOSIL Sunshine Lamp

here illustrated is designed to give a light which is the equivalent of Sunshine in its effects. - - - -

Careful records show that in offices where it is in use time lost through colds and similar ailments is very much reduced.

Write for descriptive booklet (post free) to the Sole Manufacturers:

THE THERMAL SYNDICATE LTD.
(Established over a Quarter of a Century)
Vitreosil Works - WALLSEND-ON-TYNE
London Depot: Thermal House, Old Pye Street, S.W.1.

BUY BRITISH AND SAVE 33⅓% IMPORTATION TAX

The field for Diathermy Current applications is rapidly increasing

DIATHERMY

MEDICAL AND SURGICAL

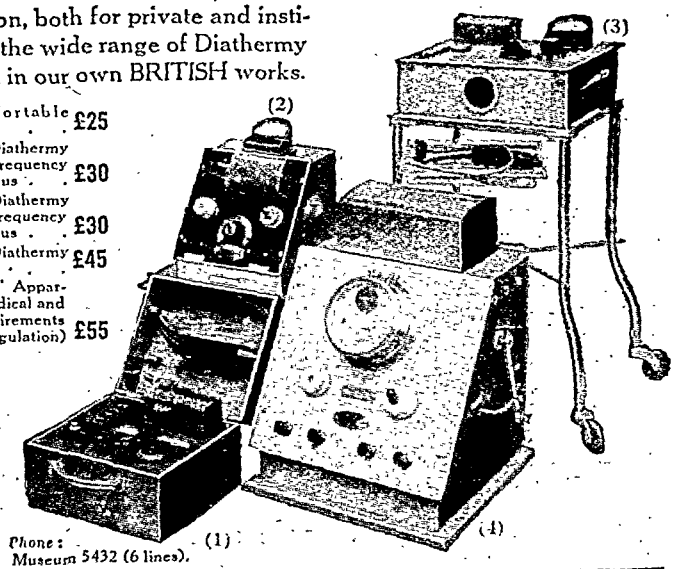
EVERY requirement of the profession, both for private and institutional purposes, is provided for in the wide range of Diathermy Apparatus designed and manufactured in our own BRITISH works.

Machines available:—

FOR SURGERY
e.g.: Surgical cutting by High Frequency indulations or coagulation.

FOR THE PHYSICIAN
for treatment purposes only.
also
FOR BOTH SURGICAL and MEDICAL.

No. 1. "EMESAY" Portable Diathermy £25
No. 2. "AMAZON" Diathermy and High Frequency Current Apparatus . . £30
No. 3. "MERIDIAN" Diathermy and High Frequency Current Apparatus . . £30
No. 4. "EQUATOR" Diathermy Apparatus £45
No. 5. "MEDITHERM" Apparatus for both Medical and Surgical requirements (cutting and coagulation) £55



Please write, 'phone or call to-day for illustrated Diathermy Catalogue No. B37.

MEDICAL SUPPLY ASSOCIATION, LTD.
167-185, Gray's Inn Road, London, W.C.1.
ACTUAL BRITISH MAKERS.

Phone: Museum 5432 (6 lines).

The Doctor's Car

NEW CARS of all the best makes for Immediate Delivery. Fairest allowances for old cars.

USED CARS properly overhauled, fully guaranteed. Special 14 days' Trial Scheme. List of over 70 cars on request.

HIRE PURCHASE on special terms up to Three Years. Strictly confidential, no outside Finance Company employed.

SERVICE after purchase of new and used Cars on most comprehensive basis. We aim to make your motoring economical and free from trouble.

REPAIRS of every kind, mechanical, coachwork or electrical, quickly executed to guaranteed delivery times. Good cars for use while your own is out of commission.

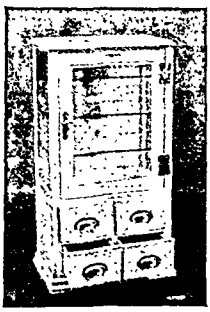
GARAGE convenient to Harley Street and West End consulting rooms. Leave your car and instruct your patient to come to us and avoid all parking troubles and risks. Low prices, courteous attention, every requirement.

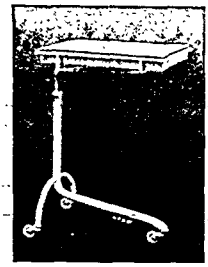
OFFORD & SONS LTD. Established more than a Century

67, GEORGE STREET, PORTMAN SQUARE, W.1.

Welbeck 6899. (Private Exchange.)
Grams: "Droffo, London."

A. FLEMING & CO. (Dept. "A"), 39, Victoria St., LONDON, S.W.1. Tel.: Victoria 4677.

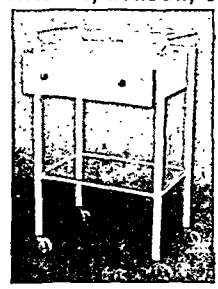


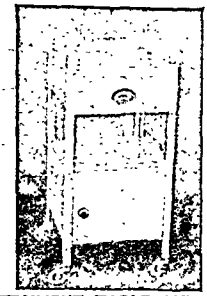


All Furniture despatched carriage forward. Crates, returnable, charged at cost.

A postcard will ensure our BRIEF ILLUSTRATED PRICE LIST of Surgical Instruments, Furniture and Appliances, also SPECIAL BARGAIN LIST of Government Surplus and Secondhand Instruments being sent immediately.

Enquiries for all Equipment invited. Lowest Prices for supply by return.



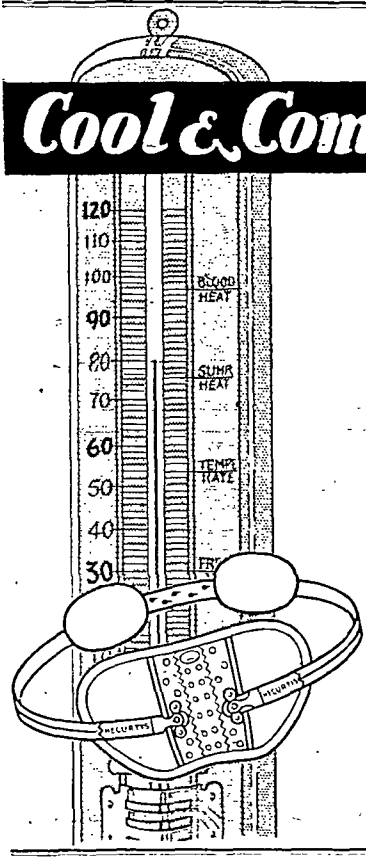


CABINET FOR INSTRUMENTS AND DRESSINGS. Glass Cabinet, 24 × 18 × 11 in., with 3 plate-glass shelves. Four drawers below. Overall height 36 in. £3.17.6

INSTRUMENT TRAY STAND. Tubular steel, white enamelled, adjustable for height. Mounted on rubber-tyred castors. Size of tray 24 × 16 × 2 in. deep on nickel-plated extending arm £4.2.6

DRESSING WAGON. Tubular steel, white enamelled, polished plate-glass top and lower shelf, divided metal drawer. Size 25 × 16 × 33 in. high £5.2.6
,, 30 × 18 × 33 in. ,, £6.2.6
With angle iron frame 15/- less each size

INSTRUMENT TABLE AND LOCKER. White enamelled iron, on rubber-tyred castors, size 16 × 16 × 33 in. 57/6
Without guard rail 52/6



Cool & Comfortable in Hot Weather-

AND THE MOST EFFICIENT SUPPORT ON THE MARKET!

The Curtis Abdominal Support Model No. 1 Skeleton type is lighter and more hygienic than any other support on the market, whilst its efficiency is in no way impaired. The average weight for a person with a hip circumference of 32" is only 10 ozs. All covering is detachable and washable, and each appliance is supplied with a spare set of covers at an inclusive charge of £3 : 12 : 0.

CURTIS

SKELETON TYPE

ABDOMINAL SUPPORT

Model No. 1.

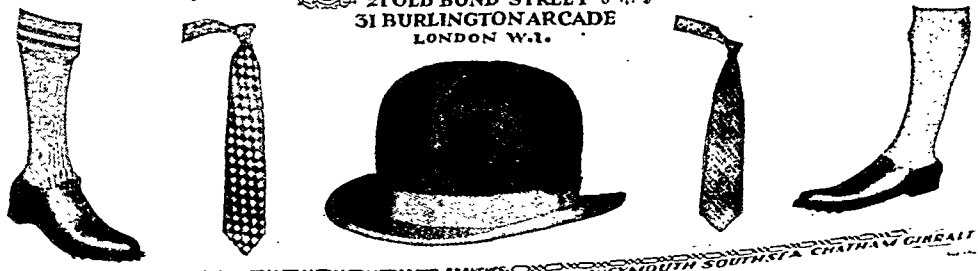
Sole Manufacturers of the Curtis Appliances:

H. E. CURTIS & SON LTD., 7, Mandeville Place, London, W.1.
Telephone: WELBECK 2921. Telegrams: WELBECK CURTIS 2921.

TAILORS HATTERS HOSIERS By Appointment

GIEVES LIMITED
21 OLD BOND STREET
31 BURLINGTON ARCADE
LONDON W.1.

OUTFITTERS Established 1785 By Appointment



BRANCHES: PLYMOUTH WEYMOUTH SOUTHSEA CHATHAM GIBRALTAR
PORTSMOUTH SOUTHAMPTON LIVERPOOL EDINBURGH MALTA

PEAT HEALS!

"I would be glad of a further trial sample of your Soaps and Ointments."

"I use Sphagnol largely, especially for Dermatitis and Prurigo—with great results."

Signed . . . . . M.D.

Sphagnol

APPROVED
PEAT OINTMENT

FOR FREE SAMPLE

WRITE TO PEAT PRODUCTS (SPHAGNOL) LIMITED (DEPT. B54), 21, BUSH LANE, LONDON, E.C.4

DISMENOL for instantaneous relief of pain in DYSMENORRHOEA

In spasmodic Dysmenorrhoea the primary call is for the elimination of pain, and the physician has a valuable weapon in Dismenol Tablets, which are entirely *free from narcotics.* This product is a sure and safe sedative in all cases of Dysmenorrhoea, possessing anti-spasmodic properties of a remarkable kind. A feeling of general well-being is substituted for the state of lassitude in the patient.

Please write for samples and literature (also formula) to—

ROBERTS & Co., 76, NEW BOND STREET, LONDON, W.1.

Pharmaciens to H.M. the King.

TO COUNTER ACIDOSIS

As SALVITAE contains 59% of Potassii et Sodii Citro-Tartras and 30% of Sodii Sulphas it is of great value both in maintaining health and in the treatment of disease, through eliminating deleterious nitrogenous products and favourably influencing circulation, glandular secretions, peristalsis, and *metabolism.*

The fruit acids of SALVITAE are converted in the system into potentially basic alkaline carbonates, thus enabling the blood to keep the uric acid compounds in solution, and facilitate their removal.

Write for samples and literature to

COATES & COOPER, LTD.,
41, Gt. Tower St., LONDON, E.C.3.
Sole Agents in the United Kingdom.

Two sizes, 4/6 and 7/-.

Saevitae

A formula that demonstrates its scientific value.

Manufactured by American Apothecaries Co., New York.

Kaylene-ol

FOR TOXÆMIAS OF INTESTINAL ORIGIN.

KAYLENE LTD., WATERLOO ROAD, CRICKLEWOOD, LONDON, N.W.2.

Telephone: GLADSTONE 1071 (2 lines). *Telegrams:* KAYLOIDOL, CRICKLE, LONDON.

WYLEYS LIMITED WHOLESALE DRUGGISTS **COVENTRY** *Established 1750.*

ELIXIR BROMO-VALERIAN CO.

Free from any disagreeable taste or odour.

Each fluid drachm (4 c.c.) contains:

Strontii Bromidi	5 gr.	Tinct. Adonis Vernalis	5 m.
Tinct. Valer. Deodorat.	10 m.	Tinct. Visci Alb.	5 m.

Useful for functional nervous affections, particularly in controlling epileptic seizures.

Price 5/- lb.

FULL LISTS ON APPLICATION

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905)

Local Anæsthesia in Surgical Practice

OPERATION ON NECK AND REMOVAL OF TESTICLE.

Typical Case.

S. J., male, aged 72 years.

Diagnosis: (1) Tuberculous cervical adenitis. (2) Tuberculous epididymitis and orchitis (right side).

Operation: (1) Block dissection of neck. (2) Right orchidectomy.

Anaesthesia: 77 c.c. of 0.5 per cent. Novocain-Adrenaline solution.

Operation: An infiltration block of the ilio-inguinal and ilio-hypogastric nerves, and as the cord was exposed it was thoroughly infiltrated. The pudic nerves were blocked, and the tuberculous testicle and epididymis were removed. The patient was allowed to leave the hospital in a few days, and he returned on March 3rd, 1920, at which time he had a complete dissection of the right side of his neck, using 120 c.c. 0.5 per cent. Novocain-Adrenaline solution.

—EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone:* MUSEUM 8096.

Australian Agents:
J. L. BROWN & CO.,
601, Little Collins Street, Melbourne.

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., LTD.,
128, Wakefield Street, Wellington.

In the Treatment of

HAY FEVER

OPPENHEIMER'S

NEBOLINE COMPOUND No. 20

(Eucaine Hydrochlor., gr. 18; Aqua Laurocerasi et Sol. Renaglandin, q.s. ad ℥ iv.)

NEBOLINE COMPOUND No. 20A

(As No. 20, with Ephedrine Hydrochlor. 1%)

These Compounds are specially prepared for use in the AERISER.

Supplied in 1-oz. bottles with labels, free from any indication as to the conditions under which the preparation should be employed.

OPPENHEIMER SON & CO., LTD.

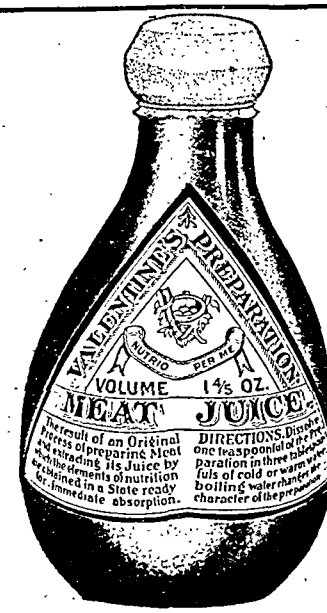
HANDFORTH LABORATORIES, CLAPHAM ROAD, LONDON, S.W.9

Valentine's Meat-Juice

IN Typhoid and other Fevers, Extreme Exhaustion, Critical Conditions, Before and After Surgical Operations, when Other Food Fails to be Retained, Valentine's Meat-Juice demonstrates its Ease of Assimilation and Power to Restore and Strengthen.

Clinical Reports from Hospitals and General Practitioners of Europe and America posted on application.

For sale by European and American Chemists and Druggists.



Valentine's Meat-Juice Co., Richmond, Vir., U.S.A.

JB 98

COD-LIVER OIL CREAM

Whenever there is occasion to prescribe Cod-Liver Oil this preparation will be found to fulfil all requirements as to palatability, ease of assimilation, and freedom from causing digestive disturbance.

It is specially indicated in cases of—

Delicate Children,

Bronchial conditions,

Enlarged Cervical Glands,

Persistent Coughs, etc.,

and as an ideal nutrient and strengthening agent after illness.

Supplied freshly prepared in bottles, 4/-, 7/-, and 10/-, by return, post free.

R. THOMSON, Chemist, 21, Abbey Street, ELGIN.

London Agents:

Messrs. SQUIRE & SONS, Chemists to H.M. the King, 413, OXFORD STREET.

'Omnopon' TOTAL OPIUM ALKALOIDS

"The Injectable Opium"

Coughs & Pulmonary affections.
Relief of Pain in Cancer.
Surgery, Gynæcology, etc.

THE HOFFMANN-LA ROCHE CHEMICAL WORKS Ltd., The 'Roche' Laboratories, 51, Bowes Road, London, N. 13.

A NAME WORTH REMEMBERING

HUMANISED TRUFOOD

You can place an infant on Humanised Trufood with absolute confidence that you have done the right thing. During the course of our experience we have successfully assisted hundreds of doctors to solve the most difficult cases of infant feeding. May we help you?

A FACT WORTH REMEMBERING—
HUMANISED TRUFOOD IS
NEAREST TO MOTHER'S MILK

Trufood Limited, The Creameries, Wrenbury, Nr. Nantwich, Cheshire

TF.56—221

. . *Because of these three qualities:—*

1 Its selective action on Gram-positive organisms.

2 Its efficiency in the presence of inflammatory exudates.

3 Its bland and penetrative powers.

Make a practice of prescribing

MONSOL

GERMICIDAL OINTMENT

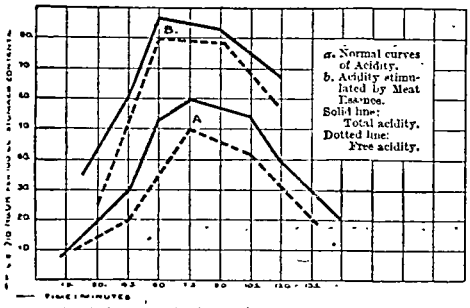
for the treatment of STREPTOCOCCAL and other forms of DERMATITIS.

Members of the Medical Profession who have once used Monsol Germicidal Ointment continue to do so. It has repeatedly proved its efficacy in cases of subcutaneous infection, septic sores, impetigo, eczemas, ringworm, and pruritus.

MONSOL BRAND

Sample for clinical trial will be sent to members of the Medical Profession on application to the Mond Staffordshire Refining Co., Ltd., Abbey House, Westminster, S.W.1.

Conserves the patient's energy—
no strain on the digestive system
when these essences are taken



Graph showing acidity found when meat essences are taken

BRAND'S

ESSENCES OF BEEF

OR CHICKEN

When the appetite needs stimulus, and the body needs to be invigorated without demands on the digestive system, Brand's Essences of Beef or Chicken have been found to be indispensable. Recent scientific tests have shown that these essences are assimilated by the digestive organs *forty minutes quicker* than ordinary foods and without the formation of any residue.

In convalescence and in all cases of intestinal disturbances, whether the lesion is catarrh or cancer; in states of exhaustion when the patient's recovery is hampered by anorexia; in specific fevers and in all disorders associated with pyrexia; in the post-influenzal state and before and after operations, these Essences supply energy and prepare the system to accept and digest a more solid diet.

Hygienically prepared by an exclusive process from the finest freshly-killed English meats, Brand's Essences of Beef or Chicken are suave and non-irritant in action. For these reasons 99 doctors out of every 100 recently interviewed, recommend them. Samples will be gladly sent on receipt of a professional card. Brand & Co. Ltd., Dept. F36, Mayfair Works, South Lambeth Road, London, S.W.8.

Proverbs Up-to-date No 1

FAMILIARITY BREEDS CONTEMPT

Are we not, at times, inclined to allow practical activities to cloud our perception of the familiar fact, that Dental Caries is an almost *incurable* disease?

As every doctor knows, this is one of those pathological conditions that show little, if any, tendency towards spontaneous cure, or even arrest, of its ravages.

The only scientific method of combating this affection is through preventive measures. And it is this truth that is the keynote of all Gibbs Advertising propaganda. Care of the teeth, cleanliness of the mouth, are urged as first principles.

In the great national and provincial newspapers; in the most widely read magazines, many millions of Gibbs messages are carried from end to end of the kingdom. And every message can be crystallised in that oft'-repeated phrase: "Visit your Dentist twice a year, and use Gibbs Dentifrice twice a day."

It is in such practical ways as these that Gibbs work hand in glove with Doctors and Dentists — never failing to depict them as the highest and final authorities on all matters connected with the teeth.

GIBBS DENTURE TABLET

Gibbs new Denture Tablet is for cleaning Dental Plates (both gold and vulcanite), Bridgework and artificial teeth. It gives a high polish, removes stains, makes plate or teeth sterile and antiseptic without in any way injuring the softest gold or the finest vulcanite or platinum. The product has been approved by important members of the Medical Profession.

Gibbs Dentifrice

BRITISH MADE

Literature, propaganda material, kinematograph films, leaflets, etc., as well as samples, are always freely at your disposal. Address: Dental Dept, 1WX, D. & W. Gibbs Ltd., London, E.1

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

IN HÆMORRHOIDS

★

Congestion Causes Bleeding

WHEN hæmorrhoids bleed, there is generally relief from pain. Alarmed by the change, the patient *consults the doctor.*

ANUSOL BRAND HÆMORRHOIDAL SUPPOSITORIES control hæmorrhage not alone by a styptic action but by reducing the congestion that forces the blood to the surface.

Without opiate or local anæsthetic to dull pain perception and obscure the symptoms, Anusol Brand Suppositories check bleeding and alleviate pain by relieving pressure caused by congestion.

★ ★ ★

THE TREATMENT *of hæmorrhoids should begin at the doctor's consulting room. Let us send you a trial supply for use immediately after examination.*

★ ★ ★

ANUSOL BRAND

Hæmorrhoidal Suppositories

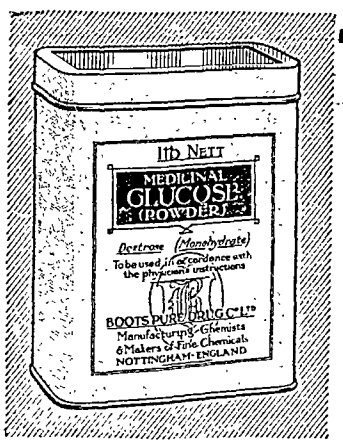
RELIEVE PAIN • REDUCE CONGESTION

CONTROL HÆMORRHAGE

British Distributors :

FRANCIS NEWBERY & SONS, LTD., 31-33, BANNER STREET, LONDON, E.C.1.

Manufactured by GOEDECKE & CO., BERLIN



Issued in 1 lb. (nett) tins,
Per 1/6 tin
(Special discount to the medical profession)

Full size trial sample free to any medical practitioner in British Isles, on application by postcard to BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM

BOOTS PRODUCTS
Are obtainable through all branches of
BOOTS THE CHEMISTS

MEDICINAL · GLUCOSE · POWDER—BOOTS

A RELIABLE BRAND OF MEDICINAL GLUCOSE (POWDER)

GLUCOSE is a valuable source of muscular energy. It is an easily assimilated form of carbohydrate for infants, invalid feeding and in cases of malnutrition. It can be given when ordinary sugar is not tolerated. Obtainable from all branches of Boots The Chemists. A special brochure giving fuller details of the use of MEDICINAL GLUCOSE—BOOTS will be forwarded on request.

WHOLESALE AND EXPORT DEPARTMENT,
BOOTS PURE DRUG COMPANY LIMITED,
NOTTINGHAM, ENGLAND
TELEPHONE: NOTTINGHAM 45501
TELEGRAMS: "DRUG, NOTTINGHAM"

Trade Mark "GARDENAL" BRAND

PHENOBARBITAL

For the Routine Treatment of

EPILEPSY

"Gardenal" is a completely reliable, non-narcotic hypnotic of unvarying therapeutic efficiency. It is a highly efficient sedative in epilepsy, and is widely employed in other nervous disorders such as chorea, migraine, eclampsia, neurasthenia, pertussis, etc.

Write for a copy of descriptive leaflet and clinical trial sample

Supplied in powder and tablet form

Prepared in the Laboratories of

MAY & BAKER LTD. BATTERSEA, LONDON, S.W. 11

Telegrams: Bismuth, London. Telephone: Battersea 1813 (6 lines)

TABLETS "B.S.C."

(Bile Salt Compound)

TRADE MARK

For Constipation, Intestinal Toxæmia, Hepatic Deficiency, Gall Stones and allied conditions.

Tablets "B. S. C." contain active pancreatic extract and bile acids, extract of duodenal mucous membrane and a proportion of ipecacuanha and emodin. Their administration stimulates the flow of glandular secretions which complete the digestive processes; the bile salts emulsify and detoxicate the food residue, while the emodin and ipecacuanha exert a tonic effect on the visceral musculature, particularly the colon, thus stimulating peristalsis.

Tablets "B. S. C." are of particular value in the treatment of constipation, hepatic disorders and the toxæmias arising from stasis. In conjunction with hexamine, they are of distinct benefit in the treatment of gall-stones and cholecystitis.

Supplied in bottles containing 40, 80, 160 and 500 at 2/6, 4/6, 8/6 and 20/-

Allen & Hanburys Ltd.

LONDON, E.2

Telephone: 3201 Bishopsgate (10 lines)

Telegrams: "Greenburys Beth London"

"THESE RESULTS ARE OF FAR-REACHING IMPORTANCE AND OPEN UP A WIDE FIELD FOR THE EMPLOYMENT OF DIMOL IN COLONIC IRRIGATION."

Vide The British Journal of Physical Medicine, May, 1931, pp. 32-33.

"Colonic irrigation was administered to two separate patients—ONE being treated with Dimol Lavage Powder in the douche, the OTHER (the control) being treated with a slightly hypotonic saline solution only."

The results were as follows:—

	With Dimol solution.		*Without Dimol solution.*	
Specimen	*Bacteria per c.c.*	*B. coli per c.c.*	*Bacteria per c.c.*	*B. coli per c.c.*
15 minutes	*5*	*0*	*More than 2,000 per c.c.*	*50 per c.c.*
20 „	*3*	*0*	*ditto*	*More than 2,000 per c.c.*
30 „	*2*	*0*	*ditto*	*Approx. 1,000 per c.c.*

The addition of Dimol Lavage Powder to the fluid injected provides a highly potent bactericide for the purpose of destroying any micro-organisms not removed by the mere mechanical action of the wash and is

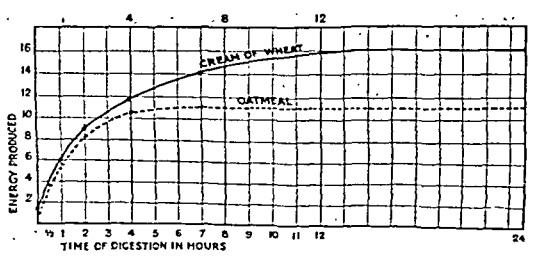
An Outstanding Advance in Colonic Therapy

A full reprint of the article which appeared in the *Journal of Physical Medicine* will be sent on application to:—

DIMOL LABORATORIES Ltd., 40, Ludgate Hill, London, E.C.4

Produces 1½-times as much energy and is more digestible

Tests carried out at a famous Research Institute prove the superiority of this wheat cereal over oatmeal



The graph above illustrates the greater digestibility and energy value of wheat, as opposed to oats. Tests showed that after 4 hours the digestion of oatmeal was almost at a standstill, while that of "Cream of Wheat" continued at a scarcely diminished level for another 4 hours. When digestion was complete, the sugar yield from "Cream of Wheat" was 50% greater, and productive therefore of 1½-times as much energy.

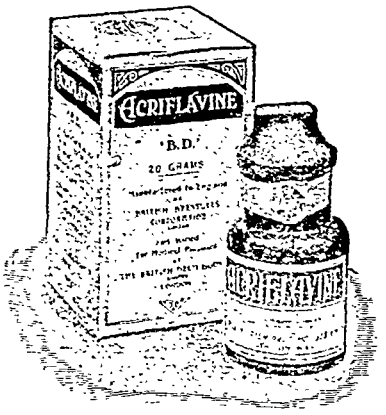
The superiority of "Cream of Wheat" over oatmeal as a first starch food for infants has been conclusively proved by a series of experiments recently conducted in the laboratories of a leading biochemical Institute.

"Cream of Wheat" prominent on the diet sheets of leading British pediatrists.

Made from the granulated endosperms of the best hard wheat, "Cream of Wheat" contains 72 per cent. starch, the importance of which in the feeding of infants is now generally recognized. "Cream of Wheat"—with this high starch content, its energy output, and its amazing ease of assimilation—is prominent on the diet sheets of leading British pediatrists.

No outside husk of the wheat grain is used in the manufacture of "Cream of Wheat," consequently there is nothing in this product to cause irritation to the intestinal tract. It can be given with assurance, not only to infants from the weaning stage, but also to adults during the post-operation period and convalescence. A professional card will bring you fuller details of the above tests, and a sample of this cereal. Dept. W.6, Fassett & Johnson, Ltd., 86, Clerkenwell Road, London, E.C.1.

"CREAM of WHEAT"



In Septic Conditions

Acriflavine is an antiseptic of unusually wide application.

Originally employed as a wound dressing, it has now become the antiseptic of choice in the treatment of gonorrhoea; it is of recognised value also in dermatology, in dentistry, in ophthalmic surgery and in general conditions of sepsis.

Acriflavine "B.D."—the proven British brand—holds its supreme position among other brands of Acriflavine because of its purity and its efficacy in use.

Acriflavine "B.D." is issued in powder form, also in tablets, in solution, in an ointment, in bougies and in suppositories.

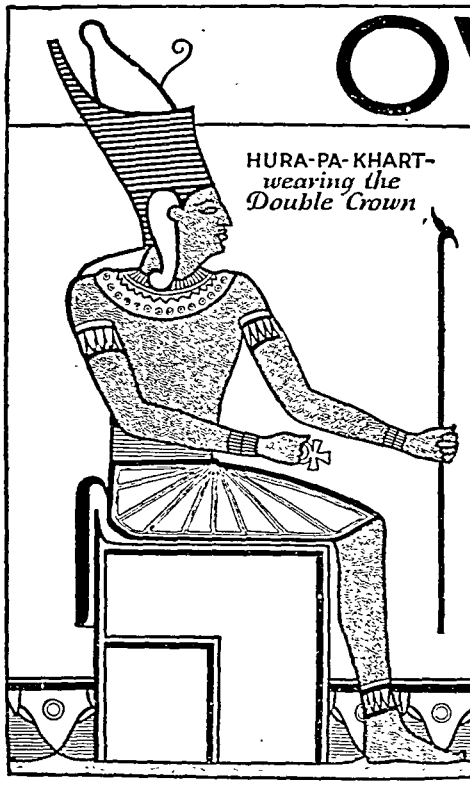
ACRIFLAVINE
"B.D."

Literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1.

FI/17

OVALTINE



HURA-PA-KHART-
wearing the
Double Crown

FOR HEALTHY NUTRITION.

In every condition in which the need of a nutritious and easily digested food is indicated the advantages of "Ovaltine" are definite and many. In no case need the physician hesitate to order its liberal use.

"Ovaltine" is a highly concentrated extraction of malt, milk, and eggs. It is almost completely absorbed by the system, and because of its complete absorption, and because it is a form of nourishment complete in every respect, "Ovaltine" tones, strengthens, reinforces, and reinvigorates the whole body.

"Ovaltine" is purin-free. Its use neither aggravates the tendency to arterio-sclerosis nor favours the accumulation of uric acid in the system. This delicious food beverage sustains life ideally by promoting the healthy activity of the bodily functions.

A liberal supply for clinical trial sent free on request.

A. WANDER, Ltd., 184, Queen's Gate, S.W.7.
M 247.

Works: KING'S LANGLEY, HERTS.

SOYOLK

is a pure natural product, free from chemicals, and is quite different in its composition from ordinary wheaten or any other flours, since it contains 20% of easily digestible fat, and 43% of biologically high-grade protein. This protein is highly assimilable and has proved to form a perfect substitute for animal protein.

In addition, there is 2% of the organic phosphate lecithin apart from phosphatic salts and the Vitamins A, B, D & E. SOYOLK contains NO STARCH.

It is, therefore, a product of extraordinary high food value; by the incorporation of Soyolk the nutritive value of the common farinaceous foods (bread, confectionery, puddings, etc.) can be greatly enhanced and the protein deficiency, which is a marked characteristic of the usual cereal products, be remedied.

The following are a few testimonials:—

Prof. Dr. Leopold Moll, Director of the Austrian Government's Institute for the Care of Mothers and Babies in Vienna, states:—

"In order to give a food very rich in proteins for certain diseased conditions, particularly in cases of malnutrition of babies and infants, we administered puddings made up with Soyolk. Especially with Tuberculous children the Soya-feeding was a great success. We also fed such children with Soyolk who either did not take cow's milk well, or were unable to digest it properly.

In cases of lack of appetite, we gave Soyolk in order to concentrate the food. Soya given twice daily was well taken by infants in a state of bad nutrition."

A Noted British Professor on Household and Social Science:—

"I received your two loaves safely and consumed them in my family. I am pleased to say that they were much appreciated; we liked the flavour, texture, and keeping qualities of the bread. I am extremely interested in increasing the protein intake of people, and think that Soya Bread is an excellent way of *attaining that end.*

I think there is a great future for Soya products."

A Noted British Sanatorium:—

"I am very pleased to inform you that we have used this product ever since blended in our bread flour, *with very beneficial results to both patients and staff of our three Sanatoria.*"

Apply for free sample and literature to:

THE SOYA FLOUR MANUFACTURING CO., 7, MINCING LANE, E.C.3.

A RATIONAL TREATMENT FOR COUNTERACTING ALL THE USUAL CAUSES OF CONSTIPATION

TABLETS

LACTOBYL

REGULATES THE FLOW OF BILE, STIMULATES PERISTALSIS, AND NEUTRALIZES INTESTINAL PUTREFACTION

LACTOBYL IS DIGESTED & DISINTERGRATED IN THE ALKALINE SMALL INTESTINE

Prepared by:

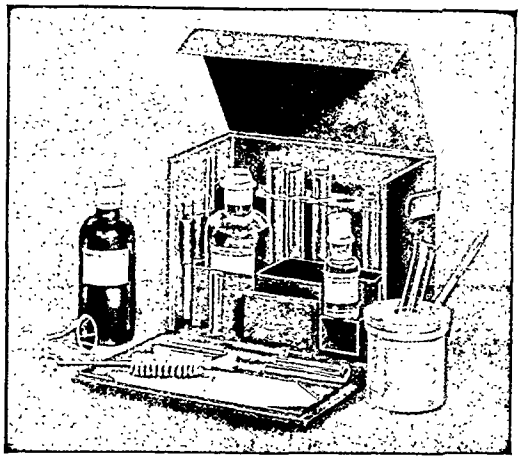
LABORATOIRES LOBICA

46, Avenue des Ternes, PARIS (17e)

Distributors in British Isles:

CONTINENTAL LABORATORIES Ltd.,
30 Marsham St., London, S.W.1.

B.D.H. UREAMOMETER OUTFIT



It has been pointed out (*B.M.J.*, June 20th, 1931, pp. 1064-1067) that there is perhaps no condition in medicine which so frequently gives rise to difficulties and mistakes in diagnosis as that known as uraemia.

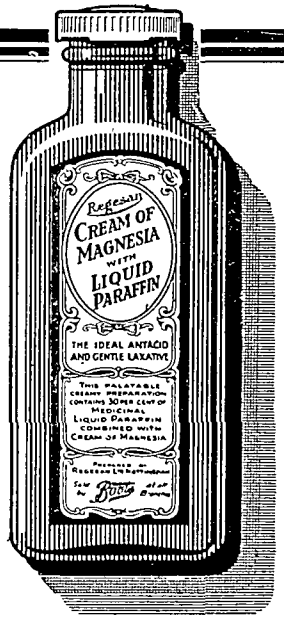
The B.D.H. Ureamometer Outfit provides in compact form all that is required for the estimation of blood urea.

The estimation can be carried out in 35 to 40 minutes at any time within 24 hours of the taking of the sample of blood, a single drop from a finger prick being sufficient for the test. No equipment other than that contained in the outfit is required, and no titrations or calculations are involved, the results being read off directly by colour comparison.

Literature on request

THE BRITISH DRUG HOUSES LTD. LONDON N-1

U.O./1



Per 1/6 bottle
(*Special discount to medical profession*).

Regesan

CREAM of MAGNESIA with LIQUID PARAFFIN

(CONTAINS 30% LIQUID PARAFFIN)

A STABLE well-balanced combination containing 30% Liquid Paraffin held in suspension in a finely divided state. Its consistency is such that the tendency to leak exhibited by Liquid Paraffin is eliminated. Regesan Cream of Magnesia with Liquid Paraffin provides suitable treatment for all digestive troubles with which constipation and hæmorrhoids are associated. It is certainly the ideal laxative during pregnancy and lactation, and is suitable for infants and children.

FULL-SIZE TRIAL PACKAGE FREE TO MEDICAL PRACTITIONERS IN THE BRITISH ISLES ON APPLICATION TO BOOTS THE CHEMISTS, STATION STREET, NOTTINGHAM.

OBTAINABLE FROM

The Boots Chemists

Over 900 Branches in Great Britain.

BOOTS PURE DRUG Co. LTD., NOTTINGHAM.

(*Æsculapius*).

Liver Therapy in ANAEMIA

The haemopoietic value of liver manifests itself clinically in a most rapid and convincing manner, and it is now recognised that various fractions exist, having separate and distinct characteristics.

HEPATEX

This is the liquid extract of liver made at Evans' Biological Institute. Introduced for the treatment of pernicious anaemia, in which it has been proved highly satisfactory, its success in the severe secondary anaemias has been so pronounced as to warrant investigation, which shows that **HEPATEX contains the full Vitamin B complex,** the various components of which must assuredly be of great therapeutic value. It may well be that the usefulness of HEPATEX in the secondary anaemias is due to this factor. HEPATEX is prepared and concentrated so that a teaspoonful dose contains the full therapeutic principles of 2 ozs. of fresh liver.

Issued in 4-oz. bottles.

Prepared at EVANS' BIOLOGICAL INSTITUTE, Higher Runcorn, Cheshire.

Evans Sons Lescher & Webb Ltd.

Manufacturers of Fine Chemicals, Pharmaceutical and Biological Products

Liverpool
56 Hanover Street

London
50 Bartholomew Close, E.C.1

(*Æsculapius*).

Continued—

HEPATEX P.A.F.

Announcing a new highly concentrated solution of the liver fraction effective by intramuscular or intravenous injection in the treatment of Pernicious Anaemia.

HEPATEX P.A.F. has been subjected to clinical trials which have been completely satisfactory. As we go to press we have received the record of a further case of Pernicious Anaemia admitted to hospital *in extremis*. The ordinary treatment of blood transfusion was obviated by the prompt initiation of HEPATEX P.A.F., and the response was immediate, the Reticulocytes showing an increase within a few hours and rising to 42% in seven days.

It is not intended that Hepatex P.A.F. should replace Hepatex, which has been proved so efficacious for oral administration in the great majority of cases, but rather is it offered as a companion product for use in those cases where oral liver therapy is not desirable or only partially effective, or when extreme speed of action is essential.

Dosage varies from 5 c.c. per week to 5 c.c. per day according to the severity of the case.

Supplies are now available.

Full particulars on application to
EVANS' BIOLOGICAL INSTITUTE,
Higher Runcorn, Cheshire.

Evans Sons Lescher & Webb Ltd.

Manufacturers of Fine Chemicals, Pharmaceutical and Biological Products

Liverpool
56 Hanover Street

London
50 Bartholomew Close, E.C.1

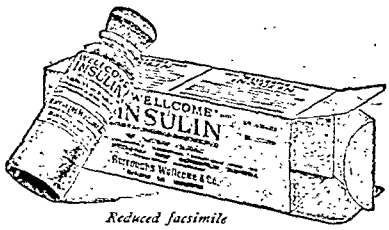
In Convalescence

When the digestive powers are weak or impaired the 'Allenburys' Diet is pre-eminently suitable as a basis of feeding during the period of recuperation. Entirely distinct from the 'Allenburys' Foods for Infants, the Diet is made from pure, rich, full-cream milk and whole wheat, partially predigested during manufacture. It contains an adequate proportion of the Vitamins A, B and D.

Made in a minute

In tins, 2/1, 4/- and 7/6

Clinical trial sample will be sent post free on application.



Reduced facsimile

PIONEERS AND EMPIRE BUILDERS: No. 600
NINTH PERIOD—circa A.D. 300 to c. 1300

Pure, Accurate and Reliable

TRADE MARK **'WELLCOME'** BRAND **INSULIN**

20 *Units per c.c.*	
	5 *c.c. phials,* 2/- *each*
	10 *c.c.* „ 4/- „
40 *Units per c.c.*	
	5 *c.c. phials,* 4/- *each*
80 *Units per c.c.*	
	5 *c.c. phials,* 8/- *each*

The Insulin Hydrochloride used in the preparation of 'Wellcome' Brand Insulin reaches a standard of purity approaching that of the purest Insulin ever obtained even by research workers

TRADE MARK **'TABLOID'** BRAND **INSULIN HYDROCHLORIDE**

Hypodermic Sterile 10 UNITS

2/- *per carton containing* 10 *products in ONE tube*

The only British Insulin issued as a compressed product

Prices in London to the Medical Profession

Accurate in dosage. Solutions of any strength prepared instantly

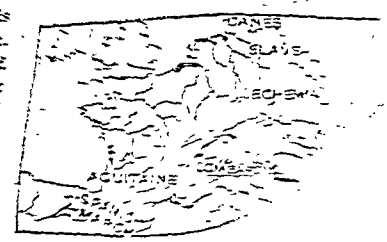
BURROUGHS WELLCOME & CO., LONDON

Address for communications: SNOW HILL BUILDINGS, E.C.1

Exhibition Galleries: 10, Henrietta Street, Cavendish Square, W.1

Associated Houses:
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN BOMBAY SHANGHAI BUENOS AIRES

THE VAST TEUTONIC EMPIRE OF CHARLEMAGNE.—Charlemagne was the first to visualize Europe as an organic whole. His wars were not waged primarily for the sake of conquest and expansion; his aim was to make the Frankish empire secure by incorporating within its borders the territories in which dwelt its enemies. First Aquitania was conquered and annexed, then at the entreaty of Hadrian, Bishop of Rome, the Lombard kingdom in Italy and the Moslems and the Spanish March; then, later, in the north-east, the Slavs—known as the Wilzi—were driven back, and so, in their turn, were the Avars, the Bohemians and the Danish pirates. The kingdom of the Franks was great and strong when he inherited it from his father, Pippin, but the additions he made almost doubled it. Charlemagne protected the empire by forts and garrisons and by establishing a fleet. It was due to these precautions that Italy suffered no serious harm from the Moors, nor Gaul and Germany from the Northmen, in Charlemagne's reign. In the course of time various national states—France, Germany, Flanders—were to take shape within this framework, the outline of Europe, traced by the first western emperor.



DATE: A.D. 768–841 *Charlemagne's reign*

The Gargle and the Child

WHILST medicine, though unpleasant to take, can be forced on the unwilling child, it is not so simple a matter to compel a child to gargle. The act of gargling cannot be enforced, and, where the actual gargle is disagreeable, few children will submit. Therefore, a very necessary act is often scamped or entirely avoided.

ODOL Mouthwash very successfully solves this problem. Its very pleasant taste appeals to the child and its proven bactericide efficiency achieves the desired results. Moreover, Odol is absolutely harmless and cannot injure the delicate mucous membrane of the child's mouth.

CRANBUX LIMITED,
NORWICH, ENGLAND

Samples and literature will be gladly sent to members of the Medical Profession on request.

BRITISH MADE
BY BRITISH LABOUR. FINANCED BY BRITISH CAPITAL

Aldwych

Observations ON A CEREBRO-SPINAL FEVER OUTBREAK IN THE ROYAL AIR FORCE IN 1931

BY

WING COMMANDER H. E. WHITTINGHAM, C.B.E., M.B., F.R.C.P.ED., D.P.H.

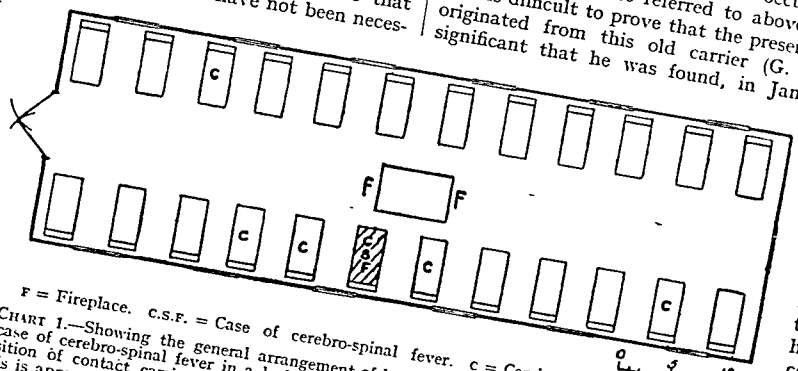
FLIGHT LIEUTENANT J. M. KILPATRICK, M.B., B.CH.

AND

FLYING OFFICER E. W. B. GRIFFITHS, M.B., CH.B.

ROYAL AIR FORCE MEDICAL SERVICE

Since 1919 there have been sporadic cases of cerebro-spinal meningitis in the Royal Air Force, chiefly among recruits, and the bacteriological examination of swabbings from the nasopharynx of the more immediate contacts has resulted in the prompt detection and consequent isolation of meningococcus "carriers" in each instance. The spread of the disease has been arrested, possibly by this speedy isolation of carriers, or by good fortune, so that more stringent prophylactic measures have not been necessary. But in the beginning of the present year there occurred a series of cases of cerebro-spinal fever of the fulminating type which were not so readily controlled, and during the investigation of this outbreak certain interesting observations were made regarding the origin, spread, and control of the infection and the treatment of the disease.



F = Fireplace. C.S.F. = Case of cerebro-spinal fever. C = Carrier of meningococcus.

CHART 1.—Showing the general arrangement of beds in barrack rooms and the occurrence of a case of cerebro-spinal fever in a bed in close proximity to the fireplace (see text). The position of contact carriers of meningococcus is also indicated. The space between adjacent beds is approximately 3 feet.

HISTORY OF THE OUTBREAK

The outbreak occurred at Uxbridge, and was coincident with an influx of new recruits of susceptible age, the advent of cold, foggy weather, and the issue of a more liberal coal allowance to mitigate the rigours of the winter. The provision of fires in the barrack-rooms led naturally to a crowding together of men around the fireplace in the evenings, and this appears to have played an important part in the dissemination of the infection; it was not purely a question of bed space. The first case occurred on January 4th, 1931, the second on January 5th, and then serially on the 8th, 17th, 24th, 25th, 27th, and 31st, and on February 7th, 10th, 11th, and 14th. In all, there were twelve cases of cerebro-spinal fever of the malignant type, and there was no direct connexion as regards infection between any of them, with the exception of the patients (Cases Nos. 9 and 11) who occupied adjacent beds; in all other instances the patients were drawn from widely separated barrack rooms. This distribution of cases pointed to some common source of infection, such as the cinema, concert room, or canteen. The isolation of contact carriers of the early cases, and the closure of the cinema and the cessation of other forms of indoor entertainment, did not check the spread of the disease. But on February 12th the canteen was closed, and a more extensive search was made for contact and non-contact meningococcus carriers throughout the depot. Following on this action the outbreak terminated abruptly within forty-eight hours.

ORIGIN OF THE INFECTION

The first patient in the present epidemic came from a barrack room in which there was an airman (G. T. C.) who had been isolated previously as a meningococcus carrier during the examination of contacts of a sporadic case of cerebro-spinal fever which occurred at Uxbridge in May, 1930. This carrier was then proved to harbour Type I meningococcus, and he continued to carry this organism for five weeks. After repeated nasopharyngeal swabbings were found to be negative, he was pronounced free from infection in July, 1930. He returned to duty at Uxbridge Depot on July 20th, and, despite his sojourn among other recruits, there was no recurrence of cerebro-spinal fever until the present outbreak, which commenced at the beginning of January, 1931, in a different barrack room from that which had been occupied by the patient in the sporadic case referred to above.

It is difficult to prove that the present outbreak of fever originated from this old carrier (G. T. C.), but it is significant that he was found, in January, 1931, to be still harbouring meningococci of the type responsible for the infection, and that he was a close contact of the first case. It is to be observed, however, that cerebro-spinal fever had been prevalent among the civil population since October, 1930, and that its incidence was increasing rapidly when the R.A.F. outbreak started; this factor undoubtedly added to the number of meningococcus carriers among the newly joined recruits, and so helped to bring the carrier rate at the Uxbridge Depot to the danger level.

SPREAD OF THE INFECTION

This raises the question of overcrowding in barrack rooms. There was no overcrowding as regards the actual bed space, and the barracks were well ventilated. The beds were spaced 2½ to 3 feet apart, and the windows were kept open day and night. Heating was attained by means of two open fireplaces situated towards the centre of each room. One or other of these fires was usually lighted about tea-time, and during the evening the inmates (twenty to twenty-four in number) naturally congregated at the fireside, so that in any barrack room, probably, the air was most impure in this region. It follows that those individuals whose beds occupied this central area continued to breathe this vitiated atmosphere longer than their room-mates, and it is significant that the first and all subsequent cases of cerebro-spinal fever, except Case No. 8, occurred in airmen occupying beds in close proximity to the fireplace in use (see Chart 1).

In this connexion it is interesting to compare the meningococcus carrier rate of newly joined recruits at Uxbridge and at Halton; in the seventh week of this year it was 15 per cent. and 3 per cent. respectively. The local heating arrangements may help to explain this

difference in the carrier rates. The airmen in both places are housed in barracks similar as regards cubic and floor space per man, but dissimilar as regards the mode of heating. The Halton barracks, which have been singularly free from cerebro-spinal fever, are centrally heated, so that each inmate tends to keep his own bed area, and there is no local overcrowding, whereas at Uxbridge the heating is by open fireplaces, leading to central crowding in each room, with results as described above.

Where did the men get the meningococcus into their upper respiratory passages with which to infect the air of the dormitories? As has been stated, the twelve cases occurred in separate barrack rooms (with one exception), indicating some common source of infection. Originally this infection may have taken place in one or in all of several places in which the airmen congregated—for example, cinema, dance hall, concert room, and canteen. The closure of all common meeting places, with the exception of the dining hall and canteen, together with the adoption of routine disinfection of the nasopharynx of all personnel by means of gargles, nasal douches, and sprays, as described later under "Control of the disease," did not stay the epidemic. Two obvious gaps were left in the chain of control—the dining hall and the canteen. In the dining hall the men of each barrack room sat at appointed tables, so that there was little likelihood of the inmates of one room infecting those of another here. In the canteen the men from different barrack rooms mingled freely in a warm and moisture-laden atmosphere, under social conditions conducive to the spread of disease by droplet infection; this was especially the case on a Friday (pay-day), for then the men flocked to the canteen. Strength is given to the supposition that infection took place chiefly in the canteen, and on a Friday, from the observation that cases of cerebro-spinal fever arose usually on the following Saturday, Sunday, Monday, or Tuesday—that is, within the recognized incubation period for the disease—and from the fact that the closure of the canteen was followed by the abrupt cessation of the epidemic (see Chart 2).

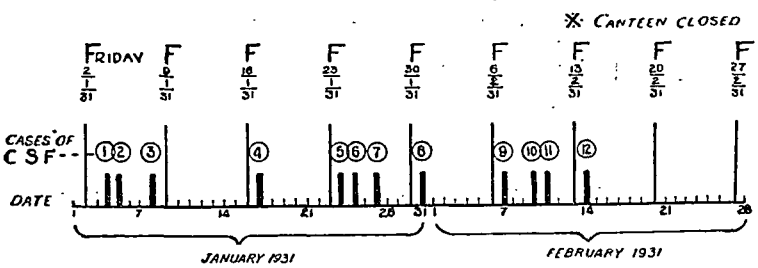


CHART 2.—Showing the relationship between the case incidence of cerebro-spinal fever and the crowding together of men in the canteen on Fridays—that is, pay-days.

A further isolated or sporadic case of cerebro-spinal fever occurred at the R.A.F. Depot, Uxbridge, on March 20th, 1931—that is, eleven days after the general prophylactic measures were relaxed. This patient, a recruit, had four days previously travelled 140 miles along with a number of his comrades in a closed charabanc. Infection in this instance presumably occurred from contact with meningococcus carriers during the long journey in a closed vehicle, as subsequently two carriers were detected among the passengers in the coach.

MENINGOCOCCUS CARRIERS

It has been established by Netter and Debré that the meningococcus carrier rate of a community bears a direct relationship to the development of cases of cerebro-spinal fever; the incidence and severity of the disease usually run parallel with the number of carriers. The outbreak at Uxbridge proved to be no exception to this rule.

Chart 3 indicates the meningococcus carrier rate and case incidence of cerebro-spinal fever among 542 recruits at Uxbridge during the first eight weeks of 1931. The percentage of carriers in the first week of January was 10;

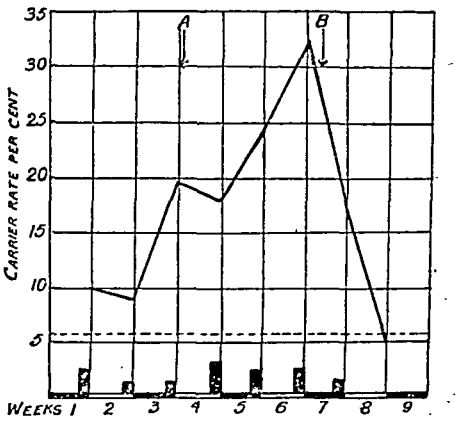


CHART 3.—Carrier rate shown by continuous black line. Cases of cerebro-spinal fever represented by vertical black columns. Upper limit of normal meningococcus carrier rate indicated by dotted line. A = Adoption of general prophylactic measures and closure of cinema. B, Closure of canteen.

during the third week it was 19½. The practice of general prophylactic measures, such as the spraying of the throats of all personnel, the isolation of all detected carriers, and the closing of the cinema, did not check the epidemic. By the sixth week of the year the carrier rate had reached 32 per cent. This was the acme, however, for in the seventh and eighth weeks, following on the closure of the canteen, the rate fell rapidly to 17 and 5 per cent. respectively. The case incidence of the disease rose and fell with the carrier rate, and ceased abruptly when this rate reached normal limits—that is, below 6 per cent.

In all, 120 carriers were detected and isolated, or, in other words, 22 per cent. of the recruits were found to carry the meningococcus. Moreover, the distribution of these carriers throughout the various barrack rooms was fairly uniform, as was shown by a general swabbing. Of these, 45 (37½ per cent.) were contact carriers, and 75 (62½ per cent.) were non-contact carriers. A contact carrier is defined as one who is known to have been in contact with a case of cerebro-spinal fever. This classification is unsatisfactory, as it is probable that many, if not most, of the so-called non-contact carriers had become infected from cases in the canteen or elsewhere. Most of the known contact carriers had been in very close relation to patients with the fever; they slept in adjacent or opposite beds, or had used the same cups, or had been intimate friends.

The duration of the infectivity of meningococcus carriers who are undergoing nasopharyngeal disinfection daily is of practical importance, and is indicated in Table I. It was found that 55 per cent. of the carriers were free from infection within three weeks, and 75 per cent. within a month. One carrier was of the chronic type; it was proved that he had harboured the meningococcus intermittently for the past ten months—that is, since May, 1930.

TABLE I.—*Showing the average length of time that meningococcus carriers, undergoing nasopharyngeal disinfection daily, carried the germ.*

Nasopharynx Clear of Meningococcus	Number of Carriers	Percentage of Carriers	
In 2 weeks	18	15	
3 ,, ...	48	40	75
4 ,, ...	24	20	
5 ,, ...	15	12½	25
6 ,, ...	15	12½	

The effect that the meningococcus had on the health of the carriers remains to be considered. None of the carriers, isolated as such, developed true cerebro-spinal fever, but 19 suffered from a pyrexia of the influenzal type and 26 had acute nasopharyngitis; whereas 75 remained apparently in normal health. If the twelve cases of cerebro-spinal fever be included, then 43 per cent. of the carriers showed signs of some acute infection, and 57 per cent. remained healthy; only 10 per cent. of the men who harboured the meningococcus in their nasopharynx contracted the specific meningitis. Table II amplifies these points, and indicates the varying degrees of immunity developed against the meningococcus; thus there may be health, a local throat infection, a more generalized sepsis, or actual meningitis and septicaemia.

TABLE II.—*Meningococcus Present in the Nasopharynx of 132 Men*

12 (9 per cent.) suffered from cerebro-spinal fever	43 per cent.	unhealthy carriers.
19 (15 per cent.) suffered from influenza		
26 (19 per cent.) suffered from nasopharyngitis...		
75 (57 per cent.) remained healthy	57 per cent.	healthy carriers.

MENINGISMUS

Those individuals who had pyrexia of the influenzal type accompanied by severe headache, together with tenderness of the neck muscles, and had meningococcus in their upper air passages, but not in their cerebro-spinal fluid, might have been diagnosed as suffering from meningismus or meningism—a condition referred to by Flack,[2] Horder,[3] and others during the war. In these cases the meningococcus was possibly the organism responsible for the infection, although Pfeiffer's bacillus was present also in many instances. It mattered little whether the diagnosis was meningismus or influenza, so long as it was recognized that these cases were not examples of cerebro-spinal meningitis, otherwise the serum, or whatever other treatment was given, might have been credited with unmerited curative power. This was not purely a matter of academic interest, but one of vital practical importance, as the therapeutic treatment of cerebro-spinal fever was, and still is, *sub judice*. In many instances a dose of antimeningococcus serum was given to a doubtful case pending the diagnosis; this was a justifiable and a wise measure to carry out during an epidemic of cerebro-spinal fever; in fact, the serum may have prevented the onset of meningitis in some cases. The problem, however, was to differentiate between meningismus or influenza and the early stages or milder attacks of cerebro-spinal fever.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis of typical cases was easy, but many suspected cases called for a very careful clinical examination, together with a total leucocyte count of the blood and, at times, lumbar puncture. Special attention was paid to the mode of onset of the disease. Early onset of vomiting, especially if continued, severe headache, stiffness and tenderness of the neck muscles (this was best elicited in early cases by performing Kernig's test alone or in conjunction with Brudzinski's, and inquiring whether the patient felt any stiffness elsewhere than in the hamstrings), a varying degree of pyrexia, a pulse-respiratory rate of 3 to 1 or even 2 to 1, together with distinct nervous irritability, tache cérébrale, and inequality, dilatation, or contraction of the pupils were strong evidence of cerebro-spinal fever. Whereas in the influenza cases early and distinct pyrexia (103 to 105° F.) was the prominent symptom, there was little or no tenderness of the neck muscles, and the Kernig test was negative, the pulse-respiratory ratio was normal, nervous irritability was negligible, the pupils were normal, and vomiting was rare and not continued.

Two laboratory tests were found to be of great diagnostic value: a leucocyte count of the blood and the examination of the cerebro-spinal fluid. There was invariably a distinct leucocytosis, even early, in all cases of cerebro-spinal fever; while in influenza a leucopenia or normal count proved the rule. A total leucocyte count was performed as a routine in all cases of pyrexia or suspected cerebro-spinal fever. If the blood count showed the presence of more than 13,000 leucocytes per c.mm., without any clinical condition to account for the leucocytosis, a lumbar puncture was performed; the naked-eye appearance of the cerebro-spinal fluid was often sufficient to clinch the diagnosis without awaiting the result of cytological or cultural examination. On the other hand, if the total white cell count was normal or showed a leucopenia, and there was no definite clinical evidence to suggest meningitis, the patient was watched, and a further count done on the following day, unless the symptoms pointed to the need for earlier intervention: the continued absence of a leucocytosis was a contra-indication of cerebro-spinal fever. In all doubtful cases lumbar puncture was performed. The cerebro-spinal fluid, at times even from fulminating cases of meningitis, appeared clear to the naked eye at the first puncture, but examination in the laboratory showed an increased cell count (60 or more polymorphs per c.mm.), together with an increased albumin content (0.1 to 0.4 per cent. or more) and frequently meningococci in the direct smears, certainly in culture during the next twenty-four to forty-eight hours. Cases of meningismus had clear, sterile cerebro-spinal fluid, with low cell count (about 10 cells per c.mm.) and a practically normal albumin content (0.03 to 0.05 per cent.).

No case was diagnosed as cerebro-spinal meningitis unless the specific organism was seen in, or isolated from, the cerebro-spinal fluid.

FULMINATING CEREBRO-SPINAL FEVER

The twelve cases of cerebro-spinal fever which form the basis of this paper were of the fulminating or malignant type. It might be argued that these were not all fulminating cases, as the patients did not die within three days, but it is maintained that they probably would have done so had it not been for the treatment given to them. The general description of the cases should dispel doubt on this point.

Etiology

The occurrence of cerebro-spinal fever in the recent R.A.F. outbreak was confined to newly joined recruits who were apparently in robust health. The average length of service was ten weeks, and the age incidence varied between 18 and 23½ years, the average age thus being 19¾. In four out of the twelve cases there was a history of influenza commencing five to ten days prior to the onset of the meningitis.

Meningococcus Type I, so far as could be ascertained with the high titre agglutination serums available, was isolated from the cerebro-spinal fluid in every instance. In one of the fatal cases *B. influenzae* Pfeiffer was also present in the cerebro-spinal fluid.

Strains of the meningococcus isolated were forwarded to the Ministry of Health Laboratory and to the Lister Institute in connexion with the preparation of a new anti-meningococcus serum.

Clinical Picture

Onset was always abrupt. The earliest symptoms were severe headache and repeated vomiting, often in the absence of pyrexia. Lumbar puncture, when performed at this stage, usually revealed a clear cerebro-spinal fluid containing 30 to 60 leucocytes per c.mm. Within six to eight hours the fluid became opalescent and showed a cellular content of 10,000 to 15,000 leucocytes per c.mm., also a high albumin content, even in cases where serum was *not administered during the first puncture*. At the same time there was marked exacerbation of the clinical symptoms—the temperature rose to 102° to 105°, there was violent delirium, followed rapidly by coma and accompanied by generalized petechiae. Head retraction was marked, and breathing became of the Cheyne-Stokes variety. The following notes bring out these points.

Case Illustrating Rapid Death

J. McK., aged 18 years 4 months (five weeks' service), reported sick at 9 a.m. on February 11th, 1931, complaining of headache, vomiting, and pains in back and legs; his temperature was normal. In the afternoon his temperature rose to 102°, he vomited several times, and became violent. Shortly afterwards he passed into coma. He was admitted to hospital at 8 p.m. in a deeply comatose condition, with stertorous breathing, pupils fixed in semi-dilatation, marked head retraction, Kernig's sign positive, knee-jerks and superficial abdominal reflexes absent, and generalized purpuric rash; temperature 102°; pulse rate 60; respirations 24. Lumbar puncture was performed at once and 60 c.cm. turbid fluid withdrawn—the cerebro-spinal fluid contained 15,000 leucocytes per c.mm., and meningococci were numerous. Antimeningococcus serum was administered—40 c.cm. intrathecally and 20 c.cm. intravenously. The clinical symptoms, however, gradually got worse, pulse rate and respirations increased (pulse rate 160, respirations 52), the patient became markedly cyanosed, and died suddenly at midnight, within fifteen hours of the onset of the disease.

Case Illustrating Average Recovery

H. W. P., aged 19 (two weeks' service), reported sick on February 7th, 1931, and was treated for influenza at his unit. The salient features of his illness were headache and backache, together with a moderate degree of pyrexia. The usual anti-pyretic remedies were given, and he had apparently recovered on February 12th. During the following night he had severe headache, and vomited several times. At noon on the 14th his temperature rose to 104.6°, and he became semi-comatose while being transported to hospital.

On admission he was comatose; temperature was 103.8°, pulse rate 104, and respiratory rate 36, breathing being stertorous. Pupils were dilated and scarcely reacted to light; eye-balls wandering. Knee-jerks were sluggish, and abdominal reflexes were absent. Kernig's sign was present, and neck muscles were spastic. A widespread petechial rash was present on trunk and limbs. A blood count showed a leucocytosis of 23,000 per c.mm., 91½ per cent. being polymorphs. Lumbar puncture was performed immediately, and 50 c.cm. turbid fluid were withdrawn under considerable pressure. The cerebro-spinal fluid contained 10,800 cells per c.mm. (97 per cent. were polymorph leucocytes), and showed the presence of many Gram-negative diplococci, which were chiefly extracellular. On culture, meningococcus Type I was isolated.

After draining off 40 c.cm. of the cerebro-spinal fluid, the subarachnoid space was irrigated with 160 c.cm. of normal saline. Then 20 c.cm. of concentrated globulin solution anti-meningococcus serum were injected intrathecally. Consciousness was partly regained soon afterwards.

Eight hours later lumbar puncture was repeated, and 60 c.cm. cerebro-spinal fluid were withdrawn. This was followed by saline irrigation, and the administration of 25 c.cm. antimeningococcus serum intrathecally and 20 c.cm. intravenously. The patient was now conscious, although cerebration was slow. Temperature was 104°, pulse rate 108, respirations 26. Spasm of neck muscles had greatly relaxed.

Lumbar puncture, the withdrawal of 40 to 60 c.cm. of cerebro-spinal fluid, followed by saline irrigation of the subarachnoid space, and the administration of 20 c.cm. of antimeningococcus serum intrathecally were carried out twice daily for the first four days of illness, and then once a day for the next six days—that is, four days after the meningococcus was last isolated from the cerebro-spinal fluid. Anti-serum was also given intravenously (10 to 20 c.cm. daily) for the first four days of the disease to counteract the septicaemia.

Under this treatment the patient's temperature for the first two days oscillated between 104° and 99°, the pulse rate remained relatively low (70 to 90), and the respiratory rate was 28. From the third to eleventh day of the disease the temperature varied daily between 100° and normal, pulse rate was 80 to 90, respiratory rate was 20 to 28. On the tenth day of illness the temperature was 100°, there was a well-developed and generalized serum rash, and the larger joints ached. Adrenaline (1 in 1,000) was given subcutaneously in 1/2 c.cm. doses at four-hour intervals, but there was no amelioration of symptoms. The following day 0.125 gram contramine was injected intramuscularly; improvement occurred quickly, and the rash disappeared completely in twenty-four hours. Progress thereafter was uneventful, the patient being allowed up a fortnight later.

This case illustrates the rapid onset of the septicaemic type of cerebro-spinal fever, and the method of treating this condition by means of intrathecal lavage with saline prior to the injection of antimeningococcus serum; also the apparent influence of contramine on the late serum manifestations.

Case Illustrating Slow Recovery and Complications

C. L., aged 23 (eight weeks' service), complained on January 5th, 1931, of severe headache, pains in limbs, and sore throat. Tongue was furred, and temperature was 101°. The following morning he had a rigor; headache was worse, there was vomiting, rigidity of neck, a positive Kernig sign, and extensive purpuric eruption over trunk and limbs. He rapidly became stuporose. Lumbar puncture was performed, and the cerebro-spinal fluid was found to be under pressure and very turbid. Laboratory examination of the fluid showed a cell count of 12,800 leucocytes per c.mm., 96 per cent. of these being polymorphs, a protein content of 0.9 per cent., and the presence of numerous meningococci, both extracellular and intracellular; cultures and serological tests proved the organism to be meningococcus Type I.

For the first four days the patient was lumbar-punctured twice daily, and once a day during the next six days. Only 20 to 30 c.cm. of cerebro-spinal fluid were removed at each puncture, and then 10 to 20 c.cm. of antimeningococcus serum (globulin solution) were given intrathecally without any previous saline irrigation. In addition, small doses of the serum (10 to 20 c.cm.) were given intravenously and intramuscularly each day. In all, 160 c.cm. of cerebro-spinal fluid were removed, and 125 c.cm. of antimeningococcus serum given intrathecally, 120 c.cm. intramuscularly, and 50 c.cm. intravenously.

During this time the patient had been extremely weak, often so delirious and violent that sedatives were much required. *But by the eleventh day of the disease* (January 16th) the meningeal symptoms were almost *nil*, and the meningococcus had disappeared from the cerebro-spinal fluid. The temperature, however, was raised, and ranged between 99° and 102° for the first three weeks of the illness, the pulse rate varied between 80 and 120, and the respiratory rate between 20 and 30.

The following complications arose: suppurative arthritis of the left knee commenced on the ninth day of illness and took two weeks to subside; acute orchitis (left) began on the twelfth day of disease and resolved in ten days; acute nephritis manifested itself on the twelfth day but cleared up within three weeks; otitis media, both ears, was first noticed on the seventeenth day of illness, and persisted for ten weeks.

This case illustrates the slow recovery of a patient treated by the withdrawal of small quantities of cerebro-spinal fluid and the administration of relatively small doses of antiserum.*

The Leucocyte Count of the Blood

The total leucocyte count of the blood was increased very early in the disease to 14,000 or more per c.mm., and in the next twelve to twenty-four hours it increased rapidly to 20,000 to 40,000 per c.mm., depending on the severity of the case. After the second day, in favourable cases, the count fell rapidly to 12,000 to 15,000 per c.mm., and remained about this level for the next fortnight (see Table III). In unfavourable cases there was usually an increase in the leucocytes up to 30,000 to 50,000 per c.mm. during the second day, and thereafter there was no tendency to fall. A persistently high leucocytosis was found to coincide with a thickening and holding up of the cerebro-spinal fluid. The total white cell count proved in many instances to be a valuable aid in deciding whether further lumbar puncture was necessary.

The differential leucocyte count showed usually that 90 to 96 per cent. of the total white cells were of the polymorph variety. The Arneth index during the first four days of the disease read somewhat as follows: 5:50:30:10:5. The differential count was therefore of little clinical value.

The Cerebro-spinal Fluid

The most important characteristics of the cerebro-spinal fluid, as regards diagnosis, were the naked-eye appearance, the leucocyte and protein content, and the presence or absence of meningococci.

The naked-eye appearance and cellular content of the fluid ran parallel; thus the greater the cell content, the more opalescent was the fluid. In favourable cases the fluid became more opalescent and the leucocyte count rose for twenty-four to forty-eight hours (to 20,000 or 40,000 cells per c.mm.) after the first administration of serum intrathecally, but the following day the opalescence diminished distinctly and the cell count fell rapidly to less than 10,000 per c.mm., and the figure gradually became lower daily (see Table III). In some unfavourable cases, the cerebro-spinal fluid was only slightly opalescent, but contained extracellular cocci in large numbers; in others the fluid became and remained like thick cream, while the cell content rose and remained at a high figure—50,000 or even 90,000 leucocytes per c.mm. This thick fluid tended to stagnate in the subarachnoid space, and thus complicated intrathecal medication. A differential count of the leucocytes in the cerebro-spinal fluid of these cases showed that 90 to 97 per cent. were usually of the polymorph variety.

The protein content was invariably high, ranging between 0.4 and 1.2 per cent. Even at the beginning of the disease, when the fluid was clear and the cell count was low, the protein content was found to be about 0.5 per cent., and this increased rapidly during the next twelve hours. The protein figure, prior to intrathecal serum injection, was in direct proportion to the severity of the disease; the higher the protein content, the more grave was the prognosis.

Meningococci were found in smears made from the deposit of the cerebro-spinal fluid that was withdrawn at the first puncture in every instance. At times they were very numerous, extracellular and intracellular cocci being present in every microscopical field. On other occasions they were so scanty that they were found only after prolonged search, and then they were usually extracellular: culture verified their identity. A rough estimate was made each day of the proportion of extracellular to intracellular cocci, and the finding confirmed Horder's statement referring to the intracellular position of the meningococcus—"The more marked this is, the better the outlook, and vice versa."[3] The correctness of this observation was striking in two instances in which the cocci tended to remain extracellular, and yet the patients appeared to be doing well clinically; both these cases terminated abruptly in death.

The meningococcus was readily obtained in pure culture from the cerebro-spinal fluid, even of patients under serum treatment up to the fifth to tenth day, depending on the case. The routine procedure was to incubate the fluid as withdrawn for six to eight hours at 37° C., subculture heavily from the deposit on to blood agar slopes previously warmed to body temperature, and to incubate these at 37° C. for one to two days.

The mortality rate was 50 per cent. There were 12 cases, 6 of which ended fatally; all the deaths occurred by the fifth day of disease. This rate compares favourably with that recorded by most observers for the fulminating type of cerebro-spinal fever.

TABLE III.—*Tabular record of a severe case of cerebro-spinal fever ending in speedy recovery. This indicates the more important clinical facts that should be recorded during the treatment of a case of cerebro-spinal fever.*

Day of Disease	Temperature	Pulse Rate	Respirations	Blood. Leucocytes per c.mm.	Cerebro-spinal Fluid			Treatment			
					Amount Withdrawn c.cm.	Leucocytes per c.mm.	Meningococcus	Saline Washout c.cm.	T. c.cm.	V. c.cm.	M. c.cm.
1	104.0	100	36	23,800	45 and 60	10,800	Numerous E	160	20	—	—
2	103.0	96	20	17,600	40 and 60	26,000	Numerous EI	80	25	—	5
3	100.0	72	24	12,600	50 and 45	14,800	Moderate I	100	25	20	—
4	100.4	88	20	10,400	50 and 35	4,000	Few I	160	20	20	—
5	98.8	88	20	11,600	50	2,000	Few I	95	20	20	—
6	97.4	70	18	12,000	50	3,000	Nil	160	20	10	—
7	100.4	80	20	12,500	60	400	Nil	140	20	—	—
8	99.4	80	20	15,000	50	200	Nil	100	20	10	—
9	98.8	88	18	14,000	45	320	Nil	60	15	—	—
10	98.4	72	18	13,800	50	300	Nil	80	15	—	—
11	97.4	76	20	11,600	—	—	—	60	10	—	—
12	98.0	70	18	10,800	—	—	—	40	5	—	—
								50	—	—	—
								80	—	—	—
								—	—	—	—
								—	—	—	—
								—	—	—	—

E = extracellular I = intracellular. T = intrathecal serum injection. V = intravenous serum injection M = intramuscular serum injection.

* These cases of cerebro-spinal fever were treated at the R.A.F. Infectious Diseases Hospital, Halton.

Treatment

Treatment was carried out at first along lines that had been found beneficial when dealing with previous cases of cerebro-spinal fever; antimeningococcus serum was the sheet-anchor. Unfortunately, in the recent epidemic, the meningococcus causing the infection was Type I, whereas the bulk of the therapeutic serum available in this country was made chiefly for use against Type II of the organism. It soon became evident that the antimeningococcus serum was not to be relied upon to the same extent as formerly, so that certain details of treatment that were considered previously to be of secondary importance now took pride of place. Particular attention was paid, therefore, to the adequate relief of pressure within the subarachnoid space in order to lessen its injurious effects on the nerve centres, especially those in the medulla; also to efficient irrigation of the subarachnoid space to help to remove the pus and meningococci and to aid in the circulation of the antimeningococcus serum. The question was whether the subarachnoid space should be irrigated by means of saline as advocated by Hirsch,[4] and Aubertin and Chabanier,[5] or by promoting the secretion of cerebro-spinal fluid and increasing the intrathecal pressure by means of a general anaesthetic, as recommended by Flack.[2] After experience with both methods, the use of saline irrigation was deemed the more suitable, as this conserved the body fluids and cast no unnecessary strain upon the respiratory organs, already the seat of inflammation in most cases; in addition, the sensations of the conscious patient served as guides for both the amount and rate of fluid required to be withdrawn and injected. In two instances there was a local blockage in the subarachnoid space of such degree that after the third day of disease little fluid could be withdrawn by lumbar puncture; a general anaesthetic (ether) was given for three-quarters of an hour, the needle being left in position, and yet no more fluid could be obtained. Cistern puncture confirmed the theory of local blockage of the subarachnoid space, for the cell content of the fluid obtained by cistern puncture was roughly one hundred times less than that obtained by lumbar puncture. In such cases as these it was felt that general anaesthesia might do more harm than good.

The following routine treatment was found to give the most satisfactory results, and was adopted eventually for all definite cases of cerebro-spinal fever.

Immediately on admission to the ward 1/4 grain of morphine was given hypodermically as a sedative, and 5 c.cm. of antimeningococcus serum were injected intramuscularly into the flank to act as a desensitizing dose. By the time that the patient was cleaned (fifteen to twenty minutes) hypnosis was sufficient to permit the lumbar puncture to be undertaken. About 1/2 c.cm. of 5 per cent. novocain solution was injected intradermally over the site chosen for the lumbar puncture, usually the third interspace, and after re-washing the hands the operator made his puncture. The cerebro-spinal fluid was allowed to flow so long as it was under distinct pressure, 40 to 60 c.cm. being always drawn off, more if necessary; in some instances up to 90 c.cm. of fluid were removed with ease. In cases where the flow tended to be very rapid, the stylet was pushed partly home to lessen the rate of flow, and so more gradually lower the intracranial pressure. Relief of fluid usually made comatose patients pass into irritability, less marked when under the action of morphine; judicious handling by attendants controlled this excitability. During the above procedure 200 c.cm. of sterile normal saline were warmed to 37° C. This saline was used to irrigate the subarachnoid space. A 20 c.cm. syringe was filled with the saline and connected directly to the lumbar puncture needle, and the salt solution was injected slowly—about four to five minutes being allowed for the 20 c.cm. The stylet was inserted and the foot of the bed raised on blocks for a few minutes, then lowered, the stylet removed, and the saline allowed to drain off into a measure glass. This process was repeated until 100 to 200 c.cm. of saline were used and the washings came away fairly clear; great care was taken throughout to see that at least as much fluid was drawn off as went in. The last washing usually consisted of a mixture of 10 c.cm. saline and 10 c.cm. antiserum. The antimeningococcus serum (globulin solution), warmed to body heat, and well shaken so as to include the deposit, the most potent portion of the serum, was then injected slowly by means of the syringe. The dosage was 20 to 40 c.cm., depending on the amount of fluid withdrawn; it was found expedient to inject considerably less serum than the amount of cerebro-spinal fluid removed, otherwise symptoms of increased intrathecal pressure manifested themselves within a few hours. Thus, if 60 c.cm. of cerebro-spinal fluid were obtained, not more than 30 c.cm. of serum were injected intrathecally. The foot of the bed was raised during the administration of the serum, and kept raised for at least two hours afterwards to facilitate gravitation of the serum towards the brain. Finally, 10 c.cm. of antimeningococcus serum were injected intravenously to counteract the septicaemia which was a prominent feature of these cases.

This procedure of lumbar puncture, saline irrigation of the subarachnoid space, and intrathecal injection of antiserum was repeated within eight hours, then given twice daily until the fourth or fifth day, and once daily for at least the next five days. The intravenous administration of serum was practised daily for the first three days only, unless the septicaemic symptoms persisted beyond that time. For two hours prior to each lumbar puncture the head of the bed was raised on blocks to aid in the gravitation of the cerebro-spinal fluid towards the lumbar region and to facilitate the withdrawal of at least 40 c.cm. of the fluid.

Calcium lactate, 10 grains, was given by the mouth thrice daily from the beginning of the treatment to try to prevent serum sickness. Contramine was given intramuscularly in a 0.125 gram dose to those patients with serum rashes; relief followed quickly, but if necessary the dose was repeated after twelve hours.

The above synopsis of treatment is given in the hope that it may be of some service to others, and to awaken constructive criticism. It may be objected that the number of cases treated was insufficient upon which to form an opinion. The number of cases was certainly few, but it should be borne in mind that although various methods of treatment were tried on several of the patients—serum of different brands in small doses, large doses, intravenously, intrathecally, combined, and so on—it was only when saline irrigation was added to the treatment that distinct improvement followed. All those engaged in treating the cases were impressed by the beneficial effects of the irrigation: there was less tendency for the cerebro-spinal fluid to thicken unduly; coma, delirium, and toxaemia disappeared rapidly; and recovery was accelerated. For an example see Case H. W. P. recorded above, also Table III. Of the six patients treated by saline irrigation, four made a safe recovery, or, in other words, the death rate was 33 per cent.; this compares favourably with the death rate of other observers when only cases of fulminating cerebro-spinal fever are considered.

Control of the Disease

General prophylactic measures applicable to the control of diseases spread by droplet infection were adopted as soon as the epidemic nature of the disease was recognized.[6] These measures, as indicated in the beginning of this paper under the headings of history, origin, and spread of the infection, included the search for, and isolation of, contact carriers; special supervision in the spacing of beds and the efficient ventilation of barrack rooms; closure of canteen, cinema, and other places of indoor entertainment; and the disinfection of the nasopharynges of all personnel by means of nasal douches or sprays. The efficacy of this policy was shown by the prompt termination of the epidemic within forty-eight hours of its adoption. The operation of these measures, however,

interfered greatly with the daily work of the personnel concerned, and threw a lot of extra labour on certain departments and individuals; as the need for some of these precautions was problematic, the opportunity was taken to make observations regarding their relative values for future guidance.

The search for and isolation of carriers was extended to include all the recruits and the members of the permanent staff who came into close contact with them. Wholesale swabbing of the nasopharynges of these individuals showed that carriers of the meningococcus were distributed fairly uniformly throughout all the barrack rooms—a fact that could have been prophesied in advance. The percentage of persons carrying was found to be as high as 32 at one time. This was only a relative figure for the technique used, because, with a more perfect technique and more frequent swabbings, probably many more individuals would have been found to harbour some meningococci. The fact remains that the general swabbing helped to detect the more heavily infected carriers, who were potent sources of further infection.

Prompt isolation limited their sphere of action, and this undoubtedly aided in stemming the epidemic. The isolation of all detected carriers was complete; this was considered advisable, for though simple spacing out would have limited their range of activity, the adequate supervision of scattered carriers would have been impracticable.

The spacing out of beds and efficient ventilation of barrack rooms, as normally arranged by the authorities in charge, was adequate, there being 2½ to 3 feet between adjacent beds, so that this was not a likely factor in the spread of the infection. The inter-bed space was increased, however, to 4 feet, and, as a further precaution, the beds in each row were placed alternately head and foot towards the wall. But the problem of preventing local crowding around the fireplaces remained; this was difficult to control without constant supervision.

The canteen and cinema, well-recognized spots for local overcrowding, lived up to their reputation, especially the former. Reference to Chart 2 and the associated text supplies all the information needed on this subject. The canteen was closed on February 12th, and as a temporary measure the salespeople were permitted, at appointed times, to serve the men in the barrack rooms. The closure of the canteen proved a crucial measure in staying the epidemic.

Nasopharyngeal disinfection was applied to all personnel in the infected unit, first of all by means of a spraying chamber, latterly by nasal douching and gargling. Zinc sulphate (1 per cent. solution) was used in conjunction with Levick's steam spray, and the men were exposed to its action for fifteen minutes daily. Nasopharyngeal swabbings taken from a hundred men the day following their sixth spray treatment showed 32 per cent. to be harbouring viable meningococci—the highest carrier rate detected during the epidemic. It was suggested that this proved the efficacy of spraying, for the coryza induced by its action caused lurking germs to be discharged from their lairs in the nasal sinuses. The use of the spray chamber was discontinued, however, partly on account of the length of time necessary to pass all the personnel through it, and in part because of the danger of spreading infection when the men crowded together during the various stages of coming, going, and entering the chamber. Latterly, nasal douching was adopted instead of the spraying. The douching was carried out thrice daily for a fortnight with either a 1 in 5,000 solution of potassium permanganate or an alkaline douche which consisted of sodium bicarbonate and borax, 2 drachms of each, liquid carbolic acid, 1 drachm, sugar, 1/2 ounce, water to one pint. The solution was held in the palm of the hand and sniffed up vigorously. In addition, a chlorine gargle was given according to the following formula: potassium chlorate, 200 grains, hydrochloric acid, 40 minims, to a pint of water. This method of nasopharyngeal disinfection proved simple to administer and efficient as regards its action, as may be judged by the result obtained in the treatment of carriers.

The Treatment of Carriers.—The contact carriers were transferred to special isolation blocks at Halton, where routine treatment was carried out. They were exercised in the open and spaced out as much as possible, and thrice daily for a fortnight they practised nasopharyngeal disinfection by douching and gargling, as indicated above. At the end of a fortnight medication ceased, and nasopharyngeal swabbings were examined for the meningococcus every other day. In any case where meningococci were found to persist, treatment began all over again. Carriers were not pronounced free from infection until six consecutive swabbings proved negative to the meningococcus; 75 per cent. were found to be free from the infection within a month. For fuller details see Table I.

Conclusions

1. The recent outbreak of cerebro-spinal fever in the Royal Air Force was confined to newly joined recruits, aged between 18 and 23½ years, and appears to have been precipitated by local overcrowding in canteen, cinema, and around barrack room fires.

2. It was not an isolated outbreak, but formed part of an epidemic spread widely over England, and the lessons learned from it can be applied to the problem as it affects the civil community, among which the incidence of this disease has of late years grown to disquieting proportions. It is suggested that the increased patronage throughout the country of cinemas with their continuous performances, cafés in preference to bars, and closed charabancs in lieu of trains play an important part in the dissemination of droplet infections, and may help to explain the increased incidence of cerebro-spinal fever.

3. The control of the disease is chiefly a matter of spacing out, so that special attention should be paid to the number of individuals gathered at one time in canteens, cafés, cinemas, and closed conveyances. The proprietors and public should be suitably warned of the danger of confined atmospheres. Barrack rooms in this country should be centrally heated to ensure efficient warmth and ventilation, without local overcrowding.

4. Nasopharyngeal disinfection by means of simple douching and gargling is efficient, and should be adopted as an additional precautionary measure, especially by those who come in contact with the sick, and by carriers. It should be persisted in for a fortnight after the last exposure to infection.

5. A general nasopharyngeal swabbing of the inmates of an infected barracks is an advisable measure, as it is a rapid method of detecting the more heavily infected and therefore dangerous carriers. Prompt action in this direction, together with adequate spacing out of personnel, should nip in the bud most epidemics of cerebro-spinal fever. Swabbing of the immediate contacts should suffice, if further cases arise.

6. Detected carriers should be isolated to limit their radius of infectivity. They should practise nasopharyngeal disinfection by douching thrice daily for at least a fortnight before swabbings are examined for the meningococcus. No carrier should be liberated unless at least six swabbings, taken on alternate days, are negative to the meningococcus. Alternatively, all carriers might be liberated at the end of six weeks without the examination of nasopharyngeal swabbings, provided they had carried out the nasopharyngeal disinfection daily during that period.

7. Early diagnosis is most important both for the sake of prevention and of cure. Most cases can be diagnosed by careful clinical examination, but a simple total leucocyte count of the blood is of material aid in the differential diagnosis between influenza and the early stages of cerebro-spinal fever.

8. The globulin content of the cerebro-spinal fluid and the position of the meningococci, whether chiefly intracellular or extracellular, are valuable prognostic guides.

9. There is a tendency to regard antimeningococcus serum as a magic cure for cerebro-spinal fever, but, although some batches of the serum have been possessed of remarkable curative powers, others have proved of little therapeutic value. This variability of potency has been noted in many epidemics, and it would appear to be due to difference in the technique of preparing the serum, also to the nature and proportion of the types of meningococci used. Thus, the recent epidemic has been caused by Type I meningococcus, whereas the polyvalent antimeningococcus serum available has been prepared chiefly against Type II of the organism. In addition, the success of the treatment depends greatly on applied physiology. The aim should be to reduce the increased intrathecal pressure to normal limits, to replace as far as practicable the purulent cerebro-spinal fluid by a bland fluid such as normal saline, and to ensure the uniform distribution of antiserum throughout the subarachnoid space. For this purpose about 60 c.cm. of cerebro-spinal fluid should be withdrawn, the subarachnoid space irrigated with 100 to 200 c.cm. of saline, and up to 30 c.cm. of antimeningococcus serum injected intrathecally, once or twice daily, until at least three days after meningococci have disappeared from the cerebro-spinal fluid. This treatment by subarachnoid lavage is not new : it is apt to be ignored, however, possibly because of the extra work entailed; but this is labour well spent, as those who care to try it will be able to testify.

REFERENCES

[1] Netter, A., and Debré, R.: *La méningite cérébro-spinale*, Paris, 1911.
[2] Flack, M. W.: Report on Cerebro-spinal Fever in the London District. Medical Research Committee, Special Report Series, No. 3, 1917, p. 31.
[3] Horder, T. J.: *Cerebro-spinal Fever*. London, 1915.
[4] Hirsch, D. I.: Irrigation of the Spinal Canal as a Preliminary to Introduction of Flexner's Antimeningococcic Serum, *Journ. Amer. Med. Assoc.*, March, 1913, 828.
[5] Aubertin, C., and Chabanier, H.: Le lavage du canal rachidien dans la méningite cérébro-spinale, *La Presse Méd.*, June, 1915, V, xxiii, 213.
[6] *Manual for Medical Officers of the Royal Air Force*, A.P. 1269, London, 1927, pp. 62 and 66.

SPONDYLITIS DEFORMANS

BY

CHARLES W. BUCKLEY, M.D., M.R.C.P.

PHYSICIAN TO THE DEVONSHIRE HOSPITAL FOR RHEUMATIC DISEASES, BUXTON

(With Special Plate)

This paper is based upon a clinical and radiological study of 150 cases of spondylitis of various types treated in the Devonshire Hospital during the last three years. In order to narrow down the scope all cases in which there were no obvious bony changes on *x*-ray examination, in spite of stiffness of the back, have been excluded, as well as cases of osteitis deformans.

The most notable investigations prior to the general use of *x* rays in diagnosis are those of Pierre Marie, Strümpell, and von Bechterew, with whose names certain types of spondylitis have come to be associated. It is, however, worthy of note that Dr. Bernard Connor, writing in the *Philosophical Transactions* in 1700, describes a skeleton [illegible] ying the characters of spondylitis ankylopoietica with an exactitude that can hardly be improved upon, and deduces the clinical features of the disease.

" All these bones which naturally are separate and distinct from one another were here so straightly and intimately joyned, their ligaments perfectly bony and their articulations so effaced, they readily made but one uniform and continuous bone, so that it was as easie to break one of the vertebrae in two as to disjoynt or separate it from the other vertebrae or the os sacrum from those of the ilia. The roots of the ribs made but one equal smooth and plain superficies with the vertebrae and their apophyses. . . . The cartilaginous edge of the vertebrae themselves were turned to perfect bone. But when I had sawed two of the vertebrae asunder at the commissure I found that this uniting did not enter above two lines deep . . . their middles were separated as they usually are, and touched each other only at their edge which was raised up a little above the middle part."

It is also clear from other parts of his description and from the illustration he gives that there were no osteophytes, and that the ankylosis was due to ligamentous ossification. Hilton Fagge in 1877[2] described a similar case which came to necropsy, but adds the observation that there was great softening and fragility of the bones (a point of much importance also stressed by Leri[3]), which is a characteristic feature of this form, the " spondylose rhizomelique " of Marie and Strümpell. The type described by von Bechterew differs from that of Strümpell and Marie. Fraenkel[4] contrasts the two types as follows:

Bechterew Type	*Marie-Strümpell Type*
Stiffening of the spine from above downwards, descending.	Stiffening of the spine from below upwards.
The ankylosis results in a very bent attitude; kyphosis is always present.	The ankylosis results in an erect attitude; kyphosis is seldom seen.
Nerve-root symptoms and irritation phenomena are always present.	Nerve manifestations may be missing in some cases.
Joints of the extremities are never involved.	The root joints of the extremities are always, and other small joints often, ankylosed.
Paretic condition of the muscles with slight atrophy.	Atrophy of the musculature is often very pronounced.
Process begins as an infection of the pia spinalis.	Primary process is an ossification of the spine.
Etiology: heredity, trauma, lues.	Etiology: rheumatism and infection.

The first five of these points of difference are not diagnostic, but appear to depend on the degree of severity, on the treatment of the case, and on the site at which the disease begins. The commencement as an affection of the spinal meninges is the essential difference, but much more evidence is required before it is proved that the two types are distinct. I am therefore adopting the classification of spondylitis into two main groups: spondylitis ankylopoietica or ankylosing spondylitis, which includes both the above varieties, and spondylitis osteo-arthritica, the degenerative or hypertrophic form, one of the outstanding features of which was indicated by Sir Samuel Wilks in the name which he gave it—" labourer's spine." To these may be added traumatic, tuberculous, and possibly syphilitic spondylitis.

SPONDYLITIS ANKYLOPOIETICA

As the name implies this is distinguished by its striking tendency to ankylosis of the vertebral and adjoining articulations, the end-result of which is so vividly described by Connor. Of my series sixty were of this type, and the age incidence was as follows:

Below 20	20-30	30-40	40-50	50-60	Over 60
1	17	20	15	5	2

There were six women in the series, which, so far as I am aware, is a higher proportion than has previously been

recorded. This is in marked contrast with the sex incidence of rheumatoid arthritis. The Devonshire Hospital figures for the past three years are 1,137 males and 1,991 females, figures which, while less striking than some of the statistics quoted, demonstrate the much greater susceptibility of the female sex. This marked difference in sex incidence is difficult to explain if the view is accepted that spondylitis ankylopoietica is only a form of infective arthritis in which the spinal articulations rather than those of the extremities happen to be affected. Freund,[5] without giving actual figures for comparison, states that he has seen only one female among the numerous cases he has observed, and can trace only one other in the literature. The latter patient, whom he describes, presented very definite indications of thyroid and ovarian functional deficiency, and developed symptoms a year after an attack of typhoid fever. The six female cases in my series conform closely to the classical types, two showing the von Bechterew characteristics, though not in a pronounced form; it is therefore desirable to tabulate them for purposes of comparison.

Case	Age	Duration	Symptoms	X-Ray Findings	Cause	Menstruation	General Health
J. C.	25, S.	4 years	Stiffness and pain in back	Osteoporosis; no exostoses; linking of vertebrae	Frequent sore throats	Normal	Good
C. H.	36, M.	5 years	Pain first in left leg, spreading to back; stiffness	Osteoporosis; no exostoses; ankylosis of vertebrae, of sacro-iliac and hip-joints	Probably gonorrhoea	Irregular, excessive; no children	Poor; emaciated weight 5st. 10lb.
L. L.	49, M.	7 years	Began in lumbar region and spread up to neck	Osteoporosis; no exostoses; ankylosis of whole of spine	Probably gonorrhoea	Menopause at 47; no children	Good
E. H.	31, M.	4 years	Pain and stiffness of back	Osteoporosis; no exostoses; ossification of ligaments and early sign in disks	Onset after parturition	One child; no note of uterine functions	Normal
M. P.	38, S.	5 years	Pain began in neck and spread downwards; kyphosis at cervico-dorsal junction	Increased density of bones except sacrum; disks thin; ankylosis of vertebrae, costo-vertebral, sacro-iliac, and hip-joints; no exostoses	Onset after influenza; query syphilis	Normal	Very thin; weight 6st. 3lb.
E. Y.	25, S.	4 years	Head bent forward, due to kyphosis at cervico-dorsal junction; spine rigid	Ankylosis of upper dorsal vertebrae; density normal; no exostoses	Query syphilis; negative Wassermann	Normal	Blood pressure 190 130

ETIOLOGY

No case in this group resembles the one described by Freund, nor is there evidence of any definite endocrine disorder. The first case appears to have been due to infection from the throat; the second, third, and fourth are probably gonorrhoeal, the four being of the Marie-Strümpell type. The last two resemble the form described by Bechterew in the fact that the disease began in the cervical region and spread downwards, giving rise to kyphosis at the cervico-dorsal junction and to the resulting peculiar carriage of the head. They did not present any symptoms indicative of involvement of the nerve roots; one showed increased density of bone; and the other was normal as far down as the sacrum, which appeared rarefied. Syphilis is mentioned as one of the possible causes of this type, and the marked increase of density in the case of M. P. supports this opinion, but no Wassermann test was made; E. Y. showed a negative reaction to this test, but an abnormally high blood pressure. It is open to doubt whether a single negative result is conclusive, and Schlesinger[6] states that the Wassermann reaction can be positive in the joint fluids when it is negative in the blood.

INJURY AND INFECTION

In diseases of this kind the information supplied by the patient as to the probable cause is never very reliable, and while some sort of history was obtained in forty-five cases, too much importance must not be attached to it. There was a clear history of accident in seven cases (apart from those with definite injury to the spine which have been classed separately); eight others referred the onset to their service during the war. Much importance was formerly attributed to injury as a cause of spondylitis, but this view is now losing ground. Marie and Astie[7] regard injury as having a neurotrophic influence, impaired nutrition of the vertebrae being secondary to concussion of the spinal cord; but, on the other hand, Poncet and Leriche[8] hold that the effect of the injury is merely to favour infection, and the frequency with which tubercle attacks the spine after accident supports this view. Four patients gave a history of enteric fever; of these, one had a positive Widal reaction and another, whose reaction was negative, had recently had phlebitis, possibly of typhoid origin. Five gave a history of onset with acute generalized rheumatism or a previous attack of rheumatic fever, though it is possible that some of these may have been cases of gonorrhoeal rheumatism. Ten admitted having had gonorrhoea or showed definite evidence of it, and probably many more had been infected; but it is difficult to induce patients to be frank on this point. Of the remainder, ten had septic tonsils or pyorrhoea, and several had had their teeth extracted at some date before admission, but after the onset of the symptoms, which suggests that they were infected. I think that all that can be deduced from these figures is that injury or strain and previous attacks of rheumatism are important predisposing causes, and that infection is the actual exciting cause—gonorrhoea, pyorrhoea, or infected tonsils being the most usual. I am not fully convinced that the *Bacillus typhosus* causes typical spondylitis ankylopoietica.

Sedimentation Rate

In twenty-three cases the sedimentation rate varied from 44 to 65, with a mean of 52 at the end of the first hour, compared with the normal of 90 to 95; this supports the infective theory, and is in marked contrast to the rate found in nine cases of spondylitis osteo-arthritica which varied from 84 to 94, with a mean of 88.

Symptoms and Radiographic Appearances

On radiographic examination the most striking feature in a large proportion of the cases was osteoporosis of the vertebral bodies and often of the ilia and sacrum; it was frequently of extreme degree. This is a point of much importance, confirming Fagge's observation of the great softening and fragility of the bones in his case at necropsy, and furnishes an explanation of some of the features of the disease. It is the primary change preceding any alteration in the ligaments, so far as I can judge. The effect varies in the different parts of the column according to the form and degree of the curvature, and also depends on whether the patient has been kept in bed or has mainly been in an erect or sitting posture. If the disease starts in the lumbar region there is pain in the back, and as lying is the most restful posture it is adopted as much as possible, especially in acute cases. Very commonly

there is also pain in the distribution of one or both sciatic nerves due to pressure on the nerve roots as they pass through the spinal foramina ; this is an additional reason for resting. The result is that flattening of the lumbar curve is commonly met with, and kyphosis does not occur.

Ossification

Inflammation of the joints between the articular processes arises early and leads to marked tenderness of the spine on pressure or percussion. Ossification of the capsules of these joints, of the ligamenta subflava, and of the interspinous ligaments, quickly follows, and the spine becomes rigid (Fig. 1). Ossification of the anterior common ligament is not a conspicuous change in this region in man, but is very frequently met with in horses. This has led to undue importance being attached to this change as a feature of the disease: it is simply a reaction to mechanical stress on the weakened bony structures which is obviously present to a great degree in horses in this part of the spine. Ossification of the intervertebral disks is the common change in man, affecting the outer fibrous laminae but not the central portion, which gives rise to an appearance suggesting an extension of the anterior common ligament round the sides of the bodies and its ossification. The bodies themselves tend to become constricted in the middle and spread at the edges with the appearance described by Krebs[9] as "bamboo-like" (Fig. 2) ; but exostoses do not form, and this is a most important diagnostic point. The articular processes become firmly ossified (often also the spinous processes), the bodies are joined together by the ossified disks and ligaments, and the spine becomes a rigid bar (Fig. 3).

When the dorsal region is affected either primarily or by the upward spread of the disease the changes are modified by the difference of the curve ; kyphosis develops early, but is never extreme, the posterior ligamentous structures ossify to meet the strain, and ossification often involves the anterior and posterior common ligaments. The costo-vertebral joints are implicated early and respiration soon becomes entirely abdominal ; intercostal pain is a common symptom ; and the ribs become firmly ossified to the vertebrae.

Lipping of the anterior edge of the bodies often occurs as a result of the pressure, which is naturally greatest on the concave aspect of the curve ; the greater the kyphosis the more marked will be the lipping. The disks become thinned and lenticular in shape, and union soon takes place at the edges of the bodies. When the lower cervical vertebrae are affected the weight of the head causes compression of the bodies, and an extreme degree of kyphosis is apt to develop. To compensate, the head is hyperextended and the bones become ankylosed in this position, characteristic of the Bechterew type (Fig. 4). The atlanto-axial joint often escapes, and thus rotation of the head is retained, but there is usually well-marked thickening and ossification of the anterior common ligament.

Ankylosis

The sacro-iliac joints become completely ankylosed early in the disease if it starts in the lower spine. The hip-joints quickly follow suit, and will be fixed in extension or flexion according to the position usually taken up by the patient. In one of my cases the body from the head to the knees was completely fixed, but there was no bony change in knees or shoulders. Another whose hips were fixed in semi-flexion has recently undergone operation in the hope of restoring their mobility. Although pain and some degree of stiffness may be met with in knees and shoulders, as well as in other peripheral joints, I have not met with the bony ankylosis in these joints recorded by other observers. It would seem as though bony ankylosis occurred only where immobilization was secured by any means and that treatment should be directed to preventing this.

The degree of softening is not so great as that met with in osteitis deformans, and never results in deformity of the kind or extent met with in that disease, though scoliosis may occur as well as kyphosis, and is more common in the lumbar region. It would seem a reasonable hypothesis that the softening of the vertebral bodies and the consequent danger to the vital structures in the spinal canal led to rapid ossification of the ligaments to neutralize this risk.

Freund[5] regards as the primary change a destructive inflammatory process in the joints of the articular processes leading to atrophy and ossification of the cartilage ; Fraenkel[4] also considers the ankylosis of these structures to be primary.

My own observations lead me to think that osteoporosis is earlier than any destructive process in the articulations which can be detected by x rays. The appearance of the hip-joints when the disease has spread to them indicates clearly that the cartilage undergoes destructive changes early ; later there is often slight mushrooming of the head of the femur, but not to anything like the same degree as in osteo-arthritis of these joints.

Progress of the Disease

The rate of progress of the disease varies widely. In some cases the onset is acute and the progress rapid, so that the whole spine becomes rigid within a few months. In others the rate is much slower, and may be arrested when only a portion of the spine has been affected. Sometimes the onset is so insidious that the patient does not seek advice until there is extensive damage. The earliest symptoms are commonly those of lumbago and sciatica, and may be of no great severity. It is not uncommon to meet with a history of such symptoms followed by remission and recurrence after a few months, this happening two or three times before the nature of the disease is recognized. Spondylitis ankylopoietica may supervene upon other diseases of the spinal column and cause difficulty in diagnosis. This sometimes occurs when the degenerative changes of "labourer's spine" have already set in ; in this way mixed cases arise.

The small joints of the limbs are not often affected. There were five cases in the series which showed arthritis of the hands, wrists, or ankles, but in these there was no difference in the appearance of the spine. One in fact furnished the best radiogram of ossification of the anterior spinal ligament in the dorsal region. In this patient the symptoms in the back appeared eight years before I saw him, and the knees and ankles had become affected much more recently ; he had been able to continue his work as a post-office sorter throughout. Since gonorrhoea and other causes of infective arthritis may set up either a spondylitis or an arthritis of the rheumatoid type, it would not be remarkable if both conditions occurred together. It is surprising that this is so rarely the case. On the whole I think that the balance of evidence is in favour of the view that the pathological basis is different in the two conditions, but that both may occur in the same individual. It is, however, extremely probable that further study may reveal features by which the cases I have grouped together under the general term spondylitis ankylopoietica may be divided into two or more subclasses. To attempt to do so at present would lead to confusion.

SPONDYLITIS OSTEO-ARTHRITICA

This disease is described by some writers as spondylosis deformans to emphasize its essentially degenerative character, but the ankylopoietic form is productive of greater deformity. The term osteo-arthritica, though

cumbersome, has the advantage of clearly defining the condition, which is of the same nature as osteo-arthritis of other joints. There were 61 patients of this type in the series, of whom only two were women. The age incidence was: 40 to 50 in 13 cases; 50 to 60 in 34 cases; and 60 to 70 in 14 cases.

Etiology

The most important factor in its production appears to be the strain and wear and tear of heavy labour. Of the 61 patients, 31 were coal miners, and a majority of the others were engaged in similar laborious work. I believe that if any substantial number of men over 50 engaged in such work were submitted to *x*-ray examination, a large proportion (probably not less than 50 per cent.) would show signs of spinal osteo-arthritis without having had any notable symptoms. My cases presented all grades, from slight lipping of the bodies of the vertebrae to the formation of very large exostoses which, in some, became joined to form bridges between adjacent vertebrae —a form of union which is quite different from that occurring in spondylitis ankylopoietica.

Symptoms

Frequently the patient says that the onset of pain and stiffness of the back has been quite sudden, whereas the radiograph reveals exotoses which must have been many months or years in process of formation. In reality the back has gradually been getting stiffer until some effort, no greater than has previously been borne with impunity, gives rise to pain of a more or less disabling character, and the patient seeks treatment. After a short rest he attempts to work again, with the same result; and he is forced to give up his usual occupation and seek something lighter, often without success. On the other hand, he may attribute his disability entirely to the sudden strain which brought it to light, and become a claimant for compensation; it is thus a matter of much medico-legal importance to recognize the sequence of events.

It is to be noted that spondylitis osteo-arthritica is not a seriously crippling disease, and the degree of flexibility of the spine which is retained is often remarkable. Some flattening of the lumbar curve is usual, and there may be kyphosis of the dorsal region which is not due to the spondylitis directly, but has gradually developed as a result of habitual posture, usually occupational, and become fixed by the bony changes. Pain is not a marked feature, except from strain or over-use, and may be entirely absent; but, on the other hand, it may be severe if the exostoses press upon the nerve trunks at their emergence from the column or at any point in their course, and it may then be referred to the extremities (Fig. 5).

The primary change is probably in the intervertebral disks, which, as a result of long-continued strain upon their buffering function, aided it may be by toxic or infective influences, undergo degeneration or partial atrophy just as does the cartilage of other joints in similar circumstances, of which the best example is the hip in malum coxae senile. As a result, exostoses are thrown out to support the weakened articulation. Local trauma (especially if frequently repeated, even though only slight) tends to marked local development of such changes. A striking example of this occurred in one of my cases which presented a slight kyphosis of the lumbar spine and exostoses of the second and third lumbar bodies. On inquiry, the patient, an intelligent man, volunteered the suggestion that it might be due to having to walk more than a mile from the bottom of the pit in which he worked along a seam too low for him to stand upright in order to reach his working place. In doing so he often bruised his back against the roof in just the position in which the changes were observed. A strain or injury may affect one side more than the other, or the habitual working posture may give rise to changes greater on one side, with a resulting scoliosis. Very large curved exostoses may be developed in this way.

Effect of Syphilis

It appears to me, however, that some additional factor, toxic or infective, is required to produce the more extreme examples. Syphilis is probably one of the most important of such influences, and may be suspected if the increase of density is very marked locally or generally; clear areas possibly due to gummata are also seen in the radiograms in some cases. A negative Wassermann reaction does not absolutely exclude syphilis; but on the other hand one meets with cases in which the Wassermann reaction is positive, but which do not show any changes in the vertebrae differing from those in the general run of cases. A curious chalky appearance is sometimes seen in the negative, which cannot be demonstrated in a print. The excessive and irregular osteophytic development is sometimes suggestive of Charcot's arthropathy. There were nine cases in the series in which there were changes suggestive of syphilis, but in only one was the Wassermann test positive, though it was not tried in all. In one there was a history of a chancre, another had signs of neurosyphilis, and the others showed advanced arterial degeneration. The evidence is not sound enough on which to base any description of a syphilitic spondylitis. The question of osteitis deformans was considered in some cases, but it was excluded by means of the phosphoric esterase test.

OTHER TYPES OF SPONDYLITIS

Healed or quiescent tuberculosis of the vertebrae may present an appearance which it is easy to confuse with other forms of spondylitis. It is not uncommon for several vertebrae to be affected and to present an appearance resembling the osteo-arthritic form. Jones and Levett[10] lay stress upon the perivertebral shadow seen in antero-posterior views; but in old cases this may be absent or difficult to identify. They also point out that an irregularity of the anterior edge or corner of the bodies as seen in a profile radiogram is characteristic (Fig. 6); this was readily demonstrated in some cases in this series. The intervertebral disks undergo rapid disintegration and disappear, leaving the eroded surfaces of the bodies in contact; fusion frequently takes place. In the lumbar region especially there may be an osteoplastic periostitis linking the bodies together, which may in turn be invaded by the disease.

Kümmell's Disease

Kümmell in 1895 described a condition to which he gave the name spondylitis traumatica. In this, after an injury to the back which appears to be quickly recovered from, the symptoms of pain and stiffness reappear and a slight kyphosis develops. This is due to the breaking down of the cancellous tissue of the body of the injured vertebra, which is crushed and becomes wedge-shaped. Its early recognition is important, to prevent the damage from increasing. There were two cases of this condition in my series, in addition to simple crush fractures and fractured transverse processes, both of which may closely simulate spondylitis clinically, since rigidity, pain, and tenderness are prominent symptoms; but they are readily diagnosed in a radiogram. Malignant disease may occasionally give rise to difficulty, but, since it is usually secondary, attention to the history should serve to prevent mistakes. The condition may resemble tuberculous disease very closely. There were two cases of this kind in the series, and in one the secondary growth had developed in the presence of typical spondylitis osteo-arthritica.

NOTE ON TREATMENT

The question of treatment is outside the scope of the present paper, and would take up too much space. The essential point is to recognize the ankylopoietic form as early as possible and to deal with any focus of infection, to take steps to prevent the development of kyphosis, ankylosis of the hips, etc., by rest, supports, or by other methods, and to pay special attention to the defective calcium metabolism by correcting vitamin deficiency and other disorders of nutrition. Freund recommends treatment at a spa, preferring Gastein, a spa of a type well represented in this country.

I wish to express my thanks to my colleagues on the staff of the Devonshire Hospital for permission to make use of some of their cases, to Mr. J. Race of the research department for much help in translating references in German literature, and to Mr. Gibson, the radiographer, for his excellent illustrations.

REFERENCES

[1] Connor: Quoted by Llewellyn Jones, *Arthritis Deformans*, 1909.
[2] Fagge: *Trans. Path. Soc.*, 1877.
[3] Leri: *Nouvelle Iconographie de la Salpêtrière*, 1906.
[4] Fraenkel: *Deut. Klinik*, xi. Quoted by Freund: *Gelenkerkrankungen.*
[5] Freund: *Gelenkerkrankungen*, 1929.
[6] Schlesinger: Quoted by Fischer, Report of the Research Institute for Rheumatism, Aachen.
[7] Marie and Astie: *La Presse Médicale*, 1897.
[8] Poncet and Leriche: Quoted by Llewellyn Jones, loc. cit.
[9] Krebs: *Deut. med. Woch.*, 1930, Nos. 6 and 7.
[10] Jones and Levett: *Orthopedic Surgery*, 1923.

TWO CASES OF SYPHILITIC SPONDYLITIS

BY

CHRISTINE ABERNETHY, M.B., CH.B.

ASSISTANT RESIDENT MEDICAL OFFICER, FAZAKERLEY SANATORIUM, LIVERPOOL

Syphilitic spondylitis is an uncommon lesion according to the literature, and, for this reason, two such cases admitted to Fazakerley Sanatorium seem worthy of record.

CASE I

Male, aged 36, gave a history of "rheumatism" of ten years' duration affecting his arms and shoulders, and improving and relapsing at intervals. Twelve months before admission he was crushed between heavy gates, and he attributed the subsequent pain in the chest wall, shoulders, and neck to this accident. Rest and local treatment did not relieve his symptoms. He was *x*-rayed, and was found to have a destructive lesion in the cervical vertebrae. He was diagnosed as a case of tuberculosis of the spine, and was accordingly admitted to this sanatorium. On admission (December, 1927), temperature and pulse were normal. The patient complained of pains in the neck and shoulders. For the previous three or four days he had had difficulty in swallowing. He also showed a slight degree of dyspnoea. These symptoms could be accounted for by a bulging of the pharyngeal wall, which did not feel like an abscess. The subsequent *x*-ray picture proved that the atlas was dislocated forward on the axis and that the first three cervical vertebrae were carious.

Fixation on a double abduction frame with head extension gave only temporary relief. Pain became localized in the right arm. Two months after admission, a bony swelling appeared in the lower third of the humerus, which the radiologist diagnosed as a non-tuberculous lesion and most suggestive of a syphilitic infection. This diagnosis was confirmed by a positive Wassermann reaction. Administration of neokharsivan brought about an uninterrupted recovery in the spinal condition, which proved to be soundly healed twelve months after admission. In spite of treatment, however, a pathological fracture occurred through the gumma in the humerus four months after the onset of symptoms, and this failed to unite.

The patient was sufficiently well to be discharged in February, 1929 (fourteen months after admission), and to continue treatment outside.

CASE II

Male, aged 41, also gave a history of rheumatism over a period of at least ten years. For eighteen months before admission, abscesses had appeared over the sternum and in the region of the parietal bones. These had broken down, but scars proved that some of the lesions had healed spontaneously. On admission (February, 1928), there were several discharging sinuses over the sternum and the skull. Temperature was 100° to 97°, pulse rate 96 to 76. The multiple character of his lesions and the history suggested examination of the blood, which gave a positive Wassermann reaction.

About three weeks after admission, the patient complained of pain and stiffness in the neck. As this did not yield to ordinary treatment he was *x*-rayed. This time it was found that the body of the third cervical vertebra showed early destruction.

The patient rapidly improved under administration of neokharsivan, in addition to the application of a surgical support. Radiologically, the lesion was soundly healed at the end of nine months, and in September, 1928, he was discharged to attend hospital as an out-patient.

Interesting points are as follows:

1. The diagnosis in the first case was dependent on the *x*-ray findings.

2. The situation of the lesion in both cases was in the cervical spine.

3. Abscess formation frequently accompanies a tuberculous lesion, but is not typical of syphilitic caries. In this first case the suggestive retropharyngeal swelling was due to dislocation.

4. In both cases the Wassermann reaction was strongly positive, and was still positive, despite treatment, when the patients were discharged.

Of the few cases reported in this country, the earliest was a case of exfoliation of the atlas, described by Keate in 1835. Wade,[1] in 1849, recorded another case of cervical caries. Evans and Marshall[2] published a case in 1920. From the literature, Ziesche[3] collected eighty-eight cases, and found that in 75 per cent. of these the lesion was situated in the cervical spine.

I am indebted to Dr. C. Rundle, medical superintendent of Fazakerley Sanatorium, for his kindness in permitting me to publish these cases, and also to Mr. J. T. Morrison, visiting surgeon to the sanatorium.

REFERENCES

[1] Wade: *Med. and Chir. Trans.*, 1849, xlii, 65.
[2] Evans and Marshall: *Lancet*, 1920, i, 656.
[3] Ziesche: *Über die Syph. Wirbelentzündung Mitt Grezgeb. d. Med. und Chir.*, 1909, xii, 35.

A CASE OF PULMONARY ASBESTOSIS

BY

H. E. SEILER, M.D., D.P.H.

DIVISIONAL MEDICAL OFFICER OF HEALTH, PUBLIC HEALTH DEPARTMENT, GLASGOW

AND

MARY D. GILMOUR, M.A., M.B., CH.B.

ASSISTANT PATHOLOGIST, PUBLIC HEALTH DEPARTMENT, GLASGOW

(With Special Plate)

The problem of the production of industrial fibrosis of the lungs by the silicate dusts, and notably asbestos, has, because of its evident importance, received increasing attention during the past few years. It is felt, therefore, that some further notes on the after-history of one of the earliest reported cases of pulmonary asbestosis may be of interest. This case, reported by one of us in the *British Medical Journal*,[1] was the first in which the relationship between the inhalation of asbestos dust and fibrosis of the lung could be satisfactorily established: the essential factors being—exposure to asbestos

dust, the presence of a definite pulmonary fibrosis demonstrated clinically and radiologically, and the absence of a history of previous infection, or of exposure to other dusts known to cause pulmonary fibrosis. Two other cases, the "Montague Murray" case[2] in 1906 and "Cooke's" case[3] in 1924, had been previously described; and, in addition, Simson[4] had reported fibrosis in workers employed in crushing asbestos rock as apart from those employed in the manufacturing processes. In most of these cases, however, the fibrosis had been associated with either a pulmonary tuberculosis or an unresolved pneumonia, and it was doubtful whether asbestos dust could of itself produce a disabling fibrosis. Since the publication of these cases, the recent extensive and exhaustive researches on this subject by Dr. E. R. A. Merewether[5] have definitely established the existence of pulmonary asbestosis as a clinical entity, and have amplified our knowledge of the clinical characteristics of the disease and its distinction from silicosis. So far, however, little information about the pathological findings in cases uncomplicated by pulmonary tuberculosis or other gross changes has been obtained. Wood and Page[6] have published the details of one such case, and two others are quoted by Merewether, together with the detailed examination of a few cases by M. J. Stewart.

The patient who is the subject of these notes has died, and the fact that pathological examination showed that death was due solely to cardiac failure secondary to back pressure resulting from the massive generalized fibrosis and irrespective of any added infection is an additional point of interest in his case.

CLINICAL NOTES

The patient, a man aged 42, had been associated with the asbestos industry since boyhood. The total period of employment in the asbestos industry was 24½ years, for 23¼ years of which he was definitely exposed to the inhalation of asbestos dust. He had worked four and a half years in the cardroom, seven and a half years as a dry cloth weaver, and for the remainder of the time in the manufacture of millboard. The last-named is not in itself a dusty process, but exposure to dust from other processes was experienced for most of the time. It is probable that the foundations of his fibrosis were laid in the course of his work in the former two processes, which were definitely dusty, and that work in the millboard section had little effect.

As previously reported, he came under observation for the first time in February, 1928, as a suspected case of pulmonary tuberculosis. He complained of cough, breathlessness, loss of weight, and lassitude extending over a period of several months. Clinical examination at that time, however, did not suggest a diagnosis of pulmonary tuberculosis, and the association of the illness with his occupation was strongly suspected. The physical signs in the chest were those of a widespread fibrosis of both lungs and bronchitis; radiographic examination revealed a diffuse fine mottling of a silicotic nature spread throughout both lungs. The results of these examinations, together with the absence of a history of previous illness likely to produce a pulmonary fibrosis in a man who had not been exposed to other dusts, pointed definitely to a pulmonary fibrosis resulting from the inhalation of asbestos dust.

The patient was admitted for institutional treatment on March 27th, 1928, and he improved to such a degree that five months later it was possible to discharge him. He had gained weight, only a slight degree of cyanosis was present, and dyspnoea and cough were much less marked. Following his discharge from hospital, he was absent from work for a further period of nine months. However, he remained well, and was able to return to the asbestos factory and work as a supervisor of a practically non-dusty process. He continued at this work for twenty months, until December 3rd, 1930. For a few months before this date his general condition had again deteriorated, and he complained of increasing breathlessness and an exhausting cough. At the beginning of December, 1930, he noticed swelling of the ankles, and a week later his condition became so serious that he was removed to hospital.

His condition was now much worse; he was thin, with an anxious appearance, extremely cyanotic, and his breathing was very distressed. There was marked clubbing of fingers, and oedema of the lower limbs extending up to the thigh. The pulse was regular, rapid, and of low tension. The temperature was subnormal, and remained so during the illness. The cardiac dullness was definitely increased, and the heart sounds muffled with a soft systolic murmur at the apex. The percussion note was impaired over the whole of both lungs, varying in intensity, complete dullness being noted at the left base. On auscultation, moist rales and crepitations obscured any finer changes in the respiratory murmur. In spite of treatment, no improvement occurred on this occasion, and he died on December 30th, fourteen days after admission.

PATHOLOGICAL FINDINGS

At necropsy generalized anasarca was present. Face, neck, and shoulders were deeply cyanosed, and the conjunctivae were injected.

The right pleural cavity was obliterated by extremely dense fibrous adhesions, the whole of the right lung being invested with a greatly thickened membrane. The left pleural cavity contained a massive serous effusion. No adhesions were present on this side, but the visceral pleura showed irregular patchy fibrosis. Both lungs were very firm on palpation, and on section the lung tissue was remarkably tough and airless. All lobes were affected, so that there appeared to be no spongy lung substance left. The cut surfaces presented a curiously uniform, dense, fibrous appearance, dark grey with deep red mottling—the latter colour due to chronic venous congestion. A great increase in the connective tissue of the interlobar septa and deep layers of pleurae was present. The right lung, which was bulkier and tougher than the left, was obviously in a more advanced stage of the disease. Some large emphysematous bullae were present along the anterior border of the left lung. There was no evidence of any tuberculous process. The bronchi were not notably dilated; large glands, deep black in colour, were present at the roots. The heart and other organs showed all the signs of advanced cardiac failure. Hydropericardium was present. There was marked hypertrophy and dilatation of the right ventricle, with engorgement of the venous circulation, as evidenced by the condition of the viscera. The liver showed the typical nutmeg appearance of chronic venous congestion. Ascites was present. The spleen and kidneys had the hard consistence and purple colour of cyanotic induration.

Histological Examination

Sections from all lobes of both lungs were examined; and two outstanding changes were noted: first, a diffuse fibrosis; secondly, the presence of golden-yellow bodies.

Every structure in the lung was affected by the fibrosis. The alveolar epithelium showed reversion to the cubical embryonic type, and in parts was replaced by adult fibrous tissue. There was fibrosis of the walls of bronchi and vessels, many of the latter being the seat of thrombosis and endarteritis obliterans. In situations where fibrous tissue is naturally abundant, as in the septa and the deeper layers of the pleurae, the fibrosis was extreme, and consisted of very dense collagenous bundles, in some of which there was a deposit of lime salts. Collections of lymphocytic cells were scattered irregularly throughout, often in relation to new blood vessels in the fibrous tissue. Unlike the distribution of the fibrosis in silicosis, there were no fibrous nodules or whorls. Side by side with the fibrosis, emphysematous areas were occasionally seen with accompanying chronic venous congestive changes. A desquamative condition of the lining of the bronchi and bronchioles accompanied the fibrosis in their

walls, filling the lumina with epithelial and round connective-tissue cells. The absence of polymorphonuclear cells in bronchi or elsewhere was a conspicuous feature. No evidence whatever of a tuberculous lesion was found, or of acute pneumonic consolidation.

Asbestosis Bodies

The curious asbestosis bodies, so prominent a feature in cases already described by Cooke,[7] Simson,[4] Stewart,[8] and Lynch and Smith,[9] were abundantly present in all areas of both lungs. The bodies were generally golden-yellow in colour, and of great variety of shape and size. Many showed core, thought to be asbestos fibre, running down the centre of the body (Fig. 1); and in a few places the bare, translucent fibre itself was seen, with yellow deposit confined to the ends. Usually, however, the fibre was uniformly coated or encrusted with the yellow deposit (Fig. 2). The deposit gave the prussian-blue reaction for iron. The probable mode of formation of these bodies has been described in detail by McDonald.[7] In addition to the bodies, much yellow pigment in the form of granules and globular masses was seen (Fig. 2). All were to be found lying free or phagocytosed inside air vesicles and bronchioles, and embedded in the alveolar walls, or in the interstitial connective tissues (Fig. 1). Much of the finer dust was found within the endothelial cells of blood vessels, and in the peribronchial lymphatic glands. A few of the smaller bodies were also seen inside the lymphatic glands. A large amount of black carbon pigment was present throughout the tissues. Frequently both yellow and black pigments were phagocytosed within the same cell.

The photomicrographs are by Mr. Boot, Public Health Department, Glasgow.

REFERENCES

1 Seiler, H. E.: *British Medical Journal*, 1928, ii, 982.
2 Departmental Committee on Compensation for Industrial Diseases. Minutes of Evidence, Appendices, and Index: 1907, Cd. 3496, 127; Report, 1907, Cd. 3495, 14.
3 Cooke, W. E.: *British Medical Journal*, 1924, ii, 147.
4 Simson, F. W.: Ibid., 1928, i, 885.
5 Merewether, E. R. A.: *Journ. Indust. Hyg.*, 1930, xii, 198.
6 Wood, W. B., and Page, D. S.: *Tubercle*, 1929, x, 457.
7 Cooke, W. E.; McDonald, Stuart; and Oliver, Sir T.: *British Medical Journal*, 1927, ii, 1024.
8 Stewart, M. J., and Haddow, A. C.: *Journ. Path. and Bact.*, 1929, xxxii, 172.
9 Lynch, K. M., and Smith, W. A.: *Journ. Amer. Med. Assoc.*, 1930, ii, 659.

ROUTINE RADIOGRAMS FOR INVESTIGATION OF INTESTINAL OBSTRUCTION

BY

E. T. C. MILLIGAN, M.D., F.R.C.S.

AND

GEORGE SIMON, M.B., D.M.R.E.

CHIEF ASSISTANT, X-RAY DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL

(With Special Plate)

Localization of the site of intestinal obstruction before operation for its relief facilitates the surgeon's task, and so is of incalculable advantage to the patient.

Opaque meal and enema given for *x*-ray investigations in these cases are not infrequently a source of peril, precipitating complete obstruction where partial obstruction already exists, and, apparently, subjecting all cases of abdominal section to the risks of post-operative paralytic ileus if time, which can often be ill spared, is not taken to clear the alimentary tract of residual barium. Furthermore, delay in operative treatment for the necessary *x*-ray examination and emptying of the bowel is frequently detrimental to the patient's interest; indeed, in some cases where urgent symptoms are present, evacuating methods must be abandoned, although harmful barium still lies in the bowel.

Discussions and writings on such topics as blind caecostomy and methods of search for the site of obstruction at operation are tacit admissions of inability, in many cases, to localize the site of obstruction by clinical methods until surgical exploration is performed. Enlightenment in this difficult matter of localization would therefore be acceptable, since a feeling of assurance would be inspired and a convenient abdominal wound might be substituted for an unsatisfactory exploratory incision. Instances are not wanting where, after a difficult, dangerous, and fruitless search (through an ill-planned incision) among greatly distended intestines, a colostomy or caecostomy has been performed, and the site of obstruction revealed only by subsequent *x*-ray investigation with opaque materials, or by further operation of an exploratory nature.

Invaluable information in cases of intestinal obstruction, paralytic and organic, in the small or large gut, is obtained by a routine simple radiogram of the distended abdomen before operation, without the aid of opaque substances (barium enema or meal), and without preparation of any kind. Imprisoned gases outline with striking definition the position, size, and extent of the distended bowel on an *x*-ray film, the distended large gut being readily distinguished from the small intestine. The gas-filled caecum stands out prominently and characteristically. The site of obstruction in large bowel is marked by an abrupt ending of the gas-distended bowel. The contracted bowel, empty of gas, below the obstruction is not apparent on the film, thus lending striking definition to the place of obstruction.

The limitations and applications of this somewhat neglected and unfamiliar method will soon be learned by the surgeon who checks and confirms the *x*-ray interpretations by his operative findings. We have found that routine pre-operative *x*-ray investigation has given invaluable diagnostic aid in cases of small intestine obstruction, paralytic ileus, and large intestine obstruction; and often reveals, what is so important to the surgeon, the site of obstruction.

X-RAY TECHNIQUE

The examination should be carried out as soon as the patient reaches the department, and must be conducted rapidly, with as little disturbance as possible. A single posterior view of the abdomen is usually sufficient. Owing to the gaseous distension large films (17 by 14 inches) should be used if available, or important distended coils may be missed. Alternatively, two exposures at different levels on smaller films (15 by 12 inches), placed horizontally, may be employed. The Potter-Bucky diaphragm is essential, and very gentle compression helps to steady the parts. A soft ray, produced by not more than 75 K.V.P., will bring out the translucent gas areas to the best advantage, while a sufficient milliamperage should be used to enable the exposure to be made in less than four seconds, as the patient is usually too ill to hold the breath longer.

Six illustrative radiograms with explanatory notes are reproduced on the Special Plate. It should be noted that Fig. 3 has been turned through a right angle.

We acknowledge our great indebtedness to the radiological departments of the Croydon General Hospital, St. Mark's Hospital, the Weir Hospital, and the Woolwich War Memorial Hospital for their ready co-operation in the immediate radiographic investigation, often at inconvenient hours, of cases of intestinal obstruction on which this article is based.

A CASE OF ACUTE BRONCHIOLECTASIS

BY

H. HILTON STEWART, M.D., M.R.C.P.
ASSISTANT PHYSICIAN, ULSTER HOSPITAL FOR CHILDREN

AND

J. H. BIGGART, M.B., B.CH.
BELFAST

(With Special Plate)

In view of the rarity of this condition the following case seemed worthy of report.

CLINICAL HISTORY

A female child, aged 3 months, was admitted to the Ulster Hospital for Children, Belfast, with a history of cough for a few days, associated with great difficulty in breathing. On examination the child was pale, the alae nasi were working, and a hard cough was frequent. The temperature was 99°, pulse rate 160, and respiration rate 60. There was some dullness at the base of the right lung. Bronchial breathing was present over both lungs, and there were numerous scattered rhonchi. A diagnosis of broncho-pneumonia was made, and the subsequent course of the disease seemed to confirm this. The temperature varied from 100° to 101°, pulse rate between 140 and 160, and respiration rate between 40 and 50. At the end of one week the temperature fell to 99°, and pulse and respiration rates fell proportionately. There was some clinical improvement in the child, but she remained very pale, and in a few days began to get worse, with some increase in dullness at the right base. An *x*-ray photograph of the chest was taken. This showed general consolidation of the right lung, and also some consolidation at the left apex. Fourteen days after admission the temperature rose to 103° and pulse rate to 148. On the morning of the sixteenth day the patient died.

POST-MORTEM FINDINGS

Both lungs were swollen and oedematous. At the left apex and along the lower border of the right middle lobe were many small yellowish areas, each about the size of a small pea. On section the left apex was seen to be riddled with cavities and abscesses. The yellowish areas were small abscesses. The remaining lung tissue showed the presence of a broncho-pneumonia. The right lung also showed the presence of abscesses in the middle and lower lobes.

Microscopically an extensive broncho-pneumonia and bronchiolitis were present. The cavities and abscesses were found to be dilated bronchioles. Many of the abscesses were definitely formed by dilatation of a terminal bronchiole and of its infundibulum. The lung tissue surrounding the dilated bronchioles showed inflammatory consolidation and partial collapse. The bronchi were congested. Gram's stain showed the presence of large numbers of staphylococci in the abscess cavities. No other organism was found.

The liver, kidneys, and spleen showed well-marked toxic changes. No sputum was available for a more complete bacteriological investigation.

COMMENTARY

Clinically it would seem impossible to make a differential diagnosis between this condition and broncho-pneumonia. This is also the opinion of Ewart.[1]

The pathogenesis of the disease is difficult to elucidate. The comparative rarity of bronchiolectasis makes it impossible to believe that it is compensatory in origin. Furthermore, dilatation of the bronchi and bronchioles is more apt to occur in a pneumonic lung while resolution is taking place rather than while the consolidated lung affords support to their walls. In this case, however, it is worthy of note that a certain amount of collapse accompanied the consolidation. It may then be possible to find an explanation for the bronchiolectasis in (1) an inflammatory softening of the wall; (2) an infection by the staphylococcus causing well-marked local destructive changes; (3) the presence of a certain degree of peribronchiolitic collapse. The infection is evidently primarily a bronchiolitis with subsequent broncho-pneumonic changes.

The case is interesting, in so far as it shows the condition to be relatively localized, and not general as in the cases reported by Sharkey.[2]

REFERENCES

[1] Ewart: Allbutt and Rolleston's *System of Medicine*, vol. v.
[2] Sharkey: *St. Thomas's Hospital Reports*, 1892, XXII, 33.

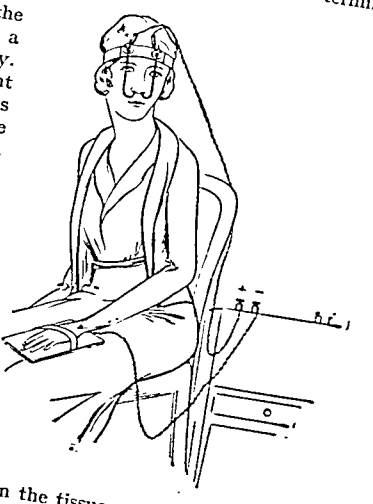
Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

TREATMENT OF HAY FEVER BY INTRANASAL ZINC IONIZATION

The problem of hay fever has been studied from many angles. Of recent years specific and non-specific desensitization has yielded only moderate results. The uniformly successful cures that I have obtained with the method described below encourages me to place on record the technique I have adopted during the last six years.

The treatment consists of intranasal zinc ionization. Cases of hay fever have been successfully treated before and during an attack, as well as those of vasomotor rhinitis—that is, cases showing manifestations of hay fever throughout the year. The majority of cases require two treatments, with an interval of seven days. The number of treatments depends on the success of the intranasal impregnation with zinc. In some cases one treatment has sufficed. The intranasal mucosa is covered with thin layers of cotton-wool soaked in a 1 per cent. solution of zinc sulphate in distilled water. Particular care should be taken to cover the middle turbinate and the adjacent septal mucous membrane. A zinc terminal is placed in each nostril and connected with the positive pole of a galvanic battery. The indifferent electrode is applied to the forearm or hand. A current of three to five milliamperes is passed for fifteen to twenty minutes. A simple apparatus for applying the terminals to the nose has been devised by me, as shown in the illustration. Should the treatment be commenced at the outset of an attack when the tissues are swollen and irritable, it is advisable to spray a 4 per cent. solution of cocaine into the nose before applying the wool. Careful application is necessary to avoid any abrasion of the tissues. Undue injury may give rise to epistaxis. A metallic taste and an increased salivation is experienced when the ionizing process begins; a conjunctival hyperaemia, with lacrymations and blushing, is noticed as the treatment continues. On removal of the packing the tissues are contracted, and the turbinal and septal mucosa are covered



with a white coating which persists for several days. The treatment is not followed by any untoward symptom, although attacks of sneezing may occur during the subsequent twenty-four hours. The nasal tissues, however, remain definitely shrunken. The twenty-five patients treated by this method include three with vasomotor rhinitis and twenty-two with seasonal hay fever. All the latter had suffered annual attacks, and between them had tried every known method of treatment. The ages ranged between 19 and 39, excepting two children aged 10 and 14, and one medical man, aged 57. In the latter case a septal deflection had to be corrected to enable the nose to be packed. Three patients treated in 1925, one in 1927, and one in 1929, have been free from attacks and required no further treatment. Unfortunately the result is not always permanent, and although the patient may be free during the subsequent hay fever season, the attack may recur the following year.

Miss M. W., aged 20, had annual attacks for eight years. First treated by ionization in 1929; no further symptoms. In 1930, no treatment; severe hay fever. In 1931, started an attack on May 20th, treated by ionization followed by immediate cessation of the attack, with no recurrence to date.

None of the patients has had attacks during the season following treatment, so that their subsequent course calls for no comment.

The apparatus illustrated was made and supplied by Messrs. Theodore Hamblin, Ltd., 15, Wigmore Street, W.1.

PHILIP FRANKLIN, F.R.C.S.,
Laryngologist, Italian Hospital, Infants Hospital, etc.

Reports of Societies

RECENT ADVANCES IN CHEMISTRY OF THE VITAMINS

DISCUSSION AT THE ROYAL SOCIETY

The Royal Society took advantage of the presence in London of a number of distinguished investigators in the field of vitamin research to hold a meeting on June 18th for a discussion on recent advances in the chemistry of vitamins.

Sir F. G. HOPKINS, President of the Society, said that in the room in which they were assembled the scientific work of successive generations of investigators had been reviewed for the first time, and of late years discussions had taken place there which had illustrated many new aspects of science; but of the progressive and very important branch in which those gathered on that occasion were specially interested very little had been heard in the Royal Society, and only two or three papers on vitamins had been communicated. It was time, therefore, for a discussion on this subject, and he felt a personal satisfaction that it should take place during the first year of his presidency. It was the chemistry of vitamins, rather than their physiological aspects, which would be reviewed, and since his own contribution to chemistry was negligible he did not propose to open the discussion from the chair, but only to suggest the general lines on which it might take place. It seemed to him that attention might well be given to three vitamins—namely, D, A, and B, and in that order—though with regard to B he felt a certain anxiety as to what the discussion might reveal—whether another B might not join the "hive" at any moment. With regard to vitamin D, recent years had seen an extraordinary convergence of various lines of work in the endeavour to reach a real understanding of the nature of this important agent.

Vitamin D

Professor A. WINDAUS (Göttingen) presented an account of his work on the chemistry of irradiated ergosterol. Since it became known that ergosterol on irradiation with ultra-violet rays was converted into an antirachitic substance of high activity, the study of the most favourable conditions for this photochemical process had continued. Attempts had been made to prepare the substance in a crystalline condition, but so long as success in its purification had not been attained the investigations had to be carried out with the crude irradiation product, the vitamin content of which was unknown. In the process of irradiation no state of equilibrium between ergosterol and its irradiation products was attained. If the irradiation was continued for a sufficiently long time the ergosterol disappeared completely, and there took place a conversion into over-irradiated products, of which two had been obtained in crystalline form. Vitamin D was only an intermediate product of the chemical transformations of ergosterol, and so it was sensitive to irradiation with ultra-violet rays. The two products of over-irradiation just mentioned were end-products of the chemical transformation, and neither could be converted into the other. During the ultra-violet irradiation of ergosterol it appeared possible that several substances were formed simultaneously, but in his view it was not permissible to draw such far-reaching conclusions as some had ventured. It appeared very probable, though on the evidence not absolutely certain, that the vitamin obtained contained three double bonds, as did ergosterol itself. It had been proved that the crude irradiation product lost its antirachitic action when treated with sodium and alcohol. There was no doubt that vitamin D contained a system of conjugate double bonds, and that in this respect it was very similar to ergosterol. On the other hand, the vitamin was much more sensitive to the action of high temperatures. The question whether vitamin D could be preserved unchanged in the absence of air had been discussed, and it had been proved that so far as the crude irradiation products were concerned changes took place in the spectrum and optical rotation with age even when air was carefully excluded, but there was no decrease of physiological activity corresponding to this rapid change; thus it was concluded that the substance which changed with age was not the vitamin. The fact that the antirachitic and toxic actions ran parallel supported the view that both reactions were caused by the same substance. The workers had been spurred on to attempt to obtain the vitamin in its pure crystalline state; such attempts had not seemed completely hopeless, for in vacuum tubes crystals had repeatedly separated. Professor Windaus related the successive attempts in his laboratory to find a reaction which would result in the chemical separation of the crystals. This had at last been achieved, and he showed lantern slides of the crystals and their absorption spectra. The crystals were long, well-formed needles; the spectrum showed a band of main absorption at 265–270 $\mu\mu$, the absorption coefficient being 1.44. The limiting antirachitic dose had been determined to be two and a half times as active as that of the English standard preparation.

Dr. R. B. BOURDILLON (National Institute of Medical Research) said that crystalline products of high antirachitic activity had now been obtained in three laboratories—in Germany, Holland, and England. He spoke as a representative of eight workers at the Institute of Medical Research who had obtained in some quantity a crystal product which appeared to be very similar to that shown by Professor Windaus. The crystals had been obtained by a distillation process in quantities of two or three grams on a number of occasions, and a comparative study of their properties had been made. The antirachitic activity, expressed in Medical Research Council units, was between 18,000 and 20,000 units per milligram. The workers had ventured to give to this product the name of calciferol. The product had the same composition as

ergosterol, and its molecular weight was the same. Three different workers had now obtained the crystalline product. It was impossible to say whether the products were exactly identical. The antirachitic activity was similar, and possibly the optical rotations were approximately the same, though this could not be said with certainty. He thought it safe to say that all these products contained at least one substance which was essentially vitamin D, or a vitamin D, and that they were not negative products contaminated by traces of a mysterious and hitherto unknown vitamin.

Dr. OTTO ROSENHEIM (London) thought that the substance described by Professor Windaus as prepared by a chemical method and that by Professor Bourdillon and his co-workers were identical, though there might remain in both a certain amount of impurity. It was fitting that the isolation of the crystalline substance should have been worked out in two laboratories in which the announcement of the transformation of ergosterol into vitamin D was first made. He could not help expressing some disappointment that the hopes which had been raised that photochemistry and spectroscopic examination would help rapidly to a solution of the problem had not been fulfilled. Four years ago it looked as if this would come about, but now, in spite of the most laborious study, it could not be maintained that the observation of the spectroscopic behaviour of the ergosterol derivatives had contributed to any extent to the isolation of these crystals. It was a satisfaction to him as a biochemist that the success should have been due to biological and organic chemical research, although it was true that distillation was a physical process.

Vitamin A

Professor H. VON EULER (Stockholm) introduced the subject of vitamin A. He said that at the beginning of the study of vitamin A it was soon observed that carotene must be the substance which had growth-promoting activity. New experiments showed that there were two carotene substances with different melting-points, one optically active and the other not. This problem of carotene had been worked upon at Stockholm for more than a year. It was found that the absorption spectrum of one of the artificial derivatives of carotene was very similar to the spectrum believed to be characteristic of vitamin A in cod-liver oil. According to the interesting work of Moore of Cambridge, carotene when administered to rats per os was converted into a very active substance, *a*-carotene. It was now an interesting question whether carotene was transmuted in the organism into vitamin A, or whether carotene and vitamin A were different substances having distinct activities. In his own laboratory the attempt had been made to obtain conversion *in vitro*, and after various unsuccessful attempts to bring about this transformation in macerated livers of different animals they had at last achieved the conversion in the serum of hens to which carotene had been added. The concentration of carotene given in this way was in a short time diminished, and a new substance was formed, spectroscopically almost identical with vitamin A. In connexion with this transmutation of carotene into vitamin A, the question arose as to where it took place, whether in the liver or in another organ. Experiments showed that the first decrease of carotene occurred in the serum, and it seemed probable that the transmutation was effected in the blood.

Vitamin B

Professor B. C. P. JANSEN (Amsterdam) spoke briefly on the vitamin B complex. Using a suggestion made by Seidel, he had employed the classical precipitating agents and had succeeded in obtaining crystals, though in very small quantities (of the order of 30 milligrams). Dr. SEIDEL (Tübingen) said that he was pleased that Dr. Jensen, using a very slight suggestion that he himself had made, had achieved success. He himself, being something of an iconoclast and disinclined to follow the lead of others, had never used precipitating agents if he could avoid them; he had used instead the benzol reaction which had been a useful procedure in his hands for reducing impurities. Without applying precipitating agents he had succeeded in obtaining much larger quantities of material than Dr. Jansen had obtained, but it would not crystallize. Tested on rats, however, it proved to have an activity in the neighbourhood of that of the crystals. He hoped that work in both these directions for obtaining the active product might prove successful—the one which took advantage of precipitation methods, and the other which avoided them—and if they both led to products which were of the same type physiologically it would afford a still better confirmation of the unity of vitamin B. Dr. R. A. PETERS (Oxford) put forward the view that the ultimate solution of the problems in connexion with vitamin B complex would not be reached except by taking into account the physiological side as well. With regard to Dr. Jansen's crystals, these had been found to be very marked in B_4 activity. By fractional distillation with charcoal, B_1 could be separated almost completely from $B_{4'}$ but it was not possible quite so certainly to make B_4 completely free from B_1. B_1 and B_4 activities were present in different proportions, so that there was an inclination to think that they did represent two quite different activities.

Dr. H. STEENBOCK (Wisconsin) said how much he had been interested in the physiological problems connected with vitamin D, and especially with its possible relations with the endocrines, but owing to some inadequacy of technique the solution had so far eluded him. Professor E. V. MCCOLLUM (Johns Hopkins University), who was also invited to speak, said that his own contributions to researches in nutrition had been along lines other than those which formed the subject of the present discussion. He remarked that the reading of a paper twenty-three years ago by Professor Hopkins had furnished the stimulus which had kept him active in nutritional observations down to the present day.

The PRESIDENT said that the discussion might well end on an optimistic note. The progress of the last few years most decidedly made for optimism. It was a remarkable thing that the discovery of vitamin D crystals should have come from three centres almost simultaneously. He felt that the knowledge of the actual constitution of vitamin D was within measurable distance. For all vitamin research the future was bright.

TREATMENT OF IMPOTENCE

At the meeting of the Medical Society of Individual Psychology on June 11th, with the president, Dr. O. H. WOODCOCK, in the chair, a discussion was held on the treatment of sexual impotence by the methods of individual psychology.

Dr. J. YOUNG defined sexual impotence, for the purpose of his remarks and in conformity with the spirit of Adler's teaching, as "incapacity to perform the normal act of generation to mutual content with a person of the opposite sex." He thus included under this heading all forms of sexual incapacity, whether of the male or of the female, together with homosexuality and the perversions. He held that, in the absence of any gross structural defect, sexual disability was ultimately psychologically determined. He agreed with Adler that the sexual urge was moulded by the subject's "style of life." From this it followed that only in connexion with the personality

as a whole could abnormal modes of sexual behaviour be rightly understood. Frigidity and vaginismus were forms of resistance to the attainment of full maturity. The unhappy results which sometimes occurred when a frigid woman became a mother, he attributed to that general immaturity of which her frigidity was one symptom. Psychic impotence in men illustrated the justice of Adler's insistence upon the necessity for love in marriage. The same attitude held good for other travesties of sexual function, which, as he showed by reference to ejaculatio praecox, might be almost as distressing as complete impotence. He attributed the prevalence of sexual impotence to the unfortunate influence exerted by society upon the life-style of its members. This fact did not, however, exonerate individuals from responsibility. It was only by the efforts of individuals that society could be changed, and perhaps nowhere more signally than in the matter of impotence.

Dr. F. G. CROOKSHANK agreed with Dr. Young's definition of sexual impotence, implying as it did that sexual incompetence was a special manifestation of incomplete social adaptation. He said that the theory of individual psychology was closely interwoven with successful treatment, since both alike involved complete understanding. Absolute comprehension meant absolute power. He touched upon the methods of individual psychology, and upon the necessity for a complete examination of the patient, physical as well as mental. The various forms of sexual incompetence reflected the whole life study of the individual concerned. Thus masturbation was the behaviour adopted by the timid, immature individual in place of courageous, forward adjustment. The same applied to some extent to homosexuality. His opinion that this condition was acquired, not innate, and therefore amenable to encouragement and re-education, was justified by the good results of treatment by the methods of individual psychology. Other forms of sexual incompetence illustrated the same points. He referred to the weak egoism of the subject of ejaculatio praecox, and the self-satisfied desire for domination of the really frigid woman. Dr. Crookshank said, in conclusion, that treatment in all cases involved the general adjustment of the individual to the whole of his life needs. In marriage, which was essentially a constructive task for two persons, love played a fundamental part. It formed the basis upon which successful and truly happy marital relations were surely established.

Dr. NORMAN HAIRE, while fully recognizing the psychological element in many cases, insisted that attention must be paid to local organ-inferiorities; he supported Dr. Young's view of the social aspect of sexual incompetence. Dr. LEAHY gave an account of his personal methods. He stressed the elements of fear and discouragement so generally present in the patient, and the necessity for the restoration of self-confidence.

Mr. KENNETH WALKER said that he, as a surgeon, had come to feel more and more strongly that, however important the local organic changes and conditions, yet they often stood in the same relation to a general state of anxiety and neurosis as did the tache cérébrale to meningitis. He felt that, when he had done his best, or his all, there still remained much for the psychologist to grapple with. He was glad to have heard that evening of the work and methods of the school of Adler, with which he had hitherto been little acquainted. Mr. RALPH THOMPSON narrated several cases in which sexual potency existed in spite of apparently gross physical disability. Like other speakers, he appreciated the responsibility of social conditions and the scope for psychotherapy. Dr. G. GORDON mentioned the factor of psychical incompatibility as operative detrimentally in the consummation of marital relations.

Reviews

PSYCHOPATHOLOGY

Dr. ERNEST NICOLE has written a volume entitled *Psychopathology: A Survey of Modern Approaches*,[1] in which his aim is to epitomize the concepts of the different schools of to-day, emphasizing theoretical backgrounds rather than practical applications. In successive chapters the author outlines Freud's psycho-analysis; Adler's individual psychology; Jung's analytical psychology; Rivers's theories; Watson's behaviourism; Kempf's psychopathology; Berman's endocrinal attack; various biochemical and physiological contributions; Kretschmer's constitutional approach; and, finally, the teaching of the "combined" schools. An attempt is made by Dr. Nicole to show some of the points at which different lines of approach meet or at least approximate to one another. In spite of this effort at co-ordination the reader may find it somewhat difficult to digest this heavy meal of theories. No doubt in course of time it will be possible to give a more compact and uniform account of psychopathological teaching than can now be attempted. The complexity of his subject-matter is not, however, the fault of the author, and this book should be helpful to those who wish to gain in a condensed form some understanding of the various theories with which it deals. The book includes three appendices, consisting of papers previously published in the *Journal of Mental Science*.

In *The Unknown Self*,[2] by Dr. GEORG GRODDECK, we have presented, as the subtitle of this book indicates, "A New Psychological Approach to the Problems of Life, with Special Reference to Disease." The author is a physician with original and independent views, an artist rather than a scientist, and evidently has "personality." If it is desired to label Dr. Groddeck, the term "vitalist" would be applicable, for he assumes the existence of purposive entity—the It—which controls both the ego and all organic processes. Thus for motives only known to itself the It determines the sex, "decides" whether the stature should be tall or short, controls the physiological activities, and cures the individual of diseases on the one hand, or "makes up its mind" to make him ill, on the other. The book, which ends up with a Christmas story, is interesting and entertaining. It gives the impression that the writer is a very enthusiastic physician, who no doubt does his patients a great deal of good; that is to say, we anticipate he will often succeed in persuading their Its to view favourably the notion of recovery. If this book is to be enjoyed and appreciated the conception of the It should not be taken quite seriously, but rather as a poetic symbol expressing somewhat the same idea as the old aphorism—"The doctor binds the wound, God heals it."

VENEREAL DISEASES

The fact that a new edition of Dr. DAVID LEES'S *Practical Methods in the Diagnosis and Treatment of Venereal Diseases*[3] has appeared is a sign that it has established itself as a textbook for medical practitioners and students. Although much new matter has been included in the new

[1] *Psychopathology: A Survey of Modern Approaches.* By J. Ernest Nicole, L.M.S.S.A., D.P.M. With foreword by W. H. B. Stoddart, M.D., F.R.C.P. London: Baillière, Tindall and Cox. 1931. (Pp. xii + 203. (10s. 6d. net.)

[2] *The Unknown Self.* By Georg Groddeck, M.D. London: C. W. Daniel Company. 1930. (Pp. 207. 7s. 6d. net.)

[3] *Practical Methods in the Diagnosis and Treatment of Venereal Diseases.* By David Lees, D.S.O., M.B., D.P.H., F.R.C.S., M.R.C.P.Ed. With introduction by William Robertson, M.D., F.R.C.P., D.P.H. Second edition. Edinburgh: E. and S. Livingstone. 1931. (Pp. xx + 634; 87 figures, 8 plates. 15s. net.)

volume the author has wisely avoided the temptation of adding materially to its length. Moreover, he has maintained the general character of the previous edition.

This is essentially a practical work. Although it contains references to literature one feels on reading the book that it is from his immense stock of material at the Edinburgh Royal Infirmary rather than from literature that the author has derived his facts. Practically all the methods of treatment that he advocates have been tested by experience, and his opinions of their value are based on first-hand knowledge. The most important additions are the chapters on cardio-vascular syphilis and the expansion of the sections dealing with neurosyphilis. Recent work has tended to emphasize still more strongly the fact that syphilis is primarily a disease of the arteries. Indeed, it has been shown that very seldom if ever do the arteries escape, however early and however complete may be the treatment given. Hence syphilitic aortitis is at least as frequent and as serious a sequel of infection with the *Spirochaeta pallidum* as are tabes and general paralysis. For this reason the author's precise instructions for the treatment of aortic disease in a middle-aged man will be of great value to all who are called upon to treat, not only the early, but the late stages of syphilis. In speaking of malarial therapy in tabes he is of the opinion that the effect of this treatment is greater in advanced than in early cases. Of all the arsenobenzol preparations on the market he finds that tryparsamide has the greatest effect in neurosyphilis, but it must be given over long periods if any improvement is to be obtained. However, if conscientious treatment with this drug is carried out not only may an amelioration of the clinical symptoms be expected, but also an improvement in the condition of the cerebro-spinal fluid. In Dr. David Lees's opinion the introduction of tryparsamide by Pearce and Browne has completely altered the prognosis and outlook for many cases of neurosyphilis.

The new edition has been enriched by the addition of eight coloured plates. We have no hesitation in saying that *Diagnosis and Treatment of Venereal Diseases* is the best work on the subject that has appeared in this country. In the reviewer's opinion it is even the best manual in the English language, for although more imposing works may have been published during the last ten years none of them have the same value for the practitioner or student who requires a textbook full of reliable and essentially practical information.

HEREDITARY OPTIC ATROPHY

A very valuable series of memoirs is at present being issued from the Galton Laboratory of Eugenics by Professor KARL PEARSON, under the general title of *The Treasury of Human Inheritance*.[4] A large number of hereditary conditions have already been dealt with, and are comprised in volume i of the *Treasury*. The second volume is to be devoted to *Anomalies and Diseases of the Eye*, and the fourth memoir of this volume, on "Hereditary Optic Atrophy (Leber's Disease)," from the pen of JULIA BELL, has recently been issued. The chief obstacle to the study of the laws of human inheritance is the difficulty encountered in obtaining satisfactory pedigrees, and one of the main objects of the memoirs is to collect together all the available pedigree material at present distributed through the literature. Leber's disease is interesting in this particular as providing a larger number of fully worked out pedigrees than any other condition; the author's plates include no fewer than 238, many of which are very full.

The disease has been known for a hundred years or more, but it was not until 1871 that its clinical features and hereditary etiology were fully worked out by Leber, a fine portrait of whom forms the frontispiece to the memoir. With regard to its transmission, Leber's disease is generally regarded as sex-limited, but the author is inclined to doubt the accuracy of this view, and in a discussion on sex limitation generally she expresses the opinion that probably haemophilia is the only disease that can be considered as truly sex-limited. On the other hand, a marked responsibility of females is noted with regard to the transmission of the disease, and the author ventures the suggestion that if the sisters of affected males were to abstain from parentage the disease would be almost exterminated. The curves relating to the age of onset show a maximum in males between the ages of 20 and 23, the curve falling rapidly above and below that period. In females two maximum points are observed—between 12 and 15 and 24 and 27, with a minor rise between 40 and 43. A curious difference is noted in the Japanese figures, the maximum in these being between 12 and 23 for both sexes. With regard to symptoms, the sole complaint of those suffering from the disease is diminution of vision, and, in rare cases, blindness; there is a central scotoma, interfering with direct vision and disabling from fine work, but leaving the patient with a measure of independence as regards mobility. The prognosis is generally considered unfavourable; complete recovery is infrequent, but improvement is estimated to occur in from 10 to 29 per cent. of the cases.

The first and only anatomical examination of a case of Leber's disease was made last year by Rehsteiner; a full account of the case is to be published in von Graefe's *Archiv*. Rehsteiner found marked atrophy of the ganglion cells and nerve fibres of the retina at the fixation point and in a large part of the immediately surrounding retina, including the papillo-macular bundle, together with a less uniform atrophy of the fibres of the optic nerve. No evidences pointing to an inflammatory origin of the condition were present, but the disease was of seven years' standing, and therefore in a late stage.

THE SMETHURST CASE

Of the fifty-three volumes of the Notable British Trials as yet published, the vast majority are of medical interest, and a certain number of them deal with the crimes of members of our profession, but not one of them exceeds in technical interest the *Trial of Dr. Smethurst*,[5] which has been edited by Dr. LEONARD A. PARRY and recently published. Not only was the accused a doctor, but throughout the trial and the subsequent proceedings medical men and medical matters were of the first importance. The accused was a medical man; the doctor whom he called in to attend the deceased was the first to give information to the police before her death; the astonishing spectacle was presented to a scandalized profession of the leading toxicologist of the day revoking in the box, at the Old Bailey, the damning evidence which he had given before the magistrates; the conflicting evidence of distinguished medical experts in the witness-box and the storm of protest which the verdict and sentence aroused in the medical press; and finally, to crown all, the surprising appeal of the Home Secretary to a distinguished surgeon, to whom he transferred the responsibility of deciding whether the clemency of the Crown should be exercised or not—all this combined to

[4] *The Treasury of Human Inheritance*. Edited by Karl Pearson. F.R.S. Eugenics Laboratory Memoirs, xxvi. Francis Galton Laboratory for National Eugenics, London. Vol. ii: *Anomalies and Diseases of the Eye* (Nettleship Memorial Volume); Part IV: Hereditary Optic Atrophy (Leber's Disease). By Julia Bell, M.R.C.P. London: Cambridge University Press. 1931. (Pp. 325–423; illustrated. 36s. net.)

[5] *Trial of Dr. Smethurst*. By Leonard A. Parry, M.D., B.S., F.R.C.S. With a foreword by John Flowers, K.C. Notable British Trials. Edinburgh and London: W. Hodge and Co., Ltd. 1931. (Pp. xiii + 259; 4 plates. 10s. 6d. net.)

produce a situation unprecedented in our medico-legal annals.

Thomas Smethurst was a retired medical practitioner who, at the age of 54, left his much older wife and contracted a bigamous marriage with a Miss Bankes, a lady of 42 years and some independent means, with whom he went to live at Richmond. The lady soon afterwards was taken ill, the chief symptoms being persistent diarrhoea and vomiting. Dr. Smethurst called in Dr. Julius, one of the best-known practitioners in Richmond, but neither his nor his partner's remedies, nor those prescribed by the celebrated Dr. Todd (who was called in consultation at the prisoner's request) availed to save her, and she died, apparently of exhaustion, but not before she had made a will, by Smethurst's advice, in his favour. Dr. Julius suspected criminal poisoning, and had a stool examined, which was pronounced to contain arsenic. Thereupon he gave information to the police, and Smethurst was arrested, but released on his own recognizances. Miss Bankes died the next day. A number of bottles of medicine and drugs were seized by the police, before Smethurst had any opportunity to tamper with them. He was again arrested, and charged with murder, and answered to the charge in a plea of "Not guilty" in July, 1859. Owing, however, to the illness of a juryman the trial was postponed to the session in August before another jury. Before the trial began the accused objected to being tried by Lord Chief Baron Pollock, on the remarkable ground that the judge was a personal friend of Dr. Alfred Swaine Taylor, an important witness for the prosecution. The objection (after consultation with Mr. Justice Wightman) was overruled.

In the trial which followed, evidence was given to the effect that deceased was from five to seven weeks pregnant. The large intestine was very extensively ulcerated, the small intestine slightly inflamed. Dr. Taylor announced that his evidence of the presence of arsenic in an evacuation which he gave before the magistrates was based on a mistake, for he had since found that the arsenic in question came from his own copper gauze which he used in Reinsch's test. Notwithstanding the strong points in the prisoner's favour of lack of motive and the facts that no irritant poison was traced to his possession nor any found in the body enough to cause death, and that the post-mortem appearances were not those of chronic irritant poisoning, the judge summed up strongly against the accused, and the jury found him, without much hesitation, guilty, and he was sentenced to death.

Thereupon a storm of protest arose in the medical and lay press. The *Times* had two leaders on the subject, and printed twenty-five letters, most of them from medical men, protesting against the execution of the sentence on the ground that there was not sufficient evidence to support the verdict. A very forcible leading article appeared in our columns in which, while stigmatizing Smethurst as a liar, a cheat, and a scoundrel of the blackest dye, it was yet contended that the verdict was against the weight of evidence, and that death was probably due to a natural cause—for example, hyperemesis gravidarum. Dr. Tyler Smith, in his evidence and subsequent letters, strongly supported this theory of the cause of death. Dr. Swaine Taylor was very severely taken to task by the medical press, and the scandalous personal antagonisms of the most distinguished toxicologists were condemned in no uncertain terms in a second article in the *British Medical Journal*. By all this storm of protest and criticism the Home Secretary, Sir George Cornewall Lewis, seems to have been quite bewildered, and he took the unusual course of submitting the papers to Sir Benjamin Brodie, the first president of the General Medical Council and consulting surgeon to St. George's Hospital. Brodie, in his letter of reply, went into many issues entirely unconnected with medicine, pathology, or surgery, and discussed them under fourteen heads, but ended with the following: "Taking into consideration all that I have now stated, I own that the impression in my own mind is that there is not absolute and complete evidence of Smethurst's guilt." Notwithstanding Lord Chief Baron Pollock's severe criticism of Brodie's letter in a personal communication to Sir George, which is included by Dr. Parry in an appendix, the Home Secretary advised the Crown to grant a free pardon. Smethurst was almost immediately tried for bigamy, and sentenced to one year's imprisonment, after which (in 1862) he had the assurance to bring an action in the Probate Court propounding the will of Miss Bankes. The jury decided in favour of the will, and probate was ordered to be granted to the plaintiff. Apparently encouraged by this success, Smethurst presented a petition for compensation to the Government, but did not obtain it.

All this and much more is to be found in Dr. Parry's book. In his introduction he puts the facts clearly before the reader, and in summing up expresses an opinion that will probably be approved by all his readers. He says: "Had there been in existence at that time a Court of Criminal Appeal, I am convinced it would have reversed the finding of the jury." But the whole book should be read by all those interested in criminal procedure and toxicology.

MEDICAL DIAGNOSIS

The Diagnosis of Internal Diseases is the second volume of Professor LUDOLF KREHL's work on Etiology, Diagnosis, and Treatment.[6] The author presents it as a supplement to the larger German works on diagnosis, and expresses the regret that what was originally meant to deal purely with general considerations has come to be more specialized than is desirable for this object, and yet not specialized enough to be exhaustive. Such a fault is unavoidable in a small textbook which deals with a large subject, and the book suffers from another disadvantage common to its kind—namely, that a work on pure diagnosis divorced from treatment is dealing always with the means to an end, and never with the end itself. Particularly is this the case on account of the author's excellent presentation of his subject from the point of view of applied physiology. He considers the effects of the disease and the general condition of the patient as being rightly of more importance than isolated physical signs, and is thus—at any rate to the reader already learned in medicine—frequently giving hints as to where rational treatment could be applied, but does not, owing to the limitations of his title, lead on into the more practical realms of therapeutics.

Criticism of this book, however, confines itself to criticism of its author's self-imposed limitations. Of its kind it is excellent. Professor Krehl has kept his balance through all the recent rapid advances of medicine. He makes full use of modern diagnostic methods, and yet is old enough and wise enough not to lose sight of the art and skill of the days of pure clinical observation. This combination of "clinical intuition" with a rational and critical use and knowledge of modern science is sufficiently rare in itself to make the book well worth reading, and while it is, perhaps, inspiring rather than directly instructive, there can be none, from third-year student to senior physician, who would not gain something from a perusal of its pages. Unlike most clinical teachers, moreover, Professor Krehl does not preach what he fails to practise himself. Thus the student will not find rules laid down for the examination of a patient which he

[6] *Entstehung, Erkennung und Behandlung innerer Krankheiten.* Von Dr. Ludolf Krehl. Zweiter Band: *Die Erkennung innerer Krankheiten.* Berlin: F. C. W. Vogel. 1931. (Pp. 172. RM. 12.80.)

knows are never followed, but will learn instead that, so long as thoroughness is not neglected, the experienced clinician will vary his examination according to the system most affected. Impossibilities, moreover, are not claimed for clinical methods, and the limitations and difficulties of percussion and auscultation are freely admitted. "Investigate as much as possible, and in any case all that is necessary," is a wise maxim, as is also "to remember it is everything" in the case of the rarer diseases.

The first chapter deals largely with the relation of doctor to patient, and the reader will find here that he has to be something more than a scientist if he would live up to the author's standards. "No one has an excuse not to be able to do a blood count" is an undoubted fact nowadays; but that familiarity with the use of the polygraph and electrocardiograph is not to be expected from all is delightfully acknowledged by the sentence "es ist nicht jeder ein Mackenzie." The later chapters deal with the various systems in order, not merely from the point of view of diagnosis in the sense of giving a name to the disease, but rather in the sense of the "summing up" or "assessment" (Beurteilung) of the patient's condition.

NOTES ON BOOKS

The first of the ten articles in the May number of the *Annals of Medical History*[7] is Dr. A. H. Miller's account of the Pneumatic Institute for the treatment of diseases by inhalation, established by Thomas Beddoes in 1798 at Bristol. The institute was a failure, but it had a noteworthy effect on science by bringing out Humphry Davy, who discovered nitrous oxide gas there in 1799. Beddoes, whose portrait appears on the cover of the number, had been a most successful lecturer on chemistry at Oxford, had inhaled ether until he became unconscious, and was the father of T. L. Beddoes, the poet and author of "Death's Jest-Book." The fiftieth anniversary of the discovery of the malarial parasite was celebrated last year, and Dr. Joseph Franchini's appreciation of Alphonse Laveran, whose portrait is the frontispiece, is published here. Last year also saw the celebration of the tercentenary of the first use of cinchona, and Sir Humphry Rolleston's address on its history, given at the Wellcome Historical Medical Museum, finds a place in this number. Dr. C. A. Elsberg of New York writes on the Edwin Smith surgical papyrus and the diagnosis and treatment of injuries to the skull and spine five thousand years ago, and Hindu medicine and its antiquity are discussed by Dr. P. J. Sarma of Chicago. The interesting subject of the considerable antiquity of pap and panada forms the substance of an article, illustrated by reproductions of pap boats, spoons, and warmers, by Dr. Drake of Toronto. Sketches of medical men, who were pioneers in physics, such as Thomas Young, Helmholtz, and T. J. Seebeck, the discoverer of thermo-electricity, are given by Dr. Podolsky of New York, and Dr. Clemens reproduces medical curiosities culled from historical manuscripts between the reigns of Henry VIII and George IV. The descriptive list of incunabula in the library of the College of Physicians of Philadelphia is continued down to number 297, but there are more to come from this treasure-house.

Thérapeutique Médicale, II: *Aliments Médicaments*[8] is a collection of articles on various "cures" and treatments by dieting. All kinds of regimes are discussed; raw and cooked meat, vegetables, fruits, bread of different types, fish, and so forth. Therapeutics of this type receive, rightly or wrongly, little attention in Britain, at least from orthodox practitioners, and instruction in such methods is absent, or practically absent, from the student's curriculum. On the whole, the attitude adopted in this country is probably the right one. The volume before us is well balanced, and no extravagant claims are put forward; the authors are men of science as well as men of sense; but it is only too easy to see how "cures" of the type described could become nothing more nor less than quackery. A dietary regime always impresses the patient, if only because it interferes with his normal habits and may cause him inconvenience; it can be prescribed by a not over-scrupulous practitioner with a great show of meticulous care and no real knowledge. In certain well-known instances it is the main, sometimes the only, method of treatment; in others, careful dieting may be a useful adjuvant to other treatment, but unfortunately the grains of wheat are so easily lost in the chaff that many practitioners are apt to fight shy of "diet therapy" as a whole. For those who are interested, however, the present volume provides much useful information.

The fourth of the Memoir Series published by the London School of Hygiene and Tropical Medicine is entitled *Anopheline Mosquitos in Southern Rhodesia, 1926–1928*,[9] by Mr. H. S. LEESON. It consists of a report of investigations made during the research on blackwater fever conducted by Dr. G. R. Ross. The anopheline mosquitos of the country are first dealt with in a general way, and then those of a particular area where blackwater fever was endemic.

Professor J. A. LINDSAY of Belfast confesses that for many years he has adopted Lord Morley's maxim that "a book which is worth reading is worth taking notes from." He has now published a little volume comprising a selection of short extracts from a wide range of authors, grouped in some sort according to the ideas expressed. This book, entitled *Among the Thinkers: Leaves from My Note-Books*,[10] forms a pendant to Professor Lindsay's medical axioms, aphorisms, and clinical memoranda, published in 1923.

The second quarterly number for 1931 of *Nosokomeion*,[11] or Quarterly Hospital Review, of which the first volume received notice in the *Journal* of April 11th (p. 630), is devoted to the various aspects of the nursing profession, including its history, international organization, and present status. The international character of the journal is shown by the fact that of the twenty-two articles in this issue three are by British, six by American, eight by German, and one each by French, Dutch, Swiss, Austrian, and Japanese writers. A bibliography of recent literature connected with hospital service is appended.

In a work entitled *Factors in the Sex Life of Twenty-two Hundred Women*,[12] which forms the latest contribution to the publications of the Bureau of Social Hygiene, Dr. KATHERINE B. DAVIS, the general secretary of the Bureau, records the results of an investigation carried out by questionaries addressed to 1,200 married women and 1,200 unmarried women. The former were all of good standing in the community, with no known physical, mental, or moral defect, and of sufficient intelligence and education to understand the set of questions addressed them, while the latter were exclusively college graduates. The questions, the answers to which are arranged in tabular form, dealt with the use of contraceptives, the frequency of conjugal relations, pre-matrimonial sex instruction, sexual desire, orgasm, masturbation, and homosexuality, which in the writer's opinion is much more prevalent than is generally supposed.

[7] *Annals of Medical History*. New Series, vol. iii, No. 3. May, 1931. Edited by Francis R. Packard, M.D. New York: P. B. Hoeber, Inc. London: Baillière, Tindall and Cox. 1931. (Pp. 253–362; illustrated. Subscription in Great Britain, 45s. per volume of six numbers.)

[8] *Thérapeutique Médicale*, II: *Aliments Médicaments*. Paris: Masson et Cie. 1930. (Pp. 328; illustrated. 45 fr.)

[9] *Anopheline Mosquitos in Southern Rhodesia, 1926–1928*. By H. S. Leeson, F.E.S., A.R.San.I. London: London School of Hygiene and Tropical Medicine. 1931. (Pp. ix + 55; 10 figures, 15 plates. 8s. net, post free.)

[10] *Among the Thinkers: Leaves from My Note-Books*. By James Alexander Lindsay, M.D., F.R.C.P. London: H. K. Lewis and Co., Ltd. 1931. (Pp. ix + 197. 5s. net.)

[11] *Nosokomeion* (Quarterly Hospital Review), No. 2. Stuttgart: W. Kohlhammer. 1931. (Pp. 265–608. Annual subscription RM 12; single copies RM 3.)

[12] *Factors in the Sex Life of Twenty-two Hundred Women*. By Katherine Bement Davis, Ph.D. New York and London: Harper and Brothers. 1930. (Pp. xx + 459. 12s. 6d. net.)

British Medical Journal

SATURDAY, JUNE 27th, 1931

WELFARE OF THE BLIND

There is evidence that the toll of the blind in England and Wales is increasing. The last official record was made in 1929, when there were 53,727 registered blind persons; since then the registers have indicated an increase to 56,853. These figures are given in the ninth report to the Minister of Health by the Advisory Committee on the Welfare of the Blind.[1] Commenting on them, the report suggests that the figures do not indicate an actual increase in the number of the blind, but only their more effective registration. Nevertheless, some concern is felt that such a large proportion of the general population should have sight so bad as to render them "too blind to perform work for which eyesight is essential." Much work has been done for the prevention of blindness, but more should be done. The matter is under study by a committee of societies of the blind. Under Section 66 of the Public Health Act of 1925, local authorities have ample powers to make arrangements for the prevention of blindness. Undoubtedly one of the reasons for the increase of the number of the known blind is the benefits that are offered—schemes of training, assisted employment, and pensions. In 1921 the number in receipt of pensions was 7,826; last year it was 19,048. Certain anomalies have been found in the working of the provision of pensions for the aged blind. It is possible for a blind person aged 65 to receive £1 a week; at the age of 75 there is an automatic drop to ten shillings. Suggestions are made for meeting this difficulty.

It is evident that the committee views with some anxiety the working of the new Local Government Act. As from April, 1930, the detailed supervision which the Ministry of Health exercised through its inspectors over the voluntary blind societies came to an end, and this duty devolved upon the local councils. The work of the inspectors of the Ministry was of great value in encouraging the local authorities, and particularly as a unifying influence. Their work is lost just as it appeared to begin to be of effect. There is also danger that the technical knowledge they could supply may be lacking to the local authorities. The difficulty is in the way of being met by the action of a considerable number of local authorities in the North of England; these have authorized one of the associations for the blind to appoint an experienced officer as regional supervisor, whose duty will be to inspect the work of voluntary associations, and to submit reports to the appropriate authorities. In this way there will be expert advice available, and some unity of action. The scheme is one that might be copied elsewhere with advantage to all concerned. Reference is made to the recent circular letter issued by the Minister, in which he drew the attention of local authorities to "the desirability of making arrangements for securing that, before a person's name is added to the register of the blind, he is examined by a medical practitioner *with special experience in ophthalmology*, and by him certified to be blind within the meaning of the Blind Persons Act." It is added that there should be little difficulty in making such arrangements in a county borough, but there may be more difficulty in a county which is largely rural in character. In some counties it is noted that all persons claiming to be blind are examined by officers of the school medical service with special experience in ophthalmology.

In connexion with this report it is convenient to review the report of a deputation of English musicians and tuners to France and Germany undertaken at the instance of the National Union of Professional and Industrial Blind of Great Britain and Ireland.[2] The deputation numbered seven; their object was technical, but they recorded more general observations. Among their findings are the following: "In almost every essential service our [that is, the English] system of caring for the blind is far superior to the existing arrangements either in France or Germany, whilst our knowledge of conditions obtaining in Italy leads us to conclude that welfare work there on behalf of the blind is even less satisfactory. In no European State other that Britain is voluntary effort so successful and so conspicuous a feature of national life, and in none is this effort applied with such skill and administrative efficiency." Comment is made upon the figures of the blind published in the League of Nations Report for 1929. The German census of 1925 showed that there were then 58 blind persons per 100,000 of the population, whereas in 1927 there were 119 in England and Wales. The deputation decline to believe that the incidence of blindness is twice as great in this country as in Germany, in view of the fact that preventive work is not more advanced in Germany than with us. If it be assumed that the English figures are not appreciably inflated by malingering, it would appear that those for Germany do not reflect the true position. This is mainly owing to the greater severity of definition, and to the lack of inducement for the aged, and for doubtful cases, to come forward. In Germany a person must be considered blind whose sight is not more than 1/25 of the normal; in this country it is reckoned as 1/10 normal vision with glasses.

The Disablement Law of Germany compels the employment in industry of certain percentages of war-disabled men. This German experiment clearly indicates that many so-called unemployed blind could be profitably employed in factories. A few experiments on the same lines have been made in this country. There has been some opposition from organized labour. It is said that this has almost entirely subsided, because the

[1] Ninth Report of the Advisory Committee on the Welfare of the Blind to the Ministry of Health for 1930. London: H.M. Stationery Office. 1931. (6d. net.)

[2] Report of Deputation of Musicians and Tuners to France and Germany. The National Union of Professional and Industrial Blind of Great Britain and Ireland. (1s.)

blind have been able to prove their capacity to work satisfactorily. It is suggested that there is room for extension of the employment of the blind in general work, and that Government and municipal undertakings might set the example. Comment is made on the absence of training of blind masseurs in Germany and the poorness of the training given in France. The system of the National Institute for the Blind in this country has been so effective that 90 per cent. of those trained are entirely self-supporting.

ASPECTS OF THE CANCER PROBLEM

It is doubtful whether any theory of the nature of cancer which would be considered exempt from serious criticism, in one respect or another, can be formulated at present. Attempts in this direction can only be regarded as partial, and helpful only in so far as they suggest lines of inquiry or serve to bring the innumerable isolated observations on record under a single conception. Professor Scherber's recent book, "Contributions to the Solution of the Cancer Problem,"[1] is an attempt of this kind; it brings together a vast number of alleged and established facts in a manner that renders their possible interdependence comprehensible to those who are not very well versed in cancer research.

The cancer problem has broadened out considerably in the last few years. Formerly it was a question of the discovery of the germ or other specific proximate cause of cancer; it is now recognized that a special constitutional factor has to be taken into consideration as well. Several facts point to the existence of such a factor, among which may be mentioned the increased tendency to the disease as age advances, and the greater susceptibility of some organs in comparison with others. An actual hereditary tendency is difficult to prove in man, but it probably exists in some degree, and it has been produced in animals by suitable crossing, so as to become manifest on simple irritation in 100 per cent. of the cases (Slye). In instances such as these, in which the nature of the irritant eliciting the outbreak of the cancer appears to be a matter of indifference, the existence of a disposition to the disease is clearly the important factor—it may almost be said to be the sole factor. There are, however, cases of a different type, in which the irritant itself appears to be specific—that is, it is not a matter of indifference what irritant is employed. Of this type are many occupational cancers and a large proportion of the experimental cancers. In some instances the exact chemical constitution of the irritant has been established; the cancer-producing substance in tar, for example, which has been studied by Kennaway and others, is an unsaturated hydrocarbon related to benzol in chemical constitution (Vaubel). Now it is a significant fact that these specific irritants do not, like infections, produce a practically immediate effect; a more or less prolonged "latent period" must elapse before the cancer develops. This period is prolonged for years in some instances, and it is not necessarily coextensive with the period of application of the irritant, for the action of the latter may be suspended, leaving merely an induced disposition to the disease, manifested in some or all of the cases concerned. It would appear to be a fair deduction from this fact, that the specific action of these irritants is not so much the production of cancer as the production of a disposition to cancer, the irritant, as Scherber suggests, acting as a substitute for heredity in creating a general or local susceptibility to the disease. If a similar line of reasoning is applicable to spontaneous cancer generally, it should be possible to detect a production, in the body, of specific substances having this property.

In this connexion the researches of Kaminer and Freund are suggestive. These observers have shown that there exists normally, in the intestines of mice, a saturated fatty acid, formed by the action of the normal bacteria on ingested fat, and possessing anti-cancerous properties; in predisposed animals this is replaced by an unsaturated fatty acid, produced, it is believed, by an altered intestinal flora, and they suggest that this compound, passing into the circulation, may possibly be concerned in the production of cancer. A similar substitution of an unsaturated, in place of a saturated, compound has also been shown to occur in precancerous tissue. It is not suggested that an abnormal intestinal flora is the sole means by which a disposition to spontaneous cancer may be induced. The whole field of metabolism has to be explored; but it may be taken as proved that chemical changes in the organism have an important influence in the production of cancer, and it is possible that these changes may ultimately be found to be amenable to control.

[1] *Beiträge zur Lösung des Krebsproblems.* Von Dr. G. Scherber. Wien und Leipzig: M. Perles. (M.6.30.)

KITASATO

Baron Shibasaburo Kitasato represented an era both to the East and the West. He was one of the early group of able young Japanese who came to explore Western civilization and science in 1885. He worked under Koch's inspiration from 1885 to 1891, and to the last venerated his master's memory; throughout the war and to the end of his life he tended reverently the shrine erected near his institute to Koch's memory. In the West, Kitasato will be chiefly remembered for his part in the work with Koch and later with Behring, culminating on December 4th, 1890, in what Professor Bulloch fitly calls "the brief but epoch-making paper" by Behring and Kitasato, which established for the tetanus bacillus the three fundamental facts—that is, that a soluble toxin is produced, that animals continuously injected therewith develop a neutralizing substance called "antitoxin," and that this antitoxin is specific. Behring's paper published a week later confirmed these three findings for diphtheria. Two years later Kitasato, returning to Japan with gleanings of European bacteriology and his own achievements, became director of the Imperial Japanese Institute for the Study of Infectious Diseases. In 1894, when the

dreaded pandemic of plague reached Hong-Kong, Kitasato and Aoyama went to investigate it. Landing on June 12th, Kitasato had by June 14th seen the specific bacillus in films made after a necropsy. It is said that he immediately cabled to Koch that he had seen the specific bacillus in films. In reply to Koch's answering cable, asking if he had cultivated the bacillus, he was able in a few days to report success. The preliminary notice was published in July in Hong-Kong. Yersin arrived in Hong-Kong within a week of the Japanese mission, and independently discovered what is now accepted as the *Bacillus pestis*. Kitasato's work and researches naturally dealt with many diseases. He investigated epidemics of plague in North-Eastern Asia, and in 1909 read a paper on tuberculosis at an international congress held in Europe. In 1915 he left the Government Institute and established his private laboratories in Tokio, where he worked for many years. It is understood that these laboratories were highly successful and provided a liberal competence.

THE WASSERMANN REACTION

The Wassermann reaction is now such a familiar test that it is perhaps hard for the modern student to realize that once upon a time there was no such thing. The discovery of this test, like most scientific discoveries, was not the result of a sudden inspiration on the part of one man, but the outcome of patient experiment by a number of bacteriologists, culminating in the publication of the researches of Wassermann, Neisser, and Bruck in 1906. In their recent memorandum,[1] S. A. Mann and F. Partner give a detailed description of the technique in use at the central pathological laboratory of the London county mental hospitals, and a brief historical summary of the work which ultimately led to the discovery of the Wassermann reaction. The starting-point of the series of investigations leading to the formulation of a test which, without exaggeration, can be said to have revolutionized medicine, was "Pfeiffer's phenomenon." Pfeiffer found that the cholera vibrio, when injected into the peritoneal cavity of a guinea-pig immunized against cholera, lost its motility, became granular, swelled, and finally disappeared. It was subsequently shown by Metchnikoff and Bordet that the phenomenon of bacteriolysis could occur *in vitro* if the cholera vibrio was brought into contact with heated immune serum in the presence of normal serum or fresh peritoneal fluid. The observation that bacteriolysis did not occur if the normal serum added was stale, or had been heated to 56° C., led to the isolation of the three components in the bacteriolytic reaction—the invading organism or antigen, the antibody, and complement. The reactions were found to be specific in character, with the drawback, however, that they could be studied only if the bacteriolysis was visible. This difficulty was overcome by the use of haemolytic systems and the discovery of the Bordet-Gengou phenomenon. It was found by Bordet that, if the red blood cells of one animal were injected into an animal of a different species, antibodies were produced in the blood of the second animal which would haemolyse the red cells of the first. Such haemolysis could be demonstrated *in vitro*. These haemolytic reactions were shown to be specific, necessitating the presence of antigen (the red blood cell of the first animal), of antibody (haemolysin of the second animal), and of complement. The presence of complement, therefore, could be detected by the use of such haemolytic systems (haemolysis not taking place in the absence of complement); and Bordet and Gengou showed that in the interaction between antigen, complement, and antibody, complement is deviated, absorbed, and lost to the systems. By these means, then, the presence of specific antibodies in the blood could be shown either by observation of bacteriolysis of the specific antigen, or by demonstration of the deviation or fixation of complement, the haemolytic system serving as an indicator. The researches of Wassermann and Bruck, of Marie and Levaditi, showed that extracts of bacteria or extracts of tissues infected with bacteria were as good specific antigens as the bacteria themselves. Moreover, it was shown later that the *Treponema pallidum* is the least suitable of antigens for demonstrating the presence of antibodies in the blood of persons infected with syphilis. Having discovered that an extract of the liver of a syphilitic foetus could serve as a specific antigen for syphilis, Wassermann, Neisser, and Bruck, using Bordet and Gengou's method of demonstrating specific immune bodies, evolved the complement-fixation test for syphilis and published their results in 1906, a year after the discovery of the spirochaete by Schaudinn and Hoffmann. These researches were carried out on the theory that the reactions involved were specific in nature, a theory which later had to be abandoned when it was shown that emulsions of lecithin, or mixtures of lecithin and cholesterol, could serve equally well as antigens in the Wassermann reaction. At the present day, cholesterol mixed with lecithin obtained from the human heart is used as the antigen, and a test which is strictly non-specific in nature is made to establish the presence of the specific infection of syphilis, although the work done in the evolution of the test was based on the theory that the interaction between antibody and antigen was of a truly specific character. The theories may change, but the facts remain the same; and the Wassermann test obeys the chief, perhaps the most important, criterion in these matters—it works.

[1] Memorandum on the Wassermann Reaction in Mental Hospital Practice. By S. A. Mann, D.Sc., F.I.C., and F. Partner. Published by the London County Council. 1931. (9d.)

THE NATIONAL PHYSICAL LABORATORY

Two pieces of investigation stand out prominently in the National Physical Laboratory's report for the year 1930.[1] One of these is the testing of large quantities of radium, including the purchases of the National Radium Trust. The number of radium preparations which passed through the laboratory last year was 5,600, as against only 343 two years ago. National radium, aggregating some 20 grams, of a value of nearly a quarter of a million pounds, and distributed in some thousands of containers, has been passed through an elaborate system of testing and record-taking. The containers are of about twenty different types, of various nominal contents, lengths, and diameters, and the "life-history" of every one of them is indexed at the laboratory, like criminal finger-prints at Scotland Yard. These containers are first of all grouped in batches, each batch containing five or ten

[1] H.M. Stationery Office. (12s. 6d. net.)

needles or tubes. The batch is then tested for any leakage of radium emanation, and if such leakage is discovered the faulty container is identified and isolated. Containers which pass the leakage test are then tested in groups for radium content by gamma-ray comparison with laboratory standards, calibrated in terms of the British radium standard, and the results are expressed in milligrams of radium element in radio-active equilibrium. An interval of twenty days separates the two measurements which are made for this purpose, and if the results are in agreement it is assumed that equilibrium has been obtained. Even when the gamma-ray measurements have been taken, they indicate only the effective, not the actual, radium content, and a further measurement is made with a correction for the thickness of the walls of the container. The laboratory is responsible, also, for distributing radium to the several centres. On instruction from the Radium Commission, the laboratory sorts out and checks the various types of containers required, and its representative travels to the centre with the radium which has been requisitioned. The other work of special interest, about which, however, no particular conclusion has yet been reached, is a large-scale investigation on noise. Progress has been made in the use and standardization of noise-measuring instruments, but recommendations for amelioration of this evil are yet to seek. The motor-horn has been the subject of special investigation at the instance of the Ministry of Transport; but all we can gather from the report is that a horn which is not objectionable when correctly used can become a great nuisance as a result of improper adjustment, that sheer loudness is the primary consideration in determining the annoyance, and that it is possible that the occurrence of strong notes unrelated to the general harmonic series, and the manner in which the horn commences its note, may be subsidiary causes of stridency; a much larger range of instruments will have to be studied before these points can be elucidated. The laboratory has also been investigating the noise of aircraft. Such factors as engine position, cabin wall construction, and gearing in their effect on the noisiness of machines have been studied, and experiments have been made on the transmission of sound through light material suitable for cabin walls. Further work has been carried out on the acoustics of buildings, including the Ulster Parliament House and the Salle Electorale at Geneva, where the Assembly of the League of Nations now sits; this work consists in the correction of excessive reverberation and the tracing of echo effects. There is much else of interest in this report, which embraces the year's work of seven departments and some six hundred workers of all ranks. Mention is made of the fact that assistance has been given to the British Pharmacopoeia Commission in evolving a colour specification for the antimony chloride test for cod-liver oil, and another department of the laboratory has been co-operating with the Commission with a view to devising tests for durability of the glass ampoules used for medical purposes. The annual inspection of the laboratory and its departments took place on the afternoon of June 23rd, when visitors were received by Sir Frederick Hopkins, P.R.S., Sir Richard Glazebrook, and the director, Sir Joseph Petavel, and many experiments and pieces of apparatus were shown by the staff.

LIMITATION OF DANGEROUS DRUGS

The International Conference on the Limitation of Traffic in Dangerous Drugs, referred to in the *Journal* of May 23rd (p. 905), was opened at Geneva on May 27th. Delegates from fifty-one States were in attendance, and Senator Louis de Brouckère of Belgium was elected to the chair. In his opening address the president emphasized the complexity of the task before the conference, and recognized that while there was general agreement on the principle of restricting the manufacture of drugs to such as are required for medicinal purposes there was much difference of opinion as to the best means of realizing it. Doubts had, he said, been expressed as to the efficacy of the Geneva Convention of 1925, and it was now incumbent upon them to devise an effective plan for securing that limitation of production of dangerous drugs to medical and legitimate requirements which was contemplated by the Hague Opium Convention of 1912. The conference is assisted by three experts: Professor von Knaffl-Lenz of Vienna, Professor Tiffenau of Paris, and Dr. P. Wolff of Berlin, while Mr. Lyall, chairman of the Central Opium Control Board, attends in an advisory capacity. A sharp division of opinion soon became evident at a meeting of the Committee on Limitation last Friday, when the British delegate, Sir Malcolm Delevingne, despaired of framing an agreed form of words which would combine his proposals with those put forward by the French and Japanese delegates. By 14 votes to 2, with 6 abstentions, the Franco-Japanese proposal was adopted as a basis for discussion. This did not incorporate the quota system, propounded at the London Conference of last November, whereby agreed proportions of the world's requirements were to be allotted to the several manufacturing countries. It contemplated that no country should manufacture more than its annual estimate for medical requirements (1) for domestic use, (2) for conversion, and (3) for export; the last-named to be based on firm orders against import certificates duly authenticated. Proposals were also made for the prohibition of the manufacture of heroin, but these did not receive unanimous support. It would appear that the initiative at present does not lie with the British Government; on its behalf it was urged that support could not be accorded to any scheme which did not give to the medical profession the opportunity of buying what it needed wherever it considered best and in the form dictated by medical experience.

A SURVEY OF DISEASE IN SIERRA LEONE

Sierra Leone has been fortunate in possessing, at Freetown, the Sir Alfred Lewis Jones laboratory for research into the tropical diseases of Africa. Many valuable contributions to science have originated there; the latest of these is a detailed report on a survey of human diseases in the Protectorate.[1] The survey was made in two halves: the first is concerned with the Northern Province, where the principal clinical diseases are malaria, gonorrhoea, and yaws; the second deals with the Central and Southern Provinces, where yaws is less frequent, but other conditions, such as schistosomiasis, increase in importance. In both regions

[1] Report on a Survey of Human Diseases in the Protectorate of Sierra Leone. By Dr. D. B. Blacklock. Printed by the Government Printer, Freetown. 1930.

dermatitis of various kinds is common, while leprosy is much commoner in the north. Sleeping sickness *seems to be uncommon. The usual helminthic infections* occur in the country. When this report is compared with that recently published by Professor R. P. Strong, and discussed in our issue of April 11th, (p. 635), it is seen that in general the same diseases appear and in much the same order. The situation is, however, much more favourable than in Liberia. Dr. Blacklock considers that the state of general health might be improved by making use of the tribal system, in addition, of course, to the medical department and the mission workers. Chiefs should know something of hygiene ; and education in the schools should include instruction in diet, cleanliness, and sanitation, which would in due course be applied practically.

MANSON HOUSE

On June 24th the Royal Society of Tropical Medicine and Hygiene, whose first president was Sir Patrick Manson, moved into its new home, Manson House, 26, Portland Place. At present only the office and library are ready for occupation, but the other necessary alterations will be carried out as soon as possible, and a small hall for meetings is being erected at the rear of the building. As a result of the appeal issued last year by the president, Dr. G. Carmichael Low, and Sir Austen Chamberlain, nearly £12,000 has been raised, but a further £17,000 is required to equip Manson House as a suitable headquarters where Fellows when on leave or visiting England can meet and discuss with those at home the problems of tropical medicine and hygiene. The society includes workers in tropical medicine in all parts of the world, with representatives of all the well-known centres and schools of tropical medicine. The Prince of Wales and the Duke of York have sent contributions to the fund, and the council hopes that many others will wish to share in this memorial to one of the great benefactors of our race. Donations will be gratefully acknowledged by the president if sent to him at Manson House, 26, Portland Place, W.1.

SOUTH AFRICAN MEDICAL CONGRESS

The fourth annual scientific meeting of the Medical Association of South Africa (B.M.A.), which represents the twenty-fifth South African Medical Congress, will be held in Johannesburg from September 14th to 19th, under the presidency of Dr. Francis Napier ; an even more extensive programme than in previous years has been planned. After the opening ceremony and the presidential address on the first afternoon Professor C. F. M. Saint will deliver the Popular Lecture ; he will speak on cancer, and the audience will be allowed to ask questions. As in previous years there will be five main scientific Sections: medicine, surgery, obstetrics and gynaecology, public health, and special subjects. The last group is to be subdivided on this occasion into ophthalmology ; otology and laryngology ; dermatology, venereology, radiology, and physiotherapy ; anaesthetics ; paediatrics ; and psychiatry and neurology. Plenary sessions will be held in each of the five principal Sections, the subjects for discussion being constipation ; the diagnosis and treatment of acute appendicitis ; medical attendance in pregnancy, labour, and the puerperium ; pure milk supply, with special *reference to legislation ; and hysterical phenomena.* Numerous attractive social functions and excursions are being arranged, and visits are to be paid to such local scientific centres of interest as the South African Institute of Medical Research, the Johannesburg General Hospital, the Government artificial limb factory, and the mines. The registration fee is £2 2s. for members of the Association, and £5 5s. for non-members. The organizing secretary is Professor J. J. Levin, and the medical secretary for the congress is Dr. B. G. Melle ; inquiries should be addressed to them at the Medical School, Hospital Street, Johannesburg.

INTERNATIONAL SOCIETY OF SURGERY

The ninth Congress of the International Society of Surgery will be held in Madrid from March 15th to 18th, 1932, under the presidency of Professor de Quervain of Berne, with Professor Recasens of Madrid as vice-president. Delegates from Austria, Germany, and Hungary will again attend this congress. The scientific programme includes discussions on the diagnosis and treatment of intraspinal tumours, non-tuberculous pulmonary suppuration, the surgery of the oesophagus, and recent progress in the various forms of surgical anaesthesia. It is proposed to arrange a tour starting from Irun on March 13th, and visiting Madrid for the congress, thence proceeding to Toledo, Seville, Cordova, Granada, Valencia, and Barcelona, with an excursion from the last-named to Monserrat. The inclusive cost of this tour will be just under 4,000 francs ; inquiries should be addressed to L'Agence Belge de la Compagnie Française du Tourisme, 29, Boulevard Adolphe Max, Brussels. Further information about the congress will be supplied in due course by the general secretary, Dr. L. Mayer, 72, Rue de la Loi, Brussels.

Dr. W. W. Jameson, professor of public health in the London School of Hygiene and Tropical Medicine, has been appointed dean of the School, in succession to the late director, Sir Andrew Balfour.

We regret to announce the death of Dr. John Carswell, formerly Medical Commissioner to the General Board of Control, Scotland, and a pioneer in the treatment of mental disorder on general hospital lines.

Our *Supplement* this week includes the Supplementary Report of Council for 1930–31 ; a letter by Dr. H. H. Dale, F.R.S., on medical patents ; and an abstract of Dr. Goodbody's presidential address to the Metropolitan Counties Branch. Next week's *Supplement* will be devoted to the work and problems of the Colonial Medical Services, using that term in its widest sense.

The annual dinner of the British Medical Association will take place at the Grand Hotel, Eastbourne, on Thursday, July 23rd, at 7.30 p.m. As the accommodation is limited, it is desirable that members wishing to have tickets reserved should notify the Honorary Secretary, Eastbourne Meeting, Avenue House, Eastbourne, at the earliest possible date. Tickets will be allotted strictly in order of application.

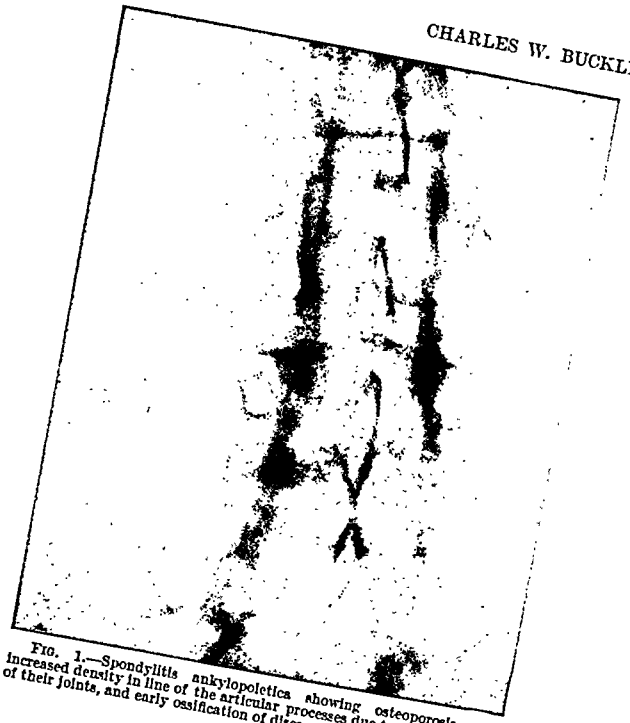


FIG. 1.—Spondylitis ankylopoietica showing osteoporosis with increased density in line of the articular processes due to the ossification of their joints, and early ossification of discs.

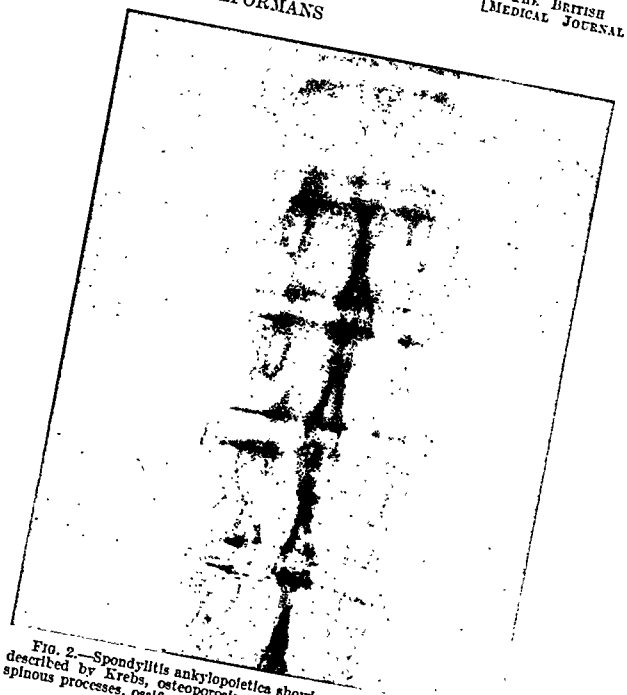


FIG. 2.—Spondylitis ankylopoietica showing bamboo-like appearance described by Krebs, osteoporosis and increase of density in lines of spinous processes, ossification of discs, and of costo-vertebral joints.

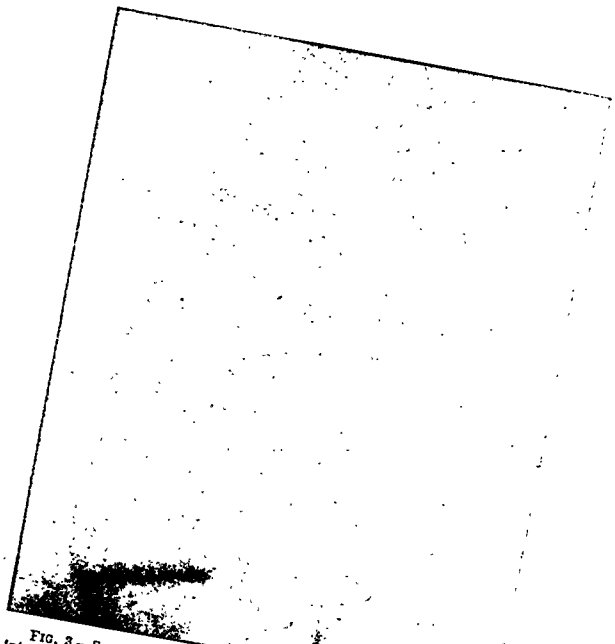


FIG. 3.—Spondylitis ankylopoietica showing ossification of edges of intervertebral discs giving rise to appearance of ossification of anterior common ligament.

FIG. 4.—Spondylitis ankylopoietica in cervical region showing ossification of anterior common ligament and intervertebral discs, ligaments, and articulations. Bechterew type.

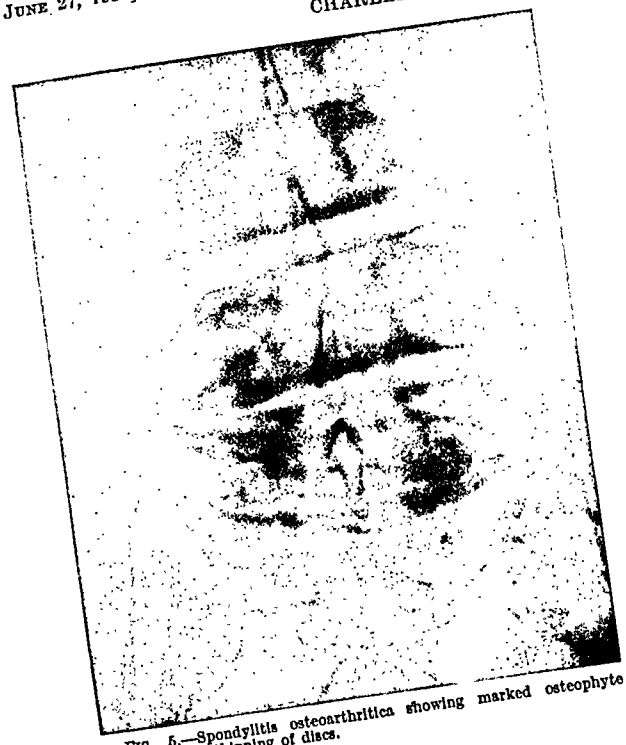


FIG. 5.—Spondylitis osteoarthritica showing marked osteophyte formation and thinning of discs.

FIG. 6.—Tubercular disease of the spine in a patient aged 59, a condition liable to be confused with spondylitis.

H. E. SEILER AND MARY D. GILMOUR: PULMONARY ASBESTOSIS

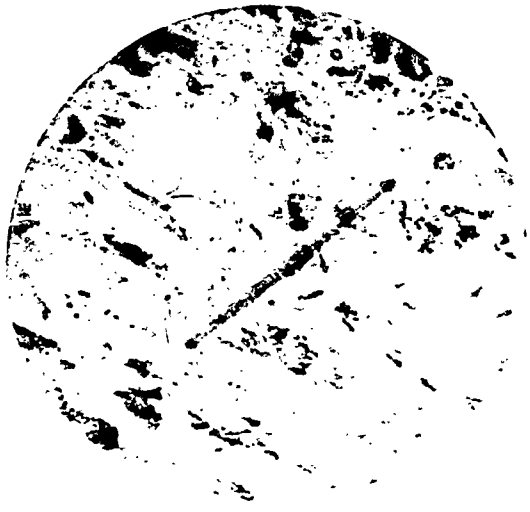


FIG. 1.—Asbestosis body and phagocytes containing granular pigment in fibrous lung.

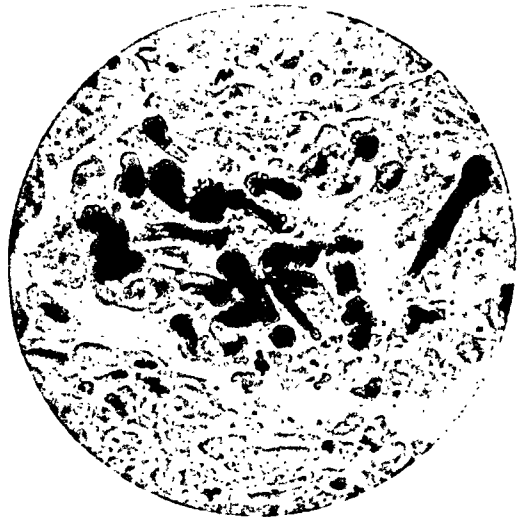


FIG. 2.—Asbestosis bodies showing discoid arrangement and globular ends.

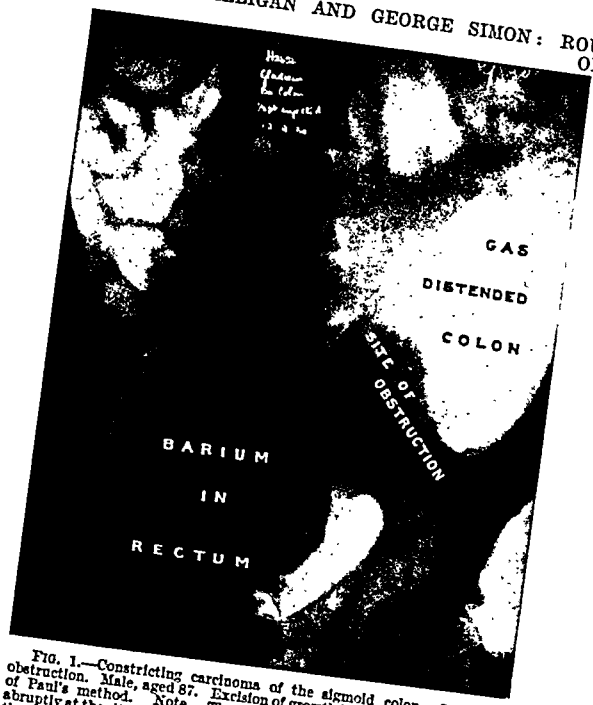


FIG. 1.—Constricting carcinoma of the sigmoid colon. Sub-acute obstruction. Male, aged 87. Excision of growth by Devine's modification of Paul's method. Note.—The gas-ballooned proximal sigmoid ends abruptly at the site of obstruction. Distinctness of the site of obstruction, thereby produced, equals that indicated by barium and in the rectum.

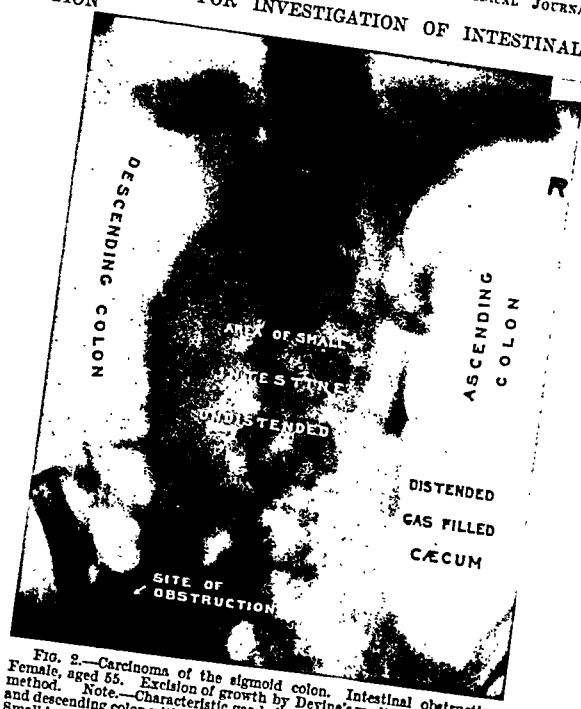


FIG. 2.—Carcinoma of the sigmoid colon. Intestinal obstruction. Female, aged 55. Excision of growth by Devine's modification of Paul's method. Note.—Characteristic gas ballooning of the cæcum, ascending and descending colon with abrupt ending localizing the site of obstruction. Small intestine is undilated and so does not show in the film.

FIG. 3.—Fibrous obstructing stricture of the sigmoid colon in a very corpulent female. Note.—Enormous distension of the cæcum which reaches across the midline showing main incidence of obstructive dilatation. The dilated transverse colon is seen in the upper part of the film, and therefore indicates site of obstruction below this point. Another film of this patient, not exhibited, revealed the actual site of obstruction in the sigmoid colon, suggesting that if the first film does not reveal the site of obstruction very clearly another taken only a few minutes later may do so.

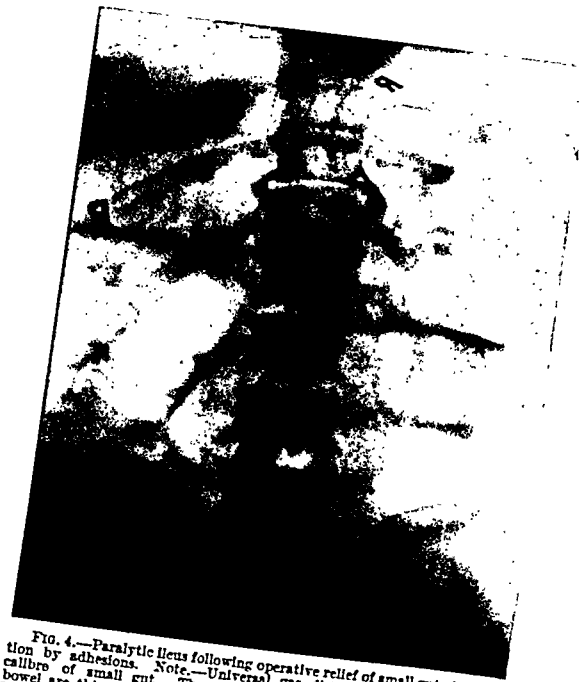


FIG. 4.—Paralytic ileus following operative relief of small gut obstruction by adhesions. Note.—Universal gas distension and increase in calibre of small gut. The transverse striations in distended small bowel are thinner and more closely spaced than in dilated large gut. Furthermore, adjacent walls of distended small gut pressed together by gas show as striking dark bands running obliquely or transversely across the abdomen, contrasting with the clear gas-filled translucent areas between.

E. T. C. MILLIGAN AND GEORGE SIMON: ROUTINE RADIOGRAMS FOR INVESTIGATION OF INTESTINAL OBSTRUCTION

FIG. 5.—Strangulated femoral hernia. Female, aged 75; operation; recovery. Radiogram shows very early localized stage of dilated small intestine in small gut obstruction. The colon is undistended.

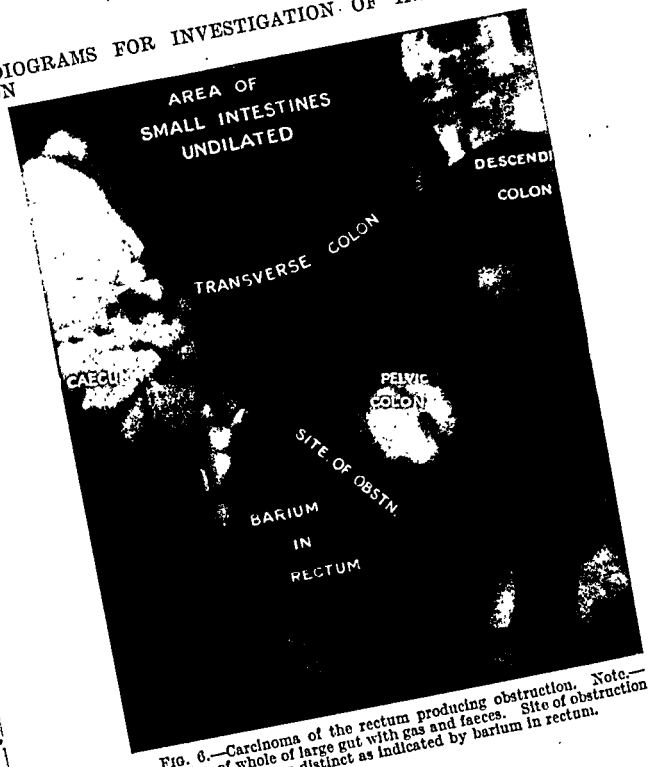


FIG. 6.—Carcinoma of the rectum producing obstruction. Note.—Distension of whole of large gut with gas and faeces. Site of obstruction indicated by gas is as distinct as indicated by barium in rectum.

H. HILTON STEWART AND J. H. BIGGART: ACUTE BRONCHIOLECTASIS

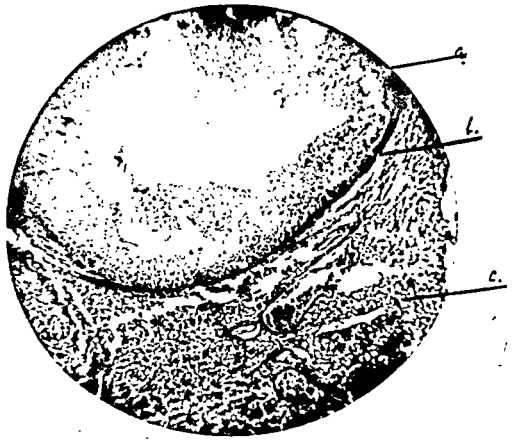


FIG. 1.—Low power view of bronchiolectatic cavity; (*a*) lumen of bronchiole filled with purulent exudate; (*b*) remnants of bronchiolitic wall; (*c*) surrounding lung alveoli partially collapsed and pneumonic.

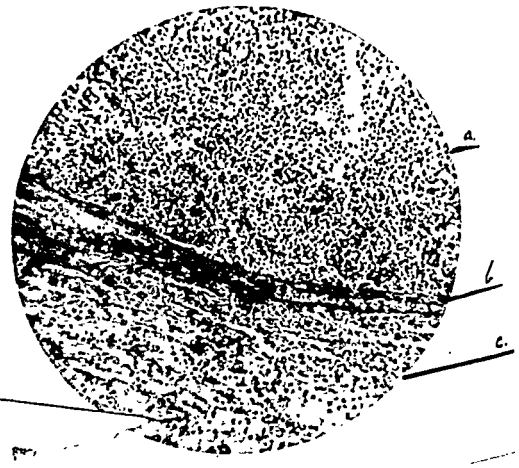


FIG. 2.—High power view of wall of bronchiole; (*a*) the exudate is composed of polymorphonuclears; (*b*) the congested wall of the bronchiole from which the epithelium has disappeared; (*c*) the partially collapsed alveoli.

SIR CHARLES HASTINGS MEMORIAL FUND

To celebrate the Centenary of the British Medical Association the Council has decided to open a fund for the purpose of establishing a permanent memorial to the memory of its founder, Sir Charles Hastings. It has been decided that the memorial shall take the form of a stained-glass window in the cathedral at Worcester, a city with which Charles Hastings was very intimately associated all his life; the placing of a tablet on the house in Worcester in which he practised; and the restoration and permanent upkeep of his grave in the Astwood Cemetery, Worcester. Any balance left over after these objects have been fulfilled will be given to the Sir Charles Hastings Fund, which was endowed in 1925 with a permanent income of about £70 a year by the generosity of the late Lieut.-Colonel J. W. F. Rait, I.M.S.(ret.), a former member of the Council of the Association, and of Mrs. Rait. This fund is controlled by a small body of trustees, who have power to distribute the income for the benefit of individual members of the profession or their dependants in any way that the trustees may think fit. The fund has proved exceedingly useful in cases which do not come within the ordinary scope of the Royal Medical Benevolent Fund, and in cases in which there is very urgent need for help. Subscriptions to the memorial fund are limited to £1 1s., and a list is appended of those members of Council and others who have already contributed.

The Council appeals with confidence to members of the Association all over the world to contribute to this fund. The opening ceremony of the Centenary Meeting will be a pilgrimage to Worcester on Sunday, July 24th, 1932, when the unveiling of the memorial window and plaque will form an important part of the ceremonies of the day, which are already being anticipated with eagerness by the city authorities and by the public.

Members are requested to send their contributions without delay to the Financial Secretary, British Medical Association House, Tavistock Square, London, W.C.1, and cheques should be made payable to the "Sir Charles Hastings Memorial Fund." They will be acknowledged in the columns of the *Journal*.

First List of Contributions

Dr. G. A. Allan
Mr. J. Armstrong
Dr. F. J. Baildon
Dr. Harold S. Beadles
Professor R. J. A. Berry
Sir Robert Bolam
Dr. J. W. Bone
Dr. H. B. Brackenbury
Dr. H. C. Bristowe
Professor A. H. Burgess
Dr. J. D. Comrie
Dr. Alfred Cox
Dr. H. Guy Dain
Dr. C. E. Douglas
Mr. T. P. Dunhill
Mr. W. McAdam Eccles
Dr. D. E. Finlay
Dr. C. E. S. Flemming
Dr. E. R. Fothergill
Dr. T. Fraser
Dr. F. W. Goodbody
Dr. R. G. Gordon
Surgeon Rear-Admiral J. Falconer Hall
Col. A. E. Hamerton
Mr. N. Bishop Harman
Dr. C. O. Hawthorne
Dr. R. Wallace Henry
Dr. J. Hudson
Major-General F. H. G. Hutchinson
Dr. R. Langdon-Down
Dr. E. K. Le Fleming
Dr. R. W. Leslie
Dr. E. Lewys-Lloyd
Dr. J. Livingston Loudon
Sir Richard Luce
Dr. A. Lyndon
Dr. Peter Macdonald
Dr. S. Morton Mackenzie
Sir Ewen Maclean
Dr. O. Marriott
Dr. J. C. Matthews
Dr. G. W. Miller
Dr. J. B. Miller
Dr. Christine Murrell
Mr. A. W. Nuthall
Lieut.-Col. F. O'Kinealy
Dr. L. A. Parry
Dr. W. Paterson
Dr. R. C. Peacocke
Dr. H. W. Pooler
Dr. J. R. Prytherch
Dr. F. Radcliffe
Dr. W. Harvey Smith
Dr. E. H. Snell
Mr. H. S. Souttar
Dr. W. E. Thomas
Dr. G. Clark Trotter
Mr. E. B. Turner
Dr. H. M. Stanley Turner
Dr. W. Watkins-Pitchford
Dr. W. N. West-Watson
Sir William I. de Courcy Wheeler
Dr. W. G. Willoughby

MORTALITY FROM TUBERCULOSIS

REPORT BY THE HEALTH SECTION OF THE LEAGUE OF NATIONS

The February and March reports of the Health Section of the Secretariat of the League of Nations contained a comprehensive statistical review of the mortality from tuberculosis in various countries during the last fifty to eighty years. Figures have been collected and arranged to facilitate the testing of current theories relating to the epidemiology of this disease. There have thus been brought to light notable changes in the mortality rates, and the existence of definite trends in that mortality as regards the populations of cities and rural areas, and at various age periods in both sexes; it has even been possible to discern the occurrence of changes in those trends.

FALLACIES IN THE STATISTICAL CRITERIA

Attention is first called to certain imperfections and shortcomings in the statistics relating to tuberculosis, and to the danger of drawing inferences from the figures without critical examination and due correcting, it being impossible to accept at their face value all the mortality figures, and still less those relating to tuberculosis morbidity. Some are grossly deceptive, and practically all are inaccurate, though in varying degrees in different countries. Thus, as regards tuberculosis morbidity, this disease, even in its pulmonary form, is not notifiable in Austria, Belgium, the Netherlands, Sweden, and parts of Germany. In France, where notification is optional only, its inadequacy is evidenced by the fact that the number of pulmonary cases notified in 1927 was 25,666, while the number of new cases which came under the care of the dispensaries was 43,714, and the number of deaths attributed to pulmonary tuberculosis was 60,679. Since this disease does not cause more than about 10 per cent. of all deaths it is obviously a curable condition; the number of cases reported should, therefore, far exceed the number of deaths ascribed to it. A table is included showing that this is very far from being generally the case. In some countries two cases of tuberculosis are reported for each death, in others only one, while elsewhere two deaths have been registered for each case reported!

It is clear, moreover, that the age distribution of tuberculosis has distinctly altered during the last fifty years in many civilized countries, and that the relative incidence of the various clinical symptoms has also changed. In England, for example, the acute forms are much rarer than they used to be, while the chronic ulcerative and fibrous types are now more common. This has been the case generally in civilized countries, and especially in the larger cities. In short, morbidity has declined less than mortality, except in primitive and agricultural countries, where tuberculosis is still advancing, and where the ratio of illness to mortality is lower than in urbanized countries.

Although mortality figures yield a better picture of the tuberculosis situation in any given country than do case-notifications, errors are introduced by the reluctance of some medical practitioners to impose the stigma of tuberculosis, and their notifying the condition as bronchitis or broncho-pneumonia. If the tuberculosis rate falls co incidentally with the rates for the other two diseases its fall is probably real and definite, but if these oth

pulmonary conditions do not follow suit, the conclusion as to the diminution of tuberculosis is almost certainly ill founded. Corrections can accordingly be made by statisticians for such factors as these, and an instance of the necessity for this is afforded by the case of France, to a less extent in her cities than in rural districts. Deficient medical facilities in isolated areas also diminish the degree of accuracy ; the existence of such a fallacy is indicated when the pulmonary cases make up more than 90 per cent. of all cases of tuberculosis—the average figure for countries possessing good medical facilities.

Despite such difficulties it is held that sufficient information is now available to give a good enough foundation for research workers endowed with critical minds and a thorough knowledge of local conditions, medical customs, and successive changes in nomenclature. In city statistics correction must be made for such factors as the attracting to urban hospitals of cases from the countryside ; conversely, the more recent tendency to place sanatoriums in rural areas must also be taken into account. Thus in Sydney (Australia) in 1920 the rate for pulmonary tuberculosis was 51 per 100,000, without including the residents dying outside the city limits, and 61 when these were included. For all forms of tuberculosis the corresponding rates were similarly 63 and 71.

TRENDS OF TUBERCULOSIS IN DIFFERENT COUNTRIES

Tables are given in the report which reveal that the mortality from tuberculosis has diminished in practically all countries for which statistical data are available. In England and Wales and Belgium the fall began in the middle of last century ; in other countries there first appears a rise in the mortality rate, then a peak, and then a downward trend. Such a peak mortality occurred towards 1871 in Scotland, about 1880 in New Zealand, ten years later in Bavaria and Switzerland, between 1896 and 1900 in Ireland and Norway, between 1901 and 1905 in Hungary, in 1905 in Czechoslovakia, and in 1909 in Japan. In most other countries the decline had already started when statistics began to be available.

From about 1750 to 1830 there was in Sweden a slow but steady increase in the mortality from "phthisis," when the average for ten years was 277 per 100,000 ; available figures after that only reappear in 1901, when the rates were slightly under 200, and have since been decreasing. The maximum mortality in that country must therefore have occurred between 1820 and 1830, or between 1830 and the end of the nineteenth century. This phenomenon has been detected in provinces as well as in whole countries ; the period of maximum mortality varying in different provinces, being earliest in the more urbanized, and later in the more rural. The figures available for Stockholm and Sweden permit inferences to be drawn as to what has been happening elsewhere.

There has also been brought to light a remarkable parallelism in the relative fall in different countries and cities during the last quarter of a century. Thus from 1887 to 1929 the rate for England and Wales fell by 58 per cent., and for London also by 58 per cent. From 1896–1900 to 1929 the rate for Austria fell by 56 per cent., and for Vienna by 59 per cent. In other countries the differences have been somewhat larger, but they are still small in comparison with the observed extent of the rate of fall.

SEX DISTRIBUTION OF MORTALITY

In England, Germany, and France the tuberculosis mortality is higher in males ; in Norway, Ireland, Sweden, Holland, and Denmark the male rate is lower than the female. Such relative positions are not constant, however ; in some periods the male rate exceeds the female, in others the position is reversed. Thus in Holland the male rate was higher than the female by 4 per cent. in 1875–79, higher by 5 per cent. in 1901, practically equal in 1905–09, and increasingly lower subsequently, the difference reaching 16 per cent. in 1929. In Belgium the male rate was lower than the female in the middle of last century ; it exceeded it by 12 per cent. in the 'nineties, but the excess has gradually decreased, being practically negligible in 1920, and rising to 7 per cent. in 1928. In England and Wales the male and female rates were equal in 1851–60 ; the male rate then began to exceed the female, the excess growing continuously, and reaching 29 per cent. in 1929. In Prussia, on the other hand, the excess of the male rate, which was 25 per cent. in 1877, gradually declined to 6 per cent. in 1928. In Scotland, as in England, the excess of male mortality increased from the 'eighties to the present time.

Generally speaking, the excess of male mortality is larger in the cities than in the various countries taken as wholes ; it is more pronounced in the great cities, and lower or non-existent in the smaller towns. In rural districts there may even be an excess in the female rate. In Copenhagen, for example, the excess of male mortality amounts to 26 per cent. ; in the smaller towns there is a female excess of 17 per cent., which reaches 31 per cent. in the rural districts. In countries where the population is mostly urbanized the same generally holds good, but not always, and there is no clear-cut correlation between industrial employment and the excess of male mortality ; it is therefore necessary to take into account the factor of age distribution.

AGE DISTRIBUTION OF TUBERCULOSIS MORTALITY

In all countries and periods the highest mortality occurs in the first year of life. The curve then falls rapidly, reaching its lowest point between the ages of 5 and 14, and increasing rather abruptly from 15 to 25. After this it either remains high or decreases according to the type of the community, the country, and the period. The curves exhibit a definite parallelism for both sexes, but show differences, some being constant and others inconstant. During the first year of life there is a regular excess of the male over the female mortality rate, ranging from 20 to 25 per cent., but sometimes reaching as high as 55 per cent. This is attributable to the greater general debility of male infants, a phenomenon worthy of more intensive research than it has yet received. Subsequently, until the age of 12, the rate is the same for both sexes, and remains very low. From puberty until 25 the female rate is higher than the male, in the cities as in the countryside, and in every period of history.

After 25 three types of curve are distinguishable. In Type A the curve reaches its maximum height at the age of 20 to 30, falling then and remaining practically horizontal until about 70, when a second peak becomes observable. Such a flat curve is associated with a low general tuberculosis rate, and is found in Australia, Denmark, Scotland, the United States, Germany, and the Netherlands. The curve for England is closely similar, but rises somewhat higher at the part corresponding to late adult life. Type B has a single mortality peak from 20 to 40, sometimes centred at 25 ; this is followed by a gradual slowing down corresponding with a low mortality in the older age groups. Such a type is often associated with a fairly high general tuberculosis rate of from 125 to 250, and is observed in Japan, Greece, Sweden, and the Irish Free State, and, since the war, in Norway. The curve of Type C, after rising from the age of puberty to 25, continues its upward movement, reaching its maximum in late adult life or even in old age. This curve is found in countries with a comparatively high tuberculosis death rate, such as Switzerland, Esthonia, Latvia, and Czechoslovakia. Cities often show a C curve at one time or another ; Paris has one at present, Oslo showed it in 1871–85, and Amsterdam in 1885–94.

In any country these curves undergo slow changes according to the fall of the death rate evenly or otherwise. In the Netherlands and Norway there has been no recent change, but in Scotland a curve of Type B during the last thirty years of the nineteenth century was gradually transformed into a Type A curve, through a gradual reduction of the toll of tuberculosis on the young adult ages ; the fall at other ages apart from the first year of life being smaller.

The following explanation of the successive changes in the type of curve is put forward. When a generation

is highly infected with tuberculosis in infancy, it presents a persistently high death rate through the normal span of life. A period of high infant tuberculosis mortality is followed after about twenty-five years by a high death rate of young adults, and of mature adults some twenty-five years later again, an interval of some sixty to seventy years elapsing between the waves of high mortality in infants and in old people. A generation of young parents with a high tuberculosis morbidity will in turn give rise to a new generation of infants similarly infected, and so the type of curve will persist, unless new factors supervene to diminish the mortality at one point or another, when the curve will change correspondingly. The influence of these factors can be statistically evaluated by the changes in the curves.

The report ends with a short bibliography, which will be helpful to some statistical inquirers. It is a thought-provoking contribution to the subject of tuberculosis epidemiology, and should serve a useful purpose in checking hasty and speculative conclusions based on ill-digested or even inaccurate statistics.

THE LISTER INSTITUTE

ANNUAL REPORT

In the report of the governing body of the Lister Institute of Preventive Medicine,[1] which was presented at the annual meeting on June 10th, regret is expressed at the resignation, through illness, of Sir James Kingston Fowler, who, until last March, had acted as the chairman of the Board during the absence abroad of Sir David Bruce. Sir James Fowler joined the governing body in 1918; he was a member of the finance committee, and had acted as chairman of the serum department committee. During the year death removed two members of the council—namely, Sir Andrew Balfour and Dr. H. de Riemer Morgan—and also Professor Lorrain Smith and Dr. A. T. MacConkey, both of whom had been members of the Institute since 1907. A brief survey is given in the report of the different lines of research work which have been in progress during the year.

The Viruses of Vaccinia, Variola, and Fowl-pox

Professor J. C. G. Ledingham has continued his study of the Borrel bodies, which occur in very large numbers in the lesions of fowl-pox. It has been shown that the well-known Bollinger inclusion bodies (seen in the epithelial cells of the fowl-pox lesion) consist of agglomerations of these Borrel bodies in a lipoprotein matrix. It is highly probable that they are the actual invading agents, and Professor Ledingham has been able to demonstrate the presence in potent bacteria-free filtrates of fowl-pox of an abundance of these bodies. He has also demonstrated the presence of similar elementary bodies in a new virus isolated from the virus disease of mice. Vaccinia virus has been successfully cultivated by Drs. G. H. Eagles and D. McClean, who have carried it through a considerable series of subcultures; they used an entirely cell-free culture medium, consisting of the supernatant fluid obtained after centrifugalizing a mixture of finely minced fresh rabbit's kidney and Tyrode's solution. The apparent irregularities of virus increase in different flasks during an experiment was encountered in such cell-free media as in others; they are attributed to variations in the reaction to vaccinia virus displayed by individual rabbits. Such variability is now controlled by injecting vaccine lymph into every test animal employed for serum titration purposes. No satisfactory method has been devised yet for preserving virus which has been cultivated in the chick embryo and plasma medium of Carrel and Rivers, but anaerobic storage in the presence of agar gave better results than did other procedures. Attempts by Dr. Eagles to propagate the virus of small-pox in rabbits have been unsuccessful.

Poliomyelitis and Vaccination

Continuing their work which was mentioned in last year's report (see *Journal*, 1930, i, 1187), Drs. R. W. Fairbrother and E. W. Hurst found that when both the small-pox vaccine and poliomyelitis viruses were injected intravenously, the resulting vaccinal reaction had no power to alter the haemato-encephalitic barrier in such a manner as to permit infection of the central nervous system with poliomyelitis. Intradermal vaccination had no influence on poliomyelitis virus which had been inoculated into the brain, and it did not activate or render more virulent a weak strain of the virus. When the two viruses were injected intracerebrally, the two diseases evolved quite independently; if it was arranged that their incubation periods should terminate simultaneously, the characteristic lesions of both existed side by side, without any apparent modification of one by the other. Drs. Fairbrother and Morgan succeeded in obtaining from a horse a greatly improved serum, which it is hoped to employ in the treatment of human poliomyelitis. It was discovered that in this serum the antibody was attached, for the most part, to the euglobulin fraction. Dr. Fairbrother detected antiviral bodies in the serums of normal individuals who had been in contact with cases of poliomyelitis, without, however, developing the disease.

Bacterial Studies

Dr. J. A. Arkwright has been investigating bacterial variation, with particular regard to changes in fermentation reactions and the possibility of there being some correlation between antigenic change and fermentative properties. An assessment of the prophylactic value of variously prepared antiplague vaccines is being made by Dr. H. Schütze. The superiority of the Haffkine prophylactic has been established, while the ordinary agar-grown, heat-killed vaccine has been shown to have no value. In the course of these experiments indications have been obtained that the type of protein supplied to the plague bacillus for its culture has an important bearing on the antigenic efficacy of the resultant vaccine.

Vitamin Studies

Drs. Schütze and Zilva, using rats as the experimental animals, and *S. suipestifer* as the infecting agent, have demonstrated the existence of a very definitely lowered resistance to infection among animals deprived of vitamin A, as compared with those kept on fully adequate diets. Special attention has been devoted to the distribution of vitamin B_1 and B_2 in natural foodstuffs. The theory associating pellagra with a simple deficiency of vitamin B_2 in the diet has been weakened by the discovery that maize and its products are not poorer in this vitamin than are other cereals, and this notwithstanding the fact that the incidence of pellagra is almost wholly confined to populations subsisting on the maize group of cereals. The vitamin B_2 content of maize has been found to be greater than that of rice, and little, if at all, lower than that of wheat. Consumption of rice, however, has only exceptionally been found associated with the incidence of pellagra. Miss Roscoe and Miss D. Graetz found that leaf vegetables, such as watercress, lettuce, spinach, and cabbage, are rich sources of these vitamins, more especially of B_1; while onions, carrots, turnips, and potatoes are much poorer. It was demonstrated, also, that in the cooking of spinach leaves diffusion of the vitamins into the cooking water is rapid, about half the original content being lost in fifteen minutes' boiling.

[1] The Lister Institute of Preventive Medicine. Report of the Governing Body, 1931. London: Chelsea Bridge Road, S.W.1.

KING EDWARD'S HOSPITAL FUND

ANNUAL MEETING

The annual meeting of the General Council of King Edward's Hospital Fund for London was held at St. James's Palace on June 9th, with the PRINCE OF WALES in the chair. A message from the King expressed his pleasure at the increased distribution in 1930, and the hope that the public would realize the importance of maintaining the income of the King's Fund and of the hospitals during the present difficult times.

His Royal Highness stated that the distribution in 1930 was £266,000, as compared with £250,000 in the previous year. A gift of £2,000 had been made by the Nizam of Hyderabad, and the British Charities Association had allotted £10,000 for the London hospitals. The year 1931, so far as it had gone, was proving even more difficult than 1930; there was an increase in the number of hospital deficits, but, on the other hand, it should be remembered that the finances of the voluntary hospitals generally before the present crisis had been steadily improving. The difficulties they were now facing, added the Prince, were due to world-wide depression, and not to any weakness in the voluntary system itself. The report of the Hospital Economy Committee showed how the King's Fund had been assisting the hospitals in reducing to a minimum the margin between the number of beds available and the number actually occupied. The report issued on the waking hours of patients illustrated how the Fund collected and circulated data of the present position in this respect in each hospital, and had subsequenty made a definite, though cautious, recommendation. The League of Mercy deserved special thanks for having maintained its grant of £17,000 for four successive years. Moreover, an entirely new and unprecedented item—a special trust fund of £20,000 given by an anonymous donor—had resulted in an income becoming available to assist a hospital to pay off its building debts on condition that no fresh building expenditure was incurred without the approval of the King's Fund. Since the end of the year under review a legacy of £50,000 had been received on behalf of the late Sir Otto Beit; this represented his third recent benefaction to the Fund, which had thus received from this source a total of £106,000.

Accounts for 1930

The total receipts of the King's Fund for 1930 were £493,950. This income was sufficient to cover the increased distribution of £266,000, special grants totalling £16,468 towards the superannuation scheme for nurses and doctors, and the carrying forward of a further £15,000 to reserve for the pensions grants in future years, together with a balance carried forward of £5,600 for the King's Fund. A sum of £116,000 was also added to the capital account as the result of special grants and legacies, including £90,000 under the will of Lord Revelstoke. The number of hospitals receiving grants was 141, as compared with 143 in the previous year. The number of convalescent homes receiving grants rose from 52 in 1929 to 55 in the year under review. Each eligible hospital which had applied for a grant was inspected, and a report was rendered by two visitors on behalf of the Fund, one medical and the other lay. The total sum distributed among hospitals, convalescent homes, and tuberculosis sanatoriums during the last ten years, including all special distributions, was £3,183,592. Since the creation of the Fund in 1897 a total amount of over £6,770,000 has been distributed. In allocating an additional sum of £1,000 to convalescent homes during the year, the Distribution Committee took into special consideration the extent to which the various homes provided medical or nursing treatment or care, thus releasing hospital beds sooner than would have been possible otherwise.

Reports of Subcommittees

The annual list of pay beds published by the Fund shows that the total number of these beds at the end of 1930 was 1,425 at ninety-nine hospitals, as compared with 1,055 at eighty hospitals in March, 1928, when the Pay Beds Committee of the Fund was preparing its report on the whole subject. The insurance scheme for members of the professional and middle classes submitted to the King's Fund by the British Provident Association in 1929 formed the subject of a report published by the Management Committee in 1930. Alternative schemes of premiums have been drawn up making provision for weekly charges for a pay bed in a hospital, or for a bed in a nursing home, and, if desired, for medical or surgical fees also. Contributions were made towards the capital cost of a pay bed, in return for which a subscriber had prior claim to the use of such a bed, when approved for admission according to the rules of the hospital.

Lord Luke, chairman of the Revenue Committee, presented a report on the work of the Propaganda Subcommittee, and commented on the increasing number of ways in which money was being obtained. The committee had also supplied helpful information to the authors of an interesting book, entitled *The Romance of the British Voluntary Hospital Movement*, which was published during the year.

Sir LEONARD COHEN, chairman of the Economy Committee, who reported on the relation between total beds and the number actually occupied in various hospitals, stated that a memorandum on unoccupied beds had been issued in August, 1930. Information was circulated as to the reason given for closing beds, the way in which the occupation of open beds ceased between the times of discharge and admission of patients, and the comparative incidence of vacancies in beds for men, women, and children respectively, in medical and surgical wards.

DIET AND DISEASE IN NATIVE RACES IN THE TROPICS

During the past ten years the conception that disease may be due to deficiency of this or that element or complex in the food has developed greatly. Formerly, the idea of "deficiency disease" centred round the vitamins, and in this category only such conditions as scurvy, beri-beri, rickets, and keratomalacia were included. Now, however, it is gradually being realized that vitamins are not the only substances the absence or insufficient supply of which may give rise to deficiency disease; and that lack of a sufficiency of such mineral elements as calcium, iron, iodine, manganese, and possibly some of the rarer elements, may also cause disease of this order. The truth is slowly being made plain that man is composed of what he eats; that defects in the architecture of the human edifice are largely due to defects in the quality of the food, especially during the growing period of life. These defects are often at the root of disease processes which manifest themselves clinically in later life, and they can be prevented, or, when established, they can (if not too far advanced or complicated by superimposed infection) be rectified, by correcting defects in the composition and balance of the dietary. It is slowly being realized also that not only is the bony framework of the body affected adversely by faulty food, but the tissues generally; that the functional efficiency of all cells, the maintenance and harmonious regulation of chemical processes in the tissues, the composition of the blood and body fluids, and the capacity of the organism to resist many infectious agencies, are all dependent, in great measure, on the quality of the food and on the balance between various constituents of it. Accordingly, the idea of "deficiency disease" has now a wider significance, and soon it will have served its purpose and given place to another—namely, that of disease associated with faulty nutrition of any kind in which maladies affecting every system of the body—respiratory, digestive, urinary, endocrine, and nervous—will have a place.

This knowledge has, for the most part, been gained by experiments on the lower animals, and the time is now ripe for controlled investigations "in the field" which will correct, supplement, and confirm those of the laboratory. Such an investigation is that recorded in the report by Drs. J. B. Orr and J. L. Gilks, recently issued by the Medical Research Council.[1] The report deals with the physique and health of two African tribes, living side by side under similar climatic and hygienic conditions. The diet of the one (the *Akikuya*) consisted mainly of cereals, being very rich in carbohydrates and deficient in animal protein, fats, calcium, and vitamins A and D—defects commonly conjoined in certain native dietaries in India. That of the other (the *Masai*) consisted mainly of meat, milk, and raw blood—a diet too rich in protein and too poor in carbohydrates and fresh vegetable foods. The members of the former tribe were, in general, of poor physique, and abnormalities of bone, dental defects, spongy gums, anaemia, yaws, malaria, bronchitis, pneumonia, phthisis, rheumatism, helminthiasis, and tropical ulcer were of common occurrence among them. Those of the latter tribe were of much better physique and were significantly less affected by most of the ailments mentioned; but they suffered more from constipation and arthritis than did the former tribe. Further, the dietary of the young children, the girls and women of the Akikuya, was better balanced than that of the older boys and men, and this appeared to be "clearly reflected in differences in physique and health." Generally speaking, physique and health were better in the young children, girls, and women of this tribe than in the older boys and men. This experience points in the same direction as a recently recorded observation in albino rats (*British Medical Journal*, June 6th); and it is difficult to resist the conclusion that there was a definite relation between the diet and disease-incidence of the two human communities.

In addition to their clinical observations the authors of the report have brought forward experimental data which "lend support to the suggestion that deficiencies in the diet, abnormal composition of the blood, and reduced susceptibility to certain diseases which have been noted in the Akikuya tribe, may be correlated." Of particular interest in these respects are their findings relating to calcium deficiency. Tropical ulcer was found to be associated with high phosphorus and low calcium content of the blood in ulcer cases.

The importance of investigations of this kind at the present stage of evolution of knowledge concerning nutrition can scarcely be overestimated. They have "a great interest in relation both to general scientific questions of nutrition and to particular problems presented by the native races inhabiting British colonies in the Tropics"; and "the information obtained from them is calculated to hasten the improvement of the physical condition of the native and to increase his importance as an economic factor." The close relationship between diet and the physical efficiency and health of the people of India and its economic importance to that country have been emphasized from time to time during the last few years in India; and evidence to that effect has been given before two Royal Commissions in India—that on agriculture (1926) and that on labour (1929). Experience in India is in general agreement with the conclusions arrived at by the authors of this valuable report.

The report is one which has not only a great interest for medical men and administrators in the Tropics, but the findings therein have an interest also for those nearer home.

R. MCCARRISON.

[1] Medical Research Council. Special Report Series. No. 155. Studies of Nutrition: The Physique and Health of Two African Tribes. By Drs. J. B. Orr and J. L. Gilks. London: H.M. Stationery office. 1931. (2s. net.)

Scotland

HEALTH OF SCOTLAND

The following notes, extracted from the second annual report of the Department of Health for Scotland,[1] are in continuation of the paragraphs published in this column on June 13th (p. 1041).

Housing and Town Planning

The Housing (Scotland) Act, 1930, is the ninth Act passed since the war to deal with housing in Scotland. In the eleven years up to December 31st, 1930, during which State assistance has been given, 117,353 subsidized houses have been built, while 12,797 working-class houses have been provided without subsidy; these 130,150 houses practically represent the shortage estimated by local authorities in 1919. About 100,000 houses of the working-class type, however, are still required. The report points out that with the stabilization of subsidies, the local authorities have now extended their programmes, and that plans have been approved by the Department for the erection of a much larger number of houses than in the preceding year. Some thirty-nine local authorities, including three county authorities, proceeded during the year with slum clearance schemes, under which 17,712 occupied houses were condemned. The problem of providing urgently needed houses in rural districts is complicated by the fact that the population in these areas is dwindling, while the cost of building is higher and the rents are lower than elsewhere. Town planning in Scotland made little progress during 1930, but about eight town councils resolved to prepare schemes for portions of their areas still undeveloped.

Infectious Diseases

The chief infectious disease during 1930 was scarlet fever, 16,393 cases being notified. This figure, however, is lower by about 1,000 than the average incidence of the last decennium. Notifications of diphtheria (11,580) exceeded those of the previous year (10,471), but a notable decrease of 4,500 cases is recorded in the figures for pneumonia. Pulmonary tuberculosis occurred in 5,689 cases during the year, compared with 6,112 in 1929, while the corresponding figures for non-pulmonary tuberculosis were 4,286 and 4,228 respectively. It is satisfactory to note that the mortality from tuberculosis in Scotland continues to decline, the death rate of 88 per 100,000 of population for 1930 comparing very favourably with the previous lowest recorded rate of 94 in 1929. With regard to venereal diseases, the number of patients treated up to May, 1930, was 30,281; of the 17,687 new patients, 12,054 (72 per cent.) were found to be infected. Patients discharged after tests as cured numbered 4,525.

Highlands and Islands Medical Services

Following the passing of the Highlands and Islands (Medical Service) Additional Grant Act, 1929, a sum of £30,000 was voted for this service in addition to the annual grant of £42,000, and a further sum of £10,000 in respect of mileage and other special charges for medical benefit was transferred from the Scottish National Health Insurance Fund. The number of practices in which services are rendered under this scheme is 154. Grants-in-aid have been given as in previous years for surgical services in hospitals at Lerwick, Kirkwall, and Stornoway. The report points out that the recent extensions carried out at the Royal Northern Infirmary, Inverness, will enable a much better service to be provided in the Highlands, and for this purpose a grant of £5,000 per annum is being given to this hospital for ten years,

[1] Cmd. 3860. Edinburgh: H.M. Stationery Office. (3s. 6d. net.)